Staff Report to the Zoning Administrator

Application Number: 10-0164

Applicant: Hamilton Swift & Associates
Owner: Howard & Dana Chao
APN: 063-091-05

Agenda Date: November 5, 2010
Agenda Item #: 3
Time: After 10:00 a.m.

Project Description: Proposal to demolish an existing 2,935 square foot two-story single-family dwelling and four existing accessory structures; to convert two existing accessory structures to an 1,136 square foot second unit with attached 623 square foot non-habitable storage structure and a 576 square foot non-habitable storage structure; to recognize an existing 240 square foot non-habitable storage structure; and to construct a replacement 3,445 square foot two-story, single-family dwelling and attached garage, a 640 square foot habitable accessory structure and 704 square foot carport.

Location: Project located on the southwest corner of Pine Flat Road and Martin Road (126 Martin Road)

Supervisoral District: 3rd District (District Supervisor: Neal Coonerty)

Permits Required: Coastal Development Permit, Residential Development Permit

Technical Reviews: Soils Report Review

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 10-0164, based on the attached findings and conditions.

Exhibits

A.	Project plans	G.	Preliminary Assessment for California Red-legged From and other Sensitive Wildlife Species," prepared by John Gilchrist & Associates, dated March 10, 2010
B.	Findings		
C.	Conditions		
D.	Categorical Exemption (CEQA determination)	H.	Sandhills Habitat Assessment and Survey," performed by Jodi McGraw, dated August 23, 2010
E.	Assessor's, Location, Zoning and General Plan Maps		
F.	Comments & Correspondence		

I. Excerpts, Botanical Report and Restoration Plan, prepared by Valerie Haley, dated January 2009

Parcel Information

Parcel Size:	9.58 acres
Existing Land Use - Parcel:	Residential
Existing Land Use - Surrounding:	Residential/Agriculture/Timber Production
Project Access:	Martin Road
Planning Area:	Bonny Doon
Land Use Designation:	R-M/R-R (Mountain Residential/Rural Residential)
Zone District:	RA (Residential Agriculture)
Coastal Zone:	_X_ Inside __ Outside
Appealable to Calif. Coastal Comm.	__ Yes _X_ No

Environmental Information

Geologic Hazards:	Not mapped/no physical evidence on site
Soils:	N/A
Fire Hazard:	State Responsibility Area; not critical fire
Slopes:	Majority of the site has slopes of 0-15%; a bench just west of the single-family dwelling exceeds 15%.
Env. Sen. Habitat:	Mapped Sandhills Habitat/Santa Cruz Cypress – surveys performed by biotic consultant completed and determination made that development will not negatively impact either species or habitat. Pond was surveyed for potential red-legged frog and western pond turtle habitat – no habitat found. (Exhibits G & H) Cypress specimens not impacted by development.
Grading:	Minor grading proposed to improve existing driveway; less than 100 cubic yards
Tree Removal:	No trees proposed to be removed
Scenic:	Proposed developed is located outside of the scenic corridor associated with Pine Flat Rd. and will not impact the scenic viewshed.
Drainage:	Existing drainage adequate
Archeology:	Mapped resource – all development occurs within areas of historic disturbance; no further investigation required.

Services Information

Urban/Rural Services Line:	__ Inside _X_ Outside
Water Supply:	Private well
Sewage Disposal:	Private septic
Fire District:	Cal Fire
Drainage District:	N/A

History

The subject parcel was historically developed as a family farm and pear orchard. The site is currently developed with a single-family dwelling with attached garage and several detached accessory structures. According to County Assessor's records the main dwelling is about 2,900 square feet in area and over 100 years old. Assessor's records also indicate the presence of numerous accessory buildings that pre-date the existence of the Planning Department. Several of the structures have been modified over time, without benefit of building permits, and some have been used as dwelling units in the past. The current proposal would recognize or demolish all existing structures on the property.

In 2006 and 2007 Notices of Violation were posted on the site for land clearing, debris dumping and tree removal within mapped sensitive habitat areas associated with a creek and pond that occupy the property. The property also contains Zayante sandhills and several Santa Cruz cypress, a federally endangered tree species. In 2009 the property owner entered into a 5-year agreement with the County and a local biological consultant in order to restore and maintain the habitat areas. No violations have been reported regarding any of the structures currently occupying the parcel.

Project Setting

The subject parcel is approximately 9.5 acres in area and is located in the Bonny Doon Planning Area. The site is developed with six structures, including a 2,375 square foot one-story single-family dwelling with attached garage and 1,042 square foot habitable accessory structure. The remaining four structures are non-habitable accessory structures. The structures are accessed via an existing 800-foot long driveway, which crosses a stream that enters the property from the north and feeds a pond at the center of the lot. The property also contains remnants of the former pear orchard as well as eucalyptus, oak woodland and Ponderosa pine specimens.

The majority of the parcel is mildly sloping, with a bench that drops off between the residence and pond at a slope of 25-30%. The existing residence takes access from Martin Road, a County-maintained road. The property is zoned RA (Residential Agriculture) and is located in the Bonny Doon Planning Area.

The subject proposal consists of constructing a replacement house, habitable accessory structure and carport, demolishing four accessory structures, recognizing an unpermitted non-habitable structure, and converting two unpermitted accessory structures to a second unit and non-habitable accessory structure. The project will result in a 3,445 square foot, 2-story dwelling with attached garage, 1,136 square foot second unit with attached non-habitable accessory structure, 640 square foot habitable accessory structure, three non-habitable accessory structures and a 704 square foot carport. The resulting structures represent an increase of approximately 1,000 square feet of additional building footprint relative to the buildings that have historically occupied the site.

PROJECT SUMMARY TABLE

	Existing	Proposed
Main Residence - (including porches and attached garage)	3507 sq ft	4217 sq ft
Second Unit	---	1136 sq ft
Habitable Accessory	1618 sq ft (2 structures)	640 sq ft (1 structure)
Non-Habitable Accessory	2016 sq ft (4 structures)	2143 sq ft (4 structures)
Lot Coverage	7141 sq ft <2%	8132 sq ft <2%

The project also includes minor grading to improve the existing driveway and the installation of a new fire turnaround. The grading will be less than 100 cubic yards. Conditions of approval are included, which will require that all work performed to improve the driveway be supervised by project biotic consultants to ensure no impacts to the creek or Santa Cruz cypress trees in the vicinity.

Two 5,000-gallon water tanks are also proposed to be installed at the rear of the property for fire protection and a short retaining wall will be replaced adjacent to the driveway.

The parcel is mapped as potentially containing archaeological resources. However, all proposed construction would occur within areas that have historically been disturbed. Therefore no additional investigation has been required and no impact to archeological resources is expected. Nevertheless, an operational condition of approval requires that all construction stop immediately if any such resources are discovered.

Zoning and General Plan Consistency

The subject property is located in the RA (Residential Agriculture) zone district, a designation which allows residential uses. The proposal includes one accessory dwelling (second) unit of less than 1,200 square feet, one habitable accessory structure of 640 square feet and several non-habitable accessory structures. The proposed residential uses are principal permitted uses within the zone district and all proposed accessory structures are consistent with the provisions included in Sections 13.10.681 and 13.10.611 of the County Code. Conditions of approval require the recordation of Declarations of Restriction and future inspections as required to help ensure that all accessory structures conform to the limitations imposed by ordinance. The zoning is consistent with the site's (R-M/R-R) Mountain Residential/Rural Residential General Plan designation.

Local Coastal Program Consistency

The proposed residential addition is in conformance with the County's certified Local Coastal Program in that the construction is designed to be visually compatible, in scale with, and integrated with the character of the surrounding neighborhood. Developed parcels in the area contain both one and two story single-family dwellings. Size and architectural styles in the area vary widely and the design submitted is fits well within the existing range. The existing and proposed structures are not readily visible from surrounding properties as they are a minimum of 350 feet from the nearest structure and are further screened by vegetation. The project site is not located between the shoreline and the first public road and is not identified as a priority acquisition site in the County's Local Coastal Program. Consequently, the proposed project will not interfere with public access to the beach, ocean, or other nearby body of water.

Design Review

The proposed residential addition complies with the requirements of the County Design Review Ordinance, in that the proposed construction would incorporate existing site and architectural design features of the existing dwelling, such as wood siding and large porches typical of rural country farmhouse. The proposed colors include greens and browns that blend well with the surrounding tree canopy and ensure that the design will be compatible with surrounding land uses. Neighboring properties are developed with one and two-story single-family residences and outbuildings associated with rural residential and agricultural uses (e.g. barns, sheds, storage buildings).

The replacement house is proposed to be 31 feet in height. Section 13.10.323.5 (b) of the County code allows structural heights of up to 33 feet with approval of the County Urban Designer. Given the distance between the proposed replacement dwelling and surrounding properties, as well as the vegetative screening, the Urban Designer has reviewed the proposal and recommends the increased height. Conditions of approval have been included which require all mature trees be retained to ensure that the screening will be maintained in perpetuity.

Biotic Resources

As stated previously, a Botanical Report and Restoration Plan was prepared by Valerie Haley, Botanist, pursuant to a signed stipulation in October 2008. The stipulation was developed to resolve code violations issued for unauthorized land clearing and dumping in sensitive habitat. Several sensitive habitat communities were identified in the report and a Restoration Plan created in order to address damage done to the habitat as a result of clearing activities.

Identified sensitive habitat included riparian resources associated with the stream and pond, Ponderosa pine, oak woodland and Santa Cruz cypress. The Restoration Plan included provisions to remove a large number of exotic invasive species and to replant and/or seed selected areas with native grasses, shrubs and willow stakes. Additional mitigation measures included installing protective fencing, mowing, implementing erosion control measures and a five-year monitoring and reporting schedule. The mitigation and monitoring plan was implemented by the current owner in 2009 and will operational through 2013.

The 2009 Haley report indicated the presence of potential Zayante sandhills habitat on the property in addition to riparian and other oak woodland habitat. Therefore, Sandhills Ecologist Jodi McGraw was hired by the applicant to perform a Habitat Assessment and Survey of the parcel with respect to Zayante sandhills and associated protected species. The Sandhills Habitat Assessment, dated August 23, 2010 (Exhibit I) concluded that the "proposed project will not impact sensitive Sandhills species nor Sandhills communities or habitat."

Additionally a Preliminary Assessment for California Red-Legged Frog, dated March 10, 2010, was prepared by John Gilchrist and Associates to evaluate the potential for California red-legged frog and western pond turtle to occur on the property. The assessment found that because the project does not involve any construction or improvements to the on-site pond or in adjacent wetlands, impacts to aquatic species are not anticipated. Erosion control best management practices are included in the required conditions of approval to further ensure that the proposed construction will not impact riparian habitat on the site.

The proposed construction, with the exception of the driveway upgrade, occurs more than 150 feet from riparian and other biotic systems identified on the property. Conditions of approval are included that ensure that all mitigation measures required as part of the ongoing Restoration Plan be maintained. Additionally, the project biotic consultant(s) will be required to review and approve the plans prior to permit issuance. The work proposed to improve the driveway is also required to be supervised by a qualified biologist to ensure that the development does not negatively impact the stream entering the property or the cypress species in the vicinity.

Scenic Resource

The westernmost portion of the project site is located in a mapped scenic resource area associated with Pine Flat Road. The built portion of the property is located nearly 600 feet from the edge of the mapped scenic corridor and is further obscured from the roadway by dense vegetation, comprised of conifers and chaparral. As stated previously, a condition of approval will require that all mature trees are maintained and/or replaced in perpetuity.

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

Staff Recommendation

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number **10-0164,** based on the attached findings and conditions.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

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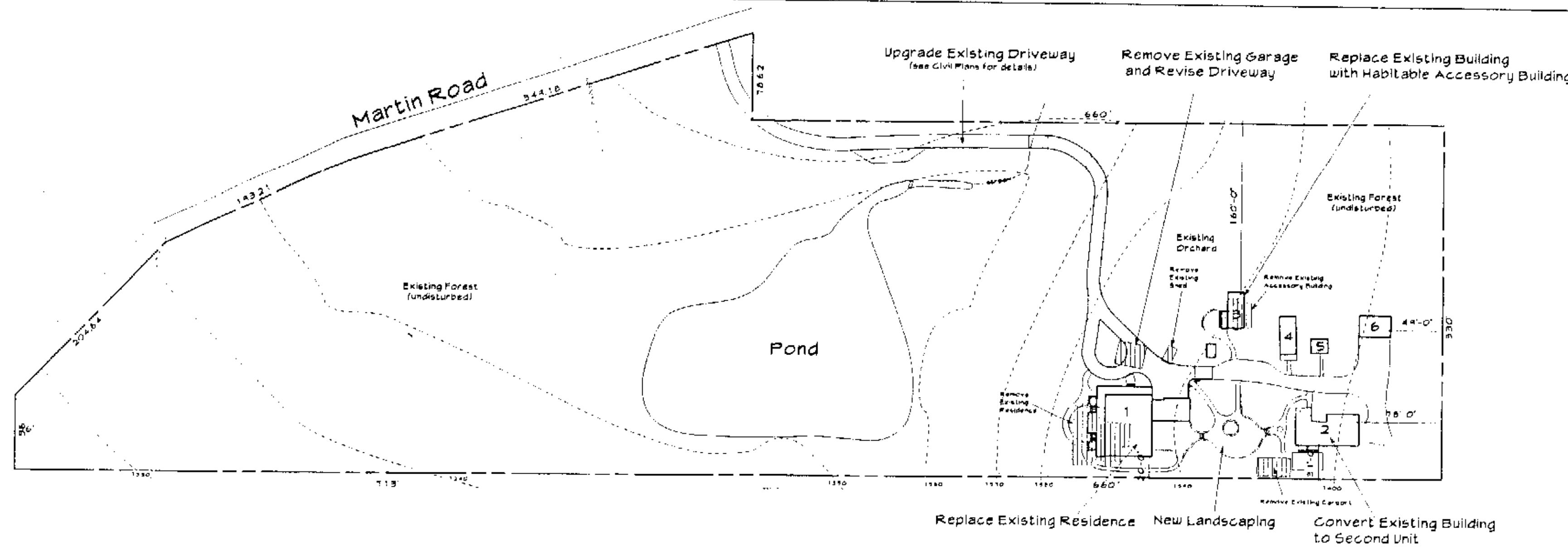


FIRE PROTECTION NOTES

1 THE PLANS ARE IN COMPLIANCE WITH THE CALIFORNIA BUILDING AND FIRE CODES (2007) AS AMENDED BY THE AUTHORITY HAVING JURISDICTION
NOTE: THIS PROJECT IS REQUIRED TO MEET THE REQUIREMENTS OF THE WILDLAND URBAN INTERFACE CODE (WUIC)
2 THE BUILDINGS (AS REQUIRED) SHALL BE PROTECTED BY AN APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM COMPLYING WITH THE CURRENTLY ADOPTED EDITION OF NFPA 13A AND 13D AND CHAPTER 35 OF CALIFORNIA BUILDING CODE AND ADOPTED STANDARDS OF THE AUTHORITY HAVING JURISDICTION
3. THE JOB COPIES OF THE BUILDING AND FIRE SYSTEM PLANS AND PERMITS MUST BE ONSITE DURING INSPECTIONS
3. MINIMUM OF 10,000 GAL WATER STORAGE RESERVED FOR FIRE PROTECTION TO BE PROVIDED ON SITE
4 A MINIMUM FIRE FLOW OF 500 GPM IS REQUIRED FROM 1 HYDRANT LOCATED WITHIN 150 FEET OF ANY BUILDING.
6 FIRE HYDRANT SHALL BE PAINTED IN ACCORDANCE WITH THE STATE OF CALIFORNIA HEALTH AND SAFETY CODE. SEE AUTHORITY HAVING JURISDICTION
7 THE DESIGNER/INSTALLER SHALL SUBMIT THREE (3) SETS OF PLANS AND CALCULATIONS FOR THE UNDERGROUND AND OVERHEAD RESIDENTIAL AUTOMATIC FIRE SPRINKLER SYSTEM TO THE AGENCY FOR APPROVAL. INSTALLATION SHALL FOLLOW GUIDE SHEET
8 PLANS FOR THE FIRE PROTECTION SYSTEM MUST BE PREPARED BY THE DESIGNER/INSTALLER. THE PLANS SHALL COMPLY WITH THE UNDERGROUND FIRE PROTECTION SYSTEM INSTALLATION POLICY HANDOUT
9 BUILDING NUMBERS SHALL BE PROVIDED. NUMBERS SHALL BE A MINIMUM OF 4 INCHES IN HEIGHT ON A CONTRASTING BACKGROUND AND VISIBLE FROM THE STREET. ADDITIONAL NUMBERS SHALL BE INSTALLED ON A DIRECTIONAL SIGN AT THE PROPERTY DRIVEWAY AND STREET.
10 INSTALL AN APPROVED SPARK ARRESTER ON THE TOP OF CHIMNEY. THE WIRE MESH SHALL BE 1/2 IN. MAX. AND 3/8" MIN.
11 THE ROOF COVERING SHALL BE NO LESS THAN CLASS "B" FIRE RATED ROOFING
12 A 100 FOOT CLEARANCE WILL BE MAINTAINED WITH NON-COMBUSTIBLE VEGETATION AROUND ALL STRUCTURES OR TO THE PROPERTY LINE (WHICHEVER IS A SHORTER DISTANCE). SINGLE SPECIMENS OF TREES, ORNAMENTAL SHRUBBERY OR SIMILAR PLANTS USED AS GROUND COVERS PROVIDED THEY DO NOT FORM A MEANS OF RAPIDLY TRANSMITTING FIRE FROM NATIVE GROWTH TO ANY STRUCTURE ARE EXEMPT
13 THE DRIVEWAY SHALL BE 12 FEET MINIMUM WIDTH AND MAXIMUM TWENTY PERCENT SLOPE
14 A REGISTERED ENGINEER SHALL CERTIFY ALL BRIDGES, CULVERTS AND CROSSINGS MINIMUM CAPACITY OF 25 TONS CAL-TRANS H-20 LOADING STANDARD.
15 THE ACCESS ROAD SHALL BE IN PLACE TO THE FOLLOWING STANDARDS PRIOR TO ANY FRAMING CONSTRUCTION OR CONSTRUCTION WILL BE STOPPED. THE ACCESS ROAD SHALL BE "ALL WEATHER" A MINIMUM 6" OF COMPACTED AGGREGATE BASE ROCK, CLASS 2 OR EQUIVALENT CERTIFIED BY A LICENSED ENGINEER TO 95% COMPACTION AND SHALL BE MAINTAINED. ALL WEATHER SURFACE: SHALL BE 6" O COMPACTED CLASS II BASE ROCK FOR GRADES UP TO AND INCLUDING 5% OIL AND SCREENED FOR GRADES UP TO AND INCLUDING 15%, AND ASPHALTIC CONCRETE FOR GRADES EXCEEDING 15%, BUT IN NO CASE EXCEEDING 20%. THE MAXIMUM GRADE OF THE ACCESS ROAD SHALL NOT EXCEED 20% WITH GRADES GREATER THAN 15% NOT PERMITTED FOR DISTANCES OF MORE THAN 200 FEET AT A TIME. THE ACCESS ROAD SHALL HAVE A VERTICAL CLEARANCE OF 14 FEET FOR ITS ENTIRE WIDTH AND LENGTH, INCLUDING TURNOUTS. A TURN-AROUND AREA WHICH MEETS THE REQUIREMENT TO THE FIRE DEPARTMENT SHALL BE PROVIDED FOR ACCESS ROADS AND DRIVEWAYS IN EXCESS OF 150 FEET IN LENGTH. DRAINAGE DETAILS FOR THE ROAD OR DRIVEWAY SHALL CONFORM TO CURRENT ENGINEERING PRACTICES INCLUDING EROSION CONTROL MEASURES. ALL PRIVATE ACCESS ROADS, DRIVEWAYS, TURN-AROUND AND BRIDGES ARE THE RESPONSIBILITY OF THE OWNER (S) OF RECORD AND SHALL BE MAINTAINED TO ENSURE THE FIRE DEPARTMENT SAFE AND EXPEDIENT PASSAGE AT ALL TIMES
16 PLAN CHECK IS BASED UPON PLANS SUBMITTED TO FIRE AGENCY. ANY CHANGES OR ALTERATIONS SHALL BE RE-SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION
17 72 HOUR MINIMUM NOTICE IS REQUIRED PRIOR TO ANY INSPECTION AND/OR TEST.

Area Calculations: Existing

Lot Size -	+/-4.5 acres 413,820 sq. ft.
Lot Coverage:	
1. Existing Residence	
First Floor -	2375 sq. ft.
Covered Porches -	560 sq. ft.
Garage -	572 sq. ft.
2. Existing Building (to be converted to second unit)	
Heated Area	1042 sq. ft.
Storage	623 sq. ft.
3. Existing Building (to be removed)	
First Floor	576 sq. ft.
4. Existing Building (to be converted to storage)	576 sq. ft.
5. Existing Building (to remain)	240 sq. ft.
6. Existing Carport (to be removed)	575 sq. ft.
Total Coverage of all Existing Buildings (10% max.)-	7141 sq. ft. (less than 2%)
Floor Area Ratio	
1. Existing Residence	
First Floor	2375 sq. ft.
Second Floor	532 sq. ft.
Total Heated -	2907 sq. ft.
Covered Porches: East: 350 sq. ft. -140 sq. ft. credit per side West: 120 sq. ft. North: 100 sq. ft.	210 sq. ft.
Garage: 576-225 sq. ft. credit	351 sq. ft.
2. Existing Building	
Heated Area	1042 sq. ft.
Storage	623 sq. ft.
Total	1665 sq. ft.
3. Existing Building	
First Floor	576 sq. ft.
Second Floor	310 sq. ft.
4. Existing Building	576 sq. ft.
5. Existing Building	240 sq. ft.
6. Carport	575 sq. ft.
Total Floor Area: (50% max.)	7412 sq. ft. (less than 2%)

Area Calculations: Proposed

Lot Coverage:	
1. Proposed Residence	
First Floor -	2565 sq. ft.
Covered Porch -	660 sq. ft.
Garage -	772 sq. ft.
2. Proposed Second Unit	
Habitable	1042 sq. ft.
Covered Porch -	94 sq. ft.
Storage -	623 sq. ft.
3. Proposed Habitable Accessory Building	640 sq. ft.
4. Storage Building (Existing to be converted to storage)	576 sq. ft.
5. Storage Building (existing to remain)	240 sq. ft.
6. Proposed Carport	704 sq. ft.
Total Coverage (10% max.)-	8132 sq. ft. (less than 2%)
Floor Area Ratio	
1. Residence	
Total Heated -	3437 sq. ft.
Covered Porches: 660 sq. ft. (3 sides) -140 sq. ft. credit per side	460 sq. ft.
Garage: 772-225 sq. ft. credit	547 sq. ft.
2. Second Unit	1665 sq. ft.
3. Habitable Accessory	640 sq. ft.
4. Storage	576 sq. ft.
5. Storage	240 sq. ft.
6. Carport	700 sq. ft.
Total Floor Area: (50% max.)	7258 sq. ft. (less than 2%)

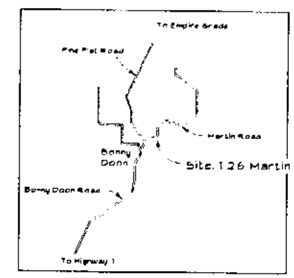
N

Site Plan

1"=50'
showing entire parcel and overview of proposed work
see A2 for detail of developed area

Project Data

Address: 126 Martin Road, Santa Cruz
Parcel Number: 063-091-05
Zoning: RA
Parcel Size: 4.568 acres
Occupancy Classification: Group R3, U Wood Frame
Construction Type: VB
Water Supply: Private Well
Waste Water: Septic



Vicinity Map

SHEET INDEX

A1 COVER SHEET & SITE PLAN
A2 SITE PLAN DETAIL
A3 PROPOSED RESIDENCE PLANS
A4 HABITABLE ACCESSORY BUILDING PLANS
A5 ACCESSORY BUILDING PLANS

Revisions: 4-28-10

Design:
John Craycroft and Associates
455 Happy Valley Way
Santa Cruz, CA 95065
Tel: 831-421-3048

Landscape:
Scott Lipscomb
Landscape Architect
311 Emerald Forest Rd
Santa Cruz, CA 95060
831-621-7423

Civil Engineering:
RI Engineering Inc.
303 Potrero St.
Santa Cruz, CA 95060
831-425-3901

Owner:
Howard & Dana Chao
5 Brady Place
Menlo Park, CA 94025

Coversheet & Site Plan

Project:
Proposed Improvements
126 Martin Road
Bonny Doon, CA
APN 063-091-05

DATE: April 2010
SCALE: 1"=50'
DRAWN: JCraycroft
SHEET A-1 OF 5 SHEETS

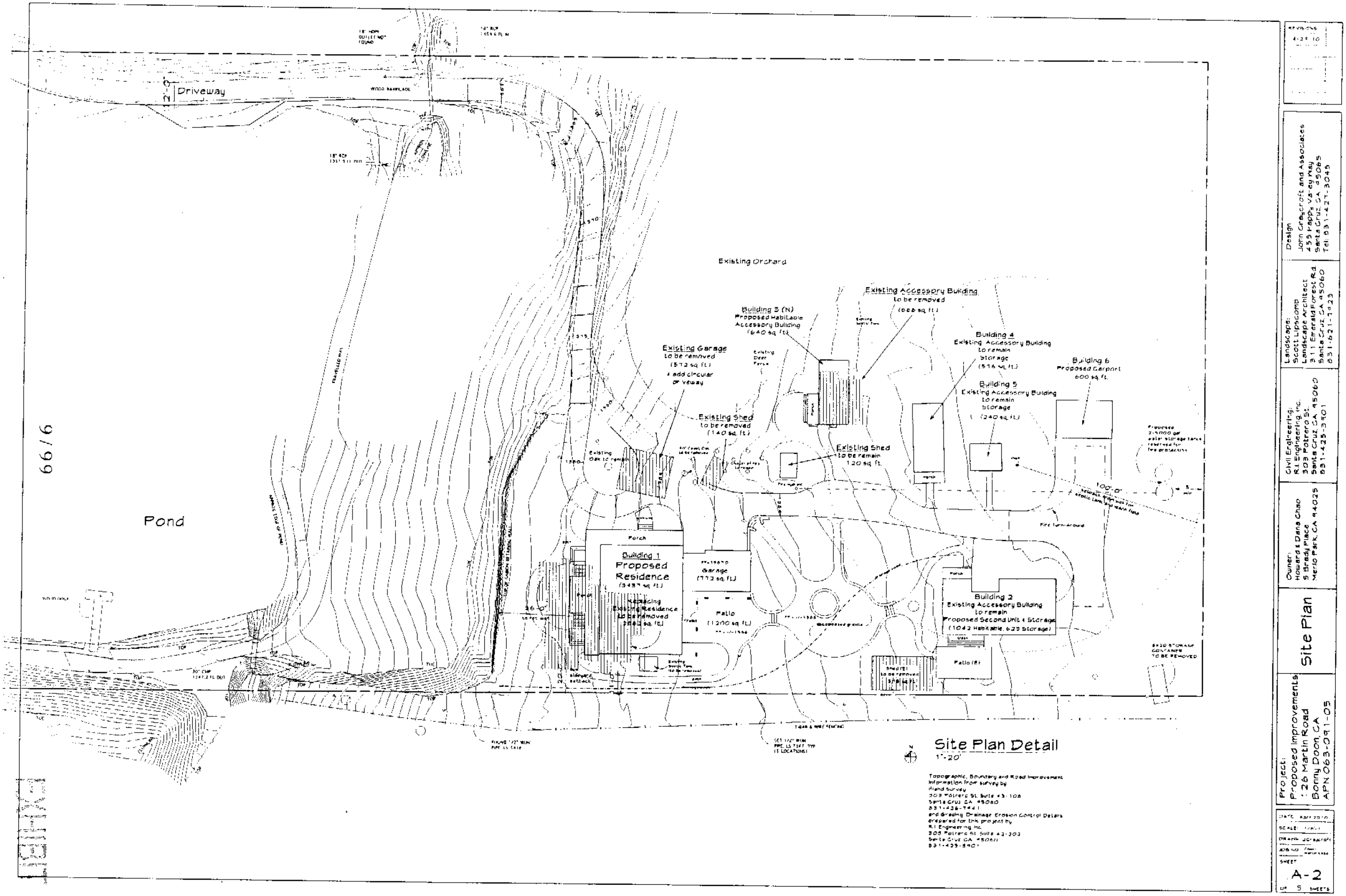
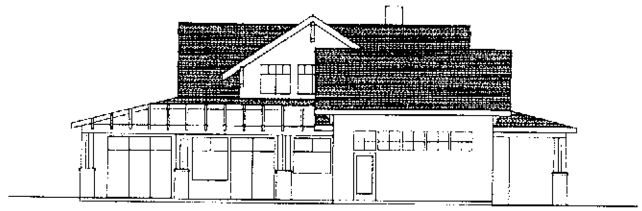
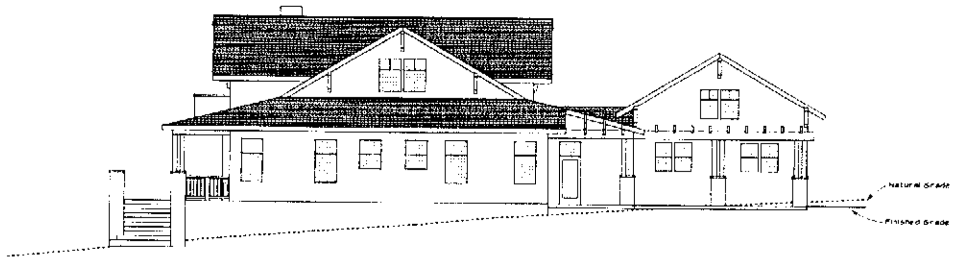

Driveway
Pond
Existing Orchard
Existing Accessory Building
to be removed
(068 sq ft)
Building 3 (N)
Proposed Habitable Accessory Building
(640 sq ft)
Building 4
Existing Accessory Building
to remain
Storage
(516 sq ft)
Building 5
Existing Accessory Building
to remain
Storage
(240 sq ft)
Building 6
Proposed Carport
600 sq ft
Existing Garage
to be removed
(572 sq ft)
& add circular driveway
Existing Shed
to be removed
(140 sq ft)
Existing Shed
to be remain
120 sq ft
Existing Oak to remain
Porch
Building 1
Proposed Residence
(3437 sq ft)
Replacing Existing Residence to be removed
(1842 sq ft)
Garage
(772 sq ft)
Patio
(1200 sq ft)
Building 2
Existing Accessory Building
to remain
Proposed Second Unit & Storage
(1042 Habitable, 620 Storage)
Patio (E)
Fire Turn-Around
100'-0"
36'-0"
20'-0"
Sideyard Setback
Site Plan Detail
1"=20'
Topographic, Boundary and Road Improvement Information from survey by
Hand Survey
303 Potrero St. Suite 43-108
Santa Cruz, CA 95060
831-426-7441
and Grading, Drainage, Erosion Control Details prepared for this project by
R.I. Engineering Inc.
303 Potrero St. Suite 42-202
Santa Cruz, CA 95060
831-425-3901
Revisions
4-21-10
Design
John Craycroft and Associates
435 Happy Valley Way
Santa Cruz, CA 95065
Tel: 831-427-3045
Landscape:
Scott Lipscomb
Landscape Architect
311 Emerald Forest Rd
Santa Cruz, CA 95060
831-621-1423
Civil Engineering:
R.I. Engineering, Inc.
303 Potrero St.
Santa Cruz, CA 95060
831-425-3901
Owner:
Howard & Dana Chao
5 Brady Place
Menlo Park, CA 94025
Site Plan
Project:
Proposed Improvements
: 26 Martin Road
Bonny Doon, CA
APN 063-091-05
Sheet
A-2
of 5 sheets

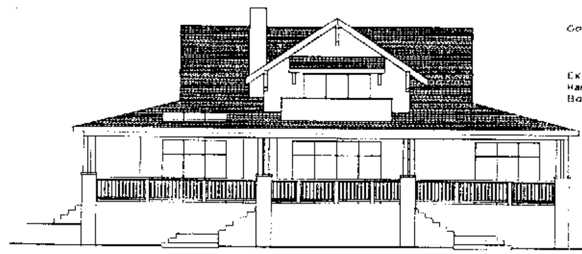
EXHIBIT A



East Elevation



South Elevation

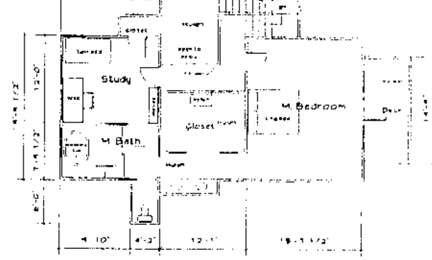


Composition Shingle Roofing
Elk Prestique 40 year
class A fire rating

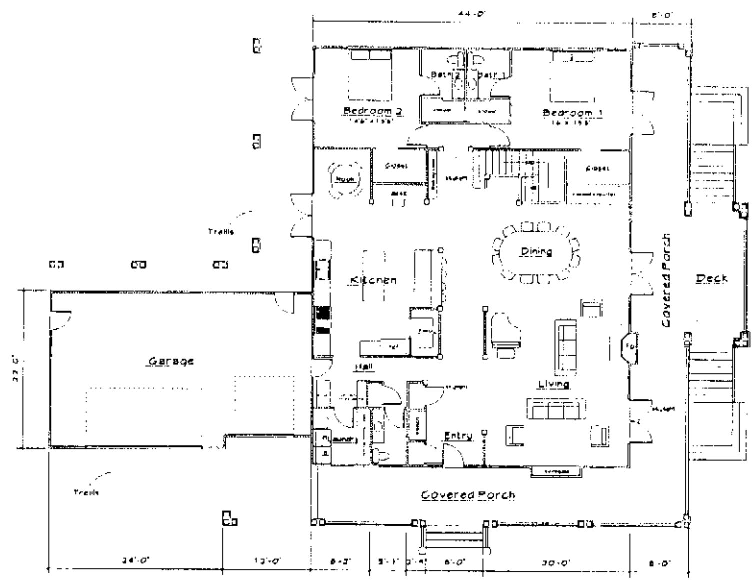
Exterior:
Hardi-plank Siding Shingle
Board and Batten Siding & Stucco

West Elevation

North Elevation



Second Floor Plan
1/8"=1'



First Floor:	2565 sq. ft.
Second Floor:	872 sq. ft.
Total Heated:	3437 sq. ft.
Garage:	772 sq. ft.
Covered Porch:	880 sq. ft.
First Floor Deck:	165 sq. ft.
Second Floor Deck:	40 sq. ft.

