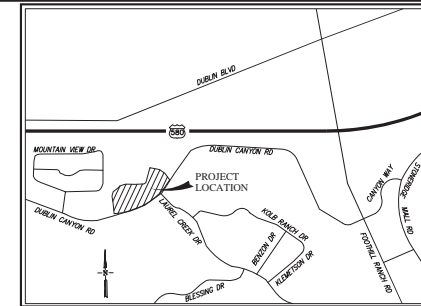
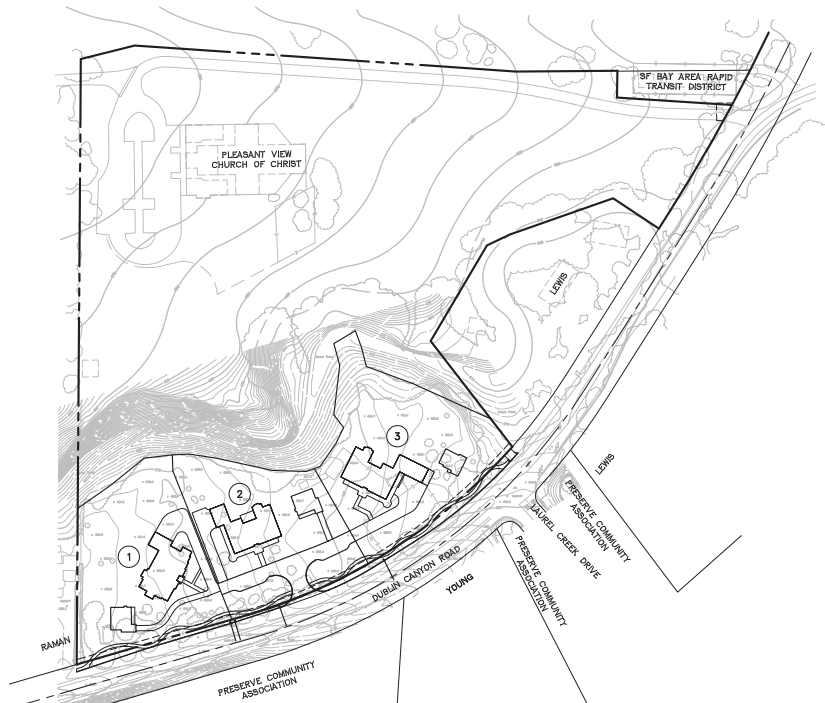


# PLANNED UNIT DEVELOPMENT PLEASANT VIEW CHURCH SITE CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA



VICINITY MAP  
NOT TO SCALE

PROPOSED	DESCRIPTION	EXISTING
---	TRACT BOUNDARY	
---	LOT LINE	
---	RIGHT OF WAY	
---	CENTER LINE	
---	MATCH LINE	
---	RETAINING WALL	
---	EASEMENT LINE	
---	STORM DRAIN	EX 12" SD
---	SANITARY SEWER	EX 8" SS
---	WATER	EX 8" W
---	RECYCLED WATER	EX 8" RW
---	CURB & GUTTER	EX FC
---	SIDEWALK	
---	OVERHEAD UTILITIES	
---	JOINT POLE	
---	EARTH OR GRASS SWALE	
---	CONCRETE DITCH	
---	STORM WATER INLET	
---	FIELD INLET	
---	AREA DRAIN	
---	DIRECTION OF FLOW	
---	MANHOLE	
---	FIRE HYDRANT	
---	BLOW OFF	
---	SANITARY SEWER CLEAN OUT	
---	WATER VALVE	
---	STREET LIGHT	
---	MONUMENT	
---	TRAFFIC SIGN	
---	STREET NAME SIGN	
---	FENCE	
---	BARRICADE	
---	SLOPE	
---	HANDICAP RAMP	
---	SAVE TREE	
---	REMOVE TREE	
---	CONTOUR ELEVATIONS	
---	SPOT ELEVATION	
---	ASPHALT PAVEMENT	
---	BIORETENTION AREA	
---	LIFT STATION	
---	DIRECTION OF FUTURE FLOW	
---	AB MAINTENANCE ROAD	
---	LIGHT CLASS RIP RAP	



### SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	EXISTING CONDITIONS
4	SLOPE CLASSIFICATION MAP
5	EXISTING TREES PLAN

### ARCHITECTURE

1.1	LOT 1 FLOOR PLAN
1.2	LOT 1 ROOF PLAN
1.3	LOT 1 EXTERIOR ELEVATIONS
1.4	LOT 1 EXTERIOR ELEVATIONS
1.5	LOT 1 SECOND UNIT, FLOOR AND ROOF PLAN
1.6	LOT 1 SECOND UNIT, EXTERIOR ELEVATIONS
2.1	LOT 2 FLOOR PLAN
2.2	LOT 2 ROOF PLAN
2.3	LOT 2 EXTERIOR ELEVATIONS
2.4	LOT 2 EXTERIOR ELEVATIONS
2.5	LOT 2 SECOND UNIT, FLOOR AND ROOF PLAN
2.6	LOT 2 SECOND UNIT, EXTERIOR ELEVATIONS
3.1	LOT 3 FLOOR PLAN
3.2	LOT 3 ROOF PLAN
3.3	LOT 3 EXTERIOR ELEVATIONS
3.4	LOT 3 EXTERIOR ELEVATIONS
3.5	LOT 3 SECOND UNIT, FLOOR AND ROOF PLAN
3.6	LOT 3 SECOND UNIT, EXTERIOR ELEVATIONS
D1	ARCHITECTURAL DETAILS
G	GREEN BUILDING CHECKLIST

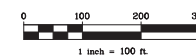
### LANDSCAPE ARCHITECTURE

L1	PRELIMINARY LANDSCAPE PLAN
L2	PRELIMINARY MATERIALS & PALETTE

**PUD-114**

**RECEIVED June 30, 2016**

**EXHIBIT B**



**RUGGERI-JENSEN-AZAR**  
ENGINEERS • PLANNERS • SURVEYORS  
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588  
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: JUNE 2016 JOB NO. 141084 SHEET 1 OF 5

### ABBREVIATIONS

AB	AGGREGATE BASE	LE	LANDSCAPE EASEMENT
AC	ASPHALT CONCRETE	LP	LOW POINT
AD	AREA DRAIN	ME	MAINTENANCE EASEMENT
BC	BEGINNING OF CURVE	MH	MANHOLE
BFE	BASE FLOOD ELEVATION (FEMA)	OH	OVERHEAD UTILITIES
BVC	BEGIN VERTICAL CURVE	PAE	PRIVATE ACCESS EASEMENT
BO	BLOW OFF	PCC	POINT OF COMPOUND CURVE
BW	BOTTOM OF WALL	PL	PROPERTY LINE
CL	CENTER LINE	PRC	POINT OF REVERSE CURVE
CL	CORRUGATED METAL PIPE	PSE	PUBLIC SERVICE EASEMENT
CP	CENTER POINT	PVC	POLYVINYL CHLORIDE PIPE
DC	DECOMPOSED GRANITE	PVI	POINT OF VERTICAL INTERSECTION
DWY	DRIVEWAY	ROP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE	RET	CURB RETURN
EC	END OF CURVE	RW	RIGHT OF WAY
ESMT	EASEMENT	SDE	STORM DRAIN EASEMENT (PUBLIC)
EVIC	END VERTICAL CURVE	SNS	STREET NAME SIGN
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	SO	SIDE OPENING INVERT
EX	EXISTING	SSCO	SANITARY SEWER CLEAN OUT
FC	FACE OF CURB	STA	STATION
FG	FINISHED GRADE	SW	STORM WATER INLET
FH	FIRE HYDRANT	SWK	SIDEWALK
FI	FIELD INLET	TC	TOP OF CURB
FL	FLOW LINE	TOP	TOP OF WALL
GB	GRADE BREAK	WM	WATER METER
GR	GRATE	VC	VERTICAL CURVE
HP	HIGH POINT	VCP	VITRIFIED CLAY PIPE
INV	INVERT ELEVATION		
JP	JOINT POLE		

### PROJECT TEAM

#### Applicant

Valley Capitol Realty,  
7080 Donlon Way, Suite 208  
Dublin, CA 94568  
Contact: Guy Houston  
(925) 467-5859

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4690 Chabot Drive, Suite 200  
Pleasanton, CA 94588  
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#### Architecture

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Pleasanton, CA 94586  
Contact: Terry Townsend  
(925) 484-6438

#### Landscape Architecture

Dutchover & Associates  
1239 Quarry Lane, Suite 115  
Pleasanton, CA 94586  
Contact: Brian Dutchover  
(925) 462-3676

#### Soils Engineer

Nicholas Engineering  
6743 Dublin Boulevard, Suite 15  
Dublin, CA 94588  
Contact: Dewey Nicholas  
(925) 829-8090



**SITE SUMMARY**

NUMBER OF NEW UNITS:	3
CHURCH PARCEL ACRES	11.9 ACRES
DEVELOPED ACRES (LOTS AND STREETS)	4.3 ACRES
TOTAL ACRES	16.2 ACRES

GROSS DENSITY = DWELLING UNITS/DEVELOPED ACRES (DEVELOPMENT ONLY)  
 GROSS DENSITY = 3 UNITS/4.3 AC  
 = 0.7 DU/AC

NET DENSITY = # UNITS/ (TOTAL AC - CHURCH PARCEL - STREETS)  
 = 3 UNITS / (16.2 - 11.9 - 0.2)  
 = 0.73 DU/AC

PARKING	
DRIVEWAYS (2 MINIMUM PER NEW RESIDENCE)	6
GARAGE (3 PER NEW RESIDENCE)	9
TOTAL	15 TOTAL

**LAND USE SUMMARY**

LAND USE	UNITS	ACRES	% OF SITE
LOW DENSITY RESIDENTIAL (LDR) SINGLE FAMILY DETACHED	3	4.1	25.3%
57,839 S.F. TO 67,226 S.F. LOT SIZE			
ROAD EASEMENT (STREETS & SIDEWALKS)	-	0.2	1.2%
CHURCH PARCEL	-	11.9	73.5%
<b>TOTAL</b>	<b>3</b>	<b>16.2</b>	<b>100.0%</b>

**ACCESSORY STRUCTURES**

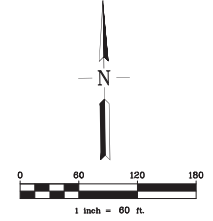
LOTS	MINIMUM SETBACK (SEE NOTES BELOW)
1-3	3' TO SIDE PL. 5' TO REAR PL. CLASS II IS LIMITED TO A MAXIMUM 15 FEET HEIGHT
1-3	CLASS II SHALL COMPLY WITH THE APPLICABLE CLASS II ACCESSORY STRUCTURE REGULATIONS OF CITY OF PLEASANTON ZONING ORDINANCE

**NOTES:**

- FRONT, SIDE, REAR YARD SETBACKS DO NOT INCLUDE MINOR ARCHITECTURAL PROJECTIONS PER CITY OF PLEASANTON ZONING ORDINANCE.
- ACCESSORY STRUCTURES EXCEEDING 10 FEET IN HEIGHT SHALL BE SUBJECT TO DESIGN REVIEW PER CITY OF PLEASANTON ZONING ORDINANCE.

**NOTES:**

- FOR SPECIFIC BUILDING HEIGHTS, SEE ARCHITECTURAL PLANS.
- PRELIMINARY SQUARE FOOTAGES ARE APPROXIMATE.



**PUD LOT SPECIFICATIONS SUMMARY**

LOT	GROSS LOT SIZE (SF)	NET LOT SIZE (SF)	HOUSE MODEL	HOUSE MODEL MAX HEIGHT (FT)	HOUSE SIZE (SF)	GARAGE (SF)	GRANNY UNIT SIZE (SF)	GRANNY UNIT GARAGE (SF)	FAR	MIN FRONT SETBACK (PORCH/HOUSE/ DW)	MIN REAR SETBACK (INTERIOR/CORNER)	MIN SIDE SETBACK (INTERIOR/CORNER)
1	62,686	62,686	PLAN 2	30	4,474	894	1,200	317	10%	17'25"/25'	25'	5'00'
2	57,839	50,356	PLAN 1	26	4,552	897	1,200	317	10%	17'25"/25'	25'	5'00'
3	67,226	67,226	PLAN 1	26	4,552	1,452	1,183	-	10%	17'25"/25'	25'	5'00'

FAR = HOUSE SF + GRANNY UNIT SF + GARAGE SF IN EXCESS OF 600 SF/100000 LOT SIZE S.F. MAX FAR = 80%

**SITE DEVELOPMENT PLAN**  
**PLEASANT VIEW CHURCH**  
 CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

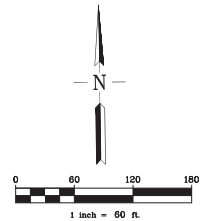


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**NOTES:**

1. BUILDINGS AND ACCESSORY STRUCTURES TO BE REMOVED, UNLESS OTHERWISE NOTED.



**EXISTING CONDITIONS  
PLEASANT VIEW CHURCH**

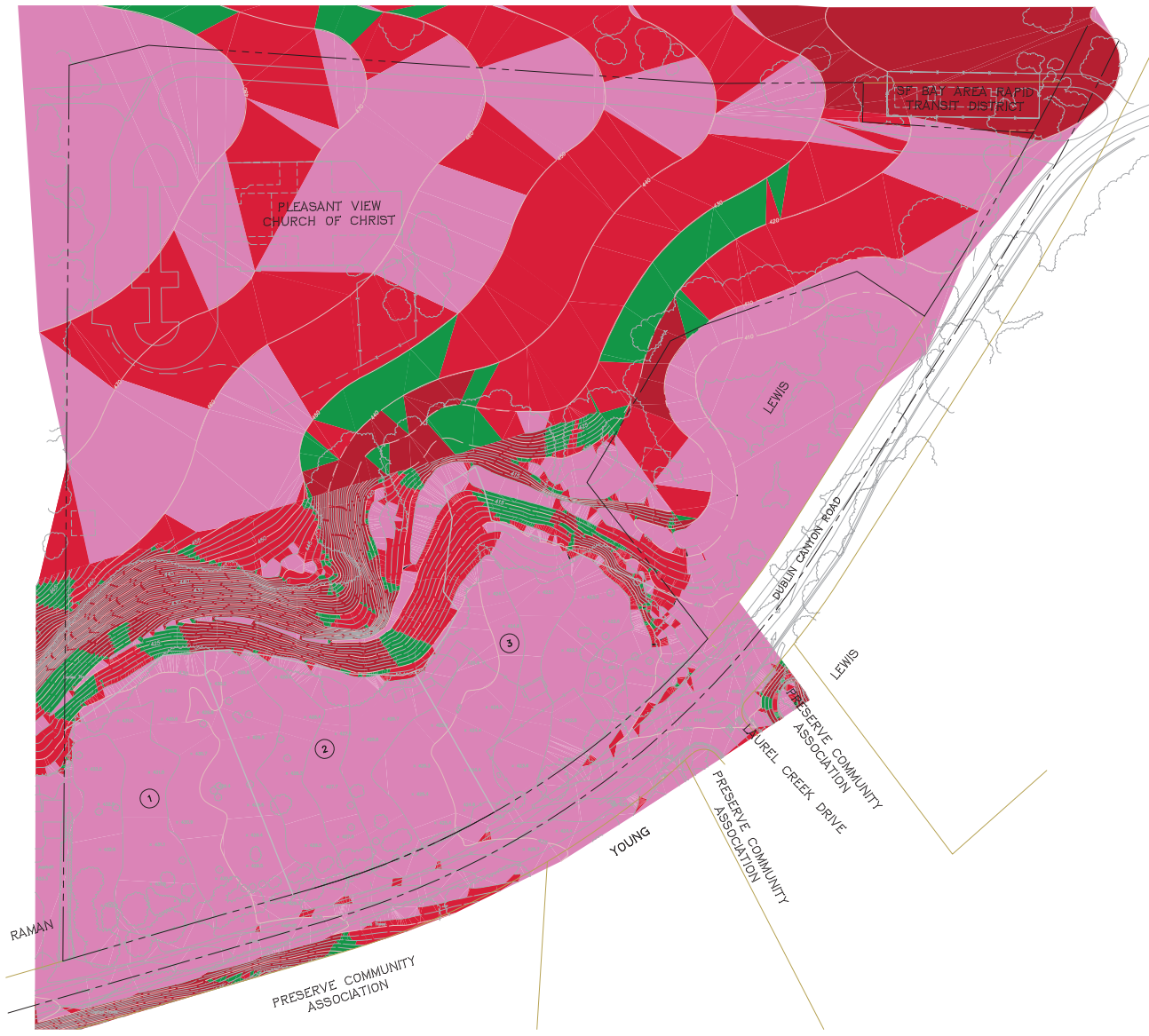
CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

**RJA**  
**RUGGERI-JENSEN-AZAR**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588  
 PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: JUNE 2016

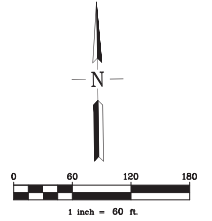
JOB NO. 141084

SHEET 3 OF 5



**LEGEND:**

Light Purple	0 - 10%
Red	10% - 20%
Green	20% - 24.8%
Dark Red	25%+

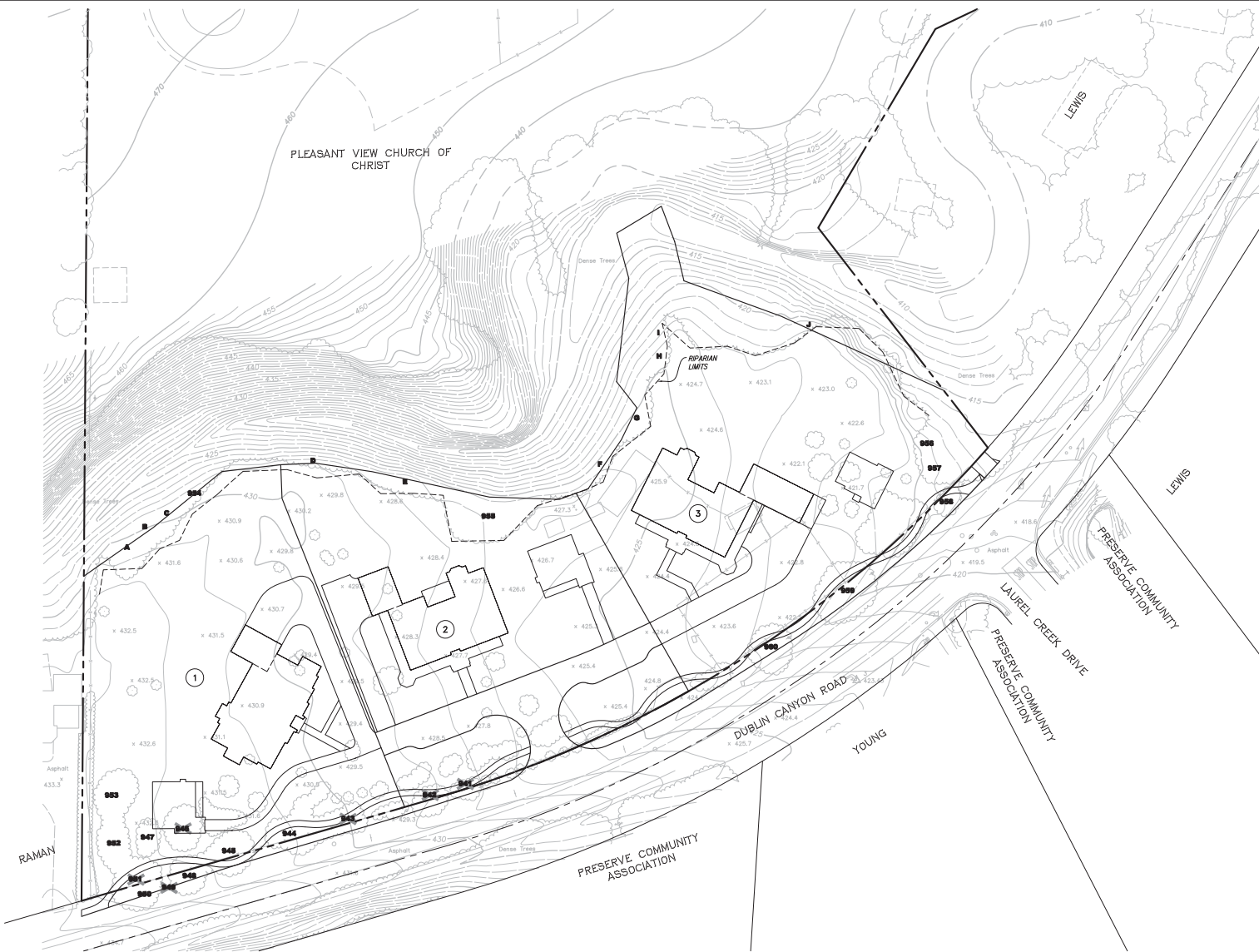


## SLOPE CLASSIFICATION MAP PLEASANT VIEW CHURCH

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

**RJA**  
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 4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588  
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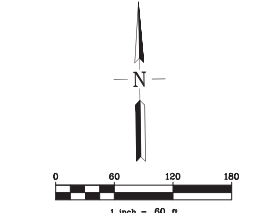
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- LEGEND**
- A-J** TREES IN RIPARIAN CORRIDOR TO BE SAVED
  - 955** TREE TO BE SAVED
  - 943** TREE TO BE REMOVED

FOR TREE ASSESSMENT, SEE THE TREE REPORT PREPARED FOR PLEASANT VIEW CHURCH SITE BY DRYAD LLC, JUNE 24, 2016.

**EXISTING TREE PLAN**  
**PLEASANT VIEW CHURCH**  
 CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA



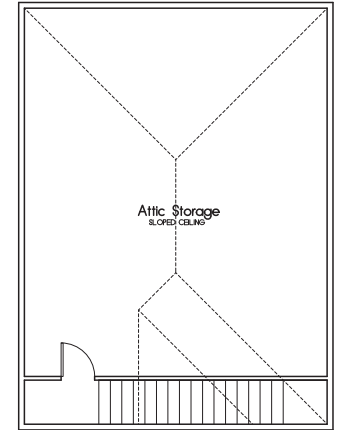
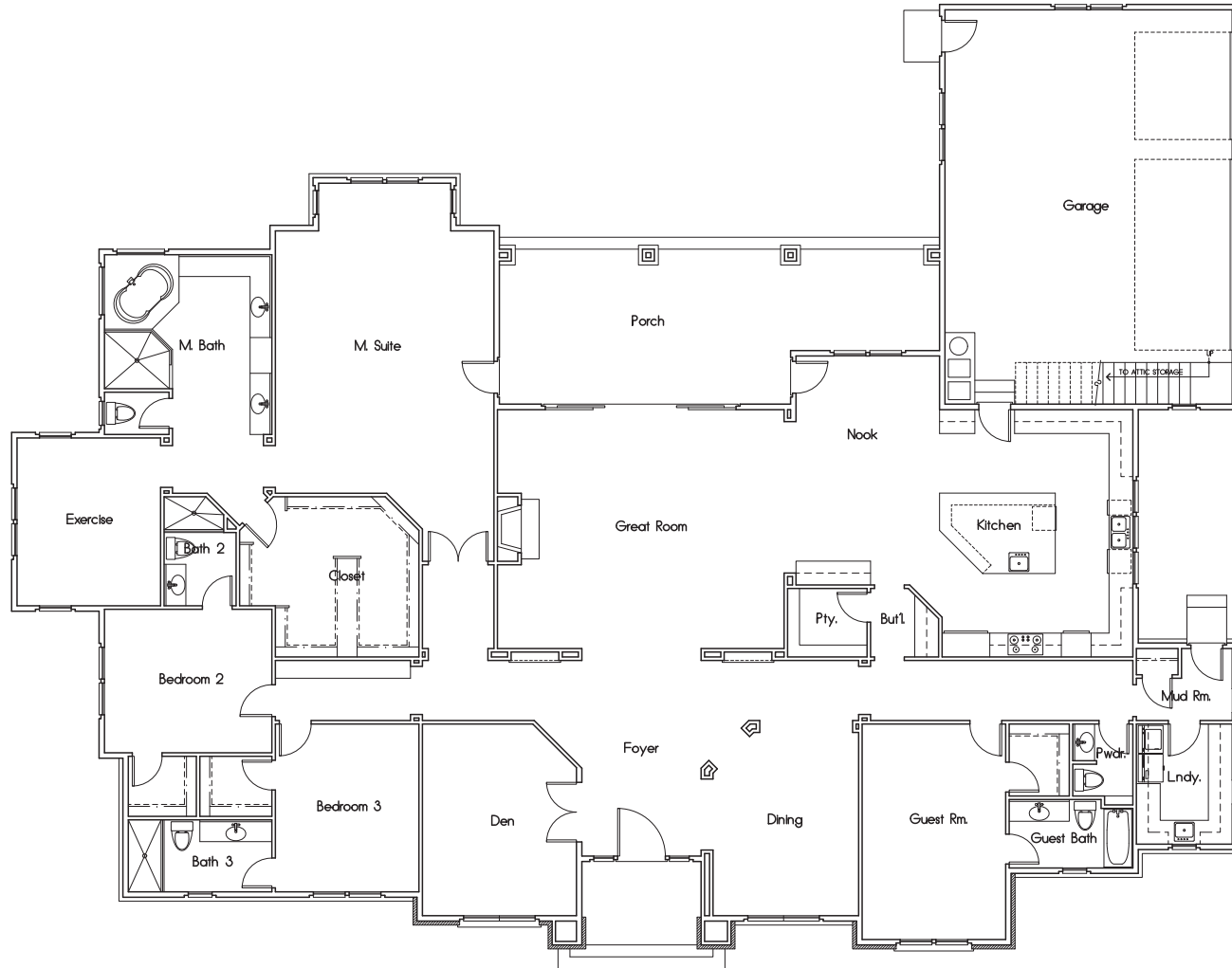
**RJA**  
**RUGGERI-JENSEN-AZAR**  
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**Proposed Residence**

Lot 1 Church Property  
 Pleasanton, California

Notes:



Attic Storage Floor Plan

Rev	Description	Date

**Floor Plan**  
 4474 SQUARE FEET  
 GARAGE 546 SQUARE FEET  
 COVERED PORCHES 424 SQUARE FEET

Job Number: 201910 Sheet: 1,1  
 Scale: 1/4" = 1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

**Proposed Residence**

Lot 1 Church Property  
 Pleasanton, California

**Notes:**

Roofing shall be Composition Shingle over 3/4" felt over 1/2" OSB sheathing w/ radiant barrier called per structural engineer's specifications. Downspouts shall be located by others.

The net free attic ventilation area shall be not less than 1/150 of the area of the space ventilated.

ATTIC VENTILATION : XXXX / 150 = XXXXX sq. ft.  
 Total area required to be vented : XXXXX sq. ft.  
 XXX Rafter vent ..... XXXXX sq. ft.  
 XXX Gable end vent ..... XXXXX sq. ft.  
 XXX O'High vent ..... XXXXX sq. ft.  
 Total Area of ventilation : XXXXX sq. ft.  
 50% LOW REQUIREMENT: XXX > XXX, OKAY  
 50% HIGH REQUIREMENT: XXX > XXX, OKAY

All framing shall be Douglas Fir No. 2 or better (UON).  
 Composition shingles shall be fastened per 2013 CBC.

