GALLAWAY
CONSULTING
A DIVISION OF NORTHSTAR ENGINEERING

March 27, 2009

Raney Planning and Management
Attn: Nick Pappani
1401 Halyard Drive, Suite 120
West Sacramento, CA 95691

Re: Timberline Project Canopy Cover Assessment and Oak Woodlands Impact Evaluation (GCI # 2008-052)

Dear Mr. Pappani,

As requested, Gallaway Consulting, Inc. (GCI) conducted a canopy cover assessment and evaluation of proposed impacts to the oak woodland within the Timberline survey area (survey area), Placer County, CA.

Biological Setting

The survey area is located within the Auburn U.S Geological Survey 7.5 minute quadrangle in Section 29, T13N, R8E, and encompasses approximately 120 acres. The survey area occurs within valley foothill grassland and mixed oak-grey pine woodland associated with the Sierra Nevada Mountain Range. The survey area is surrounded by residential and commercial buildings, and Bell Road occurs as the site's southern-most boundary. Multiple trails and dirt roads traverse the survey area, which are currently used as jogging trails. Additionally, one dirt road follows an irrigation ditch, which flows from east to northwest across the survey area.

Methodology

An evaluation of aerial images using remote sensing techniques was used to estimate total canopy area. Color gradients on aerial photographs were associated with different vegetative communities on the site. Once specific gradients were assigned to the tree species occurring onsite, the total area of canopy cover within the survey area was calculated (**Attachment A**). Proposed loss of tree canopy was estimated through a comparison of canopy cover distribution and the site plans provided (**Attachment B**). Additionally, per discussion with the County (Pers. Com. Mike Wells) a buffer of one foot from the proposed project envelope was used to further calculate impacts to oak woodland. Pockets of isolated woodland, approximately one acre or less in area, created by the project envelope were also included on the map as *Potentially Impacted Canopy* per Placer County guidelines. Locations of significant trees within the survey area were obtained in part from GPS data obtained from GCI arborist Elena Alfieri (WE-8033-A) in 2008 and in part from coordinates provided by ECORP Consulting, Inc in a letter report dated August 17, 2007 (**Attachment C**).

Results

A total of 52.65 acres of canopy cover occurs within the survey area (**Attachment A**). This accounts for approximately 44 percent of the entire site. Overlaying the proposed site plan with the canopy cover determined that a total of 21.34 acres of canopy would be directly impacted by the Timberline Project (Project). An additional 1.02 acre of impacts to canopy within the one foot buffer of the construction zone is anticipated to occur, creating a total of 22.36 acres of impacts to canopy within the survey area (**Attachment B**). This leaves a total of 30.30 acres of canopy which will be potentially retained within the survey area depending upon the Project's specific grading plan. Of the estimated 30.3 acres of canopy retained, approximately 10.92 acres would become isolated into pockets measuring less than one acre and potentially indirectly impacted by the Project. Once again, the area of potentially impacted canopy would depend on specific grading plans and whether the County considers the nature of the facilities that would result in the isolation. For example, some areas of canopy would be isolated by buildings and roadways, while other areas would be isolated by pedestrian trails. Thus, the areas of isolated canopy measuring less than one acre are identified as potentially impacted canopy that may need to be mitigated for at the discretion of the County (**Attachment D**).

According to the Placer County *Interim Guidelines for Evaluating Development Impacts on Oak Woodland*, mitigation for loss of oak woodland must be achieved off-site either through the preservation of land equivalent to twice the acreage of oak woodland lost, or through payment into an in-lieu fee fund set up by the County at $24,000 for each acre of oak woodland lost. In addition, for every significant tree (24 inch dbh or greater) lost, the County is requiring payment of $100 per an inch of dbh lost. A total of 22.36 acres of oak woodland impacts would need to be mitigated for according to the current site plan. Determination of impacts to significant trees will require tree specific canopy data and specific grading and tree retention plans which were not provided by the client at this time; however, a map displaying the approximate locations of significant trees in relation to the project site plan is provided as **Attachment C**.

If you have any questions, please feel free to call me at (530) 343-8327.

Sincerely,

Elena Alfieri
Botanist/Arborist

Encl: **Attachments A, B, C & D**

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References

California Department of Fish and Game. 2001. Oak Guidelines 2001. Sacramento, CA.

Placer County. 1987. Tree Ordinance. Placer County, CA.

Placer County. 1994. Placer County General Plan: Article 12.16. Placer County, CA.