First Floor Plan
1/8"=1'

Proposed Residence

Revisions: 4-28-10

Designer:
John Craycroft and Associates
Residential Design and Planning
455 Happy Valley Way
Santa Cruz, CA 95065
Tel: 831-427-3048

Landscape:
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Proposed Residence

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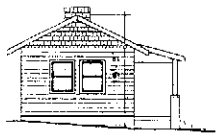
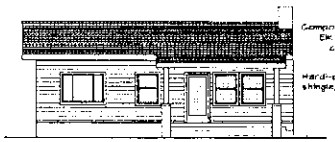
DATE: April 2010
SCALE: 1/8"=1'
DRAWN: JCraycroft
SHEET: A-3
OF 5 SHEETS

EXHIBIT A

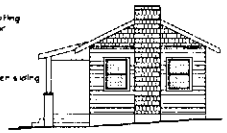


North Elevation

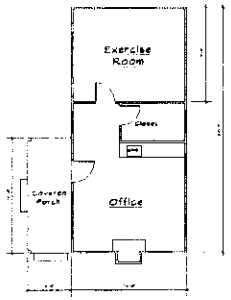
East Elevation



West Elevation



South Elevation



Heated: 544 sq. ft.
Porch: 96 sq. ft.
Total: 640 sq. ft.

N

Floor Plan
1/8"=1

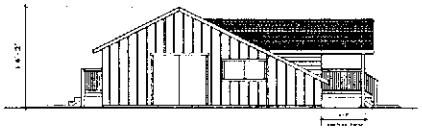
Building #3 Proposed Habitable Accessory Building
(replacing existing building)

South Elevation

West Elevation

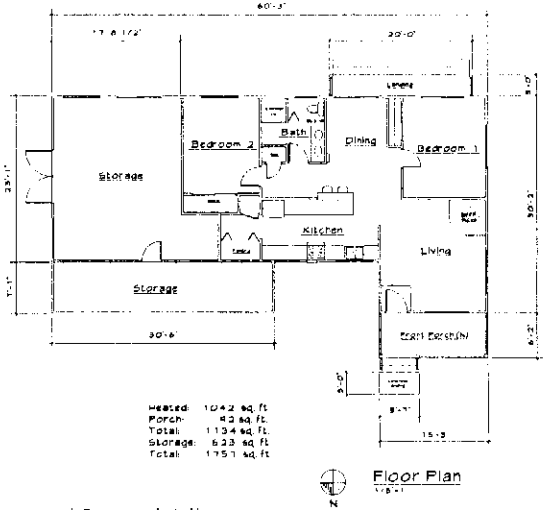
Install new Composition Shingle Roofing
Elk Prestique 40 year
class A fire rating

Hardi-plank horizontal siding
shingle, t board and batten siding



East Elevation

North Elevation



Heated: 1042 sq. ft.
Porch: 92 sq. ft.
Total: 1134 sq. ft.
Storage: 633 sq. ft.
Total: 1751 sq. ft.

N

Floor Plan
1/8"=1

Building #2 Proposed Second Unit
(conversion of existing building)

Habitable Accessory Buildings

11/99

EXHIBIT

Project:
Proposed Improvements
126 Martin Road
Bonny Doon, CA
APN 063-091-05

Habitable Accessory Buildings

Owner:
Howard & Dana Chao
5 Brady Place
Menlo Park, CA 94025

Civil Engineering:
RL Engineering, Inc
303 Potrero St.
Santa Cruz, CA 95060
831-425-3401

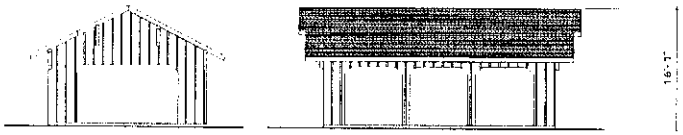
Landscape:
Scott Lipscomb
Landscape Architect
311 Emerald Forest Rd
Santa Cruz, CA 95060
831-621-1423

Designer:
John Greycroft and Associates
Residential Design and Planning
455 Happy Valley Way
Santa Cruz, CA 95065
Tel: 831-421-3045

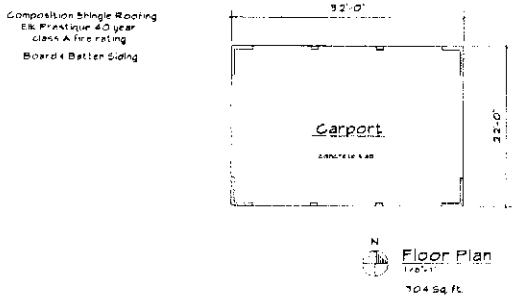
REVISIONS
4-28-10

DATE: April 2010
SCALE: 1/8"=1'
DRAWN: JG/BJG/DFL
JOB NO.: Chao-Martin Road

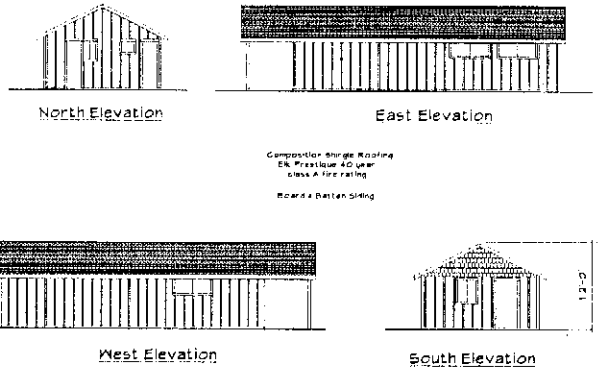
SHEET
A-4
OF 15 SHEETS



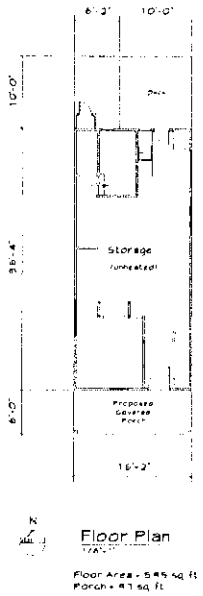
Composition Shingle Roofing
Elk Prestique 40 year
class A fire rating
Board & Batten Siding



Building #6 Proposed Carport

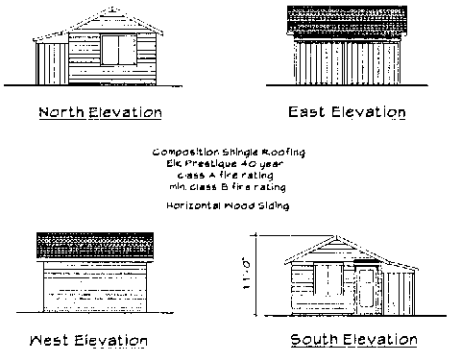


Composition Shingle Roofing
Elk Prestique 40 year
class A fire rating
Board & Batten Siding

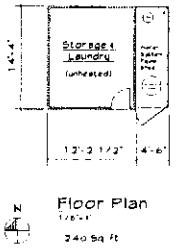


Floor Area - 545 sq ft
Porch - 91 sq ft

Building #4 Storage Building
(existing to remain)



Composition Shingle Roofing
Elk Prestique 40 year
class A fire rating
min. class B fire rating
Horizontal Wood Siding



340 Sq ft

Building #5 Storage & Laundry Building
(existing to remain)

Accessory Buildings

12/99

EXISTING

A

REVISIONS
4-24-10

Designer:
John Craycroft and Associates
Residential Design and Planning
455 Happy Valley Way
Santa Cruz, CA 95065
Tel 831-421-3046

Landscape:
Scott Lipscomb
Landscape Architect
Santa Cruz Forest Rd.
Santa Cruz, CA 95060
831-621-1423

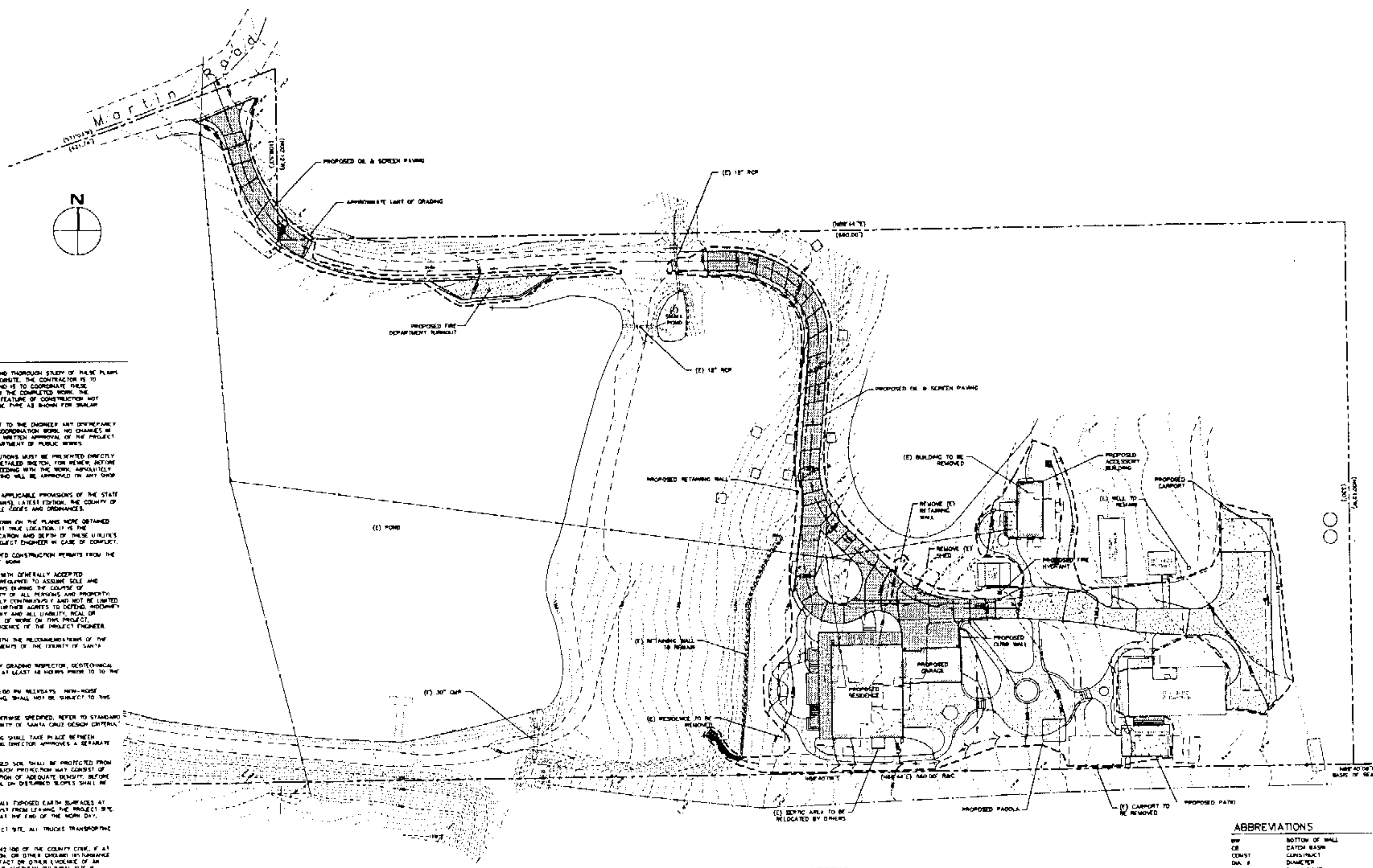
Civil Engineering:
RJL Engineering, Inc.
303 Potrero St.
Santa Cruz, CA 95060
831-429-9401

Owner:
Howard & Dana Chao
5 Brady Place
Menlo Park, CA 94025

Project:
Proposed Improvements
126 Martin Road
Bonny Doon, CA
APN 063-091-05

Accessory Buildings

DATE: April 2010
SCALE: 1/8"=1'
DRAWN:
JOB NO:
SHEET
A-5
OF 5 SHEETS



GENERAL NOTES

1. THE CONTRACTOR SHALL MAKE A DETAILED AND THOROUGH STUDY OF THESE PLANS IN THEIR ENTIRETY PRIOR TO ANY WORK ON THE JOBSITE. THE CONTRACTOR IS TO VERIFY ALL EXISTING CONSTRUCTION CONDITIONS AND IS TO COORDINATE THESE DRAWINGS WITH ALL OTHER TRADE DISCIPLINES FOR THE COMPLETED WORK. THE CONTRACTOR IS ALSO TO UNDERSTAND THAT ANY FEATURE OF CONSTRUCTION NOT FULLY SHOWN OR DETAILED SHALL BE OF THE SAME TYPE AS SHOWN FOR SIMILAR CONDITIONS.

2. THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ENGINEER ANY DISCREPANCY OCCURRING ON THE DRAWINGS OR FOUND IN HIS COORDINATION WORK. NO CHANGES IN APPROVED PLANS SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE PROJECT ENGINEER AND THE COUNTY OF SANTA CRUZ DEPARTMENT OF PUBLIC WORKS.

3. ANY REQUEST FOR ALTERATIONS OR SUBSTITUTIONS MUST BE PRESENTED DIRECTLY TO THE PROJECT ENGINEER, ACCOMPANIED BY A DETAILED SKETCH, FOR REVIEW, BEFORE ANY APPROVAL WILL BE GIVEN AND BEFORE PROCEEDING WITH THE WORK. ABSOLUTELY NO ALTERATIONS OF THESE DOCUMENTS OF ANY KIND WILL BE APPROVED ON ANY SHOP DRAWINGS.

4. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS (CALTRANS), LATEST EDITION, THE COUNTY OF ...Z DESIGN CRITERIA AND ALL APPLICABLE CODES AND ORDINANCES.

...OCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS WERE OBTAINED ...AND DRAWINGS AND MAY NOT REPRESENT TRUE LOCATION. IT IS THE ...R'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH OF THESE UTILITIES ... CONSTRUCTION, AND TO NOTIFY THE PROJECT ENGINEER IN CASE OF CONFLICT.

...CONTRACTOR SHALL SECURE ALL REQUIRED CONSTRUCTION PERMITS FROM THE ... SANTA CRUZ PRIOR TO THE START OF WORK.

...RACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED ...TION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND ... RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD PROJECT ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE PROJECT ENGINEER.

8. GRADING SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL INVESTIGATIONS AND THE REQUIREMENTS OF THE COUNTY OF SANTA CRUZ.

9. THE CONTRACTOR SHALL NOTIFY THE COUNTY GRADING INSPECTOR, GEOTECHNICAL ENGINEER, THE COUNTY CONSTRUCTION ENGINEER AT LEAST 48 HOURS PRIOR TO TO THE START OF CONSTRUCTION.

10. WORK SHALL BE LIMITED TO 8:00 A.M. TO 5:00 PM WEEKDAYS. NON-NOISE PRODUCING ACTIVITIES, SUCH AS INTERIOR PAINTING, SHALL NOT BE SUBJECT TO THIS RESTRICTION.

11. ALL FIGURE (FIG.) REFERENCES, UNLESS OTHERWISE SPECIFIED, REFER TO STANDARD DRAWINGS IN THE CURRENT EDITION OF THE "COUNTY OF SANTA CRUZ DESIGN CRITERIA".

12. NO LAND CLEARING, GRADING OR EXCAVATING SHALL TAKE PLACE BETWEEN OCTOBER 15 AND APRIL 15 UNLESS THE PLANNING DIRECTOR APPROVES A SEPARATE WINTER EROSION CONTROL PLAN.

13. BETWEEN OCTOBER 15 AND APRIL 15, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.

14. THE CONTRACTOR SHALL APPLY WATER TO ALL EXPOSED EARTH SURFACES AT INTERVALS SUFFICIENT TO PREVENT AIRBORNE DUST FROM LEAVING THE PROJECT SITE. ALL EXPOSED EARTH SHALL BE WATERED DOWN AT THE END OF THE WORK DAY.

15. WHILE IN TRANSIT TO AND FROM THE PROJECT SITE, ALL TRUCKS TRANSPORTING FILL SHALL BE EQUIPPED WITH TARPS.

16. PURSUANT TO SECTIONS 16.40.040 AND 16.42.100 OF THE COUNTY CODE, IF AT ANY TIME DURING SITE PREPARATION, EXCAVATION, OR OTHER GROUND DISTURBANCE ASSOCIATED WITH THIS DEVELOPMENT, ANY ARTIFACT OR OTHER EVIDENCE OF AN HISTORIC ARCHEOLOGICAL RESOURCE OR A NATIVE AMERICAN CULTURAL SITE IS DISCOVERED, THE RESPONSIBLE PERSONS SHALL IMMEDIATELY CEASE AND DESIST FROM ALL FURTHER SITE EXCAVATION AND NOTIFY THE SHERIFF-CORONER IF THE DISCOVERY CONTAINS HUMAN REMAINS, OR THE PLANNING DIRECTOR IF THE DISCOVERY CONTAINS NO HUMAN REMAINS. THE PROCEDURES ESTABLISHED IN SECTIONS 16.40.040 AND 16.42.100, SHALL BE OBSERVED.

17. ALL CONSTRUCTION STAKING FOR CURB, GUTTER, SIDEWALK, SANITARY SEWER, STORM DRAINS AND WATER LINES SHALL BE DONE UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER.

18. THE DIRECTOR OF PUBLIC WORKS, OR HIS AUTHORIZED REPRESENTATIVE, SHALL HAVE THE AUTHORITY TO "STOP WORK" IF THE WORK IS NOT BEING DONE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS.

19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF CONSTRUCTION QUANTITIES PRIOR TO BIDDING ON ANY ITEM. QUANTITY REFERENCES SHOWN ON THESE PLANS, OR ENGINEER'S ESTIMATES ARE FOR ESTIMATING PURPOSES ONLY AND SHALL NOT BE CONSIDERED AS A BASIS FOR CONTRACTOR PAYMENT. CONSULTANT SHALL NOT BE RESPONSIBLE FOR ANY FLUCTUATIONS IN SUCH QUANTITIES AND ESTIMATES.

20. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF, THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.

21. UNDERGROUND UTILITY LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY UTILITY AGENCIES, AND ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATIONS OF AFFECTED UTILITY LINES PRIOR TO ANY TRENCHING OR EXCAVATING AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS EXIST OR WHERE DATA IS OTHERWISE INCOMPLETE. FOR LOCATION, CALL USA 1-800-[illegible].

22. ANY EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED AS A PART OF THIS CONSTRUCTION SHALL BE RELOCATED AT THE DEVELOPER'S EXPENSE.

13/99

TOPOGRAPHIC SURVEY

THE TOPOGRAPHIC SURVEY AND BOUNDARY INFORMATION PROVIDED HEREON WAS COMPLETED BY IFLAND SURVEYING. RI ENGINEERING INC. MAKES NO GUARANTEE AS TO THE ACCURACY OF BOTH. THE CONTRACTOR SHALL VERIFY THE BOUNDARY LOCATION AND TOPOGRAPHIC INFORMATION PRIOR TO COMMENCING WORK.

LEGEND

- (E) AC
- PROPOSED 4" DECOMPOSED GRANITE OVER 6" CLASS 2 AGGREGATE BASE OVER SCARIFIED AND COMPACTED SUBGRADE
- (E) DECK
- PROPOSED OIL & SCREEN OVER 8" CLASS 2 AGGREGATE BASE
- PROPOSED 8" AGGREGATE BASE OVER SCARIFIED, COMPACTED SUBGRADE
- PROPOSED DECK
- (E) AB
- PROPOSED AB
- PROPOSED PERVIOUS PAVING
- PROPOSED RETAINING WALL
- PROPOSED SWALE

ABBREVIATIONS

BW	BOTTOM OF WALL
CB	CATCH BASIN
CONST	CONSTRUCT
DIA. #	DIAMETER
DS	DOWNSPOUT
DTL	DETAIL
DWY	DRIVEWAY
(E)	EXISTING
EL	ELEVATION
EOP	EDGE OF PAVEMENT
FF	FINISH FLOOR
FG	FINISH GRADE
FGBW	FINISH GRADE AT BASE OF WALL
INV	INVERT
LF	LINEAR FEET
LW	LABORATORY WASTE
MAX	MAXIMUM
N.T.S	NOT TO SCALE
RW	RETAINING WALL
RWL	RECYCLED WATER LINE
RIM	RIM ELEVATION
S	SLOPE
SCCO	COUNTY OF SANTA CRUZ
SSCO	SANITARY SEWER CLEANOUT
SDCO	STORM DRAIN CLEANOUT
TYP	TYPICAL
TW	TOP OF WALL
U.N.O.	UNLESS NOTED OTHERWISE
WS	WATER SERVICE

PRELIMINARY

PRELIMINARY NOT FOR CONSTRUCTION

RI Engineering, Inc.

303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.riengineering.com

SITE IMPROVEMENTS
FOR
MR. HOWARD CHAO
126 MARTIN ROAD
BONNY DOON, CALIFORNIA
APN 063-091-05

SITE PLAN

project no.	10-010-1
date	APRIL 2010
scale	AS SHOWN
dwg name	CIVIL1.DWG

C-1

EXHIBIT A

EARTHWORK AND GRADING

1. WORK SHALL CONSIST OF ALL CLEARING, GRUBBING, STRIPPING, PREPARATION OF LAND TO BE FILLED, EXCAVATION, SPREADING, COMPACTION AND CONTROL OF FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADES, AND SLOPES AS SHOWN ON THE APPROVED PLANS.

2. ALL GRADING OPERATIONS SHALL CONFORM TO SECTION 19 OF THE CALTRANS STANDARD SPECIFICATIONS, AND SHALL ALSO BE DONE IN CONFORMANCE WITH THE REQUIREMENTS OF THE COUNTY OF SANTA CRUZ. THE MOST STRINGENT GUIDELINE SHALL PREVAIL.

3. REFERENCE IS MADE TO THE GEOTECHNICAL INVESTIGATIONS BY DEES & ASSOCIATES, INC. ENTITLED "GEOTECHNICAL INVESTIGATION FOR PROPOSED SINGLE FAMILY RESIDENCE, SECOND UNIT AND ACCESSORY HABITABLE STRUCTURE", DATED MARCH 2010. THE CONTRACTOR SHALL MAKE A THOROUGH REVIEW OF THIS REPORT AND SHALL FOLLOW ALL RECOMMENDATIONS THEREIN. THE CONTRACTOR SHALL CONTACT DEES & ASSOCIATES FOR ANY CLARIFICATIONS NECESSARY PRIOR TO PROCEEDING WITH THE WORK.

4. THE CONTRACTOR SHALL GRADE TO THE LINE AND ELEVATIONS SHOWN ON THE PLAN AND SHALL SECURE THE SERVICES OF A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER TO PROVIDE STAKES FOR LINE AND GRADE.

5. THE GEOTECHNICAL ENGINEER SHOULD BE NOTIFIED AT LEAST FOUR (4) DAYS PRIOR TO ANY SITE CLEARING AND GRADING OPERATIONS.

6. THE UPPER 12 INCHES OF NATIVE SUBGRADE IN AREAS TO RECEIVE CONCRETE SLABS AND/OR PAVEMENTS SHOULD BE SCARIFIED, MOISTURE CONDITIONED TO PRODUCE A MOISTURE CONTENT WITHIN 4 TO 5 PERCENT ABOVE THE LABORATORY OPTIMUM VALUE, AND UNIFORMLY COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION BASED ON ASTM TEST D1557. THE UPPER 8" OF CONCRETE SLAB AND PAVEMENT SUBGRADE AND BASE SHOULD BE COMPACTED TO AT LEAST 95% RELATIVE COMPACTION UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

7. ENGINEERED FILL SHOULD BE PLACED IN THIN LIFTS NOT EXCEEDING 8 INCHES IN LOOSE THICKNESS, MOISTURE CONDITIONED, AND COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION.

8. MATERIAL USED FOR ENGINEERED FILL SHALL MEET THE REQUIREMENTS OF THE AFOREMENTIONED REPORTS BY DEES & ASSOCIATES, INC.

9. IMPORTED FILL MATERIAL USED AS ENGINEERED FILL FOR THE PROJECT SHALL MEET THE FOLLOWING REQUIREMENTS:

ALL IMPORTED ENGINEERED FILL MATERIAL SHOULD MEET THE FOLLOWING:

a. Free of organic and deleterious material, contain no rocks or clods greater than 4 inches in diameter, with no more than 15 percent by weight of rocks larger than 2 1/2 inches.
b. Be granular and have a Plasticity Index of less than 15, and should have sufficient cohesion to allow excavations to stand without caving.

... MATERIAL SHALL BE APPROVED BY THE PROJECT ...NICAL ENGINEER PRIOR TO JOBSITE DELIVERY AND ... UNIT. NO EARTHWORK OPERATIONS SHALL BE PERFORMED ... THE DIRECT OBSERVATION AND APPROVAL OF THE ...NICAL ENGINEER.

APPROXIMATE EARTHWORK QUANTITIES

EXCAVATION	67	CUBIC YARDS
FILL	47	CUBIC YARDS
NET	20	CUBIC YARDS EXC

NOTES:
1. EARTHWORK QUANTITIES ARE APPROXIMATE AND SHALL BE INDEPENDENTLY VERIFIED BY THE CONTRACTOR FOR BIDDING PURPOSES.
2. EARTHWORK VOLUMES INCLUDE EXCAVATION TO ROUGH GRADE FOR CONSTRUCTION OF THE PROPOSED RESIDENCE. EARTHWORK VOLUMES REQUIRED TO CONSTRUCT THE FOUNDATIONS HAVE NOT BEEN INCLUDED.
3. EXCESS SOIL SHALL BE HAULED OR PLACED IN A COUNTY APPROVED LOCATION.

STORM DRAINAGE NOTES

1. CULVERTS SHALL BE REINFORCED CONCRETE PIPE (RCP), POLYVINYL CHLORIDE (PVC), OR HIGH DENSITY POLYETHYLENE (HDPE) AND SHALL HAVE A SMOOTH INTERIOR CONFORMING TO SECTION E – STORM DRAINAGE FACILITIES OF COUNTY OF SANTA CRUZ DESIGN CRITERIA.

2. INLETS SHALL BE CHRISTY CONCRETE PRODUCTS OR APPROVED EQUAL.

3. CONNECT ALL SPLASH BLOCKS TO PERIMETER STORM DRAIN.

PERCENT OF MAXIMUM DRY DENSITY	LOCATION
95%	1) ALL AGGREGATE BASE AND SUBBASE IN PAVEMENT AREAS 2) THE UPPER 8 INCHES OF SUBGRADE IN PAVEMENT AREAS 3) ALL UTILITY TRENCH BACKFILL IN PAVEMENT AREAS
90%	ALL REMAINING NATIVE SOIL AND FILL MATERIAL

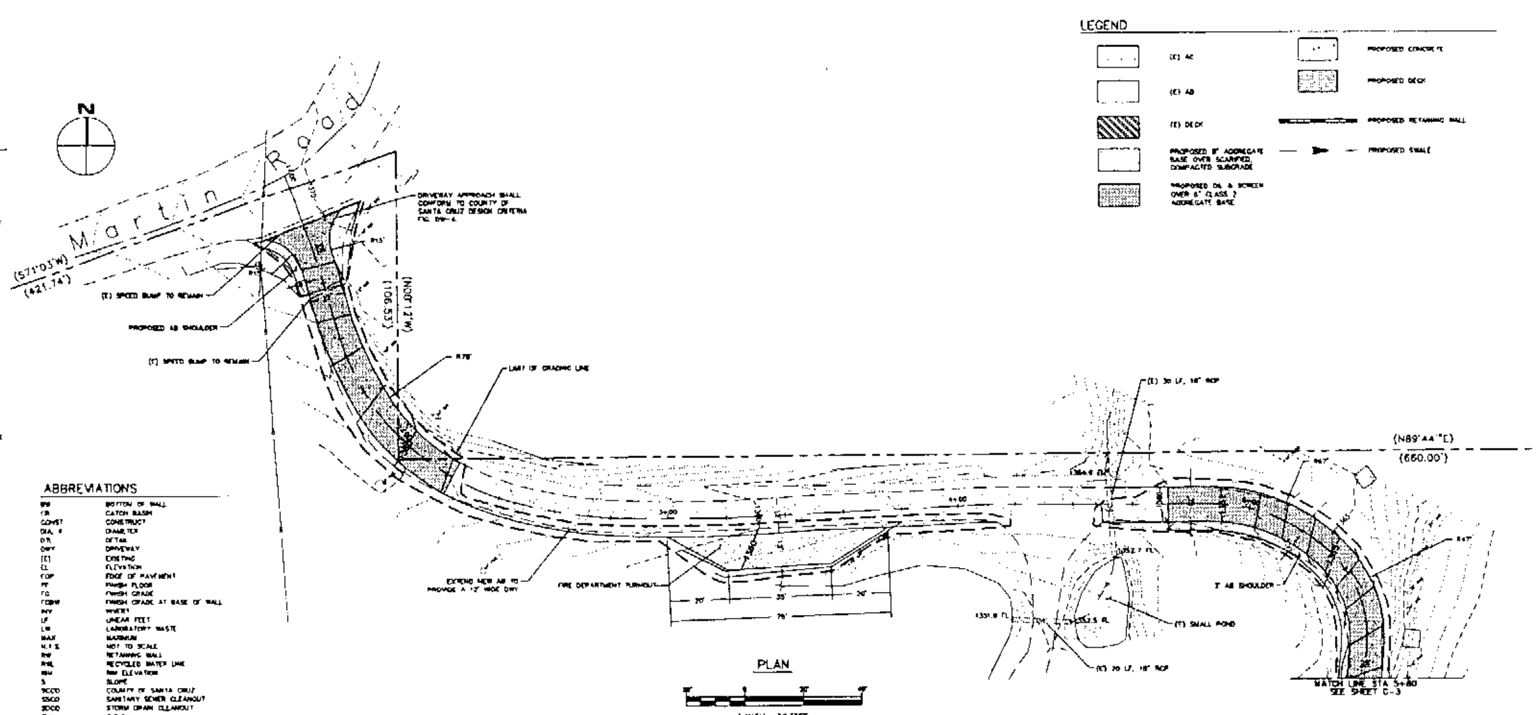
THE MAXIMUM DRY DENSITY WILL BE OBTAINED FROM A LABORATORY COMPACTION CURVE RUN IN ACCORDANCE WITH ASTM PROCEDURE #D1557-00. THIS TEST WILL ALSO ESTABLISH THE OPTIMUM MOISTURE CONTENT OF THE MATERIAL. FIELD DENSITY TESTING WILL BE IN ACCORDANCE WITH ASTM TEST #D2922.

