Draft 2045 Climate Action Plan
Comment Letters Received
Organizations

1. Abundant Housing LA
2. Acton Town Council
3. Advocates for the Environment
4. Agua Dulce Town Council
5. Altadena Town Council
6. Association of Rural Town Councils
7. BizFed
8. Building Industry Association
9. Center for Biological Diversity
10. Climate Resolve
11. Communities for a Better Environment
12. Endangered Habitats League
13. FivePoint
14. League of Women Voters
15. Mitch Tsai – Southwest Regional Council of Carpenters
16. Santa Clarita Organization for Planning and the Environment
17. Save Our Rural Town
18. Sierra Club
19. SoCalGas
20. The Nature Conservancy
21. Tree People
22. U.S. Green Building Council Los Angeles

July 8, 2022

Thuy Hua, Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012

Support if Amended – County of Los Angeles Draft 2045 Climate Action Plan

Dear Thuy Hua,

We write on behalf of Abundant Housing LA with a "support if amended" position on the County of Los Angeles Draft 2045 Climate Action Plan. We are grateful for the County's focus on this important issue. However, the plan should be more ambitious with regard to the opportunities for greenhouse gas emissions mitigation from housing-related policies.

Abundant Housing LA is a pro-housing, nonprofit advocacy organization working to help solve Southern California's housing crisis. We support reforms to legalize more homes, make homes easier to build, increase funding for affordable housing, and protect tenants, which are all needed to make housing more affordable, improve access to jobs and transit, promote greater environmental sustainability, and advance racial and economic equity. As a community organization, in order to maintain our independence, we do not accept financial support from housing developers or their consultants.

The plan notes that 52% of the County's emissions come from the transportation sector. It relies heavily on reducing emissions via the adoption of zero-emission vehicles (ZEVs). Indeed, this strategy, described in Measure T6, accounts for the largest share of anticipated GHG emissions reductions in the plan, at 31.5%. While we agree that this change is needed and would be beneficial, it is also largely outside of the County's control. While the County can play a constructive role in providing charging infrastructure, and purchasing ZEVs for its own fleets, it is primarily federal and state policies that will determine the extent to which people in the County are able to transition to ZEVs in the years ahead.

At the same time, there are constructive actions the County can take to reduce transportation GHG emissions that are much more firmly within its control, including increasing investment in transit service frequency, eliminating off-street parking requirements and increasing the allowable density of development, particularly near major transit stops and high-quality transit corridors. We applaud Measure T4's commitment to double transit service hours by 2030. However, doubling service hours is not necessarily sufficient to provide convenient service. The County should make specific commitments to increasing the percentage of the time that people could expect to encounter service frequency of 15 minutes or better on County-operated transit.

Measure T5 appears somewhat ambiguous in its commitments around parking requirements. While the plan commits to remove minimum parking requirements for new residential development, it appears to imply that they would remain in effect for existing residential development and elsewhere states that the Department of Regional Planning is merely studying reductions in parking requirements. All of this adds up to a muddled commitment, even though we know that parking requirements increase driving, greenhouse gas emissions, and force people who don't own cars to subsidize the parking of the typically wealthier people who do. Measure T1 deals with increasing allowable density near high-quality transit areas, targeting a range of 20-50 dwelling units per acre. However this density range is not particularly ambitious and could easily be doubled. Denser residential development near transit allows people to be less reliant on cars and also reduces development pressure on greenfields, saving natural habitats which act as carbon sinks from suburban sprawl.

Decarbonizing buildings is an important goal. However certain proposed strategies merit reconsideration. Measure E1 would require existing buildings to remove their gas appliances during major renovations or before the property is sold. However, the point of sale requirement should have some exceptions, for example if a property is being sold for redevelopment. In this case it would not make sense to remodel a building that is about to be demolished, and may yield to a more sustainable development pattern at a higher density. Measure E2 envisions net zero energy development for new construction after 2025. While energy efficiency measures and on-site renewable energy such as rooftop solar often make sense, requiring net-zero energy at the building level could preclude forms of development that are very environmentally friendly with respect to habitat conservation and promoting automobile alternatives. For example, a high-rise apartment building has these environmental benefits, but would likely struggle to offset all of its greenhouse gas emissions with rooftop solar. Furthermore, providing on-site battery storage to balance out intermittent renewables may be more important for GHG mitigation than on-site renewable energy generation. If parking requirements were eliminated, spaces currently used for parking could be remodeled into additional homes or battery storage areas.

We also wish to highlight a few miscellaneous recommendations to strengthen the plan. The CAP targets GHG reductions using 2015 levels as a baseline, however SB 32 (Pavley, 2016) uses 1990 levels as its baseline for the statewide GHG emissions reduction target of 40% by 2030. Since GHG emissions were higher in 2015 than in 1990, using 2015 as a baseline means that the percentage reductions the plan targets are less meaningful. It would be better to align the baseline with state law, so that state and local GHG reduction efforts can better relate to each other. The plan does not propose measures to meet its own goal of carbon neutrality by 2045 by eliminating, removing or offsetting all residual emissions, which reinforces the points above that more ambitious measures will be required. Measure E6 deals with reducing indoor and outdoor water use. Promoting multifamily housing is an excellent strategy to reduce outdoor water use since landscaped open spaces are typically shared by several households, and thus less outdoor water use is necessary per capita, other things equal. Strategy 3 includes measures to enhance the bikeway network, but the plan does not make clear where the

proposed upgrades would occur or the quality of the infrastructure. For example, protected bike lanes will encourage cycling much more than bike lanes that are merely painted or “sharrows.” While some form of this infrastructure is to be increased by 500%, our streets are still overwhelmingly oriented towards serving high-speed car traffic and high-quality cycling infrastructure such as protected bike lanes is the exception rather than the rule. Measure T9 proposes decarbonizing construction equipment, but seems unsure of itself with regard to the feasibility of doing so or the availability of equipment that can run on fuels such as green hydrogen. While this goal is worthwhile, we also have to ensure that the dense, infill, transit-oriented housing we need, and that can help reduce emissions from sectors such as transportation, can be built at a reasonable cost.

For these reasons, we would be proud to support the 2045 CAP if it were amended appropriately to address our concerns, and we offer our thanks to you for bringing this important proposal forward.

Sincerely,

Leonora Camner

Leonora Camner
Executive Director
Abundant Housing LA

David J. Barboza

David J. Barboza, AICP
Director of Policy and Research
Abundant Housing LA

From:	Acton Town Council
To:	Thuy Hua; DRP EPS Climate; Acton Town Council; Barger, Kathryn; Saraiya, Anish; Bostwick, Charles
Subject:	Fwd: More outages in Acton
Date:	Monday, June 13, 2022 7:42:37 PM
Attachments:	Data from SCE Power Outage platform June 13 2022 as of 708 PM.pdf Map from SCE Power Outage platform June 13 at 708 PM.pdf

CAUTION: External Email. Proceed Responsibly.

Dear Ms. Hua;
Please include the following email that was just sent to Southern California Edison into the record that you are compiling for the Climate Acton Plan. The attached it demonstrates that unincorporated areas in North Los Angeles County do not have reliable electrical service and that residents in unincorporated areas continue to experience frequent and lengthy power outages. Such "local experiences" occur frequently throughout the year and demonstrate that areas like Acton and Agua Dulce are particularly unsuitable for the "decarbonization" strategy that is embodied in the Draft CAP document.
Sincerely,
Jacqueline Ayer
Correspondence Secretary

---------- Forwarded message ---------
From: **Acton Town Council** <atc@actontowncouncil.org>
Date: Mon, Jun 13, 2022 at 7:33 PM
Subject: More outages in Acton
To: Rochelle K Silsbee <ROCHELLE.SILSBEE@sce.com>, Acton Town Council <atc@actontowncouncil.org>

Dear Ms. Silsbee;
Power was out in Acton again today on the Pick circuit (and perhaps other circuits as well - I cannot be sure) - this time it was for an hour. Acton and Agua Dulce have had frequent power outages lately with no explanation, no warning, and no notice. Why is SCE's system in our area continuously experiencing so many outages? No PSPS events have been called, there are no flex alerts, and there are no meteorological or seismic or CAISO system conditions that warrant the high number of system outages we continue to experience. All SCE's upgrades were supposed to have been completed last year. I have attached a screenshot of SCE's outage page and associated maps - it shows that there were no outages in my area but I can assure you there were. The only outage that is even indicated anywhere in Acton is a 5 hour outage which is scheduled to occur on June 23. SCE's platform is faulty and the high number of outages in our community is not acceptable; SCE should provide rural communities with the same reliable, high quality service that it provides to urban communities, but it does not. And, incidentally, the power outage that occurred in Agua Dulce on June 2 were not just limited to the Davenport circuit; it affected residents throughout Agua Dulce and many were without power throughout the night. Residents received text messages that their power was on when it wasn't and the SCE website where outages are supposed to be reported showed there were no outages anywhere in our area (which was, of course, incorrect). You told the ATC that the June 2 outage in Agua Dulce was merely a fault that occurred in the afternoon, but that is not consistent with the length, scope, and extent of the outage that occurred. If it were really just a fault, SCE should have been able to isolate it quickly using the segmentation hardware that has been installed over the last 2 years and fixed it quickly.
In other areas of SCE's system, faults are extremely rare; they occur less than once per year

(and yes, I have data to back that statement up). Why is SCE's system so fragile in our area?. Between 2001 and 2019, I recall that my house lost power only once and it was restored very quickly. In contrast, I have already lost power 4 times this just this month alone, and we are not even halfway through the month. Please explain precisely what SCE is doing on our system that is causing all these outages because they are certainly not the result of any faults.
Regards
Jacqueline Ayer
Utilities Chairperson
The Acton Town Council

Power Outages

Map View

Search by address, city, county or ZIP

Click here to enter the outage number and check the status

Current Outages

26 Outages | 1,175 Customers Impacted

View By: County City

Feedback

Kern County

Customers Affected: 13
Outages: 2

Los Angeles County

Customers Affected: 450
Outages: 11

Maintenance Outage

Arcadia

Start Time: **8:24 AM PST Today**
Estimated Restoration: **8:00 PM PST Today**
Status: In Progress - Crew is at work

Last Updated: 6:42 PM PST Today

Maintenance Outage

Santa Clarita

Start Time: **1:54 PM PST Today**
Estimated Restoration: **Most up by 1:45 PM PST Today**
Status: In Progress - Power restored

Last Updated: 1:54 PM PST Today

Maintenance Outage

Unincorporated Area - Los Angeles County

Start Time: **8:15 AM PST Today**
Estimated Restoration: **Most up by 6:00 PM PST Today**
Status: In Progress - Power restored

Step 1: Outage starting soon.

Our crew is preparing to turn the power off so they can work safely.

Completed

Step 2: Crew is at work.

An outage is in effect while our crew performs upgrades.

Completed

Step 3: Power restored.

In Progress

Reason for Outage:
Upgrading Equipment

Customers Impacted: **28**
Outage # : **800135412**

Last Updated: 4:03 PM PST Today

Maintenance Outage

Arcadia

Start Time: **8:07 AM PST Today**
Estimated Restoration: **7:00 PM PST Today**
Status: In Progress - Crew is at work

Last Updated: 4:59 PM PST Today

Repair Outage

Lancaster

Start Time: **7:48 AM PST Today**
Estimated Restoration: **11:00 PM PST Today**
Status: In Progress - Crews are performing repairs

Last Updated: 2:40 PM PST Today

Repair Outage

Hawthorne

Start Time: **9:12 AM PST Today**
Estimated Restoration: **8:00 PM PST Today**
Status: In Progress - Crews are performing repairs

Last Updated: 5:42 PM PST Today

Repair Outage

Compton

Start Time: **9:12 AM PST Today**
Estimated Restoration: **Most up by 7:00 PM PST Today**
Status: In Progress - Outage reported

Last Updated: 1:56 PM PST Today

Repair Outage

Carson

Start Time: **8:42 AM PST Today**
Estimated Restoration: **7:00 PM PST Today**
Status: In Progress - Repair crew on the way

Last Updated: 6:38 PM PST Today

Repair Outage

Inglewood

Start Time: **6:41 AM PST Today**
Estimated Restoration: **9:00 PM PST Today**
Status: In Progress - Crews are performing repairs

Last Updated: 3:33 PM PST Today

Repair Outage

Long Beach

Start Time: **12:17 PM PST Today**
Estimated Restoration: **Not Available**
Status: In Progress - Crews are performing repairs

Last Updated: 6:27 PM PST Today

Repair Outage

Palmdale

Start Time: **6:28 PM PST Today**
Estimated Restoration: **8:00 PM PST Today**
Status: In Progress - Crews are performing repairs

Last Updated: 6:43 PM PST Today

Mono County
Customers Affected: 80
Outages: 2

Orange County
Customers Affected: 76
Outages: 1

Riverside County
Customers Affected: 254
Outages: 3

San Bernardino County
Customers Affected: 285
Outages: 5

Santa Barbara County
Customers Affected: 14

Outages: 1

Ventura County
Customers Affected: 3
Outages: 1

Upcoming Scheduled Outages
1,533 Outages Scheduled | 71,185 Customers Possibly Impacted

Public Safety Power Shutoff (PSPS)
Search for an address to see specific PSPS details or see county-level details **below**.

Not Seeing Your Outage?

Report

Last Updated: 6/13/2022 - 6:49 PM PST

Outage Alerts
Stay informed about unplanned repair and planned maintenance outages.

Get Alerts

Feedback

Community Support

Resource Centers | Crew Vehicles | Further Assistance

SCE Community Resource Centers are available to support customers during a Public Safety Power Shutoffs... **More**

There are currently none available.

SCE Community Crew Veh

customers during a Public S

There are currently none a

What are the different types of outages?

Repair Outage

An outage caused by unexpected circumstances, such as traffic accidents or severe weather. We work to repair these outages quickly.

Learn more about repair outages ›

Maintenance Outage

A scheduled outage that occurs when we turn the power off for equipment upgrades. We notify you in advance if you will be affected by a maintenance outage.

Learn more about maintenance outages ›

Rotating Outage

An extremely rare, controlled power outage that we enact as a last resort when there is a statewide Stage 3 Emergency declared. Sometimes called a “rolling blackout.”

Learn more about rotating outages ›

Public Safety Power Shutoff (PSPS) Event

During PSPS events, we proactively turn off power to help reduce the risk of wildfires. These events will primarily be called during extreme and potentially dangerous weather conditions. Turning off our customers’ power is not something we take lightly and we consider a number of factors before we make this decision.

We intend to notify affected customers approximately 48 hours in advance of a potential PSPS event and will attempt to notify customers again approximately 24 hours before power is shut off. Additional notifications will be made throughout the outage, when power has been shut off and when it has been restored. Notifications may occur via a combination of phone call, text, sce.com, email and social media. There may be situations which prevent us from providing advance notice due to weather conditions and other circumstances beyond our control.

Learn more about PSPS events ›

Current PSPS Status

When there is a high risk for a wildfire, we may temporarily shut off power to your neighborhood to prevent our electric system from becoming a source of ignition

Current Public Safety Power Shutoffs

Of SCE's 5 million customers:	0(< 1%)

No counties / customers currently experiencing power shutoffs.

Power Safety Shutoffs Being Considered

Of SCE's 5 million customers:	0(< 1%)

No counties / customers currently under consideration for power shutoff.

Notes:

1. Field & weather conditions change regularly. Real-time data may occasionally experience delay. Please check back for updates on recently impacted areas.
2. Customer counts are based on county circuits. If a circuit expands beyond one county, customers will be counted in each county. This could result in an overcount. Final counts are available after events **here**.

Did you get notified about extreme fire weather conditions?

Based on a number of factors, including forecasted extreme weather conditions, we may need to call a **Public Safety Power Shutoff (PSPS)** event and preemptively turn off power in your area in order to reduce the risk of wildfires.

Get more information ›

Check Maintenance Outage Status

If you received a notification from us about an outage in your area, enter your Outage Number below. You can find it on your notification.

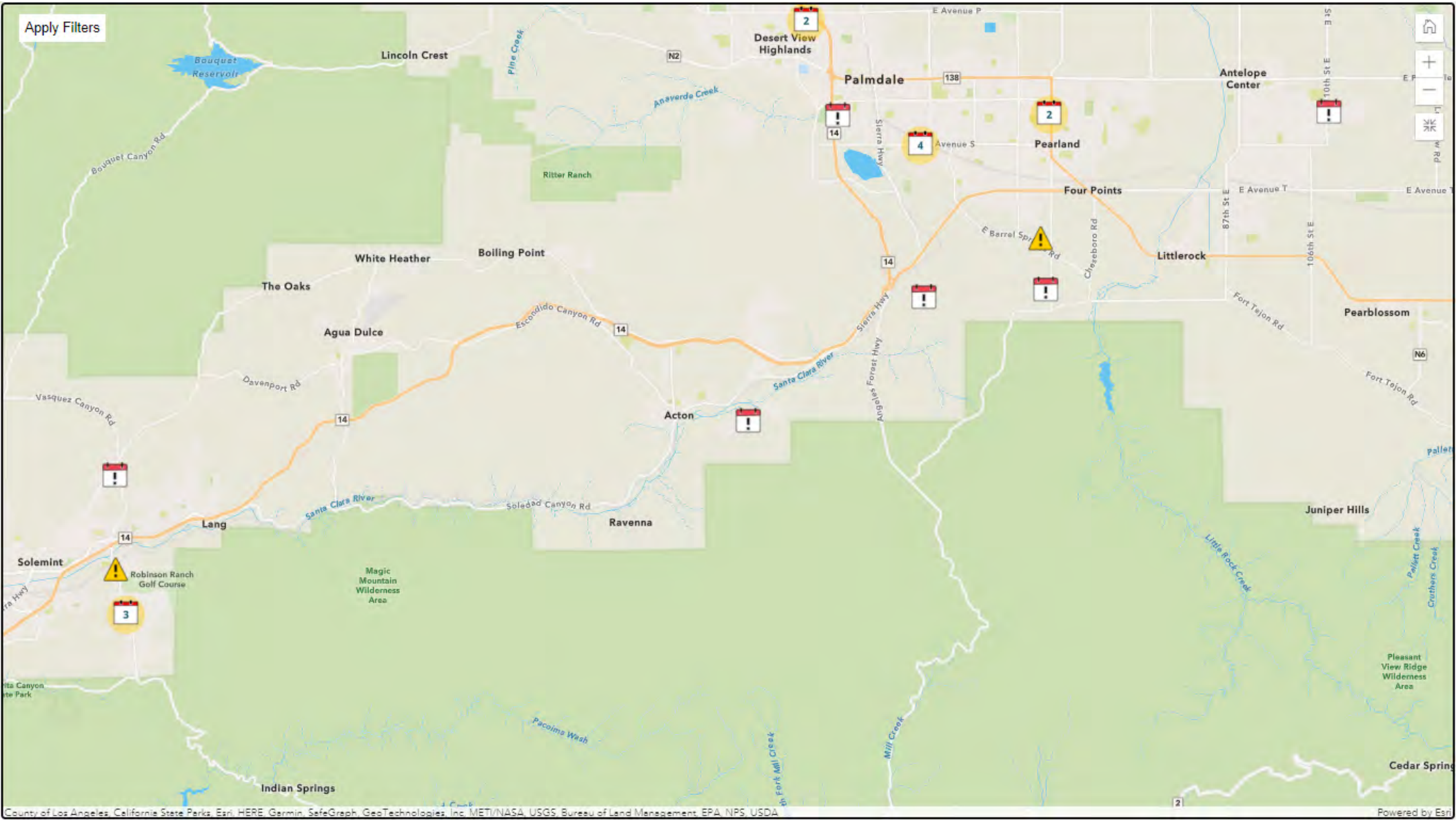
Outage Number

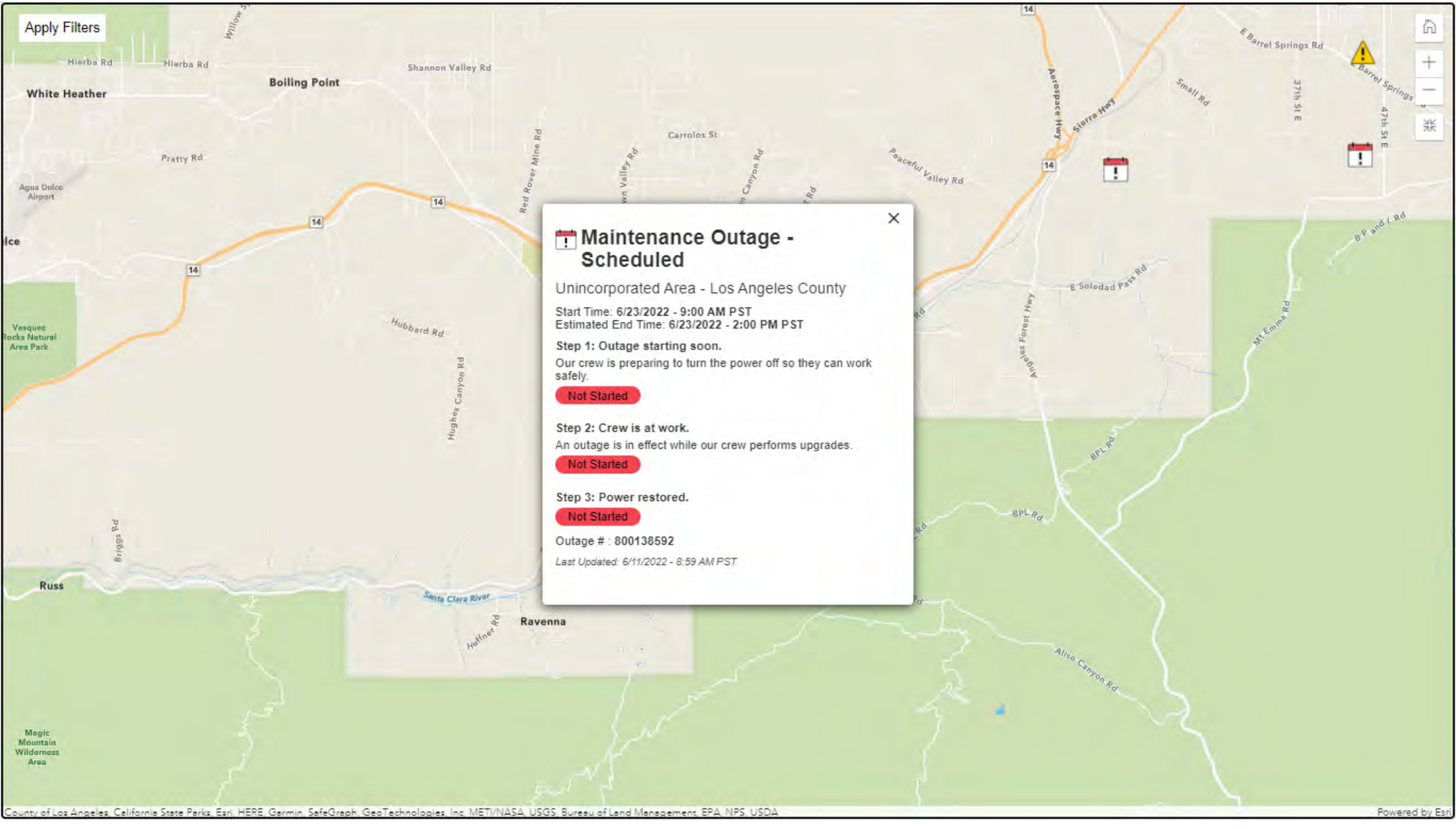
Go

- Turn On/Turn Off Service
- Install Service/Local Planning
- Find Rebates
- Contact Us
- Help Center
- Your Business
- Customer Support
- Partners & Vendors
- Outage Center
- Your Safety
- Energy Procurement
- Regulatory
- Sitemap
- Accessibility
- Careers
- Catalina Island
- Community
- Edison International
- Education
- Energized by Edison
- Newsroom
- Twitter
- LinkedIn
- YouTube

Feedback

- Terms & Conditions
- **PRIVACY NOTICE**
- CCPA Request
- Copyright Act Policy


Apply Filters
Bouquet Reservoir
Lincoln Crest
Bouquet Canyon Rd
Pine Creek
N2
Desert View Highlands
Palmdale
138
Antelope Center
Anaverde Creek
Sierra Hwy
Avenue S
Pearland
Ritter Ranch
Four Points
E Avenue T
E Avenue P
White Heather
Boiling Point
The Oaks
Agua Dulce
Escondido Canyon Rd
Cheseboro Rd
Littlerock
87th St E
106th St E
Fort Tejon Rd
Pearblossom
N6
Davenport Rd
Vasquez Canyon Rd
Santa Clara River
Angeles Forest Hwy
Acton
Lang
Soledad Canyon Rd
Ravenna
Juniper Hills
Solemint
Robinson Ranch Golf Course
Magic Mountain Wilderness Area
Little Rock Creek
Pallett Creek
Crothers Creek
Pleasant View Ridge Wilderness Area
Pacoima Wash
Mill Creek
Indian Springs
Cedar Spring
14
2
4
3
County of Los Angeles, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA
Powered by Esri

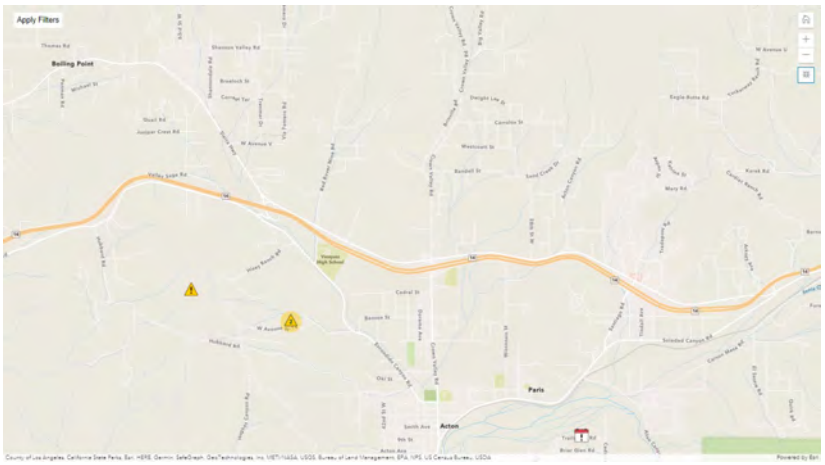

Apply Filters
Maintenance Outage - Scheduled
Unincorporated Area - Los Angeles County
Start Time: 6/23/2022 - 9:00 AM PST
Estimated End Time: 6/23/2022 - 2:00 PM PST
Step 1: Outage starting soon.
Our crew is preparing to turn the power off so they can work safely.
Not Started
Step 2: Crew is at work.
An outage is in effect while our crew performs upgrades.
Not Started
Step 3: Power restored.
Not Started
Outage # : 800138592
Last Updated: 6/11/2022 - 8:59 AM PST
Hierba Rd
Boiling Point
White Heather
Shannon Valley Rd
Carrolos St
Pratty Rd
Agua Dulce Airport
Red Rover Mine Rd
Peaceful Valley Rd
Aerospace Hwy
Sierra Hwy
E Barrel Springs Rd
Small Rd
37th St E
47th St E
Hubbard Rd
Hughes Canyon Rd
Vasquez Rocks Natural Area Park
E Soledad Pass Rd
Angeles Forest Hwy
Mt Emma Rd
BPL Rd
Briggs Rd
Russ
Santa Clara River
Heffner Rd
Ravenna
Aliso Canyon Rd
Magic Mountain Wilderness Area
County of Los Angeles, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA
Powered by Esri

From:	Thuy Hua
To:	DRP EPS Climate
Subject:	FW: (External):Power out in central Acton
Date:	Thursday, June 23, 2022 4:44:22 PM
Attachments:	image001.png image002.png image.png

Per Ms. Ayer's request to include the email chain below as a comment for the Draft 2045 CAP.

From: Acton Town Council <atc@actontowncouncil.org>
Sent: Wednesday, June 22, 2022 12:37 PM
To: Jeremiah Owen <jeremiahowen@gmail.com>; Acton Town Council <atc@actontowncouncil.org>
Cc: David Coscia <DCOSCIA@dpw.lacounty.gov>; Rochelle K Silsbee <ROCHELLE.SILSBEE@sce.com>; Thuy Hua <THua@planning.lacounty.gov>
Subject: Re: (External):Power out in central Acton

Thank you Jeremiah!
We managed to get our solar panels and tesla battery back in synch, so we now have backup power restored (which means we also have internet). It turns out that, even after spending nearly $30 grand for solar and battery backup, you can still lose power and internet in broad daylight! Who knew? We are still trying to figure out what went wrong.
The power outage in rural North Los Angeles was widespread; it captured parts of Acton and Agua Dulce and extended all the way to the Three points area (though Agua Dulce power is reportedly back on). Ms. Hua; would you be so kind as to include this email trail in the record for the Climate Action Plan? And Ms. Silsbee, would you please take note of the screen shot I pasted in below which I just took of the SCE outage website - it shows no power outages on the "Pick" circuit even though power is definitely out in Central Acton.
Thank you
Jacqueline Ayer
Correspondence Secretary



On Wed, Jun 22, 2022 at 11:32 AM Jeremiah Owen <jeremiahowen@gmail.com> wrote:

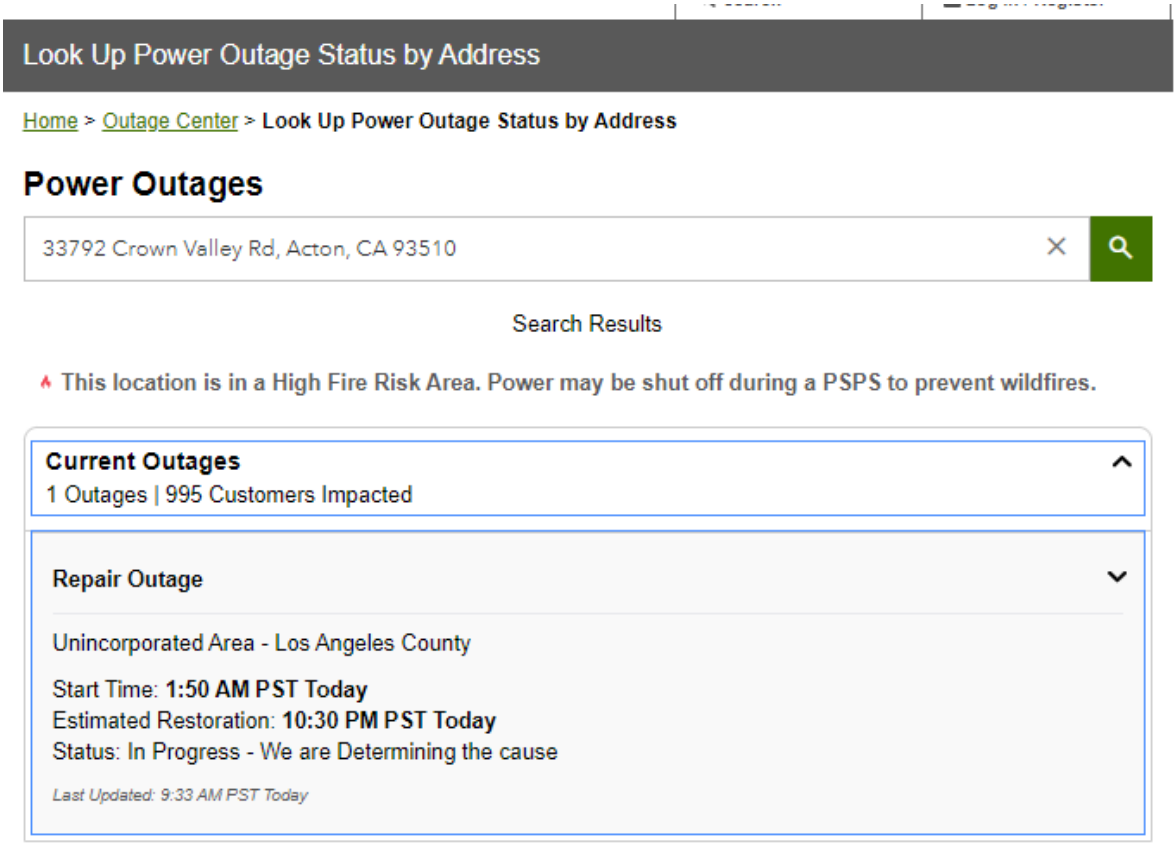
> Hello!
>
> Jacki is without power as are most of the Council Members. We are going to cancel the meeting for tonight as we want to be sure all folks can participate whether in person and/or Zoom. I am working on securing a date for next week and will be back in touch ASAP once I have that locked down. Appreciate the flexibility, we had more rain in the last 10 hours than I think we had all winter! Quite a show! Be in touch shortly.
>
> Thanks,

Jeremiah Owen
President
Acton Town Council

On Wed, Jun 22, 2022 at 11:23 AM David Coscia <DCOSCIA@dpw.lacounty.gov> wrote:

> Hi Jackie
>
> Library called back and stated the power is being restored. Meeting may happen tonight. We will keep you informed.
>
> Regards,
>
> David Coscia
> Program Manager II
> Los Angeles County Public Works
> (626) 458-3529
>
> ---
>
> **From:** David Coscia
> **Sent:** Wednesday, June 22, 2022 11:15 AM
> **To:** Rochelle K Silsbee <ROCHELLE.SILSBEE@SCE.COM>; Acton Town Council <atc@actontowncouncil.org>; Thuy Hua <THua@planning.lacounty.gov>
> **Subject:** RE: (External):Power out in central Acton
>
> Hi Jackie
>
> Public Works staff called the Library and were told, "Library is closed for the day, all meetings are cancelled"
>
> Please confirm Zoom meeting will still be held tonight. Public Works is planning on giving our presentation at 8 pm.
>
> Regards,
>
> David Coscia
> Program Manager II
> Los Angeles County Public Works
> (626) 458-3529
>
> ---
>
> **From:** Rochelle K Silsbee <ROCHELLE.SILSBEE@SCE.COM>
> **Sent:** Wednesday, June 22, 2022 10:17 AM
> **To:** Acton Town Council <atc@actontowncouncil.org>; Thuy Hua <THua@planning.lacounty.gov>; David Coscia <DCOSCIA@dpw.lacounty.gov>
> **Subject:** RE: (External):Power out in central Acton
>
> Hi Jackie,

Thanks for advising about the meeting tonight. If I have the address to the library right, here is what I'm seeing on the website https://www.sce.com/outage-center/addresslookup. We're working on multiple fronts to address damage caused by the storm, but I'll see if I get you and update too.



Rochelle Silsbee
Government Relations Manager
Local Public Affairs
M. 626.238.4973

SOUTHERN CALIFORNIA EDISON | Energy for What's Ahead™

From: Acton Town Council <atc@actontowncouncil.org>
Sent: Wednesday, June 22, 2022 9:58 AM
To: Hua, Thuy <thua@planning.lacounty.gov>; David Coscia <DCOSCIA@dpw.lacounty.gov>; Rochelle K Silsbee <ROCHELLE.SILSBEE@SCE.COM>; Acton Town Council <atc@actontowncouncil.org>
Subject: (External):Power out in central Acton

***** EXTERNAL EMAIL - Use caution when opening links or attachments *****

Hello Everyone;

The power went out in central Acton last night on the Pick Circuit- it is still out. I am using a friend's phone as a hot spot because my cellular provider has lost service at the nearby tower. I do not know if the rest of Acton is out, but if central Acton is out, then so is the library where our meeting is tonight. I can't call there because they do not open until 10. SCE's website does not show that power is out in my neighborhood, but it does show the Shovel circuit is having some problems - no timeframe for completing repairs is provided. Anyway, I can only send this quick note because I have to return my friend's cell phone. I will let you know when power comes back on in the area.

> Thank you
> Jacqueline Ayer
> Correspondence Secretary

ACTON
TOWN COUNCIL
P.O.Box 810, Acton CA 93510

Thuy Hua
Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012
Electronic transmission of 21 pages to:
climate@planning.lacounty.gov and
THua@planning.lacounty.gov

July 18, 2022

Subject: Acton Town Council Comments on the Draft Climate Action Plan.

Reference: Solicitation of Public Comment on the Draft Climate Acton Plan Issued April 25, 2022.
Extension Deadline for Public Comments on the Draft Climate Action Plan Issued July 5, 2022

Dear Ms. Hua;

The Acton Town Council ("ATC") appreciates this opportunity to provide comments on the Draft Climate Action Plan ("DCAP"). These comments are submitted before the noon deadline on July 18, 2022 established by the Department of Regional Planning ("DRP"); therefore, they are timely filed.

The ATC has a number of concerns with the DCAP; some are general, others are specific. For the sake of simplicity, our general concerns are presented first, and our specific concerns are then generally arranged by Chapter.

GENERAL CONCERNS WITH THE DCAP.

The DCAP Fails to Address Unique Circumstances in Rural Areas that render Decarbonization and Electrification Measures Infeasible and Even Life Threatening:
On March 15, 2022, the Los Angeles County Board of Supervisors ("Board") adopted a motion directing the development of feasible building decarbonization policies and ordinances and code changes to phase out the use of natural gas equipment and appliances in all new construction and substantial renovations (referred to hereafter as the "Motion"). Importantly, the Motion included a clause stating that the policies, ordinances, and code changes that are developed must consider "the varying climate, geography, and infrastructure challenges that rural communities face"; this means that only policies, ordinances and code changes which account for the climate, geography, and infrastructure limitations in rural areas will be deemed "feasible". The plain and unambiguous language

of this motion makes it incontrovertibly clear that the Board intends that County decarbonization policies, ordinances, and code changes be sufficiently flexible to accommodate unique circumstances in rural areas pertaining to climate, geography, and infrastructure. These circumstances include:

- Unreliable Electrical Infrastructure – rural residents frequently lose electrical service throughout the year and often for days. Accordingly, rural residents who are forced to switch to "all electric" and are not permitted to operate gas-powered stoves will be unable to prepare meals for their families (because electrical stoves will not work). They will also have no heat (because electrical heaters will not work). Their only alternative would be to purchase a massive and expensive gasoline or diesel-powered generator to operate their "all electric" homes; however, this is not be a permanent solution because the CAP "aspires" to eliminate gasoline and diesel from the County altogether. Eventually, rural residents in "all electric" homes will have no means to heat their homes or prepare meals during the frequent power outages they experience. Rural residents already suffer substantially from the unreliable electrical service they receive because when the power is off, they have no water (electric pumps that provide water from their domestic wells do not work), they have no lights, they have no refrigeration, and they have no internet or cell phone service. Currently, many homes resort to using small, portable, fossil-fueled generators to supply some electricity. However, small generators are insufficient to meet heating and cooking needs in an "all electric" house. And, in any event, the CAP eliminates this solution anyway.

- Mountainous Geography – rural residents who live in mountainous areas experience weather events such as snow and heavy rains that often leave them isolated (because of road conditions) and without power (because of damaged electrical facilities). Under such circumstances, residents living under "all electric" conditions have no water, no heat, no power, and no ability to prepare food. These are precisely the circumstances that occurred in 2021 in the Pine Canyon area of Three Points where rural residents were both isolated and without power for 7 days because a snow storm damaged power lines and limited access to such an extent that SCE could not get in to make necessary repairs. One resident in an "all electric" home relied on a massive generator to survive; other residents were able to rely on their propane. Eventually, the CAP will eliminate all generator options, and if it eliminates propane too, rural mountain residents will be unable to heat their homes or feed their families during emergencies.

- Climate: Rural residents in high desert and mountain communities experience the hottest temperatures in the County and also experience the coldest temperatures in the County. These circumstances are already challenging enough, but they are exacerbated by the fact that rural high desert and mountain communities also experience the most unreliable electrical service in the State of California (for instance, between 2019 and 2022, the Communities of Acton and Agua Dulce experienced more and lengthier blackouts than any other communities in California and the local school district lost more than 4 weeks of classroom days). Under such circumstances, and as explained above, residents living under "all electric" conditions will have no water, no heat, and no cooling to help them cope with the extreme conditions they face during an emergency.

Notably, the decarbonization strategies, measures and actions set forth in the DCAP do not provide any of the flexibility required by the Motion and they certainly do not consider "the varying climate, geography, and infrastructure challenges that rural communities face". For instance, the stated purpose of Measure E1 is to "electrify existing buildings"; this blanket statement is written in absolute terms, it captures all existing buildings (regardless of whether they are located in rural areas that have extreme climactic, geographical, or infrastructure conditions) and it provides ***no*** flexibility to consider "the varying climate, geography, and infrastructure challenges that rural communities face". Additionally, Action E1.1 requires "buildings to retrofit natural gas water and space heating to electric water and space heating at the point of sale"; this action unequivocally mandates electrification of all residences regardless of location when title is transferred and it utterly fails to accommodate "the varying climate, geography, and infrastructure challenges that rural communities face". Furthermore, Action E2.1 requires the County to adopt an ordinance requiring all new buildings to be fully electric with no gas hookups; this inflexible action also fails to accommodate "the varying climate, geography, and infrastructure challenges that rural communities face" because it unequivocally mandates electrification of all new residences throughout the County regardless of where they are located or what extreme climactic, geographical, or infrastructure challenges these locations face.

The inflexibility that is built into DCAP strategies, measures, and actions is highly problematic because the blanket, rigid, "one size fits all" decarbonization and electrification directives established by the DCAP will be incorporated into the County General Plan, and when that happens, these rigid strategies, measures, and actions will become binding and mandatory. Accordingly, all future County actions and all future County ordinances will have to strictly comply with the CAP's inflexible decarbonization and electrification strategies, measures, and actions; they will not (and cannot) reflect the flexibility that lies at the core of the Board Motion adopted March 15, 2022. The only solution is to incorporate some flexibility into CAP decarbonization and electrification strategies, measures, and actions. This can be achieved by revising the "Implementing Actions" and "Performance Objectives" established by DCAP Measures E1 and E2; recommended revisions are provided below. These recommendations reflect the fact that there is a difference between a "Zero Net Energy" building and an "all electric" building; in fact, these categories are mutually exclusive because a home that is "Net Zero Energy" need only generate more energy than it uses regardless of the form that the energy takes[1]. A home with a gas heater qualifies as a "Net Zero Energy" home if it produces as much renewable energy as the total energy (gas plus electricity) it uses. Importantly, without changes, the CAP cannot provide the flexibility demanded by the Board Motion adopted March 15, 2022.

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[1] The DCAP adopts the Department of Energy ("DOE") definition of a "Zero Net Energy" building as "An energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy." DOE defines "delivered energy" to mean *all* energy used in a home (electricity, fuels, heating energy, cooling energy, etc.) https://www.energy.gov/sites/prod/files/2015/09/f26/A%20Common%20Definition%20for%20Zero%20Energy%20Buildings.pdf [page 6].

Recommended Modifications to Measure E1:

MEASURE E1: Transition Existing Buildings to All-Electric (Core)

IMPLEMENTING ACTIONS

E1.1—Adopt Building Performance Standards for existing buildings and reach code requirements for major retrofits and renovations that require electric water and space heating taking into consideration the varying climate, geography, and infrastructure challenges that rural communities face. Require buildings to retrofit natural gas water and space heating to electric water and space heating at the point of sale taking into consideration the varying climate, geography, and infrastructure challenges that rural communities face.

E1.2—Increase alternatives to natural gas uses, such as for cooking, in existing buildings. Establish carbon intensity limits for existing nonresidential and residential buildings over a certain size taking into consideration the varying climate, geography, and infrastructure challenges that rural communities face.

E1.3—Adopt a ZNE ordinance for building renovations, based on certain criteria (such as commercial facilities with 10,000 square feet of additions). Adopt ZNE Building Performance Standards for certain buildings not undergoing major renovations or retrofits.

E1.4—Create a plan for phased electrification of LA County facilities. Phase out gas-powered infrastructure and appliances as they need replacement taking into consideration the varying climate, geography, and infrastructure challenges that rural communities face.

E1.5—Create a comprehensive fund aggregation program to support energy efficiency, decarbonization, and resilience in new and existing affordable housing.

PERFORMANCE OBJECTIVES

Electrify ~~all~~ existing residential buildings:

- 25 percent by 2030
- 40 percent by 2035
- 70 percent by 2045

Electrify ~~all~~ existing nonresidential buildings:

- 15 percent by 2030
- 25 percent by 2035
- 40 percent by 2045

Require Zero Net Energy (ZNE)[16] for all major renovations:

- 50 percent by 2030
- 75 percent by 2035

Recommended Modifications to Measure E2:

MEASURE E2: Standardize All-Electric New Development

IMPLEMENTINGACTIONS

E2.1—Adopt an ordinance requiring all new buildings to be fully electric with no natural gas hookups which takes into consideration the varying climate, geography, and infrastructure challenges that rural communities face. Include affordable housing considerations in these requirements, and develop supporting measures (financial support, technical assistance, or other incentives) to defray potential additional first costs in order to maintain housing affordability.

E2.2—Adopt a ZNE ordinance for all new residential buildings built after 2025 and all new nonresidential buildings built after 2030. Include renter protections for affordable housing. Provide affordable housing set-aside to offset first cost.

E2.3—Adopt CALGreen Code Tier 1 green building standards and identify which Tier 2 standards could be adopted as code amendments, taking into consideration the varying climate, geography, and infrastructure challenges that rural communities face.

PERFORMANCE OBJECTIVES

~~All~~ Most new buildings will be all-electric beginning in 2025.

All new residential will be ZNE beginning in 2025 and all new nonresidential will be ZNE beginning in 2030.

The DCAP's "Aspirational Goal" is Meaningless in the Context of a General Plan:
The DCAP establishes an "aspirational goal to achieve carbon neutrality by 2045"; however, the "aspirational" aspect of this goal is meaningless in the context of the General Plan. Specifically, because the CAP will be incorporated within the County General Plan, CAP measures, strategies, actions, and objectives will direct all future land use and development decisions; this means that all future development projects must be consistent with, and ensure conformance with, achieving the 2045 "carbon neutrality goal" regardless of whether the County believes this goal to be merely "aspirational". In other words, General Plans do not, and cannot, include "aspirational" goals because the County is obligated to implement and achieve all goals expressed in the General Plan; the County cannot merely "aspire" to achieving any General Plan goal. To address this error, the "aspirational" carbon neutrality goal must be eliminated because it has no meaning within the statutory framework of a General Plan.

Several DCAP Elements are Either Nonsensical, Too Burdensome, or Simply Unachievable
Several of the DCAP Strategies, Measures, and Performance Objectives are exceedingly flawed: Some place significant requirements on existing homeowners and are so vaguely written that their fiscal implications are impossible to comprehend; this makes it impossible to provide meaningful comments. Some are either erroneous or just make no sense, while others are impossible to achieve. For instance:

Measure E5 Performance Objectives Cannot Be Achieved: Measure E5 establishes a generic and perfectly reasonable objective to "Increase Use of Recycled Water and Gray Water Systems". However, the ultimate Performance Objective for Measure E5 (which, according to the Draft Environmental Impact Report ("DEIR"), is to meet "Countywide water demand by recycled water, gray water, and/or direct potable reuse" – see page 3.17-14) is ill conceived, poorly explained, not properly thought out, and (frankly) impossible to achieve from an engineering perspective. First, CAP Measures are not supposed to be a "Countywide"; they are supposed to apply to unincorporated areas. Yet, the DEIR describes Measure E5 as a 'Countywide" measure because it establishes "Countywide" performance objectives. Second, it is impossible to achieve *any* gray water, recycled water, or potable reuse in the rural areas of unincorporated Los Angeles County because these areas are not served by any sewer facilities; all residential and commercial developments in these areas are on septic. In other words, meeting the DCAP objective of serving 50% of community water demand by 2035 through the use of recycled water, gray water, and/or direct potable reuse can never be achieved in rural unincorporated communities. Finally, it is impossible to supply 100% of County water demand by recycling sewage water, and/or direct potable reuse because the County water supply is not a "closed system" (there are always losses from leaks, evaporation, reject water from the treatment process[2], etc.). In

[2] For example, using "reverse osmosis" to clean up sewage streams will result in a certain amount of "reject water" that must be discarded because it contains all the contaminants that are removed by the cleanup process. The volume of reject water often exceeds 10%.

other words, the process required to clean up sewage streams does not achieve 100% water efficiency. The Performance Objectives for Measure E5 reveal a conspicuous lack of technical understanding of how water systems work and what wastewater cleanup systems require.

Action E5.1 is not demonstrably practical in rural areas: Action E5.1 will "Require dual waste piping to be installed in new residential developments to allow for future graywater irrigation systems." While this action may be appropriate in areas that have sewer services, it is not demonstrably appropriate in rural areas that rely on septic. Specifically, segregating out grey water and diverting it from a septic system will significantly increase nitrate and acid concentrations in the septic system and in the leach field; it is not clear how well a septic system will function under these circumstances. If these concentrations cause a septic system to fail, then there are no alternatives. It is also not clear if the increased nitrate concentrations would adversely affect the environment surrounding the leach field. Also, segregating out gray water will significantly increase the solids content of the waste carried by the pipes leading to the septic system; this will result in significantly higher clogging rates and maintenance requirements. There are too many unknowns, too many potential environmental impacts, and too many potential system problems associated with this "Action", thus it must be revised to clarify that it is only applicable in areas served by a sewer system.

Action E6.1 is Entirely Infeasible and Completely Unworkable in Rural areas: Action E6.1 will "Develop a net-zero water ordinance for new greenfield development." There are several problems with this action. First, the DCAP does not define what "new greenfield development" is, so it is not clear what type of development will be subject to this "net-zero water ordinance". However, "greenfield development" typically refers to new development that occurs on unused (vacant) land, which means that Action E6.1 would apply to new homes built in Acton. The DCAP defines "Net Zero Water" to mean a building or community that does not rely on off-site water sources and instead uses rainwater, treated wastewater and "reused" water. Unfortunately, no new home in Acton could ever meet this "net zero water" definition or comply with a "net zero water" ordinance because 1) There is not enough rainfall in Acton to sustain a household via stormwater capture from roof runoff; and 2) There are no sewer facilities in Acton; thus, wastewater recycling would only be possible if a homeowner could somehow find, install, and properly operate a very small (<500 gpd) "package system" equipped with tertiary treatment and reverse osmosis. Such systems do not appear to be commercially available insofar as can be determined. And, even if small "package systems" with tertiary treatment and reverse osmosis were available, the homeowner would have to receive engineering training to ensure that this "package system" always operates properly and fully treats the wastewater before it is recycled back into the house and flows out of the taps (drinking unclean water is not only dangerous, it is deadly). Moreover (and as explained above), operating this "package system" will result in a waste stream of highly concentrated contaminants that would (probably) be designated as a biohazard and thus require appropriate disposal; it is

doubtful that a septic system would be appropriate for such disposal purposes because of the high contaminant concentrations in the waste stream. Accordingly, the County would have to develop entirely new waste disposal methodologies to properly process these unique waste streams. And, because of the water "losses" incurred from the wastewater treatment process, some supplemental water would have to be provided to the home to "make up" for these losses. Finally, implementation of Action E6.1 in rural areas would require the Health Department to hire many new inspectors to properly and frequently check on all the residential "package systems" that are installed to comply with this "net zero water ordinance". Frankly, the casual manner in which the DCAP just slaps down this "net-zero water ordinance" action is appalling; it indicates that staff have given absolutely no thought or consideration to what this ordinance would do, where it would be applied, who it would affect, or even how it would be implemented. Anyone with a basic understanding of sanitary system engineering knows that a home in the desert cannot subsist on just recycled waste water and stormwater capture from the roof. The lack of context and detail that this DCAP "Action" provides makes it impossible for the public to even understand its implications, let alone meaningfully comment on it. Worse yet, neither the DCAP nor the DEIR show any regard for the very real and very significant adverse health outcomes that will potentially arise from this "Action". For example, even if 99% of the rural residences equipped with individual "packaged systems" are operated properly, the 1% that are not operated properly will result in illness and death. This "Action" must be completely rethought and rewritten.

Action E4.1 could cost individual property owners more than $100,000: Among other things, "Action E4.1" will "Require all buildings to perform energy efficiency retrofits at the point of sale". This "Action" is so vague, open ended, and lacking in direction that it is almost meaningless. And, depending on how it is construed, this "Action" could cost homeowners more than $100 thousand to comply. All of this makes it impossible for the public to meaningfully comment on this "Action". What are the "energy retrofits" that homeowners will be required to complete before selling their homes? And is there a limit to them? Will homeowners have to replace all of their dual glazed windows for triple glazed? Will they have to replace their roof with a "cool roof"? Will they have to install a heat pump in place of their existing heating system? Will they have to replace all their appliances with Energy star rated equipment? Will they have to replace all their existing insulation with insulation that achieves a higher "R-Value"? Such changes would cost more than $100,000. And, what does "perform energy efficiency retrofits" even mean? It is clear that absolutely no thought went into this "Action", and (frankly) its implications are too terrifying for any homeowner to contemplate. This "Action" must be rewritten to provide clearly delineated limits and clearly explain what is meant by "perform energy efficiency retrofits" so that homeowner stakeholders can provide meaningful comments.

Action E4.2 is so Vague and Ambiguous That It Has No Meaning: Action E4.2 will "Adopt an energy efficiency ordinance for existing buildings, requiring all buildings over 20,000 square feet to benchmark and report their energy use and demonstrate their pathway to

efficiency." What is a "pathway to efficiency" and how will it be "demonstrated"? Will property owners be required to obtain an approved "Energy Efficiency Plan" from Regional Planning? If so, what "thresholds" will Regional Planning use to determine whether the "Energy Efficiency Plan" is adequate? How much efficiency improvement is required to be deemed on the "pathway to efficiency"? What energy efficiency measures will be required by this "Energy Efficiency Plan"? This issue is particularly important because energy efficiency measures can be very expensive (as discussed above). And, will Regional Planning establish a whole new bureaucracy of energy efficiency inspectors and planners to approve these "Energy Efficiency Plans" and make sure property owners comply? And what happens if they don't comply? The trite vagueness of this "Action" and its "pathway to efficiency" makes it impossible for the public to meaningfully comment on it; accordingly, it should be completely redefined and property clarified.

Action E6.2 is Vague and Ambiguous: Action E6.2 will "Adopt a water efficiency ordinance for existing buildings, requiring all buildings over 20,000 square feet to benchmark and report their water use and demonstrate their pathway to efficiency". Like Action E4.2, this "Action" is so vague and ambiguous that it is difficult to comment on it in any meaningful way. What is a "pathway to efficiency" and how will it be "demonstrated"? Will property owners be required to obtain an approved "Water Efficiency Plan" from Regional Planning? If so, what "thresholds" will Regional Planning use to determine whether the "Water Efficiency Plan" is adequate? How much efficiency improvement is required to be deemed on the "pathway to efficiency"? What water efficiency measures will be required by this "Energy Efficiency Plan"? Will there be a cost limit to them? Will Regional Planning establish a whole new bureaucracy of water efficiency inspectors and planners to approve these "Water Efficiency Plans" and make sure property owners comply? And what happens if they don't comply? The trite vagueness of this "Action" and its "pathway to efficiency" is unacceptable; accordingly, it should be completely redefined and property clarified.

"Strategy 9" and "Measure A1" Are Substantially Flawed: "Strategy 9" is supposed to "Achieve a net gain in carbon storage in the County's wildlands and working lands through management and restoration", and its description states "Forests, chaparral shrublands, and wetlands serve as carbon sinks that can sequester carbon dioxide that result from human activity. When these natural and working lands are converted to residential and other urbanized uses, that stored carbon dioxide is released into the atmosphere". These trite and overly simplistic statements are highly problematic. First: "forests, chaparral shrublands, and wetlands" *are not* "working lands", so equating "working lands" with "natural lands" is erroneous. Second, in rural agricultural communities like Acton, "residential uses" *are not* "urbanized uses"; so, equating "residential" uses with "urbanized" uses is absurdly wrong. Third, residential uses in desert communities like Acton typically increase carbon sequestration because homeowners increase vegetation cover by installing drought tolerant landscaping. Accordingly, the description provided for Strategy 9 should be revised to read "Forests, chaparral shrublands, and wetlands serve as carbon sinks that can sequester carbon dioxide that result from human activity. When these natural ~~and~~

~~working~~ lands are converted ~~to residential and other~~ urbanized uses, that stored carbon dioxide is released into the atmosphere". Furthermore, Measure A1 is supposed to "Conserve Agricultural and Working Lands, Forest Lands, and Wildlands", but it does not include any conservation or preservation actions or objectives pertaining to "Agricultural and Working Lands". To the contrary, the sole purpose of Measure A1 appears to be expanding "natural areas" and "open spaces". To be clear, "agricultural lands" and "working lands" are not the same as "open spaces" or "naturel lands"; in fact, they are diametrical opposites. Agricultural lands and working lands are lands that have been substantially modified and heavily used; they do not serve the public as "open space" or "natural areas". There is nothing honest or forthright in the Measure A1 title or description provided by the DCAP. Accordingly, the title should be revised to read "MEASURE A1: Conserve ~~Agricultural and Working Lands,~~ Forest Lands and Wildlands" and the description should be revised to read "Preserve, conserve, and restore ~~agricultural lands, working lands, rangelands,~~ forest lands, wetlands, and other wildlands in unincorporated Los Angeles County". Finally, Measure A1 establishes "Performance Objectives" that make no sense. Specifically, Measure A1 targets are to reduce the amount of natural land converted for urbanized uses by 25 percent by 2030, 50 percent by 2035, and 75 percent by 2045. These "Performance Objectives" are meaningless because they have no baseline and are not linked to any measurable factors. Reducing the amount of natural land converted for urbanized uses by 75% requires an understanding of what the 75% threshold value is tied to and what it even means; is the purpose of this objective to preserve 75% of the existing natural lands in the County? If so, then that is what the "Performance Objectives" should state. Or, is the purpose to ensure that the acreage of natural land which is converted to urban uses in future years is always reduced year over year? If so, then the "Performance Objectives" should state what that baseline is and thereby quantify the reductions that will be achieved. Equally troubling, how does the County plan on achieving these "Performance Objectives"? Does the County intend to pass an ordinance that prohibits urban development on land that the County deems to be "natural land"? And would such an ordinance apply to rural development? If so, then it would utterly controvert the entire purpose of "Rural Lands" that is set forth in the General Plan. It would also constitute an impermissible "taking" of private property. Strategy 9 and Measure A1 are substantially flawed and they require extensive revisions and corrections.

Action E6.3 Wrongly Concludes that Grasses are Not Water-Conserving Landscaping: Action E6.3 will "Incentivize residents to replace water-intensive landscaping, such as grasses, with water-conserving landscaping through a new ordinance along with education and incentive programs." This "Action" wrongly presumes that grasses cannot be water conserving. Recent developments in water saving groundcovers (including new cultivars of buffalo grass created by U.C. Davis) reduce water demand by more than 75%[3]; these grasses only require watering once per month after they are established. This, coupled with the use of underground watering in place of sprinklers, will allow rural residents in

[3] https://ucverde.com/

the high desert to maintain "cool" green spaces in their yard. Rural residents in the desert portions of the County will be far more affected by the heat effects of climate change than urban residents, so they should be allowed to have "cool" green spaces if doing so will only require a little water. This "Action" should be revised to not characterize grasses as "water intensive landscaping".

CONCERNS NOTED IN CHAPTER 1.

Pages 1-8 and 1-9 wrongly designate each executive order issued by the Governor of California as a "Legislation/Regulation". An Executive Order issued by a California Governor has no force or effect unless it invokes Emergency Powers, and it is neither "legislation" or "regulation". The CAP substantially misrepresents EO B-48-15, EO N-79-20, EO S-3-05, EO B-30-15, and EO B-55-18 as "Legislation/Regulation". In order for these Executive Orders to have the force and effect of legislation/regulation, the California Constitution would have to be abolished; additionally, the Office of "Governor of California" would have to be eliminated and replaced with something akin to the Office of "Dictator of California".

Page 1-9 asserts that AB 32 "Codified EO S-3-05". This statement is grossly inaccurate; EO S-3-05 included several components, but only one was "codified" by AB 32. Specifically, the only component of EO S-3-05 that was codified by AB32 was the directive to reduce GHG emissions in the State of California to 1990 levels by 2020. AB 32 did not "codify" any other GHG emission reduction targets identified in EO S-3-05.

Page 1-11 expresses an intent that "The 2045 CAP prioritizes equity, where every individual, regardless of race, income level, or neighborhood, has access to resources and opportunities to address climate change." This intent appears to affirm that the resources and opportunities provided by CAP implementation will be available to all and not just some. However, the very next sentence contradicts this intent because it states "The development and implementation of policies and programs to address climate change is designed to be inclusive, accessible, and meaningful to frontline communities, or marginalized groups of people…". This is troubling; CAP policy implementation should be inclusive, accessible, and meaningful to *all* communities, not just "frontline" communities or "marginalized groups of people". The equity embraced in the first sentence is conspicuously lacking in the second. The County of Los Angeles does not categorize the rural communities of the Antelope Valley as either "frontline communities" or "marginalized groups of people" (even though the County has marginalized and ignored these communities in virtually every recent county action that has been taken[4]); perhaps that is why the DCAP does not have any policies or programs which address the unique

[4] Rural communities were never consulted during development of the Sustainability Plan and were not even aware of the Sustainability Plan's existence until after the draft plan was completed and just before it was adopted by the Board. The County does nothing to address the devastating cumulative impacts resulting from the more than 50,000 acres of utility scale solar farms developed in the Antelope Valley; to the contrary, the County approve such projects without (continued)

climate change circumstances present in the Antelope Valley. For instance (and as we have pointed out numerous times over the last several years), the Antelope Valley is the hottest part of the County and it will be more adversely affected by the heat impacts of climate change than any other place in the County; yet, Antelope Valley residents will not benefit from the heat mitigation programs offered in the Sustainability Plan and the CAP (such as "heat island" reduction and "urban canopy" programs) because these programs will only be implemented in urban and suburban communities. In fact, the DCAP's definition of "heat island effect" is so constrained that it explicitly omits rural areas from consideration as potential places where "heat island effects" occur[5]. The DCAP ignores the "heat island effects" that persist in the vicinity of rural communities which are surrounded by thousands of acres of "black hardscape" that comprise the massive solar farms placed in the Antelope Valley. Worse yet, the DCAP refuses to acknowledge that its decarbonization and electrification policies will directly and significantly increase rural heat island effects in the Antelope Valley because they will drive the development of tens of thousands of acres of new "black hardscape" solar farms[6]. The CAP proposes no policies to address these concerns, and it includes no performance objectives that will eliminate these concerns. For example, the DCAP establishes a paltry 20% performance objective for installing rooftop solar on existing multifamily and commercial buildings and establishes no performance objectives for installing rooftop solar on existing single family residences. This is inexcusable. The only way to ensure that the many tens of thousands of acres of solar panels that will be required to implement CAP decarbonization and electrification objectives do not result in significant heat island effects or other adverse impacts in rural communities is to distribute these solar panels throughout the urban portions of the county; this will also avoid the need to construct massive battery storage facilities and new

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(continued) giving any thought to their cumulatively considerable. Rural residents in North Los Angeles County persistently have ***the worst health outcomes in the County***, but nobody cares that our childhood asthma rates are the highest in the state or our COPD rates are among the highest in the nation. In fact, the County Health Department has not bothered to conduct any health assessments in North Los Angeles County since 2017. Most recently, the County omitted all rural communities from the recently adopted "Green Zones" Program that just went into effect.

[5] Heat island effect is defined in the DCAP as "Measurable elevated temperatures in developed areas, as compared to more rural surroundings".

[6] Public comments that have been previously submitted pursuant to the CAP include quantitative, engineering evidence demonstrating that 795 square miles (509,000 acres) of new solar panels will have to be constructed to achieve the CAP's 2045 "carbon neutral Los Angeles County" goal expressed on page 3-7. Unincorporated Los Angeles County comprises approximately 11% of the County population, and approximately 65% of the total County area, thus implementing CAP electrification and decarbonization strategies in just the unincorporated areas of the County will require at least 80 square miles (or 51,000 acres) of new solar panels. This is even more than the 43,000 acre estimate that the ATC provided in our scoping comments submitted on February 1, 2022. If the 51,000 acres of solar panels required to achieve CAP decarbonization and electrification targets are provided in the form of remote industrial-scale solar farms, then CAP implementation will unquestionably result in significantly rural heat island effects.

transmission lines through high fire hazard areas. Unfortunately, the DCAP does little to secure a robust distributed generation program; in fact, the DCAP's distributed generation targets are so anemic that they will have virtually no affect[7]. These and other concerns have been pointed out time and again to County Staff (including in CAP scoping comments) but they are not reflected anywhere in the DCAP and they continue to be ignored by the County. The DCAP gives no consideration to the massive expansion in industrial solar farms that will occur in the Antelope Valley to achieve CAP targets; in fact, the DCAP does not even bother to establish a baseline number/area of solar farms in the Antelope Valley or commit to tracking how that number/area increases as CAP implementation advances. Given the dismissive and arguably disdainful regard that DCAP policies show toward rural community concerns, the ATC disputes the claim made on page 1-11 that the CAP prioritizes equity; we also do not believe that its implementation will provide resources and opportunities to all individuals. Accordingly, the ATC recommends that this sentence be revised to read "The 2045 CAP prioritizes equity, where every individual living in urban and suburban communities, regardless of race, income level, or neighborhood, has access to resources and opportunities to address climate change. The equity priority embodied in the CAP does not extend to individuals living in the rural communities of North Los Angeles County."

Page 1-11 also states "To address the impacts of climate change equitably, the 2045 CAP ensures that all policies and programs result in the equitable distribution of benefits and burdens across all segments of a community." The ATC stridently disputes this claim. CAP implementation will result in the significant expansions of industrial renewable energy "farms" in the Antelope Valley which will significantly burden the rural residents who live there. The renewable energy benefits provided by these "farms" will accrue to the urban residents of greater Los Angeles. Nothing about the CAP's decarbonization and electrification policies result in equitable distribution of benefits and burdens: rural communities will take all the burdens and urban communities will take all the benefits. This imbalance could be rectified if the CAP were revised to include policies that meaningfully advance local renewable generation resources; we have repeatedly asked for such policies, but the County persistently refuses to incorporate them into the CAP. Worse yet, the DCAP does not provide one single policy or action that will assist rural desert residents to cope with heat impacts and adverse effects of CAP implementation. It is unequivocal that the CAP will result in the inequitable distribution of significant burdens on the rural communities in North Los Angeles County without providing any discernable benefits. Accordingly, the sentence should be revised to read: "To address the impacts of climate change, the 2045 CAP ensures that all policies and programs result in the equitable distribution of benefits across all segments of urban and suburban communities and it

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[7] The CAP's "performance objectives" for installing rooftop solar photovoltaic on existing buildings is only 10% by 2035 and only 20% by 2045. These objectives are absurdly low and they guarantee that distributed resources will not contribute significantly to the quantity of renewable energy generation that will be required to implement the CAP.

further ensures that the burdens associated with achieving CAP decarbonization and electrification strategies are allocated solely to rural communities."

CONCERNS NOTED IN CHAPTER 2.

Page 2-5 of the DCAP refers to a "Business as Usual" forecast which assumes no GHG emission reduction programs are initiated and further assumes that there will be no implementation of any of the GHG emission reduction regulations that have already been adopted. This "Business as Usual" forecast presents a completely implausible scenario because it requires the County to ignore all the GHG emission reduction programs that it has already implemented; it also presumes the County will issue residential building permits without requiring solar panels and thereby violate the statewide "California Solar Mandate" requiring all new homes constructed after January 1, 2020 to be equipped with sufficient solar panels to meet the annual electricity usage of the building[8]. The "Business as Usual" scenario is non-sensical and incredibly unrealistic; it should be eliminated.

On pages 2-8 and 2-9, the DCAP conflates targets, goal, statutes, executive orders and sustainability "aspirations" and then twists them together to such an extent that the DCAP fails to distinguish between legislated targets (that the CAP should achieve for the County to assume its "fair share" of state GHG reduction goals) and weightless "aspirational" targets that are (frankly) entirely optional. And, in some instances, DCAP statements are completely incorrect. For instance:

- Page 2-8 states that there is a "statewide goal established by EO B-30-15 to achieve carbon neutrality by 2045". This is incorrect. EO B-30-15 makes no reference to "carbon neutrality" and it certainly does not establish a goal to achieve carbon neutrality by 2045.
- Page 2-8 asserts that EO B-55-18 establishes a "target" that statewide carbon neutrality will be achieved by 2045. This is incorrect. EO B-55-18 merely expresses an aspiration toward carbon neutrality by 2045. This "aspiration" has never been codified, it has no force or effect, and it is not a "target".
- Page 2-8 refers to the "OurCounty" Sustainability Plan GHG Emission Targets as if they were actionable; they are not. As County Counsel has repeatedly stated: 1) the Sustainability Plan commits the County to nothing; 2) There are no requirements for the County to achieve any Sustainability Plan targets; 3) Sustainability Plan targets are merely suggestions; and 4) The County has made no commitment to implement the Sustainability Plan[9]. In fact, in January of 2022, County Attorneys informed an Appellate Court judge that the County "hasn't come close" to implementing the

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[8] https://news.energysage.com/an-overview-of-the-california-solar-mandate/#:~:text=The%20California%20solar%20mandate%20is,up%20to%20three%20stories%20high.

[9] Briefs filed by the County Counsel in Superior Court Case 20STCP00419 and Court of Appeal No. B294182/Superior Court No. BS166732; these briefs are incorporated herein by reference.

Sustainability Plan. Accordingly, the targets expressed in the Sustainability Plan are neither mandatory nor compelling; the DCAP is wrong to adopt them as if they were.

Following the confused and jumbled descriptions of statutes, executive orders, plans, targets, goals, deadlines and timeframes, the DCAP finally lands on fixed targets expressed on page 2-9 as:

- By 2030, reduce GHG emissions by 40 percent below 2015 levels in the County.
- By 2035, reduce GHG emissions by 50 percent below 2015 levels in the County.

Notably, these targets bear no relationship to any legislative action that has been taken or executive orders that have been issued to reduce GHG emissions: there are no legislative mandates to achieve any reduction threshold by 2035, and the only target that has been legislated for 2030 is to reduce GHG emissions 40% below 1990 levels, not 2015 levels. In fact (and as indicated in DCAP Figure 2-5), the DCAP target for 2030 is nearly 15% more aggressive than any legislative targets that have been adopted. In other words, the DCAP's GHG emission reduction targets lack basis and appear to merely reflect insubstantial suggestions made by the Sustainability Plan which are neither binding nor obligatory.

CONCERNS NOTED IN CHAPTER 3.

Page 3-7 of the DCAP states "EO B-55-18 mandates that by 2045, the State of California must achieve carbon neutrality". This is incorrect. Emergency Powers were not invoked when Executive Orders B-55-18 was issued; thus, EO B-55-18 does not "mandate" anything. Only the legislature has the power to "legislate" carbon neutrality; this has never happened, so the DCAP wrongly declares that carbon neutrality is mandatory or has a deadline.

On Page 3-11, the DCAP establishes three key elements of "decarbonizing the energy supply": procuring renewable energy resources, replacing the fossil fuels used in heating and cooking with electricity and "renewable fuels", and increasing energy efficiency to reduce energy use. A centerpiece of the DCAP strategy for "procuring renewable energy" resources is the Clean Power Alliance ("CPA") which (according to the DCAP) ensures "LA County will procure electricity that is generated by 100 percent renewable sources from CPA". This statement is misleading, given that "LA County" refers to the government of the County of Los Angeles and that most "LA County" facilities are not even served by CPA because they are located in cities and communities that are not part of CPA. For example, all the "LA County" facilities in the City of Los Angeles are served by Los Angeles Department of Water and Power, therefore they will not (and cannot) procure 100% renewable electricity from CPA. This sentence should be revised to state "LA County will procure electricity for LA County facilities under the CPA's 100% clean option, SCE's 100% Green Rate option, or other available 100% renewable electricity service options".

The last two paragraphs of Page 3-11 pledge "equitable access" to "local" energy sources and express broadly optimistic strategies for "community shared solar" and even "microgrids" in unincorporated areas to provide reliable electricity based on "energy

maps" that will "identify the geographic opportunities to deploy these distributed energy resources in an equitable manner". However, *these pledges will ever be kept*. This is because these pledges require CPA to actively participate in the development of distributed generation resources, *but CPA has not, does not, and will not,* develop distributed generation resources. CPA only procures renewable electricity from industrial scale solar farms located in the desert; in fact, in the more than 5 years that have passed since its inception, CPA has never developed one single kilowatt-hour of distributed generation. In other words, the DCAP's "energy maps", "microgrids", "distributed generation", "equitable access to local energy sources", and "community shared solar" programs are just meaningless words because *CPA is not inclined to pursue such projects*. The only way that these programs could ever come to fruition is if the County were to become an "electrical generator" by installing microgrids and distributed generation facilities and then selling the power to CPA or SCE. At a public meeting convened on June 14, 2022, County staff were asked whether the County was planning on becoming a "distributed renewable energy generator" to achieve the microgrid and distributed generation programs promised by the DCAP and thereby fill the gaping distributed generation "void" that CPA has created; the answer was not in the affirmative. Staff were then asked how, in light of CPA's disinclination to develop distributed resources, the County plans to develop the "energy maps" and use them to develop the distributed generation resources promised in the DCAP; the answer indicated that the County has no such plans. It is unacceptable for the DCAP to make empty promises regarding the expansion of equitable distribution of local generation resources, microgrids, community solar, and other programs. Accordingly, the last two paragraphs on page 3-11 must be either eliminated or extensively revised to provide real insight on how the County will ***ensure*** that these programs are implemented.

Page 3-13 states "Starting in October 2022, customers in the unincorporated County will get 100 percent renewable energy—wind, solar, geothermal—from CPA, compared to the 50 percent clean energy they receive now". This statement gives the impression that customers in unincorporated areas will be compelled to participate in CPA's 100 percent clean (i.e., "green") energy program; this is incorrect. First, only customers of CPA will be switched. Second, the switch is neither irreversible nor permanent; customers can switch back to the 50% clean energy program (or even the less than 50% clean energy program) if they wish. Third, it is likely that residents will switch out of the 100 percent clean energy program for a number of reasons. For instance, CPA's 100 percent clean energy rates are quite high, and when the incremental cost to switch to 100% clean energy is added to the nearly 50% increase in electrical rates that unincorporated Los Angeles County residents have already absorbed over just the last five years, it is likely that many residents will switch back to the lower cost power. Another reason rural unincorporated residents may switch is because CPA's 100% clean energy program is not based on clean, local distributed generation and instead relies entirely on remote "solar farm" industrial generation which creates terribly adverse impacts on both wildlife and rural residents in north Los Angeles County. In fact, CPA's renewable energy procurement program has directly caused the utter destruction of more than ten thousand acres of pristine desert lands in the Antelope

Valley. For instance, consider CPA's new, 6,000 acre "Edwards Sanborn" solar farm; according to the project website[10], the site used to look like this:

Now, it looks like this:

10 https://dudek.com/your-sector/energy-sector/edwards-sanborn-solar-storage-facility/

CPA's 6,000 acre Edwards Sanborn project also drove extensive expansions of new electrical infrastructure, including transmission lines, substations, and other facilities. It also encroached into archeological sites and wildlife habitat, and it was entirely unnecessary because all the power that is now being generated by the Edwards Sanborn project could have been (and should have been) more reliably generated within CPA's customer load via distributed generation. The rural residents of Los Angeles County have tried diligently for years to convince CPA to stop destroying the desert and start producing reliable local generation. CPA dismisses these residents and ignores their comments.

The ATC points these things out to illustrate the substantial hypocrisies and environmental misconceptions that are embodied in the DCAP. For instance, and as the photos above demonstrate, the DCAP's decarbonization strategies will result in the conversion of more "natural areas" "open spaces" and thereby eliminate more "carbon sequestration" opportunities than any urban development ever could because these strategies require many tens of thousands of acres of new solar panels just to decarbonize the unincorporated areas of the County; many hundreds of thousands of acres will be required to achieve the DCAP's carbon neutrality goal countywide. Because the DCAP includes no provisions to ensure these solar panels are installed locally (specifically, in the urban and suburban areas where the power is used), and because both CPA and SCE only procure renewable power from industrial solar farms located in the desert, the DCAP's decarbonization and electrification strategies guarantee the destruction of enormous "natural areas" and "open spaces". In other words, the carbon sequestration protections that Strategy 9 claims to achieve by preserving, conserving, and restoring "agricultural lands", "working lands", and "wildlands" will be entirely defeated by DCAP decarbonization and electrification strategies which will eliminate hundreds of thousands of acres of "agricultural lands", "working lands", and "wildlands". And it is all unnecessary because DCAP decarbonization goals could easily be achieved via local distributed generation.

Page 3-15 of the DCAP establishes "Action ES2.2" which will "Complete enrollment of the community in CPA's 100% Green Power option or SCE's Green Rate option". The fact that CPA customers cannot be compelled to enroll in the 100% green power program and that they can de-enroll if they wish was already discussed above; however, Strategy ES2.2 also captures Southern California Edison ("SCE") customers, and it gives the erroneous impression that, pursuant to the DCAP, SCE customers will be enrolled in SCE's "Green Rate" option. This is troubling for several reasons. First, SCE suspended enrollment into its "Green Rate Plan" on June 2, 2022, and as of July 16, 2022, the suspension was still in effect. Though the suspension is expected to be temporary, nobody is able to enroll in the program at this point. Second, the "SCE Green Rate" is an optional program that was approved for SCE customers by the California Public Utilities Commission (CPUC); it is not a mandatory program and SCE customers cannot be forced into participating. Third, completing the enrollment of unincorporated residents into SCE's Green Rate option is not an "Action" that the County has any jurisdictional control over, therefore it cannot be included as an "Action" under the DCAP.

Page 3-16 establishes "Action ES3.1" to "Require rooftop solar PV for all new development." If implemented as written, this action will result in an ordinance that will require all new development to include rooftop solar, and it will become effective within 30 days of adoption by the Board of Supervisors. According to Page 4 of Appendix E, this ordinance is slated for adoption by 2024, which means that, by 2025, 100% of all new development should have rooftop solar; it also means that this 100% compliance rate should persist from 2025 through 2045 and even beyond because it is a requirement over which the County has complete control. Yet, the 2030 "performance objectives" that the DCAP establishes for this action is only an 80% compliance rate for new multifamily residences and only 40% for new commercial buildings. This makes no sense; it suggests the County will allow 20% of new multifamily residences and 60% of new commercial developments to "sidestep" rooftop solar requirement. How can this be? Will the County exempt certain developments from the rooftop solar requirement? If so, the exemptions should be presented and discussed in the CAP, and the public should be given an opportunity to review and comment on them. Another oddity is that there is no "Performance Objective" for new single family residential development under Strategy ES3, yet Strategy E2 includes a "Performance Objective" that all new residential buildings will be "Zero Net Energy" by 2025 and all new non-residential buildings will be "Zero Net Energy" by 2030. Presumably, "Zero Net Energy" homes will have rooftop solar (because wind generation is less commonly installed); this indicates that the "Performance Objectives" for "Strategy E2" are not consistent with the "Performance Objectives" from "Strategy ES3". The DCAP should be revised to ensure consistency between the various strategies and their "Performance Objective" timelines.

Page 3-16 establishes "Action ES3.2" to "Install rooftop solar PV at existing buildings" and it includes "Performance Objectives" pertaining to existing multifamily residential buildings and existing commercial buildings; these "Performance Objectives" are exceedingly low and will make little difference in reducing GHG emissions. Oddly, the DCAP includes no "Performance Objectives" for existing single family residences. It also provides no information on how these "Performance Objectives" are going to be achieved; for instance, is the County going to pass an ordinance that requires property owners to retrofit their existing homes to include solar? If so, then this should be clearly articulated in the DCAP along with projected cost requirements so that unincorporated residents will know what to expect regarding pending retrofits. And what of schools? Schools are often closed in the summer and when opened, they tend to operate during off-peak hours; this means that rooftop solar on schools can provide substantial green energy to the surrounding community during peak summer loads. However, schools are ineligible for tax credits and generation incentives, so it can be very difficult for school districts to install reasonably priced solar facilities. The County should work with CPA to develop a program to assist schools both financially and administratively to develop rooftop solar and thereby substantially expand distributed generation infrastructure.

Page 3-16 establishes "Action ES3.5" to "Require and incentivize renewable energy in multifamily housing for both new development and existing buildings." This "Action" is somewhat repetitive because Action ES3.1 already requires rooftop solar for all new development and ES3.2 directs rooftop solar to be installed at existing buildings. This "Action" is also inequitable because it provides incentives only for multifamily housing and not other types of housing or development. Why should a developer who is constructing luxury condominiums or townhomes in an urban community be given incentives to develop renewable energy when a rural resident living in a modular in Lake Los Angeles (where temperatures frequently exceed 100 °F in the summer) receives no incentives at all? This "Action" is intrinsically inequitable; it must be revised to address the concerns identified above and also explain how giving incentives to only some property owners is in any way "equitable".

Page 3-17 establishes "Measure ES4: Increase Energy Resilience" for the purpose of "expanding storage and microgrids". The problem is, the "Performance Objective" established for Measure ES4 only addresses local storage capacity and ignores local generation capacity. Storage without generation provides no resilience, thus an "Energy Resiliency" measure which only secures local storage is ineffective. To achieve true energy resiliency, local storage must be coupled with local generation; there is no resilience without both. To correct this substantial deficiency, a second Performance Objectives for Measure ES4 should be added which states "Achieve community electricity generation capacity equal to the communitywide 24-hour average usage by 2035/2045".

Page 3-17 of the DCAP establishes "Action ES4.4" to "Conduct feasibility studies to identify priority areas for solar and storage combined with building and community-scale microgrids and controls to support demand management and peak shaving to support grid resilience. Study implementation, costs, barriers, and obstacles. Adopt regulations that establish this use and standards for its development. Limiting peak energy demand can eliminate or reduce the use of high-carbon peaker plants. Require and incentivize renewable energy in multifamily housing for both new development and existing buildings." This "Action" includes not only "planning" and "study" activities, but also "regulations that establish this [community-scale microgrids] use"; thus, it expresses a concrete intent to meaningfully expand distributed renewable generation within communities. This is very laudable; however, it raises several questions that must be addressed. For instance, who will be required to construct the community-scale microgrids under the ordinances that are adopted pursuant to Action ES4.4? Will these regulations require the County itself to develop the microgrids (in which case, the County will become an "electrical generator")? Will the CPA or SCE be required to comply with the new regulations and construct the microgrids? If not, who will be required to comply? There is so little detail provided about "Action ES4.4" that it seems the County has no idea how it will be implemented or even whether it can be implemented at all. This gives the impression that the County is not actually serious about implementing "Action ES4.4"; this impression is amplified by the fact that the CAP does not even establish any "Performance

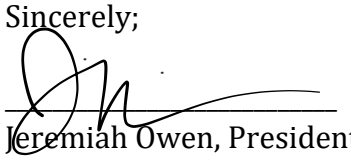
Objectives" for microgrid development - which means that the County isn't really interested in any meaningful implementation of "Action ES4.4".

Page 3-18 establishes "Measure ES5" which provides "GHG Requirements for New Development"; it also establishes a "Performance Objective" that "All new development that does not require a General Plan amendment ***shall*** be consistent with the 2045 CAP." Pursuant to this Performance Objective, all development (even a single-family residential project) will have to operate "fossil fuel free" to comply with DCAP Measure 2; this is problematic for new residential development in rural communities where electrical service is completely unreliable (as discussed above). The CAP must address this problem by providing flexibility for rural communities to retain use of fossil fuel heating and cooking opportunities; this is not only a "quality of life" issue, it is an issue of "life" itself.

CONCLUSION

The ATC respectfully requests that the County incorporate the comments offered above in the CAP. If you have any questions or require additional information, please do not hesitate to contact us at atc@actontowncouncil.org.

Sincerely;



Jeremiah Owen, President
The Acton Town Council

cc: The Honorable Kathryn Barger, 5th District Supervisor [Kathryn@bos.lacounty.gov].
Anish Saraiya, 5th District Planning and Public Works Deputy [ASaraiya@bos.lacounty.gov].
Donna Termeer, 5th District Field Deputy [DTermeer@bos.lacounty.gov].
Chuck Bostwick, 5th District Assistant Field Deputy [CBostwick@bos.lacounty.gov].

July 15, 2022

Advocates for the Environment

A non-profit public-interest law firm
and environmental advocacy organization

Thuy Hua
Los Angeles County
320 West Temple Street, 13th Floor
Los Angeles, CA 90012

Via U.S. Mail and email to climate@planning.lacounty.gov

re: Los Angeles 2045 Climate Action Plan Review

Dear Ms. Hua:

Advocates for the Environment submits the following comments in this letter regarding the Los Angeles 2045 Climate Action Plan (**CAP**). The CAP pertains to unincorporated Los Angeles County, and outlines strategies in alignment with an "aspirational goal" of carbon neutrality by 2045. Although the CAP mentions environmental justice goals, there are some areas that could potentially lead to inequitable outcomes unless modified. Please consider the following points so that the CAP can provide a more robust framework for the County's climate action.

Climate Leadership Role

The CAP emphasizes the importance of LA County as a climate leader: "All strategies require that LA County employ climate leadership and lead by example, recognizing the important role that LA County has as a convener and leader in the region." But the example set by LA County should be in alignment with the best available science, consistent with all climate goals, state-wide, national, and international, as well as set forth an example for how to create an achievable, trackable, plan.

Consistency with Global Treaties and Goals

The CAP is not aligned with the Intergovernmental Panel on Climate Change (**IPCC**) recommendations. The IPCC recommends that to avoid the worst impacts of climate change, global warming should be limited to an increase of 1.5 degrees Celsius. Accordingly, the Paris Agreement is binding treaty emphasizing limiting global warming to "well below 2 degrees Celsius" or preferably 1.5. To achieve this, GHG emissions need to be cut by 45% of 2019 levels by 2030. (IPCC Special Report: Global Warming of 1.5 °C.)

LA CAP should attempt to be consistent with this goal by quantifying Unincorporated LA County's GHG emissions in 2019 and calculating what a 45% reduction would look like by 2030, what strategies it would require, and how it could be achieved through potential partnerships and funding, divide the steps over the eight years from now until 2030, to make it more achievable.

Further, the IPCC focuses on energy storage and highlights the need for a sustainable energy grid, and the CAP should emphasize this as well, and potentially identify ways to invest more funds into battery storage.

Make the Plan More Detailed and Trackable

It is important that LA County set an example for how to set achievable, stepwise goals that track progress to the overarching 2045 goal over time. These goals should not only be based on qualitative requirements, but also on annual quantitative benchmarks or targets to maintain progress toward the overarching goal of carbon neutrality.

While the CAP includes an inventory of existing emissions by sector, it should be further divided into subdivisions and smaller categories so that individual development projects can track their relative contribution to overall GHG emissions. For each economic sector or subdivision there should be a separate implementation strategy that identifies required resources and funding mechanisms specific to that sector so that it is more achievable. The Paris Agreement has a strategy that uses an enhanced transparency framework, and the CAP could model the County's monitoring system upon the Paris strategy to make it more trackable and therefore enforceable.

Project-Specific Measures and Climate Planning Ideas

Climate leadership also entails setting goals for individual projects that will base their features on existing climate strategies laid out by applicable plans. Thus, the CAP should be clear on some project-specific measures to demonstrate consistency with the provisions of the CAP. This can be done through implementation of a point system, or alternatively the CAP could require all feasible adoption until net zero contribution is reached for the project. Or, better yet, the CAP could require that all new development projects be net-zero.

And the CAP should place a clear and unwavering emphasis on retrofit and renovation over demolition and construction, due to the increased emissions associated with new construction.

Use of Carbon Capture and Storage

The CAP indicates that"[i]f residual emissions cannot be eliminated through new technologies or be reduced over time in response to changes in community-wide activities, LA County will consider future implementation of carbon removal strategies (such as carbon capture and sequestration and direct air capture), along with future implementation of a carbon offsets/credits program, following completion of a feasibility study, to achieve carbon neutrality by 2045."

The CAP should not heavily rely on technological means of carbon capture and storage, as well as other technologies that have yet been shown to be economically feasible at a widespread scale because it is too uncertain that such measures will be able to be effectively implemented.

GHG Reductions Strategies

In addition to the existing strategies proposed by the CAP, the following strategies should be added or modified:

1. The CAP has a sunset strategy for oil and gas operations, but it should be more detailed and give quantifications, annual goals, and required resources as well as timeline feasibility to achieve the CAP's overarching climate neutrality goals. The CAP could contemplate transitioning old oil well fields into wind farms, as the public's main complaint is typically the visual and auditory "nuisance" that they create, but oil well fields arguably are more of a concern, not only because they are a nuisance but also because they pose health risks, so transitioning the land usage in this way would be beneficial. Alternatively, the land that was previously used for oil and gas operations could be used for batteries or solar farms to make LA's green energy grid more robust.
2. Next, the CAP could propose implementing community gardens to focus on increasing community greenspace, building healthy soils and plants to sequester GHG, while also reducing food insecurity and inequality and allowing a good resource for families to compost their food waste and turn back into soil, which will also more directly reduce GHG by reducing the shipping emissions shipping to food deserts. Alongside these efforts, the CAP could emphasize community outreach programs that incentivize the benefits of plant-based diets as well as strategies to do so affordably, to limit the GHG emissions created by animal agriculture.
3. The CAP should emphasize the importance of maximizing the efficiency of indoor air conditioning. In particular, such a program could inform public about reducing air conditioning usage by regular maintenance of air ducts, smart thermostats with schedule, increasing temperature by 1 degree of typical temperature to reduce the difference between inside and outside gradient, installation of energy efficient insulation, strategic use of blinds and windows, including closing them during the day to reduce heat, and upgrading old air conditioning units to energy efficient models (with co-benefits of saving money long-term).
4. The CAP should suggest that buildings be painted white, or that white concrete rather than black asphalt is used wherever possible, to utilize the albedo effect.
5. In addition to communications about reducing unnecessary water usage, the CAP should include information about how hot water specifically contributes to GHG emissions due to the high electrical use of water heating.
6. The CAP should include a plan to retrofit all existing landfills with methane capture systems to convert emissions into energy, and all new landfills to be created to have such systems.

7. The CAP could prioritize public transit systems and education about carpooling, implement a community carpool forum to make it easier for working individuals and parents with children at the same school to coordinate carpools each day and reduce single-person vehicle trips. The CAP could also propose incentivizing people to live car-free.
8. The CAP could implement and incentivize a certification program for workplaces (offices, etc.) to be certified as climate friendly by having actions such as reducing paper waste, using reusable dishes, plates, cups, energy efficient lighting/heating/cooling, water saving appliances, smart thermostat, and carpool systems. Companies are often widely visible to the public, and have the potential to influence the customer base, so that it is a clear benefit to the company to attempt to become certified.
9. Start and fund education programs in schools to inspire and educate the next generation on how to incorporate GHG-reducing actions in their lives (by the time 2045 comes around, the middle-schoolers you give a presentation will be well into their adulthood (ages 34-36), and at perhaps a lifetime peak of consumption, consumerism, and GHG emissions due to many of them having children themselves).
10. The CAP could start a program that gives out free trees and low-water drought-resistant plants for people to plant in their yard, which would also reduce the heat effects of certain neighborhoods and invest in shade for the future.
11. Plan and implement a water runoff storage facility that holds water long term with least possible evaporation (by having a covered system), making it feasible to plant trees as part of the other reduction strategies, because there will be less concern for the damage to water systems and availability of water for people during California drought.
12. Develop a specific, realistic, and feasible plan for collaborating and brainstorming with incorporated LA county and nearby counties to achieve regional benefits and expand the social influence.
13. Parking structures and rooftops should be retrofitted with solar to the extent possible.
14. Electric vehicle charging stations should be installed at key areas, with focus on environmental justice concerns and incentives to buy electric vehicles, with potential subsidies for people who live in disadvantaged communities.
15. Inform the public about reducing energy usage through unplugging unused electronics, shutting down computers when not in use, and turning off lights when leaving a room.

Focus on Diversity Should be Emphasized Throughout to Enhance Environmental Justice Goals

The CAP should specifically require diversity in the CAP implementation team. In particular, the CAP was silent on how members of the implementation team would be selected. To maximize representation, the implementation team should include community outreach chairs as representatives from each neighborhood in unincorporated LA county, so that each area has a local voice to represent community interests in the panel decisions. When it comes to hosting CAP implementation meetings, they should be open to public comment and attendance, and scheduled outside of traditional working hours so that it is feasible for most people to attend and meaningfully participate.

Further, the CAP should require that efforts to reduce GHG will not have a disproportionate effect on low-income, primarily Black, Indigenous, or areas with high representation of people of color. And any implementation of systems or technology that has the potential to create nuisances in those areas should be avoided or equitably located as to evenly distribute potential drawbacks.

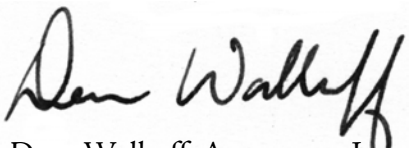
Pay Attention to Effects of Certain Measures on California Drought Impact

The CAP should holistically analyze environmental impact so that it does not inadvertently jeopardize fresh water supply in the pursuit of climate goals. Particularly, the tree planting provisions of the plan should, ensure that the plants chosen are drought resistant trees and do not need excessive amounts of water to grow. The CAP should consider the long-term water needs when the tree is fully grown rather than immediate water needs at the time of planting and plan accordingly.

Conclusion

Advocates for the Environment recognizes the dedication, thoughtfulness, and research that goes into preparing a Climate Action Plan, and sincerely hopes that these comments will be considered to set forth a policy which can not only help achieve LA's climate goals, but also lead the path forward to a climate-neutral future.

Sincerely,



Dean Wallraff, Attorney at Law
Executive Director, Advocates for the Environment

10211 Sunland Blvd., Shadow Hills, CA 91040 (818) 650-0030 X101 dw@aenv.org

AGUA DULCE TOWN COUNCIL

33201 Agua Dulce Canyon Road * Box Number 8 * Agua Dulce, CA 91390
Website: www.adtowncouncil.com

- Don Henry, President
  (661) 268-1731
  BH33605@aol.com
- Mary Johnson, Secretary
  (661) 492-5999
  maryjohnson767@gmail.com
- Chris Yewdall, Treasurer
  (310) 962-4662
  cyewdall@msn.com
- Kathryn Segura, Clerk
  (310) 650-6337
  phdanimals@yahoo.com
- Candy Clemente, Member
  cccryder@aol.com
- Scott Keller, Member
  (661)317-5355
  scottwilliamkeller@gmail.com
- Lou Vince, Member
  (310) 597-7154
  Lou@LouVince.com

July 18, 2022

Ms. Thuy Hua
LA County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012

Via Email to: climate@planning.lacounty.gov

RE: Comments on Draft 2045 Climate Action Plan and Draft Environmental Impact Report

Dear Ms. Hua:

The Agua Dulce Town Council (the Council) appreciates the opportunity to submit comments on the Draft 2045 Climate Action Plan and Draft Environmental Impact Report (DEIR). Both of these documents are highly technical and complex. The Council does not have the expertise or resources to adequately examine the documents. In our review we have specific comments and concerns not only on the plan, but how the plan was developed. Please include this correspondence as part of the public record and consider our concerns as you take action on the project.

While we admire the aspirational goals associated with the Draft 2045 Climate Action Plan (CAP), the Agua Dulce Town Council requests that the CAP acknowledge our community as an area with unreliable electric service that has been directly affected by frequent power outages. Having participated in a number of the CAP meetings and outreach opportunities, this issue was brought up on numerous occasions, yet it has not been included in the Draft CAP.

Agua Dulce is in a Very High Fire Hazard Severity Zone (VHFHSZ). Southern California Edison (SCE) provides the electric power to our community. In 2019, SCE and a number of other electricity providers got approval from the California Public Utilities Commission to implement Power Safety Power Shutoffs (PSPS). This allows SCE to proactively turn off power in high fire risk areas to reduce the threat of wildfires. SCE considers the need for Public Safety Power Shutoffs when weather and fire experts forecast dangerous conditions, including strong winds, very dry vegetation, and low humidity. Combined, these create the risk that flying debris or other damage to electric wires and equipment could cause a fire with the potential to spread rapidly and threaten communities.

Agua Dulce has experienced PSPS events from June through January. Some of the events last up to three days and cause widespread outages. We are also learning that even outages unrelated to PSPS events (for example, accidents involving a downed power line, transformer failure, faults detected in the system, and just random unexplained outages, etc.) will extend the restoration time due to the fact that

field crews must patrol a significant span of circuits and structures before safely restoring service. As a result of unreliable electric service, our residents have taken steps to be prepared for extended outages.

As you should be aware, Agua Dulce residents are all on private water wells. When there is a power outage, the ability to use water for domestic household use is eliminated. Additionally, those who need electric powered medical devices may experience life threatening situations.

Currently, the majority of homes in our community rely on a combination of electricity and propane for their power needs. The reliability of propane has become an even more important component in our energy toolbox. Propane is used primarily for heating the home, heating the hot water heaters, producing power for cook tops and ovens and heating the clothes dryer. Propane provides an economical, safe, and clean energy source. Propane is more dependable than electric. Propane can be safely stored in a tank on a homeowner's property. Electricity is subject to power outages. Propane works when and where other energy sources don't; making propane a viable, versatile, preferred choice. To eliminate propane as an energy source will be detrimental to our community and puts the Agua Dulce at risk due to unreliable electric service.

Many of our residents had backup generators powered by either propane or natural gas. Since the introduction of PSPS, many more of our community members have taken the steps to secure power reliability and have installed backup generators. SCE even encourages and provides financial assistance for purchase of backup generator options.

The Draft 2045 CAP eliminates propane as a power source and will require homes to retrofit to all electric appliances. Due to the fact that our community does not have reliable electric service, this action is unacceptable to the Council and Agua Dulce. Some type of accommodation for other power sources must be given to communities directly affected by frequent power outages.

Having an optional power source is also important during times of emergency or disaster circumstances. The Draft CAP does not take into consideration any preparedness for potential disasters that may strike Los Angeles County. The electrical grid is vulnerable to potential cyber-attacks, earthquakes, and prolonged outages due to wildfires. Adverse weather events like floods, tornados, and snowstorms can cause loss of electric power. These impacts were not evaluated and the plan falls short in addressing the failure of the electric grid due to man-made and/or natural disasters. These types of disasters may cause the transmission and distribution networks to be disrupted. Using renewable energy in an emergency may not be feasible or reliable. And renewable energy infrastructure is at risk. Both roof and ground mount photovoltaic solar panels may be damaged from a severe weather event or natural disaster.

The Council formally and respectfully requests that a truly reliable energy source be available for our community. Propane is a clean, economical option that will allow our community to remain resilient.

We ask that you carefully review our comments and consider them as you move forward with the proposed project.

Respectfully,

Don Henry

Don Henry, President
Agua Dulce Town Council – 2022

cc: Ms. Stephanie English, 5th District Field Deputy SEnglish@bos.lacounty.gov

Altadena Town Council Comments on Draft 2045 CAP

Altadena Town Council welcomes the opportunity to comment on LA County's Draft 2045 Climate Action Plan (2045 CAP).

Given Altadena's location bordering three wilderness areas, its high elevation, and micro-climate, it is already experiencing the negative impacts of climate change. A large proportion of Altadena homes and businesses are at high or very high risk of wildfires. Its climate is already several degrees warmer than Los Angeles and the Coastal communities making it at high risk for heat waves. Prolonged drought has dried up much of the local reservoirs and imported water from the Colorado River will be reduced in fall 2022. With more atmospheric rivers and heavy rain projected for Southern California (when it rains), Altadena is also at risk for flooding and rockslides.

Altadena Town Council supports the 2045 CAP and looks forward to working with the Department of Regional Planning on attaining the goals and targets of the CAP. Our comments are related to proposed policies and programs on energy, buildings, water, waste, and agriculture.