Placer County. 1999. Auburn Bowman Community Plan. Adopted 1994, updated 1999. Placer County, CA.

Placer County. 2005. Draft Placer County Conservation Plan. Placer County, CA.

Mayer, K.E. and W.F. Laudenslayer. 1988. A Guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. Sacramento, CA.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, CA.

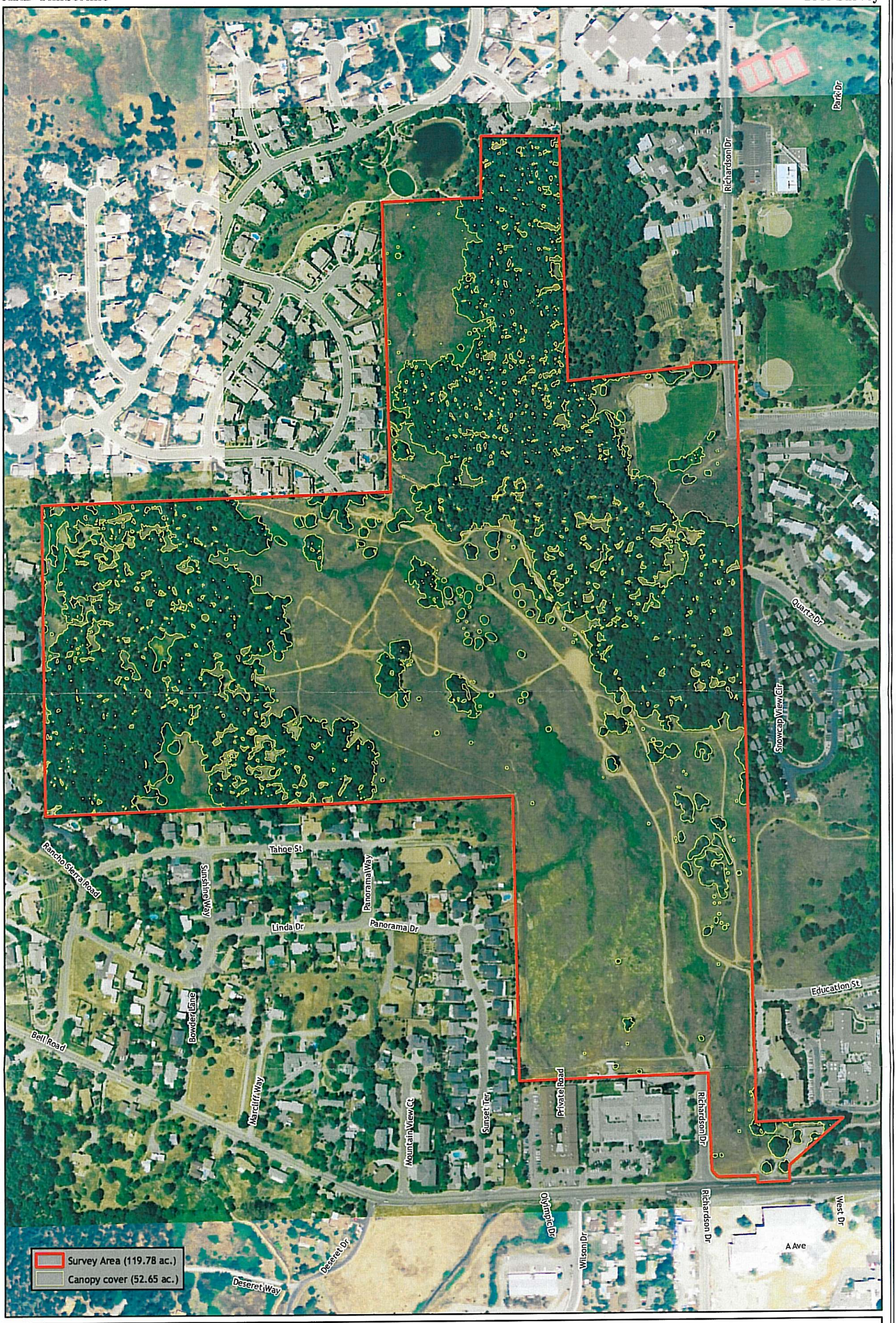
Personal Communication

Wells, Mike. Placer County Planner. October 29, 2008. Phone call with GCI Planner Jim McKay regarding the Placer County tree ordinances and requirements to gain a tree removal permit. (530) 745-3024.

