



# County of Santa Cruz

## PLANNING DEPARTMENT

701 OCEAN STREET, 4<sup>TH</sup> FLOOR, SANTA CRUZ, CA 95060  
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123  
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

[www.sccoplanning.com](http://www.sccoplanning.com)

### NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION

#### NOTICE OF PUBLIC REVIEW AND COMMENT PERIOD

Pursuant to the California Environmental Quality Act, the following project has been reviewed by the County Environmental Coordinator to determine if it has a potential to create significant impacts to the environment and, if so, how such impacts could be solved. A Negative Declaration is prepared in cases where the project is determined not to have any significant environmental impacts. Either a Mitigated Negative Declaration or Environmental Impact Report (EIR) is prepared for projects that may result in a significant impact to the environment.

Public review periods are provided for these Environmental Determinations according to the requirements of the County Environmental Review Guidelines. The environmental document is available for review at the County Planning Department located at 701 Ocean Street, in Santa Cruz. You may also view the environmental document on the web at [www.sccoplanning.com](http://www.sccoplanning.com) under the Planning Department menu. If you have questions or comments about this Notice of Intent, please contact Matt Johnston of the Environmental Review staff at (831) 454-3201

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of a disability, be denied the benefits of its services, programs or activities. If you require special assistance in order to review this information, please contact Bernice Romero at (831) 454-3137 (TDD number (831) 454-2123 or (831) 763-8123) to make arrangements.

#### PROJECT: PASATIEMPO WATER STORAGE TANK

APP #: 141215

APN(S): 060-011-02

**PROJECT DESCRIPTION:** The proposal includes the following: construction of a 500,000 gallon water tank for storage of tertiary treated non-potable water, on-site well water, and City of Santa Cruz Water Department water for irrigation of the Pasatiempo Golf Course; construction of a 625 square foot pump house; maintenance access road off of Sims Road; and 230 square foot restroom and associated leach field for golf course use; landscape screening; and approximately 2,699 cubic yards of cut and 1,710 cubic yards of fill. The proposal requires an Commercial Development Permit, Preliminary Grading Approval, and Environmental Review.

**PROJECT LOCATION:** The project is located on the south side of Sims Road, 300 feet east of Graham Hill Road.

**EXISTING ZONE DISTRICT:** PR-O

**APPLICANT:** Steve Sutherland, SSA Architects

**OWNER:** PASATIEMPO INC.

**PROJECT PLANNER:** Sheila McDaniel, (831) 454-2255

**EMAIL:** [Sheila.McDaniel@santacruzcounty.us](mailto:Sheila.McDaniel@santacruzcounty.us)

**ACTION:** Negative Declaration

**REVIEW PERIOD:** February 10, 2015 through March 11, 2015

This project will be considered administratively by the Project Planner at the conclusion of the Review Period.



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### NEGATIVE DECLARATION

**Project: Pasatiempo Water Storage**  
**APN(S): 060-011-02**

**Project Description:** The proposal includes the following: construction of a 500,000 gallon water tank for storage of tertiary treated non-potable water, on-site well water, and City of Santa Cruz Water Department water for irrigation of the Pasatiempo Golf Course; construction of a 625 square foot pump house; maintenance access road off of Sims Road; and 230 square foot restroom and associated leach field for golf course use; landscape screening; and approximately 2,699 cubic yards of cut and 1,710 cubic yards of fill. The proposal requires an Commercial Development Permit, Preliminary Grading Approval, and Environmental Review.

**Project Location:** The project is located on the south side of Sims Road, 300 feet east of Graham Hill Road.

**Owner: Pasatiempo Inc.**

**Applicant: Steve Sutherland, SSA Architects**

**Staff Planner: Sheila McDaniel, (831) 454-2255** email: [sheila.mcdaniel@santacruzcounty.us](mailto:sheila.mcdaniel@santacruzcounty.us)

**This project will be considered administratively by the Project Planner at the conclusion of the review period.**

#### California Environmental Quality Act Negative Declaration Findings:

Find, that this Negative Declaration reflects the decision-making body's independent judgment and analysis, and; that the decision-making body has reviewed and considered the information contained in this Negative Declaration and the comments received during the public review period, and; on the basis of the whole record before the decision-making body (including this Negative Declaration) that there is no substantial evidence that the project will have a significant effect on the environment. The expected environmental impacts of the project are documented in the attached Initial Study on file with the County of Santa Cruz Clerk of the Board located at 701 Ocean Street, 5<sup>th</sup> Floor, Santa Cruz, California.

Review Period Ends: March 11, 2015

Date: \_\_\_\_\_

\_\_\_\_\_  
TODD SEXAUER, Environmental Coordinator  
(831) 454-3511



# County of Santa Cruz

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## CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ENVIRONMENTAL REVIEW INITIAL STUDY

**Date:** January 5, 2015

**Application Number:** 141215

**Staff Planner:** Sheila McDaniel

### I. OVERVIEW AND ENVIRONMENTAL DETERMINATION

**APPLICANT:** Steve Sutherland, SSA  
Architects

**APN(s):** 060-011-02

**OWNER:** Pasatiempo Inc.

**SUPERVISORAL DISTRICT:** 5

**PROJECT LOCATION:** The project is located on the south side of Sims Road, 300 feet east of Graham Hill Road.

**SUMMARY PROJECT DESCRIPTION:** The proposal includes the following: construction of a 500,000 gallon water tank for storage of tertiary treated non-potable water, on-site well water, and City of Santa Cruz Water Department water for irrigation of the Pasatiempo Golf Course; construction of a 625 square foot pump house; maintenance access road off of Sims Road; and 230 square foot restroom and associated leach field for golf course use; landscape screening; and approximately 2,699 cubic yards of cut and 1,710 cubic yards of fill. The proposal requires a Commercial Development Permit, Preliminary Grading Approval, and Environmental Review.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:** All of the following potential environmental impacts are evaluated in this Initial Study. Categories that are marked have been analyzed in greater detail based on project specific information.

- |  |  |
|--|--|
| <input type="checkbox"/> Geology/Soils                                   | <input type="checkbox"/> Noise                       |
| <input checked="" type="checkbox"/> Hydrology/Water Supply/Water Quality | <input checked="" type="checkbox"/> Air Quality      |
| <input type="checkbox"/> Biological Resources                            | <input type="checkbox"/> Greenhouse Gas Emissions    |
| <input type="checkbox"/> Agriculture and Forestry Resources              | <input type="checkbox"/> Public Services             |
| <input type="checkbox"/> Mineral Resources                               | <input type="checkbox"/> Recreation                  |
| <input checked="" type="checkbox"/> Visual Resources & Aesthetics        | <input type="checkbox"/> Utilities & Service Systems |
| <input checked="" type="checkbox"/> Cultural Resources                   | <input type="checkbox"/> Land Use and Planning       |
| <input type="checkbox"/> Hazards & Hazardous Materials                   | <input type="checkbox"/> Population and Housing      |

- Transportation/Traffic  Mandatory Findings of Significance

**DISCRETIONARY APPROVAL(S) BEING CONSIDERED:**

- General Plan Amendment  Coastal Development Permit  
 Land Division  Grading Permit  
 Rezoning  Riparian Exception  
 Development Permit  Other:

**NON-LOCAL APPROVALS**

Other agencies that must issue permits or authorizations:

Regional Water Quality Control Board Permit, State Water Resources Control Board Approval, City of Scotts Valley Will Serve, and City of Santa Cruz Water Department Will Serve

**DETERMINATION:** (To be completed by the lead agency)

On the basis of this initial evaluation:

- I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

  
\_\_\_\_\_  
Todd Sexauer  
Environmental Coordinator

2/6/15  
\_\_\_\_\_  
Date

## II. BACKGROUND INFORMATION

### EXISTING SITE CONDITIONS

Parcel Size: 35 acres

Existing Land Use: Golf Course

Vegetation: Turf

Slope in area affected by project:  0 - 30%  31 - 100%

Nearby Watercourse: Powder Mill Creek

Distance To: Approximately 1900 feet to Powder Mill Creek

### ENVIRONMENTAL RESOURCES AND CONSTRAINTS

Water Supply Watershed: No

Groundwater Recharge: Yes, portion

Timber or Mineral: No

Agricultural Resource: No

Biologically Sensitive Habitat: No

Fire Hazard: No

Floodplain: No

Erosion: No

Landslide: No

Liquefaction: Low

Fault Zone: No

Scenic Corridor: No

Historic: No

Archaeology: Mapped

Noise Constraint: N/A

Electric Power Lines: No

Solar Access: N/A

Solar Orientation: N/A

Hazardous Materials: No

Other:

### SERVICES

Fire Protection: Scotts Valley Fire Protection

School District: SVUSD

Sewage Disposal: Septic

Drainage District: Outside flood zone district

Project Access: Sims Road

Water Supply: City of Santa Cruz Water Department; City of Scotts Valley

### PLANNING POLICIES

Zone District: PR-O

General Plan: O-R

Urban Services Line:  Inside

Coastal Zone:  Inside

Special Designation: None

Outside

Outside

### ENVIRONMENTAL SETTING AND SURROUNDING LAND USES:

The subject property contains the Pasatiempo Golf Course. The improvement area is located north of the 13<sup>th</sup> green on the south side of Sims Road between residential properties located to the east and west of the golf course. This portion of the property is currently a maintenance area for storage of course materials including sand and mulch. This area is enclosed by a 6 foot chain link fence that follows the property line along Sims Road and adjacent residential properties. Existing trees and shrubs located inside the fence line provide screening of the fence along Sims Road. A concrete lined v-ditch is located alongside Sims Road and existing property line fence directing runoff to a private culvert located on the southwest edge of the subject property.

## **PROJECT BACKGROUND:**

The Pasatiempo Golf Course is provided potable water from the City of Santa Cruz Water Department for course irrigation and facilities. During drought conditions the City of Santa Cruz significantly cuts back water available to the course, which significantly limits the ability of Pasatiempo to maintain necessary course irrigation.

Pasatiempo has taken measures to reduce water consumption by changing the course to a links style course, including native grasses along course edges and firmer greens, thereby reducing irrigation requirements. However, this is not enough to meet irrigation demand. In an effort to ensure that irrigation water is available during drought years, Pasatiempo Golf Course, in coordination with the City of Scotts Valley, has obtained a preliminary memorandum of agreement (Attachment 11) allowing use of non-potable recycled water from the City's waste water treatment plant. Currently, the City of Scotts Valley does not have enough customers for the available recycled water and is directing excess recycled water to the ocean via an outfall pipeline traveling along Sims Road.

## **PROJECT DESCRIPTION:**

The proposed 500,000 gallon water tank would provide storage of tertiary treated non-potable water available from the Scotts Valley Wastewater Treatment Facility, on-site well water and City of Santa Cruz Water Department water. The Scotts Valley Wastewater Treatment Facility outfall line extends from Scotts Valley down Graham Hill Road to the ocean. A Utility connection to the existing Scotts Valley Waste Water recycling facility outfall line is proposed to an existing utility stub-out located on Sims Road at the property line. A utility connection stub-out is also located on Deer Path Road for proposed overflow of non-potable water into the existing outfall line from the water tank during severe storm events.

The water is proposed to be treated to the tertiary level by the City of Scotts Valley Treatment Facility prior to delivery to the subject property via the existing Scotts Valley Wastewater Facility outflow line. The outflow line would be first flushed with tertiary water, and then flushed with tertiary water treated with peracetic acid, and then finally the water tank would be filled with tertiary water. Approval of the tertiary treatment at the Scotts Valley Treatment Facility and delivery of tertiary water to the site would be required by the State Water Board and Regional Water Quality Control Board prior to construction.

The project includes a proposed 12-foot wide service driveway to Sims road with a proposed gate located 20 feet back from the roadway as required by Public Works. The driveway extends southwest to two proposed semi enclosed maintenance service bins, approximately 24.5 feet wide, for storage of sand and mulch for course maintenance. The service bins are proposed to be surrounded by a 6 foot tall retaining wall on three sides; a proposed 625 square foot pump house, approximately 22 feet by 28 feet wide and 11 feet six inches in height; and, a 230 square foot restroom building and associated leach field, approximately 14 feet 10 inches by 15.6 feet wide, and approximately 12 feet 10 inches in height, surrounded by a partially below grade water tank, approximately 74 feet wide and 24 feet in height, with approximately 8 feet of the proposed tank on the west side located above grade. The project also includes an

associated water blending value infrastructure pad, approximately 270 square feet in size.

The project requires approximately 2,699 cubic yards of cut and 1,710 cubic yards of fill and requires off-haul of approximately 989 cubic yards. Plans call for removal of one 42 inch oak tree in the vicinity of the proposed water tank. Two other large oak trees, a 42 inch and 48 inch tree, are proposed for retention and would be protected during grading. Existing vegetation along the existing fence line is proposed to be retained. Grading plans provide mounding of soils around the proposed partially below grade tank and mounding on the west side of the access road to minimize off haul. Landscape plans include wildflower ground cover, eight oak trees and three big leaf maple trees interspersed with coffee berry shrubs located around the water tank for addition screening.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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### III. ENVIRONMENTAL REVIEW CHECKLIST

#### A. GEOLOGY AND SOILS

Would the project:

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   |                          |                          |                                     |                          |
| A. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| B. Strong seismic ground shaking?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| C. Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| D. Landslides?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Discussion (A through D):** The project site is located outside of the limits of the State Alquist-Priolo Special Studies Zone (County of Santa Cruz GIS Mapping, California Division of Mines and Geology, 2001). However, the project site is located approximately 6 ¼ miles northeast of the Zayante fault, approximately 8 miles off shore to the southwest of the Monterey Bay Tularcitos fault, 9.5 miles to the northeast of the San Andreas fault, 10 miles west of the San Gregorio fault, 16 miles to the northeast of the Monte-Vista Shannon fault, and 26.5 miles east of the Calaveras fault. While the San Andreas fault is larger and considered more active, each fault is capable of generating moderate to severe ground shaking from a major earthquake. Consequently, large earthquakes can be expected in the future. The October 17, 1989 Loma Prieta earthquake (magnitude 7.1) was the second largest earthquake in central California history.

A geotechnical investigation for the proposed project was performed by ENGEO INC, dated September 20, 2013 (Attachment 4). The report concluded that seismic hazards include ground shaking from the moderate to major earthquake, liquefaction as well as the occurrence of high ground water within 22 to 25 feet below ground surface, and corrosion of the tank, given below ground installation, were hazards associated with



Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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site development. The report recommended that the design meet the California Building Code to reduce potential impacts from ground shaking and corrosion, and provided additional design recommendations to address the potential for liquefaction.

Implementation of the additional requirements included in the review letter prepared by Joe Hanna and Carolyn Burke, dated November 24, 2014 (Attachment 5) will serve to further reduce the potential risk of seismic shaking.

- |    |  |                          |                          |                                     |                          |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 2. | Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** See Item A-1, above.

- |    |  |                          |                          |                                     |                          |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3. | Develop land with a slope exceeding 30%? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** There are no slopes that exceed 30% on the property.

- |    |  |                          |                          |                                     |                          |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. | Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Some potential for erosion exists during the construction phase of the project, however, this potential is minimal because erosion control plans are included in the project plans, and standard erosion controls are a required condition of the project. Prior to approval of a grading or building permit, the project must have a final approved Erosion Control Plan, which would specify detailed erosion and sedimentation control measures. The plan would include provisions for disturbed areas to be planted with ground cover and to be maintained to minimize surface erosion.

- |    |  |                          |                          |                                     |                          |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 5. | Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The geotechnical report for the project did not identify any elevated risk associated with expansive soils. See Item A-1 above.

- |    |   |                          |                          |                                     |                          |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 6. | Place sewage disposal systems in areas dependent upon soils incapable of adequately supporting the use of septic tanks, leach fields, or alternative waste water disposal systems where | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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sewers are not available?

**Discussion:** The proposed project would use an onsite sewage disposal system, and County Environmental Health Services has determined that site conditions are appropriate to support such a system.

7. Result in coastal cliff erosion?

**Discussion:** The proposed project is not located in the vicinity of a coastal cliff or bluff; and therefore, would not contribute to coastal cliff erosion.

**B. HYDROLOGY, WATER SUPPLY, AND WATER QUALITY**

Would the project:

1. Place development within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

**Discussion:** According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, May 16, 2012, no portion of the project site lies within a 100-year flood hazard area.

2. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

**Discussion:** According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Map, dated May 16, 2012, no portion of the project site lies within a 100-year flood hazard area.

3. Be inundated by a seiche, tsunami, or mudflow?

**Discussion:** A geotechnical investigation for the proposed project was performed by ENGEO INC, dated September 20, 2013 (Attachment 4). The report did not identify these as potential hazards associated with development.

4. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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or planned uses for which permits have been granted)?

**Discussion:** The applicant proposes to obtain recycled water (non-potable tertiary treatment) from the City of Scotts Valley Waste Water Reclamation Plant, on-site water, and City of Santa Cruz Water Department water for golf course irrigation and for restroom service. In addition, in the event that an agreement cannot be reached regarding tertiary treatment, the tank would store well water and City water for course irrigation. However, the project is not located in a mapped groundwater recharge area and groundwater recharge would not be impacted by the proposed project.

5. Substantially degrade a public or private water supply? (Including the contribution of urban contaminants, nutrient enrichments, or other agricultural chemicals or seawater intrusion).

**Discussion:** The project would not discharge runoff either directly or indirectly into a public or private water supply. Potential non-potable water tank overflow during storm events is proposed to be directed to the Scotts Valley recycle facility outflow line on Sims Road at Deerpath Drive. However, no commercial or industrial activities are proposed that would generate contaminants. The driveway associated with the project would incrementally contribute urban pollutants to the environment; however, the contribution would be minimal given the size of the driveway area. Potential siltation from the proposed project would be addressed through implementation of erosion control measures during construction.

6. Degrade septic system functioning?

**Discussion:** There is no indication that existing septic systems in the vicinity would be affected by the project.

7. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding, on- or off-site?

**Discussion:** The proposed project is not located near any watercourses, and would not alter the existing overall drainage pattern of the site. Department of Public Works Drainage Section staff has reviewed and approved the proposed drainage plan. Final drainage plans are required to be reviewed and approved prior to issuance of the required building permit.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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- |    |  |                          |                          |                                     |                          |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 8. | Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Department of Public Works Drainage staff (Attachment 6) has reviewed the project and has determined that existing storm water facilities are adequate to handle the increase in drainage associated with the project. Refer to response B-5 for discussion of urban contaminants and/or other polluting runoff.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 9. | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project is not located within proximity to a levee or dam.

- |     |  |                          |                          |                                     |                          |
|-----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 10. | Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|-----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project does not propose to alter existing drainage patterns on site or result in additional run-off and would not result in degradation of the surface water quality. In addition, overflow of non-potable water would be directed to the outflow line located in Deerpath Drive at Sims Road and not into the public drainage system so as not to degrade water quality.

### C. BIOLOGICAL RESOURCES

Would the project:

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. | Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game, or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Although the site is mapped as potentially containing the white-rayed pentachaeta, marsh microsersis, and zayante band-winged grasshopper, Jessica Duktig, Environmental Planning staff, confirmed the absence of biotic habitat associated with these species and absence of these species. See project comments (Attachment 6).

- |  | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact                           |
|--|--------------------------------|--|------------------------------|-------------------------------------|
| 2. Have a substantial adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations (e.g., wetland, native grassland, special forests, intertidal zone, etc.) or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

**Discussion:** Although the site is mapped as potentially containing the white-rayed pentachaeta, marsh microsersis, and zayante band-winged grasshopper, Jessica Duktig, Environmental Planning staff, confirmed the absence of biotic habitat associated with these species and absence of these species. See project comments (Attachment 6).

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native or migratory wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project does not involve any activities that would interfere with the movements or migrations of fish or wildlife, or impede use of a known wildlife nursery site.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. Produce nighttime lighting that would substantially illuminate wildlife habitats? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The subject property is located in an urbanized area and is surrounded by existing residential development that currently generates nighttime lighting. The project includes an exterior light on the restroom building that would create an incremental increase in night lighting. However, this increase would be small, and would be similar in character to the lighting associated with the surrounding existing residential uses. However, there are no sensitive animal habitats within or adjacent to the project site.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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hydrological interruption, or other means?

**Discussion:** The property does not contain wetland habitat. No impact would occur.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. | Conflict with any local policies or ordinances protecting biological resources (such as the Sensitive Habitat Ordinance, Riparian and Wetland Protection Ordinance, and the Significant Tree Protection Ordinance)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would not conflict with any local policies or ordinances.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. | Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project would not conflict with the provisions of any adopted Habitat Conservation Plan Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

#### D. AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. | Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as shown on the

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. In addition, the project does not contain Farmland of Local Importance. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide or Farmland of Local Importance would be converted to a non-agricultural use. No impact would occur from project implementation.

2. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

**Discussion:** The project site is zoned Existing Parks and Recreation-Open Space, which is not considered to be an agricultural zone. Additionally, the project site's land is not under a Williamson Act Contract. Therefore, the project does not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impact is anticipated.

3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

**Discussion:** The project is not adjacent to land designated as Timber Resource.

4. Result in the loss of forest land or conversion of forest land to non-forest use?

**Discussion:** No forest land occurs on the project site or in the immediate vicinity. No impact is anticipated.

5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

**Discussion:** The project site and surrounding area do not contain any lands designated as Prime Farmland, Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. Therefore, no Prime Farmland, Unique Farmland, Farmland of Statewide, or Farmland of Local Importance would be converted to a non-agricultural use. In addition, the

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project site contains no forest land, and no forest land in proximity to the proposed project site. Therefore, no impacts are anticipated.

**E. MINERAL RESOURCES**

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The site does not contain any known mineral resources that would be of value to the region and the residents of the state. Therefore, no impact is anticipated from project implementation.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is zoned Existing Parks and Recreation-Open Space, which is not considered to be an Extractive Use Zone (M-3) nor does it have a Land Use Designation with a Quarry Designation Overlay (Q) (County of Santa Cruz 1994). Therefore, no potentially significant loss of availability of a known mineral resource of locally important mineral resource recovery (extraction) site delineated on a local general plan, specific plan or other land use plan would occur as a result of this project.

**F. VISUAL RESOURCES AND AESTHETICS**

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Have an adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would not directly impact any public scenic resources, as designated in the County's General Plan (1994), or obstruct any public views of these visual resources.

Although the subject property is not a designated scenic resource, the only views of the proposed improvements that would be affected by the project are those from private property. County visual resource protection regulations only apply to public viewsheds. Notwithstanding, the plans include landscape screening plants to screen views from private property. Impacts would not be significant.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Substantially damage scenic resources, within a designated scenic corridor or public view shed area including, but not limited to, trees, rock outcroppings, and historic buildings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|



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within a state scenic highway?

**Discussion:** The project site is not located along a County designated scenic road, public viewshed area, scenic corridor, within a designated scenic resource area, or within a state scenic highway. Therefore, no impact is anticipated.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3. Substantially degrade the existing visual character or quality of the site and its surroundings, including substantial change in topography or ground surface relief features, and/or development on a ridgeline? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** This site was previously graded for development of the golf course and the existing visual setting is comprised of two turf mounds located north of the 13<sup>th</sup> green and east of the 14<sup>th</sup> tee. The existing topographical contours would be altered in the areas of the existing mounds for the placement of most of the water tank below grade and there would be an approximately 5 foot increase in the topographical elevation of these mounds. However, the project also includes landscaping that would screen the proposed alterations and minimize impacts of ground surface alterations to less than significant.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project includes an exterior light on the building that would create an incremental increase in night lighting. However, this increase would be small, and would be similar in character to the lighting associated with the surrounding existing residential uses.

### G. CULTURAL RESOURCES

Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** There are no historical resources within the project area. No impact would occur.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Archaeological Resource Evaluation, prepared by Archaeological Application Number: 141215

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Resource Management, dated October 30, 2014 (Attachment 7) identified the absence of archaeological resources. Archaeological Report Review, prepared by Jessica Duktig, dated November 4, 2014 accepted the report (Attachment 8). However, pursuant to Section 16.40.040 of the Santa Cruz County Code, if archeological resources are uncovered during construction, the responsible persons shall immediately cease and desist from all further site excavation and comply with the notification procedures given in County Code Chapter 16.40.040.

3. Disturb any human remains, including those interred outside of formal cemeteries?

**Discussion:** See Item G-2. Pursuant to Section 16.40.040 of the Santa Cruz County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this project, human remains are discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the sheriff-coroner and the Planning Director. If the coroner determines that the remains are not of recent origin, a full archeological report shall be prepared and representatives of the local Native California Indian group shall be contacted. Disturbance shall not resume until the significance of the archeological resource is determined and appropriate mitigations to preserve the resource on the site are established.

4. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

**Discussion:** No paleontological resources are mapped in the project area.

#### H. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

1. Create a significant hazard to the public or the environment as a result of the routine transport, use or disposal of hazardous materials?

**Discussion:** The project does not involve the routine transport, use or disposal of hazards materials.

2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

**Discussion:** The project would receive tertiary treated water from the City of Scotts

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Valley for irrigation of the golf course. This would require approval by the State Water Resources Control Board and the Regional Water Quality Control Board (Attachment 6) and is not expected to create a significant hazard to the public. No hazardous chemicals are required to treat water on site. Therefore, impacts would be less than significant.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** See H-3.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 4. | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project site is not included on the September 24, 2014 list of hazardous sites in Santa Cruz County compiled pursuant to the specified code.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The subject property is not located within an airport land use plan or located within 2 miles of a public airport.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. | For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The subject property is not located within the vicinity of a private airstrip.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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**Discussion:** The proposed improvements are located on private property and would not interfere with emergency evacuation on public streets or affect emergency response.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 8. | Expose people to electro-magnetic fields associated with electrical transmission lines? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project does not propose electrical transmission lines.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 9. | Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project design incorporates all applicable fire safety code requirements and includes fire protection devices as required by the local fire agency.

## I. TRANSPORTATION/TRAFFIC

Would the project:

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. | Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Existing maintenance vehicles access the site to drop mulch and sand at the subject property for golf course maintenance. The project includes a maintenance driveway to accommodate the existing vehicles. The project is not anticipated to result in additional traffic to the property.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. | Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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**Discussion:** The project does not include air traffic.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. | Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project includes a curb cut along Sims road. However, the proposed curb cut is located in a straight section of roadway where sight distance would not be impacted. Therefore, no hazards are proposed by this feature.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 4. | Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project's road access meets minimum County standards and has been approved by the Scotts Valley Fire Protection District.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. | Cause an increase in parking demand which cannot be accommodated by existing parking facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project scope does not involve commercial or residential square footage subject to parking requirements and therefore no new parking demand is anticipated by the project.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. | Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project includes a minimum 12-foot curb cut on Sims Road for ingress and egress of service vehicles and therefore would comply with current road requirements to prevent potential hazards to motorists, bicyclists, and/or pedestrians.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. | Exceed, either individually (the project alone) or cumulatively (the project combined with other development), a level of service standard established by the County General Plan for designated intersections, roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** See response I-1 above.

Potentially Significant Impact      Less than Significant with Mitigation Incorporated      Less than Significant Impact      No Impact

**J. NOISE**

Would the project result in:

- 1. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

**Discussion:**

County of Santa Cruz General Plan

The Santa Cruz County General Plan (County of Santa Cruz 1994) contains the following table, which specifies the maximum allowable noise exposure for stationary noise sources (Table 2). The County of Santa Cruz has not adopted noise thresholds for construction noise.

The following applicable noise related policy is found in the Public Safety and Noise Element of the Santa Cruz County General Plan (Santa Cruz County 1994).

- Policy 6.9.4 Commercial and Industrial Development. For all new commercial and industrial developments which would increase noise levels above the maximum allowable standards of the Land Use Compatibility Guidelines in Figure 6-1, or Figure 6-2, the best available control technologies will be used to minimize noise levels. In no case shall the noise levels exceed the standards of Figure 6-2.

Table 2: Maximum Allowable Noise Exposure for Stationary Noise Sources <sup>1</sup>		
	Daytime <sup>5</sup> (7:00 am to 10:00 pm)	Nighttime <sup>2, 5</sup> (10:00 pm to 7:00 am)
Hourly Leq average hourly noise level, dB <sup>3</sup>	50	45
Maximum Level, dB <sup>3</sup>	70	65
Maximum Level, dB – Impulsive Noise <sup>4</sup>	65	60

Notes:

- 1 As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied to the receptor side of noise barriers or other property line noise mitigation measures.
- 2 Applies only where the receiving land use operates or is occupied during nighttime hours
- 3 Sound level measurements shall be made with "slow" meter response.
- 4 Sound level measurements shall be made with "fast" meter response
- 5 Allowable levels shall be raised to the ambient noise levels where the ambient levels exceed the allowable levels. Allowable levels shall be reduced to 5 dB if the ambient hourly Leq is at least 10 dB lower than the allowable level.

Source: County of Santa Cruz 1994

Sensitive Receptors

Some land uses are generally regarded as being more sensitive to noise than others due to the type of population groups or activities involved. Sensitive population groups generally include children and the elderly. Noise sensitive land uses typically include

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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all residential uses (single- and multi-family, mobile homes, dormitories, and similar uses), hospitals, nursing homes, schools, and parks.

Graham Hill Road and Sims Road are located adjacent to the project site and are the existing primary sources of noise in the project vicinity. With an approximate average daily trips (ADT) of 4,500, Sims Road is expected to produce no more than 60 dB L<sub>dn</sub> at 50 feet from the centerline of the roadway. At 15,572 ADT, Graham Hill Road is expected to produce approximately 65 dB L<sub>dn</sub> at 50 feet from the centerline of the roadway.

Noise sources normally measured at a distance of 50 feet, are used to determine the noise levels at nearby sensitive receptors by attenuating 6 dB for each doubling of distance for point sources of noise such as operating equipment. The noise level was analyzed at the property line of the nearest sensitive receptor, which is located approximately 105 feet to the east of the pump house.

Impacts

The project proposes to construct a 625 square foot pump house containing three 50 HP electric pumps each producing 65 dBA at 1 meter (see Attachment 9) with a combined noise level of 74 dBA at 1 meter without considering the decibel reduction from the concrete walled pump house. At that distance, the decibel level is reduced by approximately 30 dB to 44 dB. This is below both the nighttime hourly Leq of 45 dB and the maximum nighttime level of 65 dB. With the inclusion of the 8-inch thick concrete walled pump house, noise levels would be reduced by approximately 50 dB. As a result, no perceivable noise increase (approximately 4 dBA) would be heard by area residents. No noise impact from operation of the pump house is expected.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. | Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project does not propose groundborne vibration or noise associated with the project. No impact is anticipated.

- |    |  |                          |                          |                                     |                          |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3. | Exposure of persons to or generation of noise levels in excess of standards established in the General Plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** See Item J-1.

- |    |   |                          |                          |                                     |                          |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. | A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** Noise generated during construction would increase the ambient noise

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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levels for adjoining areas. Construction would be temporary, however, and given the limited duration of this impact it is considered to be less than significant with standard construction noise controls.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project is not located within an airport land use plan or within two miles of an airport.

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 6. | For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project is not located within the vicinity of a private airstrip.

#### K. AIR QUALITY

Where available, the significance criteria established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD) may be relied upon to make the following determinations. Would the project:

- |    |   |                          |                          |                                     |                          |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 1. | Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The North Central Coast Air Basin does not meet state standards for ozone and particulate matter (PM<sub>10</sub>). Therefore, the regional pollutants of concern that would be emitted by the project are ozone precursors (Volatile Organic Compounds [VOCs] and nitrogen oxides [NO<sub>x</sub>]), and dust.

Given the modest amount of new traffic, if any at all, that would be generated by the project there is no indication that new emissions of VOCs or NO<sub>x</sub> would exceed MBUAPCD thresholds for these pollutants and therefore there would not be a significant contribution to an existing air quality violation.

Project construction may result in a short-term, localized decrease in air quality due to generation of dust. However, standard dust control best management practices, such as periodic watering, would be implemented during construction to reduce impacts to a less than significant level.



- |   | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant Impact | No Impact                           |
|---|--------------------------------|--|------------------------------|-------------------------------------|
| 2. Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/>       | <input type="checkbox"/>                           | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

**Discussion:** The project would not conflict with or obstruct implementation of the regional air quality plan.

- |   |                          |                          |                                     |                          |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** See K-1 above.

- |  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 4. Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** See K-1 above

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The project would receive tertiary treated water from the City of Scotts Valley. Water quality is regulated by the State Water Resources Control Board and the Regional Water Quality Control Board. These agencies require the submittal of a Title 22 Water Quality Report addressing issues associated with tertiary treatment of water, including compliance with water quality standards requiring that odors do not emanate from the treatment facility or from the treated water. Final approval by the Regional Water Quality Control Board Permit is required prior to water connection. Therefore, no odor is expected to emanate from irrigation of the golf course resulting from the use of tertiary treated water.

## L. GREENHOUSE GAS EMISSIONS

Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project, like all development, would be responsible for an incremental increase in greenhouse gas emissions by usage of fossil fuels during the site grading and construction. However, using tertiary treated reclaimed water would reduce greenhouse gas emissions below that of potable water use.

At this time, Santa Cruz County is in the process of developing a Climate Action Plan

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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(CAP) intended to establish specific emission reduction goals and necessary actions to reduce greenhouse gas levels to pre-1990 levels as required under AB 32 legislation. Until the CAP is completed, there are no specific standards or criteria to apply to this project. All project construction equipment would be required to comply with the Regional Air Quality Control Board emissions requirements for construction equipment. As a result, impacts associated with the temporary increase in green house gas emissions would not be significant.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** See the discussion under L-1 above. No impacts are anticipated.

**M. PUBLIC SERVICES**

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: |                          |                          |                          |                                     |
| a. Fire protection?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b. Police protection?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c. Schools?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d. Parks or other recreational activities?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e. Other public facilities; including the maintenance of roads?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion (a through e):** The proposed water tank would not result in the need for additional services. Moreover, the project meets all of the standards and requirements

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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identified by the local fire agency. Furthermore, the project is conditioned to comply with service requirements of the reviewing agencies including the Scotts Valley Fire Protection District and Santa Cruz Water District, as noted in project comments (Attachment 6)

**N. RECREATION**

Would the project:

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. | Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project does not include residential improvements that would result in additional park use or demand for recreational facilities.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. | Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project does not include residential improvements that would impact recreational facilities.

**O. UTILITIES AND SERVICE SYSTEMS**

Would the project:

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. | Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** Drainage plans provided in the project plan set have been reviewed and approved by the Public Works Department. No expansion of the storm water drainage facilities are proposed or required for the proposed project. The Department of Public Works has reviewed the drainage information and has determined that downstream storm facilities are adequate to handle the increase in drainage associated with the project (Attachment 6). In order to ensure public health and safety, the project plans include overflow to the existing Scotts Valley Waste Water Recycling Facility outflow line located in Deer Path Drive to ensure that overflow of non potable water does not drain into the public storm water system.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. | Require or result in the construction of new water or wastewater treatment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	-----------

facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

**Discussion:** The applicant proposes to connect the proposed water tank to the Scotts Valley Waste Water Reclamation plant outfall line via a stub-out located on Sims Road property line and Deer Path Road property line. Scotts Valley has determined that adequate supplies of recycled water are available to serve the project and a preliminary memorandum of agreement has been reached between Pasatiempo Golf Course and Scotts Valley, dated June 10, 2008 (Attachment 11). Final agreement is required prior to service. Therefore, the project would not result in the expansion of existing facilities.

The project would be served by an on-site sewage disposal system, which would be adequate to accommodate the relatively light demands of the project.

3. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

**Discussion:** The proposed connection for the storage of tertiary treated non-potable water to the water tank requires approval by the Regional Water Quality Control Board and would comply with all water quality standards (Attachment 6) prior to issuance of a building permit and would therefore not violate any wastewater treatment standards associated with non-potable water. Furthermore, the project would include a condition of approval requiring Regional Water Quality Control Board approval prior to transmission of water to the site.

4. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

**Discussion:** The proposed project includes a restroom building and a water tank for storage of non-potable water for irrigation of the golf course. The project proposes to obtain tertiary treated non-potable recycled water from the existing Scotts Valley Wastewater Treatment Facility outfall line located on the Sims Road property frontage. The City of Scotts Valley is currently directing excess recycled water to the ocean outfall. An existing utility stub out for connection to this line is located at the property line. The Pasatiempo Golf Course has obtained a memorandum of agreement with the City of Scotts Valley for non-potable water (Attachment 11). Final approvals for water connection would be included as a condition of approval prior to issuance of the building permit. In the event that an agreement cannot be reached, the tank would store well water from on-site wells and City water, as necessary.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--	--------------------------------	--	------------------------------	-----------

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 5. | Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The subject property would rely on a septic system and no sanitation service is required for the proposed restroom.

- |    |   |                          |                          |                                     |                          |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|
| 6. | Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|----|---|--------------------------|--------------------------|-------------------------------------|--------------------------|

**Discussion:** The project proposes to off-haul approximately 956 cubic yards of soil to the county landfill. This landfill has sufficient permitted capacity to accommodate this disposal need. The project shall be conditioned to require the grading contractor to submit off-haul receipts to ensure that the volume is deposited at a permitted landfill location.

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 7. | Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project would require off-haul of 989 cubic yards of cut and the County landfill or other approved site. Therefore, no impacts are anticipated.

**P. LAND USE AND PLANNING**

Would the project:

- |    |  |                          |                          |                          |                                     |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. | Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed restroom and partially underground water tank are allowed as accessory structures and uses to the existing golf course pursuant to the Parks and Recreation Zone District-Open Space Combining Zone District. The Open Space Combining District identifies the property as subject to an open space easement contract. However, the contract was entered into in 1973 under application OS-8-73 between the property owner and County of Santa Cruz for a 20 year period, but has

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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since expired in 1993 as it was not renewed prior to the expiration date. Therefore, provisions of this open space easement contract no longer apply to the subject property.

The applicant proposes to connect the proposed water tank to the Scotts Valley Waste Water Reclamation plant outfall line via a stub-out located on Sims Road property line and Deer Path Road property line for storage of non-potable water. The City of Scotts Valley has determined that adequate supplies of recycled water are available to serve the project and a preliminary memorandum of agreement has been reached between Pasatiempo Golf Course and Scotts Valley, dated June 10, 2008 (Attachment 11). Final agreement is required prior to service. Furthermore, LAFCO has provided correspondence (Attachment 10) indicating that the project is exempt from LAFCO review as LAFCO review does not apply to contracts or agreements for transfer of non-potable water and the law encourages the transfer of non-potable water for re-use.

Therefore, the proposed project does not conflict with any regulations or policies adopted for the purpose of avoiding or mitigating an environmental effect.