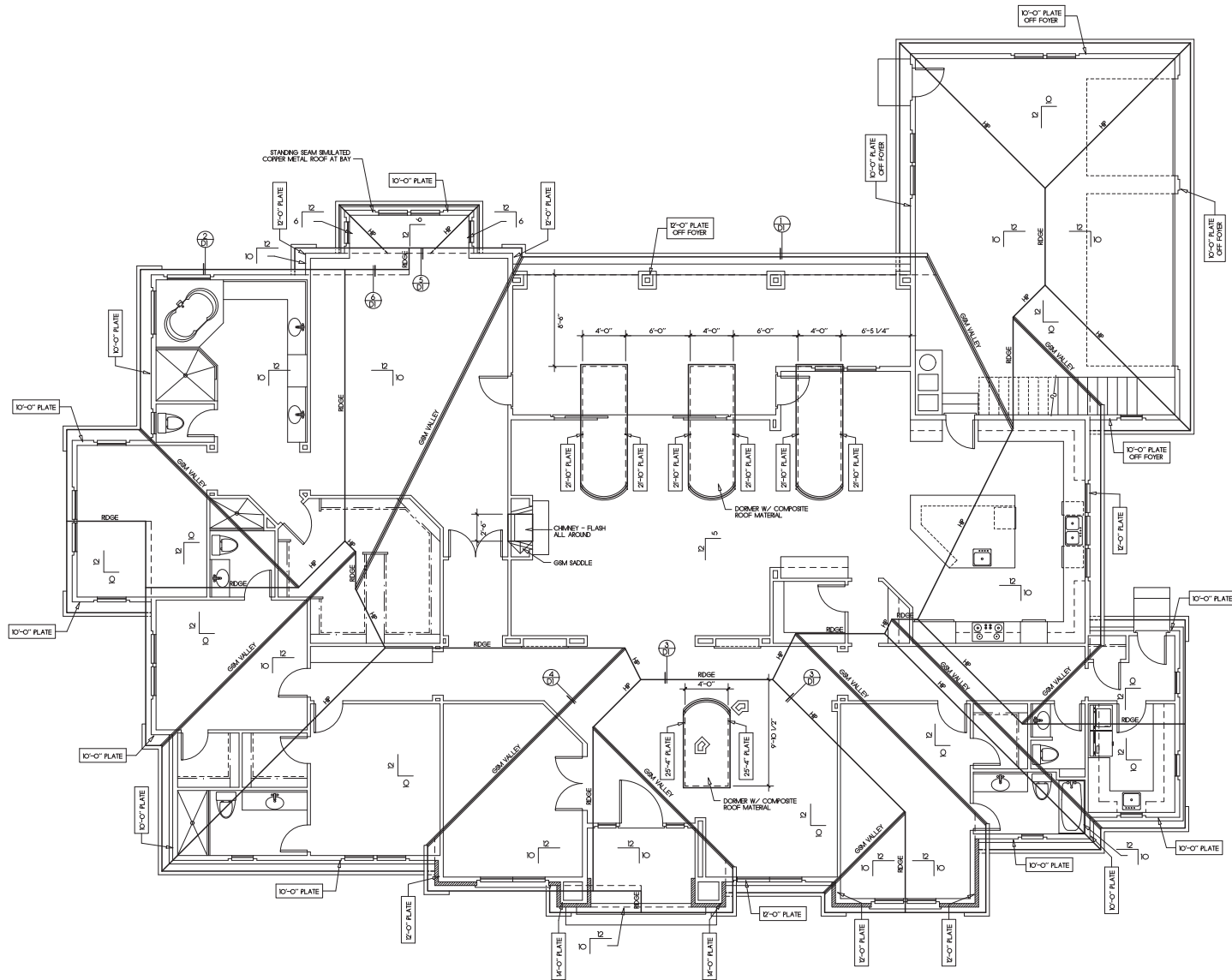
Roof flashing around pipes, vents, flues, chimneys, etc. shall be lead copper, or other approved flexible flashing material and shall be formed to follow the contours of the tile and slow seating of the tiles as per 2013 CBC.

Plate heights are designated off adjacent subfloor (UON).

All rakes shall be 6" from wall framing (UON).

All eaves shall be 12" from wall framing (UON).

Plumbing waste stacks and combustion flues shall be placed to penetrate to the rear of the main ridge line. All beams shall be braced at each end to prevent rotation.



Rev	Description	Date

**Roof Plan**

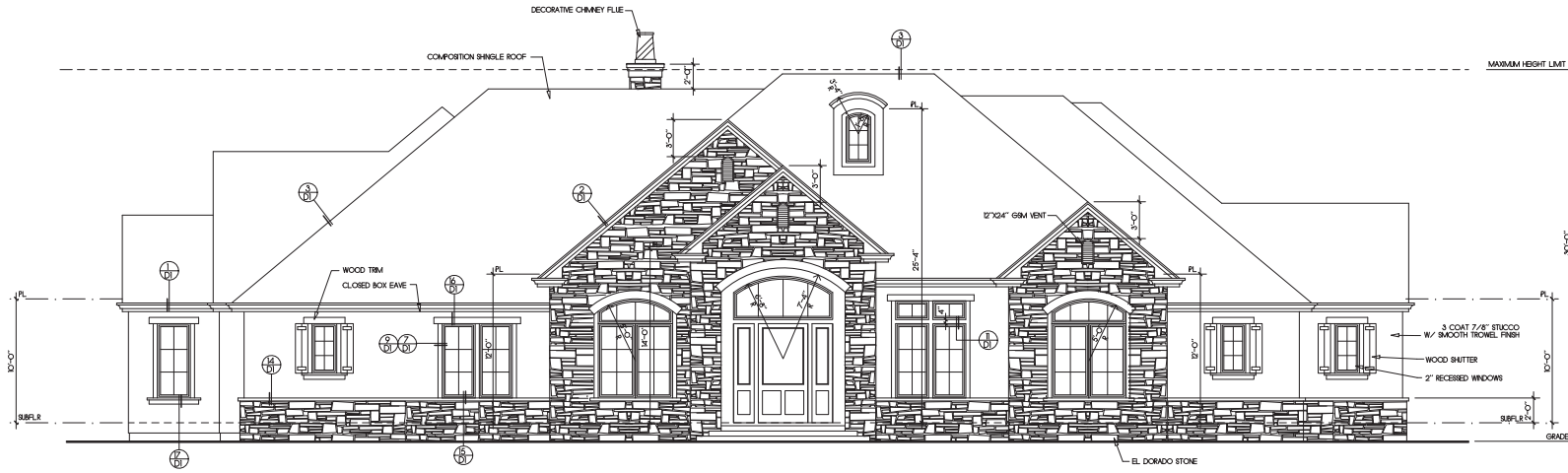
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 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

**Proposed Residence**

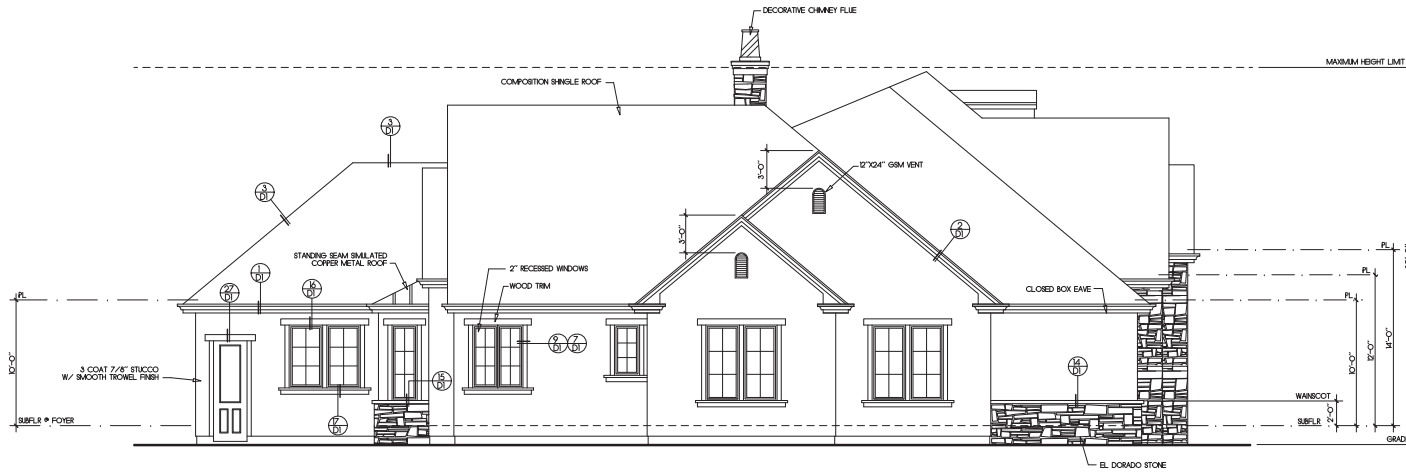
Lot 1 Church Property  
 Pleasanton, California

**Notes:**

- All windows at first floor shall be mounted at 6'-0" above top of subfloor (NON)
- A weep screed shall be provided for the foundation plate on all exterior stucco covered with stucco. The screed shall be of a type which will allow trapped water to drain to the exterior of the building per 2018 CBC.
- S.F. : Subfloor
- Subfl : Subfloor
- T.O.S. : Top of Slab
- T.O.S.W. : Top of stem wall
- T.O. Fig. : Top of Footing
- Fireplace shall be equipped with GISM terminal cap with spark arrester.
- Egress windows shall comply with 2018 CBC with a minimum net clear openable area of 5.7 sq. ft., a minimum net clear openable height of 24 inches, a minimum net clear openable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



Front Elevation  
 (Southeast)



Left Side Elevation  
 (Southwest)

Rev	Description	Date

**Exterior Elevations**

Job Number:	201910	Sheet:	
Scale:	1/4"=1'-0"	Drawn:	Terry
Checked:	Terry	Date:	5-3-16

1.3

20



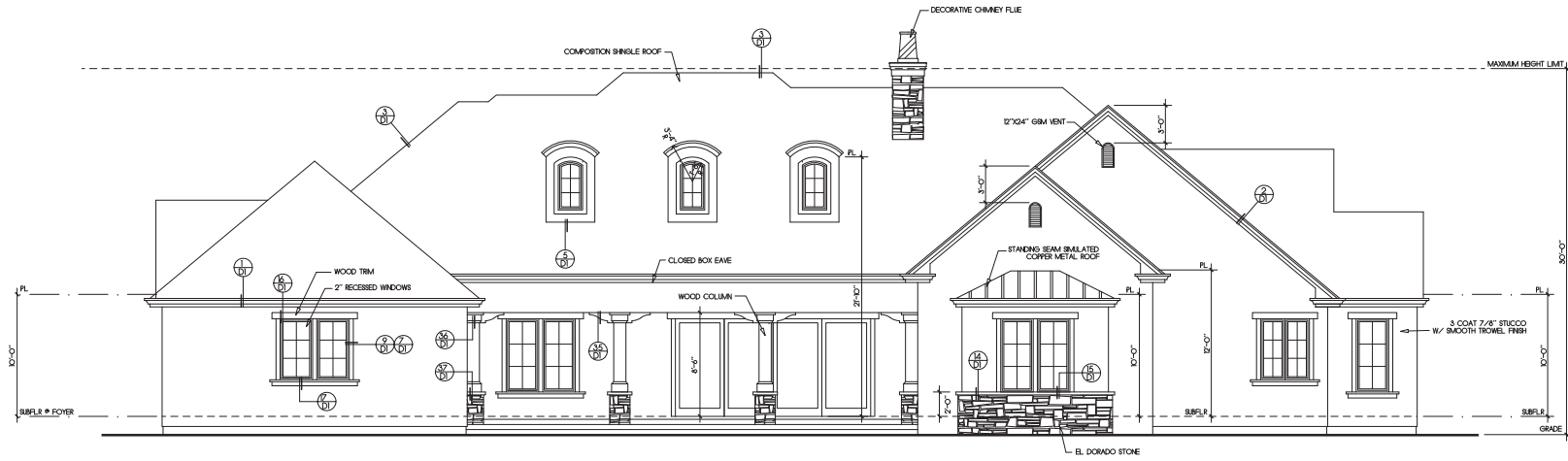
**Proposed Residence**

Lot 1 Church Property  
 Pleasanton, California

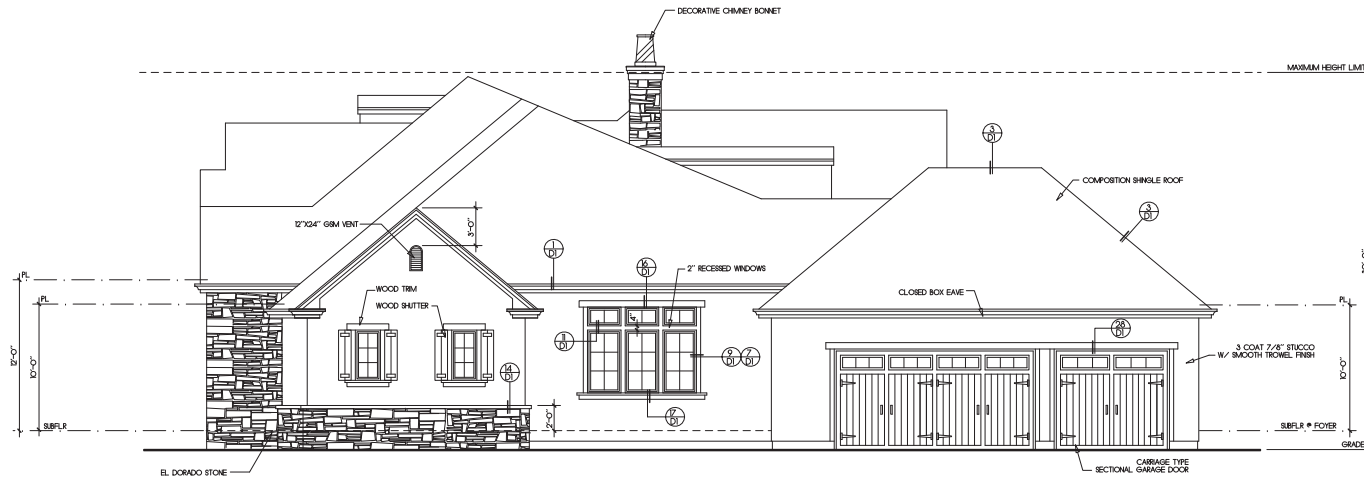
**Notes:**

All windows at 1st floor shall be mounted at 6'-0" above top of subfloor (1/0N1).  
 A weep screed shall be provided at the foundation plate on all exterior stucco covered with stucco. The screed shall be of a type which will slow trapped water to drain to the exterior of the building per 2013 CBC.

S.F. : Subfloor  
 S.U.B. : Subfloor  
 T.O.S. : Top of Slab  
 T.O.S.W. : Top of stem wall  
 T.O. Ftg. : Top of Footing  
 Fireplaces shall be equipped with GSI terminal cap with spark arrester.  
 Egress windows shall comply with 2013 CBC with a minimum net clear openable area of 5.7 sq. ft., a minimum net clear openable height of 24 inches, a minimum net clear openable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



Rear Elevation  
 (Northwest)



Right Side Elevation  
 (Northeast)

Rev	Description	Date

**Exterior Elevations**

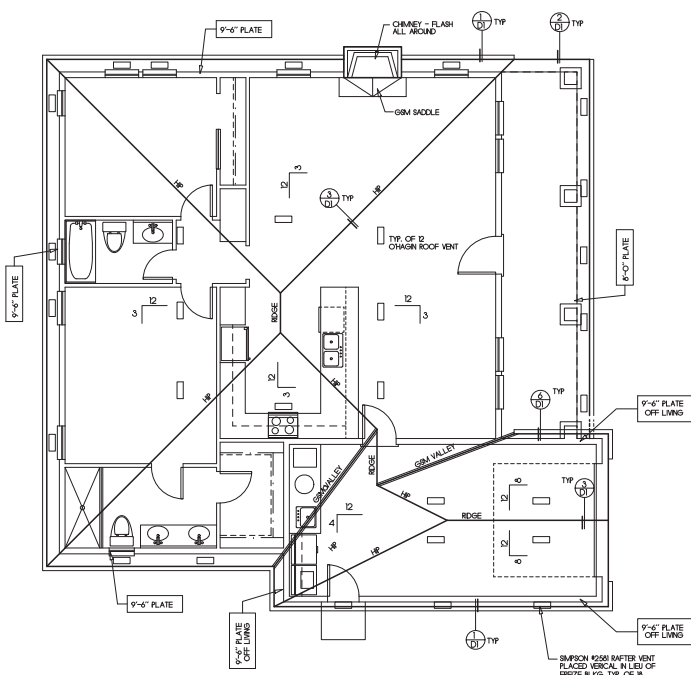
Job Number: 20190 Sheet: 14  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

**Proposed Residence**

Lot 1 Church Property  
 Pleasanton, California

**Notes:**

- All angles other than 90 degrees shall be 45 degrees (U.G.N.)
- Provide outside combustion air openings directly into the firebox of fireplace to comply with CEC regulations 2-2322 (2) 5. Fireplace hearth shall be of non-combustible material. Fireplaces shall be provided with tight fitting glass doors. Hearth extensions shall conform to the conditions of the listing and the manufacturer's installation instructions. Fireplaces and chimney shall be installed in accordance with their listing and manufacturer's instructions as specified in the CRC.
- Light panels in exterior doors, or within a 24" arc of a swinging door shall be laminated security glass which is a minimum of 1/4" polycarbonate security sheets or their equivalent.
- Firestops shall be provided around the chimney in openings of the ceiling and floor levels with non-combustible material per 2013 CRC.
- All posts, beams, and walls supporting the floor/ceiling above the garage shall be protected by one hour construction on the garage side.
- See cover sheet for schedules and general notes.
- Provide 5/8" type "X" gyp bd on the garage side of the wall extending per CRC.
- Provide minimum 18"x30" clear access from underfloor access point to each drain the cleanout located in the underfloor area.
- Sliding doors and operable windows shall comply with 2013 CRC.
- Shearwalls shall extend to the roof diaphragm.
- Walls with an unbraced height in excess of 10 feet shall be 2X6 studs @ 16" o.c.
- Wall coverings of shower and tub/shower shall be cement plaster. tile or approved equal to 7/8" above drain inlet. Materials other than structural shall be moisture resistant.
- Any cap or cover installed on the fireplace chimney shall comply with the ICC research report and manufacturer's listing.
- Furnace ducts penetrating the garage/house occupancy separation shall be a minimum 26 gauge galvanized steel and have no openings into the garage.
- Water closets shall be in a clear space 30" minimum wide and have a minimum 24" clear space in front.
- All exterior walls shall be 2X6 studs @ 16" o.c. minimum, or otherwise noted.
- All interior walls shall be 2X4 studs @ 16" o.c. minimum, or otherwise noted.
- Threshold height shall be limited to 7/8 inches residential where the door is an exterior door that is not a component of the required means of egress; the door, other than an exterior storm or screen door does not swing over the landing or stair.
- Fireplaces shall have an efficiency rating of not less than 60%.
- Use low VOC interior wall and ceiling paints and construction adhesives.
- Use low VOC water-based wood finishes.
- Use low VOC construction adhesives.
- Use recycled content materials at interior trim and shelving.
- Tightly seal the air barrier between the living area and garage.
- Egress windows shall comply with 2013 CRC with a minimum net clear operable area of 5.7 sq. ft., a minimum net clear operable width of 24 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening. Escape opening opens directly to a street, public alley, yard or court that opens to a public way.



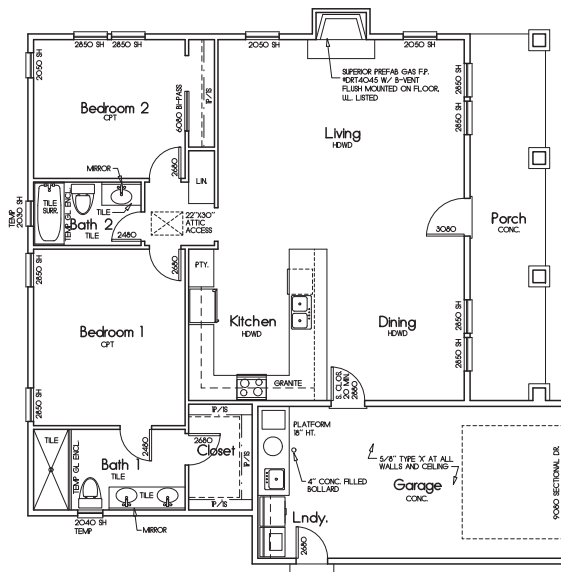
**Roof Plan**

Roofing shall be Composition Shingles over Two layers 3/8" tall over 1/2" OSB sheathing w/ radiant barrier nailed per engineer's specifications. Downspouts shall be located by others. The net free attic ventilation area shall be not less than 1/50 of the area of the space ventilated.

ATTIC VENTILATION :	1692 / 150 = 11.28 sq. ft.
Total area required to be vented :	11.28 sq. ft.
16 Rafter vent	10.38 sq. ft.
0 Gable end vent	0.00 sq. ft.
12 O'Hugh vent	7.86 sq. ft.
Total Area of ventilation :	18.24 sq. ft.
50% LOW REQUIREMENT :	10.38 > 5.64 OKAY
50% HIGH REQUIREMENT :	7.86 > 5.64 OKAY

All framing shall be Douglas Fir No. 2 or better (U.G.N.)  
 Composition Shingles shall be fastened per 2013 CRC.  
 Roof flashing around pipes, vents, flues, chimneys, etc. shall be lead, copper, or other approved flexible flashing material and shall be formed to follow the contours of the tile and allow seating of the tiles as per 2013 CRC.

Plate heights are designated off adjacent exterior (U.G.N.)  
 All rakes shall be 6" from wall framing (U.G.N.)  
 All eaves shall be 12" from wall framing (U.G.N.)  
 Plumbing waste stacks and combustion flues shall be placed to penetrate to the rear of the main ridge line.  
 All beams shall be braced at each end to prevent rotation.



**Floor Plan**

1500 SQUARE FEET  
 GARAGE: 37 SQUARE FEET  
 PORCH: 175 SQUARE FEET

Rev	Description	Date

**Second Unit  
 Floor and Roof Plan**

Job Number: 201609 Sheet:  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

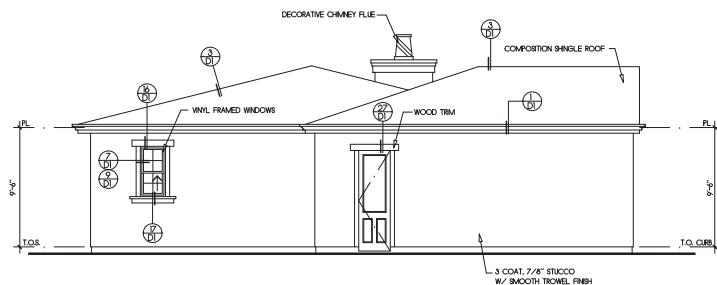
1.5

**Proposed Residence**

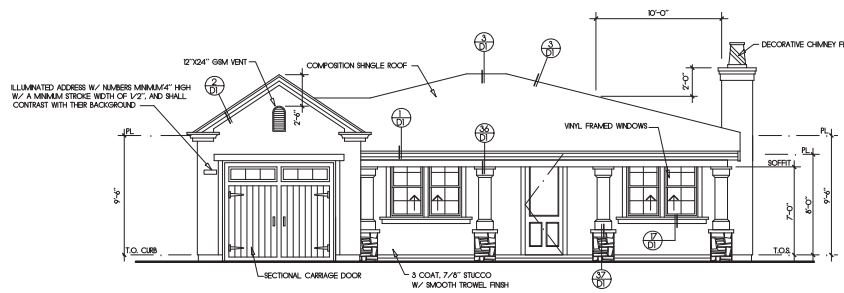
Lot 1 Church Property  
 Pleasanton, California

**Notes:**

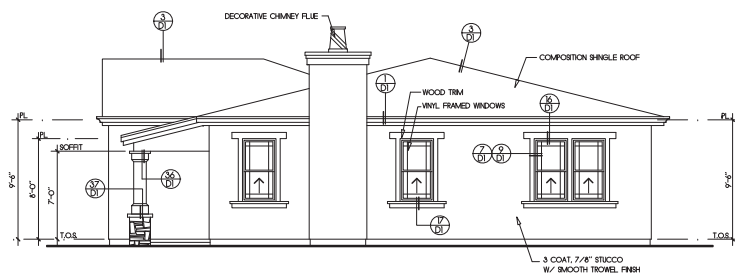
- All windows of first floor shall be mounted at 6'-0" above top of subfloor (L.O.N.).
- Provide 15# building paper at all exterior walls with wood siding finish.
- S.F. : Subfloor
- Subfr : Subfloor
- T.O.S. : Top of Slab
- T.O.S.W. : Top of stem wall
- T.O. Ftg. : Top of Footing
- Fireplace shall be equipped with GSM terminal cap with spark arrester.
- Egress windows shall comply with 2013 CBC with a minimum net clear openable area of 5.7 sq. ft., a minimum net clear openable height of 24 inches, a minimum net clear openable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



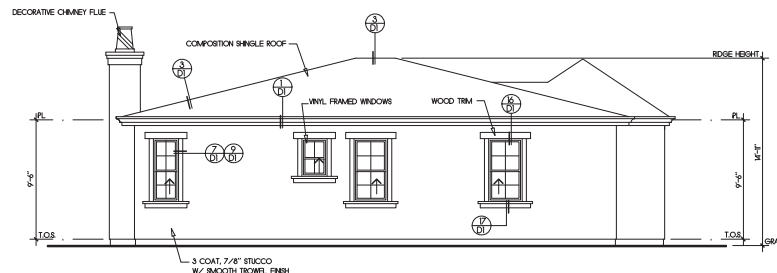
Left Side Elevation  
 (South)



Front Elevation  
 (East)



Right Side Elevation  
 (North)



Rear Elevation  
 (West)

Rev	Description	Date

**Second Unit  
 Exterior Elevations**

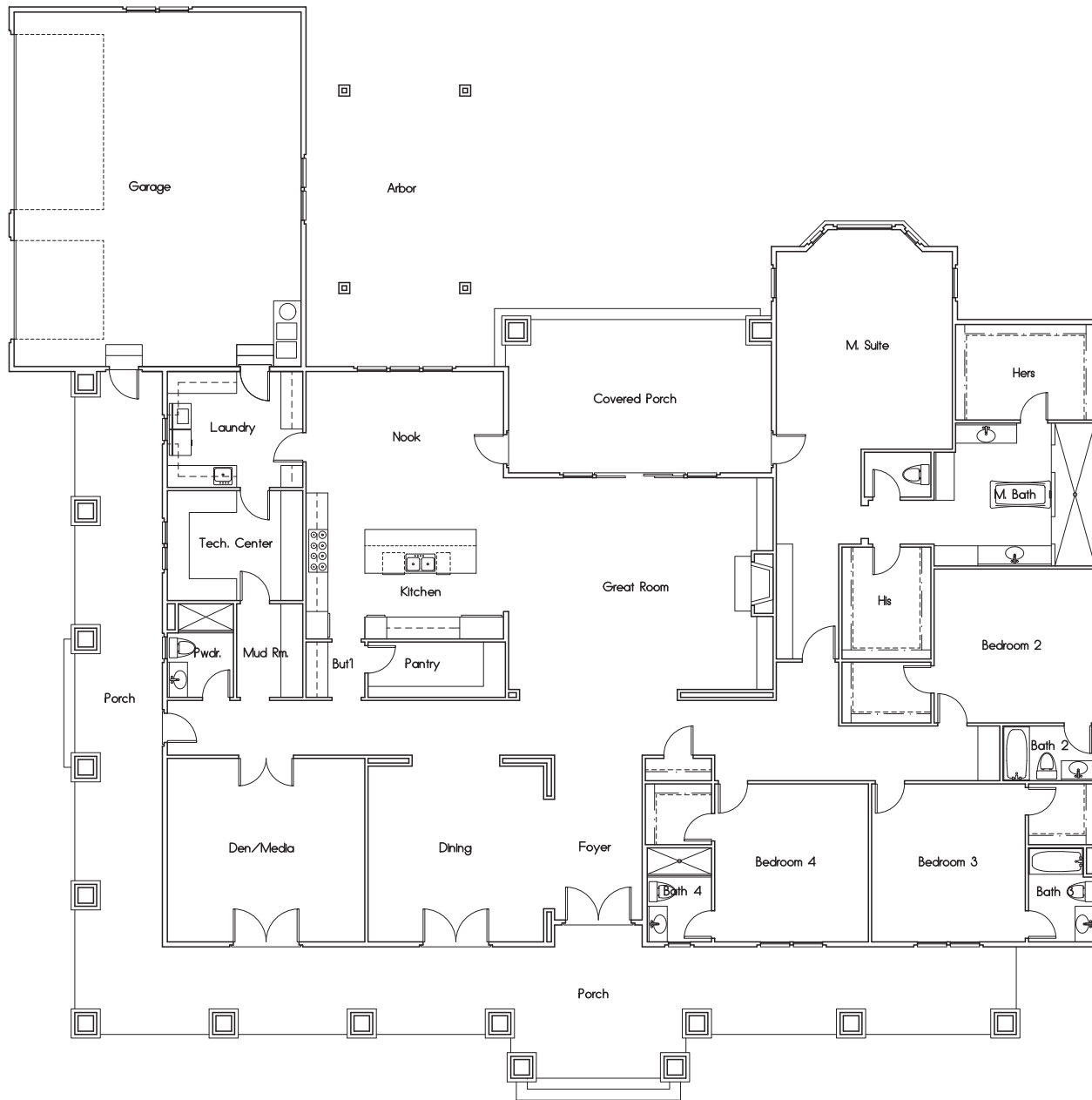
Job Number: 201609 Sheet: \_\_\_\_\_  
 Scale: 1/4" = 1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

16

**Proposed Residence**

Lot 2 Church Property  
 Pleasanton, California

Notes:



Rev	Description	Date

**Floor Plan**

4500 SQUARE FEET  
 GARAGE: 877 SQUARE FEET  
 COVERED PORCHES: 1022 SQUARE FEET

Job Number: 201506	Sheet:
Scale: 1/4"=1'-0"	
Drawn: Terry	21
Checked: Terry	
Date: 5-3-16	of 20

**Proposed Residence**

Lot 2 Church Property  
 Pleasanton, California

**Notes:**

Roofing shall be Composition Shingle over 3/8" fall over 1/2" OSB sheathing w/ radiant barrier nailed per structural engineer's specifications. Downspouts shall be located by others.