ABBREVIATIONS

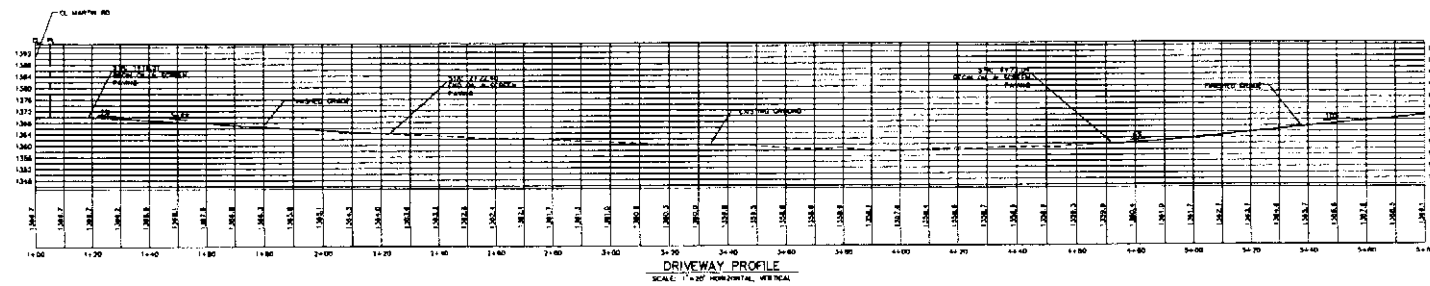
BW	BOTTOM OF WALL
CB	CATCH BASIN
CONST	CONSTRUCT
DIA, Ø	DIAMETER
DTL	DETAIL
DWY	DRIVEWAY
(E)	EXISTING
EL	ELEVATION
EOP	EDGE OF PAVEMENT
FF	FINISH FLOOR
FG	FINISH GRADE
FGBW	FINISH GRADE AT BASE OF WALL
INV	INVERT
LF	LINEAR FEET
LW	LABORATORY WASTE
MAX	MAXIMUM
N.T.S.	NOT TO SCALE
RW	RETAINING WALL
RWL	RECYCLED WATER LINE
RIM	RIM ELEVATION
S	SLOPE
SCCO	COUNTY OF SANTA CRUZ
SSCO	SANITARY SEWER CLEANOUT
SDCO	STORM DRAIN CLEANOUT
TYP	TYPICAL
TW	TOP OF WALL
WS	WATER SERVICE

LEGEND

- (E) AC
- (E) AB
- (E) DECK
- PROPOSED 8" AGGREGATE BASE OVER SCARIFIED, COMPACTED SUBGRADE
- PROPOSED OIL & SCREEN OVER 6" CLASS 2 AGGREGATE BASE
- PROPOSED CONCRETE
- PROPOSED DECK
- PROPOSED RETAINING WALL
- PROPOSED SWALE



PLAN



DRIVEWAY PROFILE
SCALE: 1"=20' HORIZONTAL, VERTICAL

PRELIMINARY

RJ Engineering, Inc.
303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.rjengineering.com

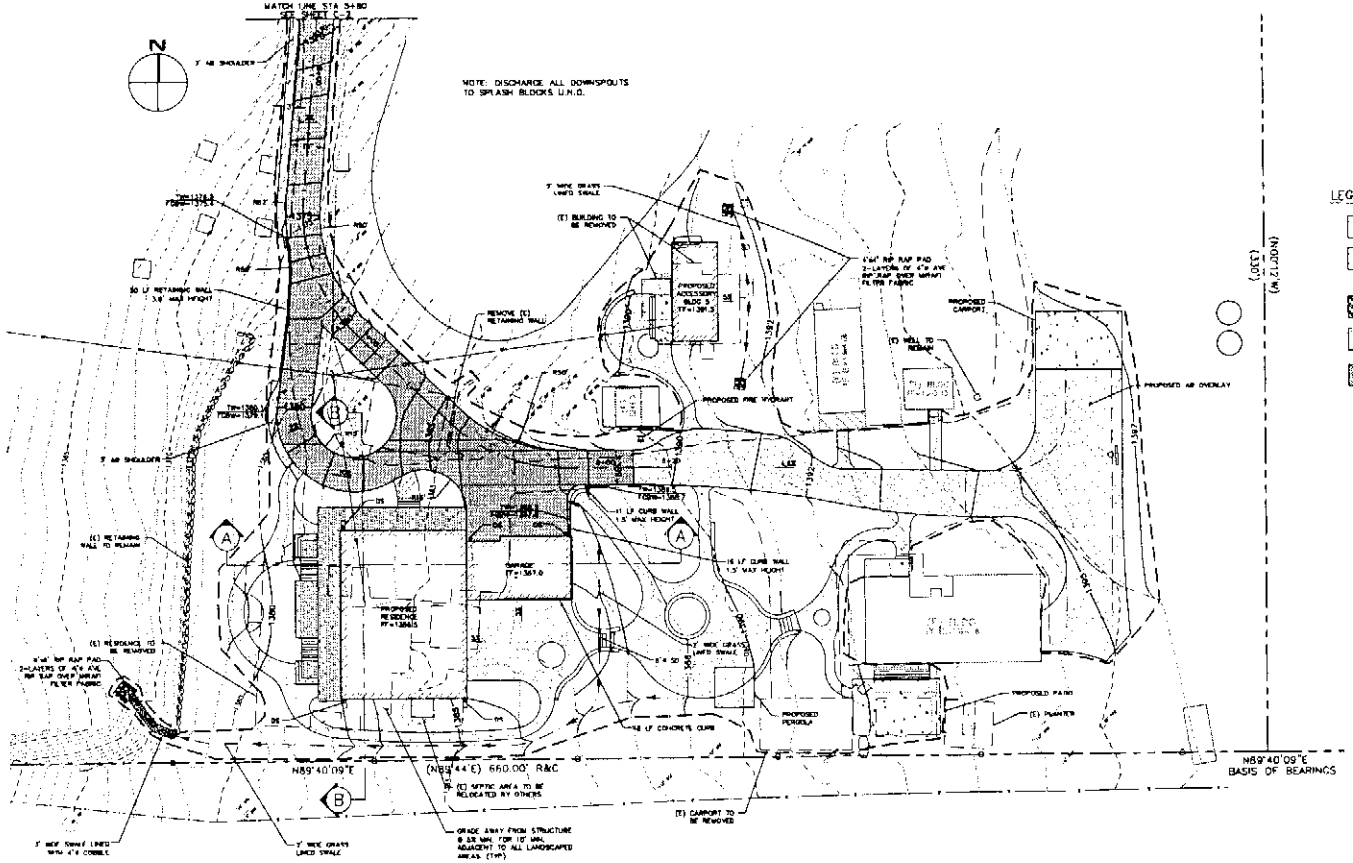
SITE IMPROVEMENTS
FOR
MR. HOWARD CHAO
126 MARTIN ROAD
BONNY DOON, CALIFORNIA
APN 063-091-05

GRADING AND DRAINAGE PLAN

project no.	10-010-1
date	APRIL 2010
scale	AS SHOWN
dwg name	CIVIL1.DWG

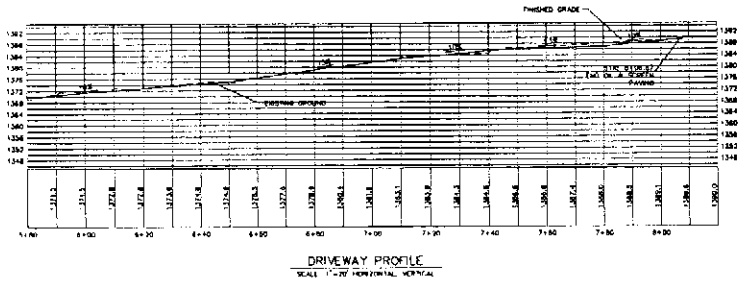
C-2

EXHIBIT A



PLAN

1 INCH = 20 FEET

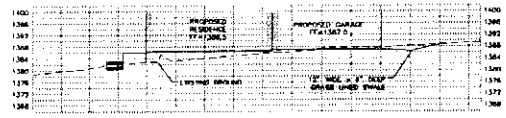


DRIVEWAY PROFILE

SCALE 1"=20' HORIZONTAL, VERTICAL

SECTION B-B

SCALE 1"=20' HORIZONTAL, VERTICAL



SECTION A-A

SCALE 1"=20' HORIZONTAL, VERTICAL

LEGEND

- (E) AC
- PROPOSED 4" DECOMPOSED GRANITE OVER 6" CLASS 2 AGGREGATE BASE OVER SCARIFIED AND COMPACTED SUBGRADE
- (E) DECK
- PROPOSED 8" AGGREGATE BASE OVER SCARIFIED, COMPACTED SUBGRADE
- PROPOSED OIL & SCRATCH OVER 6" CLASS 2 AGGREGATE BASE
- PROPOSED CONCRETE
- PROPOSED DECK
- PERFORATED PERVIOUS PAVING
- PROPOSED RETAINING WALL
- PROPOSED SWALE

ABBREVIATIONS

BW	BOTTOM OF WALL
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DS	DOWNSPOUT
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EL	ELEVATION
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FGBW	FINISH GRADE AT BASE OF WALL
INV	INVERT
LF	LINEAR FEET
LW	LABORATORY WASTE
MAX	MAXIMUM
N.T.S.	NOT TO SCALE
RW	RETAINING WALL
RWL	RECYCLED WATER LINE
RIM	RIM ELEVATION
S	SLOPE
SCCO	COUNTY OF SANTA CRUZ
SSCO	SANITARY SEWER CLEANOUT
SDCO	STORM DRAIN CLEANOUT
TYP	TYPICAL
TW	TOP OF WALL
U.N.O.	UNLESS NOTED OTHERWISE
WS	WATER SERVICE

PRELIMINARY

PRELIMINARY NOT FOR CONSTRUCTION

R.I Engineering, Inc.

303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.rienglineering.com

SITE IMPROVEMENTS FOR MR. HOWARD CHAO 126 MARTIN ROAD BONNY DOON, CALIFORNIA APN 063-091-05

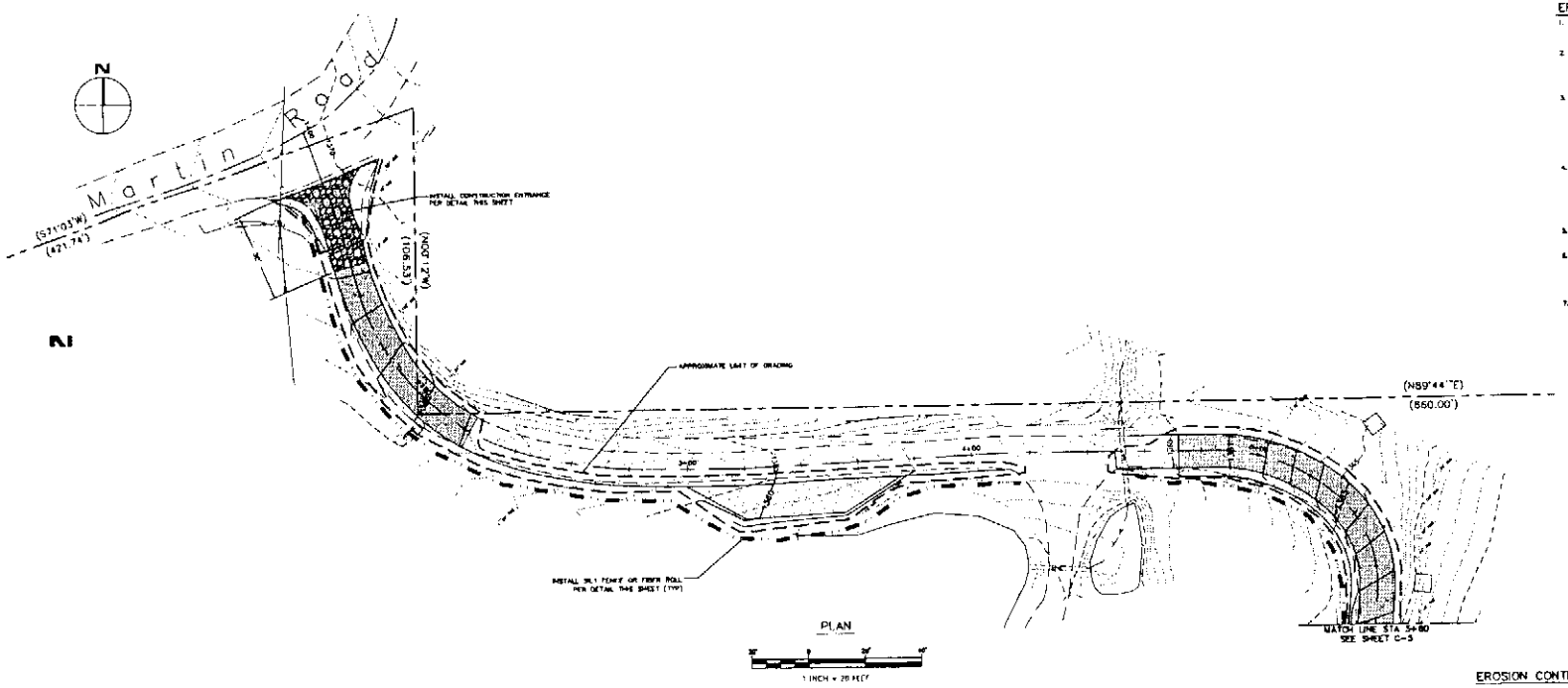
GRADING AND DRAINAGE PLAN

project no. 10-010-1
date APRIL 2010
scale AS SHOWN
dwg name CIVIL1.DWG

C-3

15/99

ATTACHMENT 1



PLAN

1 INCH = 20 FEET

EROSION CONTROL MEASURES

1. EROSION IS TO BE CONTROLLED AT ALL TIMES. ALTHOUGH SPECIFIC MEASURES SHOWN ARE TO BE IMPLEMENTED AT A MINIMUM BY OCTOBER 15.
2. UNLESS SPECIFIC MEASURES ARE SHOWN OR NOTED ON THIS PLAN, ALL COLLECTED RUNOFF SHALL BE CARRIED TO DRAINAGE COURSES IN LINED CONDUITS. DISCHARGE SHALL BE IN THE LOCATIONS SHOWN ON THE PLANS.
3. THE DESIRED END RESULT OF THESE MEASURES IS TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF THE SITE. IT SHALL BE THE DEVELOPER'S RESPONSIBILITY TO SEE THAT ANY ADDITIONAL MEASURES NECESSARY TO MEET THIS GOAL ARE IMPLEMENTED. IF FAILED INSPECTIONS BY CITY STAFF SHOW THIS GOAL IS NOT BEING MET, ADDITIONAL MEASURES MAY BE REQUIRED.
4. ALL DISTURBED AREAS NOT CURRENTLY BEING USED FOR CONSTRUCTION SHALL BE SEEDED WITH THE FOLLOWING SEED MIXTURE:

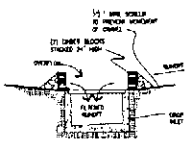
BROMUS CARINATUS	10#/ACRE
LEYMUS TRITICOIDES	10#/ACRE
HORDEUM BRACHYANTHERUM	8#/ACRE

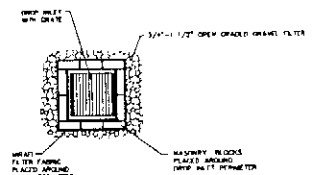
5. AFTER SEEDING, STRAW MULCH SHALL BE APPLIED IN 4" (MIN.) LAYERS.
6. AMMONIUM PHOSPHATE (FERTILIZER, 6-20-20) SHALL BE APPLIED AT A RATE OF 90 LBS. PER ACRE. ON SLOPES GREATER THAN 2:1 EROSION CONTROL BLANKET (NORTH AMERICAN GREEN) SHALL BE APPLIED.
7. SILT BARRIERS SHALL BE PLACED END TO END AND STAKED DOWN ALONG THE BOTTOM OF ALL GRADED SLOPES.

EROSION CONTROL LEGEND

INSTALL SILT FENCE OR FIBER ROLL PER DETAILS THIS SHEET

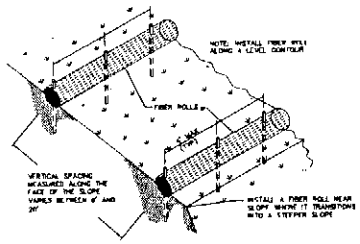
INSTALL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL THIS SHEET





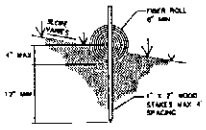
BLOCK AND GRAVEL FILTER DETAIL

N.T.S.



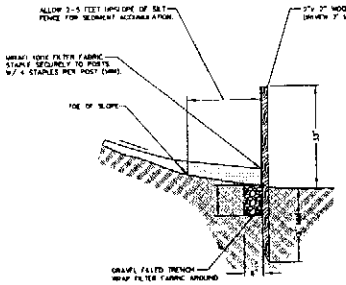
TYPICAL FIBER ROLL INSTALLATION

N.T.S.



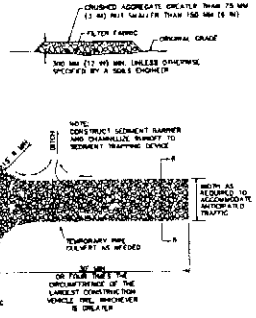
FIBER ROLL DETAIL IN SLOPE AREA

N.T.S.



SILT FENCE DETAIL

N.T.S.



CONSTRUCTION ENTRANCE DETAIL

N.T.S.

PRELIMINARY

PRELIMINARY NOT FOR CONSTRUCTION

R.I Engineering, Inc.
303 Potrero St., Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.rlengineering.com

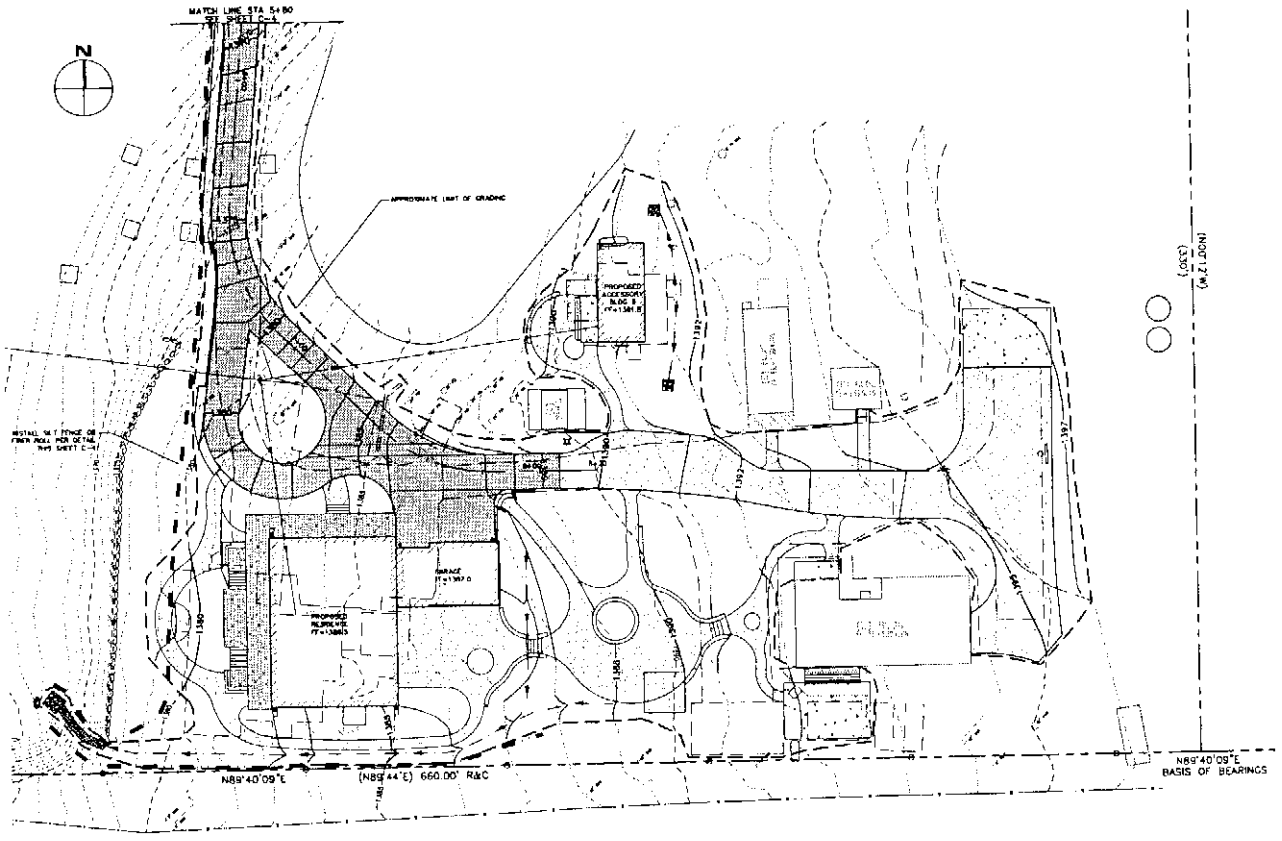
SITE IMPROVEMENTS
FOR:
MR. HOWARD CHAO
126 MARTIN ROAD
SCOTTS VALLEY, CALIFORNIA
APN 063-031-05

EROSION CONTROL PLAN

project no. 10-010-1
date APRIL 2010
scale AS SHOWN
dwg name CIVIL1.DWG

C-4

16 / 99



PLAN

EROSION CONTROL LEGEND

INSTALL SILT FENCE OR FIBER ROLL PER DETAILS SHEET C-4

INSTALL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL SHEET C-4

PRELIMINARY

PRELIMINARY NOT FOR CONSTRUCTION

R.I Engineering, Inc.
333 Potrero St. Suite 42-202, Santa Cruz, CA 95060
831-425-3901 www.rieengineering.com

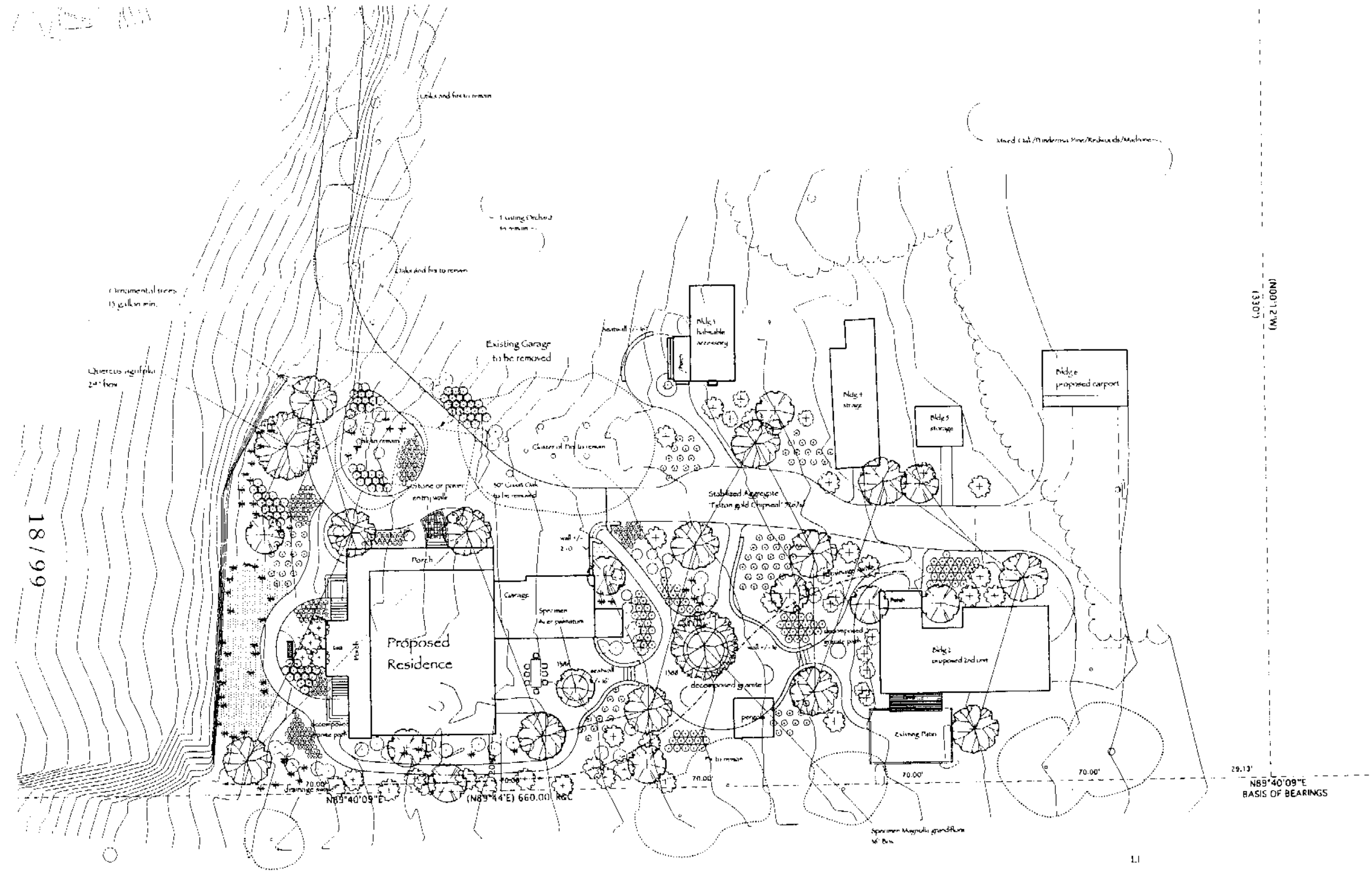
SITE IMPROVEMENTS
FOR
MR. HOWARD CHAO
176 MARTIN ROAD
BONNY DOON, CALIFORNIA
APN 063-091-22

EROSION CONTROL PLAN

project no. 10-010-1
date APRIL 2010
scale AS SHOWN
dwg name CIVIL1.DWG

C-5

17 / 99



Planting Notes

1. Extreme care will be taken to insure that proposed plants will not be invasive. Plants which appear in the California Invasive Plant Council's invasive plant inventory will not be planted.
2. Plants such as Cytisus scoparius (Scotch Broom) and Acacia dealbata (Silver Wattle) will be removed when encountered and monitored throughout landscaping.
3. Native genera, where possible, such as Arctostaphylos, Ceanothus, and Salix, will be selected from local sources in order to prevent cross-contamination of the native populations.
4. The planting shown is schematic only. Exact species and locations will be determined at the time of planting. The plant palette is meant to reflect planting intent, not necessarily exact species.
5. All trees to be 15 gallon min. unless otherwise noted. All shrubs to be 5 gallons, unless otherwise noted.

Selected Plants

Shade Trees	Ornamental Trees	Large Shrubs	Perennials	Grasses
[illegible]	Pyrus (Pear)	[illegible]	Lavandula (Lavender)	[illegible]
Quercus agrifolia (Coast Oak)	Prunus (Cherries)	[illegible]	Cistus (Rockrose)	[illegible]
Quercus chrysolepis (Canyon Oak)	Arbutus unedo (Strawberry Tree)	Romneya coulteri (Matilija Poppy)	Hydrangea quercifolia (Oak Leaf Hydrangea)	Carex [illegible]
Sequoia sempervirens (Redwood)	Acer palmatum (Japanese Maple)	Echium fastuosum (Pride of Madeira)	[illegible]	Calamagrostis 'Karl Foerster'
Platanus racemosa (Sycamore)	[illegible]	Leptospermum (New Zealand Tea Tree)	Daphne odorata (Fragrant daphne)	Pennisetum setaceum
		Rhododendron	Roses	
		Camellias		

Chao Residence

126 MARTIN ROAD
SANTA CRUZ, CA
95060

SLA
Scott Lipscomb
Landscape Architect
[illegible] Lane
Santa Cruz, CA 95060

0 8' 16' 32'

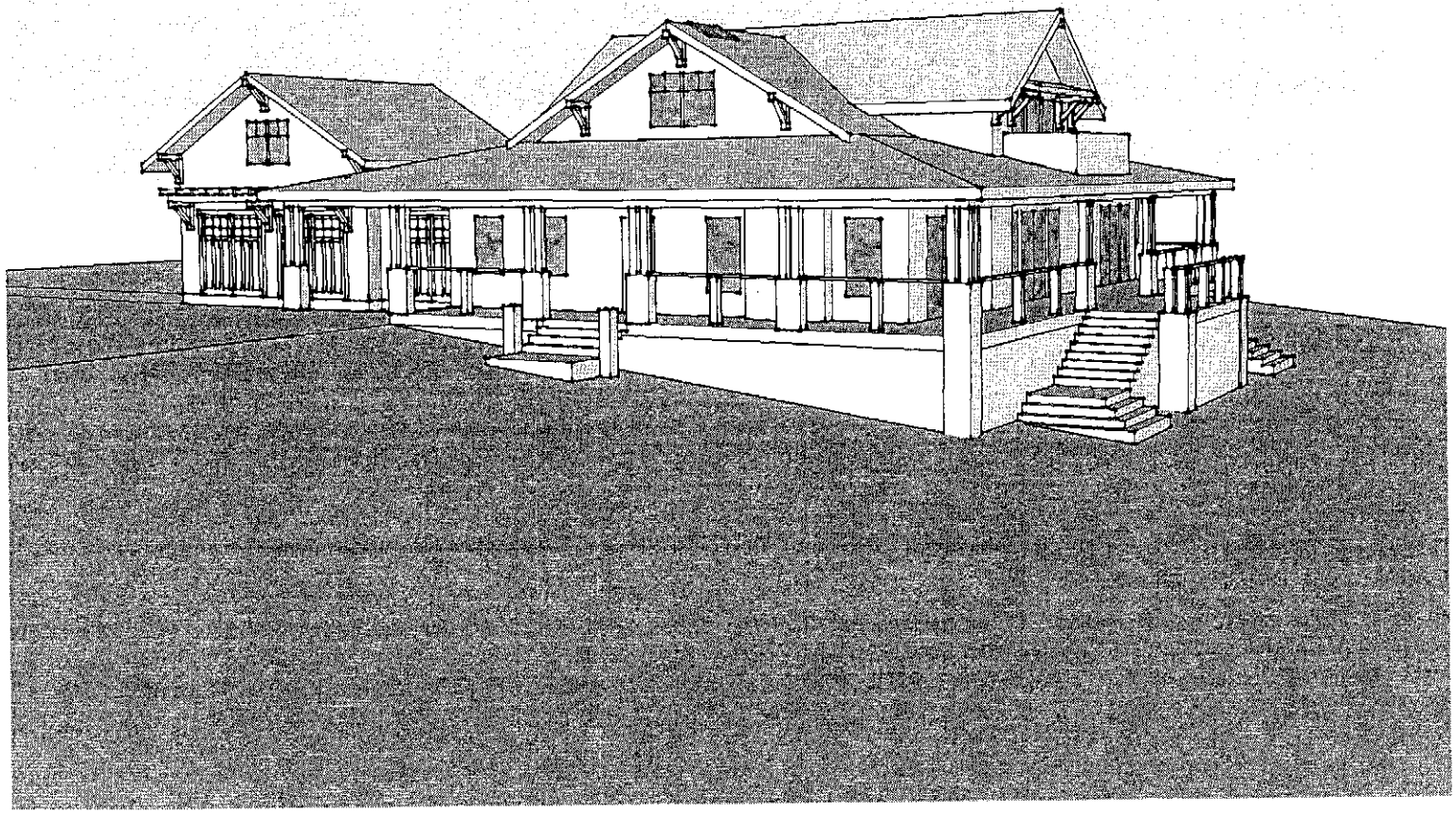
N

drawn by sl
4/17/10

Landscape Plan

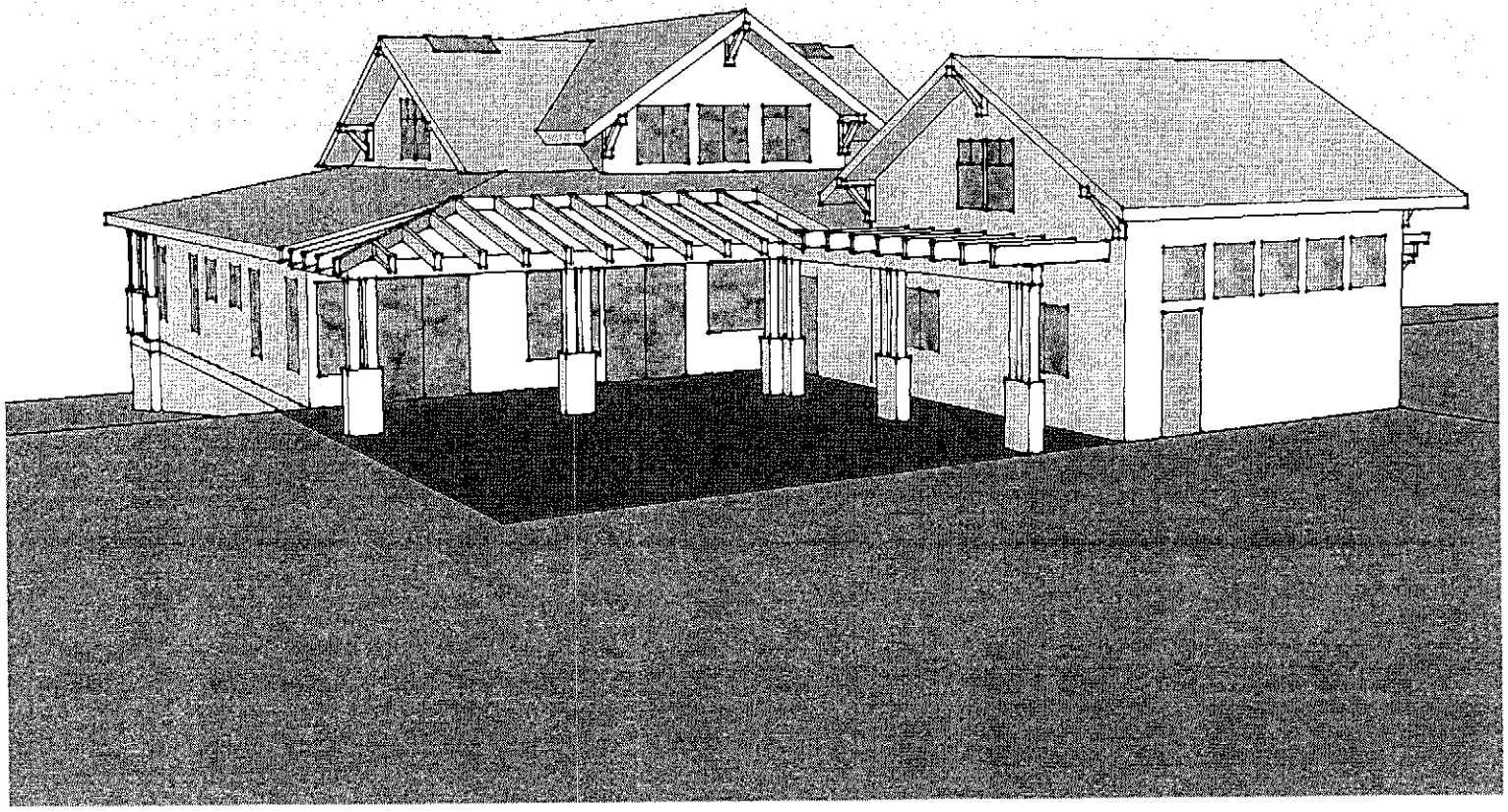
L1

EXHIBIT A



View from North West

Proposed Residence
for Howard and Dana Chao
126 Martin Road, Bonny Doon
APN 063-091-05