2. Conflict with any applicable habitat conservation plan or natural community conservation plan?

**Discussion:** The subject property is not a sensitive site and does not contain a habitat conservation plan or natural community conservation plan.

3. Physically divide an established community?

**Discussion:** The project would not include any element that would physically divide an established community.

## Q. POPULATION AND HOUSING

Would the project:

1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

**Discussion:** The applicant proposes to connect the proposed water tank to the Scotts Valley Waste Water Reclamation plant outfall line via a stub-out located on Sims Road property line and Deer Path Road property line. Scotts Valley has determined that adequate supplies of recycled water are available to serve the project and a preliminary memorandum of agreement has been reached between Pasatiempo Golf Course and Scotts Valley, dated June 10, 2008 (Attachment 11). Final agreement is required prior to service. Therefore, the project would not result in the expansion of

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	-----------

existing facilities.

Furthermore, the proposed project would not induce substantial population growth in an area because the project does not propose any physical or regulatory change that would remove a restriction to or encourage population growth in an area including, but limited to the following: new or extended infrastructure or public facilities; new commercial or industrial facilities; large-scale residential development; accelerated conversion of homes to commercial or multi-family use; or regulatory changes including General Plan amendments, specific plan amendments, zone reclassifications, sewer or water annexations; or LAFCO annexation actions. See attached correspondence from LAFCO (Attachment 10).

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project would not displace any existing housing since the site is currently vacant.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

**Discussion:** The proposed project would not displace any existing housing since the site is developed with the Pasatiempo Golf Course and otherwise does not contain existing housing.

**R. MANDATORY FINDINGS OF SIGNIFICANCE**

- |   | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact        | No Impact                |
|---|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| 1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Discussion:** The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in Section III of this Initial Study. As a result of this evaluation, there is no substantial evidence that significant effects associated with this project would result. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

- |  | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact        | No Impact                |
|--|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| 2. Does the project have impacts that are individually limited, but cumulatively considerable? (“cumulatively considerable” means that the incremental effects of a 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)? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Discussion:** In addition to project specific impacts, this evaluation considered the projects potential for incremental effects that are cumulatively considerable. As a result of this evaluation, there is no substantial evidence that there are cumulative effects associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.



- |   | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact        | No Impact                |
|---|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| 3. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Discussion:** In the evaluation of environmental impacts in this Initial Study, the potential for adverse direct or indirect impacts to human beings were considered in the response to specific questions in Section III. As a result of this evaluation, there is no substantial evidence that there are adverse effects to human beings associated with this project. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

#### **IV. REFERENCES USED IN THE COMPLETION OF THIS ENVIRONMENTAL REVIEW INITIAL STUDY**

County of Santa Cruz 1994.

*1994 General Plan and Local Coastal Program for the County of Santa Cruz, California.* Adopted by the Board of Supervisors on May 24, 1994, and certified by the California Coastal Commission on December 15, 1994.

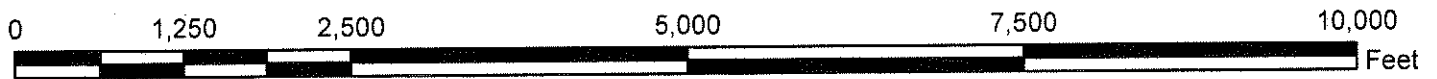
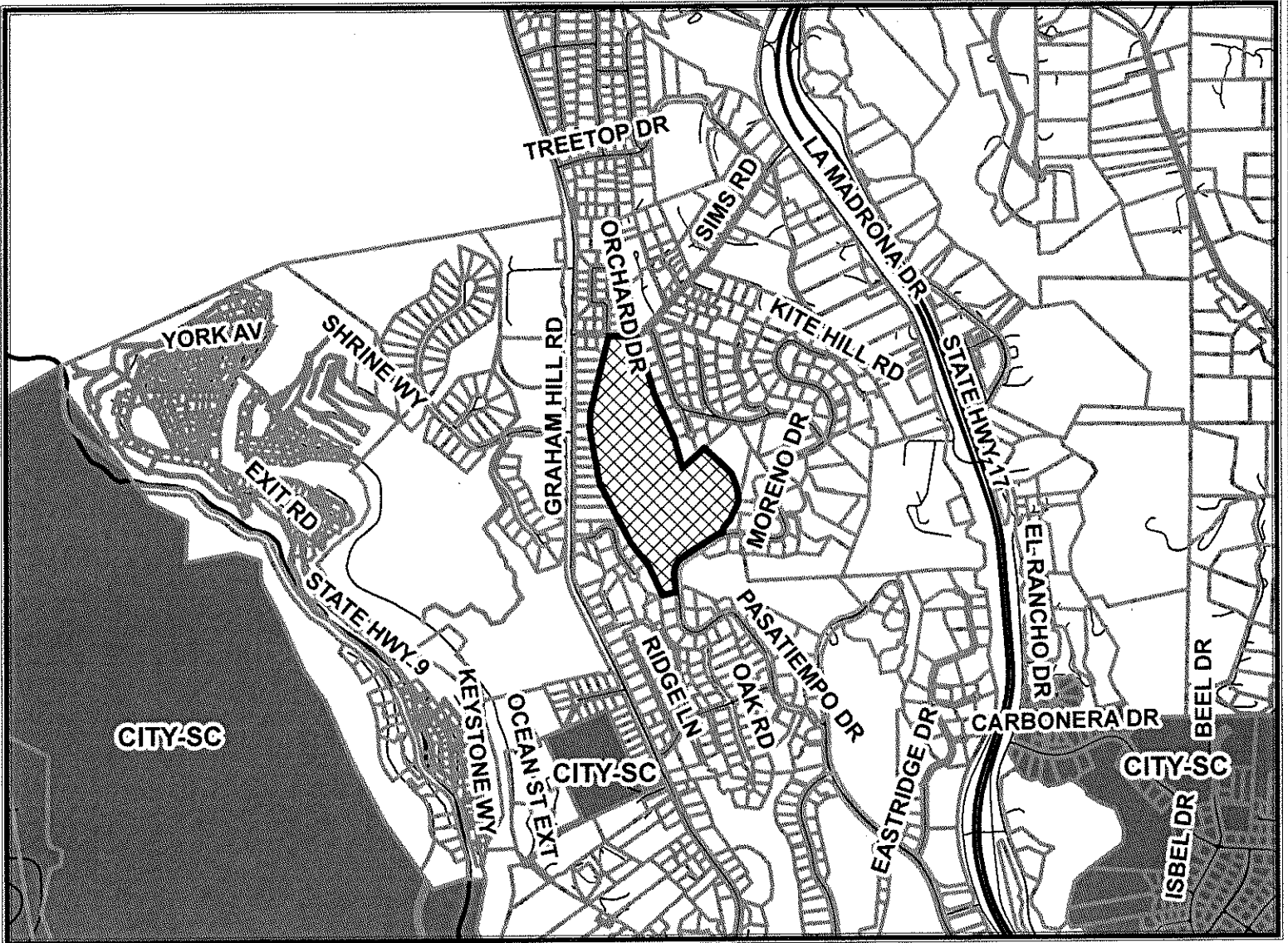
County of Santa Cruz Geographic Information System

#### **V. ATTACHMENTS**






1. *Vicinity Map, Map of Zoning Districts; Map of General Plan Designations; and Assessors Parcel Map.*
2. *Project Plans, prepared by SSA Landscape Architects, dated October 8, 2014*
3. *Project Visual Simulations, prepared by SSA Landscape Architects, undated*
4. *Geotechnical Investigation (Conclusions and Recommendations), prepared by ENGEO Inc., dated September 20, 2013*
5. *Geotechnical Review Letter, prepared by Joe Hanna and Carolyn Burke, dated November 24, 2014*
6. *Discretionary Application Comments, dated October 15, 2014 to October 28, 2014*
7. *Archeological Reconnaissance Evaluation(Conclusions and Recommendations), prepared by Archaeological Resource Management, dated October 30, 2014*
8. *Archeological Report Review Memorandum, prepared by Jessica Duktig, dated November 4, 2014*
9. *Noise Study, prepared by Dennis Diego, dated 12/15/2014*
10. *LAFCO Correspondence, dated September 17, 2014 and July 1, 2013*
11. *Memorandum of Agreement between Scotts Valley Water District and Pasatiempo, dated June 8, 2008*

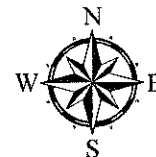


# Location Map



### LEGEND

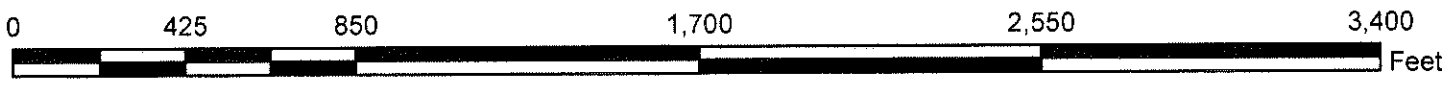
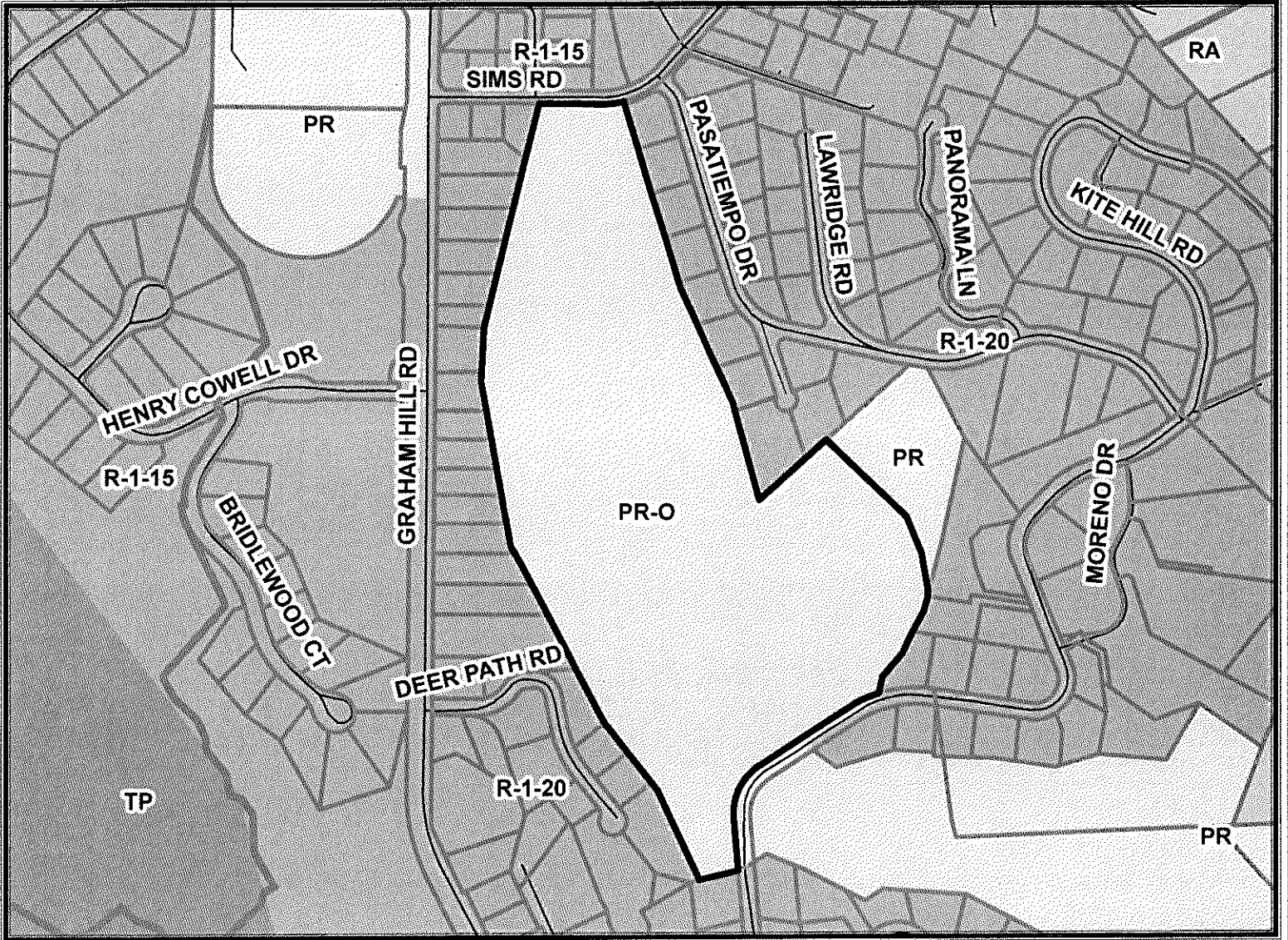
-  APN: 060-011-02
-  Assessors Parcels
-  Street
-  State Highways
-  CITY OF SANTA CRUZ



Map Created by  
County of Santa Cruz  
Planning Department  
December 2014



# Zoning Map



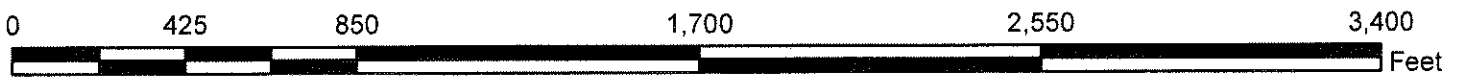
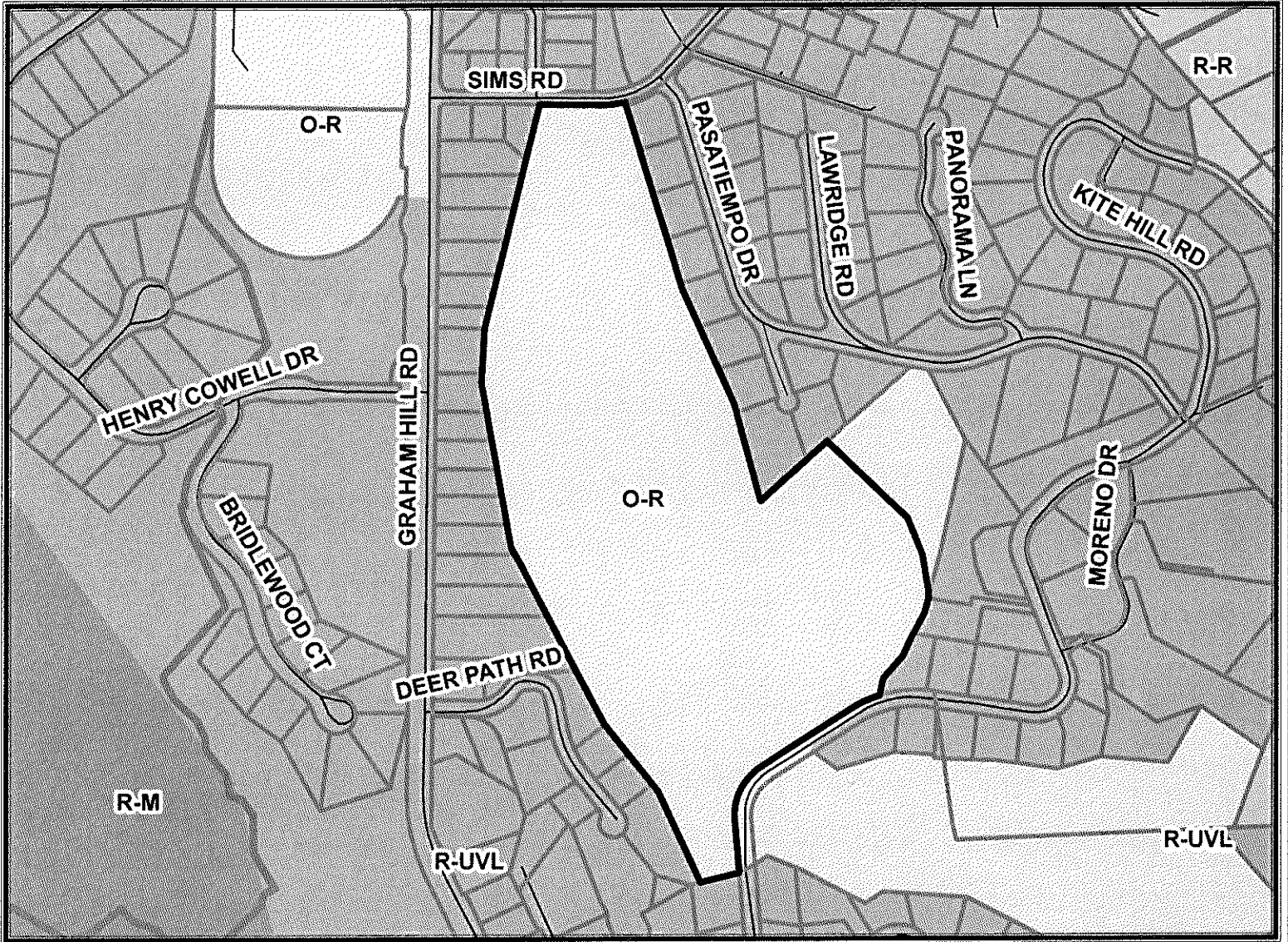
**LEGEND**

- APN: 060-011-02
- Assessors Parcels
- Street
- PARK
- AGRICULTURE RESIDENTIAL
- RESIDENTIAL-SINGLE FAMILY
- TIMBER PRODUCTION

Map Created by  
County of Santa Cruz  
Planning Department  
December 2014

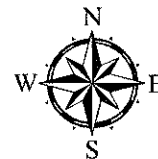


# General Plan Designation Map



### LEGEND

- APN: 060-011-02
- Assessors Parcels
- Street
- Parks and Recreation
- Residential-Rural
- Residential - Urban Very Low Density
- Residential-Mountain



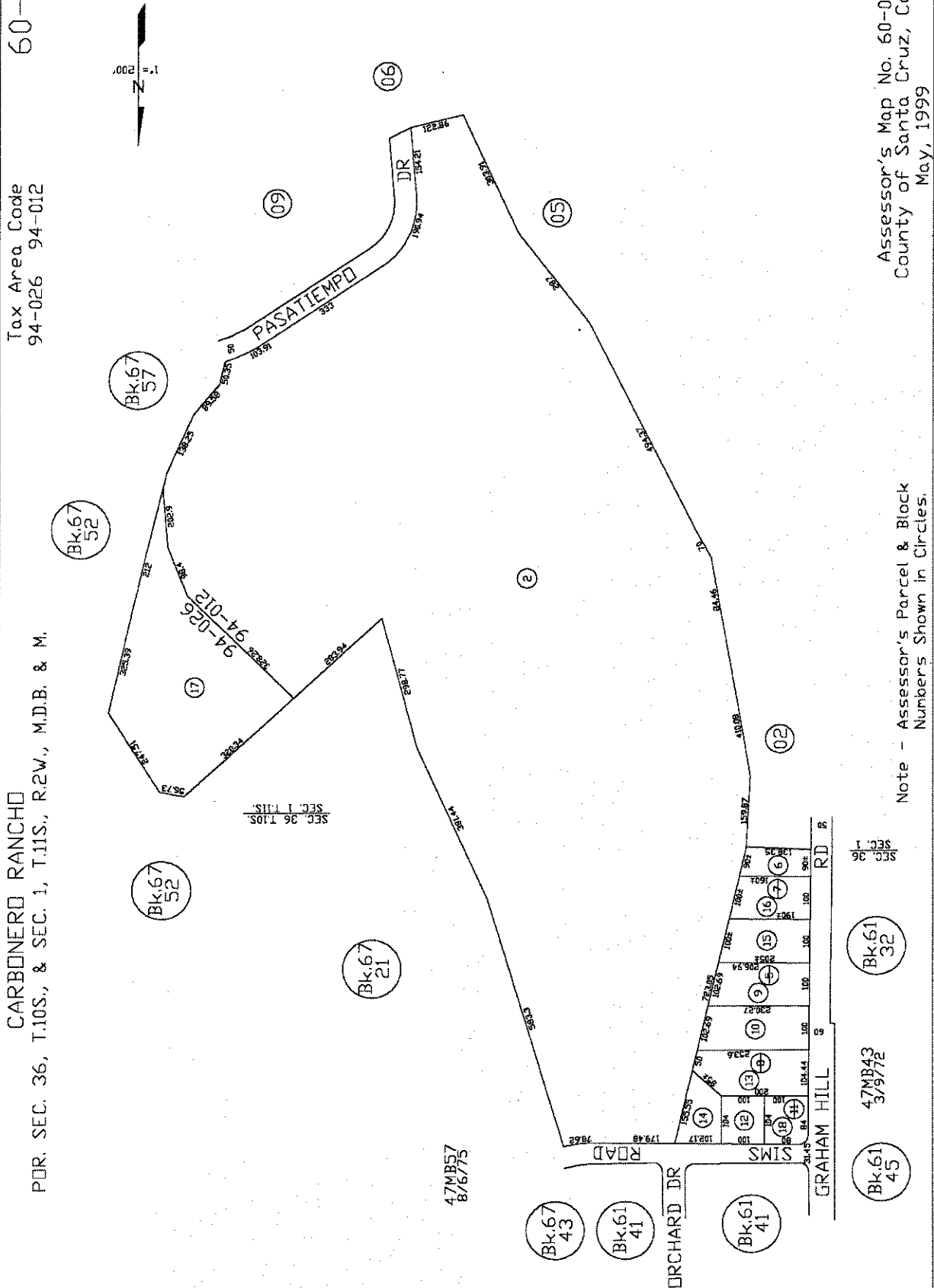
Map Created by  
 County of Santa Cruz  
 Planning Department  
 December 2014

Tax Area Code  
94-026 94-012

CARBONERO RANCHO  
POR. SEC. 36, T.10S., & SEC. 1, T.11S., R.2W., M.D.B. & M.

FOR TAX PURPOSES ONLY

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Assessor's Map No. 60-01  
County of Santa Cruz, Calif.  
May, 1999

Note - Assessor's Parcel & Block  
Numbers Shown in Circles.

Electronically Redrawn 5/25/99 KB  
Rev. 6/26/01 with changed page refs.  
Rev. 1/8/02 MVM (TCA)













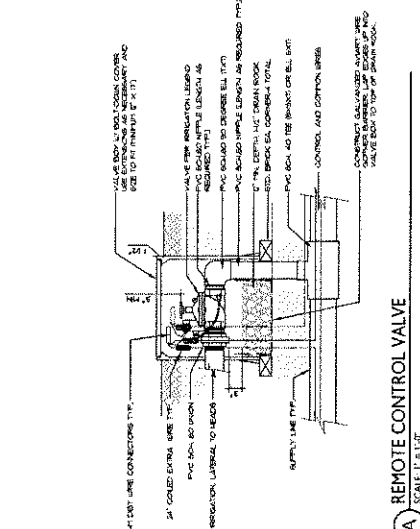




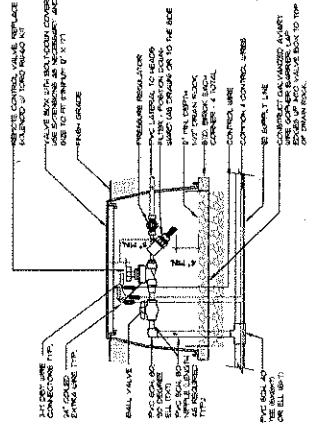
IRRIATION DETAILS  
 PASTORAL GOLF CLUB WATER TANK  
 1500 GOLF CLUB DRIVE  
 SAN JOSE, CA 95128  
 415.938.8888  
 WWW.SSA-ARCH.COM

DATE	
REVISION	
DESCRIPTION	
BY	
CHECKED	
DATE	
PROJECT	
DATE	
SCALE	
IRRIATION DETAILS	

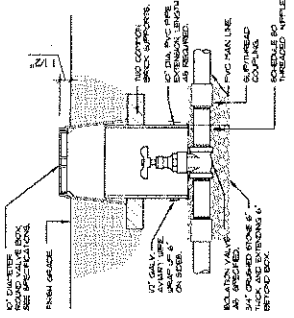
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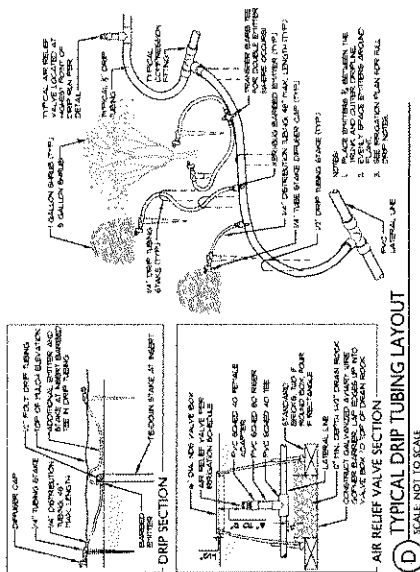
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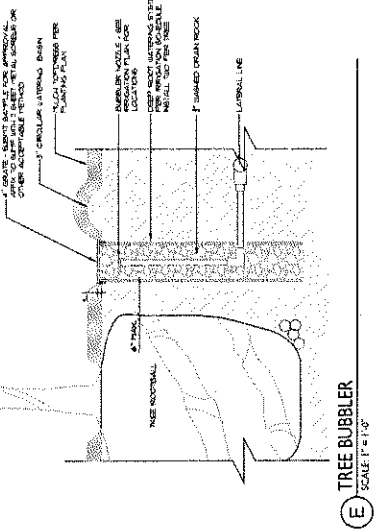
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 SCALE 1/2\"/>



C GATE VALVE  
 SCALE 1/2\"/>



D TYPICAL DRIP TUBING LAYOUT  
 SCALE NOT TO SCALE



E TREE BUBBLER  
 SCALE 1/2\"/>

IRRIATION DETAILS



**BOWMAN & WILLIAMS**  
CONSTRUCTION MANAGEMENT  
1011 COAST STREET  
SAN FRANCISCO, CA 94109  
TEL: 415.774.2300



**GRADING PLAN**  
PASTEMPO GOLF CLUB  
PASTEMPO GOLF CLUB  
20 CUSHING RD.  
MAYFA GOLF, CA 95966  
APN: 060-011-02

DATE:	01/11/2011
PROJECT:	PASTEMPO GOLF CLUB
SCALE:	AS SHOWN
DRAWN BY:	...
CHECKED BY:	...
DATE:	...
APP'D:	...

**GRADING PLAN**  
SHEET  
**C1.0**

**ABBREVIATION**

- CL (C) CONCRETE
- PF PAVED FOOTING
- PO PAVED DRIVE
- PO PAVED

**LEGEND**

- FORMED SURFACE
- BUILDING AREA
- CONCRETE FOOTING
- RETAINING WALL
- PO CONTOUR
- PO CONTOUR

**GENERAL NOTES:**

- ALL DIMENSIONS SHALL CORRESPOND TO THE PROJECT GEOMETRICAL INFORMATION.
- CONSTRUCTION SHALL BE PROVIDED BY BOWMAN AND WILLIAMS FOR ACCESS TO THE SITE.

**PRELIMINARY EARTHWORK VOLUMES**

AREA	EXISTING (CY)	FILL (CY)	NET (CY)
WATER TANK & PUMP HOUSE	3,848	0	3,848 (CY)
RET	2,899	1,770	1,129 (CY)

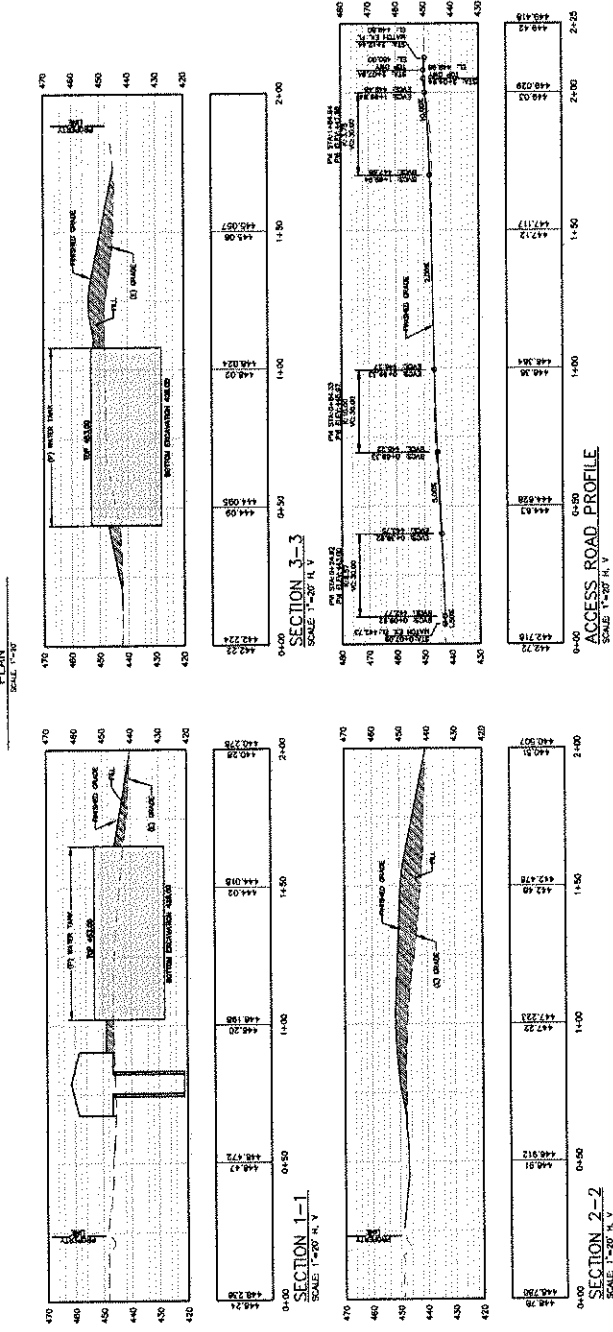
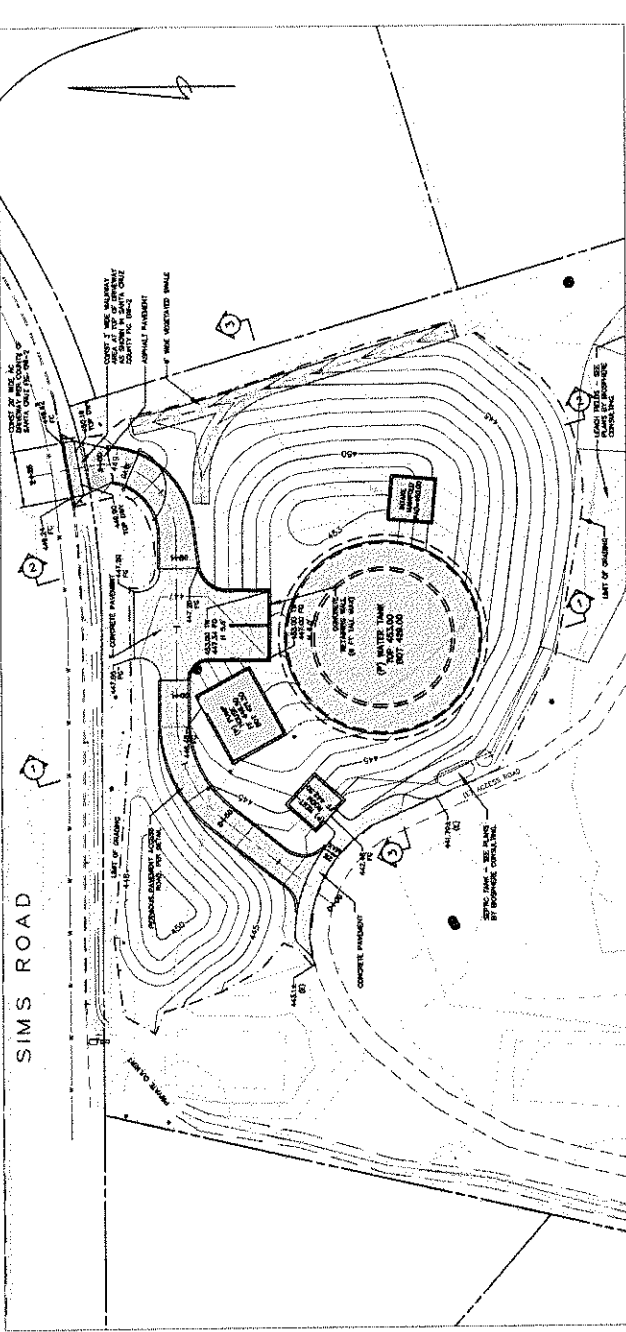
**AREA OF DISTURBANCE**  
AREA OF DISTURBANCE = 26,545 SQ. FT. OR 0.61 ACRE

**DISCLAIMER**  
THE DATA SET FOR THIS SHEET IS THE PROPERTY OF BOWMAN & WILLIAMS. CONSTRUCTION SHALL BE PROVIDED BY BOWMAN AND WILLIAMS FOR ACCESS TO THE SITE. THE ABOVE EARTHWORK VOLUMES ARE PRELIMINARY AND SUBJECT TO CHANGE. THE ABOVE EARTHWORK VOLUMES ARE NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN CONSENT OF BOWMAN & WILLIAMS.