The net free attic ventilation area shall be not less than 1/150 of the area of the space ventilated.

ATTIC VENTILATION:	XXXX / 150 = XXXXX sq. ft.
Total area required to be vented:	XXXXX sq. ft.
XXX Rafter vent	XXXXX sq. ft.
XXX Gable end vent	XXXXX sq. ft.
XXX O'High vent	XXXXX sq. ft.
Total Area of ventilation:	XXXXX sq. ft.
50% LOW REQUIREMENT:	XXX > XXX OKAY
50% HIGH REQUIREMENT:	XXX > XXX OKAY

All framing shall be Douglas Fir No. 2 or better (LION).  
 Composition shingles shall be fastened per 2013 CBC.

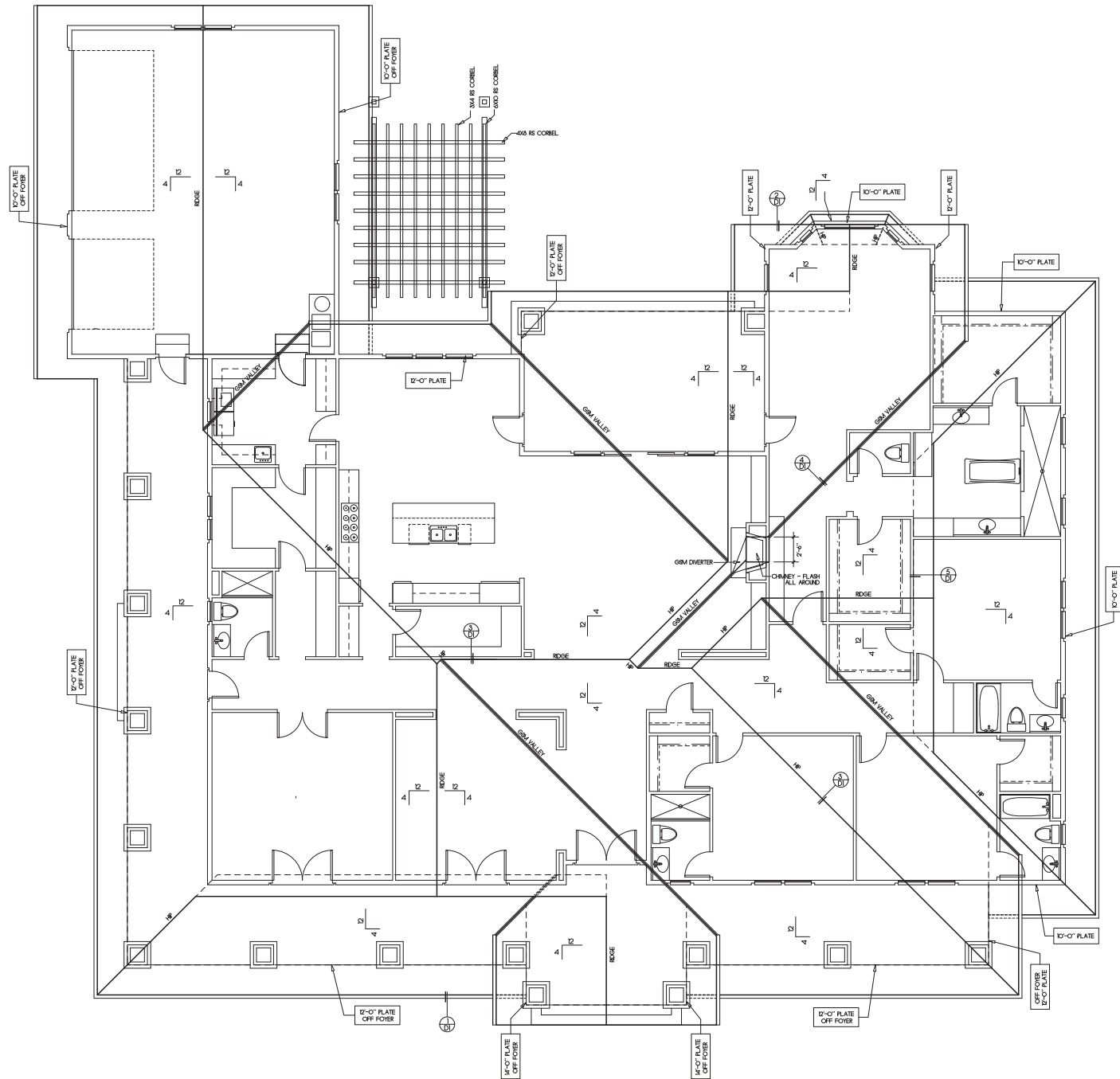
Roof flashing around pipes, vents, flues, chimneys, etc. shall be lead, copper or other approved flexible flashing material and shall be formed to follow the contours of the tile and allow sealing of the tiles as per 2013 CBC.

Plate heights are designated off adjacent subfloor (LION).

All rakes shall be 24" from wall framing (LION).

All eaves shall be 36" from wall framing (LION).

Plumbing waste stacks and combustion flues shall be placed to penetrate to the rear of the main ridge line. All beams shall be braced at each end to prevent rotation.



Rev	Description	Date

**Roof Plan**

Job Number:	201506	Sheet:	
Scale:	1/4" = 1'-0"	Drawn:	Terry
Checked:	Terry	Date:	5-3-16

22

Proposed Residence

Lot 2 Church Property  
 Pleasanton, California

Notes:

All windows at first floor shall be mounted at 8'-0" above top of subfloor (UCM).

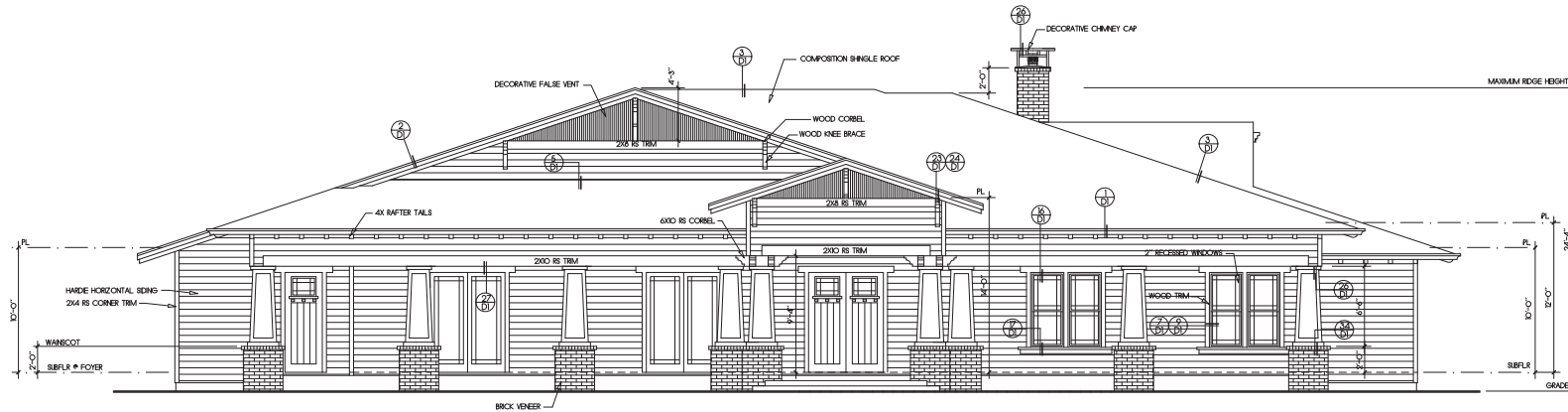
Provide 15# building paper at all exterior walls with wood siding finish.  
 SF: Subfloor  
 Subfr: Subfloor

T.O.S: Top of Slab

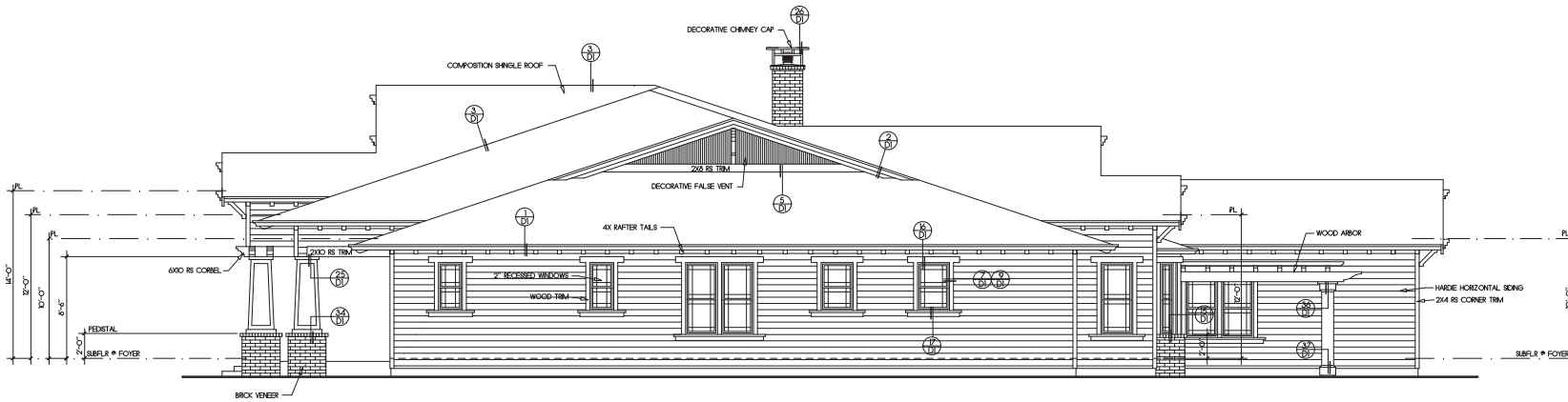
T.O.S.W: Top of stem wall

T.O. Fig: Top of Footing

Fireplace shall be equipped with GFM terminal cap with spark arrester.  
 Egress windows shall comply with 2015 CBC with a minimum net clear operable area of 57 sq. ft. a minimum net clear operable height of 24 inches, a minimum net clear operable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



Front Elevation  
 (South)



Right Side Elevation  
 (East)

Rev	Description	Date

Exterior Elevations

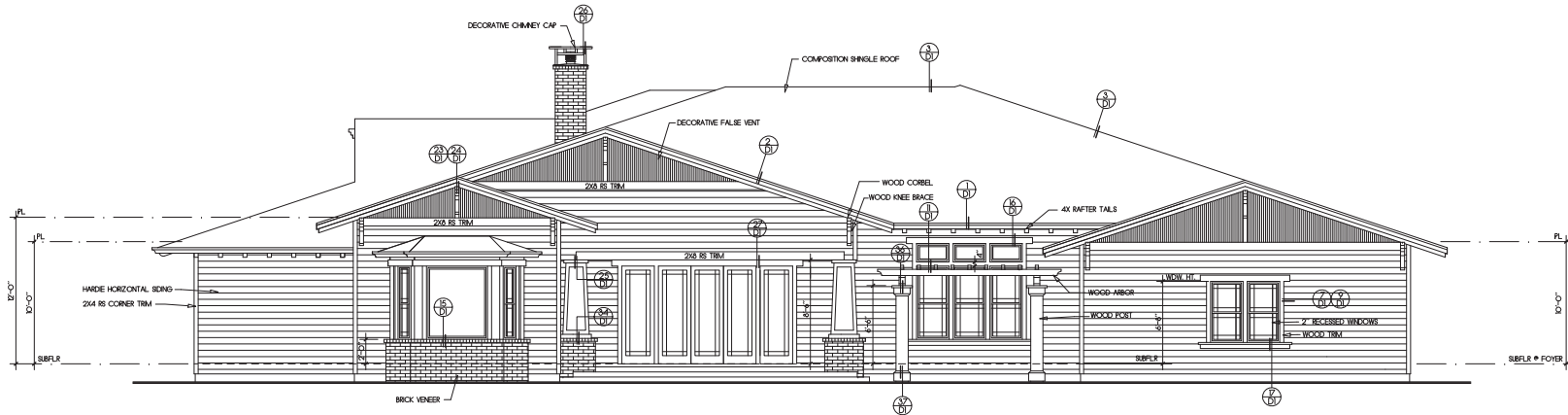
Job Number:	201906	Sheet:	23
Scale:	1/4" = 1'-0"	Drawn:	Terry
Checked:	Terry	Date:	5-3-16
Date:	5-3-16	Of	20

**Proposed Residence**

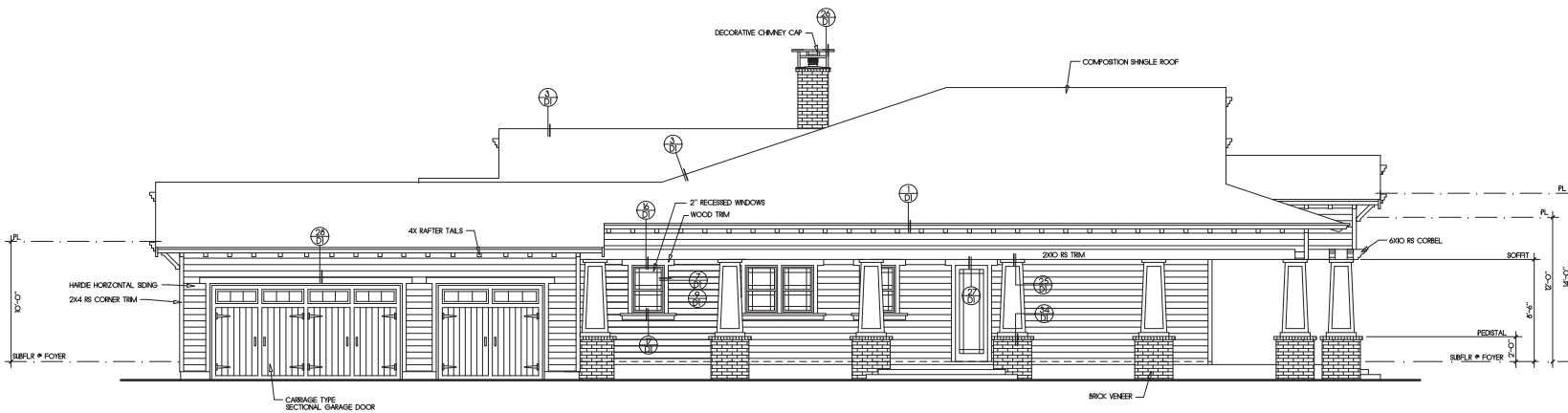
Lot 2 Church Property  
 Pleasanton, California

**Notes:**

- All windows at first floor shall be mounted at 8'-0" above top of subfloor (UCM).
- Provide 15# building paper at all exterior walls with wood siding finish.
- S.F. : Subfloor
- Subfr : Subfloor
- T.O.S. : Top of Slab
- T.O.S.W. : Top of Stem Wall
- T.O. Fig. : Top of Footing
- Fireplace shall be equipped with GFM terminal cap with spark arrester.
- Egress windows shall comply with 2015 CBC with a minimum net clear operable area of 57 sq. ft. a minimum net clear operable height of 24 inches, a minimum net clear operable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



Rear Elevation  
 (North)



Left Side Elevation  
 (West)

Rev	Description	Date

**Exterior Elevations**

Job Number: 201506 Sheet: \_\_\_\_\_  
 Scale: 1/4" = 1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

**Proposed Residence**

Lot 2 Church Property  
 Pleasanton, California

**Notes:**  
 All angles other than 90 degrees shall be 45 degrees (U.G.N.I.)

Provide outside combustion air openings directly into the firebox of fireplace to comply with CEC regulations 2-5325 (3) 5. Fireplace hearth shall be of non-combustible material. Fireplaces shall be provided with tight fitting glass doors. Hearth extensions shall conform to the conditions of the listing and the manufacturer's installation instructions. Fireplaces shall be installed in accordance with their listing and manufacturer's instructions as specified in the CBC.

Light panels in exterior doors, or within a 24" arc of a swinging door shall be laminated security glass which is a minimum of 1/4" polycarbonate security sheets or their equivalent.

Firestops shall be provided around the chimney in openings of the ceiling and floor levels with non-combustible material per 2013 CBC.

All posts, beams, and walls supporting the floor/ceiling above the garage shall be protected by one hour construction on the garage side.

See cover sheet for schedules and general notes.

Provide 5/8" type "X" gyp bd on the garage side of the wall extending per CBC.

Provide minimum 18"x30" clear access from underfloor access point to each drain the cleanout located in the underfloor area.

Sliding doors and operable windows shall comply with 2013 CBC.

Shearwalls shall extend to the roof diaphragm. Walls with an unbraced height in excess of 10 feet shall be 2X6 studs @ 16" o.c.

Wall coverings of shower and tub/shower shall be cement plaster, tile or approved equal to 2" above drain inlet. Materials other than structural shall be moisture resistant.

Any cap or cover installed on the fireplace chimney shall comply with the ICC research report and manufacturer listing.

Furnace ducts penetrating the garage/house occupancy separation shall be a minimum 26 gauge galvanized steel and have no openings into the garage.

Water closets shall be in a clear space 30" minimum wide and have a minimum 24" clear space in front.

All exterior walls shall be 2X6 studs @ 16" o.c. minimum, or otherwise noted.

All interior walls shall be 2X4 studs @ 16" o.c. minimum, or otherwise noted.

Threshold height shall be limited to 7/16 inches residential where the door is an exterior door that is not a component of the required means of egress; the door, other than an exterior storm or screen door does not swing over the landing or stair.

Fireplaces shall have an efficiency rating of not less than 60%.

Use low VOC interior wall and ceiling paints and construction adhesives.

Use low VOC water-based wood finishes.

Use low VOC construction adhesives.

Use recycled content materials at interior trim and sheking.

Tightly seal the air barrier between the living area and garage.

Egress windows shall comply with 2013 CBC with a minimum net clear operable area of 5.7 sq. ft., a minimum net clear operable width of 24 inches, a minimum net clear operable height of 24 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.

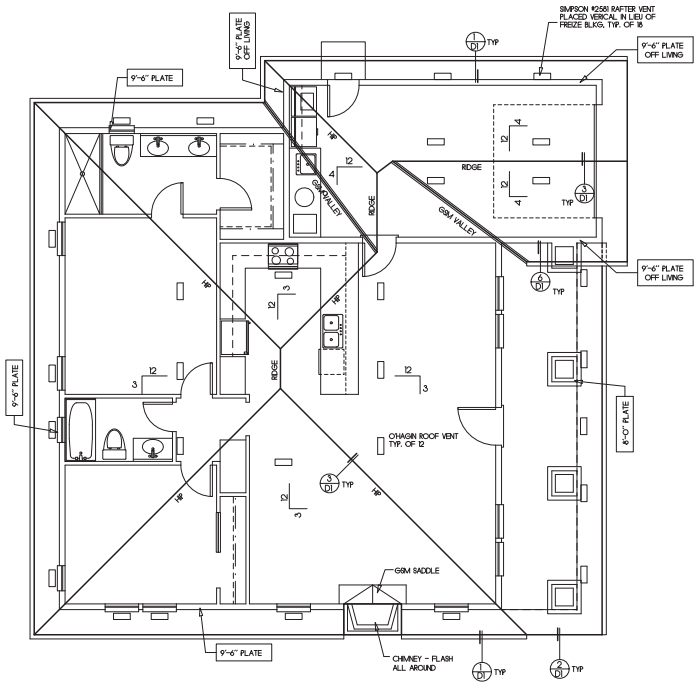
Escape opening opens directly to a street, public alley, yard or court that opens to a public way.

Rev	Description	Date

**Second Unit  
 Floor and Roof Plan**

Job Number: 201608 Sheet:  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

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**Roof Plan**

Roofing shall be Composition Shingles over Two layers 3/8\"/>

Downspouts shall be located by others.

The net free attic ventilation area shall be not less than 1/150 of the area of the space ventilated.

ATTIC VENTILATION : 1692 / 150 = 11.28 sq. ft.

Total area required to be vented : 11.28 sq. ft.

16 Rafter vent ..... 10.38 sq. ft.

0 Gable end vent ..... 0.00 sq. ft.

12 O'High vent ..... 7.86 sq. ft.

Total Area of ventilation : ..... 18.24 sq. ft.

50% LOW REQUIREMENT: 10.38 > 5.64, OKAY

50% HIGH REQUIREMENT: 7.86 > 5.64, OKAY

All framing shall be Douglas Fir No. 2 or better (U.G.N.I.)

Composition Shingles shall be fastened per 2013 CBC.

Roof flashing around pipes, vents, flues, chimneys, etc. shall be lead, copper, or other approved flexible flashing material and shall be formed to follow the contours of the tile and allow seating of the tiles as per 2013 CBC.

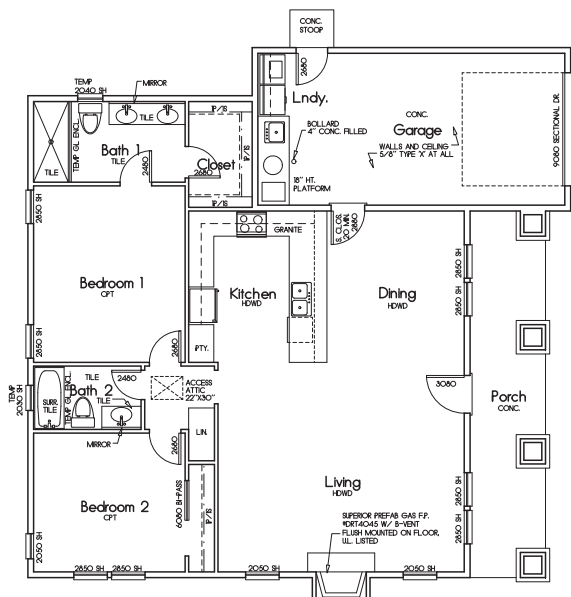
Plate heights are designated off adjacent exterior (U.G.N.I.)

All rakes shall be 24\"/>

All eaves shall be 24\"/>

Plumbing waste stacks and combustion flues shall be placed to penetrate to the rear of the main ridge line.

All beams shall be braced at each end to prevent rotation.



