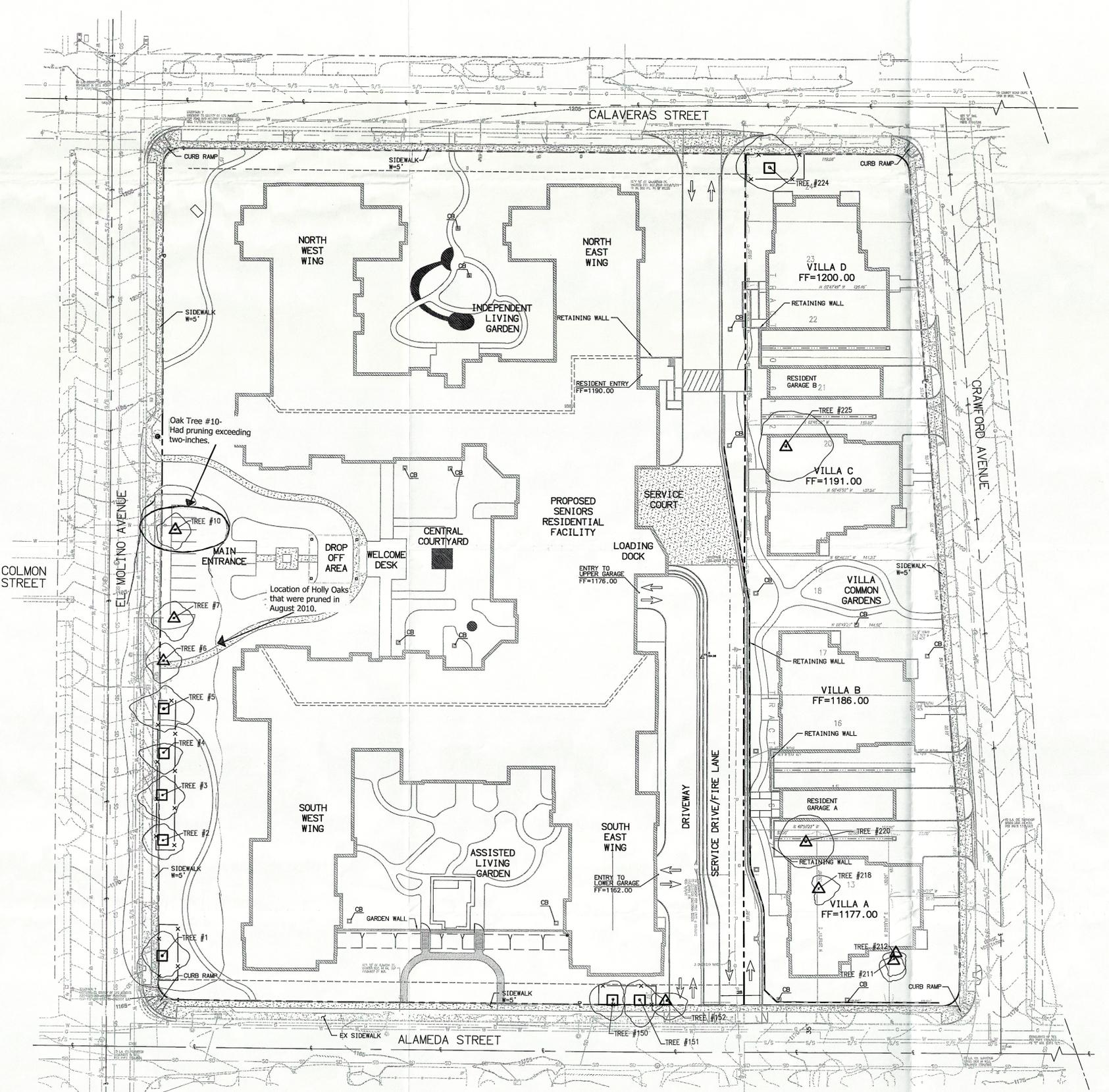
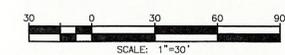