**SHEET INDEX**

- C1.1 PAVED DRIVE
- C1.2 PAVED DRIVE
- C1.3 CONCRETE FOOTING
- C1.4 UTILITY PAVEMENT
- C1.5 CONTOUR LINE PLAN & PROFILE
- C1.6 CONTOUR LINE PLAN & PROFILE
- C1.7 CONTOUR LINE PLAN & PROFILE
- C1.8 STORM WATER POLLUTION CONTROL PLAN
- C1.9 ORIGINAL SPEEDY PLAN
- TP-1 TOPOGRAPHIC MAP

**PLAN**  
SCALE: 1"=20' H. V.



**SSA**  
 LANDSCAPE ARCHITECTS  
 320 Webster Street, Suite 410  
 San Francisco, CA 94102  
 T 415.774.2444  
 F 415.774.2444  
 www.ssaarch.com  
 PSC NO. 8085  
 CONSULTANT LOGO

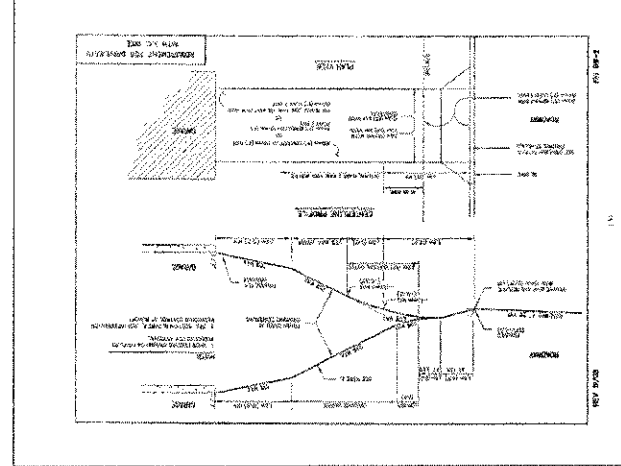
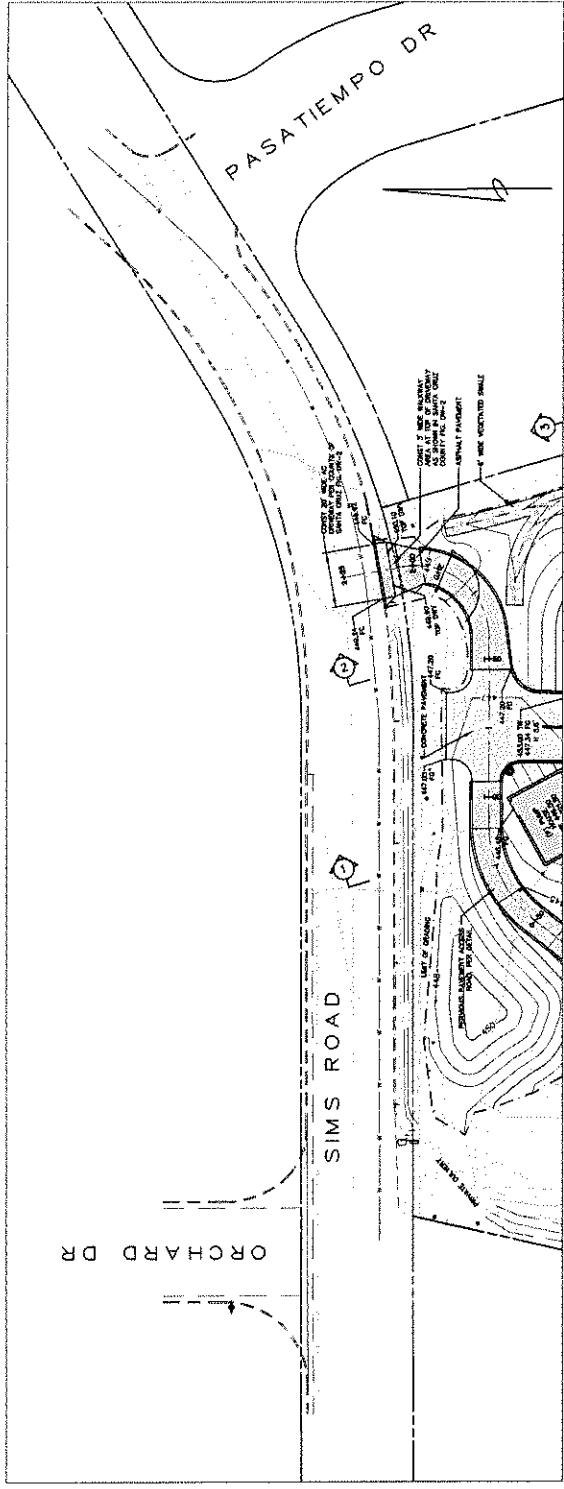
**BOWMAN & WILLIAMS**  
 CONSULTING CIVIL ENGINEERS  
 3400 CALIFORNIA AVENUE  
 SAN FRANCISCO, CA 94134  
 (415) 778-2000



**DRIVEWAY PLAN**  
 PASATIEMPO GOLF CLUB WATER TANK  
 APN# 060-011-02  
 PASATIEMPO GOLF CLUB  
 18 CLUBHOUSE RD.  
 SAN RAFAEL, CA 94901

DATE	12/11/17
BY	SSA
PROJECT	PASATIEMPO GOLF CLUB WATER TANK
SHEET	14
DRIVEWAY PLAN	

DRIVEWAY PLAN  
 SHEET  
**C.I.1**



**NOTE**  
 ALL DIMENSIONS SHALL BE TAKEN AT THE BUILDING POINT



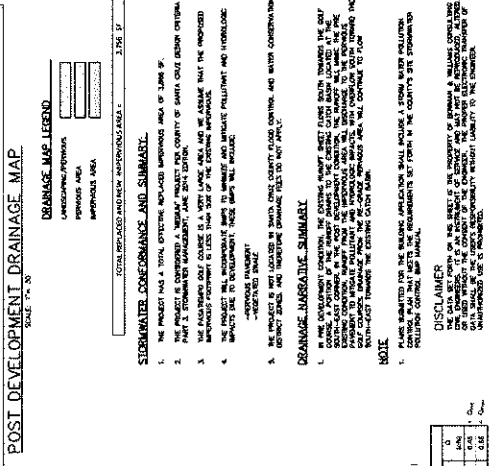
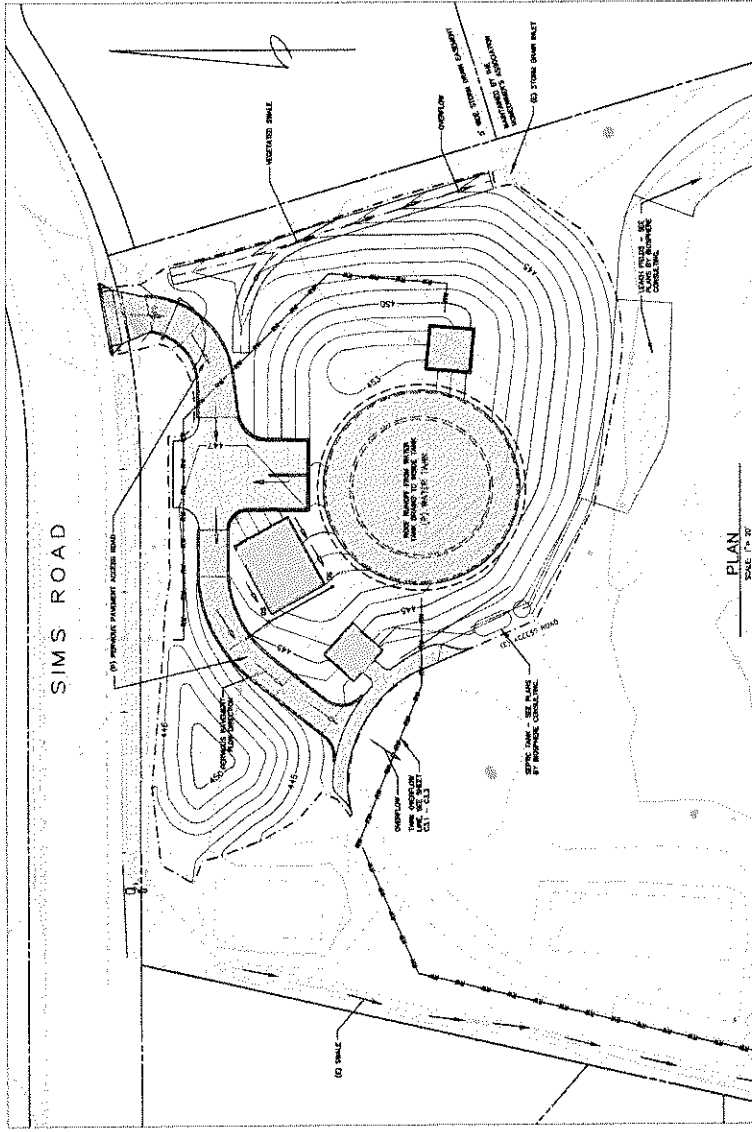
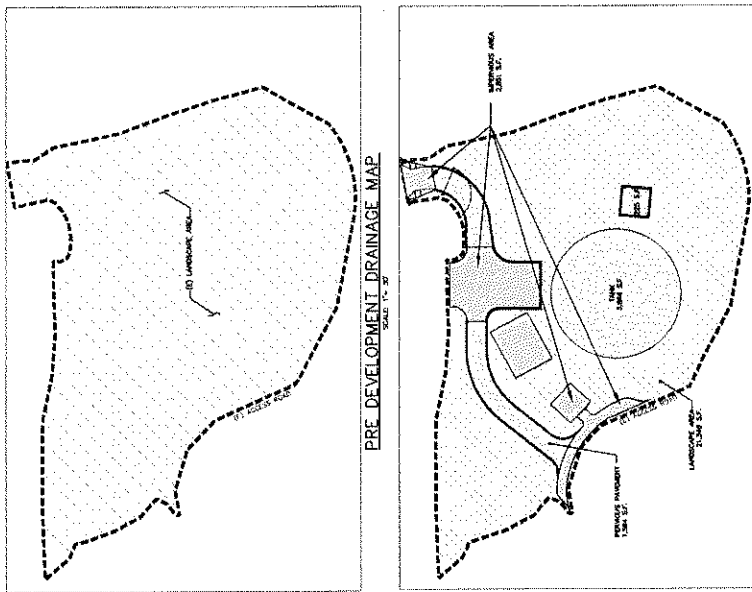
**DISCLAIMER**  
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CONSULTING ENGINEERS  
3400 14TH AVENUE  
SUITE 200  
DENVER, CO 80202  
TEL: 303.733.8800  
WWW.BOWMANANDWILLIAMS.COM



**STORMWATER MANAGEMENT PLAN**  
PASATAMPO GOLF CLUB WATER TANK  
APN: 06-0011-02  
PASATAMPO GOLF CLUB  
15500 E. 15TH AVENUE  
DENVER, CO 80202



**Flow Rate Calculations for 10 Year Event**

Area Description	Area (Ac)	C	Q (cfs)
Impervious	1.00	0.95	1.00
Permeable	0.50	0.30	0.15
Other	0.50	0.30	0.15
<b>Total</b>	<b>2.00</b>	<b>0.78</b>	<b>1.30</b>

**Weighted C = 0.78**

**Runoff = 1.30 cfs**

**TABLE 1: PRE-DEVELOPMENT SITE COVERAGE**

Impervious Surface	Area (sq ft)	Permeable Surface	Area (sq ft)
Building	0	Grass	29,647
Driveway/Pavement	0	Other	0
Other	0		
<b>Total</b>	<b>0</b>	<b>Total</b>	<b>29,647</b>

**TABLE 2: POST-DEVELOPMENT SITE COVERAGE**

Impervious Surface	Area (sq ft)	Permeable Surface	Area (sq ft)
Building	8,864	Grass	20,783
Driveway/Pavement	1,889	Other	7,255
Other	2,853		
<b>Total</b>	<b>13,606</b>	<b>Total</b>	<b>28,038</b>

**NOTES:**

- THE CONTRACTOR SHALL VERIFY THE EXISTING STORM DRAIN SYSTEM AND PROVIDE A DRAINAGE PLAN TO THE COUNTY ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE COUNTY ENGINEER AND THE DENVER WATER DEPARTMENT.
- THE CONTRACTOR SHALL PROVIDE A DRAINAGE PLAN TO THE COUNTY ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE COUNTY ENGINEER AND THE DENVER WATER DEPARTMENT.
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- THE CONTRACTOR SHALL PROVIDE A DRAINAGE PLAN TO THE COUNTY ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE COUNTY ENGINEER AND THE DENVER WATER DEPARTMENT.

**STORMWATER MANAGEMENT AND SUMMARY:**

- THE PROJECT HAS A TOTAL IMPERVIOUS AREA OF 13,606 SQ. FT.
- THE PROJECT IS LOCATED IN THE COUNTY OF SANTA FE, COLORADO.
- THE PROJECT WILL INCORPORATE BEST MANAGEMENT PRACTICES (BMPs) TO REDUCE POLLUTANT AND SEDIMENT LOADS TO THE DENVER WATER DEPARTMENT.
- THE PROJECT WILL INCORPORATE BMPs TO REDUCE POLLUTANT AND SEDIMENT LOADS TO THE DENVER WATER DEPARTMENT.

**DISCLAIMER:**

THE DATA SET FORTH IN THIS REPORT IS THE PROPERTY OF BOWMAN & WILLIAMS CONSULTING ENGINEERS. THE DATA SET FORTH IN THIS REPORT IS PROVIDED AS IS AND WITHOUT WARRANTY OF ANY KIND. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING NECESSARY PERMITS FROM THE COUNTY ENGINEER AND THE DENVER WATER DEPARTMENT.

**Quantities**

Quantity	Unit	Quantity	Unit
Grass	SQ. FT.	20,783	SQ. FT.
Other	SQ. FT.	7,255	SQ. FT.
<b>Total</b>	<b>SQ. FT.</b>	<b>28,038</b>	<b>SQ. FT.</b>

**TABLE 3: PRE-DEVELOPMENT SITE COVERAGE**

Impervious Surface	Area (sq ft)	Permeable Surface	Area (sq ft)
Building	0	Grass	29,647
Driveway/Pavement	0	Other	0
Other	0		
<b>Total</b>	<b>0</b>	<b>Total</b>	<b>29,647</b>

**TABLE 4: POST-DEVELOPMENT SITE COVERAGE**

Impervious Surface	Area (sq ft)	Permeable Surface	Area (sq ft)
Building	8,864	Grass	20,783
Driveway/Pavement	1,889	Other	7,255
Other	2,853		
<b>Total</b>	<b>13,606</b>	<b>Total</b>	<b>28,038</b>















**BOWMAN & WILLIAMS**  
CONSULTING CIVIL ENGINEERS  
10000 Wilshire Blvd, Suite 1000  
Beverly Hills, CA 90210  
Tel: 310-274-1111  
Fax: 310-274-1112



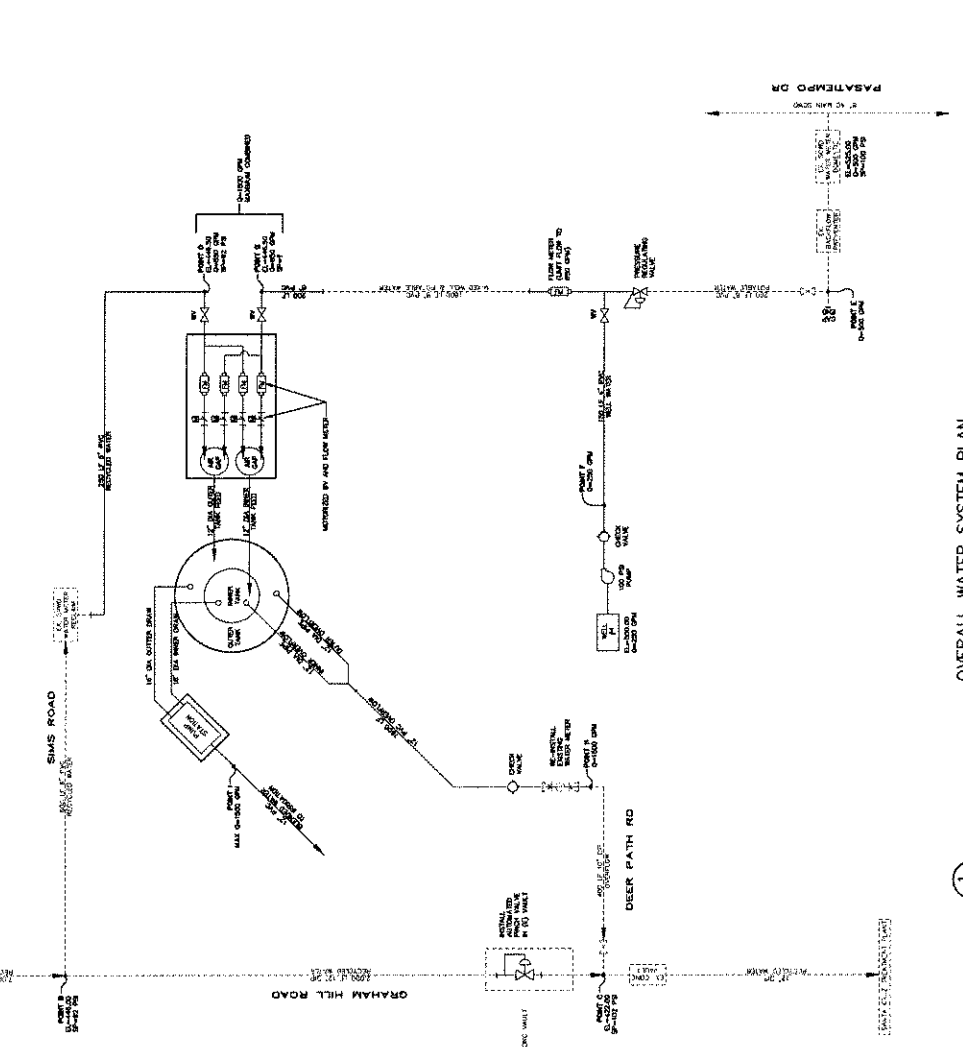
OVERALL WATER SYSTEM PLAN  
PASATEMPO GOLF CLUB WATER TANK  
APN: 060-011-02  
PASATEMPO GOLF CLUB  
20 CLEVELAND RD  
SANTA CRUZ, CA 95060

DATE	08/11/2011
PROJECT	PASATEMPO GOLF CLUB WATER TANK
CLIENT	PASATEMPO GOLF CLUB
DESIGNER	BOWMAN & WILLIAMS
SCALE	AS SHOWN
PROJECT NO.	11-001
DRAWING NO.	01
DATE PLOTTED	08/11/2011 10:00 AM
PLotted By	...
Checked By	...
Approved By	...

OVERALL WATER SYSTEM PLAN  
C5.0  
SHEET

- NOTES:**
1. SEE S. DRAWING OF THE OVERALL WATER SYSTEM TO KNOW THE EXACT LOCATION OF THE WATER TANK AND THE LOCATION OF THE WATER TREATMENT PLANT.
  2. A SUMMARY OF THE DATA IS OBTAINED FROM THE PLUMBING STUDY BY CONSULTING CIVIL ENGINEERS BOWMAN & WILLIAMS. THE DATA IS SUBJECT TO VERIFICATION BY THE CLIENT AND THE CONSULTING CIVIL ENGINEERS BOWMAN & WILLIAMS.
  3. CONSULT WITH THE ARCHITECTS AND ENGINEERS FOR ANY CHANGES TO THE WATER SYSTEM PLAN.
  4. THE WATER SYSTEM PLAN IS SUBJECT TO APPROVAL BY THE LOCAL AGENCIES.
  5. THE WATER SYSTEM PLAN IS SUBJECT TO APPROVAL BY THE CLIENT.

- ABBREVIATIONS:**
- 1. 1" = 1" (SCALE)
  - 2. 1" = 1" (SCALE)
  - 3. 1" = 1" (SCALE)
  - 4. 1" = 1" (SCALE)
  - 5. 1" = 1" (SCALE)
  - 6. 1" = 1" (SCALE)
  - 7. 1" = 1" (SCALE)
  - 8. 1" = 1" (SCALE)
  - 9. 1" = 1" (SCALE)
  - 10. 1" = 1" (SCALE)



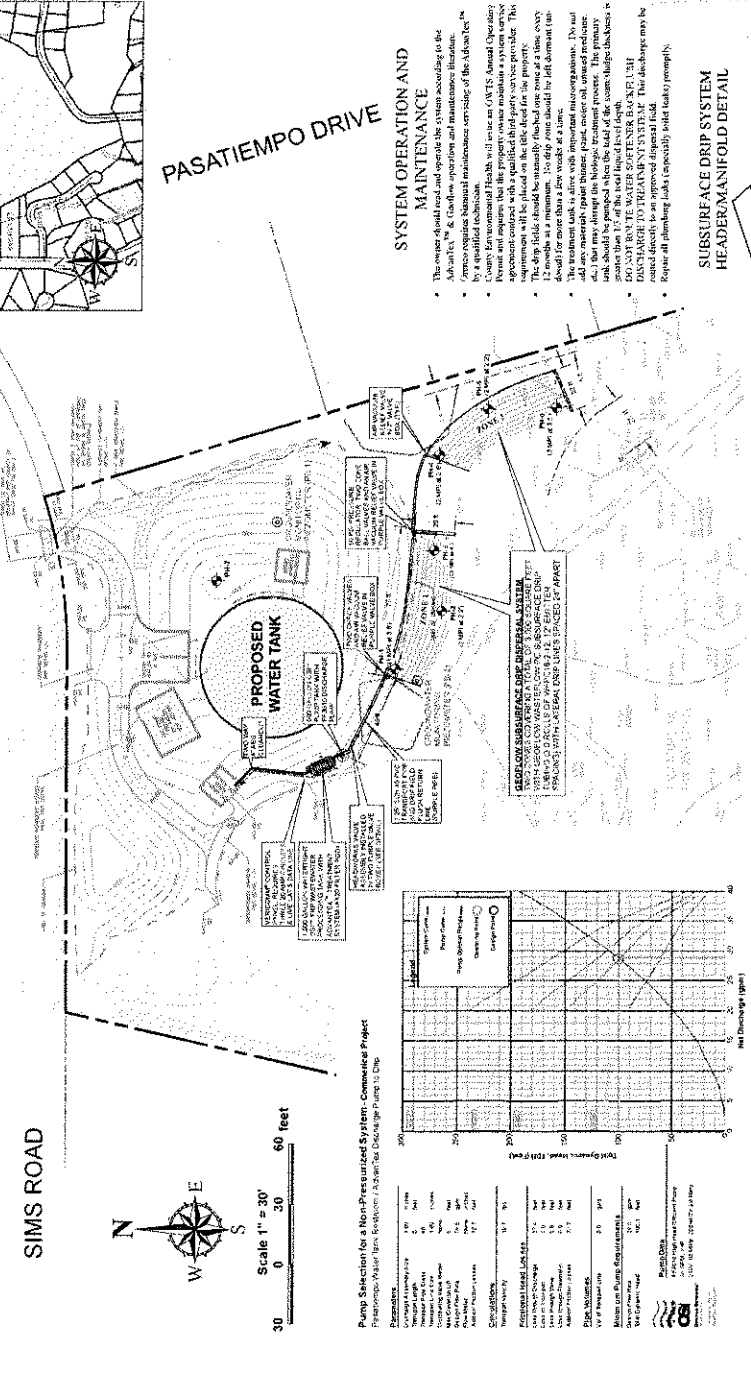
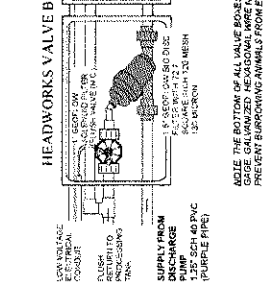
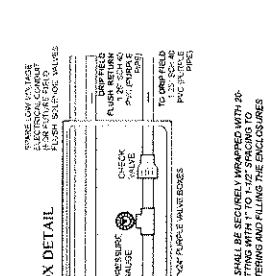
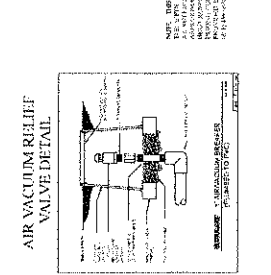
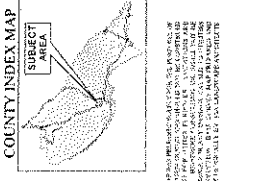
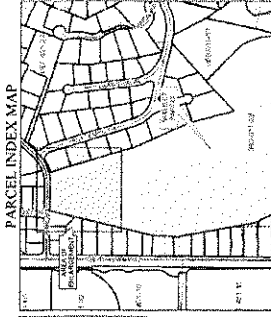
OVERALL WATER SYSTEM PLAN  
SCALE: NTS

**DISCLAIMER**  
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www.ssa-la.com

**CONSLANT, INC.**  
1555 4th Street, Suite 202, CA 95060  
Tel: 831.438.4115  
www.conslant.com

**PROFESSIONAL SEAL**  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL ENGINEERING  
No. 10000  
State of California



**SYSTEM OPERATION AND MAINTENANCE**

- The owner shall read and operate the system according to the Advanced™ & Geoflow™ operation and maintenance literature.
- Access to the system shall be provided to the owner and a qualified third party for the purpose of inspection and maintenance.
- Any treatment tank to be used with the system shall be constructed in accordance with the applicable code requirements.
- Any treatment tank to be used with the system shall be constructed in accordance with the applicable code requirements.
- Any treatment tank to be used with the system shall be constructed in accordance with the applicable code requirements.

**CONCRETE SUBSURFACE DRIP SYSTEM HEADERS**

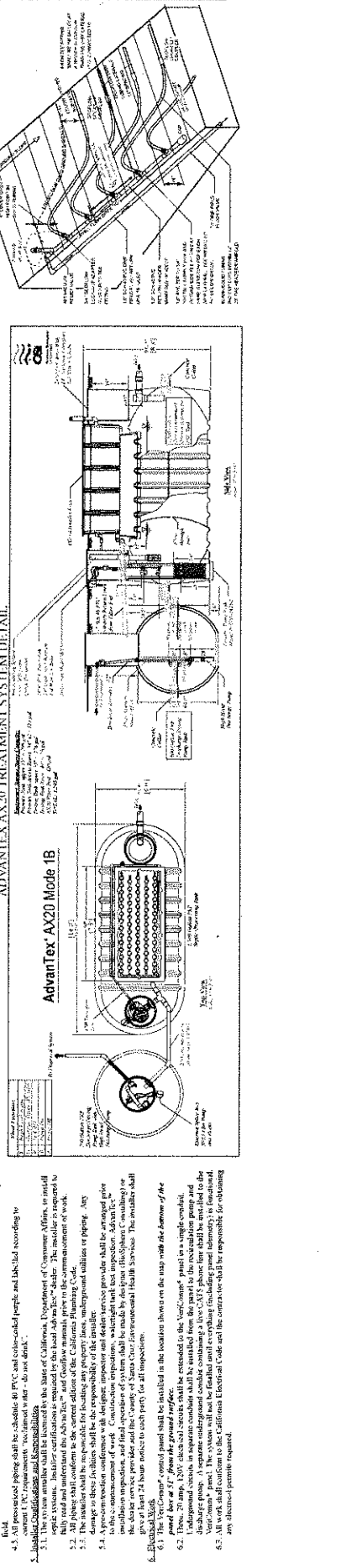
- CONCRETE SUBSURFACE DRIP SYSTEM HEADERS SHALL BE 12" DIA. x 12" HIGH CONCRETE HEADERS WITH 1/2" DIA. x 1/2" DIA. DRIP LINES SPACED @ 4" APART.
- CONCRETE SUBSURFACE DRIP SYSTEM HEADERS SHALL BE 12" DIA. x 12" HIGH CONCRETE HEADERS WITH 1/2" DIA. x 1/2" DIA. DRIP LINES SPACED @ 4" APART.
- CONCRETE SUBSURFACE DRIP SYSTEM HEADERS SHALL BE 12" DIA. x 12" HIGH CONCRETE HEADERS WITH 1/2" DIA. x 1/2" DIA. DRIP LINES SPACED @ 4" APART.

**Pump Selection for a Non-Pressurized System - Commercial Project**

Parameter	Value
Flow Rate (GPM)	4.00
Head (ft)	10.00
Motor Power (HP)	1.00
Motor Voltage (V)	240
Motor Phase	3
Motor Speed (RPM)	1725
Motor Efficiency	85%
Motor Power Factor	0.95
Motor Service Factor	1.15
Motor Protection	Overload
Motor Enclosure	NEMA 4X
Motor Mounting	Flange
Motor Terminal Box	Cast Aluminum
Motor Lead Length (ft)	100
Motor Lead Voltage Drop (%)	0.5
Motor Lead Ampacity (A)	10
Motor Lead Size (AWG)	14
Motor Lead Material	Copper
Motor Lead Installation	Conduit
Motor Lead Protection	None
Motor Lead Termination	Terminal Block
Motor Lead Labeling	None
Motor Lead Documentation	None
Motor Lead Inspection	None
Motor Lead Testing	None
Motor Lead Commissioning	None
Motor Lead Training	None
Motor Lead Support	None
Motor Lead Warranty	None
Motor Lead Notes	None

**Specifications**

1. The system shall be designed and installed in accordance with the applicable code requirements.
2. The system shall be designed and installed in accordance with the applicable code requirements.
3. The system shall be designed and installed in accordance with the applicable code requirements.
4. The system shall be designed and installed in accordance with the applicable code requirements.
5. The system shall be designed and installed in accordance with the applicable code requirements.
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9. The system shall be designed and installed in accordance with the applicable code requirements.
10. The system shall be designed and installed in accordance with the applicable code requirements.











300 JEFFERSON ST., SUITE 100  
 SAN FRANCISCO, CA 94102  
 TEL: 415-774-8888  
 WWW.SSA-ARCH.COM



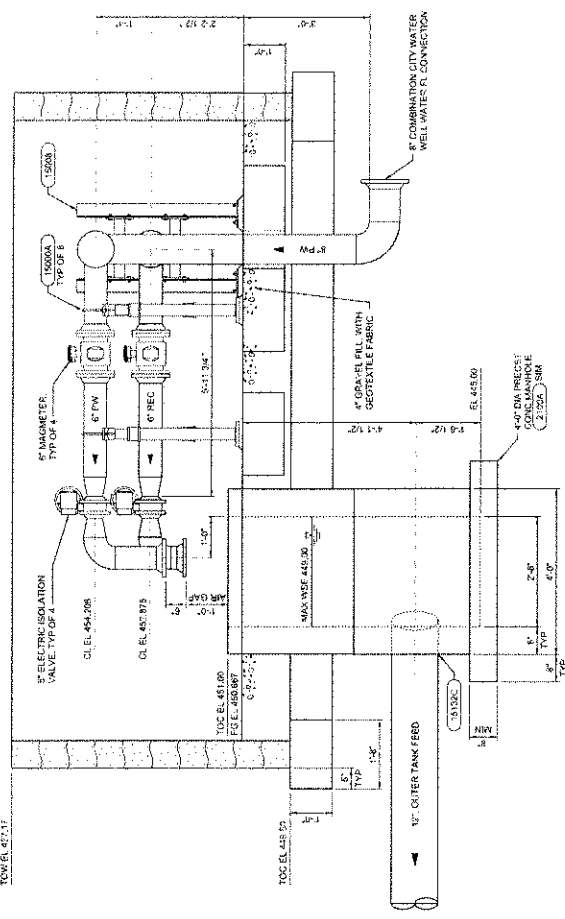
WATERWORKS  
 10000  
 10000

PRELIMINARY  
 NOT FOR  
 CONSTRUCTION

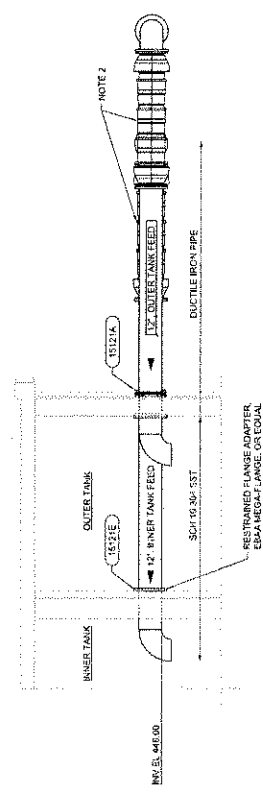
CIVIL/MECHANICAL  
 SECTIONS  
 PASADENA GOLF CLUB WATER TANK  
 5875 SANTA MONICA BLVD. SUITE 100  
 PASADENA, CA 92366  
 APR: 06-01-12

ATTACHMENT

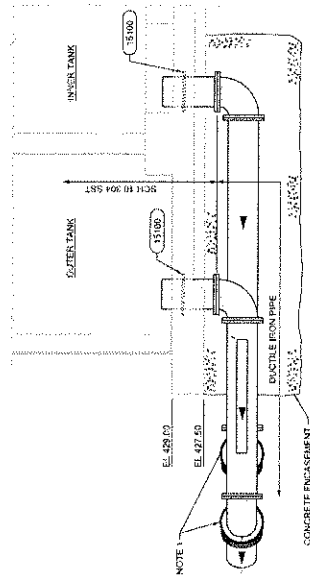
- NOTE:
1. 12" FORCE BALANCED FLEXITEND 44RFB98B INSTALL WITH POLYETHYLENE SLEEVES PROVIDED BY MANUFACTURER AND FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS. TYPICAL BOTH-PUMP STATION DRAWINGS.
  2. 12" FORCE BALANCED FLEXITEND 44RFB98B INSTALL WITH POLYETHYLENE SLEEVES PROVIDED BY MANUFACTURER AND FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS. TYPICAL BOTH-FEED PSES.



A SECTION  
 3/4" = 1'-0"



B SECTION  
 3/4" = 1'-0"



C SECTION  
 3/4" = 1'-0"





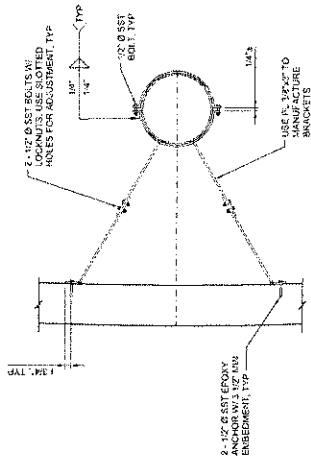
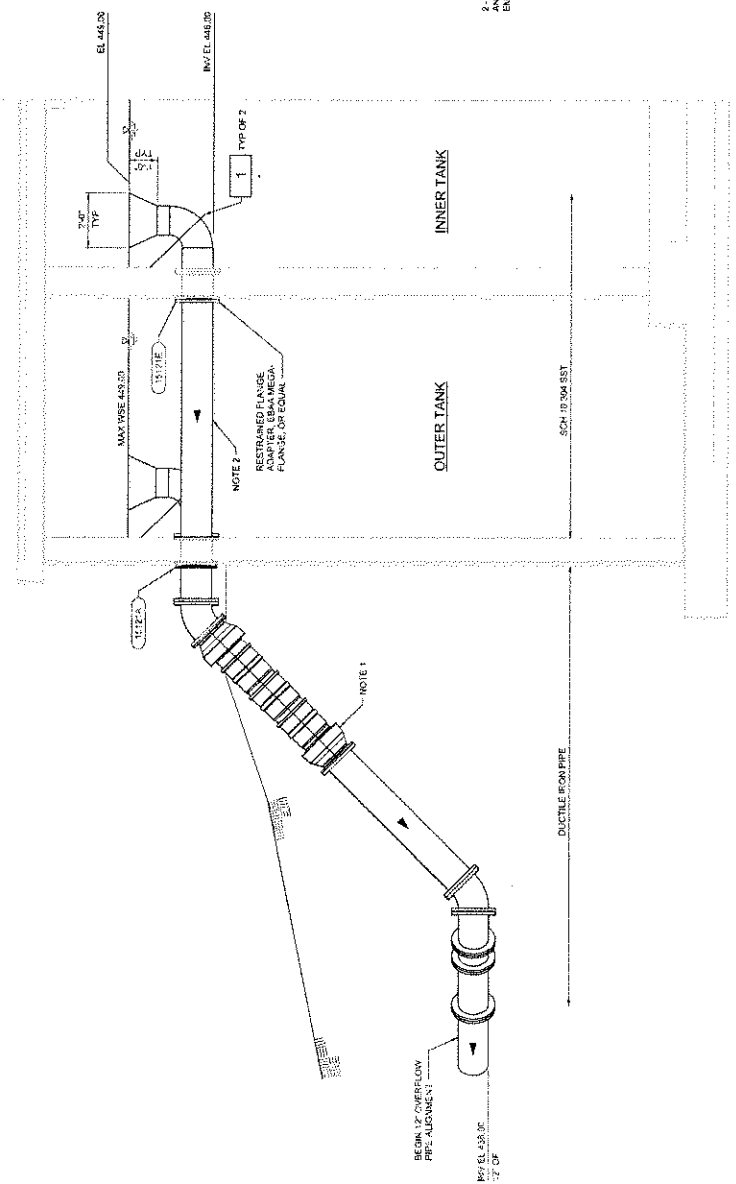
PRELIMINARY  
MECHANICAL  
CONSTRUCTION

CIVIL/MECHANICAL  
SECTION & DETAIL  
PASADENO GOLF CLUB WATER TANK  
SANTA CRUZ, CA 95060  
20 CLARKSON DR  
KILBUCK, CA 94026  
APR#: 060-011-02

PROJECT NO.	
SHEET NO.	
DATE	
BY	
CHKD	
DATE	
BY	
CHKD	
DATE	
BY	
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BY	
CHKD	
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BY	
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DATE	

SECTION & DETAIL  
SHEET  
CM-4

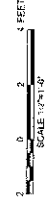
- NOTE:
1. 1/2" FORCE MAINS SHALL BE AS PER INSTALL WITH POLYETHYLENE SLEEVES PROVIDED BY MANUFACTURER AND FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS. TYPICAL BOHR OVERLAP SPICES.
  2. SCHEDULE 40 STAINLESS STEEL PIPE WORK OF TANK.



**Pipe Bracket Details**

1. ALL MATERIAL FOR OVERFLOW HOOD, SHIELD PLATE & PIPE BRACKET AND ANGLE SUPPORTS TO BE SST 304L.
2. USE SST TIG FOR ALL BOLTS NOT FULLY ENCASED IN CONCRETE. ALL WELDS SHALL BE FULLY ENCASED IN INSULATING GLETTIES AND PHENOLIC WASHERS TO ELECTRICALLY ISOLATE THE BOLTS.

1 DETAIL NTS



A SECTION 1/2" = 1'-0"









WATERTRONICS  
LANDSCAPE ARCHITECTS

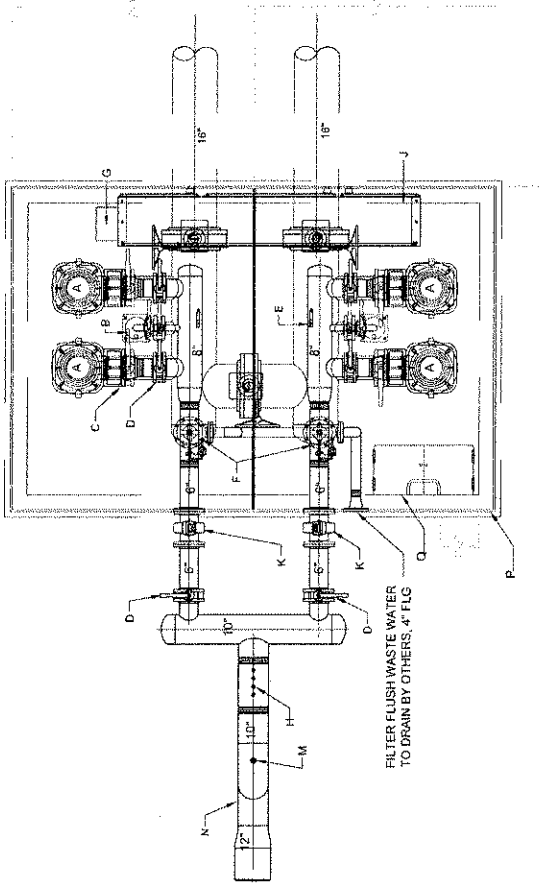
PUMP HOUSE PLAN VIEW  
MAATERS GOOLF CLUB WATER TANK  
APRIL 05/01-12  
13100 WOODS DR  
COLUMBIA, MO 65204  
TEL: 636.321.5500  
WWW.WATERTRONICS.COM

PUMP HOUSE  
PLAN VIEW

CM7

PUMP HOUSE/CONCRETE SLAB DIMENSIONS ARE RECOMMENDED  
MINIMUMS FOR NEC AND SERVICE CLEARANCE, AND ARE FOR  
ILLUSTRATION PURPOSES ONLY. PROJECT MANAGER SHALL BE  
CONSULTED ON FINAL DESIGN.

THE PUMP STATION PROPOSED HEREIN IS DESIGNED TO BE PLACED  
IN A PUMP HOUSE FOR PROTECTION FROM THE ENVIRONMENT. IF A  
PUMP HOUSE IS NOT USED, WATERTRONICS MUST BE NOTIFIED AT  
TIME OF QUOTATION SO SPECIAL PROVISIONS CAN BE MADE.

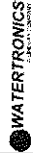


PLAN VIEW  
CONCEPT DRAWING ONLY  
DRAWING NOT TO SCALE

DIMENSIONS AND SIZES OF EXISTING STRUCTURES, AND/OR  
COMPONENTS MUST BE VERIFIED TO WATERTRONICS  
BEFORE STATION CONSTRUCTION BEGINS.



LANDSCOPE ARCHITECTS  
200 PARKWAY 200, SUITE 200  
DUBLIN, OHIO 43017  
TEL: 614.885.8888  
WWW.SSA-ARCHITECTS.COM



WATERTRONICS  
WATER TREATMENT

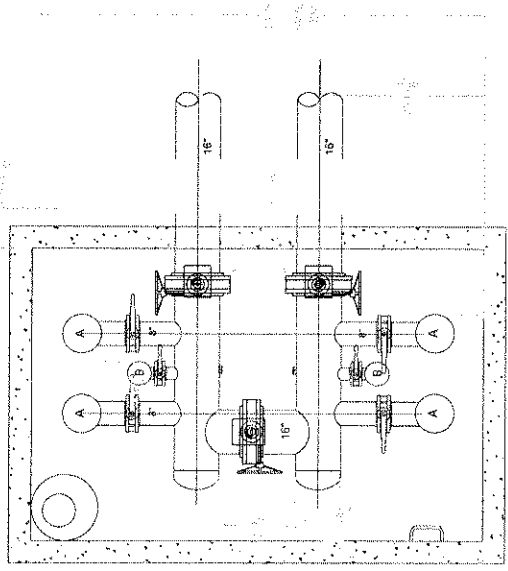
PUMP HOUSE PLAN VIEW  
PASTERNOK GOLF CLUB WATER TANK  
APRIL 06/2011  
11-110-000-001-110  
11-110-000-001-110

NO.	DESCRIPTION
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50	REVISION

PUMP HOUSE  
PLAN VIEW

CM8

PUMP HOUSE/CONCRETE SLAB DIMENSIONS ARE RECOMMENDED  
MINIMUMS FOR NEC AND SERVICE CLEARANCE, AND ARE FOR  
ILLUSTRATION PURPOSES ONLY. PROJECT MANAGER SHALL BE  
CONSULTED ON FINAL DESIGN.

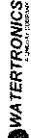


PLAN VIEW  
CONCEPT DRAWING ONLY  
DRAWING NOT TO SCALE

THE PUMP STATION PROPOSED HEREIN IS DESIGNED TO BE PLACED  
PUMP HOUSE FOR PROTECTION FROM THE ENVIRONMENT. IF A  
PUMP HOUSE IS REQUIRED, THE PUMP HOUSE MUST BE NOTIFIED AT  
TIME OF QUOTATION SO SPECIAL PROVISIONS CAN BE MADE.

DIMENSIONS AND SIZES OF EXISTING STRUCTURES, AND/OR  
COMPONENTS MUST BE VERIFIED TO WATERTRONICS  
BEFORE STATION CONSTRUCTION BEGINS.