**Floor Plan**

1500 SQUARE FEET  
 GARAGE: 37 SQUARE FEET  
 PORCH: 175 SQUARE FEET





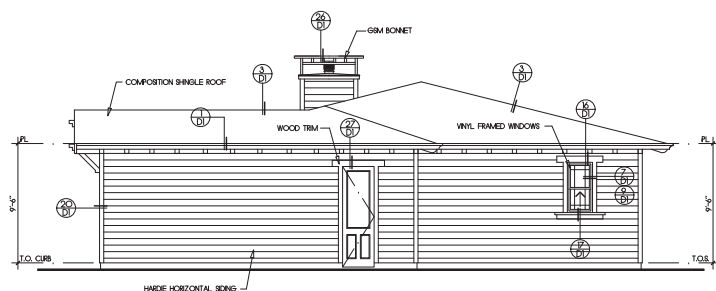
**Terry J. Townsend**  
 • Architect •  
 147 Old Bernal Ave., Suite 6  
 Pleasanton, CA 94566  
 Tel. 925-484-5438

**Proposed Residence**

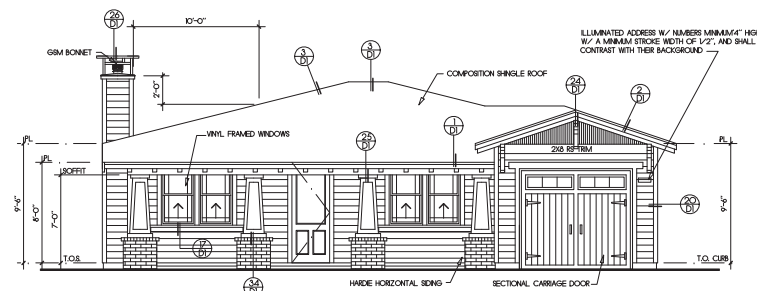
Lot 2 Church Property  
 Pleasanton, California

**Notes:**

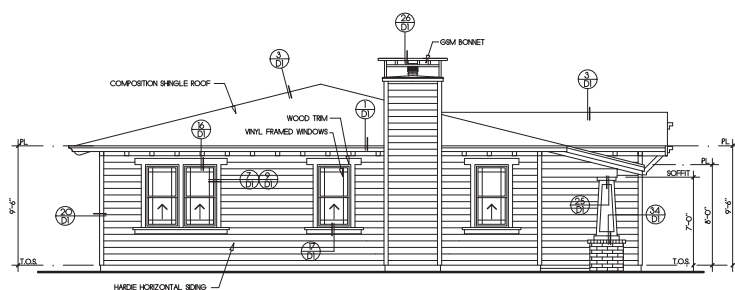
- All windows at first floor shall be mounted at 6'-0" above top of subfloor (L.O.N.).
- Provide 19# building paper at all exterior walls with wood siding finish.
- S.F. : Subfloor
- Subfr : Subfloor
- T.O.S. : Top of Slab
- T.O.S.W. : Top of stem wall
- T.O. Ftg. : Top of Footing
- Fireplace shall be equipped with GSM terminal cap with spark arrester.
- Egress windows shall comply with 2013 CBC with a minimum net clear openable area of 5.7 sq. ft., a minimum net clear openable height of 24 inches, a minimum net clear openable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



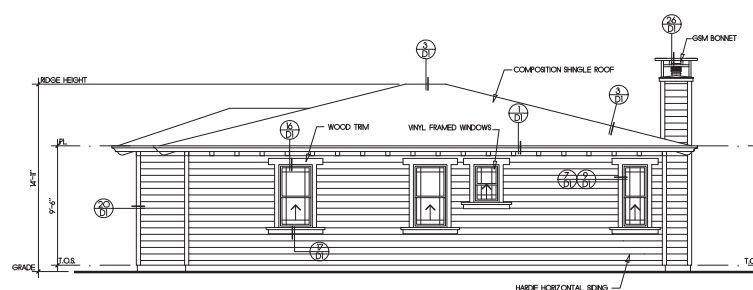
Right Side Elevation  
 (East)



Front Elevation  
 (South)



Left Side Elevation  
 (West)



Rear Elevation  
 (North)

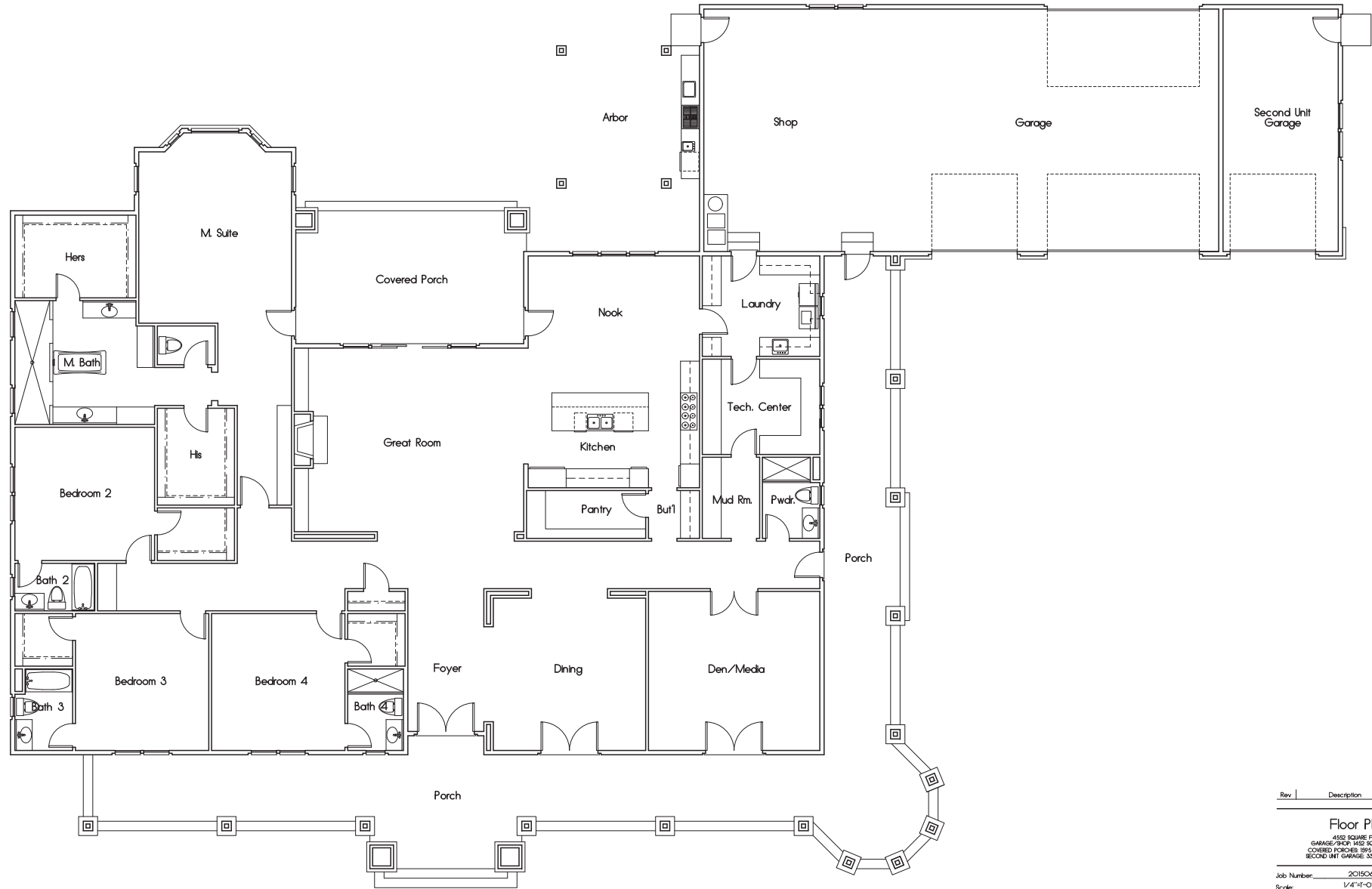
Rev	Description	Date

**Second Unit  
 Exterior Elevations**

Job Number: 201608 Sheet: 2,6  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

Proposed Residence  
 Lot 3 Church Property  
 Pleasanton, California

**Terry J. Townsend**  
 • Architect •  
 147 Old Bernal Ave., Suite 6  
 Pleasanton, CA 94566  
 Tel: 925-484-5438



Rev	Description	Date
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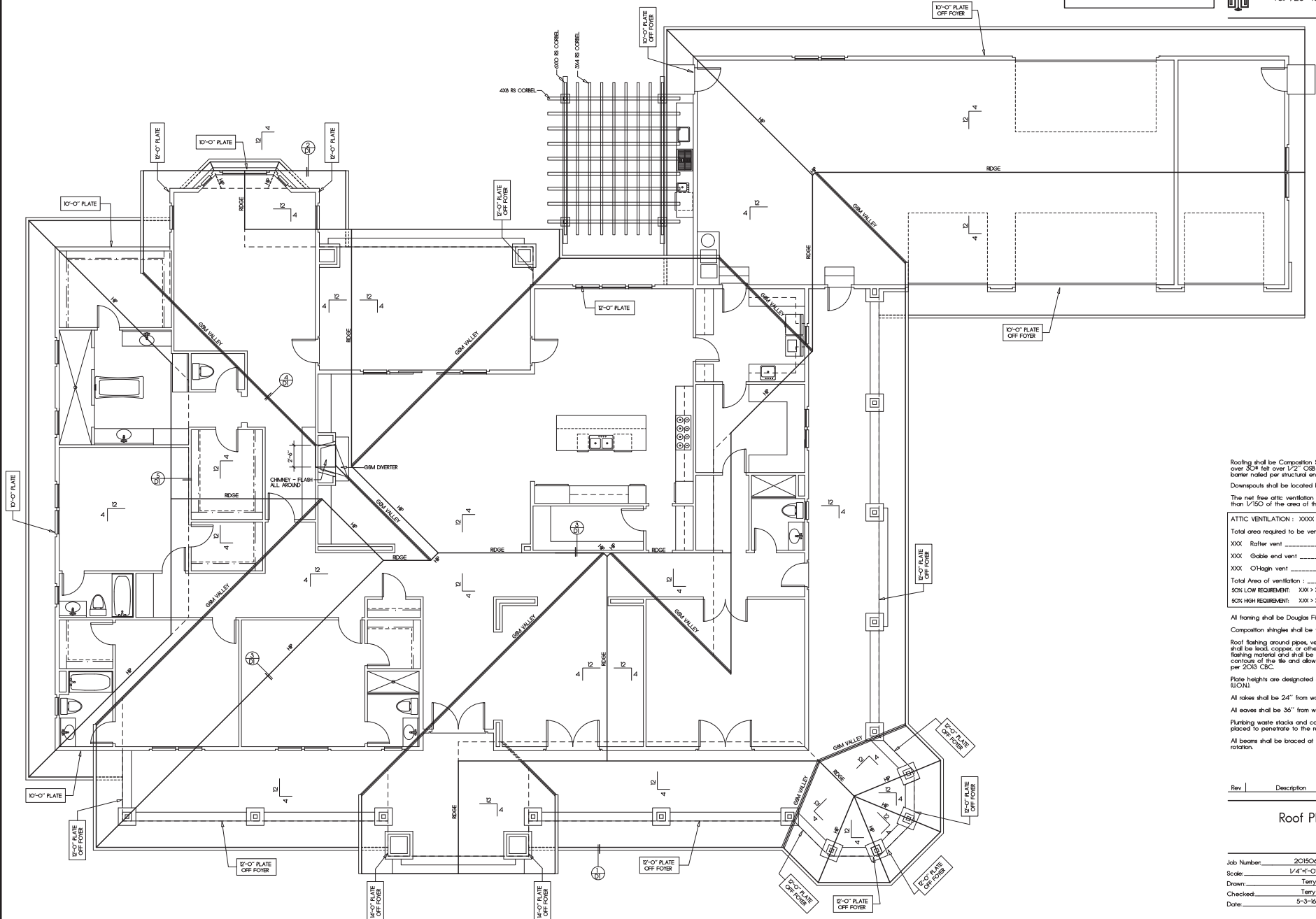
**Floor Plan**  
 4562 SQUARE FEET  
 GARAGE/SHOP 1462 SQUARE FEET  
 COVERED PORCHES 1894 SQUARE FEET  
 SECOND UNIT GARAGE 203 SQUARE FEET

Job Number: 201506 Sheet:  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

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Proposed Residence  
 Lot 3 Church Property  
 Pleasanton, California

Terry J. Townsend  
 • Architect •  
 147 Old Bernal Ave., Suite 6  
 Pleasanton, CA 94566  
 Tel: 925-484-5436



Roofing shall be Composition Shingle over 5/8" felt over 1/2" OSB sheathing w/ radant barrier nailed per structural engineer's specifications. Downspouts shall be located by others.

The net free attic ventilation area shall be not less than 1/150 of the area of the space ventilated.

ATTIC VENTILATION:	XXXX / 150 = XXXXX sq. ft.
Total area required to be vented:	XXXXX sq. ft.
XXX Rafter vent	XXXXX sq. ft.
XXX Gable end vent	XXXXX sq. ft.
XXX CH-gn vent	XXXXX sq. ft.
Total Area of ventilation:	XXXXX sq. ft.
50% LOW REQUIREMENT:	XXX > XXX, OKAY
50% HIGH REQUIREMENT:	XXX > XXX, OKAY

All framing shall be Douglas Fir No. 2 or better (UONI). Composition shingles shall be fastened per 2003 CBC.

Roof flashing around pipes, vents, flues, chimneys, etc. shall be lead, copper, or other approved flexible flashing material and shall be formed to follow the contours of the tile and allow seating of the tiles as per 2003 CBC.

Plate heights are designated off adjacent subfloor (UONI).

All rakes shall be 24" from wall framing (UONI).

All eaves shall be 36" from wall framing (UONI).

Plumbing waste stacks and combustion flues shall be placed to penetrate to the rear of the main ridge line. All beams shall be braced at each end to prevent rotation.

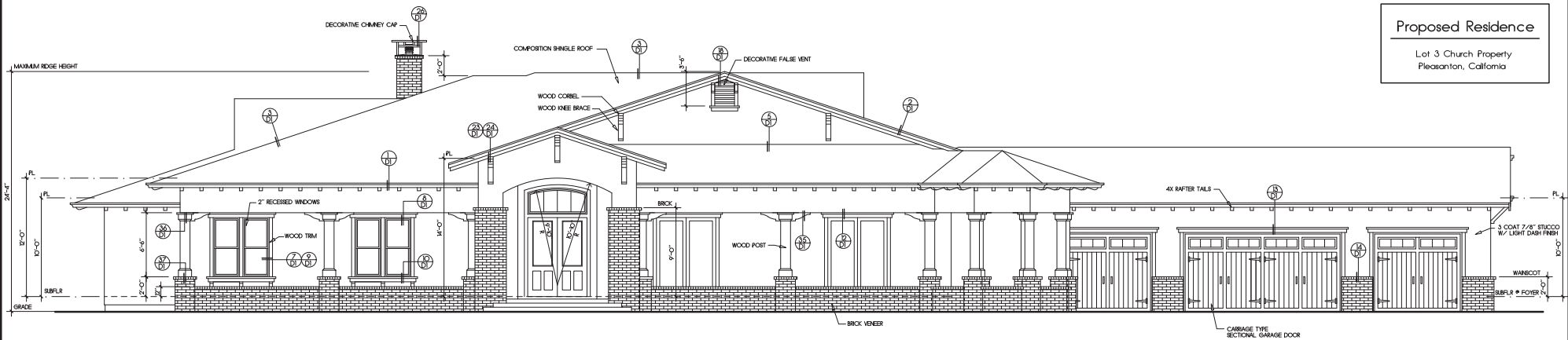
Rev	Description	Date

Roof Plan

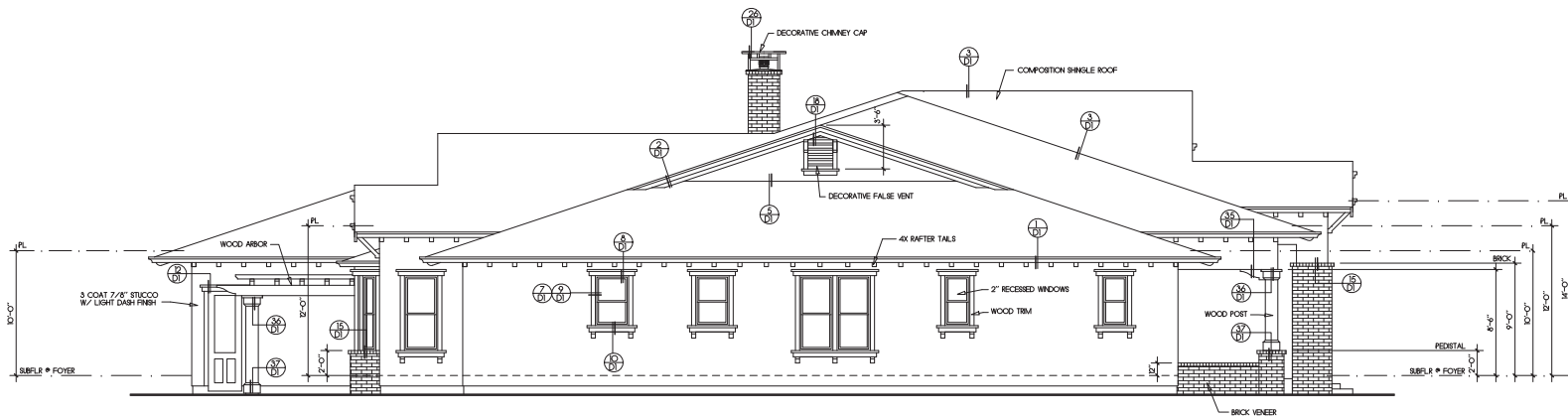
Job Number: 201906 Sheet: 3.2  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 Of 20

**Proposed Residence**

Lot 3 Church Property  
 Pleasanton, California



Front Elevation  
 (Southwest)



Left Side Elevation  
 (Northwest)

All windows of first floor shall be mounted at 8'-0" above top of subfloor (I.O.N.).  
 Provide two layers grade "D" paper at all exterior walls with stucco over wood based sheathing.  
 A weep screed shall be provided at the foundation plate on all exterior studwalls covered with stucco. The screed shall be of a type which will allow trapped water to drain to the exterior of the building per 2003 CBC.

SF : Subfloor  
 Subfl : Subfloor  
 T.O.S. : Top of Slab  
 T.O.S.W. : Top of stem wall  
 T.O. Flg. : Top of Footing  
 Fireplace shall be equipped with GSM terminal cap with spark arrestor.  
 Egress windows shall comply with 2003 CBC with a minimum net clear operable area of 5.7 sq. ft., a minimum net clear operable height of 24 inches, a minimum net clear operable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.

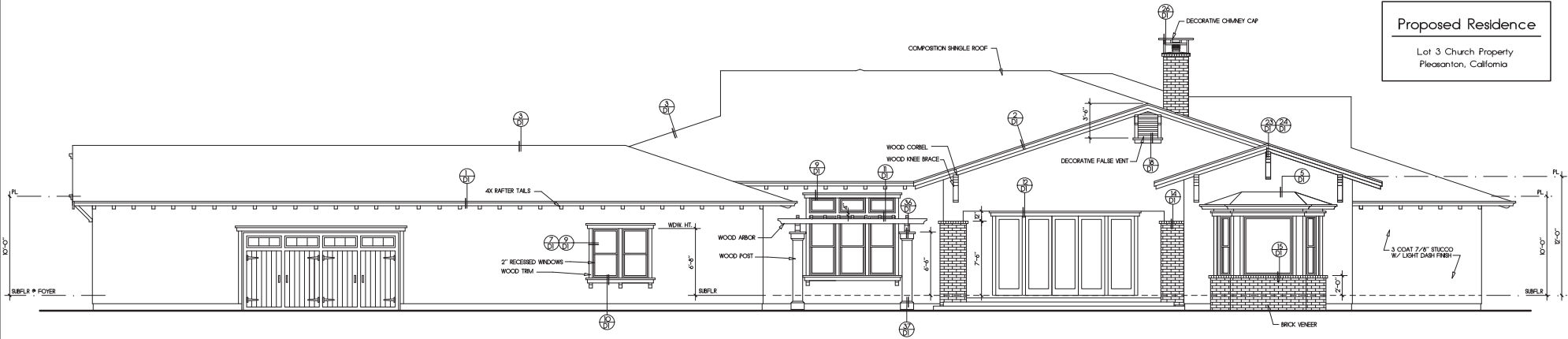
Rev	Description	Date

**Exterior Elevations**

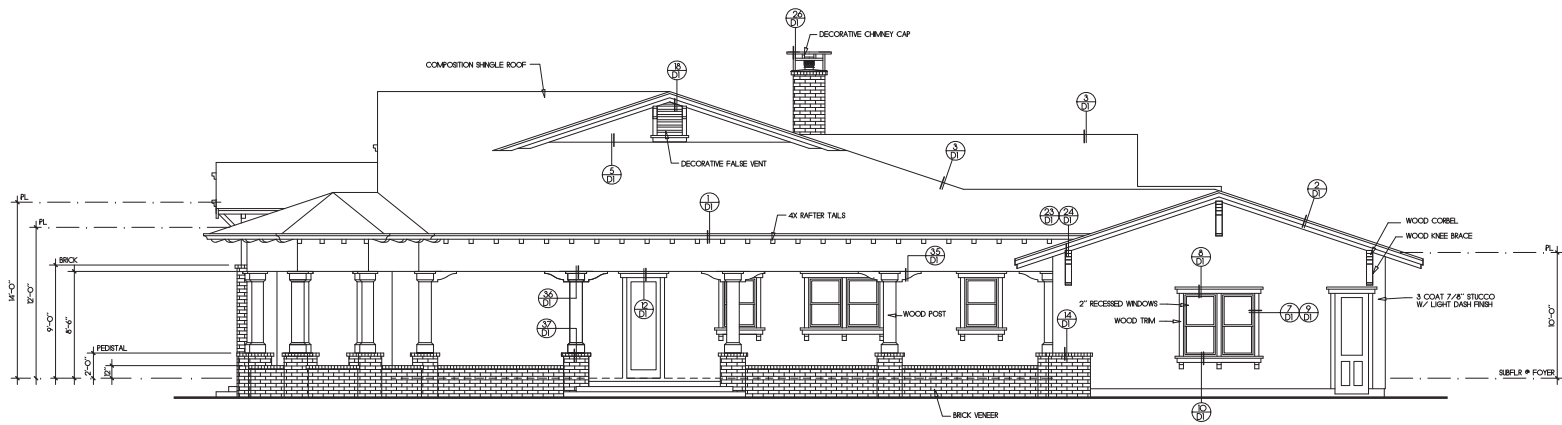
Job Number: 201806 Sheet:  
 Scale: 1/4" = 1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 of 20

3,3

**Proposed Residence**  
 Lot 3 Church Property  
 Pleasanton, California



Rear Elevation  
 (Northeast)



Right Side Elevation  
 (Southeast)

All windows at first floor shall be mounted at 8'-0" above top of subfloor (I.O.N).  
 Provide two layers grade "D" paper at all exterior walls with stucco over wood based sheathing.  
 A weep screed shall be provided at the foundation plate on all exterior studwalls covered with stucco. The screed shall be of a type which will allow trapped water to drain to the exterior of the building per 2003 CBC.  
 SF: Subfloor  
 Subfr: Subfloor  
 T.O.S: Top of Slab  
 T.O.S.W: Top of stem wall  
 T.O. Flg: Top of Footing  
 Fireplace shall be equipped with GSM terminal cap with spark arrestor.  
 Egress windows shall comply with 2003 CBC with a minimum net clear operable area of 5.7 sq. ft., a minimum net clear operable height of 24 inches, a minimum net clear operable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.

Rev	Description	Date

Exterior Elevations

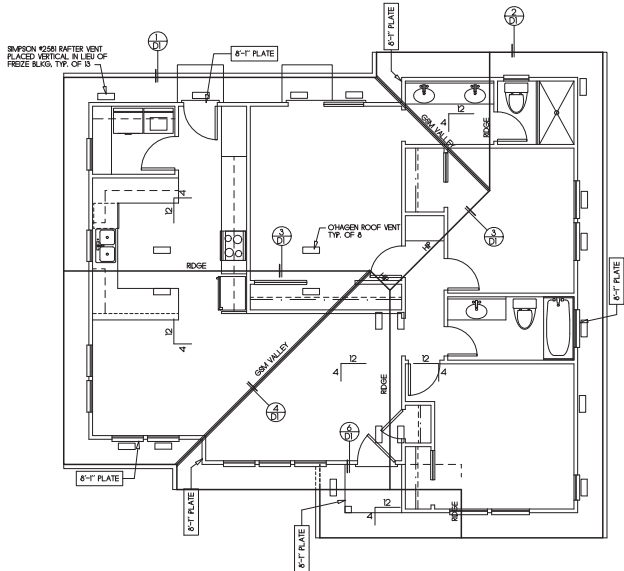
Job Number:	201906	Sheet:	
Scale:	1/4"=1'-0"		
Drawn:	Terry		3,4
Checked:	Terry		
Date:	5-3-16	Of	20

**Proposed Residence**

Lot 3 Church Property  
 Pleasanton, California

**Notes:**

- All angles other than 90 degrees shall be 45 degrees (LIONL).
- Light panels in exterior doors, or within a 24" arc of a swinging door shall be laminated security glass which is a minimum of 1/4" polycarbonate security sheets or their equivalent.
- See cover sheet for schedules and general notes.
- Provide minimum 10'x30" clear access from underfloor access point to each drain line cleanout located in the underfloor area.
- Sliding doors and operable windows shall comply with 2013 CRC.
- Wall coverings of shower and tub/shower shall be cement plaster, tile, or approved equal to 72" above drain inlet. Materials other than structural shall be moisture resistant.
- Maximum difference between the largest and smallest tier shall be 3/8".
- Water closets shall be in a clear space 30" minimum wide and have a minimum 24" clear space in front.
- All exterior walls shall be 2x4 studs @ 16" o.c. minimum, or otherwise noted.
- All interior walls shall be 2x4 studs @ 16" o.c. minimum, or otherwise noted.
- Threshold height shall be limited to 7/5 inches residential where the door is an exterior door that is not a component of the required means of egress, the door, other than an exterior storm or screen door does not swing over the landing or step.
- Contractor shall verify all conditions and measurements in field prior to any fabrication of materials or commencement of work.
- Contractor shall notify the Architect immediately upon discovery of any discrepancies and cease work until resolved to the satisfaction of the Architect.



**Roof Plan**

Roofing shall be Composition Shingle over 3/4" felt over 1/2" OSB sheathing w/ radiant barrier noted per structural engineer's specifications. Downspouts shall be located by others.

The net free attic ventilation area shall be not less than 1/150 of the area of the space ventilated.

All framing shall be Douglas Fir No. 2 or better (LIONL).

Composition shingles shall be fastened per 2013 CRC.

Roof flashing around pipes, vents, flues, chimneys, etc. shall be lead, copper, or other approved flexible flashing material and shall be formed to follow the contours of the tile and allow sealing of the tiles as per 2013 CRC.

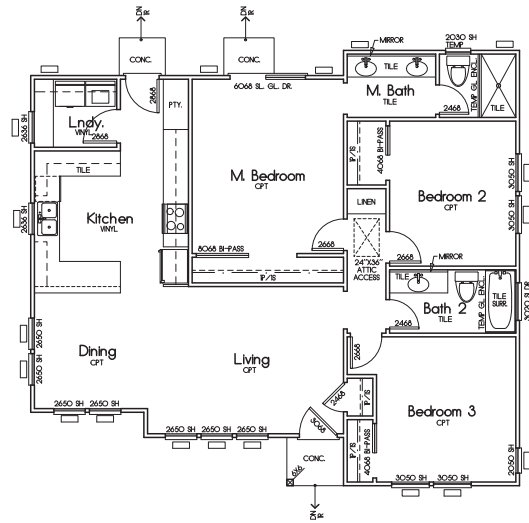
Plate heights are designated off adjacent subfloor (LIONL).

All rakes shall be 24" from wall framing (LIONL).

All eaves shall be 24" from wall framing (LIONL).

All beams shall be braced at each end to prevent rotation.

ATTIC VENTILATION : 1199 / 150 = 8,00 sq. ft.	
Total area required to be vented : 8,00 sq. ft.	
13 Rafter vent	7,46 sq. ft.
0 Gable end vent	0,00 sq. ft.
6 O'Hghn vent	5,24 sq. ft.
Total Area of ventilation : 12,72 sq. ft.	
50% LOW REQUIREMENT: 7,46 > 4,00, OKAY	
50% HIGH REQUIREMENT: 5,24 > 4,00, OKAY	



**Floor Plan**

1163 SQUARE FEET

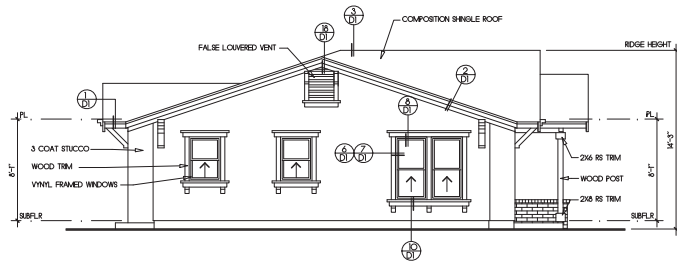
Rev.	Description	Date
<b>Second Unit Floor and Roof Plan</b>		
Job Number:	204007	Sheet:
Scale:	1/4"=1'-0"	<b>3,5</b>
Drawn:	Terry	
Checked:	Terry	
Date:	5-3-16	

**Proposed Residence**

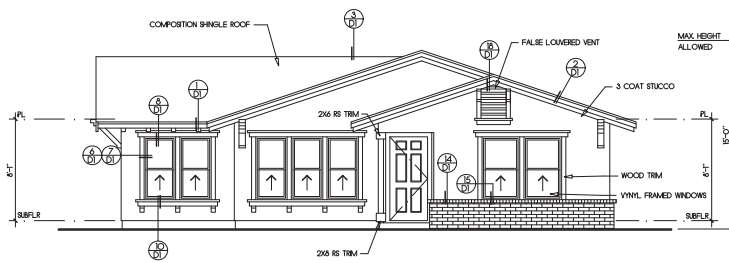
Lot 3 Church Property  
 Pleasanton, California

**Notes:**

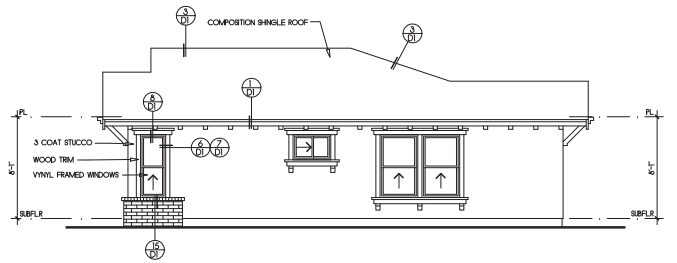
All windows of first floor shall be mounted at 6'-0" above top of subfloor (T.O.S.F.)  
 Provide 15# building paper on all exterior walls with wood siding finish.  
 SF: Subfloor  
 Subfr: Subfloor  
 T.O.S.: Top of Slab  
 T.O.S.W.: Top of stem wall  
 T.O. Fig.: Top of Footing  
 Egress windows shall comply with 2013 CBC with a minimum net clear operable area of 5.7 sq. ft., a minimum net clear operable height of 24 inches, a minimum net clear operable width of 20 inches, and a maximum height of 44 inches from the floor to the bottom of the window opening.