1. Energy
    a. The 2045 CAP proposes that all LA facilities and unincorporated areas are to be 100% Green Power supplied (Green Power Alliance or SCE 100% Green Rate Option). Green energy is more expensive than fossil fuel options. In Altadena, 7.62% of the population is below the poverty line and many others struggle to pay electrical bills. What provisions will be in place to ease the financial transition to 100% clean energy for our residents? [Reference: 2045 CAP, p73]
    b. The 2045 CAP will require rooftop solar on all new developments including multi-family housing. There are federal tax credits under the Inflation Reduction Act (IRA) to support new solar. Given the delays in obtaining building permits, some contractors/developers/homeowners opt to build without permits. How will the rooftop solar requirement be enforced? [Reference: 2045 CAP, p74]
    c. The 2045 CAP lays out plans for developing community resilience hubs that will include energy storage and/or the development of microgrids. As a community facing high or very high wildfire risks, how can Altadena plan and develop these community resilience hubs? What technical or financial support will be provided by LA County? [Reference 2045 CAP, p75]

2. Transportation
    a. Altadena is only serviced by one bus route which runs from Altadena to Pasadena in a loop. Bus stops are open to the air and there are no shade structures to protect those waiting for the bus. [Reference: p77]
    b. To provide for alternative modes of transportation which would reduce GHG emissions, the 2045 CAP proposes 500% increase in bikeway miles, micro transportation options such as e-bikes, e-scooters, bike share programs, car free areas, and implementing

parking maximums. Biking is popular in Altadena both as a form of commuting and for recreation. Development of dedicated bike lines would be welcomed. Bike share programs and micro transportation programs linked with Pasadena and La Canada Flintridge should also be explored as the distance between major shopping, restaurants, and entertainment areas is within 5-6 miles from Altadena. [Reference: p83]

c. To increase the adoption of EVs in Altadena, charging stations need to be established. There are currently no public charging stations in Altadena. [Reference: p86]

3. Buildings
   a. While the phasing out of natural gas in buildings is necessary to reduce GHG emissions, the timelines proposed in the 2045 CAP are short: 2023 to begin the phase out in buildings and all new buildings electric by 2025. This will require contractors to be proficient in heat pump and electrical water heater installation. There is already a shortage of qualified labor and without investment in training and certifications, this shortage will negatively impact meeting the 2045 CAP's goals. [Reference: p92]
   b. The 2045 CAP proposes that all buildings be retrofitted for energy efficiency at the point of sale. Citing the labor shortage above, as well as homeowner's need to sell quickly for reasons such as job relocation, military postings, or other family reasons, this requirement may be impractical. If homes are sold due to foreclosures, will banks be required to retrofit homes? This requirement needs further research as it may be difficult to implement. [Reference: p92]

4. Water
   a. LA County programs such as Free Smart Gardening Program and the Safe Clean Water Program Priority of Water and Sewer for Affordable Housing should be promoted and implemented in Altadena. [Reference: p100]
   b. Altadena is serviced by three water utilities: Lincoln Avenue Water Company, Las Flores Water Company, and the Rubio Canyon Land & Water Association. Since there is no centralized water utility, how will standards for indoor, outdoor, and water leaks be implemented? [Reference: p100]
   c. Programs to conserve water are welcomed such as required dual waste piping in new residences, direct potable reuse, and turf replacement programs. To save water and know when leaks are happening, residents and businesses need more information about their water use. Implementing Smart Water Meters across the community is the first step to enabling water conservation. If residents don't know how much water they are using for what purpose, and how it compares to a water conservation standard, it is difficult to conserve water. Smart Water Meters would be one inexpensive way to give residents this crucial information. [Reference: p100]

5. Waste
   a. The 2045 CAP proposes to ban single use plastic ware unless it is reusable, recyclable, or compostable. Most Altadena restaurants are small businesses that will need support to comply with this requirement. What support will LA County be providing to assist small businesses? [Reference: p104]

b. There is currently confusion as to the LA County composting program and whether it applies to unincorporated communities. Altadena's waste disposal company, Athens, has not provided clear guidance to residents that the program has started and what items are compostable. Residents were not issued with kitchen bins or information on how to collect organic waste. Attracting wildlife such as bears is another concern among some residents and need bear-proof bins. Some residents have been informed that a new waste disposal company will be contracted for Altadena in October 2022 and it is unclear what programs this company will have in place for town-wide composting. It would be beneficial for LA County to provide clear composting guidelines to Altadena residents and businesses so the community can meet the 2045 CAP's waste diversion targets. [Reference: p100]

6. Agriculture
   a. The 2045 CAP proposes to preserve wild and agricultural lands in LA County, conserve lands for carbon sequestration, manage vegetation to reduce wildfires risk, and increase the tree canopy. Altadena borders three wilderness areas and is home to several community parks. There are also areas of Altadena that have few trees and are considered heat islands. What opportunities will there be for Altadena to participate in carbon sequestration/credit programs, reduce our wildfire risk, and increase our tree canopy? [Reference: 107]

Association of Rural Town Councils
Susan Zahnter, Director
ourartc@gmail.com
661.724.2043

18 July 2022

SENT VIA EMAIL

Los Angeles County Regional Planning
Attn: Ms. Thuy Hua
320 W. Temple St., Room 1320
Los Angeles, CA 90012
THua@planning.lacounty.gov

Dear Ms. Hua,

Subject: 2045 Climate Action Plan Program Draft EIR; Draft 2045 Climate Action Plan

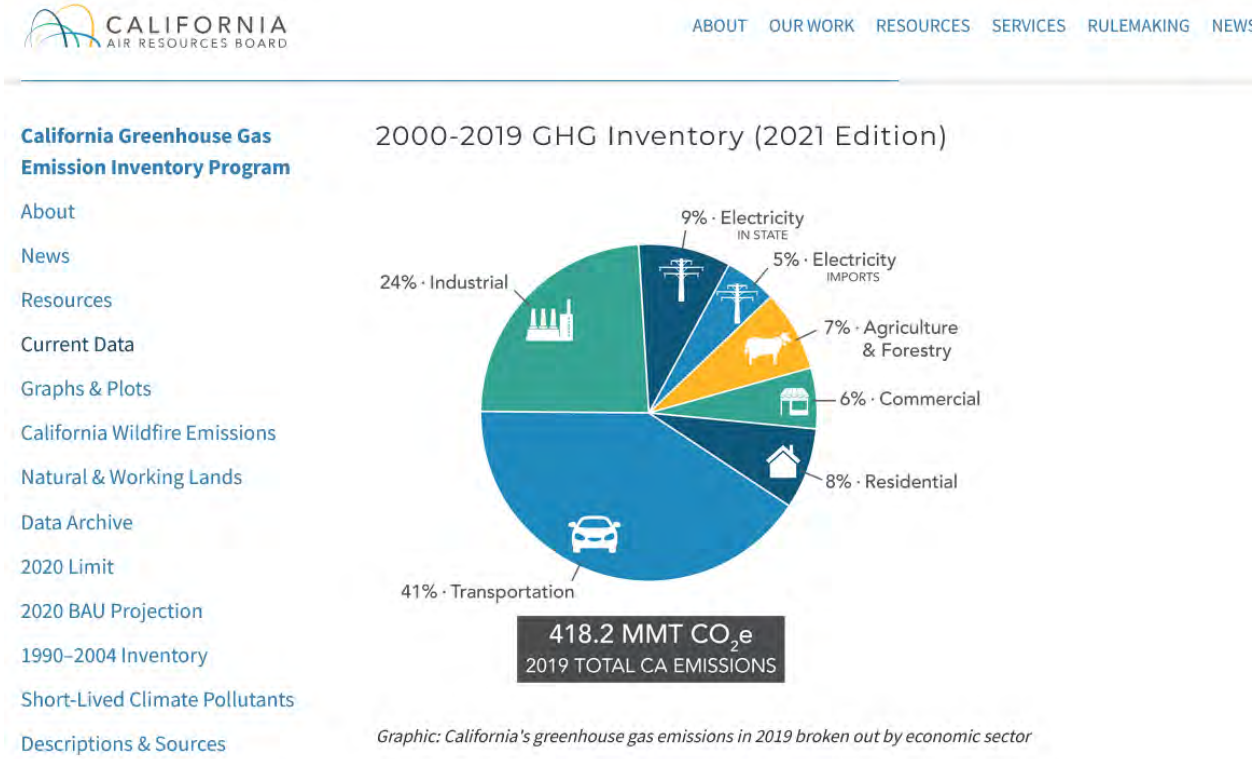
The Association of Rural Town Councils (ARTC) appreciates the opportunity to comment on the 2045 Climate Action Plan Program EIR (CAP PEIR); and the Draft 2045Climate Action Plan (Draft 2045 CAP). As you know the Antelope Valley and its fourteen member councils reside in diverse geographical locations with widely varied weather and atmospheric conditions that are vastly different from Southern Los Angeles County. Having attended many County Sustainability meetings, workshops and outreach events, a great deal of stress has been placed on community "resiliency," and ability to withstand and recover easily from extreme climate events that are projected to affect transportation, water availability, energy, communications, and other infrastructure. Rural residents must be allowed the tools to remain responsive and independent during such events that are predicted to increase in frequency. Rural residents are typically independent and prepared for such events, but need access to the tools necessary to be prepared for matters that can extend to life or death.

Our councils' locations in outlying areas of the Antelope Valley (AV) experience extremes in temperature in ways that other county residents do not experience with regard to cold and heat, and often along with Public Safety Power Shut-offs, and electrical service failure lasting days at a time. The ARTC has contributed comments in the past regarding the lack of recognition of conditions here, relative to our neighbors below. These include deficiency of reliable sources of electricity during extreme weather events; often eliminating electricity and communication services (due to high winds, precipitation, heat, snow) for days; Public Safety power shut-offs; loss of electricity to run water well pumps, since many rural communities do not have public water service; elimination of propane and gasoline powered generators that are used for pumping water, providing heat and cooling, and cooking. Rural communities have no natural gas infrastructure to deliver "biogas," which is identical to propane and natural gas itself. It is absolutely essential that rural communities' lack of infrastructure and lack of government assistance in general be recognized and accommodated in the Draft CAP, by acknowledging obvious climate, geographical, and infrastructure differences, and providing implementing actions that consider those differences.

One of the most disturbing aspects of the Draft CAP is the elimination of petroleum fuel products that residents need to supply energy for basic needs during events described above. Many of us rely upon propane and petroleum fuel generators for water, heating, and cooking during power outages. The ARTC cannot stress enough the need for Implementing Actions to consider the possible life threatening conditions the CAP will create for North County residents whose living conditions are much more extreme than those in the LA Basin—where temperatures rarely fall below freezing, and summer average

temperatures rarely exceed 100 degrees. Mountain communities have experienced zero degree winter temperatures, and Antelope Valley temperatures well below freezing, and can certainly exceed 105 degrees.

The ARTC requests that additional accommodation be written into the Draft CAP that allows for the small percentage rural community residents to continue to use propane and fuel powered generators. As seen below, the California Air Resources Board 2000-2019 GHG inventory reveals, 8 percent of GHG emissions in California overall are produced by residential uses. Without knowing the breakdown on GHG percentage of our rural communities heating fuel use, the ARTC approximates that the GHG emissions from residential use in rural communities of Antelope Valley to be almost negligible due to small population size and requests continued use of propane, natural gas, and other fuels until microgrids are established that will ease potentially life threatening interruptions in electricity. This must be done for the safety of rural residents.



Graphic: California's greenhouse gas emissions in 2019 broken out by economic sector

The inventory includes estimates for carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases with high global warming potentials (High-GWP) which includes hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). It uses an inventory scope and framework consistent with international and national GHG inventory practices. An updated emission inventory is published annually to include additional years and improved estimation methods. Archives of all previous inventory data and documentation are available on the archive page. (CARB 2019 CO2 Emissions)

The Draft Cap's direct move toward an all electric Net Zero energy LA County does not recognize that its actions will actually cause increased heating in the Antelope Valley as Net Zero is implemented. The County has refused to address the "Solar Heat Island Effect" of thousands of acres of utility-scale solar panels that produce the same temperatures in summertime as black asphalt, in ***rural areas*** and continues to assert "urban heat island effect" exists and assumes it is warmer than the AV. The County is concerned enough for "urban heat island effect" that it produced the Cool Roofs/Cool Roads Initiative, since much

of the local increase in temperatures is produced by heating of urban buildings and roads. Moreover, the Interim CSO CEO, during a County Sustainability Council Subcommittee meeting brought attention to landscaping replacement (saving water) at County facilities that should not be replaced with artificial turf, ***because its characteristics cause heat island effect!*** Yet, rural residents' plaintive cries regarding heating and destruction of our natural environment from development of massive solar fields are ignored. The urban core will enjoy cooler temperatures, urban tree planting, cool spaces, and peace of mind at the expense of the Antelope Valley, which will experience projected highest temperatures in the county predicted in the OurCounty Sustainability Plan, and as indicated in the ARTC comment letter (5 July 2019, attached) provided to the County Sustainability Office. In furtherance of accentuating the issues and concerns that refute environmentally "green" solar energy, several other letters are attached that are in response to solar energy projects in the Antelope Valley. We have repeated and continue to stress distributed generation is key to ensure "equity" across effects these projects inflict, wish to see stronger language in the CAP that supports equity for AV residents who will suffer the effects of large solar projects, which can be more readily solved by, again, distributed generation.

The action that requires "[A]ll buildings to perform energy efficiency retrofits at the point of sale" is very concerning, since there are no parameters that describe the extent to which retrofits are required. The cost to replace furnaces, appliances, windows, insulation, etc., could run into thousands of dollars, discourage sales, slow real estate transactions, and cause financial harm to homeowners and business owners with little equity—and few resources, who must complete the work before a sale can conclude. Those who cannot will be forced to walk away from whatever investment they have made in owning a home. Further consider impacts of a recession on home equity and a seller's ability to comply with CAP. It is unreasonable to expect investors, businesses, and homeowners who built their properties to existing codes to now invest in retrofits. The Draft CAP applies many requirements to existing buildings that were built without any knowledge or forethought of the County's Climate Action Plan, and for which builders and owners of residences, existing now should not have to comply. It is unreasonable to expect investors, businesses, and homeowners who built their properties to existing codes to now invest in retrofits. It is a sad irony that homeowners who want to sell their homes and leave Los Angeles County will be forced to pay for energy efficiency retrofits for communities they will leave. Furthermore, affordable housing has been at the forefront of news for quite some time, and the ARTC predicts that this will drive housing and rental costs up even more in a market that is not affordable for average income earners now, and hurts landowners who have been unable to collect rents for the last two years, and will take longer to recover. This should be explored for impacts to housing and mitigated by grandfathering existing residences and businesses.

The ARTC has for many years protested the development of utility-scale renewable energy because of its devastating impacts to rural communities, valuable natural environments, and public health issues caused by particulates affecting air quality caused by solar projects. We have promoted distributed generation as a way to preserve the integrity and rural character promised by the Antelope Valley Area Plan, which would fulfill the efforts to produce a Net Zero Los Angeles County.

Sincerely,

Susan Zahnter

Enclosures: 8

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P.O. Box 76
Lake Hughes, CA 93532
661.724.2043
ourartc@gmail.com

5 July 2019

SENT VIA EMAIL

Mr. Gary Gero
Chief Sustainability Officer
Los Angeles County Chief Executive Office
Kenneth Hahn Hall of Administration
500 West Temple Street, Room 493A
Los Angeles, CA 90012
GGero@ceo.lacounty.gov

Dear Mr. Gero,

The Association of Rural Town Councils (ARTC) appreciates the opportunity to comment on the Draft Discussion Plan (Plan) of the Los Angeles Countywide Sustainability Plan efforts. The Association of Rural Town Councils is comprised of fourteen member councils that represent rural communities across the unincorporated areas of Northern Los Angeles County. Originally formed to serve as a forum for rural residents, town councils seek to represent their constituents with regard to local, county, regional, and state issues, and provide an exchange for information regarding their governance. Each of our communities enjoys surroundings both diverse and unique to rural areas across the Antelope Valley.

A major concern is the lack of outreach to the North County—documents and announcements provided on the website indicate Sustainability Summits, Workshops, and Environmental Fair and Expo events were located in unincorporated urban areas of the south county, and none provided in the Antelope Valley. Outreach included "Workshops with nonprofits, the public sector, and private sector also covered transportation and land use, landscapes and ecosystems, waste and resource management, equity and resilience, and public health and air quality. Input received during these workshops will serve as the foundation for the draft "Our County" plan, which will be presented to the public during several Sustainability Summit events in early 2019 for further stakeholder engagement and feedback before finalizing the plan in Summer" (https://ourcountyla.org/news/industry-government-and-nonprofits-collaborate-to-shape-countywide-sustainability-plan). The ARTC believes outreach to the north county citizens, including town councils, should proceed before any final plan is compiled and presented to the Board of Supervisors. Otherwise the plan risks its claim for "procedural equity," which promotes principles to provide "inclusive, accessible, and authentic engagement and representation in processes to develop, or implement sustainability programs and policies" without actually performing such engagement or representation truly countywide (Our County Discussion Draft 12/190).

The ARTC observes this is an ambitious and far-reaching plan has the potential to change the General Plan, the Antelope Valley Area Plan, and other planning documents which guide development/land use

patterns across the county, and while stating the Plan is not "regulatory" or binding, its implementation will result in regulatory changes, seek compliance from all county departments, as well as accountability through review by your office. This especially concerns us, since some of our rural communities have existing Community Standards Districts (CSDs) documents inducted into Title 22, and many more are in process with Regional Planning at this moment. As you might know, CSDs allow our communities the ability to determine development density, how development occurs, how commercial development proceeds, determine how to preserve, maintain, and sustain our rural atmosphere and lifestyle, and all are unique to each of our many rural communities. Furthermore, uneven implementation and regulatory changes directed by the Plan might promote increased density, polluting industrial businesses, solid waste deposition, expanded mining operations, and industrial-scale renewable energy projects *here*, as "equity" is achieved in unincorporated urban areas; in turn, essentially producing a lack of "equity" here.

The Plan's "Goal 7: A fossil-fuel free L.A. County" is worrisome to rural residents and communities with regard to the promotion by federal, state, and local legislation; land use policies; and incentives to develop utility-scale renewable energy. Despite the general notion that the high desert is a "wasteland," it is quite the opposite. The Audubon Society has designated the Antelope Valley a "Globally Important Bird Area"which supports avian life, as well as other flora (spectacular wildflower fields) and fauna with open fields, grasslands, riparian areas, chaparral, Joshua tree, juniper, pine, and oak forests; designated SEAs; and rapidly shrinking agricultural areas and windbreaks that provide nesting and forage for a variety of raptors; feed livestock, and people, too. Moreover, the county eschewed support for the non-regulatory California Department of Fish and Wildlife Antelope Valley Regional Conservation Investment Strategy designed to identify and implement long term conservation priorities that are threatened by suburban sprawl development and large solar facilities (www.wildlife.ca.gov/conservation/planning/regional-conservation). Low-density development typically embraced by town councils tends to support conservation and preservation of natural landscapes as well as agriculture.

Tens of thousands of acres in the Greater Antelope Valley have been converted to industrial utility-scale solar and wind turbine projects that surround rural dwellings, something our residents never imagined—and is perhaps an unintended consequence of "green" renewable energy development here in the the valley. How is this different from urban communities in the Los Angeles Basin which are impacted by quality of life issues and exposure to pollution and effects of industrial development? Similarly, the "green" energy produced here destroys wildlife habitat, spoils viewshed, promotes air quality issues ($PM_{2.5}$ and PM_{10} dust particulates) affects home owners and residents, and could well be causing increased warming of the desert environment. Will the elimination of petroleum wells and refineries in the southern county mean these and other "dirty" industries will be placed in other areas of the county outside urban unincorporated areas? Will Los Angeles County import all its fossil-fuel products necessary for businesses and manufacturing, which will pollute other communities from which they come?

The Plan states, "Climate Change may also worsen existing inequities in county communities" (44/190). What has not been discussed is our own high desert environment. Studies are finding "solar heat island effect" resulting from solar facility development, while the county promotes its Cool Roofs Ordinance which does not consider the ultimate effect of many more thousands of acres of solar development needed to support a fossil-fuel free L.A. County as it intends conversion to 100% renewable energy. Ironically, this has the potential to cause accelerated climate change across our

valley, with the desert becoming even warmer than predicted by the Plan's "Projecting High Heat Days" Map (45/190). According to the map, "Climate projections predict that air temperatures will increase by 1.8°-7.2° F across the region with the greatest increases in average temperatures and high heat days (> 95°F) occurring in Palmdale, Lancaster, and the San Gabriel Valley." According to the projections, the northern reaches of the county will experience the largest area of highest temperatures. The darkest red area, with more than 100 days of > 95° F temperatures (2040-2060), consists of large areas targeted for solar energy production due to its proximity to the Tehachapi Renewable Transmission Project; the L.A. Department of Water and Power's Barren Ridge Transmission Project; its designation as a Desert Renewable Energy Conservation Plan Development Focus Area; solar project areas supported by City of Lancaster's Net Zero Policy, and embraced by the joint powers authority—Clean Power Alliance. This red area also encompasses rural communities and town council areas like Antelope Acres, whose environment has been transformed by the industrialization of agricultural lands, which will become warmer and suffer the results of so-called "green" energy that will help carry the urban unincorporated areas to a "fossil-fuel free" future. Accordingly, Action 31 should state *both* historic data and projection for weather and precipitation modeling be used to inform planning, infrastructure and community development processes. If only projections are used, how will they be ultimately determined true and correct, and proper course of action taken?

The Plan must consider solar heat island effect on not only Antelope Acres, but the entire unincorporated north county. This is described by environmental journalist Chris Clarke who writes, "At issue is the so-called "urban heat island" effect, in which human-made structures that absorb solar energy can significantly raise nearby temperatures. The effect holds true even when the setting isn't urban, as is the case with large remote desert solar installations. After all, the purpose of solar panels is to absorb as much solar energy as they can. About a fifth of that energy is turned into electricity under optimum conditions: the rest is released into the surrounding environment as heat (www.kcet.org/redefine/solar-plants-may-make-deserts-too-hot-for-tortoises). Moreover, a study published in the scientific journal article "The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures," by Greg A. Baron-Gafford, et. al., found temperatures over a [Photovoltaic] plant were regularly 3–4 °C warmer than wildlands at night, which is in direct contrast to other studies based on apparently unproven models that suggested that PV systems should decrease ambient temperatures (www.nature.com/scientificreports). Should the county and the Plan continue to promote large solar development, with the knowledge warming created by solar facilities will add to dramatic warming of the Antelope Valley?

"Our County's Landscapes and Ecosystems Briefing" states, "[c]ontinued demand for renewable energy resources driven by state and local energy policy suggests this trend may continue" (13). Action 27 should also require a solar heat island implementation plan and mitigation strategy that addresses temperature increases not unlike urban heat island effect—some residents have asked for a ban on large solar facilities. In addition, movement away from dependence on utility-scale solar projects at great distance from users should be facilitated by *requiring* distributed generation, and stopping utility-scale renewable energy projects on large swaths of real estate. The ARTC sees an energy security issue with this. Action 44 says, "Prohibit the conversion of working lands to residential uses, including farms and rangelands"—utility-scale solar energy, then, should also be prohibited to preserve those lands (Plan 60/190). "Action" could also include "microgrids" for rural communities, so they are not at risk during "shocks" or emergencies, like other unincorporated communities.

If climate change projections are assumed correct, warming of the Antelope Valley will likely reduce rainfall in watershed areas that feed and maintain groundwater levels. Is there unanticipated additive effect of reducing recovery capability to the adjudicated basin while the county's population increases and utility-scale solar development is encouraged? Adjudication ushered in loss of agricultural production and concomitant renewable energy development. Will a joint powers authority (Action 38) for water management oversee the Antelope Valley Basin, as well as Sustainable Groundwater Management areas currently under local control? It is already projected 30,000 additional acres will go fallow, erode, and contribute to air quality issues also associated with construction and maintenance of solar projects with regard to particulate matter that not only carries the fungus that causes *Coccidioides immitis,* or Valley Fever, but also contributes to respiratory disease in adults and children, producing the worst rates in the county for asthma and COPD (Los Angeles County Department of Public Health, Key Indicators of Health, 2017, 24/28).

Many of our rural communities were founded and thrived on agricultural production. It would be more encouraging to to see "Action Items" that address water issues that would allow and encourage a resurgence of agriculture in some of our rural communities that embrace the business and the lifestyle. A vast portion of water in the county comes from imported sources, and the ARTC questions how promoting urban forests, parks, and more local urban food production be undertaken; and if it is, how water could be equitably distributed to Antelope Valley agricultural businesses and individuals interested in producing food, and add to our own local food production across the northern portion of the county. Rural residential areas, often comprised of large minimum lot sizes usually consisting of one, and frequently, several acres or more are enjoyed for their natural surroundings, and are often used for home-based businesses, including production of agricultural goods, equestrian use, care of livestock, and other animal husbandry.

The Plan's Strategy 3E endeavors to restrict development in high hazard areas, as evidenced by the timeline on page 70, whose "Targets" will eliminate discretionary development by 2025 and no new by-right development in high hazard areas by 2035. This appears in opposition to also proposing increased housing unit density in low density areas (low density is not defined, and would seem to include most town council areas outside of high hazard areas) offered by Action 43: "Pilot a land use tool that allows for duplex, triplex and secondary units in areas of low housing density," and at the same time increasing density in urban areas—all in efforts to address the risk of development in high-hazard areas described as "those that are being exacerbated by climate change such as wildfires, flooding, extreme heat and sea level rise. Action 43 will eliminate development in coastal areas due to sea level rise, as well as floodplains, and high fire hazard areas. Low density rural town council areas could be targeted for multi-family, high density uses. How does this comport with the proposed By-Right Ordinance for streamlining multi-family residential development that would be allowed in any land use or zoning area that allows residential building, including zones A-1, and A-2? This runs counter to rural town council area CSDs that seek protection from suburban and urban development that will further create the need for infrastructure investments that will increase costs the Plan claims rural communities divert from urban areas. When, in actuality, subdivisions and specific plan areas promoted by influential business interests, approved by Regional Planning and our Board of Supervisors, *directly and intentionally permit* sprawl, expose rural areas and natural resources to risk; require resources; supportive, protective, and infrastructure services that "[the county] could otherwise be investing in our existing [urban unincorporated] communities" (58/190).

Clearly, climate is not the only risk to high fire danger areas. It is well documented that 95% of wildfires are human caused (http://www.preventwildfireca.org/OneLessSpark/). Discussion/action should include education and adequate enforcement of fire safety measures that address public interaction with National Forest and Monument Areas, state parks, SEAs, open space and conservation lands, preserves, county sanctuaries, and those that serve visitors to these recreation areas that often serve as watershed and cultural resource areas. Please provide a map with overlays that indicate high-hazard risk areas for not only fire, but extreme heat areas, floodplains, urban/wildland interface, earthquake fault zones, and sea-level rise areas, and identifies exclusion areas as well as target areas for higher density development. It also makes sense to exclude any Transit Oriented Districts from high hazard rural areas in order to maintain protections supported by CSDs that impose low density and building height restrictions.

Several of our town councils will be deeply impacted by the expansion of transportation infrastructure proposed across the Antelope Valley, including the High Desert Corridor, Northwestern Highway138, and California High Speed Rail. Our roads become commuter routes to employment outside our area, and will likely become commuter routes to other transportation systems used mostly by residents outside rural areas. These projects will add to already dangerous conditions on existing roadways documented by Public Works' Vision Zero Plan. Additionally, and with regard to local transportation, we would like to share this comment the ARTC submitted to the Vision Zero Plan (22 April 2019):

> The ARTC agrees with the County's efforts to reduce or eliminate traffic related fatalities on its roadways by 2035. Many of our council areas, with lower housing costs (compared to the South County), experience commuter traffic with residents leaving to employment outside the Antelope Valley (AV). Other council areas are further concerned with pedestrian, bicycle, and equestrian safety due to their proximity to freeway traffic exiting and directly entering their communities via State Route 14 and State Highway 138. Unlike our urban counterparts, we tend to have fewer pedestrians and bicyclists, but more commuters who travel long, straight, high-speed roadways; as well as long, winding roads inappropriately used as high-speed roadways. This translates to more high-speed collisions, which result in more deaths and serious injury attributed to automobile accidents, rather than auto/pedestrian collisions, and as your report indicates: "Higher vehicle speeds make avoiding a collision more difficult and can increase the severity of the collision . . . In addition, the faster a vehicle is traveling, the greater the stopping distance and the greater the force of the impact will be" (Vision Zero Draft Action Plan 20/76).

It could be as long as sixteen years before the Vision Zero Plan addresses traffic-related fatalities in the Antelope Valley, even though the Los Angeles County Public Health's document, "Key Indicators of Health 2017-Updated (KIH)" identifies "death rate attributed to motor vehicle crashes" (Age adjusted per 100,000 population) in Service Plan Area (SPA) 1 as the highest in the county at 16.2 (KIH 23). This is just one example of difficulty in applying goals, policies, and plans designed for unincorporated urban areas to rural, low-density communities.

The ARTC has worked with Antelope Valley Air Quality Management District (AVAQMD) to assess air quality issues that differ, in part, from urban/suburban areas experiencing more automobile and industrial pollution. As previously mentioned, predictable drought, fallowing of agricultural lands, construction of thousands of acres of utility-scale solar facilities; urban and suburban development and construction; several large sand, gravel, and rock quarries; freight and passenger trains; a freeway and several major highways all contribute to increased $PM_{2.5}$ and PM_{10} particulates which are further exacerbated by unique geology and geography, highly variable meteorological conditions, and regular sustained winds (AVAQMD/ARTC CARB CAPP Proposal 31 July 2018). Ambient particulate is

directly responsible for the sharp rise and highest incidence of Valley Fever diagnoses in Los Angeles County, since the fungal spores are distributed through exposure via direct contact with soil, or through wind-driven dust events (http://rx.ph.lacounty.gov/RxCocci0717). Other KIH show respiratory disease"Health Outcomes" in the Antelope Valley that meet or exceed all other SPAs across the county. The AV has the highest childhood asthma rate; and the highest COPD/emphysema mortality rates. Comparing other SPAs Health Outcomes with the AV, SPA 1 fares worse, and exceeds SPAs 2 through 8 for mental health, overweight, diabetes, cardiovascular disease, unintentional drug-related death, and cancer. All cause mortality tops all other areas of Los Angeles County, even those urban unincorporated communities and neighborhoods surrounded by industrial pollution and high traffic automobile pollution (KIH 25). The high levels of ill health associated with living in the Antelope Valley indicate opportunity for improvement through the Plan.

The ARTC has questions regarding the Plan and California Environmental Quality Act, since its goals and strategies involve regulatory actions that will not only change how county departments function and comply with sustainability objectives, goals and strategies, but propose change to Regional Planning documents like Antelope Valley Area Plan, and the General Plan. Our concern regarding CSDs—ordinances specific to each rural town or community area are presumably under scrutiny for changes required by sustainability regulations. Land use plans, increased density and housing plans, creating walkability, creating areas for active transportation, will impact some communities more than others, especially when uneven regulatory imposition occurs, like the proposed Inclusionary Housing Ordinance that *excludes* the entire Third District, and parts of the Fifth District (Inclusionary Housing Ordinance Sub-Area Maps).

Before the plan states that rural, or low density areas are a drain on resources that could be better used in existing communities, think about this: The AV's rural areas are targeted for solid waste facilities—53 percent of the capacity of the Antelope Valley Landfill, and approximately 37 percent of Lancaster Landfill is accounted for by the City of Los Angeles (Countywide Waste Management Plan 2017). Our rural areas provide tons of construction aggregate materials, cement plant products, and accept tons and tons of organic waste from the City of Los Angeles, and urban areas in the form of compost and mulch (often full of trash) distributed on our open land. North county areas are targeted for thousands of acres of industrial-scale solar facilities that have and will change quality of life for residents near them. Lower cost housing has invited many who could not afford homes in the LA Basin to live in the Antelope Valley, and often in rural communities. These areas also provide services to millions of visitors from outside the area seeking respite and recreation in the San Gabriel Mountains National Monument, Angeles National Forest, Vasquez Rocks, Pacific Crest Trail, State of California Poppy Reserve and other vast wildflower fields, Saddleback Buttes State Park, State of California Indian Museum State Historic Park, Devil's Punchbowl County Park and other parks, preserves, numerous County Sanctuaries, and much more.

The ARTC agrees that "equity in sustainability policies and programs can be achieved only if a diverse, representative mix of residents are involved in development, implementation and management. Communities can help to make sustainability programs more equitable where those programs

incorporate their localized and lived experiences, histories and perspectives" (138/190). However, as mentioned, outreach to rural communities was deficient, and we recommend rural community involvement before the Plan is finalized. The association includes town councils which formed twenty-seven years ago, many others have also been guiding and representing their communities for twenty years or more; volunteering countless hours to better the lives of their constituents, and welcome any effort or support to promote safety, health, and well being. We look forward to participating in development of an "inclusive and accountable governance structure," and "engagement guidelines and processes aimed at building trust and strengthening relationships with the diverse communities that make up Los Angeles county, involving residents in decision-making processes at all levels (Strategy 11A). We would appreciate any future developments involve town councils. Trust, transparency, and openness will go a long way.

Most sincerely,

Susan Zahnter
Director

Copy to: Honorable 5th District Supervisor Kathryn Barger (Kathryn@bos.lacounty.gov);
Chris Perry; Planning & Public Works Deputy to Supervisor Barger (CPerry@bos.lacounty.gov);
Donna Termeer; Senior Field Deputy to Supervisor Barger (DTermeer@bos.lacounty.gov)
Charles Bostwick; Assistant Field Deputy to Supervisor Barger (CBostwick@bos.lacounty.gov)
Susan Tae; Department of Regional Planning (stae@planning.lacounty.gov)

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P.O. Box 76
Lake Hughes, CA 93532
ourartc@gmail.com

29 April 2020

SENT VIA EMAIL

Ms. Alejandrina Baldwin
Environmental Planning and Sustainability Section
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012
Telephone: (213) 974-6461
Email: abaldwin@planning.lacounty.gov

Dear Ms. Baldwin,

RE: March 2020 Climate Action Plan Public Review Draft

The Association of Rural Town Councils (ARTC) appreciates the opportunity to comment on the Climate Action Plan (CAP) Draft dated March, 2020. Thank you, and the Los Angeles County Sustainability Office, for extending the public comment period so more input can be included in revising the CAP. The ARTC understands a greater portion and weight of this plan is concerned with more densely populated and industrialized areas of unincorporated Los Angeles County. However, our councils and their constituents recognize the plan will affect rural communities in different ways than their urban counterparts with regard to production of "green" renewable energy, elimination of fossil fuels, greenhouse gases, disposal of waste and compostable materials, air quality, and ultimately, the health and well being of residents, and natural environments.

"GREEN" RENEWABLE ENERGY

We continue to have concern for the CAP promotion of so-called "green" energy, or as mentioned in the plan, renewable energy (RE). Antelope Valley (AV), which includes unincorporated Northern Los Angeles County (Fifth District), Eastern Kern County, and City of Lancaster, has seen a dramatic increase in the installation of industrial-scale solar projects, as well as industrial-scale wind turbine development. According to documentation of approved, under construction, and built projects, the best estimate of acreage consumed by wind energy and solar projects covers 113,239 acres! Compare this number to acreage comprising the other supervisorial districts. AV renewable energy covers land area equal to 72% of the First District; 109% of the Second District; 41% of the Third District; and 39% of the Fourth District. This provides some visual perspective of the sheer scale of renewable energy and its spacial distribution. Granted, the AV *is* spacially larger, but impacts are very real to rural residents becoming surrounded by such industrial development. "Green" energy is delivered from vast distances to urban residents and businesses separated from both immediate and long-term ill effects, who believe RE is the answer to energy issues, and who do not see the environmental destruction and rural community impacts caused by such development, and do not necessarily equate its industrial impacts as equal to those experienced in urban/suburban areas.

As the ARTC posited, in its letter dated July 5th, 2019, addressing Los Angeles County's Sustainability Plan: "Tens of thousands of acres [113,239] in the Greater Antelope Valley have been converted to industrial utility-scale solar and wind turbine projects that surround rural dwellings, something our residents never imagined—and

is perhaps an unintended consequence of "green" renewable energy development here in the valley. How is this different from urban communities in the Los Angeles Basin which are [also] impacted by quality of life issues and exposure to pollution and effects of industrial development? Similarly, the "green" energy produced here destroys wildlife habitat, spoils viewshed, promotes air quality issues ($PM_{2.5}$ and PM_{10} dust particulates) [leading to detrimental health outcomes], affects home owners and residents, and could well be causing increased warming of the desert environment." Our concerns are further weighted by the possibility of aggressive actions proposed by the CAP to reduce greenhouse gas emissions (GHG) and carbon neutrality by 2045 that essentially cancel the proposed "co-benefits" of such actions that do not promise our constituents "healthy, livable, and equitable communities" should utility-scale renewable energy development continue unabated in the AV (CAP 8).

A 100% RE powered county is concerning to rural residents and communities with regard to its continued promotion by state and local legislation; land use policies; and incentives to develop utility-scale renewable energy. Despite the general notion that the high desert is a "wasteland," it is quite the opposite. The Audubon Society has designated the Antelope Valley a "Globally Important Bird Area" which supports avian life, as well as other flora (spectacular wildflower fields) and fauna with its open fields; grasslands; riparian areas; chaparral; Joshua tree, juniper, pine, and oak forests; designated SEAs; conservation areas, county sanctuaries, and rapidly shrinking agricultural areas and windbreaks that provide nesting and forage for a variety of raptors, and also supports livestock and people. Moreover, the county eschewed support for the non-regulatory California Department of Fish and Wildlife's and Desert and Mountain Conservation Authority's "Antelope Valley Regional Conservation Investment Strategy" designed to identify and implement long term conservation priorities that are threatened by suburban sprawl and large RE projects, and refrained from extending more stringent Significant Ecological Area (SEA) protections to the Antelope Valley identical to those that protect SEAs in the south.

How do urban Clean Power Alliance electricity users feel about the destruction to AV's natural areas and resident wildlife exchanged for supposedly "green" sprawling solar and wind RE facilities? The CAP's statement that "The County's participation in the Clean Power Alliance (CPA), and commitment to sourcing 100% renewable energy for its electricity supply by 2025, will enable this shift and ensure a low-carbon energy future" (CAP 10). One must ask, then, how is the remote location of wind/solar energy, transported more than 100 miles to CPA's 32 jurisdictions and 3 million customers, supported by substations and massive transmission tower networks subject to serious regional disruption, and threaten increased fire danger in extremely high fire hazard areas as well as suburban communities, an accomplishment for the county? Can the county and its residents feel good about RE when they understand the effects to their neighbors to the north? Just as importantly, can distributed generation, in five years, supply the balance of CPA's needs to meet its 100% RE goal? Satisfaction of this goal should be sourced, going forward, entirely by distributed generation, whose footprint does not require further destruction of natural areas or agricultural lands, or threat to rural communities' character and well being.

FOSSIL FUEL FREE LOS ANGELES COUNTY

The ARTC expresses its concern for the plan's efforts at a fossil fuels free county, and in particular, the item indicating the transition to all-electric dwellings. "This reduction is achieved by replacing spaceheating, water heating, and cooking appliances in ***existing*** (emphasis added) residential and commercial buildings and by promoting all-electric new construction" (CAP 114). How will residents and landlords pay for costly electrian services to wire millions of existing gas-using dwelling units for electric stoves and furnaces, and will this drive up rental cost increases prohibited by rent control?

Many rural communities must rely on propane gas delivery for heat and cooking. Electricity is currently quite expensive for heating homes during extremely cold temperatures—typically well below freezing in winter—and are common in the high desert, mountain, and valley rural communities. The Los Angeles Basin rarely sees freezing temperatures, and we question the plan's assumption that everyone in the county can afford expensive

"green" energy to heat/cool homes, cook, and pump water from their wells. A modestly sized 1,300 square foot all-electric house in a mountain community currently costs $400 to $500 per month to power and heat in winter; and conversely, $300 to $400 per month to power and cool during summer temperatures commonly above 100 degrees. Costs for electricity continue to rise, and if climate change warming projections in the AV are fairly accurate, it will be among the hottest areas of the County, and homes will be oppressively expensive to cool, as well as heat.

Furthermore, these communities can be without electricity for days at a time during major weather events like snow storms, heavy rain, and high winds, or SCE's public safety power shut-offs—which inhibit cell phone and internet service communications in those times of emergency. Back-up generators (if residents can afford one) must run on propane, gasoline, or diesel fuel to power homes and pump water. The CAP states, "***The County will use the tools at its disposal to ban the sale of small gas-powered equipment*** (emphasis added), require the use of zero-emission or near-zero-emission equipment for County projects and contracts, and work with the air quality management districts to encourage similar practices across the unincorporated County" (CAP 60). Without a generator or propane kitchen stove, many residents would not be able to easily heat water or cook food during power outages. Do not prohibit use of small engines for electricity generation or propane/ natural gas stoves and furnaces. Rural communities are often last in line to have power restored during outages, and accordingly, want and need to maintain to the greatest extent possible—self-sufficiency, which ultimately reduces services needed from the County, and makes *us* more "resilient."

Are agricultural lands and residences exempt from these requirements? The CAP indicates "no." Banning the sale of small gas-powered equipment is explicit. However, as of yet, we do not know of readily available, reasonably priced battery powered electric tractors, all-terrain vehicles, log-splitters, portable welders, and other power equipment commonly used for maintenance, construction, weed control, and fire safety on rural lands. According to the CAP, 1% of Greenhouse Gas Emissions come from agricultural sources (CAP 7). So, targeting these sources of emissions to save 1% could cause hardship for many rural residents who might operate agricultural businesses or attempt to maintain their properties.

Additionally, fossil fueled power generating plants are necessary for adequate electricity production during lapses inherent in delivery of wind and solar energy. At this time, battery storage has some potential to provide some relief at rather great cost to homeowners and businesses; but questions regarding safety of lithium ion battery storage units and their specific requirements, which, when ignored have the potential to combust, is of further concern not only in extremely high fire hazard areas, but should be in urban and suburban areas as well (https://www.solarpowerworldonline.com/2020/02/just-how-concerned-should-the-solar-industry-be-about-battery-fires/).

In observance of fairness, we suggest assistance to rural residents for *essential* fossil fuel usage, similar to incentives received by buyers of electric cars and other electric appurtenances promoted for cleaner air; and especially if fuel supplies decrease, prices rise, and carbon credit purchases increase costs. Federal, state, and local incentives for electric vehicles range from $8,500 to $12,500, depending on income levels.
Allow residents to sell more excess energy without penalty to electricity companies. Allow businesses and homeowners to produce more than the minimum allowed by SCE to add more power to the grid. Net metering through Southern California Edison (SCE) gives homeowners "credits" on their bill, not cash. If residents were paid reasonably for electricity they are producing, it is likely more residents and businesses would install systems that would actually pay for themselves and provide far more electricity to the grid without impacts produced by utility-scale renewable energy.

CLIMATE CHANGE

The ARTC refers to an excerpt from its previously mentioned letter responding to the OurCounty Sustainability Plan Draft, 2019, concerning climate change and our north county environment, which states:

> "Climate Change may also worsen existing inequities in county communities" (44/190). What has not been discussed is our own high desert environment. Studies are finding "solar heat island effect" resulting from solar facility development, while the county promotes its Cool Roofs Ordinance which does not consider the ultimate effect of many more thousands of acres of solar development needed to support a fossil-fuel free L.A. County as it intends conversion to 100% renewable energy. Ironically, this has the potential to cause accelerated climate change across our valley, with the desert becoming even warmer than predicted by the Plan's "Projecting High Heat Days" Map (45/190). According to the map, "Climate projections predict that air temperatures will increase by 1.8° -7.2° F across the region with the greatest increases in average temperatures and high heat days (> 95°F) occurring in Palmdale, Lancaster, and the San Gabriel Valley." According to the projections, the northern reaches of the county will experience the largest area of highest temperatures. The darkest red area, with more than 100 days of > 95° F temperatures (2040-2060), consists of large areas targeted for solar energy production due to its proximity to the Tehachapi Renewable Transmission Project; the L.A. Department of Water and Power's Barren Ridge Transmission Project; its designation as a Desert Renewable Energy Conservation Plan Development Focus Area; solar project areas supported by City of Lancaster's Net Zero Policy, and embraced by the joint powers authority—Clean Power Alliance. This red area also encompasses rural communities and town council areas like Antelope Acres, whose environment has been transformed by the industrialization of agricultural lands, which will become warmer and suffer the results of so-called "green" energy that will help carry the urban unincorporated areas to a "fossil-fuel free" future.
>
> The Plan must consider solar heat island effect on not only Antelope Acres, but the entire unincorporated north county. This is described by environmental journalist Chris Clarke who writes, "At issue is the so-called "urban heat island" effect, in which human-made structures that absorb solar energy can significantly raise nearby temperatures. The effect holds true even when the setting isn't urban, as is the case with large remote desert solar installations. After all, the purpose of solar panels is to absorb as much solar energy as they can. About a fifth of that energy is turned into electricity under optimum conditions: the rest is released into the surrounding environment as heat" (www.kcet.org/ redefine/solar-plants-may-make-deserts-too-hot-for-tortoises). Moreover, a study published in the scientific journal article "The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures," by Greg A. Baron-Gafford, et. al., found temperatures over a [Photovoltaic] plant were regularly 3–4 °C warmer than wildlands at night, which is in direct contrast to other studies based on apparently unproven models that suggested that PV systems should decrease ambient temperatures (www.nature.com/scientificreports). Should the county and the Plan continue large solar development with the knowledge warming created by solar facilities will add to dramatic warming of the Antelope Valley? "OurCounty's Landscapes and Ecosystems Briefing" states, "Continued demand for renewable energy resources driven by state and local energy policy suggests this trend may continue" (13). Action 27 should also require a solar heat island implementation plan and mitigation strategy that addresses temperature increases not unlike urban heat island effect—some residents have asked for a ban on

large solar facilities. In addition, movement away from dependence on utility-scale solar projects at great distance from users should be facilitated by *requiring* distributed generation, and stopping utility-scale renewable energy projects on large swaths of real estate.

Warming projected for the AV from GHG will be complicated by "solar heat island effect." In turn, this could further increase likelihood of reduced rainfall in watershed areas that feed and maintain groundwater levels, and perhaps prove the unanticipated additive effect of reducing recovery capability to the adjudicated basin while the county's population increases and utility-scale solar development is encouraged. Water supply is a very serious issue for rural residents who are served by small water companies or have their own wells. Certainly, the indirect effects of "green" energy should be considered and addressed in the CAP, which were ignored in the "Cool Roofs Initiative." It is not difficult to ascertain the heating effects of essentially 32,880 acres of glass and metal from built solar projects, especially in 100 degree plus heat in AV's late spring, summer, and early autumn. As reported above, in KCET's article by Chris Clarke, "about a fifth of that energy is turned into electricity under optimum conditions: the rest is released into the surrounding environment as heat." If Los Angeles County persists in ignoring "solar heat island effect," please prove it does not exist. Accordingly, the ARTC challenges the CAP to include restrictions for utility-scale renewable energy development here, and fully embrace distributed generation to meet all future local electricity needs and cool our high desert, and also the unincorporated urban environment via reduction in gas powered energy.

AIR QUALITY

The ARTC has worked with Antelope Valley Air Quality Management District (AVAQMD) to assess air quality issues that differ from urban/suburban areas experiencing more automobile and industrial pollution, and disproportionately affect AV residents. The AV experiences particulate pollution from predictable drought, fallowing of agricultural lands, construction of thousands of acres of utility-scale solar facilities and transmission infrastructure accessed by dirt roads; urban and suburban development and construction; several large sand, gravel, and rock quarries; freight and passenger trains; a freeway and several major highways all contribute to [not only increased GHG] increased $PM_{2.5}$ and PM_{10} particulates which are further exacerbated by unique geology and geography, highly variable meteorological conditions, and regular sustained winds (AVAQMD/ARTC CARB CAPP Proposal 31 July 2018, found at the website link below: https://ww3.arb.ca.gov/db/search/google_result.htm?q=ARTC+AVAQMD&submit.x=0&submit.y=0&which=arb_google&cx=006180681887686055858%3Abew1c4wl8hc&srch_words=&cof=FORID%3A11).

Erosion of fallow farmland contributes to air quality issues also associated with construction and maintenance of solar projects with regard to particulate matter that not only carries the fungus *Coccidioides immitis* that causes Valley Fever, but also contributes to respiratory disease in adults and children, producing ***the worst rates in the county—worse than urban residents exposed to more industrial and transportation related pollutants***—for asthma, COPD, for lowest birth weight, highest infant death rates, coronary heart disease death rate, and highest death rate for strokes in African Americans *and* all other residents, as well as the highest total death rate in the county, over all other service plan areas (Los Angeles County Department of Public Health, Key Indicators of Health, 2017, 22-24).

The CAP Co-Benefits Assessment asked these questions: "Could this improve outdoor air quality in communities that have been historically harmed by exposure to pollution?" and "Could this reduce incidences of asthma and respiratory and cardiac disease?" (CAP, Healthy, Livable, and Equitable Communities, Appendix C, 122). Some strategies for decreasing CO_2 for urban areas are identified: reducing emissions via increase in urban forests; use of cool pavements and roofs; increase in number of parks in high-need urban areas; and imposing 100% RE use across the county for transportation and industry. The AV answers: "Key Climate Actions" for the Antelope

Valley Planning Area should include goals for measurable reduction in particulates $PM_{2.5}$ and PM_{10}. Our recommendations include strategically placed additional Beta Attenuation Air Quality Monitors in order to officially classify EPA and CARB attainment levels for particulates—there is only one in the AV, placed in downtown Lancaster; a moratorium on utility-scale renewable energy in favor of distributed generation; moratorium on new large transmission tower infrastructure (and related dirt access roads), windbreak and rural community tree planting, preservation of native and listed native trees, preservation of natural vegetated areas and recovered farmland, and finally, restoration of abandoned or fallow agricultural lands with native vegetation through a proper restoration plan to preserve soil, create habitat, and prevent continued erosion and entrainment of soil particulates into the air.

MULCH

For the past four years the ARTC has fielded complaints from rural residents regarding the delivery of odorous, trash-filled mulch, made from green waste collected in Los Angeles, and delivered to various locations around the Antelope Valley. Problems with mulch have angered neighbors and residents who experience blowing trash, odors from yards and fields, and what they feel has been a lack of response or enforceable recourse to their plight. According to recent changes to California State Law, mulch can contain up to 0.5% of trash by weight, including paper, glass, metal, and plastic. Formerly, 1% trash by weight was allowed, which can also be a significant amount. Plastic film cannot comprise an amount more than 20% of the total amount of trash in testing samples. The trash is not considered "illegal dumping;" so, clean-up cannot be enforced by local statutes. We have learned City of Los Angeles residents place trash in their green waste containers, which ends up shredded at various composting facilities in the LA Basin, then is targeted for the AV for spreading on open lands.

Uncounted tons of trash-filled mulch have been delivered to our high desert. Often, so much is delivered and spread that it completely covers shrubs and vegetation on recovering agricultural fields; it is often spread on fields that are not active agriculture operations as a form of weed abatement; unverified reports claim payment is made to individuals willing to receive mulch. As it slowly decomposes, *producing additional* CO_2, trash becomes exposed and blows onto neighboring properties, and along roads and highways. Some residents leave large piles and berms that are at risk for spontaneous combustion. New State regulations hold residents who receive mulch responsible for its cleanliness, and must present lab test results to Public Health officials if they receive complaints. If residents do not request 'passing' lab results from delivery drivers, they risk becoming responsible for expensive removal of mulch to a hazardous waste facility, if it is determined to fail test parameters for heavy metals, bacteria, or trash. Not surprisingly, "allowed amounts" still leach into soil and run-off can eventually contaminate waterways, ephemeral streams, and groundwater. How will our rural communities be protected? Has the CAP accounted for the GHG emissions that will increase in the AV as more mulch is spread over many years?

Rural residents who live in extremely high fire hazard areas are most at risk for spontaneous combustion of mulch, as well as other sources of ignition. Fires that start in mulch require lengthy amounts of time and resources to extinguish, which in an area of usual high-wind events, can pose real danger of spread. We have seen mulch fires supposedly put out, only to continue smoldering and start again, requiring firefighters to turn over and water large areas of the material to assure it is completely extinguished.

Another particularly egregious insult to rural areas in addition to fire danger, is mulch contaminated with non-native invasive plants and insect pest species that could spread to active agricultural lands, protected lands such as the State of California Poppy Reserve, Federal forest lands, numerous County Sanctuaries, privately held conservation lands, and of course, private properties. Currently, the town council community of Green Valley is infected with the Gold-Spotted Oak Borer, which has caused the destruction of numerous oak trees and threatens

elimination of the area's 'iconic' oak forest. It is suspected contaminated firewood was transported into Green Valley, but it could easily have been mulch. This spells a significant loss to the massive ecosystem support oaks provide, and is described on the SEA Program's website: "The Oak Tree *(Quercus)* is an iconic tree of the LA County landscape. The Oak tree is a keystone species in a complex ecosystem, providing habitat for 5,000 insects, 80 species of reptiles and amphibians, 100 species of birds, and over 60 mammals!" (http://planning.lacounty.gov/site/sea/2018/04/05/oak-tree/).

The CalRecycle website provides a list of "threats" that can be spread by distribution of contaminated green waste and mulch, and warns: "More than 76,000 farms and ranches in California produce more than 400 different crops worth more than $50 billion annually, the most of any State. Fully one third of the nation's vegetables and two thirds of its fruits and nuts are produced here. Unfortunately, this prosperity is threatened by an increasingly large and varied group of imported pests which carry tree-killing diseases or render fruits and vegetables inedible. Some of these pests threaten agriculture, while others attack iconic native species [like oak trees and canyon sycamores]. To prevent or slow the spread of pests, local, federal and state agriculture officials conduct trapping, eradicate pests [if possible] when found, and enforce quarantines" (https://www.calrecycle.ca.gov/organics/threats).

The ARTC agrees "Preserving and supporting the unincorporated County's forests, parks, and working lands is essential for reducing climate change impacts, as well as protecting the communities, economies, and ecosystems that depend on the land," (CAP 12). Many of the proposed CAP mitigations and strategies sound positive, and there is no doubt many of them will contribute a great amount toward promoting and creating "healthy, livable, and equitable communities." However, the ARTC requests that mitigations and strategies that are currently more focused on unincorporated urban setting, be considered for unintended consequences and impacts to rural town council areas and communities of the Antelope Valley, and that recommendations in this letter be taken seriously and further implemented in the CAP. This is crucial to the health and well being of the residents of the AV who suffer more ill health outcomes than any Service Plan Area in the County; crucial to preservation, cleanliness, and adequate supply of water resources; crucial to air quality; and preserving the ability of our high desert, mountain, and valley communities to remain resilient in the face of increased demands on our valuable natural ecosystem resources.

Sincerely,

Susan Zahnter
Director

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P.O. Box 76
Lake Hughes, CA 93532
661.724.2043
ourartc@gmail.com

25 September 2017

SENT VIA EMAIL

Honorable Board of Supervisors
Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012
firstdistrict@bos.lacounty.gov
seconddistrict@bos.lacounty.gov
sheila@bos.lacounty.gov
fourthdistrict@bos.lacounty.gov
Kathryn@bos.lacounty.gov
executiveoffice@bos.lacounty.gov

Dear Supervisors Solis, Ridley-Thomas, Kuehl, Hahn, and Barger,

RE: County Community Climate Action Plan, Project & Permit(s): Project No. 2017-003637-(1-5), PLAN NO. RPPL 2016002293; Association of Rural Town Councils comments, Item 7, BOS Meeting 26 September 2017

The Association of Rural Town Councils (ARTC) submitted a request for postponement in order that town councils potentially affected by items considered in this ordinance would have time to review. While the title and press accounts announcing this County Community Climate Action Plan (CCCAP) Ordinance indicates it will "ensure compatibility with environmentally friendly roof and pavement materials and electric vehicle infrastructure; require signs in on-site loading areas to encourage vehicle idle reduction; and regulate secondary land uses under high voltage power lines" (CCCAP Ord. 1/18). Rural communities retaining A-1 zoning and high voltage transmission lines face newly created uses without opportunity to fully understand and comment on this ordinance's effects.

Our first observation involves SECTION 4. 22.08.080, H., which is this ordinance's definition of "[H]eat island effect" and "urban heat island effect." It refers to "measurable elevated temperatures in developed areas as ***compared to more rural surroundings***. Temperatures in developed areas are affected by absorption of heat by hardscapes and radiation of heat into surrounding areas resulting in local climate changes. Heat islands are influenced by geographic location and by local weather patterns, with effects changing on a daily or seasonal basis" (CCCAP Ord. 3/18). Responses to various industrial-scale solar projects have broached the subject of heat island effect, and have never been addressed by the County. We believe the CCCAP should include in its definition "PhotoVoltaic Heat Island Effect" and its potential to warm our (already warmer than L.A.) high desert. Scientific research done by the University of Arizona, Tucson, has shown markedly warmer temperatures above large solar projects (see attached "Science Reports": The Photovoltaic Heat Island Effect: Larger solar plants increase local temperatures"). We believe efforts must be made to address the heating effect in rural areas, since the Antelope Valley is home to more than 30,000 acres of solar plants (including L.A. and Kern Counties, and City of Lancaster), is particularly subject to heat, drought, blowing wind and dust, and subsequent poor air quality. The Valley does not need more warming, and rural communities *need* to be included in CCCAP ordinances meant to reduce warming.

Referencing Part 33, 22.52.3630, Permitted Uses, A-1 zones indicate permitted use for "riding and hiking trails, excluding trails for motor vehicles." The ARTC questions whether property owners whose land is traversed by SCE lines using easements, retain their use of their own private property under those lines. The ordinance does not make clear private land owners retain the use of their land in accordance with current land use and zoning, or if they would be subject to public uses adjacent to their properties chosen for secondary uses defined by the ordinance. The ordinance includes only that "[a]uthorization from the utility company for the applicant to apply for the secondary use under high voltage transmission lines" (CCCAP 17/18). Furthermore, A-2 properties are exempt from all other requirements or prohibitions imposed upon A-1, R-A, R-1, R-2, R-3, R-4, and IT zoned properties.

Moreover, residential properties will be subject to minimum yard setback of "10 feet in depth," from agricultural activities--including odors, visual blight, and noise disturbance. "Bulk materials" defined in this ordinance include: six foot piles of mulch, soil, manure. . . tree or plant containers, greenhouses, and storage structures and containers. This kind of commercial activity directly adjacent to residential zones, including R-A, might be considered for conditional use, including noticing. Residents nearby would be subject to heavy equipment noise, like engines, and reverse signal alarms, or even public access near their homes. Any storage should be entirely shielded from view not only from the public right-of-way, but also screened from residences nearby, or within any viewshed.

Finally, we are left with questions regarding the movement of wildlife through transmission corridors, especially in urban and suburban areas, and whether fences, walls, construction of greenhouses and placement of storage would completely block movement. The United States Fish and Wildlife Service's Energy Development website, under Fish and Wildlife Considerations, explains: "There are more than 150,000 miles of high-voltage power lines across our nation, the equivalent of traveling around the earth's equator six times. With so many miles of transmission lines, there are many potential wildlife impacts that should be considered. Transmission lines and other linear developments like pipelines, roads and trails, can increase human access into natural areas, [private properties], displace wildlife from their habitat, act as barriers to wildlife movement and affect migration routes . . . and create pathways for the spread of invasive species."

With such pressing questions , the ARTC respectfully requests that the Board postpone approval of the CCCAP Ordinance until adequate review and input from our membership can be accommodated.

Sincerely,

Susan Zahnter
Director

Enclosure

Copies to: Fifth District Antelope Valley Senior Field Deputy Donna Termeer, dtermeer@bos.lacounty.gov; Supervising Regional Planner Bruce Durbin, bdurbin@planning.lacounty.gov

ASSESSMENT OF THE LAND AREA REQUIRED TO FULLY DECARBONIZE LOS ANGELES COUNTY VIA PHOTOVOLTAIC SOLAR GENERATION

March 7, 2022

PREPARED BY

Jacqueline Ayer
Director, Engineering Operations
AIR QUALITY SPECIALISTS

Mailing address:
4533 MacArthur Blvd. #564
Newport Beach, CA 92660

AIR QUALITY SPECIALISTS

WE'VE BUILT OUR NAME AROUND QUALITY

Summary: *Full decarbonization of Los Angeles County will require the development of more than 700 square miles of new solar panels. The environmental impacts that this development will have on pristine deserts and rural communities will be significant and can only be avoided if the County's decarbonization program is founded on the premise that truly reliable and sustainable renewable energy is only achievable through distributed generation.*

The County of Los Angeles has recently released several plans and documents that evince a clear intent to decarbonize the County by transitioning to zero emission energy and transportation systems and attain "Carbon Neutrality" by 2045[1]. Achieving this objective will require a significant expansion of renewable energy resources to eliminate greenhouse gas emissions ("GHG emissions") from the County. A review of the plans and publications issued in support of the County's decarbonization goal reveals that there has been no consideration given to the scope and extent of the renewable generation resources required to achieve carbon neutrality countywide; this is a critical parameter that ought to be factored into County decarbonization plans from inception. Accordingly, Air Quality Specialists ("AQS") has prepared the following estimate of the total area of solar panels that will be required to fully decarbonize Los Angeles County.

GHG sources in the County are extensive and diverse, however major GHG sources include residential and non-residential electrical usage, natural gas usage, and transportation fuel usage (gasoline and diesel). The analysis prepared by AQS (presented in Attachment A) indicates that a minimum solar panel area of 294,000 acres will be required just to decarbonize existing electrical usage, replace existing gasoline and diesel sales with sufficient electricity to support electric powered vehicles, and decarbonize a portion of the natural gas that is currently used within Los Angeles County[2]. Notably, these sources account for less than 75% of the County's actual GHG

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[1] County-wide decarbonization is a foundational element of the County Sustainability Plan adopted in 2019 [https://ourcountyla.lacounty.gov/]. Additionally, The "Los Angeles County Climate Action Plan" intends to decarbonize all unincorporated areas and "Lead by example" to decarbonize the rest of the county [https://planning.lacounty.gov/site/climate/wp-content/uploads/2021/12/NOP_CAP-Initial-Study_Final.pdf].

[2] This analysis was derived based on the following energy data provided by Los Angeles County for 2017: 1) Total electricity usage = 67,569 GWhr; 2) Total natural gas usage (excluding power generation and cogeneration) = 295,601,312 MMBtu; 3) Total gasoline sales = f 3,659,000,000 gallons; 4) Total diesel sales = 301,000,000 gallons. Data obtained from Los Angeles County: https://data.lacounty.gov/dataset/LA-County-Annual-Gasoline-and-Diesel-Fuel-Sold-Mil/3cnn-cvz8.

footprint[3], so full decarbonization of Los Angeles County is estimated to require more than 424,000 acres of solar panels[4] (nearly 700 square miles). This result does not factor in the area required to accommodate ancillary facilities such as transmission and distribution infrastructure needed to deliver this new renewable power to customers or energy storage facilities necessary to support a reliable "clean" grid. And, when transmission losses and population growth are accounted for, the area required to decarbonize Los Angeles County by 2045 increases by another 20 percent[5] to 509,000 acres (or 795 square miles).

This estimate is consistent with renewable energy area projections prepared for other decarbonization programs across the country. For instance, the "Solar Future Study" released in 2021 by the U.S. Department of Energy ("DOE") predicts that nearly 7,000 TWhr of solar generation will be required to largely decarbonize the United States by 2050[6]. Given that Los Angeles County accounts for 3.17% of the U.S. population[7], DOE's estimate indicates that, on a population basis, 222 TWhr (or 222,000 GWhr) of solar generation will be required to largely decarbonize Los Angeles County. This value, when reconciled with data recently published by the Institute of Electrical and Electronics Engineers demonstrating that 2.2 acres of solar panels will produce 1 GWhr/year[8], yields a solar panel area projection of 488,000 acres (or 763 square miles) to largely decarbonize Los Angeles County.

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[3] As indicated in Attachment A, these sources account for approximately 73 million metric tons of CO2 ($MMTCO2_e$), but the County's total carbon footprint is 105 $MMTCO2_e$ [see the "Los Angeles County Sustainability Plan" adopted August 6, 2019 at page 106].

[4] 424,000 acres was derived by linearly scaling up the calculated 294,000 acre value (which accounts for only 72 $MMTCO2_e$ of the County's total GHG Footprint) to derive the area required to decarbonize the County's existing 105 $MMTCO2_e$ footprint.

[5] This 20% estimate is actually low; the Southern California Association of Governments projects area population to increase 19% by 2045 (derived from Table 3 of SCAG's SoCal Connect Demographics And Growth Forecast Report [https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579] and the U.S. Energy Administration estimates transmission and distribution losses in California exceeded 5% in 2020 (derived from Data Table 10 of U.S. EAI's State Electricity Profiles at https://www.eia.gov/electricity/state/california/2020).

[6] U.S. Department of Energy released its "Solar Futures Study" September 2021. https://www.energy.gov/sites/default/files/2021-09/Solar%20Futures%20Study.pdf at 49.

[7] in 2019, the population of Los Angeles County was 10.4 million and the population in the U.S was 328.3 million.

[8] IEEE report: 1 GWhr/year requires 2.2 acres of solar panels: "Land Requirements for Utility-Scale PV" found here: https://ieeexplore.ieee.org/document/9676427/metrics#metrics.

Another analysis prepared by The Nature Conservancy ("TNC") projects that the State of California will require 1.6 - 3.1 million acres of wind and solar by 2050 to support the movement toward "electrifying everything"[9]. Given that Los Angeles County comprises 26.3% of the population of California[10], TNC's estimate suggests that, on a population basis, the decarbonization of Los Angeles County will require 420,800 - 815,300 acres of renewable generation resources.

The County's decarbonization objective can be achieved by either directing renewable energy generation and storage to occur locally so that power is reliably and sustainably created where it is used (referred to as "distributed generation" or "in-situ generation") or by directing renewable energy generation and storage to occur remotely in massive solar farms (often located in desert open spaces) which require the conversion of vast areas of pristine desert and agricultural lands to industrial uses and the construction of extensive high voltage transmission lines through Very High Fire Hazard Severity Zones to deliver power to the County's urban "load". Power will be delivered via a handful of open-air, high voltage transmission substations which are themselves vulnerable to outage as a consequence of natural and man-made events. The substation and transmission line vulnerabilities that are presented by the remote generation option introduce substantial reliability concerns which do not exist in the distributed generation model. Though these issues have not been considered by the County in its contemplation of a decarbonization strategy, it is certain that the environmental impacts resulting from a "remote generation" path will be tremendous[11]. Such impacts would also be unnecessary because the County's "developed" area is sufficiently large to accommodate the 700+ square miles of solar panels needed to achieve and maintain carbon neutrality in Los Angeles County by 2045[12] as shown in Attachment B.

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9 https://www.scienceforconservation.org/assets/downloads/PoP_PolicyRecsSumm_2019.pdf

10 In 2019, the population of Los Angeles County population was 10.4 million and the population of California was 39.51 million.

11 These impacts include, but are not limited to, the elimination of extensive biological resources, wildlife corridors and habitat, ambient dust clouds rivaling "dust bowl" conditions, death and injury to wildlife (for example, migrating waterfowl often mistake solar panel farms for large bodies of water- https://www.kcet.org/redefine/water-birds-turning-up-dead-at-solar-projects-in-the-desert) and wildfire ignitions in high fire hazard areas.

12 According to Page 90 of the County's adopted Sustainability Plan, 64.4% of the County is classified as "natural area" which means that 35.6% is developed. Los Angeles County is 4,084 square miles in area; thus, more than 1,400 square miles of Los Angeles County is "developed" (.356 x 4084 = 1454).

The environmental impact of achieving the County's decarbonization goal is not the only issue that the County has heretofore declined to address; a number of social outcomes and human impacts have also been overlooked. For example, as part of its net-zero energy strategy, the County is aggressively pursuing transit-oriented districts and advocating for programs and policies that make driving inconvenient (such as reduced parking requirements in new developments and the elimination of traffic lanes) and expensive (such as supporting gas tax increases, congestion pricing, and moving toward an all-electric vehicle future). A potential equity outcome of these policies is that driving will eventually become a privilege that is only enjoyed by the "well off".

Another impact of the County's decarbonization program that has yet to be addressed relates to the decarbonization of buildings and the energy grid. Specifically, as fossil fuels are eliminated from the County, residents and businesses will become increasingly dependent on electrical generation resources that are not always reliable. To address this, the County is expected to adopt very aggressive (and arguably hypothetical) energy efficiency and "demand management" targets; if these targets are not achieved, residents and business throughout the County will experience substantially more involuntary power shutoffs (brownouts and blackouts). This is no small thing; power shutoffs pose extensive public safety risks[13] and threaten the wellbeing of customers who are dependent on electrical devices and equipment. In rural areas of the County, power shutoffs have become almost routine: Since 2019, rural residents in the County have experienced more than 20 lengthy power shutoffs (many lasting 2 days or more), and the local school district serving the Communities of Acton and Agua Dulce lost nine days of classroom time during both the 2019-2020 school year and the 2020-2021 school year[14]. During a recent snowstorm event in the Antelope Valley, rural residents were without power for nearly a week while temperatures remained near freezing; those residents who relied on propane for heat were more fortunate than those whose homes

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[13] In Decision D.90-90-030, the California Public Utilities Commission assessed the risks caused by power shutoffs; they include increased fire risk from people using generators, candles, lanterns, camp stoves and barbecues, increased traffic accidents due to non-functioning traffic signals and street lights; impaired fire-fighting capabilities due to the loss of water pressure, impaired water and sewage facilities due to pumping loss; schools close; customers with disabilities remain trapped because elevators do not function; loss of cellular phone and internet communication networks, etc.

[14] These events are described in public comments on file with the California Public Utilities Commission in response to power shutoffs initiated in Los Angeles County by Southern California Edison between 2019 and 2021.

were heated with electricity. Presumably, the County will eliminate propane resources as part of its decarbonization strategy; the adverse effect that this will have on residents in rural communities has never been considered or addressed by the County.

The evaluation presented herein addresses only a small portion of the changes and environmental impacts that will result from implementing the County's decarbonization strategy and insofar as AQS can determine, the County has not given them any thought. This is troubling; it is essential that the County develop its decarbonization program responsibly and in a manner which anticipates and mitigates the environmental impacts and social outcomes that it will create. The decarbonization plans and strategy documents that have been issued by the County thus far merely set ambitious goals and provide optimistic descriptions of positive GHG reduction outcomes; the County appears disinclined to do the "hard work" that is necessary to ensure that the potentially significant adverse impacts of decarbonization are adequately addressed and properly mitigated. For example, the Sustainability Plan adopted by the County Board of Supervisors in 2019 presents and discusses County GHG emissions and it establishes a full countywide decarbonization target date of 2045, but it fails to even acknowledge that achieving this target will have environmental consequences. Similarly, the initial study issued recently for the County's Climate Acton Plan ("CAP")[15] echoes the decarbonization objectives established by the Sustainability Plan, but it fails to consider any of the impacts described above. The Initial Study also concludes that most impacts will be "less than significant" because the CAP is simply a "policy document" that merely "supports development already allowed under the General Plan" and will therefore not result in many direct effects[16]. However, this conclusion is flawed; the County General Plan was adopted in 2015 and long before the Sustainability Plan was developed, thus it never anticipated the County's current decarbonization goals and it certainly never contemplated the need to develop 700+ square miles of new renewable energy facilities.

Perhaps this assessment will help spark a meaningful discussion on how the County can develop a decarbonization program which comprehensively considers and mitigates potentially adverse environmental impacts and achieves true resiliency and equity for all County residents.

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[15] CAP Initial Study at pp. 1-2. https://planning.lacounty.gov/site/climate/wp-content/uploads/2021/12/NOP_CAP-Initial-Study_Final.pdf .

[16] Id at 10, 17, 20, 23, 29,32, etc.

ATTACHMENT A

CALCULATED LAND AREA REQUIRED TO ACHIEVE FULL DECARBONIZATION OF LOS ANGELES COUNTY

LAND AREA REQUIRED TO DECARBONIZE LOS ANGELES COUNTY

	Year	Non-res electricity (GWh)	Res electricity (GWh)	TOTAL electricity (GWh)	Total natural gas (MMBTU)	Total NG excl cogen & gen (MMBTU)	Gasoline sales (10^6 gallons)	Diesel sales (10^6 gallons)
	2015	49,130	20,472	69,602	447,565,899	276,113,141	3,465	328
	2016	49,141	20,330	69,471	455,096,480	287,770,711	3,577	309
County data used:	2017	48,100	19,469	67,569	456,679,135	295,601,312	3,659	301

DECARBONIZE ELECTRICAL USAGE

% of electrical energy that contributes to GHG:	45%	(Note 1)
Electrical generation to be decarbonized:	30,406	GWhr

DECARBONIZE NATURAL GAS USAGE
(excluding cogen & electrical generation uses)

Natural gas usage to be decarbonized:	295,601,312	MMBTU
% of Natural gas used for space heating:	40%	(Note 2)
Btu of heating by existing space heating systems:	100,504,446	MMBTU (Note 3)
Heat pump GWhr required for equivalent Btu:	8,375	GWhr (Note 4)
% of Natural gas used for non-space heating:	60%	
GWhr required for equivalent BTU :	51,984	GWhr (Note 5)

DECARBONIZE GASOLINE SALES

Gasoline usage to be decarbonized:	3.659.E+09	gallons
MMBTU of gasoline used:	440,126,474	MMBTU (Note 6)
MMBTU of gasoline to be decarbonized:	110,031,619	MMBTU (Note 7)
Gasoline energy to be decarbonized:	32,250	GWhr equivalent energy
Elecrical energy to operate EV equivalent:	37,941	GWhr (Note 8)

DECARBONIZE DIESEL SALES

Diesel usage to be decarbonized:	3.010.E+08	gallons
MMBTU of diesel used:	41,351,681	MMBTU (Note 9)
MMBTU of diesel to be decarbonized:	14,473,088	MMBTU (Note 10)
Diesel energy to be decarbonized:	4,242	GWhr equivalent energy
Elecrical energy to operate EV equivalent:	4,991	GWhr (Note 8)

County 2017 energy usage to be decarbonized:	**133,698**	**GWhr**
Solar panel area required to generate 1 GWhr/ yr:	2.2	Acres/GWhr·yr (Note 15)
	294,136	**Acres of solar panels**

GHG EMISSIONS CALCULATED FOR THESE SOURCES

Electrical usage:

709	MTCO2 /GWhr (emission factor: c-based electricity-Note 11)
45%	% of electrical generation that is carbon-based (Note 1)
30,406	GWhr of electricity to decarbonize
21,557,967	MTCO2 from electricity generation
21.56	MMTCO2 from electricity generation

Natural gas usage (excluding cogen & electrical generation uses):

0.0053	MTCO2 per therm (emission factor: natural gas - Note 12)
0.0530	MTCO2 per MMBTU of natural gas
15.67	MMTCO2 from natural gas used in LA County

Gasoline sales:

0.008887	MTCO2 per gallon (emission factor: gasoline - Note 13)
32.52	MMTCO2 from gasoline sold in LA County

Diesel sales

0.01018	MTCO2 per gallon (emission factor: diesel -Note 14)
3.064	MMTCO2 from diesel sold in LA County

TOTAL GHG EMISSIONS FROM THESE SOURCES

72.8103 MMTCO2

Note: This analysis considers only four retail sources of GHG emissions in Los Angeles County; it does not account for the County's full GHG footprint (which is actually 105 MMTCO2 - Note 16). The total area of solar panels required to fully decarbonize Los Angeles County is estimated by linearly scaling up these calculated results. The required solar panel area to fully decarbonize Los Angeles County is estimated to be: **424,174 Acres**

NOTES

1 Power content data from the CEC [https://www.energy.ca.gov/programs-and-topics/programs/power-source-disclosure/power-content-label]
41% of power sold by the Los Angeles County Department of Water and Power came from coal + natural gas and 7% is of an "unspecified" origin
20% of power sold by Southern California Edison came from natural gas and 34% is of an "unspecified" origin.
38% of power sold in California came from coal + natural gas and 9% is of an "unspecified unknown" origin.
Reconciling these data: 45% of electricity used in Los Angeles County generates GHG emissions.

2 Assumes space heating is 40% of natural gas usage in buildings (residential + commercial) from NRDC report "Decarbonization of "Heating Energy Use in California Buildings" [https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf]

3 Assumes existing space heaters achieve a moderate efficiency (AFUE): 85% [https://www.energy.gov/energysaver/furnaces-and-boilers]

4 Assumes gas fired space heaters replaced with air source heat pumps with 8.2 Energy Star Rating of 12000 Btu/kWhr [https://www.energystar.gov/products/heating_cooling/heat_pumps_air_source/key_product_criteria]

5 Non space heat sources largely employ direct heat and are thus assigned a 1:1 energy equivalency of: 0.0002931 GWhr per MMBTU

6 U.S. Energy Information Administration: 120,286 BTU/gallon of gasoline [https://www.eia.gov/energyexplained/units-and-calculators/]

7 This assumes a 25% powertrain efficiency for gasoline engines.

8 Total Electric Vehicle efficiency (wall to wheels) is: 85% (from IEEE studyof Level 1/Level 2 chargers [https://ieeexplore.ieee.org/document/7046253])

9 U.S. Energy Information Administration: 137,381 BTU/gallon diesel [https://www.eia.gov/energyexplained/units-and-calculators/]

10 This assumes a 35% powertrain efficiency for diesel engines.

11 EPA Adopted Emission Rate: 0.000709 MTCO2/kWhr [https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references]

12 EPA Adopted Emission Rate: 0.0053 MTCO2/therm [https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references]

13 EPA Adopted Emission Rate: 0.008887 MTCO2/gal gasoline [https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references]

14 EPA Adopted Emission Rate: 0.01018 MTCO2/gal diesel [https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references]

15 IEEE Report on Land Requirements for Utility-Scale Solar PV [https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9676427]

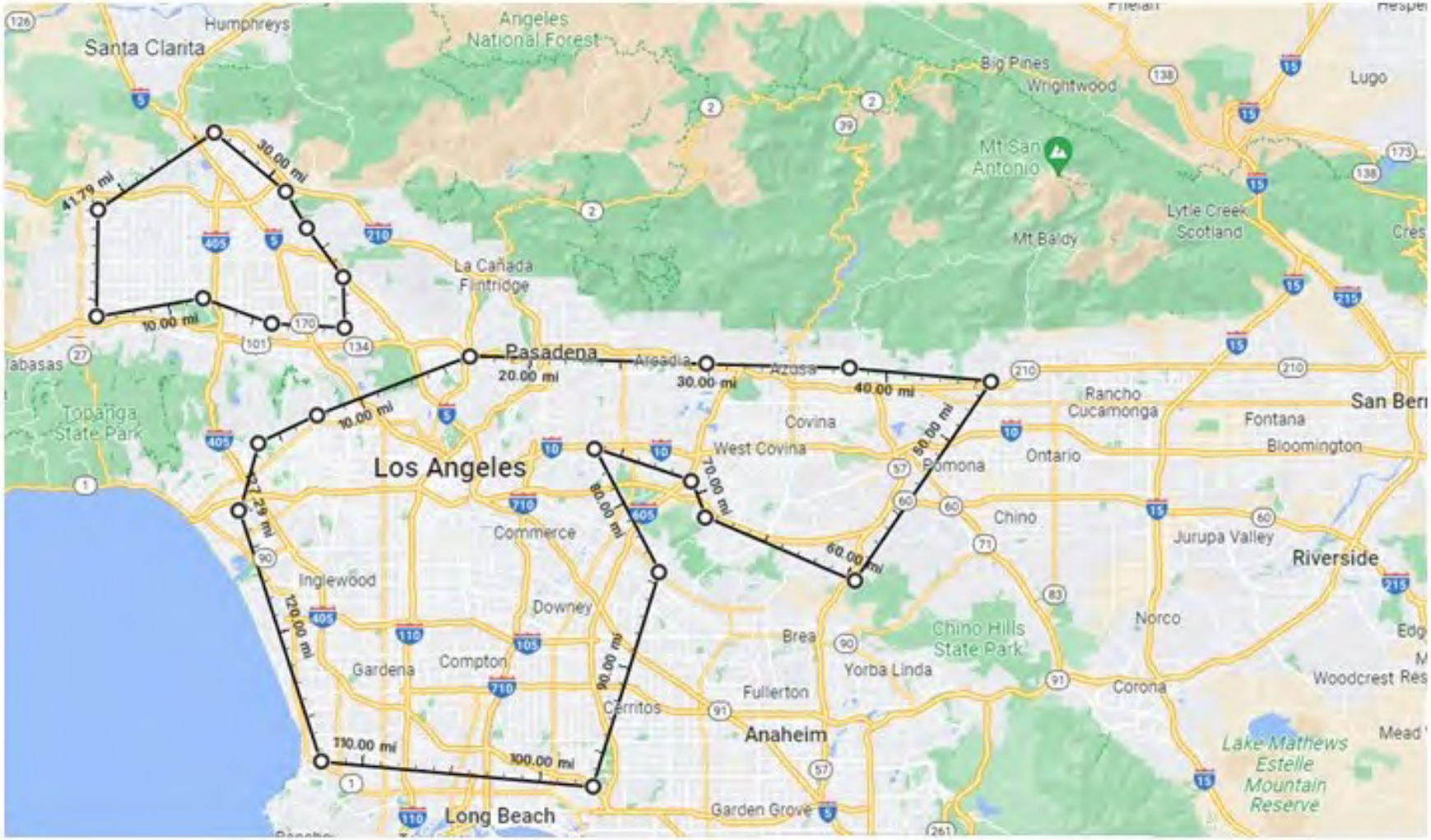
16 According to page 106 of the County Sustainability Plan, Los Angeles County GHG emissions totaled 105 MMTCO2 in 2015

17 U.S. EIA: https://www.eia.gov/tools/faqs/faq.php?id=105&t=3#:~:text=The%20U.S.%20Energy%20Information%20Administration,States%20in%202016%20through%202020.

ATTACHMENT B

MAP OF URBAN PORTIONS OF LOS ANGELES COUNTY DEMONSTRATING THAT 700 SQUARE MILES OF SOLAR PANELS COULD BE ACCOMMODATED WITHIN THE COUNTY'S DEVELOPED FOOTPRINT.

Urban Portions of Los Angeles County are Sufficient to Easily Accommodate 700+ Square Miles of New Solar Panels



(Note: The irregular shapes depicted on the map cover 700 square miles of the County's existing urban area.)

Three Points-Liebre Mountain Town Council
P O Box 76
Lake Hughes, CA 93532
3pointsliebremountain@gmail.com
www.threepointstowncouncil.com
661.724.2043

16 October 2017

SENT VIA EMAIL & US MAIL

Mr. Anthony Curzi, Renewable Energy
acurzi@planning.lacounty.gov
Zoning Permits North Section
320 West Temple St. 13th Floor
Room 1348
Los Angeles, CA 90012
213.974.6443

Dear Mr. Curzi,

RE: Neenach Solar 1B South LLC, Project; Project No. R2015-00800-(5); Conditional Use Permit No. 2015200031; Environmental Assessement No. 201500055

As previously stated in our letter dated 9 September 2017, "our town council opposes this type of utility-scale solar development in our area. It is incongruous with our rural lifestyle and small community values that include our appreciation of natural beauty, value of wildlife, and value of exceptional visual qualities that exemplify the last vestiges of expansive landscapes in Los Angeles County. This area is a source of inspiration for all of us who are fortunate enough to live here. This is not a tangible quality, but one that is easily felt by those who live here, those who visit the Antelope Valley in wildflower season, by hikers on the Pacific Crest Trail, visitors to vista points from the Angeles National Forest directly south, and travelers passing through our area." We have not wavered from this sentiment. Our councilmembers have been residents here ranging from thirty to fifty years; and some area residents have been here much longer. We have watched as thousands of acres of utility-scale solar projects have spoiled views, destroyed wildflower fields, caused or contributed to serious dust storms and reduced air quality, and loss of wildlife and habitats. Western Antelope Valley residents feel violated by the intrusion of such prolific industrial development into our rural communities. We acknowledge the State of California's order to meet ambitious renewable energy goals, but at what cost? While the Neenach Solar Project (Project) may be "only twenty acres," and profess to cause "no significant impacts with mitigation," it is another nail in the coffin that now represents our rural lifestyle. It also adds more nails for impacts to viewshed, impacts to wildlife, and impacts to our health. Cumulative impacts from other major projects and continued building of utility-scale solar projects will bury us, and our way of life.

We forcefully stress the need for adequate and adequately monitored mitigation land, which we also expressed previously: "Other solar companies have offered lands adjacent to their project footprint; however, land immediately adjacent to solar projects does not satisfy the need to preserve equal or enhanced quality habitat lost for thirty years or more, especially if the project proponent/land owner is allowed to "take back" mitigation land adjacent to the project at the end of its production lifespan. The project land and adjacent, *temporary* mitigation land can then be decommissioned, and if not continuing as a solar project, might be sold for some other use which may not be conducive to conservation.

Moreover, mitigation land adjoining project property can become fragmented and isolated as a conservation area and cease to function as a mitigation measure" (Letter 9 September 2017). Envision Centennial Project sprawl beyond its Specific Plan Area, and added effects from the Northwestern State Route 138 expansion. Mitigation land, funded and preserved in perpetuity, overseen by an entity qualified to steward the lands—as wildflower fields, bird nesting and foraging areas, and habitat supporting other wildlife, must adjoin other permanently preserved conservation land. There are repeated references throughout the Mitigated Negative Declaration (MND) that the adjoining southern twenty acres would serve as open-space mitigation throughout the thirty-year term of the Project (1/118). The Project could be surrounded by other development during its proposed thirty year operation. This is not permissible, and should be neither standard practice, nor even suggested by Regional Planning (RP) for any utility-scale solar development mitigation. It is used as a cheap, easy way for industrial-scale solar developers to provide *temporary* mitigation land without much cost, care, or effort. We further urge RP to recognize the (in process) Regional Conservation Framework and Investment Strategy, which identifies priority conservation areas suitable for mitigation, which was discussed with former project manager Mr. Desmarais. We also recognize the proposed mitigation at Holiday Lake is identified as a valuable area in the larger picture of Antelope Valley conservation planning; however, we repeat, the Project's adjoining twenty acres is not satisfactory as mitigation.

In recognizing the importance of Holiday Lake, we support the mitigation measure meant to protect Tri-colored Blackbirds. We must be assured that water levels will be maintained, and maintenance activities to preserve and enhance breeding habitat be evaluated and undertaken on a regular basis. This might include dredging, removing dead reeds, etc. Under no circumstances should herbicides be used, nor should these activities occur during nesting and breeding season. The MND is relatively non-committal regarding the actual mitigation, as it demonstrates language using "[a]n example," but not a commitment. The mitigation does not firmly address the quality or enhancement of the breeding habitat, in that it says, "and/or maintenance of lake vegetation." Any Tri-colored Blackbird mitigation must be certain in its purpose to preserve the breeding colony, as well as its maintenance; otherwise, it will be useless as mitigation. The entity designated to oversee preservation must also be *qualified* to hold and preserve such lands—in perpetuity. It is also suggested that a performance bond be undertaken to assure the Mitigation and Monitoring Plan is adequately overseen by ***independent*** biologists, and if further action or expense is needed to meet conservation goals, it is made available.

The MND also admits knowledge of "recent information from other solar PV installations that [suggests] migratory birds have been known to mistake solar panels for water bodies (the "lake effect"), often leading to mortality due to collisions (USFWS 2014) (MND 47/118)." The supposed mitigation meant to assuage impacts from lake effect says the Project will use "non-reflective" panels. How will this affect Tri-colored Blackbirds, and even migratory waterfowl, raptors, and passerines? There is additional concern with regard to the swale/retention basin designed to catch sheet flow of rainwater from 17.71 acres of what is essentially, impervious roof. The lake effect attracts birds that can collide with panels, and combined with actual water in the middle of the Project during rainy season, could attract more migratory birds and increased mortality for them *and* Tri-colored Blackbirds, creating a significant impact that must be addressed.

Indeed, National Fish and Wildlife Forensics Laboratory investigators have recognized the power of "lake effect" and described solar farms as "mega-traps," since "birds and their insect prey can mistake a reflective solar facility for a water body, or spot water ponds at the site" (https://www.scientificamerican.com/article/solar-farms-threaten-birds/). Investigators found trauma the leading cause of death at photovoltaic sites, like Desert Sunlight, located in Southern California. Especially vulnerable are waterfowl, with some species unable to take flight from land. Audubon repeats this fact by stating,

"About forty percent of the birds found dead wounded, or stranded at some solar projects in the desert are water birds and are unable to fly from the ground" (http://ca.audubon.org/conservation/solar-power). Investigators surveyed "identifiable bird remains recovered from the three solar facilities included in [their] study":

> These birds constitute a taxonomically diverse assemblage of 71 species, representing a broad range of ecological types. In body size, these species ranged from hummingbirds to pelicans; in ecological type from strictly aerial feeders (e.g. swifts and swallows) to strictly aquatic feeders (e.g. pelicans and cormorants) to ground feeders (roadrunners) to raptors (hawks and owls). The species identified were equally divided among resident and non-resident species. Nocturnal as well as diurnal species were represented . . ."[a]ttempts to land or feed on the panels because of their deceptive appearance may have injured the birds to the point that they could not escape to safety or inadvertently stranded the birds on a substrate from which they could not take flight. We believe that an inability to quickly flee after striking panels and stranding on the ground left these birds vulnerable to opportunistic predators. At least two types of predators, kit foxes and ravens have been observed in residence at the power tower and PV facilities.

(R. Kagan, et. al., "Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis," 6,18). From this investigative study, we can ascertain that predator/prey relationships will also be affected. It is possible that "opportunistic predators" will pose more of a threat to wildlife—avian, and terrestrial, than exists on the project site today. We have no doubt that this facility, plus the more than 30,000 additional acres of photovoltaic panels across the Antelope Valley, will have similar effects to migratory and resident avian species. Furthermore, investigators remarks indicate: "There is not a simple "fix" to reduce avian mortality. These sites appear to represent "equal-opportunity" mortality hazards for the bird species that encounter them. Actions to reduce or mitigate avian mortality at solar facilities will need to be designed on a site-specific basis, and will require much more data on the bird communities at each site, and on how mortality is occurring" (7). The MND's "simple fix" is to remark that non-reflective panels "may" reduce collisions: "To address this emerging issue, the proposed Project includes design features such as non-reflective solar PV panels, which ***may minimize*** potential for bird collisions at the site. Considering the size of the site and the proposed design features, impacts to migratory birds are considered to be less than significant" (47/118). Here we have a significant impact and professional investigators at the National Fish and Wildlife Forensics Laboratory saying there is no "simple fix," and the uncertain language non-reflective panels "*may* minimize" collisions. Environmental review documents must furnish proof the mitigation suggested will actually reduce impacts to less than significant, and supply verifiable information that the mitigation is verifiably successful, and may even require mortality monitoring (made publicly available) to determine *actual* impacts and determine proper and adequate mitigation. This MND offers no such requirement, and we believe this constitutes at least one reason for evaluation of this and all utility-scale solar projects with environmental impact review, and reveals inadequate initial study, with regard to cumulative impacts, that lists only three solar projects as "major projects in the area" (11/118).

We are also concerned regarding the fencing materials and bird deterrent spikes meant to prevent ravens and raptors from perching on the Project site. Fencing materials are described as chainlink, twisted wire top or even bent loops could ensnare birds of any sort. "Mitigation BIO-8 requires implementation of bird conservation measures to reduce the potential risk for avian injury and/or mortality that may result from operation and maintenance of the Project. Measures will include design features (e.g., placement of spikes on fence posts to minimize perching opportunities for ravens and raptors)" (MND 47/118). Conversely, the MND, in mitigation measure BIO-4, says: "Fencing will be constructed with materials that are not harmful to wildlife including, but not limited to, spikes, glass, razor, or barbed wire. For example, hollow fence posts shall be capped to prevent birds and other wildlife from entering and becoming entrapped.

Open bolt holes on metal fence posts which can entrap raptors alighting upon the top of the post, shall be sealed near the top to prevent raptor mortality. The readers of this document need to know specifically what deterrents will be used as measures to implement its bird conservation measures, as well as type of fencing and its safety record with regard to preventing entrapment. Included below are photos of various bird spikes, and fencing, with ability to cause harm to birds, and even showing habituation to spike material.

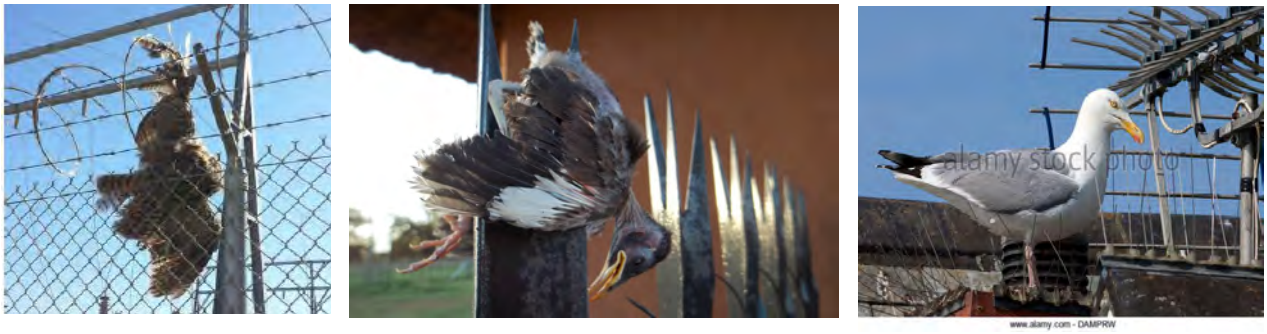


Photo 1, Great horned owl died after becoming entangled in wire fencing, photo by Joanne Mount)

BIO-7, Pre-construction Nesting Bird Surveys and Avoidance, discusses ground disturbance and surveys prior to commencement of construction. There is recommendation that "construction activities *should* be conducted during the non-nesting season (September 1-January 3), whenever feasible to avoid any potential disturbance to avian breeding activities" (MND 52/118). This statement should read: Construction activities will be conducted during the non-nesting season (September 1-January 3).

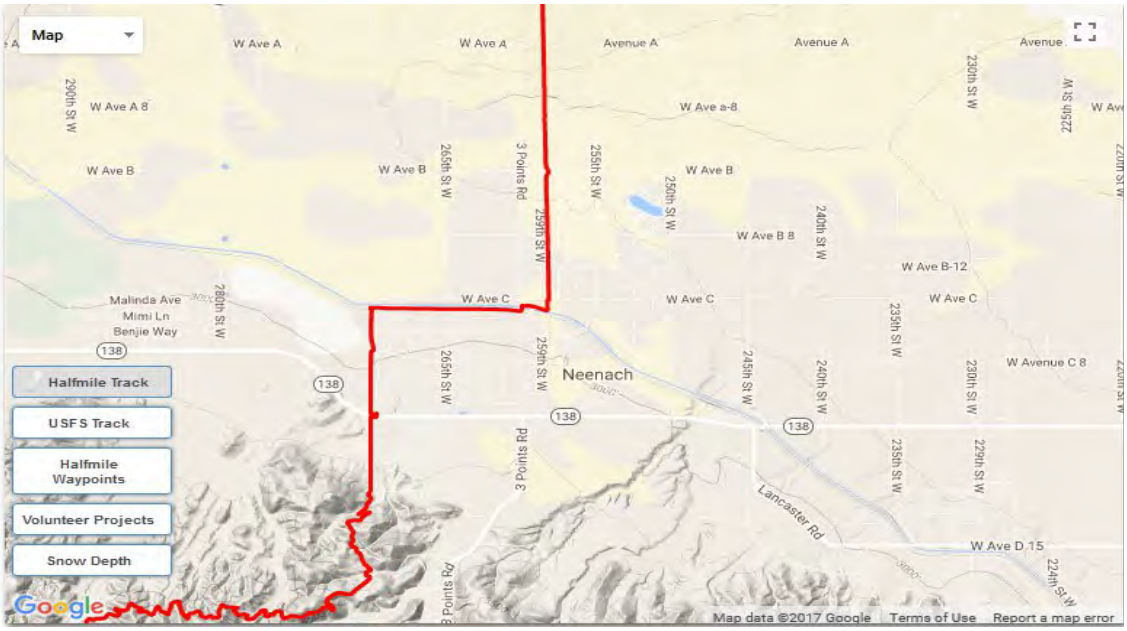
Page 42/118 of the MND, under BIOLOGICAL RESOURCES, ENVIRONMENTAL SETTING, states "The Study area evaluated in the biological reports encompasses all areas to be affected by the proposed Project, including the 17.71 acre Project site and the associated access road improvement area." In discussing Vegetation, it alternatively states, "Focused floristics surveys were ***not*** conducted within the access road improvement area; however, no sensitive plant species or vegetation communities are expected to occur within the access road improvement area based on the proximity to the proposed Project site and similarity of habitat characteristics" (42/118). How do we know, really, that no special-status species exist in the area that was not surveyed, that will be graded, compacted, gravel applied, and traveled by all associated construction and maintenance equipment and vehicles; and why are there contradictory statements regarding botanical surveys?

Our comments continue our concern for vegetation as aesthetically valuable and contributory to viewshed to and from the Project site area. We reject the notion that "Less Than Significant Impact" would occur as

Year	Total # of permits issued	Northbound thru-hike permits	Southbound thru-hike permits	Section hike permits	Thru-ride permits	Section ride permits
2016	5657	3164	334	2159	5	8
2015	4453	2486	322	1633	4	8
2014	2655	1367	94	1179	7	8
2013	1879	988	53	834	1	3

Source: Pacific Crest Trail Association - pcta.org/visitor-use-statistics

a result of the project. We also question the validity of Aesthetics answer to item b), "Be visible from or obstruct views from a regional riding or hiking trail?--Less Than Significant Impact (MND 19/118). The MND previously indicated the Pacific Crest Trail (PCT), which is highly traveled in the spring by hundreds, and even thousands of hikers, is .067 miles east of the Project (MND 10/118). However, the Figure 4 Viewshed Map does not show this "regional" hiking trail, but text does discuss potential viewshed impingement to those traversing the Antelope Valley on this trail, and denies any possibility of viewshed effects. Please see our visitor use statistics above and map below from the Pacific Crest Trail Association (https://www.pcta.org/discover-the-trail/maps/ and https://www.pcta.org/our-work/trail-and-land-management/pct-visitor-use-statistics/).



"The literature review did not identify any special-status plant species or sensitive natural communities within the Study Area. No special-status plant species or sensitive natural communities were observed the Study Area. Species such as California poppy and California goldfields were present within the Study Area; *however, these species were not observed in the density or abundance consistent with classification as a separate and sensitive vegetation community within the Study Area.* None of the special-status species identified during the literature review have a high potential to occur based on the specific habitat requirements for each of the species. The only special-status plant species with a moderate potential to occur based on specific habitat requirements is round-leaved filaree (*California macrophylla*)" (MND 42/118). In spite of the lack of special-status plant species on the project site, we differ in our evaluation of the "density and abundance" of California Poppy and California goldfields, and other wildflowers, and their contribution to the viewshed. Our reconnaissance of the entire area from Three Points Road traveling north to Avenue A, and then west to the Project site in 2014 and 2015 revealed outstanding displays of wildflowers, that surprisingly, biologists or botanical experts did not share in the MND. Instead, Photos 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, and 1.7 were taken during late spring or into summer, as were photos used in Figures 5, 6, 7a, and 7b. Should this project achieve permit approval, it will sit in one of the most spectacular areas of wildflower displays in this state. We have sent, under separate cover, several photographs of wildflower fields taken on Avenue A between Three Points Road and 265th Street West, as well as views of actual solar fields, not visual simulations, on the western portion of SR138, and overlooking Antelope Valley at 110th Street West, near Johnson Road, that we include in our comments as a whole. We provide one example on page 6 of this letter.

Looking northwest from Avenue A, between Three Points Road and 265th St. West, 21 March 2015 Zahnter photo

How can the MND offer California Department of Fish and Wildlife authorization of a Streambed Alteration Agreement (SAA) as mitigation for altering the streambed/ephemeral wash in the southern portion of the Project? The SAA is not revealed in the MND. Subsequently, adequacy of this mitigation can be determined by members of the public, or professionals interested in this project with any certainty. (BIO-6, 51, 52/118). "Permits should be obtained in advance of issuance of a grading permit and construction related ground disturbance within the access road improvement area (i.e., areas outside the existing road prisms that need improvement to widen the roads). Impacts to state waters should result in no net loss of waters, which can be *achieved through mitigation for the impact as determined in the Streambed Alteration Agreement.* Mitigation to offset the loss ***may*** consist of: use of on-site mitigation; restoration, preservation, enhancement, or establishment of aquatic resources; purchase of mitigation credits; or payment of fees to agency approved programs that conduct wetland, stream, or other aquatic resource restoration, enhancement, or preservation." The MND is amiss in not including detailed mitigation, verifiable success of mitigation, and its continuation in perpetuity. Any mitigation should be evaluated with the prospect of the Project continuing past its estimated lifespan of 25-30 years, and monitoring requirements should reflect ongoing impacts past predicted Project lifespan, and "onsite mitigation" should never be allowed, due to the nature of impacts underestimated in the MND.

We also stress the importance and need for construction activities to occur outside bird nesting/breeding season February through August, and instead, Project construction should be conducted during the non-breeding season of September 1 through January 31st. This is "feasible" mitigation. (BIO-7, 52/118). BIO-8, Bird Conservation Measures also mention "maintenance practices" and "adaptive management practices" in order to *attempt* to reduce risk for avian injury or mortality resulting from Project operation and maintenance activities (52/118). Again, without knowing what these strategies are, knowing

evaluation of their appropriateness and possibility of success, and monitoring to evaluate their success, and measures to apply if they prove unsuccessful, this mitigation cannot really be determined to be mitigation. Dr K. Shawn Smallwood, in his testimony to the State of California Energy Resources Conservation and Development Commission, on the Palen Solar Project, states, "avian deterrent strategies have been proposed as mitigation measures as part of adaptive management at Palen, but these strategies have no record of success and probably would not yield measurable reductions in fatalities" (2014). To stress again, we need to know what the "adaptive management practices" are, and they should be enumerated in the MND. Additionally, no rodenticide or "Round-Up" type herbicide--(dangerous if it enters standing water, or enters waterways) use should be allowed on the Project site to avoid poisoning of raptors and other predators. If poisoned grain is used it can kill passerines foraging on the site, as well.

Fires can occur at utility-scale solar facilities, as documented by a news article regarding Sun Power Solar Facility at Avenue A near 155th Street West, and can pose an additional risk for unhealthful air and fire danger for local residents. The 10,000 gallon water tank required for the Project would be of little value in fighting a transformer oil fire, which in this instance, firefighters allowed to burn through to the next day.

Furthermore, our council and rural residents across the Antelope Valley are extremely concerned about other air quality risks like fugitive dust and air-borne spores of the fungus *Coccidioides immitus.* As our letter to Regional Planning, dated 9 September 2017, states, "[F]ugitive dust creates a public health issue, and can affect "sensitive receptors"—children, asthmatics, the elderly, those with pulmonary disease, cardiovascular disease, as well as the general public at large, because it can carry the spores of *Coccidioides immitus*—better known as Valley Fever. [Frequent] failure of dust control plans put residents all over the Antelope Valley at risk for this fungal infection. Distance from the source of dust is of little consequence when attempting to identify sensitive receptors near projects, since winds can carry dust borne spores hundreds of miles and affect *anyone.* The previously mentioned Silverado Solar Projects' EIR identified few sensitive receptors nearby, but failed to explain fugitive dust can be carried up to hundreds of miles, as evidenced by the notable 1977 Bakersfield dust storm, which sent spores aloft and "several hundred cases as far north as Sacramento and the San Francisco Bay were identified" (http://kerncountyvalleyfever.com/ what-is-valley-fever/complications/).

Also from our letter: "Additionally, "reported cases of Valley Fever have increased in Los Angeles County and in California in the past several years. In 2016, there were 714 reported cases in LA County, compared with 522 in 2015, a 37% increase. Each year since 2009, the number of reported coccidioidomycosis cases has increased annually and the total number of reports has increased 3-fold. While cases are reported from throughout the county, most cases have occurred in northern areas, specifically Antelope Valley and San Fernando Valley. Overall, the rate of coccidioidomycosis in LA County is about 7 cases per 100,000 people; *among residents of Antelope Valley the rate is about 9-fold higher than elsewhere in the county.* California is also seeing a significant increase in the number of cases reported statewide. The highest rate of infection in the state is in Kern County, immediately to the north of LA County" (http://publichealth.lacounty.gov/ acd/Diseases/Cocci.htm).

And: "Typically, finished projects are unmanned and overseen by computer via a command center, with no real time response to dust blowing from projects. This leads us to conclude that any solar project must provide proof that fugitive dust emissions would not contribute to a measurable decline in air quality and pose a public health concern. We have seen that the AV holds the highest numbers of pulmonary illness in Los Angeles County, as reported in their Public Health publication "Key Indicators of Health 2017," in which the AV has the county's highest percentage of children with asthma, the highest pneumonia/

which the AV has the county's highest percentage of children with asthma, the highest pneumonia/ influenza mortality rate, the highest COPD/Emphysema mortality, and the highest cardiovascular mortality rate than all other of its Service Plan Areas."

There are multiple reasons that LA County Public Health's "Key Indicators of Health" show Valley residents at higher risk for pulmonary illnesses. Drought, construction activities, including utility-scale solar projects and their maintenance of graded interior roadways and aisles, and the regular Antelope Valley high-speed winds contribute to unhealthful particulates in the air. As of the writing of this project, no solar project has been able to prevent fugitive dust, despite project documents' claims of Antelope Valley Air Quality Districts Rule 403, and Best Management Practices' adequacy in preventing airborne dust.

We have further issues with a lack of air quality monitoring stations in the four directions of the Valley. The only station is in Lancaster, well within an urban setting, really unable to monitor air quality anywhere near this project, or other projects in the Mojave Air Basin. Over the past five years, residents in communities of the AV have experienced increasingly unhealthful air and property destruction akin to the Dust Bowl era of the 1930s and resulting threat of pulmonary illness. As a matter of course, Los Angeles County must approve and fund air quality monitoring stations throughout the North County, in order to accurately monitor air quality, to determine dangerous levels of particulates PM10 and PM 2.5, and protect residents from unhealthful air.

Frankly, we resent the inadequate description of Valley Fever in the MND, "Construction activities associated with the Project have the potential to increase risks associated with valley fever. Valley fever is caused by a fungus recognized to be endemic in areas with dry, alkaline soil conditions and can cause pneumonia when inhaled with wind-borne dust" (68/118). Symptoms are wide ranging and can cause *permanent, debilitating illness, and death*. It is difficult to treat, and Projects such as Neenach Solar contribute to public health issues that can effect everyone in the Antelope Valley, including the most vulnerable to pulmonary illness—children, the elderly, people of certain nationalities, and all lower income rural residents who live in less expensive outlying rural communities.