- TREE PROTECTION**
- 1.00 GENERAL
- 1.01 SUMMARY
- A. Work included: Protect trees that are within the Limits of Construction, Permanent Easements, Permanent Needs Line, and Temporary Construction Easement Lines.
- B. The *Root Protection Zone* shall be a specifically defined area within the dripline of an oak tree and extending five feet outside the trunk diameter.
- C. The Contractor shall recognize the value and significance of existing specimen trees, and exercise special care during demolition, excavation, and construction operations to ensure that trees are not damaged by the work being performed.
- 1.02 CONSULTING ARBORIST
- A. The Project Arborist will monitor some phases of construction and tree protection, including (1) demolition, trenching, excavation, root and above-ground pruning and (2) maintenance, including watering and mulching.
- 1.04 GUARANTEE
- A. Trees protected in place shall be protected as specified herein. Any tree which is irreparably damaged or destroyed during the course of construction shall be compensated for by the appraised value set forth by the Council of Tree and Landscape Appraisers' *Guide for Plant Appraisal*, 9th Edition, using the Trunk Formula Method.
- 2.00 PRODUCTS
- 2.01 WATER - Potable. Contractor shall make a water source available and provide for the connection of water (sprinkler) hoses by way of hose bibs within all fenced areas enclosing trees. Trees preserved in place shall be irrigated and maintained by Contractor under the direction of the Project Arborist.
- 2.02 FENCING MATERIALS
- A. Provide 5' high chain-link fencing as delineated on the Tree Protection Plan. Fencing shall be in place prior to demolition and remain until adjacent construction activity no longer threatens tree health.
- B. Fences are to be mounted on 2-inch diameter steel posts, driven into ground to a depth of at least two feet at no more than ten foot spacing. One three-foot wide access gate capable of being locked and one source of clean, potable water shall be provided for each enclosure.
- C. A warning sign shall be prominently displayed on each panel of each protective fence. It shall be a minimum of 8.5 x 11 inches and clearly state the following: "WARNING: Tree Protection Zone. This fence shall not be removed."
- D. Fences will be placed around individual trees or groups of trees. Access shall be permitted for maintenance as approved by Owner's Authorized Representative or Project Arborist. Areas within fence enclosures shall not be used for staging or material storage.
- E. During the course of construction, temporary relocation of the fence may be required to accommodate construction. Contractor may do so at no additional expense to the Owner with the approval of the Owner's Authorized Representative or Project Arborist.
- 2.06 TREE ROOT PROTECTION
- A. Before permanent backfill is placed, temporary earth cover, wet burlap, or sandbags, or steel traffic plates shall be used and maintained as long as necessary for temporary protection. Exposed roots shall not be allowed to dry. Use of gravel and/or broken stone for protecting roots of existing trees and shrubs is not allowed.
- 2.07 MULCH
- A. A four- to six-inch layer of untreated organic mulch shall be installed within each fence enclosure and maintained by the Contractor throughout the duration of the project.
- 2.08 CHANGES IN GRADE
- A. "Natural" or pre-construction grade shall be maintained in the *Root Protection Zone*. At no time during or after construction shall soil be in contact with the trunk flare.
- 3.00 EXECUTION
- 3.01 PROHIBIT - traffic and storage of materials within the driplines of trees and shrubs which are indicated to be preserved.
- 3.02 ERECT FENCES
- A. Prior to installation, the location of protective fencing shall be reviewed by the Project Arborist.
- 3.03 PROVIDE TREE ROOT PROTECTION as follows:
- A. Aside from excavation for shoring, all work conducted within the *Root Protection Zone* (dripline) of any tree to be preserved shall be accomplished with hand tools or handfiled power tools unless otherwise approved by the Owner's Authorized Representative or the Project Arborist.
- B. Protect roots from flooding, erosion, and excessive wetting resulting from dewatering operations, run-off and spillage, or drainage of solutions containing materials which would be injurious to tree roots.
- C. Where more than 50% of the *Root Protection Zone* is impacted or roots greater than three inches in diameter are to be removed within four feet of the trunk, an appropriate design alternative shall be submitted by the Project Arborist.
- D. If utility trenches are proposed within the driplines of trees, hand digging shall be used and roots two inches and greater in diameter preserved. Radial trenching (radial to the tree trunk) is preferred because it is less harmful than tangential trenching. Wherever possible and considering applicable code requirements, the same trench should be used for multiple utilities. Any exceptions to this guideline will require the approval of the Project Arborist.
- E. If necessary, strong water pressure can be used to "tunnel" beneath roots. Roots less than two inches in diameter shall be cut with sharp pruning instruments and protected as described above until backfilled.
- F. If existing grade around trees differs from finish grade, excavation or fill within tree driplines shall be performed using hand tools only unless otherwise approved by the Project Arborist.
- G. No construction staging or disposal of construction materials or byproducts including, but not limited to, paint, plaster, or chemical solutions is allowed in the *Root Protection Zone*.
- H. When removing existing pavement in the *Root Protection Zone*, the use of heavy equipment, which will compact and damage root system, shall only be permitted if approved by the Owner's Authorized Representative or Project Arborist.
- I. No water shall at any time be placed on or near the crown of existing trees.
- 3.04 ROOT PRUNING
- A. Initial root cuts at known points of excavation are best accomplished using equipment specifically designed for root cutting. One method to obtain clean root cuts is to use a Vermeer 507X root pruning machine, making final cuts (if necessary) using a chainsaw with outside blades or pruning loppers if roots are small. Roots shall be cut at a 90-degree angle to expose the least amount of surface area as possible. Exposed roots shall be protected as outlined above. Pruning of roots exceeding 2 inches in diameter shall be monitored by the Project Arborist.
- B. INSPECTIONS
1. Inspections of protective fencing. The Project Arborist or Owner's Authorized Representative shall inspect the location of protective fencing to verify placement and approval of materials prior to the commencement of demolition or construction.
- C. PRUNING
1. Pruning for equipment clearance and to accommodate building construction shall be performed by Owner. No pruning shall be performed by the contractor.
2. Contractor shall advise the owner (if additional pruning is necessary, providing 72 hours' notice).
- D. Pre-construction meeting: The Owner, Architect, Project Arborist, and Contractor will attend an on-site pre-construction meeting to discuss tree protection with the site superintendent, grading equipment contractors, and demolition crew.
- F. Special activity in the *Root Protection Zone*: Any unauthorized work within the *Root Protection Zone* shall be monitored by the Project Arborist.
- G. Periodic inspections: The Project Arborist will perform frequent inspections during the construction process to assure adherence to tree protection measures.
- END OF SECTION