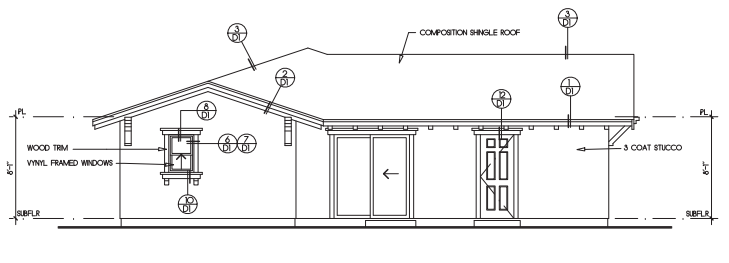
Left Side Elevation  
 (Northwest)



Front Elevation  
 (Southwest)



Right Side Elevation  
 (Southeast)



Rear Elevation  
 (Northeast)

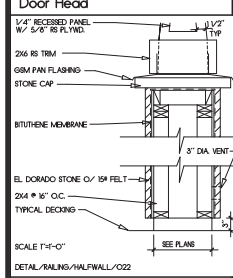
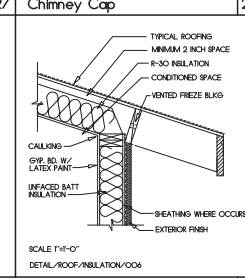
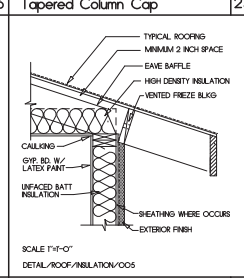
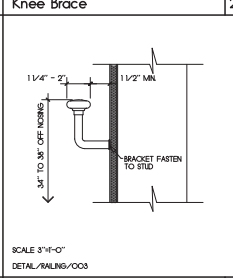
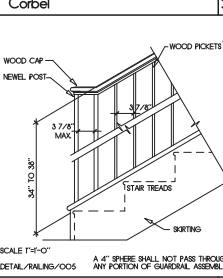
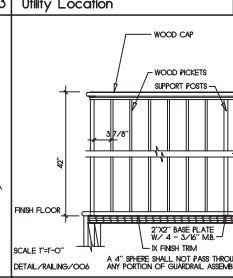
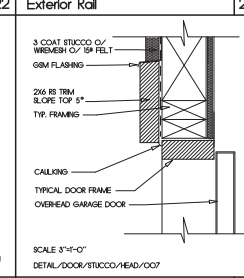
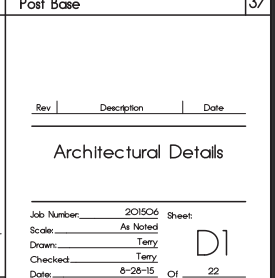
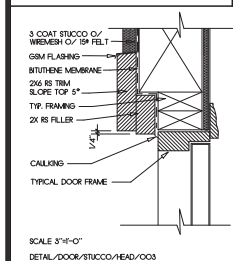
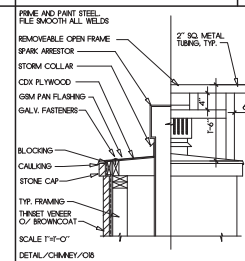
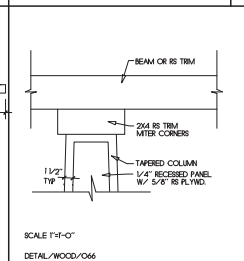
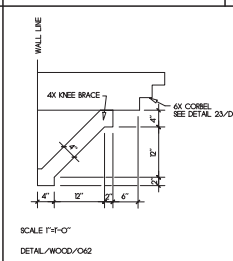
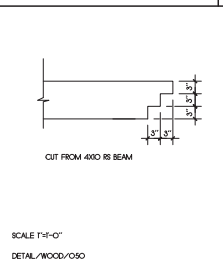
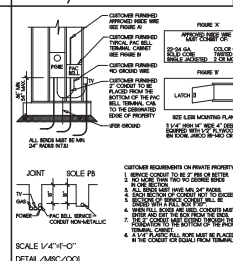
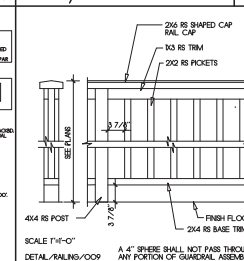
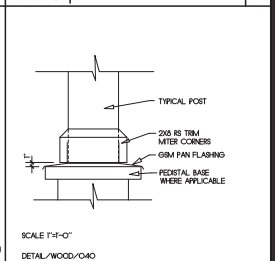
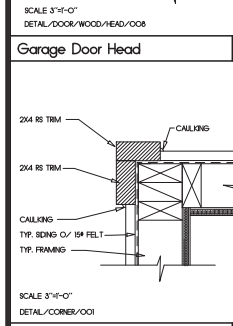
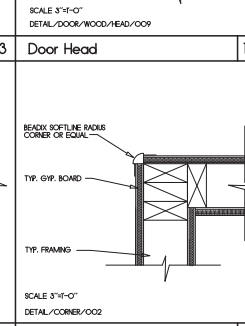
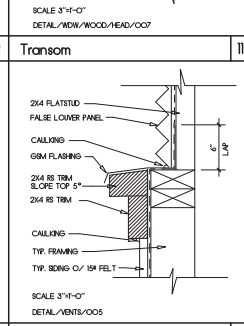
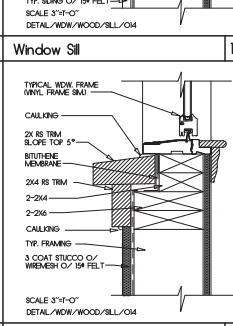
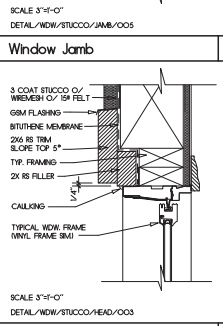
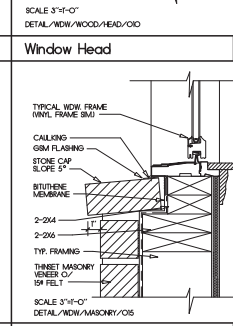
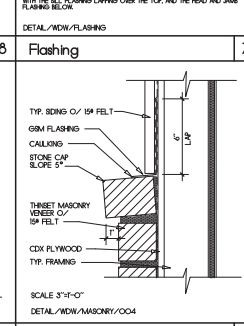
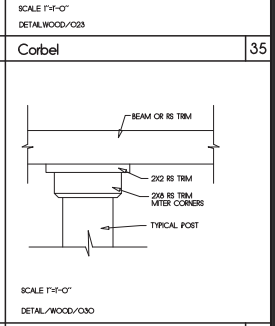
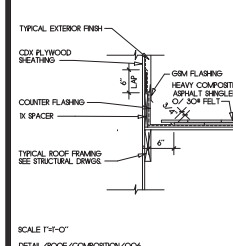
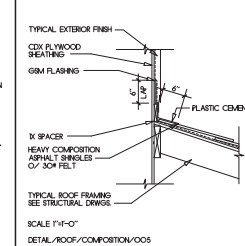
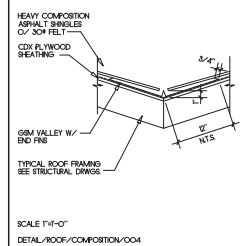
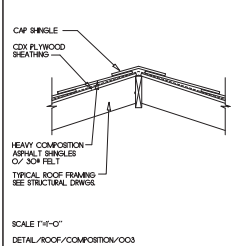
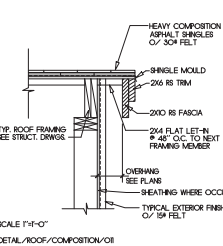
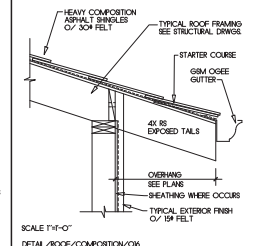
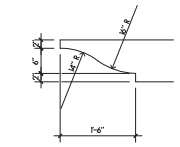
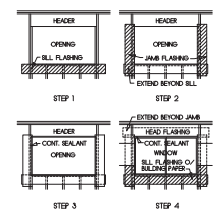
Rev	Description	Date
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**Second Unit  
 Exterior Elevations**

Job Number: 20K07 Sheet: 3.6  
 Scale: 1/4"=1'-0"  
 Drawn: Terry  
 Checked: Terry  
 Date: 5-3-16 Of: 20

Church Property  
 Church Property  
 Pleasanton, California

Notes:



Rev. Description Date  
 Architectural Details  
 Job Number: 201006 Sheet: D1  
 Scale: As Noted  
 Drawn: Terry  
 Checked: Terry  
 Date: 8-28-15 of 22

Tapered Column Base	34	Insulation	33	Insulation	32	Handgrip	31	Handrail	30	Guardrail	29	Garage Door Head	28
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## FENCING



4' WOODCRETE RAIL FENCE WITH WIRE MESH



6' WELDED WIRE MESH FENCE



6' WOOD FENCE

## PAVING



STAMPED COLORED CONCRETE



DECOMPOSED GRANITE SURFACE

## WALLS



CALSTONE WALL BLOCK SYSTEM

## PLANT PALETTE

### TREES



*Cercis occidentalis*



*Lagerstroemia* f. 'Muskogee', 'Seminole', or 'Tuscarora'



*Platanus* a. 'Columbia'



*Quercus virginiana*

### SHRUBS (5 feet tall or greater)



*Alyone hugelii*



*Cotoneaster lacteus*



*Lavatera assurgentiflora*



*Leptospermum* s. 'Ruby Glow'



*Rosmarinus* o. 'Tuscan Blue'

### SHRUBS (3-5 feet tall)



*Asparagus* d. 'Myers'



*Berberis* l. 'Rose Glow'



*Euryops* p. 'Viridis'



*Ilex* v. 'Nana'



*Lavandula* species



*Westringia* l. 'Wynyabbie Gem'

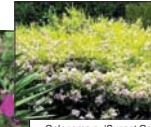


*Mulenbergia repens*

### SHRUBS (3 feet tall or less)



Cistus 'Sunset'



*Coleonema* p. 'Sunset Gold'



*Erigeron karvinskianus*



*Euonymus* f. 'Emerald Gaiety'



*Rosa* x. 'Nostrum'

*Teurcium marum*

### SHRUBS (biofiltration areas)



*Carex pansa*



*Chondropetalum tectorum*



*Juncus patens*

### GROUND COVERS



*Ajuga reptans*



*Coprosmia* k. 'Variegata'



*Cotoneaster* d. 'Lowfast'



*Euonymus* f. 'Colorata'

### LANDSCAPE CONCEPT

The Preliminary Landscape Plan depicts a general concept. The Plant Palette is not intended to be a complete list of materials. Actual plant material used in the construction documents may vary. The design incorporates drought tolerant and deer resistant plant material. The biofiltration areas are camouflaged as dry creek beds to blend in with the surrounding environment and to help reduce erosion.

Construction Documents will be prepared based on City of Pleasanton approval in compliance with the State of California AB1881 Water Efficient Landscaping Regulations, CAL Green Building Standards Code requirements for outdoor water use, Alameda County Clean Water Program C.3 Stormwater Technical Guidance, and Bay-Friendly Landscape Guidelines principles.



Landscape Concept

Biofiltration Dry Creek Bed

Valley Capital Realty

7080 Donlon Way, Suite 208  
Dublin, CA 94568

PLEASANT VIEW CHURCH SITE

PLANNED UNIT DEVELOPMENT  
CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

PRELIMINARY  
LANDSCAPE  
MATERIALS

L2

05.03.16



DUTCHOVER  
& ASSOCIATES

LANDSCAPE ARCHITECTS

0 10' 20' 30' 60'  
SCALE: 1" = 30'



**NOTES**

1. CONSTRUCTION DOCUMENTS WILL BE PREPARED BASED ON CITY OF PLEASANTON APPROVAL IN COMPLIANCE WITH THE STATE OF CALIFORNIA 181181 WATER EFFICIENT LANDSCAPING REGULATIONS, CAL GREEN BUILDING STANDARDS CODE REQUIREMENTS FOR OUTDOOR WATER USE, ALAMEDA COUNTY CLEAN WATER PROGRAM C.3 STORMWATER TECHNICAL GUIDANCE, AND BAY-FRIENDLY LANDSCAPE GUIDELINES PRINCIPLES.

**PLANT PALETTE**

KEY	BOTANICAL NAME	COMMON NAME	CONTAINER SIZE	SPACING	'F'
<b>TREES:</b>					
	CERCIS OCCIDENTALIS LAGERSTROEMIA HYBRIDS	WESTERN REDBUD GRAPE HIRTLE	15 GALLON 24" BOX	AS SHOWN AS SHOWN	VL LOW
	PLATANUS A. 'COLUMBIA'	COLUMBIA LONDON PLANE TREE	15 GALLON	AS SHOWN	MED
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	15 GALLON	AS SHOWN	MED
	ORCHARD TREE AS SELECTED BY HOMEOWNER		TBD	AS SHOWN	MED
<b>SHRUBS:</b>					
<b>LARGE (5 FEET TALL OR GREATER)</b>					
	ALYOGNE HUEGELII LAVATERA ASSURGENTIFLORA LEPTOSPERMUM S. 'RUBY GLOW'	BLUE HIBISCUS TREE MALLOW TEA TREE	5 GALLON	AS SHOWN	LOW LOW MED
	COTONEASTER LACTEUS ROSMARINUS O. 'TURCAN BLUE'	PARNEY'S COTONEASTER ROSEMARY	5 GALLON	AS SHOWN	LOW LOW
<b>MEDIUM (3-5 FEET TALL)</b>					
	ASPARAGUS D. 'MYERS' BERBERIS T. 'ROSE GLOW' EURYOPS P. 'VIRIDS' ILEX V. 'NANA' LAVANDULA SPECIES WESTRINGIA F. 'WYNABBIE GEM'	MYERS' ASPARAGUS WARTY BARBERY NO COMMON NAME DWARF 'YUJON' LAVENDER COAST ROSEMARY	5 GALLON	3'-5' OC	MED MED LOW LOW LOW LOW
<b>SHRUBS (CONT):</b>					
<b>MEDIUM (3-5 FEET TALL)</b>					
	MULHENBERGIA RIGENS	DEER GRASS	1 GALLON	AS SHOWN	LOW
<b>LOW (3 FEET TALL OR LESS)</b>					
	CISTUS P. 'SUNSET' COLEONEMA P. 'SUNSET GOLD' ERIODON KARYOPHYLLUS EUKALYPTUS F. 'EMERALD GAETY' ROSA X. NOCTURNUM TEUFRIDIUM MARITIM	ROCKROSE PINK BREATHER OF HEAVEN SANTA BARBARA DADDY WINTER CREEPER FLOWER CARPET CAT THYME	5 GALLON	3' OC	LOW MED LOW MED MED LOW
<b>BIOFILTRATION AREAS</b>					
	CAREX PANSA CHONDROPETALUM TECTORUM JUNCUS PATENS	ROCKROSE CAPE RUSH CALIFORNIA GRAY RUSH	1 GALLON	3' OC	MED LOW LOW
<b>GROUND COVERS</b>					
	AJUGA REPENS COPROSMA K. 'VARIEGATA' COTONEASTER O. 'LOW FAST' EUKALYPTUS F. 'COLORATUS'	CARPET BUGLE VARGIATED COPROSMA BEARBERY COTONEASTER PURPLE-LEAF WINTER CREEPER	1 GALLON	2'-4' OC	MED LOW LOW MED

NOTE: PLANT PALETTE IS INTENDED AS A REPRESENTATIVE GUIDE OF THE PLANT MATERIAL TO BE USED. ACTUAL PLANT MATERIAL USED IN THE CONSTRUCTION DOCUMENTS MAY VARY. EACH PLANT SYMBOL ON THE PLANT PALETTE IDENTIFIES A NUMBER OF SPECIES. ONLY ONE SPECIES WILL BE SELECTED PER SYMBOL FOR PLANTING IN A GROUP OF THE SAME SYMBOL ON THE PLAN.

\* PLANT FACTORS (F) ARE BASED ON WATER USE CLASSIFICATION OF LANDSCAPE SPECIES (WUCOLS) PUBLISHED BY THE UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION, JANUARY 2014.

**Valley Capital Realty**  
7080 Donlon Way, Suite 208  
Dublin, CA 94568

**PLEASANT VIEW CHURCH SITE**  
PLANNED UNIT DEVELOPMENT  
CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

**PRELIMINARY  
LANDSCAPE  
PLAN**

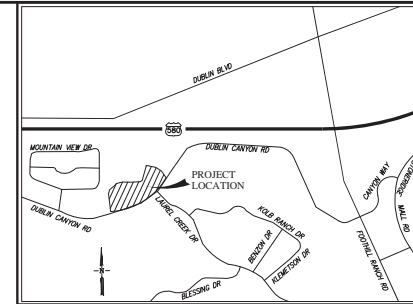
**L1**  
Revised 06.29.16



# VESTING TENTATIVE MAP

## PLEASANT VIEW CHURCH SITE

### CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA



**VICINITY MAP**  
NOT TO SCALE

**GENERAL NOTES**

1. OWNER: PLEASANT NEW CHURCH OF CHRIST  
11300 DUBLIN CANYON ROAD  
PLEASANTON, CA 94568
2. DEVELOPER: CALIFORNIA GOLD ADVOCACY GROUP  
7850 DUBLIN BOULEVARD, SUITE 312  
PLEASANTON, CA 94568  
TEL (925) 828-4254  
CONTACT: GUY HOUSTON
3. CIVIL ENGINEER: RUGGERI-JENSEN-AZAR  
4690 CHABOT DRIVE, SUITE 200  
PLEASANTON, CA 94568  
TEL (925) 227-9100  
CONTACT: MARK FALCOUT
4. GEOTECHNICAL ENGINEER: NICHOLAS ENGINEERING CONSULTANTS  
6743 DUBLIN BOULEVARD, SUITE 15  
DUBLIN, CA 94568  
TEL (925) 828-8000  
CONTACT: DEWY A. NICHOLAS
5. ARCHITECT: TERRY TOWNSEND ARCHITECT  
147 OLD BERNAL AVENUE, SUITE 6  
PLEASANTON, CA 94568  
TEL (925) 464-2439  
CONTACT: TERRY TOWNSEND
6. LANDSCAPE ARCHITECT: DUTCHOVER & ASSOCIATES  
1233 QUARRY LANE, SUITE 115  
PLEASANTON, CA 94568  
TEL (925) 462-3576  
CONTACT: BRIAN DUTCHOVER
7. PROPERTY DESCRIPTION: ASSESSOR'S PARCEL NUMBER 941-1600-007-03  
PLEASANTON, ALAMEDA COUNTY, CALIFORNIA
8. ASSESSOR'S PARCEL NUMBER: 941-1600-007-03
9. CURRENT USE: UNDEVELOPED LAND AND EXISTING STRUCTURES
10. PROPOSED USE: SINGLE-FAMILY DETACHED
11. EXISTING ZONING: PUD - A
12. PROPOSED ZONING: PUD - MDR
13. GROSS SITE AREA: 4.192 ACRES
14. SMALLEST LOT AREA: 25,000 SQUARE FEET
15. TOTAL NUMBER OF PROPOSED LOTS: 5
16. UTILITIES:
 

a. WATER:	CITY OF PLEASANTON
b. SANITARY SEWER:	CITY OF PLEASANTON
c. STORM DRAIN:	CITY OF PLEASANTON
d. FIRE:	LIVERMORE-PLEASANTON FIRE DEPARTMENT
e. GAS AND ELECTRIC:	PACIFIC GAS AND ELECTRIC
f. TELEPHONE:	AT&T
g. CABLE TV:	COMCAST
17. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AERIAL TOPOGRAPHIC SURVEY PREPARED IN SEPTEMBER, 2014.
18. THIS PROPERTY LIES WITHIN ZONE X, OTHER AREAS (AREAS DEEMED TO BE OUTSIDE OF 0.2% ANNUAL CHANCE FLOOD PLAN), & ZONE AE (AREAS OF 1% ANNUAL CHANCE FLOOD WITH KNOWN BASE FLOOD ELEVATION) AS SHOWN IN FLOOD INSURANCE RATE MAP, COMMUNITY MAP NO. 0600103046, DATED AUGUST 1, 2009.
19. THE DEVELOPER RESERVES THE RIGHT TO FILE MULTIPLE FINAL MAPS.

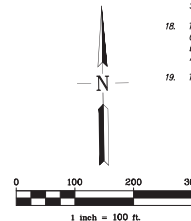
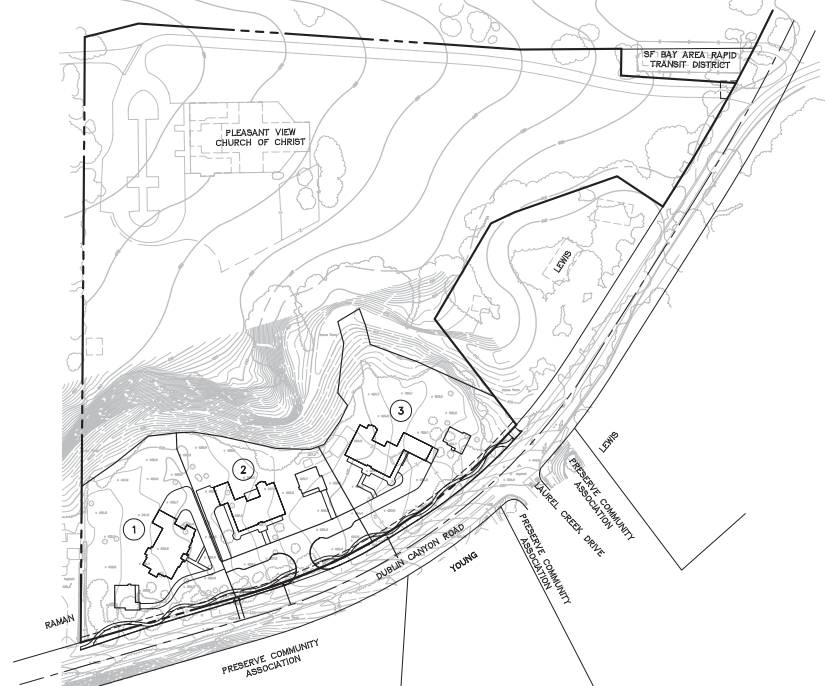
PROPOSED	DESCRIPTION	EXISTING
---	TRACT BOUNDARY	---
---	LOT LINE	---
---	RIGHT OF WAY	---
---	CENTER LINE	---
---	MATCH LINE	---
---	RETAINING WALL	---
---	EASEMENT LINE	---
---	STORM DRAIN	EX 12"30
---	SANITARY SEWER	EX 8"35
---	WATER	EX 8"30
---	RECYCLED WATER	EX 8"30
---	CURB & GUTTER	EX FC
---	SIDEWALK	---
---	OVERHEAD UTILITIES	---
---	JOINT POLE	---
---	EARTH OR GRASS SWALE	---
---	CONCRETE DITCH	---
---	STORM WATER INLET	---
---	FIELD INLET	---
---	AREA DRAIN	---
---	DIRECTION OF FLOW	---
---	MANHOLE	---
---	FIRE HYDRANT	---
---	BLOW OFF	---
---	SANITARY SEWER CLEAN OUT	---
---	WATER VALVE	---
---	STREET LIGHT	---
---	MONUMENT	---
---	TRAFFIC SIGN	---
---	STREET NAME SIGN	---
---	FENCE	---
---	BARRICADE	---
---	SLOPE	---
---	HANDICAP RAMP	---
---	SAVE TREE	---
---	REMOVE TREE	---
---	CONTOUR ELEVATIONS	---
---	SPOT ELEVATION	---
---	ASPHALT PAVEMENT	---
---	BIORETENTION AREA	---
---	LIFT STATION	---
---	DIRECTION OF FUTURE FLOW	---
---	AB MAINTENANCE ROAD	---
---	LIGHT CLASS RIP RAP	---