PUMP HOUSE ELEVATION VIEW

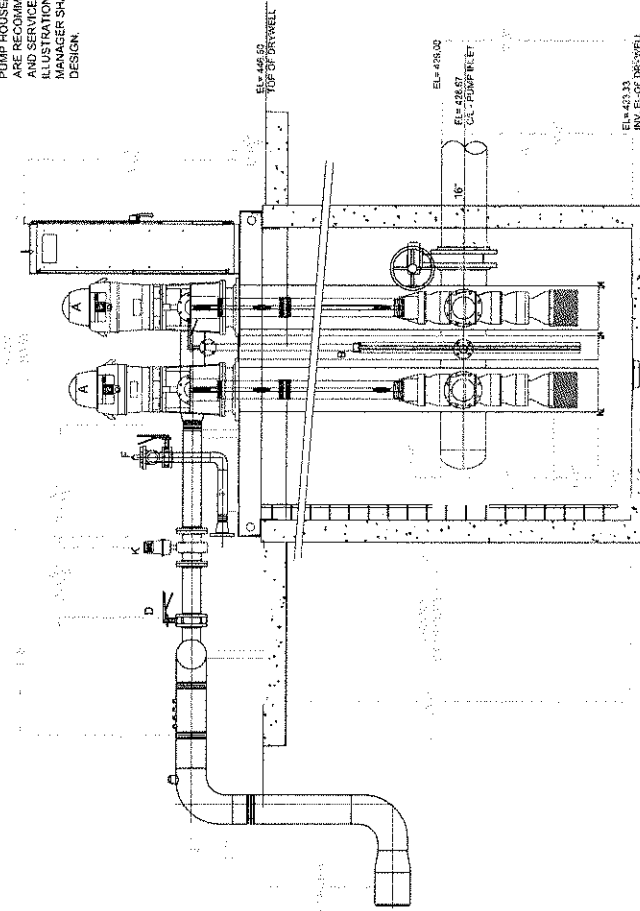
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 DRAWING NO: 2020-01-12  
 DATE: 01/12/2020  
 SCALE: 1/8" = 1'-0"

NO.	DESCRIPTION
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46	REVISION
47	REVISION
48	REVISION
49	REVISION
50	REVISION

PUMP HOUSE ELEVATION VIEW

CM9

PUMP HOUSE CONCRETE SLAB DIMENSIONS ARE RECOMMENDED MINIMUMS FOR NEC AND SERVICE CLEARANCE AND ARE FOR ILLUSTRATION PURPOSES ONLY. PROJECT ENGINEER SHALL BE CONSULTED ON FINAL DESIGN.



ELEVATION VIEW  
 CONCEPT DRAWING ONLY  
 DRAWING NOT TO SCALE





SSA LANDSCAPE ARCHITECTS  
 2500 WILSON AVENUE  
 SUITE 200  
 DENVER, CO 80202  
 TEL: 303.733.1100  
 FAX: 303.733.1101  
 WWW.SSA-ARCH.COM

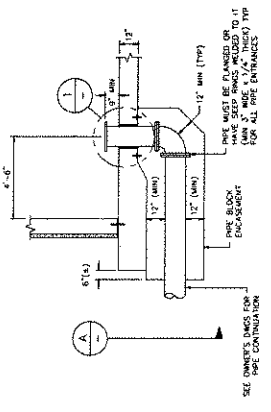
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DATE	07/16/2010
PROJECT	
CLIENT	
DESIGNER	
DATE	
SCALE	
DATE	
SCALE	
DATE	
SCALE	
DATE	
SCALE	

PASATTEMPO GOLF CLUB WATER TANK  
 PASATTEMPO GOLF CLUB  
 20 CLUBHOUSE RD  
 SKATVA, COLO. 80106  
 APN# 060-011-12

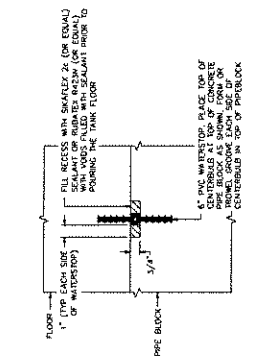
PIPE ENTRANCE  
 DETAILS

INVOICE	
DATE	
PROJECT	
CLIENT	
DATE	
SCALE	
DATE	
SCALE	
DATE	
SCALE	

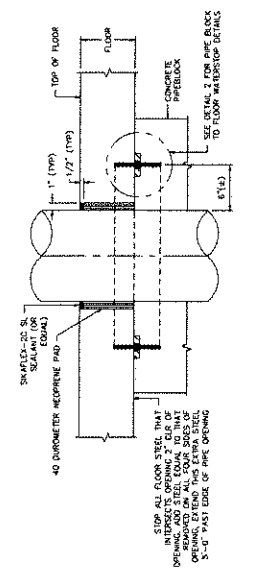
SHEET S2



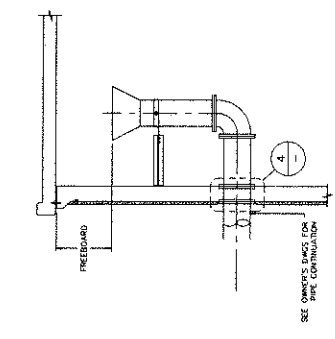
PIPE ENTRANCE THROUGH FLOOR 3



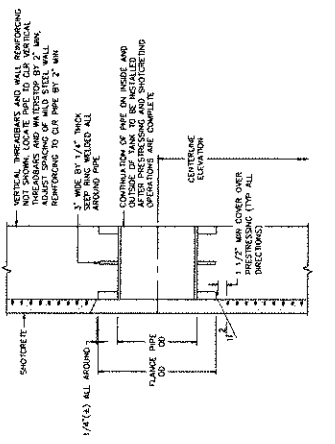
PIPE BLOCK TO FLOOR WATERSTOP DETAILS 2



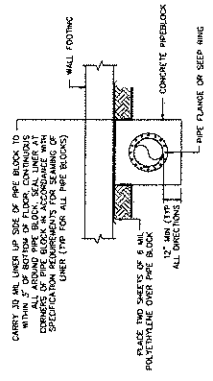
TYPICAL PIPE ENTRANCE THROUGH FLOOR DETAILS 1



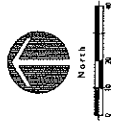
OVERFLOW PIPE THROUGH FLOOR DETAIL 5



TYPICAL PIPE ENTRANCE THROUGH WALL DETAIL 4



SECTION A





STRUCTURAL SERVICES ASSOCIATES  
 10000 W. 16th Ave., Suite 100  
 Denver, CO 80202  
 (303) 751-1111

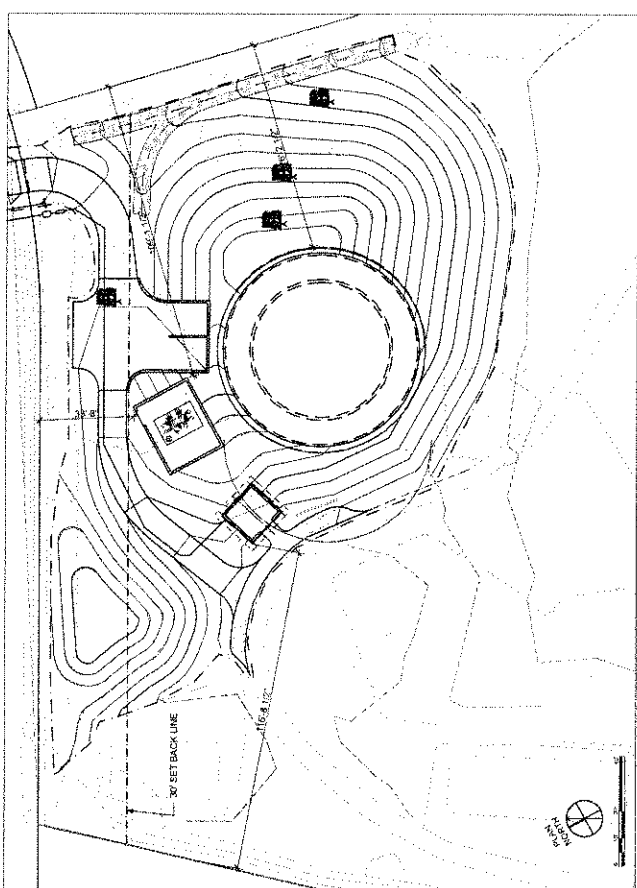
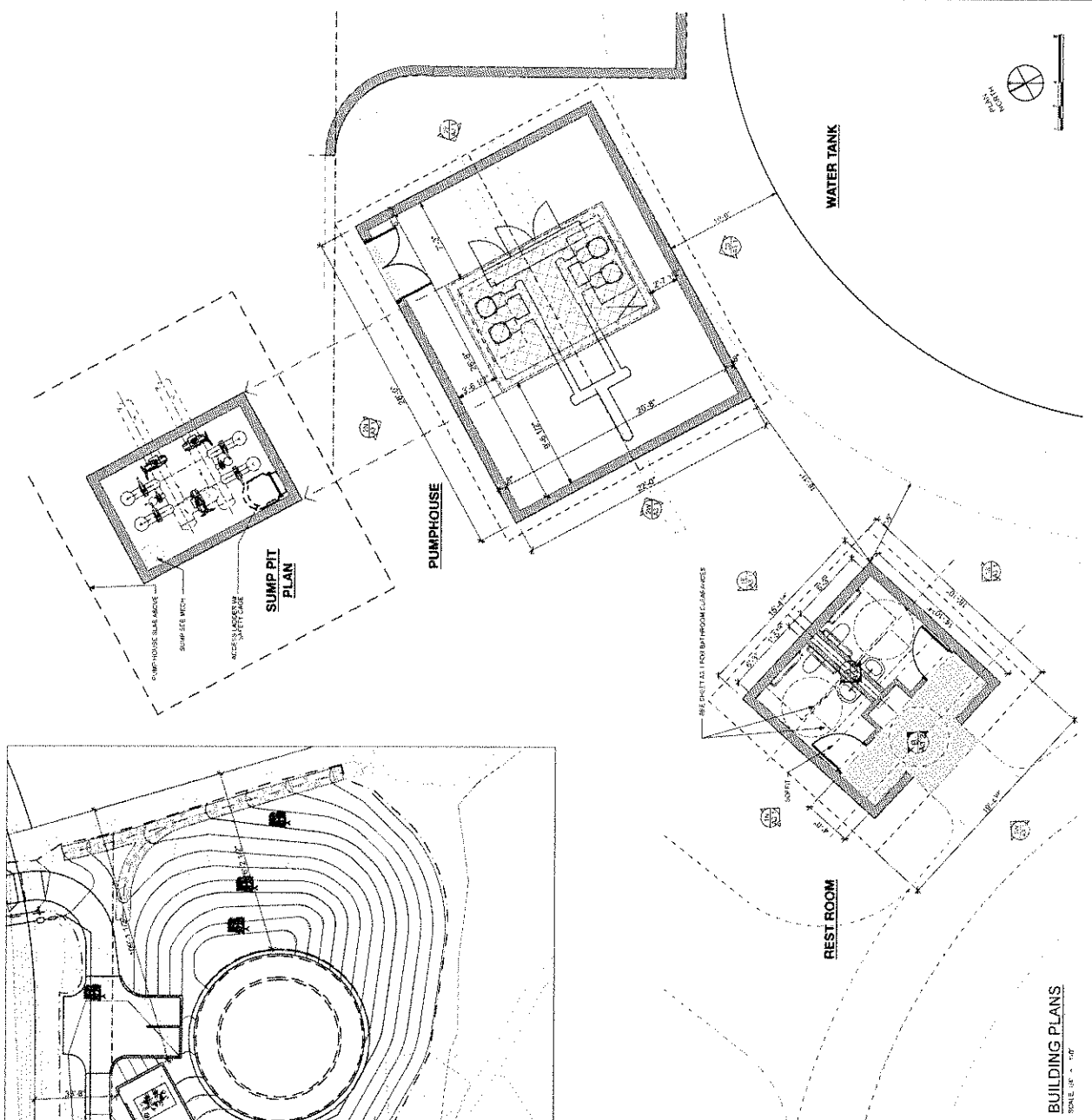


**BUILDING PLANS**  
 KASATUNG COFF CUPS WATER TANK  
 2/28/2011  
 2011/08/12  
 2011/08/12  
 2011/08/12

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	02/28/11
2	ISSUED FOR PERMIT	08/12/11
3	ISSUED FOR PERMIT	08/12/11
4	ISSUED FOR PERMIT	08/12/11
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16	ISSUED FOR PERMIT	08/12/11
17	ISSUED FOR PERMIT	08/12/11
18	ISSUED FOR PERMIT	08/12/11
19	ISSUED FOR PERMIT	08/12/11
20	ISSUED FOR PERMIT	08/12/11

**BUILDING PLANS**

**A2.1**



**ARCHITECTURAL PARTIAL SITE PLAN**  
 SCALE 1" = 30'

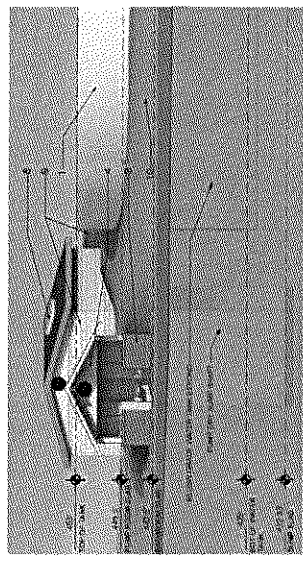


WATER TOWER PROJECT  
 WATER TOWER  
 10000 W. 10TH AVENUE  
 DENVER, CO 80202  
 PHONE: 303.733.1111  
 WWW.SSA-CO.COM

REVISIONS

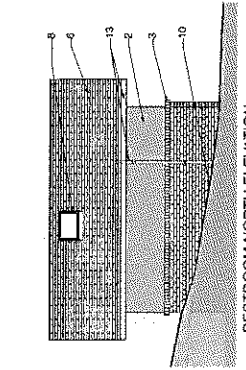
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3	12/15/11	REVISIONS TO PERMIT COMMENTS
4	01/15/12	REVISIONS TO PERMIT COMMENTS
5	02/15/12	REVISIONS TO PERMIT COMMENTS
6	03/15/12	REVISIONS TO PERMIT COMMENTS
7	04/15/12	REVISIONS TO PERMIT COMMENTS
8	05/15/12	REVISIONS TO PERMIT COMMENTS
9	06/15/12	REVISIONS TO PERMIT COMMENTS
10	07/15/12	REVISIONS TO PERMIT COMMENTS
11	08/15/12	REVISIONS TO PERMIT COMMENTS
12	09/15/12	REVISIONS TO PERMIT COMMENTS
13	10/15/12	REVISIONS TO PERMIT COMMENTS
14	11/15/12	REVISIONS TO PERMIT COMMENTS
15	12/15/12	REVISIONS TO PERMIT COMMENTS

EXTERIOR ELEVATIONS  
**A3.1**

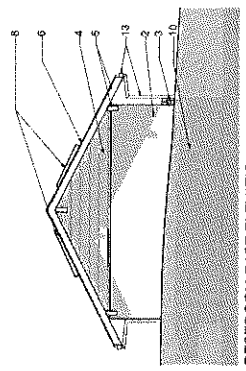


1 RESTROOM EAST ELEVATION  
 SCALE 1/8" = 1'-0"

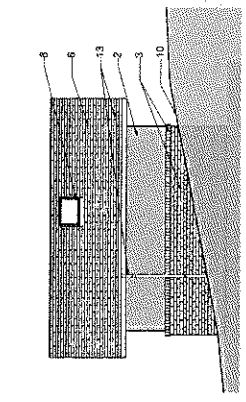
- MATERIAL LEGEND**
1. CONCRETE WATER TANK
  2. CEMENT PLASTER OVER C.M.U. (PAINTED)
  3. BRICK VENEER WAINSCOT & WALK
  4. BRICK VENEER WAINSCOT & WALK
  5. PAINTED WOOD TRIM & ENDS
  6. HEAVY SHAKE ROOF (FIRE RETARDANT TREATED)
  7. GALVANIZED CORRUGATED METAL ROOFING
  8. GALVANIZED CORRUGATED METAL ROOFING
  9. C.F.L.U. RETAINING WALL (MATERIAL STORAGE BIN & PUMP HOUSE)
  10. PAINTED METAL WALL (LANDSCAPING)
  11. PAINTED METAL WALL (LANDSCAPING)
  12. PAINTED METAL WALL (LANDSCAPING)
  13. PAINTED GALVANIZED OUTLETS & DOWNSPOUTS



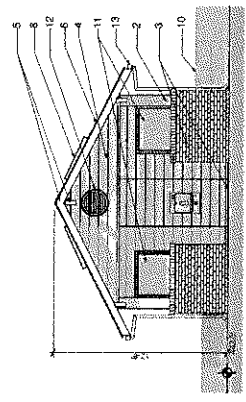
RESTROOM NORTH ELEVATION  
 SCALE 1/8" = 1'-0"



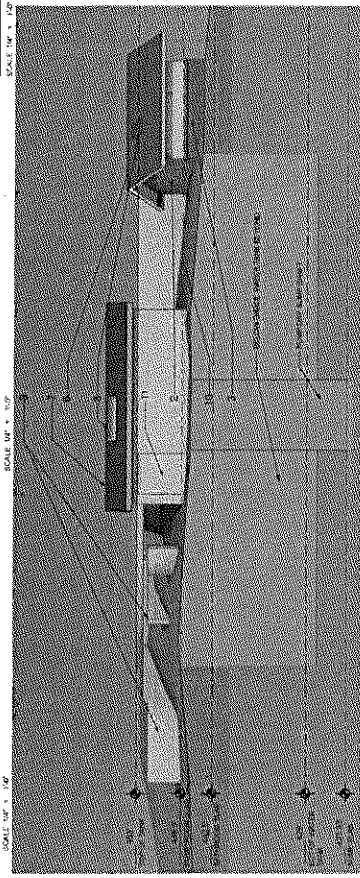
RESTROOM EAST ELEVATION  
 SCALE 1/8" = 1'-0"



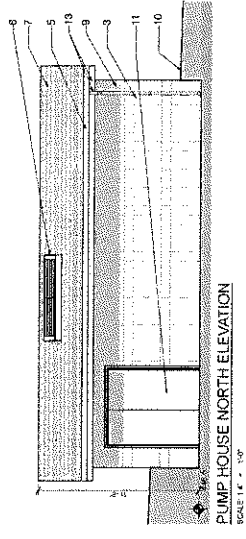
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 SCALE 1/8" = 1'-0"



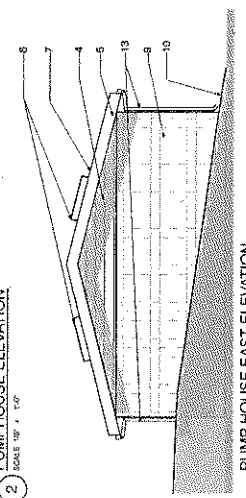
RESTROOM WEST ELEVATION  
 SCALE 1/8" = 1'-0"



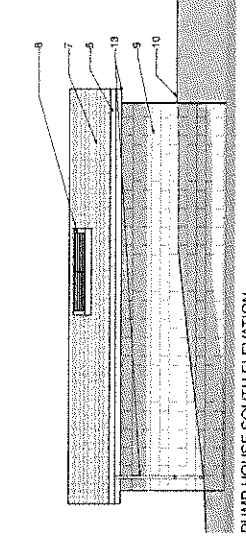
2 PUMPHOUSE NORTH ELEVATION  
 SCALE 1/8" = 1'-0"



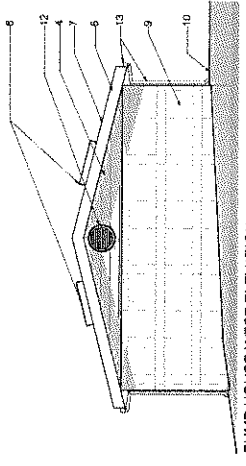
PUMPHOUSE NORTH ELEVATION  
 SCALE 1/8" = 1'-0"



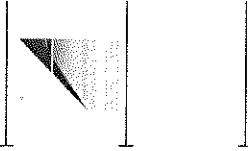
PUMPHOUSE EAST ELEVATION  
 SCALE 1/8" = 1'-0"



PUMPHOUSE SOUTH ELEVATION  
 SCALE 1/8" = 1'-0"



PUMPHOUSE WEST ELEVATION  
 SCALE 1/8" = 1'-0"



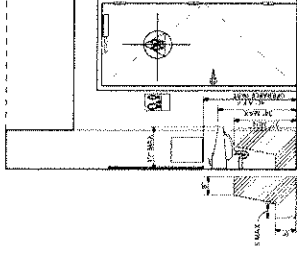
BATHROOM BUILDING SECTIONS & ELEVATIONS  
MAYHEW GOLF CLUB WATER TANK  
ARCH: 042011.12  
DATE: 04/20/12  
1500 W. 10TH STREET  
ANCHORAGE, AK 99501

NO.	DATE	DESCRIPTION
1	04/20/12	ISSUED FOR PERMIT
2	04/20/12	ISSUED FOR PERMIT
3	04/20/12	ISSUED FOR PERMIT
4	04/20/12	ISSUED FOR PERMIT
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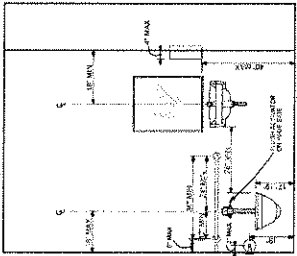
A3.2

BATHROOM BUILDING SECTIONS & ELEVATIONS

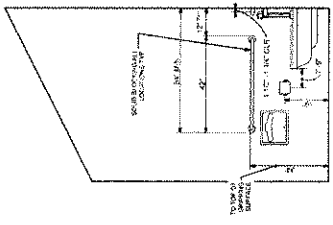
NOTES:  
1. ALL FINISHES AND MATERIALS TO BE CONSISTENT WITH THE FINISHES SHOWN ON THE PERMIT APPLICATION.  
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE PERMIT APPLICATION.  
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE PERMIT APPLICATION.



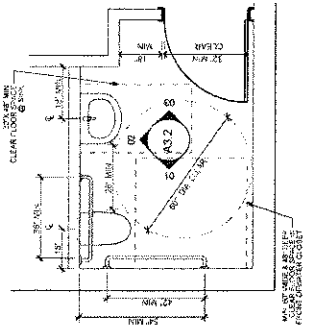
03 BATHROOM ELEVATION TYP.  
SCALE: 1/2" = 1'-0"



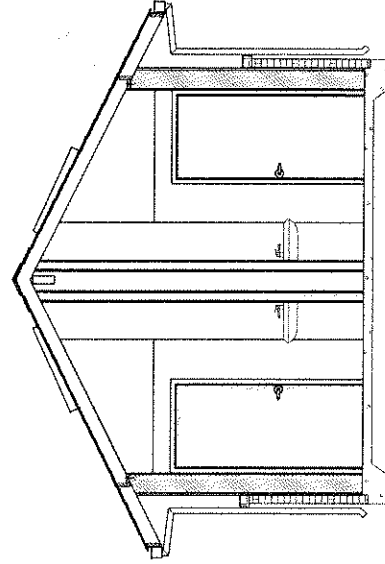
02 BATHROOM ELEVATION TYP.  
SCALE: 1/2" = 1'-0"



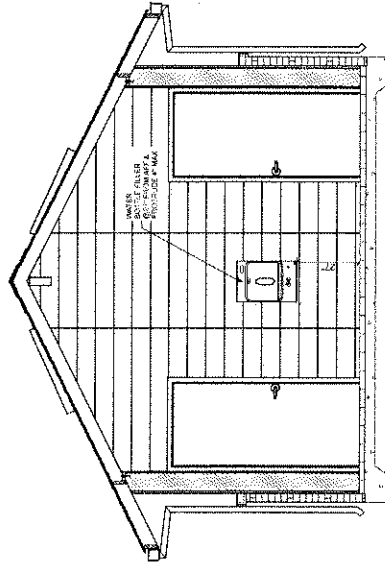
01 BATHROOM ELEVATION TYP.  
SCALE: 1/2" = 1'-0"



BATHROOM CLEARANCES  
SCALE: 1/2" = 1'-0"



SECT A  
SCALE: 1/2" = 1'-0"



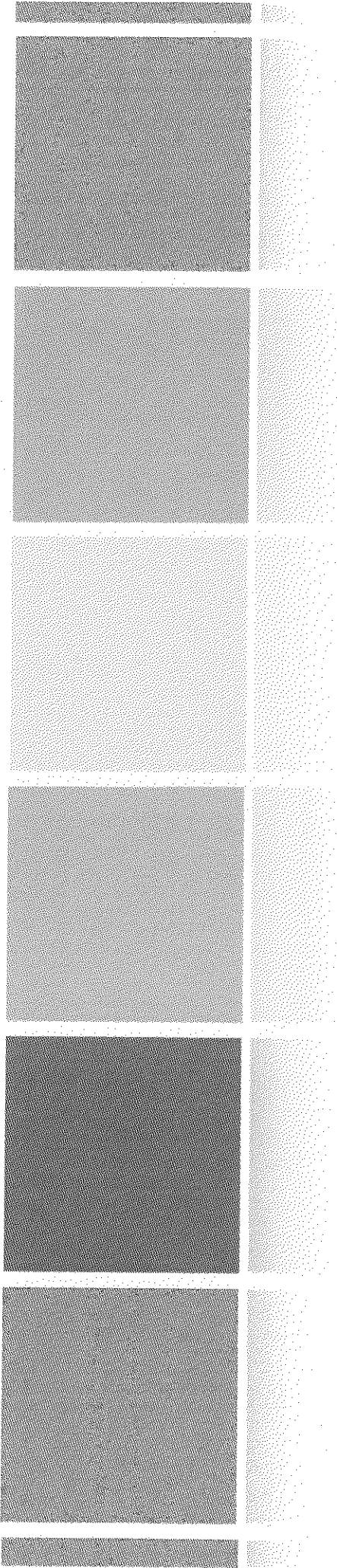
SECT B  
SCALE: 1/2" = 1'-0"



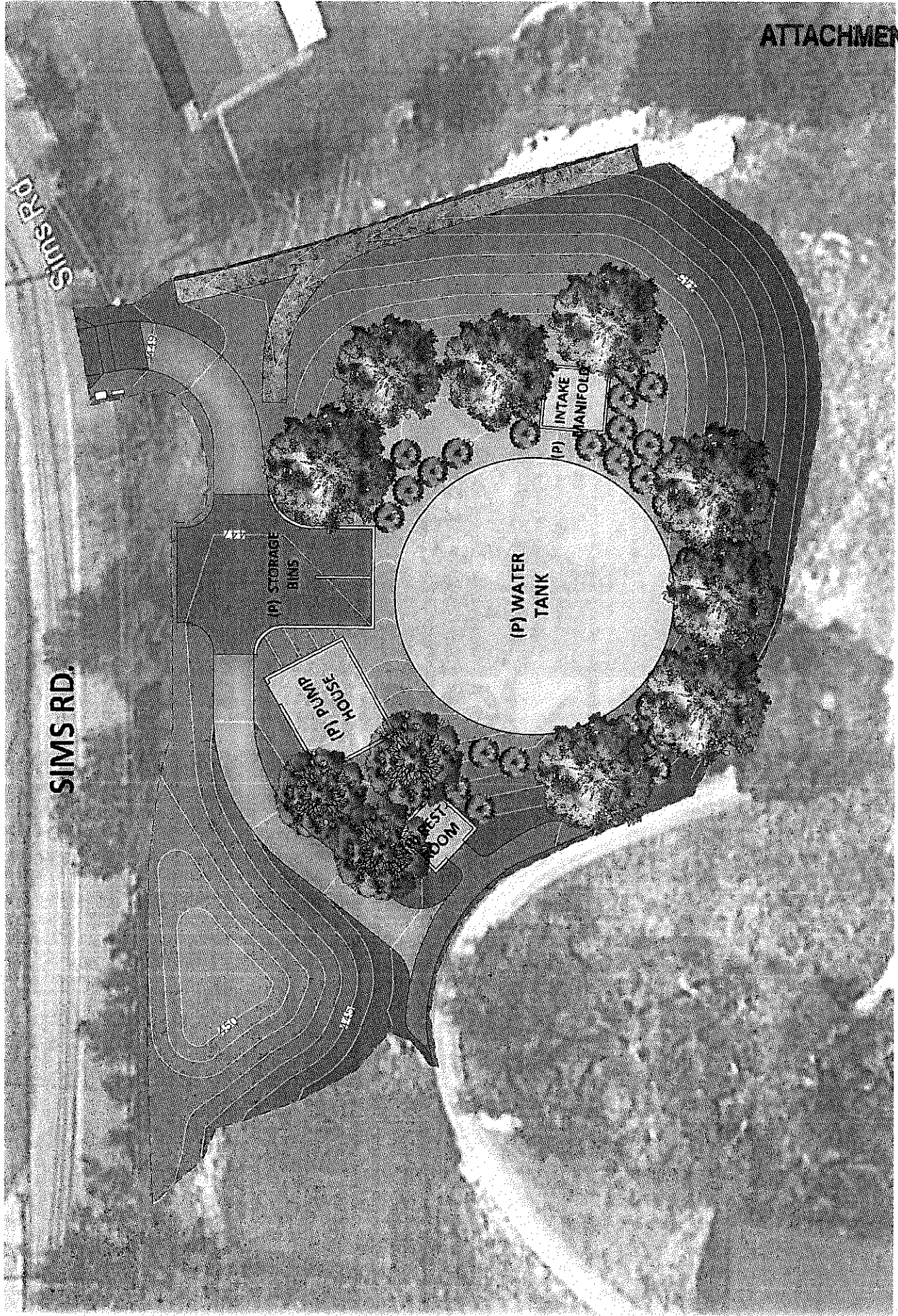




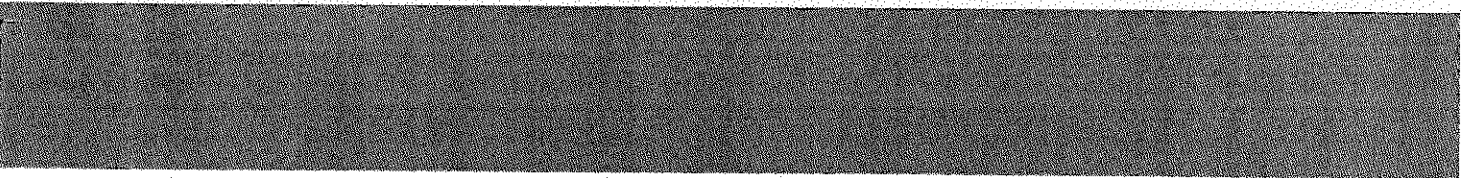
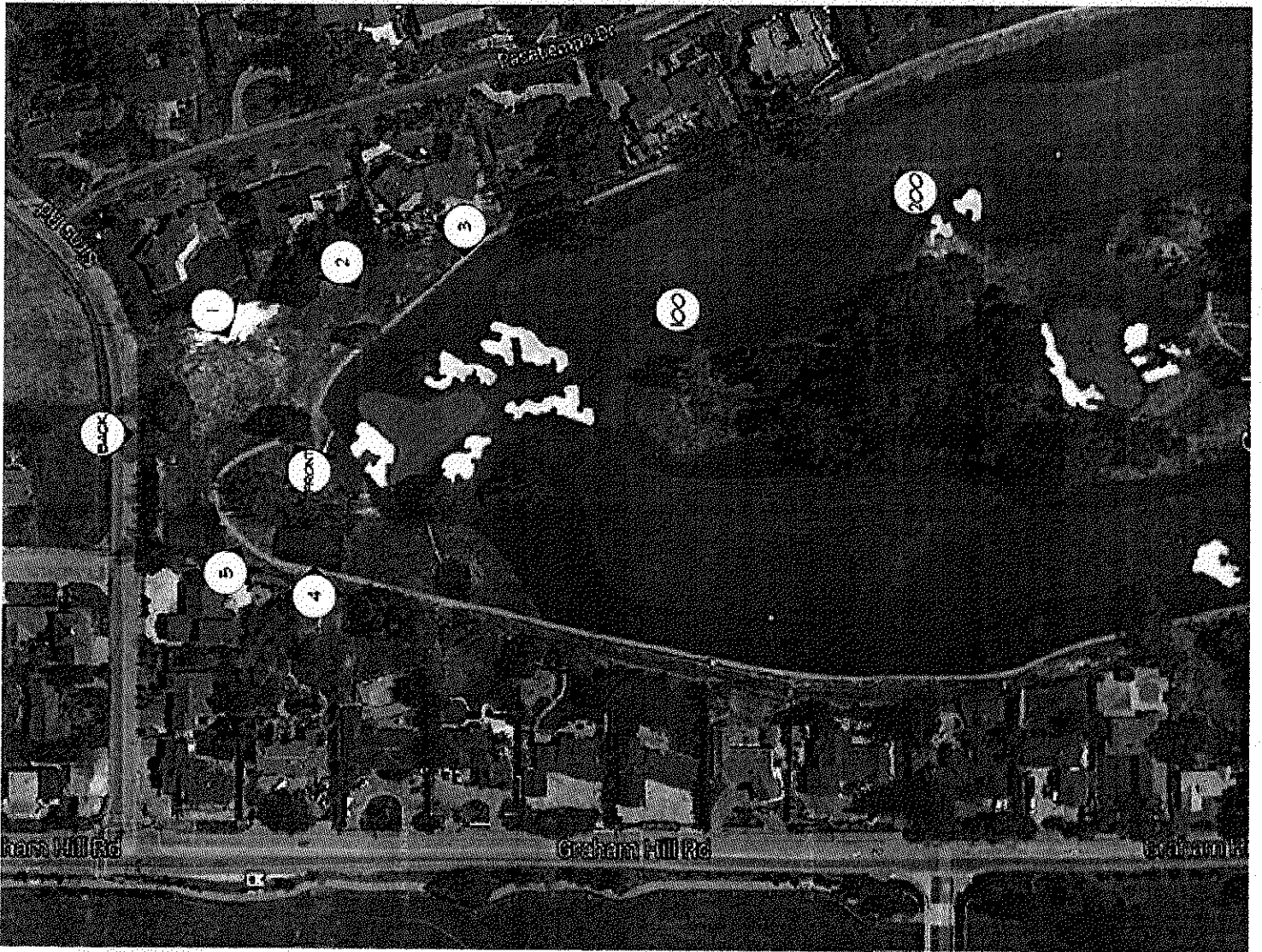
# pasatiempo golf club water project