Traffic concerns, we also repeat from our September letter, since many residents of the area drive local roads, as well as the SR-138. "Potential traffic issues may occur, since the roads that serve the project area are *not* paved, and might require even more water than construction purposes on-site. A short section of 3 Points Road, (identified as a construction traffic route) north of State Route 138 is paved, but ends near the Los Angeles Aqueduct crossing. Moreover, the roads that serve as access are not County-maintained, and will require maintenance from added traffic.

"Noted unsafe driving practices, marked by other solar project construction commencement in the area, have drawn fear and ire of members of our community who must use SR 138 on a regular basis. Other solar projects have provided for additional California Highway Patrol officers during construction to address this danger." Moreover, the Geotechnical Report indicates "Due to the low bearing capacity and hydrocollapse potential of the near surface soils, engineered fill supporting mat foundations should extend to a minimum depth of 4 feet below existing grades" (Geotechnical Report Appendix C, 4.1). If this is the case for foundations, how will the dirt road hold up under construction traffic, including semi-trucks and heavy equipment? Additionally, the report states,"If high traffic loading is anticipated during wet seasons or when the upper soils are in saturated conditions, the proposed compacted soils road may experience wheel path rutting and depression up to 3 inches deep" (Geotechnical Report Appendix C, 4.5.2). If the dirt roads subjected to the report's 200 vehicles a day, under wet weather conditions, they will become quagmires, and will subject local residents needing access to impassable roads.

Finally, we take umbrage to portions of Table 12.2 General Plan and the Antelope Valley Plan Consistency Analysis (MND 82/118). The Economic Development Element, Policy ED 1.11, which states "Encourage

the development of utility-scale renewable energy projects at appropriate locations and with appropriate standards to ensure that any negative impacts to local residents are sufficiently mitigated." It is absolutely astounding that the "Consistency" statement describes the project area as one of "generally low population density and surrounding areas consist of agricultural and undeveloped land. No neighborhoods are located adjacent to the proposed Project area," and hence, the assumption is—there is no one to be impacted by Neenach Solar! (82/118). Our "neighborhoods" consist of low-density residences, occupied by real people who *will* be impacted in many ways, by this-Project. It is unconscionable to assume higher density neighborhoods are more important with regard to impacts than our rural communities. Policy ED 1.12 says, " Adopt regulations that ensure that local residents receive a fair share of the benefits of utility-scale renewable energy projects that are commensurate to their impacts," and its consistency statement suggests a real benefit, a gift, to local residents: "The proposed Project will tie into an existing SCE 12 kV distribution line. The locally produced clean energy will be consumed by users in the vicinity of the site and region." We argue against this particular statement with regard to its consistency or benefit. Residents use electricity now, and after the Project (presuming project approval) will use electricity, and they get to suffer project impacts and put up with them for 25 to 30 years. The words "fair" and "benefits" do not come to mind.

Any plans or mitigation efforts that this Project MND has failed to detail, for residents of our area or interested professionals, should be circulated to the public prior to any decisions made regarding permitting. We have no way of knowing if mitigations are adequate, or what specific monitoring is required. We need to know mitigations pursuant to the California Environmental Quality Act are satisfied, have not failed, and that consequences to the permit holder for not achieving mitigation objectives or performance standards are implemented, and will be remedied. All too often, permitted projects neglect or refuse to demonstrate permit conditions, to the detriment of rural communities. Our statements do not lend our approval to Neenach Solar Project, only our preeminent concerns.

Sincerely,

Richard Zahnter
President

Susan Zahnter
Vice President

Karen Plemmons
Secretary

CC: 5th District Supervisor Katherine Barger, 5th District Planning Deputy Chris Perry, 5th District Senior Field Deputy Donna Termeer, Regional Planning Deputy Director Mark Child, Hearing Officer Gina Natoli, Community Studies North Supervising Planner Susan Tae.

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P.O. Box 76
Lake Hughes, CA 93532
ourartc@gmail.com

16 October 2017

SENT VIA EMAIL & US MAIL

Mr. Anthony Curzi, Renewable Energy
acurzi@planning.lacounty.gov
Zoning Permits North Section
320 West Temple St. 13th Floor
Room 1348
Los Angeles, CA 90012
213.974.6443

Dear Mr. Curzi,

RE: Neenach Solar 1B South LLC, Project; Project No. R2015-00800-(5); Conditional Use Permit No. 2015200031; Environmental Assessement No. 201500055

Dear Mr. Curzi,

The Association of Rural Town Councils (ARTC) is comprised of member councils in unincorporated Northern Los Angeles County, originally formed to serve as a forum for rural residents and councils to participate in state, regional, county, and local issues, as well as an exchange for information regarding their governance. Each of our "unique" communities enjoys a rural lifestyle, and seeks to preserve the enjoyment of country living, which includes owning livestock, animal and crop husbandry, openspace, wildlife, and essentially, small town living. The ARTC appreciates the opportunity to respond to the Neenach Solar Project Mitigated Negative Declaration. Rural communities in the North County have real concerns regarding air quality associated with utility-scale solar development.

We also realize there are several causes of fugitive dust in the Antelope Valley. Certainly, other types of construction, agricultural activities, drought conditions, regular strong winds, and high-wind events are contributing factors. Our concern, here, is with regard to cumulative effects associated with not only the proliferation of utility-scale renewable energy projects in Los Angeles County unincorporated areas, neighboring Kern County, and City of Lancaster, but other large infrastructure projects, including High Desert Corridor, Northwestern Highway 138 (4,000 acres), and California High-Speed Rail (unknown properties affected in Antelope Valley (AV), more than 2,000 along the route). Los Angeles County Regional Planning's (LACoRP) Renewable Energy web pages identify 5,752 acres of predominantly approved solar projects. Our best effort at tabulating only solar projects in southeastern Kern County, pending and complete, total 22,374 acres. Not including wind energy projects, the total acreage of approved and pending solar projects is 28,126 acres. Added to the City of Lancaster's 4,222 acres of approved projects, the total arrives at 32,348 acres, within both counties in the AV and the Mojave Desert Air Basin.

Our attention turns to a very important factor--public health. Antelope Valley (AV) is an air quality non-attainment area for $PM_{10.}$ Over the past five years, residents in communities of the AV have experienced increasingly unhealthful air and property destruction akin to the Dust Bowl era of the 1930s and resulting threat of pulmonary illness. Predictable drought, water adjudication, diminishing agricultural activity, and renewable energy development have proven dust control measures and "Best Management Practices" (BMPs) like Antelope Valley Air Quality Management District's (AVAQMD) Rule 403, unsuccessful in

preventing fugitive dust. Fugitive dust can affect "sensitive receptors"—children, asthmatics, the elderly, those with pulmonary disease, cardiovascular disease, as well as the general public at large, because it can carry the spores of *Coccidioides immitus*—better known as Valley Fever. Failure of dust control plans puts residents all over the Antelope Valley at risk for this fungal infection, which can impose large public costs in lost productivity, disability, and healthcare. This concerns residents every time a utility-scale solar project is proposed. Since the Antelope Valley is an air quality non-attainment area for PM10, this leaves the question of whether current non-attainment of air quality levels of particulates combined with projects previously mentioned, plus Centennial, the National Cement Plant, and reasonably foreseeable massive solar and wind development will bring attention from the United States Environmental Protection Agency.

Because of cumulative effects of other utility-scale solar construction and operations, we see the need for expanded monitoring across the Antelope Valley, through additional monitoring stations nearer to sources of pollution, with more encompassing, accurate quantification and analysis of Antelope Valley air quality to determine levels of PM10 andPM2.5. These actions are necessary to protect the health and well being of not only rural residents, but all residents of the AV.

More and more, these become environmental justice concerns relating to socio-economic factors, public health issues, and quality of life that must be discussed with special regard to development of industrial utility-scale renewable energy in rural communities, and constitute significant impacts usually explored by full environmental impact review.

Sincerely,

Susan Zahnter
Director

CC: 5th District Supervisor Katherine Barger, 5th District Planning Deputy Chris Perry, 5th District Senior Field Deputy Donna Termeer, Regional Planning Deputy Director Mark Child, Hearing Officer Gina Natoli, Community Studies North Supervising Planner Susan Tae.

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P. O. Box 76
Lake Hughes, CA 93532
ourartc@gmail.com

26 February 2017

VIA EMAIL & HAND DELIVERED

Lancaster City Council
Mayor R. Rex Parris,
Vice Mayor Marvin Crist
Council Member Raj Malhi
Council Member Ken Mann
Council Member Angela Underwood-Jacobs
Lancaster City Hall
44933 N. Fern Avenue
Lancaster, CA 93534

Dear Mayor Parris, Vice Mayor Crist, Council Members Malhi, Mann, and Underwood-Jacobs,

Subject: S-Power Projects Appeal, Conditional Use Permits 16-02, 16-07

The Association of Rural Town Councils (ARTC) is comprised of member councils in unincorporated Northern Los Angeles County, originally formed to serve as a forum for rural residents and councils to participate in state, regional, county, and local issues, as well as an exchange for information regarding their governance. Each of our "unique" communities enjoys a rural lifestyle, and seeks to preserve the enjoyment of country living, which includes owning livestock, animal and crop husbandry, openspace, wildlife, and essentially, small town living.

However, it has come to our attention that the rural town council area of Antelope Acres faces especially difficult challenges associated with proliferation of utility-scale solar electrical generating plants throughout their community. They occupy an unusual position, in that their boundaries are infiltrated by irregularly placed properties annexed by the City of Lancaster. They provide an exemplar of why our Los Angeles County Local Agency Formation Commission would be prohibited by state law today to approve such irregular annexation, and further amplifies the difficulties associated with political and jurisdictional boundaries and effects to neighboring areas.

There is concern regarding the cumulative effects associated with not only the proliferation of utility-scale renewable energy projects in Los Angeles County unincorporated areas, neighboring Kern County, and City of Lancaster, but other large infrastructure projects, including High Desert Corridor, Northwestern Highway 138 (4,000 acres), and California High-Speed Rail (unknown properties affected in Antelope Valley (AV), more than 2,000 along the route). Los Angeles County Regional Planning's (LACoRP) Renewable Energy web pages identify 5,752 acres of predominantly approved solar projects. Our best effort at tabulating only solar projects in southeastern Kern County, pending

and complete, total 22,374 acres. Not including wind energy projects, the total acreage of approved and pending solar projects is 28,126 acres, within both counties in the Mojave Desert Air Basin. There is no easily obtainable published list or map of utility-scale solar projects in Lancaster to consider in determining cumulative effects of this industrial-type construction on air quality and quality of life for Antelope Acres residents. More and more, these become environmental justice concerns relating to socio-economic factors, public health issues, and quality of life that must be discussed with special regard to development of industrial utility-scale renewable energy in rural communities, and constitute significant impacts usually explored by full environmental impact review.

Our attention turns to one of the most important of those factors--public health. Antelope Valley is an air quality non-attainment area for $PM_{10.}$ The project area in question has historically been farmed and restored unsuccessfully with regard to soil erosion, leaving residents exposed to fugitive dust and its health implications. Over the past five years, residents in communities of the AV have experienced increasingly unhealthful air and property destruction akin to the Dust Bowl era of the 1930s and resulting threat of pulmonary illness. Predictable drought, water adjudication and diminishing agricultural activity, and renewable energy development have proven dust control measures and "Best Management Practices" (BMPs) like Antelope Valley Air Quality Management District's (AVAQMD) Rule 403, unsuccessful in preventing fugitive dust. One might argue that avoidance of soil disturbance, regular watering, soil stabilizers, and revegetation measures can adequately mitigate erosion and fugitive dust. However, AVAQMD Director Brett Banks' comments regarding Los Angeles County Silverado Projects, Final Environmental Impact Review Response letter, dated February 14th, 2014, state:

> Daily PM10 thresholds may be exceeded in a three hour wind event of 30 miles per hour with 20 acres of [unstable] Disturbed Surface. ***High Wind Conditions are a regular occurrence in Antelope Valley***. Watering frequency for the projects is estimated at two times per day. When water is used as fugitive dust control, watering is required three times a day and increased to a minimum of four times a day if there is evidence of visible Wind-Driven Fugitive Dust AVAQMD Rule 403-Fugitive Dust (11)(d). . . The projects propose replanting a vegetated cover of native grasses for mitigation of fugitive dust and erosion processes. Successful fugitive dust control and site stabilization would result in maintaining vegetation to the highest extent possible. Revegetation in desert environments is extremely difficult with 80 percent failure rates seen as typical, even with supplemental irrigation.

Site stabilization has been unsuccessful in the past, and in the case of these projects, the site is bereft of native vegetation capable of preventing soil erosion, and revegetation failure rates prognosticate continued cycles of renewable energy development and future drought, which will produce the same results.

Fugitive dust can affect "sensitive receptors"—children, asthmatics, the elderly, those with pulmonary disease, cardiovascular disease, as well as the general public at large, because it can carry the spores of *Coccidioides immitus*—better known as Valley Fever. Failure of dust control plans put residents all over the Antelope Valley at risk for this fungal infection. Distance from the source of dust is of little consequence when attempting to identify sensitive receptors near projects, since winds can carry dust borne spores hundreds of miles and affect *anyone.* The previously mentioned Silverado Solar Projects EIR identified few sensitive receptors nearby, but failed to explain any fugitive dust can be carried for hundreds of miles, as evidenced by the notable 1977 Bakersfield dust storm, which sent spores aloft

and “several hundred cases as far north as Sacramento and the San Francisco Bay were identified” (http://kerncountyvalleyfever.com/ what-is-valley-fever/complications/). More fugitive dust means more risk; residents nearby are more at risk.

Traditional soil stabilization with water and/or chemical applications and AVAQMD's Rule 403 have consistently proven inadequate in containing fugitive dust across the Antelope Valley as pertains to utility-scale solar development. As of yet, no dust control measures required by Los Angeles County Regional Planning or the AVAQMD have adequately addressed this problem. Furthermore, the United States Environmental Protection Agency may require New Source Review Construction permits, and describes how new major stationary sources of pollution and major modifications to existing sources need to obtain an air pollution permit before commencing construction.

> This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). Permits for sources located in attainment areas are referred to as Prevention of Significant Deterioration (PSD) permits, while permits for sources located in nonattainment areas are referred to as non-attainment area (NAA) NSR permits (NSR Program, Parts C and D of Title 1, of CAA; US EPA letter to the DRECP, EIR/EIS, dated February 23rd, 2015.)

Problems presented by this particular solar project symbolize only some of the variety of unresolved, unsuccessfully mitigated issues. One of the most important is the lack of successful dust control plans which adds to and complicates a serious, ongoing public health issue with regard to Valley Fever, and sensitive receptors like children, elderly, and those with respiratory and pulmonary conditions. Due to the cumulative effects of other concurrent solar construction and operations, fallowing of water adjudicated agricultural lands in the area, and reasonably forseeable impacts of other projects we see the need for expanded monitoring across the communities near sources of pollution, and yearly quantification of AV air quality impacts to determine the ability of other projects to be permitted. These actions are necessary to protect the health and well being of not only rural residents, but all residents of the AV.

These projects' division and destruction of rural communities contributes to loss of property values and adds to the violation of citizens' investment in and enjoyment of their private properties, which has been caused in part by annexation intrusions in and around Antelope Acres. There is also the popular but mistaken assertion that “previously disturbed” agricultural land is deficient in value for anything but solar projects and contributes to neighboring communities like Antelope Acres to see a need for a comprehensive environmental and community based plan, working in conjunction with project proponents and the city, that recognizes the economic value of not only their private property, but its connectivity to open space, and one that values the natural environment that contributes to the desirability of living in the Antelope Valley, as well as its attraction to neighbors and visitors alike that bring business to the area. Cumulative impacts from thousands of acres of projects, particularly within and adjoining the City of Lancaster, and in Los Angeles and Kern Counties are overlooked, and must be acknowledged in full environmental review.

Finally, it is concerning that the "environmental fees" collected by the city for its mitigation account, whose plans are not available to the public or interested agencies during the environmental review process, makes it impossible to determine their adequacy in mitigating specific impacts to this rural community and the natural environment at large. We request that you agree with the appeal, deny the Conditional Use Permit for these projects, until such time full environmental review, mitigations, and environmental fees are determined by Antelope Acres residents to be adequate in protecting their properties, their lifestyle, and their health.

Sincerely,

Susan Zahnter
Director

Copy to: City of Lancaster Associate Planner Jocelyn Swain, Fifth District Supervisor Kathryn Barger, Fifth District Antelope Valley Field Deputy Donna Termeer, 21st Senate District Field Representative Andrew Awad, 36th Assembly District Field Representative George Andrews

Association of Rural Town Councils
Susan Zahnter, Director
ourartc@gmail.com
661.724.2043

18 July 2022

SENT VIA EMAIL

Los Angeles County Regional Planning
Attn: Ms. Thuy Hua
320 W. Temple St., Room 1320
Los Angeles, CA 90012
THua@planning.lacounty.gov

Dear Ms. Hua,

Subject: 2045 Climate Action Plan Program Draft EIR; Draft 2045 Climate Action Plan

The Association of Rural Town Councils (ARTC) appreciates the opportunity to comment on the 2045 Climate Action Plan Program EIR (CAP PEIR); and the Draft 2045 Climate Action Plan (Draft 2045 CAP). As you know the Antelope Valley (AV) and its fourteen member councils reside in diverse geographical locations with widely varied weather and atmospheric conditions that are vastly different from Southern Los Angeles County. Having attended many County Sustainability meetings, workshops and outreach events, a great deal of stress has been placed on community "resiliency," and ability to withstand and recover easily from extreme climate events that are projected to affect transportation, water availability, energy, communications, and other infrastructure. Frontline communities are singled out in these documents for "equitable" actions in what appears to be the South County, despite the claims of treating all residents equitably. Rural communities are "frontline" when facing massive utility-scale renewable energy efforts promoted by the CAP 2045's Net Zero efforts. Besides tremendous environmental effects to wildlife and natural landscapes, and recovered agricultural lands, residents will be subject to even more serious air quality impacts than ever before.

For years now the ARTC and individual councils have worked to bring awareness to air quality issues here. It should be noted that we worked with the Antelope Valley Air Quality Management District to acquire grant funding to place Purple Air air quality sensors (do not 'officially' record air quality) throughout the AV. That project has been stalled for two years now, since their placement in schools became difficult during the pandemic. This has been an ongoing matter, and the AV has experienced actual dust storms since then that are not only unhealthful, but also restricted transportation movement on highways and roads. We can anticipate continued and increased unhealthful air quality as the CAP 2045 moves forward and can identify not only construction and operations of solar projects, but actual increases to our temperatures in the AV due to "solar heat island effect," which has the potential to change our already dry environment, and reduce rainfall.

As a factual matter, the Los Angeles County Department of Public Health has identified the AV's Service Plan Area 1 as having the highest numbers of childhood asthma, COPD, cancer, and cardiovascular disease, exacerbated via dust entrained on our predictable high winds, causing and continuing to complicate illnesses. Furthermore, *Coccidoides Immitus*, or Valley Fever, is spread via fungal spores also entrained on winds here, and can affect anyone, but especially the aged, pregnant women, African Americans, Hispanics, Filipinos, those with Diabetes and weakened immune systems. Livestock and pets can become ill as well. ***The AV's SPA 1 has the highest all cause death rates*** (Public Health's Key Indicators of Health 2017), and dust particulate pollution is a major contributor to these public health issues here. Does this account for identification as a "frontline" community?

The ARTC asserts the AV ***is a "frontline" community***, worthy of equitable consideration as to the effects the CAP 2045 will have on our populations. We have argued for improvements in air quality time after time, as more solar companies desecrate our high desert, as quarries, cement plants, and agricultural land fallowed by water adjudication add particulates to our air. It appears the only air quality impacts that matter are considered to be particulates produced from transportation and industry in the South County, even though, as mentioned previously, dust particulates cause and exacerbate serious illness. We also have "frontline" Disadvantaged Unincorporated Communities (DUCs) in the AV, and while everyone deserves clean air, rural communities have been consistently ignored when it comes to air quality issues. Moreover, Public Health has not issued its "Key Indicators of Health" since 2017, instead focusing health evaluations in South County "frontline" communities. The ARTC finds this astonishingly inequitable.

With the presentation of this Draft CAP 2045, the ARTC believes it is time for major mitigation measures that should include official Beta Attenuation Mass Monitors to accurately record and provide classification for air quality in the Antelope Valley. It is unconscionable that air quality and particulates $PM_{2.5}$ and PM_{10} have for years continued to be "unclassified" throughout our large valley. There is only one official air quality monitor placed in a suburban environment in Lancaster. Without properly placed air quality monitors, and subsequent measures to improve air quality, rural residents will continue to suffer ill health and death, which will be the human cost of the CAP 2045, and on Los Angeles County's watch. The County should place a monitor in the Western AV, and one in the Eastern AV, and provide for the completion of Purple Air air quality sensors placement at schools throughout the valley.

Finally, airborne dust particulates deeply affect the natural environment and wildlife across the AV. With adequate monitoring and classification of particulates and other pollutants, the spectacular flora and fauna, with many identified as special status species worthy of protection, will have a better chance of survival. Of particular note, dust suppressants can alter natural environments. When carried by wind, they can damage herbaceous plants, affecting food sources for wildlife; and can change water runoff characteristics; and also affect water quality with chemicals contained in suppressants. What is the answer? At least for solar development, distributed generation on rooftops should be required first, ahead of large solar installations. This would greatly alleviate the environmental and human health impacts to the AV as a result of the CAP 2045 and Net Zero policies. Please refer to our first letter submission enclosures for more information on rural community and environmental impacts from solar development. Please also note the enclosed proposal submitted to the California Air Quality Board in consideration of grant funding for air quality improvement.

Yours truly,

Susan Zahnter
Director

Enclosure

Copy to: Supervisor Kathryn Barger, Planning Deputy Anish Saraiya, Senior Field Deputy Donna Termeer, Assistant Field Deputy Charles Bostwick

COMMUNITY AIR PROTECTION PROGRAM
AB617

ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM



SUBMITTED BY:

THE ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

IN PARTNERSHIP WITH THE

ASSOCIATION OF RURAL TOWN COUNCILS

JULY 31, 2018

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ATTACHMENT 3 - Draft test matrix and data quality objectives for the Antelope Valley Community Air Monitoring Program.

ATTACHMENT 4 - AVAQMD and ARTC joint CAPP submittal dated April 30, 2018

I. INTRODUCTION

The Antelope Valley Air Quality Management District ("AVAQMD"), in partnership with the Association of Rural Town Councils ("ARTC"), seeks to develop and implement an action-oriented community air monitoring plan under the Community Air Protection Program ("CAPP") established pursuant to AB 617. Consistent with the requirements established for the CAPP by the California Air Resources Board ("CARB"), the AVAQMD provided an initial submittal on April 30, 2018 that set forth detailed information regarding the Antelope Valley Community including health indicator data showing the substantial health inequities experienced by Antelope Valley residents along with data demonstrating that the Antelope Valley Community meets the "Disadvantaged Community" criteria established by AB 617. As discussed in the April 30 submittal, the Antelope Valley Community often experiences elevated ambient particulate levels that are not localized and are in fact widely dispersed by sustained wind events that frequently shift direction. It is believed that all neighborhoods and areas within the Antelope Valley Community experience high ambient particulate events[1], however there is insufficient data to determine whether some areas are more affected than others, or even where the primary particulate sources are. This uncertainty is magnified by the fact that the compliance status of the Antelope Valley with respect to state and federal ambient air quality standards for PM2.5 and federal standards for PM10 has never been established.

What is certain is that ambient particulate is directly responsible for the sharp rise in Valley Fever diagnoses in the Community (the Antelope Valley is burdened with the highest incidents of Valley Fever in Los Angeles County[2] and has the fifth highest burden in California[3]; the incidence of Valley Fever in the Antelope Valley Community continues to increase at an alarming rate[4]) and it substantially exacerbates other health problems that disproportionately burden Antelope Valley Community residents. For instance (and as discussed in detail below), portions of the Antelope Valley are in the 99th percentile for cardiovascular disease rates and asthma, and in the100th percentile for low birth weights according to the June 2018 version of CalEnviroscreen.

Ambient particulate in the Antelope Valley Community results from a combination of factors including unique geology and geography, highly variable meteorological conditions, sustained winds, and a wide variety of particulate sources (dispersed in some areas and concentrated in others) which results in particulate that is entrained in one area to be carried great distances and deposited in a different area. For this reason, the AVAQMD and ARTC consider ambient particulate to be a systemic problem that affects the Antelope

Valley Community "as a whole", and we propose to address it "as a whole" through implementation of the Antelope Valley Community Air Monitoring Program wherein the AVAQMD expects to 1) Use the particulate concentration data to ascertain the extent to which elevated PM2.5 concentrations occur; 2) Reconcile the particulate concentration data with meteorological data to identify the primary source or sources of particulate that contribute to ambient particulate levels; and 3) Work with residents, business owners, health experts, and CARB to develop and implement particulate emission reduction strategies that are tailored to the primary particulate sources that are identified. As shown below, the proposed Antelope Valley Community Air Monitoring Program satisfies all elements established for the CAPP by AB 617, and it achieves the "action oriented" community monitoring objectives that CARB has established as set forth in the in the draft "Community Air Protection Blueprint" released June 7, 2018. For simplicity, the Antelope Valley Community Monitoring Plan set forth below is presented in a format that parallels the "Blueprint" document.

II. THE ANTELOPE VALLEY COMMUNITY MONITORING PROPOSAL WAS DEVELOPED FROM A COMMUNITY-FOCUSED FRAMEWORK.

The AVAQMD and ARTC recognize that AB 617 mandates community-based air pollution monitoring and reduction programs, and it seeks to enfranchise residents to become partners in developing and implementing strategies for cleaning up the air in their communities. As presented in detail in the following sections, the Antelope Valley Community Monitoring Program encompasses all aspects of the "Community-Focused Framework" embodied by AB 617 because it:

- Will be implemented in partnership with community members and solicits participation by schools and local agencies;
- Engages local land use and transportation agencies;
- Provides community members with direct access to local air quality data;
- Pinpoints the location and characteristics of sources responsible for high particulate levels in the Antelope Valley Community.
- Relies on source-based data to develop appropriate and effective control measures.

III. THE ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM BUILDS ON EXISTING INFORMATION TO FILL PARTICULATE CONCENTRATION DATA-GAPS

The Antelope Valley is an isolated and predominantly rural area which has demonstrably disproportionate health burdens that are either directly attributable to, or exacerbated by, airborne particulate[5] and which has monitoring facilities that are insufficient for determining whether the area meets state or federal air quality standards for PM 2.5[6] or federal PM10 standards. However, the data that is provided by the single Beta Attenuation Mass Monitor (BAMS) located within the Antelope Valley Community demonstrates that the area is out of compliance with state ambient air quality standards for PM10, and it reveals exceedances of the federal 24-hour standard for PM2.5. The proposed Antelope Valley Community Monitoring Program builds on this foundation by quantifying ambient particulate concentrations throughout the community to increase our understanding of air quality in the community and increase public awareness regarding neighborhood particulate levels. As discussed in more detail below, this is achieved by deploying low-cost sensors at key locations throughout the community to capture real-time air quality "snapshots" that are immediately accessible by the public via on-line tools. Through extensive community participation efforts undertaken to date, the AVAQMD and the ARTC recognize that the Antelope Valley Community is burdened with a wide range of particulate sources, such as:

- A freeway and several major highways that traverse the community as mapped CalTrans "Truck Networks" and also carry more than 110,000 vehicles per day.

- Multiple freight lines that run both north-south and east-west through the community as well as a heavily-used passenger railway that runs down the center of the community.

- 45,000 acres of solar fields where native vegetation has been removed and routine "mowing" occurs. These solar fields are crisscrossed with unpaved roads that are used for access and panel washing and which generate significant fugitive dust.

- Numerous agricultural operations that are exempt from fugitive dust regulations and which are scheduled to become fallow over the next 5 years due to new water restrictions and therefore contribute additional fugitive dust that will be dispersed across the Antelope Valley Community.

- Construction and development to accommodate sharp population increase projections.

- Multiple large sand, gravel and quarry operations that are neither covered nor enclosed.

The Antelope Valley Community Air Monitoring Program strategically places sensors throughout the community to ensure these sources are captured; as discussed in detail below, final sampling locations will be selected based on extensive community input and discussions with residents throughout the Antelope Valley Community, thus placing data collection decisions directly in the hands of residents and community-based organizations like the ARTC. The Antelope Valley Community Air Monitoring Program is action-based and will use data that is collected to identify principal particulate pollutant sources and develop effective control strategies. Therefore, it achieves the "overlap" that CARB seeks between communities selected for air monitoring and communities selected for emission reductions. It will also be useful in evaluating the effectiveness of specific emissions reduction strategies and tracking progress in air pollution reductions achieved.

IV. THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM IS A COMMUNITY-DRIVEN ACTION.

The AVAQMD and ARTC recognize that Antelope Valley Community members are intimately familiar with their neighborhoods and are the best resource for identifying particulate monitoring sites that properly capture the particulate "profile" within the community. The AVAQMD and ARTC also recognize the importance of enlisting participation and support from land use agencies and public health officials to address the public health-based purpose which lies at the core of AB 617. Correspondingly, the Antelope Valley Community Monitoring Program described herein has incorporated the expertise and input from community members, elected officials, land use experts, health officials, and soil experts in an extensive and collaborative process; key outreach efforts are summarized in Table 1.

Table 1. Collaboration Activities Undertaken in Furtherance of the Proposed Antelope Valley Air Quality Monitoring Plan.

May 30, 2018	Presentation at the regularly scheduled meeting of the Association of Rural Town Councils attended by elected representatives from more than 10 neighborhoods that represent the entirety of rural Antelope Valley. At this meeting, an update on the grant process was provided,

	and it was conveyed that most outreach activities would occur in June after the CARB released further details on AB 617 implementation.

Table 1 (continued)

June 15, 2018	Outreach to rural town councils to request the opportunity to present the Antelope Valley Community Monitoring Plan and solicit input on locations and implementation from rural residents.
June 19, 2018	Presentation at the regularly scheduled meeting of the AVAQMD Governing Board (comprised of rural residents, elected officials from the Cities of Lancaster and Palmdale, and representatives of the County of Los Angeles). An update of the grant proposal effort was provided along with a draft proposal for locating the particulate sensors.
June 20, 2018	Presentation at the regularly scheduled meeting of the Antelope Acres Town Council attended by residents and elected community members from the northwesternmost neighborhood of the Antelope Valley. At this meeting, input on sample locations and support was solicited and received; the draft plan was modified accordingly.
June 23, 2018	Presentation at the "2018 AV Valley Fever Awareness Seminar" where input on sample locations and support was solicited from community members, elected city officials, and public health experts.
June 26, 2018	Presentation at the regularly scheduled meeting of the Lake Los Angeles Town Council attended by community members from the easternmost neighborhood of the Antelope Valley. At this meeting, input on sample locations and support was solicited and received.
June 27, 2018	Presentation at the regularly scheduled meeting of the Association of Rural Town Councils attended by elected representatives from more than 10 neighborhoods that represent the entirety of rural Antelope Valley. At this meeting, input on sample locations and support was solicited and received; the draft plan was modified accordingly.
June 28, 2018	Coordination with the Los Angeles County Department of Regional Planning to solicit support and commitment to serve on the Antelope Valley Community Air Monitoring Program Steering Committee.
July 1, 2018	Outreach to Dr. Antje Lauer of the University of California at Bakersfield Department of Biology to solicit support and commitment to serve on the Antelope Valley Steering Committee
July 5, 2018	Meeting with the Antelope Valley Resource Conservation District to gather input, inquire regarding soil data, and solicit recommendations regarding sample locations; the draft plan was modified accordingly.
July 5, 2018	Meeting with the Antelope Valley Dust Control Group to gather input and solicit participation and recommendations regarding sample locations; the draft plan was modified accordingly.
July 10, 2018	Presentation at the regularly scheduled meetings of the Palmdale City Council. At this meeting, input and support was solicited and received.
July 12, 2018	Presentation at the regularly scheduled meeting of the Littlerock/ Pearblossom Town Council attended by community members from the

	southernmost neighborhood of the Antelope Valley. Input on sample locations and support was solicited and received.

It is the AVAQMD's and the ARTC's intent to disseminate the data that are collected and use it to identify which of the many sources identified above are contributing to unhealthful particulate levels, and then implement targeted action through: 1) The development of new control strategies; and 2) Engagement with local land use authorities and public health experts to reduce emissions and exposure to air pollution. Toward this end, the AVAQMD and the ARTC have already solicited the participation of community members, land use agencies, public health officials, soil specialists, and Valley Fever experts from academia to participate in the Steering Committee that will be formed upon award of the CAPP Grant. Letters and communications expressing the intent of these agencies, organizations and individuals are provided in Attachment 1. We are also coordinating with schools and local agencies for their participation in the Antelope Valley Community Air Monitoring Program, and we believe we have assembled all the elements of local knowledge, land use authority, and scientific expertise that is essential to the development and implementation of effective clean-air solutions and healthy communities.

V. THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM WILL MEET CARB'S TIMELINE FOR ACTION ESTABLISHED FOR AB 617 IMPLEMENTATION.

The AVAQMD and the ARTC recognize that an ambitious schedule has been established for the development and implementation of the community monitoring component of AB 617. Among other things, this schedule demands the formation of a steering committee by the Fall of 2018, and the deployment of monitors by July, 2019. To meet this schedule, the AVAQMD and the ARTC have undertaken the following actions:

- We have already received commitments from community members, land use authorities, public health experts, transportation authorities, and academics to participate in the Steering Committee as soon as the grant is awarded. This enables us to "hit the ground running" and ensures that the Antelope Valley Community Steering Committee will be fully operational before the Fall 2018 deadline.

- We have already identified proposed locations for deploying the monitors based on extensive community input and we have developed a test matrix with established Data Quality Objectives that are discussed in more detail below.

As a result of these extensive outreach and planning efforts undertaken to date, the Antelope Valley Community Air Monitoring Program is almost "shovel ready"; as such, the

AVAQMD and the ARTC are confident that the Program will meet all the AB 617 deadlines established by CARB.

VI. PUBLIC ENGAGEMENT IS ESSENTIAL TO THE DEVELOPMENT OF THE PROPOSED ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM.

The AVAQMD and ARTC understand that the success of the Antelope Valley Community Air Monitoring Program hinges on coordination with a wide variety of stakeholders, therefore we have conducted multiple outreach activities and different types of engagement and will continue to do so going forward. As indicated in Table 1, engagement activities conducted to date include community meetings, town council meetings, workshops, seminars, AVAQMD Board meetings, City Council Meetings, and individual and small group meetings. As a result of these activities, a draft test matrix setting forth proposed monitoring sites and data quality objectives was prepared (as discussed in more detail below). We have identified the following benefits that will be provided by the Antelope Valley Community Monitoring Program as a result of past and future outreach efforts:

- It ensures a ground-up, community-based approach to identify the proposed monitoring sites; this is appropriate, since it is the community residents who are the experts regarding ambient particulate "problem areas". This achieves a fundamental AB 617 objective by directly involving community members in the design of solutions for their community.

- It provides an entirely transparent process for identifying proposed monitoring sites because public involvement and community input occurs at every step.

- The focus on all public outreach efforts has been on 1) air quality data access opportunities; and 2) The location of air monitoring sites to ensure proper capture of all essential locations throughout the Antelope Valley Community based on local experience and knowledge provided by the affected community members. This provides residents with better information about their community and it supports actions to reduce emissions and exposure within communities. Data quality measures and objectives (such as precision and accuracy) have also been discussed (particularly at the ARTC meeting on June 28); such measures are essential to ensure that monitoring data support sound decision-making and action.

- It achieves a strong technical- and science-based foundation by coordinating with soil specialists, land use agencies and public health experts to identify and address the most significant particulate emissions sources that contribute to elevated health risks such as Valley Fever, COPD and childhood asthma.

- It focuses immediate action where the nature of contributing particulate air pollution sources is known.
- It provides a path to ensure that particulate emissions in the Antelope Valley do not increase because it establishes important baseline ambient particulate levels from existing sources.

- It facilitates the implementation of measures to reduce the impacts of emissions sources that sit close to sensitive populations by identifying the extent to which such sources contribute to ambient particulate burdens on sensitive populations.

- City and county government participation is guaranteed because city and county government agencies have committed to participating on the Steering Committee that will be formed for the Antelope Valley Community Air Monitoring Program.

- It incorporates a strong focus on public health by engaging public health officials and academic experts on the steering committee with the aim of tracking health data (including Valley Fever, COPD and childhood asthma) and improving the availability of public health information for the decision-making process.

These benefits that will be garnered by the Antelope Valley Community Air Monitoring Program mirror the public engagement benefits set forth in Carb's "Blueprint" document, and they achieve the goals and objectives established by AB 617 for community air monitoring programs under the CAPP.

VII. THE ANTELOPE VALLEY COMMUNITY WARRANTS SELECTION AS A "FIRST YEAR" PRIORITY COMMUNITY.

Beginning on page 10 of the draft "Blueprint" document, CARB establishes the steps and proposed criteria for considering the prioritization and selection of communities in the first year of CAPP Program implementation. The following paragraphs set forth how the Antelope Valley Community Air Monitoring Program meets each of these criteria, and why it should be approved for the first year of CAPP implementation.

The Antelope Valley Community merits inclusion in the list of Step 1 communities - *IDENTIFICATION OF POTENTIAL COMMUNITIES*:

CARB will develop a broad list of communities based on recommendations by local air districts and individual communities according to requirements set forth in the draft "Process and Criteria for 2018 Community Selections" document issued February, 2018 which address the extent to which communities are disadvantaged and experience air

pollution-related adverse health impacts. On April 30, 2018, the AVAQMD and ARTC jointly and timely submitted extensive evidence[7] showing that the Antelope Valley Community meets all of CARB's criteria pertaining to significant adverse health impacts within the Antelope Valley Community that are either directly attributed to, or significantly exacerbated by, high ambient particulate levels. We also submitted extensive documentation showing that the Antelope Valley Community meets every element of the AB 617 definition of "Disadvantaged Community" and it satisfies all the "Disadvantaged Community" criteria set by California Health & Safety Code § 39711. The extensive information that the AVAQMD and the ARTC have already jointly submitted reflects the first-hand knowledge of local air quality impacts and it resoundingly represents the concerns of both community members and community-based organizations. All of this constitutes substantial evidence that the AVAQMD has been, and will continue, working to develop a comprehensive and robust community monitoring program that is action-based, and pollutant-reduction focused. For all of these reasons, the Antelope Valley Community warrants inclusion in the CARB's initial identification of potential communities.

The Antelope Valley Community merits inclusion in the list of Step 2 communities: ***ASSESSMENT OF CUMULATIVE AIR POLLUTION EXPOSURE BURDEN.***

CARB has identified 6 criteria that will be applied to assess the cumulative air pollution exposure burden of each community that is identified in Step 1; the Antelope Valley Community scores very high on each of these factors, to wit:

1. Exposure to Air Pollution - Concentrations of Pollutants:

The Antelope Valley Community is substantially burdened by high ambient particulate levels that are generated by large, uncontrolled, and unenclosed area sources (agriculture, solar farms, sand and gravel operations) as well as mobile sources (freeways, highways, truck routes and freight rail lines) that are slated to increase substantially with population growth and which are exacerbated by sustained high wind profiles and frequent gust events. It is already firmly established that the Antelope Valley Community substantially exceeds state and federal ambient air quality standards for PM10 and, according to the June, 2018 version of CalEnviroscreen, the entire Antelope Valley Community is in the 91st percentile for ozone (see Figure 1). These data from reliable sources clearly establish that the Antelope Valley Community is exposed to high pollutant concentrations and therefore meets Criteria #1.

2. Exposure to Air Pollution – Density of Air Pollution Sources:

The Antelope Valley Community has a high density of mobile and stationary particulate sources, including multiple freight lines, a major freeway (SR14) and three major highways (Sierra Highway, CA-138, and the Pearblossom Highway). In addition, there are 45,000 acres of solar farms that generate fugitive dust located west of (and therefore typically upwind of) Northeast Lancaster and environs which (according to the June, 2018 version of CalEnviroscreen) has a CALENVIROSCREEN Disadvantaged Community Score of 75-80% (see Figure 2). There are also at least 5 unenclosed and uncontrolled rock, sand and gravel operations that are all located immediately west of (and therefore typically upwind of) the community of Littlerock and environs which has a CALENVIROSCREEN Disadvantaged Community Score of 75%. There is no doubt that the Antelope Valley Community is burdened with a high density of large magnitude air pollutant sources and therefore meets Criteria #2.

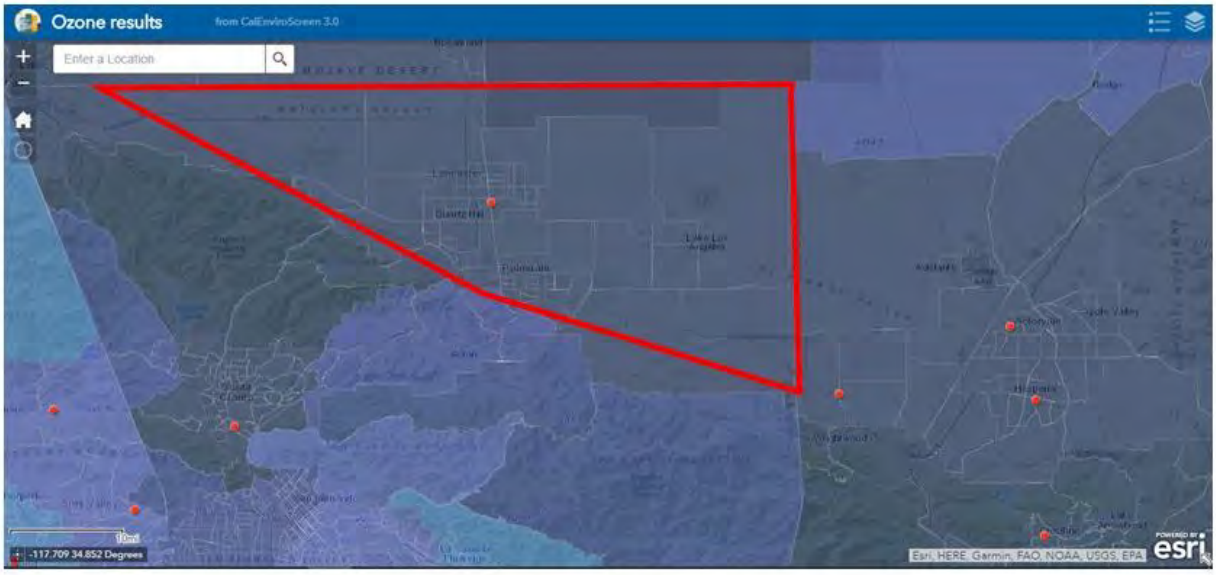
3. Exposure to Air Pollution – Health Risks:

As a preliminary comment, the ARTC and AVAQMD note that the only health concern identified in the Draft "Blueprint" as being pertinent to the Step 2 health "criteria" is "cancer burden"; we are concerned that this singular focus erroneously ignores serious non-cancer health impacts of air pollution, including cardiovascular disease, COPD, childhood asthma, Valley Fever, etc. When a broader lens is applied to health risks and burdens, published health indicator data reveal that the Antelope Valley Community experiences excessive, substantial, and seriously life-threatening non-cancer health burdens that are linked to high particulate levels. For instance, ambient particulate is directly linked to the incidence of Valley Fever (which has recently spiked in the Antelope Valley Community). It also exacerbates COPD and childhood asthma (which disproportionately burden the Antelope Valley; in fact, the Antelope Valley COPD and childhood asthma rates are the highest in Los Angeles County *and twice the county average* (as discussed in our April 30 2018 submittal included in Attachment 4). There is no question that the Antelope Valley Community faces excessive, life-threatening health burdens from pollution, and thus meets Criteria #3.

4. Sensitive Populations: The Antelope Valley Community has a number of sensitive populations located near mobile and stationary area sources. For instance, there are at

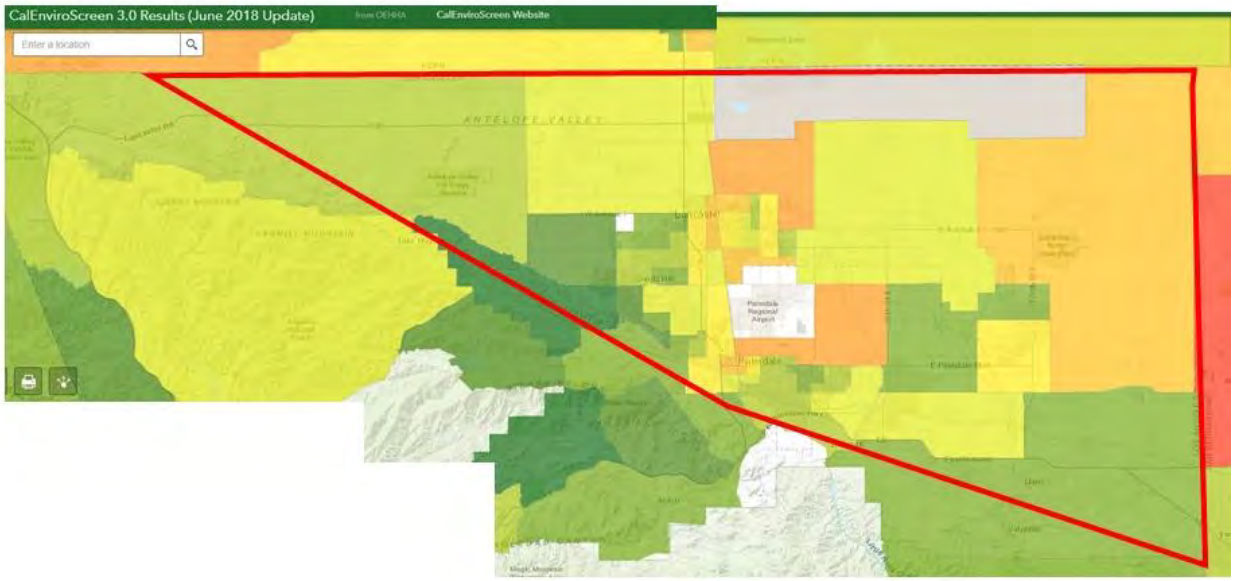
least 5 senior/assisted living facilities located within 400 meters of either the Antelope Valley Freeway, the High Desert Corridor, or freight/passenger railways. Additionally, the

Figure 1. Ozone Results for the Antelope Valley Community from CalEnviroscreen 3.0



ANTELOPE VALLEY COMMUNITY BOUNDARY

Figure 2: CalEnviroscreen 3.0 results for the Antelope Valley Community



ANTELOPE VALLEY COMMUNITY BOUNDARY

large K-8 Palmdale Learning Plaza is located immediately adjacent to the 14 freeway and the R. Rex Parris High School lies adjacent to a freight/passenger railway. The Del Sur Elementary school is entirely surrounded by solar farms where vegetation (which controls fugitive dust) is routinely removed. The Lake Los Angeles School is within 2,000 feet of a large agricultural operation and the Knight High School is approximately 2,500 feet from large sand/gravel/quarry operations. There is no question that the Antelope Valley Community has a number of sensitive populations located in close proximity to mobile and stationary pollutant emission sources of concern, and therefore meets Criteria #4.

5. Measures of Vulnerability to Air Pollution - Public Health Indicators:
The draft "Blueprint" document identifies asthma, heart disease, and low birth weight as key indicators of health that reflect the incidence or worsening of disease related to air quality. Published data reveal a substantial prevalence of these health problems in the Antelope Valley Community; in fact, they are the highest in the state. For instance, according to the June 2018 version of CalEnviroscreen, areas within the Antelope Valley Community rank in the 99th percentile for cardiovascular disease rates (see results reported for census tract 6037900701, 6037900803, 6037900804, etc.) and asthma (census tract 6037900804, 6037900806, 6037900701, etc.) The incidence of low birth weight is even worse; the June 2018 version of CalEnviroscreen reports that portions of the Antelope Valley Community are in the 100th percentile for low birth weight (see for example reports for census tract 6037910101). These facts supplement the health indicator data previously provided in our April 30, 2018 submittal (reproduced in Attachment 4) showing that emphysema/COPD is a top cause of death in the Antelope Valley Community, claiming 58.9 lives per 100,000 which is more than double the county-wide death rate and nearly the highest in the country. Additionally, the incidence of childhood asthma across all zip codes in the Antelope Valley Community uniformly exceeds 15% and can be as high as 16.5% according to health statistics reported by the UCLA Center for Health Policy Research. There is no doubt that the Antelope Valley Community meets every element of Criteria #5, and perhaps even ranks highest in the state in this regard.

6. Measures of Vulnerability to Air Pollution – Socioeconomic Factors and Unemployment:
The draft "Blueprint" document identifies poverty levels and unemployment rates as socio-economic factors that indicate vulnerability to air pollution. Published data reveal a

substantial prevalence of these and other socioeconomic factors within the Antelope Valley Community. For instance, according to the June 2018 version of CalEnviroscreen, a large area of the Antelope Valley Community ranks above the 94th percentile for both poverty and unemployment (see results reported for census tract 6037900102 and 6037910501 with rates as high as 99%). Other areas rank well above the 80th percentile for poverty (i.e. census tracts 6037900104, 6037910001, 6037900103...) and well above the 90th percentile for unemployment (i.e. 6037900104, 6037910402, 6037910403...). These facts supplement the socioeconomic data previously provided by the AVAQMD and ARTC in our April 30, 2018 submittal. There is no doubt that the Antelope Valley Community meets every element of Criteria #6.

The health indicator data and facts presented above reveal that the Antelope Valley Community experiences among the highest "cumulative air pollution exposure burdens" in California, and thus warrants inclusion on the list of "first year" communities selected under the CAPP.

The Antelope Valley Community merits inclusion in the list of Step 3 communities: *SELECTION OF FIRST YEAR COMMUNITIES.*

The Draft "Blueprint" indicates that, to select the "first-year" communities, CARB will consider two other factors in addition to the "cumulative air pollution exposure burden". These factors are 1) Regional Diversity - to build capacity and support existing community let solutions; and 2) Source Variety – to support development of a range or emission reduction strategies that can be transferred to other communities. As set forth below, the Antelope Valley Community meets all the elements of each of these factors.

Regional Diversity: By selecting the Antelope Valley as a "first year" community, CARB will achieve regional diversity by increasing particulate monitoring capacity and supporting existing community led activities because the Antelope Valley Community Air Monitoring Program will:

- Substantially increase particulate monitoring capacities within the Antelope Valley by collecting extensive ambient particulate concentration data to supplement the lone BAMS site that is currently operated. The Antelope Valley Community is woefully underserved in terms of particulate monitoring capabilities which are so inadequate that CARB has never even established whether the community is in compliance with either state or federal PM2.5 standards. There is no question that there is a substantial need to increase the particulate monitoring capacity in the

Antelope Valley, and the proposed Antelope Valley Community Monitoring Program does precisely that.

- Supplement the particulate monitoring activities of community-based groups such as the Antelope Valley Dust Control Group and individual residents who have installed and operate particulate sensors and unique "dust trap" monitoring equipment in several areas of the Antelope Valley Community. The data that these groups and individuals have collected indicate that neither the federal nor the state PM2.5 ambient air quality standards are met; however, limited funds and manpower prevent them from developing and implementing a comprehensive, source-based particulate monitoring program such as that proposed herein as the Antelope Valley Community Air Monitoring Program. There is no question that this proposed monitoring program will both support AND enhance existing community-led pollutant monitoring and reduction solutions already underway.

<u>*Source Variety*</u>: By selecting the Antelope Valley as a "first year" community, CARB will capture a variety of particulate emission and thereby support development of a range of emission reduction strategies that can be transferred to many different communities, including both urban and rural. The Draft "Blueprint" document identifies 5 specific source types as the "pollution source mix" that CARB is targeting to support strategies that benefit different types of highly burdened communities: 1) Freight- related; 2) Industrial sources common in disproportionately burdened areas; 3) Urban mixes of traffic, commercial, and residential sources of air pollution; 4) Rural sources of air pollution; and 5) Sources along the US-Mexico border. The AVAQMD and ARTC point out that *the proposed Antelope Valley Community Air Monitoring Program captures every one of these source types except those along the US Mexico Border*. This is because the Antelope Valley Community is unique in that it includes:

- An extensive and heavily used freight railway network that connects North and Central California to the Southwestern and Eastern United States AND extensive trucking routes (including SR 14, CA 138, and the Pearblossom Highway) that connect North, Central, and Southern California to Southwestern and Eastern United States.

- A high concentration of multiple large industrial rock, sand, and gravel quarry operations. Such operations are common in disproportionately burdened urban areas where particulate standards have never been met (such as individual operations that exist in the City of Los Angeles along the Los Angeles River) as well as in rural areas (such as those found in the Temescal Valley in Riverside County).

- A dense urban core that is home to several hundred thousand residents that are immersed in an urban mix of traffic, commercial and residential sources.

- A rural area that routinely experiences significant ambient particulate events because it is home to extensive agricultural activities *as well as* approximately 45,000 acres of solar farms from which all native vegetation has been removed and is routinely "mowed".

Because the Antelope Valley Community encompasses a broad spectrum of pollution sources, it warrants inclusion as a "First Year" Community under the CAPP Program. This is particularly true since most of the "Statewide Strategies to Deliver New Reductions in Impacted Communities" that are identified in CARB's Draft "Blueprint" are not applicable to major particulate sources in the Antelope Valley Community (as discussed in further detail below).

VIII. THE ANTELOPE VALLEY COMMUNITY WARRANTS SELECTION AS A "FIRST YEAR" COMMUNITY BECAUSE THE "STATEWIDE STRATEGIES TO DELIVER NEW REDUCTIONS IN IMPACTED COMMUNITIES" ARE INAPPLICABLE TO MOST OF THE PARTICULATE SOURCES IN THE ANTELOPE VALLEY.

The AVAQMD and the ARTC appreciate CARB's recognition that local planning decisions often contribute to the placement of residences and sources too close to each other; this causes cumulative impacts that can only be mitigated through the development and implementation of multiple pollution reduction strategies. To meet this need, CARB has developed a number of emission reduction strategies, incentive programs, and regulations addressing clean cars, trucks, buses, vehicles, ships at port, cargo handling equipment and locomotives, and stationary sources such as chrome plating, composite wood project manufacturing, and commercial cooking operations. We note however that these strategies address only two of the five primary particulate sources of concern in the Antelope Valley Community, thus they are not applicable to most of the key sources of concern.

The AVAQMD and ARTC are also aware that AB 617 requires certain industrial sources to be retrofit with pollution controls in areas that are designated as non-attainment. However, these additional regulations will not address the Antelope Valley Community's concerns with PM2.5 because the attainment status of the Antelope Valley Community with respect to PM2.5 has never been demonstrated. Thus, the added stationary source control

requirements imposed by AB 617 will not address PM2.5 concerns in the Antelope Valley Community.

It is essential that the Antelope Valley Community be identified as a "first-year" community as a means of monitoring and ultimately controlling major particulate sources which are a direct cause of the substantial increases in Valley Fever diagnoses and which are proven to increase the frequency and severity of health problems such as COPD, heart disease, and asthma which disproportionately burden the nearly 600,000 residents of the Antelope Valley Community.

IX. THE ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM IS AN ACTION-ORIENTED PROGRAM.

The AVAQMD and ARTC propose the Antelope Valley Community Air Monitoring Program for the twofold purpose of enhancing understanding particulate pollution impacts within our community and supporting effective implementation of emission reduction programs. We have prepared a draft test matrix and established Data Quality Objectives ("DQOs") for this effort (presented in Attachment 3) and we intend to begin air monitoring by February, 2019 to assess particulate levels during the "Spring Winds" that are common in the Antelope Valley. The AVAQMD and ARTC are therefore confident that the Antelope Valley Community Air Monitoring Program will meet CARB's July 1, 2019 deadline for initiating monitoring activities.

We recognize that CARB's overarching goal for community air monitoring programs is to acquire action-oriented data to meet community needs. To achieve this goal, we will build on the proposed test matrix and implement best practices to create a collaborative partnership between the AVAQMD, the Antelope Valley Community, and CARB which ensures the data will be accessible, transparent, and understandable. Correspondingly, the AVAQMD and the ARTC are committed to developing an "Air Monitoring Strategy" that encompasses all of the 14 elements that fall into the 3 key categories set forth in the "Blueprint" Document: 1) The purpose of the community air monitoring program; 2) How the community air monitoring program will be conducted; 3) How the data will be used to support air pollution reductions in the community. Each of these categories are reflected in the draft test matrix provided in Attachment 3 and summarized below:

The Purpose of the Antelope Valley Community Air Monitoring Program:

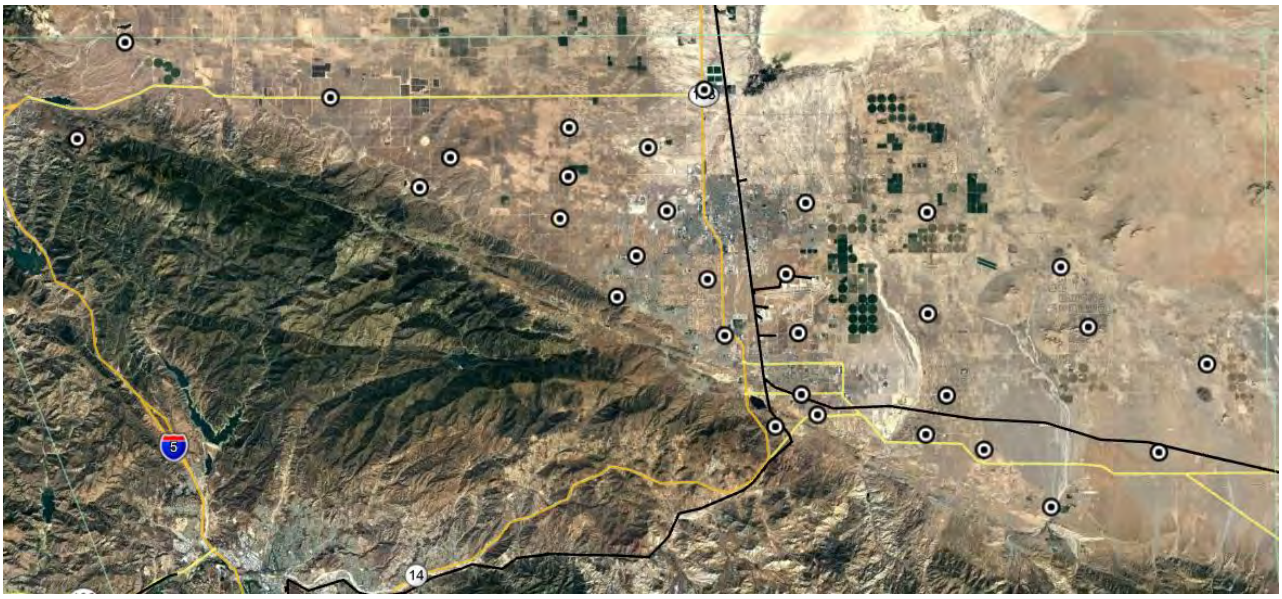
The Antelope Valley Community Air Monitoring Program purpose is to assess particulate levels within the Antelope Valley Community in a manner that allows primary particulate sources to be identified and paves the way for developing particulate emission reduction strategies; the program will also establish the extent to which the Antelope Valley complies with State and Federal Ambient particulate Standards. Thus, it achieves the goal of acquiring "action-oriented" data under the CAPP as set forth in AB 617.

How the Antelope Valley Community Air Monitoring Program Will Be Conducted:

The Antelope Valley Community Air Monitoring Program will be conducted by deploying a network of particulate sensors at strategic locations throughout the Antelope Valley Community which provide real-time particulate concentration data that will be made accessible to the public via internet access to the "cloud". The particulate concentration results will also be reconciled with meteorological data from nearby airport and federal met station facilities to identify the primary source(s) of ambient particulate within the Antelope Valley Community. Over time, when areas of high particulate concentrations are found, additional monitors will be installed surrounding the problem area to more closely pinpoint the source.

The AVAQMD and ARTC have tentatively identified 31 sampling locations that are strategically placed to characterize particulate levels throughout the Antelope Valley Community. These sampling locations are depicted in Figure 3 and were developed based on source location studies and extensive community outreach in which community members and local officials were asked to mark sampling locations that they considered to be critical for project success.

Figure 3. Antelope Valley Community Air Monitoring Program Sampling Locations.



The AVAQMD and ARTC recognize that the Antelope Valley Community Air Monitoring Program will only be successful if the data collected is accurate and representative of actual ambient particulate conditions. To ensure accurate and representative data, the Antelope Valley Community Air Monitoring Program will incorporate comprehensive data quality measures and objectives that address data accuracy, precision and completeness; details regarding the proposed "Data Quality Objectives" ("DQOs") and data validation that will be implemented are provided with the draft test matrix in Attachment 3.

How Data from the Antelope Valley Community Air Monitoring Program Will Support Actions to Reduce Air Pollution:

The data from the Antelope Valley Community Air Monitoring Program will be made immediately available to the public via online access and will communicate current air quality conditions. The data will also be used to identify primary particulate sources and assess the extent to which source-focused monitoring (i.e. fenceline monitoring) would be efficacious. It will also pave the way for developing particulate emission reduction strategies that are tailored to match the source characteristics. Emission reduction strategies will be developed based on stakeholder input and complement ongoing control efforts currently underway by the Antelope Valley Resource Conservation District and the Antelope Valley Dust Control Group. Additionally, the data will be used to establish the extent to which the Antelope Valley complies with State and Federal Ambient particulate Standards and track the progress of emission reduction strategies that are implemented.

As such, the Antelope Valley Community Air Monitoring Program supports all of the actions established in the "Blueprint" document because it:

- Provides real-time air quality data to notify residents and inform their daily activities and "flag" air quality concerns to protect children during school activities.

- Identifies sources contributing to air pollution burdens within the community to support development of a community emissions reduction program.

- Tracks progress toward improving air quality within the community by measuring the effectiveness of emission reduction strategies that are developed and implemented by the AVAQMD.

When taken together, the draft text matrix, DQO's and "action plan" elements of the Antelope Valley Community Air Monitoring Program that are set forth above meet all the "checklist" items for developing a community air monitoring program that are established by the "Blueprint" document as shown in Figure 4.

Figure 4. Checklist for the Antelope Valley Community Air Monitoring Program

CATEGORY	PLANNING ELEMENT	DESCRIPTION	✓
WHAT IS THE PURPOSE THE AIR MONITORING WILL ADDRESS?	1. Community partnerships	Establishes community steering committee to develop community air monitoring.	✓
	2. Community-specific purpose for air monitoring	Characterizes the air pollution concern within the community (e.g., pollutants, locations of pollution) and monitoring need(s).	✓
	3. Scope of actions	Describes the range of potential communication and actions that air monitoring data will support.	✓
	4. Air monitoring objectives	Defines the purpose of monitoring - what will be measured, when and where it will be measured, and why (e.g., to document highest concentration).	✓
	5. Roles and responsibilities	Identifies all parties responsible for air monitoring.	✓
HOW WILL MONITORING BE CONDUCTED?	6. Data quality objectives	Establishes level of data quality required to meet objective (e.g., precision, bias, sensitivity).	✓
	7. Monitoring methods and equipment	Identifies selected method and suitability of method to meet data quality objectives.	✓
	8. Monitoring areas	Indicates where monitoring will be conducted and the rationale for selecting those areas.	✓
	9. Quality control procedures	Specifies procedures that will be utilized to ensure data is scientifically defensible.	✓
	10. Data management	Describes how data will be collected, managed, and stored.	✓
	11. Field measurements	Lays out the air monitoring timeline and field procedures for those conducting monitoring.	✓
HOW WILL THE DATA BE USED TO TAKE ACTION?	12. Evaluating effectiveness	Designates a procedure to check that original objectives are being met.	✓
	13. Analyze and interpret data	Outlines approach for analyzing data (e.g., comparing trends, identifying sources).	✓
	14. Communicate results	Establishes how information will be shared with the community, decision-makers, and CARB to inform appropriate actions.	✓

Please submit any written comments by July 23, 2018 to: https://www.arb.ca.gov/lispub/comm/bclist.php.

X. ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM GRANT REQUEST

Project Management and Staffing

The Antelope Valley Community Air Monitoring Program will be conducted by deploying a network of particulate sensors at strategic locations throughout the Antelope Valley Community providing real-time particulate concentration data that will be made accessible to the public via internet. The final sampling locations will be selected based on extensive community input and discussions with residents throughout the Antelope Valley Community. The data collection decisions will be developed directly from local residents and Antelope Valley community-based organizations.

The Antelope Valley Community Program Steering Committee, for administrative purposes, will provide oversight of all aspects of this study along with interactions with the local community during the entire duration of the project. All field work involving the sensors will be performed AVAQMD air monitoring staff.

Proposed Schedule

The proposal is for a 12-month monitoring program followed by a one month period for issuing draft and final project reports. The final report will outline future steps to be implemented to mitigate and control areas of concern identified by the monitoring program.

Proposed Cost and Payment Terms

The AVAQMD intends to complete the project within the costs as outlined. The project charges will include labor expended by staff assigned to the project, plus any incidental expenses such as field supplies, travel, and report production shown in Table 2 below. The total of 100 hours of labor corresponds to a funding level of $10,000. Other direct costs of $12,000 include funds for the purchase of Purple Air PA II Sensors as well as funds for field supplies, and supplies for report production. The overall cost for the proposed work is estimated to be $35,000.

Table 2

TASK	HOURS	COST	DESCRIPTION
Purchase PurpleAir PAII Sensors		$12,000	Purchase of ~40 Sensors for deployment and backup.
Deploy the Sensors	100	$10,000	Installation, maintenance and any possible repair.
Data Evaluation & Reporting	80	$8,000	Monthly process reports and final report after 1 year
Contingency Costs		$5,000	Any possible cost not associated with prior estimates – unforeseen travel, tools or additional equipment.
Total		**$35,000**	

ENDNOTES:

[1] The Antelope Valley Community is not in compliance with state Ambient Air Quality Standards for PM10; it is not known whether the Antelope Valley complies with federal PM10 standards.

[2] In a presentation by the Los Angeles County Department of Public Health at the Valley Fever Awareness Seminar on June 23, 2018, Dr. Rachel Civen reports that the Antelope Valley is the epicenter for Valley Fever infections in Los Angeles County and it is where 80% of all Valley Fever diagnoses in the County occur. In 2016, the Valley Fever burden in the Antelope Valley was nearly 55 cases per 100,000.

[3] The 2016 Valley Fever burden in Kings County, Kern County, San Luis Obispo County and Fresno County exceeded 60 per 100,000; the Antelope Valley's burden was 53.8 per 100,000 (*supra*).

[4] The incidence of Valley Fever in Los Angeles County in 2017 increased by 49% (from 668 cases reported in 2016 to 994 cases reported in 2017 (*supra*).

[5] Valley Fever is directly caused by exposure to soil-based particulate (*supra*) and as set forth in the April 30, 2018 CAPP submittal from the AVAQMD and ARTC, airborne particulate exacerbates COPD and asthma.

[6] The Antelope Valley's compliance status for state and federal ambient air quality standards for PM 2.5 is "unclassified", meaning that there is insufficient data to establish whether the area complies with these standards.

[7] For the sake of completeness, the AVAQMD's entire submittal dated April 30, 2018 is included herein as Attachment 4.

ATTACHMENT 1

LETTERS AND COMMUNICATIONS FROM INDIVIDUALS AND ORGANIZATIONS EXPRESSING INTENT TO PARTICIPATE IN THE ANTELOPE VALLEY COMMUNITY MONITORING PROGRAM STEERING COMMITTEE.

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Amy J. Bodek, AICP
Director

July 9, 2018

Bret Banks, Executive Director
Antelope Valley Air Quality Management District
bbanks@avaqmd.ca.gov

VIA E-MAIL

Dear Mr. Banks:

LETTER OF INTENT REGARDING THE COMMUNITY AIR PROTECTION PROGRAM COMMUNITY STEERING COMMITTEE GRANT APPLICATION

As you may know, the Los Angeles County (County) Department of Regional Planning (Department) is responsible for planning and shaping the development of safe, healthy, equitable, and sustainable communities while respecting individual rights and protecting the natural environment in the unincorporated areas of the County.

The County Board of Supervisors recently adopted the Antelope Valley Area Plan (AV Plan), a component of the Los Angeles County General Plan, that provides a blueprint for future development and conservation within the unincorporated Antelope Valley. The AV Plan establishes a number of policies related to air quality, including coordination with the Antelope Valley Air Quality Management District (AVAQMD) to develop and implement regional air quality policies and programs, and encourage native vegetation to reduce erosion and wind-borne dust and sand.

The Department is currently working with 13 communities within the Antelope Valley to implement the AV Plan through Community Standards Districts that tailor zoning regulations to meet community needs. This effort will require extensive community engagement and partnership with local Town Councils to ensure that the communities are informed and can participate with a greater understanding of planning and zoning.

The Community Air Grants Program (Air Grants) and the Community Air Protection Program (CAPP), a community-focused emissions reduction program under Assembly Bill 617 to reduce air pollution in disproportionately burdened communities, are consistent with the County's goals for improving air quality and meaningfully engaging with communities to identify and implement solutions.

320 West Temple Street • Los Angeles, CA 90012 • 213-974-6411 • Fax: 213-626-0434 • TDD: 213-617-2292

I am in support of AVAQMD's application for an Air Grant under CAPP, and should an Air Grant be awarded to AVAQMD, we also intend to participate as a member on the CAPP Community Steering Committee to further our local partnerships and support community engagement and land use planning efforts in the Antelope Valley.

If you have any questions, please do not hesitate to contact Ms. Susan Tae, AICP, Supervising Regional Planner of the Community Studies North Section, who is overseeing our long-range planning efforts in the Antelope Valley. She may be reached by e-mail at stae@planning.lacounty.gov, or by phone at (213) 974-6476.

Sincerely,

Amy J. Bodek, AICP
Director

AJB:DS:MC:ST:ems

S_AP_070918_L_GRANT_APP_BANKS

LOS ANGELES COUNTY HEALTH AGENCY

COUNTY OF LOS ANGELES
Public Health

BARBARA FERRER, Ph.D., M.P.H., M.Ed.
Director

JEFFREY D. GUNZENHAUSER, M.D., M.P.H.
Interim Health Officer

CYNTHIA A. HARDING, M.P.H.
Chief Deputy Director

FRANK ALVAREZ, M.D., M.P.H.
SPA 1 & 2 Area Health Officer, Community Services
26415 Carl Boyer Drive, #160
Santa Clarita, CA 91350
TEL (661) 287-7054 • FAX (661) 255-5531

www.publichealth.lacounty.gov

July 25, 2018

Bret Banks
The Antelope Valley Air Quality Management District
43301 Division Street Suite 206
Lancaster, CA 93535

Subject: The Los Angeles County Department of Public Health's partnership with the Antelope Valley Air Quality Management District to Implement a Community Air Protection Program.

The Los Angeles County Department of Public Health (Public Health) is pleased to partner with the Antelope Valley Air Quality Management District (AVAQMD) to pursue a grant opportunity under AB 617 to develop and implement a much needed PM10 and PM2.5 monitoring program within the Antelope Valley Community. Public Health's mission is to protect health, prevent disease and injury, and promote health and well-being for everyone in Los Angeles County. Public Health is concerned by the high prevalence of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, along with an increase in Valley Fever diagnoses in the Antelope Valley Region over the past couple of years. Funding for a monitoring program is the essential first step to understand the major air impacts in the region.

The Community Air Grants Program (Air Grants) and the Community Air Protection Program (CAPP), a community-focused emissions reduction program under Assembly Bill 617 to reduce air pollution in disproportionately burdened communities, align with the County's goals for improving air quality and meaningfully engaging with communities to identify and implement solutions.

Should an Air Grant be awarded to AVAQMD, Public Health intends to participate as a member on the CAPP Community Steering Committee to further our local partnerships and support community engagement and land use planning efforts in the Antelope Valley.

If you have any questions, please do not hesitate to contact me by e-mail at falvarez@ph.lacounty.gov.

Sincerely,

Frank Alvarez, MD
SPA 1 & 2 Area Health Officer, Community Services

---------- Forwarded message ----------
From: **Antje Lauer** <alauer@csub.edu>
Date: Thu, Jul 5, 2018 at 3:59 PM
Subject: RE: Fwd:
To: merrylou nelson <merrylou.nelson@gmail.com>

Hello Merrylou, thank you for considering me being part of this effort. And yes, I would like to be part of the committee. I hope the meetings will not be during the week. I am not teaching on Fridays next semester. Also, I will be on vacation from July 15th to August 16th this year.

Best regards,

Antje Lauer

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P.O. Box 76
Lake Hughes, CA 93532
ourartc@gmail.com

28 July 2018

SENT VIA EMAIL

Mr. Bret Banks, Executive Director
Antelope Valley Air Quality Management District
43301 Division Street, Suite 206
Lancaster, CA 93535
bbanks@avaqmd.ca.gov

Dear Mr. Banks,

RE: AB 617, Community Air Protection Program Steering Committee

The Association of Rural Town Councils (ARTC) consists of fourteen rural council areas representing constituents across the Greater Antelope Valley Community. The ARTC has fully supported the Antelope Valley Air Quality Management District's collaboration with our organization to identify, quantify, evaluate, and set forth plans to reduce PM2.5 and PM10 particulates that contribute to our high rates of respiratory diseases, and can carry valley fever spores that cause the fungal infection—*Coccidioidomycosis*. The Antelope Valley (AV) is prone to dust control issues exacerbated by frequent high-wind events, predictable drought, development, agricultural activities, mining operations; and will face further impacts due to projected population increase, major infrastructure projects, and continued utility-scale renewable energy development, further increasing health risks to residents.

The Association is committed to engagement with the AV community regarding air quality, and has already participated in numerous meetings meant to address complex issues associated with reducing and controlling fugitive dust. Our work has included outreach to the public, medical professionals, many meetings with city and county officials and departments, professional educators, the farming/agricultural community, and the military. There is much more to accomplish, and we see that our participation in the Steering Committee is another important step to further our goal of improving air quality and protecting the health of residents in the Antelope Valley.

Sincerely,

Susan Zahnter
Director

ANTELOPE VALLEY BOARD OF TRADE

July 11, 2018

Brett Banks
Antelope Valley Air Quality Management District
43301 Division Street
Suite 105
Lancaster, CA 93535

Dear Mr. Banks,

The Antelope Valley Board of Trade is a civic and membership organization founded in 1957. Our mission is to engage in maintaining and promoting diverse business and industry, quality infrastructures, and a strong legislative voice for the benefit of its members and the Greater Antelope Valley. We take pride in our community and are appreciative of AVAQMD and Association of Rural Towns Council for implementing the Community Air Protection Program. This project is of interest to the entire Antelope Valley and critical to addressing the issue in a systematic and comprehensive way. AVBOT represents the entire Antelope Valley and due to its comprehensive focus, we intend to participate in the Antelope Valley Community Monitoring Program Steering Committee. Whatever duties this entails, we fully wish to comply and serve as a helpful resource to this project and our community. Thank you for spearheading this initiative. We look forward to working with you.

Best,

Anna Lee Buehn
Executive Director
Antelope Valley Board of Trade

41319 12TH STREET WEST, SUITE 104 • PALMDALE, CALIFORNIA 93551 • (661) 947-9033
EMAIL: ADMINISTRATION@AVBOT.ORG • WEBSITE: WWW.AVBOT.ORG

ATTACHMENT 2

LETTERS OF SUPPORT FROM THROUGHOUT THE ANTELOPE VALLEY COMMUNITY

Association of Rural Town Councils
C/O Three Points-Liebre Mountain Town Council
P.O. Box 76
Lake Hughes, CA 93532
661.724.2043
ourartc@gmail.com

25 April 2018

Mr. Bret Banks, Executive Director
Antelope Valley Air Quality Management District
43301 Division Street Suite 206
Lancaster CA 93535

Dear Mr. Banks,

Subject: The Association of Rural Town Council's Partnership with the Antelope Valley Air Quality Management District to Implement a PM10 and PM2.5 Monitoring Program within the Antelope Valley Community

Reference: California Air Resources Board's AB617 Grant Program

The Association of Rural Town Councils is pleased to partner with the Antelope Valley Air Quality Management District in pursuing a grant opportunity under AB 617 to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community. The Association of Rural Town Councils (ARTC) has long been concerned by the extremely high incidence of childhood asthma and chronic obstructive pulmonary disease (COPD) among Antelope Valley residents, and we note with growing alarm the steep increase in Valley Fever diagnoses that has occurred over the last two years within in the Antelope Valley Community. The latter is directly related to the presence of respirable particulate in the air, and the former health outcomes are certainly exacerbated (and perhaps even caused) by the same. This, coupled with the fact that the Antelope Valley has not been shown to comply with all state and federal ambient air quality standards for particulate, has led the ARTC to partner with the AVAQMD to explore a PM2.5 and PM10 monitoring program. The ARTC seeks to investigate and document the extent to which high PM2.5 and PM10 concentrations occur within the Antelope Valley Community as a necessary "first step" in addressing broader health concerns in the area.

The ARTC appreciates the opportunities provided by AB 617, and we look forward to collaborating with the AVAQMD in pursuit of such opportunities.

Sincerely,

Susan Zahnter
Director

Jeffrey Hillinger
Assistant Director

Merrylou Nelson
Secretary

lancaster ca
it's positively clear

July 5, 2018

Bret Banks
Antelope Valley Air Quality Management District
43301 Division Street, Suite 206
Lancaster CA 93535

Subject: The Antelope Valley Resource Conversation District's Partnership with the Antelope Valley Air Quality Management District to Implement a Community Air Protection Program (AB617).

Dear Mr. Banks:

The City of Lancaster is pleased to submit this letter of support for Antelope Valley Air Quality Management District (AVAQMD) and its partnering participant Antelope Valley Resource Conversation District (AVRCD), in pursuing a grant opportunity under AB 617. Receiving funding to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community will be essential in addressing major impacts to our region's air quality. With a mission to develop various mitigation strategies and promote conservation and restoration of natural resources for our area, AVRCD and AVAQMD will work together to address concerns related to extremely high incidences of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, as well as address the increase in Valley Fever diagnoses that has occurred in the Antelope Valley Region.

AVAQMD and AVRCD are integral members of the Antelope Valley community and the City applauds your efforts to help remedy ongoing issues related to extremely high occurrences of respiratory illnesses impacting Antelope Valley residents.

As such, it is with great pleasure that I offer my support in the efforts of AVAQMD and AVRCD to receive funding to implement a Community Air Protection Program in the Antelope Valley.

Respectfully,

R. Rex Parris, Mayor
RRP:aw

44933 Fern Avenue • Lancaster, CA 93534 • 661.723.6000
www.cityoflancasterca.org

RESOURCE

Promote conservation and restoration of natural resources by
providing plant materials, educational programs, and expertise in conservation

April 25, 2018

Bret Banks
The Antelope Valley Air Quality Management District
43301 Division Street Suite 206
Lancaster CA 93535

Subject: The Antelope Valley Resource Conversation District's Partnership with the Antelope Valley Air Quality Management District to Implement a Community Air Partner Program (AB617).

Dear Mr. Banks:

The Antelope Valley Resource Conversation District (AVRCD) is pleased to partner with the Antelope Valley Air Quality Management District in pursuing a grant opportunity under AB 617 to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community. The AVRCD's mission is to promote conservation and restoration of natural resources for our area by providing plant materials, educational programs, and expertise in conservation. AVRCD has become concerned by the extremely high incidence of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, along increase in Valley Fever diagnoses that has occurred in the Antelope Valley Region.

The AVRCD has been active in researching and developing various mitigation strategies to control wind-blown fugitive dust in the Antelope Valley. A better understanding of fugitive dust, the specific regional areas of concern along with various control strategies should result in approaches reverse the high incidence of lung disease in the Antelope Valley.

The AVRCD is excited to support and partner with the AVAQMD to explore a PM2.5 and PM10 monitoring program. The AVRCD seeks to explore the extent to which high PM2.5 and PM10 concentrations occur within the Antelope Valley Community as a necessary "first step" in addressing broader health concerns in the area.

The AVRCD appreciates the opportunities provided by AB 617, and we look forward to collaborating with the AVAQMD in pursuit of such opportunities.

Sincerely,

Claudette Beck

Claudette Beck
President of the Board of Directors

44811 N. Date Avenue, Suite G, Lancaster, CA 93534
661-306-3408, 661-752-8240 fax
www.avrcd.org

April 25, 2018

Bret Banks
The Antelope Valley Air Quality Management District
43301 Division Street Suite 206
Lancaster CA 93535

Subject: The Partners for Fugitive Dust/Valley Fever with the Antelope Valley Air Quality Management District to Implement a Community Air Partner Program (AB617).

Dear Mr. Banks:

The Partners for Fugitive Dust/Valley Fever (PFDVF) is pleased to partner with the Antelope Valley Air Quality Management District in pursuing a grant opportunity under AB 617 to develop and implement a PM10 and PM2.5 monitoring program within the Antelope Valley Community. PFDVF has become concerned by the extremely high incidence of childhood asthma and chronic obstructive pulmonary disease ("COPD") among Antelope Valley residents, along increase in Valley Fever diagnoses that has occurred in the Antelope Valley Region.

The PFDVF has been active promoting awareness of Valley Fever throughout the High Desert Region. PFDVF Walk for Valley Fever was established to raise awareness of the disease and fund medical research. The Antelope Valley has been identified as having one of the highest incidences of Valley Fever in all of California. The Valley Fever spores are commonly associated with disturbed soil, fugitive dust and high wind areas. A better understanding of fugitive dust, the specific regional areas of concern along with various control strategies should result reduce cases of Valley fever in the Antelope Valley.

The PFDVF is excited to support and partner with the AVAQMD to explore a PM2.5 and PM10 monitoring program. The PFDVF seeks to explore the extent to which high PM2.5 and PM10 concentrations occur within the Antelope Valley Community as a necessary "first step" in addressing broader health concerns in the area.

The PFDVF appreciates the opportunities provided by AB 617, and we look forward to collaborating with the AVAQMD in pursuit of such opportunities.

Sincerely

Richard Campbell
Partners for Fugitive Dust/Valley Fever

SAVE OUR RURAL TOWN

Brett Banks
Air Pollution Control Officer
The Antelope Valley Air Quality Management District
43301 Division Street Suite 206
Lancaster CA 93535

April 27, 2018

Subject: Save Our Rural Town's Collaboration with the Antelope Valley Air Quality Management District to Implement a Particulate Monitoring Program within The Antelope Valley Community

Reference: California Air Resources Board's AB617 Grant Program

Dear Mr. Banks;

Save Our Rural Town ("SORT") is thrilled to collaborate with the Antelope Valley Air Quality Management District ("AVAQMD") in its pursuit of a grant to develop a PM10 and PM2.5 monitoring program within the Antelope Valley. As you know, SORT has members that live throughout the Antelope Valley, and SORT actively participates in discretionary project reviews conducted by Federal, County, and Local agencies to ensure that projects within the Antelope Valley are appropriately conditioned with adequate emission controls. SORT also seeks to establish the compliance status of the Antelope Valley with regard to State and Federal Ambient Air Quality Standards, and toward this end, continues to collaborate with State, County, and Local agencies. SORT supports the AVAQMD's proposed effort under the AB 617 Grant Program, and we stand ready to provide the technical and community outreach support that the AVAQMD requires in pursuit of this effort.

Sincerely

Jacqueline Ayer
Director, Save Our Rural Town

Antelope Valley Dust Control Group

July 29, 2018

California Air Resources Board
1001 I Street
Sacramento, CA 95814

To Whom it May Concern,

I write on behalf of the Antelope Valley Dust Control Group ("AVDCG") in support of the Antelope Valley Air Quality Management District ("AVAQMD") and the Association of Rural Town Councils ("ARTC") in their proposal to develop and implement an action-oriented community air-monitoring plan under the Community Air Protection Program ("CAPP") established pursuant to AB 617. We have had the opportunity to review the proposed program, and we strongly support it. Additional monitoring to identify active source areas would greatly benefit the Antelope Valley Community, as the area often experiences elevated ambient particulate levels that are not localized and are widely dispersed by sustained wind events. Based on health indicator data showing the substantial health inequities experienced by Antelope Valley residents along with data demonstrating that the Antelope Valley Community meets the "Disadvantaged Community" criteria established by AB 617, it seems as though the Antelope Valley is a perfect fit for funding during the first year of the program.

As an organization with extensive knowledge and expertise in desert wind erosion, and which focuses on reducing PM10 emissions from fugitive dust particulate sources within the Antelope Valley specifically, we can attest to the poor air quality, attributable health concerns, and the need to identify primary sources within the region. It is believed that all areas within the Antelope Valley Community experience high ambient particulate events, however there is insufficient data to determine whether some areas are more affected than others, or even where the primary particulate sources are, due to the fact that there is only one PM10 monitor within the entire region. This uncertainty is magnified by the fact that the compliance status of the Antelope Valley with respect to state and federal ambient air quality standards for PM2.5 and federal standards for PM10 has never been established.

Thank you for your time and attention to this matter. Your approval of the grant proposal that has been submitted by the Antelope Valley Air Quality Management District ("AVAQMD") and the Association of Rural Town Councils ("ARTC") would be greatly appreciated by the Antelope Valley community.

Sincerely,

Julie Schuder

Julie Schuder
President
Antelope Valley Dust Control Group

July 6, 2018

To: Bret Banks, Executive Director, Antelope Valley Air Quality Management District

Dear Sir: The Antelope Acres Town Council would like to comment on the Antelope Valley Community Air Monitoring Program, based on AB 617, a project proposed by the AVAQMD in partnership with the Association of Rural Town Councils, and the Cities of Lancaster and Palmdale.

We appreciate the opportunity to comment on this project. We live in an atmosphere of undetermined air quality due to the fact that there has never been research to establish whether the Antelope Valley is in or out of compliance with state and federal air quality requirements.

We strongly support this project. It will be the first opportunity to establish a system of reliable data collecting monitors to determine what the PM 2.5 levels truly are in the Antelope Valley (AV).

We are confident that this program will generate sufficient information to give the AVAQMD the ability to establish local programs to further reduce air pollution.

We have only one air monitor in the entire Antelope Valley and we believe that due to the fact it is located in downtown Lancaster the data collected is not reliable and does not reflect the true conditions in the outlying areas of the Antelope Valley.

We have very diverse conditions here in the AV. Contributing factors like rock quarries in the southern portion of the Valley, Agricultural

operations in many areas , thousands of acres solar farms, railroad emissions, diesel exhaust from hundreds of thousands of cars and trucks traveling on HWY 14, Sierra Hwy and Hwy 138. Additionally the blowing fugitive dust and sand generated from many different sources affect the overall air quality.

We the residents of Antelope Acres would appreciate it if this grant proposal is awarded to this group so that once and for all the true conditions can be identified and acknowledged for future projects. We are confident that we will finally be able to have reliable data for future use.

Sincerely,

Virginia Stout, President

Antelope Acres Town Council

July 25,2018

Mr. Bret Banks, Executive Director

Antelope Valley Air Quality Management District

43301 Division Street, Suite 206

Lancaster, CA 93535

Re: ARTCAVAQMD CAPP Proposal

Dear Mr. Banks,

Thank you for the opportunity for Lake Los Angeles Town Council (LLARTC) to support this extremely important proposal for the Antelope Valley. Lake Los Angeles is situated in the northeast portion of the Antelope Valley and frequently experience severe wind and dust storms. The education that we have gained about the serious fugitive dust and PM2.5 problems has made us aware of some serious issues and the need for the monitoring that ARTC and AVAQMD is proposing.

We have learned that the Antelope Valley has the highest COPD, childhood asthma, and Valley Fever rates in LA County and is among the highest in the State. We have learned that 100,000 cars and trucks per day on the freeway contribute heavily to PM 2.5 as well as the many gravel, sand and quarry operations. Solar farms and large agricultural operations are contributing source and are exempt from dust regulations.

We support the ARTC's and AVAQMD's air monitoring proposal because it considers the Antelope Valley community as a whole; it does not "pick and choose" which neighborhoods will be monitored because it properly recognizes that frequent and sustained wind events in the Antelope Valley carry dust and PM2.5 that is generated in one neighborhood to adjacent neighborhoods. The ARTC's and AVAQMD's air monitoring proposal factors this in, and accounts for the fact that PM2.5 generated in one neighborhood is often carried to adjacent neighborhoods and even miles away.

We already know that fugitive dust is the cause of all our Valley Fever concerns, but the major sources of fugitive dust in the Antelope Valley have never been identified or located. We support the the ARTC's and AVAQMD's air monitoring proposal because it seeks to identify and locate these major sources *which is the first step in eliminating them*.

We support the ARTC's and AVAQMD's air monitoring proposal because the Antelope Valley continues to be underserved in terms of air monitoring, and continues to be designated as "unclassified" for PM2.5, (which means that no state or federal agency has bothered to determine whether the our community is even in compliance with ambient air quality standards for PM2.5). The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency, and attempts to answer the question: Could PM2.5 be a problem in the Antelope Valley that perhaps contribute to the high incidence of COPD and childhood asthma that is experienced in the Antelope Valley?

Sincerely Yours

Stormy Hope

Corresponding Secretary

Lake Los Angeles Rural Town Council

CC: ARTC-AV

Littlerock Town Council (661) 944-2299
P.O. Box 05
Littlerock, CA 93543
www.littlerocktc.org

07/23/2018

RE: **Community Air Protection Program, AB617**

To Whom It May Concern,

The Littlerock Town Council supports the ARTC's and AVAQMD's air monitoring proposal under the CAPP program. We have needed something like this for a long time. The communities of Littlerock, Sun Village, Pearblossom, Llano, and Lake Los Angeles all reside down wind of several industrial rock quarries and the dust that they produce has been a very big concern for the Southeast Antelope Valley community.

Since 2014, it has been noted by the Los Angeles County Health Department that the community of the Antelope Valley has the highest account of COPD, child asthma, and other breathing related conditions. We know that there are several industries in our region that create dust across the entire valley and so this is a condition that we all share. When we looked into who was monitoring our air we found out from the AVAQMD that there was only one system that was being used and that it was located in the middle of the City of Lancaster which does not equally represent the conditions that are found in the outlining desert community.

ARTC's and AVAQMD's air monitoring proposal would provide sensors that could be placed in and around the areas where the heaviest activity might be suspected for a true and accurate account of the particulates in the air that we breathe.

We truly hope that the ARTC's and AVAQMD's air monitoring proposal will be accepted in order to identify where the troubled areas are and classify them so that we can address ways to control the matter over time.

I appreciate you taking the time to listen to my concerns and look forward to hearing from you in the near future.

Very truly yours,

Jeffrey W. Hillinger

Councilman, Littlerock Town Council

LEONA VALLEY TOWN COUNCIL

P.O. BOX 795 • LEONA VALLEY • CA 93551

July 24, 2018

Bret Banks, Executive Director
AV Air Quality Management District
43301 Division St.
Lancaster, CA 93535

Re: CAPP, AB 617

To Whom it May Concern:

The Leona Valley Town Council (LVTC) supports the Associated Rural Town Council's (ARTC) and Antelope Valley Air Quality Management District's (AVAQMD) air monitoring proposal under the CAPP program because it properly considers all the varied sources of PM2.5 scattered throughout the Antelope Valley Community and it provides a logical path to determine which sources are problematic and which are not.

It also considers the Antelope Valley community as a whole; it does not "pick and choose" which neighborhoods will be monitored, because it properly recognizes that frequent and sustained wind events in the Antelope Valley carry dust and PM2.5 that is generated in one neighborhood to adjacent neighborhoods. For that reason, LVTC requests at least one monitor be located in the main area of Leona Valley to determine the particulate levels in our community.

Fugitive dust and PM2.5 is a problem in the Antelope Valley, but it has never been properly measured or assessed. We understand that Antelope Valley has the highest COPD, childhood asthma, and Valley Fever rates in Los Angeles County and is among the highest in the State.

There are several major sources of PM2.5 in Antelope Valley, including mobile sources (110,000 cars and trucks per day on the freeway) that travel numerous routes; many gravel, sand, and quarry operations that are entirely unenclosed; fugitive dust generated by solar farms (45,000 acres at last count); and large agricultural operations that are entirely exempt from local fugitive dust regulations.

We understand that Antelope Valley continues to be designated as "unclassified" for PM2.5, (which means that no state or federal agency has bothered to determine whether our community is even in compliance with ambient air quality standards for PM2.5). The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency.

Sincerely,

Perri Bach

Perri Bach
President, LVTC

Pearblossom Rural Town Council
P.O. Box 416
Pearblossom, CA 93553
PearblossomRTC@gmail.com

Atmospheric particulate matter that have a diameter of less than 2.5 micrometers ($PM_{2.5}$) and are transported within fugitive dust is a problem in the Antelope Valley, but it has never been properly measured or assessed.

The Antelope Valley has the highest number of cases of COPD, childhood asthma, and Valley Fever rates in LA County, and has among the highest in the State.

There are several major sources of $PM_{2.5}$ in Antelope Valley, including mobile sources (110,000 cars and trucks per day on the freeway); many gravel, sand, and quarry operations that are entirely unenclosed; fugitive dust generated by solar farms (45,000 acres at last count); and large agricultural operations that are entirely exempt from local fugitive dust regulations.

We support the Association of Rural Town Councils' (ARTC) and Antelope Valley Air Quality Management District's (AVAQMD) air monitoring proposal under the Community Air Protection Program (CAPP) because it properly considers all the varied sources of $PM_{2.5}$ scattered throughout the Antelope Valley Community and it provides a logical path for us to determine which sources are problematic and which are not.

We also support the ARTC's and AVAQMD's air monitoring proposal because it is ensures that control measures that are developed will be tailored to the sources that are causing $PM_{2.5}$ problems within our community, so it is both fair and balanced.

We support the ARTC's and AVAQMD's air monitoring proposal because it considers the Antelope Valley community as a whole; it does not "pick and choose" which neighborhoods will be monitored because it properly recognizes that frequent and sustained wind events in the Antelope Valley carry dust and $PM_{2.5}$ that is generated in one neighborhood to adjacent neighborhoods. The ARTC's and AVAQMD's air monitoring proposal factors this in, and accounts for the fact that $PM_{2.5}$ generated in one neighborhood is often carried to adjacent neighborhoods and even miles away.

We already know that fugitive dust is the cause of all our Valley Fever concerns, but the major sources of fugitive dust in the Antelope Valley have never been identified or

located. We support the ARTC's and AVAQMD's air monitoring proposal because it seeks to identify and locate these major sources *which is the first step in eliminating them.*

We support the ARTC's and AVAQMD's air monitoring proposal because the Antelope Valley continues to be underserved in terms of air monitoring, and continues to be designated as "unclassified" for $PM_{2.5}$, (which means that no state or federal agency has bothered to determine whether the our community is even in compliance with ambient air quality standards for $PM_{2.5}$). The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency, and attempts to answer the question: Could $PM_{2.5}$ be a problem in the Antelope Valley that perhaps contributes to the high incidence of COPD and childhood asthma that is experienced in the Antelope Valley?

ROOSEVELT RURAL TOWN COUNCIL

48157 70th Street East, Lancaster, California 93535 (661)946-1323

President: Barbara Firsick Vice President: Ron Ferrell
Treasurer: Doris Hoeppner Secretary: Myrle McLernon,

July 24, 2018

Subject: ARTC CAPP AB617

Fugitive dust and PM2.5 is a problem in the Antelope Valley, but it has never been properly measured or assessed.

Rural communities and the entire Antelope Valley are experiencing the consequences of declining Agriculture, influx of Utility Scale Solar Development and suburban development construction and the Adjudication project has the potential to create further consequences with regard to fugitive dust and its impact on air quality and public health.

We support the ARTC's and AVAQMD'S air monitoring proposal because the Antelope Valley continues to be underserved in terms of air monitoring, and continues to be designated as "unclassified" for PM2.5, (which Means that no state or federal agency has bothered to determine whether our community is even in compliance with ambient air quality standards for PM2.5) The ARTC's and AVAQMD's air monitoring proposal addresses this deficiency, and attempts to answer the question: Could PM2.5 be a problem in the Antelope Valley that perhaps contribute to the high incidence of COPD and childhood asthma that is experienced in the Antelope Valley?

Sincerely,

Barbara Firsick
President
Roosevelt Rural Town Council

Three Points-Liebre Mountain Town Council
P. O. Box 76
Lake Hughes, CA 93532
3pointsliebremountain@gmail.com
661.724.2043

30 July 2018

SENT VIA EMAIL

Mr. Bret Banks, Executive Director
Antelope Valley Air Quality Management District
43301 Division Street Suite 206
Lancaster CA 93535
bbanks@avaqmd.ca.gov

Dear Mr. Banks,

RE: AB 617 Grant Proposal, Community Air Protection Program

It is our desire to support Antelope Valley Air Quality Management District's (AVAQMD) efforts in obtaining grant monies provided by State Assembly Bill 617, and for your organization to transmit this support to Community Air Protection Program officials. Without doubt, the Antelope Valley has air quality issues concerning particulate matter in our air. Certain members of our town council have been involved for some time with efforts to address air quality issues across the Valley due to various types of development. As a result of geographical and climatic conditions, the Valley is prone to dust control issues exacerbated by frequent high-wind events, drought, development, agricultural activities, and fallowing of agricultural land--all of which have contributed to Dust Bowl conditions and the highest rates of pulmonary and respiratory illness, including Coccidioidomycosis (also known as Valley Fever), in Los Angeles County.

To our misfortune, our Antelope Valley Community has only one air quality monitoring station situated in downtown Lancaster. It is vitally necessary to increase the number of monitoring stations, and vitally necessary to record, evaluate, and classify air quality conditions for the protection of residents, which remain incomplete and unquantified at this time, in order to determine best practices to control or prevent airborne dust and other pollutants, and to prioritize action in addressing local air quality.

Furthermore, the Antelope Valley Community faces a plethora of major infrastructure, housing, and commercial/industrial development that will certainly add to air quality concerns in the years ahead: The High Desert Corridor (with a planned inland truck port); the Northwestern Highway 138 Improvement Project (a planned truck and commuter route to I-5 North); California High Speed Rail; Centennial Specific Plan (over 19,000 homes plus 10 million square feet of industrial space) with accompanying auto and industrial pollution; and local cities' ongoing suburban, commercial, and industrial development. Additionally, there are currently more than 40,000 acres across the Greater Antelope Valley of existing industrial-scale renewable energy projects; National Cement Company mining and kiln operations; several active sand, rock, and gravel mining operations; mineral and metals

mining; as well as current Interstate 5, State Route 138--east and west, and State Highway 14 contributions to vehicle exhaust pollutants.

Again, we offer our support for the AVAQMD's AB 617 CAPP grant proposal, and your organization's effort to improve monitoring for Antelope Valley air quality, prioritize evaluation and remediation in areas of most need, and recommend and implement subsequent actions. We are certain the District will perform such work with integrity and transparency, and with an ongoing desire for improvement of health outcomes and quality of life issues related to particulate pollutants in our air.

Most Sincerely,

Richard Zahnter
President

Susan Zahnter
Vice President

Karen Plemmons
Secretary

Diane Phillips
Treasurer

ATTACHMENT 3

DRAFT TEST MATRIX AND DATA QUALITY OBJECTIVES FOR THE ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM.

The AVAQMD and ARTC have developed a monitoring strategy which assesses particulate levels within the Antelope Valley Community in a manner that allows primary particulate sources to be identified and paves the way for developing particulate emission control strategies and establishing the extent to which the Antelope Valley complies with State and Federal Ambient Air Quality Standards for particulate. Thus, it achieves CARB's goal of acquiring "action-oriented" data under the community air monitoring portion of the CAPP as set forth in AB 617. The following paragraphs briefly summarize the Test Plan and QAPP aspects of our proposed Antelope Valley Community Air Monitoring Program.

PROBLEM DEFINITION AND BACKGROUND:

The Antelope Valley is recognized as an area that does not meet State Ambient Air Quality Standards for PM10, however it is not known whether the area meets State or Federal standards for PM2.5. Additionally, the Antelope Valley Community experiences disproportionate health burdens which are substantially exacerbated by excessive levels of ambient particulate and (in the case of Valley Fever) are directly caused by ambient dust. To address these problems, the AVAQMD and ARTC propose to implement an extensive particulate monitoring program within the Antelope Valley Community that will identify the location of primary sources of ambient particulate and provide the data necessary to develop and implement particulate reduction strategies that are tailored for these sources once they are identified. Ambient particulate in the Antelope Valley is attributed to the following disparate and unquantified sources:

The 14 Freeway and several major highways traverse the heart of the community and serve as mapped CalTrans "Truck Networks" that also carry more than 110,000 vehicles per day during the work week. Particulate emissions generated by the mobile sources that use these freeway and highway facilities will increase over time because the population of the Antelope Valley Community is projected to increase by more than 30% by 2040 (see the Southern California Association of Governments Regional Transportation Plan http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf).

Multiple freight lines run both north-south and east-west through the community and carry goods from Central and Southern California to all points east of California. The north-south tracks are also heavily-used by passenger rail; all of these uses are slated to increase with population.

45,000 acres of solar fields have been developed within the Antelope Valley, and all have had their native vegetation removed (which has also removed the native root systems that hold dirt in place). These solar fields are crisscrossed with miles of unpaved roads used for access and panel washing and which generate significant levels of fugitive dust. Many of

these solar fields are located in soil areas that are documented as having active Valley Fever spores. The number of solar fields in the Antelope Valley is projected to increase substantially over the next 10 years with the implementation of SB 350 which established a new "Renewable Portfolio Standard" ("RPS") of 50%.

Construction and development; these sources are slated to grow significantly to accommodate the sharp population increase (>30%) that is slated for the Antelope Valley by 2040.

Agricultural operations (all of which are specifically exempt from fugitive dust regulations). It is expected that fugitive dust generated by these sources will increase considerably over the next 5 years because new water restrictions will cause many existing farms to cease operations and their lands will become fallow.

Numerous and large sand, gravel and quarry operations that are not covered or enclosed are operated in the southern portion of the Antelope Valley Community.

The multi-fold "problem" that will be addressed by the proposed Antelope Valley Community Air Monitoring Program is to identify 1) The extent to which the Antelope Valley Community does or does not comply with adopted PM2.5 standards; 2) The location and nature of the primary sources that contribute to ambient particulate levels in the Antelope Valley Community; and 3) Strategies that will reduce or eliminate particulate emissions from these primary sources once they are identified.

PROJECT DESCRIPTION

The Project is to deploy a network of particulate sensors at strategic locations throughout the Antelope Valley Community that provide real-time particulate concentration data that will be made accessible to the public via internet access to the cloud. The particulate concentration results will also be reconciled with meteorological data from nearby airport and federal met station facilities to identify the primary source(s) of ambient particulate within the Antelope Valley Community. Once these sources are identified, tailored emission reduction strategies can be developed and implemented to reduce ambient particulate concentrations within the community.