**ABBREVIATIONS**

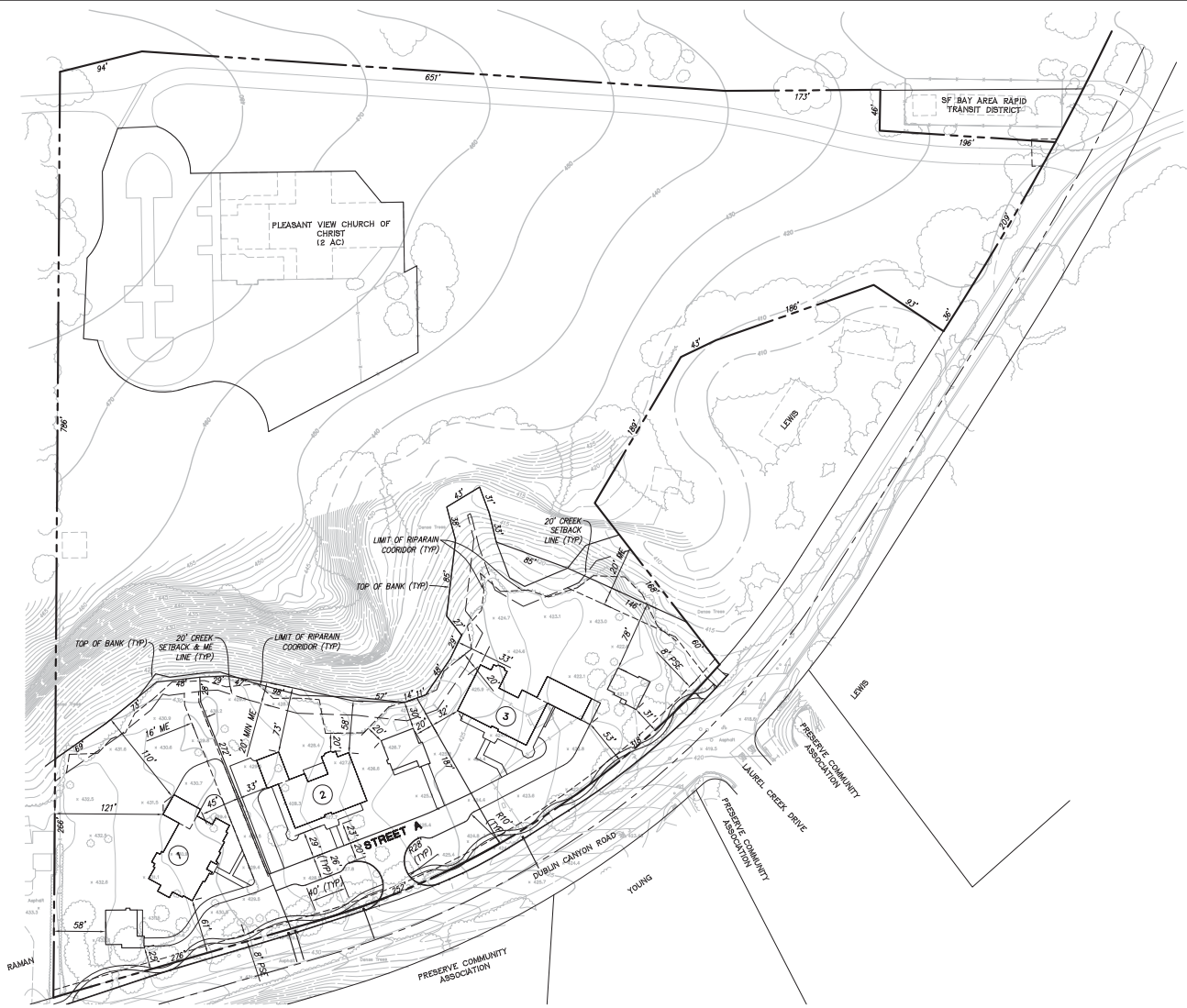
AB	AGGREGATE BASE	LE	LANDSCAPE EASEMENT
AC	ASPHALT CONCRETE	LP	LOW POINT
AD	AREA DRAIN	ME	MAINTENANCE EASEMENT
BC	BEGINNING OF CURVE	MH	MANHOLE
BFE	BASE FLOOD ELEVATION (FEMA)	OH	OVERHEAD UTILITIES
BVC	BEGIN VERTICAL CURVE	PAE	PRIVATE ACCESS EASEMENT
BO	BLOW OFF	PCC	POINT OF COMPOUND CURVE
BW	BOTTOM OF WALL	PL	PROPERTY LINE
CL	CENTER LINE	PRC	POINT OF REVERSE CURVE
CMP	CORRUGATED METAL PIPE	PSC	PUBLIC SERVICE EASEMENT
CP	CENTER POINT	PVC	POLYVINYL CHLORIDE PIPE
DWY	DRIVEWAY	PVI	POINT OF VERTICAL INTERSECTION
DI	DUCTILE IRON PIPE	RCP	REINFORCED CONCRETE PIPE
EC	END OF CURVE	RET	CURB RETURN
ESMT	EASEMENT	RW	RIGHT OF WAY
EVC	END VERTICAL CURVE	SDE	STORM DRAIN EASEMENT (PUBLIC)
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	SNS	STREET NAME SIGN
EX	EXISTING	SO	SIDE OPENING INVERT
FC	FACE OF CURB	SSCO	SANITARY SEWER CLEAN OUT
FG	FINISHED GRADE	STA	STATION
FI	FIRE HYDRANT	SW	STORM WATER INLET
FI	FIELD INLET	SWK	SIDEWALK
IB	IRREGULAR BREAK	TC	TOP OF CURB
GR	GRATE	TW	TOP OF WALL
HP	HIGH POINT	WM	WATER METER
INV	INVERT ELEVATION	VC	VERTICAL CURVE
JP	JOINT POLE	VCP	VITRIFIED CLAY PIPE

**SHEET INDEX**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	PRELIMINARY LOTTING PLAN
3	PRELIMINARY GRADING AND UTILITY PLAN
4	PRELIMINARY STORMWATER TREATMENT PLAN



**RJA**  
**RUGGERI-JENSEN-AZAR**  
ENGINEERS • PLANNERS • SURVEYORS  
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94568  
PHONE: (925) 227-9100 FAX: (925) 227-9300



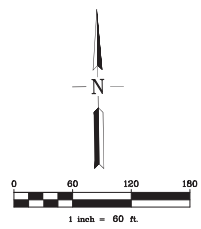
**SITE SUMMARY**

NUMBER OF NEW UNITS:	3
CHURCH PARCEL ACRES	11.9 ACRES
DEVELOPED ACRES (LOTS AND STREETS)	4.3 ACRES
TOTAL ACRES	16.2 ACRES
PARKING DRIVEWAYS (2 MINIMUM PER NEW RESIDENCE)	6
GARAGE (2 PER NEW RESIDENCE)	9
TOTAL	15 TOTAL

**LOT TABLE AREA**

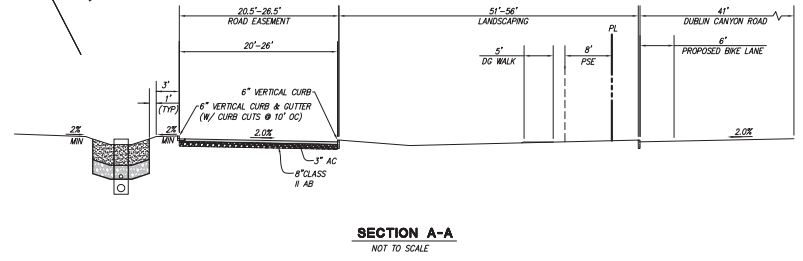
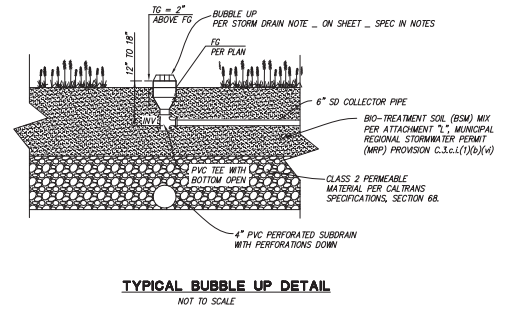
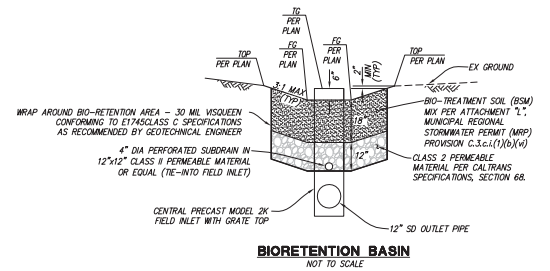
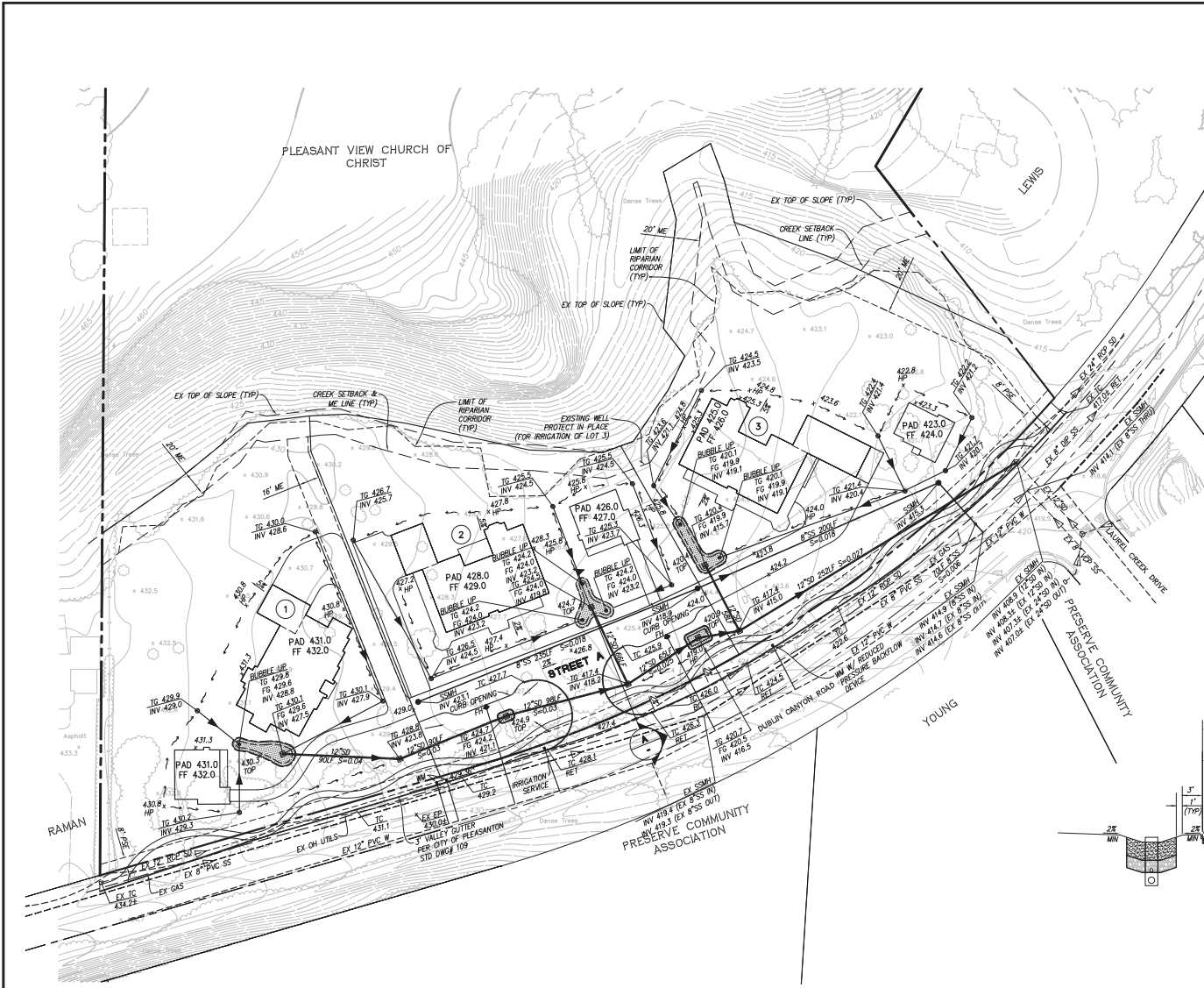
LOT	GROSS LOT SIZE (SF)	NET LOT SIZE (SF)
1	62,686	62,686
2	57,839	50,356
3	67,226	67,226

**PRELIMINARY LOTTING PLAN**  
**PLEASANT VIEW CHURCH**  
 CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

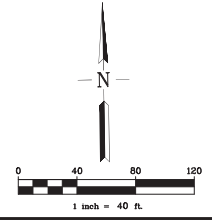


**RJA**  
**RUGGERI-JENSEN-AZAR**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588  
 PHONE: (925) 227-9100 FAX: (925) 227-9300

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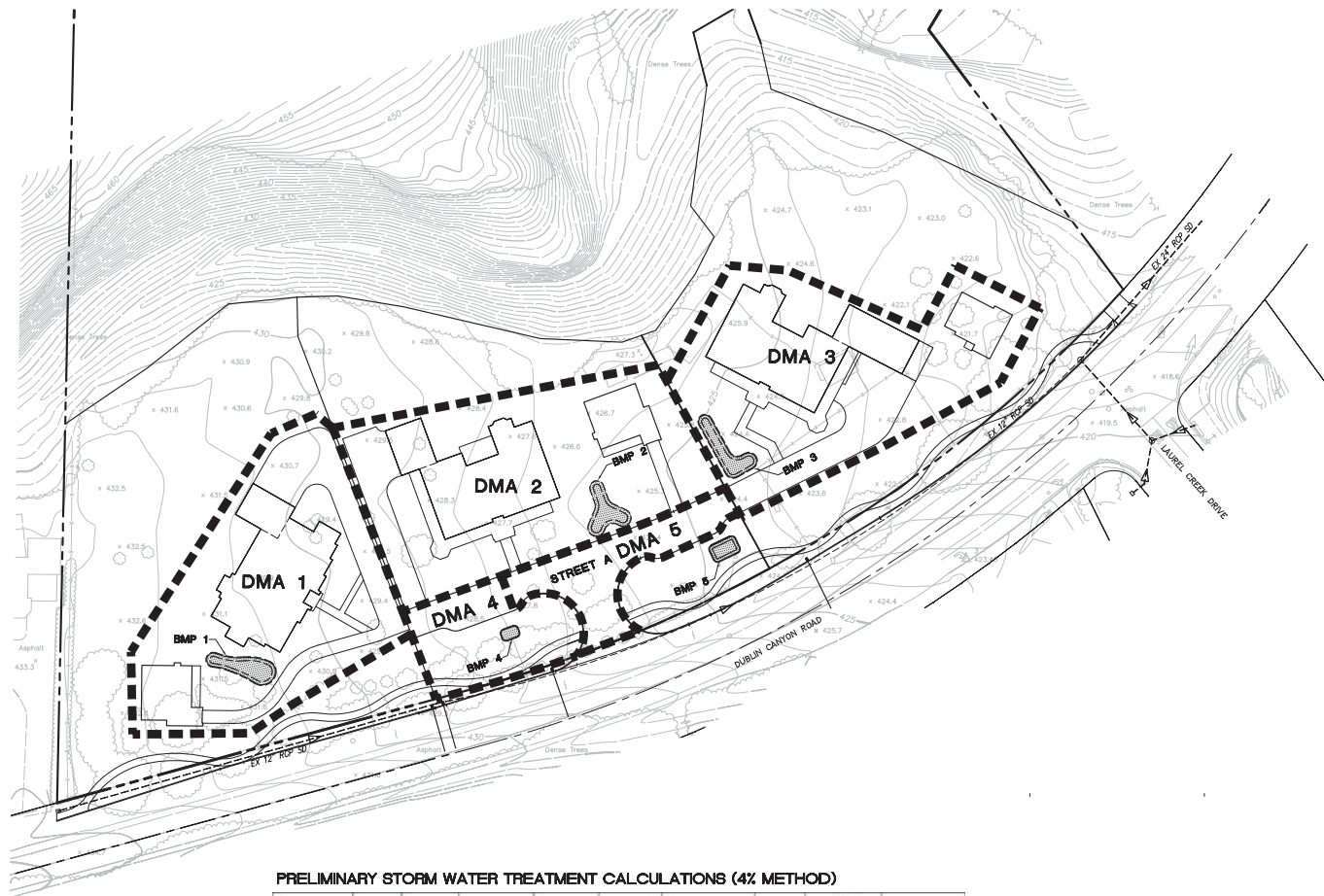


**PRELIMINARY GRADING AND UTILITY PLAN**  
**PLEASANT VIEW CHURCH**  
CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA



  
**RUGGERI-JENSEN-AZAR**  
 ENGINEERS • PLANNERS • SURVEYORS  
 4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588  
 PHONE: (925) 227-9100 FAX: (925) 227-9300  
 DATE: JUNE 2016 JOB NO. 141084 SHEET 3 OF 4

6: APPROVED FOR THE CITY OF PLEASANTON, CALIFORNIA, BY THE CITY ENGINEER, DATE: 6/29/2016, BY: S. H. AM. SANKAR, CIVIL ENGINEER



**LEGEND:**

- DRAINAGE AREA BOUNDARY
- BIO-RETENTION AREA

**NOTES:**

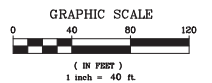
1. THE CALCULATIONS ARE BASED ON THE ALAMEDA COUNTYWIDE CLEAN WATER PROGRAM, C3 STORMWATER TECHNICAL GUIDANCE, DATED MAY 14, 2013 AND THE FOLLOWING CRITERIA:
  - a. 0.2 INCHES/HOUR RAINFALL INTENSITY ON 100% IMPERVIOUS AREA.
  - b. SOI FOR TREATMENT MEDIUM WITH A 5 INCHES/HOUR INFILTRATION RATE.
  - c. A TREATMENT MEDIUM OF 0.04 SIZING FACTOR.
2. SIZING FACTOR OF 0.04 NOTED ABOVE IS CALCULATED BASED ON THE FOLLOWING CRITERIA:
  - a. SIZING FACTOR=(0.2 IN/HR)/(5 IN/HR)=0.04
3. TOTAL POST DEVELOPMENT IMPERVIOUS SURFACE = 45,913 S.F. IMPERVIOUS SURFACE TREATED BY BELOW GRADE FLOW-THROUGH MEDIUM = 45,913 S.F. PERCENT OF POST DEVELOPMENT IMPERVIOUS SURFACE TREATED = 100%
4. ALL STORM DRAIN INLETS WITHIN THE DEVELOPMENT IN BOTH PUBLIC AND PRIVATE LOTS SHALL BE INSTALLED WITH FULL CAPTURE TRASH DEVICES.

**PRELIMINARY STORM WATER TREATMENT CALCULATIONS (4% METHOD)**

AREA ID	AREA OF ASPHALT (SF)	AREA OF CONCRETE (SF)	AREA OF LANDSCAPING (SF)	AREA OF ROOF (SF)	EFFECTIVE IMPERVIOUS AREA (SF)	BMP USED	BMP ID	4% MIN BIORETENTION AREA REQUIRED (SF)	BIORETENTION AREA PROVIDED (SF)
DMA 1	0	5,683	13,089	7,493	14,485	BIORETENTION	BMP 1	579	580
DMA 2	0	3,234	13,979	8,750	13,562	BIORETENTION	BMP 2	543	545
DMA 3	0	4,504	13,187	8,766	14,589	BIORETENTION	BMP 3	584	585
DMA 4	1,752	0	5,089	0	2,261	BIORETENTION	BMP 4	90	90
DMA 5	5,730	0	0	0	5,730	BIORETENTION	BMP 5	229	230

TOTAL IMPERVIOUS AREA = 45,913 SF

NOTE: BIORETENTION TREATMENT AREAS WERE DESIGNED USING THE 4% RULE ACCORDING TO ALAMEDA COUNTY'S C.3 STORMWATER TECHNICAL GUIDANCE DATED MAY 14, 2013.



## PRELIMINARY STORMWATER TREATMENT PLAN

### PLEASANT VIEW CHURCH

CITY OF PLEASANTON, ALAMEDA COUNTY, CALIFORNIA

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Terry J. Townsend  
• Architect •  
147 Old Bernal Ave, Suite 6  
Pleasanton, CA 94566  
Tel: 925-484-5438

Church Property

Church Property  
Pleasanton, California

Notes:

Rev | Description | Date

Green Building Checklist

Job Number: 201506 Sheet  
Scale: 1/8" = 1'-0" Date  
Drawn: Terry  
Checked: Terry  
Date: 6-28-15 Of 22





# Dryad, LLC

March 14, 2015

Guy Houston  
7950 Dublin Blvd., Suite 312  
Dublin CA 94568

PUD-114  
EXHIBIT B

Re.: Tree inventory, evaluation and preservation guidelines.

Site: Pleasant View Church property, north side of Dublin Canyon Rd., northwest of Laurel Creek Rd., Pleasanton, CA 94588-2810

Mr. Houston;

I am writing in response to your request for an inventory, evaluation and recommendations for trees on the Pleasant View Church property relative to planned development. This letter comprises my report.

I inspected<sup>A</sup> the site, in your company, on February 11, 2015. I also reviewed the preliminary site plan<sup>1</sup> you provided, as well as aerial images via Google Earth Pro<sup>®</sup>. I returned to collect data, photograph<sup>2</sup>, measure<sup>3</sup>, tag and evaluate<sup>B</sup> trees on February 23, 2015. The intent of my inspection and this report is to 1) evaluate and provide management recommendations for the trees on this site which may be impacted by pending construction, and 2) assist with your compliance with the tree preservation requirements of the City of Pleasanton<sup>4</sup>.

I addressed 30 trees individually in this report. In a communication with the City of Pleasanton<sup>5</sup>, I received approval to address the several hundred smaller, riparian trees on site as a group, in exception to the City's ordinance requirements.

**SUMMARY:** Of the 30 individual trees inventoried, 19 are Heritage Trees<sup>C</sup> as defined by the City of Pleasanton<sup>4</sup>. Of these trees, 4 (954, F, H, I) are recommended for removal based solely on their existing condition. All 4 trees qualify as Heritage Trees and thus require a tree removal permit<sup>4</sup>. 26 trees are rated for possible preservation (Rating 1, 2 & 3; refer to Rating Codes, page 3). Of these 26, only 7 trees are currently in a condition that warrants comprehensive tree preservation efforts (Rating 1). Twelve (12) of the 26 preservable trees are located directly under utility lines. Many of these 12 have already been pruned severely (topped) and line clearance requirements will prevent these trees (oaks) from ever developing their characteristic stature. Therefore, these 12 have been rated as preservable, but poor candidates for long-term preservation (Rating 2).

I appraised all 19 trees rated as preservable (not all Heritage Trees) for a total value of \$134,350.00<sup>6</sup>. I determined the values employing methods developed by the Council of Tree and Landscape Appraisers (CTLA) and described in the publication, Council of Tree and Landscape Appraisers, 2000, *Guide for Plant Appraisal*, Ninth Edition, International Society of Arboriculture. Regional Species factors were gleaned from the publication of the WC I.S.A. Regional Tree Appraisal Committee, 2004. *Species Classification and Group Assignment*, Western Chapter, International Society of Arboriculture, for Northern California, interior valley environment.

<sup>1</sup> *Conceptual Site plan for Pleasant View Church Property*, Ruggeri-Jensen-Agar, 01/29/2015, Job no. 101804.

<sup>2</sup> All the individual trees addressed in this report were photographed and all photographs are on file in the office of Dryad, LLC.

<sup>3</sup> Height and/or diameter measurements: Diameters were measured via calculating diameter tape measurement of circumference. Height measurements were taken with an OptiLogic LH400 laser rangefinder/hypsometer. The recorded height can only be estimated due to the dynamic nature of foliage at tree tops, and lack of a 100% opaque target. The reported height was averaged from several sets of measurements. Where tree trunks or views were obstructed or inaccessible, either or both heights and diameters may have been estimated.

<sup>4</sup> City of Pleasanton Municipal Code, Title 17 Planning and Related Matters, Chapter 17.16 Tree Preservation (revised, 2012).

<sup>5</sup> Email communication with M. Fulford, City of Pleasanton, 02/25/2015.

<sup>6</sup> Detailed calculations for each tree are on file in the office of Dryad, LLC. Estimates of costs employed in the Replacement Method are based upon my knowledge and experience as both a contractor and employee within the tree care and landscape industry, in combination with plant cost quotations obtained from commercial nurseries.

Dryad, LLC

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Although of condition that warrants removal, I recommended 7 additional trees (nos. A-E, F, J) to be considered for preservation in view of their value for wildlife habitat and creek bank erosion mitigation. These 7 trees are not tagged and were not appraised<sup>5</sup>, but are marked on the enclosed Tree Location Diagrams (pages 6 & 7).

Some maintenance is recommended for specific trees that may be preserved (see Maintenance Recommendations below), but these recommendations are not specifically required for construction-related preservation as mandated by the City of Pleasanton<sup>4</sup>.

#### RECOMMENDATIONS:

**Tree protection during construction:** Detailed site plans were not available at the time of my inspection and this report. These recommendations are therefore not specific to specific trees or aspects of design or construction activities.

1. Refer to the enclosed General Construction Site Tree Preservation Guidelines (page 13) for detailed protection measures.
2. Install continuous fencing and erosion control barriers at the top edge of the creek bank or beyond, in the interest of the large stands of native riparian<sup>D</sup> trees (primarily CA bay laurels & some CA live oaks).
3. Mulch<sup>O</sup> the areas beneath trees (Tree Protection Zones<sup>E</sup> or beyond) with organic mulch to a settled depth of at least 3-4".
4. In compliance with the requirements of the City of Pleasanton<sup>4</sup> (section 17.16.070, paraphrased):
  - a. Prior to the commencement of construction, install a sturdy fence at the dripline of any tree which will be affected by the construction.
  - b. Prohibit any storage of construction materials or other materials inside the fence.
  - c. Prohibit excavation, grading, drainage and leveling within the dripline of the tree unless approved by the director.
  - d. Prohibit disposal or depositing of oil, gasoline, chemicals or other harmful materials within the dripline or in drainage channels, swales or areas that may lead to the dripline.
  - e. Prohibit the attachment of wires, signs and ropes to any heritage tree.
  - f. Design utility services and irrigation lines to be located outside of the dripline when feasible.
  - g. Retain the services of a certified or consulting arborist for periodic monitoring of the project site and the health of those trees to be preserved.
  - h. The certified or consulting arborist shall be present whenever activities occur that pose a potential threat to the health of the trees to be preserved.
  - i. Notify the Director (City of Pleasanton) of any damage that occurs to a tree during construction so that proper treatment may be administered.

#### Maintenance recommendations (not specific to construction-related tree protection):

1. Tree no. 955:
  - a. Description: CA coast live oak, 43" diameter (dsh<sup>F</sup>), substantially defoliated, excess soil over south (uphill) side of root crown, eroded below.
  - b. Recommendations:
    - i. Monitor periodically (at least monthly) through spring of 2015, as new foliage emerges, and treat foliage conditions as they are identified.
    - ii. Monitor regularly (at least bi-annually), and treat foliage conditions as they are identified.
    - iii. Implement a long term plan of moderate crown reduction pruning<sup>G</sup>, to achieve a total canopy<sup>H</sup> reduction of approximately 20-30% on the south side. Pruning frequency should not be more often than every 2-3 years.
    - iv. Clear (excavate) excess soil from upslope side of the root crown<sup>I</sup> to several feet from the trunk.
    - v. Consider additional investigation of the root crown region of this tree, i.e., its stability, before deciding to retain it (the severe lean could be indicative of pending root failure).
2. Trees nos. 945-48, 950-53, 955-60: Clear (excavate) excess soil from over root crown region.
3. Trees nos. A-E, G & J:
  - a. Remove large deadwood back to living wood or sprouts at least on south side.
  - b. Reduce canopies by 20-30% to reduce potential for limb/trunk failures.