View from South East

Proposed Residence
for Howard and Dana Chao
126 Martin Road, Bonny Doon
APN 063-091-05

20/99

EXHIBIT A

126 MARTIN ROAD – APN 063-091-05 – SITE PHOTOGRAPHS

GARAGE TO BE REMOVED; EXISTING HOUSE TO BE REPLACED

EXISTING HOUSE (BUILDING 1)

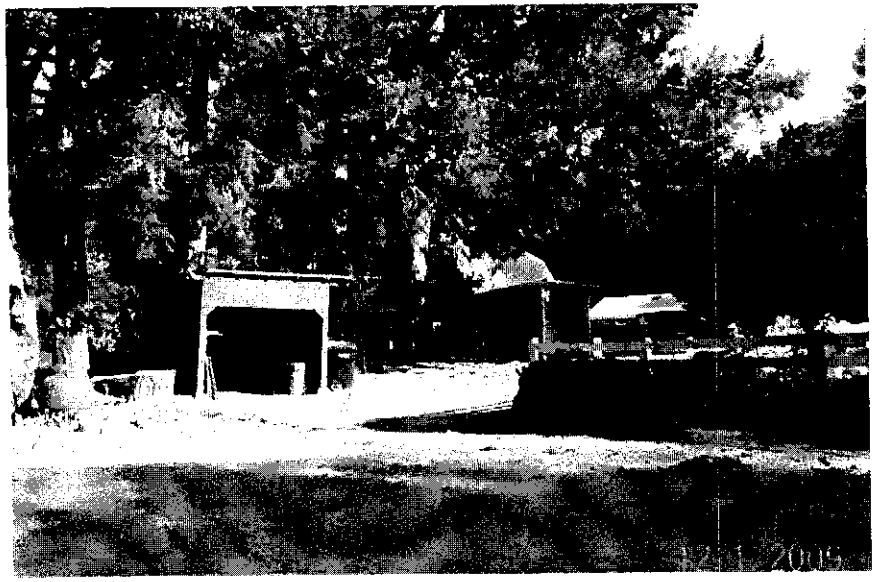
EXISTING GARAGE TO BE REMOVED

FUTURE STORAGE TO REMAIN (BLDNG 4); LAUNDRY ROOM TO REMAIN (BLD 5)

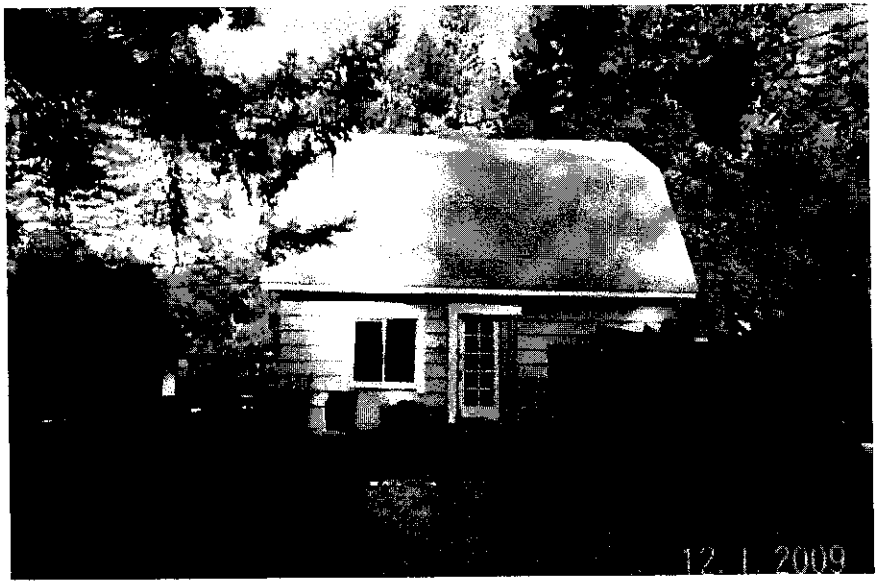
21/99

EXHIBIT A

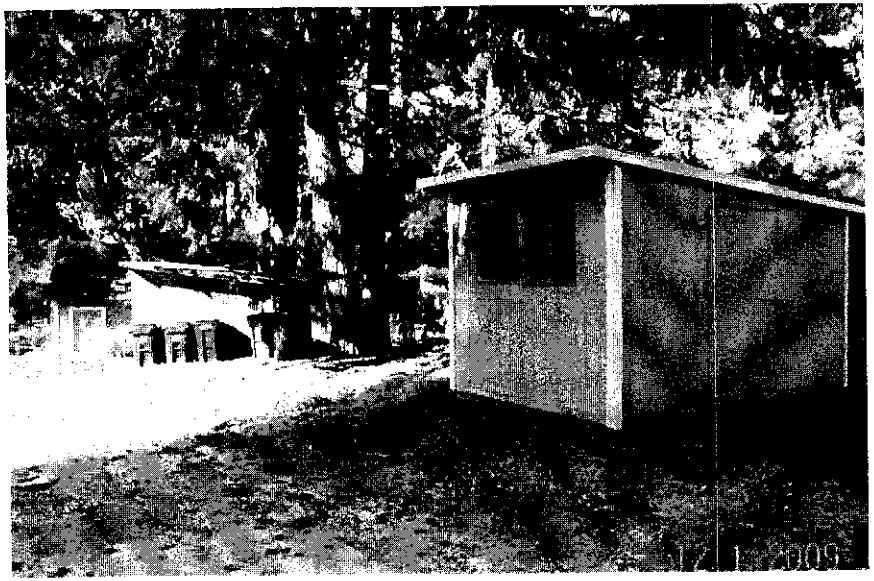
126 MARTIN ROAD – APN 063-091-05 – SITE PHOTOGRAPHS



EXISTING SHED TO BE REMOVED



EXISTING STRUCTURE TO BE REMOVED & REPLACED WITH NEW HABITABLE ACCESSORY STRUCTURE (BUILDING 3)



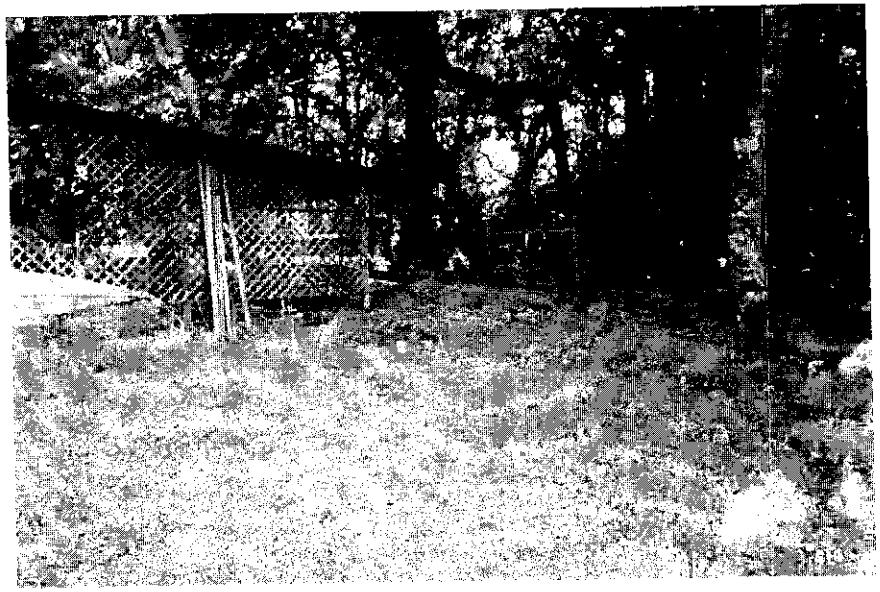
EXISTING GARAGE AND SHED TO BE REMOVED

REAR OF STORAGE ATTACHED TO PROPOSED 2ND UNIT TO REMAIN (BLDG 2)

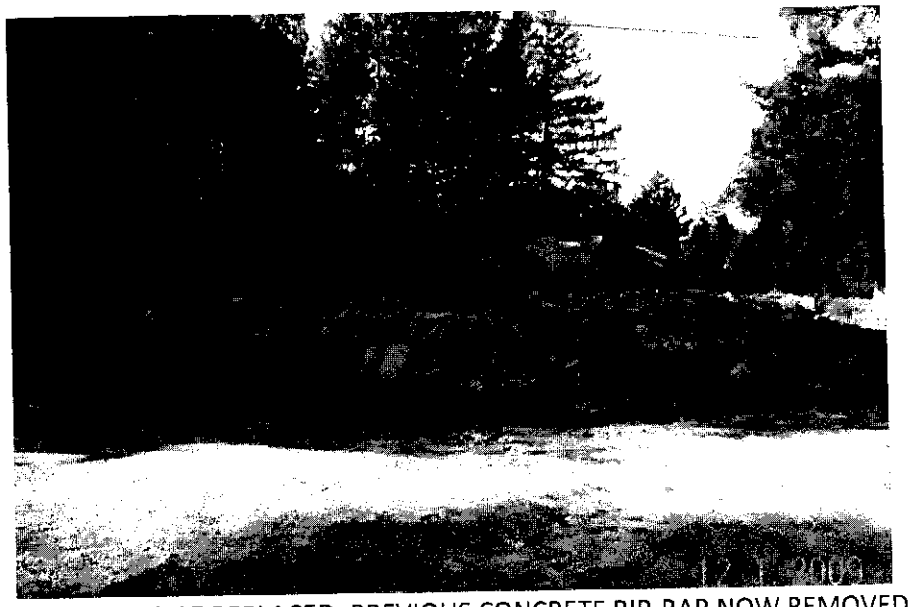
22 / 99

EXHIBIT A

126 MARTIN ROAD – APN 063-091-05 – SITE PHOTOGRAPHS



EXISTING CARPORT TO BE REMOVED



EXISTING HOUSE TO BE REPLACED; PREVIOUS CONCRETE RIP-RAP NOW REMOVED

23/99

EXISTING GARAGE TO BE REMOVED; EXISTING HOUSE TO BE REPLACED

VIEW OF POND FROM MAIN HOUSE (BUILDING 1)

EXHIBIT A

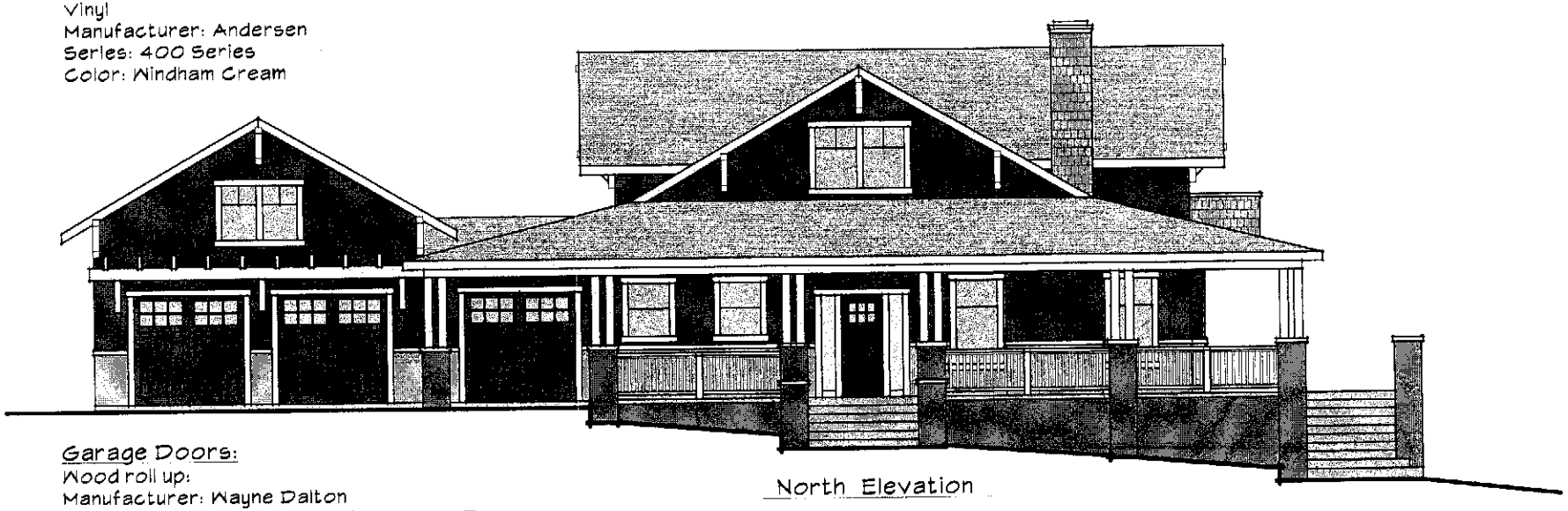
Colors and Materials

Chao Residence
126 Martin Road
Bonny Doon, CA
APN 063-091-05

Roofing:
Composition Shingle Roofing
Manufacturer: GAF/Elk
Series: Timberline Prestique 40
Color: Slate

Exterior
Stucco & Siding
James Hardie Siding
vertical, lap, and shingle

Windows:
Vinyl
Manufacturer: Andersen
Series: 400 Series
Color: Windham Cream



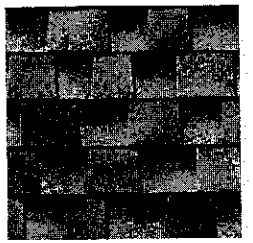
North Elevation

Garage Doors:
Wood roll up:
Manufacturer: Wayne Dalton
Model: 7420 Cabriolet Carriage House Door
Color: Behr Redwood Stain

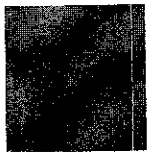
Color Palette

Kelly Moore Paints
"Historical Lifestyles of the West" Collection

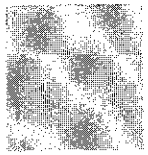
Gaf/Elk Timberline® Prestique® 40
Color: "Slate"



Slate

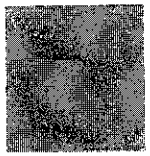


Greene & Greene
HL 4290-5



Veranda Green
HL 4284-3

Windham Cream
HL 4256-1



Artisan Tile
HL 4290-5

Ruskin Red
HL 4228-5

Coastal Development Permit Findings

1. That the project is a use allowed in one of the basic zone districts, other than the Special Use (SU) district, listed in section 13.10.170(d) as consistent with the General Plan and Local Coastal Program LUP designation.

This finding can be made, in that the property is zoned RA (Residential Agriculture), a designation which allows residential uses. The proposal includes one accessory dwelling (second) unit of less than 1,200 square feet, one habitable accessory structure of 640 square feet and several non-habitable accessory structures. The proposed residential uses are principal permitted uses within the zone district and all proposed accessory structures are consistent with the provisions included in Sections 13.10.681 and 13.10.611 of the County Code. Conditions of approval require the recordation of Declarations of Restriction and future inspections as required to help ensure that all accessory structures conform to the limitations imposed by ordinance. The zoning is consistent with the site's (R-M/R-R) Mountain Residential/Rural Residential General Plan designation.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, or open space easements.

This finding can be made, in that the parcel is not encumbered by any known easements or development restriction such as public access, utility, or open space easements.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to section 13.20.130 et seq.

This finding can be made, in that the development is consistent with the surrounding neighborhood in terms of architectural style; the site is surrounded by lots developed to a low, rural density; the colors shall be natural in appearance and complementary to the rural agricultural site; the development site is not on a prominent ridge, beach, or bluff top. All structures are screened from the surrounding properties and roads by mature trees and other dense vegetation.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: figure 2.5 and Chapter 7, and, as to any development between and nearest public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public recreation policies of Chapter 3 of the Coastal Act commencing with section 30200.

This finding can be made, in that the project site is not located between the shoreline and the first public road. Consequently, the residential will not interfere with public access to the beach, ocean, or any nearby body of water. Further, the project site is not identified as a priority acquisition site in the County Local Coastal Program.

5. That the proposed development is in conformity with the certified local coastal program.

This finding can be made, in that the structure is sited and designed to be visually compatible, in scale with, and integrated with the character of the surrounding neighborhood. Additionally, residential uses are allowed uses in the RA (Residential Agriculture) zone district of the area, as well as the General Plan and Local Coastal Program land use designation. Developed parcels in the area contain single family dwellings. Size and architectural styles vary widely in the area, and the design submitted utilizes wood siding, large porches and is consistent with the appearance of a rural farmhouse and outbuildings that have characterized the use of the site for decades. No significant expansion of building footprint or of residential agricultural use on the site is proposed.

Residential Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the project is located in an area designated for residential uses and while the site is characterized by environmental constraints to development, the proposed location of all development is contained within areas of historical disturbance. Construction will comply with prevailing building technology, the California Building Code, and the County Building ordinance to insure the optimum in safety and the conservation of energy and resources. The proposed residential development will not deprive adjacent properties or the neighborhood of light, air, or open space, in that the structure meets all current setbacks that ensure access to light, air, and open space in the neighborhood. Additionally, the location of the proposed development is consistent with historical patterns of development on the site and is screened from view of surrounding properties and roads.

While the main dwelling is proposed to be constructed to a height of 31 feet, exceeding the 28-foot height limit for the zone district, the parcel is over nine acres in area and the dwelling will not impact neighboring structures.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the proposed location of the residential development and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the RA (Residential Agriculture) zone district in that the primary use of the property will be residential that, with the exception of building height, meets all current site standards for the zone district. The primary dwelling will exceed the 28-foot height limit, however the parcel is over nine acres in size and the location of the development is not visible from surrounding properties or roads and is therefore consistent with the Residential Agriculture zone district.

The proposed accessory structures are subordinate and incidental to the main dwelling and residential agricultural use of the land. Further, all accessory structures are consistent with the provisions included in Sections 13.10.681 and 13.10.611 of the County Code. Conditions of approval require the recordation of Declarations of Restriction and future inspections as required to help ensure that all accessory structures conform to the limitations imposed by ordinance. The zoning is consistent with the site's (R-M/R-R) Mountain Residential/Rural Residential General Plan designation.

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding can be made, in that the proposed residential development is consistent with the use and density requirements specified for the Mountain Residential/Rural Residential (R-M/R-R) land use designation in the County General Plan.

The proposed residential structure will not adversely impact the light, solar opportunities, air, and/or open space available to other structures or properties, and meets all current site and development standards for the zone district, with the exception of the height limit, as specified in Policy 8.1.3 (Residential Site and Development Standards Ordinance), in that the residential will not adversely shade adjacent properties, and will meet current setbacks for the zone district that ensure access to light, air, and open space in the neighborhood.

The proposed residential development will not be improperly proportioned to the parcel size or the character of the neighborhood as specified in General Plan Policy 8.6.1 (Maintaining a Relationship Between Structure and Parcel Sizes), in that the proposed residential will comply with the site standards for the RA zone district (including setbacks, lot coverage, floor area ratio, and number of stories) and will result in a structure consistent with a design that could be approved on any similarly sized lot in the vicinity. While the main dwelling is proposed to be 31 feet in height and exceeds the 28-foot height limit, the rural location, large lot size and distance from adjacent structures and roadways ensure that the increased height will not negatively impact the surrounding neighborhood.

A specific plan has not been adopted for this portion of the County.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity.

This finding can be made, in that the proposed residential is to be constructed on an existing developed lot. The project is not expected to generate any increase in traffic in that the proposal does not include any increase in the number of dwelling units that have historically occupied the property.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed structures are located in a rural neighborhood containing a variety of architectural styles, and the proposed residential is consistent with the land use intensity and density of the neighborhood. The style of the main dwelling is similar to that of the existing house and with its use of wood siding, expansive porches and earth tones, the new structure will have the appearance of a rural farmhouse. The outbuildings will utilize similar designs, colors and materials.

The location of the dwelling on the parcel, relative to neighboring dwellings ensure that the increased height will not negatively impact the surrounding neighborhood.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that the overheight main dwelling will be of an appropriate scale and type of design that will enhance the aesthetic qualities of the surrounding properties and will not reduce or visually impact available open space in the surrounding area. The design utilizes natural materials and colors, and features such as expansive porches that are consistent with the look of a rural farmhouse. The additional three feet in height will be mitigated by the fact that the dwelling will be over 200 feet from the nearest dwelling and will be further screened by a canopy of mature oaks, pines, and eucalyptus trees located at the periphery of the parcel.

Conditions of Approval

Exhibit A: Architectural Plans (5 Sheets) prepared by john Craycroft, dated 4/29/10
Civil Drawings (5 Sheets) prepared by R.I. Engineering, Inc., dated April 2010
Landscape Plan prepared by Scott Lipscomb Landscape Architect, dated 4/17/10

I. This permit authorizes the demolition of an existing 2,935 square foot two-story single-family dwelling and three existing accessory structures; the conversion of two existing accessory structures to an 1,136 square foot second unit with attached 623 square foot non-habitable storage structure and a 576 square foot non-habitable storage structure, respectively; to recognize an existing 240 square foot non-habitable storage structure; and to construct a replacement 3,445 square foot two-story single-family dwelling and attached garage, a 640 square foot habitable accessory structure and 704 square foot carport. The permit also authorizes approximately 67 cubic yards of grading. This approval does not confer legal status on any existing structure(s) or existing use(s) on the subject property that are not specifically authorized by this permit. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:

A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

B. Obtain a Demolition Permit from the Santa Cruz County Building Official.

C. Obtain a Building Permit from the Santa Cruz County Building Official.

1. Any outstanding balance due to the Planning Department must be paid prior to making a Building Permit application. Applications for Building Permits will not be accepted or processed while there is an outstanding balance due.

D. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way.

E. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder) within 30 days from the effective date of this permit.

II. Prior to issuance of a Building Permit the applicant/owner shall:

A. Submit final architectural plans for review and approval by the Planning Department. The final plans shall be in substantial compliance with the plans marked Exhibit "A" on file with the Planning Department. Any changes from the approved Exhibit "A" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the

EXHIBIT C

proposed development. The final plans shall include the following additional information:

1. One elevation shall indicate materials and colors as they were shown on the color board reviewed and approved by this Discretionary Application.

2. Grading, drainage, and erosion control plans.

   a. Erosion control plans must be prepared by a Certified Erosion and Sediment Control professional.

   b. No winter grading is allowed on this site.

   c. Grading/erosion control plans shall include construction details for protective fencing at each Santa Cruz Cypress specimen in the vicinity of the driveway.

   d. All erosion control and tree protection measures shall be in place and inspected by Environmental Planning staff prior to the start of ground disturbance.

   e. Grading plans shall include a note stating the following: "All grading, paving, and other work to improve existing driveway shall be supervised by project biotic consultant."

3. The building plans must include a roof plan and a surveyed contour map of the ground surface, superimposed and extended to allow height measurement of all features. Spot elevations shall be provided at points on the structure that have the greatest difference between ground surface and the highest portion of the structure above. This requirement is in addition to the standard requirement of detailed elevations and cross-sections and the topography of the project site which clearly depict the total height of the proposed structure. Maximum height is 31 feet.

4. Details showing compliance with fire department requirements. The proposed structure(s) are located within the State Responsibility Area (SRA) and the requirements of the Wildland-Urban Interface code (WUI), California Building Code Chapter 7A, shall apply.

B. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.

C. Meet all requirements of and pay drainage fees to the County Department of Public Works, Stormwater Management. Drainage fees will be assessed on the net increase in impervious area.

1. A maintenance agreement will be required for the existing ponds on the property. The maintenance agreement must stipulate that the drainage configuration of the ponds shall not be altered after construction.

D. Obtain an Environmental Health Clearance for this project from the County Department of Environmental Health Services.

E. Meet all requirements and pay any applicable plan check fee of the County Fire Protection District.

F. Meet all requirements of the Driveway/Encroachment Section of the Department of Public Works, including the following:

1. Driveway approach must be 2" asphalt over 6" Class II base, per the County of Santa Cruz Design Criteria. Submitted Building Plans must reflect this condition.

G. Meet all requirements of the Road Engineering Section of the Department of Public Works.

H. Submit 2 copies of the approved soils report, prepared and stamped by a licensed Geotechnical Engineer.

I. The Geotechnical Engineer must conduct an inspection of foundations to remain and provide a written assessment of their adequacy with respect to their ability to meet the recommendations of the soils report. Although the designer may confirm the dimensions of the foundations, the soils engineer must physically inspect the foundations for this assessment.

J. Pay the current fees for Parks and Child Care mitigation for 1 bedroom(s). Currently, these fees are, respectively, $578 and $109 per bedroom.

K. Provide required off-street parking for 5 cars. Parking spaces must be 8.5 feet wide by 18 feet long and must be located entirely outside vehicular rights-of way. Parking must be clearly designated on the plot plan.

L. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees and other requirements lawfully imposed by the school district.

M. Complete and record a Declaration of Restriction to construct Habitable and Non-Habitable Accessory Structures. **You may not alter the wording of this declaration**. Follow the instructions to record and return the form to the Planning Department.

N. Complete and record a Declaration of Restriction to construct an Accessory Dwelling (Second) Unit. **You may not alter the wording of this declaration.** Follow the instructions to record and return the form to the Planning Department.

III. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:

A. All site improvements shown on the final approved Building Permit plans shall be installed.

B. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.

C. The project must comply with all recommendations of the approved soils reports.

D. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coroner if the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in Sections 16.40.040 and 16.42.100, shall be observed.

IV. Operational Conditions

A. To minimize impacts on surrounding properties to insignificant levels during construction, the following measures shall be enforced during all construction work:

1. Limit all construction to the time between 8:00 am and 5:00 pm weekdays, excluding holidays. Construction vehicles shall not arrive on site earlier than 7:30 am and shall not remain onsite later than 5:30 pm.

2. The applicant shall designate a disturbance coordinator and a 24-hour contact number shall be conspicuously posted on the job site.

B. The accessory structures authorized by this permit shall be subject to inspection for compliance with the terms of the Declarations of Restriction twelve months after building permit approval and at any time thereafter at the discretion of the Planning director. Construction of or conversion to an accessory pursuant to an

approved permit shall entitle County employees or agents to enter and inspect the property for such compliance without warrant or other requirement for permission (in accordance with Section 13.10.611(d) of the County Code).

C. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.

D. Property owners shall implement the five-year revegetation plan per the terms of Stipulation and Order Case No. CV159620, including at least five years of follow up monitoring and adaptive management after initial restoration planting. Restoration monitoring shall be completed no earlier than December 2014. Owners' responsibility to complete the follow up activities will cease when the Project Botanist certified in the annual monitoring report covering 2014 that the success criteria given in the plan have been reached and the County concurs with that finding. Owners' responsibility to undertake follow up activities will extend beyond five years if necessary to attain success criteria.

E. Property owners agree to submit annual monitoring/adaptive management reports to the County by December 31st of each year to ensure that the mitigation, restoration and management activities are continuing as given in the five year restoration plan.

V. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, it officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.

A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.

B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, or proceeding if both of the following occur:

1. COUNTY bears its own attorney's fees and costs; and

2. COUNTY defends the action in good faith.

C. Settlement. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation or settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.

D. Successors Bound. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Please note: This permit expires three years from the effective date listed below unless a building permit (or permits) is obtained for the primary structure described in the development permit (does not include demolition, temporary power pole or other site preparation permits, or accessory structures unless these are the primary subject of the development permit). Failure to exercise the building permit and to complete all of the construction under the building permit, resulting in the expiration of the building permit, will void the development permit, unless there are special circumstances as determined by the Planning Director.

Approval Date: _____

Effective Date: _____

Expiration Date: _____

Steven Guiney	Robin Bolster-Grant
Deputy Zoning Administrator	Project Planner

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the Zoning Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

EXHIBIT C

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION

The Santa Cruz County Planning Department has reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 10-0164
Assessor Parcel Number: 063-091-05
Project Location: 126 Martin Rd

Project Description: Proposal to demolish an existing single-family dwelling and three accessory structures, to convert two existing accessory structures into a second unit and non-habitable structure, and to construct a replacement two-story single-family dwelling.

Person or Agency Proposing Project: Hamilton Swift & Associates

Contact Phone Number: (831) 459-9992

A. _____ The proposed activity is not a project under CEQA Guidelines Section 15378.
B. _____ The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).
C. _____ **Ministerial Project** involving only the use of fixed standards or objective measurements without personal judgment.
D. _____ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type:

E. __X__ **Categorical Exemption**

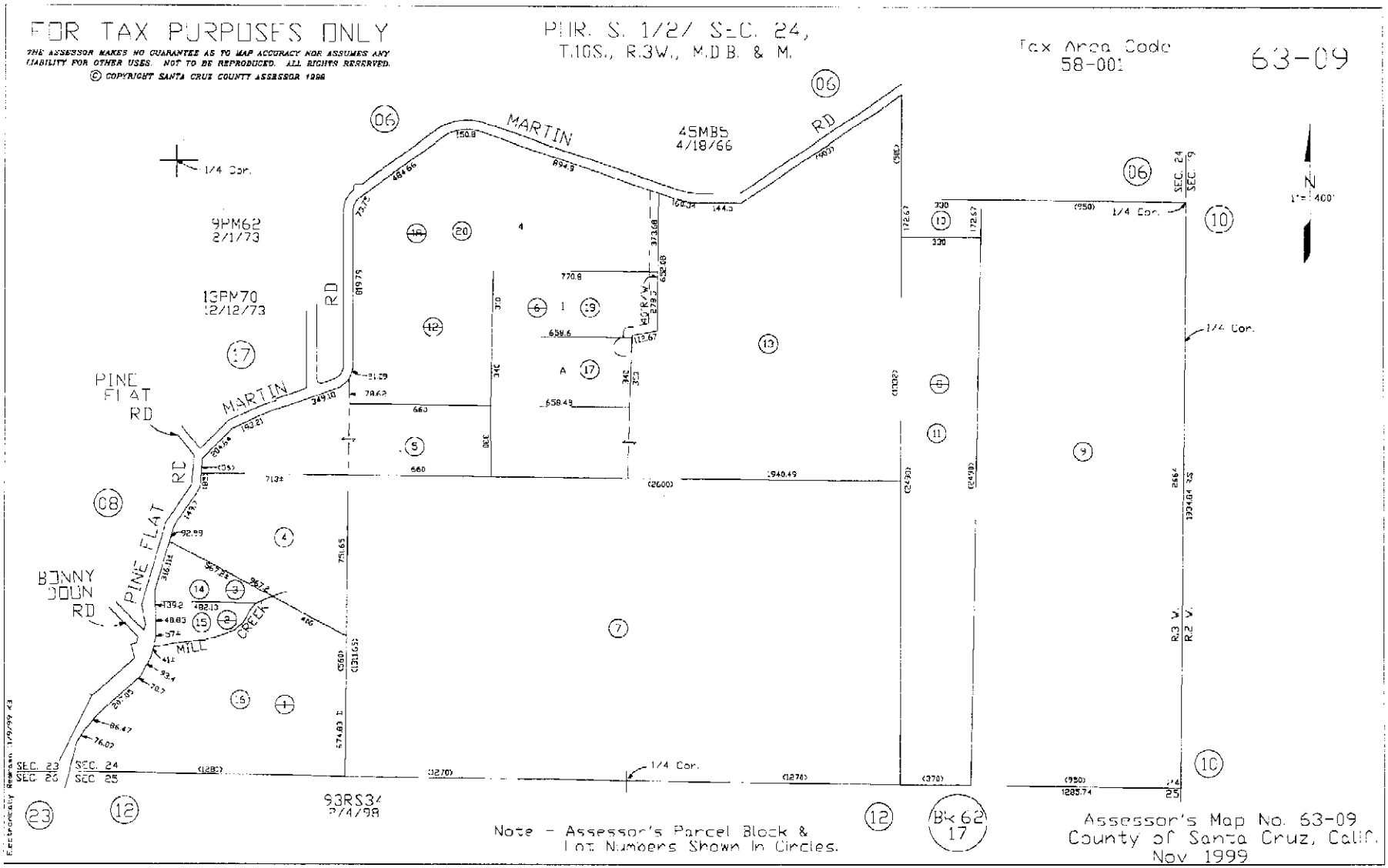
Specify type: Class 3 - New Construction or Conversion of Small Structures (Section 15303)

F. Reasons why the project is exempt:

Replacement of an existing single-family dwelling and construction or conversion of several appurtenant structures. No proposed development will encroach into or otherwise negatively impact sensitive habitat areas.