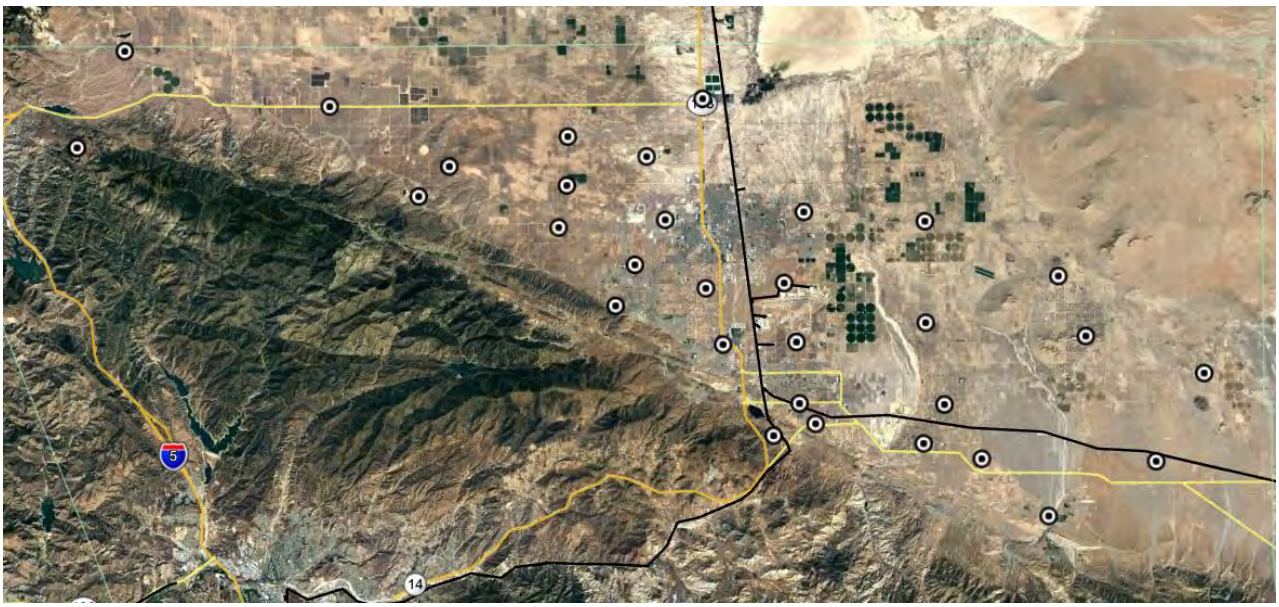
DATA GENERATION AND ACQUISITION

The success of the data generation and acquisition portion of the Antelope Valley Community Air Monitoring Program hinges on 3 essential elements that are necessary for a comprehensive and robust program: 1) Sampling Methodology; 2) Sampling Location, and 3) Sampling duration/frequency. Each of these elements are discussed below:

Sampling Methodology: The proposed Antelope Valley Community Air Monitoring Program will deploy "Purple Air II" ("PA-II") optical sensors which provide real-time PM10, PM2.5, and PM1.0 particulate concentration data that is immediately accessible in the "cloud" for monitoring sites equipped with "wifi". As discussed in more detail below, most of the proposed sampling sites will have "wifi" capability, however those sensors placed in remote areas where "wifi" is not available will be equipped with data logging capabilities that permit data retrieval from a micro-chip assembly. The PA-II system has been field-evaluated by the South Coast Air Quality Management District ("SCAQMD") and found to provide reasonably accurate data (see http://www.aqmd.gov/docs/default-source/aq-spec/field-evaluations/purple-air-pa-ii---field-evaluation.pdf?sfvrsn=2). However, the Antelope Valley Community Air Monitoring Program will implement its own quality assurance plan to assess data accuracy, precision and completeness (as discussed below).

Sampling Location: The AVAQMD and ARTC have tentatively identified approximately 30 sampling locations that are strategically placed to characterize particulate levels throughout the Antelope Valley Community. These tentative sampling locations are depicted in the figure below and were developed based on source locational studies and extensive community and stakeholder outreach in which residents and local officials were asked to mark the key sampling locations.

ANTELOPE VALLEY COMMUNITY AIR MONITORING PROGRAM SAMPLING LOCATIONS.



Sampling Duration/Frequency: The PA-II sensors proposed for use in the Antelope Valley Community Air Monitoring Program operate continuously and will provide data 24/7. When excess particulate levels are measured, the PA-II data will be reconciled with meteorological data to identify the particulate source location. Over time, areas with high ambient particulate levels will be differentiated from low level areas, and the sensors can

be relocated to "cluster" around high load areas to more accurately locate primary particulate sources.

DATA QUALITY OBJECTIVES AND CRITERIA

The AVAQMD and ARTC recognize that the Antelope Valley Community Air Monitoring Program will only be successful if the data that is collected is reasonably accurate and representative of ambient particulate conditions occurring within the Antelope Valley Community. To achieve this purpose, "Data Quality Objectives" ("DQOs") are typically established that are intended to reflect the purpose of the study, define the most appropriate type of information to collect, and specify tolerable levels of potential errors. The DQOs recognize that:

- The particulate concentration data collected for the Antelope Valley Community Air Monitoring Program is intended to be quantitative, though not to such a degree that it will be "regulatory quality" (such as determining compliance with ambient air quality standards).

- The data is also intended to reflect particulate concentrations throughout the varied neighborhood profiles of the Antelope Valley Community; to achieve the high level of representativeness required for program DQO's, PA-II sensors will be deployed at more than 30 sample locations.

- The particulate concentration data are also intended to provide "real time" results that will be relied upon by the public and must therefore be reasonably reliable.

Based on lab studies of the PA-II system conducted by the SCAQMD, it appears that the system achieves a high (85-95%) accuracy rate for PM1 at concentrations in the 10-30 $\mu g/m^3$ range and is biased low (65-75%) for at concentrations exceeding 50 $\mu g/m^3$. These results indicate that the PA-II is more likely to underreport high PM1 concentrations rather than overreport them. For PM2.5, the PA-II is biased somewhat high for low (<45 $\mu g/m^3$) particulate concentrations but is fairly accurate for higher concentrations. For PM10, PA-II results are consistently biased low, however they are reasonably accurate for low (<45 $\mu g/m^3$) particulate concentrations. These results indicate that the PA-II is unlikely to overpredict ambient particulate concentrations and will provide data that can reasonably assumed to be "floor values". Based on mass measurement correlation data obtained from field studies of the PA-II system conducted by the SCAQMD, the AVAQMD and ARTC have determined that project DQOs can be met by the PA-II systems if a sampling completeness

of 85% is achieved for the 30+ sampling sites that are proposed. According to SCAQMD field test results, the PA-II appears to be a generally reliable instrument, but to ensure that the Antelope Valley Community Monitoring Program achieves an 85% completeness level or better, we propose to acquire 25% more sensors than is required; this will allow us to quickly replace sensors that have failed and thus maintain a high data recovery rate and, by extension, achieve sample representativeness.

To ensure that total measurement uncertainty will be within the range prescribed for the Antelope Valley Community Air Quality Monitoring Program DQO, the initially proposed Measurement Quality Objectives ("MQOs") are set forth below; these MQOs will likely change based on discussions with CARB and other stakeholders.

An Accuracy threshold on the order of +/- 30%: To assess data accuracy, the Antelope Valley Community Air Monitoring Program will deploy duplicate PA-II sensors at the BAMS site located in the City of Lancaster. Data from the PA-II sensors will be compared to certified PM10 and PM 2.5 data from the BAMS to assess the level of accuracy achieved by the PA-II sensors, and the "accuracy band" that is calculated from this comparison will be applied to the results obtained from all the sampling locations. The AVAQMD and ARTC recognize that the PA-II sensors rely on optical sensing rather than gravimetric analysis, and that the results may be sensitive to particulate characteristics. We also recognize that the "accuracy band" derived for the PA-II sensors deployed at the urban Lancaster BAMS site may not be directly transferrable to rural areas next to a solar farm because the characteristics of urban-sourced particulate may differ from rural-based ambient dust. To address this, the AVAQMD and ARTC request that CARB permit the intermittent deployment of highly accurate portable monitors that CARB maintains to assess data accuracy in the non-urban portions of the Antelope Valley Community.

A Precision threshold on the order of 85%: The test matrix for the proposed Antelope Valley Community Air Monitoring Program includes a 10% duplicate rate to assess measurement precision. This means that 10% of the sampling locations will be outfitted with duplicate PA-II sensors that will be used to establish a measurement "precision band".

A Detection Level threshold of 5 µg/m^3: This detection level seems reasonable, based on SCAQMD lab- and field-studies.

DATA VALIDATION AND USABILITY

The accuracy and precision factors derived from the duplicate and comparative analysis results will be applied to the particulate data that is collected to establish a valid data set. When high particulate levels are measured, the data will be validated through application of the accuracy and precision factors and then reconciled with meteorological data from the Fox Field Airport (in the north portion of the community) and the U.S Weather Station at Sandberg (located in the west); we also hope to access data collected by private air fields and US Air Force Plant 42 (located in the south-central portion of the community). The primary source locations that are identified via this methodology will be visually inspected to the greatest extent possible to confirm proper source identification. Over time, these activities will enable the AVAQMD and ARTC to "map" primary source locations, and based on this information, cluster PA-II sensors in the area to confirm the extent to which the source contributes significantly to ambient particulate levels. The data will be configured, maintained and stored in a format that is easily understood and readily accessible.

POST MONITORING ACTIONS

The Antelope Valley Community Air Monitoring Program will be conducted by deploying a network of particulate sensors at strategic locations throughout the Antelope Valley Community which provide real-time particulate concentration data that will be made accessible to the public via the internet. The particulate concentration results will also be reconciled with meteorological data from nearby airport and federal metrological stations to identify the primary source(s) of ambient particulate within the Antelope Valley Community. Over time, when areas of high particulate concentrations are found, additional monitors will be installed surrounding the problem area to more closely pinpoint the source. Source-focused monitoring (i.e. fenceline monitoring) will be utilized to accurately determine the specific source of emissions.

AVAQMD will develop particulate emission reduction strategies that are tailored to the individual source characteristics. Emission reduction strategies will be developed based on stakeholder input and complement ongoing control efforts currently underway by the air district along with various support organizations in the Antelope Valley. Additionally, all data will be reviewed to determine the Antelope Valley Region's compliance with State and Federal Ambient Particulate Standards. Finally, AVAQMD will track the progress of emission reduction strategies that are developed and implemented based on data collected from the CAPP study.

ATTACHMENT 4
AVAQMD AND ARTC JOINT CAPP SUBMITTAL DATED APRIL 30, 2018

COMMUNITY AIR PROTECTION PROGRAM **AB617**

ANTELOPE VALLEY COMMUNITY AIR MONITORING PROPOSAL

SUBMITTED BY:

THE ANTELOPE VALLEY AIR QUALITY MANAGEMENT DISTRICT

IN PARTNERSHIP WITH THE

ASSOCIATION OF RURAL TOWN COUNCILS

APRIL 30, 2018

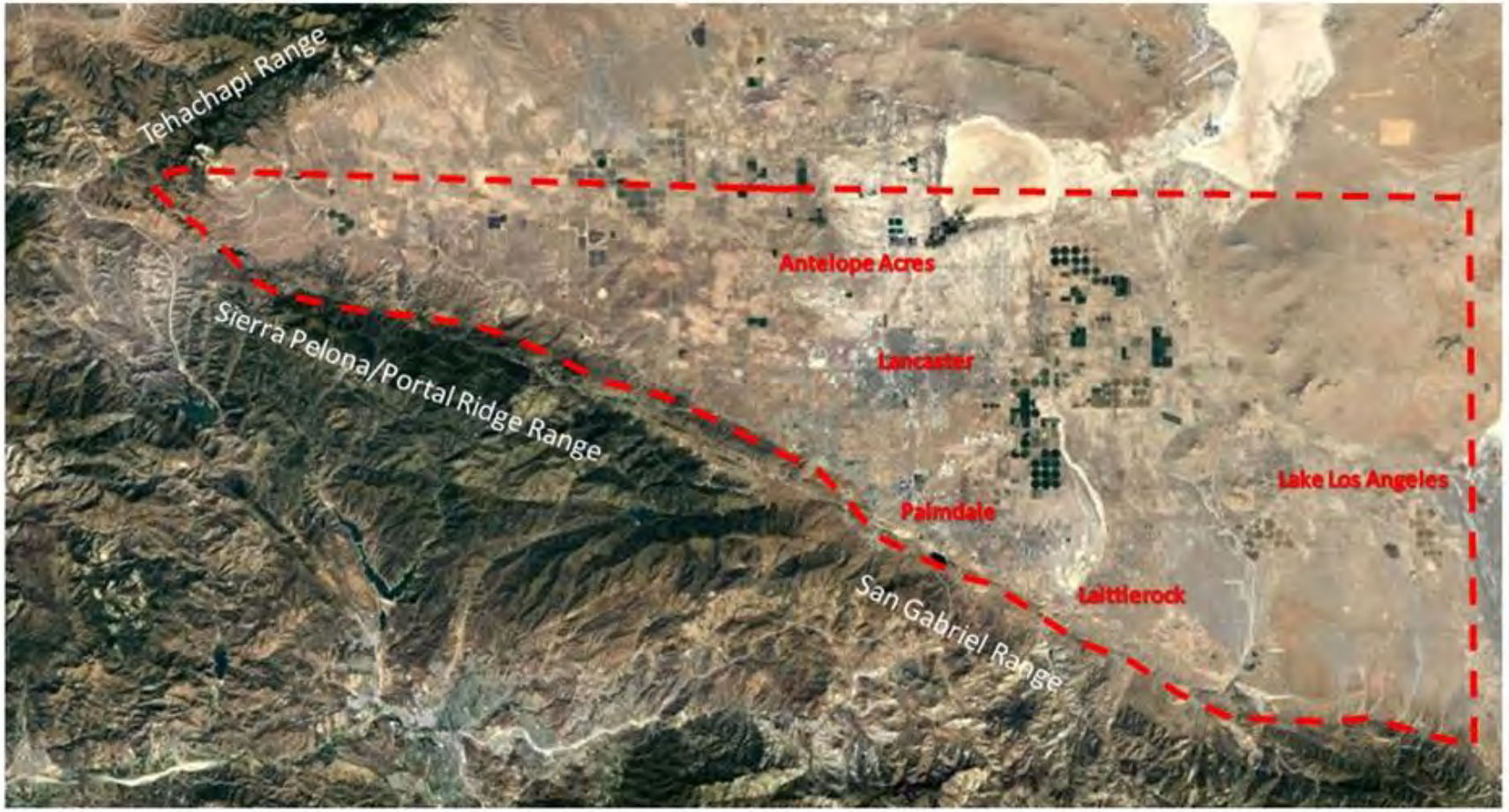
INTRODUCTION

The Antelope Valley Air Quality Management District seeks to participate in the CAPP program to establish the prevalence of ambient PM10 and PM2.5 as a potentially significant source of the severe and extensively documented health problems that are extant in the Antelope Valley. For more than a decade, the Antelope Valley has experienced among the highest incidence of emphysema and chronic obstructive pulmonary disease ("COPD") in the country[1], and very high childhood asthma rates occur uniformly throughout the Antelope Valley Community. According to health statistics gathered by the UCLA Center for Health Policy Research, 15.4% of children in the Antelope Valley Community have asthma; this is notably higher than the California average of 14.1% and the Los Angeles County average of 13.1%[2]. Additionally, the incidence of Valley Fever in the Antelope Valley is substantial; nearly 30% of all Valley Fever cases reported in Los Angeles County have occurred in the Antelope Valley, and Los Angeles County is second only to Kern County in the number of Valley Fever cases reported each year[3]. The incidence rate of Valley Fever in the Antelope Valley Community is substantial, based on preliminary 2017 date, the incidence rate is estimated to be 62 cases per 100,000 in population[4]. Ambient particulate pollution causes respiratory insults that demonstrably exacerbate both COPD[5,6] and asthma[7,8.9] and are causally linked to the incidence of Valley Fever[10].

The Antelope Valley Community is predominately rural, but it has a suburban core comprised of the Cities of Lancaster and Palmdale where approximately 60% of the population resides. It is one of a handful of areas in California that has never been properly assessed for compliance with either the National or California Ambient Air Quality Standards ("AAQS") for PM2.5[11, 12]. It has also not been properly assessed for compliance with the National AAQS for PM10[13] though it is established that the Antelope Valley Community does not comply with California's AAQS for PM10[14].

The Antelope Valley Community is a "high desert" community that is surrounded by mountains; it is formed by the convergence of the Tehachapi range (running south and west) and the Sierra Pelona/Portal Ridge/San Gabriel ranges (running north and west). This essentially creates a desert "bowl" area that is characterized by high wind speeds which shift direction quickly and unpredictably. As a result, particulate from areas sources located in one portion of the Antelope Valley Community are rapidly transported to, and deposited within, other portions of the community. As discussed in further detail below, high windspeeds (> 20 miles per hour) and inconsistent wind patterns predominate in the Antelope Valley; this results in rapid dust dispersion throughout the Antelope Valley Community irrespective of area source location. In other words, particulate released on the west side of the Valley affects residents on the east side just as particulate released from the east side of the Valley affect residents on the west side. This, coupled with the fact

FIGURE 1. ANTELOPE VALLEY COMMUNITY



that health burdens from Valley Fever, childhood asthma and COPD occur uniformly throughout the Antelope Valley mean that the District's proposal considers the Antelope Valley Community "as a whole" rather than a patchwork of neighborhoods.

Based on local knowledge, the District believes that the principal particulate sources in the Antelope Valley Community are: 1) The large disturbed areas on the west side where more than 40,000 acres of defunct agricultural operations and utility-scale solar farms are located; 2) The 100,000+ vehicles per day that enter and exit the Antelope Valley Community along the southern boundary via the 14 Freeway (the primary route of access to the Los Angeles area); 3) The agricultural operations on the east side (which include both defunct and active operations); and 4) The numerous rock, gravel, and sand quarries/processing operations along the south side.

The District is applying for CAPP funding to achieve the threefold purpose of assessing PM10 and PM2.5 levels in the Antelope Valley Community, identifying the principal area sources of these particulate, and facilitating public access to particulate data in a manner that permits health-impaired individuals to make informed decisions regarding the extent to which they should participate in outdoor activities. In this regard, the District's CAPP proposal achieves multiple goals established by AB 617, including community air monitoring, data display/communications, and emission assessment.

COMMUNITY DESCRIPTION

The Antelope Valley Community lies entirely within the County of Los Angeles and is bounded by the Tehachapi Range on the northwest, the Sierra Pelona/Portal Ridge/San Gabriel ranges on the south, the Kern County line on the north, and the San Bernardino County line on the east. Antelope Valley Community boundaries are depicted in Figure 1. The Antelope Valley Community meets the definition of "Disadvantaged Community" that is contemplated by AB 617 and it satisfies all the "Disadvantaged Community" criteria set forth in the California Health and Safety Code § 39711:

- The Antelope Valley Community is disproportionately burdened by negative health effects that either result from, or are exacerbated by, ambient particulate pollution. For instance, the Antelope Valley Community has one of the highest Valley Fever incidence rates in California (a condition directly attributable to ambient levels of respirable particulate). Additionally, (and as set forth above) the Antelope Valley Community is disproportionately burdened by COPD and childhood asthma; these COPD and asthma health burdens are demonstratively exacerbated by ambient PM10 and PM2.5 levels.

- The Antelope Valley Community has the highest "housing instability" rate in the County[15]; 11.3% of adults in the Antelope Valley Community report not having their own place to live or sleep over the last 5 years (more than twice the County average of 4.8%). The Antelope Valley Community meets the "Disadvantaged Community" criteria pertaining to "low levels of homeownership" and "high rent burden".

- The Antelope Valley Community has among the highest unemployment rates in Los Angeles County; 12.4% of adults are unemployed and looking for work [16]. This is 22% higher than the county average, and only one area within Los Angeles County has a markedly higher rate (South Los Angeles County is at 13.6%). The Antelope Valley Community meets the "Disadvantaged Community" criteria for high unemployment.

- 21.4% of the population of the Antelope Valley Community has a household income that is less than 100% of the Federal Poverty Level ("FPL")[17]. This is 16% higher than the County average of 18.4% and 53% higher than the state average of 14%[18]. The Antelope Valley Community meets the low income "Disadvantaged Community" criteria.

The boundaries of the Antelope Valley Community encompass the residents that have the highest PM10 and PM2.5 exposure burden from anthropogenic and non-anthropogenic area sources. These boundaries were established based on the District's assessment of likely mobile and stationary area source locations, soil erodability indices, land use characteristics, and meteorological data. The District acknowledges that this boundary encompasses a large area, but this is necessary because of the unique characteristics which create health burdens in areas that are not immediately adjacent to area sources of ambient particulate.

DATA SOURCES FOR EXPOSURE BURDEN ASSESSMENT

The data resources relied upon to assess exposure burden within the Antelope Valley Community include CalEnviroScreen, SB 244 Disadvantaged Legacy Community data, ambient monitoring data, meteorological data, health indicator data, soil erodability data, CalTrans traffic data and additional data assembled from a variety of historical records.

Disadvantaged Legacy Communities under SB 244: SB 244 mandates the identification of disadvantaged unincorporated communities (referred to as "legacy Communities") where the lack of public and private investment threatens the health and safety of the residents of these communities and fosters economic, social, and educational inequality. In accordance with SB 244, the County of Los Angeles mapped Disadvantaged Unincorporated Legacy Communities and identified these Legacy Communities in the recently adopted County General Plan. The map is provided in Figure 2 and has been edited slightly to show the approximate boundaries of the Antelope Valley Community. As indicated in Figure 2, the Antelope Valley Community encompasses numerous Disadvantaged Legacy Communities.

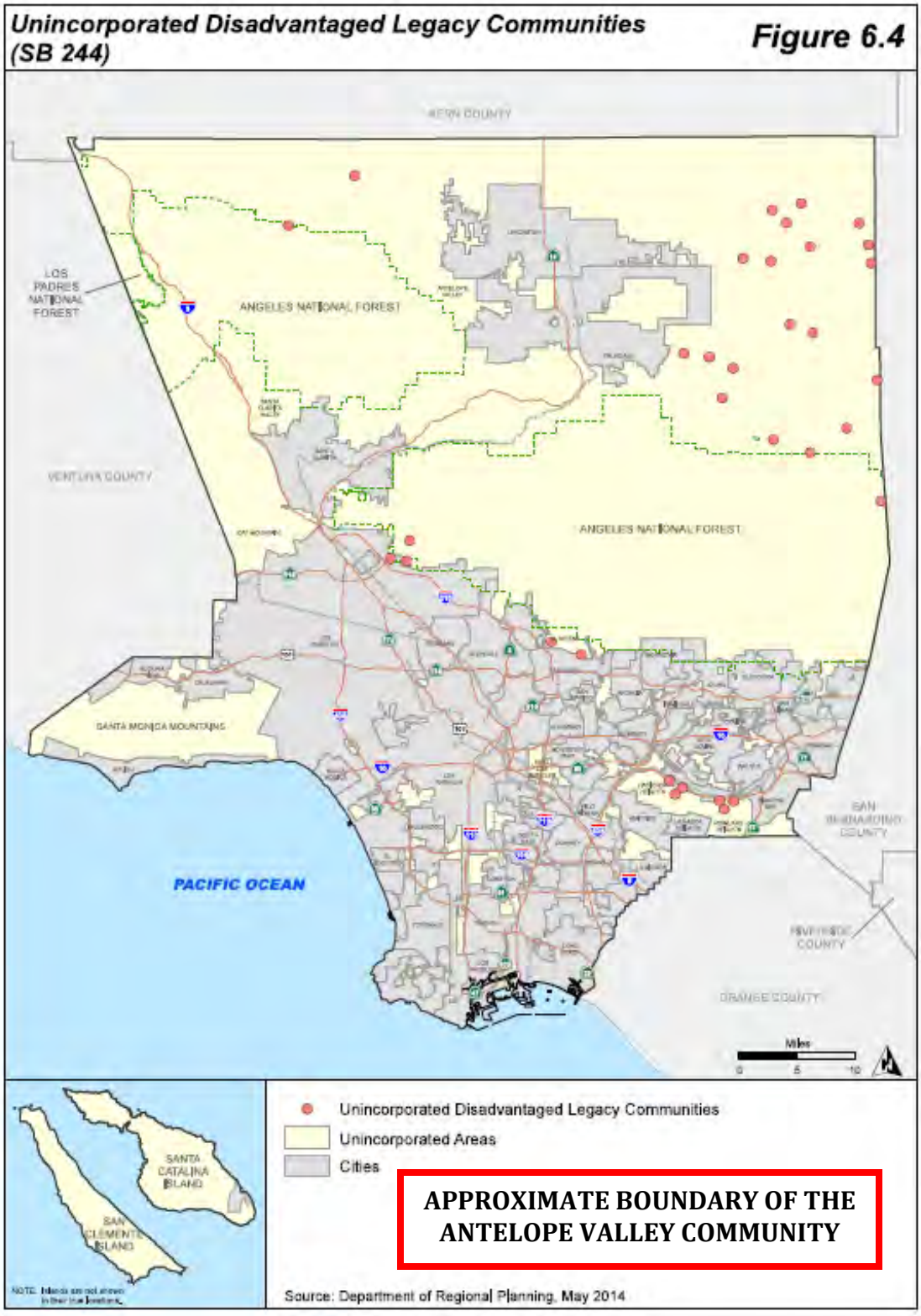


FIGURE 2. DISADVANTAGED LEGACY COMMUNITIES IN THE ANTELOPE VALLEY.

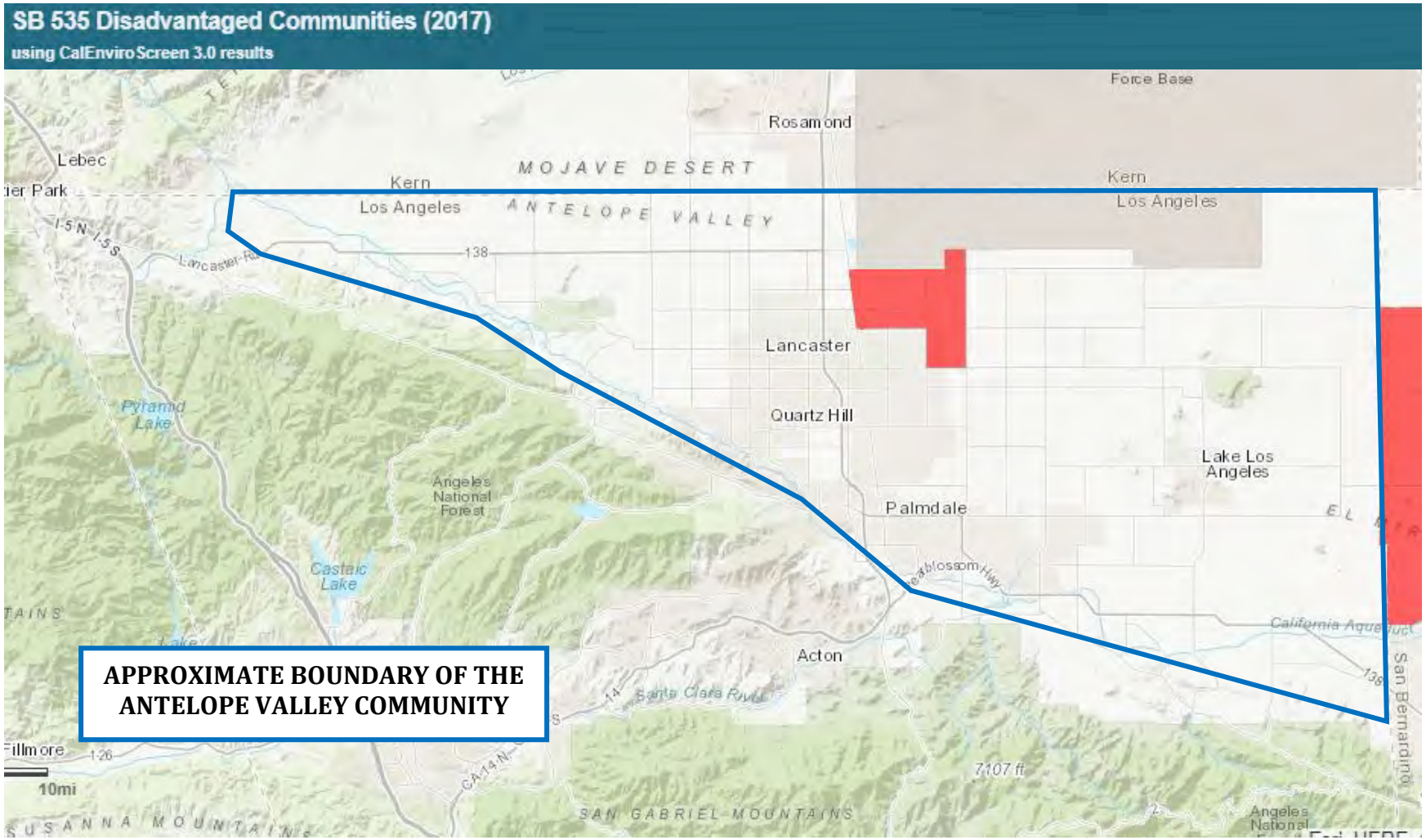
CalEnviroScreen: California state law defines environmental justice to mean "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies." Environmental justice principles are an important part of State's goal to restore, protect and improve the environment, and to ensure the health of people, the environment and the economy. CalEnviroScreen is a mapping tool developed to identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. A screenshot of CalEnviroScreen 3.0 results are provided in Figure 3 which has been modified slightly to show the approximate boundaries of the Antelope Valley Community. As indicated in this figure, the heart of the Antelope Valley Community is a disadvantaged area where residents are deemed "especially vulnerable to pollution's effects".

Ambient Monitoring Data: Within the Antelope Valley Community, the AVAQMD maintains and operates one ambient monitoring sampler that collects and reports PM10 and PM2.5 concentrations. The sampler is located within the City of Lancaster and is surrounded by urban development which, to some extent, shields the monitoring station from windblown dust that occurs in the greater Antelope Valley Community outside the urban core. Nonetheless, it is not uncommon for the ambient sampling equipment in Lancaster to detect PM2.5 levels exceeding the 35 $\mu g/m^3$ Federal 24-hour AAQS. However, there is insufficient data from this monitoring station to evaluate the data in terms of the California PM2.5 AAQS. The fact that the data collected from this monitoring station reveals high ambient particulate levels despite potential shielding provided by surrounding urban development is the primary reason that AVAQMD is proposing a broader PM2.5 and PM 10 monitoring program within the Antelope Valley Community under the CAPP program.

Health Indicator Data: The impetus for the AVAQMD's proposed PM2.5/PM10 monitoring effort under the CAPP is provided by extensive health indicator data supplied by the Los Angeles County Department of Public Health and the UCLA Center for Health Policy Research (both of which are cited herein). Data from these sources reveal that a uniformly high frequency of Valley Fever and childhood asthma occur throughout the Antelope Valley Community. This information (reconciled with wind data and other anecdotal evidence) indicates that ambient dust problems are not constrained to only certain neighborhoods, and it supports the AVAQMD's conclusion that PM2.5 and PM10 monitoring under the CAPP should not be conducted in a fragmented manner in only certain neighborhoods, rather it should be conducted across the Antelope Valley Community *as a whole*.

CalTrans traffic data: Information provided by the California Department of Transportation reveals that the peak daily vehicle trip rate along the southern boundary of the Antelope Valley Community exceeds 110,000; this rate has climbed over the last 10 years[19]. The AVAQMD seeks to explore whether this contributes appreciably to PM10 and PM2.5 levels.

FIGURE 3. CALENVIROSCREEN 3.0 DATA FOR THE ANTELOPE VALLEY COMMUNITY.

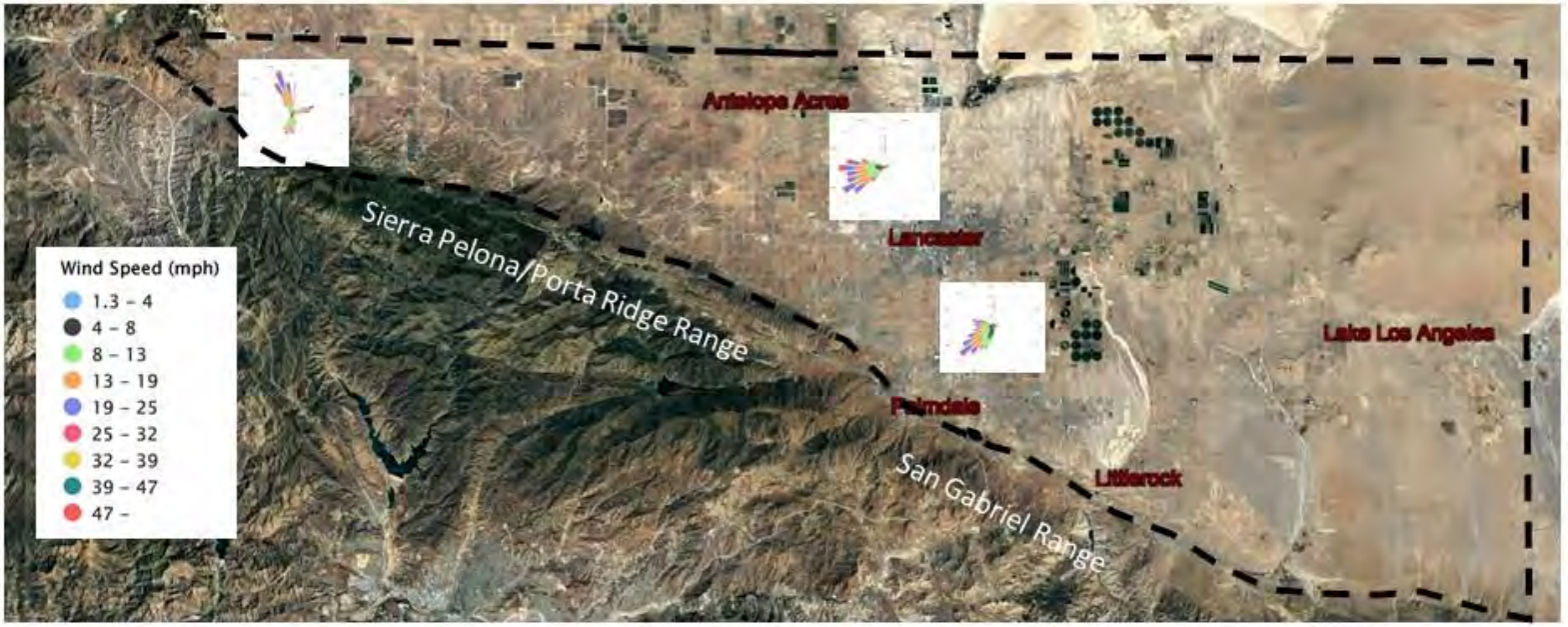


Meteorological Data: Several meteorological stations located within the Antelope Valley Community provide extensive historic wind data. Average windspeed and direction data from these resources for the time period between 2010 and 2018 is provided in a "windrose" format in Figure 2. These data reveal that the Antelope Valley Community experiences nearly constant winds exceeding 15 miles per hour and frequently experience significant (> 25 miles per hour) wind events. In the western portion of the Antelope Valley Community, significant wind events occur from nearly all points of the compass. In the east, high winds from the southwest and northwest predominate, though significant wind events from the east and north east are common. Rapid directional shifts during high wind events also occur in the Antelope Valley Community, as evidenced in the chart included at the bottom of figure 2 which reports windspeed and direction at Fox Airport in April of 2013. This chart shows that 25 mph easterly winds quickly shift to 25 mph westerly winds within just a few hours. Because of the high windspeeds and frenetic directional profiles within the Antelope Valley Community, the AVAQMD suspects that particulate entrained on the west side of the Antelope Valley Community can cause high ambient particulate levels on the east side and vice versa; the AVAQMD seeks to confirm this through implementation of a CAPP monitoring program.

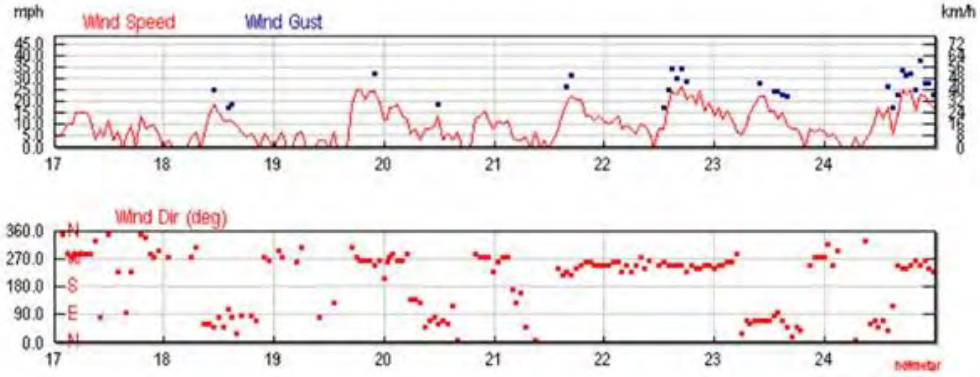
Soil Erodability Data: Wind erodability data for the Antelope Valley that has been compiled by the US Department of Agriculture indicate the areas within the Antelope Valley Community having soils with a high "erodability index" (established based on tons per acre per year). These data (available in map format as depicted in Figure 3) will be used by the AVAQMD to inform locational decisions for placement pf PM2.5 and PM10 sampling equipment in the Antelope Valley Community.

Additional Data: Windblown particulate is common in the Antelope Valley Community and has been well documented for nearly a century. A 1970 soil survey of the Antelope Valley conducted by the U.S. Department of Agriculture reports "Soil blowing is a hazard in all parts of the Antelope Valley area"[20]. A 1990 article in the Los Angeles Times reports that development occurring in the western portion of the Antelope Valley Community continually blanketed the east side with dust for days.[21] In 1991, the US Department of Agriculture Soils Conservation Service launched a program to stabilize windblown particulate from thousands of acres of land in the Antelope Valley that reduced visibility at Edwards Air Force Base, scoured painted surfaces and landscaping in the area, and caused numerous traffic accidents on area roads[22]." A detailed study conducted by the Department of Defense in 1963 reports "The incidence of sand and dust storms is directly related to the occurrence of winds of appreciable velocity". It goes on to report that, over a 10-year period the mean number of days when visibility was less than a mile due to blown dust at Muroc Air Base (now Edwards Air Force Base) was 0.4 per month and that records collected in Palmdale from 1948 to 1953 show an average of 6 dust storms per year[23].

FIGURE 4. ANTELOPE VALLEY COMMUNITY WINDROSE DATA

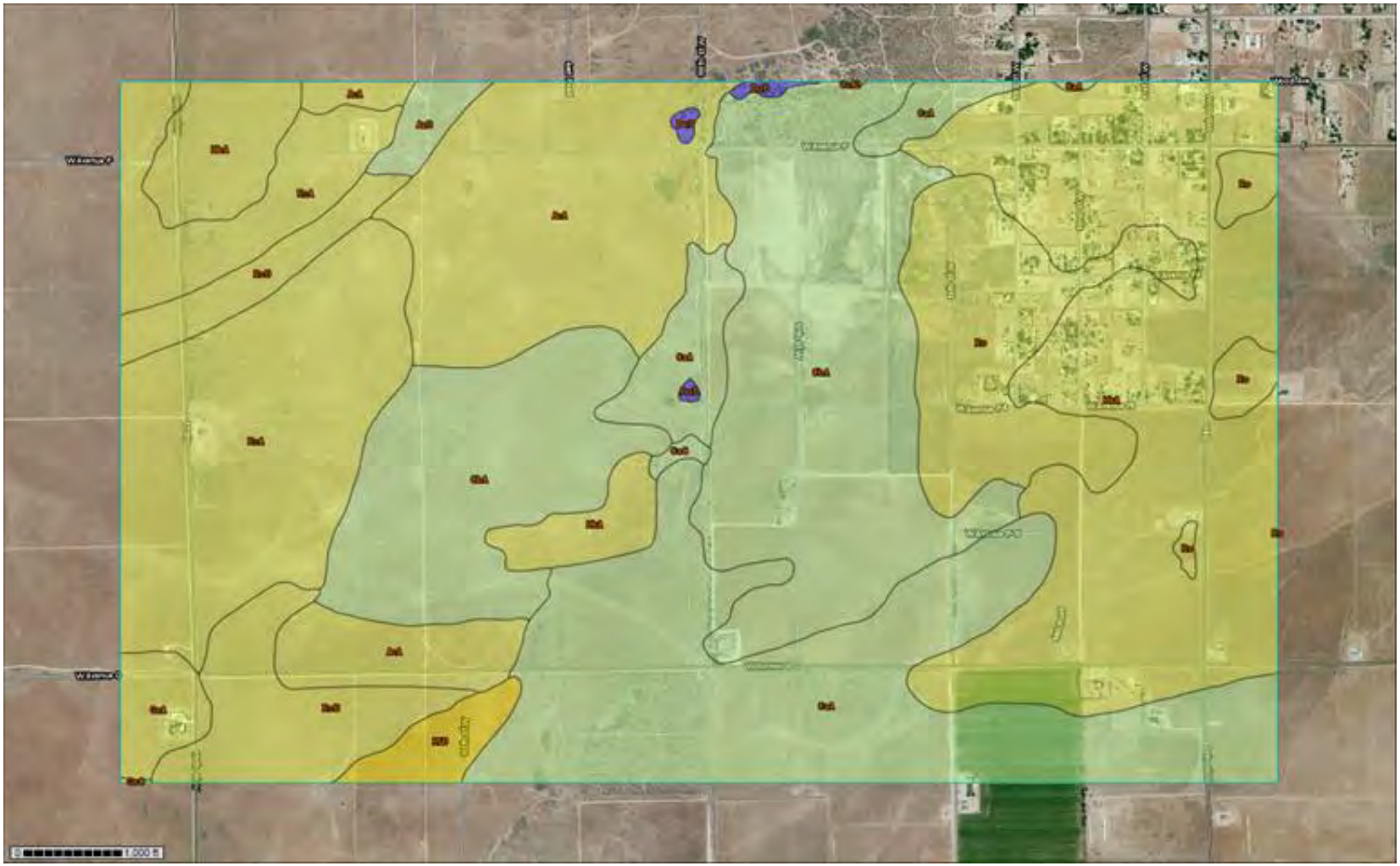


Weather Data from the William J Fox Field Airport for April, 2013



Data taken from www.wunderground.com

FIGURE 5. SOIL ERODABILITY MAP FOR A SMALL AREA WITHIN THE ANTELOPE VALLEY COMMUNITY.



Indication of wind erodibility index (tons/acres/year): 56 (yellow), 86 (light yellow), 134 (light green), 250 (dark blue). Data was obtained from the USDA websoilsurvey database

Recent events reveal that windblown particulate exposure problems continue to exist. In April, 2013 windblown dust reduced visibility to such an extent that it caused nine different traffic collisions on the 14 freeway within the Antelope Valley. Numerous sources of these dust events are well documented; wind blowing from the east over farmland and even construction sites can generate such dust clouds that visibility is limited on neighborhoods to the west, and even cause visibility problems on portions of Air Force Plant 42. Particulate entrained by westerly winds blowing over solar farm developments and construction sites on the west side can completely block the view of the nearby Tehachapi Mountains (shown in the photograph on the cover of this submittal). The AVAQMD seeks to explore the extent to which such dust events create PM2.5 and PM10 exposure burdens within the Antelope Valley Community.

CRITERIA RELIED UPON TO PRIORITIZE COMMUNITIES

The District is proposing only one project for the CAPP program, and it involves a single community (the Antelope Valley Community). Therefore, it is not necessary for the District to prioritize the communities within the region.

CANDIDATE COMMUNITIES WITH EXPOSURE BURDENS.

The District has identified only the Antelope Valley Community as a single community that has high cumulative exposure burdens; the Antelope Valley Community is described above.

PUBLIC OUTREACH APPROACH AND SCHEDULE

The District has already initiated public outreach on this project, and it will continue such activities throughout 2018. The District's outreach approach is founded on 1) Discussions and communications with members of local neighborhood councils who are elected by rural residences within the Antelope Valley Community; 2) Stakeholder meetings with the city officials from Lancaster and Palmdale; 3) Discussions with local dust control groups including the Antelope Valley Resource Conservation District and the Antelope Valley Dust Control Group; 4) Meetings with County health officials and local school districts. These meetings and discussions will be convened for the purpose of pinpointing specific areas within the community where notable particulate-related respiratory insults frequently occur, "mapping" where these areas overlay sensitive receptors within the Antelope Valley Community, identifying the most appropriate sampling locations and equipment, and soliciting recommendations regarding data display and inventory reporting methodologies to ensure that the data is publicly available in a format that is most useful to residents and public officials. The tentative schedule for this outreach effort is summarized in Table 1.

TABLE 1. PUBLIC OUTREACH SCHEDULE FOR THE ANTELOPE VALLEY COMMUNITY CAPP PROGRAM.

MAY	Make a presentation and solicit input at the regularly scheduled meeting of the Association of Rural Town Councils
	Make a presentation and solicit input at the regularly scheduled council meeting convened by the City of Lancaster
	Make a presentation and solicit input at the regularly scheduled council meeting convened by the City of Palmdale
	Convene discussions with officials from the Los Angeles County Health Department regarding neighborhood-based health statistics that pertain to ambient particulate-related health concerns.
JUNE	Convene meetings and discussions with the Antelope Valley Resource Conservation District to gather input and acquire soil erodability maps of the Antelope Valley to pinpoint likely particulate entrainment areas.
	Convene meetings and discussions with the Antelope Valley Dust Control Group to gather input and assess appropriate sampling and data collection methodologies to maximize the scope, extent, and quality of the particulate data that will be collected.
	Convene meetings and discussions with local City, County and District officials to identify appropriate and secure sampling locations within the Antelope Valley Community.
	Meet with the Antelope Acres rural council (in the west Antelope Valley)
	Meet with the Lake Los Angeles rural council (in the east Antelope Valley)
	Meet with the Littlerock rural council (located in the south Antelope Valley) Meet with other community councils that express an interest in participating,
	Provide a progress report and solicit additional input at the regularly scheduled meeting of the Association of Rural Town Councils
	Provide a progress report and solicit additional input at the regularly scheduled council meeting convened by the City of Palmdale
	Provide a progress report and solicit additional input at the regularly scheduled council meeting convened by the City of Palmdale
JULY	Convene a meeting with the Antelope Valley Resource Conservation District and the Antelope Valley Dust Control Group to finalize the proposed sampling program (including methodologies, data quality objectives, and quality assurance planning) and particulate data reporting platforms for public access.
	Convene meetings and discussions with local City, County and District officials to finalize the proposed sampling program and the particulate data reporting platforms that will be provided by AVAQMD for public access.
	Present the proposed sampling program and the particulate data reporting platforms for public access at the regularly scheduled meeting of the Association of Rural Town Councils and solicit final input regarding same.

THE DISTRICT'S RELATIONSHIP WITH COMMUNITY MEMBERS AND COMMUNITY-BASED ORGANIZATIONS

The District has established meaningful relationships with the neighborhoods and localities that comprise the Antelope Valley Community and with residents and community-based organizations that have striven to address particulate concerns for decades. These groups support the AVAQMD's CAPP Proposal effort and are identified below. Many have agreed to provide letters of support (some of which are included in Attachment A). However, and due to time constrains, some letters are not yet completed. Additional letters received in future shall be provided to the Air Resources Board in a supplemental package.

The Association of Rural Town Councils:

The Association of Rural Town Councils is an affiliation of rural town council groups from the northern portion of unincorporated Los Angeles County that work together to address issues and develop collaborative solutions to matters of concern to the Antelope Valley Community. The Association of Rural Town Councils is partnering with the AVAQMD on the CAPP monitoring program proposal.

The Los Angeles County Department of Public Health

The Los Angeles County Department of Public Health ("DPH") strongly supports the AVAQMD's proposed CAPP effort and provided the fundamental health data and "health indicator" statistics upon which the AVAQMD's proposal is founded. The AVAQMD and the DPH will continue to collaborate on the CAPP effort to ensure a comprehensive, health-based monitoring program is developed.

The City of Lancaster

The City of Lancaster is one of two incorporated Cities within the Antelope Valley Community under the jurisdiction of the AVAQMD. The City of Lancaster has two seats on the AVAQMD Governing Board. Currently the Vice Mayor of Lancaster serves as the Chairman of the AVAQMD Governing Board. The City of Lancaster produces more solar power per capita than any other city in the state. Lancaster also changed its building code to require that new homes include rooftop solar to demonstrate the local governments are making real efforts to address climate change. Lastly, Lancaster is home to the BYD electric truck and bus factory and has committed to have the 75-bus fleet of the Antelope Valley Transit Authority operate all electric buses by the end of 2018.

The City of Palmdale

The City of Palmdale is one of two incorporated Cities within the Antelope Valley Community under the jurisdiction of the AVAQMD. The City of Palmdale has two seats on the AVAQMD Governing Board. Currently a Councilman from Palmdale serves as the Vice Chairman of the AVAQMD Governing Board. Palmdale is home to Kinkisharyo the #1 supplier of low-floor light rail vehicles in North America

The Antelope Valley Resource Conservation District

Resource Conservation Districts began in the 1930's when the problem of soil erosion in the United States became so severe that President Roosevelt introduced the Standard State Conservation District Law to combat the degradation of the country's land resources. Resource Conservation Districts are local government bodies, chartered by the state and

organized and operated by local farmers, ranchers and interested citizens. The Antelope Valley Resource Conservation District is managed by 5 non-salaried directors who are land users and familiar with local resource problems.

The Antelope Valley Dustbusters Taskforce

The Antelope Valley Dustbusters Taskforce is a locally-based, multi-agency working group that was organized and convened to formulate dust mitigation strategies. The Taskforce consists of local farmers, representatives from academia, private consulting companies and research institutes, the California Air Resources Board, the Antelope Valley AQMD, the Natural Resources Conservation Service, the Antelope Valley Resource Conservation District, the Desert Mountain Resource Conservation and Development Council, the Southern California Edison Company and many others.

The Partners for Fugitive Dust/ Valley Fever in the A.V.

The Partners for Fugitive Dust/ Valley Fever in the A.V. is an Antelope Valley grassroots organization with a mission to decrease fugitive dust through translation of scientific research to real world application. In addition. fugitive dust work Partners has expended their efforts provide awareness for Valley Fever. In 2017 Partners sponsored the first annual AV Valley Fever Walk to share valuable information and raise funds for valley fever research.

Save Our Rural Town:

Save Our Rural Town is a grassroots organization formed to protect rural communities and preserve the rural form within the County of Los Angeles. Among other things, Save Our Rural Town has collaborated with the AVAQMD, the City of Lancaster, and the County of Los Angeles in the implementation of site specific dust control measures on solar farm development projects within the Antelope Valley Community. Save Our Rural Town members are located throughout the Antelope Valley and beyond.

CONCLUSION

The District looks forward to the opportunity to participate in the CAPP Program and through such efforts, shed more light on ambient particulate levels within the Antelope Valley Community as a necessary first step in addressing broader health concerns in the area.

END NOTES

[1] Emphysema/COPD is a top cause of death in the Antelope Valley portion of Los Angeles County, claiming 58.9 lives per 100,000 which is more than double the county-wide death rate [page 24 of the Los Angeles County "Key Indicators of Health" Report published by the LA County Department of Public Health: http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf]). According to the CDC, this morbidity rate is among the highest in the Country [see https://www.cdc.gov/copd/data.html].

[2] According to health statistics reported by the UCLA Center for Health Policy Research [http://askchisne.ucla.edu/ask/_layouts/ne/dashboard.aspx#/], the incidence of childhood asthma across all zip codes in the Antelope Valley Community uniformly exceeds 15%, and can be as high as 16.5%. When reconciled with current population data, the overall incidence of childhood asthma in the Antelope Valley Community is 15.4% which is substantially higher than the Los Angeles County Average of 13.1% reported by the UCLA Health Policy Research Center. The Los Angeles County Department of Public Health reports that 72% of children with asthma that live within the Antelope Valley Community regularly miss school [http://publichealth.lacounty.gov/docs/HealthNews/Child_Asthma_2014.pdf]

[3] The LA County Department of Public Health reports that 591 cases of Valley Fever were occurred in the Antelope Valley Service Planning Area between 2011 and 2015 ["Valley Fever Overview – What we Know and Don't Know" Presentation by the Los Angeles County Department of Public Health to the AVAQMD in 2018]; this is 29% of the 2,032 cases that the LA County Department of Public Health reported in Los Angeles County between 2011 and 2015 (*ibid*). The California Department of Public Health reports Valley Fever incidence statistics by County, and between 2013 and 2015, the number of Valley Fever diagnoses in Los Angeles County was second only to Kern County: [https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/YearlySummRptsofSelectedGenCommDisinCA2011-2015.pdf#page=38]

[4] The LA County Department of Public Health estimates 853 Valley Fever cases were diagnosed in 2017 (ibid), Assuming 29% were in the Antelope Valley (as noted above), and reconciling this with the 396,357 population of the Antelope Valley portion in LA County [http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf] yields an estimated incidence rate of 62 cases per 100,000.

[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3958649/.

[6] The Federal Environmental Protection Agency reports "Epidemiological panel studies exploring the potential relationship between daily particle pollution levels and respiratory effects in people with COPD reported increased symptomatic response, increased use of evening medication (winter time), and small decrements in spirometric lung function in the days immediately following elevated particle pollution (PM10 and PM2.5) levels" [https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease#copd]

[7] https://ehp.niehs.nih.gov/wp-content/uploads/124/12/EHP92.alt.pdf .

[8] The Federal Environmental Protection Agency reports "In general, epidemiologic data provide substantial evidence for the association between particle pollution exposure and adverse effects in individuals with allergies and asthma, as assessed by frequency and severity of respiratory symptoms, pulmonary function changes, medication use, and ambient particle pollution levels. There is evidence that both the development of asthma and its exacerbation can be associated with particle pollution exposure"[https://www.epa.gov/particle-pollution-and-your-patients-health/health-effects-pm-patients-lung-disease#copd]

[9] Page 7 of the California Air Resources Board titled "Assessment of California's Statewide Air Monitoring Network for the Children's Environmental Health Protection Act (SB 25)" found here: https://www.arb.ca.gov/ch/programs/sb25/adequacyreport.pdf . Notably, this report concludes that ambient PM10 and PM2.5 levels can be adequately predicted in areas that do not have monitors by using data from the closest established monitoring station, ad it also concludes that little variations are found in "Community-to-Community" comparisons of ambient particulate levels. However, these conclusions are only applicable to the urban areas that were considered in the studies reported therein; they do not apply to areas like the Antelope Valley that experience frequent and significant dust storm episodes resulting from high wind events that entrain particulate released from area sources that are a thousand acres or more in size and which only have a single monitoring station located in the middle of a city.

[10] Coccidioidomycosis (Valley fever) is an infectious disease acquired by inhalation of soil-dwelling Coccidioides fungus spores [https://wwwnc.cdc.gov/eid/article/21/11/15-0129_article]; these spores are common in the Antelope Valley.

[11] PM2.5 area designations for the National AAQS are mapped here: https://www.arb.ca.gov/desig/adm/2015/fed_pm25.pdf

[12] PM2.5 area designations for the California AAQS are mapped here: https://www.arb.ca.gov/desig/adm/2015/state_pm25.pdf

[13] PM10 area designations for the National AAQS are mapped here: https://www.arb.ca.gov/desig/adm/2015/fed_pm10.pdf

[14] PM10 area designations for the California AAQS are mapped here: https://www.arb.ca.gov/desig/adm/2015/state_pm10.pdf

[15] Page 8 of Los Angeles County Department of Public Health "Key Indicators of Health" Study [http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf]

[16] Ibid

[17] Ibid

[18] See https://www.kff.org/other/state-indicator/population-above-and-below-100-fpl/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

[19] See Caltrans trip count data provided here: http://www.dot.ca.gov/trafficops/census/

[20] Page 110 of the report found here: https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/antelopevalleyCA1970/antelopevalleyCA1970.pdf]

[21] http://articles.latimes.com/1990-08-24/local/me-1242_1_antelope-valley-residents

[22] Results reported on Page 113 of the 1993 Proceedings from the "Wildland Shrub and Arid Land Restoration Symposium" convened in Las Vegas, Nevada October 19-21.

[23] http://www.dtic.mil/dtic/tr/fulltext/u2/417036.pdf

Los Angeles County Business Federation
Strengthening the Voice of Business Since 2008

August 1, 2022

Los Angeles County Department of Regional Planning
Attn: Thuy Hua
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012

RE: BizFed Comments Draft Program Environmental Impact Report (EIR) for the LA County Climate Action Plan

Dear Thuy Hua:

We are contacting you on behalf of BizFed, the Los Angeles County Business Federation, an alliance of over 230 business organizations who represent over 450,000 employers in Los Angeles County. We are writing to provide comments on the LA County Climate Action Plan Draft Program EIR.

Given the Housing Crisis, and Homeless Crisis in Los Angeles and in our state, The Climate Action Plan (CAP) should help address climate change while also helping protect the middle class and the most vulnerable populations. The CAP should balance goals and priorities to carefully address all issues facing our regions and especially social equity.

Energy Supply Decarbonization

Actions proposed under Measure ES5 would establish GHG requirements for new development. The feasibility of the proposed requirements is uncertain and would increase development costs and create new litigation risk for projects, further slowing housing production and raising the cost of housing, both homeownership and rental rates.

ES5.1 would require the County staff to identify "new requirements for new development, including reach codes, ordinances, and conditions of approval to reduce GHG emissions from energy use, transportation, wastewater and other sources." "Reach codes" are local codes that are purposefully more stringent than state requirements. Promising to exceed evolving State requirements appears imprudent given that the State (through the work of the Building and Standards Commission, California Public Utilities Commission, California Energy Commission, etc.) periodically updates energy efficiency requirements, with a view to reducing GHG emissions and taking squarely into account the feasibility of doing so. While we would understand the desire to align with the State's ambitious GHG reduction goals and aspirations, there is no reason for the County to get ahead of the State to impose requirements that are stricter or imposed even sooner than those indicated by the State through study and extensive public participation.

ES5.1 suggests there should be new conditions of approval aimed at reducing GHG emissions. Conditions of Approval for a discretionary project must be proportional to the impacts of the project; and conditions cannot be imposed based on random goals. New development is already far more energy efficient and results in fewer GHG emissions than does existing development. This energy efficiency promises to continue and increase as State building codes and technology evolve in the future.

ES5.1 all but admits it's pursuit will result in higher housing costs by suggesting the need for financial support and incentives to defray the new costs imposed as they affect affordable housing. But the CAP suggests nothing to defray costs imposed upon the broad swath of middle-income households which must compete for market rate housing. Once again, the new housing market is asked to bear a financial burden which only promises to drive up housing costs for virtually all County residents. The County should consider broader financial relief to defray implementation costs on middle income and workforce housing.

ES5.2 requires the development of a consistency review checklist (the "Checklist") pertaining to new development, to be used to demonstrate consistency with CAP strategies, measures, and actions, indicating that the Checklist is "required for discretionary projects" and can be used for CEQA streaming provided the project does not require a general plan amendment. Projects that are not consistent with the CAP and not expressly exempted must prepare a project specific quantitative GHG analysis and must incorporate CAP checklist measures "to the extent feasible." Neither the CAP nor the CAP Checklist identifies a significance threshold that will apply to projects that are not consistent with the CAP's arbitrary exemptions.

Decarbonization of Buildings

Decarbonization of new development and existing building goal will undoubtedly be both costly and potentially prohibitive. A far more measured approach is needed -- particularly now, when housing costs are rising and housing supply is woefully short of demand. Decarbonization is better framed as a long-term policy goal to be implemented only after full analysis and study to determine whether local electric infrastructure can handle increased loads and the nature and effect of any infrastructure upgrades that may be required. This analysis is critical given uncertainty with respect to the reliability of the electric grid and its ability to carry increased loads as evidenced by periodic blackouts on days with heavy electric loads.

Electrifying existing buildings is a well-intended strategy to address climate change, in the near term, the County should consider and balance the need to solve the undersupply and unaffordability of housing against the incremental environmental benefits from the proposed electrification mandate. As explained above, lack of housing affordability and supply is a serious problem in the County. Requiring existing buildings to switch natural gas systems to electric systems will shift the extra costs to both renters and home purchasers. In addition, natural gas systems may reduce not only energy costs to the consumer but energy consumption as well when as compared to electric. Prior to adoption of any decarbonization ordinance, the CAP should require a thorough study of economic impacts to residents and businesses to be presented to the Board of Supervisors that recommends measures to ensure that residents and business will not be impacted by rolling black outs or increased energy costs. Reliability and lower energy costs should be a key component of the CAP to ensure social equity for all. The CAP's retrofitting goals should incorporate cost efficiency with funding and incentives for middle- and low-income residents.

As pointed out above, market rate housing is where the overwhelming percentage of households compete for housing. While it is unclear how "financial support" would be structured, the proposed financial support foreseeably would not alleviate higher costs to the middle-income households that compete for housing in the market rate housing sector. Again, financial support for the middle income and workforce housing should be considered.

The CAP should recognize that new housing is built with the latest technologies that are the water, energy and GHG efficient. Because new homes in California are already the most energy efficient in the Nation, focusing on new construction misses the mark. The California Energy Commission ("CEC") Energy Efficiency Action Plan already has goals to double energy efficiency savings by 2030, which is ambitious, but a more realistic goal than the County's proposed Measure E2. CEC's goals, which were established after very careful consideration of the current and foreseeable feasibility of progressive steps, are also considered the most forward-looking and progressive in the nation. The CEC envisioned a climate change policy that takes a holistic, flexible approach which considers the marketplace and various stake holders. A rigid, linear approach of requiring all new buildings to have net zero emissions would inevitably disrupt and impede the homebuilding market. The County should allow the CEC's studious processes and evolving mandates set the pace rather than pursue overly ambitious policies that will foreseeably further reducing homebuilding activity and increase homebuilding costs.

Water Conservation

Measure E6 aims to reduce indoor and outdoor water consumption. Implementing Action E6.1 would require a water conservation ordinance for new development but imposes a net-zero water ordinance for new greenfield development watch by most professionals and County staff have recognized that net-zero water mandates are infeasible.

The County's proposed policy discriminates against new greenfield developments and is subjective and appears legally unsound. The policy would make greenfield development even more costly at a time when suburban housing demand plainly is growing. A growing body of compelling evidence shows that both jobs and housing demand are fleeing the more urbanized areas in favor of suburban and relatively bucolic "work from home" environs, accelerating a trend that was already evident before the pandemic.

The County should coordinate and work with all local water agencies within LA County to promote and invest in the use of recycled water, recharge opportunities, desalination, rain harvesting, etc. Such measures will conserve the use of potable water. Implementation of these measures would greatly increase water conservation as a faster rate than elimination of development.

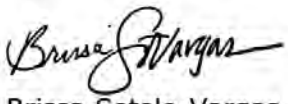
Conclusion

We support the county's desire to reduce emissions and be part of the solution to combat climate change, and the business community stands ready and willing to

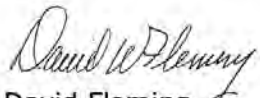
provide the input necessary to successfully make the transition to a cleaner future. We believe we can make an impact on emission reduction while balancing equity and the needs of our economy. We hope you will take this feedback into consideration as our move forward with the CAP.

Thank you for your consideration of our letter. If you have any questions, please contact sarah.wiltfong@bizfed.org.

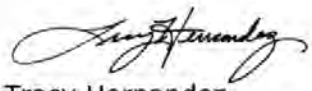
Sincerely,



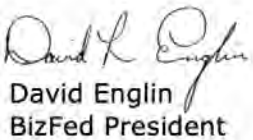
Brissa Sotelo-Vargas
BizFed Chair



David Fleming
BizFed Founding Chair



Tracy Hernandez
BizFed Founding CEO



David Englin
BizFed President

BizFed Association Members

7-11 Franchise Owners Association for SoCal
Action Apartment Association
Alhambra Chamber
American Beverage Association
Apartment Association of Greater Los Angeles
Apartment Association, CA Southern Cities, Inc .
Arcadia Association of Realtors
AREAA North Los Angeles SFV SCV
Armenian Trade & Labor Association
Associated Builders & Contractors SoCal (ABC SoCal)
Association of Club Executives
Association of Independent Commercial Producers
Azusa Chamber
Beverly Hills Bar Association
Beverly Hills Chamber
BioCom
Black Business Association
BNI4SUCCESS
Bowling Centers of SoCal
Boyle Heights Chamber of Commerce
Building Industry Association - LA/Ventura Counties
Building Industry Association of Southern California
Building Industry Association- Baldyview
Building Owners & Managers Association of Greater Los Angeles
Burbank Association of Realtors
Burbank Chamber of Commerce
Business and Industry Council for Emergency Planning and Preparedness
Business Resource Group
CABIA California Business and Industrial Alliance
Calabasas Chamber of Commerce
CalAsian Chamber
CalChamber
California Apartment Association- Los Angeles
California Asphalt Pavement Association
California Bankers Association
California Business Properties
California Business Roundtable
California Cannabis Industry Association
California Cleaners Association
California Contract Cities Association
California Fashion Association
California Gaming Association
California Grocers Association
California Hispanic Chamber
California Hotel & Lodging Association
California Independent Oil Marketers Association (CIOMA)
California Independent Petroleum Association
California Life Sciences Association
California Manufacturers & Technology Association
California Metals Coalition
California Natural Gas Producers Association
California Restaurant Association
California Retailers Association
California Self Storage Association
California Small Business Alliance
California Society of CPAs - Los Angeles Chapter
California Trucking Association
Carson Chamber of Commerce
Carson Dominguez Employers Alliance
Central City Association
Century City Chamber of Commerce
Cerritos Regional Chamber of Commerce
Chatsworth Porter Ranch Chamber of Commerce
Citrus Valley Association of Realtors
Claremont Chamber of Commerce
Coalition for Small Rental Property Owners
Commercial Industrial Council/Chamber of Commerce
Compton Chamber of Commerce
Construction Industry Air Quality Coalition
Construction Industry Coalition on Water Quality
Covina Chamber
Crenshaw Chamber of Commerce
Crescenta Valley Chamber
Culver City Chamber of Commerce
Downey Association of REALTORS
Downey Chamber of Commerce
Downtown Center Business Improvement District
Downtown Long Beach Alliance
El Monte/South El Monte Chamber
El Segundo Chamber of Commerce
Employers Group
Encino Chamber of Commerce
Energy Independence Now EIN
Engineering Contractor's Association
EXP Future
FastLink DTLA
Filipino American Chamber of Commerce
Friends of Hollywood Central Park
FuturePorts
Gardena Valley Chamber
Gateway to LA
Glendale Association of Realtors
Glendale Chamber
Glendora Chamber
Greater Antelope Valley AOR
Greater Bakersfield Chamber of Commerce
Greater Lakewood Chamber of Commerce
Greater Leimert Park Crenshaw Corridor BID
Greater Los Angeles African American Chamber
Greater Los Angeles Association of Realtors
Greater Los Angeles New Car Dealers Association
Greater San Fernando Valley Chamber
Harbor Association of Industry and Commerce
Harbor Trucking Association
Historic Core BID of Downtown Los Angeles
Hollywood Chamber
Hong Kong Trade Development Council
Hospital Association of Southern California
Hotel Association of Los Angeles
Huntington Park Area Chamber of Commerce
ICBWA- International Cannabis Women Business Association
Independent Cities Association
Industrial Environmental Association
Industry Business Council
Inglewood Board of Real Estate
Inland Empire Economic Partnership
International Franchise Association
Irwindale Chamber of Commerce
La Cañada Flintridge Chamber
LA Coalition
LA Fashion District BID
LA South Chamber of Commerce
Lancaster Chamber of Commerce
Larchmont Boulevard Association
Latin Business Association
Latino Food Industry Association
Latino Restaurant Association
LAX Coastal Area Chamber
League of California Cities
Long Beach Area Chamber
Long Beach Economic Partnership
Los Angeles Area Chamber
Los Angeles County Board of Real Estate
Los Angeles County Waste Management Association
Los Angeles Economic Development Center
Los Angeles Gateway Chamber of Commerce
Los Angeles Gay & Lesbian Chamber of Commerce
Los Angeles Latino Chamber
Los Angeles Parking Association
Los Angeles World Affairs Council/Town Hall Los Angeles
MADIA
Malibu Chamber of Commerce
Marketplace Industry Association
Monrovia Chamber
Motion Picture Association of America, Inc.
MoveLA
MultiCultural Business Alliance
NAIOP Southern California Chapter
NAREIT
National Association of Minority Contractors
National Association of Tobacco Outlets
National Association of Women Business Owners
National Association of Women Business Owners - LA
National Association of Women Business Owners- California
National Federation of Independent Business Owners California
National Hookah
National Latina Business Women's Association
Orange County Business Council
Pacific Merchant Shipping Association
Panorama City Chamber of Commerce
Paramount Chamber of Commerce
Pasadena Chamber
Pasadena Foothills Association of Realtors
PhRMA
Pico Rivera Chamber of Commerce
Planned Parenthood Affiliates of California
Pomona Chamber
Rancho Southeast REALTORS
ReadyNation California
Recording Industry Association of America
Regional Black Chamber-San Fernando Valley
Regional Hispanic Chambers
Regional San Gabriel Valley Chamber
Rosemead Chamber
San Dimas Chamber of Commerce
San Gabriel Chamber of Commerce
San Gabriel Valley Economic Partnership
San Pedro Peninsula Chamber
Santa Clarita Valley Chamber
Santa Clarita Valley Economic Development Corp.
Santa Monica Chamber of Commerce
Sherman Oaks Chamber
South Bay Association of Chambers
South Bay Association of Realtors
South Gate Chamber of Commerce
Southern California Contractors Association
Southern California Golf Association
Southern California Grantmakers
Southern California Leadership Council
Southern California Minority Suppliers Development Council Inc.
Southern California Water Coalition
Southland Regional Association of Realtors
Sportfishing Association of California
Sunland/Tujunga Chamber
Sunset Strip Business Improvement District
Torrance Area Chamber
Tri-Counties Association of Realtors
United Cannabis Business Association
United Chambers – San Fernando Valley & Region
United States-Mexico Chamber
Unmanned Autonomous Vehicle Systems Association
US Green Building Council
US Resiliency Council
Valley Economic Alliance, The
Valley Industry & Commerce Association
Venice Chamber of Commerce
Vermont Slauson Economic Development Corporation
Veterans In Business Network
Vietnamese American Chamber
Warner Center Association
West Hollywood Chamber
West Hollywood Design District
West Los Angeles Chamber
West San Gabriel Valley Association of Realtors
West Valley/Warner Center Chamber
Western Electrical Contractors Association
Western Manufactured Housing Association
Western States Petroleum Association
Westside Council of Chambers
Whittier Chamber of Commerce
Wilmington Chamber
Women's Business Enterprise Council
World Trade Center

July 18, 2022

Submitted via electronic mail: climate@planning.lacounty.gov

Thuy Hua, Supervising Regional Planner
County of Los Angeles, Department of Regional Planning
320 West Temple St., 13th Floor
Los Angeles, CA 90012

Re: Building Industry Association Comment Letter – 2045 Climate Action Plan

Dear Ms. Hua:

Building Industry Association of Southern California, Inc., Los Angeles/Ventura Chapter (BIA-LAV) is a non-profit trade association focused on building housing for all. BIA-LAV and our members have long supported sustainability and environmental stewardship, as our society and regulators grapple with the causes and effects of climate change. On behalf of our membership, we respectfully provide these comments on Los Angeles County's (the "County")[1] Draft 2045 Climate Action Plan (the "CAP").

Despite the challenges associated with climate change, providing a large supply of new homes affordable to all income levels is a critical and recognized policy objective set forth in the County's recently-adopted Housing Element. It is the homebuilders who will or will not be entitling and building that housing. In light of the broader housing goals that we all share, BIA-LAV has previously expressed its concern about recent layering of new general plan policies which, taken together, work to unduly constrain our members' ability to produce needed housing particularly by constricting the geographic areas of the County that can be developed. Now, the CAP and its policy framework, if adopted, will add to that layering by creating more constraints and adding to the high cost of housing, which will further constrict the supply of new homes that are affordable to lower and middle income residents. There is a recognized, persistent housing supply crisis throughout California; and Los Angeles County, as the most populous county in the State, is ground zero of the crisis.

According the County's 2021 Housing Element Annual Progress Report ("Housing Report"), for the eight (8) year period from 2014 through 2021, 8,854 housing units have been permitted in the County, which translates to an average of only 1,107 units

[1] "County" refers to the unincorporated areas of Los Angeles County unless otherwise apparent from the reference context.

per year for the period.[2] According to statistics in the Housing Report, the level of production fell far short of the assessed housing needs of County residents according to the County's allocation of the so-called fifth cycle (2014 – 2021) Regional Housing Needs Assessment ("RHNA"), which called for 18,586 total units at all income levels – more than twice the number of units that were permitted (8,854 or 1,107 annually). Moreover, the County's RHNA allocation in the current Housing Element cycle (the 6th cycle RHNA, which addresses the need for new homes during the period from April 2021 – April 2029, calls for 90,052 new units to meet the County's assessed housing needs, or 11,257 units annually. Given these numbers, *the County should be striving to achieve a more than tenfold increase in the level of housing production when compared to the actual level that was realized in the last eight years*.

Thus, at the current pace of housing production, during this current (i.e., the sixth) RHNA cycle, the County's housing stock will fall 81,196 units below the assessed need. Simple supply and demand realities indicate that, under such circumstances, housing costs are guaranteed to rise – making the region even more unaffordable than it already is. While we recognize that the County is not responsible for actually constructing new homes, it is responsible for its policies, which will either facilitate housing production and accommodate market participants or drive away housing production with policies that make such development uneconomical within the County. Based on the actual new home permit numbers in recent years, the homebuilding market is demonstrating the undesirability of producing housing in the County under current governmental constraints, let alone under additional ones.

It is against this backdrop that we present the following comments to specific strategies set forth in the CAP that are of most concern to our members, which we are certain will – if implemented – negatively impact housing production and significantly increase housing costs.

Strategy 1: Decarbonize the Energy Supply

Strategy 1 proposes a series of measures to decarbonize the energy supply used in the County. The introductory text states that "[n]ew and innovative approaches are needed to bring the benefits of renewable energy to all residents while protecting and increasing affordable housing."[3] The CAP posits that on-site, renewable energy programs have not reached the communities that are most in need of lower energy costs.[4] Actions proposed under Measure ES5 would establish GHG requirements for new development. The feasibility of the proposed requirements is uncertain and would increase development costs and create new litigation risk for projects.

Implementing Action ES5.1 would require the County staff to identify "new requirements for new development, including reach codes, ordinances, and conditions of

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[2] Housing Element Annual Progress Report, CY 2021, Table B. Table B is described as providing "the status of the County's progress toward meeting its RHNA for the housing element period as of CY 2021, based on the building permit activity reported in Table A2. The RHNA is adjusted to account for RHNA transfers to cities for annexations during the housing element period."

[3] CAP, pg. 3-10.

[4] CAP, pg. 3-10.

approval to reduce GHG emissions from energy use, transportation, wastewater and other sources."[5] "Reach codes" are local codes that are purposefully more stringent than state requirements. Promising to exceed evolving State requirements appears imprudent given that the State (through the work of the Building and Standards Commission, California Public Utilities Commission, California Energy Commission, etc.) periodically updates energy efficiency requirements, with a view to reducing GHG emissions and taking squarely into account the feasibility of doing so. While we would understand the desire to align with the State's ambitious GHG reduction goals and aspirations, there is no reason for the County to get ahead of the State to impose requirements that are stricter or imposed even sooner than those indicated by the State after a very hard look involving abundant public participation.

Additionally, Implementing Action ES5.1 suggests there should be new conditions of approval aimed at reducing GHG emissions. Conditions of approval for a discretionary project must be "roughly proportional" to the impacts of the project; and conditions cannot be imposed based on mere desire. New development is already far more energy efficient and results in fewer GHG emissions than does existing development. This energy efficiency promises to continue and increase as State building codes and technology evolve in the future. Even if there were no constitutional constraints on conditioning new developments, the County should not make perfection the enemy of the good by seeking to accelerate the already rapidly evolving energy efficiency and GHG reductions guaranteed by State standards.

Implementing Action ES5.1 all but admits it's pursuit will result in higher housing costs by suggesting the need for financial support and incentives to defray the new costs imposed as they affect affordable housing. But the CAP suggests nothing to defray costs imposed upon the broad swath of middle income households which must compete for market rate housing. Once again, the new housing market is asked to bear a financial burden which only promises to drive up housing costs for virtually all County residents. The County should consider broader financial relief to defray implementation costs on middle income and workforce housing.

Implementing Action ES5.2 requires the development of a consistency review checklist[6] (the "Checklist") pertaining to new development, to be used to demonstrate consistency with CAP strategies, measures and actions, indicating that the Checklist is "required for discretionary projects" and can be used for CEQA streaming provided the project does not require a general plan amendment. Projects that are not consistent with the CAP and not expressly exempted must prepare a project-specific quantitative GHG analysis and must incorporate CAP checklist measures "to the extent feasible." Neither the CAP nor the CAP Checklist identifies a significance threshold that will apply to projects that are not consistent with the CAP's arbitrary exemptions.

Thus, it is not clear whether (i) the County would require implementation of all feasible CAP Checklist Measures in order to have less-than-significant GHG impacts, or (ii) if a project could show sufficient mitigation by some other measure (for example, consistency with the State's Scoping Plan Update or credits and offsets). Additionally, if

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[5] CAP, pg. 3-18.

[6] CAP, Appendix F.

a project is not using the CAP for CEQA streamlining and is preparing a "comprehensive project specific analysis of GHG emissions pursuant to CEQA," then why would the project still be required to incorporate CAP measures to the extent feasible? What mechanism will be used to impose this requirement? These resulting uncertainties increases project litigation risk. Litigation by project opponents already affects many housing developments resulting in delay and ultimately higher costs to the homebuyer.

Under the Checklist, a project may be screened-out if it meets certain criteria. Notably, a project that would achieve net-zero GHG emissions may be screened-out; but the County's definition of "net zero" GHG emissions appears to be both narrower than and inconsistent with CARB's Scoping Plan. Here again, the County does not need to get out ahead of the California Air Resources Board ("CARB") and its Scoping Plan. A project may propose alternative GHG reduction measures to those in the CAP Checklist only by providing a qualitative description of the proposed measures and quantitative documentation showing how the alternative measure will achieve the same or greater level of GHG reductions as the corresponding CAP requirement. However, carbon offset credits are not permitted to be used as alternative project emission reduction measures – even though such offsets would indeed reduce GHG emissions. This narrow approach ignores the fact that the County has previously approved large master planned communities that have adopted innovative net zero GHG emissions strategies that include use of carbon offset credit. The County's approach to GHG reduction should be broad given the fact that climate change impact from GHG emissions is a global issue and the Scoping Plan does not prohibit the use of quality carbon offsets as long as the project first maximizes onsite and local GHG reduction opportunities..

Finally, according to the Checklist, projects that would achieve net-zero GHG emissions may only screen-out if the "*existing on-site development is similar to the proposed project…"* This means that the existing land use type and the project's land use type(s) are to be reasonably similar, subject to LA County's discretion."[7] What this language appears to do is prevent all greenfield development from "screening out." The County is considering a policy that discriminates against greenfield development and discourages housing types that are desired by many homebuyers as discussed in more detail under Strategy 7, below. Again, this approach would be more restrictive than the Scoping Plan, which may impair housing and is not necessary for the County to align with the State's climate goals.

Strategy 5: Decarbonize Buildings

A cornerstone of the CAP is the decarbonization of new development and existing buildings. This endeavor will undoubtedly be both costly and potentially prohibitive. A far more measured approach is needed -- particularly now, when housing costs are already soaring and housing supply is woefully short of demand. Decarbonization is better framed as a long-term policy goal to be implemented only after full analysis and study to determine whether local electric infrastructure can handle increased loads and the nature and effect of any infrastructure upgrades that may be required. This analysis

[7] Checklist, p. F-7.

is critical given uncertainty with respect to the reliability of the electric grid and its ability to carry increased loads as evidenced by periodic blackouts on days with heavy electric loads.

CAP Measure E1 aims to electrify all existing buildings. As part of this measure, Implementing Action E1.1 proposes to require existing buildings, major retrofits, and renovations to switch natural gas water and space heating to electric water and space heating at point of sale. Implementing Action E1.3 proposes to adopt a Zero Net Emission ("ZNE") ordinance for building renovations based on certain unspecified criteria and Implementing Action E1.4 aims to phase out gas-powered infrastructure and appliances as they need replacement.

While electrifying existing buildings is a well-intended strategy to address climate change, in the near term, the County should consider and balance the need to solve the immediate housing problems (undersupply and unaffordability) against the incremental environmental benefits from the proposed electrification mandate. As explained above, lack of housing affordability and supply is a serious problem in the County. Requiring existing buildings to switch natural gas systems to electric systems will shift the extra costs to both renters and home purchasers. In addition, natural gas systems may reduce not only energy costs to the consumer but energy consumption as well when as compared to electric. Again, California is rapidly improving code requirements and is pursuing ambitious ZNE goals—there is no need for the County to get out ahead of the State on this issue to the detriment of new housing.

Prior to adoption of any decarbonization ordinance, the CAP should require a thorough study of economic impacts to residents and businesses to be presented to the Board of Supervisors that recommends measures to ensure that residents and business will not be impacted by rolling black outs or increased energy costs. Reliability and lower energy costs should be a key component of the CAP to ensure social equity for all. The CAP's retrofitting goals should incorporate cost efficiency with funding and incentives for middle and low income residents.

Presently, the only available practical, large-scale alternative to natural gas or propane heating is to use electric heat pumps. As we pointed out in previous comments, federal studies have long indicated that electric heat pumps operate relatively inefficiently when ambient temperatures fall. One such federal study last decade indicated that efficiency drops when ambient temperatures fall below 45 degrees.[8] Although gradual technological improvements have been made and will presumably continue, it is nonetheless entirely foreseeable that electric heat pumps will continue to have relatively limited efficacy when ambient temperatures drop to low levels, which is inevitable by degree in many parts of the County. When this fact is combined with the fact that electrical power outages at different scales are inevitable from time to time, the County must recognize that such de-carbonization could require citizens to flee their homes from time to time for warmth. Homeowners already have limited or no use of wood burning fireplaces to comply with other environmental

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[8] U.S. Department of Energy Office of Energy Efficiency & Renewable Energy, *Measure Guideline: Heat Pump Water Heaters in New and Existing Homes*, Feb. 2012, at 8 https://www.nrel.gov/docs/fy12osti/53184.pdf.

concerns. This electrification measure will unfairly shift the cost of climate change mitigation to lower income citizens.

Measure E2, similarly, aims to electrify all new buildings and new development. Implementing Action E2.1 proposes to adopt an ordinance requiring all new buildings to be fully electric with no natural gas hookups. Implementing Action E2.1 also includes affordable housing considerations in these requirements, and proposes to develop financial support measures to defray potential additional first costs on affordable housing. Implementing Action E2.2 proposes to adopt a ZNE ordinance for all new residential buildings built after 2025 and all new nonresidential buildings built after 2030, and also proposes financial support measures to offset first costs on affordable housing.

As pointed out above, market rate housing is where the overwhelming percentage of households compete for housing. While it is unclear how "financial support" would be structured, the proposed financial support foreseeably would not alleviate higher costs to the middle income households that compete for housing in the market rate housing sector. Again, financial support for the middle income and workforce housing should be considered.

The CAP should recognize that new housing is built with the latest technologies that are the water, energy and GHG efficient. Because new homes in California are already the most energy efficient in the Nation, focusing on new construction misses the mark. The California Energy Commission ("CEC") Energy Efficiency Action Plan already has goals to double energy efficiency savings by 2030, which is ambitious, but a more realistic goal than the County's proposed Measure E2. CEC's goals, which were established after very careful consideration of the current and foreseeable feasibility of progressive steps, are also considered the most forward-looking and progressive in the nation.[9] The CEC's Action Plan states that "the critical path for success will lie with the state, stakeholders, and utilities encouraging and working with the marketplace, including leveraging capital and accelerating the transformation."[10] The CEC envisioned a climate change policy that takes a holistic, flexible approach which considers the marketplace and various stake holders. A rigid, linear approach of requiring all new buildings to have net zero emissions would inevitably disrupt and impede the homebuilding market. The County should allow the CEC's studious processes and evolving mandates set the pace rather than pursue overly ambitious policies that will foreseeably further curtail homebuilding activity and increase homebuilding costs.

Strategy 7 Conserve Water

Measure E6 aims to reduce indoor and outdoor water consumption. Implementing Action E6.1 would require a water conservation ordinance for new development, but

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[9] American Progress, *States Laying Road Map Climate Change Leadership*, https://www.americanprogress.org/article/states-laying-road-map-climate-leadership.

[10] California Energy Commission, *2019 Energy Efficiency Action Plan*, at 1-2, https://www.energy.ca.gov/programs-and-topics/programs/energy-efficiency-existing-buildings#:~:text=The%20plan%20is%20organized%20by,emissions%20from%20the%20building%20sector.

imposes a net-zero water ordinance for new greenfield development. Yet, County staff have recognized that net-zero water mandates are infeasible.

The County's proposed policy of discriminating against new greenfield developments is arbitrary, and appears legally unsound. The policy would make greenfield development even more costly at a time when suburban housing demand plainly is growing. A growing body of compelling evidence shows that both jobs and housing demand are fleeing the more urbanized areas in favor of suburban and relatively bucolic "work from home" environs, accelerating a trend that was already evident before the pandemic. One recent study shows the COVID-19 pandemic has accelerated an antecedent trend towards urban exodus toward the suburbs, the exurbs, and significantly smaller cities – primarily in sunbelt states with less constrictive land use policies but also substantially higher per capita Greenhouse Gas ("GHG") emission rates.[11] For example, between 2019 and 2021, U.S. consumer preference for larger homes in less dense areas grew from 53% to 60%. With "work from home" becoming the new norm, increased VMT from suburban developments, and its impact to climate change, becomes less of a concern. Additionally, since GHG emissions and climate change is a global issue, accommodating demand for suburban and exurban living in California, a low GHG per capita state, would result in less GHG emissions on the whole than if this demand is funneled to other states with higher GHG per capita emission rates.

Also, new data has been garnered recently by the scientists worried about the increasingly ominous outlook for climate change concerning the GHG implications of different housing typologies and densities. One recent study on the topic of urban sustainability shows the life-cycle, per capita GHG impacts of taller buildings, such as those which are being strongly promoted by the existing land use policies throughout the County and the cities located within it, are global climate change-harmful on a per capita, life-cycle basis when compared to lower, less intense development.[12] The study strongly indicates that the type of mid-rise and high-rise infill development that is now preferred may be harmful from a life-cycle, per capita GHG standpoint.

The County should coordinate and work with all local water agencies (LADWP, etc.) to promote and invest in the use of recycled water, recharge opportunities, desalination, rain harvesting, etc. Such measures will conserve the use of potable water.

Conclusion

While we commend the County for its desire to address climate change and the need to be aligned with the State's GHG emission goals, many of the CAP's policy directives, while well intended, promise to increase housing costs, further dampen the already dismal housing production in the County, further reduce homeownership

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[11] Stephan D. Whitaker, *Did the COVID-19 Pandemic Cause an Urban Exodus?" Federal Reserve Bank of Cleveland*, Feb. 5, 2021, https://www.clevelandfed.org/newsroom-and-events/publications/cfed-district-data-briefs/cfddb-20210205-did-the-covid-19-pandemic-cause-an-urban-exodus.

[12] Francesco Pomponi, "Decoupling Density from Tallness in Analysing the Life Cycle Greenhouse Gas Emissions of Cities," Nature Partners Journal – Urban Sustainability, July 5, 2021, https://doi.org/10.1038/s42949-021-00034-w.

opportunities and reasonable rental rates, and further erode the economic status of the middle class and of the most vulnerable residents of our county. The CAP should focus on opportunities and incentives to retrofit the current built environment that generates more GHG emissions and is less energy and water efficient than new development.

The County should not endeavor to leap-frog ahead of the State and CEC when it comes to energy and water efficiency mandates for new construction. The County should not impose restrictions that are more rigorous than the Scoping Plan, as noted in the examples above. Most importantly, the County should not be arbitrarily discriminating against much-needed edge, greenfield and new town development at a time when housing is being built in the County at a rate less than one-tenth of the rate that is needed. Housing developments which already incorporate energy and water efficiency practices should streamlined.

Accordingly, as the representatives of the homebuilding industry, we urge the County to reconsider its content in light of our comments and consider a change in direction to encourage and foster more homebuilding activity in the County. BIA/LAV will continue to work with the County to address the housing crises, and in doing so, we hope and trust that the County will consider our concerns and adopt housing friendly policies.

Bill McRenyolds, President
BIASC/ LA Ventura Chapter

De'Andre Valencia, Senior VP
BIASC/ LA Ventura Chapter

July 18, 2022

Sent via email

Thuy Hua, Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012
climate@planning.lacounty.gov

Re: Comments on the Draft Los Angeles County 2045 Climate Action Plan and Draft Environmental Impact Report

Dear Ms. Hua:

These comments are submitted on behalf of the Center for Biological Diversity (the "Center") regarding the Draft Los Angeles County 2045 Climate Action Plan (Plan) and its Draft Environmental Impact Report (DEIR). The Center submitted comments on an earlier version of the draft Plan on April 30, 2020 and on the Notice of Preparation for the DEIR on February 1, 2022, which is included here as Attachment A. We hereby incorporate the comments in both letters by reference and request that the issues raised in those letters be considered in preparing the Final EIR and revised Plan.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County ("County").

The County has proposed an "aspirational goal" of "carbon neutrality" in 2045 with interim targets of 40 percent and 50 percent GHG emissions below 2015 levels by 2030 and 2045, respectively. To adequately address the climate crisis and the closely related public health and environmental justice crises, the Plan must do better.

Climate science demands greater reductions in the near-term that will require a further accelerated transition away from fossil-fuel energy systems and an accelerated adoption of proven, cost-effective, zero-emission solutions that alleviate the disproportionate harm of fossil fuel extraction and combustion. As the world's scientists have repeatedly warned, we are out of time to act on climate. We simply cannot afford any further delay of needed pollution reductions.

Accordingly, the Plan must achieve much more rapid emissions reductions in the near-term and prioritize emission reductions over "carbon neutrality." Under the current Plan, the County projects that, by 2045, it will have a gap of approximately 23 percent "residual emissions" of GHG emissions reductions left to fill to reach carbon neutrality by 2045. (Plan at 3-3). It crosses its fingers and hopes to rely on new technologies, or – perhaps – carbon removal strategies, such as carbon capture and sequestration (CCS) and direct air capture (DAC). (Plan at ES-7, 3-8 – 3-9). There is much more the County can and must do to reduce emissions directly with proven, cost-effective solutions, rather than rely on speculative and problematic technologies like CCS, bioenergy, and DAC.

The Center appreciates the opportunity to raise these concerns with the County. If you have any questions about the Center's concerns, please contact Hallie Kutak at the phone number or email listed at the end of this letter.

I. THE COUNTY MUST INCLUDE A MORE ACCELERATED OIL AND GAS PRODUCTION PHASE OUT MEASURE AND TRANSITION TO CLEAN RENEWABLE ENERGY BY 2030.

A. California Should Phase Out Fossil Fuel Extraction by 2030, If Not Earlier.

Angelenos have been exposed to the harmful impacts of living near fossil fuel production for far too long. The oil and gas industry pollutes our air, soil, and water; harms public health; and fuels the escalating climate crisis. Impacts in the County have been concentrated in historically disadvantaged communities: nearly 73 percent of County residents that live near oil and gas wells are people of color. (Los Angeles County Board of Supervisors Mitchell and Kuehl, 2021). To protect public health and avoid the worst climate catastrophes, a robust body of scientific research has established that no new fossil fuel production and infrastructure can be permitted, and the U.S. must end existing oil and gas production by 2030, not 2045, for a reasonable chance of limiting global temperature rise to 1.5°C.

Measure ES-1 of the Plan—develops a sunset strategy for oil and gas production in unincorporated Los Angeles County by 2045, with performance objectives of reducing emissions from operations by 40 percent below 2015 levels by 2030, 60 percent by 2035, and 80 percent by 2045 (Plan at 3-14)—is inconsistent with science-based climate targets and the County's latest actions to protect communities from oil and gas extraction.

The Plan should instead include a measure to phase out all fossil fuel production by 2030 or earlier, to align with recent research about the measures necessary to ensure temperature rise does not exceed 1.5°C. For example, a recent report found that, for a 50 percent chance of staying within a 1.5°C carbon budget, there can be no new fossil fuel development and 40 percent of developed fossil fuel reserves need to stay in the ground. (Trout et al. 2022). Another recent report agreed that there can be no new fossil fuel production for a 50:50 chance of staying within 1.5°C temperature rise and added that the UN's equity framing of "common but differentiated responsibility" requires wealthier nations with economies less dependent on oil and gas revenues to lead the way with high rates of closure and early phase-out dates. This means that, for the U.S. (and 18 other wealthy nations with the highest capacity for a just transition), oil and gas production must be cut by 74

percent by 2030 with zero production by 2034. (Calverley & Anderson 2022). For this reason, ending oil and gas production throughout California in 2045 is compatible only with the lowest ambition temperature scenario studied; it falls "far short" of what is necessary to stay within a 1.5°C carbon budget. The proposed 2045 timeline for Los Angeles is similarly insufficient, despite the recognition in Goal 7 of the County's 2019 Sustainability Plan that rapidly moving toward a zero-carbon energy system—including "eliminating fossil fuel production in the County, including drilling, extraction, and refining"—is necessary to keep the County's commitment to containing temperature rise, in alignment with the goals of the Paris Climate Agreement. (Los Angeles Countywide Sustainability Plan, 2019).

A 2030 or earlier timeframe is also necessary for the Plan to be consistent with recent County actions. As noted in the Plan, in September 2021 the Board of Supervisors voted to phase out oil and gas drilling and ban all new drill sites in unincorporated County areas. The Plan fails to mention, however, that the September 2021 motion specifically requested an "analysis of the feasibility of a 5-year phase-out period." (Los Angeles County Board of Supervisors Mitchell and Kuehl 2021). The Board of Supervisors requested the five-year timeline because it would align with actions by Culver City to phase out oil[1] and a similar proposal by the City of Los Angeles. More recently, the County Department of Regional Planning drafted an ordinance that will ban new drilling and make oil operations throughout the County a legal nonconforming use that must be phased out within 20 years. (Los Angeles County Department of Regional Planning, Staff Report 2022). The Department also posted a Request for Proposals for an amortization study that would determine the fastest date by which operations can be phased out. The ordinance is expected to be enacted in "late 2022," and the Requests for Proposals are due July 12, 2022, with a proposed 18-month contract timeline and final amortization recommendations due in May 2023. (Los Angeles County Department of Regional Planning, RFP 2022). In other words, the County will soon have a 2042 default phase out deadline, which may move up to 2027 or some other date before 2030 if the amortization study finds those dates to be legally defensible. The Plan should align Measure ES-1 with these timelines.

Similarly, the Plan does not clarify why Measure ES-1 stops short of reducing emissions by 100 percent. Measure ES-1 focuses on reducing emissions 80 percent below 2015 levels by 2045 with a paired strategy of removing carbon with direct air capture and carbon sequestration. The inclusion of carbon capture as part of the strategy drives the uncertainty in costs associated with Measure ES-1. (Plan, Appendix E at E-3). Carbon capture adds potentially more than $100 million to the cost estimate. There is no need to add millions of dollars in costs to this measure to capture or remove carbon dioxide when the County's strategy already addresses the vast majority of oil and gas operations throughout the County. The County plans to phase out oil and gas operations through an amortization program that addresses all active and idle wells, and through a separate strategy to address wells in the Inglewood Oil Field. (Los Angeles County Department of Regional Planning, Ordinance Website 2022). The only wells that the County's current efforts will not address before 2045 are "orphan" wells that have no known operator to hold accountable for proper well abandonment. And the County has begun work on a pilot program to address likely-orphan wells

[1] Culver City recently commissioned a study to determine what a reasonable amortization period would be for the oil wells within its jurisdiction and found that the operator achieved amortization of its capital investment *within four to five years of purchasing the wells.* (Cheek et al. 2020).

using state and federal funding. (Los Angeles County Board of Supervisors Hahn and Mitchell 2021). It is not clear if the Plan assumes that these orphan wells account for the remaining 20 percent of emissions that cannot be eliminated by 2045, or if there are other reasons why emissions cannot be eliminated. The County should explain why it expects emissions to decrease only 80 percent from this measure, especially since the source of those remaining emissions should dictate the implementing actions the County takes. It would be far less costly and more effective to invest resources in addressing orphaned wells if those are the source of remaining emissions than it would be to devise and implement a carbon removal strategy.

B. The County Must Phase Out Power Plants And Accelerate Its Targets For Clean Electricity And Distributed Generation.

As noted above and consistent with climate science and equity, California must transition off fossil fuel electricity and to 100 percent renewable, just energy by 2030. To meet this target, the County must set more ambitious goals, including setting a schedule to phase out power plants and accelerate decarbonization efforts. The current Plan lacks a sufficient target for the electricity generation sector, focusing instead on consumer demand solutions.

1. The County Must Analyze the Phase Out of Power Plants.

After the Supreme Court's disastrous decision limiting the authority of the U.S. Environmental Protection Agency to address the devastating impacts of power plant pollution, it is imperative that local jurisdictions take appropriate action to meet our climate and equity goals. (*West Virginia v. EPA*, No. 20-1530 (June 30, 2022).) This is particularly true for the County and the many power plants in its jurisdiction.

The Plan aims to align with other state and regional initiatives, specifically the implementation of Senate Bill (SB) 100. But SB 100's 100 percent zero carbon target is limited to retail sales of electricity. This limitation means that power plants can technically meet the SB 100 target while still combusting fossil fuels or other feedstocks for end uses outside of retail sales, such as to meet transmission and distribution losses from the grid. (LA100, 2021). As a result, natural gas combustion could potentially amount to 10 to 15 percent of power generation. (*Id.)* In this regard, outside of the catch-all carbon removal strategy, the Plan lacks any measure to address the significant GHG and co-pollutant emissions from the power plant sector. Instead, the Plan proposes to decarbonize the electricity generation sector with utility scale solar, rooftop solar and other distributed energy resources ("DERs"), and demand response strategies. But it is silent on limiting electricity generation emissions. In conjunction with its proposed strategies, the County should also include a measure to limit and eventually phase out power plant pollution.

As detailed below, the County should revise its definition of zero carbon and include measures to phase out power plants. By prioritizing DERs, the County can cure the feasibility issues associated with utility-scale solar. In this way, the County can accelerate the Plan's target for clean electricity generation and achieve zero combustion resources by 2030.

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2. The County Should Revise the Definition of Zero Carbon.

The Plan defines zero carbon as "energy resources that either qualify as "renewable" in the most recent Renewables Portfolio Standard (RPS) Eligibility Guidebook or generate zero GHG emissions on-site." (Plan at 3-15). This is the same definition used by the State for SB 100, which omits lifecycle analyses. These categories are flawed for several reasons and using them will hinder progress toward the County's carbon goals.

First, not all of these resources are, in fact, renewable or carbon-neutral. For instance, evidence shows that, like coal and oil, woody biomass – which is included in the RPS – is a carbon-burning form of energy production that emits carbon dioxide and contributes to the climate crisis. Biomass power plants are California's dirtiest electricity source—releasing more carbon at the smokestack than coal. (Sterman et al. 2018). The average GHG emission rate for California's current electricity portfolio is about 485 pounds carbon dioxide equivalent (CO_2e) per megawatt hour (MWh).[2] In 2018, woody biomass power plants in California emitted more than *seven times* that amount, averaging 3,500 pounds CO_2e per net MWh for non-cogeneration facilities.[3]

Second, automatic inclusion under these programs and definitions precludes an adequate environmental review of local impacts. In particular, the SB 100 analysis omits analysis of significant increases in local air and water pollution in and around mega-dairies from the production of biomethane from dairy waste feedstock. And in California, biomass power plants are among the worst emitters of particulate matter and NOx. Certainly, the LA100 Study includes a No Biofuels scenario to address this concern, and the County should do the same, or otherwise disclose that its

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[2] See CARB, California Greenhouse Gas Emissions for 2000 to 2018, Trends of Emissions and Other Indicators (2020 Edition) at Figure 9 (GHG Intensity of Electricity Generation); *see also* CARB, 2000-2018 Emissions Trends Report Data (2020 Edition) at Figure 9, showing the overall GHG Intensity of Electricity Generation in 2018 of 0.22 tons CO2e per MWh, which is equal to 485 pounds per MWh. These calculations were based on the 2020 trends report, however the 2021 edition, California Greenhouse Gas Emissions for 2000 to 2019, Trends of Emissions and Other Indicators (July 28, 2021) (Figure 9) shows a similar number (0.21 tones CO2e per MWh), https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf (data available for download at https://ww2.arb.ca.gov/ghg-inventory-data).

[3] Total CO2e emissions for each facility in 2018 come from California Air Resources Board Mandatory GHG Reporting Emissions data, available at CARB, *Mandatory GHG Reporting – Reported Emissions*, https://ww2.arb.ca.gov/mrr-data (last visited June 23, 2022). Data on net MWh produced by each facility in 2018 come from the Cal. Energy Comm'n, *California Biomass and Waste-To-Energy Statistics and Data*, https://ww2.energy.ca.gov/almanac/renewables_data/biomass/index_cms.php (last visited June 23, 2022). Total CO2e produced by the nine electricity only, non-cogeneration active woody biomass facilities with available data totaled 2,127,693 metric tons, and net MWh in 2018 from these nine facilities totaled 1,334,346 MWh, for an average of 1.59 metric tons CO2e per net MWh, equal to 3,515 pounds CO2e per net MWh. The average of 3,515 pounds CO2e per MWh includes electricity-only plants; cogeneration plants are excluded because some of their CO2 emissions are from heat-related fuel consumption. The high CO2e rate-per-MWh is similar for biomass facilities without cogeneration.

electricity generation measures implicate increased and unjust mega-dairy practices, including increased groundwater and air pollution in the Central Valley.

In response to these concerns, the Joint Agencies (the CEC, CPUC and Air Resources Board, "CARB") developed a "No Combustion scenario." The County should replace its zero carbon definition with the definition of No Combustion, which excludes combustion technology, combustion turbines, combined cycle, combined heat and power, and biomass. (Joint Agencies 2021).

3. The County Should Achieve a "High DER" Future.

The Center appreciates the County's identification of the many benefits of DERs, including community ownership, wildfire mitigation, reducing peak energy demand, resiliency and eliminating the need for the construction of new generation facilities. (Plan at 3-11). There are other benefits to DERs, especially to disadvantaged communities. To maximize these benefits, the County should prioritize the deployment of DERs, versus placing too great a reliance on utility-scale solar measures.

The 2021 Joint Agency Report analysis, implementing SB 100, concluded it is possible to eliminate all combustion resources by 2045. (Joint Agencies 2021). That analysis, however, did not include DERs. As detailed below, DERs are an integral component to meet our climate and equity goals and can theoretically generate enough power to meet U.S. electricity needs multiple times over. (National Renewable Energy Laboratory, 2012). DERs also present significant benefits, can center equity and minimize impacts to biodiversity and habitats. The California Energy Commission ("CEC") recently initiated a rulemaking to examine how California can achieve a "High DER" future. (CEC 2022). In that rulemaking, the CEC is exploring "issues related to the operation and performance of a mature high-DER electricity system in California, as well as near-term issues that must be addressed along the path to the future system," specifically to "optimize DER benefits and value in support of advancing state goals for decarbonization, resilience, affordability, and environmental justice and equity. (*Id.* at 3-4). Similarly, the Public Utilities Commission ("CPUC") also "anticipates a high-penetration DER future and seeks to determine how to optimize the integration of millions of DERs within the distribution grid while ensuring affordable rates." (CPUC 2021). The Plan should match the State's ambition for DERs.