**DATA SUMMARIES, CODES, ABBREVIATIONS:**

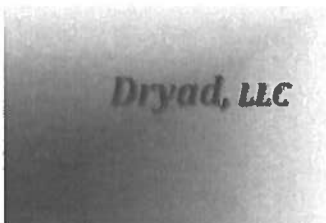
Description	Quantity
Trees (individuals addressed in report)	30
Heritage Trees	19
Not Heritage Trees	11
Total trees appraised	19
Trunk Formula Method	0
Replacement Method	0
Total value of appraised trees	\$134,350
Average value of appraised trees	\$7,071

Genus-species breakdown	Quantity
CA coast live oaks ( <i>Quercus agrifolia</i> )	22
CA bay laurels ( <i>Umbellularia californica</i> )	7
Valley oaks ( <i>Quercus lobata</i> )	1

Rating Code	Description	Quantity
1	Preserve, condition warrants long-term preservation.	7
2	Preservable, but not worthy of extensive effort or design accommodation.	12
3	Current condition warrants removal, but preserve as habitat if viable.	7
4	Remove due to current condition.	4

Abbreviations	
AAA	Acute-angle attachment <sup>J</sup> of trunks and/or major limbs
DSH	Diameter at Standard Height <sup>F</sup> (4.5 feet or 54 inches above grade)
CD	Codominant <sup>K</sup> trunks or primary limbs
L	Lean (significant, => 10°)
RC	Excess soil over root crown <sup>I</sup>
UL	Utility lines overhead

◆ ◆ ◆



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 WEB SITE [www.dryadllc.com](http://www.dryadllc.com)

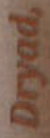
**TREE INVENTORY & DATA:**

No.	Genus-species	Trunk diameter (inches)								Total (DSH1 & 2)	Canopy (feet)				Heritage Status	Rating	Appraisal Method	Value	Comments
		DSH1	DSH2	DSH3	DSH4	DSH5	N	E	S		W	Heritage Status	Rating	Appraisal Method					
941	CA coast live oak ( <i>Quercus agrifolia</i> )	7.00	6.00				6	8	6	6	6	6	6	15	No	2	Trunk Formula	\$1,560	UL, CD
942	CA coast live oak ( <i>Quercus agrifolia</i> )	10.00	9.00				6	8	6	6	6	8	21	Yes	2	Trunk Formula	\$3,250	UL, CD	
943	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00					6	4	6	6	8	8	18	No	2	Replacement	\$2,080	UL, CD	
944	CA coast live oak ( <i>Quercus agrifolia</i> )	6.50					8	6	4	7	7	7	23	No	2	Replacement	\$2,160	UL, L	
945	CA coast live oak ( <i>Quercus agrifolia</i> )	17.50					15	15	12	-	-	-	25	Yes	2	Trunk Formula	\$5,700	UL, AAA, RC	
946	CA coast live oak ( <i>Quercus agrifolia</i> )	11.00					20	16	8	15			23	No	1	Replacement	\$2,430	RC	
947	CA coast live oak ( <i>Quercus agrifolia</i> )	11.00	10.00	10.00			4	6	8	8	8	8	20	Yes	1	Trunk Formula	\$7,900	AAA, RC	
948	CA coast live oak ( <i>Quercus agrifolia</i> )	9.00					4	6	8	8	8	8	20	No	2	Replacement	\$2,160	UL, RC	
949	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00	6.00	5.00	4.00	4.00	6	6	8	8	8	8	18	No	2	Trunk Formula	\$2,440	UL, L (5+ clumped trees treated as 1)	
950	CA coast live oak ( <i>Quercus agrifolia</i> )	16.00					18	10	10	16	16	16	23	No	2	Trunk Formula	\$4,730	UL, AAA, RC	
951	CA coast live oak ( <i>Quercus agrifolia</i> )	9.00	8.00	7.00			12	10	10	16	16	16	25	No	2	Trunk Formula	\$2,140	UL, AAA, RC	
952	CA coast live oak ( <i>Quercus agrifolia</i> )	14.00	11.00	9.00			18	20	18	14	14	14	20	Yes	1	Trunk Formula	\$13,200	RC	
953	CA coast live oak ( <i>Quercus agrifolia</i> )	14.00	13.00	13.00			18	20	18	14	14	14	20	Yes	1	Trunk Formula	\$10,800	AAA, RC	
954	CA coast live oak ( <i>Quercus agrifolia</i> )	11.50					-	6	4	4	4	4	53	Yes	4	N/A	N/A	Partially uprooted, largest trunk was removed.	
955	CA coast live oak ( <i>Quercus agrifolia</i> )	43.00					-	30	40	30	30	30	55	Yes	1	Trunk Formula	\$30,600	L to south, RC; heavily defoliated	



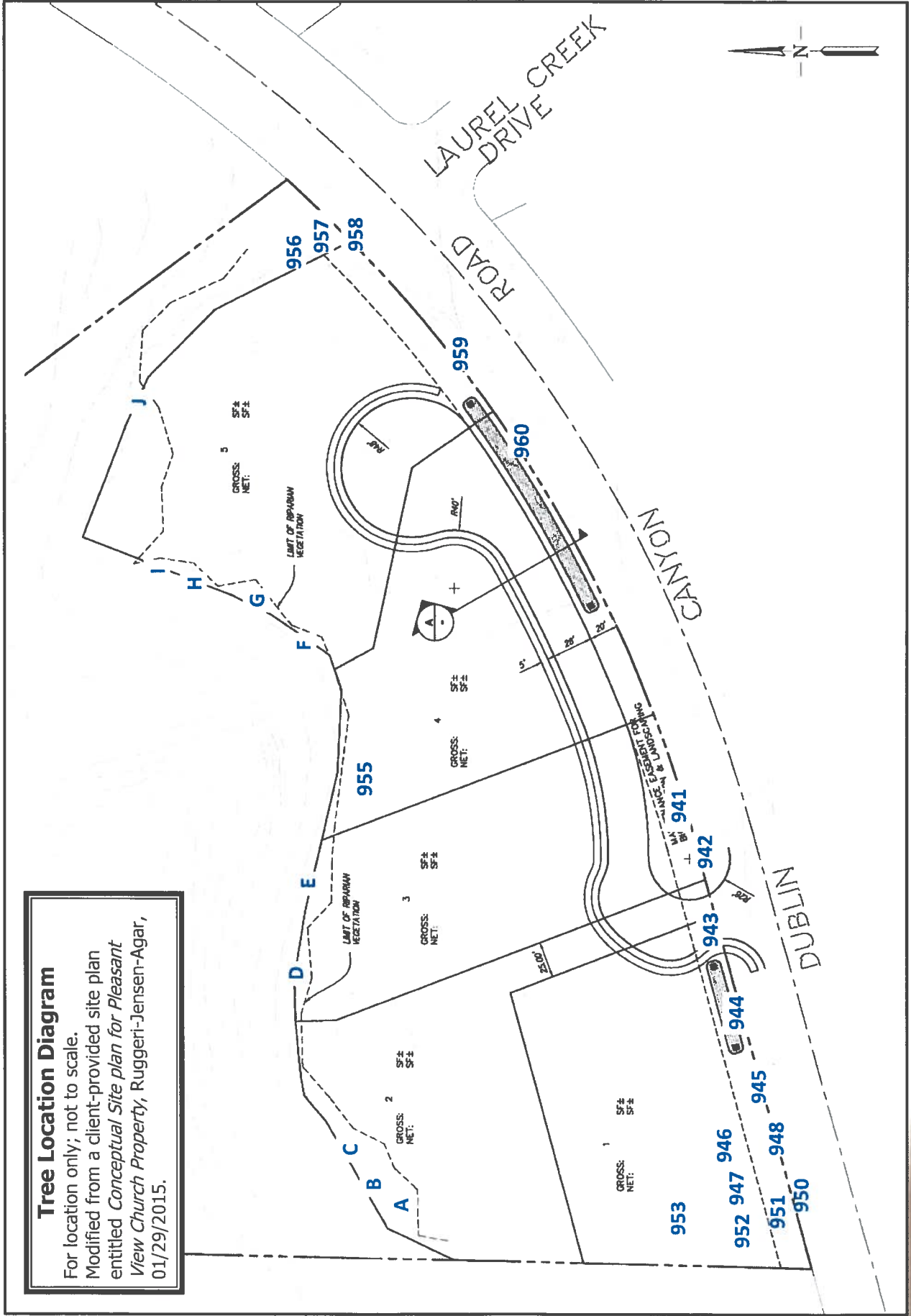
No.	Genus-species	Trunk diameter (inches)							Total (DSH1 & 2)	Canopy (feet)				Height (feet)	Heritage Status	Rating	Appraisal Method	Value	Comments
		DSH1	DSH2	DSH3	DSH4	DSH5	N	E		S	W								
956	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00					--	8.00	--	25	25	25	25	No	1	Replacement	\$2,440	L, AAA, RC	
957	CA coast live oak ( <i>Quercus agrifolia</i> )	17.00					--	17.00	--	25	25	25	25	No	1	Trunk Formula	\$6,700	AAA, RC	
958	Valley oak ( <i>Quercus lobata</i> )	9.00					4	9.00	8	10	12	12	22	No	2	Replacement	\$2,160	UL, L, RC	
959	CA coast live oak ( <i>Quercus agrifolia</i> )	21.00	20.00	16.00	11.00		24	41.00	18	15	20	20	18	Yes	2	Trunk Formula	\$21,300	UL, AAA, RC	
960	CA coast live oak ( <i>Quercus agrifolia</i> )	16.00	14.00	13.00			16	30.00	18	20	16	16	22	Yes	2	Trunk Formula	\$10,600	UL, AAA, RC	
A	CA bay laurel ( <i>Umbellularia californica</i> )	34.00					--	34.00	--	--	--	--	---	Yes	3	N/A	N/A	L to south, previous failure	
B	CA coast live oak ( <i>Quercus agrifolia</i> )	30.00					--	30.00	--	--	--	--	---	Yes	3	N/A	N/A	L	
C	CA bay laurel( <i>Umbellularia californica</i> )	20.00					--	20.00	--	--	--	--	---	Yes	3	N/A	N/A	L	
D	CA bay laurel ( <i>Umbellularia californica</i> )	60.00					--	60.00	--	--	--	--	---	Yes	3	N/A	N/A	Decayed and declining	
E	CA bay laurel ( <i>Umbellularia californica</i> )	40.00	30.00	24.00	20.00		--	70.00	--	--	--	--	---	Yes	3	N/A	N/A	Decayed and declining	
F	CA bay laurel ( <i>Umbellularia californica</i> )	20.00					--	20.00	--	--	--	--	---	Yes	4	N/A	N/A	L (severe)	
G	CA bay laurel ( <i>Umbellularia californica</i> )	30.00					--	30.00	--	--	--	--	---	Yes	3	N/A	N/A	L	
H	CA coast live oak ( <i>Quercus agrifolia</i> )	30.00					--	30.00	--	--	--	--	---	Yes	4	N/A	N/A	Dead	
I	CA coast live oak ( <i>Quercus agrifolia</i> )	36.00					--	36.00	--	--	--	--	---	Yes	4	N/A	N/A	Declining; major limb removed (50% of canopy)	
J	CA bay laurel ( <i>Umbellularia californica</i> )	36.00					--	36.00	--	--	--	--	---	Yes	3	N/A	N/A	Seriously eroded beneath rootball.	





**Tree Location Diagram**

For location only; not to scale.  
 Modified from a client-provided site plan  
 entitled *Conceptual Site plan for Pleasant  
 View Church Property*, Ruggeri-Jensen-Agar,  
 01/29/2015.



**IMAGES<sup>2</sup>:**

Panoramic view to west and north.



Panoramic view south.

Panoramic view east.

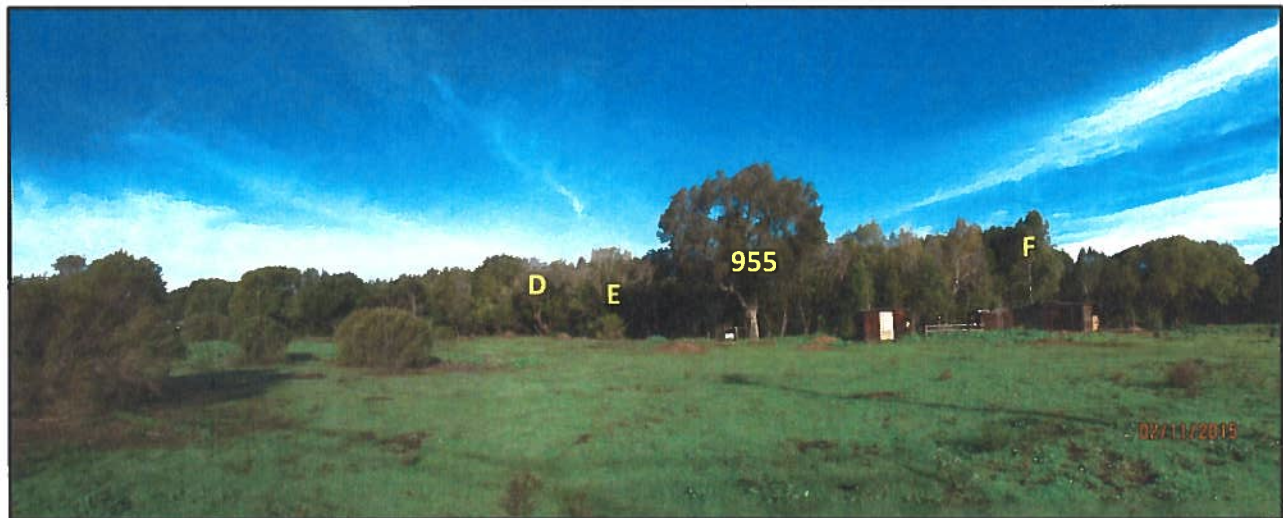






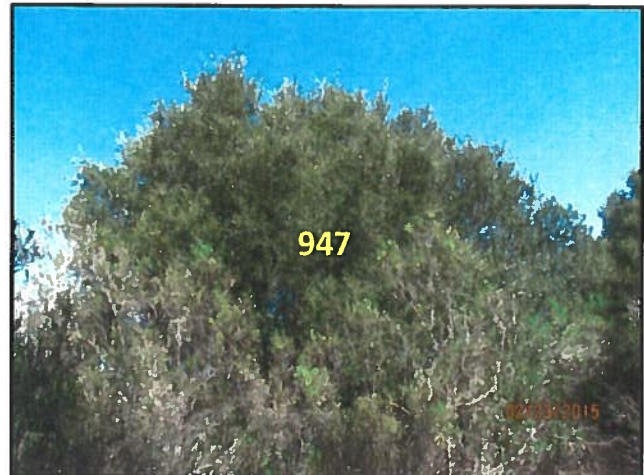
Panoramic view north,  
from west end of site.

Below: Panoramic view north.



Below: View north of dense riparian stands, primarily CA bay laurel

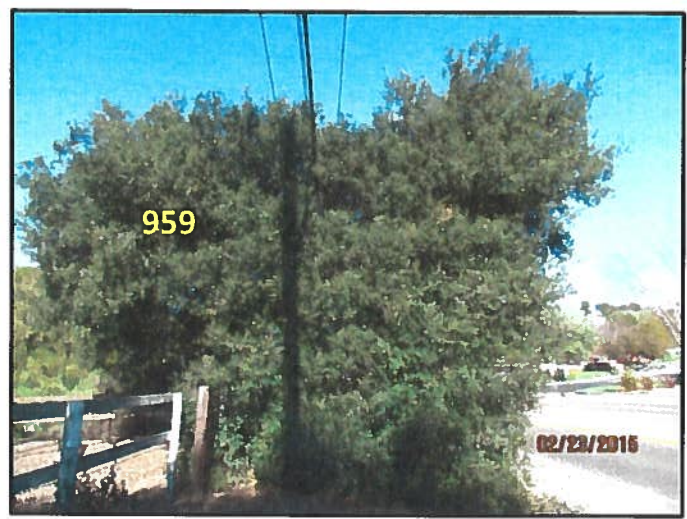




Above: two well-developed trees with no utility line conflicts.

/

Below & right: trees with overhead utility line conflicts.



**Dryad, LLC**

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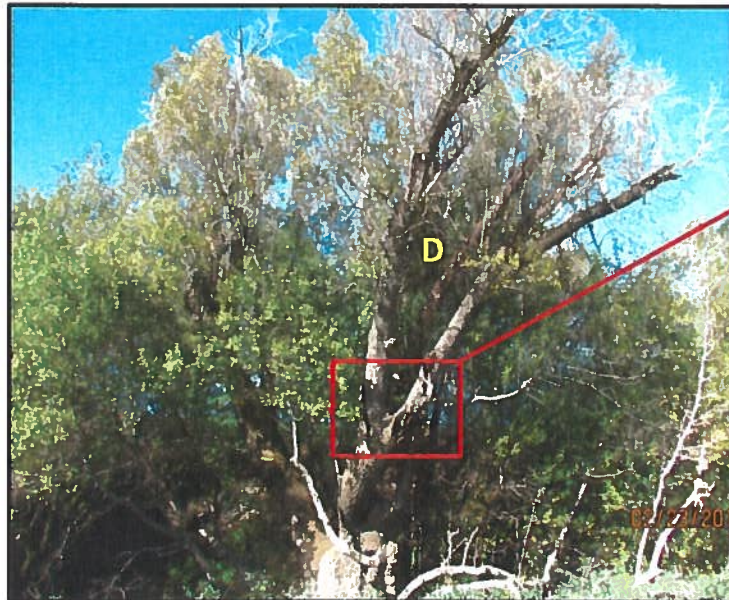
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Tree no. 954: partially uprooted with major trunk removed; poor architecture & structure.

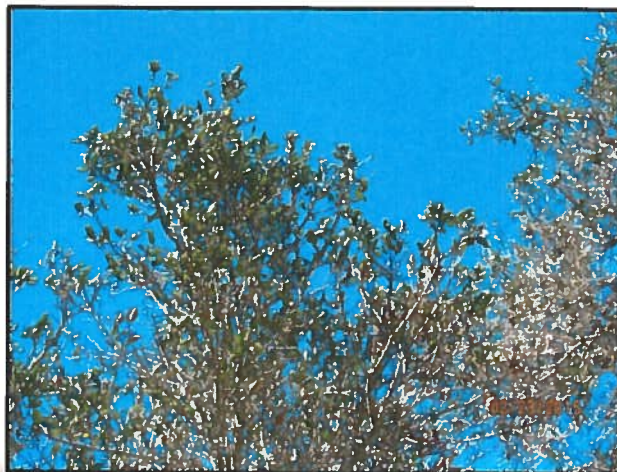
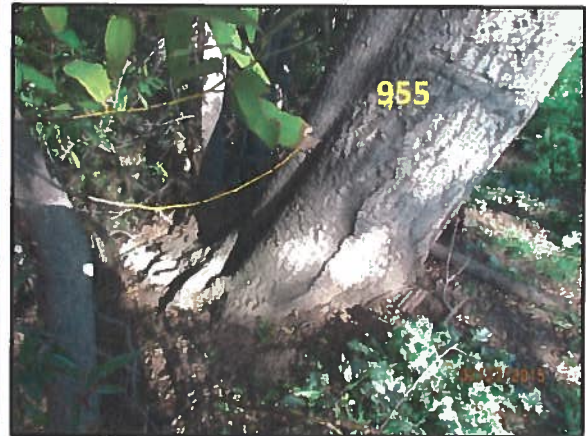
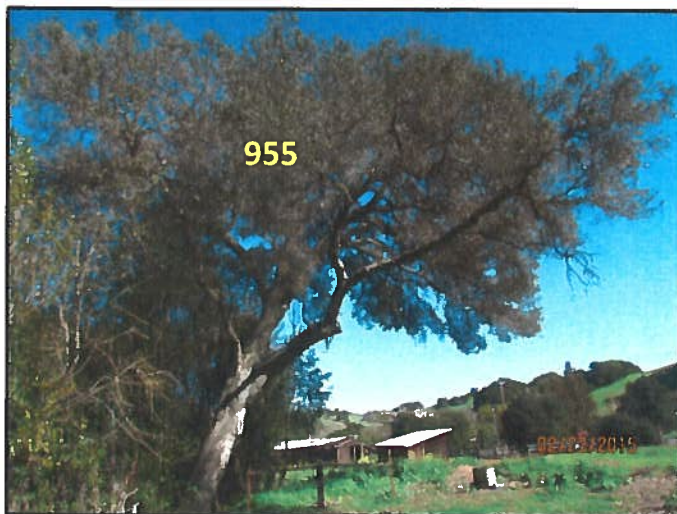


Tree D: potential habitat tree; declining and heavily decayed.





Tree no. 955: CA live oak.  
The most prominent tree on  
site. Images illustrate heavy  
defoliation, root crown  
condition and the severe lean.



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## **GENERAL CONSTRUCTION SITE TREE PRESERVATION GUIDELINES** (not site or entity-specific)

### **1. Tree Protection Zone<sup>L</sup>:**

- a. The Tree Protection Zone (TPZ) should consist of the largest possible area surrounding trees to be preserved that can remain undisturbed. Ideally, an area of 1.5 times the longest dripline radius (measured from the trunk). Alternatively, follow the TPZ guidelines as described in the most recent version of current industry standards and best management practices publications<sup>M</sup>. The TPZ can be continuous for trees with overlapping driplines.
- b. Surround the TPZ with protective fencing.
  - i. Fencing should consist of chain link, at least 6 feet in height, surrounding the perimeter of the TPZ designated distance or beyond.
  - ii. Anchor fence posts into the soil (i.e., do not use portable footings).
  - iii. Protective fencing should remain in place until all grading and construction is complete.
- c. Do not allow vehicles, equipment, pedestrian traffic, building materials, debris storage, or disposal of phytotoxic<sup>N</sup> materials inside of the fenced-off areas (TPZ).

### **2. Mulching<sup>O</sup> and irrigation:**

- a. Soil moisture:
  - i. Determine the status of soil moisture to a depth of 18-24" below grade within the dripline of all (each) trees to be preserved, via tensiometer, granular matrix sensor or manual soil probing.
  - ii. Irrigate as/if necessary, via slow-application (drip) irrigation, to achieve approximately field capacity<sup>P</sup> to a depth of 12-18".
- b. Mulch: Cover exposed soil within all TPZ's with an organic mulch to a settled depth of no less than 3-4 inches.

### **3. Excavation, root pruning & repair:**

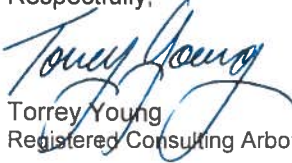
- a. Determine and mark (marking paint and stakes) the outside edge (towards trees) of required excavation, and adjacent to/surrounding any excavations within an area 1.5 times the dripline radius of trees to be preserved (or at large an area as feasible).
- b. Excavate a trench approximately 6-12" beyond the area to be disturbed (towards tree), or where roots have been damaged, to a depth of at least 18", by hand excavation<sup>Q</sup> or with specialized hydraulic<sup>R</sup> or pneumatic<sup>S</sup> equipment.
  - i. Wherever possible, relocate excavations or tunnel beneath encountered roots >1" in diameter.
  - ii. Cut encountered roots cleanly with hand pruners or power saw. Avoid tearing, dislodging of bark (or epidermis) or otherwise disturbing that portion of the root(s) to remain.
  - iii. Immediately back-fill with soil to cover, and moisten. Avoid tearing, or otherwise disturbing that portion of the root(s) to remain.
  - iv. If backfilling cannot be completed immediately, cover exposed roots with several layers of untreated burlap (or other similar absorbent material) or sand, mulch or soil and keep moist until permanent backfilling can be completed.
  - v. Excavation and root pruning should be performed by a Tree Worker currently certified by the International Society of Arboriculture (ISA) or the Western Chapter, ISA (WCISA).
  - vi. Excavation and root pruning should be directly supervised by an arborist currently credentialed as one or more of the following:
    - (1) Certified Arborist by the ISA,
    - (2) Board Certified Master Arborist by the ISA,
    - (3) Registered Consulting Arborist by the American Society of Consulting Arborists (ASCA)
- c. Future excavations within the TPZ:
  - i. If possible, relocate any future excavations (irrigation, landscape features, etc.) outside the TPZ and perimeter of previously pruned roots.
  - ii. If encroachment is required within the TPZ, endeavor to avoid pruning roots by tunneling beneath.
  - iii. If relocation or tunneling is not possible, handle any required root pruning as previously described.

4. **Tree care and maintenance work:** (pruning, cabling/bracing<sup>T</sup>, root pruning, etc.)
  - a. Tree pruning:
    - i. Avoid pruning that removes green foliage or live wood immediately before, during or within 1-2 years after construction.
    - ii. Prune to remove large deadwood only (cleaning pruning), or the minimum required for clearance purposes, in accordance with current pruning standards<sup>U</sup>.
  - b. All tree care or maintenance work:
    - i. All tree care work should be performed by a Tree Worker currently certified by the International Society of Arboriculture (ISA) or the Western Chapter, ISA (WCISA), or a current ISA Certified Arborist.
    - ii. All tree care work should be directly supervised by an arborist currently credentialed as one or more of the following:
      - (1) Certified Arborist by the ISA,
      - (2) Board Certified Master Arborist by the ISA,
      - (3) Registered Consulting Arborist by the American Society of Consulting Arborists (ASCA)
  - c. All tree care or maintenance work should be performed in accordance with current industry standards<sup>V</sup>.
5. **Post-construction:**
  - a. Avoid pruning that removes live foliage for several years after construction. Perform only that pruning that is necessary for clearance purposes.
  - b. Arrange for periodic (biannual) inspection of the condition of the trees by a competent Consulting Arborist, and treatment of damaging conditions (insects, diseases, nutrient deficiencies, soil moisture, etc.), as they occur, or as deemed appropriate by the consultant for effective management.

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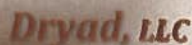
Please feel free to contact me for further discussion or services.

Respectfully,



Torrey Young  
Registered Consulting Arborist®

ASCA Registered Consulting Arborist No. 282  
ISA Board Certified Master Arborist No. WE-0131BM  
CUFC Certified Urban Forester No. 121  
ISA Tree Risk Assessment Qualified  
CA Contractors License No. 363372 (C-27 & D-49, inactive)  
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<sup>A</sup> Inspection limitations: The inspection of these trees consisted solely of a visual inspection from the ground. While more thorough techniques are available for inspection and evaluation, they were neither requested nor considered necessary or appropriate at this time.

<sup>B</sup> Arborist Disclosure Statement: Arborists are tree specialists who use their education, knowledge training and experience to examine trees, recommend measures to enhance their health and beauty and to attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist or to seek additional advice. Trees and other plantlife are living, changing organisms affected by innumerable factors beyond our control. Trees fail in ways and because of conditions we do not fully understand. Arborists cannot detect or anticipate every condition or event that could possibly lead to the structural failure of a tree. Conditions are often hidden within the trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, for any specific period or when a tree or its parts may fail. Further, remedial treatments, as with any treatment or therapy, cannot be guaranteed. Treatment, pruning, bracing and removal of trees may involve considerations beyond the scope of the arborists skills and usual services such as the boundaries of properties, property ownership, site lines, neighbor disputes and agreements and other issues. Therefore, arborists cannot consider such issues unless complete and accurate information is disclosed in a timely fashion. Then, the arborist can be expected, reasonably, to rely upon the completeness and accuracy of the information provided. Trees can be managed but not controlled. To live near trees, regardless of their condition, is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

<sup>C</sup> City of Pleasanton Municipal Code, Title 17 Planning and Related Matters, Chapter 17.16 Tree Preservation (revised, 2012): 17.16.006 Definitions "... A. "Heritage tree" means any of the following: 1. Any single-trunked tree with a circumference of 55 inches or more measured four and one-half feet above ground level; 2. Any multi-trunked tree of which the two largest trunks have a circumference of 55 inches or more measured four and one-half feet above ground level; 3. Any tree 35 feet or more in height; 4. Any tree of particular historical significance specifically designated by official action; 5. A stand of trees, the nature of which makes each dependent upon the other for survival or the area's natural beauty.

<sup>D</sup> Riparian: Situated along a watercourse, i.e. creek bank or shoreline.

<sup>E</sup> Tree Protection Zone: (TPZ) a delineated area of the rooting zone of a tree or group of trees to be protected from encroachment by construction activities. Such activities may include excavation or grading, vehicle, equipment and pedestrian traffic; storage of vehicles, building materials, soil or debris; or disposal of phytotoxic materials.

<sup>F</sup> D.S.H.: Diameter at Standard Height, or approximately 4.5 feet (54 inches) above grade. This expression is commonly used as a point of reference in determining tree size (synonymous with DBH, or Diameter at Breast Height).

<sup>G</sup> Reduction pruning (crown reduction): A pruning standard consisting of selected pruning cuts intended to reduce tree height and/or spread and/or individual limb length. Consideration must be given to tree structure, architecture and size of pruning cuts in order to minimize negative impacts by achieving the goals with as small and few cuts as possible.

<sup>H</sup> Canopy: One of several accepted terms describing that area of a tree which includes limbs, branches, foliage, and to a lesser degree, upper stems (synonymous with 'foliage crown').