_____ Date: _____
Robin Bolster-Grant, Project Planner

EXHIBIT D


FOR TAX PURPOSES ONLY
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
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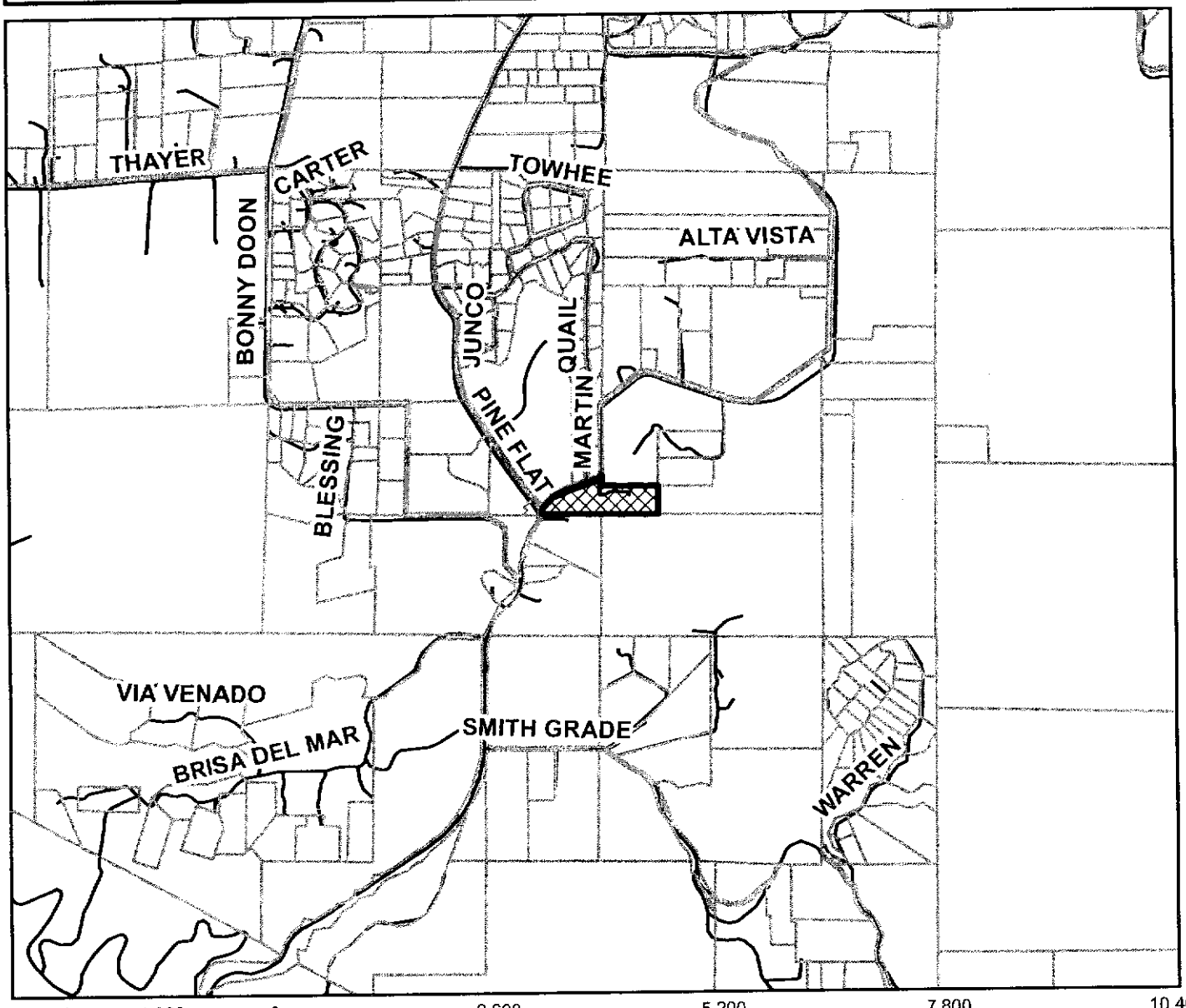
PTR. S. 1/2 SEC. 24, T.10S., R.3W., M.D.B. & M.
Tax Area Code 58-001
63-09
MARTIN RD
45MB5 4/18/66
9PM62 2/1/73
13PM70 12/12/73
PINE FLAT RD
BENNY DOUN RD
MILL CREEK
1/4 Cor.
SEC. 23 SEC. 24 SEC. 26 SEC. 25
93RS34 2/4/98
Note - Assessor's Parcel Block & Lot Numbers Shown In Circles.
Bk 62 17
Assessor's Map No. 63-09
County of Santa Cruz, Calif.
Nov 1999

37/99

Location Map



LEGEND

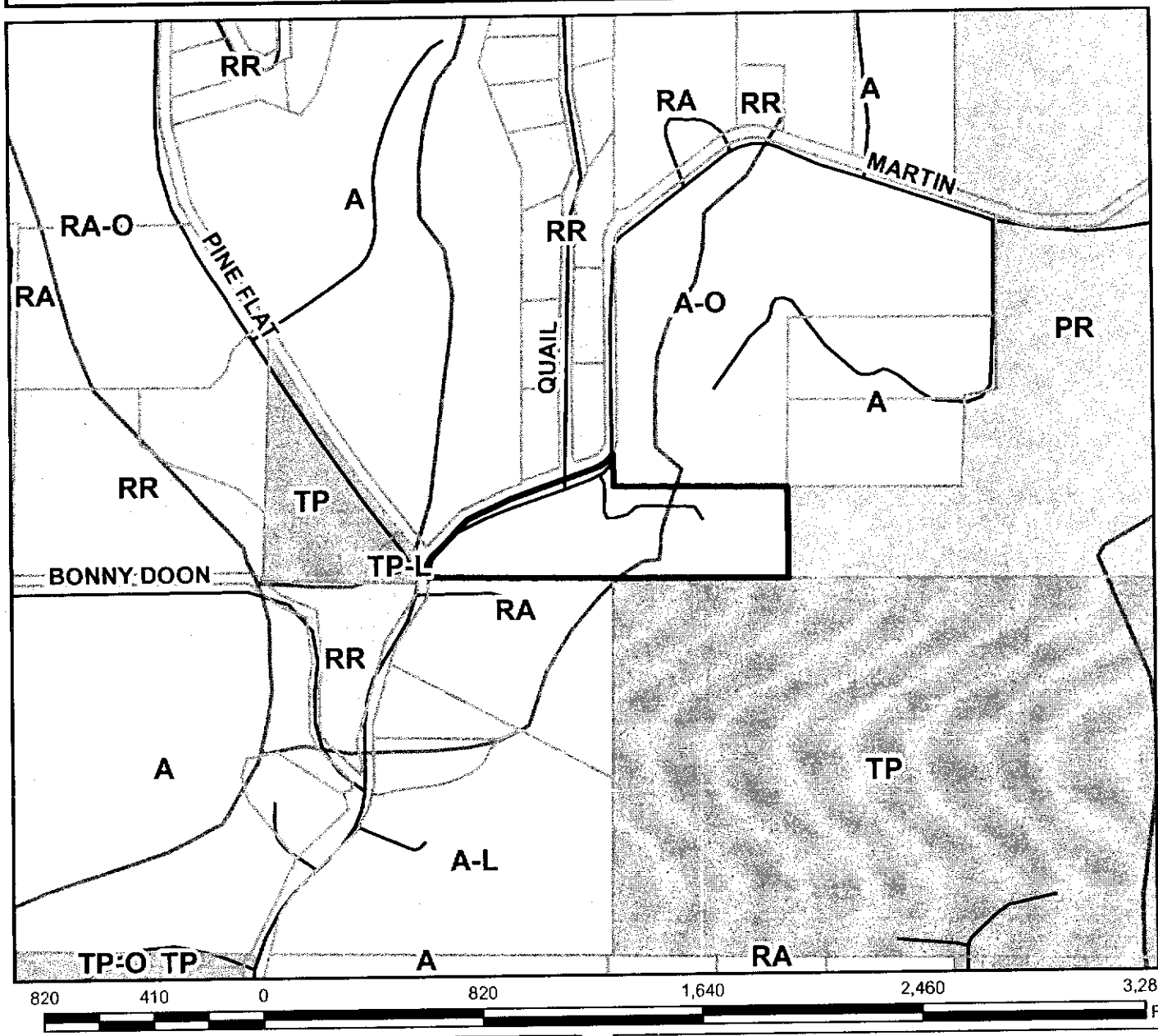
- APN: 063-091-05
- Assessors Parcels
- Streets

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
May 2010

EXHIBIT E

Zoning Map



820 410 0 820 1,640 2,460 3,280 Feet

LEGEND

- APN: 063-091-05
- Assessors Parcels
- Streets

STREAMTYPE

- PERENNIAL

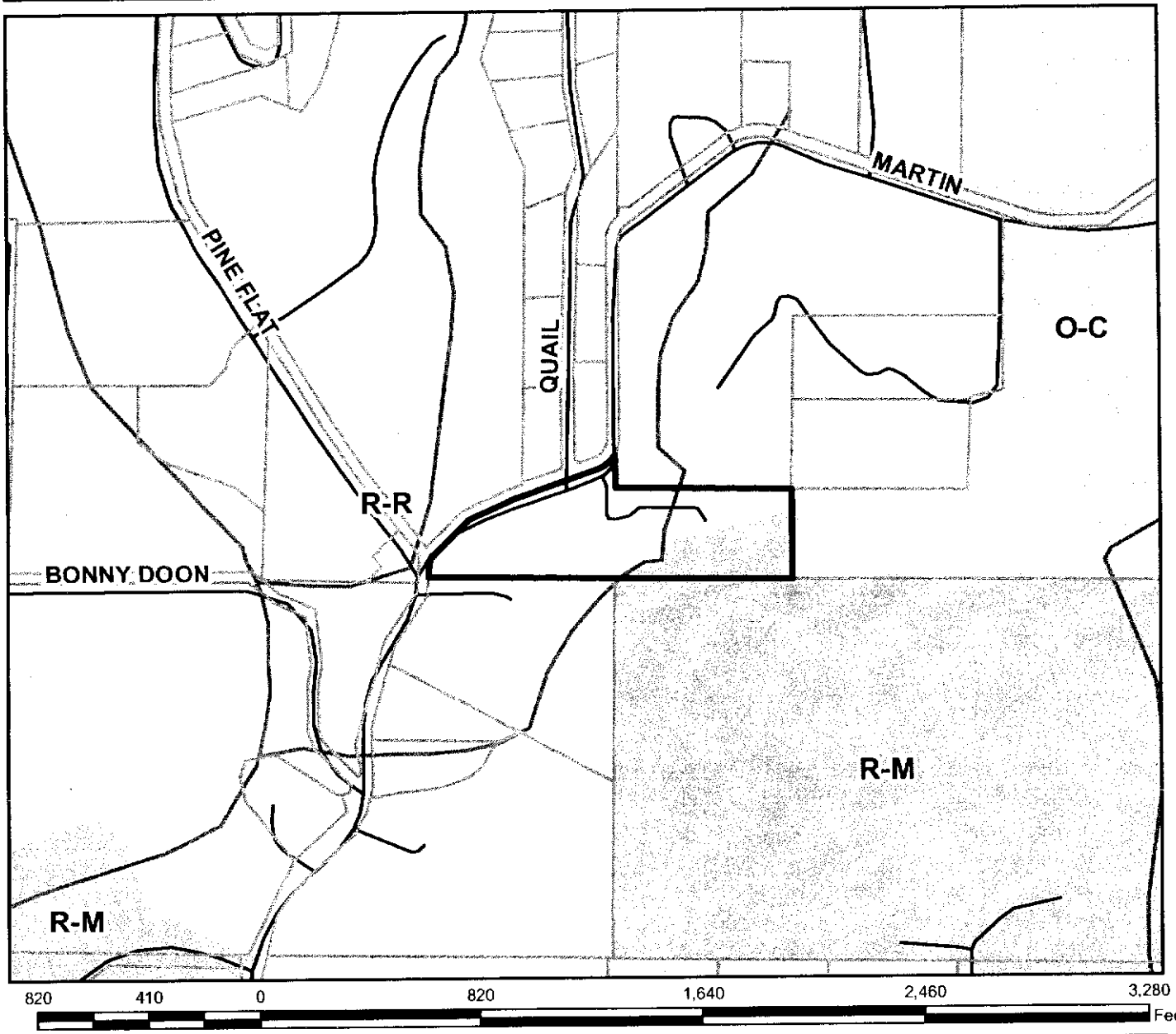
- AGRICULTURE RESIDENTIAL
- AGRICULTURE
- RESIDENTIAL-RURAL
- TIMBER PRODUCTION
- PARK

N W E S

Map Created by
County of Santa Cruz
Planning Department
May 2010

EXHIBIT E

General Plan designation Map



820 410 0 820 1,640 2,460 3,280 Feet

LEGEND

APN: 063-091-05

Assessors Parcels

Streets

STREAMTYPE

PERENNIAL

Residential-Rural

Residential-Mountain

Resource Conservation

N

W E

S

Map Created by
County of Santa Cruz
Planning Department
May 2010

EXHIBIT E

Project Planner: Robin Bolster
Application No.: 10-0164
APN: 063-091-05

Date: October 5, 2010
Time: 09:43:21
Page: 1

Environmental Planning Completeness Comments

========= REVIEW ON JUNE 1, 2010 BY CAROLYN I BANTI =========

++ Completeness ++ First Review ++ Soils ++

Review of soils report (Dees & Assoc., 3/10/10, SCR-0420)

The soils report has not been accepted. Please see letter dated 6/1/10, and Comments 1-4, below:

1. Please provide the analysis used to determine the recommended setback from the existing gabion wall. Note: Extremely soft soils and piping were noted behind the wall during a field inspection. Please elaborate on the nature of these soils, whether fill material exists (and the lateral extent and depth, as necessary), and the effect of piping over time.

2. Gradation test results included on the boring logs show greater than 10-percent of the soil particles pass the 200-sieve, which indicates the soils may be expansive per the 2007 California Building Code (CBC) criteria for expansive soils as outlined in 2007 CBC Section 1802.3.2. Please determine the expansivity of the soils in accordance with these criteria and provide mitigation recommendations, as necessary, per 2007 CBC Section 1805.8, -Design for Expansive Soils-.

3. Please include the test data and results for the laboratory testing noted on Page 5 of the report.

4. Please analyze the existing footings to remain with respect to their ability to meet the recommendations of the soils report. Please provide recommendations, as necessary, to upgrade these footings. ========= UPDATED ON JUNE 7, 2010 BY JESSICA L DUKTIG =========
Please submit the referenced Biotic Assessment prepared by Jodi McGraw for the determination of whether Zayante Sandhills habitat exists on site, specifically within the new proposed development areas, including the carport, new relocated homesite, driveway extension and workshop/ADU site. If the report concludes that Sandhills are present within these areas, every effort must be made to avoid impacts. This means that the new deveolpment may not be approvable under the County Sensitive Habitat Ord., which requires projects to avoid impacts first and if impacts cannot be avoided, minimize impacts and then mitigate. Further review of the project will commence after we receive the biotic assessment. ========= UPDATED ON JULY 22, 2010 BY CAROLYN I BANTI =========
++ Completeness ++ Soils/Grading ++ Second Review ++

The soils report and addendum have been accepted. Please see letter dated 7/22/10 and Conditions of Approval. ========= UPDATED ON AUGUST 26, 2010 BY JESSICA L DUKTIG =========
Received Sandhills Habitat Assessment prepared by Jodi McGraw dated 8/23/10 that concludes the proposed project will not impact sensitive Sandhills species nor Sandhills communities or habitat. Project complete.

EXHIBIT F

Environmental Planning Miscellaneous Comments

========= REVIEW ON JUNE 1, 2010 BY CAROLYN I BANTI =========
++ Compliance ++ First Rev. ++ Soils/Grading ++

None

++ Conditions of Approval ++ First Rev. ++ Soils/Grading ++

1. Prior to building permit issuance, please submit a geotechnical plan review letter stating that the project plans conform to the recommendations of the geotechnical report. ========= UPDATED ON JUNE 7, 2010 BY JESSICA L DUKTIG =========
========= UPDATED ON JULY 22, 2010 BY CAROLYN I BANTI =========

++ Conditions of Approval ++ Second Rev. ++ Soils/Grading ++

2. Prior to building permit issuance, the soils engineer must conduct an inspection of foundations to remain and provide a written assessment of their adequacy with respect to their ability to meet the recommendations of the soils report. Although the designer may confirm the dimensions of the foundations, the soils engineer must physically inspect the foundations for this assessment. ========= UPDATED ON AUGUST 26, 2010 BY JESSICA L DUKTIG =========

Dpw Drainage Completeness Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON JUNE 2, 2010 BY GERARDO VARGAS ========= 1streview-- Application has been approved for the discretionary stage in regards to drainage. Please see miscellaneous to be addressed at the building application stage.

Dpw Drainage Miscellaneous Comments

LATEST COMMENTS HAVE **NOT YET** BEEN SENT TO PLANNER FOR THIS AGENCY

========= REVIEW ON JUNE 2, 2010 BY GERARDO VARGAS =========
1st Review--- According to the project drainage plan the existing pond(s) will serve as mitigation for the proposed improvements and continue to serve approximately 90.69 acres of storm drainage. A maintenance agreement will be required for the existing pond(s). The maintenance agreement should stipulate that the drainage configuration of the pond(s) shall not be altered after construction

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%20Water/FigureSWM25.pdf

According to the impervious area calcs provided by R.I Engineering a decrease of 3,671 of AC paving will take place; however it-s unclear where the removal is taking place. Please make clear on the plan.

EXHIBIT F

Note: Any geotechnical recommendations regarding drainage should be routed to the Stormwater Management Section.

The applicant is encouraged to discuss the above comments with the reviewer to avoid unnecessary additional routings. A $200.00 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.

Dpw Driveway/Encroachment Completeness Comments

========= REVIEW ON MAY 20, 2010 BY DEBBIE F LOCATELLI =========
See Misc. comments

Dpw Driveway/Encroachment Miscellaneous Comments

========= REVIEW ON MAY 20, 2010 BY DEBBIE F LOCATELLI =========

Driveway approach is required to be 2" asphalt over 6" Class II base, per the County of Santa Cruz Design Criteria. Not clear on plans due to note, that driveway approach is proposed to be oil and screen paving. Required to be clarified on the building application set of plans.

Dpw Road Engineering Completeness Comments

========= REVIEW ON MAY 24, 2010 BY ANWARBEG MIRZA =========
1. As per County of Santa Cruz Design Criteria, the minimum sight distance required for driveways intersecting County Roads is 250 feet in either direction; therefore, indicate if the proposed/existing driveway meets the 250 feet required sight distance. If minimum sight distance is not obtainable, a sight distance analysis from a Civil/Traffic Engineer is required, indicating that the existing driveway conditions are safe or this analysis should include recommendations of how the project site can be mitigated to meet minimum sight distance requirements.

2. The driveway must meet County of Santa Cruz standards in the Design Criteria. Please refer the correct figure and show in plan view. ========= UPDATED ON JULY 22, 2010 BY ANWARBEG MIRZA =========
COMPLETED

Dpw Road Engineering *Miscellaneous Comments*

========= REVIEW ON MAY 24, 2010 BY ANWARBEG MIRZA =========
NO COMMENT
========= UPDATED ON JULY 22, 2010 BY ANWARBEG MIRZA =========
Response to incomplete Application comments letter of RI Engg.dated July 17, 2010 must be attached along with Building Application for ref.

Environmental Health Completeness Comments

========= REVIEW ON MAY 6, 2010 BY JIM G SAFRANEK ========= EHS Clearance was issued

EXHIBIT F

on 2/8/10 , but for a building permit application.

EHS had no knowledge of the need for a Discretionary Permit when the owner requested an EHS Building Clearance, so the following EH reqs are in need of completion for Planning permit 'completeness': For SFR replacement, second unit, and all other habitable structures, the applicant's septic contractor must submit septic applications for review and approval by EHS. For septic permitting questions contact Ruben Sanchez of EHS at 454-2751.
========= UPDATED ON JULY 7, 2010 BY JIM G SAFRANEK =========
========= UPDATED ON JULY 7, 2010 BY JIM G SAFRANEK =========
========= UPDATED ON JULY 27, 2010 BY JIM G SAFRANEK ========= THe project is approved. The applicant's onsite sewage disposal consultant will need to receive application approval for an onsite sewage permit with enhanced treatment prior to issuance of a Building Permit.

Environmental Health Miscellaneous Comments

========= REVIEW ON MAY 6, 2010 BY JIM G SAFRANEK =========
NO COMMENT
========= UPDATED ON JULY 7, 2010 BY JIM G SAFRANEK =========

Cal Dept of Forestry/County Fire Completeness Comm

========= REVIEW ON MAY 10, 2010 BY COLLEEN L BAXTER =========
DEPARTMENT NAME:SANTA CRUZ COUNTY FIRE/CALFIRE
Add the appropriate NOTES and DETAILS showing this information on your plans and RESUBMIT, with an annotated copy of this letter:
Note on the plans that these plans are in compliance with California Building and Fire Codes (2007) as amended by the authority having jurisdiction.
Each APN (lot) shall have separate submittals for building and sprinkler system plans.
The job copies of the building and fire systems plans and permits must be onsite during inspections.
the plans the REQUIRED and AVAILABLE FIRE FLOW. The AVAILABLE FIRE FLOW SHOW on the plans 13,000 GALLONS of water for fire protection with a "fire hydrant" as located and approved by the Fire Department if your building is not serviced by a public water supply meeting fire flow requirements. For information regarding where the water tank and fire department connection should be located, contact the fire department in your jurisdiction. automatic fire sprinkler system complying with the currently adopted edition of NFPA __13D____ and Chapter 35 of California Building Code and adopted standards of the authority having jurisdiction.
NOTE that the designer/installer shall submit three (3) sets of plans and calculations for the underground and overhead Residential Automatic Fire Sprinkler System to this agency for approval. Installation shall follow our guide sheet.
NOTE on the plans that an UNDERGROUND FIRE PROTECTION SYSTEM WORKING DRAWING must be prepared by the designer/installer. The plans shall comply with the UNDERGROUND FIRE PROTECTION SYSTEM INSTALLATION POLICY HANDOUT. All bridges, culverts and crossings shall be certified by a registered engineer. Minimum capacity of 25 tons. Cal-Trans H-20 loading standard.

CONTINUED BELOW

EXHIBIT F

========== UPDATED ON MAY 10, 2010 BY COLLEEN L BAXTER ==========
All Fire Department building requirements and fees will be addressed in the Building Permit phase.
Plan check is based upon plans submitted to this office. Any changes or alterations shall be re-submitted for review prior to construction.
72__ hour minimum notice is required prior to any inspection and/or test.
Note: As a condition of submittal of these plans, the submitter, designer and installer certify that these plans and details comply with the applicable Specifications, Standards, Codes and Ordinances, agree that they are solely responsible for compliance with applicable Specifications, Standards, Codes and Ordinances, and further agree to correct any deficiencies noted by this review, subsequent review, inspection or other source, and, to hold harmless and without prejudice, the reviewing agency.
All habitable buildings (new house, converted storage building to ADU and the existing two story non habitable being converted to one story habitable). Your project may also require more than one residential fire hydrant. The requirements for all standards in relation to building in the county are available at our website at www.santacruzcountyfire.com. The finished driveway must be in placed before framing begins. Turnouts are required if your driveway is 500 feet or more in length. The dimensions for the turnouts and turnaround (also required) are also available at the website. Permits for the fire sprinkler systems, fire hydrants and water tanks are required directly from Calfire and must be approved and issued PRIOR to installation.

Cal Dept of Forestry/County Fire Miscellaneous Com

========== REVIEW ON MAY 10, 2010 BY COLLEEN L BAXTER ==========

EXHIBIT F

COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT
701 OCEAN STREET, 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123
KATHY M. PREVISICH, PLANNING DIRECTOR

June 1, 2010

Hamilton Swift and Associates
Attn: John Swift
500 Chestnut Street
Santa Cruz, CA 95060

Subject: **Review of Geotechnical Investigation by Dees & Associates, Inc., Dated March 10, 2010;**
Project #: SCR-0420, APN: 063-091-05, Application #: 10-0164

Dear Mr. Swift,

The purpose of this letter is to inform you that the Planning Department has *not accepted* the subject report for the following reasons:

1. Please provide the analysis used to determine the recommended setback from the existing gabion wall. Note: Extremely soft soils and piping were noted behind the wall during a field inspection. Please elaborate on the nature of these soils, whether fill material exists (and the lateral extent and depth, as necessary), and the effect of piping over time.

2. Gradation test results included on the boring logs show greater than 10-percent of the soil particles pass the 200-sieve, which indicates the soils may be expansive per the 2007 California Building Code (CBC) criteria for expansive soils as outlined in 2007 CBC Section 1802.3.2. Please determine the expansivity of the soils in accordance with these criteria and provide mitigation recommendations, as necessary, per 2007 CBC Section 1805.8, "Design for Expansive Soils".

3. Please include the test data and results for the laboratory testing noted on Page 5 of the report.

4. Please analyze the existing footings to remain with respect to their ability to meet the recommendations of the soils report. Please provide *recommendations, as necessary, to* upgrade these footings.

Please note that this determination may be appealed within 14 calendar days. Please contact me if you would like to file an appeal and I will provide guidance on how to proceed.

Please complete the necessary revisions and submit the material for review. Please call the undersigned at (831) 454-5121 if we can be of any further assistance.

Sincerely,

Carolyn Banti
Civil Engineer

cc: Robin Bolster-Grant, Environmental Planning
Dees & Associates, Inc.
Howard and Dana Chao, Owners

EXHIBIT F

COUNTY OF SANTA CRUZ | Planning Department

INTEROFFICE MEMO

APPLICATION NO: 10-0164

Date: June 4, 2010

To: Robin Bolster-Grant, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: 126 Martin Road, Bonny Doon

COMPLETENESS ITEMS

- *a color board is required.*

COMPLIANCE ISSUES

Design Review Authority

13.20.130 The Coastal Zone Design Criteria are applicable to any development requiring a Coastal Zone Approval.

Design Review Standards

13.20.130 Design criteria for coastal zone developments

Evaluation Criteria	Meets criteria In code (✔)	Does not meet criteria (✔)	Urban Designer's Evaluation
Visual Compatibility			
All new development shall be sited, designed and landscaped to be visually compatible and integrated with the character of surrounding neighborhoods or areas	✔		
Minimum Site Disturbance			
Grading, earth moving, and removal of major vegetation shall be minimized.	✔		
Developers shall be encouraged to maintain all mature trees over 6 inches in diameter except where circumstances require their removal, such as obstruction of the building site, dead or diseased trees, or nuisance species.	✔		
Special landscape features (rock outcroppings, prominent natural landforms, tree groupings) shall be retained.	✔		

EXHIBIT F

Ridgeline Development			
Structures located near ridges shall be sited and designed not to project above the ridgeline or tree canopy at the ridgeline			**N/A**
Land divisions which would create parcels whose only building site would be exposed on a ridgetop shall not be permitted			**N/A**
Landscaping			
New or replacement vegetation shall be compatible with surrounding vegetation and shall be suitable to the climate, soil, and ecological characteristics of the area			**N/A**

Rural Scenic Resources			
Location of development			
Development shall be located, if possible, on parts of the site not visible or least visible from the public view.	✔		
Development shall not block views of the shoreline from scenic road turnouts, rest stops or vista points	✔		
Site Planning			
Development shall be sited and designed to fit the physical setting carefully so that its presence is subordinate to the natural character of the site, maintaining the natural features (streams, major drainage, mature trees, dominant vegetative communities)	✔		
Screening and landscaping suitable to the site shall be used to soften the visual impact of development in the viewshed	✔		
Building design			
Structures shall be designed to fit the topography of the site with minimal cutting, grading, or filling for construction	✔		
Pitched, rather than flat roofs, which are surfaced with non-reflective materials except for solar energy devices shall be encouraged	✔		
Natural materials and colors which blend with the vegetative cover of the site shall be used, or if the structure is located in an existing cluster of buildings, colors and materials shall repeat or harmonize with those in the cluster	✔		

EXHIBIT F

Large agricultural structures			
The visual impact of large agricultural structures shall be minimized by locating the structure within or near an existing group of buildings			N/A
The visual impact of large agricultural structures shall be minimized by using materials and colors which blend with the building cluster or the natural vegetative cover of the site (except for greenhouses).			N/A
The visual impact of large agricultural structures shall be minimized by using landscaping to screen or soften the appearance of the structure			N/A
Restoration			
Feasible elimination or mitigation of unsightly, visually disruptive or degrading elements such as junk heaps, unnatural obstructions, grading scars, or structures incompatible with the area shall be included in site development			N/A
The requirement for restoration of visually blighted areas shall be in scale with the size of the proposed project			N/A
Signs			
Materials, scale, location and orientation of signs shall harmonize with surrounding elements			N/A
Directly lighted, brightly colored, rotating, reflective, blinking, flashing or moving signs are prohibited			N/A
Illumination of signs shall be permitted only for state and county directional and informational signs, except in designated commercial and visitor serving zone districts			N/A
In the Highway 1 viewshed, except within the Davenport commercial area, only CALTRANS standard signs and public parks, or parking lot identification signs, shall be permitted to be visible from the highway. These signs shall be of natural unobtrusive materials and colors			N/A

Beach Viewsheds			
Blufftop development and landscaping (e.g., decks, patios, structures, trees, shrubs, etc.) in rural areas shall be set back from the bluff edge a sufficient distance to be out of sight from the shoreline, or if infeasible, not visually intrusive			**N/A**
No new permanent structures on open beaches shall be allowed, except where permitted pursuant to Chapter 16.10 (Geologic Hazards) or Chapter 16.20 (Grading Regulations)			**N/A**
The design of permitted structures shall minimize visual intrusion, and shall incorporate materials and finishes which harmonize with the character of the area. Natural materials are preferred			**N/A**

March 10, 2010

Mr. John Swift
Hamilton-Swift Land Use and Development Consultants
500 Chestnut Street, Suite 100
Santa Cruz, CA 95060

RE: Preliminary Assessment for California Red-legged Frog and other Sensitive Wildlife Species, H. Chao Property, 126 Martin Road, Bonny Doon, CA APN 063-081-05

Dear John:

The following reconnaissance level biologic assessment evaluates the potential for California red-legged frog and western pond turtle to occur on the Chao property in unincorporated Bonny Doon. The purpose of this report is to provide the US Fish and Wildlife Service (USFWS), Santa Cruz County Planning Department, and the California Department of Fish and Game (DFG) information on listed or sensitive wildlife species on the Chao property. The 9.6 acre property contains a 0.8 acre pond, located south of the property access road and west of the existing residences. Because this pond has the potential to support California red-legged frog (*Rana draytonii*) and western pond turtle (*Actinemys marmorata*) this assessment was conducted. This report is exclusive to pond aquatic issues, focused on sensitive species that could inhabit that ecosystem. Other biologists have addressed other biology issues related to sandhills habitats including Mt. Hermon june beetle and Santa Cruz cypress (McGraw 2009a and b; NVN 2009).