ATTACHMENT A

CANOPY COVER MAP

ARD Timberline **Tree Survey**



Project Site outline provided by Land Architecture
Arborist survey by EA, TL (10/08/2008)
Aerial: 2005 (NAIP)
Map date: 10/20/2008

Feet
0 200 400

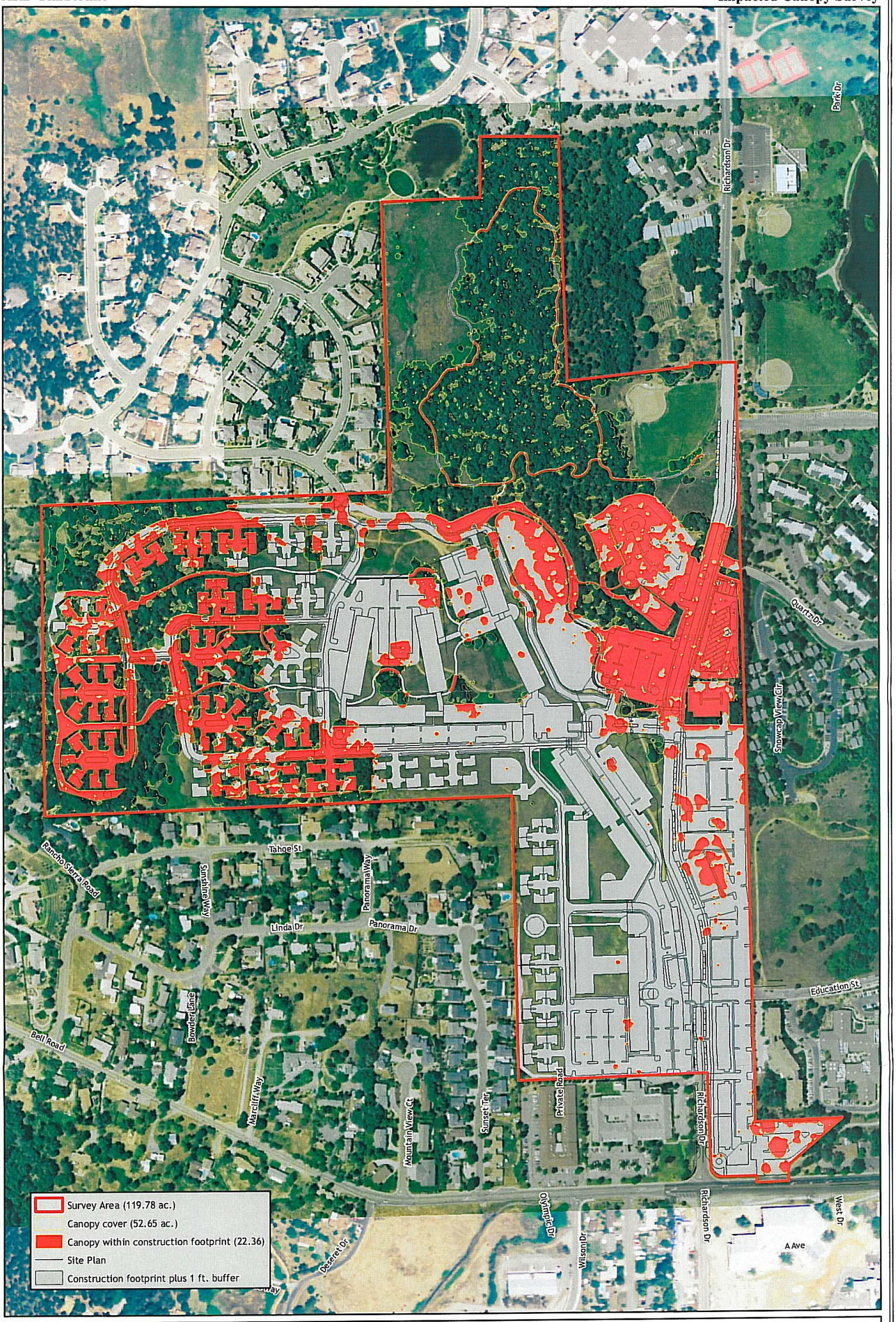
GALLAWAY CONSULTING, INC.