# PLAN VIEW



View/House 1

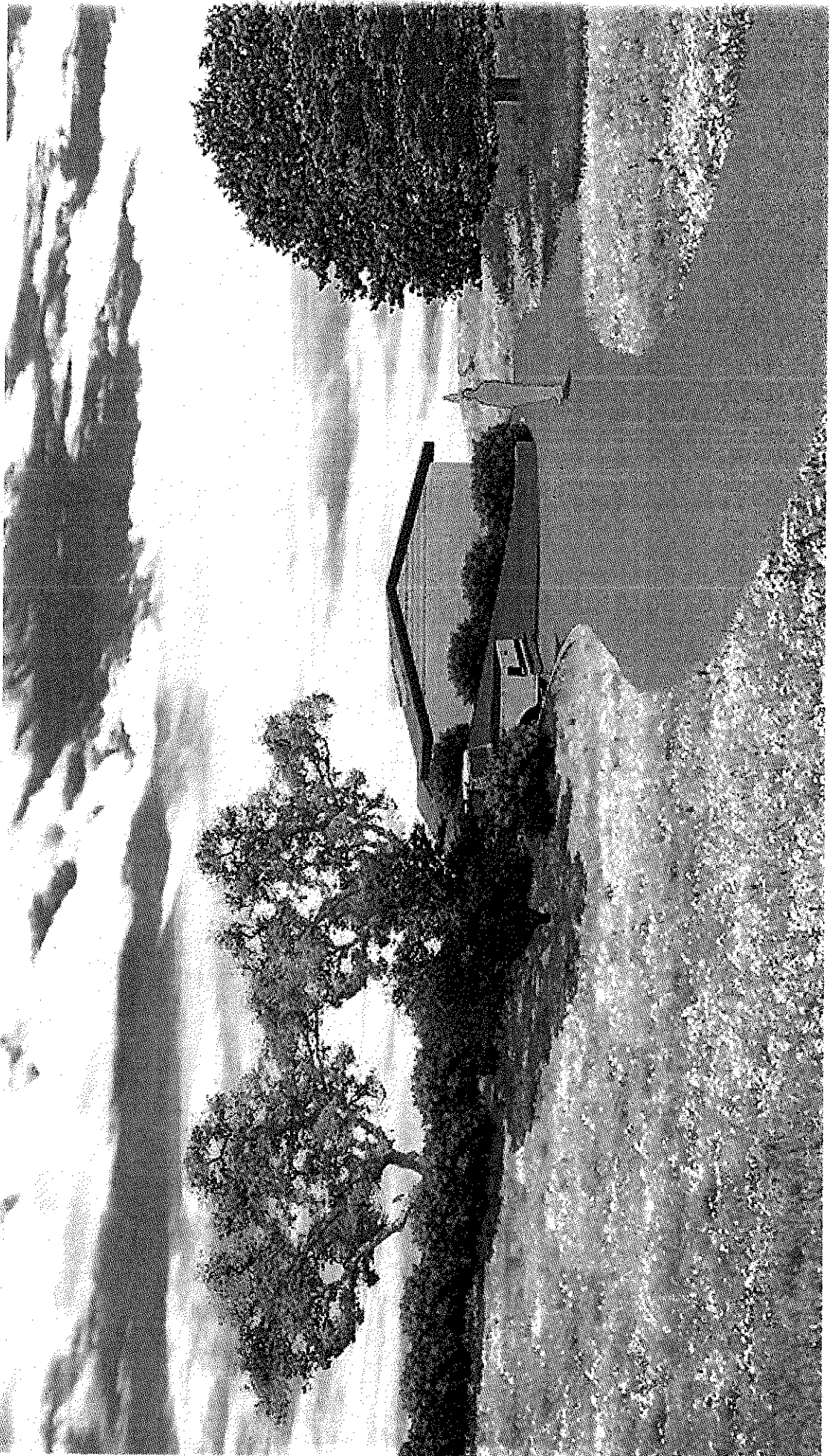


# View/House 1

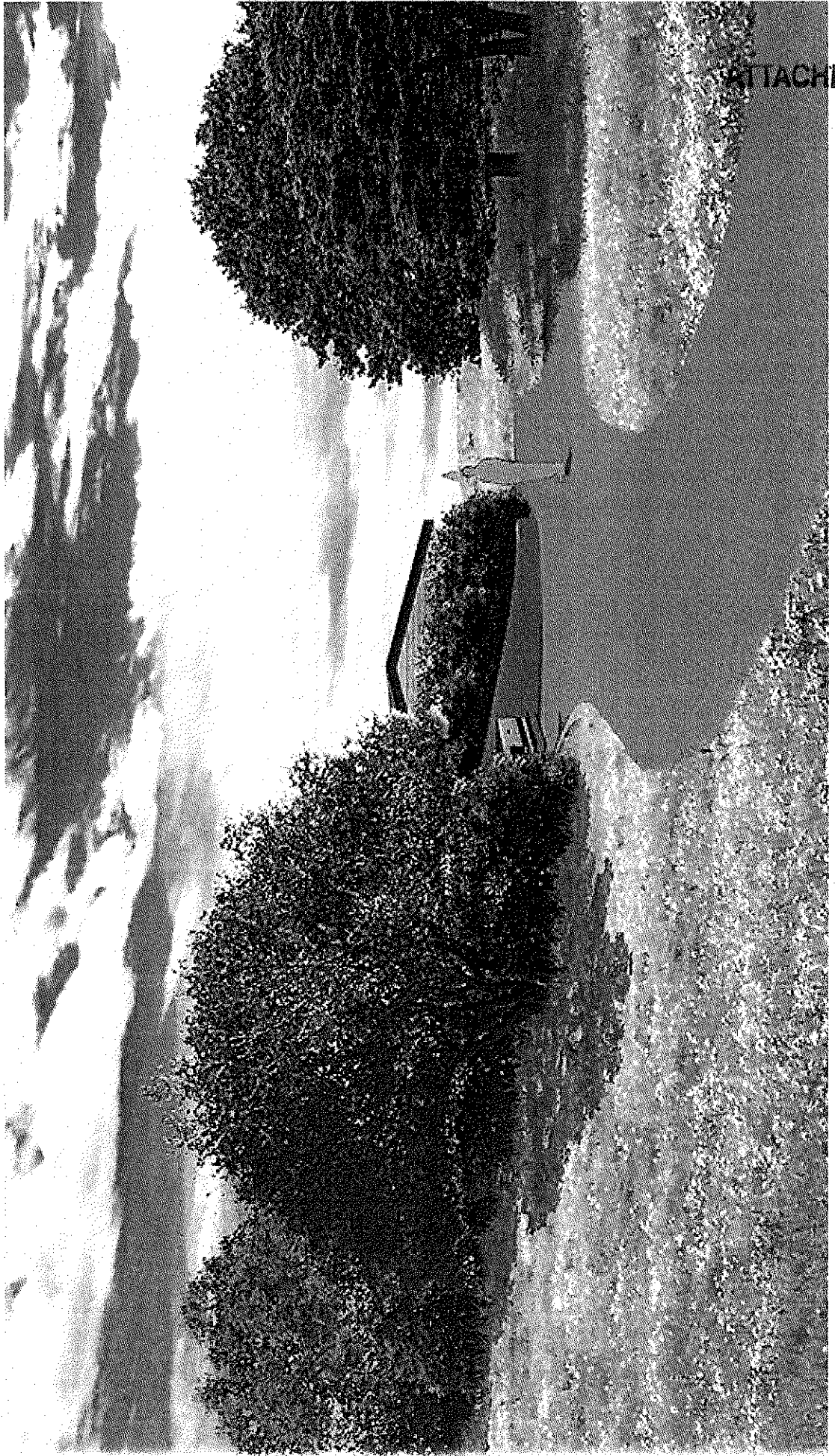
## Existing Conditions

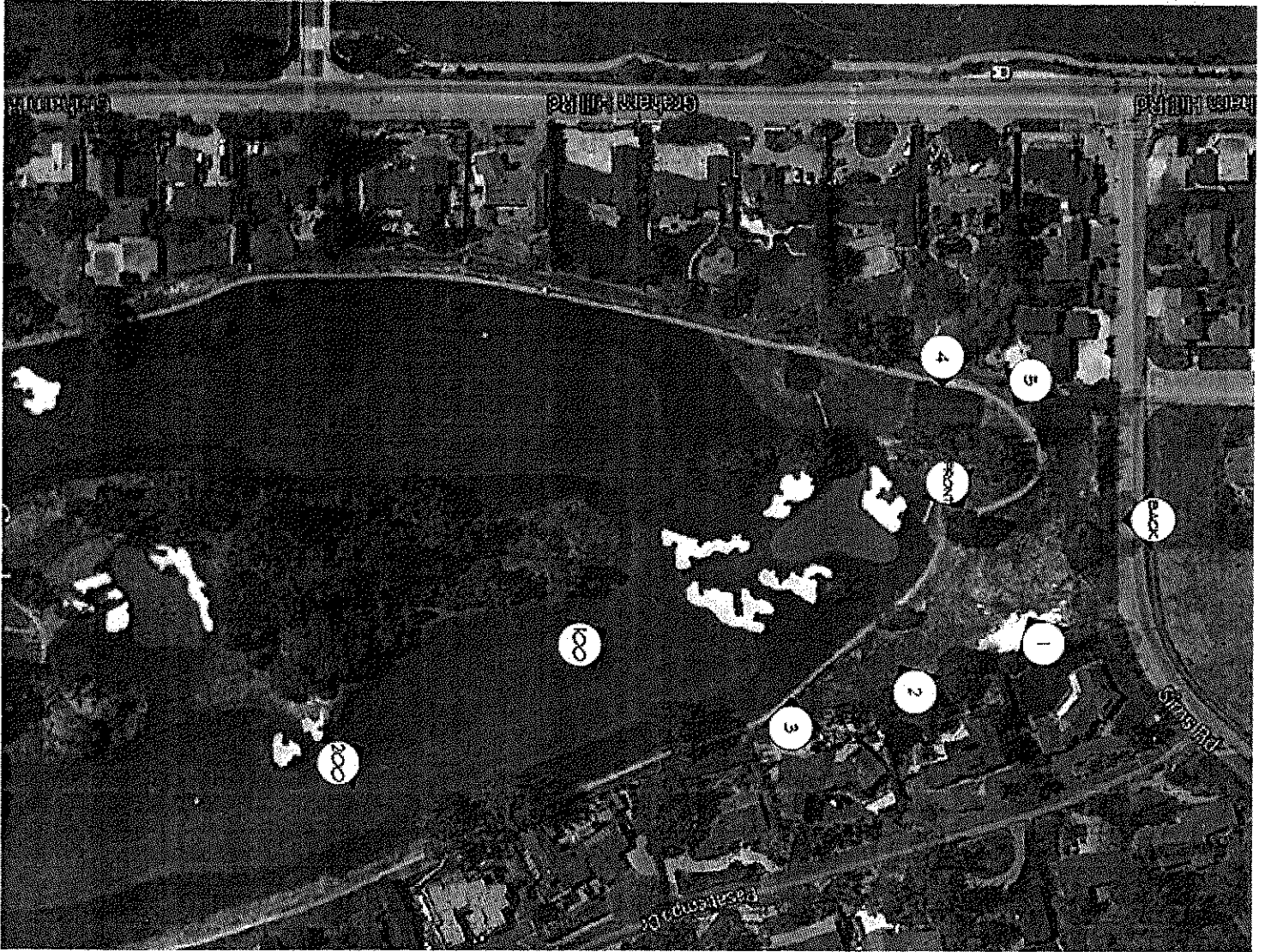


# View/House 1 Newly Planted



# View/House 1 10 Years After Planting





View/House 2

# View/House 2

## Existing Conditions





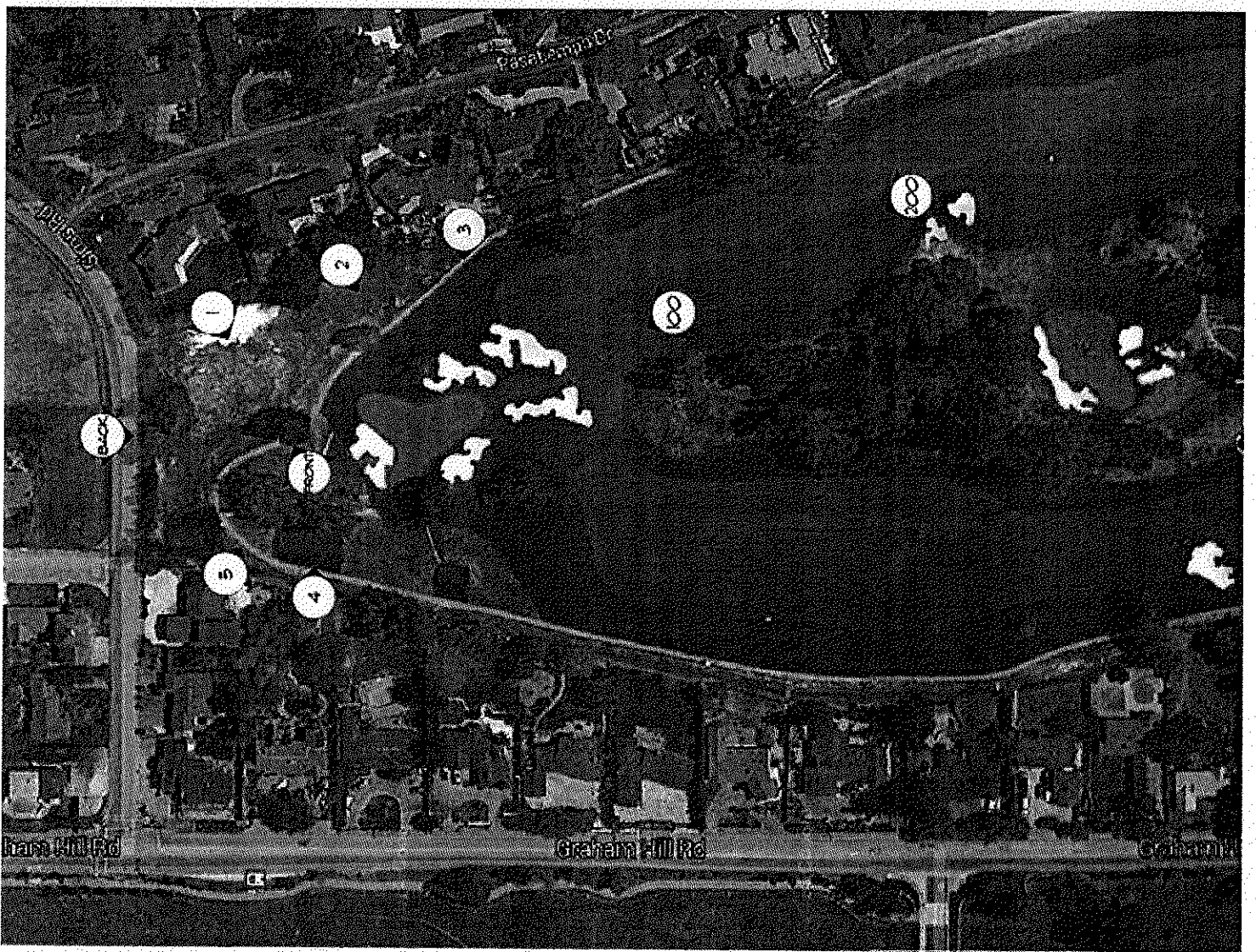
**View/House 2**  
**Newly Planted**



# View/House 2 10 Years After Planting

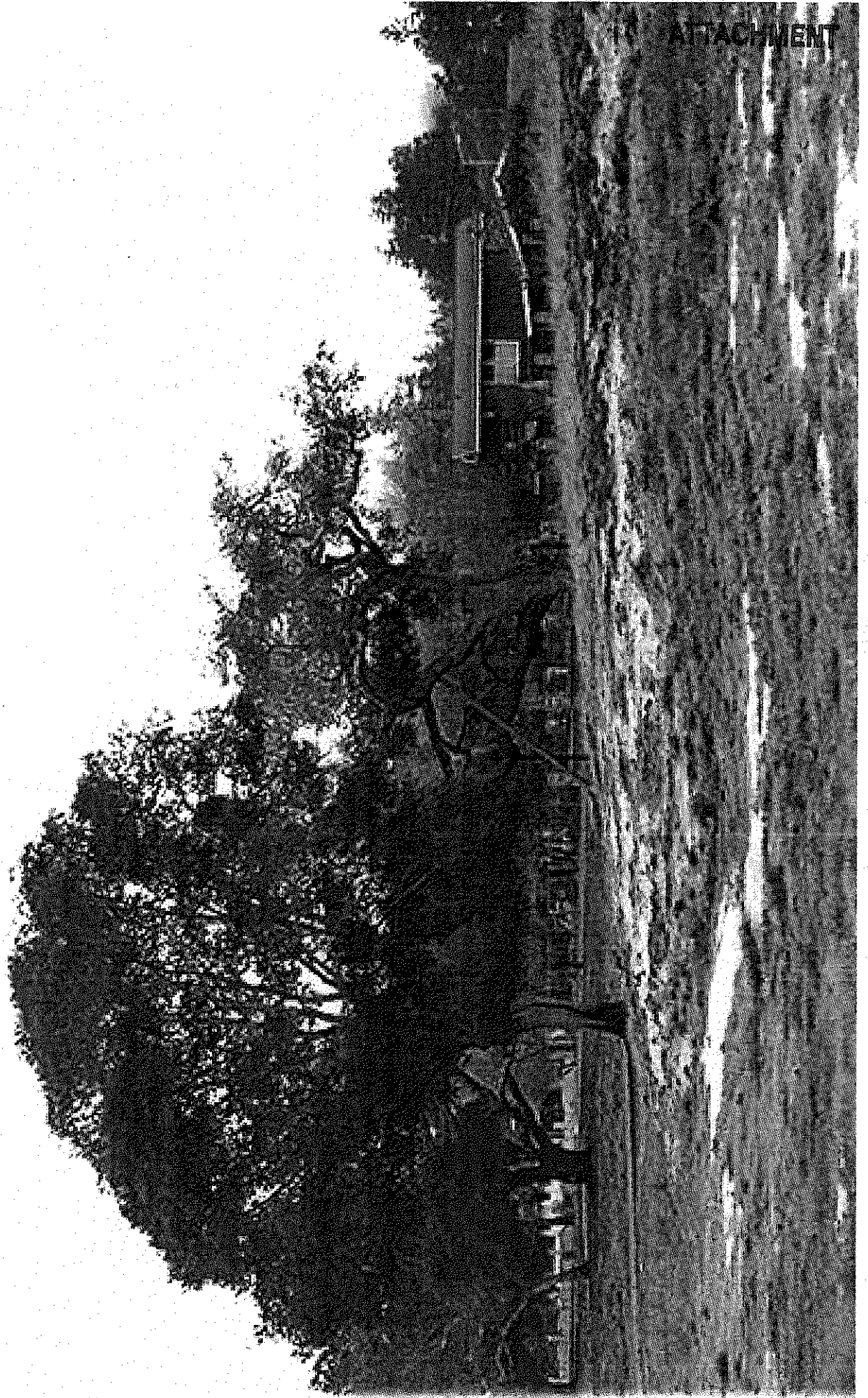


View/House 3



# View/House 3

## Existing Conditions



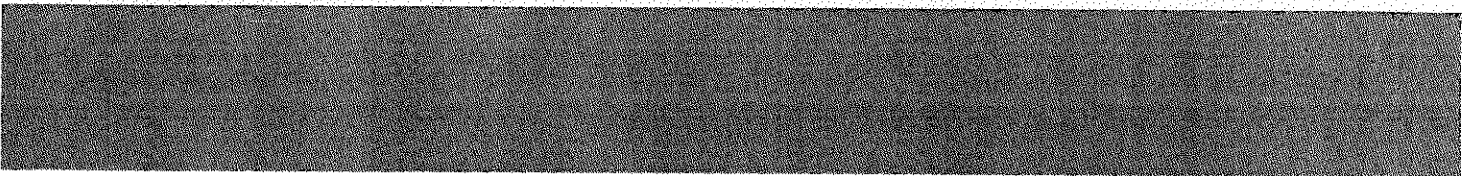
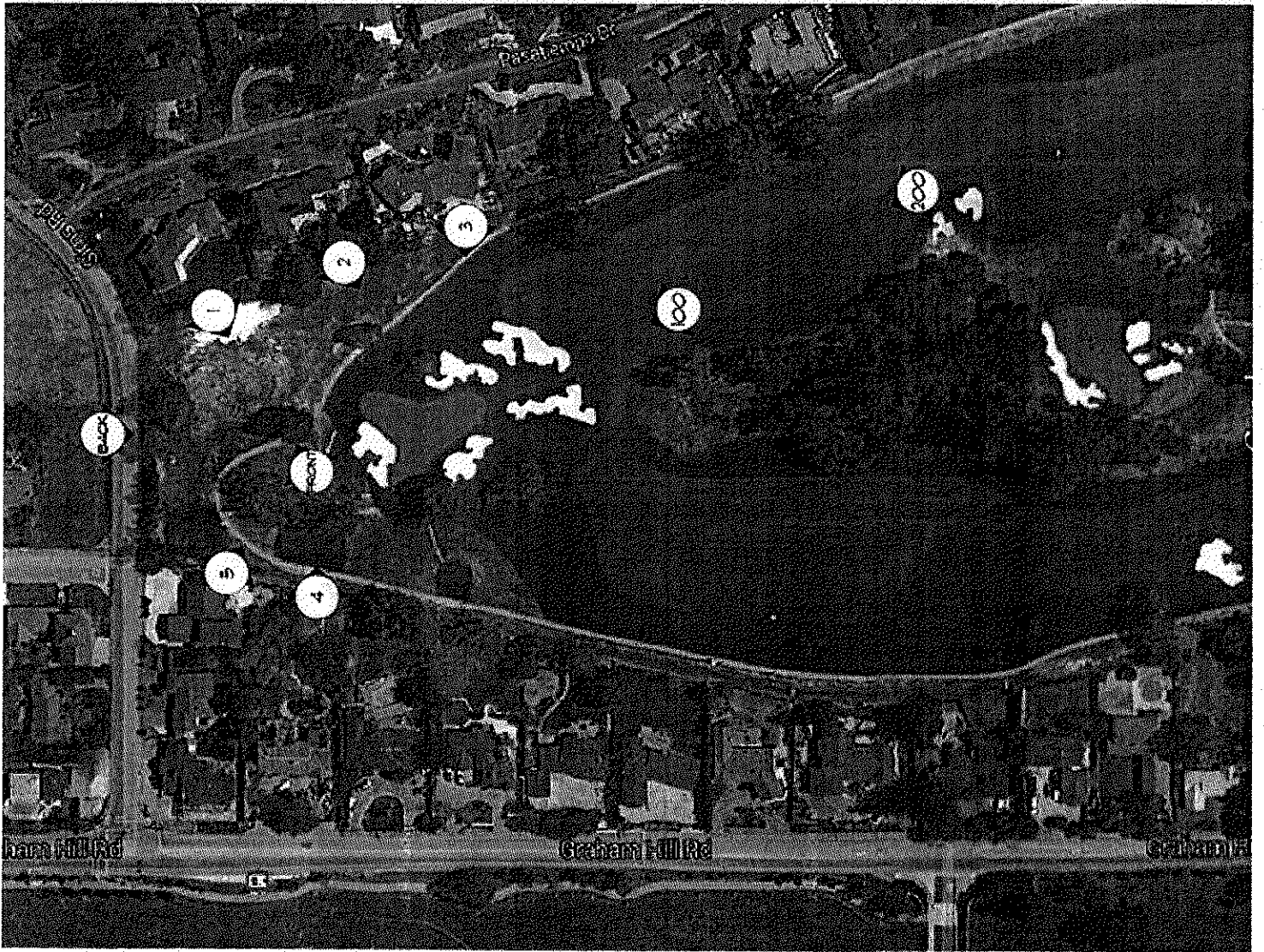
# View/House 3 Newly Planted



# View/House 3 10 Years After Planting



View/House 4



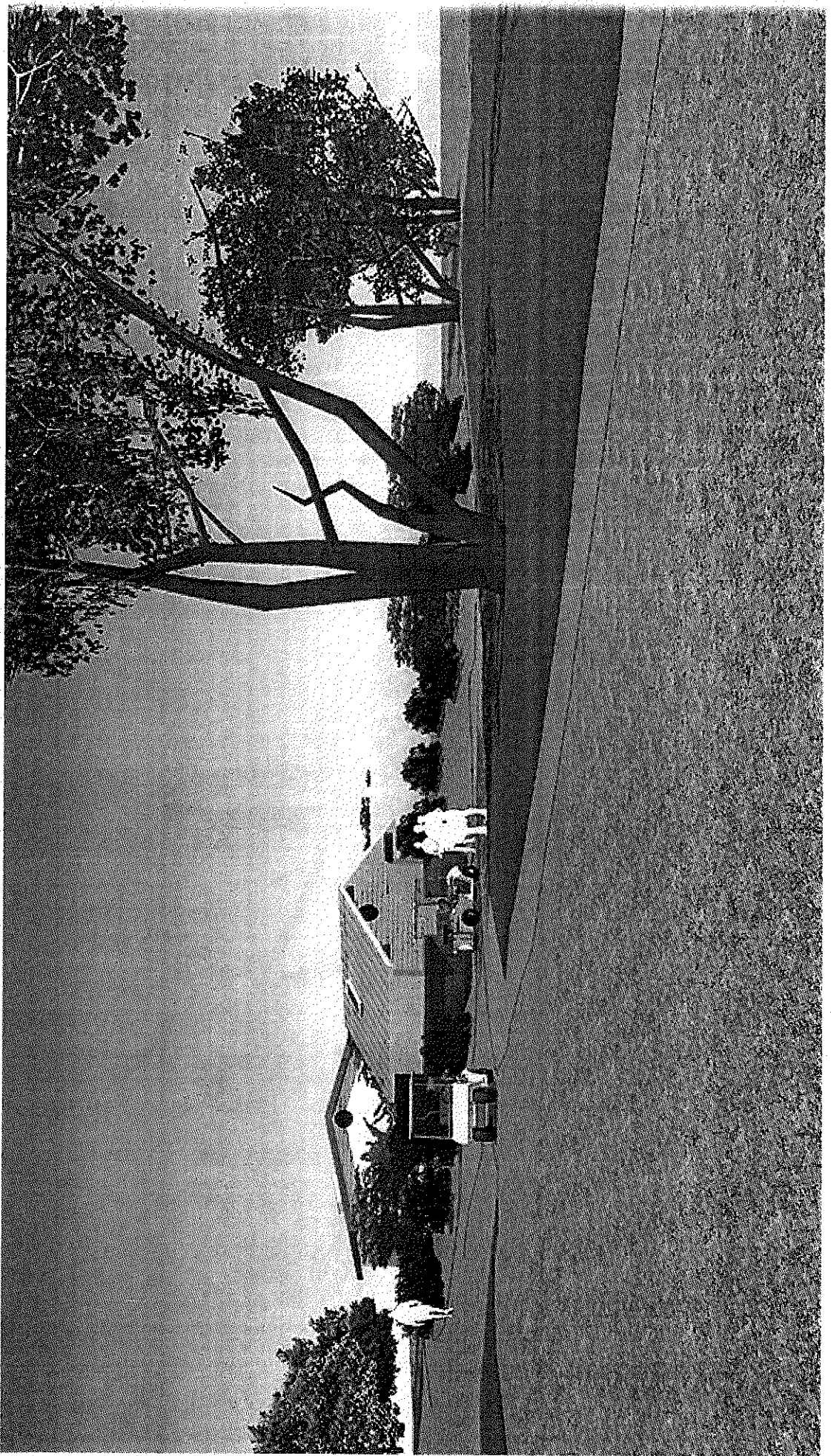
# View/House 4

## Existing Conditions

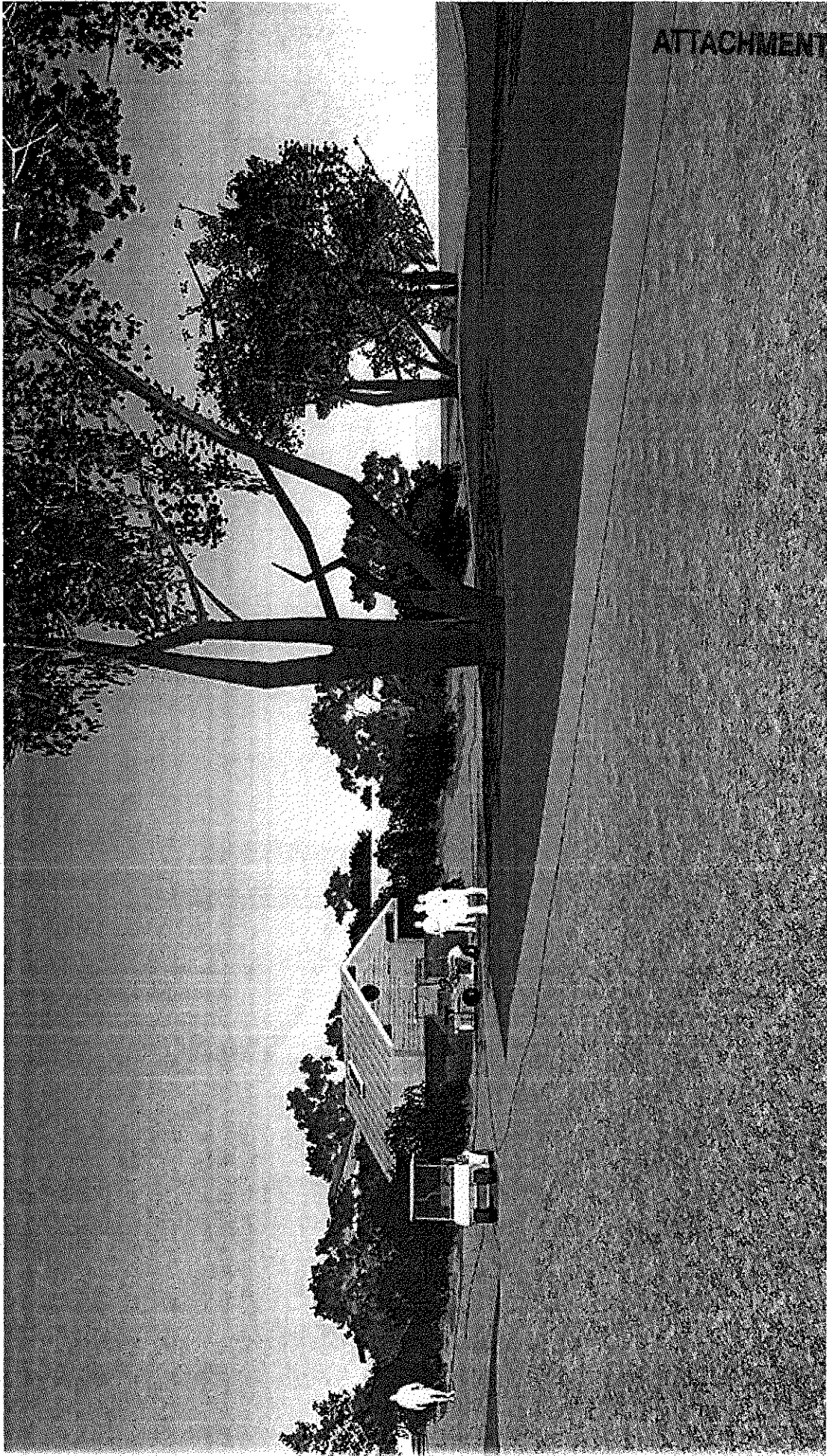




# View/House 4 Newly Planted

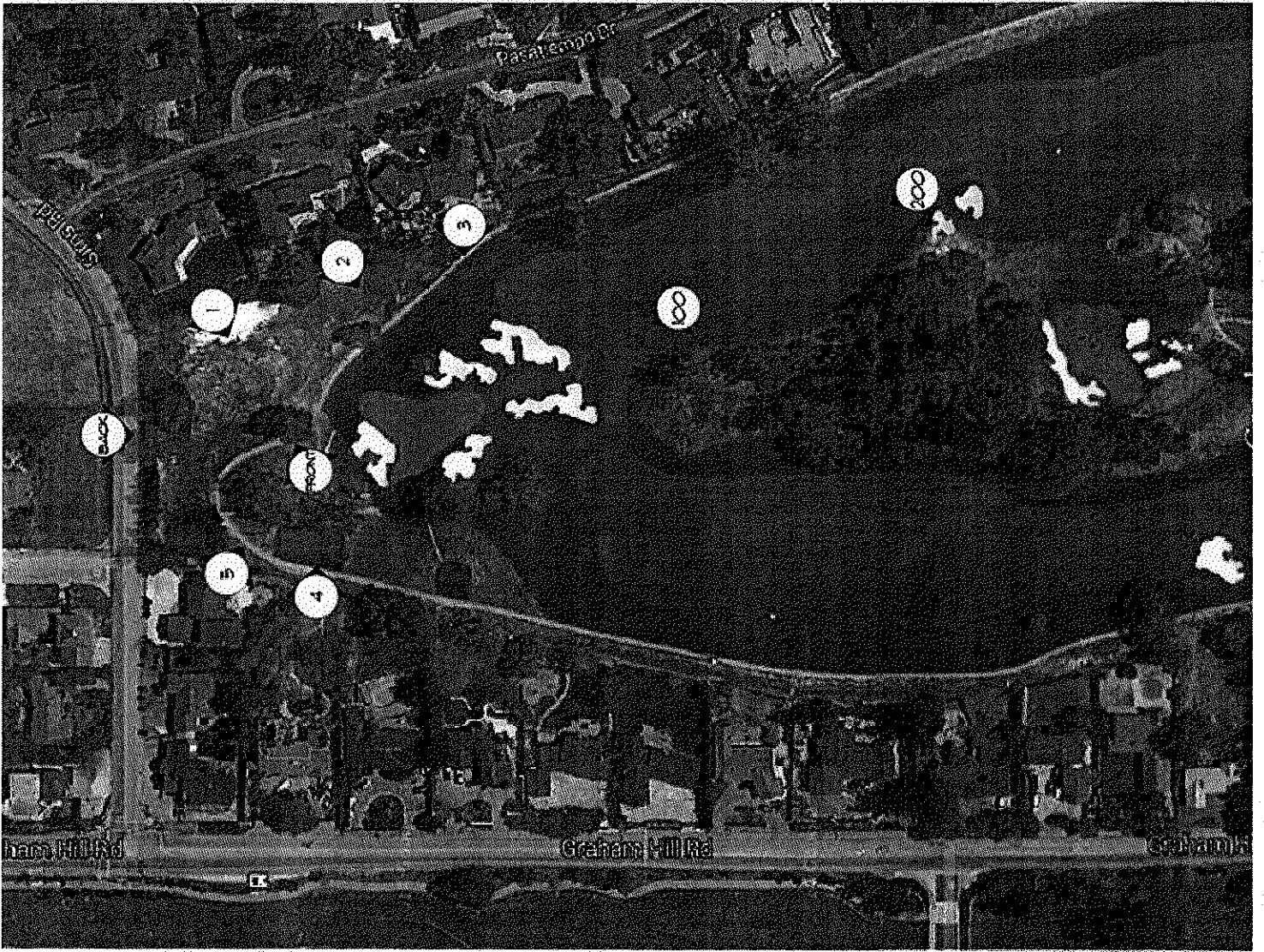


# View/House 4 10 Years After Planting



ATTACHMENT

View/House 5

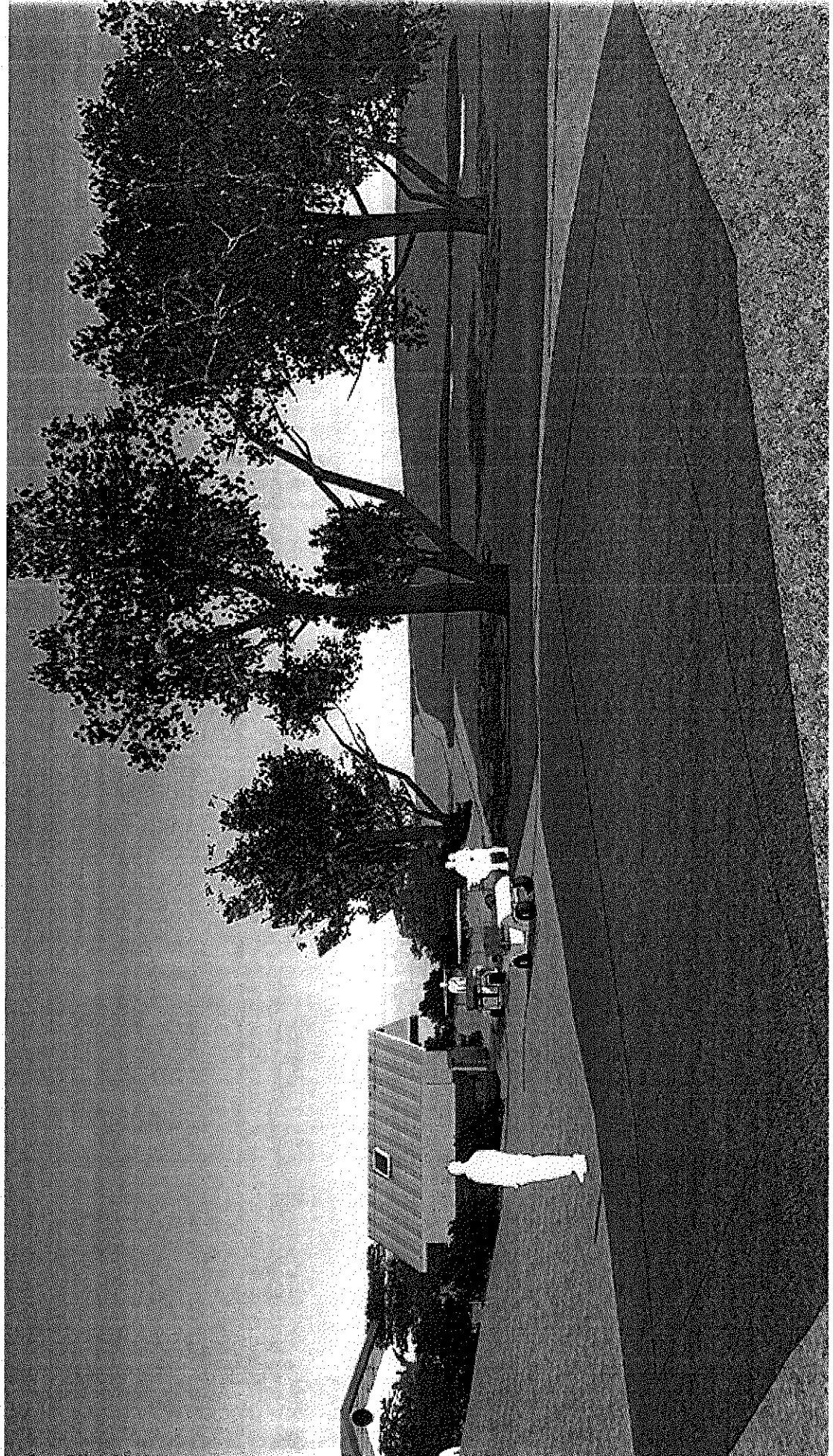


# View/House 5

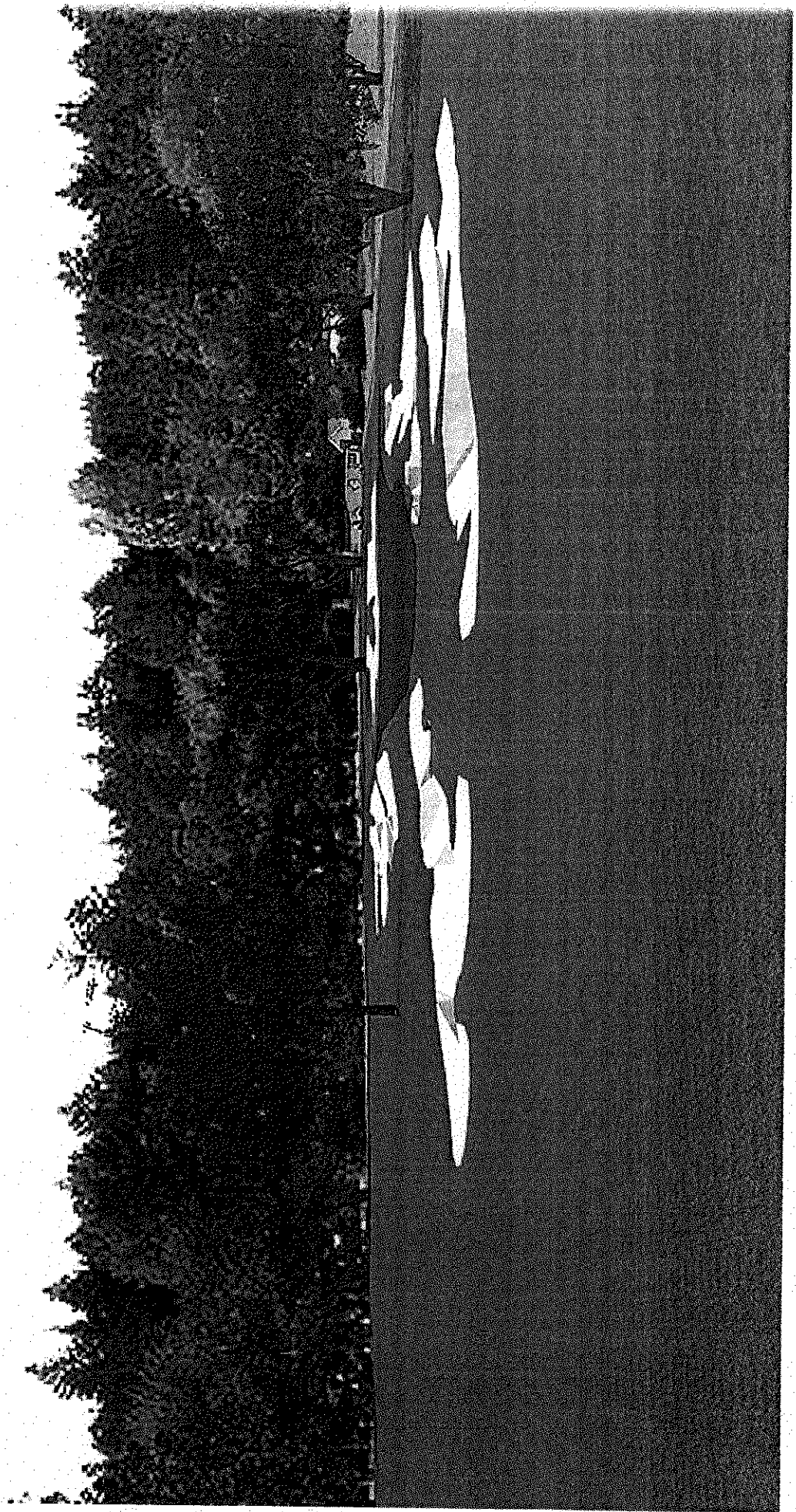
## Existing Conditions



# View/House 5 Newly Planted



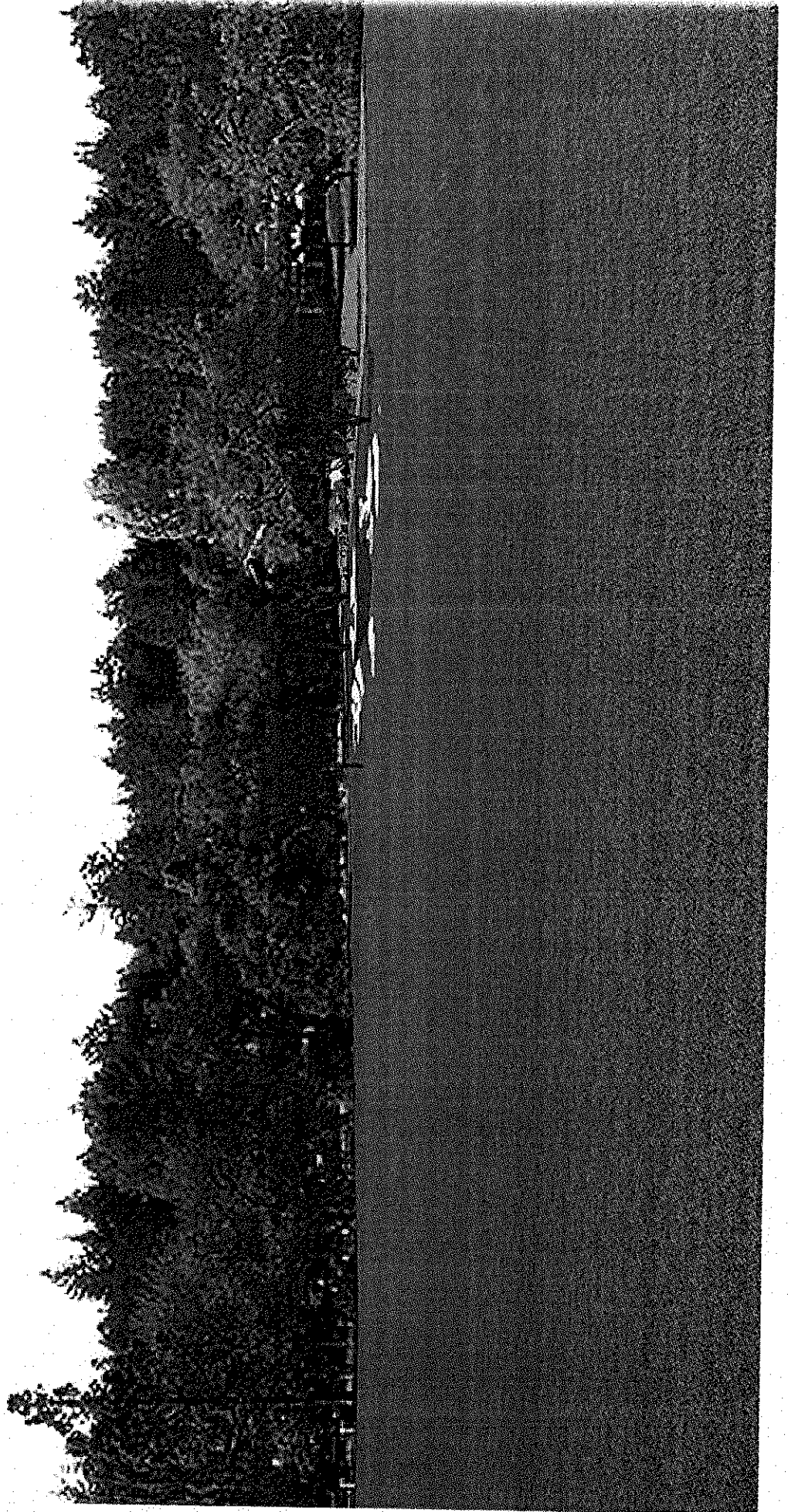
# View 100 Yards 10 Years After Planting