- LEGEND**
- PROTECT IN PLACE
 - △ REMOVE OAK TREE
 - x— CHAIN-LINK FENCE TREE PROTECTION APPROXIMATE LOCATION



KEY PLAN

PERKINS EASTMAN ARCHITECTS PC
1100 Liberty Avenue
Pittsburgh, PA
15222-4240
412-456-0900
Fax: 412-456-0906

Owner:
THE EPISCOPAL HOMES COMMUNITIES
1428 S MARENGO AVENUE
ALHAMBRA, CA 91803

Civil / Site:
RF CONSULTING
ANNA C. GRIMES P.E.
5251 VERDEGADO WAY, SUITE 300
CAMARILLO, CA 93012

Planning:
CAROLYN INGRAM SEITZ AND ASSOCIATES
P.O. BOX 265
ALTADENA, CA 91003

Structural:
KPFF CONSULTING ENGINEERS
TIM HEIMAN, S.E.
1160 BATTERY STREET
SAN FRANCISCO, CA 94111

PROJECT TITLE:
MONTECEDRO

LA COUNTY PROJECT
NO. R2007-02030
2212 EL MOLINO AVE.
2141 - 2215 CRAWFORD AVENUE
850 E. CALAVERAS STREET
805 - 813 ALAMEDA STREET
ALTADENA, CALIFORNIA
PROJECT No: 27801.00
DRAWING TITLE:
OAK TREE PROTECTION PLAN
CUP F2007-00146(5)

SCALE: 1"=30'

C-101

NOT FOR CONSTRUCTION

08/18/2008