(i) *The County Should Revisit its Over-Reliance on Utility-Scale Solar.*

Although the County proposes to decarbonize the electricity system through all three strategies of utility-scale solar, rooftop solar and other DERs, and demand response, the Plan measures place a tremendous reliance on utility-scale programs, limiting the ambition for alternative generation options through DERs. Measure ES2 seeks 100 percent municipal participation (by 2025) and 96 percent community participation (by 2030) in either Southern California Edison's (SCE's) Green Rate or the Clean Power Alliance's ("CPA") Green Power programs. (Plan, Appendix E at E-3). By contrast, the targets for rooftop solar are far less ambitious. For instance, the Plan proposes a mere five percent growth in rooftop solar on existing multifamily residential and commercial buildings by 2030. Including more aggressive targets, especially for new construction of multifamily residential buildings, will allow low-income renters

to leverage other programs with associated benefits, including the Solar on Multifamily Affordable Housing and Virtual Net Energy Metering programs.

The Plan must recognize the difference between "community solar" through the Green Rate and Green Power programs and actual solar *in* the community, which drives realization of the several community benefits detailed below. Neither SCE nor CPA's solar options are located "in the community," or close to customer demand, but instead require generation from large facilities far away from demand. For example, CPA's clean energy would not be generated in certain communities, areas, or even Los Angeles County: "[a]lmost all this energy will come from wind and solar farms in California with a little bit coming from other western states and a little coming from geothermal and small hydroelectric." (DEIR at 3.1-13). Due to the distance of these facilities from County residents, these solar farms require substantial transmission infrastructure, with associated line losses, land use and affordability impacts that DERs avoid.

(ii) ***DERs Present Several Benefits to Achieve our Climate and Equity Goals.***

Utility-scale solutions will simply not meet our climate and equity goals. 100 percent clean electricity requires serving the County's hardest to reach residents where affordability is paramount. (CEC 2016). Achieving affordable electricity bills is critical to decarbonizing our electricity systems, and DERs present several benefits to ratepayers that utility-scale solutions cannot achieve. For instance, adequate deployment of rooftop solar displaces the need for significant transmission and distribution costs that would traditionally be passed on to ratepayers. In 2018 alone, the California Independent Systems Operator, citing increased rooftop solar and energy efficiency, canceled 20 transmission projects at a $2.6 billion savings to all ratepayers. Growing local solar and storage would save California ratepayers $4 billion a year, adding up to $120 billion over the next 30 years. (Vibrant Clean Energy 2021). Similarly, eliminating the need for additional transmission also eliminates the need for utility-caused and expensive wildfire mitigation, such as the costs for undergrounding of transmission lines and associated power shutoffs. DERs also present local economic benefits, including but not limited to local clean energy installation jobs, which are more numerous than utility-scale clean energy jobs. (Wesoff and Olano 2022).

DERs can also cure feasibility issues raised by utility-scale solar. The Joint Agency SB 100 Report, which does not include DERs, shows that we need to build 2.8 GW/year of large-scale solar, every year for 25 years, along with 1.1 GW of consumer solar. However, our average build rate of large-scale solar has to-date been 1.0 GW/year. It is unclear if 2.8 GW/year is possible or affordable. Certainly, SCE's Green Rate program has suspended "all enrollments" for its 50 percent and 100 percent options, due to the need to construct additional utility-scale generation. A more robust deployment of DERs would eliminate this need for additional construction and generation potentially hundreds of miles away from demand.

Adequate deployment of rooftop solar can also minimize the need for the estimated million acres of land to meet the SB 100 core scenario's proposal for utility-scale solar, upon which the Plan places most of its reliance. Utility-scale solar presents significant land use impacts to biodiversity, species and habitats and eliminates opportunities for natural carbon sinks. (Butt et al. 2013; Brittingham et al. 2014; Pickell et al. 2014; Souther et al. 2014; Allred et al. 2015; B. Harfoot

et al. 2018). It is simply not feasible to place such reliance on utility-scale solar to meet our climate goals. Backlogs in interconnection queues for utility-scale resources, compounded by the time necessary to plan and build transmission creates a bottleneck preventing necessary buildout by 2030, the critical decade for GHG reduction.

The County should revise the Plan to include more aggressive targets for DER adoption, especially as SCE does not currently have the generation capacity for its utility-scale program. The County should instead take this opportunity to use the Plan to send the appropriate market signals to accelerate DER development to the benefit of the County, especially its historically marginalized residents.

(iii) *The County Should Implement DERs "From the Ground Up."*

Certain portions of the electricity grid are in such disrepair, especially in low-income communities, that the only viable electrification and resilience solutions may be non-wire alternatives presented by DERs. (Brockway et al. 2021). As noted above, utility-scale solutions are not adequate, and the County should propose particularly ambitious efforts to meet the energy needs of the County's disadvantaged communities.

At a recent joint CEC and CPUC workshop on achieving a High DER future, the two agencies committed to collaborating on community engagement efforts to determine how DERs could meet community-level needs, and thereby ensure that DAC residents are not left behind in a just and clean energy transition. The Center appreciates the County's proposal to identify geographic opportunities to deploy DERs (Plan at 3-11, Action ES4-3), and encourages the County to include measures in the Plan to further coordinate with the CEC and CPUC to serve the hardest to reach residents and achieve more ambitious targets for DERs.

II. THE COUNTY SHOULD SET CLEAR AND MORE AMBITIOUS BENCHMARKS FOR ZERO EMISSIONS TRANSPORTATION.

The transportation sector accounts for over 50 percent of total LA County GHG emissions. (Plan at 2-2). It is therefore imperative that the County do everything in its power to reduce these emissions with clear, ambitious reductions targets. As described below, the County must do more to reduce vehicle miles travelled (VMTs) and tailpipe emissions (including from freight transport), and to increase public transit and deployment of and access to electric vehicles (EVs) and charging infrastructure.

A. Cars and Light Trucks

1. ZEV Sales Targets

Measure T-6 (Plan at 3-29, Appendix E at E-9) calls for sales of new light-duty ZEVs in the County to be 60 percent by 2030 and 100 percent by 2035. Yet the Advanced Clean Cars II rule ("ACC II"), currently being finalized by the Air Resources Board, calls for *68 percent EV sales by 2030*. The County's current plan is less than what ACC II calls for statewide. (CARB, ACC II 2022). This mismatch is unwarranted: in fact, LA County should be *leading* the ZEV transition and setting targets that are well ahead of ACC II. The County is one of the centers of EV adoption in the

state. Between 2010 and 2019, 46 percent of all EV and hybrid rebates in California were from Southern California—more than the Bay Area (35.4 percent) and the rest of the state (18.6 percent). (LACEDC 2020, p. 29). Of the Southern California share, 56.8 percent of rebates came from the County, the largest share by far of all counties in the region. The achievement of California's EV targets in ACC II will be called into question if one of the top counties in the state does not even attempt to keep pace with statewide targets.

Instead, the County should set an ambitious EV sales target and reach 100 percent sales by 2030, not 2035. The average vehicle lifetime and the sheer number of internal combustion engine vehicles (ICEVs) that could be sold between 2030 and 2035 demonstrate the need to end gas-powered sales no later than 2030. A 2019 study found that if new vehicle technology is immediately adopted and incorporated into 100 percent of all new vehicle sales, in 20 years it would still only be present in 90 percent of the on-road vehicle fleet. (Keith et al. 2019, p. 2). This means that under a 2035 100 percent ZEV sale requirement, 10 percent of California's fleet would still be ICEVs in 2055, continuing to emit carbon pollution and undermining the state's emission targets. That portion is highly significant: it means that roughly two million additional gas-powered cars would be sold between 2030 and 2034, emitting an estimated 69M $MTCO_2e$ over their lifetimes. (Fleming 2020 and Data Analysis).

The 2030 100 percent ZEV mandate is feasible. According to some estimates, cost parity between ICEVs and ZEVs has already been reached without the use of incentives (see Lutsey & Nicholas 2019, p. 11; see also Taylor and Rosenberg 2022), and experts have concluded that ZEVs are already cheaper to own and maintain over their lifetimes. (Harto 2020). In fact, experts predict that ZEV sticker prices will match their ICEV counterparts as early as 2023 to 2025, primarily due to declining battery costs. (Gearino 2020). In light of these facts, it is clear that delaying 100 percent sales until 2035 is unnecessary and risks bringing warming above 1.5°C.

Finally, even if LA County ignores the clear imperative for 100 percent sales by 2030, it should raise its interim 2030 target well above the current 60 percent goal. Even a commitment to reach 80 percent in 2030 would be a vast improvement and bring us closer to carbon neutrality. The target should be frontloaded to secure maximum carbon reductions earlier: if fewer ICE cars are made and sold during the earlier years, there will be fewer emissions from these vehicles over their lifetimes. An earlier interim target also sends a clear message to industry that it must rapidly shift its investment and capacity to producing EVs.

2. EV Charging Stations

The Plan would "[r]equire all new development to install electric vehicle charging stations ("EVCSs") through a condition of approval/ordinance. Residential development must install EVCSs; nonresidential development must install EVCSs at a percentage of total parking spaces." In addition to these policies, the County should follow the efforts set out in proposed SB 1482 for residential parking, which requires newly constructed multifamily residences in California to have electric vehicle charging access for every unit that has access to a parking space. (SB 1482, Allen 2022). This provision would result in little additional cost for builders while addressing equity for multi-unit dwelling residents.

The Plan would also "[i]nstall EVCSs at existing buildings and right-of-way infrastructure (e.g., lamp poles) throughout unincorporated Los Angeles County." There is no explicit mention of "existing buildings" extending to existing *residential* buildings. Requirements must be set for installing charging at *existing* multi-unit dwellings in addition to new construction.

The Plan also fails to set clear targets regarding the number of EV chargers it had pledged in previous years. The 2019 LA County Sustainability Plan aimed to reach 60,000 new public EV charging stations by 2025, and an additional 70,000 by 2035. (Los Angeles Countywide Sustainability Plan, 2019 at 112). Yet the Plan does not contain definite goals for charging stations.

Other analyses have shown that the County's needs will be much higher than even the goals in the 2019 Sustainability Plan. For example, according to the International Council on Clean Transportation (ICCT), the *City* of Los Angeles alone would need approximately 50,000 public chargers by 2030 to reach 100 percent EV sales by 2030. (Bui et al. 2021, p. 9). The County's needs would be of course much higher. Another ICCT report found that the Los Angeles Metropolitan Area will need 176,672 non-home chargers by 2030—far more than even the Sustainability Plan called for. (Bauer et al. 2021, Table A-2). The lack of definite charging station goals in the Plan is troubling enough; the scale of the County's charging needs demands a detailed plan for building the infrastructure for a fast, equitable transition to ZEVs.

The studies also confirm that the County could implement complementary policies that would reduce the overall need for charging stations. Given the scale of charging infrastructure needed, the County should consider the following ideas, with particular attention to how they would impact the County's focus on equity programs:

- EV-ready building codes
- Prioritized EV-ready zoning
- Preferential EV parking
- Waiving parking fees for EVs at county-owned locations (Bui et al. 2021)
- Enforcing penalties for combustion cars using EV spaces
- Congesting pricing
- Prioritizing VMT reduction

These complementary policies can significantly reduce the County's EV charging needs. One study found that in San Francisco, a combination of these policies would reduce charging station needs by 45 percent by 2030. (Hsu et al. 2020, p. 19). Another study found that a combination of these policies could reduce the demand for new chargers in the LA metropolitan area from nearly 50,000 to 27,300 by 2030. (Bui et al. 2021, p. 9).

3. County Fleet Vehicles

The Plan also calls for electrifying the vehicles in the County light-duty fleet: to 35 percent by 2030, 60 percent by 2035, and 100 percent by 2045. (Plan at 3-29, Appx. E, T7.2). Yet these goals lag behind even the goal President Biden set for federal fleets: that light-duty acquisitions would be 100 percent ZEV by 2027. (White House 2021). While the LA County fleet is not covered

by President Biden's Executive Order, the Plan surely betrays its spirit. There is no reason why the County should achieve its ZEV transition years slower than the federal government.

Additionally, the County should include *procurement* dates as well as target dates for when the percentage of the fleet should be zero emissions, as the federal executive order does. It is not clear when the County is going to start purchasing 100 percent ZEVs for its own fleets in order to reach the penetration goals. This information is crucial to understanding how the County plans to meet its goals. Procurement of 100 percent ZEVs should start immediately for light-duty vehicles.

B. Freight and Warehouses

The County should strengthen its performance objectives to advance the phase out of new combustion medium and heavy-duty vehicle (MD/HDV) sales to 2035, which is consistent with CARB's Mobile Source Strategy (CARB 2021, Mobile Source Strategy, p. 68), with higher penetration of ZEV MD/HDVs earlier than the objectives provided. Heavy duty trucks contribute disproportionately to air pollution and harm to disadvantaged communities. (Brown et al. 2021).

A recent Department of Energy study from the National Renewable Energy Laboratory has found that nationwide: "ZEV sales could reach 42 percent of all MD/HD trucks by 2030, reflecting lower combined vehicle purchase and operating costs (using real-world payback periods)" (Ledna et al. 2022). The study's findings suggest that "by 2030, nearly half of medium- and heavy-duty trucks will be cheaper to buy, operate, and maintain as zero emissions vehicles than traditional diesel-powered combustion engine vehicles." (U.S. Dept. of Energy 2022). If this degree of cost parity is achievable across the United States by 2030, then there may be greater adoption of ZE HDVs by 2030 than the County assumes.

The County can help this process by accelerating the implementing actions. For instance, the Plan does not propose to begin implementing freight decarbonization technologies along highway corridors (Appx. E, T8.1) for another 3 years. The County should start implementing these immediately. Similarly, we hope the County will begin the process of streamlining permitting for ZEV MD/HDV charging infrastructure immediately.

The Center appreciates the effort to create an ordinance for all new and existing warehouses to include EVCS (Appx. E, T8.2, T8.3). However, the deadline of 2035 for existing warehouses could be accelerated. Warehouse and logistics development is a well-documented source of greenhouse gas emissions and air quality degradation that can create serious, negative health outcomes for surrounding communities. (Betancourt and Villianatos 2012). Particulate emissions from diesel vehicles contribute to "cardiovascular problems, cancer, asthma, decreased lung function and capacity, reproductive health problems, and premature death. (*Id.* at 5.) With the rapid increase in global trade, the Ports of LA and Long Beach have become a primary entryway for goods, processing over 40 percent of all imports into the United States, and accounting for 20 percent of diesel particulate pollutants in southern California—more than from any other source. (Minkler et al. 2012). These goods are "transloaded" before leaving Southern California, meaning that they spend some time in warehouse storage facilities before they reach their final destination. (Betancourt and Villianatos 2012). This has resulted in a massive, unchecked expansion of warehouse development throughout Southern California, creating a logistics hub so massive that it is now visible from space. (Ragen 2022). This growth continues unchecked and is now bleeding

into open space areas in Coachella Valley and elsewhere, choking airways and driving habitat loss. The Plan makes little mention of the supply chain/logistics industry, which drives these impacts. The County must coordinate with regional planning and transportation agencies to ensure that the logistics industry is planned with intention, away from existing residential communities, and that the attendant environmental impacts are limited to the extent feasible.

C. Green Hydrogen

The Plan proposes to "[i]ncrease the use of green hydrogen vehicles. Use biomethane and biogas created from organic waste as a 'bridge fuel' to achieve 100 percent green hydrogen and electric vehicles." (Plan at 3-29). First, biomethane and biogas should not be used as bridge fuels, including as a hydrogen source. Reliance on biomethane and biogas props up the fossil fuel industry as it allows gas companies to maintain their pipeline infrastructure. Relying on wood biomass or forestry residues could promote forest logging, hence destroying a significant carbon sink, as explained in Section V, *infra*. Further, sources of biogas and biomethane, such as animal manure, promote expansion and consolidation of the animal agriculture industry, resulting in more air and water pollution. (Sadaat and Gersen 2021).

Second, green hydrogen, as in electrolytic hydrogen produced by splitting water solely using clean, renewable solar and wind energy, is not a workable solution for decarbonizing our transportation systems and buildings since electrifying these sectors and running them directly on a clean, renewable energy grid is the most efficient, cost-effective solution. Green hydrogen, limited to electrolytic hydrogen produced from renewables (Sadaat and Gersen 2021), could be part of an interim solution to decarbonizing difficult to decarbonize sectors such as aviation and maritime shipping, at least until the point of electrification. However, current evidence points to efforts to scale up hydrogen production, but not necessarily "green" hydrogen production. Currently, 95 percent of hydrogen produced in the United States is made from fossil gas ("grey" hydrogen), emitting substantial climate and air pollution. Fossil fuel companies have expressed interest in hydrogen, marketing the benefits of green hydrogen, but explicitly advocate for all forms of hydrogen production. For instance, their claims of being able to repurpose gas pipeline infrastructure for hydrogen obfuscate the fact that hydrogen is incompatible with current infrastructure and can only be transported as a blend with fossil gas, and only in a relatively small proportion. Promoting hydrogen has become a tool of fossil fuel companies to both prolong the production of fossil gas and the need for fossil gas infrastructure. Until this changes, and clear signs point to clean electrolytic hydrogen being promoted for commercial scale production, hydrogen is a false solution that best serves fossil fuel interests.

III. THE COUNTY SHOULD SET CLEAR AND MORE AMBITIOUS BENCHMARKS FOR BUILDING ELECTRIFICATION.

Natural gas use in buildings is a primary driver of GHG emissions in the unincorporated areas of the County. (Plan at ES-2; Aas 2020). Consequently, the County identifies building electrification as a necessary "core measure" to achieve its 2030 and 2035 greenhouse gas reduction targets. (Plan at 3-4, 3-5). While its goals are lofty, the Plan fails to set ambitious targets or identify the resources necessary to achieve rapid electrification. Absent such benchmarks, the Plan risks locking-in carbon intensive options for several decades.

The Plan envisions that all buildings will be zero net energy (ZNE) by 2045.[4] Yet its own benchmarks get the County nowhere close to that goal. The Plan proposes requiring all new residential buildings to be ZNE by 2025 and all new nonresidential to be ZNE by 2030. (Plan at 3-38). Given the urgency of the climate crisis and the long lifespan of buildings, there is no justification to wait any longer to require new construction to be ZNE, no less the additional decade proposed for nonresidential construction. Fifty-two cities and counties throughout the state — such as the City of Los Angeles, Berkeley, San Francisco, San Jose and Oakland — have already taken these clear-cut steps to prohibit natural gas infrastructure and make electric appliances standard, thereby demonstrating the feasibility of such action. (Rachal 2021). If building electrification is delayed any further, the County will miss the lower-cost opportunities for all-electric new construction, and instead further entrench itself in the cost of expensive early retirement of equipment—a hole it already is trying to dig itself out of through investment in electrifying existing building stock. Requiring ZNE for new construction is available low-hanging fruit. Without embracing such obvious measures, the County risks missing its climate goals altogether.

For one, the County's goal hardly aligns with its most recent actions on building electrification. Earlier this year, on March 15, 2022, the County Board of Supervisors unanimously moved to instruct the Director of Public Works to assess feasibility of ZNE and make recommendations for an ordinance or building code to phase out the use of natural gas equipment and appliances in all new residential and commercial construction, where feasible, starting in 2023. (Los Angeles Board of Supervisors 2022). At minimum, the Plan should align with these timelines that the County has already established.

The Proposed Plan must also speed up its timeline to transform existing building stock. Most of the buildings that will be standing in 2050 have already been built. (IPCC 2014). Consistent with statewide goals on ZNE buildings (CPUC 2022), the Draft EIR and Plan should include plans, incentives, and programs to retrofit at least 50 percent of commercial buildings to ZNE by 2030. The Plan notes the extensive investment needed to electrify existing buildings but appears to lack identified funding sources to carry out electrification. The Final EIR and Plan should include evidence describing how the County will include sufficient funding and staff to carry out the programs and mitigation strategies identified. (*See*, *e.g.*, *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1116-1118 [EIR invalid because agency offered no evidence that measures for reducing impacts would actually be effective]). Alternatively, if the County lacks funding sources to reach its goals, then the County must electrify where it can and require all new construction to be ZNE on a more accelerated timeline.

In short, the County must take a long-term view of its climate goals and evaluate the role of natural gas infrastructure in that future. A recent CEC report found that, under all the long-term GHG reduction scenarios, electrification of buildings "leads to lower energy bills for customers over the long term than the use of renewable natural gas." (Aas 2020). Further, because the cost of decarbonizing natural gas with renewable natural gas is more expensive than electrification, building electrification now lowers the total societal cost of meeting California's climate goals. (*Ibid*.)

[4] A ZNE building is defined as one that is energy-efficient and consumes energy less than or equal to the on-site renewable generated energy. (DEIR at ES-50).

IV. THE PLAN MUST LOOK BEYOND TREES AND AGRICULTURAL TO MEET CARBON SEQUESTRATION GOALS.

The Center is encouraged to see the Plan includes strategies to conserve forests and working lands (Strategy 9) and sequester carbon and implement sustainable agriculture (Strategy 10). However, the "focus on conservation and restoration of existing forest lands and urban forests to sequester carbon and support local ecosystems" (Plan at 3-49) ignores a vital opportunity to conserve valuable carbon-sequestering, biodiversity-supporting, climate change-resilient non-forest habitats like shrublands, grasslands, deserts, and wetlands while overvaluing agricultural practices. A broader, more comprehensive approach to combatting climate change that expands focused conservation action to non-forest habitats would demonstrate the County is truly "committed to adapting its programs and services to reduce the unincorporated County areas' greenhouse gas (GHG) emissions and help limit global temperature increases." (Plan at ES-1).

The goals of the carbon sequestration strategies, measures, and implementing actions must be bolder and prioritize the conservation and management of existing intact, connected habitats. To better reflect the priorities and more ambitious goals required to effectively implement native-based solutions to reduce carbon emissions, store more carbon, and combat climate change, the following revisions are recommended:

Sector: Wildlands Conservation and Restoration, Agriculture, ~~Forestry~~, and Other Land Use (A)

Strategy 9: Conserve ~~Forests~~ and Restore Intact, Connected Wildlands and Working Lands

Measure A1: Conserve and Restore Forests, Woodlands, Shrublands, Grasslands, Desert, and other Carbon-Sequestering Wildlands ~~Agricultural~~ and Working Lands~~, Forest Lands, and Wildlands~~

Implementing Action A1.1: Develop an open space conservation and land acquisition strategy that prioritizes wildlife connectivity to conserve and restore native habitats ~~lands~~ for carbon sequestration.

A. Non-forest habitats are important for carbon storage, sequestration, and other co-benefits like biodiversity support and climate change resilience.

Scientists point to nature as an effective and efficient tool to help limit warming by keeping carbon sequestered and removing carbon from the atmosphere. (Fargione et al. 2018; Yang et al. 2019). Efforts to sequester carbon have largely been focused on protecting and planting more trees because forests store the largest percentage of carbon compared to other terrestrial ecosystems. (Ahlström et al. 2015). However, the scale of the impacts of climate change requires more thoughtful and ambitious actions beyond trees that 1) account for carbon emissions when non-forest habitats are destroyed and 2) proactively preserve and restore non-forest carbon-sequestering habitats, including but not limited to shrublands, grasslands, and deserts, to complement forest and tree protections.

California's shrubland, grassland, and desert ecosystems are undervalued despite being significant carbon sinks. (Bohlman et al. 2018; Dass et al. 2018; Janzen 2004; Luo et al. 2007; Wohlfahrt et al. 2008). With much of the stored carbon located in their roots and soils, there is potential for long-term storage that could be resilient to changing environmental conditions. (Aranjuelo et al. 2011; Booker et al. 2013; Evans et al. 2014; Vicente-Serrano et al. 2013; White et al. 2000). These habitats have evolved with warm, dry, water- and nutrient-limited environments, which may make them more adaptable and resilient to climate change compared to tropical and temperate forests. (Luo et al. 2007; Rao et al. 2011; Thomey et al. 2014; Vicente-Serrano et al. 2013). Yet shrublands, grasslands, and deserts are often excluded from carbon calculations and neglected as important carbon sinks and biodiversity hotspots.

With climate change progressing and biodiversity losses continuing, targeting forest and non-forest habitats to capture carbon and protect biodiversity is an elegant and effective strategy to achieve desperately needed gains in both areas. The County has a key forward-looking opportunity here to enact climate policy to protect such habitats. (Maxwell et al. 2020; Dinerstein et al. 2020; Soto-Navarro et al. 2020).

1. Trees and forests

The capacity of trees and forests to sequester carbon is waning, and they are not immune to the impacts of climate change. (Cabon et al. 2022; Green & Keenan 2022). In fact, climate change is already affecting the ability of forests and trees to store carbon. Higher temperatures and increased drought are killing trees (C. D. Allen et al. 2010, 2015; Anderegg et al. 2015; Diffenbaugh et al. 2015; McDowell & Allen 2015; Stevens-Rumann et al. 2018; Sullivan et al. 2020), and scientists predicted that U.S. forests will be increasingly vulnerable to fire-, drought-, and insect-driven mortalities as climate change intensifies. (Anderegg et al. 2022).

In addition, there is evidence in high elevation forests that increased atmospheric carbon is leading to shorter carbon residence time, with trees growing faster and dying more quickly. (Büntgen et al. 2019). Elevated atmospheric carbon is also leading to reduced carbon sequestration in European forest soils, likely due to increased microbial respiration. (Heath et al. 2005). This perpetuates a dangerous feedback loop with more carbon in the atmosphere driving hotter and drier conditions that lead to more carbon release. There is some leeway for tropical forests to offset some impacts of climate change; however, their carbon storage capability could rapidly deteriorate if global surface temperatures increase by more than 2ºC of pre-industrial levels (Sullivan et al. 2020).

Land-use planners must urgently look to additional measures that reduce emissions and store carbon to supplement the capacity of trees and forests and increase our chances of effectively combatting climate change. For example, habitats in semi-arid and arid regions, such as shrublands and deserts, have been found to store significant amounts of carbon while being more resilient to drought and increased atmospheric carbon. (Aranjuelo et al. 2011; Evans et al. 2014; Luo et al. 2007). Notably, these habitats support high levels of biodiversity and endemism. They could play a significant role in in combatting climate change and bringing the state closer to its commitment to conserve at least 30 percent of its lands and coastal waters by 2030 under Executive Order N-82-20.

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2. Shrublands

Shrublands in Mediterranean climates, such as vegetation communities dominated by chaparral and coastal sage scrub, have been found to store a significant amount of carbon in their aboveground biomass under normal weather conditions. (Bohlman et al. 2018; Fusco et al. 2019; Gratani et al. 2013; Luo et al. 2007). In a review conducted by Bohlman et al. (2018), above-ground biomass of shrub communities was found to be as high as 3461 g/m^2, with the amount of carbon stored increasing with the age of the stand. Although below-ground biomass is rarely measured or calculated, some shrubland species have been found to have 41 to 47 percent of their biomass below the surface (Bohlman et al. 2018), and chaparral roots have been found four meters (>13 feet) deep in weathered bedrock. (Sternberg et al. 1996).

This suggests that a substantial amount of carbon may be stored belowground in these habitats, not just in their roots, but also in the microbial communities and mycorrhizal fungi that work in concert with root systems to trap carbon in biomass and soil pores and suppress decomposition of humic substances. (Kravchenko et al. 2019; Soudzilovskaia et al. 2019). Intact shrublands with more diverse plant communities have been found to stimulate the formation of soil pores that support optimal microbial functioning and carbon accrual. (Kravchenko et al. 2019). And increased root surface area supports more mycorrhizae that aid in nutrient uptake and facilitate carbon flow and soil carbon accumulation. (Finlay 2008; Orwin et al. 2011; Soudzilovskaia et al. 2019). In addition, semi-arid shrublands have been found to drive the trend and interannual variation of the global carbon cycle. (Ahlström et al. 2015; Poulter et al. 2014). Thus, shrublands should be recognized for their carbon storage potential and included in carbon calculations.

Unlike forests and trees in tropical and temperate regions, Mediterranean shrublands and desert ecosystems are adapted to hot and dry weather conditions and have been found to be resilient to drought. (Luo et al. 2007; Vicente-Serrano et al. 2013). However, during drought the carbon sequestration capacity of Mediterranean shrublands has been observed to decrease. (Gratani et al. 2013) and can even become a carbon source (Luo et al. 2007). Interestingly, elevated atmospheric carbon dioxide levels have been shown to enhance photosynthesis and above-ground production and increase below-ground carbon pools in chaparral and desert ecosystems by stimulating root and mycorrhizal growth. (Evans et al. 2014; Lipson et al. 2005; Thomey et al. 2014; Treseder et al. 2003). However, above-ground gains were only observed in years with above-average rainfall; it is possible that gains in carbon storage could be offset by increased decomposition activity and/or respiration by soil microbes and mycorrhizae during warmer and drier conditions. (León-Sánchez et al. 2018; Lipson et al. 2005; Thomey et al. 2014). Although future impacts of climate change are uncertain, the carbon storage capacity and potential resilience to climate change of shrublands and desert ecosystems demand attention.

The removal and degradation of shrubland ecosystems have been found to result in the loss of both above- and below-ground carbon storage (*e.g.*, Austreng 2012). Given the potential of California shrublands to store a significant amount of carbon, their extensive distribution, and their potential resilience to changing environmental conditions, these ecosystems warrant more consideration and protections in the fight against climate change.

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3. Grasslands

Grasslands cover about 10 percent of California's land area. (Eviner 2016). Although they are mostly dominated by non-native plant species, they continue to be biodiversity hotspots that support almost 90 percent of state-listed rare and endangered species and 75 federally listed plants and animals. (Eviner 2016). Their above-ground biomass may not be as impressive as forests or shrublands, but there is significant potential for carbon storage in their roots and soils (Germino et al. 2019; Kravchenko et al. 2019; Silver et al. 2010; Soudzilovskaia et al. 2019; Yang et al. 2019). Although it depends on the species and ecological region, native grasslands have been found to have 75-93 percent of their biomass below-ground. (Paruelo et al. 2010; Yang et al. 2019). Studies have found that native grasses store more carbon than non-native grasses. (Koteen et al. 2011; Yang et al. 2019), and grasslands with higher plant diversity facilitate greater soil carbon storage. (Chen et al. 2018; Fornara & Tilman 2008; Isbell et al. 2011; Kravchenko et al. 2019; Lange et al. 2015; Yang et al. 2019; Zavaleta et al. 2010) and are likely more resilient to climate change. (Craine et al. 2013; Dass et al. 2018; Vicente-Serrano et al. 2013).

Like California shrublands, grasslands in semi-arid regions have an adaptive capacity to drought and wildfire. Multiple studies suggest that diverse grasslands can adjust to increased drought. (Craine et al. 2013; Dass et al. 2018; Vicente-Serrano et al. 2013), perhaps through the local expansion of drought-tolerant species. (Craine et al. 2013). When fires burn through California grasslands, the grasslands release less carbon than woody habitats because most of the carbon they store is underground, and they recover relatively quickly. (Dass et al. 2018; Donovan et al. 2020). In fact, one study found that California grasslands may be a more reliable carbon sink than trees and forests in the face of climate change, particularly if global warming exceeds 1.7ºC above pre-industrial levels. (Dass et al. 2018). Evidence suggests that forest resilience to drought and wildfires is already declining under climate change, which further highlights the urgency of preserving and restoring remaining intact native grasslands and their biodiversity in addition to protecting forests and trees to improve our chances of limiting warming to 1.5ºC and avoiding the most devastating impacts of climate change.

4. Deserts

Deserts, which can be dominated by shrubs like creosote bush but can also include forbs, trees, grasses, and dunes, have been found to be a substantial carbon sink. (Janzen 2004; Meyer 2012; Mi et al. 2008; Thomey et al. 2014; Y. Wang et al. 2010; Zamanian et al. 2016). Although aboveground productivity is relatively low, the majority of carbon is stored underground in soil organic carbon as extensive root networks, soil microbial communities, and mycorrhizae (Figure 2) as well as in soil inorganic carbon which can be stored as caliche (M. F. Allen & McHughen, 2011) but also deep soil organic carbon. (CCB 2022). Caliche is calcium carbonate ($CaCO_3$) that is formed when rainwater, soil carbon dioxide from soil and root microbes, and calcium react, and its stability depends on the vegetation present. Deep soil organic carbon is generally stored at depths from 30 centimeters to 1 meter where mineral interactions primarily determine the stability of stored carbon. (Jackson et al. 2017). No soil databases have data on carbon sequestration capacity of soils below 2 meters. (Jackson et al. 2017).

Although often overlooked, soil inorganic carbon in arid and semi-arid regions is estimated to sequester 800-1700 Pg of carbon globally, which is four to 8.5 times higher than the estimated 199 Pg of carbon in global soil organic carbon in these systems. (Thomey et al., 2014). Large stocks of soil inorganic carbon are mostly found in regions with low water availability (*i.e.*, areas with mean annual precipitation < 250 mm). (Zamanian et al., 2016), with deserts having the greatest densities of soil inorganic carbon compared to other ecosystems. (Mi et al., 2008; Y. Wang et al., 2010). Soil inorganic carbon and deep soil organic carbon are very stable forms of stored carbon, and they dominate the carbon sink in deserts. (Meyer, 2012; Thomey et al., 2014). This highlights the untapped carbon sequestration potential of California's deserts and the need to protect these landscapes from development and degradation.

B. The Plan's conservation forward language is not backed up by its implementing actions

The Plan mentions a 2045 vision is to "achieve a net gain in carbon storage in the County's wildlands and working lands through management and restoration" and acknowledges that "[f]orests, chaparral shrublands, and wetlands serve as carbon sinks that can sequester carbon dioxide" and "[w]hen these natural and working lands are converted to residential and other urbanized uses, that stored carbon dioxide is released into the atmosphere." (Plan at 3-50). Yet according to the Plan's performance objectives and tracking metrics for implementing action A1.1 to "[d]evelop an open space conservation and land acquisition strategy to conserve lands for carbon sequestration" (Plan at 3-51), the Plan only looks to conserving and restoring natural forest land. (Appendix E at E-16). Not only are non-forest habitats excluded from the Plan, but other important factors that enhance carbon storage and carbon sequestration potential, like prioritizing habitat connectivity and strategically restoring degraded habitats and fallowed agriculture lands, are omitted. The Plan needs to be amended to include the conservation and restoration of other habitats, including but not limited to shrublands, grasslands, wetlands, and deserts, with connectivity as an explicit priority.

When implementing habitat conservation for ecosystem service purposes like carbon sequestration and storage, it is important to take into account that optimal ecosystem services are the result of the functional integrity of healthy ecosystems. There is overwhelming evidence that edge effects from human disturbance like roads and development (including agriculture) impact plants and wildlife and degrade ecosystems. (see Yap et al., 2021a). Negative effects of human disturbance influence important ecosystem dynamics like food webs, nutrient cycling, pollination, and community structure, which, in turn, can disrupt carbon sequestration and storage. (Sobral et al. 2017; Watson et al. 2018). Therefore, prioritizing the preservation of contiguous heterogeneous habitats will benefit biodiversity, which will help improve chances of maintaining ecosystem health and carbon sequestration and storage capacity. The Plan should incorporate connectivity to optimize carbon storage sequestration.

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V. THE PLAN SHOULD PRIORITIZE AVOIDING DEVELOPMENT IN HIGH FIRE-PRONE AREAS AND USE SCIENCE-BASED ACTIONS TO REDUCE WILDFIRE RISK AND PROTECT CARBON-STORING HABITATS.

Wildfires due to lightning strikes and Indigenous cultural burning have occurred on California's landscapes for millennia. They are a natural and necessary process for many of California's ecosystems. But some of the recent fires have been exceptionally harmful to human communities and ecosystems. In the past 200 years since European colonization, forced relocation and cultural genocide of Native Tribes, fire suppression and poor land management, and poor land-use planning has shifted historical fire regimes throughout the heterogeneous ecosystems of the state. In addition, hotter, drier, and more extreme weather conditions due to climate change make the landscape more conducive to wildfire ignitions and spread. Almost all (95-97 percent) contemporary wildfires have been caused by humans and/or human infrastructure (Balch et al. 2017). Therefore, careful and comprehensive analyses of the area's fire history, the various ecosystems' fire ecology, and potential mitigation measures and management strategies to reduce risk of ignition and fire within the County is required. Reliance on a vegetation management plan that bulldozes sensitive ecosystems that could destroy valuable carbon-sequestering, biodiversity-supporting habitat while actually increasing wildfire risk is not only irresponsible, it is negligent. If the County is serious about reducing wildfire risk and protecting carbon-storing habitats, the Plan must include science-based actions and management.

Here are recommended revisions for Implementing Action A1.2:

Limit development in high fire-prone areas and ~~E~~employ ecosystem-appropriate vegetation management of wildlands to reduce unintended human ignitions and wildfire risk ~~and prevent carbon loss in forest lands~~.

A. The Plan must address the role of poorly planned development to reduce wildfire risk.

The Plan fails to acknowledge and discuss that development and human infrastructure in high fire-prone areas increases the risk of igniting wildfires. As detailed in a 2021 Center Report (Yap et al. 2021b), development in highly fire-prone areas increases unintentional ignitions, places more people at risk (within and downwind of the Project area), and destroys native shrubland habitats that support high levels of biodiversity. Almost all contemporary wildfires in California (95-97 percent) are caused by humans in the wildland urban interface. (Balch et al. 2017; Radeloff et al. 2018; Syphard et al. 2007; Syphard & Keeley 2020). For example, the 2019 Kincade Fire, 2018 Camp and Woolsey fires, and 2017 Tubbs and Thomas fires were sparked by powerlines or electrical equipment. And although many of the 2020 fires were sparked by a lightning storm, the Apple Fire was caused by sparks from a vehicle, the El Dorado Fire was caused by pyrotechnics at a gender-reveal celebration, the Blue Ridge Fire was likely caused by a house fire, and electrical equipment is suspected to have ignited the Silverado and Zogg fires.

Recent wildfires have been exceptionally harmful to people. Between 2015 and 2020, almost 200 people in the state were killed in wildfires, more than 50,000 structures burned, hundreds of thousands of people had to evacuate their homes and endure power outages, and

millions were exposed to unhealthy levels of smoke and air pollution. Human-caused wildfires at the urban wildland interface that burn through developments are becoming more common with housing and human infrastructure extending into fire-prone habitats, and homes and structures can add fuel to fires and increase spread. (Knapp et al., 2021). This is increasing the frequency and toxicity of emissions near communities in and downwind of the fires. Buildings and structures often contain plastic materials, metals, and various stored chemicals that release toxic chemicals when burned, such as pesticides, solvents, paints, and cleaning solutions. (Weinhold, 2011). This has been shown with the 2018 Camp Fire that burned 19,000 structures; the smoke caused dangerously high levels of air pollution in the Sacramento Valley and Bay Area and CARB found that high levels of heavy metals like lead and zinc traveled more than 150 miles. (CARB, 2021).

In addition, there are significant economic impacts of wildfires on residents throughout the state. One study estimated that wildfire damages from California wildfires in 2018 cost $148.5 billion in capital losses, health costs related to air pollution exposure, and indirect losses due to broader economic disruption cascading along with regional and national supply chains (D. Wang et al., 2021). Meanwhile the cost of fire suppression and damages in areas managed by the California Department of Forestry and Fire (Cal Fire) has skyrocketed to more than $23 billion during the 2015-2018 fire seasons.

New infrastructure in high fire-prone areas should be avoided. If unavoidable, mitigation measures should require structures to have ember-resistant vents, fire-resistant roofs, and irrigated defensible space immediately adjacent to structures. External sprinklers with an independent water source could reduce structures' flammability. Rooftop solar and clean energy microgrids could reduce fire risk from utilities' infrastructure during extreme weather. Transmission lines could be placed underground. In addition, education awareness for construction workers and operations/management employees should be provided and include how to reduce ignition risk. For example, smoking should be prohibited in the Project area, vehicles and electrical equipment that could create sparks need to be properly maintained, defensible space immediately adjacent to structures need to be maintained, etc.

B. The Plan must use the best available science to implement ecosystem-appropriate wildfire management strategies.

The Plan proposes a vegetation management plan to reduce wildfire risk and carbon loss from wildfire without providing sufficient detail regarding what such a plan would entail. "Vegetation management" often includes mechanical removal via logging of trees and/or bulldozing through shrubland, which can have devastating impacts on ecosystems and actually release more carbon than wildfires do. According to Appendix E, the County plans to manage 50,000 acres of wildlands by 2045 for "wildfire risk reduction and carbon stock savings" (Appendix E at E-18), but it is unclear what the management would entail and if wildfire management would include ecosystem-appropriate measures based on the best available science. It would be deeply concerning if the goal of the Plan is to thin and/or remove 50,000 acres of wildlands purportedly to reduce wildfire risk. In addition, monitoring and reporting of wildfire management activities should be required.

Scientific studies showing that carbon emissions in California, and across the U.S., from tree harvest and thinning are much higher than the emissions from wildfire, bark beetles, or drought. Berner et al. (2017) reported that logging was the largest cause of tree mortality in California forests between 2003 and 2012, followed by wildfire and then bark beetles. Furthermore, Harris et al. (2016) reported that between 2006 and 2010 logging was responsible for 60 percent of the carbon losses from California's forests, compared to 32 percent from wildfire. This is because wildfire consumes only a minor percentage of forest carbon while improving availability of key nutrients and stimulating rapid forest regeneration. When trees die from drought and native bark beetles, no carbon is consumed or emitted initially, and carbon emissions from decay are small and slow; meanwhile, decaying wood keeps forest soils productive and enhances carbon sequestration capacity over time. In contrast, logging and thinning results in a large net loss of forest carbon storage, and a substantial overall increase in carbon emissions that can take decades, if not a century, to recapture with regrowth. (Campbell et al. 2012; Holtsmark 2013; Hudiburg et al. 2011; Mitchell et al. 2012; Searchinger et al. 2009).

In addition, some studies indicate that forest thinning can increase fire severity by opening up the canopy, creating hotter and drier conditions and introducing invasive fire-prone grasses. For example, a study in southwestern Oregon forests by Zald and Dunn (2018) found that private industrial forests subjected to intensive harvest experienced higher wildfire severity than more intact forests with a greater proportion of older forest areas. The study suggested that "intensive plantation forestry characterized by young forests and spatially homogenized fuels, rather than pre-fire biomass, were significant drivers of wildfire severity." Similarly, Bradley et al. (2016) found that, across the western U.S., pine and mixed conifer forests with the lowest levels of protection from logging tend to burn more severely, while forests with the most protection from logging burned least severely even though they are generally identified as having the highest overall levels of biomass and fuel loading. (Bradley et al. 2016).

Similarly, the mechanical removal of shrubland habitat would destroy important habitat while perpetuating a negative feedback loop of more wildfire. Chaparral and coastal sage scrub are native California habitats that are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes. (Keeley & Fotheringham, 2001). However, if these regimes are disrupted, the habitats become degraded. (Keeley 2005, 2006; Syphard et al. 2018). When fires or other types of disturbances (*i.e.*, land-clearing) occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time. (Keeley 2005, 2006; Safford & Van de Water 2014; Syphard et al. 2009, 2018). Conversely, studies have shown that conservation purchases in areas designated as high fire hazard in Southern California, where chaparral and coastal sage scrub are most vulnerable to development, has led to biodiversity conservation and reduced wildfire risk. (Butsic et al. 2017; Syphard et al. 2016). Thus, the Plan must consider the impacts due to treatment activities on native shrublands when strategizing how to reduce wildfire risk.

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C. The County needs to make a concerted effort to incorporate traditional ecological knowledge into their wildfire management and climate change strategies.

Ramos (2022) states, "Indigenous communities have often been marginalized in the sciences through research approaches that are not inclusive of their cultures and histories." Traditional ecological knowledge (TEK) is often excluded from analyses or distilled to conform to Western science. (Ramos 2022). Here, the Plan fails to acknowledge that Indigenous communities and cultural burning played a role in California's historical fire activity. In fact, there is no mention at all of cultural burning or prescribed fire. This perpetuates the exclusion and marginalization of Indigenous communities and TEK. Consultation with local Native Tribes, and incorporation of Indigenous science, including but not limited to oral histories, ethnographies (that may include burn scars and charcoal records), and archeological data should be incorporated in fire history analysis and subsequent management. As a society, we need to work towards integrative research that "transcends disciplinary boundaries" and employs a range of methodological options to get a deeper understanding of the relationship between people and ecosystems. (Ramos 2022). Doing so will help inform fire management strategies and mitigation measures that work towards reducing harms of wildfire to people while facilitating beneficial fire for the appropriate ecosystems.

Indigenous communities should be more included in climate change and wildfire discourse. Native Americans were found to be six times more likely than other groups to live in high fire-prone areas, and high vulnerability due to socioeconomic barriers makes it more difficult for these communities to recover after a large wildfire. (Davies et al., 2018). In addition, farmworkers, who are majority people of color and often include migrant workers that come from Indigenous communities, often have less access to healthcare due to immigration or economic status. They are more vulnerable to the health impacts of poor air quality due to increased exposure to air pollution as they work. Yet farmworkers often have to continue working while fires burn, and smoke fills the air, or risk not getting paid. (Herrera 2018; Kardas-Nelson et al. 2020; Parshley 2018). Tribes should be included in the development and implementation of wildfire management plans.

VI. THE PLAN SHOULD FOCUS ON EMISSIONS REDUCTIONS AND NATURE-BASED CARBON SEQUESTRATION RATHER THAN RELY ON CARBON CAPTURE TO COVER RESIDUAL EMISSIONS.

The Plan and DEIR state that the plan relies on carbon removal and carbon capture and sequestration (CCS) technologies to address residual emissions. (Plan at 3-9; DEIR at 4-4). Instead of falling back on these unproven technologies and on market-based mechanisms, the Plan should set more ambitious targets for emissions reductions and protecting and enhancing natural and working lands, habitats, and ecosystems, as described above. Indeed, in its Special Report on Global Warming, the IPCC-modeled pathway with the best chance of keeping warming at or below 1.5°C makes no use of fossil fuels with carbon capture or BECCS and proposes limited to no use of engineered carbon removal technologies. (CIEL 2021). Instead, this pathway requires a rapid phaseout of fossil fuels along with *limited* carbon dioxide removal by natural sources such as reforestation and enhanced soil remediation.

Furthermore, CCS carries significant environmental impacts—and may not result in greenhouse gas emissions reductions—that must be analyzed in the program EIR for the Plan. As

the Institute for Energy Economics and Financial Analysis notes, the energy required to capture, transport, and inject carbon underground "materially reduces its net benefit." (Butler 2020, p. 4). For example, coal-fired power plants with carbon capture have an energy penalty of 25 percent or more, with the efficiency penalty as high as 15 percent. (Climate Action Network Int'l 2021, p. 9). These "penalties" mean more fuel must be burned to produce the same amount of power, which means higher energy costs, greater emissions of non-CO_2 air pollutants, and increased demand on the grid. (*Ibid.)* Moreover, in the United States, more than 95 percent of all CCS capacity deployed has been used for EOR, meaning "CO_2 waste products from a fossil fuel-burning activity are used to generate more fossil fuels." (CIEL 2021, p. 8). The climate rationale for CCS evaporates if captured carbon is used to pump more oil. And any CO_2 that is stored underground risks leakage back to the atmosphere, based on the long track record of fossil fuel industry leaks and spills.[5]

CCS projects also can harm people because of the emission of harmful air pollutants such as fine particulate matter, ammonia, and hazardous volatile organic compounds. (Kubota 2019; Jacobson 2019). Further, toxic chemicals like lye and ammonia are used to "capture" carbon. (CRS 2021, pp. 4-5). Megatons of these dangerous chemicals must be produced, transported, and handled to operate carbon capture at scale, and will eventually be disposed of, putting communities at risk. And because CCS enables the underlying emissions-generating activity (such as fossil fuel power generation) to continue, upstream and downstream impacts from activities such as fossil fuel extraction, refining, transport, use, and disposal will continue to harm people's health, particularly in overburdened communities. (CIEL 2021, p. 7).

A recent report by the Pipeline Safety Trust calls out CO2 pipelines as "dangerous and underregulated." (Kuprewicz 2022). This analysis applies not only to federal pipeline regulations but also those within California. In the state, the Office of the State Fire Marshall regulates intrastate hazardous liquid pipelines, whereas the California Public Utilities Commission regulates intrastate gas pipelines. (Gov. Code, § 51010; Pub. Util. Code, § 955). But as the Pipeline Safety Trust points out, CO_2 for CCS can be in liquid, gas, or supercritical form. CO_2 in a supercritical state can be categorized as either a liquid or gas and is not currently codified under either statutory or regulatory scheme. This is a problem because, as the Pipeline Safety Trust explains:

> Carbon dioxide has different physical properties from products typically moved in hazardous hydrocarbon liquid or natural gas transmission pipelines. Those differences pose unique safety hazards and greatly increase the possible affected area or potential impact radius upon a pipeline release that

[5] The myth of permanent carbon sequestration is echoed in regulations that merely kick the climate problem down the road and onto future generations. Under the Environmental Protection Agency's regulations for Class VI injection wells for CO_2, for example, a permit applicant need only show that they can store CO_2 for 50 years to qualify for subsidies. (40 C.F.R. § 146.93.) California's Low Carbon Fuel Standards does not fare much better, requiring only 100 years of storage. (CARB, Accounting and Permanence Protocol for Carbon Capture and Geologic Sequestration under Low Carbon Fuel Standard (2018), https://ww2.arb.ca.gov/sites/default/files/2020-03/CCS_Protocol_Under_LCFS_8-13-18_ada.pdf ["'Permanent sequestration' or 'permanence' means the state where sequestered CO2 will remain within the sequestration zone for at least 100 years."].)

would endanger the public. CO_2 pipeline ruptures can impact areas measured in miles, not feet. The way regulations currently consider and mitigate for the risks posed by hydrocarbon pipelines in communities are neither appropriate nor sufficient for CO_2 pipelines. (Kuprewicz 2022).

And since *all* CCS projects require moving compressed CO_2 through pipelines, this is an immediate and alarming concern that should halt any CCS development until it is addressed.

As a result of its minimal, if any, effects on reducing carbon emissions and its potential to harm communities, CCS is not a workable backstop for the Plan. At the very least, the County must fully analyze the impacts of these technologies before perfunctorily including them in its plan to reach carbon neutrality.

VII. THE ALTERNATIVES ANALYSIS IN THE DEIR IS INADEQUATE AND FAILS TO COMPLY WITH CEQA.

CEQA mandates that significant environmental damage be avoided or substantially lessened where feasible. (Pub. Resources Code, § 21002; Guidelines, §§ 15002(a)(3), 15021(a)(2), 15126(d).) An agency is therefore barred from approving a project as proposed if there are feasible alternatives which will avoid or substantially lessen the project's significant environmental effects. (Pub. Resources Code, § 21002). Under CEQA, "the public agency bears the burden of affirmatively demonstrating that, notwithstanding a project's impact on the environment, the agency's approval of the proposed project followed meaningful consideration of alternatives and mitigation measures." (*Mountain Lion Foundation v. Fish & Game Com*. (1997) 16 Cal.4th 105, 134). The DEIR's general statements regarding these topics are insufficient. A rigorous analysis of reasonable alternatives to the Project must be provided to comply with this strict mandate.

While alternatives included in an EIR need only be deemed "potentially feasible," an agency's decision at the end of the process to approve the project and find the alternatives "infeasible" requires a comprehensive comparison of the project with the alternatives. Broad considerations of policy come into play when the agency decides whether to approve the project. If the agency determines that the project will best achieve project objectives after considering relevant economic, environmental, social, technological, legal, and other factors, it may approve the project and find the alternatives "infeasible." Unfortunately, the DEIR's analysis of the alternatives proposed lacks evidence to support its conclusions and is therefore inadequate.

The DEIR analyzes two alternatives, to be implemented in addition to the measures and actions un the Draft 2045 Plan: a Carbon Offset Alternative and a Zero Net Energy Buildings Alternative. (DEIR at 4-10).

For one, the County should have considered an alternative in the DEIR that would phase out oil and gas production more quickly. The Plan notes that the objectives of 40 percent below 2015 levels by 2030, 60 percent by 2035, and 80 percent by 2045 would lead to annual GHG emissions reductions of 28,368 $MTCO_2e$ by 2030, 40,178 $MTCO_2e$ by 2035, and 52,148 $MTCO_2e$ by 2045. The cumulative emission reduction potential of an earlier phase out date is large, dwarfing many of the renewable energy production and transportation measures. The Plan should have analyzed a

2030 oil and gas operation phase out alternative, especially given that the alternative is not remote or speculative, but already in progress.

The County also lacked an adequate basis to reject the ZNE Buildings Alternative. ZNE Buildings Alternative would require, in addition to the implementation of measures in the Draft 2045 Plan, that all new residential and commercial construction in unincorporated areas of the County be ZNE by 2023. In addition, it would require 50 percent of existing residential and commercial buildings to be retrofitted by 2030, among other requirements. (DEIR at ES-51). As the DEIR notes, ZNE buildings produce enough renewable energy to meet their own annual energy consumption requirements, thereby reducing the use of nonrenewable energy—and the accompanying emissions— in the building sector. (DEIR at 4-10). No explanation was given for why, contrary to common sense, requiring all new buildings to be ZNE would nevertheless result in similar GHG emissions and worsen air quality and noise for surrounding communities.

Contrary to the DEIR's conclusions, there is no evidence to suggest that this alternative would result in more severe environmental impacts. The County bafflingly concludes that this alternative could result in "similar" or "greater" greenhouse gas impacts as the 2045 County, even though the very definition of ZNE buildings means that they consume less renewable energy than they produce, whereas tradition buildings require continued natural gas hookups and the accompanying GHG emissions. The County thus has no evidence upon which to conclude that ZNE buildings have similar or greater GHG impacts. It must revise the GHG impact analysis to reflect the GHG emissions benefit of this alternative compared to the project, based on its own admissions that this alterative would "likely reduce Countywide GHG emissions more than the Project." (DEIR at 4-24).

The DEIR also concludes that this alternative would lead to an increase in air quality pollutants and noise due to the "additional construction" for ZNE buildings. (DEIR at 4-19, 4-29). The County provides no evidence – and none appears to exist – showing that ZNE construction is noisier or results in the emissions of additional criteria pollutants. Indeed, building electrification improves outdoor air quality and public health outcomes, particularly in winter, when nitrogen oxide emissions create secondary fine particulate matter (PM 2.5) pollution. (Aas 2020). To the extent that the County believes that the implementation of ZNE building standards would induce additional construction projects beyond the construction projected for the County, there is no evidence to support that assertion, either.

The DEIR therefore provides no evidence, basis, or explanation for impermissibly rejecting this alternative. (*See Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935 ["To facilitate CEQA's informational role, the EIR must contain facts and analysis, not just the agency's bare conclusions or opinions."].) As the County admits, this alternative would meet all the project objectives, result in fewer environmental impacts overall, and would even go further in reducing GHG emissions. (DEIR at 4-12).

If the reason for rejecting this alternative is feasibility, the County acknowledges it has not yet conducted a feasibility analysis to compare the upfront higher costs of ZNE infrastructure with traditional construction. As discussed above, the County Board of Supervisors has already ordered a study of the feasibility of phasing out the use of natural gas equipment and appliances in all new

residential and commercial construction, where feasible, starting in 2023. (Los Angeles Board of Supervisors 2022). The Director of Public Works has 120 days, or until September 11, 2022, to return to the Board with recommendations. Other projects in the County have recently been approved to include a goal of zero net GHGs, which further demonstrates the feasibility of ZNE construction. (See CDFW 2017). The County may want to wait until those recommendations are complete before making a final decision on the viability of this alternative.

Should the County conclude that this alternative is infeasible, the standard for feasibility is high. Whether a project is economically unfeasible "is not measured by increased cost or lost profit, but upon whether the effect of the proposed mitigation is such that the project is rendered impractical." (*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 600, internal citation omitted.) In *Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1180, the Court agreed with the trial court that the administrative record did not contain analysis of the project alternatives in terms of comparative costs, comparative profit or losses, or comparative economic benefit to the project applicant or the community at large. Ultimately, the County must adopt the ZNE alternative unless it can demonstrate with evidence and analysis that this alternative is infeasible.

VIII. CONCLUSION

Thank you for the opportunity to submit comments on the Draft EIR and Plan. We look forward to reviewing the analysis and mitigation strategies in the Final EIR and Plan and proposing suggestions to refine and strengthen them. We also are happy to meet again with County Planning staff to discuss any of the recommendations in this letter. Please do not hesitate to contact the Center with any questions at the email or number listed below.

Sincerely,

Hallie Kutak
Staff Attorney | Senior Conservation Advocate
Center for Biological Diversity
hkutak@biologicaldiversity.org
510-844-7117

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ATTACHMENT A

February 1, 2022

Sent via email

Thuy Hua, Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012
climate@planning.lacounty.gov

Re: Comments on Notice of Preparation of a Program Environmental Impact Report for the Los Angeles County 2045 Climate Action Plan

Dear Department of Regional Planning:

The Center for Biological Diversity ("Center") submits the following comments on the Notice of Preparation ("NOP") of a Program Environmental Impact Report ("PEIR") for the Los Angeles County 2045 Climate Action Plan ("CAP"). The Center submitted comments on an earlier version of the draft CAP on April 30, 2020 (the "April 2020 Letter"), which is attached here as Exhibit 1. We hereby incorporate the comments in the April 2020 Letter by reference and request that the issues raised in that letter be considered in preparing the Draft EIR and revised CAP. We appreciate that the upcoming draft of the CAP will include "more clear, specific, feasible, and quantifiable" greenhouse gas ("GHG") reduction strategies, as we requested in the April 2020 Letter.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County ("County").

I. The Draft PEIR and CAP Should Explain How It is Consistent with Statewide Goals.

CEQA Guidelines section 15183.5(b)(1)(D) require that a climate action plan demonstrate that it will achieve planned reductions on a project by project basis. In *Cleveland National Forest Foundation v. San Diego Association of Governments*, the California Supreme Court provided more clarity on what facts, data, and goals projects should analyze in their greenhouse gas analyses under CEQA. ((2017) 3 Cal.5th 497.) The Court found that although an "Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a threshold of significance[,]' … [t]he Executive Order's 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate. This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id.* at 515-516.) Therefore, the Draft CAP should include further discussion on measures that could ensure the County meets statewide goals, including in the Scoping Plan published by California Air Resources Board ("CARB") and in executive orders on GHGs.

II. The Draft PEIR and CAP Should Include Binding and Enforceable Measures.

We appreciate that the County intends that the Draft PEIR and CAP include "more clear, specific, feasible, and quantifiable" GHG reduction strategies. We look forward to reviewing these strategies in the Draft PEIR and CAP and proposing recommendations to further improve and refine them. As outlined in the Draft CAP, a CAP must "[s]pecify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level...." (Draft CAP at 15.) We again caution that the Draft CAP should not include non-binding language in its mitigation measures (e.g., "encourage," "promote," "support" or "whenever feasible").

The Draft PEIR and CAP should also include evidence describing how they will include sufficient funding and staff to carry out the programs and mitigation strategies included in the Draft PEIR and CAP. (See, e.g., *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1116-1118 [EIR invalid because agency offered no evidence that measures for reducing impacts would actually be effective].)

III. The Draft PEIR and CAP Should Demonstrate How They Are Consistent with the LA County Sustainability Plan.

CEQA requires that EIRs disclose and discuss the project or program's inconsistencies with an applicable regional plan, such as a habitat conservation plan or natural community conservation plan. (CEQA Guidelines § 15125(d); 1 Kostka & Zischke, Practice Under the Cal. Env. Quality Act (2d ed. 2015) § 6.56, p. 6-60.1.) The EIR should thus include a detailed analysis of the CAP's consistency with the LA County Sustainability Plan, including how the CAP meets or exceeds the Goals, Strategies, Targets, and Actions set forth in the Plan.

IV. The Draft PEIR and CAP Should Include Strategies to Substantially Reduce VMT.

As noted in our April 2020 Letter, the CAP and Draft PEIR should include robust strategies to significantly reduce vehicle miles travelled ("VMT") within LA County region and consider measures proposed by CARB including within the Scoping Plan. Such strategies should include limiting new large-scale development in areas that generate disproportionately high levels of VMT, including areas far from existing job centers. Consistent with the policies in the Draft LA County Safety Element, the CAP and Draft PEIR should reiterate that new subdivisions in very high fire hazard severity zones are prohibited and inconsistent with the CAP or the LA County General Plan.

V. The Draft PEIR and CAP Should Include Robust Strategies to Achieve Zero Net Energy for All New Development.

As outlined in the April 2020 Letter, the CAP offers LA County an opportunity become a leader in setting standards on requiring zero net energy ("ZNE") for new (and existing) development. The Draft PEIR and CAP should require zero net energy on all new commercial and residential construction. ZNE is feasible, as other projects in the County have recently been approved include a goal of zero net GHGs.[1] The Draft PEIR and CAP should include a ZNE Program that establishes clear standards for meeting ZNE for various sizes of commercial and residential development, and pair such standards with County programs to dramatically increase ZNE infrastructure including free or low-cost EV chargers throughout the county.

Consistent with statewide goals[2] on ZNE buildings, the Draft PEIR and CAP should include plans, incentives, and programs to retrofit at least 50 percent of commercial buildings to ZNE by 2030. This could include a crediting system to incentivize the retrofitting of existing commercial and residential developments with EV chargers and other ZNE infrastructure.

VI. The Draft PEIR and CAP Should Include Strategies to Increase Energy Resilience.

The Center supports the Draft CAP's goal to shift to a renewables-based electricity supply which ensures equitable access to affordable, local, and reliable energy sources. However, the Draft PEIR and CAP should include far more ambitious strategies to increase energy resilience through the widespread adoption of renewable energy. While the April 2020 Letter cites studies demonstrating the feasibility of distributed energy resources, the even more recent results of National Renewable Energy Laboratory ("NREL")'s Los Angeles 100% Renewable Energy Study ("LA100")[3] further demonstrate that achieving 100 percent reliable renewable energy is feasible in the near-term (e.g., by 2035).

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[1] *See* California Department of Fish and Wildlife, *Newhall Ranch Resource and Development Management and Development Plan, Final Additional Environmental Analysis*, Appendix 2.1, available at http://planning.lacounty.gov/assets/upl/case/tr_53108_appendix-2-0-cdfw-final-aea-excerpts.pdf.

[2] California Public Utilities Commission, *Zero Net Energy*, available at https://www.cpuc.ca.gov/ZNE/.

[3] The full report is available here: https://maps.nrel.gov/la100/report.

The Draft PEIR and CAP should also include a program or ordinance to fund and facilitate photovoltaic energy and storage, including through microgrid development, especially for unincorporated and fire-prone areas.

VII. Conclusion

Thank you for the opportunity to submit comments on the NOP. We look forward to reviewing the analysis and mitigation strategies in the Draft PEIR and CAP and proposing suggestions to refine and strengthen them. We also are happy to meet with County Planning staff to discuss any of the recommendations in this letter or the April 2020 Letter.

Sincerely,

J.P. Rose
Senior Attorney
Center for Biological Diversity
660 S. Figueroa Street, Suite 1000
Los Angeles, California, 90017
jrose@biologicaldiversity.org

Exhibit 1

April 30, 2020

Sent via email

Los Angeles County
Department of Regional Planning
320 West Temple Street
Los Angeles, California 90012
climate@planning.lacounty.gov

Re: Comments on Public Review Draft of Los Angeles County Climate Action Plan

Dear Department of Regional Planning:

The Center for Biological Diversity ("Center") submits the following comments on the Los Angeles County Climate Action Plan Public Review Draft ("Draft CAP"). While the Draft CAP includes some laudable goals, it suffers from a lack of clear and enforceable measures to ensure significant reductions in regional greenhouse gas ("GHG") emissions. Many of our concerns were also reflected in our comments on the Draft Sustainability Plan, which is included as Attachment 1 and incorporated by reference.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over one million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County ("County").

I. Climate Change Is an Urgent and Existential Concern.

Recent science has made clear that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In its 2018 *Special Report on Global Warming of 1.5°C*, the Intergovernmental Panel on Climate Change ("IPCC")—the leading international scientific body for the assessment of climate change—describes the devastating harms that would occur at 2°C warming. The report highlights the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). The report also provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms.

The impacts of climate change are already being felt by humans and wildlife. Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor (USGCRP 2017). In California, climate change will transform our climate, resulting in impacts including, but not limited to, increased temperatures and wildfires and a reduction in snowpack and precipitation levels and water availability.

II. The County Has a Responsibility to Reduce GHG Emissions.

California gives local authorities like the County significant responsibility over land use and planning decisions within their jurisdictions. But with that responsibility comes a corresponding obligation to account for the negative environmental impacts of those decisions—especially when it comes to controlling GHG emissions. As the California Air Resources Board ("CARB") explains:

> Local governments are essential partners in achieving California's goals to reduce GHG emissions. Local governments can implement GHG emissions reduction strategies to address local conditions and issues and can effectively engage citizens at the local level. Local governments also have broad jurisdiction, and sometimes unique authorities, through their community-scale planning and permitting processes, discretionary actions, local codes and ordinances, outreach and education efforts, and municipal operations. Further, local jurisdictions can develop new and innovative approaches to reduce GHG emissions that can then be adopted elsewhere.

(CARB 2017.) California's Scoping Plan, which lays out the statewide blueprint for meeting the legislature's greenhouse gas reduction targets, also specifically calls out local governments as essential to meeting these targets:

> [L]ocal governments and agencies are critical leaders in reducing emissions through actions that reduce demand for electricity, transportation fuels, and natural gas, and improved natural and working lands management. . . . Over the last 60 years, development patterns have led to sprawling suburban neighborhoods, a vast highway system, growth in automobile ownership, and under-prioritization of infrastructure for public transit and active transportation. Local decisions about these policies today can establish a more sustainable built environment for the future.

(CARB 2017.) Thus, the County must take seriously its obligation to do its utmost to ensure that it is reducing GHG emissions and contributing to the state's achievement of its emissions reduction targets.

III. The Draft CAP Fails to Explain How It Will Meet State Goals.

While the Draft CAP acknowledges statewide climate goals (Draft CAP at 6-8 & 36), it does not explain how measures in the Draft CAP will actually meet these statewide climate goals. For instance, statewide targets require GHG emissions to be reduced to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and achieve statewide carbon neutrality by 2045. (Draft CAP at 17 & 36.)

In contrast, the Draft CAP includes a different set of goals: by 2025, reduce GHG emissions by 25 percent below 2015 levels; by 2035, reduce GHG emissions by 50 percent below 2015 levels; and by 2045, achieve carbon neutrality in unincorporated Los Angeles County. (Draft CAP at 8.) The Draft CAP fails to explain how these goals are either consistent or inconsistent with each of the statewide goals.

The Draft CAP therefore does not qualify as a CEQA "streamlining" document. CEQA Guidelines section 15183.5(b)(1)(D) require that a climate action plan demonstrate that it will achieve planned reductions on a project by project basis. In *Cleveland National Forest Foundation v. San Diego Association of Governments*, the California Supreme Court provided more clarity on what facts, data, and goals projects should analyze in their greenhouse gas analyses under CEQA. ((2017) 3 Cal.5th 497.) The Court found that although an "Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a threshold of significance[,]' … [t]he Executive Order's 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate. This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id.* at 515-516.) Therefore, the Draft CAP should include further discussion on measures that could ensure the County meets statewide goals.

IV. The Draft CAP's GHG Emissions Inventory Is Incomplete.

The Draft CAP lists five categories of GHG emissions in its GHG inventory: transportation, stationary energy, waste, industrial processes and product use ("IPPU"), and agriculture, forestry and, other land use ("AFOLU"). (Draft CAP at 30-32.) The CAP should set forth the emissions categories in more detail. A guide prepared by the Bay Area Air Quality Management District ("BAAQMD") recommends, for example, listing the GHG emissions of specific items such as streetlights and traffic signals. (BAAQMD 2009.)

The Draft CAP also does not explain whether "transportation" emissions include emissions outside the County by activity within the County (for example, from exported goods or tourist travel to County from outside the County). This very shortcoming led to a judge invalidating Sonoma County's CAP last year, after the judge determined that it failed to account for all of the County's emissions by excluding transboundary emissions.[1] (Attachment 2.)

[1] The court also held that the CAP's GHG reduction measures were not clearly defined or enforceable, which is also an issue with the Draft CAP here.

V. The Draft CAP's Reduction Strategies and Measures Are Non-Binding And Unenforceable.

The Draft CAP states that if future projects "tier" off of it, then compliance will negate the need for a qualitative analysis of future projects' GHG emissions. (Draft CAP at 15.) The Draft CAP also correctly lays out the legal requirements of a climate action plan. (Draft CAP at 15.) For instance, a CAP must "Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level...." (Draft CAP at 15.) Therefore, the Final CAP, and any such plan prepared pursuant to CEQA Guidelines 15183.5, must meet the requirements for all first-tier environmental review documents and thus must impose enforceable requirements and measures with defined performance standards.[2]

Unfortunately, many of the Draft CAP's reduction measures are largely non-binding and unenforceable, and generally lack performance standards. Notably, the words "encourage," "promote," "support" or "whenever feasible" occur many times in the sections describing the Draft CAP's implementation measures. These measures are legally inadequate and cannot be considered mitigation under CEQA and applicable case law. (*Lincoln Place Tenants Assn. v. City of Los Angeles* (2007) 155 Cal.App.4th 425, 445 ["A 'mitigation measure' is a suggestion or change that would reduce or minimize significant adverse impacts on the environment caused by the project as proposed"]); *Preserve Wild Santee v. City of Santee* (2012) 210 CA 4th 260, 281 [mitigation measures that are so undefined that their effectiveness is impossible to determine are legally inadequate].) The California Attorney General has also expressly disapproved such an approach for measures upon which an agency relies:

> **Can a lead agency rely on policies and measures that simply "encourage" GHG efficiency and emissions reductions?**
>
> No. Mitigation measures must be "fully enforceable." ***Adequate mitigation does not, for example, merely "encourage" or "support" carpools and transit options, green building practices, and development in urban centers***. While a menu of hortatory GHG policies is positive, it does not count as adequate mitigation because there is no certainty that the policies will be implemented.

(CA Attorney General 2009.) The California Attorney General further states that programmatic plans to reduce GHG emissions pursuant to CEQA Guidelines section 15183.5 must "[i]dentify a set of specific, enforceable measures that, collectively, will achieve the emissions targets…." (CA Attorney General 2019.)

In *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, the Fourth District Court of Appeal criticized the County of San Diego for including measures in its CAP that were not backed up by a firm commitment by the County that they would be implemented. The Court noted that many of the measures in the CAP "are not currently funded," such that the County of San Diego could not rely upon such unfunded programs to meet GHG reductions. (*Id.* at 1168-

[2] Specifically, CEQA Guidelines section 15183.5(b)(1)(D) states that measures should have "performance standards" which demonstrate they will achieve the planned reductions on a project by project basis.

1169.) The *Sierra Club* opinion also questioned whether people would actually participate in various programs outlined in the CAP, given that the record contained no evidence of such participation. (*Id*. at 1170.) Here, the Draft CAP suffers from similar defects – there is no evidence of funding for many of the various programs set forth in the Final CAP, nor evidence in the record that people or industry will actually participate in the voluntary programs described in the Draft CAP.

Accordingly, although the Draft CAP's reduction measures may generally be worthwhile objectives for the County to pursue, the Draft CAP fails as a CEQA compliance tool because it relies upon non-enforceable measures. The Draft CAP also does not have adequate mechanisms to monitor progress towards achieving verifiable reduction targets.

VI. Strategy 2 Fails to Include Sufficient Measures to Support Transit Oriented Communities.

The Center generally supports the goals of Strategy 2 to support transit oriented communities. However, the targets are unclear, inadequate, and do not provide a path to actually achieve this goal. For instance, the 2025 target is to (1) "increase new housing built within 1/2 mile of high frequency transit to 50%" and (2) "reduce VMT per capita to 20 miles." This target does not specify what the "50%" is a percent of – does this mean 50% of all new housing units in the County? This needs to be clarified in the Final CAP. In addition, it is unclear whether the County is intending to reduce VMT per capita to 20 miles *per day* or some other amount of time. More importantly, VMT per capita of 20 miles a day is still an extremely high number; the CAP should have more aggressive goals to reduce VMT per capita by 2025. As described in further detail in our comment letter on the Draft Sustainability Plan, significant reductions in VMT are required if the state is to meet its GHG reduction goals. (See Attachment 1 at p. 9-10.)

Unfortunately, the Actions supporting Strategy 2 provide no concrete requirements or criteria, or way to measure success. For instance, Action T1 states "Expand the number and extent of transit oriented communities, by encouraging development within High Quality Transit Areas, while ensuring vital public amenities such as parks and active transportation infrastructure are included." (Draft CAP at 50.) Action T1 fails to contain a clear plan how such development will be "encouraged" such that it is little more than a hortatory statement. Likewise, Action T2 states "Develop community plans that will increase the percentage of residents who could live and work within the same community, and that could decrease the vehicle miles traveled." (*Id.*) This action suffers from the same defects as Action T1. It is also fails to specify any target increase in percentage of residents who live or work in the same community, or elements of such "community plans."

VII. Strategy 3 Fails to Include Sufficient Measures to Reduce VMT.

Strategy 3 aims to reduce single occupancy vehicle ("SOV") vehicle trips. However, the Draft CAP does not contain sufficiently aggressive goals. For instance, the Draft CAP only seeks 15 percent of trips to be non-SOV trips by 2025. (Draft CAP at 51.) As we noted in our comments on the Draft Sustainability Plan (Attachment 1), even if this target is met, in five years 85 percent of trips in the County will still be by car. The Draft CAP should call for much stronger measures to reduce SOV trips and VMT. The best way to do this is to limit development

in areas far from existing cities, as remote developments generate disproportionately high levels of VMT.

The actions within Strategy 3 are similarly inadequate. For instance, Action T5 states "develop a transportation technology strategy to proactively address how evolving tech-enabled mobility options can support public transit and advance OurCounty goals." (Draft Plan at 51.) This is extremely vague and suffers from the defects outlined in Section V above. Similarly, Action T8 generally refers to "expand[ing] shade along and over pedestrian networks through zoning code revisions that encourage shade-providing building features," but provides no enforceable requirements or metrics as to how much "shade expansion" will be required. (Draft CAP at 52.) Also illustrative of this problem is Action T11, which states, "Develop and implement a transportation demand management (TDM) ordinance that requires developers to incorporate measures such as subsidized transit passes and car share." (Draft CAP at 53.) The time and opportunity to develop measures to require of developers for future projects is here in the CAP, if the County wishes to use the CAP as a CEQA streamlining document.

VIII. Strategy 4 Does Not Include A Clear Plan to Institutionalize Low-Carbon Transportation.

The Center supports Strategy 4 – institutionalize low-carbon transportation. (Draft CAP at 44.) However, the related "Targets" are woefully inadequate – the Draft Plan only seeks 500 EV and 200 ZEV charging stations at County-owned or public properties, and contains no targets for the remainder of the County (e.g., private businesses, residential developments). (Draft CAP at 55.) Likewise, the "Actions" provide no actual mandate for developers or landowners to incorporate charging stations into infrastructure.

If the County is serious about institutionalizing low carbon transportation, it needs to do far more than simply add a few hundred EV chargers at public venues. The CAP should instead include aggressive mandates for every new development (commercial and residential) to include an adequate number of EV chargers, as well as a crediting system in order to incentivize the retrofitting of existing commercial and residential developments with EV chargers.

The CAP should also require installation of charging stations at *all* County-owned properties and public venues, as well as in appropriate public right-of-ways.

And as with the other sections of the CAP, the "Actions" are vague, unenforceable, and do not include any performance criteria. For instance, Action T20 states: "Partner with a car or ride-sharing organization to provide access to EVs for low-income and disadvantaged community residents." (Draft CAP at 57.) Action T20 does not provide any guidance as to what "partnering" means, nor does it provide any benchmark for success. How much expanded access to EVs will the County pursue via this measure? By failing to include any actual target or goal to measure success, the Draft CAP dooms this (and many other Actions) to failure.

IX. Strategy 5 Does Not Contain Clear Plan To Accelerate Freight Decarbonization.

The Center supports the goal to accelerate freight decarbonization. Unfortunately, once again, the Draft CAP's Targets and Actions are not sufficient to meaningfully support this goal.

The Draft CAP does not even clear targets for medium-duty delivery trucks – it simply states that 25-50 percent of medium-duty delivery trucks should be electric or zero emission by 2025. (Draft CAP at 58.) This renders it unclear whether the goal is 25 percent or 50 percent. And the Draft CAP simply has no corresponding and more aggressive targets for 2035 and 2045.

Likewise, the Actions are untenably vague. By way of example, Action T25 states: "Implement freight decarbonization technologies along highway corridors passing through unincorporated communities ..." (Draft CAP at 59.) No specifics, enforceable mandates, or performance criteria are used to define this purportedly "Major Action."

X. Strategy 6 Contains No Plan to Implement Zero Emissions Technologies for Off-road Vehicles and Equipment.

The Draft CAP should include concrete plans to implement and eventually require zero emissions technologies off-road vehicles and equipment. Instead, the Action items include non-binding language like: "Partner with SCAQMD and AVAQMD to ***encourage*** the use of zero-emission and near-zero-emission construction, agriculture, and manufacturing equipment." (Draft CAP at 60, emphasis added.) The CAP can, and should, require zero emission or near-zero emission equipment by a specific date.

XI. Strategy 7 Does Not Provide A Plan To Decarbonize Building Energy Use.

The Center supports decarbonizing building energy use, but finds that the Draft CAP squanders an opportunity to establish the County as a leader in this area. The Final CAP should require zero net energy on all new commercial and residential construction. Zero net energy is feasible, as other projects in the County that have recently been approved include a goal of zero net greenhouse gas emissions.[3]

Indeed, the Draft CAP does not even contain goals that are consistent with state-wide goals. The California Energy Efficiency Strategic Plan provides:

> All new residential construction will be zero net energy (ZNE) by 2020.
> All new commercial construction will be ZNE by 2030
> 50% of commercial buildings will be retrofit to ZNE by 2030
> 50% of new major renovations of state buildings will be ZNE by 2025.[4]

In contrast, the Draft CAP only sets a target of 50 percent of all new buildings and major building renovations being "net zero carbon" by 2025 and 100 percent by 2045. (Draft CAP at 63.) The Draft Plan should contain far more aggressive goals that are consistent with climate science; the entire building sector should achieve zero emissions no later than later than 2045,

[3] *See* California Department of Fish and Wildlife, *Newhall Ranch Resource and Development Management and Development Plan, Final Additional Environmental Analysis*, Appendix 2.1, available at http://planning.lacounty.gov/assets/upl/case/tr_53108_appendix-2-0-cdfw-final-aea-excerpts.pdf.
[4] California Public Utilities Commission, *Zero Net Energy*, available at https://www.cpuc.ca.gov/ZNE/.

with interim enforceable benchmarks.[5] Moreover, the Draft CAP also does not explain whether term "net zero carbon" is consistent with the state definition of zero net energy.

Strategy 7's Actions fair no better. For instance, Action SE2 simply states "Establish carbon intensity limits for buildings over 20,000 square feet." (Draft CAP at 64.) This contains no objection performance criteria – at best, it is a promise to develop performance criteria at some unspecified time in the future. As such, it fails as a CEQA mitigation measure. (See discussion in Section V above.)

Action SE4 also vaguely promises to "Adopt building code requirements for electric water and space heating and encourage alternatives to other natural gas uses in new and existing buildings." (Draft CAP at 64.) The CAP needs to actually describe building code requirements or provide performance criteria. And "encouraging alternatives" is not a CEQA mitigation measure. Action SE7 likewise promises collaboration with the City of Los Angeles and Santa Monica to "develop building energy and emissions performance standards," but provides no specifics on what those standards will entail, or what level of emissions reductions they would be expected or required to provide. (Draft CAP at 65.)

Action SE5 states "Adopt CALGreen Tier 1 green building standards and identify which Tier 2 standards could be adopted as code amendments." (Draft CAP at 64.) However, significant portions of the California Green Building Standards are already mandatory. Such that it is unclear whether there is simply a restatement of existing law.[6]

Action SE6 is problematic for other reasons. This Action states, "Incentivize net zero energy residential and commercial buildings through streamlined development reviews." (Draft CAP at 65.) First, as noted above, zero net energy should be *required*, not simply incentivized. Second, the Action does not explain what or how development review will be "streamlined." While a CAP that complies with CEQA can streamline some aspects of development, development review should not be streamlined in a way that overlooks other non-climate impacts of a project, such as impacts on air quality, public health, wildlife, and traffic.

In contrast to the vague and unenforceable Actions in the Draft CAP, there are number of enforceable policies that can be used to reach achieve zero emissions by 2045 for all buildings. The Sierra Club's *Building Electrification Action Plan for Climate Leaders* outlines various proposals, including a zero emission building code, local ordinances restricting gas and requiring all-electric new construction for all building types, GHG performance benchmarking, and air pollution standards for appliances. (See footnote 5.)

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[5] Rachel Golden, *Building Electrification Action Plan for Climate Leaders* https://www.sierraclub.org/sites/www.sierraclub.org/files/Building%20Electrification%20Action%20Plan%20for%20Climate%20Leaders.pdf (Dec. 2019).

[6] See California Building Standards Commission, "California's Green Building Code," available at https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen.

XII. Strategy 9 Does Not Provide A Concrete Plan To Increase Energy Resilience.

The Center supports the Draft CAP's goal to shift to a renewables-based electricity supply which ensures equitable access to affordable, local, and reliable energy sources. (Draft CAP at 69.) The Center urges the County to include more ambitious targets for distributed energy resources ("DER"). The Draft CAP calls for a 200 megawatt increase in DER capacity by 2025 and a 1 gigawatt increase by 2045. The Center urges the County to incorporate a target of 1 gigawatt in photovoltaic ("PV") energy by 2025 and 4 gigawatts by 2045. The Draft CAP should include a target for 500 megawatts of distributed storage capacity by 2045 and 2 gigawatts by 2045.

DER plays a unique and vital role in creating a renewable energy future that not only promotes deeper renewable penetration, but also advances fundamental goals of equal access to clean energy, social justice, and biodiversity protection. With minimal water use, no emissions from generation, and minimal land use impacts, distributed solar is the most sustainable energy source currently in production.[7] Further, building up distributed solar allows communities to gain local control over their energy system rather than leaving that control in the hands of investor-owned monopoly utilities. This shift empowers communities to make their own energy choices and gives them access to cheaper and cleaner energy, driving energy democracy. Progressive community solar policy can also enable renters and individuals who cannot afford to buy solar energy systems to invest in renewable energy, which in turn creates economic growth and local employment opportunities.

Studies show that far more ambitious targets for DER are currently feasible. A study by the National Renewable Energy Laboratory found that Los Angeles could support 9 gigawatts of rooftop solar, or 60 percent of its estimated total energy demand, using fairly conservative estimates.[8] Another study by the Institute of the Environment and Sustainability at the University of California, Los Angeles ("UCLA") found that rooftop solar can provide 7200 gigawatt hours of on-site building demands in a study area of 1.2 million parcels in L.A. County, which would meet approximately 29 percent of on-site building demands.[9]

The UCLA study found that remaining building demand that would be met by grid sources is approximately 18,000 gigawatt hours, and the potential solar output to export to the grid that is not used on-site is 16,400 gigawatt hours – this significant amount of additional electricity could be available for use by neighboring properties or elsewhere. The UCLA study also found that existing policies regulating grid operations limit potential rooftop solar output; in 20 percent of communities, current policies would reduce the technical potential of net solar generation by limiting the size of the arrays that can be installed. Moreover, the UCLA study found that lower-income and at-risk communities have greatest capacity for solar energy exports

[7] Wiser, R. et al., "The environmental and public health benefits of achieving high penetrations of solar energy in the United States," Nature Energy Vol. 113, pp. 472-486 (2016); Hernandez, R.R., Hoffacker, M.K. and C. Fields, "Efficient Use of Land to Meet Sustainable Energy Needs," Nature Climate Change, Vol. 5: 353–358, (2015).
[8] Pieter Gagnon, et al., *Rooftop Solar Photovoltaic Technical Potential in the United States: A Detailed Assessment* (Jan. 2016), available at https://www.nrel.gov/docs/fy16osti/65298.pdf.
[9] Erik Porse, et al., *Net solar generation potential from urban rooftops in Los Angeles*, Energy Policy (July 2020).

to the grid. In short, the County should take a hard look at the actual solar capacity of the County based upon existing studies and include policies to meet or exceed the actual solar capacity.

The proposed Actions are also insufficient to address either the targets in the Draft CAP or the more aggressive targets proposed by the Center. Action SE14 proposes developing a community energy map that identifies opportunities for deploying distributed energy resources and microgrids in order to improve energy resiliency in disadvantaged communities. (Draft CAP at 69.) Instead of merely generating a map, the County should develop a program or ordinance to fund and facilitate PV and storage microgrid development, especially for unincorporated and fire-prone areas. The County could begin this program in fire-prone communities, and aim for a minimum of 10 percent PV and storage microgrids instead of simply 10 percent DER installation in fire-prone communities.

XIII. Strategy 10 Fails to Provide a Plan To Reach the Target Renewable Energy Goals.

The Center supports the general goal of Strategy 10 to increase renewable energy, but notes that much stronger targets should be incorporated into the Draft CAP. The Draft CAP calls for installation of solar on only 20 percent of commercial buildings over 50,000 square feet and at least 10 percent of single family residential buildings by 2025, and higher targets for 2035 and 2045.

The Draft CAP should set far more ambitious targets. It should require solar on 60 percent of commercial buildings of any size that are solar compatible and 50 percent of residential buildings by 2025, and 100 percent of all solar compatible buildings by 2030.

The Draft CAP also does not specify *how much* solar must be installed on buildings; by its own terms, a single small panel could be installed on a building, and that building could potentially count towards the goals. As with other sections of the Draft CAP, the Draft CAP does not explain or provide data (e.g., in appendices) how the anticipated GHG mitigation potential is supported by the target.

Once again, the proposed mitigation strategies or "Actions" fall far short of even meeting the Draft CAP's existing targets. For instance, Action SE17 simply promises that the County will "encourage 100% renewable energy resource mix by 2025." (Draft CAP at 72.) The severity and urgency of the climate crisis requires governments to do far more than simply "encourage" positive steps—the climate crisis (and state laws and policies) *requires* far more aggressive actions.

Moreover, the Draft CAP should strengthen the County's role in supporting the community choice aggregation program. More specifically, the Draft CAP should include a no-cost subscription program for low-income families as well as tenants to participate. Such programs could be funded by creating a Community Energy Benefits Fund that would then be overseen by citizen task force or other non-governmental body—the Portland Clean Energy Fund illustrate of how such a program could function. Another example is East Bay Community Energy, which serves Alameda County.

XIV. The Draft CAP Fails to Contain Any Clear Plan To Support Strategy 16, Conserve Forests and Working Lands

The Center supports the conservation of forests and working lands. The Center also supports the targets to increase urban tree canopy. However, the Draft CAP fails to acknowledge how this plan fits into other related plans and programs. In particular, the City of Los Angeles is currently moving forward with a "Safe Sidewalks" initiative that will likely result in the destruction of many thousands of urban trees.[10]

Moreover, the Center supports Action A1 – supporting "the preservation of agricultural and working lands, including rangelands, and restore forest lands, by limiting the conversion of these lands to residential or other uses through tools such as the creation of agricultural easements, particularly within high climate-hazard areas and SEAs." (Draft CAP at 87.) Yet, as outlined in our comments on the Draft Sustainability Plan, the County has a pattern and practice of *approving* large-scale development in rangelands and forest lands, particularly in high fire hazard areas. (See Attachment 1 at p. 4.) Action A1's unenforceable promise to "limit" such conversion is unavailing and fails as a CEQA mitigation measure. (Draft CAP at 87.)

XV. The Draft CAP Fails to Identify Funding Sources for Mitigation Strategies.

As noted above, in *Sierra Club v. County of San Diego* (2014) 231 Cal.App.4th 1152, the Court of Appeal determined that measures in a CAP were insufficient when they were not adequately funded. (*Id.* at 1168-1169.) Here, the various "actions" in the Draft CAP acknowledge that funding will be required (using icons ranging from a $ to $$$$$), but fail to include a specific estimate of how much funding may cost, or identify an available source of funding. Similarly, the handful of sentences in the Implementation Plans "identification of funding sources" provide no specificity nor commitment for funding any of the Draft CAP's Actions. (See Draft CAP at 92.) This renders the Draft CAP inadequate as a CEQA streamlining document. Moreover, this omission calls into question whether any of the programs outlined in the Draft CAP will ever be implemented.

XVI. The Draft EIR Should Provide Further Detail on Mitigation Measures for Individual Projects.

The Center understands that the County will be preparing an EIR for the CAP. (See, e.g., Draft CAP at 15 ["With the adopted CAP, project-specific environmental documents that incorporate applicable CAP actions can "tier off" the environmental document adopted for the CAP to meet project-level CEQA evaluation requirements for GHG emissions."].) In addition, CEQA Guidelines section 15183.5(b)(1)(F) requires that a climate action plan be adopted in a public process "after environmental review." Subdivision (b)(2) provides that "[a] plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later project."

[10] Safe Sidewalks LA, Draft Environmental Impact Report, available at https://sidewalks.lacity.org/environmental-impact-report.

The Center hereby requests a minimum 90-day comment period for the Draft EIR in order to allow for adequate review by the public, particularly given the importance of the document for region-wide planning and the complexity of the issues. We hope that the Draft EIR and next draft of the CAP include and evaluate clear and enforceable measures to put the County on track to reach each of the statewide goals.

XVII. Conclusion

Thank you for the opportunity to submit comments on the Draft CAP. The Center strongly supports many of the goals of the Draft CAP. But these goals are not supported by clear, enforceable, and funded policies. The Center urges the County to significantly revise the CAP in order to address these deficiencies.

Please do not hesitate to contact us if you would like to meet to further discuss these issues.

Sincerely,

J.P. Rose
Staff Attorney
Center for Biological Diversity
660 S. Figueroa Street, Suite 1000
Los Angeles, California, 90017
jrose@biologicaldiversity.org

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(attached via OneDrive link)

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Attachment 1

May 24, 2019

Sent via email and FedEx

Los Angeles County Chief Sustainability Office
Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, California 90012
sustainability@lacounty.gov

Re: Comments on Discussion Draft of Los Angeles Countywide Sustainability Plan

Dear Los Angeles County Chief Sustainability Office:

These comments are submitted on behalf of the Center for Biological Diversity ("Center") regarding the Discussion Draft of the Los Angeles Countywide Sustainability Plan ("Draft Plan"). The Center appreciates the Chief Sustainability Office's efforts in developing the Draft Plan and generally supports the goals of the Draft Plan. We urge the Chief Sustainability Office and the Los Angeles County Board of Supervisors ("Board") to ensure that the strategies and policies supporting these goals are clear and enforceable.

A. Background on the Center for Biological Diversity.

The Center for Biological Diversity ("Center") is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over one million members and online activists throughout California and the United Sates. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County.

B. The Center Urges Stronger Buffers to Ensure Healthy Community Environments.

We strongly support Goals 1 and 4—"resilient and healthy community environments where residents thrive in place" and opportunities for residents and businesses to "transition to clean economy sectors." (Draft Plan at 20 & 72.) We also support strong efforts to decrease the public health problems generated by freeways and oil and gas drilling, but are concerned that the proposed targets and actions do not go far enough.

The Plan Should Require Larger Buffers between Sensitive Uses and Freeways

We support "siting of new sensitive uses, such as playgrounds, daycare centers, schools, residences, or medical facilities" farther from freeways, but are concerned that the proposed 500-foot buffers are insufficient. Studies indicate even people ***900 to 1200 feet*** from freeways experience health impacts and sensitive receptors such as children and the elderly suffer the most. (Lin 2002.) A review of 700 studies concluded that pollution causes asthma attacks in children, the onset of childhood asthma, impaired lung function, premature death and death from cardiovascular diseases, and cardiovascular morbidity. (Health Effects Institute 2010.) The Health Effects Institute study concluded that the "exposure zone" was 300 to 500 meters from the highways (984 feet to 1640 feet). (*Id.*) Other studies have reached similar conclusions. (Suglia 2008.) Living near expressways also increases the likelihood that residents will suffer from dementia. (Chen 2017.) The University of Southern California's Environmental Health Centers have also collected data and studies showing risks and health impacts to pregnant women, babies, children, teenagers, adults, and seniors of living by a freeway.[1]

The Plan Should Require 2500-foot Setbacks to Separate Oil and Gas Facilities from Homes

We would like to emphasize our support for the Draft Plan's inclusion of a series of actions to address the disproportionate exposure of low-income communities of color to fossil fuel extraction and refining (Actions 2, 3, 4, 5 and 7). In addition, we support Action 78 that calls for collaborating with the City of Los Angeles to develop a sunset strategy for oil and gas operations that prioritizes disproportionately impacted neighborhoods. In the final adoption of the plan, we urge the County to incorporate a more specific, concrete and common sense measure that we have supported at the City and County as an ally of the STAND-LA coalition: a 2500-foot setback (or buffer zone) to separate oil and gas facilities from homes, schools and other sensitive land uses, with a plan to phase out existing oil and gas within no more than five years. We are also supportive of the Draft Plan's inclusion of a commitment to a "Just Transition" that examines the impact of the transition to a cleaner economy and develops strategies for supporting displaced workers and connecting them with meaningful job training and employment opportunities (Actions 56 and 57).

[1] University of Southern California Environmental Health Centers, *References: Living Near Busy Roads or Traffic Pollution* , available at http://envhealthcenters.usc.edu/infographics/infographic-living-near-busy-roads-or-traffic-pollution/references-living-near-busy-roads-or-traffic-pollution (collecting studies). See also Tony Barboza and Jon Schleuss, "L.A. keeps building near freeways, even though living there makes people sick," *Los Angeles Times* (Mar. 2, 2017), available at http://www.latimes.com/projects/la-me-freeway-pollution/.

Reducing Asthma and Toxic Emissions through Less VMT

The Center strongly supports decreasing child asthma rates as proposed by the Draft Plan. However, this will not be possible if the Board continues to approve projects that add more unnecessary freeway traffic and air pollution to the region. An example of this is the recently-approved Centennial development approved by the Board, which will add 75,000 new long distance car commuters onto our freeways, increasing air pollution and hindering efforts to reduce toxic emissions.

C. The Center Supports Goal 2 and Urges Implementation of Zero Net Energy Standards.

We support the Plan's Goal 2—ensuring that "[b]uildings and infrastructure that support human health and resilience." (Draft Plan at 42.) The Center notes that Action Item 30 envisions the County will "Pilot high performance building standards for new County buildings beyond the current LEED Gold standard, such as Passive House, Zero Net Energy, Net Zero Water, Net Zero Waste..." (Draft Plan at 50.) The Center urges the Plan to require more than just a "pilot" for Zero Net Energy and instead move forward with policies and standards to require zero net energy for new construction.

Zero net energy is feasible, as other projects in the County that have recently been approved include a goal of zero net greenhouse gas emissions. Such projects intend to achieve that goal through reducing onsite greenhouse gas emissions to the greatest extent practicable, but also by offsetting any other emissions through local emissions reductions projects.[2]

D. The Center Supports Goal 3 and Urges Concrete and Enforceable Policies to Limit Sprawl Development.

The Center strongly supports the Draft Plan's goal of equitable and sustainable land use and development without displacement. (Draft Plan at 58.) The Center agrees that the way the County "choose[s] to direct that growth has huge implications for the environment, the economy and social equity." (*Id*.) Likewise, the Center agrees:

> Patterns of exurban sprawl and development in high-hazard areas can place major burdens on our infrastructure and public budgets, especially for unincorporated communities where the County of Los Angeles acts as the municipal service provider. Outward growth limits the resources we could otherwise be investing in our existing communities, where we can promote sustainability, health and well-being by improving walkability and promoting a mixture of uses.

(Draft Plan at 58.) The Draft Plan is correct that exurban sprawl imposes a hidden tax on existing communities. Studies recognize that sprawl "may deprive the poor of economic

[2] *See* California Department of Fish and Wildlife, *Newhall Ranch Resource and Development Management and Development Plan, Final Additional Environmental Analysis*, Appendix 2.1, available at http://planning.lacounty.gov/assets/upl/case/tr_53108_appendix-2-0-cdfw-final-aea-excerpts.pdf.

opportunity...when jobs, stores, good schools and other resources migrate outward from the core city, poverty is concentrated in the neighborhoods that are left behind." (Frumkin 2002.) Studies also show that sprawl disproportionately increases costs on local government through increased infrastructure costs. (Litman 2015.) One study found that the external costs of sprawl are around $500 billion annually and $650 billion internally. (*Id*.) Sprawl also has significant equity implications—"the abandonment of the metropolitan core leaves inner cities and first-ring suburbs struggling to provide adequate services with an eroded tax base even as growth continues on the periphery." (Belzer 2002.)

The Draft Plan is also correct that "[u]rban sprawl generally requires expensive and expansive infrastructure networks that drain resources and contribute significantly to greenhouse gas emissions." (Draft Plan at 60.)

Unfortunately, with the exception of Supervisor Kuehl, the Board has not shown they are serious about curbing urban sprawl. County supervisors just approved one of the biggest urban sprawl projects in California history last month, the 12,000-acre Centennial Specific Plan, on remote wildlands in the northern corner of the County. The Center informed the County that Centennial would result in less investment in existing communities and—as observed by the developer's own consultants—draw demand away from existing communities in Santa Clarita and San Fernando. The development would also require the construction of a new six-lane freeway (the Northwest 138 Corridor "Improvement Project"), at an initial cost to taxpayers of $830 million.

The Board also just approved the 1,300-acre Northlake development over the objection of the Santa Monica Mountains Conservancy (and the Center). That project will pave over pristine wildlands, inhibit wildlife connectivity in the region, and disproportionately contribute to greenhouse gas emissions, traffic, and air pollution.

If the County is serious about ending its historical pattern of approving more development in the county's diminishing wildlands and rangelands, then it needs to adopt strong enforceable policies to meet this goal. Action 44 is a step in the right direction. The Draft Plan states, "Prohibit the conversion of working lands to residential uses, including farms and rangelands." (Draft Plan at 60.) Such a policy—if it were actually consistently enforced—would be a strong step forward in protecting the County's natural resources.

E. The Center Supports the Draft Plan's Target to Limit Discretionary Development in High Fire Areas.

We support Strategy 3E—limiting development in high fire areas. The science is clear that we can no longer continue building new large-scale development in high fire areas. In Southern California, sprawl developments with low/intermediate densities extending into chaparral and sage scrub habitats that are prone to fire have led to more frequent wildfires caused by human ignitions, like arson, improperly disposed cigarette butts, debris burning, fireworks, campfires, or sparks from cars or equipment (Keeley et al. 1999; Keeley and Fotheringham 2003; Syphard et al. 2007; Syphard et al. 2012; Bistinas et al. 2013; Balch et al. 2017; Radeloff et al. 2018). Human-caused fires account for 95% of all fires in Southern California (Syphard et al.

2013), and homes filled with petroleum-based products, such as wood interiors, paint, and furniture, provide additional fuel for the fires to burn longer and spread farther (Keeley et al. 2007). The most numerous and largest fires in Southern California have been caused by equipment and powerlines in the wildland-urban interface, where housing density is low to intermediate (Syphard and Keeley 2015), and leapfrog developments have been found to have the highest predicted fire risk in the County (Syphard et al. 2013).

More development in high fire areas such as chaparral and sage scrub would lead to a dangerous feedback loop of deadly fires and habitat destruction. These habitats are adapted to infrequent (every 30 to 150 years), large, high-intensity crown fire regimes (Pyne et al. 1996; Keeley and Fotheringham 2001), and if these regimes are disrupted, the habitats become degraded (Keeley 2005, 2006a,b; Syphard et al. 2018). When fires occur too frequently, type conversion occurs and the native shrublands are replaced by non-native grasses and forbs that burn more frequently and more easily, ultimately eliminating native habitats and biodiversity while increasing fire threat over time (Keeley 2005, 2006a,b; Syphard et al. 2009; Safford and Van de Water 2014; Syphard et al. 2018). Thus, placing developments in these high fire-prone areas will lead to more frequent fires while degrading the health and biodiversity of Southern California's ecosystems.

Nonetheless, the "actions" in the Draft Plan do not set forth a clear plan to actually limit development in high fire areas. In particular, while the Countywide "Target" states "no new discretionary development in high hazard areas" by 2025, there is no "action" proposed to meet this target. (Draft Plan at 70.) Instead, as mentioned above, the County has been approving large-scale development such as Centennial and Northlake in high fire areas. By approving entitlements for these projects now despite the science showing such development is dangerous, costly, and environmentally harmful, the County is ensuring large-scale development will continue in fire-prone areas for many years.

F. The Center Strongly Supports Goal 5 and Urges The County To Develop a Wildlife Connectivity Ordinance

The Center strongly supports the Draft Plan's goal of thriving ecosystems, habitats, and biodiversity. (Draft Plan at 78.) To realize this goal, the Plan must consider the issue of wildlife connectivity and the effects of suburban development on wild areas, as explained below.

Habitat Connectivity Is Essential for Wildlife Movement and Biodiversity Conservation.

Habitat connectivity is vital for wildlife movement and biodiversity conservation. Limiting movement and dispersal with barriers (*e.g.*, development, roads, or fenced-off croplands) can affect animals' behavior, movement patterns, reproductive success, and physiological state, which can lead to significant impacts on individual wildlife, populations, communities, and landscapes (Trombulak and Frissell 2000; Tewksbury et al. 2002; Cushman 2006; van der Ree et al. 2011; Haddad et al. 2015; Ceia-Hasse et al. 2018). Individuals can die off, populations can become isolated, sensitive species can become locally extinct, and important ecological processes like plant pollination and nutrient cycling can be lost. In addition, connectivity between high quality habitat areas in heterogeneous landscapes is important to

allow for range shifts and species migrations as climate changes (Heller and Zavaleta 2009, Cushman et al. 2013). Lack of wildlife connectivity results in decreased biodiversity and degraded ecosystems. Thus, preserving and maintaining natural and created corridors is critical for species and habitat conservation in fragmented landscapes (Gilbert-Norton et al., 2010).

Wildlife connectivity and migration corridors are important at the local, regional, and continental scale. Local connectivity that links aquatic and terrestrial habitats would allow various sensitive species to persist, including state- and federally-protected California red-legged frogs (*Rana draytonii*), arroyo toads (*Anaxyrus californicus*), and other species. At a regional scale, medium- and large-sized mammals that occur in Los Angeles County, such as mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), gray foxes (*Urocyon cinereoargenteus*), ring-tailed cats (*Bassariscus astutus*), and mule deer (*Odocoileus hemionus*), require large patches of heterogeneous habitat to forage, seek shelter/refuge, and find mates.

Climate Change Is Likely to Significantly Alter Wildlife Behavior and Movement.

A strong, international scientific consensus has established that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In a 2018 *Special Report on Global Warming of 1.5°C* from the Intergovernmental Panel on Climate Change (IPCC), the leading international scientific body for the assessment of climate change describes the devastating harms that would occur at 2°C warming, highlighting the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth (IPCC 2018). In addition to warming, many other aspects of global climate are changing. Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor (USGCRP, 2017).