View 200 yards

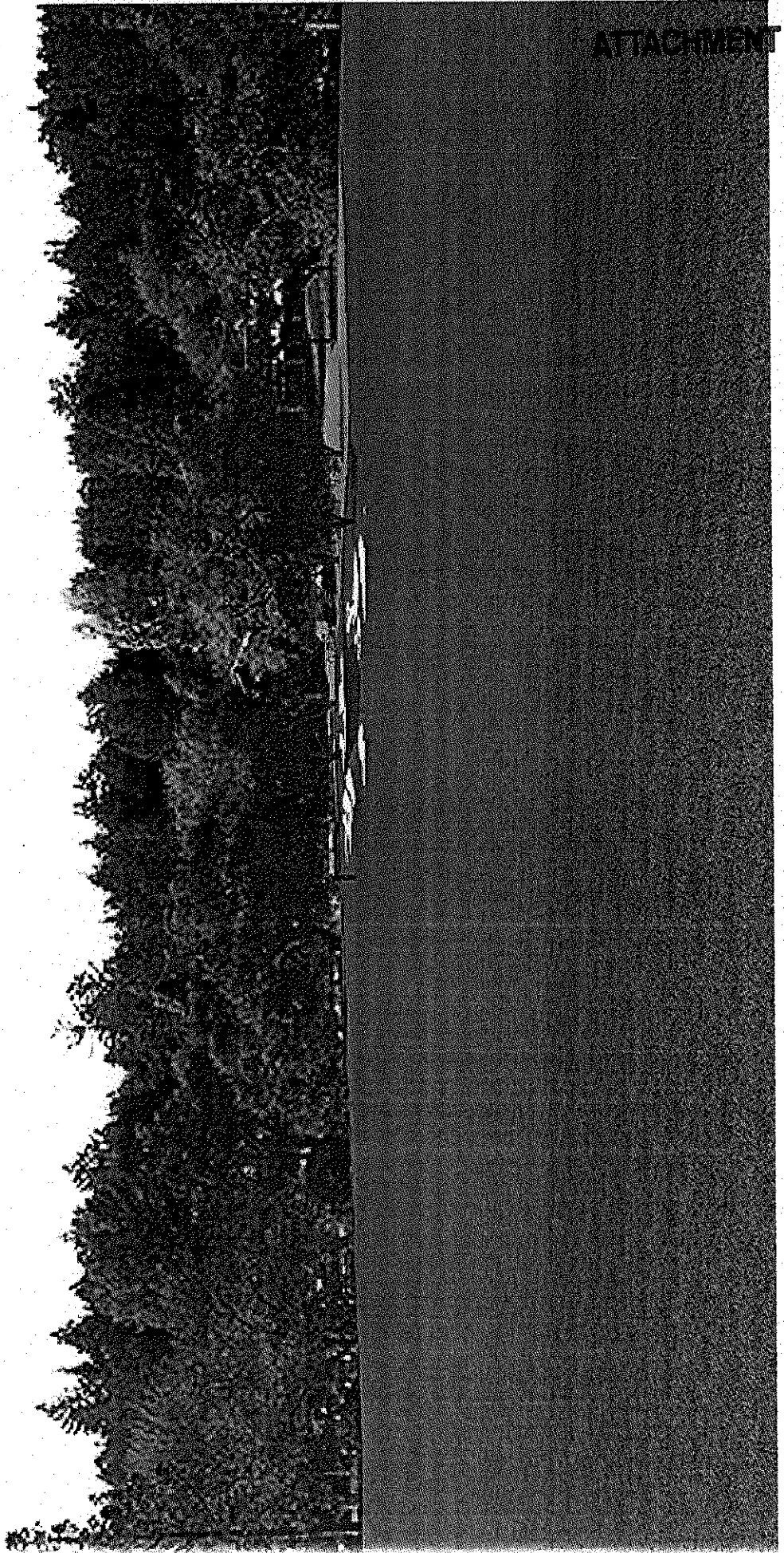


**View 200 Yards  
Newly Planted**



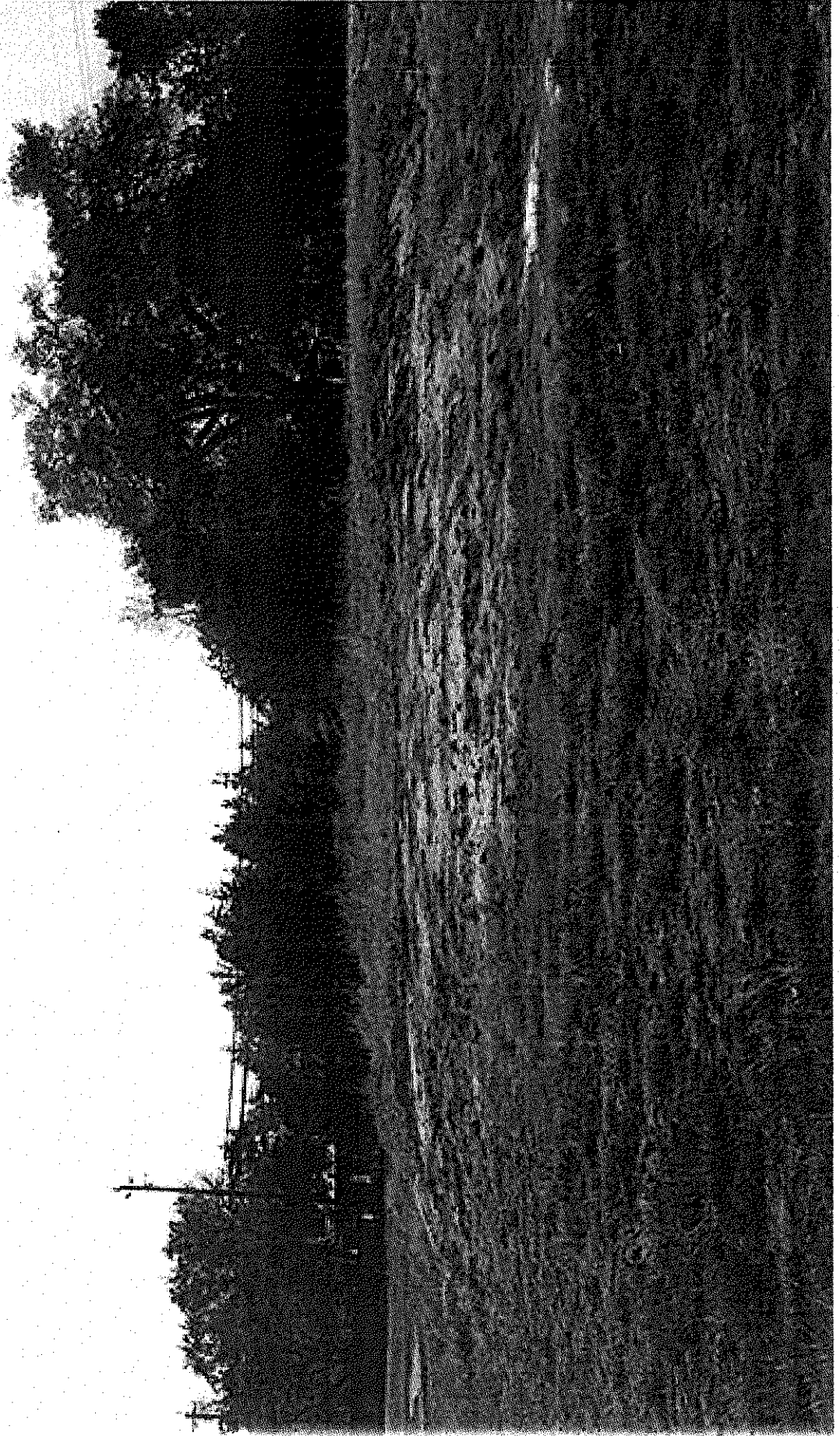


# View 200 Yards 10 Years After Planting

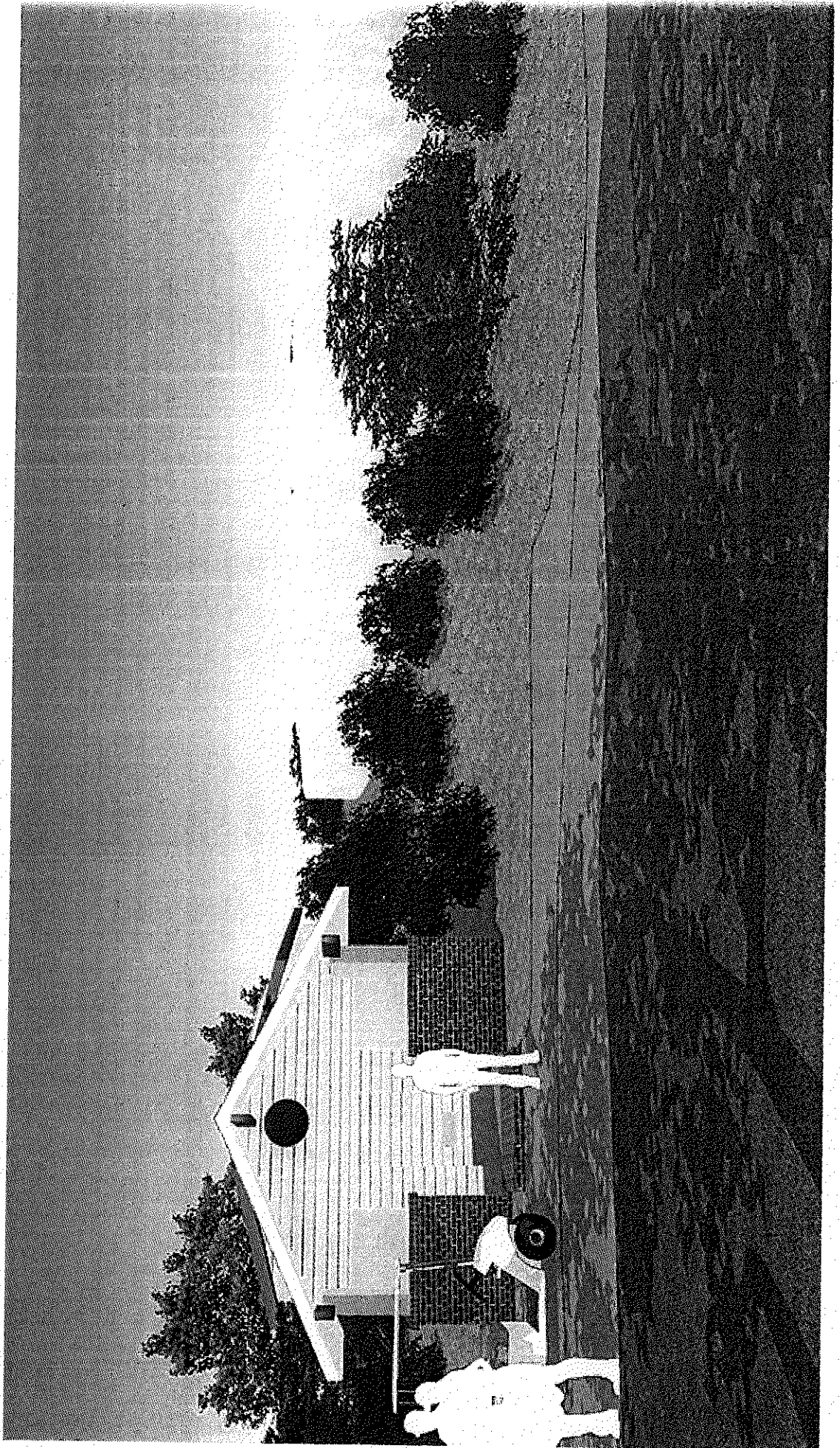




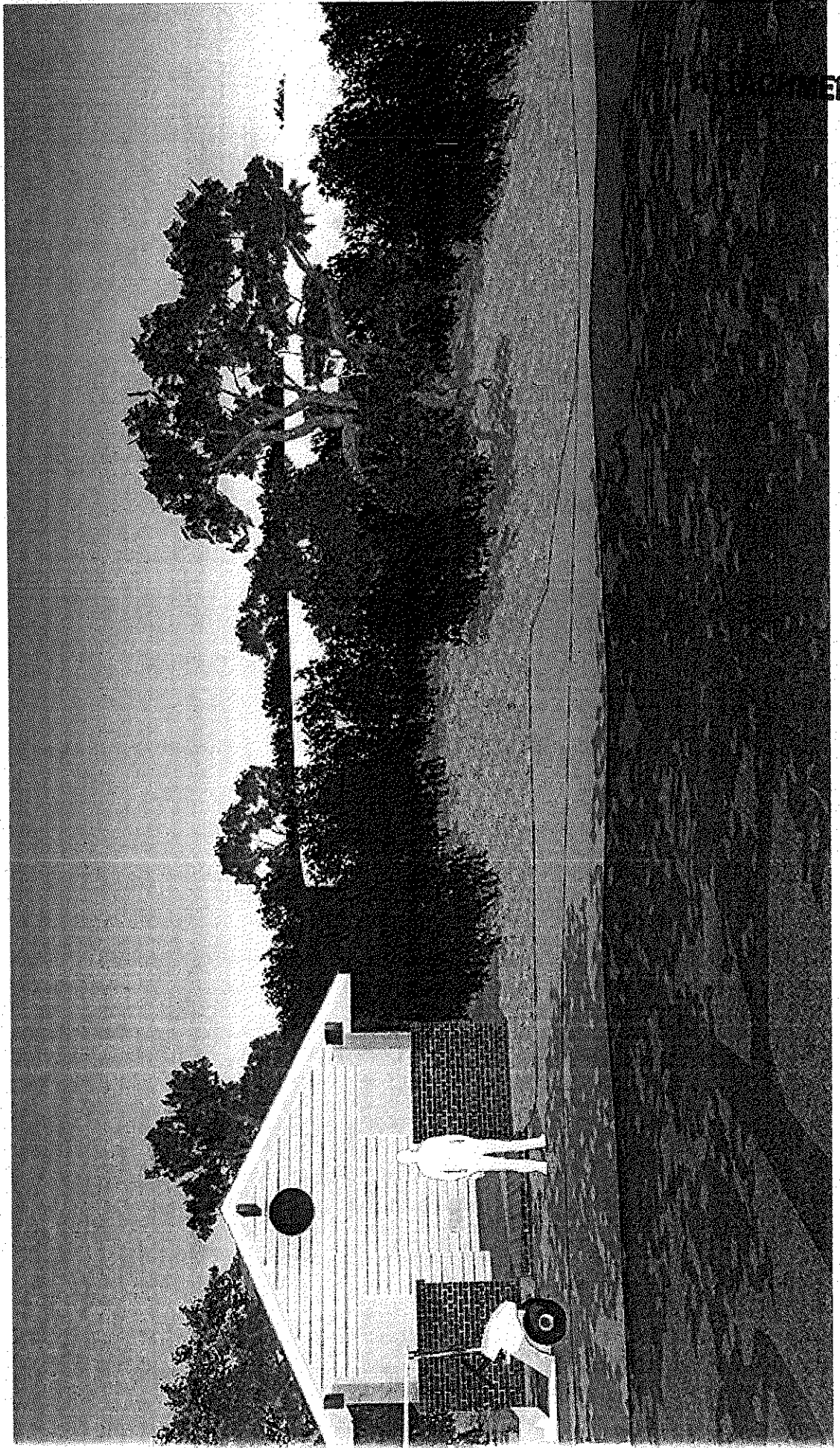
# View/Front Existing Conditions



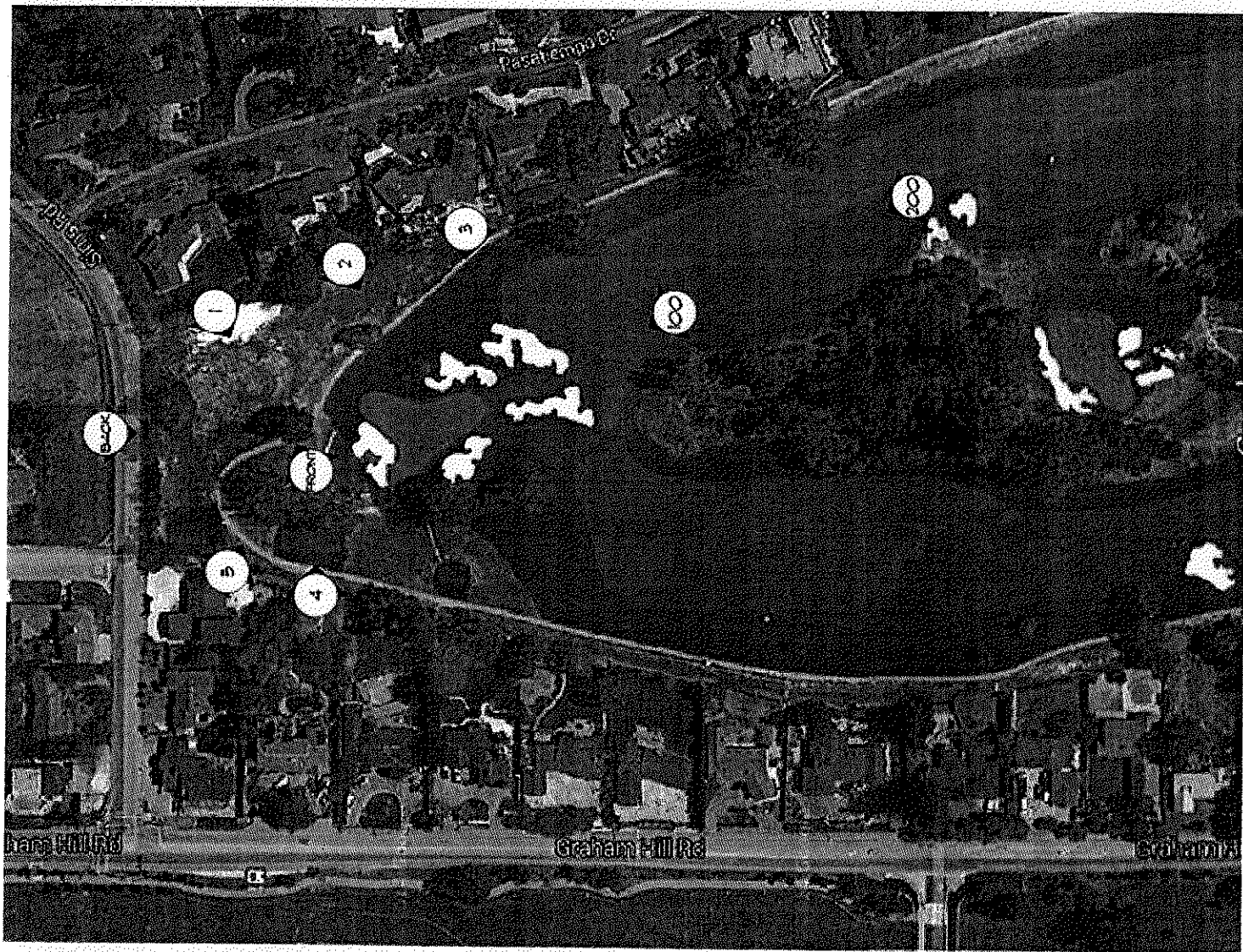
**View/Front  
Newly Planted**



# View/Front 10 Years After Planting



View/Back



**View/Back**  
**Existing Conditions Remain**



The laboratory test results are shown on the borelogs included in Appendix A with individual test results presented in Appendix B.

### **3.0 DISCUSSION AND CONCLUSIONS**

It is our opinion, based on the field exploration, laboratory test results and engineering analysis, that the project site is feasible for the proposed below-grade water storage tank from a geotechnical standpoint. The primary geotechnical considerations that could affect development at the site are seismic hazards, excavatability of the quartz diorite, stability of the temporary excavation, corrosive soil, and relatively high groundwater levels. We provide an evaluation of these and other potential hazards below with discussion and recommendations for treatment below and in Section 4 of this report.

#### **3.1 SEISMIC HAZARDS**

Potential seismic hazards resulting from a nearby moderate to major earthquake include ground rupture, also called surface faulting, ground shaking, regional subsidence or uplift, liquefaction, dynamic densification, lateral spreading, landslides, tsunamis, and seiches. Based on topographic and lithologic data, the risk of regional subsidence or uplift, landslides, tsunamis, or seiches is considered low to negligible at the site. The following sections present a discussion of ground rupture, ground shaking, liquefaction, lateral spreading, and dynamic densification as they apply to the site.

##### **3.1.1 Ground Rupture**

Since there are no known active faults crossing the property and the site is not located within an Earthquake Fault Special Study Zone, it is our opinion that ground rupture is unlikely at the subject property.

##### **3.1.2 Ground Shaking**

An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the site, similar to that which has occurred in the past. To mitigate the shaking effects, all structures should be designed using sound engineering judgment and the 2013 California Building Code (CBC) requirements, as a minimum. The 2013 CBC references ASCE 7-10 for minimum design loads including seismic design loads. Chapter 15 of ASCE 7-10 includes seismic design requirements for tanks and vessels with reference to Chapter 23 of ASCE 7-10 for applicable reference documents including ACI 350.3, AWWA D110, and AWWA D115 with modifications to these references as indicated in Chapter 15 of ASCE 7-10.



### 3.1.2.1 California Building Code Seismic Design Parameters

The 2013 California Building Code (CBC) seismic design parameters in Table 3.1.2.1-1 below are based on a Site Class C for a below-grade tank founded on bedrock and include design spectral response acceleration parameters based on the mapped Risk-Targeted Maximum Considered Earthquake (MCE<sub>R</sub>) spectral response acceleration parameters as well as the Maximum Considered Earthquake geometric mean peak ground acceleration used for geotechnical evaluation.

**TABLE 1.1.2.1-1**  
2013 CBC Seismic Design Parameters  
(Latitude: 37.011458°, Longitude: -122.032336°)

Parameter	Design Value
Site Class	C
Mapped MCE <sub>R</sub> Spectral Response Acceleration at Short Periods, S <sub>S</sub> (g)	1.50
Mapped MCE <sub>R</sub> Spectral Response Acceleration at 1-second Period, S <sub>I</sub> (g)	0.60
Site Coefficient, F <sub>A</sub>	1.00
Site Coefficient, F <sub>V</sub>	1.30
MCE <sub>R</sub> Spectral Response Acceleration at Short Periods, S <sub>MS</sub> (g)	1.50
MCE <sub>R</sub> Spectral Response Acceleration at 1-second Period, S <sub>MI</sub> (g)	0.78
Design Spectral Response Acceleration at Short Period, S <sub>DS</sub> (g)	1.00
Design Spectral Response Acceleration at 1-second Period, S <sub>DI</sub> (g)	0.52
Long period transition-period, T <sub>L</sub>	12
Site Coefficient, F <sub>PGA</sub>	1.0
MCE Geometric Mean Peak Ground Acceleration, PGA <sub>M</sub>	0.5
Seismic Design Category	D

The parameters provided in the table above can be used to estimate the horizontal and vertical seismic forces in accordance with Section 15.7 – Tanks and Vessels of ASCE 7-10 (referenced by the 2013 CBC).

### 3.1.2.2 Applicable References

Seismic forces should also be determined in accordance with applicable reference documents as indicated by ASCE 7-10 including American Concrete Institute (ACI) 350.3 – Standard Practice for the Seismic Design of Liquid-Containing Concrete Structures (2006), American Water Works Association (AWWA) D110 – Wire- and Strand-Wound Circular Prestressed Concrete Water Tanks (2004), and AWWA D115 – Tendon-Prestressed Concrete Water Tanks (2006).

The parameters provided in the table above can be used to estimate the horizontal and vertical seismic forces in accordance with ACI 350.3 with the exceptions noted in Section 15.7.6.1.2 and

Section 15.7.7.3 of ASCE 7-10. The ratio of vertical-to-horizontal acceleration should not be less than 2/3.

The parameters provided in the table above can also be used to estimate the horizontal and vertical seismic accelerations in accordance with AWWA D110 and AWWA D115 with the exceptions noted in Section 15.7.7.3 of ASCE 7-10. A Zone Coefficient ( $Z$ ) of 0.40, corresponding to Seismic Zone 4, should be used. The tank designer should also use the appropriate Structure Coefficients for estimating horizontal and vertical seismic accelerations based on the type of tank. The Soil Profile Coefficient ( $S$ ) of 1.2, corresponding to Soil Profile Type B, should be used in estimating the impulsive coefficient ( $C_i$ ) and coefficient of vertical acceleration ( $C_v$ ). A value of 0.66, corresponding to Seismic Zone 4, should be used in estimating vertical seismic accelerations. In estimating the fluid seismic spectral velocity, the values for  $Z$  and  $S$  included above can be used.

### 3.1.3 Liquefaction and Cyclic Softening

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, fine-grained sands. Empirical evidence indicates that loose to medium dense gravels, silty sands, low-plasticity silts, and some low-plasticity clays are also potentially liquefiable. In addition, sensitive high-plasticity fine-grained soils may be susceptible to significant strength loss (cyclic softening) as a result of significant cyclic loading, such as imposed by earthquakes. The alluvial clay encountered is generally medium stiff to hard in consistency, not sensitive, and therefore not considered subject to cyclic softening. We summarize the results of our liquefaction analysis below.

We evaluated the liquefaction potential of the subsurface soil based on Standard Penetration Test (SPT) data collected during our previous and recent exploration. In performing our analyses, we used methods published by Youd et al. (2001). We corrected recorded SPT blow count resistance ( $N$ -value) for overburden pressure, energy ratio, borehole diameter, rod length, sampling method, and fines content. We assumed a groundwater level 15 feet below existing ground, an MCE  $PGA_M$  of 0.5g as discussed in Section 3.1.2.1, and a  $M_w$  of 8.0. Based on the results of our analysis, layers of silty sand and poorly graded sand encountered below the groundwater table within the upper 20 to 35 feet of Boring 1-B1 have the potential to liquefy during a seismic event. Potentially liquefiable soils were not encountered in the three rotary wash borings (PB-1, PB-2, and PB-3) performed at the site.

In order to evaluate the extent of the potentially liquefiable soil encountered in Boring 1-B1, we performed a geophysical survey at the site using multichannel analysis of surface waves (MASW) methods. The results of the MASW survey and analysis of the geophysical data does not appear to indicate variations in velocity that would correspond with the loose sand encountered in Boring 1-B1. This likely indicates that the loose sands encountered in Boring 1-B1 are relatively localized and not pervasive at the site.

The effects of liquefaction include seismic settlement, downdrag loads from settlement of soil above liquefied soil layers, loss of bearing capacity for the portion of the structure founded in liquefiable soil, increased lateral earth pressure from liquefaction on below-grade walls, and buoyancy effects due to increased pore water pressures. We understand that the below-grade tank will be constructed in a shored excavation extending at least 10 feet beyond the tank walls, which will include the removal of liquefiable soil layers and mitigate the loss of bearing capacity. In addition, the tank backfill will consist of engineered fill, which will serve to limit the effects of downdrag and increased lateral earth pressures from liquefaction. Seismic earth pressures will need to be accounted for in design of the tank. We include recommendations below to address this effects.

#### **3.1.4 Dynamic Densification**

We calculated potential dynamic densification settlement estimates of loose sands above the groundwater based on methods by Tokimatsu and Seed (1987). Based on our analysis, we estimate that these deposits may settle a negligible amount in the event of strong earthquake shaking. Accordingly, in our opinion the risk of dynamic densification is negligible.

#### **3.1.5 Lateral Spreading**

Lateral spreading is a failure within a nearly horizontal soil zone (possibly due to liquefaction) that causes the overlying soil mass to move toward a free face or down a gentle slope. It appears the area of potential liquefaction localized from our field exploration, in addition the site lacks slopes and is approximately 1,500 feet east of a valley to the west, it is our opinion that the potential for lateral spreading is low.

### **3.2 EXCAVATABILITY**

A truck-mounted CME 55 drill rig was used during both of our explorations at the site. Drilling within the soils and sandstone using 8-inch diameter hollow-stem augers and a mud rotary drag bit was achievable extending to the quartz diorite at depths ranging from approximately 35 feet to 45 feet at which point refusal was encountered. Diamond coring was used to advance boring PB-1 20 feet into the quartz diorite. Rock quality designation (RQD) was estimated at approximately 16 percent in the more extensively weathered upper 2 feet of quartz diorite. RQD increased to approximately 56 percent between depths of approximately 2 to 7 feet into the quartz diorite with significant increase in RQDs between approximately 92 and 100 percent below depths of approximately 7 feet into the quartz diorite.

Two core samples were tested in the laboratory for uniaxial compressive strength and Young's Modulus. The results are summarized in the table below.

**TABLE 3.2-1**  
Uniaxial Compressive Strength and Young's Modulus

Depth Range of Core Sample	Uniaxial Compressive Strength (psi)	Young's Modulus (psi)
53'6" - 54'5"	11,477	15,944,000
58' - 60'6"	17,157	11,000,000

Point load index testing, which can be correlated to uniaxial compressive strength, was also performed on the same core samples. The results of the point load index testing and correlated uniaxial compressive strengths based on a conversion factor (K) of 24 are summarized in the table below (Bieniawski, 1975).

**TABLE 3.2-2**  
Point Load Index Testing and Uniaxial Compressive Strength Correlation

Depth Range of Core Sample	Point Load Index (psi)	Correlated Uniaxial Compressive Strength (psi)
53'6" - 54'5"	1,056	25,344
58'10" - 60'6"	512	12,288
58'10" - 60'6"	1,062	25,488
58'10" - 60'6"	1,211	29,064
58'10" - 60'6"	615	14,760
58'10" - 60'6"	756	18,144

The geophysical survey performed at the site included measurements of seismic velocities (P-wave), which can be used to evaluate excavatability as discussed in the seismic survey report prepared by Norcal Geophysical Consultants (Norcal) included in Appendix C of this report. As discussed in the seismic survey report by Norcal, assuming a Caterpillar multi- or single-shank No. 9 Ripper (D9R/D9T), material with P-wave velocities below 7,500-ft/sec could be considered rippable. Material with P-wave velocities ranging from 7,500 to 8,500-ft/sec are considered marginally rippable and material with P-wave velocities in excess of 8,500-ft/sec are considered non-rippable. Based on P-wave velocities derived from the seismic refraction survey performed at the site, the upper 40 to 45 feet of material at the site is considered rippable and non-rippable below these depths. These depths roughly correspond to the depths of the quartz diorite bedrock.

With the exception of localized areas, excavation of the quartz diorite bedrock for the proposed tank is not anticipated based on the depth to bedrock encountered in our explorations and the proposed depth for tank burial. Accordingly, excavation to a depth of approximately 36 feet for tank construction can likely generally be accomplished using conventional construction equipment. However, any excavation or drilling into the quartz diorite bedrock will require special equipment and significant effort.

**3.3 TEMPORARY EXCAVATION**

As discussed previously, a temporary excavation up to approximately 36 feet deep will be necessary for the construction of the proposed below-grade tank. As such, construction of the tank will require either a shored excavation, an open cut excavation with temporary cut slopes excavated at such an inclination so they are stable, or some combination thereof until the tank is constructed and the excavation is backfilled. It is our understanding that site constraints may limit the extent of a temporary open cut excavation such that it may not be feasible; therefore, a shored excavation or combination of open cut and shored excavation may be the preferred option.

The fill and alluvial terrace deposits can be classified as Type C Soils; the Santa Margarita Sandstone can be classified as Stable Rock with localized areas of Type C Soils; and the quartz diorite bedrock can be classified as Stable Rock in accordance with OSHA. With consideration to the subsurface conditions encountered during our explorations at the site, the primary considerations related to the selection of the shoring systems are:

- The presence of groundwater at a depth of about 20 feet below the existing ground surface and the need for areal dewatering.
- The potential for encountering loose sand within the fill and alluvial terrace deposits as well as localized layers of loose sand within the sandstone depending on the temporary excavation and shoring system implemented.
- Difficult excavation and drilling conditions within the quartz diorite below a depth of approximately 35 to 45 feet below the existing ground surface. As discussed above, excavation or drilling into the quartz diorite bedrock will require special equipment and significant effort.

**3.4 CORROSION POTENTIAL**

We obtained a soil sample from Boring PB-3 at a depth of approximately 3 feet and submitted the sample to Cerco Analytical Laboratory (Cerco) for soil corrosivity testing. Cerco analyzed the sample for soil pH, minimum resistivity, sulfate, and chloride to evaluate the corrosion potential of site soils to concrete or uncoated steel. The laboratory test report is included in Appendix B and the results of the analytical testing are summarized in the table below.

**TABLE 3.4-1**  
Analytical Test Results

Sample No.	Redox (mV)	Resistivity (ohms-cm)	Chloride (mg/kg)	Sulfate (mg/kg)	pH
PB-3 at 3 feet	480	6,040	ND	30	4.58

### 3.4.1 Sulfate

The sulfate test results provide an indication of the corrosion potential of the soil environment on buried concrete structures. The results of the sulfate testing are summarized below.

According to the sulfate test result, the sulfate ion concentration is 30 mg/kg of water-soluble sulfate (SO<sub>4</sub>) concentration level, which corresponds to 0.003 percent by weight. Results of previous sulfate testing as part of our previous exploration indicate SO<sub>4</sub> concentrations levels of 0.012 percent by weight. The CBC references the 2008 American Concrete Institute Manual, ACI 318 (Chapter 4, Sections 4.2 and 4.3) for concrete requirements based on sulfate exposure. ACI Tables 4.2.1 and 4.3.1 provide the following sulfate exposure categories and requirements for concrete in contact with soil based on sulfate exposure.