Attachment A

ATTACHMENT B

OAK WOODLAND IMPACTS MAP

ARD Timberline **Impacted Canopy Survey**



Grading Plan provided by Morton & Pitalo.
Site Plan provided by Land Architecture & Raney Planning Management
Arborist survey by EA, TL (10/08/2008)
Aerial: 2005 (NAIP), Microsoft Virtual Earth
Map date: 11/18/2008

Feet
0 200 400

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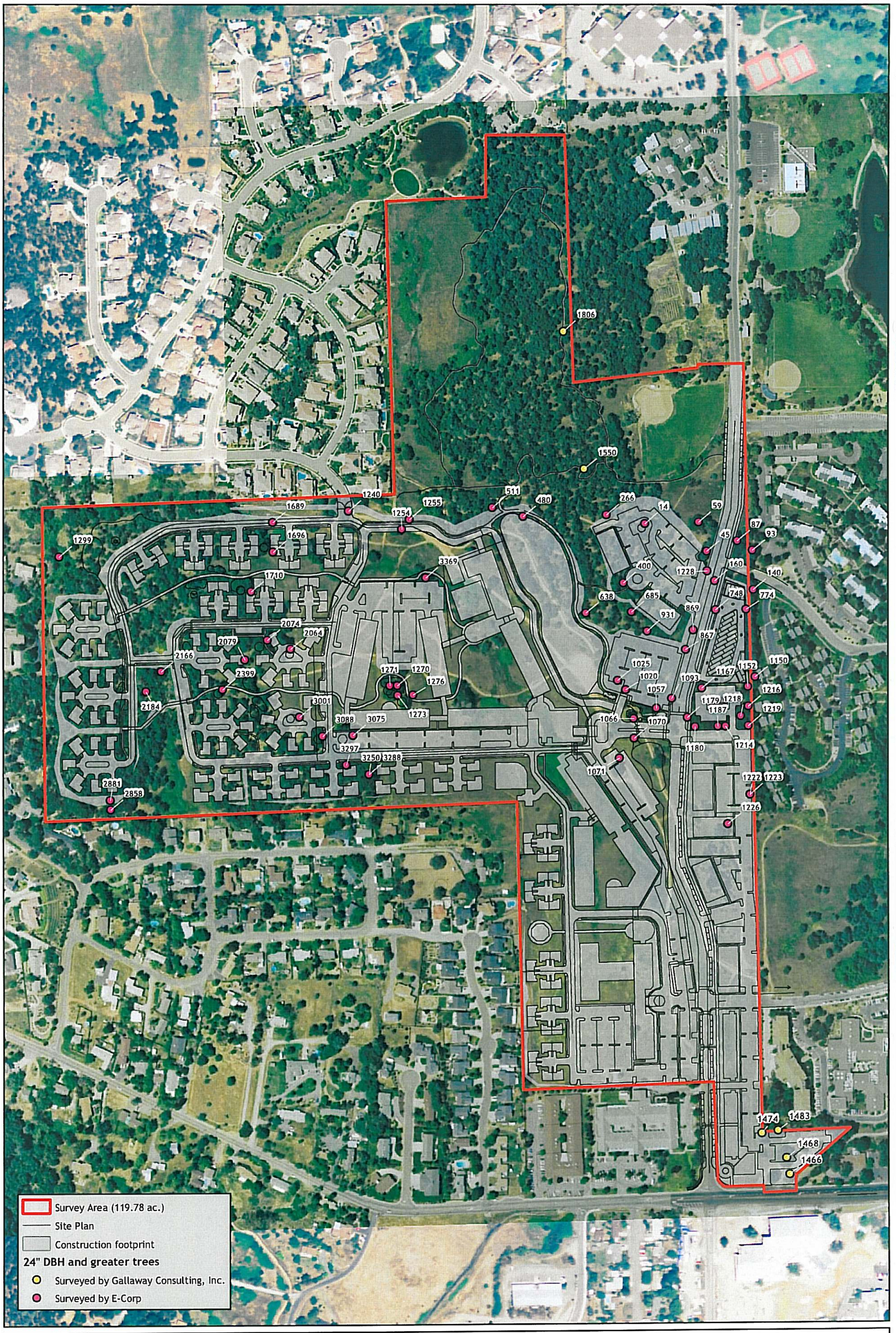
Attachment B

ATTACHMENT C

SIGNIFICANT TREE LOCATION MAP

ARD Timberline **24" DBH and Greater Trees**



Grading Plan provided by Morton & Pitalo.
Site Plan provided by Land Architecture & Raney Planning Management
Arborist survey in trail area by EA, TL (10/08/2008)
Trees in construction area surveyed by E-Corp (2004)
Aerial: 2005 (NAIP), Microsoft Virtual Earth
Map date: 12/2/2008