PROJECT DESCRIPTION

The proposed project will demolish an existing two-story single family dwelling, detached garage and detached workshop. It will be replaced with a two-story single family dwelling with attached garage. The project will also convert an existing habitable structure to a second unit, and remodel an existing two story non-habitable structure to a one story habitable structure. The applicant also would like to recognize two existing non-habitable structures and demolish three existing accessory structures. A new carport will be constructed, and the existing access road will be brought up to County standards.

Due to unauthorized grading,vegetation removal and concrete dumping by a previous owner, the project was red-tagged in 2008. The concrete was removed, and a site restoration plan was prepared (NVN 2009). Portions of that plan are presently being implemented by the new property owner (V. Haley, personal comm. 2010).

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ENVIRONMENTAL SETTING

The property is located in the upper portion of the Mill Creek watershed on the east tributary of that creek. Mill Creek enters San Vicente Creek about 1.5 miles downstream of the project site. San Vicente flows through the Cemex quarry and down to the ocean near the town of Davenport. The pond on the property was created by construction of an earth dam near the southern property boundary that probably occurred many years ago. The dam contains the east tributary of Mill Creek with an outflow through an existing 30-inch culvert at the south property line. The drop to Mill Creek below the pond is approximately 20 feet. The pond was full with water exiting the culvert during all winter and spring 2010 site visits to the property. A freshwater wetland, presumably fed by springs just below the existing house, is located east of the pond. Additional small wetland areas are located along the upper edge of the pond and along the Mill Creek drainage. Three smaller ponds are also located on other private properties, also on the east branch of Mill Creek north and south of the subject property. These ponds are all located within 1200 feet of the site.

Plant species within and along the edge of the on-site pond include emergent and floating species, such as water milfoil (*Myriophyllum verticillatum*)*, duckweed (*Lemma* spp.), water fern (*Azolla filiculoides*)*, water smartweed (*Polygonum amphibium*), California bulrush (*Scirpus californicus*) and broad-leaved cattail (*Typha latifolia*). Species with an asterisk are non-native. Other upland plant communities on the site include a ponderosa pine – coast live oak woodland, mixed evergreen forest with redwood, douglas fir and tan oak as major constituents, and a grassland meadow west of the pond which is a remnant pear orchard (NVN 2009). The southeast portion of the site contains the main development area, consisting presently of a main house, garage, four accessory buildings, several sheds and a storage container.

Plant communities in the surrounding vicinity include riparian to the north and south along Mill Creek, redwood, Douglas fir and oak woodland to the south and west, and a sandhills- ponderosa pine community to the north and east along Quail Drive and within the Bonny Doon Ecological Reserve. Orchards and vineyards are also present in the project vicinity.

METHODS

John Gilchrist, with assistance from wildlife biologist, Bryan Mori, conducted the biologic field assessment and literature review. The red-legged frog (CRLF) assessment was performed using the following protocol as a guide - Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog, August 2005 (USFWS 2005). Due to site conditions, and with input from USFWS staff an abbreviated version of the protocol was conducted. This protocol was also used as a general guideline for assessing western pond turtle (WPT) habitat, since a formal habitat assessment protocol for this species is presently unavailable.

Existing literature and site biologic reports were reviewed. For all target species, an evaluation of potential habitat on the project site was performed by walking the perimeter of the pond and surrounding wetlands. The adjacent landscape within a one-mile radius of the site was qualitatively characterized, based on observations from public roads and using an aerial map and the Davenport and Felton USGS topographic quadrangles. For CRLF and WPT, the California Natural Diversity Data Base (CNDDB) was accessed, and other biologists were consulted for known localities within one mile of the project site. In addition, limited visual surveys were performed with approval from the USFWS Ventura Field Office (C. Mitcham, personal communication 2010).

A reconnaissance-level survey was performed by J. Gilchrist on 28 January 2010 to evaluate habitat conditions at the lake. During the reconnaissance, the principal habitats were photographed (see Attachment A – Photos) and conditions recorded in a field notebook; where practical, the margins of the lake were walked to identify habitat conditions for both target species.

Five visual surveys to search for CRLF were performed as part of this assessment and included two nocturnal visits and three daytime visits. Nocturnal surveys were conducted on 23 March and 29 April; the surveys were conducted approximately 1 hour after sunset, using a hand held flashlight and 10 x 40 powered binoculars to aid in identification. The daytime searches were conducted on 17 March and 6 April and 13 April to search for CRLF egg masses and adults, non-native aquatic species, as well as basking WPT. The 17 March site visit also included a kayak survey of the pond interior to specifically identify CRLF egg masses that may not be visible from the pond margins. J. Gilchrist conducted all surveys except the 29 April night survey when B. Mori was present. J. Gilchrist and B. Mori both participated in the 13 April day survey.

Originally, an aquatic sampling survey was scheduled as part of this assessment. Due to extensive sub-surface vegetation cover and the steep-sided configuration of the pond, effective seining is not possible. The extensive presence of non-native species make breeding success of CRLF or WPT unlikely (see discussion below).

SPECIES' NATURAL HISTORY

California Red-legged Frog.

The California red-legged frog (*Rana draytonii*) is a federal threatened species and a State species of special concern (USFWS 2002; CDFG 2008). The historic range of this species extended southward from the Marin County coast, and inland from Shasta County south to Baja California (Jennings and Hayes 1994). The CRF has been extirpated from 70% of its former range (USFWS 1996). Presently, CRF is found primarily in central coastal California in natural and artificial ponds, quiet pools along streams and in coastal marshes (USFWS 1996). In the breeding season, CRF mostly inhabit pools greater than 2 feet deep, although shallow, perennial marsh habitat may also be productive if it is free of non-native aquatic predators (Hayes and Jennings 1988; B. Mori, pers. obs.; J. Gilchrist pers. obs.). Optimal aquatic habitat is characterized by dense emergent or

shoreline vegetation for cover. Seasonal ponds with little emergent/shoreline cover located in grasslands, however, may also be used for breeding, where water levels permit the metamorphosis of larvae and rodent burrows offer cover (USFWS 2002). Breeding typically occurs between December and April, depending on annual environmental conditions and locality. Egg masses containing 2,000 – 5,000 eggs are usually deposited near the water surface on emergent vegetation, but occasionally on the pond bottom where attachments are absent. Eggs require 6 to14 days to hatch and larval metamorphosis generally occurs within 3.5 to 7 months after hatching, although larvae have the ability to over-winter at some sites (Fellers, *et al.* 2001). Following metamorphosis, generally between July and September, juveniles are 25-35 mm in size and do not travel far from aquatic habitats, if appropriate cover is present. Dispersal of juveniles generally begins with the first rains of the weather-year, although all size classes will move in response to receding water.

Radio-telemetry data indicates that adults engage in straight-line movements irrespective of riparian corridors or topography, and they may move up to 1.7 miles between non-breeding and breeding sites (Bulger, *et al.* 2003; Fellers and Kleeman 2007). They may take refuge in small mammal burrows, leaf litter or other moist areas during periods of inactivity or whenever it is necessary to avoid desiccation (Rathbun, *et al.* 1993; Jennings and Hayes 1994). At permanent ponds, most CRLF remain at the pond but often move up to 300 feet into surrounding uplands, especially following rains, when individuals may spend days or weeks in upland habitats (Bulger, *et al.* 2003); whereas at seasonal breeding sites, frogs will move at least as far as the nearest suitable non-breeding habitat, e.g., riparian zone, marsh, etc. (Fellers and Kleeman 2007). Much of this species' habitat has undergone significant alteration by agricultural, urban development and water projects, leading to the extirpation of many populations (USFWS 1996). Other factors contributing to the decline of red-legged frogs include its historical exploitation as food; competition and predation by bullfrogs (*Rana catesbeiana*) and introduced predatory fishes (Jennings and Hayes 1985; Hayes and Jennings 1988; Lawler, *et al.*1999); and salinization of coastal breeding habitat (Jennings and Hayes 1990).

Local Occurrence. A review of CNDDB records revealed no occurrence of CRLF within one mile of the project site. The nearest recorded occurrence is 1.7 miles from the site in the lower San Vicente Creek watershed. This record is a single adult in the creek in 10/97 by DFG fisheries biologist Jennifer Nelson. There are several farm irrigation and stock ponds within the Bonny Doon area, a number of which probably have not been surveyed for CRLF. One privately-owned pond on Pine Flat Road was surveyed by J. Gilchrist in 2009, but had no CRLF.

Western Pond Turtle.

The western pond turtle has been separated into two subspecies *Actinemys m. marmorata* is the northern subspecies and *Actinemys m. pallida* is the southern subspecies. Current research suggests, however, that the taxon may be represented by three distinct populations in California and may therefore require a taxonomic revision (Jennings and Hayes 1994). The southwestern pond turtle is a State species of special concern (CDFG

2008). In California, the pond turtle is distributed mostly along the Pacific slope drainages from Oregon to Mexico (Jennings and Hayes 1994). Pond turtles primarily occur in permanent freshwater ponds, lakes, marshes and quiet waters of streams (Bury and Holland 1993). Pond turtles favor sites with the largest and deepest pools and with an abundance of basking sites, such as partially submerged logs or rocks, matted emergent vegetation, or exposed shorelines (Bury and Holland 1993); pond turtles displace one another from basking sites, where such resources are limited (Bury and Wolfheim 1973). Pond turtles are highly sensitive and will seek cover when approached within 100 meters (Bury and Holland 1993). Undercut banks, root masses and boulder piles provide underwater escape cover (Bury and Holland 1993). Although highly aquatic, pond turtles leave the water to reproduce, aestivate and overwinter (Jennings and Hayes 1994). Females dig nests and deposit eggs, during May and June, along the shoreline or in a variety of open, sparsely vegetated upland habitats, usually within 200 meters of water, but as much as 500 meters, and mostly on south-facing slopes with well-drained clay soils (Rathbun *et al* 1992; Jennings and Hayes 1994). Nests must remain dry for proper incubation. The young hatch and may overwinter in the nest, before emerging in the spring (Jennings and Hayes 1994). Hatchlings require shallow water habitat with dense emergent vegetation and abundant zooplankton (Jennings and Hayes 1994). Pond turtles reach sexual maturity between seven and fourteen years of age (Bury and Holland 1993) and live to be over 42 years (Jennings and Hayes 1994). During dispersal, pond turtles can move up to two kilometers in search of suitable habitat and can tolerate a minimum of seven days without water (Jennings and Hayes 1994). Studies on central coast drainages show that turtles use upland habitat within 50 meters of the creek in times of drought or to avoid winter floods (Rathbun *et al* 2002). Pond turtles are threatened by habitat alteration and loss due to water development, agricultural practices and non-native predators (Jennings and Hayes 1994).

Local Occurrence. No pond turtle observations were made in the vicinity from the CNDDB records, or from conversations with local biologists. The nearest recorded occurrence is over 4 miles from the project site at Highlands Park in Ben Lomond.

SITE ASSESSMENT AND CONCLUSIONS

California Red-legged Frog. No adult CRLF or any other life phase of CRLF were identified during the day and night surveys at the pond. Egg mass surveys were conducted from the shore where pond margin vegetation was very visible, and from a kayak on 17 March. No CRLF egg masses were detected. All surveys revealed the extensive presence of bullfrogs (*Rana catesbeiana*) with 200-300 adults and metamorphs identified during each daytime survey. Nighttime surveys revealed fewer bullfrog numbers (10 – 68) for unknown reasons, although cold weather may have been a factor. The pond also contains non-native fish, possibly largemouth bass (*Micropterus salmoides*), mosquito fish (*Gambusia affinis*) and bluegill (*Lepomis macrochirus*). Large numbers of juvenile fish were observed. Adult fish were not observed, but submergent vegetation, turbidity and pond depth (~12') limited possible observations of larger fish. The presence of large numbers of non-native predators reduce and probably eliminate chances of successful CRLF breeding at this site. In addition, lack of known breeding

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sites nearby likely limits recruitment to this site, although there are nearby ponds that haven't been surveyed for CRLF. The potential for a breeding population of California red-legged frog at this Martin Road pond is unlikely.

Western Pond Turtle. No western pond turtles were observed during the three daytime surveys for this report, or during a 18 August 2009 survey by Jodi McGraw (McGraw 2009). Habitat conditions at the pond are suitable, but not ideal, for WPT with some basking sites, matted vegetation at the pond edge and abundant sunlight. There are few rocks or logs available as basking sites. The grassland meadow west of the pond would provide nesting habitat. However, the presence of non-native predators in the pond, and lack of WPT records from the vicinity indicate potential for WPT at this site is low.

PROJECT IMPACTS

The project does not involve any construction or improvements to the on-site pond or in adjacent wetlands. Therefore direct impacts to aquatic species in the pond are not expected.

The project will result in construction of a new home and garage replacing the existing home/garage in approximately the same location, improvements to existing accessory buildings, and improvements to the existing access road leading to the development area. The main residence, portions of the access road and some of the accessory building improvements are within 300 feet of the pond. California red-legged frogs do routinely disperse up to 300 feet from an aquatic habitat to forage. However, because the likelihood of a breeding population of CRLF in this pond is small, dispersing frogs are unlikely, and impacts from project construction or operation are not expected.

Western pond turtle generally stay in aquatic habitats except when females disperse to dig nests and lay eggs. However, this activity would be expected to occur in the meadow grassland west of the pond rather than within or near the proposed development area. Although it is unlikely WPT inhabit the pond, in the event they do, project impacts to this species are also not expected.

Standard erosion control measures should be implemented to prevent any sedimentation of the wetland, Mill Creek, or the pond.

I believe this addresses issues regarding aquatic sensitive species in the pond at 126 Martin Road. Please don't hesitate to contact me if you have questions or need further assistance.

Sincerely,

John Gilchrist

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Personal Communications:

Mark Allaback, Biosearch Associates, Aptos, CA.
Bill McIver, US Fish and Wildlife Service, Ventura Field Office (2007)
Bryan Mori, Wildlife Biologist, Watsonville, CA
Chad Mitcham, US Fish and Wildlife Service, Ventura Field Office

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ATTACHMENT A

Graphics and Site Photos

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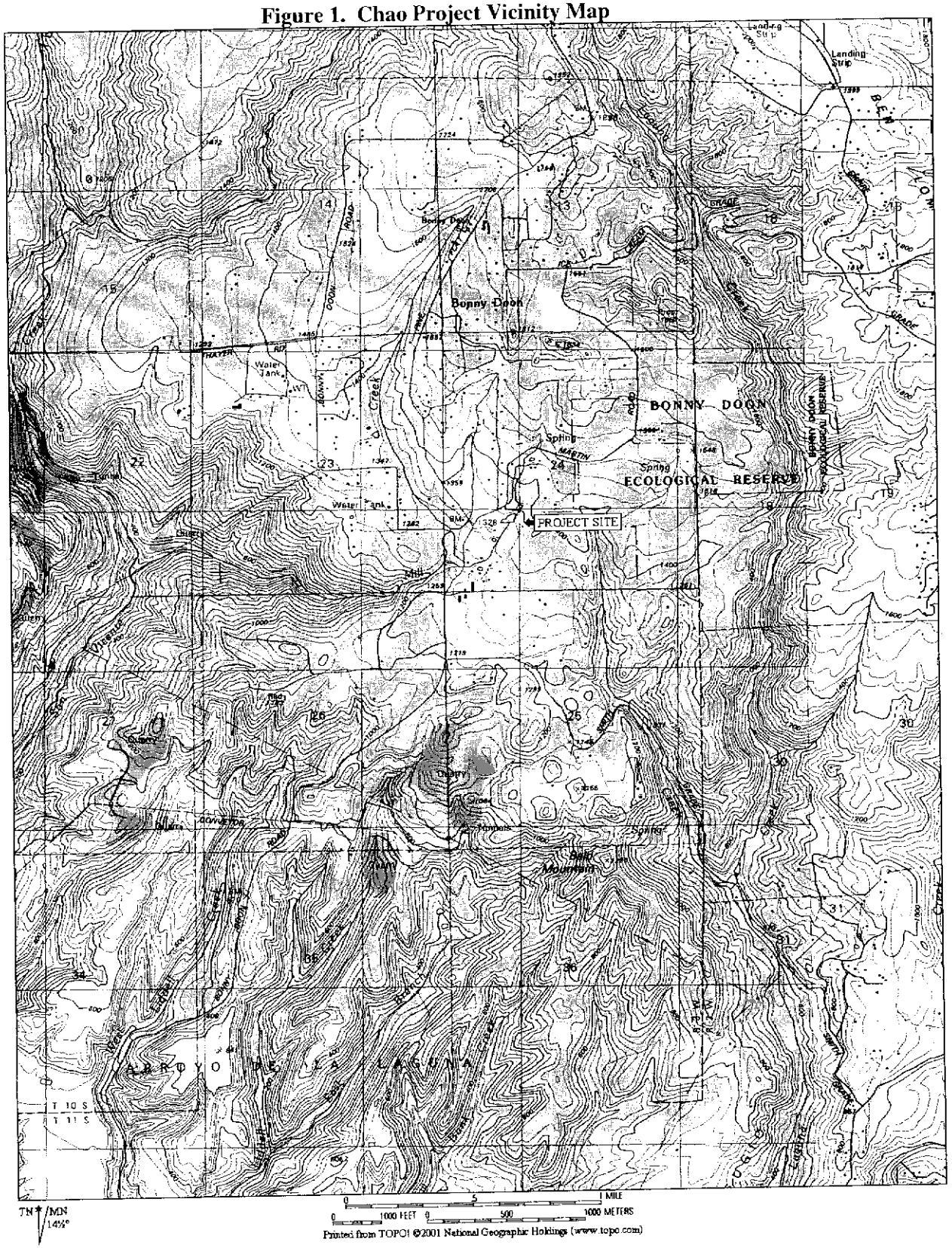
Figure 1. Chao Project Vicinity Map



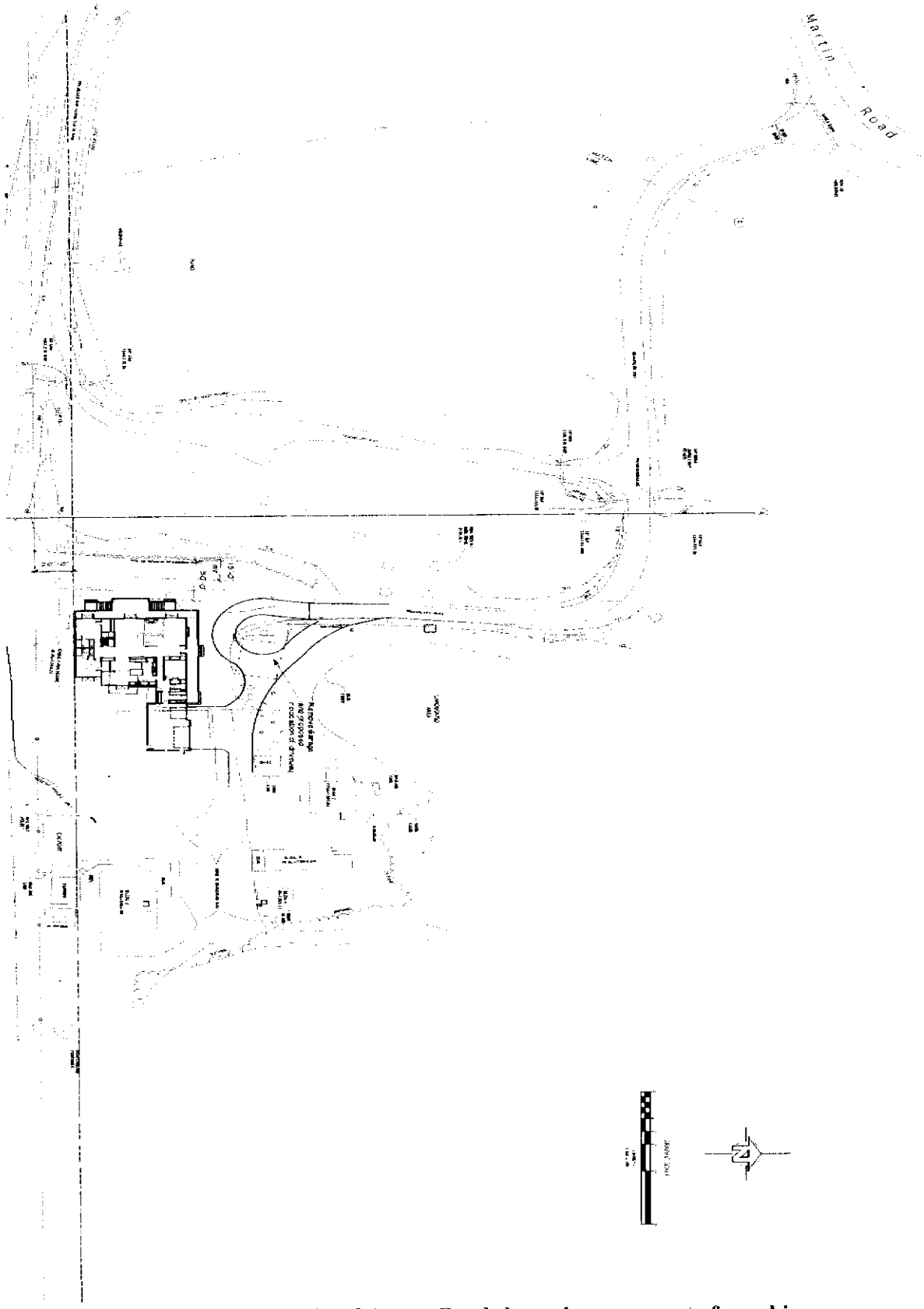


Figure 2. Chao Site Plan. Pond and Access Road shown in upper part of graphic.

Photo 1. Pond looking northeast from floating dock. Garage and wetland visible upper part of photo.

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Photo 2. Pond looking northwest from dock. Cattails and tules on pond margins.

EXHIBIT G

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August 23, 2010

John Swift
Hamilton Swift Land Use & Development Consultants, Inc.
500 Chestnut St.
Santa Cruz, CA 95060

RE: Sandhills Habitat Assessment and Survey of 126 Martin Road (Parcel 063-091-05), Bonny Doon, CA (Conducted under USFWS Recovery Permit to Jodi McGraw: TE118641-0)

Dear Mr. Swift:

This letter provides you with the results of a habitat assessment and survey that I conducted for Santa Cruz County parcel 063-081-05, an approximately 9.6 acre home site located at 126 Martin Road in the unincorporated portion of Santa Cruz County known as Bonny Doon, California. Based on our discussions, I understand that you are working with the property owner to develop a proposal to remodel and modestly expand the existing house, guest houses, garage, and storage areas located on the eastern portion of the property.

The property is mapped by the County of Santa Cruz as potentially containing Sandhills communities, which are regarded as a sensitive habitat by the County of Santa Cruz. To evaluate whether the proposed project could adversely impact the Sandhills species and communities (or 'Sandhills habitat'), I examined the soils, hydrology, and vegetation (i.e. communities) of the property, and the occurrences of, and potential habitat for, the status plants and animals that occur within the Santa Cruz Sandhills—a unique community of plants and animals that are found on Zayante soils, which are derived from ancient marine sediments in central Santa Cruz County including Bonny Doon. Specific Sandhills species include the Ben Lomond spineflower (*Chorizanthe pungens* var. *pungens*), Santa Cruz cypress (*Callitropsis abramsiana*), Santa Cruz wallflower (*Erysimum teretifolium*), silverleaf manzanita (*Arctostaphylos silvicola*), Ben Lomond buckwheat (*Eriogonum nudum* var. *decurrens*), Mount Hermon June Beetle (*Polyphylla barbata*) and the Zayante Band-Winged Grasshopper (*Trimerotropis infantilis*).

Methods

This assessment included five elements.

1. GIS Database Search: I examined the property in a geographic information system (GIS) database that I maintain. The database includes mapped occurrences of special status species and sensitive habitats as part of the California Natural Diversity Database maintained by the California Department of Fish and Game, as well as the County of Santa Cruz GIS publicly available data for sensitive habitats and species and my own records.
2. Botanical Report and Restoration Plan Review: I reviewed the botanical report and restoration plan that has been prepared for the property, and is now being implemented on the property (NVN 2009).
3. Habitat Assessment: I conducted a reconnaissance level site assessment to examine habitat conditions, including soils, hydrology, and vegetation, within the property on August 18, 2009.

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4. Rare Plant Survey: I conducted a focused Sandhills rare plant survey on April 29, 2010 and June 7, 2010.
5. Mount Hermon June Beetle Survey: Between June 7 and August 7, I conducted a focused survey to evaluate whether the Mount Hermon June beetle occurs within the property.

Results

The following description of the property integrates results of the five elements of the assessment.

Soils

As mapped by the Soil Conservation Service, the subject parcel contains three soil types. The western approximately two thirds is mapped as supporting Felton Sandy Loam. The eastern third is split almost equally between soil of the Felton-Lompico Complex, which features Lompico Loam as well as Felton Sandy Loam, and Zayante Coarse Sand, which are poorly developed, deep, coarse, sand soils derived from the weathering of uplifted marine sediments and sandstones (USDA 1980).

My observations of soils during this initial reconnaissance suggest that the property supports a patchy mosaic of primarily sand soils varying in the amount of silt and clay, from loamy sand to sand, with some patches of sandy loam present as well. The soils are loose in the undeveloped portions of the property, but are more compacted in an around the buildings and roads where grading has removed top soil and compaction has resulted from decades of associated land uses.

Hydrology

The property features an approximately 1 acre perennial pond created through construction of an earthen dam within the eastern tributary to Mill Creek, which flows through the property.

Vegetation

The vegetation has been altered during the property's prior development and use as a homesite and an small-scale agricultural site (i.e. orchard) for approximately 100 years (NVN 2009). These land uses predate 1943, when the first available aerial images of the region were taken. As a result, it is not possible to determine what vegetation occurred on the site prior to its development.

Today, the property features two main vegetation types. The central portion of the property features a 1.2 acre pond and adjacent freshwater marsh, which also lines the drainage. These communities feature a mix of native and exotic aquatic and wetland plants as described in the recent botanical report and restoration plan (NVN 2009).

The terrestrial vegetation of the property reflects both its prior land use (development and agricultural use) and its occurrence at the ecotone (transitional area) between Mixed Evergreen Forest and Coast Redwood Forests to the west and south, and the Maritime Coast Range Ponderosa Pine forest and Coast Live Oak woodlands which occur in the Sandhills communities to the east and north. The property itself features scattered, mature native trees including coast live oaks (*Quercus agrifolia*), ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), tan oak (*Lithocarpus densiflorus*), and Pacific madrone (*Arbutus menziesii*). The mature trees occur within a matrix of primarily ruderal (disturbance adapted) native and exotic herbs and shrubs that reflect the microsite variability and historic and current land use. West of the pond, the former orchard has been largely recolonized by non-native herbs but also features sky lupine (*Lupinus nanus*) and bracken fern (*Pteridium aquilinum* var. *pubescens*) in the understory of scattered ponderosa pines. In the previously developed area east of the pond, where the

EXHIBIT H

proposed future development activities are proposed, supports primarily non-native annual grasses and forbs including ornamental plantings around the remaining mature trees, which include ponderosa pine, coast live oak, and Douglas fir.

Special Status Plants

Along the drainage ditch south of the driveway, there are three small (< 8 foot tall) Santa Cruz cypress (*Callitropsis abramsiana*), a federal and state-listed endangered tree (NVN 2009). I did not observe any of the other rare or endangered Sandhills plant species during my focused surveys of the property.

Special Status Animals

Zayante Band-Winged Grasshopper

The site does not feature appropriate habitat for the Zayante band-winged grasshopper—an endangered insect that is restricted to open, sunlit, typically grassy areas with sparse tree canopy comprised primarily of ponderosa pines, which is commonly referred to as Sand Parkland. The herb dominated vegetation in the former orchard on the western portion of the property features dense, tall largely ruderal herbs and forbs (NVN 2009) that are not characteristic of the Sand Parkland community. Moreover, the species is not known to occur in the Bonny Doon region, and instead is thought to be restricted to Sandhills habitat within the San Lorenzo and Scotts valleys (USFWS 2009).

Mount Hermon June Beetle

Based on my initial habitat assessment of the soils and vegetation of the site, I concluded it had limited potential to support the federally endangered Mount Hermon June beetle, a largely fossorial insect which inhabits Zayante soils in central Santa Cruz County. Though the native vegetation of the site has been altered and much of the soil on the parcel has a finer texture and/or is more compacted when compared to intact Sandhills habitat where the species typically occurs, the Mount Hermon June beetle has been observed in transitional and degraded habitat elsewhere within its range (J. McGraw, pers. sobs.). Though the endangered beetle was not known to occur in Bonny Doon at the time of its listing (USFWS 1997), it has since been observed within and adjacent to the Bonny Doon Ecological Reserve, approximately 0.5 mile north and northeast of the subject parcel, on two occasions in 2008 (J. McGraw, pers. obs. 2008, R. Arnold pers. comm. 2008).

Based on these factors indicating the site has limited ability to support Mount Hermon June beetle, Chad Mitcham, Wildlife Biologist with the Ventura Field Office of the US Fish and Wildlife Service, recommended that a survey be used to evaluate whether the subject parcel is occupied by the Mount Hermon June beetle (C. Mitcham, pers. comm. 2010). Based on this guidance, I sought and received permission from the US Fish and Wildlife Service to conduct, under my recovery permit for the species (TE118641-0), a presence/absence survey during the Mount Hermon June beetle flight season (mid-May to mid-August).

Though three nights of negative findings are typically used to conclude the species is not present, I surveyed the subject parcel on five nights beginning June 9 and ending August 9, 2010 (Table 1) in order to ensure the survey spanned the length of the entire flight season. To maximize likelihood of detecting beetles, I conducted the surveys on evenings of days with high temperature of at least 75 °F in Bonny Doon, as my observations from weekly Mount Hermon June beetle surveys at another site suggest that the endangered beetles are observed at greater abundance and therefore perhaps more likely to be active or at least captured in traps, on hotter days (J. McGraw, pers. obs.).

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On each of the survey nights, I set up and monitored black light traps, which attract crepuscular insects such as the Mount Hermon June Beetle. The traps were operated and actively monitored throughout the Mount Hermon June beetle flight period: 8:30 p.m. and 10:00 p.m. To ensure that the property was thoroughly examined, I established traps at 11 locations throughout the subject or "test" property, in open locations where the light from the traps could be detected from the greatest distance (Figure 1 and 2). This intensive sampling effort was designed to evaluate the species presence throughout the parcel, while emphasizing the area east of the pond where development activities are being proposed.

In order to ensure that the surveys were conducted on nights when the Mount Hermon June beetle was active, on the same survey nights I located traps at two sites where the species is known to occur ("reference sites"): Graham Hill (Mount Hermon) near Scotts Valley, CA. and the Bonny Doon Ecological Reserve to the northeast of the property (Figures 1 and 2). To maximize the likelihood of detecting activity, I placed the traps within the reference sites in areas where I anticipated Mount Hermon June beetles would be most likely to occur. At the Bonny Doon Ecological Reserve, they were located in both burned and unburned areas including an unburned area where they were previously observed (J. DeWald, pers. comm. 2010).

I did not observe any Mount Hermon June beetles within the 46 trap/nights on the subject property (Table 1). Mount Hermon June beetles were observed at the Graham Hill site on four nights, indicating that the surveys occurred on at least four nights when the Mount Hermon June beetles were active.

Mount Hermon June beetles were not observed within the 18 trap/nights at the Bonny Doon Ecological Reserve (Table 1). The absence of detectable activity at this reference site could be due to several, non-mutually exclusive factors including: 1) the 2008 Martin Fire that burned much of the Sandhills habitat within the reserve could have reduced the endangered insect's population at the site to levels below that which would be detected with the survey intensity employed here, 2) the population within Bonny Doon might have been low, even prior to the fire, perhaps at least partially explaining why the species was not known to occur in the Sandhills habitat within Bonny Doon prior to 2008, 3) the conditions during the survey nights, while suitable for activity in the San Lorenzo Valley, were not appropriate for adult male Mount Hermon June beetle activity in Bonny Doon, and 4) the traps were not located in areas of the reserve appropriate for the Mount Hermon June beetles.

It is not possible to positively differentiate between these and perhaps other factors that might have contributed to the absence of Mount Hermon June beetles within the traps located within the Bonny Doon Ecological Reserve. However, weather alone is unlikely to explain the absence of Mount Hermon June beetles in Bonny Doon during the survey, as conditions were similar in terms of temperature, wind, and humidity, between the two reference sites and Mount Hermon June beetles were observed at relatively high abundance atop the Graham Hill reference site on four of the five survey nights.