Climate change is increasing stress on species and ecosystems, causing changes in distribution, phenology, physiology, vital rates, genetics, ecosystem structure and processes, and increasing species extinction risk (Warren et al., 2011). A 2016 analysis found that climate-related local extinctions are already widespread and have occurred in hundreds of species, including almost half of the 976 species surveyed (Wiens 2016). A separate study estimated that nearly half of terrestrial non-flying threatened mammals and nearly one-quarter of threatened birds may have already been negatively impacted by climate change in at least part of their distribution (Pacifici et al. 2017). A 2016 meta-analysis reported that climate change is already impacting 82 percent of key ecological processes that form the foundation of healthy ecosystems and on which humans depend for basic needs (Scheffers et al. 2016). Genes are changing, species' physiology and physical features such as body size are changing, species are moving to try to keep pace with suitable climate space, species are shifting their timing of breeding and migration, and entire ecosystems are under stress (Cahill et al., 2012; Chen et al., 2011; Maclean & Wilson, 2011; Parmesan, 2006; Parmesan & Yohe, 2003; Root et al., 2003; Warren et al., 2011). As such, it is imperative that current and future land use planning consider the impacts of climate change on wildlife movement.

Corridor Redundancy Helps Retain Functional Connectivity and Resilience.

Corridor redundancy (*i.e*. the availability of alternative pathways for movement) is important in regional connectivity plans because it allows for improved functional connectivity and resilience. Compared to a single pathway, multiple connections between habitat patches increase the probability of movement across landscapes by a wider variety of species, and they provide more habitat for low-mobility species while still allowing for their dispersal (Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008). In addition, corridor redundancy provides resilience to uncertainty, impacts of climate change, and extreme events, like flooding or wildfires, by providing alternate escape routes or refugia for animals seeking safety (Cushman et al., 2013; Mcrae et al., 2008; Mcrae et al., 2012; Olson & Burnett, 2013; Pinto & Keitt, 2008).

Human Development and Associated Noise and Lighting Can Interfere with the Behavior of Local Wildlife Such as Mountain Lions.

Human development and associated noise can degrade adjacent wildlife habitat and behavior. (*See, e.g.,* Slabbekoorn 2008.) For instance, field observations and controlled laboratory experiments have shown that traffic noise can significantly degrade habitat value for migrating songbirds. (Ware et al. 2015.) This finding followed lab results indicating that subjects exposed to 55 and 61 dBA simulated traffic noise exhibited decreased feeding behavior and duration, as well as increased vigilance behavior. (*Id*.) Such behavioral shifts increase the risk of starvation, thus decreasing survival rates. A recent study also highlighted the detrimental impacts of siting development near areas protected for wildlife. The study noted that "Anthropogenic noise 3 and 10 dB above natural sound levels . . . has documented effects on wildlife species richness, abundance, reproductive success, behavior, and physiology." (Buxton, et al.) The study further noted that "there is evidence of impacts across a wide range of species [] regardless of hearing sensitivity, including direct effects on invertebrates that lack ears and indirect effects on plants and entire ecological communities (e.g., reduced seedling recruitment due to altered behavior of seed distributors)." (*Ibid*.) Moreover, human transportation networks and development resulted in high noise exceedances in protected areas. (*Ibid*.)

There also is strong evidence documenting the effects of human activity specifically on mountain lions. One study found that mountain lions are so fearful of humans and noise generated by humans that they will abandon the carcass of a deer and forgo the feeding opportunity just to avoid humans. (Smith 2017.)[3] The study concluded that even "non-consumptive forms of human disturbance may alter the ecological role of large carnivores by affecting the link between these top predators and their prey." (Smith 2017.) In addition, the study found that mountain lions respond fearfully upon hearing human vocalizations. Another study demonstrates that mountain lions exposed to other evidence of human presence (lighting, vehicles, dogs) will impact mountain lion behavior. (Wilmers 2013.) Other studies documented diet shifts in mountain lions near human development, and recommended minimizing any development in mountain lion habitat. (Smith 2016; *see also* Smith 2015.)

[3] *See also* Sean Greene, "How a fear of humans affects the lives of California's mountain lions," *Los Angeles Times* (June 27, 2017), available at http://beta.latimes.com/science/sciencenow/la-sci-sn-pumas-human-noise-20170627-story.html.

Additional studies similarly documented that mountain lions avoid "urban, agricultural areas, and roads and prefer[] riparian areas and more rugged terrain." (Zeller 2017; *see also* Vickers 2015.) One study found that over half (55 percent) of radio collared mountain lions in urban areas did not survive, and the majority were killed by humans either by vehicle strikes or using depredation permits. (Vickers 2015.) As such, the Plan should include policies to minimize development in open space areas, as "edge effects" from such development can interfere with animal behavior and movement.

Creating and Enhancing Wildlife Crossings Is Critical to Maintaining Healthy Ecosystems.

We recommend that the Draft Plan include stronger policies to promote wildlife movement and/or include a goal to develop a county wildlife connectivity ordinance. Enhanced connectivity helps sustain functional ecosystems and ensure public safety. Although natural, existing corridors in fragmented landscapes have been shown to have more wildlife movement compared to created corridors (Gilbert-Norton et al., 2010), crossing structures combined with setbacks at the entrances and exits are useful as retroactive restoration in areas where existing roads have high incidence of wildlife vehicle conflict or where species movement has been severely impacted. When appropriately implemented, wildlife crossing infrastructure has been shown to improve wildlife permeability and reduce wildlife vehicle collisions (Bissonette & Rosa, 2012; Dodd Jr. et al., 2004; Dodd et al., 2012; Kintsch et al., 2018; Sawaya et al., 2014; Sawyer et al., 2012).

Outside of California many other states and jurisdictions have been proactively addressing wildlife connectivity issues. For example, Arizona, Colorado, and Wyoming have seen 80-96% reductions in wildlife vehicle collisions while gradually increasing the level of wildlife permeability over time (it appears that some species take more time than others to adapt to crossings) on sections of highways where they have implemented wildlife crossing infrastructure, such as underpasses, culverts, overpasses, wildlife fencing, and escape ramps (Dodd et al., 2012; Kintsch et al., 2017; Kintsch et al., 2018; Sawyer et al., 2012). Utah just completed the state's largest wildlife overpass at Parleys Canyon for moose, elk, and deer. Washington State is about to complete its largest wildlife overpass on I-90, which is anticipated to provide habitat connectivity for a wide variety of species between the North and South Cascade Mountains. The overpass cost $6.2 million as part of a larger $900 million expansion project that will include multiple wildlife crossings along a 15-mile stretch of highway. Savings from less hospital bills, damage costs, and road closures from fewer wildlife vehicle collisions will make up those costs in a few years (Valdes 2018). State and local officials are actively pursuing these types of projects because of the benefits for wildlife connectivity, public safety, and the economy. And in neighboring Ventura County, the Board of Supervisors recently adopted a first-of-its-kind ordinance to protect wildlife connectivity.

The Draft Plan Should Provide Clear Action Items To Support Wildlife Connectivity

We are concerned that the action items proposed in the Draft Plan are insufficient to support Goal 5. In particular, lacking from the action items is any clear plan for ensuring habitat connectivity within the region.

Instead, it appears that the County has not prioritized this issue. For instance, the County General Plan EIR anticipated a significant adverse effect on wildlife movement.[4] The California Department of Fish and Wildlife ("CDFW") urged the County to develop mitigation opportunities for wildlife connectivity, since such "opportunities for wildlife corridors and nursery sites are best established during large scale planning efforts such as this General Plan." CDFW noted that "Wildlife corridor areas can be delineated and set aside in the General Plan for current and future conservation efforts. An assessment could be placed on development within the Project area to secure the acquisition of these critical linkages and sites, therefore reducing impacts to wildlife corridors and nursery sites and ensuring biological diversity."[5] The County did not implement CDFW's recommendations.

The Plan should include a goal to develop a wildlife connectivity ordinance. Moreover, while the proposed "actions" to support Goal 5 are all helpful measures, more is needed. The Plan should incorporate policies that support an "urban growth boundary." Urban growth boundaries have been used in other jurisdictions as a tool to encourage development in or near existing communities while leaving natural areas undeveloped. Without a clearly defined urban growth boundary, developers will continue to propose—and the Board will continue to approve—development in wild and fire-prone areas, which will further inhibit wildlife connectivity while increasing traffic and air pollution.

G. The Center Supports Goals 7 and 8 and Encourages Stronger Policies To Reduce VMT.

We support Goals 7 and Goal 8—a fossil fuel-free LA County with convenient, safe and affordable transportation that reduces car dependency. However, the targets and associated actions do not include sufficiently ambitious goals to reduce vehicle miles travelled ("VMT"). The Draft Plan's aims for "[a]t least 15% of all trips will be by foot, bike, micromobility, or public transit." (Draft Plan at 108.) This means that even if this target is met, in six years 85 percent of trips in the County will still be by car. The Draft Plan should call for much stronger measures to reduce single occupancy vehicle trips and VMT. The best way to do this is to limit development in areas far from existing cities that generate high VMT and limit new freeway development, which induces additional VMT.

The December 2018 Technical Advisory issued by the Governor's Office of Planning and Research (the "VMT Report")[6] contains helpful guidance and analysis that could be

[4] County of Los Angeles, *Los Angeles County General Plan Update Draft Environmental Impact Report* (June 2014), available at http://planning.lacounty.gov/assets/upl/project/gp_2035_deir.pdf.
[5] County of Los Angeles, *Los Angeles County General Plan Update Final Environmental Impact Report* (March 2015), available at http://planning.lacounty.gov/assets/upl/project/gp_2035_lac-gpu-final-eir-final.pdf.
[6] The VMT Report is available at http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

incorporated into the Draft Plan. For instance, the VMT Report states that land use decisions to reduce GHG emissions associated with the transportation sector are crucial in order to meet the GHG reductions set forth in SB 375. (VMT Report at 3.) The VMT Report further notes that California cannot meet its climate goals without curbing single-occupancy vehicle activity; land use patterns and transportation options will need to change to support reductions in VMT. (*Id*. at 10.) The VMT Report also proposes a "per capita" or "per employee" threshold of 15 percent below existing development as a reasonable threshold. (*Id*. at 10.) The VMT Report reiterates the conclusion of the California Air Resources Board that "there is a gap between what SB 375 can provide and what is needed to meet the State's 2030 and 2050 goals." (*Id*.)

The VMT Report confirms that VMT-intensive development impacts human health and the environment: "Human health is impacted as increases in vehicle travel lead to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Increases in vehicle travel also negatively affect other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Additionally, development that leads to more vehicle travel also tends to consume more energy, water, and open space (including farmland and sensitive habitat). This increase in impermeable surfaces raises the flood risk and pollutant transport into waterways." (VMT Report at 3.) As such, if the County took strong steps to reduce VMT, it would have co-benefits of better air quality, decreased chronic disease, decreased wildlife-vehicle collisions, and less habitat fragmentation.

The VMT Report further states that roadway expansion projects can induce substantial VMT such that the environmental reviews should incorporate quantitative estimates of induced VMT. (VMT Report at 23.) The VMT Report explains that "[b]uilding new roadways, adding roadway capacity in congested areas, or adding roadway capacity to areas where congestion is expected in the future, typically induces additional vehicle travel." (*Id*. at 24.) The Plan should thus contain policies to discourage unnecessary highway development and instead focus infrastructure resources on alternative transportation projects.

H. Conclusion

Thank you for the opportunity to submit comments on the Draft Plan. Again, the Center strongly supports the goals of the Draft Plan. But if the goals in the plan are not supported by clear and enforceable policies, then the final Plan will be ineffective in achieving these goals.

Los Angeles County's traffic jams, air pollution, fragmented wildlife habitat, and diminishing wildlands are a legacy of poor planning decisions made by local officials, often made under pressure from profit-driven developers. Unfortunately Los Angeles County and its Board have continued to approve costly, dangerous, and environmentally-damaging development despite (1) strong public opposition and (2) science confirming that such development is inappropriate in light of the climate crisis, extinction crisis, and the risks of building in fire-prone landscapes.

The Center urges the Chief Sustainability Office and Board to use this Plan as a means to establish a new vision for Los Angeles County that supports healthy communities and healthy wildlands. For such a vision to become reality, it must be supported by clear, binding, and legally enforceable policies. As long as such policies are vague or absent, developers will continue proposing—and officials will likely keep approving—projects that take the county in the wrong direction.

Please do not hesitate to contact the Center at the number or email listed below.

Sincerely,

J.P. Rose
Staff Attorney
Center for Biological Diversity
660 S. Figueroa Street, Suite 1000
Los Angeles, California, 90017
jrose@biologicaldiversity.org

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(Attached on CD)

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Attachment 2

Hon. Nancy Case Shaffer
Superior Court for the County of Sonoma
3035 Cleveland Avenue, Suite 200
Santa Rosa, CA 95403
Telephone: (707) 521-6729

SUPERIOR COURT FOR THE STATE OF CALIFORNIA

COUNTY OF SONOMA

CALIFORNIA RIVERWATCH,

Petitioner,

v.

COUNTY OF SONOMA, ET AL.

Defendants.

Case No.: SCV-259242

ORDER GRANTING PETITION FOR WRIT OF MANDATE

This matter was tried to the court on March 23, 2017, the Honorable Nancy Case Shaffer presiding. The Law Office of Jack Silver and Jerry Bernhaut and Jack Silver appeared on behalf of Petitioner; the Office of Sonoma County Counsel and Bruce Goldstein and Verne Ball appeared on behalf of Respondent Sonoma County Regional Climate Protection Authority. At the conclusion of the hearing, the court ordered further briefing. The matter was deemed submitted on April 21, 2017, when all briefs were submitted.

I. SUMMARY OF RULING

The court finds that the Sonoma County Regional Climate Protection Authority's Final Programmatic EIR ("the PEIR") for Climate Action 2020 and Beyond, its Climate Action plan ("CAP") and the County of Sonoma's approval of the CAP violate CEQA, in that the inventory of greenhouse gas emissions is based on insufficient information; the PEIR fails to

include effectively enforceable, clearly defined performance standards for the mitigation measures regarding Green House Gas ("GHG") emissions, identified as "GHG Reduction Measures;" and fails to develop and fully analyze a reasonable range of alternatives.

Accordingly, the approval of the PEIR was a prejudicial abuse of discretion by Respondent. Given the lack of information and other material defects, as a matter of law the PEIR cannot fulfill its basic CEQA purpose as an information document.

The court finds that there is insufficient information in the administrative record to support the factual conclusion that the CAP will achieve its fundamental purpose of reducing Respondent's countywide GHG emissions to the stated target of 25% below 1990 levels by 2020.

I. FACTS

Petitioner seeks a writ of mandate overturning Respondent's certification and of a Final Programmatic EIR (the PEIR) for its Climate Action Aplan (CAP) and the approval of the CAP on the grounds that the approvals violate CEQA.

A. The Project

The CAP Project is a planning-level document to guide analysis of the greenhouse gas (GHG) impacts of future projects in the county.

In 2006, the California legislature passed AB 32, the Global Warming Solutions Act (the Act) which, among other things, establishes a statewide goal of achieving 1990-level GHG impacts by 2020.

CEQA Guideline 15183.5 allows agencies to adopt an overall long-range plan such as a general plan or similar plan governing GHG analysis of subsequent projects. Respondent adopted the CAP in accord with Guideline 15183.5 as a method of providing an overall *tiered analysis* of GHG impacts in subsequent projects as a method of complying with the Act's mandate. (1 AR 4, 10.)

B. The Petition for Writ of Mandamus

Petitioner argues that the EIR fails to provide an accurate description of the existing conditions or a means for calculating GHG emissions; that the PEIR contains inadequate mitigation measures, alternatives analysis, or response to public comments.

Respondent opposes the petition, contending that Petitioner relies on non-existent requirements in 15183.5; that Petitioner fails to discuss the substantial evidence in the record, that the EIR sufficiently discusses existing conditions; that the PEIR properly discloses methodology; that the CAP is not a mitigation measure and does not need to contain mitigation measures; that substantial evidence supports the CAP emissions reduction estimates; that the alternatives analysis complies with CEQA; that Petitioner failed to exhaust administrative remedies on the responses to comments; and that Petitioner has demonstrated no prejudicial error.

II. ANALYSIS

A. Request for Judicial Notice

The court grants, in full, Respondents' request to take judicial notice of certain government and regulatory documents, including a statement from the Natural Resources Agency on amendments to the Guidelines regarding GHG emissions; the California Air Resources Board ("CARB") Climate Change Scoping Plan; the CARB draft 2030 Target Scoping Plan Update; the County of Napa CAP; Guideline 15183.5, AB32, and SB 97; and the lodgment of the record in this case.

B. **CEQA**

An EIR is required for a project which substantial evidence indicates may have a significant effect on the environment. (Guidelines for the Implementation of CEQA (Guidelines), 14 CCR section 15063(b)[1]; PRC sections 21100, 21151.) EIRs are, in the words

[1]These are at 14 Cal Code Regs §§ 15000, *et seq*. Courts should at a minimum afford great weight to the Guidelines except when a section is clearly unauthorized or erroneous under CEQA. *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal. (Laurel Heights I)* (1988) 47 Cal.3d 376, 391, fn 2; *Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4th 1307, 1315.

of the California Supreme Court, "the heart of CEQA." *Laurel Heights Improvement Assn. v. Regents of the University of California* (1988) 47 Cal.3d 376, 392 (*Laurel Heights I*).

The ultimate mandate of CEQA is "to provide public agencies and the public in general with *detailed information* about the effect [of] a proposed project" and to minimize those effects and choose possible alternatives. (emphasis added) (PRC 21061.) The public and public participation hold a "privileged position" in the CEQA process based on fundamental "notions of democratic decision-making." (*Concerned Citizens of Costa Mesa, Inc. v. 32nd District Agricultural Association* (1986) 42 Cal.3d 929, 936.)

As a fundamental benchmark that generally applies to all issues in CEQA the court, is that the court, in considering an issue, should look to see if "the public could discern... the 'analytic route the... agency traveled from evidence to action.'" (See ***Al Larson Boat** Shop Inc. v. Bd. of Harbor Commissioners* (1993) 18 Cal.App.4th 729, 749; see also *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, 522.)

The burden of investigation rests with the government and not the public. (*Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1202.)

C. Standard of review

1. Preliminary Basis for Standard of Review

The standard of review is in dispute here. This dispute arises out of the divergent characterizations of the issues by the parties.

Public Resources Code section 21168 provides that when a court reviews a determination, finding, or decision of a public agency, "as a result of a proceeding in which by law a hearing is required to be given, evidence is required to be taken and discretion in the determination of facts is vested in a public agency ... the court shall not exercise its independent judgment on the evidence but shall only determine whether the act or decision is supported by substantial evidence in the light of the whole record." However, review is *de novo* when the court must determine whether the agency has prejudicially abused its discretion either by failing to proceed in the manner required by law or by reaching a decision that is not supported by substantial evidence. (*Laurel Heights I, supra* 47 Cal.3d 392, fn.5.)

"[A] reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435 (*"Vineyard"*).

As the court explained in *Vineyard*:

> [A]n agency may abuse its discretion under CEQA either by failing to proceed in the manner CEQA provides or by reaching factual conclusions unsupported by substantial evidence. (§21168.5.) Judicial review of these two types of error differs significantly: while we determine de novo whether the agency has employed the correct procedures, "scrupulously enforc[ing] all legislatively mandated CEQA requirements" (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564...), we accord greater deference to the agency's substantive factual conclusions. In reviewing for substantial evidence, the reviewing court "may not set aside an agency's approval of an EIR on the ground that an opposite conclusion would have been equally or more reasonable," for, on factual questions, our task "is not to weigh conflicting evidence and determine who has the better argument."(*Laurel Heights I, supra,* 47 Cal.3d at p. 393....) [2]

While courts must give deference as to substantive factual decisions, courts demand strict compliance with "legislatively mandated CEQA requirements." (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564 (*Goleta II*).) A Respondent is entitled to no deference where the law has been misapplied, or where the decision was based on "an erroneous legal standard." (*East Peninsula Educ. Council, Inc. v. East Peninsula Unif. Sch. Dist.* (1989) 210 Cal.App.3d 155, 165.)

Courts must 'determine de novo whether the agency has employed the correct procedures, "scrupulously enforc[ing] all legislatively mandated CEQA requirements"....' (*Vineyard Area Citizens for Responsible Growth, supra,* 40 Cal.4th 435, citing *Goleta II,* 52 Cal.3d at 564.) *Failure to include required information is a failure to proceed in the manner*

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[2] *Laurel Heights I* is *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 400 (*Laurel Heights I*

required by law and demands strict scrutiny. (*Sierra Club v. State Bd. of Forestry* (1994) 7 Cal.4th 1215, 1236; *Vineyard, supra,* 40 Cal.4th at 435.) The court reviews the PEIR here de novo.

Nevertheless, agency actions are presumed to comply with applicable law unless the petitioner presents proof to the contrary. (Evid. Code § 664; *Foster v. Civil Service Commission of Los Angeles County* (1983) 142 Cal.App.3d 444, 453.) The petitioner in a CEQA action thus has the burden of proving that an EIR is insufficient. (*Al Larson Boat Shop, Inc. v. Board of Harbor Commissioners* (1993) 18 Cal.App.4th 729, 740.)

2. Standard of Review: Substantial-Evidence Test

The substantial-evidence test applies to substantive issues in a decision certifying an EIR. The court must uphold the decision if it is supported by substantial evidence in the record as a whole. (*Bowman v. City of Petaluma* (1986) 185 Cal.App.3d 1065, 1075; see *River Valley Preservation Project v. Metropolitan Transit Dev. Bd.* (1995) 37 Cal.App.4th 154, 166; see *Santa Teresa Citizen Action Group v. City of San Jose* (2003) 114 Cal.App.4th 689, 703. The "substantial evidence" test requires the court to determine "whether the act or decision is supported by substantial evidence in the light of the whole record." (*Chaparral Greens v. City of Chula Vista* (1996) 50 Cal.App.4th 1134, 1143; *River Valley Preservation Project v. Metropolitan Transit Develop. Bd.* (1995) 37 Cal.App.4th 154, 168.)

When applying the substantial-evidence standard, the court must focus not upon the "correctness" of a report's environmental conclusions, but only upon its "sufficiency as an informative document."(*Laurel Heights I* 47 Cal.3d at 393.) The findings of an administrative agency are presumed to be supported by substantial evidence. *(Taylor Bus. Service, Inc. v. San Diego Bd. of Education* (1987) 195 Cal.App.3d 1331.) The court must resolve reasonable doubts in favor of the findings and decision. (*Id.)*

A claim that the EIR lacks *sufficient* information regarding an issue will be treated as an argument that the EIR is not supported by substantial evidence. (*Barthelemy v. Chino Basin Munic. Water Dist.* (1995) 38 Cal.App.4th 1609, 1620.) The petitioners in *Barthelemy*

asserted that it was a failure to proceed in the manner required by law where an EIR did not include key information. The court rejected that argument.

a) The Definition of "Substantial Evidence"

Substantial evidence is "enough relevant information and reasonable inferences" to allow a "fair argument" supporting a conclusion, in light of the whole record before the lead agency. (14 CCR § 15384(a); PRC §21082.2; *City of Pasadena v. State of California* (2nd Dist.1993) 14 Cal.App.4th 810, 821-822.) Other decisions define "substantial evidence" as that with "ponderable legal significance," reasonable in nature, credible, and of solid value. (*Stanislaus Audubon Society, Inc., v. County of Stanislaus* (1995) 33 Cal.App.4th 144.)

Substantial evidence includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. (PRC §21082.2(c); see also Guidelines 15064(g)(5), 15384.) It does not include argument, speculation, unsubstantiated opinion or narrative, clearly incorrect evidence, or social or economic impacts not related to an environmental impact. (Guideline 15384.)

3. Prejudicial Abuse of Discretion

A court may only issue a writ in a CEQA case for an abuse of discretion, including making a finding without substantial evidence, if the error was *prejudicial*. (*Chaparral Greens v. City of Chula Vista* (1996) 50 Cal.App.4th 1134, 1143.) The court must defer to the agency's substantive conclusions an uphold the determination unless. ((Id); *see* PRC § 21168, 21168.5, *Laurel Heights I, supra,* 47 Cal.3d at 392, fn.5; Remy, et al., Guide to the California Environmental Quality Act (10th Ed.1999) Chapter XI (D), p.590.)

4. Tiered EIRs

As discussed further below, the PEIR here is a tiered EIR prepared in accordance with Guideline 15183.5, which specifically allows for preparation of an overall, first-tier EIR and planning document to govern analysis of GHG emissions and control GHG emissions in order to comply with the statewide mandates to reduce GHG emissions.

A tiered EIR scheme allows an agency to produce a general EIR focusing on an overall plan or policy and later conduct more limited, narrow subsequent EIR review for

individual projects within the broad plan or scope of the original, general EIR. (PRC 21068.5, 21093(a); Guideline 15152; *Koster v. County of San Joaquin* (1996) 47 Cal.App.4th 29, 36.) "Tiering" is defined in PRC 21068.5 as:

> coverage of general matters and environmental effects in an [EIR] prepared for a policy, plan, program or ordinance followed by narrower or site-specific [EIRs] which incorporate by reference the discussion in any prior [EIR] and which concentrate on the... effects which (a) are capable of being mitigated, or (b) were not analyzed... in the prior [EIR].

In other words, it is 'a process by which agencies can adopt programs, plans, policies, or ordinances with EIRs focusing on "the big picture" and can use streamlined CEQA review for individual projects that are consistent with such... [first tier plans]....' (*Koster v. County of San Joaquin* (3d Dist. 1996) 47 Cal.App. 4th 29, 36.) The later EIRs need not repeat the analysis or revisit the issues from the original EIR. (Guideline 15385.)

Guideline 15152 is the overall provision governing first-tier documents in general and in its detailed discussion demonstrates clearly what such documents must do, what they must include, and how they may be used.[i] Environmental impact reports "shall be tiered whenever feasible, as determined by the lead agency." (PRC 21093(b).) This "is needed in order to provide increased efficiency in the CEQA Process. It allows agencies to deal with broad environmental issues in EIRs at planning stage and then to provide more detailed examination of specific effects....These later EIRs are excused by the tiering concept from repeating the analysis of the broad environmental issues examined in the [first tier] EIRs." (Discussion following Guideline 15385.)

PRC 21094(c) states that "[f]or purposes of compliance with this section, an initial study shall be prepared to assist the lead agency in making the determinations required by this section."

C. GREENHOUSE GAS EMISSIONS

The Global Warming Solutions Act ("the Act") 'implements deep reductions in greenhouse gas emissions, recognizing that "[g]lobal warming poses a serious threat to the

economic well-being, public health, natural resources, and the environment of California...." (Health & Saf.Code, § 38501, subd. (a).) Through this enactment, the Legislature has expressly acknowledged that greenhouse gases have a significant environmental effect.' (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 91 (*CEB*).) Guideline 15183.5 governs tiering and streamlining the analysis of GHG emissions.[ii] Subdivision (b) sets forth the specific things such a plan should do.

1. The Role of the CAP in Subsequent GHG Analysis

A key issue is the ultimate role this CAP will play in subsequent GHG analysis of future projects. Here neither party clearly addresses the intended role and effect of the CAP in the review of subsequent projects.

The CAP at 1013-1016 generally indicates that the CAP is intended to eliminate any need to conduct any GHG analysis in future discretionary projects that comply with the CAP. Specifically, the introduction to the checklist of standards and measures, states that:

> Discretionary projects that utilize the checklist, as modified by the individual agency, and can demonstrate consistency with all applicable mandatory local or regional measures in the CAP, can conclude that their impacts related to [GHG] emissions would be less than significant under CEQA because the project would be consistent with a qualified GHG reduction plan under... Guidelines Section 15183.5.

The introduction then quotes 15183.5(b) and (b)(2) in part as follows:

> (b) Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.
>
> ...
>
> (b)(2) A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify

those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project.

It reiterates that the 'significance threshold for projects using the checklist for streamlining is "consistency with an applicable plan for the reduction of [GHG] emissions meeting the requirements of...15183.5" ' All of this indicates an intent that a future project complying with this CAP and its standards and measures need include no independent GHG analysis.

2. Respondent's Contention That Petitioner Imposes Non-Existent Requirements

Respondent argues, that Petitioner is improperly trying to impose requirements on the CAP that do not exist in Guideline 15183.5. This argument is expressly stated at the start of its brief and is repeated throughout its papers. This argument is itself groundless; it is contrary to the fundamental purpose of CEQA requirements.

First, Respondent contends that the Guideline merely gives a list of what such a plan "should" do; not what it "must" do. Although the Guideline does only state what such a plan "should" include, (see end note ii, Guideline 15183.5), it expressly states that it is a tiering mechanism and that it must comply with the standards for first-tier programs or plan EIRs. It is *titled* "*Tiering* and Streamlining the Analysis of Greenhouse Gas Emissions." (Emphasis added.) It beings by explaining that agencies may develop a GHG plan or standards in a plan using a tiering method, governed by the standards for tiering. It states that agencies *may* handle GHG analysis:

> at a *programmatic* [i.e., first-tier] level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. *Later* project-specific environmental documents *may tier from* and/or incorporate by reference that existing programmatic review. Project-specific environmental documents *may* rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in *section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs)*, 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).

(emphasis added.)

As noted above, the CAP also makes it clear that, as a first-tier document, it is to be used in such a manner that, if complied with, will excuse the analysis of a future project from revisiting GHG emissions. Therefore, the CAP, and any such plan prepared under 15183.5, must meet the requirements for all first-tier documents and thus must impose effectively enforceable requirements and measures with defied performance standards.

Second, although Respondent is correct that the requirements on which Petitioner relies are not necessarily in the Guideline itself, they are applicable to *all* CEQA review and, specifically, to first-tier documents, as explained above. Petitioner's further arguments, such as that the CAP must provide a clear, complete, and accurate GHG "inventory," i.e., the existing GHG emissions associated with activities in the county, are consistent with a standard CEQA mandate, which is that an environmental document must present clear, meaningful information sufficient to allow the agency and public to make an intelligent, informed decision, or, stated another way, sufficient to make clear the analytic route of the agency. (*Concerned Citizens of Costa Mesa, Inc. v. 32nd District Agricultural Association* (1986) 42 Cal.3d 929, 936; ***Al Larson Boat** Shop Inc. v. Bd. of Harbor Commissioners*, *supra,* 18 Cal.App.4th at 749; *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, 522. Therefore, it must be based on substantial evidence. (See section C.2., above.)

3. Existing Conditions

Petitioner first argues that the PEIR fails to describe existing conditions accurately because it limits the range of emissions from vehicles miles traveled (VMT) associated with land-use activities in the county and to and from 18 nearby regional locations. Petitioner contends that the baseline or current GHG emissions level associated with the county should include all VMT for trips associated with activities in the county, not only within the county and to and from the 18 nearby regional locations used in the PEIR and that Respondent thus understates the current GHG emissions. Respondent focuses on two general categories of VMT omitted from the PEIR: VMTs generated by goods exported from the county to

locations beyond (produce, medical equipment, beer, and wine) , and tourist travel to Sonoma County.

a) CEQA Baselines and Quantifying Current GHG Levels

Ordinarily, an EIR must clearly and consistently describe the baseline, which is *normally* the *existing* environmental setting or conditions. The existing conditions, at the time the notice of preparation ("NOP") is published, "normally constitute the baseline physical conditions by which the lead agency determines whether an impact is significant." (Guideline 15125(a).) Guideline 15126.2(a) states that the agency "should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time...environmental analysis is commenced."

Guideline 15183.5(b)(1)(A) sets forth special requirements for GHG first-tier plans such as the CAP. Such plans are required to "[q]uantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area."

Respondent notes that the ordinary requirements governing determination of the "baseline" apply where there is a project that may alter this in of itself in order to determine the extent of any impact which a project will have. (See Guideline 15126.2(a).)

b) VMT Data

The CAP explanation of how it determined the GHG inventory is found at AR 1050, et seq. It used 2010 data because that year includes largely complete or complete activity data for all sectors as needed to calculate GHG levels; this is not challenged by Petitioner. (See AR 1052; Memorandum of Points and Authorities in Support of Petition for Writ of Mandate, 9:1-3.) The response to comment at AR 1084 explains that the VMTs were determined by considering the travel in the county plus travel between the county and 18 external "traffic analysis zones" ("TAZ").

Respondent relies on Guideline 15130(b) which provides that studies of cumulative impacts are guided by "standards of practicality and reasonableness." According to Guideline 15364, "'Feasible" means capable of being accomplished in a successful manner within a

reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.' Thus, "[a]n evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible .... The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." (Guideline 15151; see also *Citizens to Preserve the Ojai v. County of Ventura, supra,* 176 Cal.App.3d at 429.) Petitioner argues that an agency is "not required to engage in sheer speculation as to future environmental consequences [Citations], [but an] EIR [is] required to set forth and explain the basis for any conclusion that analysis of the cumulative impact of offshore emissions [is] wholly infeasible and speculative." (*Citizens to Preserve the Ojai, supra,* 176 Cal.App.3d at 430.)

Respondent correctly argues that ultimately GHG emissions must be considered in light of their cumulative worldwide impact because of their nature. The Supreme Court in *Center for Biological Diversity v. California Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, at 219-220, considered a challenge to an agency's GHG analysis. The Court explained:

> [W]e address two related aspects of the greenhouse gas problem that inform our discussion of CEQA significance.
>
> First, because of the global scale of climate change, *any one project's contribution is unlikely to be significant* by itself. *The challenge for CEQA purposes is to determine whether the impact of the project's emissions of greenhouse gases is cumulatively considerable*, in the sense that "the incremental effects of [the] individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (§ 21083, subd. (b)(2); see Guidelines, § 15064, subd. (h)(1).) "With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. *The question therefore becomes whether the project's incremental addition of greenhouse gases is 'cumulatively considerable' in light of the global problem*, and thus

significant." (Crockett, Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World (July 2011) 4 Golden Gate U. Envtl. L.J. 203, 207–208 (hereafter Addressing the Significance of Greenhouse Gas Emissions).)

Second, the global scope of climate change and the fact that carbon dioxide and other greenhouse gases, once released into the atmosphere, are not contained in the local area of their emission means that *the impacts to be evaluated are also global rather than local. For many air pollutants, the significance of their environmental impact may depend greatly on where they are emitted; for greenhouse gases, it does not.* For projects, like the present residential and commercial development, which are designed to accommodate long term growth in California's population and economic activity, this fact gives rise to an argument that a certain amount of greenhouse gas emissions is as inevitable as population growth. Under this view, a significance criterion framed in terms of efficiency is superior to a simple numerical threshold because CEQA is not intended as a population control measure.

(emphasis added.)

Consistent with the Supreme Court's discussion in that case, the EIR here expressly discusses the global nature of GHG emissions, explaining that "unlike other resource areas that are primarily concerned with localized project impacts... the global nature of climate change requires a broader analytic approach. Although this section focuses on GHG emissions generated as a result of the CAP, the analysis considered them in the context of potential state, national, and global GHG impacts." (AR 314.) It also noted global GHG concentrations. (AR 81, 106, 316.)

The PEIR analysis considered VMT for the county and the 18 TAZs in the region, and only for automobile traffic and "emissions that local governments have primary influence or control over." (AR 85.) It did not consider travel by other means such as by airplane or emissions over which the local entities have no direct control. (AR 85.) The PEIR explained

at AR 82 and 85 that it was relying on the International Council for Local Environmental Initiatives (ICLEI) Protocol and that:

> the ICLEI Community Protocol does not require air travel emissions to be included in the basic emissions necessary for protocol-compliance GHG inventories because it recognizes that local governments have less control over such sources as air travel and that information is often not available to precisely describe an airport's emissions to a specific community.

Similarly, it noted that methodologies exist to estimate emissions further afield but associated with local activities but rejected these methodologies because the information might be difficult to obtain or are not "common" approaches. (AR 85-86.) For example, the response to the comment at AR 85-86 stated:

> [w]hile there are methodologies to estimate upstream emissions..., these methodologies are commonly used to prepare what is known as a "consumption-based" inventory, which estimate the life cycle "carbon footprint" of everything households (and...other consumers) consume. There are also methodologies to estimate "downstream" emissions associated with the transportation, end use, and disposal of goods produced in a jurisdiction, but such methodologies require highly detailed information about the entire downstream supply chain, including the ultimate geographical destination of goods that can be difficult to come by, especially if such data is privately held. While one could estimate emissions using a consumption-based approach of a "downstream" emissions method, these are not the common approach used for community emissions, or national emissions at present, and if used, would make it impossible to compare regional inventories.

As a result, the response contends, "nearly every" national, state, and local agency preparing a CAP has used the "activity-based" approach to calculate and define the GHG inventories. (AR 86.) Respondent asserts that by avoiding the methodologies which include upstream or downstream data, and instead using the ICLEI Protocol, the CAP inventory "can be compared to those other communities, using a common standard...." (Ibid.)

The question before the court is whether there is information in the record showing that Respondent might or might not feasibly have included the additional data as Petitioner contends, or whether Respondent did not need to include it.

Respondent's primary argument that it did not need to include additional emissions estimates is based on its assertion that CEQA only requires an agency to do what is feasible, and further that it need not, and should not, engage in speculation over data that is unknowable. The basic that a public agency is only required to do what is feasible, discussed above, is correct, but Respondent has not persuasively shown that it defeats Petitioner's arguments regarding the need for more information about MVT. The response to comments at AR 84-86 expressly admits that there are methodologies to quantify the additional sources of GHG emissions Petitioner identifies, but did not use them because they are not "commonly" used or the information "can be difficult to come by." This argument does not establish that Respondent had substantial evidence to support its approval.

The record, including the admissions in the PEIR shows that Respondent had a feasible ability to include the additional GHG data. Respondent compares the data used in this CAP to that used by other agencies. (AR 86; generally AR 84-86.) This is a logical explanation for employing the ICLEI Protocol used, but it does not demonstrate that it was "infeasible" to obtain the additional MVT data, especially given that Respondent acknowledges that the methodologies exist.

Had the EIR explained that it was unable to obtain the necessary information, or that there were no methodologies that it could have used to obtain/include it, Respondent's would have been justified in failing to obtain this data. However, here, Petitioner complains that Respondent appears merely to have avoided including greater, more complete, information based on the assumption that it would be "too much work."

The court grants the petition on this point.

D. MITIGATION MEASURES

Petitioner also argues that Respondent failed to adopt "definite, clearly defined and enforceable" mitigations measures. It contends that at least some of the mitigation measures

and standards it sets forth are unclear, vague, and not fully enforceable. Petitioner points out that the EIR concludes that the CAP would be "beneficial" and would thus support applicable regulatory plans for reducing GHG emissions, so, it contends, no mitigation for GHG emissions is necessary. (AR 204.)

Respondent argues that the CAP is not intended as a mitigation measure. No mitigation is needed because it is a plan to reduce GHG emissions in subsequent projects.

What Petitioner contends is not that the CAP and EIR need to adopt mitigation measures for the CAP itself, but instead that the CAP, in setting forth purported mitigation measures for future analysis and handling of GHG emissions, fails to present sufficient clearly defined and enforceable mitigation measures and standards.

Respondent points out this is not a "project" in the sense of an activity that will do anything that might create GHG emissions but instead is a plan for handling analysis and mitigation of GHG emissions in future projects. Therefore, there is clearly nothing about this Project to mitigate. Petitioner's contention that the PEIR should imposing sufficiently defined and enforceable mitigations measures, is a different issue.

Guideline 15183.5(b)(1)(D) and (E) are instructive. Subdivision (D) states that the plan should "*[s]pecify measures or a group of measures, including performance standards*, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level. Subdivision (E) states that the plan should "[e]stablish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels." (Emphasis added.)

1. Role and Purpose of Mitigation Measures in CEQA

Mitigation measures are needed, even required, where a project may have a significant impact and the purpose of the measures is to reduce any impact to less than significant. (PRC 21003.1(b); Guideline 15002(a)(3).)

2. Deferral of Mitigation

In general, it is improper for an agency to rely on *deferred* mitigation. (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 306; *Defend the Bay v. City of Irvine*

(2004) 119 Cal.App.4th 1261, 1275-1276.) An agency cannot find a significant impact to be mitigated to a less-than-significant level based on a deferred mitigation measure. (*Sundstrom v. County of Mendocino, supra,* 202 Cal.App.3d at 306. It is a violation of CEQA when an agency "simply requires a project applicant to obtain a biological report and then comply with any recommendations that may be made in the report. [Citation.]" (*Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275; see also *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 793.)

"Deferral of the specifics of mitigation is permissible where the local entity commits itself to mitigation and lists the alternatives to be considered, analyzed and possibly incorporated in the mitigation plan." (*Defend the Bay v. City of Irvine* (2004) 119 Cal.App.4th 1261, 1275-1276; see also *Sacramento Old City Assn. v. City Council* (1991) 229 Cal.App.3d 1011, 1028-1030.) This applies where "mitigation is known to be feasible, but where the practical considerations prohibit devising such measures early," so that "[w]here future action to carry a project forward is contingent on devising means to satisfy such criteria, the agency should be able to rely on its commitment as evidence that significant impacts will in fact be mitigated." (*Sacramento Old City Assn., supra*, 229 Cal.App.3d at 1028-1029.)

Because of the nature of first-tier tier EIRs, in particular, deferral of the specifics of mitigation measures, as long as they contain clear performance standards, is particularly appropriate and logical. (See, e.g., *Rio Vista Farm Bureau Center v. County of Solano* (1st Dist.1992) 5 Cal.App.4th 351 ("*Rio Vista Farm Bureau*"); *Al Larson Boat Shop Inc. v. Bd. of Harbor Commissioners, supra,* 18 Cal.App.4th 729.) In *Rio Vista Farm Bureau*, a first-tier "program EIR" serving as "primary planning document for hazardous waste management in the county" was found to contain sufficient mitigation measures adopted as policies to guide subsequent projects. The court rejected a challenge based on the assertion that the mitigation measures were "vague, inconclusive, and even inconsistent," finding the measures sufficient "given the broad, nebulous scope of the project under evaluation." (*Rio Vista Farm Bureau, supra,* 5 Cal.App.4th at 376.) The court found that the specificity of mitigation measures

should be proportionate to the specificity of the underlying project, which in that case was a broad planning document to guide later site-specific projects.

The court in *Coastal Hills Rural Preservation v. County of Sonoma* (2016) 2 Cal.App.5th 1234, 1258, upholding the trial court's order denying a CEQA petition for writ of mandate, explained that although "CEQA usually requires mitigation measures to be defined in advance" and not deferred, "deferral [of mitigation measures] is permitted if, in addition to demonstrating some need for deferral, the agency (1) commits itself to mitigation; and (2) spells out, in its environmental impact report, the possible mitigation options that would meet "specific performance criteria" contained in the report."

In *Sundstrom*, *supra*, the county required future hydrological studies as conditions of a use permit and required that any mitigation measures that the study suggested would become mandatory. This was held to be improper because the impacts and mitigation measures were not determined.

The court in *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359 found an Negative Declaration defective because it improperly relied on deferred formulation of specific mitigation measures. There, the city required the applicant to comply with any existing ordinance protecting the Stephens' kangaroo rat and allowed the city to require a biological report on the rat and compliance with any recommendations in the report. The court found this to be insufficient because it, like the approval in *Sundstrom*, was based on compliance with a report that had not yet even been performed.

By contrast, the court in *Schaeffer Land Trust v. San Jose City Council* (1989) 215 Cal.App.3d 612, upheld an Negative Declaration for a general plan amendment for a parcel of land which, regarding traffic issues, required any future development to comply with applicable "level of service" standards. Unlike the other cases mentioned above, here the mitigation measures were delayed because the development and impacts were not concrete, but the mitigation was fixed to set standards which, by definition, ensured that there would be no significant impact. Mitigation with deferred specifics was found to satisfy CEQA where the lead agency had committed to mitigation meeting a specified range of criteria and project

approval required the developer to obtain permits and adopt seven itemized measures in coordination and consultation with relevant agencies. *Defend the Bay, supra,* 1276.

In *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794, the court found a mitigation measure that required replacement habitat preservation to satisfy CEQA even though the specifics were not fully determined but where the approval set forth *specific possibilities and parameters that the mitigation needed to meet.*

3. The Role of the CAP in Subsequent GHG Analysis

The key issue here in determining the sufficiency of mitigation measures is the role this CAP is intended to play in s GHG analysis of future projects. As noted above, one aspect of first-tier plans and EIRs is that they may obviate the need for later projects falling within their ambit to conduct new CEQA review on certain issues where the future projects comply with the first-tier plan. Any later discretionary project that complies with its criteria, such as the standards and requirements it imposes, would not need to do further study of GAG emissions. Accordingly, the standards and requirements the CAP imposes for reducing or minimizing GHG emissions must be considered mitigation measures for purposes of CEQA and must comply with the CEQA requirements. This means that they must set forth clearly defined and enforceable performance standards to be met. Because of the intended streamlining, Petitioner correctly contends that the performance standards and measures set forth the PEIR must be clear, definite, and enforceable.

Here also, Respondent contends that Petitioner is imposing requirements and standards that do not exist in Guideline 15183.5. Respondent ignores the fundamental CEQA requirements which underlie Petitioner's claims. Respondent contends that Guideline 15183.5 does not require mitigation measures for the CAP or within the CAP imposed on future projects. This position not only conflicts with 15183.5 itself, it is fundamentally contrary to the principles of CEQA review.

It is axiomatic in CEQA that any measures or requirements imposed be sufficiently defined to be enforceable and that, in the context of tiering, any subsequent project may avoid analysis of an issue only if it complies with a first-tier document that satisfies CEQA

requirements. As noted above, PRC 21094(a) states that where a prior first-tier EIR has been certified and applies to a subsequent project, the agency "*need not examine those effects which ... were either (1) mitigated or avoided...* as a result of the prior [EIR] *or (2) examined at a sufficient level of detail in the prior [EIR] to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means....*" Accordingly, to obviate the need to address an issue or impact as part of a later project's CEQA review, a first-tier plan or program document and EIR must sufficiently analyze that issue or impact to determine that compliance with the document and its mitigations will mitigate or avoid the impact. The mitigation requirements in a first-tier document for avoiding or mitigating the impact *must* include performance standards that are mandatory and include specific, and effectively enforceable performance standards. (*Coastal Hills Rural Preservation v. County of Sonoma* (2016) 2 Cal.App.5th 1234, 1258.)

The prior discussion of Guideline 15183.5 addresses the impact of tiering mechanisms. Again, the CAP, and any such plan prepared under 15183.5, must meet the requirements for all first-tier documents and thus must impose effectively enforceable requirements and measures with defied performance standards.

Further, Guideline 15183.5 *does require the CAP to impose mitigation measures* on future projects. As both Respondent and the CAP itself acknowledge, and as noted above, subdivision (b) expressly states that "a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable *if* the project complies with *the requirements* in a previously *adopted plan or mitigation program* under specified circumstances." This plan or mitigation program, i.e., the CAP, according to (b)(2), "*may* be used in the cumulative impacts analysis of later projects" which clearly means that it need not. However, (b)(2) continues to state that *if it is* so used for a later project, that project must comply with the requirements and mitigation measures from the CAP. Once again, in the Guideline's words, a later project that in fact "relies on [the CAP] for a cumulative impacts analysis *must* identify those *requirements specified in the plan* that apply to the project, and, *if*

those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures...."

In countering Petitioner's complaint that some of the so-called measures or standards are too vague or loose or ill-defined to be properly enforceable, Respondent asserts that this will be "cured" because Guideline 15183.5(b)(2) states that any requirements that are not "binding and enforceable" will be incorporated as mitigation measures in the project's CEQA document. This "interpretation" does not withstand scrutiny. As explained above, a first-tier document, in order to be used to avoid revisiting analysis of an issue in a later project, must have sufficiently analyzed the issue and found any significant impact to be mitigated or avoided by complying with the document. That means that any requirement, such as mitigation, must have sufficiently defined, clear, and mandatory performance standards to be effectively enforceable and to have predictable results. If the requirements or measures are so ill-defined as to be unenforceable as a practical matter, and effectively meaningless, merely "incorporating" them into the later project's CEQA document will obviously not fix that problem. What the state in the Guideline must mean, therefore, is not that an ineffective measure may simply be incorporated into a later project's document, as Respondent asserts, but that a measure or requirement must be incorporated in the document *if it is not enforced independently, or through some other mechanism.*

4. The Measures in the CAP

The CAP sets forth requirements and standards or mitigation measures at AR 1015-1048.

Respondent primarily argues that under Guideline 15183.5(b)(2), any measure which the CAP imposes and which is "not otherwise binding and enforceable" must be incorporated into future projects. As addressed above, this argument is not meritorious. Guideline 15183.5(b)(2) expressly requires that:

> "A*n environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and*

enforceable, incorporate those requirements as mitigation measures applicable to the project. *If there is substantial evidence that the effects* of a particular project *may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan* for the reduction of greenhouse gas emissions, *an EIR must be prepared* for the project.

(emphasis added.)

Petitioner singles out three of the specific measures or requirements in the CAP for discussion as demonstrating a lack of meaningful enforceability and clear standards.

a) 5-R4 (AR 1026)

The first is 5-R4 (AR 1026.) This "trip-reduction ordinance" requires employers with 50+ employees to offer one of several options to employees in order to reduce GHG emissions: "pre-tax transit expenses, transit or vanpool subsidy, free or low cost shuttle, *or an alternative benefit.*" (Emphasis added.) It is the latter to which Petitioner objects, arguing that it is vague and undefined either in what it must be like or what it must achieve, so that there is no way to enforce this. As a result, Petitioner contends, a project could offer as "alternative benefit" which no-one can at this point predict, and argue that it need not do GHG analysis because it has "complied" with this measure. Respondent contends that an alternative of purchasing GHG offsets is considered and this is correct but this is not the definition of "an alternative benefit," which is left open and could be anything. Petitioner is correct on this point.

Respondent contended that Petitioner failed to exhaust administrative remedies on this specific issue.

According to PRC section 21177, "[a] person shall not maintain an action or proceeding unless that person objected to the approval of the project orally or in writing during the public comment period provided by this division or prior to the close of the public hearing on the project before the filing of the notice of determination." This does not, however, bar an association or organization formed after approval from raising a challenge which one of its constituent members had raised, directly or by agreeing with or supporting

another's comments. (PRC section 21177(c).) Moreover, someone may file a legal challenge based on an issue as long as "any person" raised that issue during the review process. PRC section 21177(a); see *Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 267-268. It also does not apply to any grounds of which the agency did not give required notice and for which there was no hearing or opportunity to be heard. PRC section 21177(e).

A party challenging decision under CEQA cannot, to exhaust administrative remedies, rely merely on "general objections" or "unelaborated comments." *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535; *Coalition for Student Action v. City of Fullerton* (1984) 153 Cal.App.3d 1194, 1197. However, "[l]ess specificity is required to preserve an issue for appeal in an administrative proceeding than in a judicial proceeding...." *Citizens Association for Sensible Development of Bishop Area v. County of Inyo* (1985) 172 Cal.App.3d 151, 163.

Petitioner responds that only the substance of the issue must be raised at the administrative level, relying on *Save Our Residential Environment v. City of West Hollywood* (1992) (Cal.App.4th 1745, 1750.) And further that less specificity is required to exhaust an issue in an administrative proceeding that in a judicial one, relying on *Woodword park Homeowners Assn. v. City of Fresno* (2007) 150 Cal.appp.4th 683, 712 and *Brothers Real Estate Group v. City of Los Angeles* (2008) 153 Cal.App.4th 1385, 1395. The court finds that Petitioner did articulate this as a basic contention in the underlying administrative proceedings. (AR 66 and AR 67.)

b) 4-L-1 (AR 1024)

Petitioner's attack 4-L-1, at AR 1024, which requires consistency with applicable "adopted policies" on mixed-use and transit-oriented development, such as zoning codes, general plans, etc., and states that agencies must "support mixed use [sic] development in city-centers and transit-oriented development locations through their General Plans, etc." is not persuasive. Petitioner contends that this is too vague because "mixed-use" has been interpreted to allow hotels and tourist destinations built downtown or near rail stations. Petitioner focuses on one portion of this requirement that is open-ended. Nothing indicates

that the type of use that could be allowed in a mixed-use development, whether store, museum, eatery, office, or hotel, has any bearing on GHG emissions. Petitioner cites no evidence or explanation in support of this claim and does not explain how this is material. What matters is that there are clear, adopted standards mandating such development and Petitioner does not challenge that portion of the measure at all.

It is possible that the measure could be found too vague and Petitioner may be challenging it on that basis as well. Petitioner refers to it when mentioning how an "undefined alterative... lacks the required specificity" and Petitioner again mentions it on the following page with reference to "tentative plans" for future mitigation in ill-defined subsequent regulation to be adopted. This, merely requires each jurisdiction to "identify such appropriate areas and include unspecified policies and incentives to encourage development near high-quality transit service." It requires the jurisdiction to define requirements and identify potential incentives, giving a list of the types that these "may include," the last being "other related items." Again, this does not give any clear performance standards regarding how to achieve this or what the parameters are. As Petitioner argues, for the third measure, the court in *Communities for a Better Environment v. City of Richmond,* 184 Cal.App.4th 70, 92, found a measure insufficiently specific where it required reduction of mobile emission sources though "transportation smart" development because "reliance on tentative plans for future mitigation... significantly undermines CEQA's goals of full disclosure and informed decision making." Under this analysis, this measure is also defective.

c) 2-L-1 (AR 1021)

Lastly, Petitioner argues that 2-L-1, at AR 1021, is defective. This measure mandates that the project "comply with local requirement(s) for rooftop solar PV on new residential development. It states that each jurisdiction "will define which new development must provide rooftop solar [PV] by defining qualifying criteria... and the amount of solar required...." As Petitioner argues, this sets no standards at all, just like 4-L-1, but instead merely general principles and future possibilities. This violates CEQA.

Petitioner further argues that the measures in general do not guarantee any likelihood of implementation. This is clear from the ones discussed above. Petitioner cites 1-R2 as another example. It states that two named agencies "will work with the participating communities to implement energy efficient retrofits. Actions may include: Implementing a... weatherization program, expanding energy efficiency outreach/education campaigns..., promoting the smart grid," etc. Again, none of this goes beyond stating wishful thinking, good intentions, and an intent to "work" with others. Measures that fall into this category violate CEQA as well.

Petitioner also generally attacks the measures as lacking meaningful enforceability. Petitioner also contends that of all of them, only 1-S1 and 1-S2 are actually enforceable because they govern building energy and lighting efficiency, both controlled by state regulation. The court finds a few others in addition to 1-S1 and 1-S2 to be similarly enforceable. These include 1-L1, based on Windsor's building code, 1-L2, requiring LED lights in new development.

Aside from those few, Petitioner is correct that most are not enforceable, either because they are too vague and lacking in meaningful mandatory requirements such as those already discussed, which only "require" some "alternative" that is not specified or governed by set parameters. Others, such as 1-L3 through2-L2, state mitigation measures but then state that these are "voluntary," or "encouraged," or only necessary where "applicable" based on circumstances or criteria that are not defined. Others again rely on other jurisdictions such as the cities creating applicable requirements that in some unspecified manner promote the stated, vague, open-ended policies that lack any parameters or requirements. These are too numerous to list them all here but this general characteristic dominates almost all of the measures from what I have read.

Accordingly, the court grants the petition with respect to mitigation. Because the record does not provide adequate information about extraterritorial emissions the agency and the public could not and the court cannot determine whether the CAP would achieve its stated goal to reduce GAG impacts to pre-1990 levels by 2020.

E. ALTERNATIVES

Petitioner asserts that Respondent violated CEQA by adopting as the "environmentally superior alternative" the Zero Net Energy Buildings Alternative because it fails to address GHG emissions from transportation while Respondent declined to evaluate an alternative with a moratorium on, or significant reduction of, new or expanded vineyards, wineries and tourist destinations. (AR 94; 426-427.)

Respondent contends that the analysis is sufficient because Petitioner believes that reducing or stopping growth, and in particular growth that involves travel of people and goods to and from the county, is necessary, and Petitioner cannot impose such mandates on R; Respondent considered a range of alternatives; and choosing the moratorium alternative would require the court to "dramatically substitute" its judgment for Respondent's.

CEQA requires all EIRs to consider alternatives to the project. (*Friends of the Old Trees v. Dept. of Forestry & Fire Protection* (1st Dist.1997) 52 Cal.App.4th 1383, 1393-1395 (*Friends of Old Trees*).)

1. Importance and Central Role of Alternatives Analysis

PRC section 21002 states that "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects...." An agency may not approve a project that will result in significant impacts *unless it first finds that mitigation measures or alternatives are infeasible*. (PRC section 21081; Guidelines 15091, 15093.)

The Supreme Court decided that considering alternatives is one of the most important functions of an EIR. (*Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 197.) In fact, "[t]he core of the EIR is the mitigation and alternatives sections." (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564, 566 (*Goleta II*).)

Without evidence regarding why the alternatives are insufficient to meet the project or CEQA goals, meaningful analysis is impossible. An EIR must "explain in meaningful detail the reasons and facts supporting [the] conclusion." (*Marin Municipal Water Dist. v. KG Land*

Corp. California (1991) 235 Cal.App.3d 1652, 1664.) Failure to provide sufficient analysis or alternatives makes it impossible for the court to "intelligently examine the validity of the... action." (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, 522.)

The alternatives must be discussed in the EIR itself, provided for public review, and subject to analysis, and the agency cannot cure defects by providing analysis in its official response. (See *Friends of the Old Trees, supra*, 52 Cal.App.4th at 1403-1405.)

2. Authority on Analyzing Alternatives and Feasibility

The discussion should evaluate the relative merits of each alternative 14 CCR §15126.6(a). Respondents need not analyze or adopt alternatives that are not feasible. 14 CCR ' 15126.6(c), (f); *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564, 566 (*Goleta II*). However, the document *must* consider alternatives that *are* feasible. *EPIC v. Johnson* (1985) 170 Cal.App.3d 604, 610; *Friends of the Old Trees, supra*, 52 Cal.App.4th 1404.

Ultimately, determining if alternatives are suitable involves a three-part test governed by the "rule of reason" as set forth in Guideline 15126.6. (See *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal.3d 553, 564, 566 (*Goleta II*); *Save San Francisco Bay Association v. San Francisco Bay Conservation and Development Commission* (1992) 10 Cal.App.4th 908, 919.) The analysis must consider alternatives that 1) may "attain most of the basic objectives of the project," 2) reduce or avoid the project's impacts, and 3) are "potentially feasible." (Guideline 15126.6(a), (f).)

The analysis of alternatives is required to set forth facts and "*meaningful* analysis" of these alternatives rather than "'just the agency's bare conclusions or opinions.'" (*Laurel Heights I, supra*, 47 Cal.3d 376, 404-405; *Goleta II, supra*, 52 Cal.3d 569; *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1353.) All analysis must include "detail sufficient to enable those who did not participate... to understand and to consider meaningfully" the alternatives. (*Laurel Heights I, supra*, 404-405.)

As notes above, "feasible" means able to be "accomplished in a successful manner within a reasonable period... taking into account economic, environmental, social, and technological factors." (PRC section 21061.1.)

When the agency determines that alternatives are infeasible, it "shall describe the specific reasons for rejecting identified...project alternatives." (Guideline 15091(a), (c).) The analysis of alternatives is required to set forth facts and "*meaningful* analysis" of these alternatives rather than "'just the agency's bare conclusions or opinions.'" (*Laurel Heights I, supra*, 47 Cal.3d 376, 404-405; *Goleta II, supra*, 52 Cal.3d 569; *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336, 1353.) All analysis must include "detail sufficient to enable those who did not participate... to understand and to consider meaningfully" the alternatives. (*Laurel Heights I, supra*, 404-405.)

The agency must make findings identifying specific considerations making an alternative infeasible and the specific benefits of the Project that outweigh the relative harm. (PRC § 21002.1(b), 21081, Guideline 15092(b); *Preservation Action Council, supra*, 1353.)

On the other hand, as usual, the requirement is one of reasonableness and a "crystal ball" inquiry is not necessary. (*Residents Ad Hoc Stadium Committee v. Bd. of Trustees* (3d Dist.1979) 89 Cal.App.3d 272, 286.) The key, as with most aspects of an EIR is that the agency must provide enough information about the analytical path taken to allow the court to "intelligently examine the validity of the administrative action." (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, 522.) However, no "ironclad rule" other than the "rule of reason" governs the decision. (Guideline 15126.6(a).)

An agency cannot find an alternative infeasible simply because the developer does not want to do it. (*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 601.) In fact, the analysis must include alternatives that are reasonable "even if they substantially impede the project or are more costly." (*San Bernardino Valley Audubon Society v. County of San Bernardino* (1984) 155 Cal.App.3d 738, 750; see also *Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336.)

An EIR or decision thereon also cannot merely state that an alternative is infeasible simply because it is too expensive or will not lead to sufficient return without providing supporting analysis. (*Preservation Action Council v. City of San Jose* (2006) 141 Cal.App.4th 1336.) "The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the *additional costs or lost profitability* are sufficiently *severe as to render it impractical* to proceed with the project." (*Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1181; *Uphold Our Heritage, supra*, 599; (emphasis added).)

An alternative should be capable of "substantially lessening" adverse impacts but it need only have fewer impacts and it need not be impact free. PRC 21002; Guideline 15126.6(a); *Citizens of Goleta Valley v. Board of Supervisors (Goleta II)* (1990) 52 Cal.3d 553, 566.

3. Reasonable Range

An EIR must describe a reasonable range of alternatives to the proposed project or its location that would feasibly achieve most of the project's objectives, while reducing or avoiding any of its significant effects. (Guideline 15126.6(a), (d).)

The EIR "shall focus on alternatives... which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objective, or would be more costly." (Guideline 15126.6(b).)

The EIR must set forth the alternatives necessary to permit a reasoned choice and in a manner that will allow "meaningful evaluation." (Guideline 15126.6(a), (d), (f); *Goleta II;* see also *Laurel Heights I, supra*; see also *San Bernardino Valley Audubon Soc., Inc. v. County of San Bernardino* (1984) 155 Cal.App.3d 738, 750-751 (the detail must allow a reasonable choice "so far as environmental aspects are concerned.").)

If an EIR excludes certain alternatives, it should identify the alternatives and set forth the reasons. (*Goleta II, supra,* 569; Guideline 15126.6(b).) The court in determining if the

EIR included a reasonable range of alternatives may consider the entire record to determine if alternatives were properly excluded from consideration. (*Goleta II, supra*, 569.)

Alternatives that would eliminate or reduce significant environmental impacts *must* be considered even if they would cost more or "to some degree" impede attainment of the project's objectives. (Guideline 15126.6(b).)

4. Detail of Relevant Decisions on the Adequacy of Alternatives

In *Friends of the Old Trees, supra*, 52 Cal.App.4th 1383, an extreme case, there was no discussion of alternatives in the versions submitted for public review. The agency argued that the fact it considered mitigation should suffice, while the real party marked a box selecting a certain method of cutting. The court also noted that the *public* brought forth "the only true alternatives," and that these were discussed only after the document was approved. (*Friends of the Old Trees, supra,* 52 Cal.App.4th 1405.) The court found the discussion inadequate. (*Id.*, 1403-1405.)

In *Citizens of Goleta Valley v. Board of Supervisors (Goleta I),* (1988) 197 Cal.App.3d 1167, the EIR considered a smaller hotel to be an economically infeasible alternative to the proposed hotel at issue. Because the EIR lacked *evidence* that the smaller hotel was economically infeasible, the court considered it error to deny the writ of mandate. The court found that although the EIR contained estimated figures of costs, the record did not reveal any *evidence* which *analyzed* the alternative in terms of comparative costs, comparative profits or losses, or comparative economic benefit to the project proponent, residents, or the community at large. (*Id.*, 1180.)

The court in *Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, at 599, addressed a project to demolish an historic mansion in order to construct a new, smaller single-family residence. The court found that evidence that alternatives of historic rehabilitation or rehabilitation with a new addition, would cost between $4.9 million and $10 million was not substantial evidence that alternatives were not economically feasible since there was no evidence of the likely cost of a proposed replacement home or average cost of

building the proposed 6,000 square foot home in the city. It also found that whether the developer wanted to do the alternative was irrelevant to determining if it is not feasible.

San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (Arambel and Rose Development, Inc.) (1994) 27 Cal.App.4th 713, also dealt with alternatives analysis. The court found, in the context of a proposed housing development, that the discussion of housing density alternatives was inadequate. The DEIR stated that a lower density would "lessen the impacts," but failed to identify which impacts it meant or to what degree. The court ruled that " [s]uch a bare conclusion without an explanation of its factual and analytical basis is insufficient." *Id.*, at 736. The court went on to state:

> That lower density might not be "economically feasible," is not sufficient justification for the failure to give basic information as to density alternatives which were considered and rejected. Contrary to [respondent's] argument, [petitioners] are not required to show there are reasonable alternatives. *It is the project proponent's responsibility to provide an adequate discussion of alternatives....* If the project proponent concludes there are no feasible alternatives, it must explain in *meaningful detail* in the EIR the basis for that conclusion. Thus, even if alternatives are rejected, an EIR *must explain why* each suggested alternative either does not satisfy the goals of the proposed project, does not offer substantial environmental advantages or cannot be accomplished.

Id., at 737 (emphasis added).

5. Whether Feasibility Finding Is Necessary

As noted above, PRC sections 21002, 21081, and Guidelines 15091, 15093 together forbid approval of a project that *will result in significant impacts without first finding that any environmentally superior alternatives are infeasible*. Petitioner argues that Respondent failed to consider an alternative that is environmentally superior.

6. The Alternatives Analysis for the CAP

The alternatives analysis is at AR 425-438. The PEIR explains that it developed and analyzed only *one* other alternative, the Carbon Offset Alternative, in addition to the chosen Zero Net Energy Buildings plan and the mandatory no-project alternative. It expressly rejected a growth moratorium, reduced density, greater density, increased Sonoma Clean Power, expanded transit service, 1990 Levels by 2020 (AB32), and 80% Below 1990 Levels by 2020.

The real issue here is whether the Respondent, in rejecting formulating other alternatives, has considered a reasonable range, as required, and whether Respondent has provided sufficient explanation of infeasibility or other reasoning to support not considering other proposed alternatives.

Respondent's analysis is insufficient. Respondent considered almost no range at all, and only one other alternative that essentially is one that does nothing other than to authorize Respondent to buy GHG offsets for all GHG impacts from projects. Although Respondent argues to the contrary, this alternative seems both infeasible and at the same time would not actually do anything to control or limit actual GHG production. As an alternative, this appears to be one of form, but not of substance.

By contrast, the moratorium or reduced-development alternative which Petitioner proposes, and which was presented to Respondent in public comments (see, e.g., AR 93-94, response to comment) along with others noted but rejected without being developed, include real solutions that differ significantly from the chosen CAP. At least some, like the moratorium or growth limit, also address issues of GHG production from travel. While it is logical that some may be infeasible or incompatible with goals of growth, this is not alone, without explanation or support, a basis for not even considering those alternatives, or modified versions. For example, Respondent noted a moratorium on growth of wineries or housing "until the jobs-housing balance in the County is more equitable," but this does not even address the issues of Petitioner's proposed moratorium, it is arbitrarily limited, and it does not even seem to make much sense. There is no evidence or explanation for what it

would be or why Respondent could not consider a similar, but different one, such as Petitioner proposed. That is the purpose of actually developing and considering alternatives. Given that there are available alternatives that differ drastically from what Respondent has considered and given that Respondent has, in effect, considered only one other option that is perhaps only nominally an alternative, this analysis fails to consider a reasonable range of alternatives, or even any range at all.

The court Grants the petition on this issue.

F. RESPONSE TO PUBLIC COMMENTS

Petitioner next argues that Respondent's response to public comments was insufficient in violation of Guideline 15088(c).

The "evaluation and response to public comments is an essential part of the CEQA process." (Discussion following CEQA Guideline 15088.) The final EIR must include evaluation and responses to all comments received in the public-comment period. PRC section 21091(d)(2)(A). Guideline 15088 governs responses to comments and subdivision (c) governs the substance of such responses. It requires responses to address issues "in detail" and demonstrate "why specific comments and suggestions were not accepted." Most importantly, perhaps, the responses must explain the reasons for rejecting suggestions with a "good faith, reasoned analysis" and must not rely on "[c]onclusory statements unsupported by factual information." Guideline 15088(c).

1. Exhaustion of Administrative Remedies

Respondent first contends that Petitioner failed to exhaust administrative remedies on this issue. The court has found, above, that Petitioner exhausted its administrative remedies.

Petitioner's argument here is collateral and not persuasive. Although Petitioner points out that a few responses may not sufficiently resolve issues, that is of little importance in of itself. What matters are the fundamental defects that have not been cured as discussed above: failure to properly determine GHG inventory, or demonstrate that Respondent could not practically have done more or did not need to do more; ill-defined mitigation measures lacking enforceable criteria or parameters; and lack of reasonable range of alternatives.

The court denies the Petition with respect to the comments..

G. WHETHER RESPONDENTS' ERROR WAS PREJUDICIAL

Respondent contends that even if Petitioner demonstrated error, it was not prejudicial. As noted at the outset, in order for the court to issue a writ of mandate, it must find not only error, i.e., a violation of CEQA, but that error was prejudicial. (*Chaparral Greens v. City of Chula Vista* (1996) 50 Cal.App.4th 1134, 1143; *see* PRC 21168, 21168.5, *Laurel Heights I, supra* 47 Cal.3d 392, fn.5; Remy, et al., Guide to the California Environmental Quality Act (10th Ed.1999) Chapter XI(D), p.590.)

Respondent's failure to impose meaningful, effectively enforceable mitigation measures, when presenting compliance with the CAP as a way for future projects to avoid any other GHG analysis, is fundamentally and on its face, prejudicial. The failure to present a reasonable range of alternatives or to properly inventory GHG emissions as required are also on, their face, prejudicial because they prevent informed decision making or public review, the very bases of CEQA. (*Sierra Club v. State Bd. of Forestry* (1994) 7 Cal.4th 1215, 1228-1230, 1235-1237 (failure to put critical information in an environmental document was in of itself a prejudicial abuse of discretion partly because it "frustrated the purpose of the public comment provisions"); *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, at 1073 ("[a]n error is prejudicial when an agency fails to comply with a mandatory CEQA procedure or when a report omits information and thereby precludes informed decision making); *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1182,; *Schoen v. Dept. of Forestry & Fire Protection* (1997) 58 Cal.App.4th 556, 565 ("We cannot overlook a prejudicial error by surmising that the project would have gone forward anyway.").)

Based on the foregoing,

NOW, THEREFORE,

ORDER

1. The Petition for Mandamus is granted as stated above.

Dated: 7/20/17

By: _____
NANCY CASE SHAFFER
Judge of the Superior Court

END NOTES

[i] (a) "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.
(b) Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including general plans, zoning changes, and development projects. This approach can eliminate repetitive discussions of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy, or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration. Tiering does not excuse the lead agency from adequately analyzing reasonably foreseeable significant environmental effects of the project and does not justify deferring such analysis to a later tier EIR or negative declaration. However, the level of detail contained in a first tier EIR need not be greater than that of the program, plan, policy, or ordinance being analyzed.
(c) Where a lead agency is using the tiering process in connection with an EIR for a large-scale planning approval, such as a general plan or component thereof (e.g., an area plan or community plan), the development of detailed, site-specific information may not be feasible but can be deferred, in many instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographical scale, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand.
(d) Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:
(1) Were not examined as significant effects on the environment in the prior EIR; or
(2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.
(e) Tiering under this section shall be limited to situations where the project is consistent with the general plan and zoning of the city or county in which the project is located, except that a project requiring a rezone to achieve or maintain conformity with a general plan may be subject to tiering.

(f) A later EIR shall be required when the initial study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR. A negative declaration shall be required when the provisions of Section 15070 are met.

(1) Where a lead agency determines that a cumulative effect has been adequately addressed in the prior EIR, that effect is not treated as significant for purposes of the later EIR or negative declaration, and need not be discussed in detail.

(2) When assessing whether there is a new significant cumulative effect, the lead agency shall consider whether the incremental effects of the project would be considerable when viewed in the context of past, present, and probable future projects. At this point, the question is not whether there is a significant cumulative impact, but whether the effects of the project are cumulatively considerable. For a discussion on how to assess whether project impacts are cumulatively considerable, see Section 15064(i).

(3) Significant environmental effects have been "adequately addressed" if the lead agency determines that:

(A) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental report; or

(B) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.

(g) When tiering is used, the later EIRs or negative declarations shall refer to the prior EIR and state where a copy of the prior EIR may be examined. The later EIR or negative declaration should state that the lead agency is using the tiering concept and that it is being tiered with the earlier EIR.

(h) There are various types of EIRs that may be used in a tiering situation. These include, but are not limited to, the following:

(1) General plan EIR (Section 15166).

(2) Staged EIR (Section 15167).

(3) Program EIR (Section 15168).

(4) Master EIR (Section 15175).

(5) Multiple-family residential development/residential and commercial or retail mixed-use development (Section 15179.5).

(6) Redevelopment project (Section 15180).

(7) Projects consistent with community plan, general plan, or zoning (Section 15183).

One specific example of a first-tier EIR is a "program" EIR as set forth in Guideline 15168. This details the nature and requirements and uses of such a first-tier EIR, in a manner similar to that set forth in 15152, and gives another good picture of how they are to be used and what they must do to be so used in compliance with CEQA. It states, in full,

(a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

(1) Geographically,

(2) As logical parts in the chain of contemplated actions,

(3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or

(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

(b) Advantages. Use of a program EIR can provide the following advantages. The program EIR can:

(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,

(2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,

(3) Avoid duplicative reconsideration of basic policy considerations,

(4) Allow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts,

(5) Allow reduction in paperwork.

(c) Use With Later Activities. Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a new initial study would need to be prepared leading to either an EIR or a negative declaration.

(2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

(d) Use With Subsequent EIRS and Negative Declarations. A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

(1) Provide the basis in an initial study for determining whether the later activity may have any significant effects.

(2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.

(3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

(e) Notice With Later Activities. When a law other than CEQA requires public notice when the agency later proposes to carry out or approve an activity within the program and to

rely on the program EIR for CEQA compliance, the notice for the activity shall include a statement that:

(1) This activity is within the scope of the program approved earlier, and

(2) The program EIR adequately describes the activity for the purposes of CEQA.

[ii] (a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs), 15175-15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning). (b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may *choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document.* A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) *Plan Elements. A plan for the reduction of greenhouse gas emissions should:*

(A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

(B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;

(C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

(D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels;

(F) Be adopted in a public process following environmental review.

(2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

(c) Special Situations. As provided in Public Resources Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed use projects, and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy need not analyze global warming impacts resulting from cars and light duty trucks.

A lead agency should consider whether such projects may result in greenhouse gas emissions resulting from other sources, however, consistent with these Guidelines.

SCV259242

PROOF OF SERVICE BY MAIL

I certify that I am an employee of the Superior Court of California, County of Sonoma, and that my business address is 600 Administration Drive, Room 107-J, Santa Rosa, California, 95403; that I am not a party to this case; that I am over the age of 18 years; that I am readily familiar with this office's practice for collection and processing of correspondence for mailing with the United States Postal Service; and that on the date shown below I placed a true copy of Order Granting Petition for Writ of Mandate in an envelope, sealed and addressed as shown below, for collection and mailing at Santa Rosa, California, first class, postage fully prepaid, following ordinary business practices.

Date: July 20, 2017

JOSÉ OCTAVIO GUILLÉN
Court Executive Officer

By: Missy Lemley
Missy Lemley, Deputy Clerk

-ADDRESSEES-

✓ JERRY BERNHAUT
708 Gravenstein Hwy N # 407
Sebastopol Ca 95472-2808

BRUCE D GOLDSTEIN
COUNTY COUNSEL
575 Administration Dr Rm 105a
Santa Rosa Ca 95403

Climate Resolve

Innovate. Advocate. Achieve. **Together.**

June 8, 2022

Los Angeles County Department of Regional Planning
Attn: Thuy Hua
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012

RE: COMMENTS ON THE DRAFT 2045 DRAFT CLIMATE ACTION PLAN

Dear Ms. Hua:

Climate Resolve applauds the County's recognition that all strategies in the 2045 Draft Climate Action Plan (CAP) acknowledges the important role that LA County has as a convener and leader in the region. Reaching the targets and goals of the 2045 CAP requires regional collaboration and partnership with various stakeholders, including communities, local governments, and the State of California. We hope to continue to work with you to move toward a low-carbon future.

For the past decade, Climate Resolve has been supporting communities' climate planning and adaptation efforts by illuminating needs and gaps. We help school districts become more energy efficient through a series of energy audit and retrofit measures. We established a first-of-its-kind evaluation and tracking system to see if cities impacted by climate change-induced hazards had complied with mandatory statewide preventative efforts. We spearheaded legislative efforts putting good government policies into place that adapt our communities to rising climate hazards like extreme heat.

We wholeheartedly agree in the strategies outlined in this Draft CAP and believe there is some room for improvement. Particularly, around some of the work we've been doing in the public right-of-way which holds great promise in reducing the global warming potential of heat and minimizing the use of mechanical ventilation and air conditioning systems. Acknowledging the potential GHG emissions reductions in cool streets which reflect sunlight back into space prior to it becoming heat can greatly reduce ambient temperatures in surrounding buildings offsetting the need to use air conditioning systems whose source of energy is not decarbonized. It would be great of the Draft CAP acknowledged the great potential that the County's public right-of-way presents to furthering and accelerating reaching the 2030, 2035 and 2045 carbon neutrality goals.

The time is now to shift focus and reduce GHGs and GHG potential in the most practical of ways, while pursuing transformational impact. Thank you for your attention on this matter. If you have any questions, I can be reached at jparfrey@climateresolve.org.

Sincerely,

Jonathan Parfrey
Executive Director

Climate Resolve

Innovate. Advocate. Achieve. **Together.**

July 15, 2022

Los Angeles County Department of Regional Planning
Attn: Thuy Hua
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012

RE: COMMENTS ON THE DRAFT 2045 DRAFT CLIMATE ACTION PLAN (CAP)

Dear Ms. Hua:

Climate Resolve applauds the 2045 CAP update to the 2020 CAP, which sets new GHG emissions reduction targets beyond the 2020 time frame. We appreciate the ambitious climate actions that address GHG emission from all sectors and sources. Reaching the targets and goals of the 2045 CAP requires regional collaboration and partnership with various stakeholders, including communities, local governments, and the State of California. We hope to continue to work with you to move toward a low-carbon future.

For the past decade, Climate Resolve has been supporting communities' climate planning and adaptation efforts by illuminating needs and gaps. We helped school districts become more energy efficient through a series of energy audit and retrofit measures. We established a first-of-its-kind evaluation and tracking system to see if cities impacted by climate change had complied with mandatory statewide preventative efforts. We spearheaded legislative efforts putting good government policies into place that adapt our communities to rising climate hazards like extreme heat.

The LAC CAP is a step in the right direction, but we have identified a few blind spots. Based on this assessment, we offer the following comments below:

THE LAC CAP COMMITS TO GHG GOALS THAT ARE OUTSIDE OF ITS REGULATORY PURVIEW

The core measure identified below presumes that the development of ZEV's and related infrastructure will be responsible for significant reductions in GHGs. The Draft CAP underemphasized other core transportation and planning strategies that better reflect policies the county can control and influence. Additionally, using 2015 as a baseline is problematic as it misses heavy investments in

alternative transit. Since 2016, the County has passed several transit bond measures that fund alternative transit and facilitate the mode shift from personal vehicles to active transit like walking, biking, scooters, electric-assisted e-biking, and the use of public transportation. The Draft CAP should include these developments into their projections and use them to better assess the potential impact of mode-shift strategies outlined in the Draft CAP:

- Core Measure T6: Increase ZEV Market Share and Reduce Gasoline and Diesel Fuel Sales

For the following core measure, there is an exhaustive list of state agencies, plans and programs that all aim to meet this target. Missing from this list are public utilities like Southern California Edison who in their latest Building Electrification Application (June 2022) to the California Public Utilities Commission leave out a vital element for building electrification—incentivizing the switch from gas-powered stoves to electric/induction stoves. Gas-powered stoves make up over 50% of GHGs stemming from homes. This missing component from their BE application runs counter to the Draft CAP transition to all electric targets. The Draft CAP should incorporate an analysis of the impact that SCE's BE application will have on the 2030 projection of the following core measure:

- Core Measure E1: Transition Existing Buildings to All-Electric

The following core measure could use more analysis as to how it registers as a major emissions reduction pathway:

- Core Measure W2: Increase Organic Waste Diversion

THE TRANSIT-ORIENTED DEVELOPMENT SCOPE SHOULD REFLECT HIGH DENSITY LAND USE PATTERNS

We appreciate the effort to link land use configurations to the over-reliance on the personal automobile. There is room to expand the analysis and minimize the distance that people travel between home, recreation, and places of employment. To accomplish this, the plan should increase the maximum density near transit proposed in the Draft CAP from 50 dwellings per acre to a maximum of 150 du/ac. We know that assigning a number like 50 du/ac would not literally result in this density. When one

accounts for other zoning provisions like minimum parking requirements, maximum building heights, setbacks, open space and floor area ratios, the maximum density is reduced significantly. This means that a project maximized at 50 du/ac actually could result in half of that density once the project fulfills all of its zoning mandates. For this reason, we propose that the density be increased to 150 du/ac to offset the impacts to density brought about by fulfilling other zoning code mandates. Additionally, the performance objectives addressing the jobs/housing balance stands to benefit from increasing it from 300 jobs per acre to 500 j/ac. Please address these gaps in the following strategies and measures:

- Transportation: Strategy 2: Increase Densities and Diversity of Land Uses Near Transit
- Measure T2: Develop Land Use Plans Addressing Jobs/Housing Balance and Increase Mixed Use

EXPAND THE GHG NET-ZERO TOOLBOX BY INCORPORATING HIGH ALBEDO SURFACES

We wholeheartedly agree in the strategies outlined in this Draft CAP. All of the strategies identified in this report have great potential to achieve net-zero greenhouse gas emissions, but as mentioned above, some of the assumptions as to how best to go about them must be revised. With continual degradation of carbon sinks and carbon capture systems that have not gained traction in California, the need to reduce and remove carbon dioxide from transportation, industrial processes and power plants to less than or equal to the amount being stored is difficult. There is a growing need to identify more stationary sources of pollution and the accompanying opportunities to add to the net-zero toolbox.

There is a growing recognition that adapting static infrastructure, like streets and highways, that are major sources of heat and that accelerate the production of air pollution, can add to the emissions reduction portfolio. Applying high albedo reflective surfaces (cool pavement) to pavement and building rooftops (cool roofs) holds great promise in reducing the global warming and local potential of heat and minimizing the use of mechanical ventilation and air conditioning systems.

Acknowledging the potential GHG emissions reductions in cool streets and cool roofs can greatly reduce ambient temperatures in surrounding buildings reducing the need to produce GHGs through the use of air conditioning systems whose source of energy is not decarbonized. Cool streets also have the potential to bypass heat trapping gases in the atmosphere, reducing the global warming potential of solar radiation. There is potential to reduce wear and tear from tires touching overheated asphalt, too. This deterioration creates fine particulate matter, which get lodged deeper in lungs and exacerbates

medical conditions like asthma and heart disease. The Draft CAP should acknowledge the great potential that the County's thousands of miles of roadways present to furthering and accelerating reaching the 2030, 2035 and 2045 carbon neutrality goals.

We recommend that a section be added to Appendix B establishing a protocol that accounts for the carbon dioxide emissions and fine particulate matter reduction potential of high albedo surfaces.

The time is now to shift focus and reduce GHGs and GHG potential in the most practical of ways, while pursuing transformational impact. Thank you for your attention on this matter. If you have any questions, I can be reached at jparfrey@climateresolve.org.

Sincerely,

Jonathan Parfrey
Executive Director

COMMUNITIES FOR A BETTER ENVIRONMENT
established 1978

July 18, 2022

Thuy Hua, Supervising Regional Planner, Environmental Planning and Sustainability
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012

Sent via electronic mail

RE: Strengthening the Draft 2045 Los Angeles County Climate Action Plan

To the Los Angeles County Department of Regional Planning:

On behalf of Communities for a Better Environment (CBE) we are submitting this comment letter to share feedback about the Draft 2045 Los Angeles County Climate Action Plan (CAP). We commend the Los Angeles County Department of Regional Planning (DRP) for releasing the CAP, and we are grateful to DRP for providing additional time to review and submit comments on the CAP. Although the CAP is an exciting first step in measuring and reducing greenhouse gas emissions, CBE urges the County to continue engaging with frontline communities and meaningfully inventory the disproportionate climate impacts, such as drought and intense heat, that hit environmental justice communities hardest. As DRP makes progress toward finalizing the CAP, we would like to provide recommendations to strengthen this plan:

- First, we urge DRP to ensure climate-resilient infrastructure is developed and properly maintained, particularly in frontline communities, to combat the worsening effects of climate change.
- Second, we strongly advise DRP to strengthen tenant protections and mechanisms to guarantee housing affordability during widespread decarbonization of buildings and homes to ensure that added expenses are not passed on to tenants.
- Third, DRP must create a more ambitious timeline for phasing out oil and gas extraction activities, and should strengthen public health standards for oil drilling operations during the phase-out period, while ensuring that oil drilling sites are not only shut down but also properly cleaned and remediated to a standard that is safe for community-driven redevelopment and use.
- Finally, DRP must support each County district in transitioning away from dependence on personal vehicles by increasing access to quality transit, while safeguarding communities from the harms associated with gentrification such as housing displacement.

1. DRP Should Build and Maintain Climate Resilient Infrastructure in Environmental Justice Communities

Although the CAP acknowledges that "frontline communities have historically experienced a disproportionately high share of environmental impacts," it does not meaningfully analyze these ongoing harms or create sufficient policies/programs to mitigate these disproportionate impacts. We urge DRP to prioritize the lived experiences of low-income communities and communities of color by facilitating ongoing listening sessions and recording existing climate impacts and risks unique to each community. Although the draft CAP is focused on reducing community emissions, it must further use this opportunity to create opportunities and prioritize investments that build leadership in communities, provide greater adaptive capacity, and improve physical health and mental wellbeing. CBE, in partnership with other community-based organizations, community leaders, and foundations, created a strong process for gathering community feedback on the OurCounty Sustainability Plan that focused on proposed goals and programs.[1] We strongly encourage DRP to incorporate the strategic long-term framework developed for the OurCounty Sustainability Plan into the CAP, as a way to maximize and preserve community feedback and leadership.[2] Furthermore, it is vital that the CAP analyze community emissions through an intersectional lens that encompasses housing affordability, housing stability, climate resilient infrastructure, green spaces, and healthy transportation.

A. Access to Cool Spaces and Affordable Housing

To ensure that urban heat waves and rising ambient temperatures do not disproportionately harm vulnerable and frontline communities, the CAP must include stronger measures and strategies to foster heat resilience in environmental justice communities. Urban heat waves are "rapidly increasing in frequency, duration, and intensity with a greater tendency toward more humid nighttime events" a trend that "ha[s] a high probability of increasing by 42% in frequency and by 26% in duration during severe drought conditions."[3] Intense heat increases health risks to communities with low adaptive capacity, such as those with limited access to air conditioning, air filtration, and reliable transportation. These heat waves also disproportionately harm those with limited access to cooling centers, migrants, elderly individuals, unhoused populations and monolingual speakers facing limited access to local resources to combat intensifying climate impacts. In the CAP, "Measure ES3: Increase Renewable Energy Production"[4] and its corresponding actions are great opportunities to expand access to solar energy and reduce community emissions throughout the County. Additionally, coupling solar storage with "Measure

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[1] Los Angeles County, Los Angeles Countywide Sustainability Plan (OurCounty) 18 (2019), https://ourcountyla.lacounty.gov/wp-content/uploads/2019/07/OurCounty-Final-Plan.pdf (CBE, alongside other community-based organizations, was credited as an "anchor" community-based organization during Los Angeles County's development of the OurCounty plan. CBE's efforts and engagement strategies included facilitating workshops, uplifting equity in the planning process, and ensuring that policy discussions were inclusive of the perspectives of historically impacted communities).

[2] *See generally* Los Angeles County, Los Angeles Countywide Sustainability Plan, Stakeholder Engagement Processes (2019), https://ourcountyla.lacounty.gov/wp-content/uploads/2019/07/OurCounty-Stakeholder-Engagement-Summary_For-Web.pdf.

[3] Hulley, G.C., Dousset, B., Kahn, B.H., *Rising Trends in Heatwave Metrics Across Southern California*, 8 Earth's Future 1 (2020) https://doi.org/10.1029/2020EF001480.

[4] DRP Draft CAP p.3-16.

ES4: Increase Energy Resilience"[5] will increase adaptive capacity in low-income communities of color. For example, the increasing frequency and severity of heat waves and wildfires will likely strain the energy grid, resulting in more power outages. Therefore, access to solar and storage at local community centers and affordable housing complexes is necessary to ensure equitable access to a reliable energy source.

Additionally, CBE urges DRP to prioritize making housing affordable, capable of withstanding future earthquakes or flood, and equipped to provide air conditioning and proper ventilation to combat intense heat. An analysis of the American Housing Survey found that 22% of Los Angeles households live without air conditioning. This percentage increased to 30% for low-income households making less than $50,000 a year.[6] One of the underlying problems is a staggering lack of green space, which concentrates heat, creating urban heat islands, built up areas that experience higher temperatures than surrounding areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural infrastructure such as green space, forests, and water bodies.[7] As a result, it is vital to create strong resilient housing design policies that require new housing to: (1) maintain proper air conditioning or ventilation systems in leased properties; (2) require landlords to install new air conditioning systems as reasonably requested by tenants (especially elders and families); and (3) institutionalize cooling centers and resilience hubs in environmental justice and vulnerable communities.

B. Green Space

Prioritizing green infrastructure is an important tool in providing natural services that offset climate change impacts, such as flooding and the urban heat-island effect. Equitable access to green space is important for social and recreational gathering for community members, can lead to positive health outcomes (e.g., promote physical activity and reduce stress), and improves air quality by filtering out air-borne pollution. Sadly, environmental justice communities that are most in need of these benefits are overwhelmingly "park-poor" due to decades of disinvestment. According to the 2016 Los Angeles County Park Needs Assessment, more than half of Los Angeles County is considered "park poor," with 82 percent of these areas located in communities of color.[8] Proper implementation of park funding, including funding allocations through initiatives such as Measure A, must further be paired with tenant protections to ensure that investment in parks in high-need areas does not trigger displacement.[9]

Strategies 9 and 10, including Measure A1, A2, and A3, as currently stated, should recognize the importance of partnering with local indigenous communities to embed best-practices for green spaces.[10]

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[5] *Id*. at 3-17.
[6] Granda, C. *Southern California prepares for a heat wave amid Stay Home order, with or without air conditioning*, ABC News (Apr. 24, 2020) https://abc7.com/heat-wave-covid-los-angeles-coronavirus/6127436/.
[7] United States Environmental Protection Agency, Heat Island Effect, https://www.epa.gov/heatislands (last visited July 18, 2022).
[8] Anisha Hingorani, *LA County Park Equity Groups Fight to Turn Park-Poor Communities Red to Green*,' Advancement Project CA (Jan. 22, 2019).
[9] *Id*. Measure A, or the Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure, is a ballot initiative passed in 2016 to allocate funding for investment in parks and public recreation areas in perpetuity. LA Parks, *Measure A Projects: The Parks And Open Spaces That Make LA City A Proud Place To Live, Work, And Play!*, https://www.laparks.org/measure-aprojects.
[10] Los Angeles County, Draft Climate Action Plan 3-49 (Apr. 2022) https://planning.lacounty.gov/site/climate/wp-content/uploads/2022/04/LA_County_2045_CAP_Public_Draft_April_2022.pdf.

In 2021, the state signed Senate Bill 332, removing liability risks from Indigenous people who set controlled fires.[11] Wildfires and maintenance of green spaces are significant factors affecting California's emissions of GHGs, and the passage of SB 332 recognizes the importance of cultural and controlled burns as led by Indigenous peoples to mitigate uncontrollable fires. This requires special outreach to indigenous groups and must not be overlooked as a critical way to strengthen climate resilience.

2. Building Decarbonization

DRP correctly notes that building decarbonization does not consistently reach or directly benefit BIPOC and disadvantaged communities, and that strategies designed to promote building decarbonization that do not meaningfully acknowledge these communities risk triggering displacement and gentrification. As such, we appreciate that the California Air Resources Board (CARB) has included strategies E1.5 and E1.6, which respectively establish clean energy programs such as fund aggregation to encourage decarbonization and promote decarbonization in affordable housing.[12] We urge DRP to develop similar pathways towards building decarbonization that are consistent with the California Air Resources Board's strategies such as committing to financing direct community grants to offset increased building costs, equipment incentive programs, and contractor training scholarships.

Building decarbonization provides Los Angeles County an unrivaled opportunity to transition away from fossil fuel reliance and implement long-term solutions to secure energy independence. As such, we urge DRP to develop a strong investment and financing plan to distribute funding to environmental justice communities. Many homes in environmental justice communities require significant lead time to install structural and electrical upgrades before they can invest into clean appliance upgrades such as weatherization upgrades for homes and commercial buildings to improve insulation and ventilation as well as panel and circuit upgrades to accommodate the expected increase in electric demand. Los Angeles County should define the types of home upgrades needed, and identify the programs and funding appropriate to address anticipated barriers to long-term decarbonization. The Solar on Multifamily Affordable Housing (SOMAH) and Transformative Climate Communities (TCC) programs are informative examples where environmental justice communities, through community-based organizations, are centered in design and implementation processes.

We also encourage DRP to invest in a fair and responsible transition to clean appliances for workers and ratepayers, and implement inclusive and accessible governance and engagement processes, while distributing adequate funding to environmental justice communities to enable fair and equitable outcomes in the initial stages of building decarbonization. DRP should employ inclusive and accessible engagement processes to hear from impacted stakeholders, including environmental justice communities, workers, manufacturers, tenants, and others (CAP stakeholders) so that the most marginalized and impacted communities are prioritized in the transition to widespread building decarbonization. We also urge DRP to maintain collaborative cross-sector working groups to create an easy and transparent process that enables all CAP stakeholders to communicate their needs and suggested approaches for the

[11] Hilary Beaumont, *New California Law Affirms Indigenous Right to Controlled Burns*, Aljazeera (Dec. 3, 2021) https://www.aljazeera.com/news/2021/12/3/new-california-law-affirms-indigenous-right-to-controlled-burns.
[12] Los Angeles County, *supra* note 7 at 3-37.

implementation of regulations such as a consistent appliance standard, and determine reasonable timelines to get clean appliances installed in all communities.

In order to ensure an equitable development of a building decarbonization program, DRP should enlist community-based and tenant organizations. Community-based organizations have an important role to fulfill in the transition to clean appliances. In addition, tenant organizations can ensure that tenant communities are aware of their rights under building decarbonization. Both groups are trusted advisors in the communities they serve, making them integral to supporting community engagement, program enrollment, technical assistance, and customer protection. The Health and Safety Code should already protect tenants from costs and potential displacement related to water heating and heating requirements.[13] Additionally, existing California law prescribes certain habitability and anti-harassment protections for tenants. While these policies are not directly related to emissions reductions policies, they are necessary complements to ensure that tenants can stay in their homes with affordable rents as homes are upgraded to improve efficiency and install clean appliances. To this end, building decarbonization can provide the state a clear opportunity to implement solutions to gentrification and displacement. The cross-sector working group can identify ways to combine emissions reductions with strengthened enforcement of tenant protections such as:

- Tenant education and awareness,
- Mechanisms to prevent cost pass-through to tenants, and
- Tenant anti-harassment statues.[14]

While electrification is technically feasible in almost all California climate zones and building types and vintages, there are scenarios that do not yet have zero-emission technology alternatives that can operate on par with existing technology. For instance, efficient zero-emission water heaters widely available on the market today have significant challenges meeting needs of commercial operations that have continuous demand for hot water. We ask that DRP provide alternative compliance pathways for infeasible situations, to support the movements towards zero emissions technology.

3. The Final CAP Must Phase Out Oil And Gas Extraction Activities Before 2045 And Require Strong Health And Safety Protections In The Interim

CBE is concerned that the draft CAP does not plan to phase out all oil and gas extraction activities countywide until 2045 and relies on conservative metrics to reduce oil and gas operations compared to 2015 levels, in contrast to state directives to achieve fossil fuel independence by 2035.[15]

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[13] *See* Cal. Health & Safety Code § 17920.0 (classifying buildings without adequate heating infrastructure and "substandard buildings"); Cal. Health & Safety Code § 17980.7 (providing a right of action for tenants that live in substandard buildings).

[14] Chelsea Kirk, Los Angeles Building Decarbonization Tenant Impact and Recommendations, Strategic Actions for a Just Economy https://www.saje.net/wp-content/uploads/2021/12/LA-Building-Decarb_Tenant-Impact-and-Recommendations_SAJE_December-2021-1.pdf (2021).

[15] Ryan Scleeter, *Governor Newsom directs CARB to explore 2035 carbon neutrality pathways - The Climate Center response*, The Climate Center https://theclimatecenter.org/governor-newsom-directs-carb-to-explore-2035-carbon-neutrality-pathways-the-climate-center-response/ (Jul 12, 2021).

Just last year, the Intergovernmental Panel on Climate Change issued their Working Group 1 report signaling "code red" in addressing the climate crisis.[16] The last decade's global temperatures broke records, marking some of the hottest days on earth in over 120,000 years. Carbon dioxide emissions in 2019 were higher than any time in at least 2 million years.[17] Although growing climate impacts reach across the globe, they are overwhelmingly concentrated in environmental justice communities already burdened by health and safety hazards associated with toxic industrial operations and consequently negative climate impacts. We can still prevent the worst damages of the climate crisis but we must act now and craft ambitious targets to phase out oil and gas extraction activities swiftly. Communities in Los Angeles and beyond need to end new oil and gas extraction activities and phase out existing operations as soon as possible, to transition to a cleaner renewable energy economy. DRP can and should create a timeline to phase out oil drilling countywide by 2035 at the latest, maintain strong health protections for communities living near oil operations in the interim, and develop a plan to transform drill sites into community-serving spaces that combat intensifying climate impacts and reverse decades of racist land use decisions.

In 2021, Governor Gavin Newsom instructed CARB to evaluate pathways for the state to achieve carbon neutrality by 2035–in advance of the initial 2045 target.[18] In addition, Governor Newsom issued a directive to ban new fracking permits in California by 2024. Here, the Draft CAP is inconsistent with renewed statewide targets to achieve fossil fuel independence by 2035. Indeed, the Draft CAP adds ten years to the state's proposed timeline by planning to "phase out oil and gas extraction activities by 2045."[19] At minimum, DRP should reference and implement the state level directives introduced by Governor Newsom. These state directives are vital to improve existing communities, and to safeguard future generations from intense heat, severe storms, increased drought, flooding, loss of species, and looming agricultural disruptions that could lead to widespread food loss, poverty, and displacement. CBE urges DRP to amend this dangerously conservative timeline to ensure it is consistent with statewide goals and get the County on track to preserve and protect our cherished communities.

Next, we urge DRP to strengthen the Draft Title 22 LA County Oil Well Ordinance (Oil Well Ordinance) to ensure it covers all of unincorporated LA County, including wells in specific plan areas and wells operating under discretionary permits. CBE is concerned to find that the most recent LA County Oil Well Ordinance does not include all oil wells throughout unincorporated LA County. In fact, the Draft Oil Well Ordinance excludes the Inglewood Oil Field (IOF), the largest urban oil field in the nation, located in a historic predominantly Black community in Baldwin Hills. Similarly, this draft ordinance does not cover any wells operating under discretionary oil well entitlements in the County. We urge LA County to develop a process to ensure all oil wells are analyzed by the pending County amortization study, and phased out as expeditiously as possible. It is important to note that Culver City established a five-year timeline for phasing out all oil and gas extraction activities, following adoption of Culver City's oil drilling phase-out ordinance and Culver City's completed amortization study. Los Angeles County is

[16] Marcus Kaufman, *IPCC Report: 'Code Red' for Human-Driven Global Heating, Warns UN Chief*, United Nations (Aug. 9, 2021).
[17] *Id.*
[18] Cal. Air Res. Bd., Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20), https://ww2.arb.ca.gov/resources/fact-sheets/governor-newsoms-zero-emission-2035-executive-order-n-79-20 (Jan. 19, 2021).
[19] Los Angeles County, *supra* note 7 at 3-11.

empowered to do the same, and DRP should propose a comprehensive process to study and phase out all oil wells.

Furthermore, we urge DRP to craft a supplemental process to reinstate the original public health standards that were removed from Title 22 by the Draft Oil Well Ordinance. The most recent Oil Well Ordinance eliminated various standards from Title 22, which include, among other public health protections: standards to control noise, odors, and vibrations resulting from oil operations.[20] The Draft Oil Well Ordinance replaces these health standards with less robust protections regarding signage and the development of a "comment and complaint log."[21] These revised standards are insufficient to protect public health from current operations. Consequently, we urge the County to consider new pathways to strengthen health standards for oil drilling operations, without slowing down adoption of the pending Oil Well Ordinance.

DRP should also incorporate recommendations from the Los Angeles County Department of Public Health that reflect the most current studies on public health impacts associated with proximity to oil drilling. DPH has completed an assessment of birth outcomes in communities located near oil drilling facilities, and is undertaking a household-level survey in order to make detailed recommendations. LA County should utilize these studies and recommendations to determine how public health standards can be improved to reflect available science.

Furthermore, the Draft CAP makes no mention of the "polluter pays" principle and does not address the growing need for robust clean-up and remediation measures to ensure oil drilling sites are properly remediated to a standard that is safe for community-driven redevelopment and use. We strongly recommend that the County address the growing need for clean-up and remediation measures to ensure that these sites are remediated to a standard that is safe for community-driven redevelopment and use. Further, the County should craft standards and detail timeframes for mandatory well abandonment to supplement CalGEM's mandates, to expedite plugging, clean-up, and remediation of oil and gas wells throughout the County. It is within the County's authority to craft such standards, and the County should look to other jurisdictions that have done so. For example, Culver City's final oil drilling phase-out ordinance specifies restoration activities and includes language requiring revegetation "to as near a natural state as practicable"[22] at drill sites. It is important to note that Culver City's remediation standard previously required "substantially" returning the site to its "original condition," and Culver City exercised its authority to strengthen this remediation standard in the final Culver City Oil Well Ordinance. Santa Barbara's code specifies that after oil cellars are removed, "soil below the cellars shall be tested for hydrocarbon contamination. If contamination is found to be present the area shall be remediated."[23] Similarly, when equipment, buildings, sumps, pits, and other areas are removed, an "investigation shall be conducted to determine if soil contamination is present. If soil contamination is found, the area will be

[20] Draft Oil Well Ordinance (May 5, 2022) at 10-11, 13-15, https://planning.lacounty.gov/assets/upl/data/EA-2022-05-05-draft_oil_well_ord.pdf.
[21] *Id.* at 17-20.
[22] Culver City Zoning Code Amendment P2021-0036-ZCA, amending § 17.610.010(D)(1)(d), https://culver-city.legistar.com/View.ashx?M=F&ID=9901991&GUID=FCD7CE85-332C-443F-A2AE-9A2200FED44B.
[23] Santa Barbara County Petroleum Code § 25-31(a)(7), https://library.municode.com/ca/santa_barbara_county/codes/code_of_ordinances?nodeId=CH25PECO.

remediated per the approved plan."[24] Other jurisdictions have provisions for revegetation and regrading.[25] We hope that by integrating swift remediation timelines, the County will be slated to advance community-driven development projects at historic drill sites, as a way to mitigate negative climate impacts, and respond to unique community needs.