**TABLE 3.4-2**  
Sulfate Exposure Categories and Classes

Sulfate Exposure Category S	Exposure Class	Water- Soluble Sulfate in Soil % by Weight	Dissolved Sulfate in Water mg/kg (ppm)
Not Applicable	S0	SO <sub>4</sub> < 0.10	SO <sub>4</sub> < 150
Moderate	S1	0.10 ≤ SO <sub>4</sub> < 0.20	150 ≤ SO <sub>4</sub> ≤ 1,500, seawater
Severe	S2	0.20 ≤ SO <sub>4</sub> ≤ 2.00	1,500 ≤ SO <sub>4</sub> ≤ 10,000
Very Severe	S3	SO <sub>4</sub> > 2.00	SO <sub>4</sub> > 10,000

**TABLE 3.4-3**  
Requirements for Concrete by Exposure Class

Exposure Class	Max w/cm	Min f'c (psi)	Cement Type			Calcium Chloride Admixture
			ASTM C150	ASTM C595	ASTM C1157	
S0	N/A	2500	No Type restriction	No Type restriction	No Type restriction	No restriction
S1	0.5	4000	II <sup>††</sup>	IP(MS), IS(<70), (MS)	MS	No restriction
S2	0.45	4500	V <sup>‡</sup>	IP(HS), IS(<70), (HS)	HS	Not permitted
S3	0.45	4500	V + pozzolan or slag <sup>§</sup>	IP(HS) + pozzolan or slag or IS(<70) (HS) + pozzolan or slag <sup>§</sup>	HS + pozzolan or slag <sup>§</sup>	Not permitted

Notes: † For seawater exposure, other types of portland cements with tricalcium aluminate (C<sub>3</sub>A) contents up to 10 percent are permitted if the w/cm does not exceed 0.40.  
‡ Other available types of cement such as Type III or Type I are permitted in Exposure Classes S1 or S2 if the C<sub>3</sub>A contents are less than 8 or 5 percent, respectively.  
§ The amount of the specific source of the pozzolan or slag to be used shall not be less than the amount that has been determined by service record to improve sulfate resistance when used in concrete containing Type V cement. Alternatively, the amount of the specific source of the pozzolan or slag to be used shall not be less than the amount tested in accordance with ASTM C1012 and meeting the criteria in ACI 4.5.1.

In accordance with the criteria presented above, the test results can be categorized in the "Not Applicable" sulfate exposure class. A minimum concrete compressive strength is specified by the CBC in the table above. Cement type and maximum water-cement ratio are not specified by the CBC in the table above for this exposure category.

### 3.4.2 Chloride

Chloride concentration in the sample is none detected. Generally, chloride concentrations greater than 300 mg/kg (ppm) are considered sufficient to attack steel embedded in a concrete mortar.

### 3.4.3 Soil Resistivity

Based on the resistivity measurement, the soil is classified as moderately corrosive. All buried iron, steel, cast iron, ductile iron, dielectric coated and galvanized steel are susceptible to corrosion. A corrosion specialist should be consulted for corrosivity design and protection.

### 3.4.4 pH

The measured pH value is 4.58, indicating buried iron, steel, mortar-coated steel and reinforced concrete structures are susceptible to corrosion. A corrosion specialist should be consulted for corrosivity design and protection.

## 3.5 STATIC AND PERCHED GROUNDWATER

As discussed previously, readings from the recently installed piezometers indicate that groundwater levels are approximately 22 and 25 feet below the ground surface. It is our understanding that golf club personnel will continue to read groundwater levels from the piezometers on a bi-monthly basis in order to establish the range of groundwater fluctuations in the area of the proposed tank.

According to preliminary plans, a fully buried tank will extend up to approximately 36 feet below the ground surface. During construction, it should be anticipated that groundwater will flow into the excavation and that dewatering will be necessary the extent of which depends on the shoring system selected and the depth of groundwater at the time of excavation. In addition, infiltrating groundwater can reduce the stability of the excavated walls and the contractor should take the necessary precautions to stabilize the excavation in accordance to OSHA standards.

## 4.0 RECOMMENDATIONS

We provide recommendations for temporary excavation and shoring, tank foundations and walls, and earthwork in the following sections. The recommendations included in this report, along with other sound engineering practices, should be incorporated in the design and construction of the project.

## 4.1 TEMPORARY EXCAVATION AND SHORING

As discussed above, the base of the proposed water storage tank is anticipated to be as much as 36 feet below the ground surface. Given that site constraints may limit the extent of a temporary open cut excavation, a shored excavation or combination of open cut and shored excavation may be the preferred option. Excavation should be made at slope gradients no steeper than deemed safe by OSHA with consideration to OSHA soil types discussed in Section 3 of this report. We provide recommendations for dewatering and temporary shoring systems in the following sections of this report.

### 4.1.1 Dewatering

Groundwater at the project site has recently been measured at approximately Elevation 421 and 422 feet (NAVD88). It is likely that groundwater levels could vary from these elevations. It is anticipated that excavation may be performed below the groundwater levels provided temporary dewatering during construction is performed to keep the excavation and working areas reasonably dry. In general, it is recommended that excavations be dewatered such that water levels are maintained more than 2 feet below the bottom of the excavation prior to and continuously during the excavation and backfilling process.

A shored excavation system such as anchored soldier beams and wood lagging used for temporary excavation support to facilitate tank construction will likely require areal dewatering. Watertight shoring systems such as a secant pile wall could be considered if constraints prohibit areal dewatering.

### 4.1.2 Lateral Soil Pressures

The proposed temporary retaining walls should be designed to resist appropriate lateral earth pressures. We anticipate that the temporary shoring walls will be designed as flexible systems to accommodate wall deflection such that active earth pressures are mobilized. Accordingly, provided that adequate dewatering is performed as discussed above, the walls should be designed using an active earth pressure coefficient,  $K_a$ , of 0.36 and a unit weight of soil,  $\gamma$ , equal to 125 pounds per cubic foot (pcf). The appropriate earth pressure distribution should be used in design with consideration to the specific wall type, bracing or anchoring, and the effects of staged construction. In addition, the walls should be designed to resist an additional uniform pressure equivalent to 36% of any surcharge loads applied at the surface. These recommendations are based on the assumption of approximately level retained soil conditions. A active earth pressure coefficients,  $K_a$ , of 0.55 should be used for retained soil at an inclination of 2:1 (horizontal:vertical), respectively.

### 4.1.3 Anchored Soldier Beam and Lagging Wall

In general, anchored soldier beam and lagging walls for temporary excavation shoring should be designed and constructed according to the Federal Highway Administration (FHWA)



Geotechnical Engineering Circular No. 4 (FHWA-IF-99-015). The proposed anchored soldier beam and lagging wall should be designed and constructed according to the latest FHWA design manual at the time of design. Preliminary recommendations for design lateral soil pressures are provided above.

Lateral loads exerted on drilled shafts extending into bedrock and may be resisted by an ultimate passive resistance based on an equivalent fluid pressure of 1,000 pounds per cubic foot acting over a distance of three pier shaft diameters below grade. Appropriate factors of safety should be added to this ultimate value.

#### 4.1.3.1 Soldier Beams and Lagging

We recommend that the soldier beams consist of steel beams such as wide flange sections installed in drilled shafts. The drilled shaft diameter and spacing will depend on the structural shape and diameter of the ground anchor. The spacing between drilled shafts (center to center) will depend on capacity requirements. We recommend that the drilled shafts be backfilled with lean-mix concrete from the level of the excavation subgrade to the existing ground surface to allow for easy removal, which will be required for lagging and anchor installation. Lean-mix concrete may be used to backfill the portion of the shafts from the bottom of the hole to the excavation subgrade depending on the capacity requirements of the embedded portion of the wall.

Due to the potential for caving, casing of each shaft within the fill and alluvial terrace deposits should be anticipated; casing of each shaft within the sandstone may be necessary. Although areal dewatering will be needed to facilitate temporary shoring construction and excavation, if groundwater is encountered in shaft excavations, it should be removed prior to concrete placement. If groundwater cannot be removed from excavations prior to concrete placement, the concrete should be placed by tremie pipe.

Lagging for the proposed temporary retaining wall may consist of timber and should be placed from the top-down as soon as possible after excavation to minimize erosion of materials into the excavation.

#### 4.1.3.2 Ground Anchors

Given the anticipated temporary excavation heights, the use of ground anchors will be required in order to provide the necessary lateral support. Ground anchors, also commonly referred to as tiebacks, are structural elements installed in grout-filled holes drilled into soil or rock and are used to transmit applied tensile loads into the ground. The drilling method used for the installation of ground anchors should consider the potential for caving of the drilled holes.

Typical ground inclinations range between 15 and 30 degrees below the horizontal. Ground anchor inclinations up to 45 degrees below the horizontal can generally be installed by most contractors. For preliminary design, we recommend that the bonded zone of the ground anchors

be located behind a potential failure plane, drawn from the heel of the wall at a 30 degree angle from vertical. This plane roughly corresponds to the active earth pressure wedge for the fill and alluvium. The vertical position of ground anchors will depend on capacity requirements and constructability. The horizontal spacing of the ground anchors should be large enough to avoid group effects of anchors.

For preliminary design and cost estimating purposes, an ultimate (unfactored) bond strength of 1.5 ksf for gravity-grouted anchors in soil (fill and alluvium) and 15 ksf for ground anchors in sandstone may be assumed. Further, we recommend using a factor of safety of 2 to estimate allowable bond strength. We have assumed that a minimum of 15 feet of overburden soil will be present at the center of the ground anchor bond zone for the development of the ground anchor strength for gravity-grouted anchors. If this minimum coverage cannot be maintained, the ultimate bond strength should be reduced accordingly. Ground anchor bond strengths will depend on the construction method used for ground anchor installation. It is typical for contract specifications to allow for modification of the design based on higher demonstrated ultimate bond strengths from field verification testing.

#### 4.1.3.3 Construction Considerations

Very difficult drilling conditions are anticipated within the quartz diorite below the sandstone and will require special equipment and significant effort. Due to variability in soil and bedrock materials during construction and the limitations in the exploration program, it is recommended that the contractor verify the field conditions and the ground anchor capacity. We recommend performing verification testing on at least two sacrificial ground anchors that will not be part of the final wall design. This verification testing will be used to field estimate the ultimate bond strengths. The verification test preparation should use the same methods for drilling and grouting that the contractor intends to use for production ground anchors. The load at which excessive creep occurs should also be assessed. The procedures for this testing should generally conform to those discussed in FHWA-IF-99-015. We recommend that proof testing be performed on a minimum of 5 percent of the production ground anchors.

## 4.2 TANK FOUNDATION AND WALL RECOMMENDATIONS

According to preliminary plans the proposed concrete tank will be supported by a perimeter ringwall footing combined with interior column footings and slab. We expect similar foundations for other below-grade reinforced and prestressed concrete tanks that may be considered. Any loose material encountered at the pad grade should be removed and replaced as engineered fill. The tank foundations should be designed based on the following recommendations:

- |                                     |   |
|-------------------------------------|---|
| Minimum depth of footing embedment: | 24 inches below the lowest adjacent subgrade. |
| Minimum footing width:              | 18 inches.                                    |

Maximum allowable footing pressure: 3,500 psf dead-plus-live loads; 4,500 psf for total loads including wind or seismic loads. This allowable bearing pressure is a net value.

Provided our report recommendations are followed, and given the proposed construction, we estimate total and differential foundation settlements will be less than approximately ½ inch and ¼-inch over 10 feet, respectively.

Unless groundwater is controlled by a back drain, hydrostatic pressures could introduce uplift pressures when groundwater levels are high and tank water levels are low. We understand that localized flooding on lots adjacent to the proposed tank site is a recurring problem. In order to account for future seasonal water level variations, the long-term design groundwater level should be assumed at the ground surface. Alternatively, a probe-operated pump and tank wall back drain system installed to a depth of 15 feet below finish grade could be considered for drawdown of elevated groundwater levels. The tank foundation should be designed to accommodate the buoyancy effects of a groundwater level at the at the ground surface or a depth of 15 feet if drain and pump system is incorporated. Uplift can be resisted by the dead weight of the structure and foundation. Additional uplift resistance can be provided by extending the footing beyond the tank walls. Uplift resistance will be provided by the effective unit weight of the backfill above the footing. An effective backfill unit weight of 60 pcf should be used for design.

Tank walls should be designed to resist lateral earth pressures from backfill and from any surcharge loads. An at-rest lateral earth pressure corresponding to an equivalent fluid pressure of 95 pounds per cubic foot (pcf) should be used for the design of tank walls below the groundwater level, which should be assumed at the ground surface. If a probe-operated pump and tank wall back drain system are incorporated, an at-rest lateral earth pressure corresponding to an equivalent fluid pressure of 65 pounds per cubic foot (pcf) should be used for the design of tank walls above the groundwater level. In addition, tank walls should be designed to resist an additional uniform pressure equivalent to ½ of any surcharge loads applied at the surface. The above lateral earth pressures assume level backfill conditions and a backfill soil unit weight of 125 pcf.

The seismic soil pressure acting on tank walls can be taken as:

$$\Delta p = 15H$$

A groundwater level corresponding to a depth of 15 feet below final grade should be assumed for the seismic condition. This groundwater level should be confirmed once additional groundwater level readings from the piezometers are obtained. The additional seismic soil pressure ( $\Delta p$ ) due to seismic shaking should be applied as a uniform pressure (in units of pounds per square foot) over the height of the backfill against the tank wall (H) in feet. The value of  $\Delta p$  should be added to the active lateral earth pressure corresponding to an equivalent fluid pressure of 45 pcf above the seismic design groundwater level and 85 pcf below this level to obtain the total pressure on the wall.

Lateral loads can be resisted by an ultimate passive lateral earth pressure of 400 pcf (equivalent fluid pressure). Appropriate factors of safety should be added to this ultimate value. A coefficient of friction of 0.35 can be used between concrete and the subgrade.

#### 4.2.1 Tank Wall Drainage

Graded rock drains or geo-synthetic drainage composites can be constructed behind the tank walls in combination with a probe-actuated pump system to reduce hydrostatic lateral forces. For rock drain construction, we recommend two types of rock drain alternatives:

1. A minimum 12-inch-thick layer of Class 2 Permeable Filter Material (Caltrans Specification 68-1.025) placed directly behind the wall, or
2. A minimum 12-inch-thick layer of washed, crushed rock with 100 percent passing the  $\frac{3}{4}$ -inch sieve and less than 5 percent passing the No. 4 sieve. Envelop rock in a minimum 6-ounce, nonwoven geotextile filter fabric.

For both types of rock drains:

1. The rock drain should be placed directly behind the walls of the structure.
2. Rock drains should extend from the wall base to within 12 inches of the top of the wall.
3. A minimum 4-inch-diameter perforated pipe should be placed at the base of the wall, inside the rock drain and fabric, with perforations placed down.
4. The pipe should be placed at a gradient at least 1 percent to direct water away from the wall by gravity to a drainage facility.

ENGEO should review and approve geosynthetic composite drainage systems prior to use.

#### 4.2.2 Tank Backfill Placement

All backfill should be placed in accordance with recommendations provided below for fill placement. Light equipment should be used during backfill compaction adjacent to tank walls to minimize possible overstressing of the walls. Provided that the fill placement and compaction specifications provided in Section 4.3.2 are followed we estimate that settlement of the engineered backfill around the tank will be small and therefore a downward drag coefficient of backfill on the tank wall can be neglected.

### 4.3 EARTHWORK RECOMMENDATIONS

The following sections include recommendations for selection of materials, fill placement, and utility trench backfill. ENGEO should be notified at least 48 hours prior to grading in order to

coordinate its schedule with the grading contractor. Grading operations should be performed in conformance with the recommendations in this report and must be observed and tested by ENGEEO's field representative.

The relative compaction and optimum moisture content of soil and aggregate base referred to in this report are based on the most recent ASTM D1557 test method. Compacted soil is not acceptable if it is unstable. It should exhibit only minimal *flexing* or *pumping*, as determined by an ENGEEO representative. As used in this report, the term "moisture condition" refers to adjusting the moisture content of the soil by either drying if too wet or adding water if too dry.

#### 4.3.1 Selection of Materials

With the exception of any organically contaminated materials (soil which contains more than 3 percent organics), the site soils are suitable for use as engineered fill. The Geotechnical Engineer should be informed when import materials are planned for the site. Import materials should be submitted and approved by the Geotechnical Engineer prior to delivery at the site.

#### 4.3.2 Fill Placement

Prior to fill placement the exposed non-yielding surface should be scarified to a depth of 12 inches, moisture conditioned, and recompacted. All fills should be placed in thin lifts. The lift thickness should not exceed 8 inches or the depth of penetration of the compaction equipment used, whichever is less.

The following compaction control requirements should generally be applied to all fills:

Test Procedures:	ASTM D-1557.
Required Moisture Content:	On-site materials used as fill should be moisture conditioned to not less than 2 percentage points above optimum moisture content; materials should be moisture conditioned to above optimum moisture content.
Minimum Relative Compaction:	Not less than 90 percent.

It is important that all site preparation, including demolition and stripping, is done under the observation of the Geotechnical Engineer or his/her qualified field representative and should be carried out according to the requirements contained herein. The final plans should be submitted to the Geotechnical Engineer for review.

### 4.3.3 Utilities

It is recommended that all utility trench backfill be done under the observation of a Geotechnical Engineer. Pipe zone backfill (i.e. material beneath and immediately surrounding the pipe) may consist of a well-graded import or native material less than  $\frac{3}{4}$  inch in maximum dimension. Trench zone backfill (i.e. material placed between the pipe zone backfill and the ground surface) may consist of native soil compacted in accordance with recommendations for engineered fill.

Where import material is used for pipe zone backfill, we recommend it consist of fine- to medium-grained sand or a well-graded mixture of sand and gravel and that this material not be used within 2 feet of finish grades. In general, uniformly-graded gravel should not be used for pipe or trench zone backfill due to the potential for migration of: (1) soil into the relatively large void spaces present in this type of material; and (2) water along trenches backfilled with this type of material. If uniformly graded material is used in the pipe zone, it should be fully encapsulated in filter fabric. Trench backfill outside of the tank pad should be compacted using approved techniques to a minimum of 90 percent relative compaction and 2 percentage points above optimum. Within the tank pad area, utility trench backfill should be limited to granular import or select native sandstone and compacted to a minimum of 95 percent relative compaction and at least 2 percentage points above optimum.

Utility trenches constructed parallel to foundations should be located entirely above a plane extending down from the lower edge of the footing at an angle of 45 degrees. Compaction of trench backfill by jetting shall not be allowed at this site. If there appears to be a conflict between agency requirements and the recommendations contained in this report, this should be brought to the owner's attention for resolution prior to submitting bids.

## 5.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This geotechnical study is issued with the understanding that it is the responsibility of the owner to transmit the information and recommendations of this report to contractors, buyers, architects, engineers, and designers for the project so that the necessary steps can be taken by the contractors and subcontractors to carry out such recommendations in the field. The conclusions and recommendations contained in this report are solely professional opinions.

The professional staff of ENGEO Incorporated strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. There are risks of earth movement and property damages inherent in land development. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our services.

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# COUNTY OF SANTA CRUZ

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701 OCEAN STREET, 4<sup>TH</sup> FLOOR, SANTA CRUZ, CA 95060  
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123  
KATHLEEN MOLLOY PREVISICH, PLANNING DIRECTOR

November 24, 2014

Mr. D. Scott Hoyt  
General Manager  
Pasatiempo Golf Course  
20 Clubhouse Road  
Santa Cruz, CA 95060

**Subject: Review of Geotechnical Engineering Report/Investigation by ENGENEO;  
Dated September 20, 2013; Project: 9483  
APN 060-011-02, Application #: REV141098**

Dear Mr.Hoyt:

The purpose of this letter is to inform you that the Planning Department has accepted the subject report and the following items shall be required:

1. All construction shall comply with the recommendations of the report.
2. Final plans shall reference the report and include a statement that the project shall conform to the report's recommendations.
3. A civil engineer grading, drainage, and erosion control plan must be submitted with the Building.
4. The location of the septic system drain field must be approved by the geotechnical engineer and project civil engineer.
5. Prior to building permit issuance a *plan review letter* shall be submitted to Environmental Planning. After plans are prepared that are acceptable to all reviewing agencies, please submit a geotechnical plan review letter that states the project plans conform to the recommendations of the geotechnical report. *Please note that the plan review letter must reference the final plan set by last revision date.* The author of the report shall write the *plan review letter*.
6. Please submit 2 copies of the report with the grading/building permit applications.
7. Please submit an electronic copy of the soils report in .pdf format via compact disk or email to: [pln829@co.santa-cruz.ca.us](mailto:pln829@co.santa-cruz.ca.us). Please note that the report must be generated and/or sent directly from the soils engineer of record.

(over)



Page 2 of 3

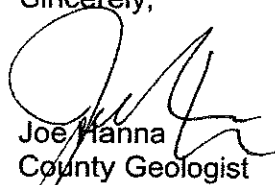
After building permit issuance the soils engineer *must remain involved with the project* during construction. Please review the *Notice to Permits Holders* (attached).

Our acceptance of the report is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please note that this determination may be appealed within 14 calendar days of the date of service. Additional information regarding the appeals process may be found online at: [http://www.sccoplanning.com/html/devrev/plnappeal\\_bldg.htm](http://www.sccoplanning.com/html/devrev/plnappeal_bldg.htm)

Please call the undersigned at (831) 454-3175 if we can be of any further assistance.

Sincerely,



Joe Hanna  
County Geologist



Carolyn Burke PE  
Civil Engineer

Cc: Joseph Hanna, Environmental Planning  
ENGEO Inc.

**NOTICE TO PERMIT HOLDERS WHEN A SOILS REPORT HAS BEEN PREPARED,  
REVIEWED AND ACCEPTED FOR THE PROJECT**

After issuance of the building permit, the County requires your soils engineer to be involved during construction. Several letters or reports are required to be submitted to the County at various times during construction. They are as follows:

1. **When a project has engineered fills and / or grading**, a letter from your soils engineer must be submitted to the Environmental Planning section of the Planning Department prior to foundations being excavated. This letter must state that the grading has been completed in conformance with the recommendations of the soils report. Compaction reports or a summary thereof must be submitted.
2. **Prior to placing concrete for foundations**, a letter from the soils engineer must be submitted to the building inspector and to Environmental Planning stating that the soils engineer has observed the foundation excavation and that it meets the recommendations of the soils report.
3. **At the completion of construction**, a *final letter* from your soils engineer is required to be submitted to Environmental Planning that summarizes the observations and the tests the soils engineer has made during construction. The final letter must also state the following: "Based upon our observations and tests, the project has been completed in conformance with our geotechnical recommendations."

If the *final soils letter* identifies any items of work remaining to be completed or that any portions of the project were not observed by the soils engineer, you will be required to complete the remaining items of work and may be required to perform destructive testing in order for your permit to obtain a final inspection.



Your plans have been sent to several agencies for review. The comments that were received are printed below. Please read each comment, noting who the reviewer is and which of the three categories (Completeness, Policy Considerations/Compliance, and Permit Conditions/Additional Information) the comment is in.

Completeness: A comment in this section indicates that your application is lacking certain information that is necessary for your plans to be reviewed and your project to proceed.

Policy Considerations/Compliance: Comments in this section indicate that there are conflicts or possible conflicts between your project and the County General Plan, County Code, and/or Design Criteria. We recommend that you address these issues with the project planner and the reviewer before investing in revising your plans in any particular direction.

Permit Conditions/Additional Information: These comments are for your information. No action is required at this time. You may contact the project planner or the reviewer for clarification if needed.

## Accessibility Review

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**Routing No: 1 | Review Date: 10/27/2014**

LAURA BRINSON (LBRINSON) : Complete

### Completeness

Application is complete for the development permit stage.

### Compliance

No compliance issues identified

### Building Permit Requirements

Plans for a building permit shall be detailed to show compliance with CBC 11B.

- Include transition area from a golf cart to a level area that adjoins the restroom building entrance.
- Specify a firm, stable and slip resistant material that serves the route to the restroom building entrance.
- Include complete details for restroom accessibility to show maneuvering clearances and mounting height at fixtures and accessories.
- Include door specifications for hardware, threshold, door sizes, door types and operation.
- Include signage at bathroom building for accessibility.



**Discretionary Application Comments 141215**

**APN 060-011-02**

**Accessibility Review**

**Routing No: 1 | Review Date: 10/27/2014**

LAURA BRINSON (LBRINSON) : Complete

-  
If you have any questions regarding these building plan check comments above, please contact Laura Brinson at 831-454-3151 or email [laura.brinson@santacruzcounty.us](mailto:laura.brinson@santacruzcounty.us) .

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-  
-

**Drainage Review**

**Routing No: 1 | Review Date: 11/05/2014**

GERARDO VARGAS (GVARGAS) : Complete

Application No.: 141215	G_V	11/5/14
Completeness Comments		
N/A		

**Compliance Issues:**

All new development and redeployment project shall incorporate Best Management Practices (BMPs) to minimize the generation, transport and discharge of pollutants, to prevent excess of pre-development conditions, and to maintain pre-development groundwater recharge consistent with Ordinance 7.79. Interior remodel and maintenance and/or repair projects are specifically excluded from these requirements.

Medium Projects- Projects that add or replace between 500 square feet and 5,000 square feet of impervious area shall incorporate BMPs to minimize and mitigate pollutant and hydrologic impacts due to development. These BMPs shall include Low Impact Development (LID) measures that emphasize the minimization of impacts as a first priority consistent with General Plan Policy 7.23.2 for Minimizing Impervious Surfaces. Safe stormwater overflow shall be incorporated into the project design.

**Permit conditions:**

1. The overflow from the proposed water tank cannot be connected to any existing storm drain system.
2. Please show on the plan the proposed configuration for the proposed overflow system .
3. Please specify on the plans who maintains the existing 5' drainage easements located at the east and south of the improvements.
4. At the building application stage please annotate the proposed pervious material for the driveway.
5. Provide a cross section construction detail for the proposed drainage swale .
6. Please provide a detail describing how the driveway will conform to existing roadside facilities.



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## Drainage Review

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**Routing No: 1 | Review Date: 11/05/2014**

GERARDO VARGAS (GVARGAS) : Complete

Road drainage should not be blocked by the proposed driveway. Provide a typical cross section of the existing road swale and details describing how drainage will be accommodated across/under the proposed driveway.

7. Per Part 3 Section G #3 of the design criteria:

If the parcel being developed receives existing runoff from an adjacent drainage area, the recordation of a drainage easement, maintenance agreement, deed restriction, or other document recorded on the parcel deed will be required. The recorded document shall acknowledge that the parcel does and will continue to receive upstream runoff, that the property owner is responsible for maintenance of the drainage pathway through the parcel, and that the County and Flood Control Districts are not responsible for the upstream runoff or for maintenance of the drainage pathway.

Upon approval of the project, a drainage "Hold" will be placed on the permit and will be cleared once the construction is complete and the stormwater management improvements are constructed per the approved plans: In order to clear the Hold, one of these options has to be exercised:

1. The civil engineer has to inspect the drainage improvements on the parcel and provide public works with a letter confirming that the work was completed per the plans. The civil engineer's letter shall be specific as to what got inspected whether invert elevations, pipe sizing, the size of the mitigation features and all the relevant design features. Notes of "general conformance to plans" are not sufficient.
2. As-built plans stamped by the civil engineer may be submitted in lieu of the letter. The as-built stamp shall be placed on each sheet of the plans where stormwater management improvements were shown.
3. The civil engineer may review as-built plans completed by the contractor and provide the county with an approval letter of those plans, in lieu of the above two options. The contractor installing the drainage improvements will provide the civil engineer as-built drawings of the drainage system, including construction materials, invert elevations, pipe sizing and any modifications to the horizontal or vertical alignment of the system. The as-built drawings, for each sheet showing drainage improvements and/or their construction details, must be identified with the stamp (or label affixed to the plan) stating the contractor's name, address, license and phone #. The civil engineer will review the as-built plans for conformance with the design drawings. Upon satisfaction of the civil engineer that the as-built plans meet the design intent and are adequate in detail, the civil engineer shall submit the as-built plans and a review letter, stamped by the civil engineer to the County Public Works Department for review to process the clearance of the drainage Hold if the submittal is satisfactory.



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## Drainage Review

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**Routing No: 1 | Review Date: 11/05/2014**

GERARDO VARGAS (GVARGAS) : Complete

A recorded maintenance agreement will be required for the proposed retention system. Please contact the County of Santa Cruz Recorder's office for appropriate recording procedure. The maintenance agreement form can be picked up from the Public Works office or can be found online at:

[http://www.dpw.co.santa-cruz.ca.us/Storm\\_Water/FigureSWM25A.pdf](http://www.dpw.co.santa-cruz.ca.us/Storm_Water/FigureSWM25A.pdf)

The applicant is encouraged to discuss the above comments with the reviewer to avoid unnecessary additional routings. A \$295.00 additional review fee shall be applied to all re-submittals starting with the third routing.

Please call the Dept. of Public Works, Stormwater Management Section, from 8:00 am to 12:00 noon if you have questions.

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## Driveway/Encroachment Review

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**Routing No: 1 | Review Date: 10/15/2014**

DEBRA LOCATELLI (DLOCATELLI) : Complete

Please condition permit:

Proposed driveway shall conform to the County of Santa Cruz Design Criteria. An Encroachment Permit application to be submitted at the time of the building permit application.

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## Environmental Health Review

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**Routing No: 1 | Review Date: 10/24/2014**

JIM SAFRANEK (JSafranek) : Complete

Prior to BP approval, an approved onsite sewage disposal permit application and EH Building Clearance will be required. Onsite well permit applications (previously submitted) for this project will need to be finalised as an additional condition of EH Building Clearance. Septic system and well permitting questions should be directed to Heather Reynolds, District REHS at (831) 454-2748, 8-9:30AM.

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## Environmental Planning

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**Routing No: 1 | Review Date: 10/22/2014**

JESSICA DUKTIG (JDUKTIG) : Incomplete



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## Environmental Planning

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**Routing No: 1 | Review Date: 10/22/2014**

JESSICA DUKTIG (JDUKTIG) : Incomplete

Application considered incomplete:

Please submit the referenced Archaeological Report for review.

Site is not mapped as Sandhills, and site visit confirmed no habitat exists within the proposed development site. Refer to application REV141098 for soils report acceptance.

Misc Comment/Condition of Approval:

Plans submitted for the building application shall include a stormwater pollution control plan that meets the requirements set forth in the County's Construction Site Stormwater Pollution Control BMP Manual. The Manual may be found at:

[http://www.dpw.co.santa-cruz.ca.us/Storm\\_Water/pdf/2011-11Construction-Site-BMP-Manual.pdf](http://www.dpw.co.santa-cruz.ca.us/Storm_Water/pdf/2011-11Construction-Site-BMP-Manual.pdf). The erosion control plan submitted for the development permit may be modified to meet these requirements.

## Fire Review

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**Routing No: 1 | Review Date: 10/29/2014**

SHEILA MCDANIEL (SMCDANIEL) : Complete

see emailed comments

## Project Review

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**Routing No: 1 | Review Date: 10/29/2014**

SHEILA MCDANIEL (SMCDANIEL) : Incomplete

see incompleteness letter

**Sheila McDaniel**

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**From:** David Kehn [dakehn@cityofsantacruz.com]  
**Sent:** Monday, October 27, 2014 5:04 PM  
**To:** Sheila McDaniel  
**Subject:** Plan App 141215 - Water Dept Plan Review  
**Attachments:** WSI 20 Clubhouse Rd.pdf

Sheila,

Attached are the Santa Cruz Water Department's (*Water Engineering*) comments for Planning Application 141215 for a project at 20 Clubhouse Road (Pasatiempo Golf Course).

Please note that *Water Conservation* may have additional comments.

Let me know if you have any questions.

Thank you.

**David Kehn**

City of Santa Cruz  
Water Department | Engineering  
(831) 420-5217  
[dakehn@cityofsantacruz.com](mailto:dakehn@cityofsantacruz.com)



**NEW WATER SERVICE INFORMATION FORM**  
 City of Santa Cruz Water Department 212 Locust Street Suite C Santa Cruz, CA 95060 Phone (831) 420-5210 Fax 831-420-5201

APN:  Multiple APN?  N Project Address:  Date:   
 PROJECT DESCRIPTION:  Revision 1:   
 Revision 2:

**APPLICANT INFORMATION:**

Name:  Phone:   
 Mailing Address:  Cell:   
 City/ST/Zip:  Fax:   
 EMail:

**REPRESENTATIVE INFORMATION:**

Name:  Phone:   
 Mailing Address:  Cell:   
 City/ST/Zip:  Fax:   
 EMail:

**SECTION 1 EXISTING MAIN AND SERVICES**

Account #'s	Old SIO #'s	Status	Date Closed	Type

Main Size/Type/Age:  Elevation zone:  *No connection fee credit(s) for services inactive over 24 months*

**SECTION 2 FIREFLOWS**

Hyd #	Size/Type	6" Stmr	Static	112 Res	Flow	1353 Flow w/20# Res.	2930 FF Date	12/02 Location: Sims Rd @ 400
2120	6" Stmr	120 Res	1321 Flow	1921 Res	12/02	12/02		

**SECTION 3 WATER SERVICE FEE Totals (see Page 2 for Details)**

Plan Review Fees:	Meter Inst Fees:	Water Conn Fees:	Sewer Conn Fees:	Zone Cap Fees:	Credits:	Total Due:
Service/Hydrant Eng \$50	Service/Hydrant Install \$155.00					
Backflow \$100	Backflow \$100.00					
Irrigation \$170	St. Opening \$0.00					
	Misc Fees					
Totals \$320	\$260	\$6,530	\$0	\$6,018.12	\$0	\$13,383.12

**SECTION 4:**

BP#  PLAN APP #  PLANNER  REVIEWED BY   
 ADDITIONAL COMMENTS Backflow protection devices are required on all services to Pasatiempo Golf Course as a result of the use of non-potable water. The plans DO NOT show any proposed water service from the City of Santa Cruz for this project, please show any proposed water service on plans. FEES ESTIMATED based on the installation of a 3/4" (5/8" meter) domestic water service to be installed as per SCWD Detail 5 & Detail 8.

**QUALIFICATIONS**

Service will be furnished upon: (1) payment of the required fees due at the time service is requested (an approved building permit set of plans is required), and, (2) installation of the adequately sized water services, water mains and fire hydrants as required for the project under the rules and regulations of the Santa Cruz Water Department and the appropriate Fire District and any restrictions that may be in effect at the time application for service is made. NOTICE: This form does not in any way obligate the city. It is provided only as an estimate to assist you in your planning and as a record for the Water Department. The requirements set forth on this form may be changed or corrected at any time without prior notice. Fees collected by other agencies are not included on this form.

**SECTION 5 WATER SERVICE FEE DETAILS APN: 060-011-02**

SIO Info		Use Info				SIO Fees			Permit Fees				Totals			
Lat Size / Br Config	Use Type	Mtr ID	Mtr Size	Mtr Type	Num Units	Inst Fee	Water	Sys Dev Chgs Sewer	Zone Capacity	Insp Fee	Eng Hrs	Eng Rvw Fee	BF Rvw	Backflow Permit Type # Dev	Fee	
3/4	3/4"x5/8"		5/8	Disc	0	\$260	\$6,530	\$0	\$6,018.12	155	1	\$50	\$100	RP	1	\$100
					<i>Credits</i>	\$0	\$0	\$0	\$0.00							
					<b>Sub total Fees:</b>	\$260	\$6,530	\$0	\$6,018.12							
					<b>Sub total Credits:</b>	\$0	\$0	\$0	\$0.00							
					<b>SIO Totals:</b>	\$260	\$6,530	\$0	\$6,018.12		1	\$50	\$100		1	\$100
					<b>Grand Totals:</b>	\$260	\$6,530	\$0	\$6,018.12		1	\$50	\$100		1	\$100
																\$13,058.12

Total Permit Insp Fees: 180

**WATER DEPARTMENT  
MEMORANDUM**

Date: October 28, 2014

To: Sheila McDaniel, Project Planner

From: Clara Cartwright, City of Santa Cruz Water Department

Re: County Planning Application 141215  
Subject property address: NO SITUS ADDRESS  
APN: 060-011-02  
Date on Landscape Plan: October 8, 2014

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The Water Conservation Office has reviewed preliminary landscape plans for this project. Our comments are indicated below:

The preliminary landscape plans appear consistent with the requirements of the City's Water Efficient Landscape Ordinance (Chapter 16.16 of the Santa Cruz Municipal Code). The applicant should review the City landscape water conservation standards and requirements before proceeding to develop detailed planting and irrigation plans.

The following language referring to the City's landscape ordinance should be included as a condition of approval for this project:

1. Detailed landscape and irrigation plans shall be submitted at the time of the building permit application for review by the City of Santa Cruz Water Department. The landscape and irrigation plans shall satisfy all requirements of the City's Water Efficient Landscape Ordinance prior to issuance of the building permit.

We appreciate your cooperation in meeting the conditions of the City's Water Efficient Landscape Ordinance. The ordinance is available on the City of Santa Cruz website at [www.cityofsantacruz.com/welo](http://www.cityofsantacruz.com/welo).

Sincerely,

**Clara Cartwright**  
Environmental Projects Analyst

EDMUND G. BROWN JR.  
GOVERNORMATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION**State Water Resources Control Board**  
Division of Drinking WaterOctober 28, 2014  
Recycled Water System No. 4490004

Ms. Sheila Soderberg  
Central Coast Regional Water Quality Control Board  
895 Aerovista Place, Suite 101  
San Luis Obispo, CA 93401

Dear Ms. Soderberg:

**Comments on the Pasatiempo Golf Course Proposed Recycled Water Program**

The California State Water Resources Control Board, Division of Drinking Water (Division) has reviewed the "Recycled Water Project California Title 22 Engineering Report" dated September 15, 2014 (Report) and prepared by Ripley Pacific Company, on behalf of Pasatiempo Golf Course (PGC) in Santa Cruz, California. The purpose of the report is to document the proposed project, which would use disinfected secondary effluent from the City of Scotts Valley Wastewater Treatment Plant for irrigation on the PGC, and its compliance with Title 22 of the California Code of Regulations (Title 22).

The Division has the following initial comments:

1. Throughout the Report, the term "tertiary-equivalent" is used. This is not a valid term or concept defined in Title 22. The regulations define tertiary recycled water under Section 60301.230. The proposed PGC water is not filtered per Section 60301.320 and thus should be defined as a secondary effluent.
2. Title 22, Section 60304(a)(5) requires tertiary recycled water to be used for irrigation at an unrestricted access golf course and Section 60304(c)(3) requires secondary-23 recycled water (as defined in Section 60301.225) at a restricted access golf course (as defined in Section 60301.750). The PGC project water does not meet either of these regulations. In addition, it is not clear if PGC is a restricted or unrestricted access golf course.
3. PGC is proposing to be the distributor and use area. Based on the Report Table 4, the effluent total coliform levels are too high to meet the secondary-23 recycled water regulations. Additional disinfection treatment will be required. Please provide explanation of how this will be implemented.
  - If the additional disinfection is incorporated in the Scotts Valley Wastewater Treatment Plant, the change would need to be documented through revisions to the City's Title 22 Engineering Report and Treatment Plant Permit.
  - If the additional disinfection will be provided at PGC prior to the first use site, PGC will be required to amend the Title 22 report and to apply for a permit for treatment.
4. The proposed use of peracetic acid (PAA) as a disinfectant is acceptable if the recycled water is secondary. The regulations do not specify the disinfectant type for secondary-23 recycled water.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

The only requirement for secondary-23 recycled water (as defined in Section 60301.225) is the total coliform limit.