The absence of the Mount Hermon June beetle within the subject parcel during the 46 trap/nights spanning the flight season, including in 36 trap/nights when the species was active at Graham Hill, is consistent with the altered soils (finer texture, high compaction) and vegetation (low density of native plant species) that may, in fact, render the site unsuitable for the endangered insect. The site is located at the broad ecotone between Sandhills communities that predominate further east and north and the Mixed Evergreen and Coast Redwood forests to the south and west, such that the soils and vegetation on the site are transitional. In addition, the soil and vegetation alterations caused by residential and agricultural land uses may have affected the suitability of habitat for the Mount Hermon June beetle.

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Conclusions and Recommendations

Results of my database research, habitat assessment, and focal species surveys indicate that the parcel does not support the sensitive Sandhills species, with the exception of the Santa Cruz cypress that occur in the drainage north of the driveway. Based on this assessment, and my review of the proposed project plans dated April 2010 (Craycroft 2010), I believe your proposed project will not impact sensitive Sandhills species nor Sandhills communities or habitat.

This information is provided to aid evaluation of your proposed project. I recommend that you discuss project permitting requirements with the USFWS, which administers the federal Endangered Species Act, and the County of Santa Cruz Planning Department, which administers the Sensitive Habitat Ordinance.

U.S. Fish and Wildlife Service	County of Santa Cruz
Douglas Cooper	Claudia Slater
Deputy Assistant Field Supervisor	Environmental Planner
2493 Portola Road, Suite B Ventura CA, 93003	701 Ocean Street, Santa Cruz, CA 95060
(805) 644-1766 x272	(831) 454-5175
Douglass_Cooper@fws.gov	PLN106@co.santa-cruz.ca.us

Please do not hesitate to contact me if you have any questions regarding these studies or if I can assist you further.

Sincerely,

Jodi M. McGraw

References

Arnold, R. A. 2008. Personal communications with entomologist Dr. Richard Arnold, regarding surveys for Mount Hermon June beetle in Bonny Doon during summer 2008.

Craycroft, J. 2010. Proposed improvements for 126 Martin Road. Site plans prepared by John Craycroft and Associates. April 2010. 5 pages.

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McGraw, J. M. 2004. Sandhills Conservation and Management Plan. Report submitted to the Land Trust of Santa Cruz County, June 2004. 356 pages.

Mitcham, C. 2010. Telephone conversation and subsequent e-mail correspondence with Chad Mitcham, Wildlife Biologist, US Fish and Wildlife Service, regarding endangered species evaluations on 126 Martin Road. January 5, 2010.

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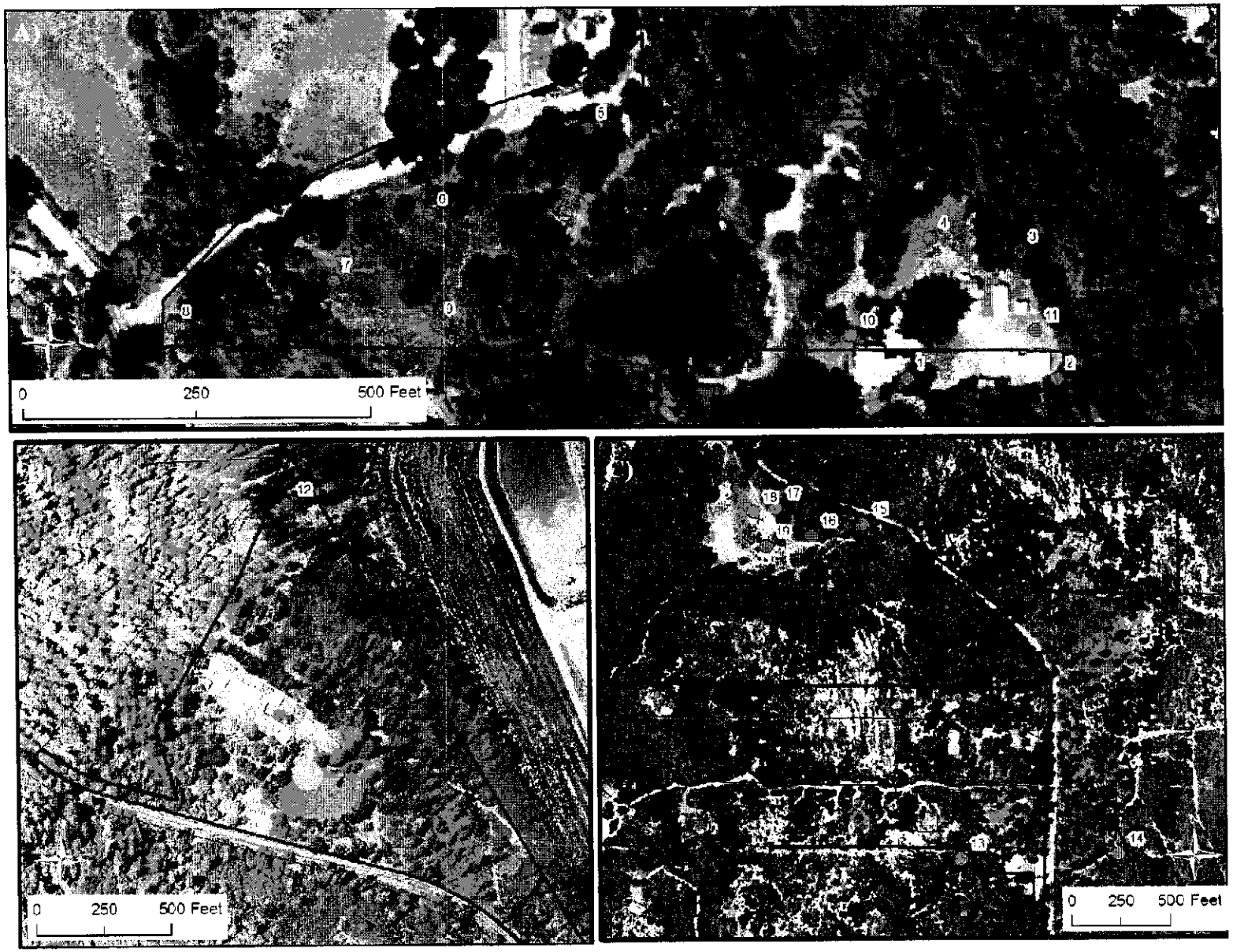


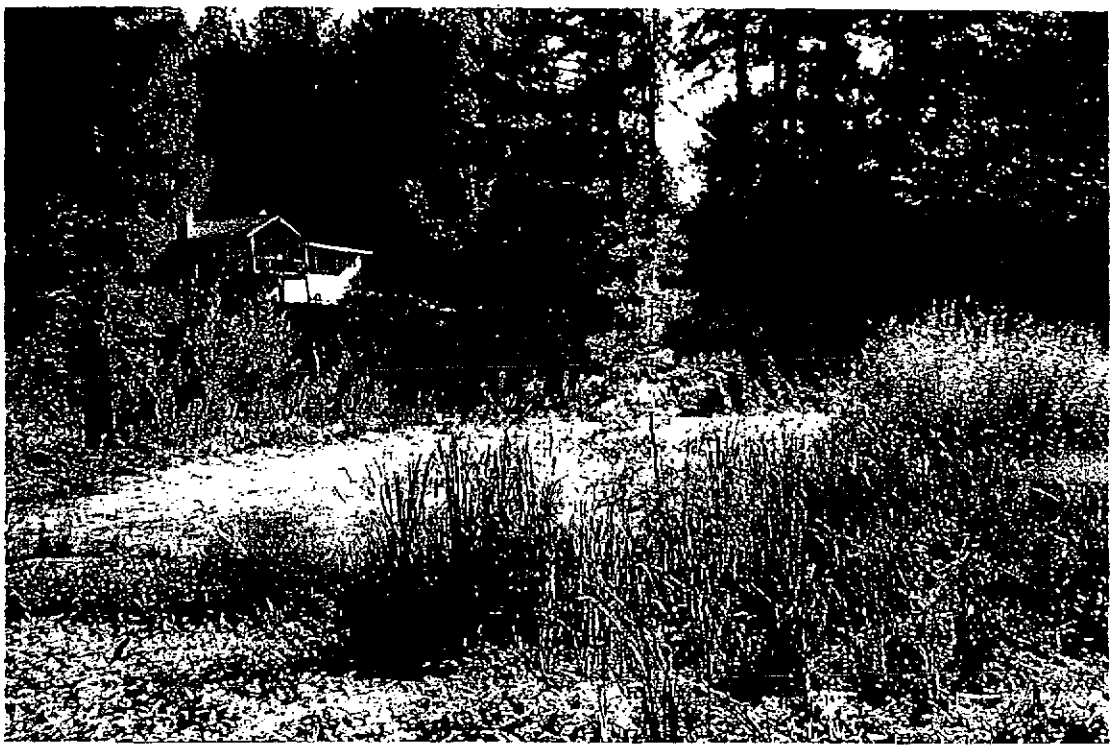
Figure 2: Location of the black light traps (green dots) used to evaluate presence of the Mount Hermon June beetle within three sites in central Santa Cruz County, CA. Numbers indicate the Trap ID listed in Table 1, which indicates which traps were used during which survey nights, and how many Mount Hermon June beetles were observed. Property boundaries are approximate. Map prepared by Jodi McGraw.

Sherwood Property

Bonny Doon, California

Botanical Report & Restoration Plan

Assessor's Parcel No. 063-091-05



Prepared for:

Eldon and Diane Sherwood

Prepared by:

Native Vegetation Network

Valerie Haley, Botanist
Karen Williams, Graphic Designer
Christine McKenna, Admin. Assistant

PV-499

January 2009

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INTRODUCTION

PURPOSE OF THE REPORT

This botanical report and restoration plan has been prepared at the request of the County of Santa Cruz Planning Department to address violations that resulted from unauthorized land clearing on the Sherwood property. The land clearing occurred in winter 2007 without receipt of the appropriate permits. This report provides an assessment of the botanical resources on the property, describes the botanical impacts that occurred due to the land clearing and brush removal, and recommends measures to restore the property.

The County Planning Department issued a Stop Work Order in 2007 for land clearing in a sensitive habitat (violation of County Code Section 16.32.130). According to planning staff, the first step in resolving the code violation is the submittal of a biotic report and restoration plan that address impacts generated by the land clearing.

This botanical report and restoration plan summarizes reconnaissance-level botanical surveys conducted by Valerie Haley in fall 2008 to identify the botanical resources occurring at the Sherwood property. The impacts to botanical resources due to the land clearing were also evaluated. Restoration measures are proposed to restore the disturbed areas, including wood chip and rubble removal, revegetation with native trees and shrubs, hand broadcast seeding, and methods for removing invasive, non-native plant species.

PROPERTY DESCRIPTION

The Sherwood property is located in the Bonny Doon region and Coastal Zone of Santa Cruz County. The closet town is Davenport, which lies to the west of the project parcel. The site is located on the western side of Ben Lomond Mountain. An eastern portion of the parcel borders the Bonny Doon Ecological Reserve (Figure 1). The majority of the site has Zayante Sands soil. The property has been issued a formal street address, 126 Martin Rd., Bonny Doon CA 95060. A location map for the project site is depicted in Figure 1 of this report. The Sherwood parcel (APN 063-091-05) is just under 10 acres, and has a somewhat rectangular shape (Figure 2).

The majority of the property was developed in the past as a family farm and orchard. A main house still exists today that is over 100 years old (pers. comm. Eldon Sherwood (December 2008). As may be seen in Figure 2, the main house, out buildings and sheds occur in the eastern, 2 to 3 acres of the parcel (Developed Area, Figure 2). Several acres of meadow habitat are located to the west an existing man-made earthen pond. The meadow was used in the past as a pear orchard. Over the last 50 years, the orchard lost productivity due to the decline of the pear trees, and became a fallow field with mainly weedy vegetation. Branches of dead pear trees may still be seen in one of the brush piles.

LAND CLEARING AND OTHER DEVELOPMENT VIOLATIONS

On January 23, 2007, the County of Santa Cruz issued a notice for three code violations:

Violation of Code 16.22.160(b) Land Clearing without a permit.

Violation of Code 16.30.080(a) Development in a Riparian Corridor and Wetland without a permit.

Violation of Code 16.32.130(a) Development in Sensitive Habitat without a permit.

The County issued another notice on March 8, 2007 for the same three violation codes above. Additional violations were also issued on Feb. 6, 2008 and Sept. 26, 2008 for violating the County Order to Stop Work.

Over the last 20 months, approximately two acres of the parcel were cleared of vegetation or disturbed by the placement of wood chips and concrete rubble (Figure 3). The majority of the land clearing and brush removal were conducted in the meadow habitat, and to a lesser extent in the Ponderosa Pine/Oak Woodland. Most of the disturbance was caused by cutting down trees, scraping the ground surface (brush clearing) with a tractor blade, and by using vehicles to create piles of woodchips, brush, and concrete rubble. Most of the woodchip and concrete rubble piles occur adjacent to the driveway entrance near the intersection of Martin Road and Quail Drive (Figure 3). Several brush piles also occur on other portions of the property.

STIPULATION AND ORDER ISSUED BY THE SUPERIOR COURT

On October 24, 2008, a Stipulation and Order was filed at the Superior Court of California County of Santa Cruz regarding the violations that occurred on the Sherwood property. One of the stipulations was for a botanist to prepare a five-year plan to mitigate the impacts that occurred on the property. According to the Stipulation and Order Item 3, the "Plan is to include such activities as exotic plant removal, weeding, revegetation activities, erosion control, monitoring, data analysis, annual reporting, and recommendations for adaptive management and project coordination." Item 5 of the stipulation states that the Plan is to include "at least 5 years of follow up monitoring and adaptive management after the initial planting." Item 5 also states that activities may extend beyond five years if it takes longer than 5 years to attain the success criteria.

RESTORATION CONCEPT

On January 27, 2009, Valerie Haley, Eldon Sherwood, and Lee Otter met with Matt Johnston, Deputy Environmental Coordinator, County of Santa Cruz Planning

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Department to develop the appropriate mitigation and restoration measures for the Sherwood property. These measures have been incorporated into this report.

This document proposes a six-year restoration and monitoring program, which will be managed by the project botanist and revegetation specialist. The proposed restoration will have three main phases. Due to the prevalence of invasive, non-native plant species on the property, including green wattle acacia, French broom (*Genista monspessulana*), Himalayan blackberry (*Rubus procerus*), and blue gum eucalyptus (*Eucalyptus globulus*) (Figure 2), it is likely that invasive plant removal will be an on-going part of the restoration program. The first phase of the restoration will primarily involve the removal of exotic plants, wood chip, brush, and concrete rubble piles, erosion control, and the collection of propagation material from native plants growing within two miles of the Sherwood property. Most of the removal of wood chip and rubble piles is proposed for winter and spring 2009.

The second phase of the restoration (fall 2009) will include hand broadcast seeding, and the installation of native trees and shrubs. Note that no trees will be replanted on the southern pond bank, since tall, mature trees have the potential to undermine the stability of the southern bank, which functions as a dam. Coast live oak (*Quercus agrifolia*) and ponderosa pine (*Pinus ponderosa*) trees that were lost during land clearing activities will be replaced using a 3:1 ratio, for every coast live oak and pine tree lost three new trees will be planted. Other mature tree species that were removed including tan oak, green wattle acacia, and blue gum eucalyptus will be replaced at a 1:1 ratio. Six coast live oak, six ponderosa pine, two madrone, three coast redwoods, and two California buckeye trees are proposed for planting in December 2009. All of the coast live oak tree plantings will be placed near the upper banks of the pond in order to provide shade and cover around the edge of the pond. The pond banks on the northern side will also be enhanced with arroyo willow cuttings placed at the toe of the bank on the waterside of the pond (50 willow cuttings estimated).

A native shrub planting is also proposed to compensate for the brush clearing that occurred in the meadow habitat. Forty native, woody shrubs will be planted (12 coffeeberry, 12 toyon, and 16 wax myrtle). Approximately 11 mature native trees (6 coast live oak, 3 tan oak, and 2 ponderosa pine trees) and 40 native shrubs were lost during the unauthorized land clearing. Three mature blue gum eucalyptus and three mature green wattle acacia were also removed. The proposed performance criteria include a minimum of 80% plant survival for planted trees and shrubs in Years 1 and 2 after planting (see Performance Criteria section). A performance criterion for the maximum amount of vegetative cover of invasive-non-native species in the revegetation areas is also recommended.

The areas proposed for native tree and shrub planting are depicted in Figure 3. Native subshrubs and herbs will be planted as part of a hand broadcast seeding. The proposed seed mix will include the following species: mugwort (*Artemisia douglasiana*), California golden rod (*Solidago californica*), California aster (*Aster chilensis*), sky lupine (*Lupinus nanus*), and common madia (*Madia elegans*).

The third phase of the restoration program will focus on maintaining the plantings, continuing exotic plant removal, and monitoring the Restoration Area. Throughout the proposed restoration program, annual letter reports will be sent to County Planning. An overall Implementation Schedule for the restoration activities is provided in Table 5. A five-year maintenance and monitoring period is recommended that commences at tree and shrub installation.

The Restoration Area will be managed to encourage the re-establishment of native-dominated vegetation. The control of invasive, non-native species will improve the habitat value for wildlife by increasing the number of native plants with forage value, and by stabilizing soils with increased vegetative cover and root mass. Rototilling should be kept to a minimum to preserve soil structure and the natural soil "seed bank" present. Organic gardening methods are preferred. Pesticides and chemical fertilizers should be minimized to the greatest extent possible.

Active revegetation combined with erosion control measures will be implemented to increase the vegetative cover. This proposed restoration plan provides details on hand-seeding, plant installation, maintenance activities (including exotic plant control), performance criteria, monitoring, and reporting methods.

OPPORTUNITIES AND CONSTRAINTS FOR RESTORATION

Opportunities

The main opportunity at the project site is the abundance of native propagation material that may be collected on the 10-acre parcel and the surrounding Martin Road neighborhood. Another advantage is the sandy loam soil that is easily dug for planting and invasive, non-native plant removal.

Constraints

The property supports high levels of invasive, non-native species, including green wattle acacia, Cape ivy, velvet grass, horseweed, and Himalayan blackberry that will compete with the proposed native revegetation. Tractor work has disturbed the Zayante Sands soil and substrate, which promotes weedy vegetation. Some of the proposed invasive, non-native plant removal occurs on the neighboring parcel, and therefore permission will be needed from the owners to work on their property. This is not anticipated to be a problem (pers. comm. Eldon Sherwood, December 2008). The neighboring parcel to the south of the pond has high levels of invasive, non-native species, which will need to be contained. Most problematic for removal is an invasive, non-native vine that has climbed over 100 feet up tree trunks located on the neighbors parcel. The vine has small leaves about ¼ inch wide, and appears to be an ivy (*Hedera* sp.) or morning glory cultivar. The numerous vines provide a source of propagules and fragments that can recolonize the southern pond bank.

ENVIRONMENTAL SETTING

ASSESSMENT METHODS

The botanical resources of the Sherwood property were investigated in November and December 2008. Field observations and literature review formed the basis of the investigation. Prior to the field surveys, the California Natural Diversity Data Base for the Davenport Quadrangle and the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants in California (Tibor 2001) were reviewed to determine the potential presence of rare, threatened, or endangered species in the vicinity of the Project Site. In addition, Valerie Haley contacted Richard A. Arnold, Ph. D. regarding his June 2008 insect surveys conducted at the Bonny Doon Ecological Reserve (pers. comm. June 2008). Note that the eastern boundary of the Sherwood property borders the Ecological Reserve.

The study area was traversed on foot, using a large-format aerial photograph (Google Earth image, 2007). The major plant communities present and concentrations of invasive non-native species were delineated onto the aerial photograph. These delineations are depicted in Figure 2. Note that the field surveys were done after the land clearing and other violations, which occurred during 2007 and 2008. Plant species were identified using The Jepson Manual Higher Plants of California (Hickman, 1993) and the Flora of the Santa Cruz Mountains of California (Thomas 1961). The vascular plant species observed are presented as Appendix A. This appendix represents only a partial list of plant species occurring at the Sherwood property, since it lists only the species recorded during November and December 2008. Additional species are expected to be identifiable during other times of the year.

Concurrent with the habitat assessment, a survey for rare, threatened, and endangered plants was conducted in November and December 2008. Field surveys were conducted using regional floristic information and standard endangered plant survey protocol (Nelson 1987). Since the surveys were conducted in fall, they were limited in scope to mostly perennial species. A spring 2009 survey is recommended to determine whether any annual special status plant species occur at the property. Spring and summer are when many of the potential Federally listed, Stated listed, or other sandhills indicator species would be identifiable in the field (i.e., when flowering or fruiting).

The survey focused on species that are Federally listed, State listed, or other special status plants with a high probability of occurrence in the project area. Potential special status species were determined from known occurrences in the vicinity and through review of the records reported in the California Natural Diversity Data Base (Rare Find version) of the California Department of Fish & Game and the CNPS Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001).

EXISTING BOTANICAL RESOURCES

The Sherwood property has a variety of habitats and plant communities, ranging from dry conditions in the Ponderosa Pine/Oak Woodland to wet conditions in the central portion of the property that support freshwater marsh and aquatic vegetation. Five main plant communities were observed on the parcel: ponderosa pine/oak woodland, mixed evergreen forest, fresh water pond and wetlands, meadow, and ruderal habitat. Small groves of mature ponderosa pines and coast live oak trees occur around the perimeter of the meadow/old orchard habitat. A pond (approx. 200 X 70 feet) occurs in the central portion of the property (Figure 2). The man-made, earthen-dam impoundment receives water from a culvert and drainage ditch that enter the pond from the northeast. The vegetation resources of these plant communities/habitats are described below.

Ponderosa Pine/Coast Live Oak Woodland

Mature ponderosa pines and coast live oak trees dominate this plant community. A grove of ponderosa pines occurs near the driveway entrance. The majority of the ponderosa pines in this grove have bacterial galls and diseased branches. Additional tree species include madrone (*Arbutus menziesii*) and hazelnut (*Corylus californica*). The sparse shrub layer includes coffeeberry (*Rhamnus californica*), California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), and mugwort. Herbaceous species include bracken fern (*Pteridium aquilinum*), velvet grass, chickweed, and rattle snake grass. Along the northern parcel boundary, the pine/oak woodland intergrades with mixed evergreen forest (Figure 2).

The pine/oak woodland habitat includes approximately ½ an acre of understory vegetation that was cleared in 2007. Several ponderosa pine trees were also cut down; however, the remainder of the trees are still alive.

The shrub and herb layers are sparsely distributed due to the previous brush clearing and tractor work. Most of the wood chip and concrete rubble piles are located near the driveway in between mature ponderosa pine and coast live oak trees (Figures 3 and 7). Some of the ponderosa pine and coast live oak trees have crowns buried in wood chips, and others have exposed root systems due to changes in soil grade.

Mixed Evergreen Forest

The structure of the mixed evergreen forest (MEF) on the Sherwood property is diverse and includes groves of trees and shrubs with occasional openings in the forest canopy. MEF occurs in two main areas on the property, at the west end near Pine Flat Road, and at the east end, bordering the Bonny Doon Ecological Reserve (BDER). At the east end of the property near the boundary with the BDER there are two large (approx. 4.0 feet DBH) mature ponderosa pines. It appears that eastern portions of the current mixed evergreen forest may have historically been ponderosa pine forest that has undergone succession to become MEF. Note that Zayante Sands soil predominate on the site. Open portions of the MEF near the intersection of Pine Flat Road and Martin

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Road support patches of wet meadow habitat that is dominated by Pacific bog-rush (*Juncus effusus var. pacificus*), and wax myrtle. Five coast redwoods (*Sequoia sempervirens*) occur along Pine Flat Road. The DBH of the trees range from 1.0 to 1.5 feet. Small patches of forest are located along the southern boundary of the property (Figure 2).

The mixed evergreen forest is dominated by tan bark oak (*Lithocarpus densiflorus*), Douglas fir, coast redwood, and coast live oak. To a lesser extent, madrone and California buckeye occur. In drier areas, there are groves of coast live oak and madrone trees. The sparse shrub layer includes poison oak (*Toxicodendron diversilobum*) and California blackberry (*Rubus ursinus*). A few French broom (*Genista monspessulana*) shrubs occur in sunnier locations near Martin road. The herbaceous layer includes hispid honeysuckle (*Lonicera hispidula var. vacillans*), California sword fern (*Polystichum californicum*), Yerba buena (*Satureja douglasii*), mountain sweet cicely (*Ozmorhiza chilensis*), and bracken fern (*Pteridium aquilinum*).

Pond and Wetland Vegetation

The central portion of the property has a man-made earthen dam impoundment that is surrounded by patches of fresh water marsh. The pond is approximately 200 feet long X 70 feet wide (Figure 2). The pond banks have become infested with invasive, non-native plant species including green wattle acacia, blue gum eucalyptus, Cape ivy , miniature ivy, horseweed, and Himalayan blackberry (Figure 4). Three large mature blue gum eucalyptus trees occur at the toe of the southern pond bank. Over 60 green wattle acacia saplings less tan 3 inches DBH were observed along and near the west pond bank (Figure 3). Many bullfrogs were seen along the water's edge. Note that five native trees (3 tan oak and 2 coast live oak) and three invasive, non-native eucalyptus trees were cut down on the pond bank along the southern property line (Figure 3).

Pond Vegetation. The pond supports aquatic and floating plant species including whorled water milfoil (*Myriophyllum verticillatum*), California bulrush (*Scirpus californicus)*, water smart weed (*Polygonum amphibium*), water fern (*Azolla filiculoides*), duckweed (*Lemma* sp.), and broad-leaved cattail.

Fresh Water Marsh/Wetland. Fresh water marsh species and wet-loving plants grow along the pond edges and in two man-made drainage ditches that cross the property in a north to south direction. One of the drainages turns westward along the property line and supplies water to Mill Creek. The common native species observed in the fresh water marsh areas were slough sedge (*Carex obnupta*), water parsley (*Oenanthe sarmentosa*), broad-leaved cattail (*Typha latifolia*), bulrush (*Scirpus sp.*), and arroyo willow (*Salix lasiolepis*).

The access driveway crosses over a metal culvert that channels water from the neighboring parcel to the main drainage ditch. Water was heard flowing through the culvert and drainage ditch during the November and December 2008 surveys. The neighbors, who live upslope, and to the north also have a pond.

A patch of fresh water marsh surrounding an inlet creek occurs to the north of the culvert (Figure 5). This marsh area is approximately 50 feet long and 25 feet wide. Half of this marsh area is located on the neighboring parcel. In addition to the wetland species listed above, this marshy area also supports western azalea (*Rhododendron occidentale*), wax myrtle (*Myrica californica*), common horsetail (*Equisetum arvense*), and giant chain fern (*Woodwardia fimbriata*).

The drainage ditch on the southside of the culvert also supports four saplings less than 8 feet tall of Santa Cruz cypress (*Cupressus abramsiana*). The tallest sapling has lower trunk damage and dead branches from an old injury (likely from deer). This endangered species is State and Federally Listed.

The marsh areas adjacent to the driveway culvert have been invaded by invasive, non-native species, primarily green wattle acacia, French broom (*Genista monspessulana)* and Himalayan blackberry (*Rubus procerus*).

Meadow Habitat

In the western portion of the property, there are approximately 2.0 acres of meadow habitat that were managed in the past as a pear orchard (Figure 6). It is likely that the pear orchard was planted over 80 years ago as part of the original farm. Over the last 50 years, the orchard lost productivity, and became a fallow field with mainly weedy vegetation. Branches of dead pear trees may still be seen in one of the cleared brush piles.

The meadow is comprised mainly of non-native species. Common non-native plant species include sheep sorrel (*Rumex acetosella*), velvet grass (*Holcus lanatus*), smooth cat's ear, dog tail grass, rattlesnake grass, filaree, horse weed, catch fly (*Silene gallica*), stickwort (*Spergularia arvensis*), and chick weed (*Stellaria media*). Scattered patches of native vegetation also occur. The shrub layer is minimal due to past farming practices and the recent land clearing, consisting of scattered coyote brush plants, mugwort, California myrtle, and low growing California blackberry vines. A large patch of the native, California golden rod (*Solidago californica*) may be found in the center of the meadow/old orchard. Additional native species include common aster, bracken fern, common madia (*Madia elegans*), and sky lupine. Wetter areas of the meadow support common bog-rush.

Ruderal Habitat

Ruderal habitat (fallow, weedy) occurs to the east of the pond and down slope from the main old farmhouse (Figure 2). The area is sandy and receives loose sand flows from above; therefore, the soil surface is subject to change and new surface layers. The disturbed nature of the area lends itself to weedy, early successional plant species. The dominant species are horseweed (*Conyza canadensis*), which is known to be a common weed (Morgan 2005). Other weedy and invasive species include French

broom, lowland cudweed, sheep sorrel, and velvet grass. Clumps of arroyo willow and green wattle acacia grow along the western and southern boundaries of the ruderal habitat. The Sherwood family has constructed a gabion and concrete retaining wall upslope of this ruderal area to reduce soil erosion and sedimentation into the drainage ditches. Once erosion control has been implemented and the soil stabilizes, it will be easier to re-establish native vegetation in the area.

SENSITIVE BIOLOGICAL RESOURCES

Results of Literature Review

The records of the CNDDB and the CNPS inventory indicate that 58 plant species of concern have the potential to occur in Santa Cruz County. These species were screened by assessing habitat and substrate requirements to determine which ones have the potential to occur in the vicinity of the Sherwood Property Site. The screening resulted in the 16 potential special status plants listed in Table 1, which gives the scientific and common name, Federal and State statutory status, CNPS (California Native Plant Society) designation, known habitat, and whether the species occurs on the property.

Sensitive Habitats

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity. Under County Code, Habitats of Locally Unique Species are considered sensitive (Code 16.32.090, Section C). Examples of these habitats include San Andreas Live Oak Woodland/Maritime Chaparral, Ponderosa Pine Forest, and native Monterey Pine Forests. In addition, areas supporting rare or endangered plant species are also considered sensitive (Code 16.32.040).

At the State level, the California Oak Woodlands Conservation Act was enacted in 2001. It recognizes the importance of California's oak woodlands and defines "oak woodlands as habitat with greater than 10% cover of oak trees in the genus *Quercus*". The California Environmental Quality Act (CEQA) recognizes oak woodlands of the genus *Quercus* to be a sensitive resource. California Public Resources Code 21083.4 states that a County may require mitigation for significant impacts to oak woodlands, including planting, maintaining, and restoring former oak woodlands.

Santa Cruz County Code Chapter 16.32 (Sensitive Habitat Ordinance) includes oak woodlands in its definition of sensitive habitat. Although the Ordinance does not define oak woodlands, County policy uses the definition adopted by the California Oak Woodlands Conservation Act.

The Sensitive Habitat Ordinance is currently undergoing revision by the County of Santa Cruz Planning Department regarding the sensitivity of Zayante sandhills plant communities and sandhills habitat. This report adopts the definitions of what is sensitive habitat under the current Sensitive Habitat Ordinance, which are subject to change in the near future.

Results of Field Surveys

On the Sherwood property, the following habitats are considered sensitive for purposes of this report:

a) Ponderosa Pine/Coast live oak Woodland: occurrences of Ponderosa pine, a locally unique plant species, and occurrences of *Quercus* species

b) Freshwater Pond and adjacent Wetlands, including drainage ditch with marsh vegetation and four Santa Cruz Cypress saplings. Note that Santa Cruz cypress does not typically grow in wetland habitats.

Ponderosa Pine/Coast Live Oak Woodland. Since the canopy cover of coast live oak exceeds 10% of the total tree cover in this habitat, the woodland is considered a sensitive habitat by County policy.

Special Status Plant Species

Santa Cruz Cypress (Cupressus abramsiana). This species is State and federally listed, and is considered rare by the County of Santa Cruz and California Department of Fish and Game. Four Santa Cruz cypress saplings less than 8 feet tall occur in the drainage ditch to the south of the driveway culvert (Figure 9).

Coast Live Oak (and other *Quercus* species). This species is not State or federally listed, but is recognized by the State as a sensitive resource when it occurs within a habitat and covers more than 10% of the total tree canopy of the habitat area. In addition, the oak trees must have a diameter of 5 inches or greater diameter at breast height (DBH) to be considered a sensitive resource. The County of Santa Cruz Sensitive Habitat Ordinance includes oak woodlands within the definition of "sensitive habitat". It is County policy to define oak woodlands according to the State's definition.