4. DRP Must Increase Equitable Access To Quality Transit And Zero-Emission Vehicles While Safeguarding Communities From Rapid Gentrification And Housing Displacement

DRP recognizes that lowering total vehicle miles traveled (VMT) is critical to reducing the County's total GHG emissions, as the transportation sector accounts for the largest share of County-wide emissions. The three strategies suggested under transportation include: Increase Densities and Diversity of Land Uses Near Transit; Reduce Single-Occupancy Vehicle Trips; and Institutionalize Low-Carbon Transportation.[26] While CBE appreciates the emphasis on zero-emission technology and a desire to reduce single occupancy vehicle trips, we urge DRP to ensure that each action undertaken to reduce GHGs prioritizes communities harmed by historic disinvestment, air pollution, and toxic contamination.

A. Increase Densities and Diversity of Land uses Near Transit

While this strategy is an understandable attempt to transition away from the County's car dependent culture, this strategy does not account for the fact that increasing density without strong affordability requirements could result in a surge of market rate development. Flooding housing stock with expensive market rate development, especially in low-income communities of color, would likely result in widespread housing displacement. CBE recommends that DRP incorporate actions to reduce VMTs coupled with equity-focused policies such as strong affordable housing mandates, to safeguard disadvantaged communities in the County from housing displacement and community fragmentation.

One of the areas in which CBE organizes is the South East Los Angeles community of Florence-Firestone. The recently updated Florence Firestone Transit Oriented District Specific Plan[27] revealed plans for widespread rezoning, including areas currently designated "industrial," and showed plans for rapidly increasing density. Without strong anti-displacement measures, Florence-Firestone remains vulnerable to rampant gentrification and housing displacement. Currently, Florence-Firestone has a population of 64,334, amounting to 17,870[28] people per square mile, making Florence-Firestone one of the highest population densities in the County.[29] In addition, the median household income is $34,408,

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[24] *Id.* § 25-31(b)(2)(c)(i).
[25] *See* Culver City Zoning Code Amendment (describing revegetation to as near a natural state as practicable); Bakersfield § 15.66.040(A)(19) (well site restoration includes regrading "as nearly as practicable to a uniform grade" within a specified time); Santa Barbara County § 25-31(a)(7) (all excavations and depressions must be filled with clean soil).
[26] Los Angeles County, *supra* note 7 at ES-4.
[27] *See* DRP Website describing Florence-Firestone Transit Oriented District Specific Plan, https://planning.lacounty.gov/fftod/Documents.
[28] *See* Florence-Firestone Community Plan, https://planning.lacounty.gov/assets/upl/project/ffcp_final_20190903.pdf, p. 8.
[29] Los Angeles Times Local, Profile, Mapping L.A., South L.A, Florence-Firestone https://maps.latimes.com/neighborhoods/neighborhood/florence-firestone/index.html.

one of the lowest median incomes countywide.[30] An influx of market rate housing in Florence-Firestone would likely destabilize the community without strong protections that preserve affordable housing and prevent tenant displacement. The County must ensure the stability of communities like Florence-Firestone while reducing GHG emissions.

We further recommend that the County explicitly pair their VMT reduction actions with concrete actions to increase affordable housing near public transit. We are concerned that DRP's current guidance reinforces the notion that eliminating parking standards in new developments as a stand-alone strategy to achieve GHG reductions will negatively impact low-income communities. The County must clarify that it will enforce Density Bonus Law, which allows project proponents to bypass minimum parking availability requirements if they build 100 percent affordable housing projects near public transit. Similarly, DRP must clarify that their actions to amend zoning or development codes to enable infill development must prioritize affordable housing. Furthermore, upzoning in historically-contaminated areas must go through an equitable, community-led remediation process prior to residential development.

B. Institutionalize Low-Carbon Transportation

CBE is pleased to see DRP's recommendation to utilize zero-emission vehicles in the CAP. CBE agrees that proliferating zero-emission vehicles is one important strategy to reduce GHGs, but we also acknowledge that for some LA County residents this may be too expensive and out of reach, whether one is looking to purchase a new passenger vehicle or is an owner-operator of a truck. It is crucial that the County ensures that there are incentives for low-income residents to access zero-emission vehicle Technology. With respect to zero-emission passenger vehicles, DRP must account for tenant communities that may not have access to at-home charging stations. DRP and LA County staff must incorporate innovative strategies into the CAP to make zero-emission vehicles financially feasible, and to ensure that charging infrastructure is readily available for low-income communities.

In the South Coast Air District, Heavy Duty Trucks are a major source of GHGs and air pollution such as particulate matter. Although CBE is pleased to see DRP's commitment to zero-emission technology in the CAP for heavy duty trucks, we are disheartened to see no mention of any plan to retire heavy duty diesel trucks. The strategy of institutionalizing zero-emission vehicles only becomes truly effective when coupled with a strategy to phase out heavy-polluting vehicles. Removing these vehicles from the roads has the dual benefit of reducing GHGs and cleaning the air for Southern California communities forced to breathe some of the most toxic air in the nation.

Finally, we urge DRP to commit to zero-emissions technology, rather than invest in "near zero" options. Prioritizing zero emissions over "near zero" is vital to divest from fossil fuel gas infrastructure, which, in turn, is necessary to protect the health and safety of environmental justice communities, significantly reduce GHGs, and mitigate the worsening effects of climate change.

Sincerely,
Communities for a Better Environment

[30] *Id.*

ENDANGERED HABITATS LEAGUE
DEDICATED TO ECOSYSTEM PROTECTION AND SUSTAINABLE LAND USE

June 27, 2022

Thuy Hua, Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012
climate@planning.lacounty.gov

RE: Draft 2045 CAP

Dear Ms. Hua:

Endangered Habitats League (EHL) appreciates the opportunity to comment on the Draft 2045 CAP. The document has made progress since the last draft, and provides a comprehensive approach for meeting GHG reduction targets. Also, the checklist approach is rigorous. Our concerns lie in the uncertain nature of many of the implementation measures. These comments will focus on areas for improvement and rather than on aspects we support.

Agriculture, Forestry, and Other Land Use Strategies

Natural lands should be added to this section. The carbon storage capacity of native shrublands and other habitats has now been documented.[1] Note that this study does not yet include below ground sequestration, which is additional.

The performance targets for this sector require a major revision. With a strategic shift to transit-oriented, low-VMT development in low fire hazard locations, much greater reduction in conversion of natural land is both possible and beneficial for carbon sequestration. For example:

> PERFORMANCE OBJECTIVES
> Reduce the amount of natural land converted for urbanized uses:
> ~~25~~ 50% percent by 2030
> ~~50~~ 75% percent by 2035
> ~~75~~ 90% percent by 2045

Importantly, the objectives for land conservation are extremely low, so low that they are hardly worth measuring. The County should work with its Parks Dept., state

[1] Jennings, et. al, "Carbon Valuation in San Diego's Natural Landscapes, 2021 (enclosed)

agencies and conservancies, private land trusts[2] on aggressive but realistic objectives, making use of many existing as well as new funding sources. These objectives can protect Significant Ecological Areas and lands close to disadvantaged communities and help implement the California 30X30 initiative. The County should follow the lead of San Diego County, which for the last 25 years has put $5-10,000,000 of general fund monies *annually* into habitat conservation. Examples of revised performance objectives are below.

> Conserve natural lands that would otherwise be converted for urbanized uses:
> ~~53~~ 5,000 acres annually by 2030
> ~~106~~ 7,500 acres annually by 2035
> 1~~59~~ 10,000 acres annually by 2045

Using the 2045 Climate Action Plan for CEQA Streamlining

The draft CAP:

> Identifies and analyzes the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
> Specifies measures or a group of measures, including performance standards, that would collectively achieve the specified emissions level if implemented on a project-by-project basis, as demonstrated by substantial evidence.

If a project can demonstrate compliance through a check list (Appendix F), it is deemed CAP-consistent and can forego additional CEQA review for GHGs.

But aspects of this system are problematic:

- All the many different components to the CAP are dependent upon each other. If one strategy is failing, it affects the others. While a monitoring program is proposed, how will remedial measures be implemented when one or more components are not meeting performance objectives? And how will such fixes be done so quickly as to maintain the integrity of the overall program? Should the County establish a GHG credit bank to provide quick remedial measures? What are the thresholds for when a failing component, for example, in building decarbonization or reduction in single occupancy vehicle trips, makes the CAP checklist for CEQA compliance invalid at the individual project level?

- Some measures are aspirational rather than realistic. For example, a metric for density near transit and single occupancy vehicle trips is improved mode share. Sadly, transit mode share continues to decline in spite of enormous regional

[2] California Wildlife Conservation Board, Santa Monica Mountains Conservancy, Mountains Recreation Trust, Los Angeles and San Gabriel Rivers Conservancy, Arroyos and Foothills Conservancy, Transition Habitat Conservancy, Trust for Public Land, Nature Conservancy, etc.

investments in transit. While large numbers of apartments have been built on bus corridors, do the occupants of these market rate units take the bus to work or drive?

- Key measures are not within the County's control. The draft CAP cites six measures that can achieve 90% of CAP goals for 2030 and 2035. Some, like transitioning to zero-carbon electricity, are foreseeable if the County acts accordingly. Others depend upon scenarios that are speculative. To "Increase ZEV Market Share and Reduce Gasoline and Diesel Fuel Sales," a broad switch to electric vehicles on the public's part will have to occur, along with huge increases in charging infrastructure. To "Transition Existing Buildings to All-Electric" means stringent laws and/or large scale external funding for such conversions. To "Accelerate Freight Decarbonization," interstate trucking will have to change, not only County-owned fleets.

  For these reasons, the statement of intent below is not sufficient.

  Establishes a mechanism for monitoring the plan's progress toward achieving the target, and requires an amendment if the plan is not achieving specified levels.

Rather, the CAP should specifically describe the procedures to be instituted when sector-by-sector performance standards are not met.

Transportation

Reduce Single-Occupancy Vehicle Trips, Increase Densities and Diversity of Land Uses Near Transit

PERFORMANCE

We concur with increasing densities near transit, with development of community plans with better live-work balance, and with the various performance objectives, e.g., minimum residential and job densities in high quality transit areas (HQTAs).[3] Micro-transit, in various forms, is promising as a response to underlying patterns of development. The County can and should "Incentivize residential and community-serving uses to be developed in high quality transit areas (HQTAs), while ensuring inclusion of vital public amenities, such as parks and active transportation infrastructure." Streamlined use of the CAP will be an incentive for builders. But are these measures enough? It is like increasing supply of a good thing (in this case, low VMT

[3] Increase in residential density:
Achieve a minimum of 20 dwelling units (DUs) per acre (maximum of 50 DUs per acre) for HQTAs
Majority of residential and employment centers in unincorporated Los Angeles County are ithin 1 mile of an HQTA
27 percent increase in DUs within HQTAs
By 2030, achieve a job density of 300 jobs per acre in HQTA areas

development) without reducing demand for a bad thing (in this case, high VMT development). In other words, if sprawl continues unabated, it will negate and even reverse the benefits of the proposed measures. It must be remembered that the greenfield/sprawl business model is still the dominant paradigm in the building and real estate industries and that the infill business model faces challenges of infrastructure costs and, sometimes, community opposition.

For these reasons, there should also be strategies to limit high GHG/VMT development other than performing compensatory GHG mitigation beyond the CAP. The recent limitations on new development in more remote, high fire hazard zones will help considerably, but direct land use measures should also be instituted. One disincentive is mitigation for traffic, which now takes the form of VMT per SB 743. What is the County's system for traffic/VMT mitigation (which is separate from GHG mitigation)? There should be a sliding scale of fees in which greater VMT results in greater mitigation cost. If mitigation measures, such as transit facilities, are not available in the unincorporated area, the County should participate in municipal or regional programs.

Fire management

> A1.2—Employ vegetation management of wildlands to reduce wildfire risk and prevent carbon loss in forest lands.

This item should be modified to *exclude* landscape-level treatments of shrublands, which are counterproductive. Too-frequent vegetation removal—whether by clearing, mastication, herbicides, or prescribed fire—causes type conversion of native vegetation to flammable annual grasses. There is already *too much* fire stressing the vegetation, and for this reason, additional treatments are *counterproductive*. A1.2 should be modified as follows to provide safety for life and property *and* avert type-conversion:

> (A) The type of treatment shall be appropriate to each ecosystem, as determined by the best available science.
> (B) Treatments of chaparral, coastal sage scrub, or other native shrublands shall do both of the following:
> (i) Be designed, implemented, and maintained to avoid type conversion and the spread of invasive and non-native species. For purposes of this clause, "type conversion" in native shrublands means an outcome in which a significant reduction or extirpation of the dominant native shrub species occurs as a result of treatments that may provide opportunities for flammable, nonnative species to colonize and spread due to disturbance events, including fire and vegetation removal.
> (ii) Consist primarily of the removal of flammable nonnative, invasive species, restoration of native species in damaged or type-converted vegetation; the creation or maintenance of defensible space of 100 feet around structures or communities; the creation or maintenance of strategic fuel breaks adjacent or proximate to communities at risk; ignition control along roadways; provision of

space for vehicular and equipment ingress, egress, or staging; or maintenance of fire roads that provide firefighting access to communities.
(C) Prioritize treatments in areas that provide the greatest risk reductions to the most vulnerable communities.

Checklist

The system is generally rigorous, as compliance, or alternative means, must be documented with actual data. Also, we concur with the inapplicability of carbon offsets as alternative means. Studies have shown such offsets to be flawed in terms of additionality and compliance. The County may wish to set up a bank of local GHG reduction projects, such as energy efficient retrofits of low income housing, which are above and beyond the CAP.

Transportation Impact Guidelines

TIER 1: Comply with LA County's Transportation Impact Guidelines

The project must comply with LA County's current Transportation Impact Analysis (TIA) Guidelines. Projects may screen out if they meet certain criteria.

While the TIA Guidelines should be met, the criteria for screening out are problematic. The TIA Guidelines divide the County into north and south areas, and do not satisfy supplemental OPR guidance that the MPO region is the proper baseline. Also, OPR screen-out criteria, such as 110 ADT, are based on VMT, not on GHG emissions. Is this extrapolation justified?

Replacement uses

If the project would achieve net-zero GHG emissions compared to existing on-site development at the project site, provided that existing on-site development is similar to the proposed project and that GHG emissions from existing on-site development are not substantially larger than emissions from the proposed project, the project is considered consistent with the 2045 CAP and the analysis is complete.

Additionally, this criterion can only be applied if emissions from existing on-site development are not substantially larger than emissions from the proposed project, subject to LA County's discretion. For example, a retail project with low emissions replacing a large office building with high emissions could not use the net zero criterion, producing as many emissions as the large office building; such project would have to produce lower emission than the large office building to be consistent with the 2045 CAP. Although the 2045 CAP intends to replace high-emitting land use types (such as oil and gas facilities) with low-emission land use types (such as mixed-use transit-oriented development) in order to reduce

emissions overall, it does not intend to make such replacements without reducing emissions compared to existing uses, which a net zero emissions criterion would not necessarily facilitate.

The "net-zero" replacement screen-out includes some safeguards in terms of similar type and not substantially larger emissions (although the language employed is hard to understand). What is unclear is if the replacement project has to independently meet all the checklist criteria. In other words, even if similar in type and even if the existing emissions are not substantially larger, shouldn't the replacement use reduce emissions as much as possible? Why is net zero good enough when, if it were an entirely new, non-replacement project, it would have to do better? Net zero in these circumstances should be a worst case rather than a best case, meaning that the rest of the checklist should be applied.

Thank you for considering these comments, and we look forward to continuing to work with you on this important plan.

Yours truly,

Dan Silver
Executive Director

FIVEPOINT.

July 18, 2022

Thuy Hua, Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 West Temple Street, 13th Floor
Los Angeles, CA 90012

Re: Comments on the Draft 2045 Climate Action Plan

Dear Ms. Hua:

The Newhall Land and Farming Company thanks you for the opportunity to provide comments on the Draft Los Angeles County 2045 Climate Action Plan. We applaud the County for its efforts to reduce greenhouse gas ("GHG") emissions while encouraging housing production. We write to request a clarification regarding Newhall, which the County has recognized as an innovative housing project that will achieve net-zero GHG emissions consistent with California's climate goals and the Scoping Plan.

The CAP is designed to align with California's ambitious climate goals to reduce GHG emissions by 40 percent by 2030 (AB 32 and SB 32) and 80 percent by 2050 (EO B-30-15). The CAP also supports California's aspirational goal of achieving carbon neutrality by 2045 (EO B-55-18). In this way, the County ensures that the CAP is designed "to reduce emissions and support the state's goals."[1]

Newhall has committed to developing the first large-scale, net-zero GHG community of its kind in California. In 2017, Los Angeles County and the California Department of Fish and Wildlife, in direct coordination with the California Air Resources Board, approved Newhall's comprehensive net-zero GHG mitigation program. We are excited about having already delivered over 500 net-zero GHG housing units through the ongoing implementation of Mission Village, the first phase of development at Newhall. When the Board of Supervisors reapproved Mission Village, the Board expressly found that Newhall's GHG measures would feasibly achieve net-zero GHGs *and* that doing so ensured the project would not conflict with any applicable GHG-reduction plan:

- "The Board further finds that, based on substantial evidence in the record, potentially significant ***GHG impacts of the Mission Village Project are reduced to less-than-significant levels with implementation of the following mitigation measures and that the Project will feasibly and reliably achieve net zero GHG emissions***."[2]

[1] CAP, p. 1-1.
[2] Los Angeles County, Mission Village, Supplemental CEQA Findings and Statement of Overriding Considerations, July 2017, p. 15 (emphasis added).

- "Because the Project would result in no net increase of GHG emissions after implementation of mitigation measures, there would be no contribution of GHG emissions to cumulative GHG emissions influencing global climate change, and impacts would be less than significant."[3]

- In addition, ***because the Project would result in no net increase of GHG emissions, it would not conflict with any plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs***. The State, and by extension regional and local climate policy, is rooted in achieving an emissions level below the reference year of 1990 and is based on levels established by scientific evidence to avoid the most adverse impacts of climate change. Therefore, relevant plans, such as ***ARB's Scoping Plan, South Coast Area of Government's RTP/SCS, and Los Angeles County's Community Climate Action Plan***, all establish non-zero targets (i.e., some level of positive net emissions above existing conditions for land developments to accommodate planned growth) to achieve future GHG emissions targets. By achieving net zero GHG emissions, the feasibility and reliability of which has been demonstrated in the analysis set forth in the 2017 Recirculated Analysis, ***the Project would not conflict with any relevant plan, policy, or regulation adopted for the purpose of reducing GHG emissions***."[4]

Based on these findings, the Board concluded "The ***Project represents an innovative demonstration of a mixed-use development Project providing needed housing and commercial development in a manner consistent with California's GHG reduction goals***. Once developed, the Newhall Ranch Specific Plan, of which Mission Village is a Project-level component, will achieve net zero GHG emissions."[5]

The California Air Resources Board's 2017 Scoping Plan also recognized Newhall as a model development project that provides housing and jobs while meeting California's ambitious climate goals when discussing a lead agency's obligation to consider GHG impacts under CEQA.[6] Similarly, the draft 2022 Scoping Plan Update provides that, under CEQA, "project-level alignment with State climate goals" is demonstrated by "net zero GHG emissions," citing Newhall as a leading project.[7]

As a net-zero GHG project aligned with the State's climate goals, Newhall is consistent with the purpose of the CAP. Indeed, because the CAP does not require new development to achieve carbon neutrality, Newhall's homes and businesses will deliver even greater GHG reductions than contemplated by the CAP. Specifically, Newhall already exceeds the CAP's 2030 and 2035 reduction targets (40 percent and 50 percent below 2015 levels in the County, respectively) and satisfies the CAP's aspirational target of carbon neutrality by 2045, twenty years ahead of schedule.

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[3] *Id.*, pp. 25-26.
[4] *Id.*, p. 26 (emphasis added).
[5] *Id.*, p. 39 (emphasis added).
[6] CARB, California's 2017 Climate Change Scoping Plan (Nov. 2017), at pp. 101-102.
[7] CARB, Draft 2022 Scoping Plan Update, Appendix D, at 12.

As the CAP recognizes, Los Angeles County is facing a dual crisis. The County's recent Climate Vulnerability Assessment outlines climate-related risks facing the County and its residents.[8] At the same time, the County's housing crisis is worsening. The County fell more than 20,000 units short in meeting its Regional Housing Needs Assessment targets during the previous eight years. Looking ahead, the County must produce approximately 90,000 new residential units over the next 8-year RHNA cycle.

Working with the County, Newhall helps address both crises by delivering much-needed housing in a sustainable manner that is aligned with the State's climate goals. For these reasons, we ask that the County recognize that Newhall's net-zero GHG program, which the Board has already called innovative and aligned with the State's climate goals, is consistent with the purpose of the CAP and does not require additional detailed GHG analysis with respect to the CAP. Without this clarification, the CAP could inadvertently cause confusion about the level of review, which could ultimately delay the delivery of new housing.

We look forward to continuing to work with the County on these important issues. Please feel free to reach out to me with any questions.

Sincerely,

Jeffrey Lawhon
Executive Vice President
Valencia Operations

[8] Los Angeles County Climate Vulnerability Assessment (October 2021).

LEAGUE OF WOMEN VOTERS® OF LOS ANGELES COUNTY

July 15, 2022

Los Angeles County Department of Regional Planning
320 W. Temple Street, 13th Floor
Los Angeles, California 90012

RE: Los Angeles County Climate Action Plan

Sent via email: climate@planning.lacounty.gov

Dear Ms. Thuy Hua,

Comments on Draft 2045 Los Angeles County Climate Action Plan

The League of Women Voters of Los Angeles County welcomes the opportunity to provide feedback on the draft 2045 Los Angeles County Climate Action Plan (CAP). The League Climate Change Action Policy supports "energy conservation and efficiency in transportation, buildings, and infrastructure, including energy efficiency standards and land use policies that reduce vehicle miles traveled." Many of the proposed county actions support League policy positions on Energy, Transportation, Housing, Water Resources, Solid Waste and Sustainable Communities. Additionally, the League has adopted Ten Actions and Processes that cities can take to reduce their greenhouse gas emissions (attachment) based on review of climate actions taken by local governments across the nation.

In short, the CAP is a good start, but only a start. We find that there are many areas that can be improved upon, particularly in the areas of **housing and transportation.** We also find that the plan **depends too much on technology that doesn't exist yet,** or may not be implementable fast enough to meet our emissions reductions targets. **Avoiding carbon emissions is usually the most cost-effective and there are many proven existing methods that should be implemented more quickly.**

Electrification of buildings and transportation are two of the most effective means of reducing GHG emissions that local governments can take. The CAP proposes to do both of these things. It includes decarbonizing electricity through two means: full subscription in 100 percent carbon-free energy through SCE and CPA and installation of distributed solar panels on new and existing development. Buildings would transition to all electric appliances for space and water heating and cooking. The CAP also provides for electrifying transportation by transitioning vehicles and equipment to zero emission models that are most often electric. Accompanying the transition to electric vehicles is provision for widespread availability of electric vehicle charging stations.

The CAP, however, is missing several evaluations that are important to the CAP road map. It does not examine and identify the appropriate balance between the sources of electric energy. How much energy should be generated by distributed solar within the unincorporated areas and how much energy should be provided through utility-scale generation? What mix of these energy sources will provide the best reliability and cost effectiveness without compromising land use? Are there trade offs? Is there a minimum need for distributed solar and microgrids to ensure reliability? Is there a maximum amount of distributed solar that can be reasonably accommodated? Should the requirements include provisions for storage because there is already excess energy during daylight hours? Identification of a targeted balance is a program-level evaluation that cannot be addressed on a project-by-project basis.

We strongly support the proposed measures for electrifying buildings, but suggest that an incentives program be established to hasten the conversion of existing structures to all electric. We recommend that the CAP require even higher densities of housing near high quality transit areas in order to encourage use of public transit and reduce vehicle miles traveled. The housing plan (T1) permits only 20-50 du/ac, and only in High Quality Transit Areas (HQTA). That kind of density is too low to amortize the cost of elevators or to deliver the minimum Mullin density of 30 du/ac required to make building housing for low-incomes feasible. There are inconsistencies in the allowable du/ac housing section of CAP T1, the Housing Element Update Zoning Rezoning Program StoryMap and the Transit Oriented Districts in the Housing Element sent to HCD for 6th Cycle RHNA. We wish there was more urgency and reliance on densifying in areas with low heating and cooling degree days that would reduce or eliminate the need for air conditioning than for whether the buildings had PV solar panels on the roof.

Additionally, we recommend that investments in protected and connected bike lane networks be prioritized earlier than the long term 2030+ proposed in the draft CAP. Improved bike lane

networks are needed to coax people out of cars, and have been proven to work around the world[1] on short timescales[2] of 2-5 years.

We also note that this plan relies on a set of mitigation strategies in the near-term, that would allow Los Angeles County to meet its GHG reduction targets "just-in-time", if everything falls into place. That isn't realistic. We need to use a diversified portfolio of approaches with more aggressive implementation schedules in order to offset the likely delays and bottlenecks.

The CAP commits to the development of a large number of strategic analyses. Firm completion dates for these reports need to be included in the CAP so that the information can drive appropriate implementation of GHG reduction measures. These reports include:

- Sunset strategy for oil and gas
- Zero emission vehicle master plan
- Assessment of EV charging locations
- Community energy map
- Feasibility report to identify priority areas for solar, storage and microgrids
- Carbon removal strategy
- Feasibility report for community solar facilities on LA Co properties
- Countywide program to promote energy efficiency and resilience measures
- Transportation technology strategy
- Comprehensive parking reform strategy
- Zero emission delivery zones

We note Los Angeles County has done an exemplary job specifying requirements for utility-scale solar farms that protect biodiversity and environmental justice communities. Having such clear guard-rails informs would-be developers exactly what they need to do and streamlines solar development consideration and permitting. The County can help extend hours of carbon-free electricity supply by permitting utility-scale wind energy development within the county and streamlining transmission development. This diversification would reduce reliance on batteries. Please reconsider the ban on wind energy.

We also find that the plan depends too much on technology that doesn't exist yet, or may not be implementable fast enough to meet our emissions reductions targets. Avoiding carbon emissions is usually the most cost-effective and there are many proven existing methods that should be implemented more quickly. For instance, direct air capture and sequestration is the

[1] Bike lanes in New Zealand reduced VMT by 1.6% in cities and total GHG emissions by 1%. If LA County built a connected bicycle lane network and achieved similar savings, GHG emissions would be reduced more than all the DAC plants in advanced development in the US. https://phys.org/news/2018-12-lanes-walkways-car-emissions.html

[2] A bike lane installed in 2015 would reduce GHG by 1.15 Mt of CO2 by 2020, a savings that would cost up to $1B if DAC could be scaled up. This is in Thailand, where vehicles displaced by bicycles are much smaller and more fuel efficient. https://www.gjesm.net/article_247328_b12cf974dfe8a67a57717a255b325014.pdf

most expensive ($100-$1,000/ton of CO2) way to remove carbon[3], has never been successfully scaled up, and is marked as a medium-term item. Likewise, on-demand autonomous shuttles (T4.1) don't exist yet and are supposed to be deployed in 2025-2030. Elevators do exist today and we should build taller buildings to exploit the technology, particularly near train stations.

Lastly, we have compiled detailed comments and recommended clarifications for the Implementation Details of Appendix E into an Appendix E' at the end of this letter.

We appreciate the opportunity to comment on this important plan. If you have questions or would like to discuss our comments, we may be reached at the email addresses below. We can also provide the detailed report supporting the two attached graphics and provide information about CAP efforts undertaken by other local governments across the nation that may be helpful to you in your work.

Sincerely,

Margo Reeg,

President
Los Angeles County League of Women Voters
margolwv@gmail.com

Grace Peng, Ph.D.
Director, Natural Resources
League of Women Voters of Los Angeles County
gspeng.lwv@gmail.com

Kathy Kunysz
Director, Natural Resources
League of Women Voters of Los Angeles County
irwinkunysz@sbcglobal.net

Contents:
Appendix E' comments on CAP Appendix E
Ten Actions that cities can take to reduce their GHG emissions
Ten Processes for local GHG reduction planning

[3] There are only 19 DAC plants in the world, the largest DAC plant only captures 4,000 tons/year. By 2024, DAC may remove 1 Million tons (Mt)/year worldwide. IEA (2021), *Direct Air Capture*, IEA, Paris https://www.iea.org/reports/direct-air-capture

Appendix E': comments on entries in
Table E-1: GHG Strategy, Measure and Action Implementation Details

ES1: Develop a sunset strategy for all oil and gas operations. The tracking metrics need to address the percentage reduction of the performance objectives and not simply identify the number of wells addressed. They should also track the difficulty of projects to ensure that low-hanging fruit is not dealt with first instead of the worst leaks (GHG emissions & groundwater contamination).

ES2: Procure Zero Carbon Electricity. The performance objectives and tracking metrics need to confirm that the CPA and SCE green options are actually 100 percent zero carbon sources of electricity instead of paper RE credits.

ES3: Increase Renewable Energy Production.

The focus on roof-top solar to the exclusion of all else is risky and non-resilient. Heavy reliance on solar must be paired with storage for post-sunset, peak energy needs. Relaxing the ban on utility-scale wind projects would also help broaden the hours when local Renewable Energy is available.

LA County already developed clear rules for the development of utility-scale solar (the most cost-efficient type of solar power). This has streamlined solar permitting while protecting vulnerable populations and biodiversity. LA County needs to do the same for wind turbines, transmission and storage (battery) permitting.

The performance objectives listed for ES3, ES3.1 and ES3.2 are inconsistent and need to be clarified. ES3 objectives address existing residential multifamily and commercial buildings while ES3.2 includes multi-family and single-family residential buildings. ES3.2 also uses two different objectives for single family residential buildings. Tracking metrics for ES3.2 don't mention single-family structures, and use actual numbers of installations without referencing the percentages used in the performance objective.

ES3.1 requires rooftop solar for all new development. Given the urgency to develop housing, the difficulty procuring rooftop solar systems, and soaring costs, the CAP needs to address allowing housing occupancy before rooftop solar systems are complete.

ES3.2 includes a performance objective for new buildings with a phase in percentage that is lower for commercial development than for residential development. In the supply chain crisis for rooftop solar components, installers are favoring larger, commercial customers over residential ones. DOE reports on the cost of solar projects also show that residential solar costs

1.5 times as much as commercial solar and 2-3 times as much as utility-scale solar. Local solar generation provides resiliency benefits that distant solar farms cannot. But the implementation timelines should be reversed to prioritize larger commercial, community-scale and multi-family rooftop solar systems over smaller ones on single-family homes.

Further, the performance objectives and tracking metrics need to define what qualifies as a rooftop solar installation or it can be gamed and allow development to skirt the requirement. It should also spell out how to handle supply chain shortages and deadlines to install them when materials become available. Should it meet a certain minimum amount of electricity demand? Or cover a minimum amount of rooftop?

ES3.3 and Es3.4 would install solar PV systems and community-shared solar facilities on "LA Co properties where opportunities exist." We recommend that the first performance objectives and metrics include development of a report that lists the properties, the potential for PV systems at each property, the LA Co facility and/or the community to benefit from the PV system and includes a date for the report to be submitted to the Board of Supervisors with specific recommendations for implementation.

The county should also work with communities and energy experts to define how community-shared solar facilities would work. Who pays? How is it financed? Who has energy priority? (E.g. who is first in line for the energy produced vs who has to buy energy from the grid at a higher cost?) Stakeholder engagement needs to happen soon as it may take longer than physical implementation.

ES3.5 aims to install rooftop solar at all affordable housing developments. However, the proposed metric of success/progress is the number of systems installed. Priority should be placed on helping the most people soonest, and then moving on to the smaller systems. Better metrics would use the total size/capacity of systems, the energy they produce (for reducing GHG emissions) or number of people helped both in the affordable housing development and in the surrounding area. (The medically fragile, suffer disproportionately in power shutoffs and brownouts.)

We suggest that the county create a prioritized list of affordable housing developments, their vulnerability index (resident fragility, number of residents affected, vulnerability to extreme heat and power shutoffs), and then work off that prioritized list. The timeline should be constant in people helped instead of individual systems installed.

ES4.1 One resilience hub in each LA County district is not enough, especially in the hotter, inland areas. We would like to see a timeline for when the minimum five hubs will be completed, and a schedule for how many will be completed each year and which communities will be targeted first. We suggest you also partner with schools, which often already have solar

systems without storage. Leverage new multi-family and mixed-use developments with solar PV and storage for cost-effective resilience centers.

ES4.4 The first performance objective needs to be a report by a specified date.

T1. Increase Density Near High-Quality Transit Areas.

Promises of parking reform need to be clarified with deadlines and details. Explicitly define which areas will be zoned for which densities, under which circumstances, and lift the density cap near train stations.

Mixed-use developments near train stations provide mobility and enhance quality of life for wheelchair users. Higher densities allow them to ride an elevator to places they need to go. Consider 2-3 wheelchair users traveling together; buses can't provide the full mobility and social integration that trains can. Every unit not built is another person stuck at home or waiting for a bus that may never come, or may not have capacity for their wheelchair.

20 du/ac in HQTAs is too low; it doesn't even meet the minimum Mullin density of 30 du/ac required to plausibly provide affordable housing. Denser, taller buildings with more homes allow the cost of elevators and backup batteries to be amortized over more households, increasing affordability. Larger apartment buildings can organically become resilience centers.

The CAP appears to be inconsistent. Some places say that 20 du/ac will be allowed, others say 50 du/ac. Is that H50 (20-50 du/ac) or H100 (50-100 du/ac)? The zoning map shows that current zoning and densities inside HQTAs in Del Aire and Alondra Park are R-1 and 7-8 du/ac[4]. The proposed rezoning program[5] does not show rezoning of these R-1/H18 areas to H50 (20-50 du/ac). On some commercial corridors, rezoning to up to 150 du/ac is proposed. Please be consistent and clear.

Proposed rezonings rely on adding homes along commercial corridors with heavy traffic, noise and pollution. People can benefit from access to transit while living on quieter and safer streets a few blocks away from arterial corridors. The only places where the rezoning plan will upzone on quiet residential streets are in Florence. Upzone higher opportunity residential areas in Del Aire, Alondra Park, West Fox Hills and incentivize lot combinations suitable for multi-family homes at Mullin densities. These areas are close to jobs, good schools, transit, parks, have lower pollution burdens and are low risk for heat stress should the power go out.

[4] LA Co Zoning Map
https://lacounty.maps.arcgis.com/apps/webappviewer/index.html?id=7700eea9d54d46b18efb615f86cba25c
[5] Housing Element Update Rezoning Program
https://storymaps.arcgis.com/stories/c1ade07ca342481a88bfd877252e4713

In HQTAs, house more people, fewer cars. Lift parking minimums immediately and incentivize active transportation, micro-mobility, transit and car sharing.

T2. Land Use Addressing Jobs-Housing Balance. Allowing up to 300 jobs/ac in new projects while only allowing 20 du/ac will exacerbate the jobs-housing imbalance.

T2.1 Define jobs-housing imbalance. What ratio is acceptable? Also consider jobs-housing fit. What incomes are required to afford the housing and how much will the jobs pay? If the housing is not affordable to the people working in the area, then VMT will climb.

S3 Reducing Single-Occupancy Trips is key to our CAP because transportation is the County's greatest GHG emissions sector. If we continue Business As Usual (BAU) in the personal transportation sector, and delay action until 2030+, we will have missed the opportunity to keep the warming to 2℃, much less 1.5℃. Moving as many trips outside of cars/light trucks as possible and then electrifying the rest is a reasonable strategy[6]. But, given the supply-chain difficulties plaguing battery and car production, we should prioritize moving people out of cars. That's the only part that LA County can control. That requires building out connected and safe local travel networks suitable for e-assist bicycles, scooters and wheelchairs now.

T3. Expand Bicycle and Pedestrian Network. Bikeway miles included in the performance objectives should be broken out by Class of bikeway (1-4). Class III bikeways (aka sharrows) where bicycles and vehicles are expected to share travel lanes should not count towards the total as they have been proven to be more dangerous than no designation at all.

The amount of protected bikeways resilient to human error or malice is the most important metric. Service workers commuting home after dark should not be fodder for drunk or malicious drivers. A bicycle commuter should be as certain to get home unscathed as a motorist. Place priority of building out protected bike lanes in high-injury networks and along east-west corridors where the rising or setting sun can blind motorists.

T3.1 Building out a connected and safe bikeway network should be an immediate priority. We cannot wait until 2030+.

T4. Broaden Options for Transit, Active Transportation and Alternative Modes of Transportation. Tracking metrics need to address all the listed performance measures and include percentages that can be compared to the objectives.

T4.1 On-demand autonomous vehicles are not likely to operate 2025-2030. The only on-demand autonomous electric vehicles that exist today are electric elevators. Allow taller

[6] Decarbonizing US passenger vehicle transport under electrification and automation uncertainty has a travel budget, https://iopscience.iop.org/article/10.1088/1748-9326/ab7c89

buildings to spread out the cost of the elevators. This advances resiliency because elevators use back-up batteries in case of power outages. Enlarge the battery storage and the buildings become community resiliency centers, which also allow the medically fragile to shelter at home.

We need clear operating rules for delivery drones and autonomous vehicles (AV). Where will delivery drones operate? Will they use scarce sidewalk space? Who gets priority on a narrow sidewalk when they encounter pedestrians and wheelchair or walker users? For autonomous vehicles, do we minimize motion sickness of AV passengers by reducing automatic braking, or do we allow more pedestrians and cyclists to be killed or maimed? We need public engagement, consensus and clear rules.

T4.2 Increasing bus headways means reducing bus frequency. Is that a typo? Again, we cannot wait until 2030+ to speed up buses. The technology is available today. In a climate emergency, we need to give transit and active transportation signal priority and dedicated road space today.

T5. Eliminating parking minimums and unbundling parking from housing will help reduce housing costs and help us develop more housing where people want/need to live. Parking maximums near transit would also be instituted. This should be immediate. There is already plenty of research that shows removing parking reduces VMT and the number of vehicles each household owns.

Also, put in electric vehicle shares in new construction to reduce the need for personally-owned cars. Add cargo e-trikes and electric mopeds in appropriate locations.

S4 Low Carbon Transportation must consider supply chain and reliability issues and include smaller, lighter and less material-intensive e-assist vehicles such as scooters, bicycles, tricycles, mopeds and golf carts.

T6.1. Develop a zero emission vehicle master plan. This master plan is fundamental. The performance objective needs to include a date by which the plan will be submitted to the BOS for approval. Again, lead with smaller, lighter, less expensive e-assist mobility such as scooters, bicycles, tricycles, wheelchairs, mopeds and golf carts.

T7. Electrify LA county fleet vehicles. Tracking metric needs to include percentages to allow comparison to performance objectives. Sheriff and fire vehicles need to be included in the electrified fleets. E-bikes should be used by deputies and EMTs in urban areas. Britain has found that EMTs on E-bikes reach patients faster in urban environments because they can filter through traffic and can park closer to people needing aide.

T8.1 Include performance objectives and tracking metrics for adoption of ordinances establishing zero emission delivery zones.

T9. Expand use of Zero Emission Technologies for Off-Road Vehicles and Equipment. Please specify the inclusion of blowers and mowers in this requirement.

S5: Decarbonize Buildings does not mention active or passive shading on new buildings or retrofits. They can save 10-50% of cooling costs and should be required in all new development.

E6. Reduce Indoor and Outdoor Water Consumption. This measure includes performance objectives for reduction of total water use, but does not indicate the source for the objectives or how they would be measured. Please clarify.

E6.3 This measure proposes an ordinance for water-conserving landscaping, but provides no detail or date by when an ordinance would be adopted. Please clarify the intent and timing of this measure.

S8: Minimize Waste and Recover Energy and Materials from the Waste Stream
Continue to reduce both the total volume of solid waste and diversion of recyclables and organic waste. "The League supports the concept of environmentally sound waste-to-energy plants, both as an alternative to land disposal and as a form of resource recovery"[7] with advanced pollution controls. The CAP does not mention waste incineration even though SERRF is closer than landfills for many unincorporated parts of the county. County should also partner with the oil and gas industry to convert their assets to compost and biofuel production from diverted waste. Utilizing SERRF and moving green waste recycling closer to generation will reduce VMT, GHG emissions and air pollution from trucks.

[7] p 51, LWVC Sustainable Communities https://my.lwv.org/sites/default/files/leagues/wysiwyg/%5Bcurrent-user%3Aog-user-node%3A1%3Atitle%5D/lwvc_action_policies_and_positions_2020_1.pdf#page=48

TEN ACTIONS that cities can take to reduce their GHGs

Move away from fossil fuels	1. Terminate fossil fuel *purchase contracts*/enter only into renewable energy contracts. 2. Permit *new construction* only without fossil fuel energy.
Electrify buildings	3. Retrofit or build *municipal structures* for renewable energy supply and energy efficiency. Install solar PV systems. 4. Require, or create incentives for, retrofit of *private buildings* for renewable energy supply and energy efficiency. 5. Offer incentives for and facilitate residential, neighborhood and commercial *rooftop solar*. 6. Offer *community solar* programs to enable renters/low-income persons to enjoy benefits of low cost renewable energy.
Electrify vehicles	7. Replace fossil fuel *municipal vehicles* with renewable energy powered vehicles. 8. Install, or incentivize the installation of, *EV charging* stations in public and private parking lots and convenient locations. 9. Offer incentives and rebates for *EV and electric appliance* purchases.
Reduce vehicle use	10. Reduce vehicle miles travelled *(VMT)* by planning measures and incentives to use public transportation.

TEN PROCESSES for local GHG reduction planning

Set goals, measure, hold accountable	1. Set annual GHG reduction *goals*. 2. Take *inventory* and use SMART metrics. 3. Establish *consequences* for failure to meet goals.
Actions and budget	4. Clarify *specific actions* to be taken. 5. Assign *authority and budget*.
Integrate actions with public priorities	6. Link GHG reduction plans to *workforce development*. 7. Link GHG reduction plans to affordable *housing and utility* bills. 8. Integrate climate action with *building codes*.
Transparency	9. Embrace public *transparency* at all stage of planning 10. Use Climate Action Plans (CAPs) for their intended *purpose of GHG emissions reduction.*

P: (626) 381-9248
F: (626) 389-5414
E: info@mitchtsailaw.com

Mitchell M. Tsai
Attorney At Law

139 South Hudson Avenue
Suite 200
Pasadena, California 91101

VIA E-MAIL

July 7, 2022

Thuy Hua, Supervising Regional Planner
County of Los Angeles
320 West Temple St., 13th Floor
Los Angeles, CA 90012
Em: thua@planning.lacounty.gov
Em: climate@planning.lacounty.gov

RE: County of Los Angeles Draft 2045 Climate Action Plan (2045 CAP)

Dear Thuy Hua,

On behalf of the Southwest Regional Council of Carpenters ("**SWRCC**" or "**Southwest Carpenters**"), my Office is submitting these comments on the County of Los Angeles' ("**County**") Draft 2045 Climate Action Plan ("**Draft 2045 CAP**" or "**Plan**").

The SWRCC is a labor union representing more than 50,000 union carpenters in six states, including California, and has a strong interest in well-ordered land use planning and in addressing the environmental impacts of development projects.

Individual members of the Southwest Carpenters live, work, and recreate in L.A. County and surrounding communities, and would be directly affected by the Project's environmental impacts.

The SWRCC expressly reserves the right to supplement these comments at or prior to hearings on the Draft 2045 CAP, and at any later hearing or proceeding related to it. Cal. Gov't Code § 65009(b); Cal. Pub. Res. Code § 21177(a); see *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal. App. 4th 1184, 1199-1203; see also *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.

Moreover, SWRCC requests that L.A. County provide notice for any and all notices referring or related to the Draft 2045 CAP issued under the California Environmental Quality Act (**CEQA**), California Public Resources Code (**PRC**) § 21000 *et seq.*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov't Code

§§ 65000–65010. Additionally, California Public Resources Code §§ 21092.2 and 21167(f) and Government Code § 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

The County should require that developers contribute to the goals of the Draft 2045 CAP while also providing substantial community benefits by requiring local hire and the use of a skilled and trained workforce to work on any development projects in the unincorporated areas of the County. The County should also require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, who have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state-approved apprenticeship training program, or who are registered apprentices in an apprenticeship training program approved by the State of California.

The U.S. Environmental Protection Agency confirmed that transportation emissions have accounted for the largest portion of U.S. greenhouse gas (GHG) emissions in recent years.[1] In response, California has enacted several laws, regulations, and policies over the last 20 years that have aimed to address and curb transportation-derived emissions. Community benefits such as local hire and skilled and trained workforce requirements can also be extremely beneficial in reducing GHG emissions in L.A. County's unincorporated areas (while also improving the positive economic impact of the Draft 2045 CAP). Local hire provisions that require a certain percentage of workers to reside within 10 miles or less of a development project reduces the length of their commutes and of vendor trips and thus, GHG emissions. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

[1] U.S. Environmental Protection Agency. (2022) Inventory of U.S. Greenhouse Gas Emissions and Sinks, *available at* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai regarding Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Apart from direct reductions in GHG emissions due to localized labor and shortened commutes, skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development. Many of the SWRCC's members were at one point, or currently are residents of affordable or multifamily housing in L.A. County, and thus have not been well-served by local renewable energy programs and other climate initiatives. Investing in this workforce's development in this regard would allow for the Draft 2045 CAP to address some of the high-level measures listed in the L.A. Country Climate Vulnerability Assessment—namely, implementing multi-beneficial climate mitigation initiatives that "address multiple hazards and prioritize historically disadvantaged communities" and that "support vulnerable people and places."

Such an investment would align perfectly with the listed actions that would guide implementation of the Plan, including engaging in inclusive public involvement, prioritizing action in frontline communities, and assisting vulnerable communities with resource access. As the California Workforce Development Board and the University of California, Berkeley Center for Labor Research and Education concluded:

> [L]abor should be considered an investment rather than a cost—and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well-trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[2]

On May 7, 2021, the South Coast Air Quality Management District found that the "[u]se of a local state-certified apprenticeship program or a skilled and trained workforce with a local hire component" can result in air pollutant reductions.[3]

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[2] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf

[3] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10

Consequently, progressive cities are increasingly incorporating local skilled and trained workforce policies and requirements into general plans and municipal codes. For example, the City of Hayward's 2040 General Plan requires the city to "promote local hiring . . . to help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions."[4]

In fact, the City of Hayward has gone as far as mandating a skilled labor force policy into its Downtown Specific Plan and municipal code which requires that the city "[c]ontribute to the stabilization of regional construction markets by spurring applicants of housing and nonresidential developments to require contractors to utilize apprentices from state-approved, joint labor-management training programs[.]"[5] The City of Hayward also requires this measure for all projects that are 30,000 square feet or larger, whether in the downtown area or not.[6]

The far-reaching positive effects of locating jobs closer to the residential areas cannot be overstated. As the California Planning Roundtable noted:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities, and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[7]

Local hire mandates and skill-training are critical facets of the Plan's overall strategy to curb GHG emissions by reducing vehicle miles traveled (VMT). As planning experts Robert Cervero and Michael Duncan have noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions given that the skill requirements of available local jobs must be matched to those held by local residents.[8] Some municipalities have even tied local hire and skilled and trained workforce policies to

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[4] City of Hayward (2014) Hayward 2040 General Plan Policy Document at p. 3-99, *available at* https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf.

[5] City of Hayward (2019) Hayward Downtown Specific Plan at p. 5-24, *available at* https://www.hayward-ca.gov/sites/default/files/Hayward%20Downtown%20Specific%20 Plan.pdf.

[6] City of Hayward Municipal Code, Chapter 10, § 28.5.3.020(C).

[7] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

[8] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

local development permits in order to address transportation issues. As Cervero and Duncan note:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing. [Berkeley's] First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

Los Angeles County should therefore consider implementing skilled and trained workforce policies and requirements to benefit the local area economically and to mitigate GHG emissions and transportation impacts.

The County should also require that the Plan incorporate policies mandating that future development projects be built to standards exceeding the current 2019 California Green Building Code—thus mitigating those projects' environmental impacts and advancing the Plan's overarching goals.

SWRCC requests that the County take into consideration the aforementioned concerns and incorporate the measures suggested into its implementation of the 2045 Climate Action Plan. Doing so would address several of the Strategy areas listed in Appendix F and further the Plan's overarching purpose, namely to reduce the County's impact on climate change and to aid in its "obligation under CEQA . . . and various California Executive Orders to do its part to reduce GHG emissions within the state[.]" Should the County have any questions or concerns, please contact my Office.

Sincerely,

Reza Bonachea Mohamadzadeh
Attorney for the Southwest
Regional Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B); and

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C).

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Location Type	Location Name	Rural H-W (miles)	Urban H-W (miles)
Air Basin	Great Basin	16.8	10.8
Air Basin	Lake County	16.8	10.8
Air Basin	Lake Tahoe	16.8	10.8
Air Basin	Mojave Desert	16.8	10.8
Air Basin	Mountain	16.8	10.8
Air Basin	North Central	17.1	12.3
Air Basin	North Coast	16.8	10.8
Air Basin	Northeast	16.8	10.8
Air Basin	Sacramento	16.8	10.8
Air Basin	Salton Sea	14.6	11
Air Basin	San Diego	16.8	10.8
Air Basin	San Francisco	10.8	10.8
Air Basin	San Joaquin	16.8	10.8
Air Basin	South Central	16.8	10.8
Air Basin	South Coast	19.8	14.7
Air District	Amador County	16.8	10.8
Air District	Antelope Valley	16.8	10.8
Air District	Bay Area AQMD	10.8	10.8
Air District	Butte County	12.54	12.54
Air District	Calaveras	16.8	10.8
Air District	Colusa County	16.8	10.8
Air District	El Dorado	16.8	10.8
Air District	Feather River	16.8	10.8
Air District	Glenn County	16.8	10.8
Air District	Great Basin	16.8	10.8
Air District	Imperial County	10.2	7.3
Air District	Kern County	16.8	10.8
Air District	Lake County	16.8	10.8
Air District	Lassen County	16.8	10.8
Air District	Mariposa	16.8	10.8
Air District	Mendocino	16.8	10.8
Air District	Modoc County	16.8	10.8
Air District	Mojave Desert	16.8	10.8
Air District	Monterey Bay	16.8	10.8
Air District	North Coast	16.8	10.8
Air District	Northern Sierra	16.8	10.8
Air District	Northern	16.8	10.8
Air District	Placer County	16.8	10.8
Air District	Sacramento	15	10

Air District	San Diego	16.8	10.8
Air District	San Joaquin	16.8	10.8
Air District	San Luis Obispo	13	13
Air District	Santa Barbara	8.3	8.3
Air District	Shasta County	16.8	10.8
Air District	Siskiyou County	16.8	10.8
Air District	South Coast	19.8	14.7
Air District	Tehama County	16.8	10.8
Air District	Tuolumne	16.8	10.8
Air District	Ventura County	16.8	10.8
Air District	Yolo/Solano	15	10
County	Alameda	10.8	10.8
County	Alpine	16.8	10.8
County	Amador	16.8	10.8
County	Butte	12.54	12.54
County	Calaveras	16.8	10.8
County	Colusa	16.8	10.8
County	Contra Costa	10.8	10.8
County	Del Norte	16.8	10.8
County	El Dorado-Lake	16.8	10.8
County	El Dorado-	16.8	10.8
County	Fresno	16.8	10.8
County	Glenn	16.8	10.8
County	Humboldt	16.8	10.8
County	Imperial	10.2	7.3
County	Inyo	16.8	10.8
County	Kern-Mojave	16.8	10.8
County	Kern-San	16.8	10.8
County	Kings	16.8	10.8
County	Lake	16.8	10.8
County	Lassen	16.8	10.8
County	Los Angeles-	16.8	10.8
County	Los Angeles-	19.8	14.7
County	Madera	16.8	10.8
County	Marin	10.8	10.8
County	Mariposa	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Merced	16.8	10.8
County	Modoc	16.8	10.8
County	Mono	16.8	10.8
County	Monterey	16.8	10.8
County	Napa	10.8	10.8

County	Nevada	16.8	10.8
County	Orange	19.8	14.7
County	Placer-Lake	16.8	10.8
County	Placer-Mountain	16.8	10.8
County	Placer-	16.8	10.8
County	Plumas	16.8	10.8
County	Riverside-	16.8	10.8
County	Riverside-	19.8	14.7
County	Riverside-Salton	14.6	11
County	Riverside-South	19.8	14.7
County	Sacramento	15	10
County	San Benito	16.8	10.8
County	San Bernardino-	16.8	10.8
County	San Bernardino-	19.8	14.7
County	San Diego	16.8	10.8
County	San Francisco	10.8	10.8
County	San Joaquin	16.8	10.8
County	San Luis Obispo	13	13
County	San Mateo	10.8	10.8
County	Santa Barbara-	8.3	8.3
County	Santa Barbara-	8.3	8.3
County	Santa Clara	10.8	10.8
County	Santa Cruz	16.8	10.8
County	Shasta	16.8	10.8
County	Sierra	16.8	10.8
County	Siskiyou	16.8	10.8
County	Solano-	15	10
County	Solano-San	16.8	10.8
County	Sonoma-North	16.8	10.8
County	Sonoma-San	10.8	10.8
County	Stanislaus	16.8	10.8
County	Sutter	16.8	10.8
County	Tehama	16.8	10.8
County	Trinity	16.8	10.8
County	Tulare	16.8	10.8
County	Tuolumne	16.8	10.8
County	Ventura	16.8	10.8
County	Yolo	15	10
County	Yuba	16.8	10.8
Statewide	Statewide	16.8	10.8

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Mininum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1969	213.1969	0.0601	0.0000	214.6993
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6826	1,721.6826	0.1294	0.0000	1,724.9187
2023	0.6148	3.3649	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5295	1,627.5295	0.1185	0.0000	1,630.4925
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9078	52.9078	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6826**	**1,721.6826**	**0.1294**	**0.0000**	**1,724.9187**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1967	213.1967	0.0601	0.0000	214.6991
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183
2023	0.6148	3.3648	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5291	1,627.5291	0.1185	0.0000	1,630.4921
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9077	52.9077	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6823**	**1,721.6823**	**0.1294**	**0.0000**	**1,724.9183**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4103	1.4103
2	**12-1-2021**	**2-28-2022**	1.3613	1.3613
3	**3-1-2022**	**5-31-2022**	1.1985	1.1985
4	**6-1-2022**	**8-31-2022**	1.1921	1.1921
5	**9-1-2022**	**11-30-2022**	1.1918	1.1918
6	**12-1-2022**	**2-28-2023**	1.0774	1.0774
7	**3-1-2023**	**5-31-2023**	1.0320	1.0320
8	**6-1-2023**	**8-31-2023**	1.0260	1.0260

9	**9-1-2023**	**11-30-2023**	1.0265	1.0265
10	**12-1-2023**	**2-29-2024**	2.8857	2.8857
11	**3-1-2024**	**5-31-2024**	1.6207	1.6207
		Highest	2.8857	2.8857

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1521
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1520
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.6857	8,800.6857	0.2429		8,806.7582
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.2339**	**12,697.2339**	**0.4665**		**12,708.8966**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.6857	8,800.6857	0.2429		8,806.7582
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.2339**	**12,697.2339**	**0.4665**		**12,708.8966**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7654	210.7654	0.0600	0.0000	212.2661
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6554	1,418.6554	0.1215	0.0000	1,421.6925
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4412	1,342.4412	0.1115	0.0000	1,345.2291
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6355	44.6355	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6554**	**1,418.6554**	**0.1215**	**0.0000**	**1,421.6925**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7651	210.7651	0.0600	0.0000	212.2658
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4409	1,342.4409	0.1115	0.0000	1,345.2287
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6354	44.6354	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6550**	**1,418.6550**	**0.1215**	**0.0000**	**1,421.6921**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4091	1.4091
2	**12-1-2021**	**2-28-2022**	1.3329	1.3329
3	**3-1-2022**	**5-31-2022**	1.1499	1.1499
4	**6-1-2022**	**8-31-2022**	1.1457	1.1457
5	**9-1-2022**	**11-30-2022**	1.1415	1.1415
6	**12-1-2022**	**2-28-2023**	1.0278	1.0278
7	**3-1-2023**	**5-31-2023**	0.9868	0.9868
8	**6-1-2023**	**8-31-2023**	0.9831	0.9831

9	**9-1-2023**	**11-30-2023**	0.9798	0.9798
10	**12-1-2023**	**2-29-2024**	2.8757	2.8757
11	**3-1-2024**	**5-31-2024**	1.6188	1.6188
		Highest	2.8757	2.8757

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0956
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0955
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.5585	6,042.5585	0.1697		6,046.8000
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.1067**	**9,939.1067**	**0.3933**		**9,948.9384**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.5585	6,042.5585	0.1697		6,046.8000
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.1067**	**9,939.1067**	**0.3933**		**9,948.9384**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.3262**	**1,380.3262**	**0.0941**		**1,382.6791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.3262**	**1,380.3262**	**0.0941**		**1,382.6791**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment C

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,623
Amortized (MT CO2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized (MT CO2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

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Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

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Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

1640 5th St.., Suite 204 Santa
Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

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Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

P: (626) 381-9248
F: (626) 389-5414
E: info@mitchtsailaw.com

Mitchell M. Tsai
Attorney At Law

139 South Hudson Avenue
Suite 200
Pasadena, California 91101

VIA E-MAIL

July 18, 2022

Thuy Hua, Supervising Regional Planner
County of Los Angeles
320 West Temple St., 13th Floor
Los Angeles, CA 90012
Em: thua@planning.lacounty.gov
Em: climate@planning.lacounty.gov

RE: County of Los Angeles Draft 2045 Climate Action Plan (2045 CAP)

Dear Thuy Hua,

On behalf of the Southwest Regional Council of Carpenters ("**SWRCC**" or "**Southwest Carpenters**"), my Office is submitting these comments on the County of Los Angeles' ("**County**") Draft 2045 Climate Action Plan ("**Draft 2045 CAP**" or "**Plan**") Draft Environmental Impact Report.

The SWRCC is a labor union representing more than 57,000 union carpenters in six states, including California, and has a strong interest in well-ordered land use planning and in addressing the environmental impacts of development projects.

Individual members of the Southwest Carpenters live, work, and recreate in L.A. County and surrounding communities, and would be directly affected by the Project's environmental impacts.

The SWRCC expressly reserves the right to supplement these comments at or prior to hearings on the Draft 2045 CAP, and at any later hearing or proceeding related to it. Cal. Gov. Code § 65009, subd. (b); Cal. Pub. Res. Code, § 21177, subd. (a); see *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal.App.4th 1184, 1199-1203; see also *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal.App.4th 1109, 1121.

Moreover, the SWRCC requests that L.A. County provide notice for any and all notices referring or related to the Draft 2045 CAP issued under the California Environmental Quality Act (**CEQA**), California Public Resources Code (**PRC**) §

21000 *et seq.*, and the California Planning and Zoning Law ("**Planning and Zoning Law**"), Cal. Gov. Code, §§ 65000–65010. Additionally, California Public Resources Code, §§ 21092.2 and 21167, subd. (f) and Government Code, § 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body.

The County should require that future developers contribute to the goals of the Draft 2045 CAP while also providing substantial community benefits by requiring local hire and the use of a skilled and trained workforce to work on any development projects in the unincorporated areas of the County. The County should also require the use of workers who have graduated from a Joint Labor Management apprenticeship training program approved by the State of California, who have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state-approved apprenticeship training program, or who are registered apprentices in an apprenticeship training program approved by the State of California.

The U.S. Environmental Protection Agency confirmed that transportation emissions have accounted for the largest portion of U.S. greenhouse gas (GHG) emissions in recent years.[1] In response, California has enacted several laws, regulations, and policies over the last 20 years that have aimed to address and curb transportation-derived emissions. Community benefits such as local hire and skilled and trained workforce requirements can also be extremely beneficial in reducing GHG emissions in L.A. County's unincorporated areas (while also improving the positive economic impact of the Draft 2045 CAP). Local hire provisions that require a certain percentage of workers to reside within 10 miles or less of a development project reduces the length of their commutes and of vendor trips and thus, GHG emissions. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

[1] U.S. Environmental Protection Agency. (2022) Inventory of U.S. Greenhouse Gas Emissions and Sinks, *available at* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai regarding Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Apart from direct reductions in GHG emissions due to localized labor and shortened commutes, skilled and trained workforce requirements promote the development of skilled trades that yield sustainable economic development.

Such an investment would align perfectly with the listed actions that would guide implementation of the Plan, including engaging in inclusive public involvement, prioritizing action in frontline communities, and assisting vulnerable communities with resource access. As the California Workforce Development Board and the University of California, Berkeley Center for Labor Research and Education concluded:

> [L]abor should be considered an investment rather than a cost—and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well-trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[2]

On May 7, 2021, the South Coast Air Quality Management District found that the "[u]se of a local state-certified apprenticeship program or a skilled and trained workforce with a local hire component" can result in air pollutant reductions.[3]

Consequently, progressive cities are increasingly incorporating local skilled and trained workforce policies and requirements into general plans and municipal codes. For example, the City of Hayward's 2040 General Plan requires the city to "promote local

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[2] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/ uploads/2020/09/Putting-California-on-the-High-Road.pdf

[3] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021 -May7-027.pdf?sfvrsn=10

hiring . . . to help achieve a more positive jobs-housing balance, and reduce regional commuting, gas consumption, and greenhouse gas emissions."[4]

In fact, the City of Hayward has gone as far as mandating a skilled labor force policy into its Downtown Specific Plan and municipal code which requires that the city "[c]ontribute to the stabilization of regional construction markets by spurring applicants of housing and nonresidential developments to require contractors to utilize apprentices from state-approved, joint labor-management training programs[.]"[5] The City of Hayward also requires this measure for all projects that are 30,000 square feet or larger, whether in the downtown area or not.[6]

The far-reaching positive effects of locating jobs closer to the residential areas cannot be overstated. As the California Planning Roundtable noted:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities, and their vehicle trips would be shorter. Benefits would include potential reductions in both vehicle miles traveled and vehicle hours traveled.[7]

Local hire mandates and skill-training are critical facets of the Plan's overall strategy to curb GHG emissions by reducing vehicle miles traveled (VMT). As planning experts Robert Cervero and Michael Duncan have noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions given that the skill requirements of available local jobs must be matched to those held by local residents.[8] Some municipalities have even tied local hire and skilled and trained workforce policies to

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[4] City of Hayward (2014) Hayward 2040 General Plan Policy Document at p. 3-99, *available at* https://www.hayward-ca.gov/sites/default/files/documents/General_Plan_FINAL.pdf.

[5] City of Hayward (2019) Hayward Downtown Specific Plan at p. 5-24, *available at* https://www.hay ward-ca.gov/sites/default/files/Hayward%20Downtown%20Specific%20 Plan.pdf.

[6] City of Hayward Municipal Code, Chapter 10, § 28.5.3.020(C).

[7] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

[8] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

local development permits in order to address transportation issues. As Cervero and Duncan note:

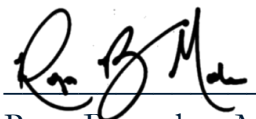
> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing. [Berkeley's] First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

Los Angeles County should therefore consider implementing skilled and trained workforce policies and requirements to benefit the local area economically and to mitigate GHG emissions and transportation impacts.

The County should also require that the Plan incorporate policies mandating that future development projects be built to standards exceeding the current 2019 California Green Building Code—thus mitigating those projects' environmental impacts and advancing the Plan's overarching goals.

SWRCC requests that the County take into consideration the aforementioned concerns and incorporate the measures suggested into its implementation of the 2045 Climate Action Plan. Doing so would address several of the Strategy areas listed in Appendix F and further the Plan's overarching purpose, namely, to reduce the County's impact on climate change and to aid in its "obligation under CEQA . . . and various California Executive Orders to do its part to reduce GHG emissions within the state[.]" Should the County have any questions or concerns, please contact my Office.

Sincerely,



Reza Bonachea Mohamadzadeh
Attorney for the Southwest
Regional Council of Carpenters

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B); and

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C).

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

2656 29th Street, Suite 201
Santa Monica, CA 90405

Matt Hagemann, P.G, C.Hg.
(949) 887-9013
mhagemann@swape.com

Paul E. Rosenfeld, PhD
(310) 795-2335
prosenfeld@swape.com

March 8, 2021

Mitchell M. Tsai
155 South El Molino, Suite 104
Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Location Type	Location Name	Rural H-W (miles)	Urban H-W (miles)
Air Basin	Great Basin	16.8	10.8
Air Basin	Lake County	16.8	10.8
Air Basin	Lake Tahoe	16.8	10.8
Air Basin	Mojave Desert	16.8	10.8
Air Basin	Mountain	16.8	10.8
Air Basin	North Central	17.1	12.3
Air Basin	North Coast	16.8	10.8
Air Basin	Northeast	16.8	10.8
Air Basin	Sacramento	16.8	10.8
Air Basin	Salton Sea	14.6	11
Air Basin	San Diego	16.8	10.8
Air Basin	San Francisco	10.8	10.8
Air Basin	San Joaquin	16.8	10.8
Air Basin	South Central	16.8	10.8
Air Basin	South Coast	19.8	14.7
Air District	Amador County	16.8	10.8
Air District	Antelope Valley	16.8	10.8
Air District	Bay Area AQMD	10.8	10.8
Air District	Butte County	12.54	12.54
Air District	Calaveras	16.8	10.8
Air District	Colusa County	16.8	10.8
Air District	El Dorado	16.8	10.8
Air District	Feather River	16.8	10.8
Air District	Glenn County	16.8	10.8
Air District	Great Basin	16.8	10.8
Air District	Imperial County	10.2	7.3
Air District	Kern County	16.8	10.8
Air District	Lake County	16.8	10.8
Air District	Lassen County	16.8	10.8
Air District	Mariposa	16.8	10.8
Air District	Mendocino	16.8	10.8
Air District	Modoc County	16.8	10.8
Air District	Mojave Desert	16.8	10.8
Air District	Monterey Bay	16.8	10.8
Air District	North Coast	16.8	10.8
Air District	Northern Sierra	16.8	10.8
Air District	Northern	16.8	10.8
Air District	Placer County	16.8	10.8
Air District	Sacramento	15	10

Air District	San Diego	16.8	10.8
Air District	San Joaquin	16.8	10.8
Air District	San Luis Obispo	13	13
Air District	Santa Barbara	8.3	8.3
Air District	Shasta County	16.8	10.8
Air District	Siskiyou County	16.8	10.8
Air District	South Coast	19.8	14.7
Air District	Tehama County	16.8	10.8
Air District	Tuolumne	16.8	10.8
Air District	Ventura County	16.8	10.8
Air District	Yolo/Solano	15	10
County	Alameda	10.8	10.8
County	Alpine	16.8	10.8
County	Amador	16.8	10.8
County	Butte	12.54	12.54
County	Calaveras	16.8	10.8
County	Colusa	16.8	10.8
County	Contra Costa	10.8	10.8
County	Del Norte	16.8	10.8
County	El Dorado-Lake	16.8	10.8
County	El Dorado-	16.8	10.8
County	Fresno	16.8	10.8
County	Glenn	16.8	10.8
County	Humboldt	16.8	10.8
County	Imperial	10.2	7.3
County	Inyo	16.8	10.8
County	Kern-Mojave	16.8	10.8
County	Kern-San	16.8	10.8
County	Kings	16.8	10.8
County	Lake	16.8	10.8
County	Lassen	16.8	10.8
County	Los Angeles-	16.8	10.8
County	Los Angeles-	19.8	14.7
County	Madera	16.8	10.8
County	Marin	10.8	10.8
County	Mariposa	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Merced	16.8	10.8
County	Modoc	16.8	10.8
County	Mono	16.8	10.8
County	Monterey	16.8	10.8
County	Napa	10.8	10.8

County	Nevada	16.8	10.8
County	Orange	19.8	14.7
County	Placer-Lake	16.8	10.8
County	Placer-Mountain	16.8	10.8
County	Placer-	16.8	10.8
County	Plumas	16.8	10.8
County	Riverside-	16.8	10.8
County	Riverside-	19.8	14.7
County	Riverside-Salton	14.6	11
County	Riverside-South	19.8	14.7
County	Sacramento	15	10
County	San Benito	16.8	10.8
County	San Bernardino-	16.8	10.8
County	San Bernardino-	19.8	14.7
County	San Diego	16.8	10.8
County	San Francisco	10.8	10.8
County	San Joaquin	16.8	10.8
County	San Luis Obispo	13	13
County	San Mateo	10.8	10.8
County	Santa Barbara-	8.3	8.3
County	Santa Barbara-	8.3	8.3
County	Santa Clara	10.8	10.8
County	Santa Cruz	16.8	10.8
County	Shasta	16.8	10.8
County	Sierra	16.8	10.8
County	Siskiyou	16.8	10.8
County	Solano-	15	10
County	Solano-San	16.8	10.8
County	Sonoma-North	16.8	10.8
County	Sonoma-San	10.8	10.8
County	Stanislaus	16.8	10.8
County	Sutter	16.8	10.8
County	Tehama	16.8	10.8
County	Trinity	16.8	10.8
County	Tulare	16.8	10.8
County	Tuolumne	16.8	10.8
County	Ventura	16.8	10.8
County	Yolo	15	10
County	Yuba	16.8	10.8
Statewide	Statewide	16.8	10.8

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Mininum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1969	213.1969	0.0601	0.0000	214.6993
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6826	1,721.6826	0.1294	0.0000	1,724.9187
2023	0.6148	3.3649	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5295	1,627.5295	0.1185	0.0000	1,630.4925
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9078	52.9078	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6826**	**1,721.6826**	**0.1294**	**0.0000**	**1,724.9187**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1967	213.1967	0.0601	0.0000	214.6991
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183
2023	0.6148	3.3648	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5291	1,627.5291	0.1185	0.0000	1,630.4921
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9077	52.9077	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6823**	**1,721.6823**	**0.1294**	**0.0000**	**1,724.9183**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4103	1.4103
2	**12-1-2021**	**2-28-2022**	1.3613	1.3613
3	**3-1-2022**	**5-31-2022**	1.1985	1.1985
4	**6-1-2022**	**8-31-2022**	1.1921	1.1921
5	**9-1-2022**	**11-30-2022**	1.1918	1.1918
6	**12-1-2022**	**2-28-2023**	1.0774	1.0774
7	**3-1-2023**	**5-31-2023**	1.0320	1.0320
8	**6-1-2023**	**8-31-2023**	1.0260	1.0260

9	**9-1-2023**	**11-30-2023**	1.0265	1.0265
10	**12-1-2023**	**2-29-2024**	2.8857	2.8857
11	**3-1-2024**	**5-31-2024**	1.6207	1.6207
		Highest	2.8857	2.8857

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1521
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1520
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.6857	8,800.6857	0.2429		8,806.7582
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.2339**	**12,697.2339**	**0.4665**		**12,708.8966**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.6857	8,800.6857	0.2429		8,806.7582
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.2339**	**12,697.2339**	**0.4665**		**12,708.8966**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.2860	1,545.2860	0.0376		1,546.2262
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.2860**	**1,545.2860**	**0.0376**		**1,546.2262**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7654	210.7654	0.0600	0.0000	212.2661
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6554	1,418.6554	0.1215	0.0000	1,421.6925
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4412	1,342.4412	0.1115	0.0000	1,345.2291
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6355	44.6355	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6554**	**1,418.6554**	**0.1215**	**0.0000**	**1,421.6925**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7651	210.7651	0.0600	0.0000	212.2658
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4409	1,342.4409	0.1115	0.0000	1,345.2287
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6354	44.6354	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6550**	**1,418.6550**	**0.1215**	**0.0000**	**1,421.6921**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2021**	**11-30-2021**	1.4091	1.4091
2	**12-1-2021**	**2-28-2022**	1.3329	1.3329
3	**3-1-2022**	**5-31-2022**	1.1499	1.1499
4	**6-1-2022**	**8-31-2022**	1.1457	1.1457
5	**9-1-2022**	**11-30-2022**	1.1415	1.1415
6	**12-1-2022**	**2-28-2023**	1.0278	1.0278
7	**3-1-2023**	**5-31-2023**	0.9868	0.9868
8	**6-1-2023**	**8-31-2023**	0.9831	0.9831

9	**9-1-2023**	**11-30-2023**	0.9798	0.9798
10	**12-1-2023**	**2-29-2024**	2.8757	2.8757
11	**3-1-2024**	**5-31-2024**	1.6188	1.6188
		Highest	2.8757	2.8757

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0956
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.4166	6,163.4166	1.9475	0.0000	6,212.1039
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.4403	12,493.4403	1.9485	0.0000	12,518.5707
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.4890	12,150.4890	0.9589	0.0000	12,174.4615
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.1808	2,313.1808	0.7166	0.0000	2,331.0955
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.4403**	**12,493.4403**	**1.9485**	**0.0000**	**12,518.5707**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.5585	6,042.5585	0.1697		6,046.8000
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.1067**	**9,939.1067**	**0.3933**		**9,948.9384**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.5482	3,896.5482	0.2236		3,902.1384
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.5585	6,042.5585	0.1697		6,046.8000
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.1067**	**9,939.1067**	**0.3933**		**9,948.9384**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.4028	5,821.4028	0.1529		5,825.2254
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.2790**	**9,595.2790**	**0.3511**		**9,604.0554**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.3262**	**1,380.3262**	**0.0941**		**1,382.6791**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.3262**	**1,380.3262**	**0.0941**		**1,382.6791**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.7974	5,483.7974	0.1442		5,487.4020
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.1981**	**9,155.1981**	**0.3538**		**9,164.0437**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.3818	1,061.3818	0.0264		1,062.0410
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.3818**	**1,061.3818**	**0.0264**		**1,062.0410**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment C

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,623
Amortized (MT CO2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized (MT CO2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

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Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

1640 5th St.., Suite 204 Santa
Santa Monica, California 90401
Tel: (949) 887-9013
Email: mhagemann@swape.com

Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

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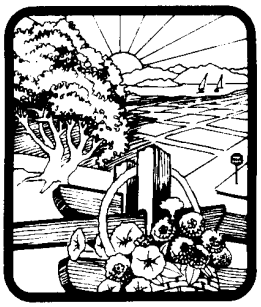
Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

SCOPE
Santa Clarita Organization for Planning and the Environment
TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY
POST OFFICE BOX 1182, SANTA CLARITA, CA 91386



7-15-22

Climate Action Plan Staff
Los Angeles County Dept of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

Via email to: climate@planning.lacounty.gov

Re: Draft 2045 Los Angeles County Climate Action Plan (2045 CAP)

Dear Climate Action Staff:

Formed in 1987 by local residents, Santa Clarita Organization for Planning and the Environment is the oldest local planning and conservation group in the Santa Clarita Valley. We have long focused on protecting the Santa Clara River, our oak resource and water and air quality in the SCV. Global Warming touches each of these areas and is an over-riding concern and existential threat to our to community and to humanity as a whole.

SCOPE members appeared and spoke at the preliminary hearing/presentation on the CAP at the Regional Planning Commission earlier this year and urged swifter action. We also attended the public outreach hearing conducted in May. Additionally, a County staff member made a presentation to our group at our June meeting. (We were very grateful to Thuy Hua for attending our meeting on a Saturday morning to make a presentation).

CAP Comments

We appreciate that the County is taking action and are aware that if the County is able to accomplish everything it has in the Plan, we'll be making major, positive changes. However, we believe that 2045 is WAY too late to attain carbon neutrality. According to the latest IPCC report, humanity must get carbon emissions under control within a decade in order to avoid passing tipping points that would create permanent climate system changes[1].

> *"The magnitude and rate of climate change and associated risks depend strongly on near-term mitigation and adaptation actions, and projected adverse impacts and related losses and damages escalate with every increment of global warming.* (*very high confidence*)*."*[2]

[1] **Climate Change 2022: Impacts, Adaptation and Vulnerability,** https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

[2] *Ibid*. **Summary for Policymakers Headline Statements,** Section B.4, https://www.ipcc.ch/report/ar6/wg2/resources/spm-headline-statements/

We have to move much faster. These actions should be started TODAY, and the timeline shortened considerably. It is particularly discouraging to read that Los Angeles County, the most populous County in California, a state which is itself the fifth larger economy in the world, has set only an "aspirational" goal of reaching carbon neutrality by 2045.[3] We can do better. We must do better.

For example, under **Gas Operations**, the Plan states that the County will phase out oil and gas extraction operations in LA County by 2045. We urge you to set a more aggressive time line that aims for 2030 at the very latest. We note that had such a phase out occurred earlier, we would not be so beholden to economic disruption of high gas prices. Additionally, this County, which has some of the worst air quality in the entire world, would now undoubtedly be experiencing cleaner and healthier air quality levels. We know you must be aware that our lives and entire civilization depend on keeping fossil fuels in the ground and reducing greenhouse gas emissions maximally (they're now increasing every year again). We are therefore asking that the County take Bolder and more decisive actions in this area.

Also, the CAP fallback strategy to get the rest of the way to net zero emissions by 2045 is to use carbon offsets and carbon capture & sequestration plus direct air capture. These are untested and unrealistic fantasies at the moment. NONE of the current CCS or direct capture methods are either scalable or even close to cost-effective, and are not likely to be within 10 years. Carbon offsets are notoriously easy to game and therefore do not work (e.g., counting preservation of X acres of forest when that forest has been burned by wildfires OR claiming credit for something that was already being done or scheduled to be done). An enormous amount of oversight would be required to ensure it was actually working, if such oversight is even feasible. These are not practical strategies.

Many natural strategies to draw down carbon can be found at the Project Drawdown web site, and in the book *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*, edited by Paul Hawken. And there are still more here on the Regeneration.org website. We urge you to investigate these references and include them in your strategies. These suggestions have been tested and are feasible in most County operations and actions.

Under **Public Transit: Reducing car trips**, given our current gun, mass murder, and violence trajectory, it would seem imperative to add the provision of some kind of security on public transportation if the plan is for people to use it more. Currently, many people don't feel safe taking public transportation since attacks on passengers are increasing, leading to ridership actually decreasing.

Landuse - The County MUST make changes in the way it approves housing. The County has had a goal for many years of transit oriented projects located near public transportation, but his is not reflected in the actual approval process. In the SCV in particular, we are still sprawling out, expanding freeways, building auto oriented projects in very high fire areas and cutting down massive numbers of trees[4]. It is time that the County begins saying no to these climate destructive, auto oriented projects wherever possible. Often they require conditional use permits or are projects over 20 years old that were grandfathered in. We will not be able to address climate change if such poor landuse decision making continues.

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[3] "*Aspirational Goal:* By 2045, achieve carbon neutrality in unincorporated Los Angeles County", Executive Summary, p.3

[4] For instance the newly proposed Lyons Canyon Project No. 2021-001195-(5), in the Newhall Pass that would remove 454 oaks and SEA protected trees

Urban forest, Chaparral \Woodlands, GH Gases and Climate Change

While of concur with the need for and the benefits of tree planting, we believe the goals for a County as large as Los Angeles are insufficient.

P E R F O R M A N C E O B J E C T I V E S

*Plant trees: • 5,000 by 2030 • 10,000 by 2035 • 20,000 by 2045[5]

It is unclear whether these numbers are additive (i.e., does this mean another 5000 by 2035 or an additional 10,000 trees, so 15,000 total by 2035?) These are very meager numbers in comparison to other CAP proposals. For instance Kings County proposes planting 3 million trees by 2025[6]. We urge the County to substantially increase these goals.

Further, the County should promote the planting of native trees as they are more drought tolerant and require less water. We don't see any mention of this in the CAP.

We note from our attendance at the May outreach hearing, that urban trees and planting more trees for shade and cooling were big issues and had a lot of public support from different geographical areas throughout the County, so we think this is an important issue to the public. We want to mention here that it is important to involve the community to create buy in when considering a neighborhood re-planting program. This would conform to the CAPs social justice goals. Money local non-profits and community groups are available to help with this effort.

Avoiding Tree Destruction

If the goal is to minimize global warming, climate scientists often stress the importance of afforestation, or planting new forests, and reforestation, or regrowing forests. But there is a third approach to managing existing forests: proforestation, a term coined by climate scientist William Moomaw to describe the preservation of older existing forests. (Moomaw was a lead author of five major reports of the Intergovernmental Panel on Climate Change, which was awarded the Nobel Peace Prize in 2007.) All of these strategies have a role to play. This naturalist has helped show just how much more valuable proforestation (not cutting down trees in the first place) is than was first thought.[7]

Maintaining our County tree cover is essential to reducing climate change, air pollution[8] and reducing the urban heat island effect. Mature trees are especially effective at removing carbon from the atmosphere. According to the Arbor Day Foundation, **trees help reduce the effects of climate change.**

> *Trees absorb carbon dioxide (CO^2), removing and storing the carbon while releasing the oxygen back into the air. In one year, an acre of mature trees absorbs the amount of CO^2 produced by a car driven 26,000 miles. During one year, a mature tree will absorb more than 48,000 pounds of carbon dioxide from the atmosphere and release oxygen in exchange.*[9]

[5] CAP at page 3-54

[6] https://kingcounty.gov/services/environment/stewardship/three-million-trees.aspx

[7] The Old Man and the Tree, Smithsonian, Jan 2022, https://www.smithsonianmag.com/science-nature/the-old-man-and-the-tree-180979242/

[8] **Oak trees in Southern U.S. cities are natural urban air filters, Trees remove black carbon, or soot, from the atmosphere**, National Science Foundation, Sept., 2019 , https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=299154

[9] Arbor Day Foundation, https://www.arborday.org/trees/treefacts/

The County should review its landuse and zoning ordinances to aggressively support tree retention in all landuse processes.

Identified Impacts from global Warming that must be addressed - page 1-5 of the CAP
We concur with the climate impacts listed which include the following:

- **Warming and Extreme Heat.** Extreme temperatures in the Los Angeles region are expected to increase in both intensity and frequency. Under a higher emissions scenario, the hottest day of the year may be up to 10 degrees Fahrenheit warmer by late in the century. Average maximum daily temperatures are projected to increase around 4–5 degrees Fahrenheit by mid-century and 5–8 degrees Fahrenheit by late in the century.
- **Drought and Precipitation.** While average precipitation is projected to change only slightly overall, the dry and wet extremes are projected to increase. This "precipitation whiplash" means that the region is likely to experience drier periods than what the region has historically experienced, followed by much wetter periods with more extreme rain events, potentially leading to increased water scarcity, mudslides, and flooding.
- **Wildfire.** Wildfires are projected to continue to increase in size, frequency, and intensity. Thirteen of the 20 most destructive wildfires in California have occurred in the past five years.2
- **Sea Level Rise.** Sea levels are projected to rise roughly 1–2 feet by mid-century and as much as 8–10 feet by the end of the century based on the most extreme projections. Sea level rise can exacerbate the impacts of high tides, storm surges, and heavy precipitation, and can lead to increased coastal flooding.

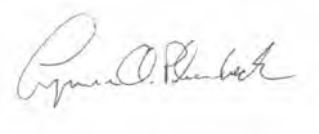
CAP must also consider energy generation reductions from other sources - However, we believe that the CAP must add and consider impacts to hydro-generated electric power from drought driven climate change such as the power generation reductions we are currently experiencing now from major dams in Northern California and Nevada. We do not know how much power LA County receives from these sources, but if the County or its incorporated Cities are receiving power from these sources, this climate related reduction impact should be considered. That is why support for locally generated roof top solar is so important.

The same is true for sea level rise that may affect the Diablo Canyon Nuclear Generating Plant. Again, we have no knowledge as to the County's dependence on this power source, but if it is a supplier to the County or incorporated Cities, the loss of power generation should be considered.

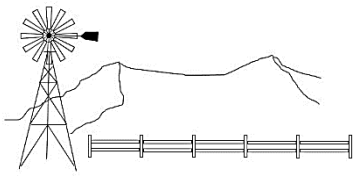
Last in regards to nuclear energy and the CAP analysis of public health effects, we urge the County to consider the impacts of sea level rise on the stored nuclear material in the San Onofre and Diablo Canyon Nuclear Facilities. L.A. would be in the evacuation zone should there be a release of radioactive gases due to either flooding from sea level rise, earthquake, or tsunami--or all three--as happened with the Fukushima Daiichi plant. The not-unlikely possibility is really quite terrifying.

Thank you in advance for your careful consideration of our comments.

Sincerely,



Lynne Plambeck
President



SAVE OUR RURAL TOWN

July 18, 2022

Los Angeles County Department of Regional Planning
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012
Electronic transmission of thirty-five (35) pages to:
climate@planning.lacounty.gov

Subject: Save Our Rural Town Comments on the Draft Environmental Impact Report prepared for the Draft Climate Action Plan.

Reference: Solicitation of Public Comment on the Draft Environmental Impact Report prepared for the Draft Climate Action Plan Issued April 25, 2022
Extension Deadline for Public Comments on the Draft Climate Action Plan Issued July 5, 2022

To Regional Planning Staff;

Please accept the following timely-filed comments offered by Save Our Rural Town ("SORT") pertaining to the referenced Draft Environmental Impact Report ("DEIR") prepared for the Draft Climate Action Plan ("DCAP").

SORT has a number of concerns regarding the DEIR that pertain to its project description, its project objectives, its alternatives analysis, its impact analyses, and other content. These concerns are enumerated individually below.

1.0 THE DEIR LACKS A CLEAR PROJECT DESCRIPTION.

Chapter 2 of the DEIR is titled "Project Description", but it fails to provide a clear and concise description of what the CAP "Project" actually is. It describes the "project area"; it also identifies County Plans, County aspirations, state objectives, and General Plan revisions that will result from the CAP. It has a section titled "Project Purpose and Objectives" which repeats California GHG emission reduction targets and explains that the CAP includes GHG emission reduction measures that are "consistent" with these targets. On page 2-8, the DEIR identifies the CAP "Project Objectives"; however, these "Project Objectives" are substantially flawed (as discussed in detail below). Then, the DEIR devotes many pages to discussing inventories and forecasts and explaining how the County General Plan is consistent with CAP strategies and measures, but it does not clearly state what the

CAP "Project" (or the "Proposed Action" per CEQA Statute Section §21001) even is. The "proposed action" finally becomes more clear on page 2-15 where the DEIR explains that the CAP will reduce GHG emissions to 40 percent below a 2015 baseline by 2030 and reduce GHG emissions to 50 percent below a 2015 baseline by 2035 (incidentally, there is a typographical error on page 2-15[1]). This lack of a clear description of the "proposed action" is a substantial deficiency, and it makes it impossible to comply with the requirement imposed by §21001 of the California Public Resources Code that the County "consider alternatives to proposed actions affecting the environment" (as discussed in more detail below). This deficiency should be corrected by adding a paragraph at the beginning of Section 2 stating that the proposed action (also known as the CAP "Project") is to reduce GHG emissions in Los Angeles County to 40 percent below the 2015 baseline by 2030 and reduce GHG emissions to 50 percent below the 2015 baseline by 2035 by implementing the strategies and measures that are identified in the CAP.

2.0 THE PROJECT OBJECTIVES PRESENTED IN THE DEIR ARE FLAWED.

Page ES-14 of the DEIR states that the CAP Project Objectives are 1) Implement the climate action policies of the General Plan"; 2) Identify appropriate GHG emissions reduction targets that closely align with state and local climate goals; and 3) Provide a road map to achieve GHG reductions to meet the GHG emissions reduction targets; 4) Encourage "sustainable housing production"; and 5) Demonstrate a level of GHG emissions below which the County would have less than cumulatively considerable GHG impacts for future environmental review projects and provide CEQA streamlining for development projects; 2). While the last two objectives are reasonable, the first three objectives are at best superfluous and nonsensical; at worst, they violate CEQA. The first objective is oddly circular and arguably pointless because the CAP *is* a component of the General Plan and it establishes many (if not most) of the "climate action policies of the General Plan". Therefore, it essentially states that the primary objective of the CAP is to implement the CAP. This objective is also redundant because the County is statutorily required to implement *all* General Plan policies (including climate action policies); thus, it is absurd to establish as an objective that which is already required by law. The second is equally superfluous because it states that an objective of the CAP is to "identify" GHG reduction targets; however, these targets (to reduce GHG emissions to 40 percent below 2015 levels by 2030 and 50 percent below 2015 levels by 2035) are already "identified". In fact, they comprise the "proposed action" itself. It is circular nonsense to assert that a CAP Project objective is to "identify" targets that already established and have thus already been "identified". Finally, the third objective is written in a manner which violates CEQA. Specifically, while it is perfectly reasonable to establish a CAP project objective which states "Provide a road map to achieve GHG reductions", CEQA precludes a project objective

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[1] The first line of paragraph 2 should read "The Draft 2045 CAP's 2035 target was selected based on guidance provided in the 2017 Scoping Plan and was chosen as a milestone target to put the County on the trend to achieve a long-term aspirational goal of carbon neutrality by 20~~34~~5.

which requires that the targets which comprise the CAP "Project" (i.e., the "proposed action") be achieved. The reason is clear: if the statement of project objectives established by an EIR includes an objective which states that the proposed action must be achieved, then the range of project alternatives to be considered will be improperly constrained to only those alternatives which achieve the proposed action. All other alternatives will be deemed "infeasible" and/or rejected for not meeting project objectives. Accordingly, while CEQA does permit the County to establish as an objective "Provide a roadmap to achieve GHG reductions", it does not permit the County to constrain the roadmap in a manner which requires that it "meet the GHG emissions reduction targets" that comprise the proposed action.

The objectives presented in the CAP DEIR reveal a conspicuous lack of understanding of the importance of developing clearly formulated objectives and why clearly formulated objectives are so important to the CEQA process. Project objectives must be sufficiently broad to enable the Lead Agency to develop a reasonable range of feasible alternatives; they must also be sufficiently specific and quantitative to ensure that they provide a meaningful basis upon which to evaluate project alternatives and quantify the extent to which alternatives achieve the objectives. An EIR's project objectives must also be stable, finite, and consistent with the Project. Multiple objectives set forth in the CAP DEIR do not meet these requirements because they are circular in nature. They also fail to reflect the project purpose expressed on page 1-2 of the DCAP which is to "reduce GHG emissions associated with community activities in unincorporated Los Angeles County". They also do not reflect the purpose set forth on page 2-7 of the DEIR to "effectively meet GHG emissions reduction targets for 2030 and 2035 that are consistent with the state's targets and executive orders". One of the objectives is so constrained that it violates CEQA because it precludes consideration of feasible project alternatives. These are substantial deficiencies, and unless they are corrected, the CAP's CEQA analysis will not withstand judicial review. These deficiencies can be corrected by revising the DEIR project objectives as follows:

~~1. Implement the climate action policies of the General Plan.~~

~~2~~1. Combat the effects of climate change and achieve GHG emission reductions legislated by SB32 and AB 32 and recommended by Gubernatorial Executive Orders through 2035. ~~Identify appropriate GHG emissions reduction targets that closely align with state and local climate goals.~~

~~3~~2. Provide a road map to achieve GHG reductions associated with community activities in unincorporated Los Angeles County ~~to meet the GHG emissions reduction targets.~~

~~4~~3. Encourage sustainable housing production at all levels of affordability, including increasing housing densities near transit to the extent allowed in the General Plan.

~~5~~4. Demonstrate a level of GHG emissions below which the County would have less than cumulatively considerable GHG impacts for future environmental review projects and provide California Environmental Quality Act (CEQA) streamlining for development projects (serve as a "qualified CAP").

3.0 THE DEIR ALTERNATIVES ANALYSIS DOES NOT COMPLY WITH CEQA.

§21001 of the California Public Resources Code establishes the legislative intent behind CEQA and, among other things, it requires Lead Agencies to "consider alternatives to proposed actions affecting the environment" before approving "proposed actions". In the context of CEQA, alternatives are optional ways that the project proponent could achieve most of their project objectives, while also reducing or eliminating the environmental impacts of the "proposed action". [California Public Resources Code Section 21002; see also *Friends of the Old Trees v. Department of Forestry & Fire Protection* (1997)]. A robust alternatives analysis is essential to the CEQA Process, and it enables a Lead Agency to demonstrate that it has taken a "hard look" at the project objectives and thereby selected alternatives that allow for meaningful comparison [*Residents Ad Hoc Stadium Committee v. Board of Trustees* (1979)]. Courts overturn EIRs due to an improper or incomplete analysis of alternatives [*Cleveland National Forest Foundation v. San Diego Association of Governments* (2017); *North Coast Rivers Alliance v. Kawamura* (2015); *Habitat and Watershed Caretakers v. City of Santa Cruz* (2013); *Watsonville Pilots Association v. City of Watsonville* (2010)]. Although CEQA does not provide an ironclad rule governing the nature or scope of alternatives that are analyzed (other than requiring a "No Project alternative" be analyzed), it does apply the "rule of reason"; it also mandates that the Lead Agency consider alternatives to the "proposed action" which constitutes the "Project" (which is why a precise and stable project description is so critical to CEQA's purpose). CEQA Alternatives typically involve changes to the scope, extent, and intensity of the proposed action. Within the context of the CAP, CEQA-compliant alternatives to the "proposed action" that achieves 40% GHG emissions by 2030 and 50% GHG reductions by 2050 would necessarily include different GHG emission reduction targets that achieve most of the project objectives while lessening the extent of the project's significantly adverse environmental effects.

This issue was explored in detail in the scoping comments that SORT provided[2]; however and remarkably, none of SORT's scoping comments appear anywhere in the DEIR[3]. SORT's scoping comments clarified that the EIR must consider alternatives to the "Project" that

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[2] SORT Director Jacqueline Ayer provided extensive comments during the scoping meeting; these comments begin at time stamp 34:58 of the recorded scoping meeting [https://www.youtube.com/watch?v=yF1pXIjHMd4&t=3s]. In particular, SORT explained that CEQA requires the CAP EIR to consider more alternatives than just the "Project" (consisting of 40% GHG reductions by 2030, 50% GHG reductions by 2035, and carbon neutrality by 2045) and the "No Project". In particular, SORT pointed out that the CAP EIR must consider alternative targets that will achieve GHG emission reduction objectives but lessen the substantially adverse environmental effects that "Project" will create [time stamp 36:20].

[3] None of the comments that SORT put into the record during the scoping meeting are reflected in the DEIR. In fact, the DEIR does not even acknowledge that SORT participated in the CAP scoping effort. This is a problem because it suggests that SORT did not "exhaust all administrative remedies" by actively participating in every aspect of the CAP development process. This error must be rectified and the Final EIR must reflect SORT's participation in the CAP scoping process.

will achieve GHG emission reduction objectives while reducing the scope and extent of the significant adverse environmental impacts that will result from the "Project". SORT further pointed out that CEQA will not allow decisionmakers (i.e., the Board of Supervisors) to adopt the targets that comprise the CAP "proposed action" unless the Final EIR conclusively demonstrates that alternatives which reduce GHG emission targets are either "infeasible" or would not lessen any significantly adverse environmental effects. Naturally, no such finding can be made because 1) Alternatives which achieve GHG emission targets that are lower than the "proposed action" are certainly as feasible (if not more feasible) than the targets established for the "proposed action"; and 2) Alternatives which achieve reduced GHG emission targets will *by definition* lessen significantly adverse environmental effects[4].

Notably, the DEIR does not comply with CEQA alternative analysis requirements because it does not identify any alternatives to the "proposed action" (namely, reducing GHG emissions to 40 percent below a 2015 baseline by 2030 and 50 percent below a 2015 baseline by 2035). In fact, and notwithstanding the "No Project" Alternative, the only alternatives analyzed in the DEIR address measures that would be implemented ***in addition to*** the "proposed action". For instance, Page 4-10 of the DEIR asserts that "Alternative 1" consists of all the elements of the CAP Project *as well as* the purchase of carbon offsets to further reduce GHG emissions. Similarly, "Alternative 2" is described on page 4-12 as comprising all the elements of the CAP Project *as well as* the implementation of an aggressive "Zero Net Energy" ("NZE") program to further reduce GHG emissions. Neither of these comply with CEQA's requirement that the EIR present "alternatives to the proposed action" *because they fully incorporate the proposed action* ***in addition to*** *other actions.* Accordingly, the DEIR does not present a "reasonable range of alternatives" as required by CEQA. It must also be pointed out that the DEIR's "Alternative 2" NZE Program is already largely incorporated in the DEIR[5].

The failure of the DEIR to provide a reasonable range of alternatives is perhaps understandable given that the DEIR lacks a clearly articulated project description which precisely identifies the proposed action (as explained above). This error must be rectified by developing alternatives to the proposed action which meet most of the project

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[4] Reducing GHG emission reduction targets will result in fewer acres of desert lands converted to utility scale renewable energy, battery storage, and transmission infrastructure purposes. Reducing building decarbonization targets will result in fewer wildfires ignited by rural residents using generators, barbecues, and camp stoves to cope with extended electrical power shutoffs (as discussed elsewhere). It is axiomatic that the significant adverse environmental effects that are caused by the implementation of aggressive GHG emission reduction targets will be lessened if the GHG emission reduction targets are reduced.

[5] The NZE Program established by "Alternative 2" is only slightly more aggressive than the measures already incorporated in the DCAP (see for example Action ES3.1, ES3.2, E1.3, and the Performance Objectives for Strategy E2.)

objectives but reduce significant environmental impacts. The following alternatives are recommended:

Alternative 1: *Reduce GHG emissions to 40 percent below the 1990 baseline by 2030 (or 3.84 $MMTCO_2e$) and maintain this GHG emission level through 2035 by implementing strategies and measures to achieve and maintain these reductions*: This alternative ensures GHG emission reduction objectives are met because it comports with all legislative actions that have been adopted to reduce GHG emissions (including AB32 and SB32). It is also consistent with the horizon year established for the adopted County General Plan. It also complies with all the elements required for designation as a "Qualified CAP" under CEQA Guidelines Section 15183.5 (b). Accordingly, it meets all of the CAP project objectives. It also substantially lessens significant adverse environmental impacts because it requires approximately 30% less acreage devoted to solar panels than the "proposed action"[6] and thereby saves tens of thousands of acres of desert open space; it also significantly reduces the need for electrical storage and transmission facilities in high fire hazard areas and reduces the extent of significantly adverse environmental impacts.

Alternative 2: *Reduce GHG emissions to 40 percent below the 1990 baseline by 2030 (or 3.84 $MMTCO_2e$) and reduce GHG emissions to 50 percent below the 1990 baseline by 2035 (or 3.84 $MMTCO_2e$) by implementing strategies and measures that achieve these reductions.*
This alternative would ensure GHG emission reductions will meet and even exceed all legislative actions adopted to reduce GHG emissions including AB32 and SB32. It is also consistent with the horizon year established for the adopted County General Plan. It also provides all the elements required for designation as a "Qualified CAP" under CEQA Guidelines Section 15183.5 (b). Accordingly, it meets all of the project objectives. It also substantially lessens significant adverse environmental impacts because it requires 15% less acreage devoted to solar panels than the "proposed action"[7]. By extension, it will also substantially lessen the significant adverse environmental impacts created by the "Proposed Action".

In short, the alternatives analysis presented by the DEIR fails to comply with CEQA and must be revised to properly address CEQA's requirement that Lead Agencies "consider alternatives to proposed actions affecting the environment".

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[6] The "Proposed Action" involves reducing GHG emissions to 50% of 2015 levels by 2035. Page 2-2 of the DCAP asserts that GHG emissions in 2015 were 5.5 million metric tons carbon dioxide equivalent (MTCO2e), which means that the "Proposed Action" would result in GHG emissions of 2.75 MTCO2e by 2035. Alternative 1 described above will maintain 2035 GHG emissions at 3.84 MTCO2e (which is 40% of the County's 1990 GHG level of 6.4 MTCO2e). The Alternate 1 GHG reductions would be approximately 30% less than the "Proposed Action", and would thus require approximately 30% less industrial scale renewable energy resources.

[7] The "Proposed Action" reduces GHG emissions to 2.75 MTCO2e by 2035. Alternative 2 reduces GHG emissions to 3.2 MTCO2e (which is 50% of the County's 1990 GHG level of 6.4 MTCO2e). The Alternate 2 GHG reductions would be approximately 15% less than the "Proposed Action", and would thus require approximately 15% less industrial scale renewable energy resources.

4.0 THE DEIR IGNORES SIGNIFICANTLY ADVERSE ENVIRONMENTAL EFFECTS.

The EIR fails to consider the following significantly adverse environmental effects that will result from the CAP's electrification and decarbonization activities.

Effects of Unreliable Electric Service in Rural Areas.
Los Angeles County residents frequently experience power brown-outs and black-outs which, in turn, cause traffic accidents, utility failures, curtail operations of life sustaining electrical equipment, interrupt elevator operations, and pose other significant public safety and health risks. These events occur because the California power grid is too anemic and fragile to serve the existing electrical load; such utility system deficiencies will be exacerbated and amplified by CAP electrification and decarbonization strategies, measures and actions because these activities will further and substantially strain the already deficient power grid. Such impacts can only be mitigated by making the CAP implementation schedule contingent on the robustness of the California power grid; if the grid is not sufficiently robust to accommodate implementation of particular CAP strategy by a particular timeframe, the implementation schedule must be delayed until such point as the grid is sufficiently robust. Alternatively, the DEIR can recognize that the CAP implementation schedule can be met without regard for potential grid deficiencies ***if*** CAP strategies, measures and actions are achieved via distributed generation (since distributed generation avoids the need to pull power from the grid).

Wildfire Risks Posed by Decarbonization Activities in Rural North Los Angeles County:
The DEIR ignores the very real and very significant wildfire impacts that will result from CAP decarbonization activities in areas that experience unreliable electrical service such as in Acton and Agua Dulce. Specifically, forcing residents in areas with unreliable electric service to rely solely on electricity for heating and food preparation by eliminating fossil fueled stoves and heating units will drive residents to resort to outdoor, "open flame" methods to meet their heating and cooking needs, including the use of barbeques, lanterns, camp stoves, campfires, smokers and other paraphernalia. This is not opinion, it is fact.

For example, the devastating Tick Fire of 2019 was ignited in Agua Dulce by a rural resident who was using an outdoor barbecue/smoker to prepare a meal for his family because Southern California Edison ("SCE") had cut off electricity to the circuit that served his home. The Tick fire compelled the evacuation of more than 40,000 people and it forced terrified residents to flee in the pitched blackness of night because there was no electricity to light their homes. Neighbors helped each other evacuate when garage doors would not open. Because of SCE's power outage, all communication lines were down (including cellular service, cable internet service, land lines and satellite service) so residents never received evacuation orders and the fire was moving too fast for fire department personnel to reach endangered neighborhoods. One Acton resident drove to the home of relatives in Sand Canyon at 2 AM to check on them; he found them sound asleep and completely oblivious to the danger that was only two streets away. All of these terrifying events occurred as a direct result of a rural resident using a barbecue to cook their meal because

their electrical service was unreliable. The DEIR ignores the very real wildfire risks that are posed in rural areas where electrical service is unreliable; it also ignores the fact that these wildfire risks will be significantly exacerbated by CAP decarbonization activities which eliminate the fossil fueled stoves and heaters that rural residents depend on during SCE power outages[8].