5. The Report Section 2.6.2 discusses modal contact time. The regulations do not specify a minimum contact time for secondary-23 recycled water. The only requirement for secondary-23 recycled water (as defined in Section 60301.225) is the total coliform limit.
6. Sections 4.3 and 4.6.3 of the Report describe PCG as a dual plumbed use area. However, PGC is not a dual plumbed use area as defined in Title 22, Section 60301.250.
7. The Report section 4.4 describes future recycled water fill stations for the general public. This use is only approved for tertiary recycled water supplies.

Due to the significant comments noted above, a thorough review of all project details was not done at this time. Once the Report is updated and resubmitted, a detailed review of the project will be conducted. Please note that any updates or changes to the Report must also be made in any application documents submitted to Central Coast Regional Water Quality Control Board (i.e. Technical Support Documents or Report of Waste Discharge documents).

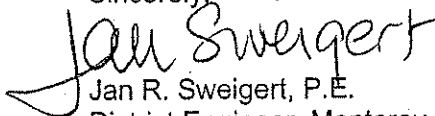
Santa Cruz County Planning Department provided the Division with a copy of the Development Permit Application for improvements at PGC including the following:

- construction of a 500,000 gallon storage tank for non-potable water for irrigation use at PGC
- construction of a 400 square foot pump house
- construction of a 450 square foot restroom for golf course use

Please note that the Division will review and comment on use site plans including piping plans and the connection to the City's outfall for use of recycled water at PGC after the Title 22 Report has been determined acceptable.

If you have any questions regarding this matter, please contact Randy Barnard of our Recycled Water Unit at 619-525-4022 or [randy.barnard@waterboards.ca.gov](mailto:randy.barnard@waterboards.ca.gov).

Sincerely,



Jan R. Sweigert, P.E.  
District Engineer, Monterey District Office  
Northern California Field Operations Branch  
Drinking Water Program

cc: Santa Cruz County Environmental Health Department (attn.: John Ricker) – by email

Justin Mandon, Superintendent  
Pasatiempo Golf Course  
20 Clubhouse Road  
Santa Cruz, CA 95062

Dana Ripley, P.E.  
Ripley Pacific Company  
4847 Hopyard Road, Suite 4-322  
Pleasanton, CA 94588

CULTURAL RESOURCE EVALUATION OF  
THE PASATIEMPO GOLF COURSE  
TANK INSTALLATION PROJECT  
IN THE COUNTY OF SANTA CRUZ

FOR

MR. STEVE SUTHERLAND  
SSA LANDSCAPE ARCHITECTS  
303 POTRERO STREET, SUITE 40-C  
SANTA CRUZ, CA 95060  
NWIC# 14-0497

BY

*Archaeological Resource Management*  
*Dr. Robert Cartier, Principal Investigator*  
*496 North Fifth Street*  
*San Jose, CA 95112*  
*Phone: (408) 295-1373*  
*FAX: (408) 286-2040*  
*Email: armcartier@netscape.net*

OCTOBER 30, 2014

ADMONITION

Certain information contained in this report is not intended for general public distribution. Portions of this report locate significant archaeological sites in the region of the project area, and indiscriminate distribution of these data could result in the desecration and destruction of invaluable cultural resources. In order to ensure the security of the critical data in this report, certain maps and passages may be deleted in copies not delivered directly into the hands of environmental personnel and qualified archaeologists.

THE PRINCIPAL INVESTIGATOR

## **ABSTRACT**

This cultural resource evaluation was carried out for the tank installation project at Pasatiempo Golf Course in the County of Santa Cruz. The research included an archival background and surface survey of the proposed project area. The Northwest Information Center reported that there are no recorded sites within the project area. However, there is one recorded prehistoric site located within one quarter mile of the project area, CA-SCR-162. No cultural resources, prehistoric or historic, were noted during surface reconnaissance. Therefore, it is concluded that the proposed project will have no impact on cultural resources. In the event, however, that prehistoric traces (human remains, artifacts, concentrations of shell/bone/rock/ash) are encountered, all construction within a fifty meter radius of the find should be stopped, the Planning Department notified, and an archaeologist retained to examine the find and make appropriate recommendations.

## **REQUEST FOR CULTURAL RESOURCE EVALUATION**

This cultural resource evaluation was carried out to determine the presence or absence of any significant cultural resources. Archaeological services were requested in October of 2014 in order to provide an evaluation that would investigate the possible presence of cultural resources. This study meets the requirements of CEQA (California Environmental Quality Act).

## **QUALIFICATIONS OF ARCHAEOLOGICAL RESOURCE MANAGEMENT**

Archaeological Resource Management has been specifically engaged in cultural resource management projects in central California since 1977. The firm is owned and supervised by Dr. Robert Cartier, the Principal Investigator. Dr. Cartier has a Ph.D. in anthropology, and is certified by the Register of Professional Archaeologists (RPA) for conducting cultural resource investigations as well as other specialized work in archaeology and history. He also fulfills the standards set forth by the Secretary of the Interior for inclusion as a historian and architectural historian and is certified as such on the State of California referral lists.

## **LOCATION AND DESCRIPTION OF THE SUBJECT AREA**

The subject area consists of less than one acre of land on the Pasatiempo Golf Course property, south of the intersection of Sims Road and Orchard Drive in the County of Santa Cruz. On the USGS 7.5 minute quadrangle of Felton, the Universal Transverse Mercator Grid (UTMG) center point of the project area is 10S 5 86 041mE/40 96 577mN. The elevation is approximately 200 feet MSL. The nearest source of fresh water is Powdermill Creek, which runs approximately 1800 feet northwest of the proposed project area.

The proposed project consists of the installation of an underground water storage tank. This will require the necessary excavation, trenching, grading, and other earthmoving activities.



## METHODOLOGY

The methodology used in this investigation consisted of an archival search, a surface reconnaissance, and a written report of the findings with appropriate recommendations. The archival research is conducted by transferring the study location to a State archaeological office which maintains records of archaeological investigations. This is done in order to learn if any archaeological sites or surveys have been recorded within a half mile radius of the subject area. Each archival search with the State is given a file number for verification. The surface reconnaissance portion of the evaluation is done to determine if traces of historic or prehistoric materials exist within the study area. This survey is conducted by a field archaeologist who examines exposed soils for cultural material. The archaeologist is looking for early ceramics, Native American cooking debris, and artifacts of stone, bone, and shell. For historic cultural resources, the field evaluation also considers older structures, distinctive architecture, and subsurface historic trash deposits of potentially significant antiquity. A report is written containing the archival information, record search number, the survey findings, and appropriate recommendations. A copy of this evaluation is sent to the State archaeological office by requirements of State procedure.

A cultural resource is considered "significant" if it qualifies as eligible for listing in the California Register of Historic Resources (CRHR). Properties that are eligible for listing in the CRHR must meet one or more of the following criteria:

1. Association with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Association with the lives of persons important to local, California, or national history;
3. Embodying the distinctive characteristics of a type, period, region, or method of construction, or representing the work of a master, or possessing high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Most Native American prehistoric sites are eligible due to their age, scientific potential, and/or burial remains.

The CRHR interprets the integrity of a cultural resource based upon its physical authenticity. An historic cultural resource must retain its historic character or appearance and thus be recognizable as an historic resource. Integrity is evaluated by examining the subject's location, design, setting, materials, workmanship, feeling, and association. If the subject has retained these qualities, it may be said to have integrity. It is possible that a cultural resource may not retain sufficient integrity to be listed in the National Register of Historic Places yet still be eligible for listing in the CRHR. If a cultural resource retains the potential to convey significant historical/scientific data, it may be said to retain sufficient integrity for potential listing in the CRHR.

## ARCHIVAL BACKGROUND

Prior to reconnoitering the subject area, a study of the maps and records at the Northwest Information Center of the California Archaeological Site Inventory was conducted and given the file number of NWIC# 14-0497. This research into the records at the Information Center was done to determine if any known archaeological resources were reported in or around the subject area. The search of records at the Northwest Information Center (NWIC) revealed that there are no recorded sites within the proposed project area. One previously recorded prehistoric archaeological site is located within one quarter mile. This resource is described briefly below:

### CA-SCR-162

This site was recorded by J. Morris in 1977. It is described as a possible habitation site including midden soils, fire cracked rock, and lithic materials. This site is located approximately 1200 feet southwest of the proposed project area.

One previous study has been carried out which appears to have included the proposed project area within its scope. This study is described below:

### S-40205

This study was carried out by M. Doane and G. Breschini in 2013 and entitled "Preliminary Archaeological Assessment for the Rolling Woods and Graham Hill/Woods Cove Sewer Annexation Project in Santa Cruz, Santa Cruz County, California."

In addition, there have been ten previous studies carried out within a one quarter mile radius of the proposed project area: S-4005, S-22161, S-32657, S-4074, S-4005, S-38259, S-28809, S-848, S-9462, and S-18217.

## SURFACE RECONNAISSANCE

A "general surface reconnaissance" was conducted by a field archaeologist on all open land surfaces. A "controlled intuitive reconnaissance" was performed in places where burrowing animals, exposed banks and inclines, and other activities had revealed subsurface stratigraphy and soil contents. The boundaries of the proposed project were well established in the field by a golf cart path, property fence lines, and other physical features. Accessibility was good, the entirety of the subject area was accessible for a walking survey. Soil visibility was also good; the majority of surface soils were exposed within the project area. Vegetation on the property consisted of short patchy grass and weeds, as well as a few oak trees. Where native soil was exposed, a light brown and tan sandy loam was observed. Rock types noted included sandstone. No traces of cultural materials, prehistoric or historic, were noted during surface reconnaissance.

## CONCLUSION AND RECOMMENDATIONS

The Northwest Information Center reported that there are no recorded sites within the project area. However, there is one recorded prehistoric site located within one quarter mile of the project area, CA-SCR-162. No cultural resources, prehistoric or historic, were noted during surface reconnaissance. Therefore, it is concluded that the proposed project will have no impact on cultural resources. In the event, however, that prehistoric traces (human remains, artifacts, concentrations of shell/bone/rock/ash) are encountered, all construction within a fifty meter radius of the find should be stopped, the Planning Department notified, and an archaeologist retained to examine the find and make appropriate recommendations.

## LITERATURE CITED AND CONSULTED

Doane, M. and G. Breschini

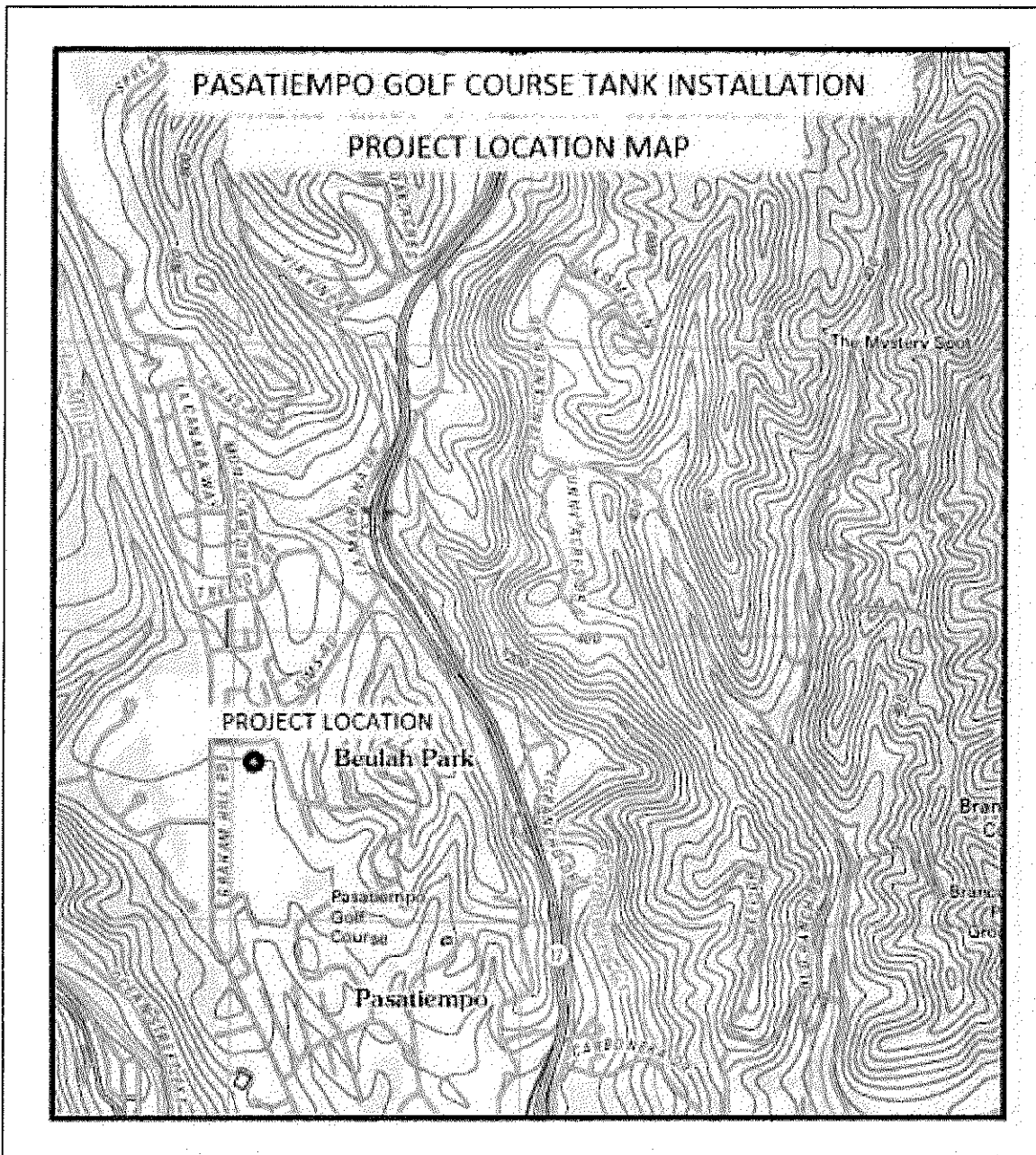
- 2013 Preliminary Archaeological Assessment for the Rolling Woods and Graham Hill/Woods Cove Sewer Annexation Project in Santa Cruz, Santa Cruz County, California. Report on file at the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.

Morris, J.

- 1977 Site record for CA-SCR-162, on file at the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.

Northwest Information Center

- 2014 Record Search number NWIC# 14-0497 on file at the Northwest Information Center, Department of Anthropology, Sonoma State University, Rohnert Park.







**Discretionary Application Comments REV141097**

**APN 060-011-02**

Your plans have been sent to several agencies for review. The comments that were received are printed below. Please read each comment, noting who the reviewer is and which of the three categories (Completeness, Policy Considerations/Compliance, and Permit Conditions/Additional Information) the comment is in.

**Completeness:** A comment in this section indicates that your application is lacking certain information that is necessary for your plans to be reviewed and your project to proceed.

**Policy Considerations/Compliance:** Comments in this section indicate that there are conflicts or possible conflicts between your project and the County General Plan, County Code, and/or Design Criteria. We recommend that you address these issues with the project planner and the reviewer before investing in revising your plans in any particular direction.

**Permit Conditions/Additional Information:** These comments are for your information. No action is required at this time. You may contact the project planner or the reviewer for clarification if needed.

### Archaeologic Review\_Report

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**Routing No: 1 | Review Date: 11/04/2014**

JESSICA DUKTIG (JDUKTIG) : Accepted

We have received the archeological report for the proposed water tank project at Pasatiempo Golf Course. Staff has accepted the report, which concludes that no archaeological resources were observed or found onsite.

**Routing No: 2 | Review Date: 11/04/2014**

JESSICA DUKTIG (JDUKTIG) : Accepted

Date 12/15/14

Pasatiempo Golf Club Water Tank & Restroom

## Sound Transmission Analysis



dennis diego  
ARCHITECT AIA

500 CHESTNUT ST. SUITE 175  
SANTA CRUZ CA 95060  
831 459 7566 FAX: 427 7566

This study assesses the impact of sound factors for the mechanical equipment and the buildings proposed for the recycled water supply system.

### Basis of Analysis:

Worst Case Deemed to be the residence located to the East of the proposed buildings where the separation of the sound source is at a distance of 135'. The rated sound level of the proposed motors for the pumps (50 H P) are listed at 65dBA at 1 Meter. A maximum of 3 pumps would run at the same time which would result in an increase of 3 dB per additional pump for a total cumulative value of 74 dB of sound pressure at the source. The equipment is housed in a fully enclosed Pump House constructed of reinforced CMU that will reduce the transmitted sound on the fully exposed walls. Walls that are retaining soil around the tank will result in zero sound transmitted on 3 sides.

Factors taken into consideration in the siting and design of the structures were intended to mitigate sound contamination to the adjoining areas of the golf course. Design Criteria and basis for calculations are as follows:

- Siting of building has been designed to maximize the distance to neighboring residences.
- Walls of Pump House are not parallel to neighboring residential buildings
- Door to Pump House faces Sims Road away from residential structures and built of 16 gage steel construction with insulated fill, perimeter gaskets and sills to prevent sound leakage.
- Wall construction shall be 8" reinforced ( solid grouted ) construction with a NR of 40. Roof ceilings will also be insulated to reduce sound transmission from pump room to exterior. The resulting sound pressure level through these walls is estimated to be  $74 \text{ dB} - 40 \text{ dB} = 34 \text{ dB}$  ( will use 35 dB for calculation)
- The sound residual transmitted from the pump room through the concrete wall will be further reduced by sound decay from distance down to a level nearing the hearing threshold.

- Additional factors such as landscaping land mass and absorption have not been considered here but would further reduce the sound to imperceptible levels.

**MOTOR PERFORMANCE**

MODEL NO.	CATALOG NO.	PHASE	TYPE	FRAME
S332	HQ50V2BLG	3	RUSI	326TP
ORDER NO.		NA	LINE NO.	
MPI:		35515	35516	
HP:		50	50	
POLES:		4	4	
VOLTS:		460	230	
HZ:		60	60	
SERVICE FACTOR:		1.15	1.15	
EFFICIENCY (%):				
	S.F.	94	94	
	FULL	94.5	94.5	
	3/4	94.6	94.6	
	1/2	94.1	94.1	
	1/4	90.9	90.9	
POWER FACTOR (%):				
	S.F.	87.8	87.8	
	FULL	87.7	87.7	
	3/4	86.2	86.2	
	1/2	80.9	80.9	
	1/4	63.7	63.7	
	NO LOAD	6.8	6.8	
	LOCKED ROTOR	36.8	36.8	
AMPS:				
	S.F.	65	131	
	FULL	56	112	
	3/4	43	86	
	1/2	31	61	
	1/4	20.2	40	
	NO LOAD	15	30	
	LOCKED ROTOR	358	716	
NEMA CODE LETTER		G	G	
NEMA DESIGN LETTER		B	B	
FULL LOAD RPM		1780	1780	
NEMA NOMINAL EFFICIENCY (%)		94.5	94.5	
GUARANTEED EFFICIENCY (%)		93.6	93.6	
MAX KVAR		10.2	10.2	
AMBIENT (°C)		40	40	
ALTITUDE (FASL)		3300	3300	
SAFE STALL TIME-HOT (SEC)		30	30	
SOUND PRESSURE (DBA @ 1M)		65	65	
TORQUES:				
	BREAKDOWN(% F.L.)	252	252	
	LOCKED ROTOR(% F.L.)	192	192	
	FULL LOAD(LB-FT)	147.5	147.5	

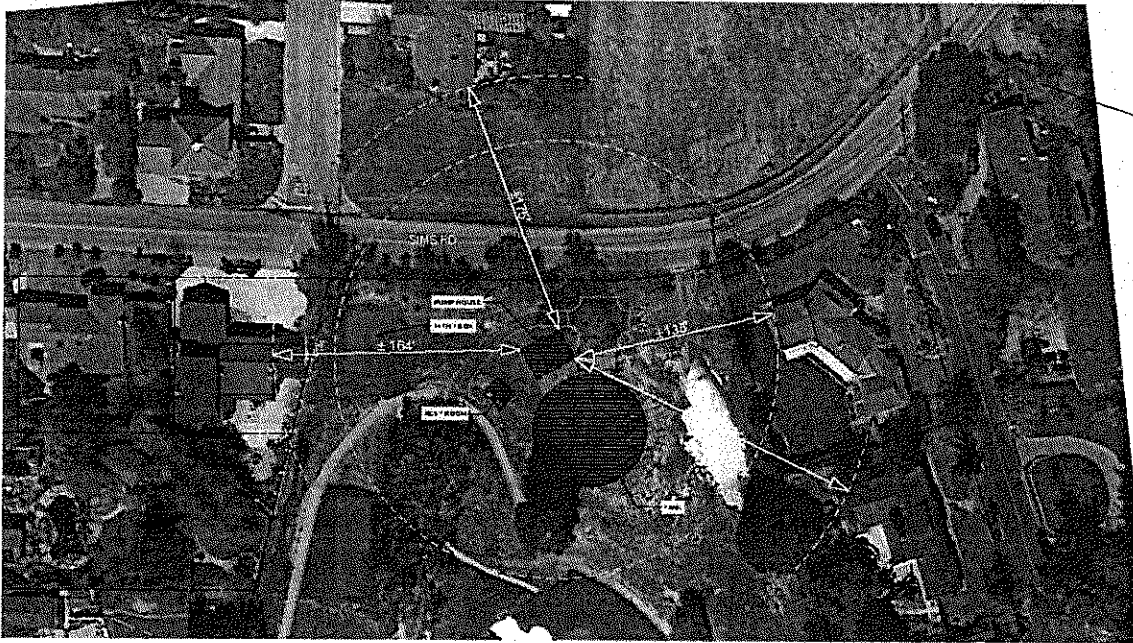
The Above Data is Typical, Sinewave Power Unless Noted Otherwise



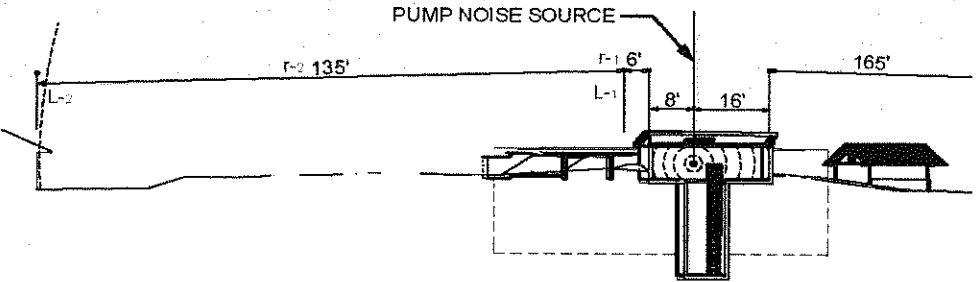
U.S. ELECTRICAL MOTORS  
DIVISION OF EMERSON ELECTRIC COMPANY  
ST. LOUIS, MO







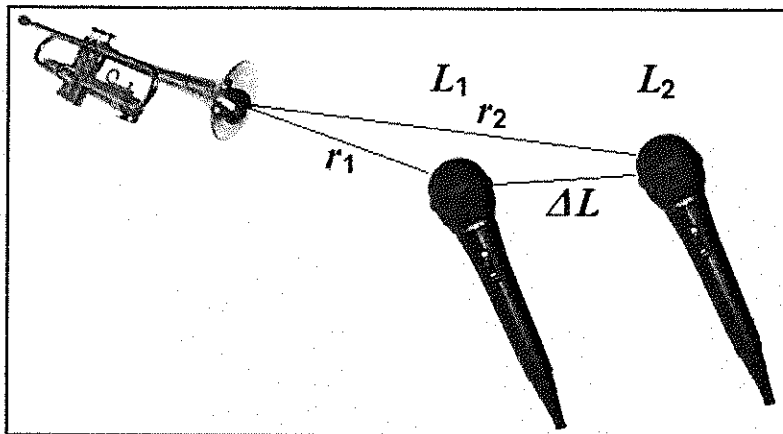
Not to Scale



Section through Site & Pump House

**Sound pressure level SPL depending on the distance for point-shaped sound sources in the free field**

• Distance-related decrease of sound level •



Enter the three gray boxes and get the answer in the white box.

Sound is here the sound level in decibels, no matter if it is the sound pressure level or the sound intensity level – but not the sound power level.

Calculation of the sound level $L_2$ , which is found at the distance $r_2$		
<b>Reference distance <math>r_1</math></b> from sound source 6 m or ft	<b>Sound level <math>L_1</math></b> at reference distance $r_1$ 35 dB SPL	Search for $L_2$
<b>Another distance <math>r_2</math></b> from sound source 135 m or ft	<b>Sound level <math>L_2</math></b> at another distance $r_2$ 7.96 dB SPL	<b>Sound level difference</b> $\Delta L = L_1 - L_2$ 27.04 dB
	<input type="button" value="calculate"/>	<input type="button" value="reset"/>

Calculate the distance $r_2$ , where the sound level $L_2$ is to find.		
<b>Sound level <math>L_1</math></b> at reference distance $r_1$ 35 dB SPL	<b>Reference distance <math>r_1</math></b> from sound source 6 m or ft	Search for $r_2$
<b>Sound level <math>L_2</math></b> at another distance $r_2$ 8 dB SPL	<b>Another distance <math>r_2</math></b> from sound source 134.32 m or ft	<b>Difference of distance</b> $\Delta r = r_2 - r_1$ 128.32 m or ft
	<input type="button" value="calculate"/>	<input type="button" value="reset"/>

formulas to calculate the sound level  $L$  in dB (sound pressure level or sound intensity level) in dependence of the distance  $r$ .

**Sound level  $L$  and Distance  $r$**

$$L_2 = L_1 - \left| 20 \cdot \log \left( \frac{r_1}{r_2} \right) \right| \quad L_2 = L_1 - \left| 10 \cdot \log \left( \frac{r_1}{r_2} \right)^2 \right|$$

$$r_2 = r_1 \cdot 10^{\left( \frac{|L_1 - L_2|}{20} \right)} \quad r_1 = \frac{r_2}{10^{\left( \frac{|L_1 - L_2|}{20} \right)}}$$

**Sound pressure level (dB) = Sound intensity level (dB)**

$L_2 = L_1 - \left  20 \cdot \log \left( \frac{r_1}{r_2} \right) \right $	$L_2 = L_1 - 10 \cdot \log \left( \frac{r_1}{r_2} \right)^2$
---	--

**Sound pressure is not Sound intensity**

**Compare also the inverse distance law  $1/r$ , with using sound pressure as sound field quantity.**

Sound pressure is inversely proportional to the distance of the point of measurement from the source, so that if we double the distance we halve the sound pressure.

**How does the sound decrease with distance?**

**Damping of sound level with distance**

This is an approximation when the venue is a direct sound field or an anechoic room

In the real world, the inverse square law (squared distance law)  $I \sim 1/r^2$  is always an idealization because it assumes exactly equal sound intensity or acoustic intensity  $I$  as **sound energy** propagation in all directions. If there are reflective surfaces in the sound field, then reflected sounds will add to the directed sound and we will get more sound intensity at a field location than the inverse square law predicts. If there are barriers between the source and the point of measurement, we may get less than the square law predicts. Nevertheless, the inverse square law is the logical first estimate of the sound intensity we would get at a distant point in a reasonably open area. The reference sound intensity level SIL = 0 dB is the acoustic intensity of  $I_0 = 1 \text{ pW/m}^2 = 1 \times 10^{-12} \text{ W/m}^2$ .

**Note:** Since the sound intensity level (energy quantity) is difficult to measure, it is common to use sound pressure level (field quantity) measured in decibels instead. Doubling the sound pressure raises the sound pressure level by 6 dB. Sound pressure in Pa is really not sound intensity in  $\text{W/m}^2$ .

If we measure at a distance  
 $r_1 = 1.8288001 \text{ m} = 6 \text{ ft}$   
 a sound intensity level (SIL<sub>1</sub>)  
 $L_{I1} = 35 \text{ dB}$ ,  
 and then at distance  
 $r_2 = 41.148 \text{ m} = 135 \text{ ft}$   
 the inverse square law  $1/r^2$  predicts  
 a sound intensity level (SIL<sub>2</sub>) of  
 $L_{I2} = 7.9563491 \text{ dB}$  in the free field.

The sound is the change of sound pressure  $p$ , which is measured in pascal.  
 $1 \text{ Pa} \equiv \text{N/m}^2 \equiv 1 \text{ J/m}^3 \equiv 1 \text{ kg / (m}\cdot\text{s}^2)$ . Usually  $p$  is the RMS value.

**Table of sound levels  $L$  (loudness of noise) with corresponding sound pressure and sound intensity**

Sound sources (noise) Examples with distance	Sound pressure Level $L_p$ dB SPL	Sound pressure $p$ $\text{N/m}^2 = \text{Pa}$ Sound field quantity	Sound intensity $I$ $\text{W/m}^2$ Sound energy quantity
Jet aircraft, 50 m away	140	200	100
Threshold of pain	120	63.2	10
Threshold of discomfort	110	20	1
Chainsaw, 1 m distance	100	6.3	0.1
Disco, 1 m from speaker	90	2	0.01
Diesel truck, 10 m away	80	0.63	0.001
Kerbside of busy road, 5 m	70	0.2	0.000 1
Vacuum cleaner, distance 1 m	60	0.063	0.000 01
Conversational speech, 1 m	50	0.02	0.000 001
Average home	40	0.006 3	0.000 000 1
Quiet library	30	0.002	0.000 000 01
Quiet bedroom at night	20	0.000 63	0.000 000 001
Background in TV studio	10	0.000 2	0.000 000 000 1
Rustling leaves in the distance	0	0.000 063	0.000 000 000 01
Hearing threshold	0	0.000 02	0.000 000 000 001

**Wrong question:** "Jackhammer. How many dBs?" The distance is missing!  
**Notice:** A given sound level without a given distance is really useless.  
**A typical question:** How "loud" is 15 dB? Is there a distance from the source?

**Conclusion**

The resulting sound level from the motors located in the pump room are low enough as to be negligible due to a higher level of ambient noise that exists in the environment.

**Sources:**

Architectural Acoustics, M. David Egan, 2007

<http://www.sengpielaudio.com/calculator-distance.html>



Santa Cruz Local Agency  
Formation Commission  
701 Ocean Street, Room 318-D  
Santa Cruz, California 95060  
Phone: (831) 454-2055

July 1, 2013

Email: [info@santacruzlafco.org](mailto:info@santacruzlafco.org)  
Website: [www.santacruzlafco.org](http://www.santacruzlafco.org)

Mr. D. Scott Hoyt  
General Manager  
Pasatiempo Golf Club  
20 Clubhouse Road  
Santa Cruz, CA 95060

Subject: Tertiary Recycled Water to the Pasatiempo Golf Club

Dear Mr. Hoyt:

Thank you for meeting with me and explaining the current concept by which the Pasatiempo Golf Club would use Scotts Valley recycled water for golf course irrigation, and for giving me the engineering study (Dual Use of Scotts Valley Outfall Pipeline for Conveyance of Tertiary Recycled Water to Pasatiempo Golf Club; Ripley Pacific Company; October 31, 2012). I have reviewed that document and have no further questions at this time.

My opinion is that this project is exempt from LAFCO review under Government Code section 56133 by which LAFCOs regulate the expansion of city and special district service areas outside their agency boundaries. The reason for my opinion is that subsection (e) of Government Code Section 56133 clearly states that LAFCO review "does not apply to contracts or agreements for the transfer of nonpotable or nontreated water." Tertiary recycled water is nonpotable.

This is my informed opinion based upon the information you have provided, my understanding of the project, and my understanding of the law. The LAFCO Commission has not received a report, nor taken a position, whether to concur with my analysis regarding LAFCO's jurisdiction in this project. If you would like further consultation regarding LAFCO's statutory responsibilities regarding any water contracts under consideration by the Pasatiempo Golf Club, please don't hesitate to contact me.

Very truly yours,

Patrick M. McCormick  
Executive Officer

cc: Local Agency Formation Commission of Santa Cruz County

**Sheila McDaniel**

---

**From:** Pat McCormick  
**Sent:** Wednesday, September 17, 2014 2:50 PM  
**To:** Sheila McDaniel  
**Subject:** RE: Scotts Valley recycled water to pasatiempo golf course-storage tank project for irrigation of the golf course  
**Attachments:** Hoyt Pasatiempo July 2013.pdf

Dear Sheila-

See the attached letter.

You are correct that the Pasatiempo golf course is outside both the Scotts Valley Water District and the City of Scotts Valley (which provides sanitary sewer service inside the City and to unincorporated areas of Scotts Valley off Lockwood Lane). The state LAFCO law encourages the transfer of non-potable water for re-use such as at Pasatiempo. In fact, the law encourages wastewater re-use so much that it doesn't require LAFCO approval for the use of Scotts Valley wastewater at Pasatiempo. LAFCO would only get involved if potable water is involved.

Call or email is you would like further clarification.

-Pat

Patrick M. McCormick  
 Executive Officer  
 Local Agency Formation Commission for Santa Cruz County  
[pat@santacruzlafco.org](mailto:pat@santacruzlafco.org)  
[www.santacruzlafco.org](http://www.santacruzlafco.org)  
 phone (831) 454-2055  
 701 Ocean Street, Room 318-D  
 Santa Cruz, CA 95060

---

**From:** Sheila McDaniel  
**Sent:** Wednesday, September 17, 2014 2:31 PM  
**To:** Pat McCormick  
**Subject:** Scotts Valley recycled water to pasatiempo golf course-storage tank project for irrigation of the golf course

Pat,

I presume you are familiar with the Scotts Valley waste water reclamation treatment facility with an existing stub out along the line for the Pasatiempo golf course along Sims Road. Pasatiempo is here for a permit application for the water tank and restroom building so they may use the recycled water for irrigation of the golf course. It is my understanding that the Pasatiempo golf course is located outside the Scotts Valley Sanitation District.

Does connection of the proposed ½ million gallon water tank proposed on Pasatiempo property to the existing reclaimed water line require a lafco action or was an action completed prior to construction of the stub-out along the line? If a lafco action is required, please describe what action is required and the timing of the action, level of review, etc.

The Planning Department requires an administrative permit with project noticing and environmental review for the tank and restroom building construction dealing with pump noise, biotic, archaeology, soils/geo, etc. Please let me know what I need to include for the application so I can be clear what the requirements are for the project.

MEMORANDUM OF AGREEMENT BETWEEN  
PASATIEMPO GOLF CLUB AND SCOTTS VALLEY WATER DISTRICT  
EXPRESSING INTENT TO IMPLEMENT **ATTACHMENT 11**  
“PASATIEMPO WATER CONSERVATION INITIATIVE”  
IN COOPERATION WITH CITY OF SANTA CRUZ

WHEREAS, the Pasatiempo Golf Club (“Golf Club”) seeks to ensure the availability of its golf course irrigation water supply, currently obtained from the City of Santa Cruz (“City”); and,

WHEREAS, the Scotts Valley Water District (“District”) operates a recycled water program with the objective to supplement its local groundwater supply, which program has the production capability to meet the Golf Club’s irrigation needs consistently, even during periods of drought; and,

WHEREAS, the City Council by its approval of Resolution NS-27,653 on November 27, 2007, has expressed the City’s desire to participate jointly in a Pasatiempo Water Conservation Initiative (“Project”) by providing potable water to the District when it is available from surface sources in exchange for an equal volume of recycled water provided by the District to the Golf Club to meet the Golf Club’s irrigation needs; and

WHEREAS, the Golf Club and the District (the “Parties”) recognize the potential for multiple and mutual Project benefits, including but not limited to improved Golf Club water supply reliability and price stability, reduced District groundwater demand as a result of the potable exchange with the City, lesser peak irrigation season demand on the City potable water system, and overall more efficient use of regional water supplies for long-term sustainability and environmental enhancement.

NOW, THEREFORE, the Parties do hereby enter into this Memorandum of Agreement and do hereby agree as follows:

1. The District shall be responsible for design, engineering, environmental approvals, permits, construction, and other elements of Project implementation for the overall Project and for all Project components except those located on the Golf Club property. The Golf Club shall be responsible for constructing any and all Project-related irrigation system or other improvements on the Golf Club property.
2. Each Party shall bear construction and related costs for those Project components for which it has implementation responsibility, except the Parties may subsequently agree that the Golf Club shall bear some of the District’s share of the costs, e.g., for siting and constructing a water storage tank on or near the Golf Club property.
3. The Parties shall agree on a minimum volume of recycled water to be purchased each year for a specified period of time by the Golf Club and on water quality standards acceptable for the Golf Club’s irrigation use. The Golf Club shall be obligated to purchase the agreed-upon minimum volume, whether or not it is delivered, provided that

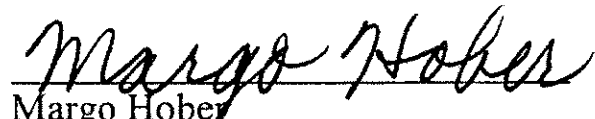
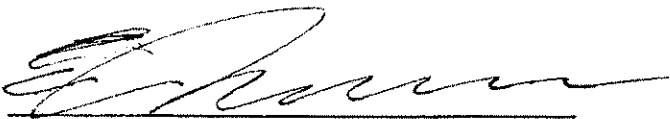
the District has recycled supply available that meets or exceeds the agreed-upon water quality standards.

4. The Parties understand that the Golf Club intends to rely upon other sources of water, including City water service, for the purposes of meeting potable water needs, irrigating greens and tee areas, and providing backup to the District's recycled supply in case of short-term unavailability.
5. The Parties shall agree on a long-term price schedule to be paid by the Golf Club to the District for delivered recycled water, which schedule shall take into account the sharing of Project construction and related costs, the District's regular recycled water rates, the City's regular commercial potable water rates, and other factors as agreed to by the Parties.
6. The Golf Club understands that it shall receive and use recycled water from the District only in full compliance with all relevant Federal, State, and District rules and regulations.
7. The Parties shall cooperate diligently and in good faith by communicating timely; sharing information; meeting together and with the City as necessary; mutually supporting public outreach, grant funding, and regulatory approval efforts; and otherwise collaborating to implement the Project as expeditiously and economically as possible.
8. The Parties understand and accept that, despite their diligent and best efforts, the Project may prove infeasible for reasons of cost, regulatory approval, public acceptance, or other factors unanticipated at present.

Signed:

PASATIEMPO GOLF CLUB

SCOTTS VALLEY WATER DISTRICT



Edward W. Newman  
President, Board of Directors

Margo Hober  
President, Board of Directors

Date: 5-28-08

Date: 6-10-08