Ponderosa Pine. The County Sensitive habitat Ordinance identifies Ponderosa pine as a locally unique species. This species is not State or federally listed, and is common in the Sierra Nevada. However, a special ecotype of Ponderosa pine with distinct characters (i.e., needle color and male cone color) occurs in the Zayante sandhills. In the past, this coastal form of Ponderosa pine has been given the name, *Pinus benthamiana*. A grove of ponderosa pines occurs by the driveway entrance off Martin Rd. (Figure 8).

Sensitive Plant Species Protection Acts

Under the California Environmental Quality Act (CEQA), specifically Section 15380, plants that fulfill the biological requirements for State listing are considered for impact and mitigation consideration. Generally, this equates to CNPS List 1 or List 2 plants; whereas, CNPS List 3 and List 4 generally do not fall under this category.

In Santa Cruz County, the General Plan and the Sensitive Habitat Protection ordinance (Section 16.32, Santa Cruz County Code) define additional criteria used to identify and regulate impacts to Special Status Plants and sensitive habitats (cf. http://www.co.santa-cruz.ca.us/pln/sensitiv.htm). A criterion for designation of a Sensitive Habitat under the County Code is the presence of a Special Status Plant (i.e., either CNPS List 1 or List 2). California's endangered plants are also protected under the California Endangered Species Act (CESA) and the California Native Plant Protection Act (NPPA).

EXHIBIT

IMPACTS AND MITIGATION MEASURES

IMPACT CRITERIA

The thresholds of significance presented in the California Environmental Quality Act (CEQA) were used to evaluate project impacts and to determine if the land clearing posed significant impacts to biological resources. In addition, State and County policies were used to develop the significant criteria. For this analysis, significant impacts are those that substantially affect either:

- A species (or its habitat) listed or proposed for listing by State or Federal governments as rare or endangered;
- Breeding/nesting habitat for a State Species Concern (e.g., Cooper's hawk);
- A plant considered rare (i.e., List 1B) by CNPS;
- A habitat regulated by State or Federal law;
- Movement of native resident or migratory species; or
- A habitat recognized as sensitive by CDFG and/or the County of Santa Cruz (e.g., ponderosa pine forest, oak woodlands)

Impacts were not considered significant to plant communities or habitats that are not protected, are generally common, and do not support listed plant species. On the project site, this relates to impacts to the mixed evergreen forest, and ruderal habitat (for botanical resources only).

POTENTIAL IMPACTS AND MITIGATION MEASURES

The July 2007 land clearing and tree removal were evaluated for impacts that resulted from these activities. Mitigation measures have been provided to address the identified impacts. Examples of direct impacts include tree removal, ground disturbance, and placement of concrete rubble and wood chips on natural habitat. Examples of indirect impacts include potential disturbance to Special Status Species from increased human uses on the property (e.g., noise, lighting).

Mitigation measures are recommended to reduce impacts from the land clearing and to compensate for indirect impacts to sensitive habitats. These mitigation measures are presented below. The impacts and mitigation measures have been organized according to the habitat or plant community affected.

FRESHWATER POND AND WETLANDS

Direct Impact 1. Tree Removal in Sensitive Habitat. Eight mature trees were removed along the southern pond bank (two coast live oak, 3 tan oak, and 3 blue gum eucalyptus). According to Eldon Sherwood, the trees were removed to maintain the stability of the pond bank (pers comm. December 2008).

Mitigation Measure 1. These impacts are considered significant, but mitigable through the following restoration measures.

a) Conduct Remedial Planting. The location of the southern pond bank is depicted in Figure 2. The two coast live oak tree that were removed should be replaced at a 3:1 ratio; whereas the other tree species removed may be replaced at a 1:1 ratio. The performance criteria should include a minimum of 80% plant survival in years 1, 2 and 3 after planting. Note that no trees will be replanted on the southern pond bank, since tall, mature trees have the potential to undermine the stability of the southern bank, which constitutes an earthen dam. Native trees will be planted in the pine/oak woodland (see Mitigation Measure 2).

b) Remove Invasive, Non-native Species (see Mitigation Measure 6).

c) Install Arroyo Willow Cuttings along Pond Bank. Fifty long cuttings of arroyo willow will be planted in January 2010 along the waterside of the northern pond bank. The cuttings will be collected on the property, and will be soaked in water prior to planting.

PONDEROSA PINE/COAST LIVE OAK WOODLAND

Direct Impact 2. Disturbance of Sensitive Ponderosa Pine/Oak Woodland Habitat. The land clearing and tree removal impacted approximately 0.5 acre of ponderosa pine/ coast live oak woodland. The soil surface was disturbed by a tractor blade during brush clearing activities for fire hazard reduction. Some of the remaining trees have their root crowns exposed due to soil removal. Four mature coast live oak trees, two ponderosa pines, three green wattle acacia, and approximately 20 native shrubs were removed or damaged. About one third of the trees removed were growing within 100 feet of the pond. According to Eldon Sherwood, the two ponderosa pines were removed due to their hazardous location in the P. G. & E. power lines (pers. comm. Eldon Sherwood, December 2008). The remaining wood chip and concrete rubble piles (Figure 7) are impeding the re-establishment of vegetation. Some of the ponderosa pines have trunks that are buried 3 to 4 feet deep in wood chips. These are considered significant impacts, but mitigable through the following restoration measures.

Mitigation Measure 2. The following measures are recommended to reduce impacts to the Ponderosa Pine/Coast Live Oak Woodland to a less-than significant level. The

proposed site clean up and restoration activities will be supervised by the project botanist.

a) **Arborist Survey.** An arborist should be consulted regarding the health and vigor of the ponderosa pine trees growing by the driveway, P. G. & E. power lines, and pond. The root crowns should be inspected to determine whether soil should be replaced to restore the original soil grade. During the December 2008 survey by Valerie Haley, some of the ponderosa pines were noted to have distorted branches and galls. Others had been topped by P. G. & E. to maintain the power lines.

b) **Remove Wood Chip, Brush and Concrete Rubble Piles.** In winter and spring 2009, there will be a large clean up effort in the Restoration Area. Due to the large number of woodchip piles, it is likely that 9 to 12 months may be needed to remove all of the material. The chip and rubble piles are interfering with the natural re-establishment of vegetation. The wood chips and concrete rubble may be loaded onto trucks by the owner of property to be removed off site. The brush piles may be disposed of off site or relocated to another area on the property for burning, provided that the burn piles are not placed in ponderosa pine/oak woodland habitat. Figure 7 provides examples of some of the rubble piles.

c) **Conduct Native Tree and Shrub Planting.** Nineteen native trees and 20 native shrubs are proposed for planting in December 2009 to replace the approximate number lost during the land clearing activities. The majority of the shrubs are proposed for planting in a barren area that parallels Martin Road. The locations proposed for the tree and shrub plantings are shown in Figure 3.

d) **Remove Invasive, Non-native Species (see also Mitigation Measure 6).** A hybrid pine was observed near the power lines by the entrance driveway. It appears to be a cross between a Monterey pine and a knobcone pine. This tree is genetically undesirable, and has the potential to pollinate the local ponderosa pines present on the property. The tree is also infected with bacterial galls; therefore, this hybrid pine should be removed as part of the invasive plant removal portion of the restoration program.

MEADOW HABITAT

Direct Impact 3. Brush Removal and Land Clearing of Meadow Habitat. Approximately one acre of meadow was disturbed by tractor activity (Figure 3).

a) **Conduct Hand Broadcast Seeding.** Certain planting sites will be selected for planting native shrubs; whereas, other planting areas will be selected for hand-seeding. Seeds will be collected on or within two miles of the property, and will include California aster, California goldenrod, common madia, sky lupine, and mugwort. The project botanist and revegetation specialist will conduct the seed

collection, hand seeding, and select the areas to be seeded. The exact areas to be seeded will be determined after the spring 2009 surveys so that no special status species are adversely affected.

b) Install Native Shrubs. Clusters of native, woody shrubs (20 shrubs total) are proposed for planting around the edges of the central meadow. Mostly California wax myrtle and coffeeberry will be planted due to the wet nature of the meadow, which receives moisture from the surrounding areas. The meadow is located near a tributary to Mill Creek. The locations proposed for shrub planting are shown in Figure 3.

c) Implement Annual Mowing Program. Depending on the amount of annual rainfall, it is recommended that portions of the meadow be mowed or weed trimmed 2 to 3 times in spring and once again in late fall. Mowing should not be conducted during the summer season so that the native plants may complete their life cycle to produce mature seed. The project botanist will mark the areas in the field so that selected stands of native subshrubs are not mowed by mistake. The botanist will also let the Sherwood family know when it is the proper time to mow. The mowing or trimming will serve two main functions:

1) Mowing helps lower the competition between native herbs and non-native weeds and grasses.

2) Mowing will lower vegetation height and fire hazard.

3) Mowing replaces in part the ecological role of grazing animals.

Potential Impact 4. Indirect Impacts to Special Status Plant Species. Human activities on the property may result in indirect impacts to the endangered species, Santa Cruz Cypress. Due to the limited distribution of Santa Cruz cypress in the region and its special status under FESA, County Code, and CEQA, these impacts are considered significant.

Mitigation Measure 4. The following measures are recommended to reduce indirect impacts to Santa Cruz Cypress a less-than significant level.

a) Protective fencing. An open style protective fence (e.g., open wire or split rail) shall be installed around the four Santa Cruz cypress saplings that are currently growing in the irrigation ditch located to the south of the driveway culvert. The project botanist will mark where the fencing should be installed. The fence will be used to discourage inadvertent damage due to dogs or human activity in the area.

b) Remove Invasive, Non-native Species (see Mitigation Measure 6). Care should be taken during invasive, non-native plant removal when working near the cypress saplings.

Potential Direct Impact 5. Increased Potential for Soil Erosion into Sensitive Habitat. A trail through the upper drainage ditch area below the old farmhouse has facilitated sand flows and sedimentation into the ruderal habitat and lower drainage ditch that supports wetland vegetation.

Mitigation Measure 5. These impacts to vegetation resources are considered significant, but mitigable through the following mitigation measures.

> **a) Erosion Control Measures.** Measures shall be implemented to prevent increased erosion, sedimentation, and run-off into undisturbed habitats, especially in sensitive habitats. Two rows of straw wattles held in place by willow cuttings/staking will be placed parallel to the contours such that the width of the trail is covered. One established, the willow root systems will help to hold the slope and serve to check the downward flow of sandy soil.
>
> Santa Cruz Erosion Control Mix should not be used as it contains invasive, non-native grasses and clover species. The effectiveness of the erosion control measures should be inspected to determine if additional measures should be implemented the following fall.
>
> **b) Monitoring for Natural Recruitment and Special Status Plants.** In May 2009, the proposed Restoration Area depicted in Figures 3 will be evaluated for rare plants, sandhills indicator species, natural regeneration, and to confirm planting locations. A survey at this time is recommended, since the rare Ben Lomond spineflower and other annual sandhills specialty plants would be identifiable at this time. The proposed planting areas should be verified and adjusted so that impacts to sensitive or locally unique species are avoided. Tentative planting areas are depicted in Figure 3.

Potential Direct Impact 6. Increased Potential for Spread of Exotic Species. Land clearing and other earth moving activities typically result in disturbed ground, which may be easily colonized by invasive, non-native species (i.e., French broom, acacia, and velvet grass).

Mitigation Measure 6. As compensation for indirect impacts to locally unique species and sensitive habitats, the landowners should remove/control the occurrences of invasive, non-native plant species that occur in the pond banks, wetlands, drainage ditch, and pine/oak woodland habitats. Winter and early spring are good times to remove acacia saplings and French broom plants, when the soil is wet and before the plants have gone to seed. This helps to avoid the spread of seed into new areas. Hand hoeing or shovel removal of the entire plant, including the roots works well. French broom and acacia removal should start in winter 2009. Controlling invasive, non-native plants will likely be needed on a yearly basis as regular management of the property.

The majority of the invasive, non-native plants are located within 200 feet of the freshwater pond. High priority species for removal include green wattle acacia, Himalayan blackberry, blue gum eucalyptus, French broom, thistle species, velvet grass, and rattlesnake grass. The plants should be removed in a manner that minimizes disturbances to the native trees and shrubs occurring in these habitat areas.

Several clumps of golden bamboo were observed growing along the southern property line. Bamboo species are very difficult to eradicate, and therefore containment is recommended. A barrier method can serve this purpose. A three to four foot deep, narrow (less than 10 inches wide) trench should be dug on the Sherwood's side of the property line. A sheet of rigid plastic is then placed in the trench so that bamboo runners stay off the Sherwood property. After placing the plastic sheet, the trench may be backfilled with native soil. The area should be monitored for new bamboo shoots.

Implementation of Mitigation Measures

The mitigation measures described above have been incorporated into a six-year restoration program to be implemented at the Sherwood property. The proposed restoration plan begins on the following page.

RESTORATION AND MAINTENANCE PLAN

The following goals and objectives have been developed for the Sherwood property:

GOALS AND OBJECTIVES

- Preserve, enhance, and restore the natural resource values of the area to maximize the habitat value. Re-establish native vegetation that will become self-sustaining.
- Restore parcel to pre-clearing conditions.
- Reduce the impacts of human activities (including run-off, sedimentation, and erosion).
- Manage the restoration site to promote native vegetation to levels that existed prior to land clearing.
- Control and/or eradicate invasive, non-native plant species.
- Maintain the local gene pool of native vegetation by planting locally native species and managing the restoration site to support their establishment and survival. All propagation and planting material will be collected on the Sherwood property or within 2 miles of the property.

PLANTING DESIGN AND RATIONAL

A qualified botanist/revegetation specialist with experience in sandhills habitat should coordinate and oversee the restoration program, including propagule collection, contract growing, planting, and maintenance activities. The proposed planting will include the installation of 19 native trees and 40 native shrubs, and hand broadcast seeding. The exact number to be planted according to species will depend on the availability and success of the propagation material.

Six coast live oak, six ponderosa pine, three coast redwood, two madrone, and two California buckeye trees are proposed for planting in December 2009. The coast live oak tree plantings will be placed near the upper banks of the pond in order to provide shade and cover around the edge of the pond.

The six coast live oak and two ponderosa pine trees that were removed will be replaced at a 3:1 ratio; whereas the other tree species removed will be replaced at a 1:1 ratio. The performance criteria should include a minimum of 80% plant survival in years 1 and 2 after planting. Note that trees will not be replanted on the southern pond bank, since large mature trees have the potential to undermine slope stability.

Clusters of native wax myrtle, toyon, and coffeeberry (40 shrubs total) are proposed for planting in the central meadow and in openings in the pine/oak woodland. Most of the wax myrtle shrubs will be planted in the meadow, which receives moisture from the surrounding areas. Toyon, also called Christmas berry will be planted in and adjacent to the pine/oak woodland areas. The locations proposed for shrub planting are shown in Figure 3. Both toyon and coffeeberry provide forage and berries for wildlife, and are somewhat fire resistant. A small hedgerow planting of these species is planned for along Martin Road.

Plant Procurement Methods

Preserving the Local Gene Pool. The purpose of the restoration plan is to recreate or enhance native habitat. Plant performance will be better if container stock that has originated from locally collected propagules (transplants, seeds, cuttings, etc.) is planted, since the propagules have adapted to local environmental conditions (Guinon, 1992). Therefore, all of the planting material except crop barley for erosion control will be collected at the Sherwood property or within two miles of the property.

Container Stock. Four-inch or one-gallon containers are recommended for the shrub species (Table 1). All of the container stock should be free of pests and diseases and checked for health and bound roots.

Revegetation Methods

Details on the revegetation methods follow, including site preparation, plant protection, broadcast seeding, plant installation, irrigation, planting spacing, and planting basins.

Site Preparation and Removal of Invasive, Non-native Species. Site preparation has recently started with the removal of wood chips that remain from the land clearing activities. The larger (one inch or greater DBH) acacia saplings should be removed from the pond banks and freshwater marsh areas prior to tree and shrub planting in December 2009. Once this restoration plan has been approved by the County of Santa Cruz, the cleared portions of the ponderosa pine/oak woodland and meadow habitat may be prepared for planting. Non-native plants and weeds will be removed from the areas proposed for planting. Target non-native species for removal include: thistle species, velvet grass, horseweed, sheep sorrel (*Rumex acetosella*), rattlesnake grass (*Briza maxima*), and dogtail grass (*Cynosurus echinatus).*

Monitoring for Natural Recruitment and Plant Protection. As mentioned in the mitigation measures above, monitoring of natural recruitment in May 2009 will be necessary to determine the areas still in need of revegetation, and to deterime the exact areas to seed and plant. The project botanist shall inspect the cleared area. Depending on the plant species, some of the new volunteering plants, especially coast live oak and coffeeberry will need to be protected by deer fencing or by poultry wire cages.

Hand-broadcast Seeding. Spot seeding using a locally collected, native seed mix is proposed to restore the meadow habitat. A total application rate of approximately 20 lbs. per acre is estimated. The amount of area to be seeded will depend on the level of natural recruitment and soil erosion. The actual areas, species seeded, and the application rates for each species will be documented in the annual report. The proposed native seed mix includes California golden rod, mugwort, common madia, bristly golden aster, California aster, and sky lupine.

Plant Installation. Installation will consist of preparing the planting holes, planting, backfilling with native soil, creating planting basins, and watering. The hand-dug planting holes should be 1 ½ times deeper and twice as wide as the container itself. Refer to Table 3 for container size and numbers to be planted according to species. An initial tree and shrub planting is proposeed for December 2009. The numbers according to plant species actually installed will depend on the rate of natural recruitment and the availability of propagation material.

Gopher Protection. Due to the high level of gopher activity, it will be necessary to line the planting holes with gopher baskets made out of ½ inch mesh poultry wire.

Planting Spacing. There is no set plant spacing. The locations of the preliminary planting areas depicted in Figure 3 will be verified and refined as needed after the summer 2009 monitoring.

Plant Protection Shelters. The above-ground portions of the tree and shrub plantings will also need to be protected from animal browse by either placing deer fencing around a planting area or by caging individual plants with poultry netting 48 inches tall and 36 inches wide. Metal rebar stakes 3/8 inch diameter work well for attaching the wire shelters to the ground. Once the native plantings become established, five years estimated, the deer fencing may be reduced.

Watering after Installation. Plants will be watered immediately after planting, using 1 gallon of water per planting basin, depending on existing soil moisture. No formal irrigation system will be constructed in the planting areas. This will help to minimize soil disturbance.

Planting Lists. The species proposed for planting are presented in Tables 3 and 4. Container stock planting and hand-broadcast seeding are recommended to increase vegetative cover. Table 3 also lists the type of container stock and quantities needed.

Planting Basins. Planting basins will be constructed around all the shrubs immediately after planting. Basins will be about 2.5 feet in diameter with a 3 to 4-inch berm perimeter. The basins will identify the limits of weeding and help retain water.

Mulching. Mulching with weed free straw or wood chips should be kept to minimum, and limited to the area around the plantings, since many of the rare and endangered plant species associated with the sandhills prefer open sandy soil. Such species

include Ben Lomond spineflower and Ben Lomond buckwheat. Leaving the soil surface open will facilitate seed germination and encourage native plants to naturally re-establish in the Restoration Area.

Implementation Schedule

The overall implementation schedule for restoration activities is presented in Table 5. If there is low natural recruitment of native plant species and soil erosion continues to be a problem, additional revegetation and erosion control measures will be implemented. Erosion control efforts will be concentrated in Year 1 and Year 2. The initial planting of container stock is planned for December 2009. The first revegetation activities will be the collection of seeds and cuttings, and finalizing the locations of the planting areas, so that no existing sensitive plant species are disturbed. Five years of maintenance, monitoring, and reporting are recommended, commencing at plant installation. The maintenance and monitoring period may be extended if the performance criteria have not been met.

Seasonal Timing of Planting. The optimum season for planting is fall. Planting at this time takes advantage of winter and spring rains. Therefore, hand-broadcast seeding will be implemented in early October and trees and shrubs will be planted during December, whenever possible.

MAINTENANCE ACTIVITIES

Maintenance activities will include maintenance inspections (reconnaisance surveys), weeding, maintaining plant shelters, remedial planting, controlling invasive, non-native plants, mulching, and hand watering. Some plant replacement will probably be necessary during the first year or two. The project botanist will perform the maintenance inspections on the average of three times a year, and will provide recommendations to Sherwood family. The maintenance inspections will be done in addition to the two formal monitorings, so there will be a minimum of 5 site visits per year. The number of maintenance visits will be increased if needed to insure restoration success. The use of pesticides and chemical fertilizers should be minimized (see Integrated Pest Management section). Due to the sensitive habitats present on the property, any herbicides used around the pond banks and wetlands should be registered safe for use in aquatic systems. Examples of such products include Rodeo® and Aquamaster®, which do not contain soap-like surfactant.

Maintenance Log

A record of the maintenance activities listed above will be kept in a maintenance log. When a task is done, the log will be signed by the person conducting the work. The number of hours worked per task will be entered into the maintenance log. Table 4 depicts the maintenance log. Certain tasks will be conducted by the project botanist including propagule collection, seed collection and processing, planting layout,

maintenance inspections, supervision of plant installation, and exotics removal, monitoring, data analysis, and reporting. The Sherwood family may assist with the removal of wood chips and concrete rubble, planting, weeding, and the removal of invasive non-native plants.

Supplemental Irrigation

Irrigation Schedule (Frequency and Duration). No fixed schedule of irrigation will meet the needs of different plants during all times of the year and in varying weather and soil conditions. Therefore, irrigation will be scheduled not by the date but by analysis of drought stress and soil moisture conditions. It is estimated that the trees and shrubs will need to be watered on the average of every three to four weeks during the summer season for the first two years after planting. In Year 3, hand watering should be reduced to three times during the summer, as needed. Additional watering will be done as necessary, depending on the amount of fall and spring rains. It is hoped that once established, the majority of the plantings will no longer require irrigation.

Depth of Irrigation. To encourage deep rooting, there will be no shallow irrigation of woody species. Woody plantings will be watered in such a way that the soil profile is wetted continuously to a depth of at least one foot. Generally, one gallon of water per plant during each watering is recommended, depending on natural soil moisture.

Weeds and Exotics Control

The Restoration Area should be surveyed for invasive non-native plants and weeds each year. Invasive non-native plants should be controlled and removed each winter and spring as part of the routine maintenance (see Performance Criteria section). Most of the invasive, non-native plant removal can be done mechanically by uprooting, pulling, and hoeing below the ground.

Due to the sensitive habitats on the property, especially the ponds and wetlands, herbicide use should be minimized, and if deemed necessary formulations should be used that are registered safe for use in aquatic systems. Examples of such products include Rodeo® and Aquamaster®, which do not contain soap-like surfactant.

Background. In accordance with the policy on invasive, non-native plants adopted by the California Native Plant Society (CNPS) in September 1996, land managers are urged to control/eradicate invasive, non-native plant species (CNPS September 1996). According to the CNPS, an invasive, non-native plant species is one that did not occur naturally in California prior to European settlement and is able to proliferate and aggressively alter or displace indigenous plant communities (*ibid.*). Invasive, non-native plants are detrimental to the environment in many ways and often out-compete California native plant species to their exclusion. Invasive, non-native plants can disrupt soil fungi and microorganism's relationships with plants, and they also disrupt nutrient cycles. Certain species (e.g., pampas grass and French broom) can contribute to the intensity of wild fires.

Both State (Department of Pest Regulation) and Federal governments have enacted legislation declaring the worst aggressive weeds as "noxious weeds" that should be eradicated whenever they are found (Hickman 1993). The California Invasive Pest Plant Council has developed a statewide list of invasive, non-native plant species. Those found on the Sherwood property include blue gum eucalyptus, French broom, green wattle acacia, and Himalayan blackberry (see also Table 6).

Integrated Pest Management. The control of invasive non-native plants should have an integrated approach. The use of pesticides will be minimized. Most of the invasive plant removal can be done mechanically by uprooting, pulling, and hoeing below the ground.

Non-herbicide Methods for the Control of Invasive Non-native Plants

1) Mechanical control such as mowers, flaming equipment, and weed trimmers;

2) Manual methods such as hand pulling and hoeing;

3) Biological control (use of natural enemies/ insect predators); and

4) Maintenance practices such as solarization with plastic sheeting.

The control of invasive, non-native species should have an integrated pest management approach that uses a variety of control measures, primarily mechanical and physical. Chemical methods are the least desired, especially due to the recent sightings (June 2008) in Bonny Doon of the endangered Mount Hermon June beetle. This insect species spends much of its time living underground. As control measures are implemented, it is important to minimize disturbance to the soil, since invasive species establish readily in open disturbed areas. Herbicide use will be limited to green wattle acacia and Bermuda grass.

Target Species for Removal. The following invasive, non-native species and weeds will require control at the site: Cape ivy, green wattle acacia, blue gum eucalyptus, miniature ivy, French broom, thistle species, velvet grass, sheep sorrel, Bermuda grass, rattlesnake grass, and dogtail grass. There should be continued surveillance and removal of these species, as part of managing the Restoration Area.

The best time of year to remove invasive, non-native plants is in winter and early spring, when the soil is easy to dig, and before the plants have set seed. The safest way to control weeds is to patrol frequently, and remove weeds manually.

Repair of Planting Basins

The planting (watering) basins will be inspected and repaired on a routine basis, so that irrigation water is directed to plant roots and does not contribute to erosion. Most of the repair is anticipated to be on the downslope side of the planting basins.

Supplemental Planting

Some supplemental planting in December 2010 may be needed, if the tree and shrub planting conducted in December 2009 performs poorly. The amount of supplemental planting needed will be determined during the Summer 2010 monitoring. Supplemental planting would occur, if the survival of the plantings is below the performance criterion of 80% survival (see Performance Criteria section). The biological monitor will coordinate with County Planning to verify the amount of supplemental planting needed.

EXHIBIT

MONITORING AND REPORTING PROGRAM

As indicated in the Restoration Implementation Schedule (Table 5), monitoring and reporting will occur over a five-year period. The following program overview describes the monitoring procedures and performance criteria. Monitoring will document the success of the restoration efforts implemented as compensation for the land clearing violations. The monitoring will be conducted by the project botanist.

The following parameters will be monitored: locations of special status plants, vegetative cover according to plant species, proportions of native vegetation versus non-native vegetation, percent cover of invasive, non-native species, species richness, and any noted erosion or site disturbance problems. The percent survival of the plantings will also be determined. Monitoring over the 5-year period will help to insure that the Restoration Area will be likely to proceed toward the long-term goals, and will allow for remedial action, as needed.

If the stated performance criteria are not met by Year 5, site maintenance and monitoring will continue untill the stated performance criteria are met.

Monitoring for Special Status Species and Natural Recruitment

Prior to any tree and shrub planting, the Restoration Area will be evaluated by the project botanist in spring and summer 2009 for native plant species that have re-established naturally. Depending on the monitoring results, the locations of the proposed planting areas may need to be refined collaboratively between the monitor, County Planning, and the owner. The survey should focus native tree seedlings, native woody shrubs, and special status plant species.

Reconnaissance Surveys

The project botanist will survey the Restoration Area 3 times per year in winter, spring, and fall, starting in winter 2010 through fall 2014. The Restoration Area will be surveyed for the effectiveness of plant protection measures and invading invasive, non-native plant species and weeds. The area will also be assessed for erosion problems, and whether the erosion control measures need to be adjusted. The proportion of native vegetation versus non-native vegetation will be assessed. The monitor will evaluate the performance of the plantings, and will make recommendations to correct any significant problems or potential problems. Notes will be recorded in an inspection log and on field data sheets. Plants are most vulnerable to many types of disturbances during the early part of the establishment period. The surveys will also be used to document the need to change or adjust maintenance activities (i.e., increasing or reducing supplemental watering or plant protection, etc.).

EXHIBIT 1

Vegetation Sampling using Belt Transects

The number of years that vegetation sampling will occur depends on when the performance criteria are met. Vegetation sampling is recommended for spring 2009 through spring 2013. Twelve permanent belt transects will be established in the Restoration Area. The belt transects will be four meters square. Five transects will be located in freshwater marsh habitats around the pond, three transects will be placed in the meadow habitat, and four of the transects will be located in the Ponderosa Pine/Oak Woodland. For each belt transect, the percent vegetative cover according to species, percent bare ground, and percent litter will be recorded. The average height of woody species will be measured to the nearest inch. The final locations of the belt transects will be mapped in the field and illustrated in the annual reports.

Detailed Monitoring of Plant Survival and Growth

During the fall monitoring surveys, the monitor will count the number of surviving tree and shrub plantings. The survival count will commence in Fall 2010 or the first fall after plant installation. Notes will be recorded on plant health, plant height, plant survival, vegetative cover, and whether the performance criteria are being met. These notes will be compared to previous survey notes to assess whether the plantings and naturally recruiting trees and shrubs are becoming self-sustaining.

Photodocumentation. During the spring and fall surveys in Years 2009 through 2013, photographs will be taken to document the restoration efforts. Photographs will be taken from the same vantage point (photostation), same time of day, and in the same direction every year. Selected photographs should be included in the annual reports. The mapped field locations of the permanent photostations should be included in the annual reports. The photostations should be situated to provide photodocumention of the meadow, pond, wetland, and Ponderosa Pine/Oak Woodland habitats.

PERFORMANCE CRITERIA

Attributes to be monitored include: plant survival, species richness, vegetative cover, soil erosion, bare ground, and the proportion of invasive non-native plant species. The specific performance criteria follow:

Plant Survival. 80% plant survival of planted trees and shrubs during fall of Years 2, 3, 4 and 5 (2010, 2011, 2012 and 2013).

Increasing Vegetative Cover of coast live oak and ponderosa pine in the Restoration Area.

Vegetative Cover Invasive, Non-native Plants. Maximum of 5% vegetative cover (all species combined) of acacia, eucalyptus, French broom, Himalayan blackberry, Cape ivy, rattlesnake grass, and velvet grass) in the Ponderosa

Pine/Oak Woodland, pond banks, and wetland habitats by Year 5 of the restoration program.

Bare Ground. Maximum of 30% bare ground by Year 5 or the amount of bare ground estimated to be present prior to land clearing. Note that mulched surfaces or surfaces with duff and litter are not considered bare ground.

Erosion Control. Absence of erosion rills and gullies on slopes above pond.

Species Richness. Minimum number of 10 different native plant species in the Restoration Area.

Note: If the stated performance criteria are not met by Year 5, site maintenance and monitoring will continue untill the stated performance criteria are met. This extension is required by County Planning, and is stated in the Stipulation and Order dated 10-24-08.

Preparation of Annual Reports

Yearly monitoring reports will be prepared in December 2009, 2010, 2011, 2012, 2013, and 2014 that document the results of the spring and fall monitoring surveys, maintenance efforts, and revegetation activities. The reports should be brief, 6 to 8 pages, that document the findings of the year's monitoring, highlight problems and successes, date of monitoring, who performed the monitoring, yearly photographs, and other appropriate information. The reports will also include an evaluation of whether or not the previous year's recommendations were implemented. The reports will recommend remedial actions to be undertaken, if the Restoration Area is not meeting the above performance criteria. Reports shall be submitted to the County Planning Department and the USFWS.

CONCLUSION

In accordance with the Stipulation and Order (10-24-08), the restoration and mitigation activities proposed in this Botanical Report and Restoration Plan include erosion control, exotics removal, revegetation, plant maintenance, performance criteria, and monitoring and reporting for five years after planting. Five years will be likely in order to determine whether the plantings have become self-sustaining, and whether the goals and performance criteria of the restoration program have been met. If the performance criteria have not been met, the restoration program may be extended. It is likely that the land clearing impacts can be mitigated on-site by the proposed restoration program.

LETTER TO THE UNITED STATES FISH & WILDLIFE SERVICE

Due to the recent sightings (Dick Arnold, June 2008) of the federally listed Mount Hermon June beetle in Bonny Doon, and the presence of the federally and State listed Santa Cruz cypress on the property, Native Vegetation Network will send a letter to the United States Fish and Wildlife Service (Service) that states that a Restoration Plan has been prepared for the property that proposes planting native trees and shrubs and removing invasive, non-native species. The letter will ask the Service if they would like to receive a copy of the Restoration Plan and/or future annual reports.

ADAPTIVE MANAGEMENT

The annual reports will be the main way to document any needed changes to the restoration and maintenance activities on the property. The annual reports will make recommendations to insure restoration success. If certain revegetated species do not perform well, the project botanist will coordinate with County Planning regarding substitute species.

If there are significant changes in site performance or significant monitoring results, the annual reports will make recommendations, as appropriate. Certain large changes or recommendations to the restoration program will need concurrence from County Planning. Significant changes such as the duration or extension of maintenance or monitoring should be documented in a letter prepared by the project botanist. If County Planning concurs with the recommendation(s), the recommendation letter should be considered as an amendment to this restoration plan.