Wildfire ignition risks extant in areas where electrical service is unreliable were addressed at length by the California Public Utilities Commission which found that people do in fact resort to unsafe outdoor cooking and heating practices when their electrical service is cut[9]; these risks are reduced when residents have access to indoor, non-electrical cooking and heating appliances that operate even when power is shut off. This is not opinion, it is fact. As explained above, rural residents in homes equipped with fossil fuel stoves and heaters have been able to safely prepare meals and heat their homes without posing any wildfire risks throughout the several weeks of collective power outages that have occurred in Acton between 2019 and 2022.

It should be noted that constructing "microgrids" or other "local" community power supply systems will ***not*** mitigate the increased wildfire risks posed by CAP decarbonization policies in rural communities that have unreliable electrical service. This is because power outages within a community remove all distribution lines from service *including the lines that connect to microgrids and all other "local" community power supply systems*. This means that any power generated by a microgrid will not be distributed to homes or businesses in the community because the distribution network is down.

The DEIR fails to address the significantly adverse effects created by the increased wildfire risks that will result from the application of CAP decarbonization strategies in areas that have unreliable electricity service; this is a substantial deficiency that must be corrected. Moreover, there is a feasible mitigation measure available to eliminate these impacts; namely, establishing a mitigation policy wherein CAP decarbonization strategies do not apply to rural areas where electrical service is unreliable.

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[8] Since 2019, the Communities of Acton and Agua Dulce have experienced more severe and lengthy power outages than any other communities in California. These events have gone on for days; residents have even lost 2 weeks of classroom time during both the 2019 -2020 and 2020-2021 school years. To cope with these events, rural residents operate small generators that power their fossil fuel heating systems (for heat), well pumps (for water), and other essential equipment; because their stoves operate on fossil fuels, rural residents are still able to prepare meals for their families despite the power outages. CAP decarbonization activities will eliminate the fossil fuel heaters and stoves, and drive rural residents to resort to outdoor, open flame cooking and heating methods that will substantially increase the chance of igniting a wildfire (as the Tick fire demonstrated).

[9] California Public Utilities Commission Decision D.09-09-030 at page 44. This decision is incorporated herein by reference. https://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/107143.PDF

Public Safety Risks of CAP Transit Oriented Development Policies: A cornerstone of the DCAP is increased transit ridership; the expansion of transit-oriented development and the elimination of parking facilities near transit stations are just some of the activities that will result from the CAP. While the DEIR discusses some of the impacts associated with these measures, it ignores the significantly adverse health and safety effects that will result from increased ridership on Los Angeles County transit systems. Specifically, the DEIR fails to address the increased stabbings, murders, rapes, immolations, assaults and robberies that will result from expanded transit use[10]. This is no small thing; the use of transit systems in Los Angeles County is hazardous, and the safety risks posed to transit users is on the rise. In April, KTLA 5 (a local news source) reported that LA METRO statistics show violent crime on their system is up 36% just this year and that shootings, stabbings, and fighting now occur frequently while "riders watch helplessly"[11]. On January 13, 2022, an emergency room nurse was murdered while she waited for her bus at a stop near LA Union Station. On May 2, 2022, a man was set on fire while waiting for a bus at a stop in downtown Los Angeles. On May 11, 2022, a man was set on fire on the L Train in Pasadena. On February 12, a man was stabbed and robbed in an MTA station on the 11600 Block of Avalon Boulevard. Rapes, robberies, stabbings and shootings are now commonplace throughout Los Angeles County transit systems, and on July 3, 2022, the Los Angeles Times reports that "Violent crime and verbal abuse at Union Station have become unbearable". Recent reports by KFI reporter Steve Gregory reveal the overwhelming brutality that commuters have routinely endured on Los Angeles County Transit since 2019. The threats to life and property that transit users now face every day are very real and very significant, and neither the County of Los Angeles nor any of the cities in the County of Los Angeles have developed any plans or measures to reduce these threats. Accordingly, the DEIR should have addressed these dangerous circumstances as an "existing condition" in the baseline "environmental setting" analysis required by CEQA [Guidelines Section 15125].

Furthermore, the DEIR should have analyzed the increased safety threats that will result from achieving the increased transit use that will result from the "proposed action". Accordingly, the DEIR is deficient. These significantly adverse environmental effects must be clearly enumerated, feasible mitigation measures must be developed, and all of it must be considered and weighed by the decisionmakers before they approve the CAP, certify the EIR, and adopt a statement of overriding considerations as required by CEQA.

5.0 THE DEIR's IMPACT ANALYSIS IS DEFICIENT.

The DEIR fails to properly analyze many of the significantly adverse environmental impacts that it identifies. These deficiencies are described below.

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[10] These impacts are not addressed in Section 3.15 pertaining to transportation impacts. In fact, the DEIR completely ignores the public safety implications of CAP transit strategies and measures.

[11] https://www.youtube.com/watch?v=9OfWGMkhOBA

The DEIR Analysis of Impact 3.4-7 is Flawed: The impact that ostensibly addresses PM10 and PM2.5 particulate emissions resulting from CAP implementation is identified in the DEIR as "Impact 3.4-7" which addresses cumulative air quality impacts "associated with localized air pollutant and TAC emissions" (TAC referring to "Toxic Air Pollutants"). There are so many errors in the analysis of Impact 3.4-7 that it is difficult to know where to begin. First, the DEIR identifies "DPM" as the most likely source of localized emissions and TAC emissions that will generate Impact 3.4-7 (see page 3.4-63); the DEIR does not define DPM, but it is assumed that DPM refers to "Diesel Particulate Matter". The DEIR is very much mistaken in presuming that the primary source of localized air pollutants that will result from CAP implementation is diesel particulate matter. As discussed in detail in a later section, the primary source of localized air pollutants from CAP activities is the significant PM10 and PM2.5 emissions that will result from the ambient dust generated by the construction and operation of many tens of thousands of acres of utility scale solar farms in the desert. The DEIR ignores this fact.

Second, the DEIR asserts that Impact 3.4-7 will be reduced by the decarbonization, building electrification, and fossil fuel reductions achieved by the CAP; in this, the DEIR could not be more wrong. The PM10 and PM2.5 emissions from solar farms resulting from CAP implementation will not be reduced by the CAP's decarbonization, electrification, and fossil fuel elimination measures; to the contrary, these CAP measures will result in even higher PM10 and PM2.5 emissions because they will drive the construction and operation of many tens of thousands of acres of more farms.

Third, the DEIR wrongly identifies the activities that are the potential sources of localized air pollution and TAC emissions as vehicles and construction projects. The DEIR *completely ignores* the significant PM10 and PM2.5 emission levels resulting from solar farm development and operation and it does not even identify solar farms as a potential emission source! It is a common misconception that PM10 and PM2.5 emissions are intrinsically anthropogenic and that ambient dust is not a substantial source of PM10 or PM2.5 emissions. This is incorrect. In rural areas, the primary source of PM10 and PM2.5 emissions is ambient dust. For example, the Imperial Valley is a non-attainment area for PM2.5, and the source of 70% of PM2.5 emissions in the Imperial Valley is dust[12]; virtually none of it comes from mobile sources or "DPM". The DEIR ignores all of this, and it improperly applies a myopically urban lens to the pollutant emissions that will result from the utility scale solar farms developed as a result of the CAP. The County is hereby informed that these solar farms will generate significant PM10 and PM2.5 emissions, these emissions will exceed adopted standards, they will pose significantly adverse environmental effects, and CEQA demands that these emissions be mitigated to the greatest extent feasible.

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[12] https://ww3.arb.ca.gov/planning/sip/planarea/imperial/final_2018_ic_pm25_sip.pdf

Fourth, the DEIR only focusses on TAC emissions and their associated health risk impacts in its analysis of localized emissions from CAP projects in localized areas[13]; it ignores non-TAC emissions. However, (and as discussed below), an individual solar farm in the Antelope Valley will routinely and persistently generate significant ambient dust; these dust events disperse significant quantities of PM10 and PM2.5 pollutants into surrounding communities[14] and they increase with every solar farm that is developed.

Fifth; the DEIR's superficial assessment of pollutant impacts culminates in a patently false and alarmingly dismissive statement that "mitigation measures may not be able to reduce impacts" so "cumulative localized and health risk impacts from criteria air pollutant and TAC emissions would be significant below significance thresholds". This statement reveals an utter lack of understanding of the sources of particulate emissions that will result from the CAP project; it also reveals an appalling ignorance regarding how these emission sources can be (and should be) controlled. As discussed in more detail below, none of the Air Quality mitigation measures presented in the DEIR will reduce pollutant emissions generated by the CAP; the DEIR appears to acknowledge this, because it concludes that "No feasible mitigation measures are available" (page 3.4-64). However, nothing could be further from the truth. Numerous feasible mitigation measures are available, and some are mandatory in jurisdictions outside of Los Angeles County. For example, solar farms in Kern County are required to install continuous particulate monitors to demonstrate continual compliance with particulate standards. Furthermore, the application of just a few inches of mulch on solar farm properties is a very effective means of controlling particulate emissions[15]. These mitigations measures should have been included in the DEIR but they were not. Instead, the DEIR completely ignores the dust/PM10/PM2.5 emissions which will be generated by the massive solar farm projects that the CAP demands, and then wrongly concludes that these air quality impacts cannot be properly mitigated. If these substantial errors are not corrected, the CAP EIR will not withstand judicial review.

The DEIR also ignores significant PM10 and PM2.5 emissions resulting from CAP waste diversion strategies. Specifically, CAP waste diversion measures will triple the number of weekly trash trucks trips on dirt roads in the Antelope Valley because three separate trucks must be deployed to pick up the segregated organic, recyclable, and trash waste. This will result in significant PM10 and PM2.5 emissions that exceed adopted thresholds of significance. This has already been pointed out to the County in comments submitted to the Department of Public Works; these comments are incorporated herein by reference.

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[13] Page 3.4-63 states: "However, multiple future projects (projects facilitated by the Draft 2045 CAP together with other cumulative projects) could result in localized and TAC emissions within a localized area that could expose receptors located near the multiple future projects to TAC emissions that could result in health risk impacts."

[14] During "dust events" local PM10 and PM2.5 concentrations increase by several factors of ten. https://hero.epa.gov/hero/index.cfm/reference/details/reference_id/2656871

[15] https://www.epa.gov/system/files/documents/2021-11/bmp-dust-control.pdf .

The DEIR's Analysis of Valley Fever Impacts is Defective: The DEIR's treatment of Valley Fever impacts is utterly deficient and it ignores all the extensive scoping comments that were provided regarding this issue. Specifically, the DEIR presumes (wrongly) that Valley Fever is only a concern during the construction portion of a project (Line #1 of page 3.4-64). It further concludes (wrongly) that Valley Fever impacts will be less than significant because construction projects will comply with OSHA regulations and AVAQMD Rule 403. The trite and specious manner in which the DEIR addresses Valley Fever concerns is appalling. The incidence of Valley Fever is tied directly to the presence of ambient dust because it is caused by Coccidioides Immitis spores in soil that become airborne during wind events which create ambient dust. Like other desert areas of California, Valley Fever is on the rise in the Antelope Valley because Coccidioides Immitis spores thrive in the desert environment that it provides[16]. Accordingly, every new solar farm that is developed in the Antelope Valley as a result of the CAP will directly and significantly increase the Valley Fever risks posed to rural residents.

The DEIR ignores all of this. Worse yet, it assumes (wrongly) that compliance with OSHA regulations will reduce these risks; nothing could be further from the truth. First, OSHA regulations will only be applicable during the construction phase of a solar farm project and will not apply during the 30+ year operational phase when ambient dust emissions (and by extension, Valley Fever risk) predominates. Second, OSHA regulations only protect the construction workers and do nothing to protect the rural residents who live adjacent to the solar farms and will breathe the dust that is generated. Third, OSHA regulations require workers to wear respirator masks at all times while working in the hot sun to install solar panels; SORT members have observed that solar farm construction workers discard their masks and do not wear them (presumably because the desert climate makes wearing a mask uncomfortably hot). Therefore, the DEIR is utterly wrong to conclude that OSHA compliance mitigate Valley Fever impacts.

The DEIR also assumes that compliance with AVAQMD Rule 403 will reduce Valley Fever impacts to "less than significant" because it presumes that Rule 403 successfully controls ambient dust. This is incorrect. An inspection of AVAQMD Rule 403 reveals that it primarily addresses construction, track-out, demolition, and bulk material operations (none of which are applicable to solar farm operations). And, while Rule 403 does identify two generic ambient dust "standards" that prohibit property owners from emitting dust that remains visible beyond the property line or allowing PM10 emissions to exceed 50 micrograms per cubic meter "when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume Particulate Matter samplers or other USEPA-approved equivalent method", Rule 403 imposes *no monitoring requirements*, so these standards are not enforced. In fact, they are completely unenforceable. Equally important, Rule 403 permits significant continual dust emissions as long as dust levels do not exceed a 20% opacity limit (a *significant* amount of dust).

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[16] cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2019.pdf

Furthermore, Rule 403 has no PM2.5 compliance requirement, and the 50 micrograms per cubic meter PM10 concentration it allows is actually *the maximum concentration permitted* by California air quality standards over a 24-hour averaging period and it is *more than twice* the annual average PM10 concentration permitted in California. In other words, the lax standards imposed by AVAQMD Rule 403 allow a solar farm operator to claim compliance while, at the same time, permit the occurrence of significant dust emissions and (by extension) the dispersal of significant quantities of Valley Fever spores. Thus, and contrary to what the DEIR presumes, Rule 403 compliance requirements are not dispositive and because Rule 403 is not even enforced anyway (as explained below), it does not constitute "substantial evidence" to support the DEIR's conclusion that the increased risk of Valley Fever posed by CAP activities is "less than significant".

Furthermore, the "dust control plans" that AVAQMD routinely approves for Antelope Valley solar farms do not mitigate any particulate emission impacts. In fact, the only substantive requirement that the AVAQMD imposes on dust control plans for solar farm operations is that the farm operator must put a sign on the fence which directs people to call the AVAQMD when dust is "observed". When a call is placed, an AVAQMD technician will eventually arrive but he/she will not conduct the "hivol" PM10 sampling required to demonstrate compliance with Rule 403, so AVAQMD does not even bother to assess whether a violation occurred. And, in any event, by the time an AVAQMD inspector does arrive, the "dust event" is usually over. In other words, constructive enforcement of the lax standards established by Rule 403 never occurs on the Antelope Valley solar farms, so the DEIR substantially errs in concluding that Rule 403 effectively mitigates the significant Valley Fever risks posed by CAP activities. Stated more plainly: Rule 403 does not control or reduce ambient dust generated by solar farms in the Antelope Valley because Rule 403 incorporates lax standard, it includes no monitoring provisions, and it is not enforced anyway. Accordingly, Rule 403 does not prevent substantial dust events created by the operation of solar farms, and it certainly does not reduce Valley Fever concerns to a level that is "less than significant". The DEIR grossly errs in declaring otherwise.

<u>The DEIR's Analysis of groundwater impacts is Deficient</u>: The DEIR concludes that activities related to the CAP Project will not contribute to cumulative decreases in groundwater supplies or impede sustainable management of groundwater supplies (impact 3.11-8) because projects will be "subject to enforceable requirements of the Basin Plan, SGMA, and Watermaster-imposed pumping restrictions" and because Los Angeles County requires facilities to "be designed to facilitate on-site infiltration to maintain groundwater recharge". However, neither of these factors address the significant quantities of water that will be used to clean the thousands of acres of solar panels installed at the massive solar farms that will be developed to achieve CAP strategies. Solar panel washing activities will not be subject to the Basin Plan, SGMA, or Watermaster jurisdiction because the water that is used to wash the panels is likely to come from either AVEK (supplied via LA County waterworks) or water haulers who extract groundwater from Acton and other places and are not subject to any basin plan, SGMA, or watermaster jurisdiction. The latter impacts groundwater

supplies outside of the Antelope Valley. It is understood that solar farm operators often claim that they rarely if ever wash their panels, but such claims are nonsense. In fact, a study conducted by the University of California at San Diego reveals that, on average, solar panels lose a little less than 0.05 percent of their overall efficiency per day due to dust accumulation[17]; this translates to a nearly 20% loss of renewable generation in a year. Other studies indicate that washing flat solar panels can increase output by 35% or more however washing tilted panels is less effective if they are in an area with adequate rainfall[18]. Rain events in the Antelope Valley are very few and far between, so the many tens of thousands of acres of solar panels that will be installed because of the CAP will be washed at least once or twice per year, and that will result in a significant amount of water used. Since this water usage will not be subject to Basin Plan or SGMA or watermaster requirements, the EIR's conclusion that CAP activities will not result in decreased groundwater supplies lacks substantive basis. This is particularly true if the water that is used to wash the many tens of thousands of acres of solar panels is delivered by water haulers that extract groundwater from the Acton basin or other basins outside the Antelope Valley. Accordingly, the DEIR is wrong to assert that the CAP will have a less than significant adverse impact on groundwater supplies. The only way to ensure that the CAP does not have a significantly adverse impact on groundwater supplies would be to adopt a mitigation measure in the EIR which prohibits utility scale solar farms from using hauled water extracted from groundwater basins outside the Antelope Valley for cleaning solar panels.

The DEIR Analysis of Land Use Impacts is Flawed: The DEIR concludes (wrongly) that Land Use impacts of CAP implementation will be "less than significant (impacts 3.12-1 and 3.12-2). Notably, the DEIR's analysis of land use impacts ignores land use conflicts that will result from development of the massive industrial renewable energy generation, storage, and transmission facilities needed to implement CAP decarbonization and electrification strategies. More particularly, the DEIR fails to consider that CAP activities will result in land uses which substantially conflict with adopted County land use policies; it also fails to address the adverse land use impacts that will result from CAP implementation and which were never addressed in either the Final EIR that was adopted for the County General Plan or the Final EIR that was adopted for the Antelope Valley Area Plan ("AV Plan"). As explained in the following paragraphs, the land use conflicts that will result from CAP implementation are not "less than significant".

The County General Plan explicitly calls for "Protecting Rural Communities" [page 74] and it establishes "Protected Rural Communities" as a principal goal of the Land Use Element [page 88]. It further states "The placement, configuration, and distribution of land uses

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[17] https://ucsdnews.ucsd.edu/pressrelease/cleaning_solar_panels_often_not_worth_the_cost_engineers_at_uc_san_diego_fi

[18] https://googleblog.blogspot.com/2009/07/should-you-spring-clean-your-solar.html

have a significant impact on a community's quality of life…." The General Plan also encourages developments that are compatible with community identity and character and existing conditions, such as rural and natural environmental settings" [page 74]. It also asserts "Successful community design standards build upon the characteristics of both the natural and man-made environments that are unique to each community" and it includes "standards to minimize the visual impact of man-made structures on the rural landscape". These rural protection provisions are imbedded in the County General Plan because the County General Plan was adopted based on the fundamental premise that the purpose of Rural Lands is to provide for "Single family residences; equestrian and limited animal uses; and limited agricultural and related activities" [page 78]. The County General Plan *never* contemplated that many tens of thousands of acres of rural land in the Antelope Valley would be plowed under to develop massive industrial electrical generation, storage and transmission facilities because the County General Plan *never* anticipated the decarbonization and electrification strategies that are proposed in the CAP.

Incredibly, the DEIR completely ignores these critical rural protection provisions adopted by the County General Plan Land Use Element, and it certainly does not articulate how the many tens of thousands of acres of industrial solar farms in and around rural communities in the Antelope Valley that will result from the CAP are materially consistent with these rural protection provisions. In fact, the DEIR does not demonstrate that the CAP is consistent with the General Plan (as required by CEQA); instead, the DEIR chooses a few select General Plan policies and discusses them in the context of the DCAP[19]! In other words, the DEIR's General Plan consistency analysis is completely backwards: instead of showing that the DCAP is consistent with the General Plan (as required by CEQA), it shows how a few General Plan policies are consistent with the DCAP. Worse yet, the DEIR ignores all the rural protection provisions contained in the General Plan and does not even try to reconcile the residential and agricultural purposes underlying the "Rural Land Use" designation with the many tens of thousands of acres of industrial solar facilities that will be installed on Rural Lands in the Antelope Valley as a result of the CAP. Perhaps this is by design; one cannot reconcile the irreconcilable. The DEIR's Land Use Impact analysis is utterly deficient and ignores all the numerous General Plan policies which the CAP directly controverts. Above all the DEIR errs substantially by ignoring the fact that the industrial development activities that will occur on "Rural Lands" as a result of CAP implementation is intrinsically in conflict with the fundamental purpose of the Rural Lands designation.

Some of the General Plan Land Use Policies that the DEIR ignores include:

- Policy LU 6.1 is to "Protect rural communities from the encroachment of incompatible development that conflict with existing land use patterns and service standards". CAP

[19] Page 3.12-9 of the DEIR indicates that the only General Plan Land Use Policies that were considered pertain to "Well-designed and healthy places that support a diversity of built environments"; the DEIR completely ignores several critical General Plan Land Use Policies that will be utterly controverted by CAP activities.

implementation will result in a substantial encroachment of incompatible industrial development in rural communities that substantially conflicts with the existing land use patterns and service standards. The DEIR ignores this.

- Policy LU 6.2 is to "Encourage land uses and developments that are compatible with the natural environment and landscape." The CAP is not consistent with this policy; to the contrary, the industrial development in the Antelope Valley resulting from CAP implementation is intrinsically incompatible with the natural environment and landscape. CAP activities will result in the destructive conversion of many tens of thousands of contiguous acres of "natural environment and landscape" into industrial energy generation, storage, and transmission facility development and it is all unnecessary because using distributed resources to generate and store energy locally (where it is used) will obviate the need for such destruction of the "natural environment and landscape". Yet, the DEIR fails to direct the CAP-driven renewable generation development activities to utilize distributed facilities. In fact, the DEIR fails to even acknowledge that reliance on distributed generation and storage rather than industrial scale generation and storage will eliminate nearly all of the significantly adverse environmental impacts that are identified in the DEIR!

- Policy LU 6.3 is to "Encourage low density and low intensity development in rural areas that is compatible with rural community character, preserves open space, and conserves agricultural land." Nothing about the industrial solar farms that will be developed in the Antelope Valley as a result of CAP activities is compatible with rural character. CAP activities will certainly not preserve open space or conserve agricultural land; to the contrary, CAP implementation will result in high intensity industrial development that will cover many tens of thousands of acres in rural areas and will be entirely incompatible with surrounding rural community character. CAP activities will be wholly inconsistent with this land use policy, and the DEIR is deficient for failing to recognize this and for failing to direct CAP implementation to rely on distributed resources to ensure CAP consistency with this adopted Land Use Policy.

It is also important to note that the DEIR completely ignores all the land use goals and policies that have been adopted in the AV Plan *even though Antelope Valley residents will arguably be more affected by CAP implementation than any other County residents*. This substantial deficiency must be corrected and the following issues must be fully addressed in the Final EIR that is issued for the CAP.

- The AV Area Plan describes rural unincorporated Antelope Valley is a "mosaic of unique small towns" that are "unified by an extraordinary environmental setting that includes agricultural lands, natural open spaces, expansive mountain views, diverse ecological habitats, and dark night skies"[page I-2]; however, and unless properly conditioned by the DEIR, CAP activities will render the Antelope Valley a "mosaic of unique small towns that are unified by a vast industrial network comprised of many tens of thousands of

acres of sterile, bare dirt utility scale solar farms, brightly lit battery storage facilities, and transmission infrastructure that surround them and connect them".

- The industrial-scale renewable energy development activities that will result from CAP implementation also conflict with numerous Land Use Goals and Policies adopted in the AV Area Plan. For instance, the AV Plan establishes Goal LU 1 as the first and most important goal for achieving "A land use pattern that maintains and enhances the rural character of the unincorporated Antelope Valley." Notably, the thousands of acres of industrial utility scale solar farms, battery storage facilities, and transmission facilities resulting from CAP implementation will not "maintain and enhance rural character" in unincorporated Antelope Valley; to the contrary, it will greatly degrade and diminish rural character by expanding sterile industrial development into and surrounding rural communities. CAP activities will directly conflict with many of land use policies adopted pursuant to Goal LU 1, including:
  - Policy LU 1.2 to "Limit the amount of potential development in rural preserve areas (which are depicted in Map 2.2), through appropriate land use designations with very low residential densities" ["Rural Preserve Areas" comprise at least 80% of unincorporated Antelope Valley, and it is where nearly all the industrial development resulting from CAP implementation will occur];
  - Policy LU 1.3 to "Maintain the majority of the unincorporated Antelope Valley as Rural Land, allowing for agriculture, equestrian and animal-keeping uses, and single-family homes on large lots" [instead of agricultural, equestrian, and animal keeping uses in unincorporated Antelope Valley, the CAP will drive massive expansions of industrial energy infrastructure in unincorporated Antelope Valley];
  - Policy LU 1.5 to "Provide varied lands for residential uses sufficient to meet the needs of all segments of the population, and allow for agriculture, equestrian uses and animal-keeping uses in these areas where appropriate" [CAP implementation will convert many tens of thousands of acres of rural land that the AV Area Plan intended to be used for residential, agricultural, equestrian, and animal keeping uses to industrial energy generation, storage, and transmission uses].
- Other AV Area Plan Land Use policies controverted by CAP activities include:
  - Policy LU 5.3 to "Preserve open space areas to provide large contiguous carbon sequestering basins" [CAP implementation eliminates open space areas and destroys native vegetation, thereby eliminating carbon sequestering basins].
  - Policy LU 6.2 to "Ensure that the Area Plan is flexible in adapting to new issues and opportunities without compromising the rural character of the unincorporated Antelope Valley" [the "new opportunities" for massive industrial scale electrical generation, storage, and transmission facility development driven by the CAP will entirely compromise the rural character of the unincorporated Antelope Valley].

If not properly conditioned by the DEIR, CAP activities will controvert these and other AV Area Plan Goals and policies. For instance, Policy ED 1.11 establishes that the development of utility-scale renewable energy projects should be limited to "appropriate locations" and be developed with "appropriate standards to ensure that any negative impacts to local residents are sufficiently mitigated"; this policy compels the DEIR to include controls and mitigation measures to ensure that the negative impacts on local residents stemming from the massive renewable energy project activities driven by the CAP are sufficiently mitigated. The DEIR fails to comport with this policy because it simply declares that aesthetic impacts, air quality impacts, biological resource impacts, and other impacts will be significant and fails to incorporate any substantive measures to mitigate these impacts. At a minimum, the DEIR must direct CAP renewable resource development activities to rely on local distributed generation resources rather than remote utility scale resources. Equally bad, the DEIR wrongly dismisses the air quality impacts, Valley Fever impacts, groundwater impacts, and other impacts from CAP activities as "less than significant". At a minimum, the DEIR must impose dust monitoring and control measures and water restrictions to address these impacts that are indeed "significant".

In short, the DEIR fails to address the substantial and significant conflicts with adopted General Plan and AV Plan goals and policies that are posed by CAP activities; therefore, the DEIR is substantially deficient.

<u>The DEIR Analysis of Utility Impacts is Substantially Flawed and Materially Deficient.</u>
There are numerous errors in the DEIR's analysis of "Utility Impacts" presented in Section 3.17. For example, the DEIR deems water supply impacts to be "Less-than-Significant" (Impact 3.17-2) based on erroneous assumptions and incorrect claims regarding CAP Measures, Actions, and Performance Objectives. Specifically, page 3.17-14 states

> "The Draft 2045 CAP includes a number of measures and actions to increase the use of alternate water sources and reduce water consumption. Included within Measure E8 are implementing actions to develop a net-zero water ordinance, remove barriers for retrofitting on-site gray water recycling systems, and partner with LA County to explore the potential for indirect potable reuse. The performance goals for Measure E5 include the following: (1) Meet 100 percent of Countywide water demand by recycled water, gray water, and/or direct potable reuse by 2045; and (2) achieve 80 percent use of recycled water for agricultural and industrial uses by 2045. Measure E6, which is intended to reduce indoor and outdoor water consumption, includes the following performance goals: (1) Reduce water consumption by 50 percent by 2045; (2) adopt a water efficiency ordinance for existing buildings; (3) achieve net-zero water in 100 percent of new development by 2030; (4) reduce outdoor landscaping water use by 50 percent by 2045; and (5) reduce municipal water consumption by 50 percent by 2045."

There are a number of problems with these statements. First, there is no Measure E8 (there is also no Measure E9 which is referred to on Page 3.17-19). Second, there are no measure addressing "barriers for retrofitting on-site gray water recycling systems". Third, the CAP does not direct a partnership with "LA County to explore the potential for indirect potable reuse"; rather, Action E5.4 asserts "Partner with LA County water districts and retail suppliers to explore the potential for widespread utilization of direct potable reuse through pilot projects". Fourth, the Performance Goals established for Measure E5 are not "countywide"; they only address unincorporated areas. Fifth, Measure E5 does not include a performance goal to "achieve 80 percent use of recycled water for agricultural and industrial uses by 2045". Sixth, Measure E6 does not include a performance goal to "Reduce water consumption by 50 percent by 2045". Seventh, Measure E6 does not include a performance goal to "achieve net-zero water in 100 percent of new development by 2030". Eighth, Measure E6 does not include a performance goal to "reduce outdoor landscaping water use by 50 percent by 2045". Ninth, Measure E6 does not include a performance goal to "reduce municipal water consumption by 50 percent by 2045". Finally, and as indicated in comments on the DCAP that have been submitted separately, from an engineering perspective, it is impossible for the County to achieve the Measure E5 Performance Objective of meeting 100% of County water demand by recycled water + gray water + potable reuse because the County's water supply is not a "closed system" and the cleanup of sewage streams always results in a sizeable amount of "reject water" that contains high concentrations of the contaminants removed from the sewage stream. Furthermore, "Net Zero Water" directives are completely infeasible in rural desert communities that have no sewage service and where little rainfall occurs.

The DEIR states on page 3.17-15 that "Groundwater resources needed to support future projects would be subject to regulations associated with basin adjudications or GSPs to ensure that future water demands do not exceed sustainability goals". However, this statement is erroneous because a number of rural unincorporated communities are not located within an adjudicated basin or subject to a GSP (including Acton and Agua Dulce). Taken together, these facts demonstrate that the DEIR lacks basis to conclude that water supply impacts of the CAP will be "Less-than-Significant" because the facts upon which this conclusion is based are not facts at all.

The DEIR also asserts that the CAP activities will not result in wastewater treatment providers making a determination that their wastewater treatment facilities have inadequate capacities to serve the demand created by CAP activities, and thereby concludes that this impact is "less than significant" (page 3.17-15). This conclusion is absurd. CAP activities will require massive increases in wastewater treatment and conveyance facilities to achieve its ambitious recycled water, gray water, and potable reuse "Performance Objective". This "Performance Objective" cannot be met with existing wastewater treatment facilities; to the contrary, it will overwhelm existing wastewater treatment facilities. In fact, if wastewater treatment providers *don't* determine that their facilities have insufficient capacity to serve CAP activities, then they will be unable to justify the

facility expansions that will be required to implement the CAP. In other words, from inception, it is recognized that existing wastewater treatment facilities operated by wastewater treatment providers do not have sufficient capacity to achieve CAP objectives, thus CAP implementation will absolutely require wastewater facility providers to conclude that their facilities have inadequate capacities to accommodate CAP activities. CAP implementation will require extensive new wastewater treatment and conveyance facilities to supply the recycled water to the end user. It will also require sufficient new cleanup facilities to convert all county sewage flows into clean drinking water which complies with safe drinking water standards. The amount of new "high level" wastewater treatment facilities, new water recycling facilities, and new water conveyance facilities that will be required to achieve CAP objectives is *staggering*. Remarkably, the DEIR ignores all of this, and instead concludes (wrongly) that the CAP will have no impact on wastewater treatment providers because "Increases in demand for wastewater treatment are generally associated with an increase in population". The DEIR fails to grasp that it is the CAP itself that will drive increased demand for wastewater treatment, not population growth.

The DEIR asserts that CAP activities will not result in significant impacts to solid waste management facilities or generate solid waste in excess of local infrastructure capacity (impact 3.17-4 on page 3.17-16). This statement is false. The County does not have sufficient capacity in local organic waste facilities to achieve the CAP's 75% organic waste diversion objective by 2025, and it certainly has insufficient capacity to achieve the 90% organic waste diversion objective by 2045. Currently, local infrastructure only has sufficient capacity to treat 666,000 tons per year of organic waste, but the County generates more than 5 million tons per year[20]; this means that local infrastructure can only process about 12% of the organic waste generated by the County. Therefore, achieving the CAP's 75% - 95% organic waste diversion objectives will overwhelm the capacity of local infrastructure. The DEIR materially errs in concluding otherwise. CAP implementation will have a significant impact on local solid waste facilities, and will require massive expansions of organic waste handling facilities. Other errors found on page 3.17-16 include: 1) The performance goal for Measure W2 is to reduce organic waste disposal (in landfills) by 90 percent by 2045, not 95%; and 2) Measure W3 does not include implementing actions to increase the diversion of recyclable materials because there is no Measure W3.

The DEIR concludes the CAP will not result in cumulatively considerable impacts related to new infrastructure because it will not increase demand for new infrastructure beyond that already anticipated with the expected population growth (page 3.17-17). This statement is false. CAP activities will result in substantial increases in wastewater treatment facilities and solid waste facilities independent of what is "anticipated with the expected population growth". The CAP will require new, cumulatively considerable infrastructure even if no population growth occurs.

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[20] "Los Angeles County Countywide Organic Waste Management Plan 2020 Annual Report" found here: https://pw.lacounty.gov/epd/swims/ShowDoc.aspx?id=15950&hp=yes&type=PDF

The DEIR asserts that projects facilitated by the CAP will have a "less than significant" cumulative impact on water supplies because projects facilitated by the CAP will not "cause or contribute a cumulatively considerable contribution to a significant cumulative impact relating to insufficient water supplies" (impact 34.17-6 on page 3.17-18). This statement is incorrect. As indicated above, the assumptions upon which the DEIR concluded that the CAP would have a 'less than significant" impact on water resources were erroneous. Because the CAP will have incrementally significant impacts on water resources, it's significant impacts on water resources will also be cumulatively considerable. The DEIR is wrong to assert otherwise.

The DEIR asserts that projects facilitated by the CAP will have a "less than significant" cumulative impact on wastewater treatment capacity because projects facilitated by the CAP will not "cause or contribute a cumulatively considerable contribution to a significant cumulative impact relating to inadequate wastewater treatment capacity" (impact 3.17-7 on page 3.17-19). This assertion is based on the premise that CAP activities will not generate wastewater exceeding wastewater treatment capacities projected by the County General Plan. This premise is incorrect. As indicated above, CAP activities will significantly increase demand on wastewater treatment facilities far beyond any capacities ever anticipated by the General Plan, and CAP implementation will result in the construction of new and cumulatively considerable wastewater treatment, water treatment, and water conveyance facilities. Because the CAP will have incrementally significant impacts on wastewater treatment capacities, it's significant impacts on wastewater treatment capacities and will require the construction of incrementally significant wastewater treatment facilities, the CAP's wastewater treatment impacts will be cumulatively considerable. The DEIR is wrong to assert otherwise.

The DEIR states that projects facilitated by the CAP will have a "less than significant" cumulative impact on solid waste facility capacity because projects facilitated by the CAP will not "cause or contribute a cumulatively considerable contribution to a significant cumulative impact relating to the generation of solid waste in excess of the capacity of local infrastructure" (impact 3.17-8 on page 3.17-20). This statement is incorrect. As indicated above, CAP implementation will significantly increase demand on organic waste facilities and will result in the construction of new and cumulatively considerable organic waste facilities. Because the CAP will have incrementally significant impacts on solid waste treatment capacities and will require the construction of incrementally significant solid waste facilities, the CAP's solid waste impacts will be cumulatively considerable. The DEIR is wrong to assert otherwise.

<u>The DEIR Analysis of Wildfire Impacts is Substantially Flawed</u>:
The DEIR states that projects facilitated by the CAP would not exacerbate wildfire risks or increase exposure to the risk of an uncontrolled spread of a wildfire and that such impacts are therefore "Less-than-Significant" (Impact 3.18-2 on page 3.18-16). Notably, the DEIR's analysis of this impact only considers structure fires, electric vehicles, fuel buildup on

forest lands, housing, and the construction of EV charging facilities, composting facilities, water recycling facilities, and renewable generation facilities; the DEIR further concludes that compliance with the County Code will ensure that these elements do not significantly exacerbate wildfire risks (see page 3.18-17). The DEIR ignores the electrical lines that will result from CAP implementation and it trivializes the wildfire risks posed by battery storage facilities; thus, it concludes that CAP activities projects will not significantly exacerbate wildfire risk or significantly increase exposure to the risks of uncontrolled wildfire spread. For the reasons set forth below, these conclusions are incorrect. Accordingly, the DEIR's analysis of Impact 3.18-2 is deficient and the DEIR errs in asserting that Impact 3.18-2 is "less than significant".

The DEIR states that projects facilitated by the CAP will not require the installation of infrastructure that will exacerbate fire risk or result in ongoing impacts on the environment; it thus concludes that the CAP will result in "less than significant" fire risks and environmental impacts (Impact 3.18-3 on page 3.18-19). This conclusion is based on the assumption that CAP related projects will implement "Mitigation Measure 3.18-3 which requires the preparation of a "project-specific fire prevention plan". However, the County asserts it has no jurisdiction over Southern California Edison ("SCE"), thus it is not clear how the County can require SCE to submit a "project-specific fire prevention plan" for its electrical lines or battery storage facilities. More importantly the "project-specific fire prevention plan" almost exclusively addresses wildfire prevention during project construction, thus fails to mitigate the significant wildfire risks posed by electrical line and battery storage facility operations. In fact, the only component of the "project-specific fire prevention plan" that addresses project operations specifies measures that are completely useless for preventing wildfire ignitions from electrical lines, battery facilities, and compost piles[21]. In other words, and contrary to what the DEIR states, "Mitigation Measure 3.18-3" does not reduce wildfire risks posed by the electrical lines, battery facilities, compost piles,

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[21] The section of Mitigation Measure 3.18-3 that pertains to project operations states "The fire prevention plan shall include a section dedicated to fire safety and prevention for project operations. The section shall identify state-of-the-art fire safety and prevention measures for project related infrastructure that can ignite fires, such as power lines, battery storage facilities, and composting facilities. Fire safety and prevention measures shall include preventive measures such as monitoring systems (both electronic and manual) and alarms, cooling systems, and circuit breakers, where applicable, as well as fire suppression measures, such as requirements for enclosures, and fire extinguishers and firefighting equipment to be maintained on-site and/or within maintenance vehicles." Notably, *none of these measures reduce wildfire risks posed by electrical lines*, not even a circuit breaker. Opening a circuit breaker merely stops current flow on an electrical line when a "fault" is detected; it does nothing to stop the wildfire that was ignited the instant the fault occurred. Moreover, wildfire ignitions will not be prevented because fire extinguishers are placed near an 80 foot high power line or because SCE maintenance vehicles have firefighting gear. Fire extinguishers and firefighting gear is only useful after an ignition occurs; they do nothing to prevent the ignition or reduce ignition risk. Project operation measures (continued)

and other infrastructure resulting from CAP activities. The DEIR appears to acknowledge this because page 3.10-9 explains that battery storage facilities are quite susceptible to "Thermal Runaway" (which is a euphemism for cascading explosions that result in uncontrollable fires which often last for days and occur with frightening frequency) and page 3.18-19 affirms that wildland fire impacts of battery storage facilities "could be significant". Moreover, when they are ignited, battery storage facilities always burn through their enclosures; and, because battery storage facilities, electrical lines, and compost piles are *always* remote, there will never be any personnel available to use the fire extinguishers or firefighting equipment required by MM 3.18-3. In other words, the fire risks posed by the operation of electrical lines, battery facilities and compost piles that will result from CAP activities are not in any way not reduced by MM 3.18-3; accordingly, the DEIR grossly errs in declaring that Impact 3.18-3 is "less than significant".

The DEIR's analysis of Impact 3.18-3 also fails to consider the ongoing and significant environmental impacts that will result from CAP activities involving industrial solar farm developments; as discussed elsewhere, these projects create significant adverse impacts. The DEIR's conclusions regarding Impact 3.18-3 are fatally flawed.

The DEIR concludes that the risks of loss, injury, or death due to wildland fires that are posed by CAP activities are "less than significant" ("Impact 3.18-5" on page 3.18-22). This conclusion is premised on the assumption that "new development would be required to comply with the LA County Fire Code, the California Building Code, and policies in the General Plan" and that development will only occur in areas that have adequate ingress, egress, water, and water pressure to meet flow standards "in the event that a fire needs to be extinguished". The DEIR is incorrect.

First, neither the County Code nor the Building Code nor General Plan policies impose standards that are sufficient to reduce wildfire risks posed by electrical lines and battery storage facilities to a level that is "less than significant". This is not opinion, it is fact. If the County Code and the California Building Code and General Plan policies were sufficient to reduce the wildfire risks posed by electrical lines to a level that is "less than significant", then neither the Woolsey Fire nor the Malibu Canyon Fire would have occurred, and no battery storage facility fires would occur either. Therefore, the DEIR grossly errs in asserting such measures reduce wildfire risks to a level that is "less than significant".

(continued) identified in MM 3.18-3 are similarly useless against a battery facility fire; these fires go on for days, they burn out their enclosures, they release toxic and combustible gases that result in explosions, (continued) and they are entirely immune to fire extinguishers and firefighting equipment. The only measure that works is to smother the battery facility under tons of sand or deluge them with water. The DEIR offers no measures to protect from the toxic gases that battery storage facilities release when even a small amount of overheating occurs. Compost piles are immune to MM 3.18-3 measures; a recent compost fire in the West Antelope Valley took days to extinguish even though the fire department used bulldozers and heavy equipment to extinguish the fire. MM 3.18-3 does not reduce the risk of wildfire ignitions or other hazardous circumstances.

Second, electrical lines and battery storage facilities are not constructed in areas that have adequate water flow and water pressure[22]; in fact, electrical lines are installed in the most remote areas of the County because they traverse Forest Service lands to deliver power from the Antelope Valley to urban Los Angeles. Accordingly, the DEIR's conclusion that electrical lines and battery storage pose a less than significant wildfire risk because they comply with code requirements pertaining to water resources and access/egress is patently false.

The DEIR's claim that "Mitigation Measure 3.18-3" will reduce wildfire risks posed by electrical lines to a level that is "less than significant" is completely erroneous. It is an indisputable fact that electrical lines pose significant wildfire risks; over just the last 5 years, electrical facilities have been responsible for numerous conflagrations that have destroyed many thousands of homes and claimed more than 100 victims, including the Woolsey Fire, the Thomas Fire, the Camp Fire, the Easy Fire, the Dixie Fire, the Bobcat Fire, the Saddleridge Fire, the Tubbs Fire, the Getty Fire, the Kincade Fire, the Zogg Fire, the Cascade Fire, the Redwood Valley Fire, the Sulphur Fire, the Cherokee Fire, the Norrbom, Adobe, Patrick, Pythian, and Nuns Fires, the Atlas Fire, and the Pocket Fire, (to name a few). The DEIR's declaration that the paltry elements of mitigation measure 3.18-3 will reduce the wildfire risk posed by electrical lines is ridiculous:

- You cannot install a "cooling system" on an electrical line,
- You cannot "enclose" an electrical line, you can only underground it (SCE refuses).
- Alarms and monitoring systems merely provide notification that a wildfire has ignited; they do nothing to prevent such an ignition.
- Fire extinguishers do not stop an 80-foot electrical line from igniting a wildfire
- The presence of firefighting equipment in a maintenance vehicle at SCE's headquarters in Rosemead does nothing to suppress wildfires ignited on SCE lines in the forest.
- Circuit breakers only cut power on a line when a fault occurs; it is the fault that ignites the fire, so cutting power after a fault occurs does not prevent wildfire risks.

It is not clear how the County has jurisdiction to impose MM 3.18-3 on SCE projects, so it isn't really a "mitigation measure" anyway. CEQA does not permit a Lead Agency to conclude that a mitigation measure renders an impact to be "less than significant" if there is no substantial evidence showing that the measure does indeed render the impact "less than significant". As indicated above, MM 3.18-3 will not reduce the wildfire risks posed by CAP activities; therefore, the DEIR's conclusion that the wildfire impacts posed by CAP activities are "less than significant".

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[22] Electrical lines are not constructed in areas with access, egress or water; they are constructed in remote areas and SCE relies on helicopters for access. They are not equipped with any water infrastructure at all. Similarly, battery storage facilities are often not served by municipal water facilities.

The DEIR also states that projects resulting from CAP implementation will not exacerbate cumulative wildfire risks and or increase exposure to wildfire spread; the DEIR thereby concludes that such impacts are "less than significant" (Impact 3.18-7 on page 3.18-24). This conclusion is premised on the analysis of Impact 3.18-2 which found that CAP implementation will have a "less than significant" effect on incrementally exacerbating wildfire risks or increasing exposure to wildfire spread. However, and as discussed above, the DEIR's analysis of Impact 3.18-2 is completely flawed because CAP activities will incrementally exacerbate wildfire risk quite significantly. Because CAP implementation will significantly exacerbate wildfire risk on an incremental level, it will also significantly exacerbate wildfire risk on a cumulative level. Therefore, Impact 3.18-7 is not "less than significant", and the DEIR errs substantially in declaring that it is.

The DEIR states that CAP implementation will not result in projects which require the installation of infrastructure that will cumulatively exacerbate fire risks or result in cumulative impacts on the environment; it thereby concludes that such impacts are "less than significant" (Impact 3.18-8 on page 3.18-25). This conclusion is premised on the analysis of Impact 3.18-3 which found that CAP projects will not require facilities that exacerbate fire risks or result in environmental impacts. However, and as discussed above, the DEIR's analysis of impact 3.18-3 is completely flawed because CAP activities will result in projects that require the installation of infrastructure that significantly exacerbates fire risk and significantly impacts the environment. Because CAP implementation will incrementally result in projects that require the installation of infrastructure that significantly exacerbates wildfire risk and significantly impacts the environment, it will also result in cumulatively considerable projects which require the installation of infrastructure that significantly exacerbates wildfire risk and significantly impacts the environment. The CAP infrastructure that will exacerbate wildfire risk at a cumulatively considerable level include battery storage, electrical line, and compost facilities. The CAP infrastructure that will significantly affect the environment at a cumulatively considerable level includes the many tens of thousands of industrial solar facilities that will be constructed in the Antelope Valley. Accordingly, Impact 3.18-8 is not "less than significant", and the DEIR errs substantially in declaring that it is.

The DEIR states that projects resulting from CAP activities will not expose people or structures to a significant cumulative risk of loss, injury or death involving wildland fires and thereby concludes that such impacts are "less than significant" (Impact 3.18-10 on page 3.18-27). While the DEIR admits that projects implemented to achieve the CAP could "increase the risk of an ignition during construction and operation, thus potentially exacerbating wildland fire hazards, which would be a significant cumulative impact", it concludes that such impacts will be reduced to a level that is "less than significant" by implementing MM 3.18-3. However, and as discussed in detail above, MM 3.18-3 does not reduce incremental wildfire exposure risks posed by individual projects that are developed to implement the CAP, thus it will certainly not reduce the cumulative risks posed by such projects. Accordingly, the DEIR errs in asserting Impact 3.18-10 is "less than significant".

The DEIR Analysis of Population Impacts is Flawed.

The DEIR concludes that CAP activities will not induce substantial unplanned population growth in an area either incrementally (Impact 3.14-1) or cumulatively (Impact 3.14-3) because the DEIR asserts that the CAP supports development and growth profiles already adopted in the County General Plan. The DEIR is mistaken. The County General Plan ***never*** anticipated that many tens of thousands of acres of "Rural Lands" would be devoted to utility scale solar farm developments; in fact, the County General Plan explicitly assumed that these lands would be used for residential purposes (as discussed above). Because of the CAP, much of the residential development that the County General Plan assumed would occur in the Antelope Valley will have to be relocated elsewhere. Accordingly, Impact 3.14-1 and Impact 3.14-3 will not be "less than significant" because the CAP will drive population growth into areas that were not anticipated by the County General Plan.

6.0 THE DEIR's MITIGATION MEASURES ARE FLAWED AND WILL NOT REDUCE SIGNIFICANTLY ADVERSE ENVIRONMENTAL IMPACTS.

Many of the mitigation measures cited in the EIR will not actually mitigate anything, so the DEIR errs in claiming that they will. Deficient mitigation measures include:

Mitigation measure M 4.15: Reducing parking requirements does not reduce vehicle trips; it just makes driving inconvenient and it causes profoundly adverse impacts on the disabled because it requires them to walk great distances from where they find parking to their destination. Unlike metropolitan New York City, the transit system in Los Angeles County is slow, infrequent, sparse, and (as discussed above) quite dangerous. This, coupled with the fact that Los Angeles County is massively large, means that most locations cannot be safely accessed in a reasonable time via transit. Therefore, people will continue to drive to their destinations because no other feasible options are available. Furthermore, once people transition to "all electric" vehicles, GHG reductions will be achieved and there will be no need to inconvenience drivers by eliminating parking opportunities. It is an absurd conclusion that significant vehicle trip reductions will be achieved in unincorporated Los Angeles County by eliminating parking opportunities. This mitigation measure is not well founded and does not reduce the impacts it purports to address.

Mitigation Measure 3.2-1: Mitigation Measure 3.2-1 is purported to reduce aesthetic impacts and is premised on the notion that aesthetic can be minimized by 1) Adjusting the location, height, scale and massing of CAP activities; 2) "Stepping them back" so that they are "sensitive to the physical and visual character of the affected area"; and 3) Prohibiting projects that negatively affect the quality of views from designated areas. These mitigation measures will not mitigate any aesthetic impacts created by the utility scale renewable energy projects that will be greatly expanded as a result of CAP implementation. There is no way to adjust the location, height, scale, or massing of a 6,000 acre industrial solar farm in a manner that "protects scenic views" or is "sensitive to the visual character" of the bucolic rural community that is adjacent to it. There is also no possibility that the County

would ever prohibit the development of a massive utility scale solar farm in the Antelope Valley simply because it affects the quality of views from designated areas. In practice, the County does not care a whit about "the quality of views"; that is why the County continues to rubber stamp utility scale solar farms in the Antelope Valley and gives no consideration to the cumulative aesthetic effects of the 54,000 acres of solar farms that have already been constructed in the Antelope Valley. Stated more plainly, Mitigation Measure 3.2-1 will not reduce the aesthetic impacts of CAP activities, and the County will not implement it anyway. Therefore, it is insufficient for the purposes of CEQA.

Mitigation Measure 3.2-2: Mitigation Measure 3.2-2 supposedly reduces aesthetic impacts by requiring the installation of "Visual Screening and Other View Protection Measures" where CAP activities are visible from publicly accessible vantage points (i.e., roads). Specifically, it requires the development of a "berm of sufficient height" around utility scale solar farms. Drivers traveling along roads that are adjacent to these solar farms will have these high berms on both sides of them and will have the sense that they are traveling in a channel or open top tunnel which is not aesthetically pleasing. Mitigation Measure 3.2-2 does not mitigate aesthetic impacts.

Mitigation Measure 3.2-3: Mitigation Measure 3.2-3 reduces glare impacts of CAP activities by addressing lighting concerns. However, it does not mitigate the glare impacts resulting from the tens of thousands of acres of new solar panels that will be installed in desert communities as a result of CAP implementation. Glare from flat plate photovoltaic systems is equivalent to glare from smooth water which[23], while not hazardous for aviation purposes, will nonetheless cause glare problems for the residents and communities that are surrounded by these solar farms. Accordingly, the glare in desert communities that will result from the significant expansion of utility scale solar farms will not be mitigated by MM3.2-3; the DEIR is wrong to conclude otherwise.

Mitigation Measure 3.3-1: Mitigation Measure 3.3-1 requires the County to avoid undeveloped lands when siting utility-scale solar projects and constrains such uses to current and formerly contaminated lands, landfills, and mine sites. If implemented, this mitigation measure would substantially mitigate CAP activity impacts in the Antelope Valley. The problem is, the County will never implement this mitigation measure because it effectively precludes solar farm development throughout most of the Antelope Valley. In other words, while SORT supports this mitigation measure, the DEIR fails to grasp that it will never be implemented by the County. This is because it is the County's practice to "rubber stamp" every single utility scale solar farm that is proposed without regard for whether it is located on formerly contaminated lands, landfills, or mine sites. This is an important mitigation measure, but it will be completely ignored by the County and it will never be applied to any CAP activity.

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[23] https://www.hindawi.com/journals/isrn/2011/651857/

Mitigation Measures 3.4-1, -2, -3, -4, -5, and -6: Mitigation Measures 3.4-1, 3.4-2, 3.4-3, 3.4-4, 3.4-5 and 3.4-6 are intended to mitigate air emission impacts resulting from CAP activities. However, none of these mitigation measures address the extensive PM10 and PM2.5 emissions which will result from the ambient dust generated by the operation of tens of thousands of acres of utility scale solar farms that are constructed to achieve CAP objectives. This is not conjecture; it is fact. Solar farm operations in the Antelope Valley generate significant ambient dust because the AVAQMD never requires operators to install particulate monitors or dust control measures. As shown in the following pictures, solar farms in the Antelope Valley are "bare dirt" and they are never required to install dust monitors or dust control measures (like mulch); as a result, the constant winds in the Antelope Valley create significant particulate clouds (the Antelope Valley has the highest average windspeeds in the County)[24]. Rural residents of the Antelope Valley who breath this air experience significant respiratory insults resulting from exposure to PM10 and PM5 emissions which in turn creates significant health impacts. This is no small thing; cardiopulmonary disease rates in the Antelope Valley are far higher than anywhere else in the County[25]. Childhood asthma rates and COPD rates in the Antelope Valley are particularly high[26] and are among the highest in the nation[27]. This has been pointed out to the County time and again[28] and these facts were even included in CAP scoping comments submitted on February 1, 2022. But the DEIR ignores them and the County ignores them. Even the Health Department ignores them. In fact, the Health Department has not launched one single program to address health problems in the Antelope Valley. More to

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[24] http://www.usa.com/rank/california-state--average-wind-speed--city-rank.htm

[25] Los Angeles County Health Department "Key Indicators of Health" report. This "county wide" report has not been updated since 2017. Instead, the Health Department has prepared more local health reports focusing on specific areas. Although the Antelope Valley has the worst "health indicators" in the county, and although much of Antelope Valley is designated as a "disadvantaged community", the Health Department does not prioritize health issues in the Antelope Valley. Insofar as can be determined, the Health Department has not conducted any health assessments in the Antelope Valley since 2017 and does not indicate any intent to conduct such health assessments in the future. [http://publichealth.lacounty.gov/ha/docs/2015LACHS/KeyIndicator/PH-KIH_2017-sec%20UPDATED.pdf]

[26] According to County Health Data presented in 2017, the age adjusted COPD mortality rate in the Antelope Valley is 58.9 per 100,000; 14.7 percent of children 0-17 were diagnosed with asthma and had an attack within the last reporting year.

[27] CDC COPD statistics: https://www.cdc.gov/copd/data.html#:~:text=COPD%20Death%20Rates%20in%20the,34.3%20per%20100%2C000%20in%202019).
CDC Childhood asthma surveillance data (specifically, Table 1):
https://www.cdc.gov/asthma/most_recent_data_states.htm

[28] These facts have been presented to the Department of Regional Planning several times in comments submitted in response to proposed solar farm projects. These facts were also presented to the County's "Chief Sustainability Officer" in comments submitted in 2019 on the Draft "County Sustainability Plan". These facts have a been consistently ignored.

Figure 1. A “Bare Dirt” Solar Farm Constructed in the Antelope Valley Near the Rural Community of Antelope Acres (this is a photo of the “Dry Ranch” Project).

Figure 2. A Residence in the Community of Antelope Acres That is Overcome by Dust Blowing off a Utility Scale Solar Farm West of Town (photo from local resident).

the point, the County rubber stamps every single utility scale solar farm application that it receives without requiring monitors or dust controls. These measures are required by other agencies (including Kern County agencies), but agencies in Los Angeles County refuse to even consider them. Instead, the County relies on a “Dust Control Plan” processed by the Antelope Valley AQMD which imposes no requirements on the operator other than to post a sign that has a phone number to call when blowing dust is observed (as discussed above). The CAP EIR must be substantially revised to properly address the significantly adverse impacts of the PM10, PM2.5, and dust pollution that will be generated by the solar farms

that will be constructed as a result of the CAP Project AND the CAP EIR must incorporate meaningful particulate monitoring and control measures to mitigate these impacts.

7.0 THE CEQA RECORD PROVIDES INSUFFICIENT BASIS TO CERTIFY THE EIR AND ADOPT A STATEMENT OF OVERRIDING CONSIDERATIONS.

As indicated above, the DEIR fails to assess many of the significant adverse effects that will result from achieving CAP GHG emission reduction targets. This is remarkable, particularly since the 50% GHG reduction target for 2035 and the carbon neutrality target for 2045 are completely "optional" in that the County has no statutory or legislative mandate to achieve them; in other words, these CAP targets are simply things that the County can choose to do or not. More importantly, CEQA mandates that the County's decision regarding whether to adopt one or both of these targets must factor in the significant adverse environmental effects that each of these targets will cause. Notably, the DEIR does not even acknowledge that the scope and extent of significantly adverse environmental impacts will magnify substantially if the County transitions from a 40% GHG reduction target in 2030 to a 50% reduction target in 2035 and it certainly does not articulate that even more significantly adverse environmental effects will occur if the carbon neutral target is achieved. Instead, the DEIR simply lists (some of) the significantly adverse environmental effects that will result from the collective implementation of these targets. This bland "yes/no" impact assessment strategy that is adopted by the DEIR gives no consideration to the fact that the scope and extent of significantly adverse environmental effects will increase substantially with each successive target that is achieved. For example, the DEIR fails to mention the increasingly adverse effects of destroying tens of thousands of acres of desert to develop the utility scale solar farms needed to implement the transportation electrification and building decarbonization strategies that are required to transition from 40% GHG reductions in 2030 to 50% GHG reductions by 2035; it also completely ignores the many more tens of thousands of desert acres that will be destroyed to achieve "carbon neutrality" by 2045.

Unfortunately, this "yes/no" approach does not provide County decisionmakers (i.e., the Board of Supervisors) with the information they need to make an informed decision on whether the significant adverse effects of adopting a 50% GHG reduction target or a carbon neutral target are truly outweighed by a discernable benefit. In this manner, the DEIR utterly controverts the core purpose of CEQA, which is to "Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities and identify the ways that environmental damage can be avoided or significantly reduced" [CEQA Guidelines Section 15002].

In a nutshell, the DEIR fails to provide the decisionmakers with the information required to make an informed decision regarding whether the benefits of adopting the purely optional 50% GHG reduction target by 2035 or the purely optional carbon neutrality goal by 2045 outweigh the significant environmental effects that will result from achieving these targets.

Accordingly, the DEIR provides an insufficient basis for the decisionmakers to certify the EIR and adopt a "Statement of Overriding Considerations" as required by CEQA.

These substantial deficiencies can only be corrected by revising the DEIR to include a quantified analysis of 1) the climate change benefits accrued by transitioning from a 40% GHG reduction target in 2030 to a 50% GHG reduction target by 2035 and a carbon neutral target by 2045; 2) the climate change benefits accrued by transitioning from a 50% GHG reduction target in 2035 to a carbon neutral goal by 2045; 3) the increased significant adverse environmental effects of transitioning from a 40% GHG reduction target in 2030 to a 50% GHG reduction target by 2035; and 3) the increased significant adverse environmental effects of transitioning from a 50% GHG reduction target by 2035 to a carbon neutral target by 2045. The first two analyses must be performed within a global context because reducing GHG emissions in unincorporated Los Angeles County will not provide any "local" climate change benefits. The last two analyses must account for all significantly adverse environmental effects, including the area conversion of open desert lands to utility scale renewable energy "farms" and battery storage "farms" that will cause aesthetic impacts, pose fire risks, and eliminate carbon sequestration lands and require additional transmission infrastructure be constructed in very high fire hazard areas. The last two analyses must also address the adverse environmental effects of building decarbonization on rural residents and rural communities where electrical service is highly unreliable (as discussed above). The second analysis would also have to account for the fire risks posed by the massive battery storage facilities that will have to be constructed to achieve these targets; they would also have to account for population increases, transmission losses, and other factors which will further drive the need to convert additional desert acreage to utility-scale renewable energy purposes. These analyses are not difficult and can be performed by any competent engineer. In fact, the County has already received at least one report which details key elements of such an analysis[29]. And, without such an analysis, the Board cannot demonstrate that the environmental impacts of achieving carbon neutrality by 2045 or even a 50% reduction in GHG emissions from a 2018 baseline by 2035 are indeed outweighed by materially substantial climate change benefits.

8.0 CLARIFICATION REGARDING THE RELATIONSHIP BETWEEN THE EIR AND PROJECTS CARRIED OUT TO ACHIEVE CAP STRATEGIES IS NEEDED.

The DEIR identifies many mitigation measures that it claims will mitigate impacts to a level that is "less than significant", but neither the DCAP nor the DEIR provide a mechanism which assures that future activities conducted to achieve CAP decarbonization and electrification measures will be conditioned with these mitigation measures. For instance, consider Mitigation Measure 3.13-1 which the DEIR asserts will reduce construction noise impacts to a level that is less than significant. Mitigation Measure 3.13-1 involves

[29] A report Titled "Assessment of The Land Area Required to Fully Decarbonize Los Angeles County Via Photovoltaic Solar Generation" was submitted to DRP on March 16, 2022.

installing "temporary sound barriers", equipping equipment with mufflers, sound-insulating hoods or enclosures, vibration dampers, and other technologies, and reducing non-essential idling of construction equipment. Notably, the County does not impose such conditions on any of the enormous utility scale solar farms that it has approved for construction in the Antelope Valley. In fact, the County has imposed almost no mitigation measures on any utility scale solar farm that it has approved over the last 10 years, and those few mitigation measures that the County does impose are never enforced. So, what mechanism will be used to ensure these conditions are met going forward? Both the CAP and the EIR must didactically state that every project approved in the future which in any way contributes to achieving any CAP measure or strategy will be subject to all the mitigation measures that are expressed in the CAP EIR.

9.0 OTHER CONCERNS WITH THE DEIR

SORT has other concerns with the DEIR. Specifically:

Pages 1-2 to 1-3:
These pages make certain representations that 1) The DEIR presents a "Program Level Analysis"; 2) The DEIR evaluates "general impacts" of the CAP but does not "examine the potential site-specific impacts of the many individual projects that may be proposed in the future" as a result of the CAP; 3) As a "first-tier" document that focuses on the "big picture", the DEIR "anticipates later environmental review of specific projects"; and 4) Later activities facilitated by the CAP would be examined in the light of the DEIR "to determine whether an additional environmental review is needed". SORT agrees with all of these assertions. However, the DEIR goes on to assert that, if later activities would have impacts that were not examined in the DEIR, then "preparation of either a project-specific negative declaration or EIR could be appropriate". Implicit in this assertion is the false implication that later CAP-related activities would not be subject to environmental review unless they create impacts that were not analyzed in the DEIR. This is incorrect.

Future activities related to the CAP will be subject to environmental review even if they only create impacts that were analyzed in the DEIR because the DEIR's impact analysis is so high-level, so lacking in quantitative specificity, so qualitative, and so generalized that it is almost completely useless for the purposes of CEQA. In fact, the DEIR deliberately avoids any quantitative analysis of cumulative environmental impacts even when the record provides sufficiently detailed information to allow such an analysis. For example, the record demonstrates that achieving the "carbon neutral Los Angeles County" goal expressed on Page 3-7 of the DCAP will require 509,000 acres of new solar; since unincorporated Los Angeles County comprises approximately 11% of the total County population and approximately 65% of the total County area, achieving the "carbon neutral" goal in unincorporated areas will require approximately 51,000 acres of new solar panels. The DEIR could easily analyze the cumulative impacts of these massive solar development "activities" in terms of elimination of desert wildland, desert habitat, wildlife corridor connectivity, aesthetics, dust, destruction of lands needed for carbon sequestration, the

expansion of electrical infrastructure and electrical lines through high fire hazard areas, etc.; instead, the DEIR ignores this quantitative evidence and provides only a cursory and generalized list of potential impacts without considering how they are cumulatively considerable or even admitting that these significantly adverse impacts increase with every GHG reduction target achieved. The DEIR does not even acknowledge that these impacts can be mitigated by distributing these solar panels throughout the urban and suburban areas of the County (where the power is used). The record also includes substantial evidence that the County has consistently failed to consider the cumulative effects of the many tens of thousands of acres of industrial solar farms that have already been installed in the Antelope Valley; it appears that the DEIR intends to carry this failure forward, because it suggests that future activities which implement the CAP will only be subject to environmental review if they result in impacts that were not analyzed in the DEIR. SORT disputes this. All industrial-scale solar farm "activities" proposed for construction in the Antelope Valley or in other rural areas are subject to environmental review and are required to address cumulatively considerable impacts. The DEIR must reflect this fact.

The DEIR Does not Appear to Analyze the "Project" Described in the DCAP:
The DEIR does not analyze the impacts of achieving "Carbon Neutrality" by 2045; in fact, the DEIR asserts that the project it analyzes will result in GHG emissions of approximately 1.2 million metric tons of carbon dioxide equivalent ("MTCO2e") by 2045 (page 4.3). Nonetheless, "Carbon Neutrality" by 2045 is a DCAP goal, and once the DCAP is incorporated into the County General Plan, the "Carbon Neutrality" goal becomes obligatory. Because the DEIR does not assess the impacts of achieving "Carbon Neutrality" by 2045, the "Carbon Neutrality" goal cannot be included in the CAP at all. Moreover, the DEIR addresses impacts associated with activities that will be conducted after the 2035 General Plan (and CAP) horizon. Accordingly, the scope and endpoint of the "Project" assessed by the DEIR is inconsistent with the General Plan planning horizon.

Table 2-3:
Table 2-3 wrongly identifies the Executive Orders issued by the California Governor as "Legislation/Regulation". Executive Orders are not "Legislation" or Regulation"; in fact, they have no force or effect at all unless they invoke Emergency Powers. None of the Executive Orders identified in Table 2-3 invoked Emergency Powers when they were issued; accordingly, they are neither "Legislation" nor Regulation". The DEIR is wrong to claim that they are.

Page 2-7:
Page 2-7 states that the DCAP "identifies measures to effectively meet GHG emissions reduction targets for 2030 and 2035 that are consistent with the state's targets and executive orders described above". This is incorrect. First, no state GHG goals have ever been established for 2035 via either legislation or executive orders. Second, the DCAP's 2030 GHG reduction objective is much more aggressive than any 2030 target established

via either legislation or executive orders; in fact, Figure 2.5 of the DCAP demonstrates that the DCAP's 2030 GHG emission reduction target is approximately 20% more stringent than what has been established via either legislation or executive orders. Neither the DEIR nor the DCAP explain why the County's target is so much more aggressive that what has actually been legislatively established. And, as explained above, the DEIR's alternative analysis is deficient because it fails to consider lower GHG emission reduction targets as a means of reducing environmental impacts.

Page 3.17-13 Reveals Fundamental Deficiencies**:**
Page 3.17-13 includes statements that are either erroneous or confirm the concerns that the public has raised regarding the DEIR's failure to property identify and address the significant adverse impacts of CAP activities.

First, the statement "In general, projects facilitated by Draft 2045 CAP measures and actions are expected to result in beneficial environmental impacts on utilities by reducing water demand, reducing demand on water recycling facilities, and reducing demand for natural gas and electrical power through energy efficiency measures and measures to achieve low-carbon energy use" is categorically incorrect. The CAP will increase water recycling; thus, it will *increase* demand on water recycling facilities. The CAP will increase electrical use; thus, it will *increase* demand for electrical power facilities; in fact, the CAP's "low carbon energy use" will substantially increase demand on electrical power. More importantly, CAP activities will not result in "beneficial environmental impacts on utilities"; to the contrary, they will require extensive expansion of electrical utilities and result in significantly adverse environmental impacts on rural communities in the Antelope Valley. The only way to prevent these impacts is for the DEIR to include definitive language that the CAP strategies will be implemented via local (distributed) generation and not industrial utility scale generation, storage, and transmission.

Second, the statement that "Draft 2045 CAP would result in primarily beneficial impacts with regard to the use of water, wastewater treatment, electric power, natural gas, and stormwater drainage" is categorically incorrect. The impacts of CAP decarbonization measures on rural residents who have unreliable electrical service will be exceedingly deleterious and endanger the lives and property of rural residents (as explained above). Furthermore, CAP activities will substantially increase electrical demand and further strain an already deficient grid; this will result in more blackouts, more brownouts, more heat related deaths, more traffic accidents, and many other problems that the DEIR has conveniently ignored. The manner in which this DEIR misrepresents facts and falsely portrays adverse impacts as "beneficial impacts" is appalling.

Third, the statement "Future projects facilitated by Draft 2045 CAP measures and actions would be evaluated on an individual basis once details are known" confirms all the concerns expressed above that the many tens of thousands of acres of industrial scale electrical generation, storage, and transmission facilities resulting from CAP implementation *will only be evaluated on an individual basis and will* ***never*** *be evaluated for*

their cumulatively considerable impacts ***as required by CEQA***. As a "Programmatic" environmental document, The DEIR is supposed to consider the cumulatively considerable impacts of the activities that will result from the "Proposed Action" and include alternatives and mitigation measures to reduce these cumulatively considerable impacts; *the DEIR utterly fails in this regard*. The following observations and supplemental information provide the County with sufficient information to rectify these deficiencies.

Public comments on the CAP include quantitative, engineering evidence which demonstrates that 509,000 acres of new solar panels will be required to achieve the CAP's 2045 "carbon neutral Los Angeles County" goal (page 3-7). Unincorporated Los Angeles County comprises approximately 11% of the County population, and approximately 65% of the total County area, thus implementing the CAP measures needed to achieving full electrification and decarbonization in just the unincorporated area will require at least 51,000 acres of new solar panels. If the 51,000 acres of solar facilities that are required to achieve CAP decarbonization and electrification targets are located remotely in desert areas and rely on industrial-scale solar farms, storage farms, and transmission facilities, then CAP implementation will unquestionably result in cumulatively significantly adverse environmental impacts. Accordingly, the County has a statutory CEQA obligation to address these cumulatively significant environmental impacts in a meaningful way by ensuring they are accounted for in the EIR and mitigated to the greatest extent feasible. The DEIR does not account for these cumulatively considerable impacts; it does not even acknowledge that such impacts can be reduced to a level that is "less than significant" by including policies directing that CAP activities rely on local distributed generation rather than remote utility scale generation. The DEIR must be revised to properly consider the cumulatively considerable impacts of the constructing and operating the 51,000 acres of industrial scale solar farms that will be required to achieve the CAP "Project" and the cumulatively considerable impacts of constructing and operating the 509,000 acres of industrial scale solar farms that will be result when the County Leverages its "climate leadership" to achieve a "carbon neutral Los Angeles County" as expressed on Page 3-7 of the DCAP. It must also identify feasible alternatives (such as distributed generation) to reduce these impacts.

10. CONCLUSION

SORT respectfully requests that the above comments be incorporated into the CAP Final EIR. If you have questions or require clarifications, please contact us at SORTActon@gmail.com.

Sincerely.
/S/ Jacqueline Ayer
Jacqueline Ayer
Director, Save Our Rural Town

3250 Wilshire Boulevard
Suite 1106
Los Angeles, CA 90010

(213) 387-4297 phone
(213) 387-5383 fax
www.sierraclub.org

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WILDLAND URBAN WILDFIRE COMMITTEE

7-18-22

Los Angeles County Dept of Regional Planning
320 W. Temple St.
Los Angeles, CA 90012

Via email to: climate@planning.lacounty.gov

Re: Draft 2045 Los Angeles County Climate Action Plan (2045 CAP)

To: Climate Planning

The Sierra Club Angeles Chapter Wildland Urban Wildfire Committee (Wildfire Committee) was formed to address land use planning and safety policies related to the increasing intensity and frequency of wildfires in the Wildland-Urban Interface (WUI).[1] Our mission is to assess the risks associated with building in the Very High Fire Hazard Severity Zones (VHFHSZs) in Los Angeles and Orange Counties and influence decision-makers to reduce those dangers while protecting the environment through education, organizing, and policy change. Oftentimes projects are considered and approved in spite of the wildfire risk to current and future residents, wildlife, and habitat and there is a failure to consider the huge cost to the public.

The 2045 CAP is an update to the 2020 CCAP, and it sets new GHG emissions reduction targets beyond the2020 time frame that are consistent with state goals. However they are consistent with goals that are ***already outdated*** (i.e., the 2016 Paris Agreement and Gov Brown's Order B-55-18, which established a new statewide goal to reach carbon neutrality by 2045). As identified in the most recent Intergovernmental Panel on Climate Change (IPPC) report, humanity must get carbon emissions under control within a decade in order to avoid passing tipping points that would create permanent climate system changes[2]. We no longer have the luxury of possibly accomplishing carbon neutrality by 2045. We must do it more rapidly and more aggressively if the world as we know it is to survive.

That is why we were amazed to see such a lengthy time table for implementing this plan.

- ***Target: By 2030, reduce GHG emissions by 40 percent below 2015 levels.***
- ***Target: By 2035, reduce GHG emissions by 50 percent below 2015 levels.***
- ***Aspirational Goal: By 2045, achieve carbon neutrality in unincorporated Los Angeles County.[3]***

[1] WUI is defined as areas adjacent to or of transition between wildlands and human development and its associated infrastructure in which severe wildfire hazards are increasingly likely due to flammable native and non-native wildland vegetation, hazardous weather patterns, and steep topography. These areas have been designated as Very High Fire Hazard Severity Zones by Cal Fire.

[2] **Climate Change 2022: Impacts, Adaptation and Vulnerability,** https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/

[3] CAP page ES-3

The use of the word "aspirational" in the 2045 goal is especially concerning because it indicates that there may not be the willpower to make this change happen.

Climate Change Wildfire Impacts and Solutions

The draft CAP accurately represents Wildfire as one of the major climate change induced risks.[4] As the county is well aware, the frequency and severity of wildfires has increased over the last two decades, causing substantial destruction of homes and sometimes loss of life. The rising costs of fire insurance makes it difficult for long time home owners to obtain fire coverage, and the cost of fighting these fires puts a substantial burden on the County's budget.

The County Safety element (which is meant to be consistent with the CAP) addresses fire danger by finally requiring reduced building in the WUI (a well-documented concept that we have promoted for many years) and avoiding Very High Severity Fire Hazard Zones. However, language changes made at the last minute during a Supervisors' hearing on the Element will ensure that these new requirements will not be able to be put into effect for decades into the future in many areas of the County. (See our committee's 3-29-22 letter to the Board of Supervisors). This delay in making real land use change will impede the County's ability to combat climate driven wildfires[5] and attain the CAP goals. We urge the County to review and eliminate this loop-hole language from the Fire Section of the Safety Element.

In addition to **not** building in the WUI and VHFHSZs, the CAP also states it will plant a substantial number of trees (though less than in other community CAP plans) to help reduce and sequester GHG emissions. However, according to scientists, even more important than planting trees, is retaining old trees. This is especially important in the Oak Woodlands habitat of LA County's WUIs and Open Space areas, predominantly zoned as VHFHSZs by CalFire. Oak Trees are important for their fire resiliency and because they often function as "fire catchers", harmlessly trapping wind driven embers before those embers can reach local residences. It is well-established that oaks can act as "fire-catchers" even in high wind events, by stopping sparks from reaching homes.[6] Of course this is an aid to County fire protection and reduces insurance payouts. Removal of trees through thoughtless landuse decisions could also affect the nearby communities by reducing their fire protection.

"Rancho Culbergo," the Lobo Canyon home of Leah and Paul Culberg, is an oasis of green after the Woolsey Fire razed surrounding chaparral and 12 neighboring homes on Nov. 9, 2018. (Chris Willig) Courtesy LA Times

Conclusion

We appreciate that the County is taking action to update this plan and we realize that if the County is able to accomplish everything it proposes in the Plan, we'll be seeing major, positive changes. However, we remain concerned that the County is moving too slowly to address this crisis. We urge the County to implement its proposals on a faster time schedule. 2045 may be too late.

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[4] Draft CAP t p.1-5

[5] We urge the Planning Department to read a recently published article regarding planned retreat from VHFHZs: **We can't design our way out of wildfires. Some communities need to retreat**

[6] Los Angeles Times, Nov. 16th 2019, https://www.latimes.com/lifestyle/story/2019-11-16/woolsey-fire-survivors-one-year-later

Please put us on the mailing list so that we can receive all notices regarding this project.

Thank you for your attention to this matter.

Sincerely,
WILDLAND URBAN WILDFIRE COMMITTEE,
Angeles Chapter, Sierra Club

Geoffrey Danker, AICP
Public Policy & Planning

555 W. Fifth Street, GCT 21C5
Los Angeles, CA 90013

Email: gdanker@socalgas.com

July 18, 2022

Los Angeles County Department of Regional Planning
Attn: Thuy Hua
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012

Subject: Los Angeles County Draft Climate Action Plan

Dear Los Angeles County Department of Regional Planning,

SoCalGas appreciates the opportunity to submit comments on the LA County's Draft Climate Action Plan (CAP or Draft Plan). We have been continuously engaged with County staff during the development of the CAP and other related planning documents, including the Countywide Sustainability Plan.[1]

SoCalGas supports the County's aspirational goal of achieving carbon neutrality in unincorporated Los Angeles County by 2045. In support of its mission to build the cleanest, safest, most innovative energy company in America, SoCalGas announced in 2021 a similar goal to also achieve net-zero greenhouse gas (GHG) emissions by 2045. This includes GHG emissions from our operations and the energy we deliver to our customers. This goal is part of SoCalGas's Sustainability Plan known as ASPIRE 2045, which aligns with the United Nations Sustainable Development Goals, California's climate goals, and our parent company Sempra's sustainability framework.

In October 2021, SoCalGas released a Clean Fuels Whitepaper that examines pathways to achieve California's carbon neutrality goals through a more integrated, resilient, reliable, and affordable energy system. And in February of 2022, SoCalGas announced the Angeles Link – a proposal to develop what would be the nation's largest green hydrogen energy infrastructure system to support the integration of more renewable electricity resources like solar and wind and significantly reduce GHG emissions from electric generation, industrial processes, heavy-duty trucks, and other hard-to-electrify sectors of the Southern California economy.

Collectively, these efforts demonstrate our infrastructure's essential role in advancing a carbon neutral economy in Los Angeles and California. SoCalGas sees potential synergistic opportunities in many of the targets and policy actions included in the Draft Plan and looks forward to partnering with the County to achieve these objectives, namely:

[1] See LA County, Our County Discussion Draft Written Comments, available at: https://ourcountyla.lacounty.gov/wp-content/uploads/2019/08/OurCounty-Discussion-Draft-Feedback.pdf

Support Clean Fuels for a Net-Zero Future

Clean fuels are alternative fuels with a net-zero carbon footprint, accounting for both their production and combustion. Clean fuels include renewable natural gas, green hydrogen, synthetic natural gas, and biofuels. As discussed in our Clean Fuels White Paper, as the state continues to decarbonize sectors of the economy, a clean fuels network will play an increasingly vital role in providing grid reliability, resource adequacy, resiliency, and peaking capacity.

Across all tenable scenarios in our analysis, a clean fuels network enables full decarbonization by delivering fuels to the hardest-to-abate sectors (e.g., electric generation, heavy duty transportation, industrials with heat processing needs), and meet the expected increased energy demand.

SoCalGas is interested in collaborating with the County on **Strategy 1** to decarbonize the energy supply and deploy clean fuels in hard-to-abate sectors.[2]

Support Renewable Natural Gas and Hydrogen for Heavy-Duty Transportation

As outlined in the Draft Plan, transportation emissions are the single largest greenhouse gas emissions source throughout unincorporated areas in the County, comprising 52% of total County emissions.[3] Accordingly, the Draft Plan provides a strong focus on reducing emissions from the transportation sector, and SoCalGas supports the strategies and goals that aim to reduce these emissions by institutionalizing low-carbon transportation and accelerating freight decarbonization, as described in **Strategy 4**.[4] We also appreciate the focus on advancing zero and near-zero emission transportation technology, as such policies are especially important for reducing emissions from goods movement. We are pleased to see the Draft Plan include green hydrogen as part of the strategy, which could provide significant emission reductions from heavy-duty transportation.

Hydrogen fuel cell technology for heavy-duty transportation can achieve a truly zero-emission lifecycle profile. Because hydrogen is an energy carrier like electricity, it can be produced from numerous sources of renewable energy and is a zero-carbon fuel at both the point of fuel production and at the point of power generation. And because it is the only zero-emission alternative with fueling times similar to conventional gasoline or diesel, it is a natural complementary zero-emission technology to help enable the transport sector decarbonize and a competitive mobility solution for customers who want to retain the ability to refuel quickly and drive longer distances carrying heavier loads.

We support the County's proposed **Measure T6.7**, which seeks to increase the use of green hydrogen vehicles, **Measure T8** to accelerate freight decarbonization and build ZEV infrastructure, as well as **Measure T9.2**, which will identify and support green hydrogen equipment for off-road vehicles.[5] As a

[2] *See* County of Los Angeles, "Draft 2045 Climate Action Plan (CAP)" available at https://planning.lacounty.gov/site/climate/los-angeles-county-cap/, p. 3-11

[3] See Draft 2045 CAP p. ES-2

[4] *See* Draft 2045 CAP, p.3-28

[5] *See* Draft 2045 CAP, p. 3-29;p. 3-31; p.3-32

regional leader in the hydrogen space, SoCalGas is excited to partner with and support LA County's efforts.

Support Creating Circular Economies by Connecting Waste and Transportation Sectors

Los Angeles County alone generates ~4,000 tons of food waste a day.[6] Production of RNG from organic waste resources aligns with the County's SB 1383 compliance goals. SB 1383 requires municipalities to reduce methane emissions by 40% by 2030 and reduce organic waste disposal 50% by 2020 (as well as 75% by 2025).[7] Use of organic waste for local production of RNG as a renewable energy resource would support and incentivize increased organic waste diversion from landfills in accordance with state requirements. In fact, SoCalGas provided an analysis to the County in a prior comment letter submitted for the Countywide Sustainability Plan, which discussed how the County's projected organic waste generation rate could produce enough RNG to completely replace the County's building natural gas consumption.[8] Here, RNG exhibits yet another co-benefit in helping the County achieve compliance with waste regulations in addition to achieving emissions reductions and increasing renewable energy resources.

We support the proposed County emission reduction measures, like **Measures W2.2, W2.3, and W2.4** that aim to increase organic waste diversion and to develop a strategy for using bioenergy created from the recycled organic waste.[9] These measures are also complemented by the **County's proposed Measure E3.1 and T6.7**, which looks to "incorporate increasing levels of biomethane into the natural gas mix" and use biomethane and biogas created from organic waste.[10] SoCalGas looks forward to collaborating with the County as it progresses with the implementation of decarbonization actions and increases organic waste diversion.

Support Energy Resilience

The impacts of climate change are projected to continue, resulting in more severe wildfires, storms, and floods. Wildfire risk, specifically, is a prominent climate change hazard facing the County, especially as Southern California has experienced two of the largest wildfires in the State's history in the last few years. And as seen in these recent wildfires—along with recent storms and mudslides—energy system vulnerability significantly affects local resilience to such hazards. Fuel cells present an optimal solution for simultaneously addressing reliability shortages and achieving California's climate and energy goals, as they could displace diesel backup generation during PSPS events. Fuel cells could also mitigate strain on the electric grid by offsetting electric demand through running "grid parallel" or "islanding."

SoCalGas supports the County's proposed **Measure ES3 and Measure ES4** aimed at increasing renewable energy production and increasing energy resilience.[11] We are excited to collaborate on efforts to develop resilience hubs and microgrids, and other efforts to support energy resilience.

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[6] Los Angeles County Co-digests Food, Sludge to Make Transportation Fuel. Available at: https://www.waste360.com/fuel/los-angeles-county-co-digests-food-sludge-make-transportation-fuel

[7] SB1383 Regulations available at https://calrecycle.ca.gov/organics/slcp/

[8] See LA County, Our County Discussion Draft Written Comments, available at: https://ourcountyla.lacounty.gov/wp-content/uploads/2019/08/OurCounty-Discussion-Draft-Feedback.pdf

[9] *See* Draft 2045 CAP, p.3-48

[10] *See* Draft 2045 CAP, p.3-29; p. 3-39

[11] *See* Draft 2045 CAP, p.3-16; p.3-17

SoCalGas was proud to provide a Climate Adaptation & Resiliency Planning Grant to LA County to support the development of the Adaptive Capacity Assessment, which the County has used as a tool to understand how prepared communities are to respond to and adjust to climate change. We know vulnerability assessments and adaptation planning are of critical importance, and we applaud the County's efforts to be leaders in this space.

Conclusion

Looking forward, SoCalGas believes its infrastructure and a clean fuels network will play important roles in helping the County and State achieve its carbon neutrality goals. Further, integrating SoCalGas' infrastructure system into the CAP helps build reliability into the County climate adaptation and resiliency goals.

SoCalGas appreciates your consideration of these comments and your willingness to meet with us to discuss further the issues raised in this letter. If you have any questions, please do not hesitate to contact me by telephone or email.

Thank you.

Sincerely,

Geoffrey Danker, AICP
Public Policy & Planning Manager
SoCalGas

The Nature Conservancy
Protecting nature. Preserving life.

445 South Figueroa St, Suite 1950
Los Angeles, CA 90071

Tel (213) 787-9415
Fax (213) 327-0161

nature.org/california

July 18, 2022

Thuy Hua, AICP, Supervising Regional Planner
Los Angeles County Department of Regional Planning
320 W Temple St
Los Angeles, CA 90012

RE: Los Angeles County 2045 Climate Action Plan

Dear Thuy Hua,

The Nature Conservancy (TNC) is committed to working with the Los Angeles County Department of Regional Planning and the Board of Supervisors to ensure a climate-resilient future for Los Angeles County. TNC is an international non-profit organization dedicated to conserving the lands and waters on which all life depends. Our on-the-ground work is carried out in all 50 states and in 79 countries around the world and is supported by approximately one million members. To date, we have helped conserve approximately 120 million acres (including nearly 1.5 million acres in California) and 5,000 river miles around the world. We have been engaged in the protection and management of natural resources across the U.S. since 1951.

Los Angeles County's 2045 Climate Action Plan (CAP) lays out a framework for the region to respond to climate change by reducing greenhouse gas (GHG) emissions in unincorporated areas of LA County and by helping to limit global temperature increases.

TNC and Los Angeles County share a vision for healthier, more equitable, economically vibrant, and resilient communities in the face of a changing climate. Climate action is strengthened when nature is included as part of the solution; in addition to mitigating the effects of climate change directly, nature-based climate solutions provide multiple additional benefits that improve quality of life, contribute to a strong economy, and help to build a trained workforce. The use of natural infrastructure – infrastructure that utilizes or mimics natural ecological systems – additionally helps to buffer communities against unavoidable climate impacts. A thriving ecosystem enables Los Angeles County residents to thrive with clean air, clean water, access to parks and open space, healthy food, relief from urban heat island effect, and protection from disasters like flood, fire, and sea-level rise.

TNC supports the comments that Endangered Habitats League has submitted on the 2045 CAP.

Additional specific comments from TNC on the CAP are outlined below.

- **The CAP should take a holistic approach that prioritizes nature-based solutions in meeting climate goals.** Investments in natural infrastructure provide multiple benefits to communities – such as cleaner air and water, improved biodiversity and wildlife habitat while reducing GHGs. Additionally, because natural projects utilize

the protection provided inherently by natural systems, natural infrastructure tends to be a cost-effective option that increases in value over time.

- The CAP focuses almost entirely on greenhouse gas emission reduction. While emissions are a large contributing factor to the rapid acceleration of climate change, focusing on only reducing emissions is too narrow a scope for tackling the critical challenge our communities face. Nature-based solutions are almost entirely left out of the CAP. Investments in the urban tree canopy, retrofitting areas such as roof space for carbon sequestration or energy production, and expansion of natural spaces to support biodiversity are critical and should be prioritized in the CAP.
- On page 29 of the document, the term "community activities" seems to place responsibility on residents rather than industries, government, and other entities. Since municipal operations are not the main focus of this plan, the CAP should note when and how municipal operations will be addressed as they are critical in reducing GHG emissions and addressing climate change.
- On page 30 in the executive summary, the term "community-wide" should be replaced with activities from major sectors to be consistent with the reduction goal (from the fifth bullet).
- In the executive summary, the CAP states, "If residual emissions cannot be eliminated through new technologies or be reduced over time in response to changes in community-wide activities, LA County will consider future implementation of carbon removal strategies (such as carbon capture and sequestration and direct air capture), along with future implementation of a carbon offsets/credits program, following completion of a feasibility study, to achieve carbon neutrality by 2045." This statement should not be framed as speculative. LA County should start implementing carbon removal strategies right away, not just "considering them for future implementation." More R&D investment is needed for these strategies.
- On page 34, the CAP should explicitly say that electric vehicles and alternatives to fossil fuel-powered vehicles will replace current vehicles that contribute to high emissions. It would make it consistent with the core measure on page 62 to "Increase ZEV Market Share and Reduce Gasoline and Diesel Fuel Sales."
- On page 65, it is critical to emphasize the point that GHG emissions reduction actions result in cost savings. There is often the misperception that climate action costs more. In reality, when full-cost accounting including life-cycle costs is conducted and understood, it is clear that there is a much lower cost for emission-reducing activities and a much higher cost for climate-exacerbating ones.
- The CAP depends on LA County's ability to generate clean energy sources, which will require a balance of local/distributed energy production and thoughtful siting of larger-scale energy projects to avoid habitat impacts. It is important to be aware of and investigate ways to mitigate the impacts of transporting the energy from production zone to zone of use.
- A section for tracking milestones and accountability should be added to the CAP.
- Supporting indigenous engagement is critical to responding to climate action in LA County. Indigenous peoples need to be part of the conversation, and LA County can learn from indigenous land management practices and should integrate those lessons into the plan.

- TNC agrees that it is essential to "realize equitable and sustainable climate actions for a carbon neutral Los Angeles County" (65). Partnership and collaboration are critical, but it is also necessary to ensure accountability of industries and sectors that contribute most to GHG emissions and that are not currently transitioning at the pace required to meet the targets LA County and the State of California are setting.
- The CAP includes a thoughtful analysis of transportation by illustrating the link between affordable housing, lack of transit-oriented development, and increasing vehicle miles traveled as well as the lack of equitable distribution of resources to BIPOC and disadvantaged communities. Addressing these land use and access issues are key steps to transforming communities and landscapes.
- T1.2 on page 80 calls for the development of land use tools which are essential to understanding current land use and potential opportunities. TNC has supported and developed land use tools for more informed regional decision-making.
- Building on T2.1 on page 81, it should be expanded to state that direct community input ensures that plans, measures, actions, and projects simultaneously meet residents' needs and climate objectives.
- The "Shaded Corridors Program" (aka greenways) in T3.3 on page 83 of the document should prioritize native or climate-appropriate trees and also emphasize their role in reducing urban heat island effect and improving public health.
- Water conservation, recycling, and capture should be high priorities for the CAP beyond the "Building Energy and Water" section with a prioritization of vegetated nature-based stormwater solutions and groundwater cleanup and infiltration. (An allocation for outdoor water use for native and climate-appropriate vegetation will still be necessary as those plants provide many benefits for communities and climate.)
- For E4.3 on page 99, the "green surfaces" should prioritize native or climate-appropriate vegetation and develop or adopt a suggested plant palette that does not include invasive plants. The same plant palette should be recommended for E6.3 to convert water-intensive landscaping to water-conserving (drought-tolerant with a preference for native plants).
- The "Agriculture, Forestry, and Land Use" section should expand on actions such as open space conservation, land acquisition, and vegetation management in A1.1 and A1.2 while including more strategies to enhance or restore natural lands. This section should be considered as a key space to address climate challenges. For example, one way to address climate impacts is by retrofitting urban space to minimize urban heat island effect in LA County, increasing reflectivity, removing concrete, and adding more permeable green spaces. It would be helpful to consider conversion of urban spaces and buildings that could serve other community needs such as parks, open space, trails, greenways, renewable energy sites, active transportation, shade spaces with tree canopy, and stormwater capture projects. There are existing grassroots campaigns within neighborhoods that exemplify initiatives that LA County can support or adopt. New community garden space, compost mandates, and converting grass lawns would increase buy-in and provide a localized sense of responsibility. Incentives, rebates, and grants can support these efforts.

We appreciate Los Angeles County's commitment to developing a comprehensive pathway to climate resilience. We stand ready to work with you on the implementation process for the Los Angeles County Climate Action Plan.

Sincerely,

Shona Ganguly
Associate Director, Southern California External Affairs
The Nature Conservancy

CC:
Hon. Hilda L. Solis, Supervisor, First District, Los Angeles County
Hon. Holly J. Mitchell, Supervisor, Second District, Los Angeles County
Hon. Sheila Kuehl, Supervisor, Third District, Los Angeles County
Hon, Janice Hahn, Supervisor, Fourth District, Los Angeles County
Hon. Kathryn Barger, Supervisor, Fifth District, Los Angeles County
Rita Kampalath, Acting Chief Sustainability Officer, Los Angeles County Chief Sustainability Office
Kristen Torres Pawling, Sustainability Program Director, Los Angeles County Chief Sustainability Office

TreePeople

July 18, 2022

Los Angeles County Department of Regional Planning
Attn: Thuy Hua
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012

TreePeople commends the County's inclusion of trees and urban tree plantings as part of the net GHG emissions strategy. We provide some further specificity on where these details can be improved below. However, a grander nature-based solutions agenda is missing and requires alignment of its objectives with the mechanisms that can help meet the Climate Action Plan's goals.

Nature-based solutions should be a more central plank to all strategies of the Climate Action Plan and for multiple reasons. First, nature-based solutions confer climate resilience and can be climate resilient themselves. Therefore, the sustainability of GHG reductions are bolstered by an emphasis on nature-based solutions. Second, nature-based solutions offer multiple community benefits alongside climate mitigation and adaptation benefits. Extreme heat is a clear case where nature-based solutions address a climate resilience challenge. Third, nature-based solutions reduce our demand on energy and help us better allocate public space to humans and nature and away from climate change causing pavements and cars. For example, by creating cooler, safer, and more inviting urban settings by redesigning streetscapes for people and nature, we make travel outside of private cars more inviting and thereby making the path to eliminating GHG emissions much more feasible.

A broad conception of nature-based solutions is needed in the plan as well. Trees are excellent, but more consideration of the urban ecosystem including improving impacted urban soils for better functioning and increasing water going to nature through stormwater management.

It's important to note that while nature-based solutions can sequester carbon in plants and soil in Los Angeles County, the magnitude is inconsequential to the massive carbon emissions in Los Angeles County. Therefore, the main objectives of trees and other nature-based solutions with regard to the Climate Action Plan are 1) contributions to preventing carbon emissions and 2) aligning GHG reduction strategies with climate resilience more generally.

General

- Among several issues, this report outlines strategies on reducing GHG emission related to urban forest conservation and expansion, addressing extreme heat, carbon sequestration, and tree monitoring plans. However, strategies should include detailed steps for tracking tree plantings and GHG emissions.
- Provide suggestions or roadmap for required laws and regulations for achieving established goals related to AFOLU
- Plan must include strategies for addressing extreme heat

TreePeople

Comments

Glossary

- Page 17 - Carbon neutral
    - Recommend deleting “Carbon neutrality may require carbon sequestration technologies to capture the remainder of GHG emissions.”
    - There’s no evidence that this largely untested technology is required to achieve carbon neutrality.

Executive Summary

- Page 34 - AFOLU
    - Add bullet: “implement healthy soils best management practices”

Chapter 1: Introduction pages 37-47

- Page 41 - Extreme heat
    - Include statistic: hottest recorded day in LA was 121 degrees Fahrenheit in Woodland Hills
- Page 41 - LA County Climate Vulnerability Assessment
    - “the role of parks in mitigating extreme heat hazards (and the impact of increasing tree canopy in disadvantaged neighborhoods)”
    - List out examples of County neighborhoods that are disproportionately impacted by climate vulnerability
- Page 42 - Community stakeholders
    - Add bullet “Build partnerships with community leaders”
- Pages 43-45 - relevant regulations charts
    - Add TreePeople sponsored urban forest and school greening bills that relate to the impacts of climate change:
        - AB 2566 – School Greening – would create new granting opportunities for school greening projects.
        - AB 2251 – Urban Forestry Canopy Targets – would require CAL FIRE to develop a strategic plan for increasing statewide tree canopy.

Chapter 2: GHG Emissions Inventory, Forecasts, and Reduction Targets pages 49-59

- Page 50 - Agriculture, Forestry, and Other Land Use (AFOLU)
    - Add “conservation and implementation of healthy soils”

Chapter 3: GHG Emissions Reduction Strategies, Measures, and Actions pages 60-112

- Page 107- Agriculture, Forestry, and Other Land Use (A)
    - What are plans on expanding “the County’s Tree Canopy and Green Spaces” as it relates to agriculture?
        - Provide metrics and data sources for action plans
        - Identify the difference in urban and rural soil context
- Page 110 - Strategy 10: Sequester Carbon and Implement Sustainable Agriculture
    - Add a bullet point under “past and current actions” to include the new Chief Heat Officer for the City of LA: “In 2022, the City of LA established a historic Chief Heat Officer to address extreme heat and lack of tree canopy”

- Page 112 - MEASURE A3: Expand Unincorporated Los Angeles County's Tree Canopy and Green Spaces
    - Include how the tree planting number was calculated. Provide explanation for the distribution of tree plantings.
    - Include datasets for tree canopy and metrics for neighborhood selection

Chapter 4: Implementation and Monitoring pages 113-119

- Page 114
    - Funding opportunities
        - Does this include federal, state, and local urban forestry grants?
- Page 117 - Strategy #10
    - How will newly planted trees be tracked? Will tree removals be recorded as well?

Sincerely,

Lia Soorenian
Policy & Research Associate, TreePeople

USGBC LA
U.S. GREEN BUILDING COUNCIL LOS ANGELES

July 18, 2022

Re: Draft LAC 2040 CAP

To: Los Angeles County Department of Regional Planning,

The U.S. Green Building Council - Los Angeles (USGBC-LA) was founded in 2002, and with our team and more than 3,000 members, most of whom reside in the greater Los Angeles region, has extensive experience in providing sustainability program management, related technical and support services, environmental education and training, and project management. USGBC-LA's mission is to accelerate all aspects of sustainability in the built environment to create a more sustainable region for all.

On behalf of USGBC-LA, Urban Landscaping Committee, please see comments attached to the Draft LAC 2040 CAP in the following:

Strategy 2 Increase Densities and Diversity of Land Uses Near Transit, T1.1

Strategy 6 Improve Efficiency of Existing Building Energy Use, E4.3

Strategy 7 Conserve Water, E6.1, E6.3, E6.5

Strategy 10 Sequester Carbon and Implement Sustainable Agriculture, A2.1, A2.2, A3.1, A3.2

Sincerely,

Ben Stapleton
Executive Director, USGBC-LA

La Kretz Innovation Campus
525 S Hewitt St.
Los Angeles, CA 90013
(213) 689-9707
usgbc-la.org

CATEGORIES	STRATEGY	MEASURE	IMPLEMENTING ACTIONS	USGBC-LA - Urban Landscaping Committee - NOTES/COMMENTS
Transportation (p. 3-22)	**Strategy 2: Increase Densities and Diversity of Land Uses Near Transit**	T1: Increase Density Near High-Quality Transit Areas	T1.1—Incentivize residential and community-serving uses to be developed in high quality transit areas (HQTAs), while ensuring inclusion of vital public amenities, such as parks and active transportation infrastructure.	Insure inclusion of green spaces walking distance within half a mile especially in unserved communities. Utilize the school-park joint use model to achieve this where parks are not within this distance.
Building Energy and Water (p. 3-41)	**Strategy 6: Improve Efficiency of Existing Building Energy Use**	E4: Improve Energy Efficiency of Existing Buildings	E4.1—Adopt Building Performance Standards for energy	
			E4.2—Adopt an energy efficiency ordinance for existing	
			E4.3—Convert existing LA County–owned heat-trapping surfaces to cool or green surfaces.	Consider living schoolyards as a strategy to offset heat-trapping surfaces
Building Energy and Water (p. 3-44)	**Strategy 7: Conserve Water**	E6: Reduce Indoor and Outdoor Water Consumption	E6.1—Develop a net-zero water ordinance for new greenfield development. Develop a water conservation ordinance for new development (public and private).	Reference USGBC Sustainable SITES Standards
			E6.2—Adopt a water efficiency ordinance for existing buildings, requiring all buildings over 20,000 square feet to benchmark and report their water use and demonstrate their pathway to efficiency.	
			E6.3—Incentivize residents to replace water-intensive landscaping, such as grasses, with water-conserving landscaping through a new ordinance along with education and incentive programs.	Emphasize water positive features and low volume subsurface drip. Allow native meadows with limits to replace traditional lawn. Ban synthetic turf.
			E6.4—Implement strategies to improve water efficiency at LA County facilities.	
			E6.5—Integrate water-related programs into LA County's affordable housing preservation program to protect the housing affordability of units and to keep the units fit for their purpose in a changing climate.	Integrate an operations and maintenance manual component into the water-related programs around sustainable food
Agriculture, Forestry, and Other Land Uses (p. 3-53)		A2: Support Regenerative Agriculture	A2.1—Create fallow and field resting incentives to reduce bare-fallow land by adding cover crops and promoting crop rotation for active agricultural sites to improve soil quality and limit risks of nutrient erosion, pollutant runoff, and yield reduction. Create a carbon farming plan with the primary objectives of carbon removal and regenerative agriculture.	Consider planting trees on underserved "lands outside forests" that include urban hedgerows, and urban agroforestry (as simple as trees and large shrubs at a minimum that have local cultural-ecological significance) that sequestor carbon; restoring soil, water, and air quality; biodiversity; and include food soveriengty. Pair food producing urban agroforestry with non-profits for environmental education, nutrition, health, wellbeing, and operations & maintenance strategies.

	Strategy 10: Sequester Carbon and Implement Sustainable Agriculture		A2.2—Provide compost and/or organic or nonsynthetic fertilizer to farmers free of charge or at a discounted rate.	Link to local restaurants/business in underserved areas to recover food waste. Utilize vacant land in these areas as a community building effort for organic compost facilities and to serve as a job training for regenerative soil techniques.
Agriculture, Forestry, and Other Land Uses (p. 3-54)		A3: Expand Unincorporated Los Angeles County's Tree Canopy and Green Spaces	A3.1—Create and implement an equitable Urban Forest Management Plan that prioritizes: (1) tree- and parks-poor communities; (2) climate- and watershed-appropriate and drought/pest-resistant vegetation; (3) appropriate watering, maintenance, and disposal practices; (4) provision of shade; and (5) biodiversity.	Involve the underserved communities early in planning phase who are already engaged in implementation actions to prioritizes specific needs. Consider alternate qualitative engagement practices such as ethnographic & surveys, in person charrettes, and virtual reality to maintain cultural and historical places.
			A3.2—Expand County tree planting both in the public right-of-way and on private property.	Use regenerative development placed based measures by involving local business, schools, professionals, residents, etc. in underserved areas. Opportunity for greening a workforce in landscape contractors and the varies trades.