Feet
0 200 400

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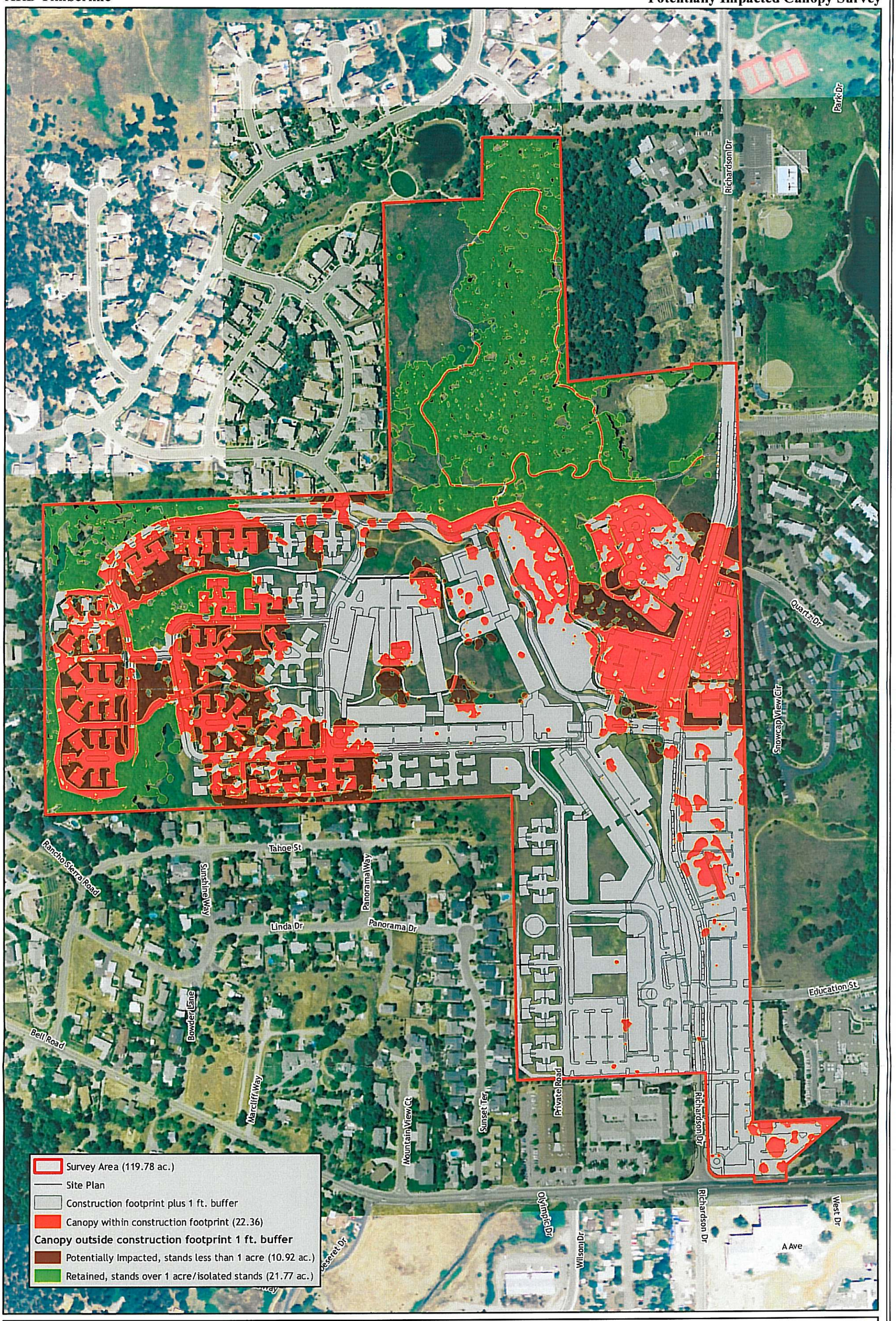
Attachment C

ATTACHMENT D

CANOPY IMPACTS MAP INCLUDING LESS THAN 1 ACRE ISOLATED WOODLAND

ARD Timberline **Potentially Impacted Canopy Survey**



Grading Plan provided by Morton & Pitalo
Site Plan provided by Land Architecture & Raney Planning Management
Arborist survey by EA, TL (10/08/2008)
Aerial: 2005 (NAIP), Microsoft Virtual Earth
Map date: 11/18/2008

Feet
0 200 400

GALLAWAY CONSULTING, INC.

Attachment D