<sup>I</sup> Root crown excavation and inspection: Excavation of the junction of trunk and buttress roots and immediate vicinity below grade for the purpose of inspection for biological and structural condition and/or to restore the original grade. In a mature tree, Root crown excavation should include clearing excess soil, rocks, planting containers and other debris within at least 24" of the tree base. Sufficient soil shall be removed from the tree's root crown region to expose at least 25% of the upper circumference of each buttress root, within at least 12" of the tree trunk. Soil should (where possible) be graded in a manner as to direct drainage away from the tree base. All such excavation should be performed by hand, with only the aid of hand tools, or via appropriate pneumatic or hydraulic excavation equipment, in such a fashion as to avoid traumatic damage to roots and trunk. Where indicated, root crown excavations should be performed prior to any other required maintenance work. In the event of discovery of significant root defects (root disease, girdling roots, concave trunk areas, etc.) in sizable trees, other maintenance work shall be postponed and such defects reported to the property owner or other proper authority.

<sup>J</sup> Acute-angle attachments (crotches): Branch/limb, limb/trunk, or codominant trunks originating at acute angles from each other. Bark remains between such crotches, preventing the development of a branch-bark ridge (branch collar). The inherent weakness of such attachments increases with time, through the pressure of opposing growth and increasing weight of wood and foliage, frequently resulting in failure.

<sup>K</sup> Codominant: Refers to branch, limbs or trunks of similar size and height or length competing for the same space and/or role within the tree's architecture; frequently originating at acute angles from each other, with bark remaining (included) between the components (in the crotch). Such crotches are inherently weak and worsen with time through the pressure of opposing growth and the increasing weight of wood and foliage, frequently resulting in the failure of one or both (all).

<sup>L</sup> Tree Protection Zone: (TPZ) a delineated area of the rooting zone of a tree or group of trees to be protected from encroachment by construction activities. Such activities may include excavation or grading, vehicle, equipment and pedestrian traffic; storage of vehicles, building materials, soil or debris; or disposal of phytotoxic materials.

<sup>M</sup> American National Standards Institute, 2012. *Standard Practices for Tree Care Operations - Management of Trees and Shrubs During Site Planning, Site Development and Construction* (ANSI A300, Part 5, 2012) and International Society of Arboriculture, 2008. *Best Management Practices, Managing Trees During Site Planning, Site Development and Construction*.

<sup>N</sup> Phytotoxic: (phytotoxin) any substance or material capable of killing plant cells, parts, plants in their entirety.

<sup>O</sup> Mulch: Organic materials (e.g., brush chips, fir bark) spread upon the soil for a variety of benefits: aesthetics, retains soil moisture, moderates soil temperatures, improves soil structure and increases fertility, protects against compaction, suppresses weeds, etc. (Note: Elsewhere, definition may include non-organic materials.)

<sup>P</sup> Field capacity: The maximum volume of moisture a soil can hold after drainage has occurred. An expression of the water-holding capacity and moisture status of soils.

<sup>Q</sup> Hand excavation: Manual soil excavation via the use of hand tools only. Use of hand tools for initial excavation should be avoided. Hand tools shall not be used in a manner that results in breakage of roots, bark penetration or separation of bark from roots. Hand tool use should

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be limited to small tools (e.g., spade, trowel) for minor excavations or in restricted spaces. Picks, mattocks, digging bars or similar implements requiring striking the earth shall not be used for excavation. Hand shovels may be used for minor excavations, or where access is limited for vacuum equipment, or hydraulic slurry cannot be flushed out of the excavation. Such usage shall not result in breakage of roots, bark penetration or separation of bark from roots.

<sup>R</sup> Hydraulic excavation: Soil excavation performed using pressurized, focused water via 1) pressure washer, portable fire pump, or similar equipment or 2) hydraulic truck-mounted equipment (Hydra-vac). Equipment should be used at the minimum pressure required to remove the soil from around roots and out of the resulting excavation void, without causing breakage of roots, bark penetration or separation of bark from roots.

<sup>S</sup> Pneumatic excavation: Soil excavation performed via supersonic compressed air excavation with a tool called an air spade. This tool removes soil from roots (or pipes, wires, etc.) with little or no damage to the roots (or utilities). Soil is separated and blown away via highly focused, supersonic velocity compressed air, which separates the soil particles without penetrating roots.

<sup>T</sup> Cabling & Bracing: The installation of hardware in and/or about trees for the purpose of providing supplemental support of weak, defective or otherwise suspect limbs and/or stems; supporting of newly planted trees; bracing cracks; propping trees or limbs, or otherwise providing support. The installation of cables, bolts and other hardware in trees is intended to reduce the potential for failure (breakage/uprooting). Such bracing does not permanently remedy structural weaknesses, and is not a guarantee against failure. The trees and hardware must be inspected periodically for hardware deterioration, adequacy and changes in the tree's and site condition.

<sup>U</sup> Pruning standards: The following standards were developed by a consensus of representatives from various industry professional organizations; ♦ American National Standards Institute, 2008. *Standard Practices for Tree, Shrub and other Woody Plant Maintenance (Pruning)*, American National Standards Institute (ANSI A300 Part 1-2008) ♦ International Society of Arboriculture, 2002. *Best Management Practices, Tree Pruning*, International Society of Arboriculture ♦

<sup>V</sup> Current industry standards: The most current and applicable publications of 1) *Best Management Practices*, International Society of Arboriculture; 2) American National Standards Institute, A300 and Z133 (all parts).

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# Dryad, LLC

15007-20068  
Report Addendum 2

June 24, 2016

Guy Houston  
7080 Donlon Way, Suite 208  
Dublin, CA 94568

Re.: Tree Report Addendum 2.  
Site: Pleasant View Church property, north side of Dublin Canyon Rd., northwest of Laurel Creek Rd., Pleasanton, CA 94588-2810

Mr. Houston;

I am writing in response to your request for a second update to my original report dated March 14, 2015, and addendum no. 1 dated December 23, 2015. This second addendum is intended to identify design changes that allowed for the retention of additional trees (6), for a total of 18. This letter comprises my second addendum report.

I did not re-inspect the trees or site for the purposes of this addendum report. I reviewed a site plan provided by Ruggeri~Jensen~Azar, entitled *Existing Tree Plan, Pleasanton View Church*, dated June, 2016<sup>1</sup>. This plan includes structure footprints as well as other details, and a revised pathway adjacent and roughly parallel to Dublin Canyon Rd. These elements have resulted in changes to the distribution of Ratings and the Summary data from my original report<sup>2</sup> and addendum 1<sup>3</sup>. The significant resulting changes as reported in Report Addendum 1 are as follows:

- Nineteen trees are planned to be retained, 7 additional from the previous 12.
- Thirteen Heritage Trees<sup>A</sup> will be preserved, 3 additional from the previous 10.
- Eleven trees are to be removed, 7 fewer than the previous 18.
- Four trees are to be removed due to conflict with construction, including the pathway, 10 fewer than the previous 14.
- Fifteen trees were appraised<sup>A, B</sup>, 10 additional from the previous 5, raising the total value from the previous \$63,740.00 to \$100,080.00.
- Ratings for some trees were also updated as a result of change of disposition (see data tables).

## SUMMARY:

- **Total trees inventoried:** 30 individual trees originally inventoried and included in this report addendum.
- **Heritage Trees:** 19 are Heritage Trees as defined by the City of Pleasanton<sup>A</sup>.
- **Heritage trees to be retained:** 13 Heritage Trees are to be retained.
- **Trees to retain:** there are 19 significant trees planned to be retained, in addition to the dense stand of riparian trees lining the banks of the adjacent creek.
- **Trees to be retained for habitat:** 7 of the 19 trees to be retained are in such poor condition that I judged them of no appraisal value<sup>5</sup>, but proposed them to be retained as habitat for wildlife (Rating 3; nos. A-E, G, J.), as requested by the client (G. Houston).

<sup>1</sup> Plan provided by Ruggeri~Jensen~Azar, entitled *Existing Tree Plan, Pleasanton View Church*, dated June, 2016.

<sup>2</sup> Dryad, LLC report #15007-20068, dated 03/14/2015.

<sup>3</sup> Dryad, LLC report #15007-20068 Addendum 1, dated 12/23/2015.

<sup>4</sup> City of Pleasanton Municipal Code, Title 17 Planning and Related Matters, Chapter 17.16 Tree Preservation (revised, 2012).

<sup>5</sup> Council of Tree and Landscape Appraisers, 2000, *Guide for Plant Appraisal*, Ninth Edition, International Society of Arboriculture, page 28, "Trees posing unreasonable risks should not be appraised for amenity value...a tree may be important to wildlife and could be kept..." page 29, "A tree to be removed may have a negative value if its timber or firewood value is less than the removal and cleanup costs."

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- **Trees to be removed:** 11 trees are proposed for removal, based upon the provided site plan<sup>1</sup>.
- **Heritage Trees to be removed:** 6 Heritage Trees are recommended for removal. Four are recommended for removal based on their existing condition (Rating 4). One tree (no. 959) is recommended for removal as it is a poor candidate for long-term preservation (Rating 2). Only 1 Heritage Tree (no. 942) is recommended for removal due only to a conflict with construction. All 6 trees qualify as Heritage Trees and thus require tree removal permits<sup>4</sup> (nos. 942, 954, 959, F, H, I).
- **Trees to be removed due to conflict with the pathway:** As a result of redesign to a meandering pathway, only 3 (nos. 941-943).of the original 12 trees remain in conflict and must be removed.
- **Trees to be removed due to proximity to other construction only:** Only 1 tree (no. 946) is planned for removal due solely to a direct conflict with other construction.

**DISCUSSION:** My client (Guy Houston) originally (2015) directed me to identify for preservation, as many trees as possible on this site, within the confines of proposed development. Subsequent to my original evaluation and report, design changes have allowed for preserving 6 additional CA live oaks trees. I also identified 7 trees (A-E, G, J) that could be retained for riparian habitat purposes, that I would otherwise recommend be removed based on their advanced state of decline. Design accommodations moved homes some distance from these trees. Several of these trees will require pruning for reduction to mitigate potential risk to the proposed structures (refer to original report<sup>2</sup>). In my opinion, design accommodations have been extensive to allow for the preservation of as many trees as possible on this site.

At the time of this and previous reports, sufficient detail was not available to provide preservation plans for individual trees, but generally, follow the General Construction Site Tree Preservation Guidelines included in my original report<sup>2</sup> as closely as possible. Particularly, the preservability of the trees edging the property parallel to Dublin Canyon Rd. is dependent upon following the those guidelines and the undergrounding or utility lines currently overhead of these trees.

Tree 947 was added for preservation with the revision in this report. This was the only tree on site, other than the trees in the vicinity of the pathway, that is in close proximity to construction. Protection should therefore need to consist almost solely of protective fencing. The trees near the pathway are small, and minimal root protection and possibly some root pruning or shaving is likely all that is required to preserve those trees. Until pathway construction occurs, protective fencing should also be installed for these trees.



**DATA SUMMARIES, CODES, ABBREVIATIONS:**

Description	Quantity	Tree nos.
Trees (individual trees addressed in report)	30	941-60, A-J (all)
Heritage Trees	19	952-955, 959, 960, A-J
Other than Heritage Trees	11	941, 943, 944, 946, 948-951, 956-958
Trees to retain	19	944, 945, 947, 948, 950, 952, 953, 955-958, 960, A-E, G, J
Heritage Trees to be retained	13	945, 947, 952, 953, 955, 960, A-E, G, J
Trees to be retained for wildlife habitat	7	A-E, G, J
Trees to remove	11	941-943, 946, 949, 951, 954, 959, F, H, I
Heritage trees to remove	6	942, 954, 959, F, H, I
Trees to remove due to existing condition	4	954, F, H, I
Trees in conflict with proposed pathway	3	941-43
Trees in conflict with construction	1	946 (does not include pathway conflict trees)
Trees appraised	15	944, 945, 947-953, 955-960
Trunk Formula Method	11	945, 947, 949-953, 955, 957, 959, 960
Replacement Method	4	944, 948, 956, 958
Total value of appraised trees	\$100,080	944, 945, 947-953, 955-960
Average value of appraised trees	\$6,672	

Genus-species breakdown	Quantity
CA coast live oaks ( <i>Quercus agrifolia</i> )	22
CA bay laurels ( <i>Umbellularia californica</i> )	7
Valley oaks ( <i>Quercus lobata</i> )	1

Rating Code	Description	Quantity	Tree nos.
1	Preserve, condition warrants long-term preservation.	8	947, 950, 952, 953, 955-958
2	Preservable, but not worthy of extensive effort or design accommodation.	7	944, 945, 948, 949, 951, 959, 960
3	Current condition warrants removal, but preserve as habitat if viable.	7	A-E, G, J.
4	Remove due to current condition.	4	954, F, H, I.
5	Remove due to conflict with construction only.	4	941-943, 946 (includes pathway conflict trees)

Abbreviations	
AAA	Acute-angle attachment <sup>C</sup> of trunks and/or major limbs
DSH	Diameter at Standard Height (4.5 ft. or 54 ins above grade) <sup>D</sup>
CD	Codominant <sup>E</sup> trunks or primary limbs
L	Lean (significant, => 10°)
RC	Excess soil over root collar <sup>F</sup>
UL	Utility lines overhead

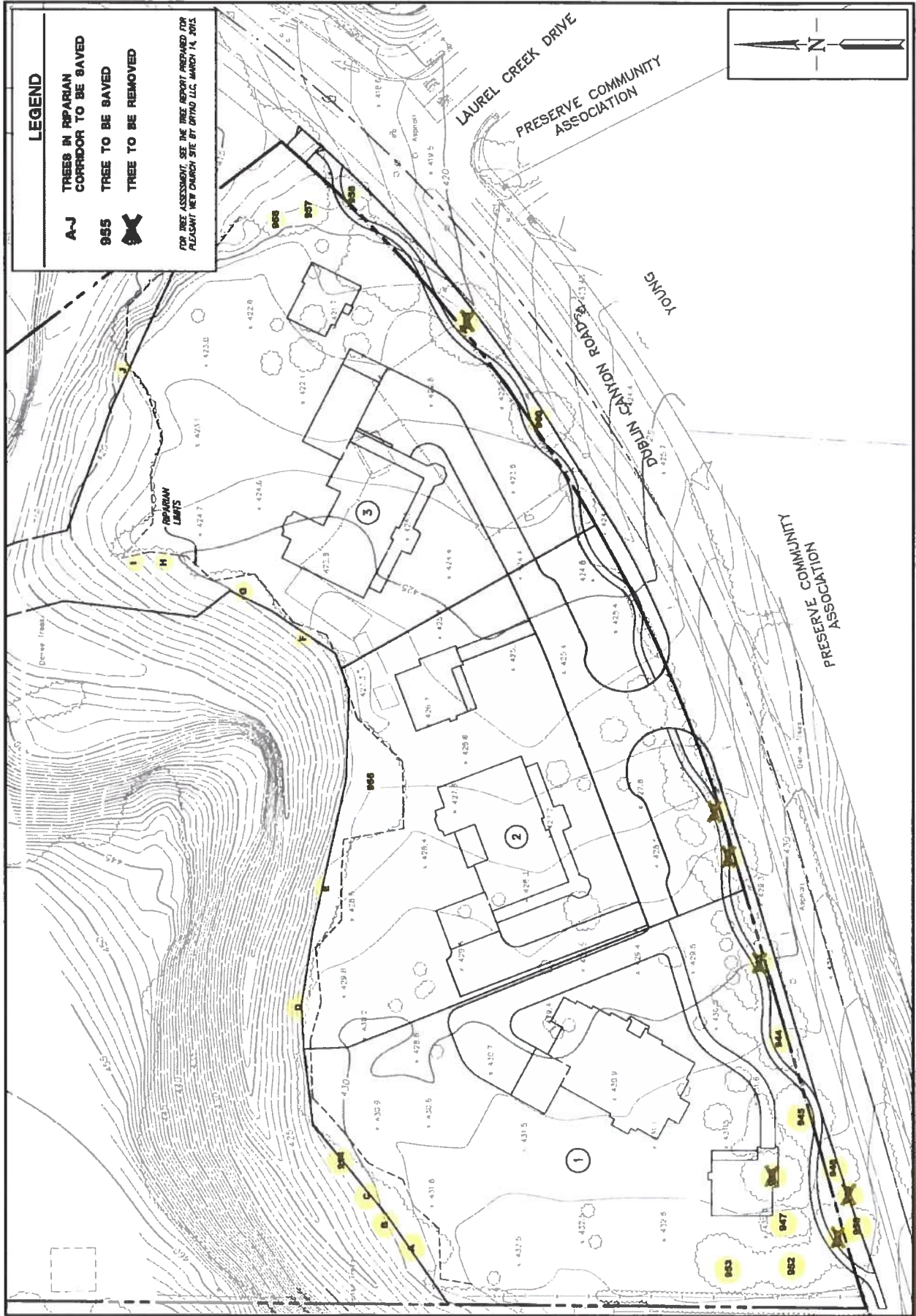
**TREE INVENTORY & DATA:**

No.	Common name (Genus-species)	Trunk diameter (inches)							Total (2 largest)	Canopy (feet)				Height (feet)	Heritage Status	Rating	Tree Site Plan		Appraisal Method	Value	Comments
		DSH1	DSH2	DSH3	DSH4	DSH5	N	E		S	W	Retain	Remove								
941	CA coast live oak ( <i>Quercus agrifolia</i> )	7.00	6.00				6	8	6	6	6	6	15	No	5		X	N/A	N/A	UL, CD: conflicts with proposed pathway.	
942	CA coast live oak ( <i>Quercus agrifolia</i> )	10.00	9.00				6	8	6	6	8	21	Yes	5		X	N/A	N/A	UL, CD: conflicts with proposed pathway.		
943	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00					6	4	6	6	8	18	No	5		X	N/A	N/A	UL, CD: conflicts with proposed pathway.		
944	CA coast live oak ( <i>Quercus agrifolia</i> )	6.50					8	6	4	7	7	23	No	2		X	Replacement	\$2,160	UL, L		
945	CA coast live oak ( <i>Quercus agrifolia</i> )	17.50					15	15	12	---	---	25	Yes	2		X	Trunk Formula	\$5,700	UL, AAC, RC		
946	CA coast live oak ( <i>Quercus agrifolia</i> )	11.00					20	16	8	15		23	No	5		X	N/A	N/A	RC		
947	CA coast live oak ( <i>Quercus agrifolia</i> )	11.00	10.00	10.00			21.00					23	Yes	1		X	Trunk Formula	\$2,160	AAC, RC		
948	CA coast live oak ( <i>Quercus agrifolia</i> )	9.00					9.00	4	6	8	8	20	No	2		X	Replacement	\$5,700	UL, RC		
949	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00	6.00	5.00	4.00	4.00	14.00	6	6	8	8	18	No	2		X	Trunk Formula	\$2,160	UL, L (5+ clumped trees treated as 1); poor-structure for all.		
950	CA coast live oak ( <i>Quercus agrifolia</i> )	16.00					16.00						No	1		X	Trunk Formula	\$5,700	UL, AAC, RC		
951	CA coast live oak ( <i>Quercus agrifolia</i> )	9.00	8.00	7.00			17.00	18	10	10	16	23	No	2		X	Trunk Formula	N/A	UL, AAC, RC; conflicts with proposed pathway.		
952	CA coast live oak ( <i>Quercus agrifolia</i> )	14.00	11.00	9.00			25.00	12	10	10	16	25	Yes	1		X	Trunk Formula	\$13,200	RC		
953	CA coast live oak ( <i>Quercus agrifolia</i> )	14.00	13.00	13.00			27.00	18	20	18	14	20	Yes	1		X	Trunk Formula	\$10,800	AAC, RC		
954	CA coast live oak ( <i>Quercus agrifolia</i> )	11.50					11.50	---	6	4	4	53	Yes	4		X	N/A	N/A	Partially uprooted, largest trunk was removed.		

No.	Common name (Genus-species)	Trunk diameter (inches)					Total (2 largest)	Canopy (feet)				Height (feet)	Heritage Status	Rating	Tree Site Plan		Appraisal Method	Value	Comments
		DSH1	DSH2	DSH3	DSH4	DSH5		N	E	S	W				Retain	Remove			
955	CA coast live oak ( <i>Quercus agrifolia</i> )	43.00					43.00	30	40	30	---	55	Yes	1	X		Trunk Formula	\$30,600	L to south, RC; heavily defoliated
956	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00					8.00		25	25	---	25	No	1	X		Replacement	\$2,440	L, AAC, RC
957	CA coast live oak ( <i>Quercus agrifolia</i> )	17.00					17.00				---		No	1	X		Trunk Formula	\$6,700	AAC, RC
958	Valley oak ( <i>Quercus lobata</i> )	9.00					9.00	8	10	12	4	22	No	1	X		Replacement	\$2,160	UL, L, RC
959	CA coast live oak ( <i>Quercus agrifolia</i> )	21.00	20.00	16.00	11.00		41.00	18	15	20	24	18	Yes	2		X	Trunk Formula	N/A	UL, AAC, RC; poor structure.
960	CA coast live oak ( <i>Quercus agrifolia</i> )	16.00	14.00	13.00			30.00	18	20	16	16	22	Yes	2	X		Trunk Formula	\$10,600	UL, AAC, RC
A	CA bay laurel ( <i>Umbellularia californica</i> )	34.00					34.00	---	---	---	---	---	Yes	3	X		N/A	N/A	
B	CA coast live oak ( <i>Quercus agrifolia</i> )	30.00					30.00	---	---	---	---	---	Yes	3	X		N/A	N/A	L
C	CA bay laurel ( <i>Umbellularia californica</i> )	20.00					20.00	---	---	---	---	---	Yes	3	X		N/A	N/A	L
D	CA bay laurel ( <i>Umbellularia californica</i> )	60.00					60.00	---	---	---	---	---	Yes	3	X		N/A	N/A	Decayed and declining
E	CA bay laurel ( <i>Umbellularia californica</i> )	40.00	30.00	24.00	20.00		70.00	---	---	---	---	---	Yes	3	X		N/A	N/A	Decayed and declining
F	CA bay laurel ( <i>Umbellularia californica</i> )	20.00					20.00	---	---	---	---	---	Yes	4		X	N/A	N/A	L (severe)
G	CA bay laurel ( <i>Umbellularia californica</i> )	30.00					30.00	---	---	---	---	---	Yes	3	X		N/A	N/A	L
H	CA coast live oak ( <i>Quercus agrifolia</i> )	30.00					30.00	---	---	---	---	---	Yes	4		X	N/A	N/A	Dead
I	CA coast live oak ( <i>Quercus agrifolia</i> )	36.00					36.00	---	---	---	---	---	Yes	4		X	N/A	N/A	Declining; major limb removed (50% of canopy)
J	CA bay laurel ( <i>Umbellularia californica</i> )	36.00					36.00	---	---	---	---	---	Yes	3	X		N/A	N/A	Seriously eroded beneath rootball.



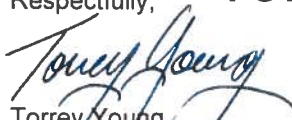




December 24, 2015  
Dryad, LLC  
15007-20068 Houston, Guy

Please feel free to contact me for further discussion or services.

Respectfully,  
**Torrey Young**



Torrey Young  
Registered Consulting Arborist®

Digitally signed by Torrey Young  
DN: cn=Torrey Young, o=Dryad, LLC, ou, email=torrey@dryad.us, c=US  
Date: 2016.06.24 12:27:06 -07'00'

ASCA Registered Consulting Arborist No. 282  
ISA Board Certified Master Arborist No. WE-0131BM  
CUFC Certified Urban Forester No. 121  
ISA Tree Risk Assessment Qualified  
CA Contractors License No. 363372 (C-27 & D-49 inactive)  
CA QAL No. 104772



<sup>A</sup> City of Pleasanton Municipal Code, Title 17 Planning and Related Matters, Chapter 17.16 Tree Preservation (revised, 2012): 17.16.006 Definitions "... A. "Heritage tree" means any of the following: 1. Any single-trunked tree with a circumference of 55 inches or more measured four and one-half feet above ground level; 2. Any multi-trunked tree of which the two largest trunks have a circumference of 55 inches or more measured four and one-half feet above ground level; 3. Any tree 35 feet or more in height; 4. Any tree of particular historical significance specifically designated by official action; 5. A stand of trees, the nature of which makes each dependent upon the other for survival or the area's natural beauty.

<sup>B</sup> Appraisal: (plants & landscape; as employed in this report) the certifiable valuing of landscape trees, shrubs, and other plants; a determination of the approximate "fair market" value, or value-loss if damaged. Generally, such appraisals are performed as described in the publication Council of Tree and Landscape Appraisers, 2000, *Guide for Plant Appraisal*, Ninth Edition, International Society of Arboriculture (see *Valuation*). Regional Species factors (in WCISA region) are obtained from the publication: WC I.S.A. Regional Tree Appraisal Committee, 2004. *Species Classification and Group Assignment*, Western Chapter, International Society of Arboriculture.

<sup>C</sup> Acute-angle attachments (crotches): Branch/limb, limb/trunk, or codominant trunks originating at acute angles from each other. Bark remains between such crotches, preventing the development of a branch-bark ridge (branch collar). The inherent weakness of such attachments increases with time, through the pressure of opposing growth and increasing weight of wood and foliage, frequently resulting in failure.

<sup>D</sup> D.S.H.: Diameter at Standard Height, or approximately 4.5 feet (54 inches) above grade. This expression is commonly used as a point of reference in determining tree size (synonymous with DBH, or Diameter at Breast Height).

<sup>E</sup> Codominant: Refers to branch, limbs or trunks of similar size and height or length competing for the same space and/or role within the tree's architecture; frequently originating at acute angles from each other, with bark remaining (included) between the components (in the crotch). Such crotches are inherently weak and worsen with time through the pressure of opposing growth and the increasing weight of wood and foliage, frequently resulting in the failure of one or both (all).

<sup>F</sup> Root collar (root crown): One of several accepted terms describing the junction of trunk and buttress roots at the original soil grade. Synonymous terms: root collar, root flare

The logo for Dryad, LLC, featuring the company name in a stylized, reddish-brown font.

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June 29, 2016

Guy Houston  
7080 Donlon Way, Suite 208  
Dublin, CA 94568

Re.: Tree Report Addendum 3.

Site: Pleasant View Church property, north side of Dublin Canyon Rd., northwest of Laurel Creek Rd., Pleasanton, CA 94588-2810

Mr. Houston;

I am writing in response to your request for a revision of my last report, specifically, to modify tree no. 959 as a tree to be preserved. You also me to comment on recent comments you received, relative to my report, from the City of Pleasanton<sup>1</sup>. This letter comprises my third addendum report.

I did not re-inspect the trees or site for the purposes of this addendum report. The only change is tree no. 959 from a removal to preservation. Following are a revised tree location diagram, and all tree data, also reflecting the changes to tree no 959. For ease of identification, I have highlighted data that has changed in yellow. All other data, observations, values, etc. remain unchanged.

#### **RESPONSES TO REPORT REVIEW COMMENTS BY THE CITY OF PLEASANTON<sup>1</sup>:**

- The comments provided repeatedly refer to "tree 259", which I am assuming is intended to refer to tree no. 959.
- **"Why has the arborist removed some of the appraisal values and information that were included within the first report that are now not included in the revised report?"**

**T. Young:** The City of Pleasanton<sup>2</sup> only requires appraisal values for trees to be retained, as follows: City of Pleasanton Municipal Code, Title 17: Planning and Related Matters, Chapter 17.16 Tree Preservation, 17.16.050 New property development. 6. *"Prior to issuance of a grading or building permit, the applicant shall secure an appraisal of the condition and replacement value of all trees included in the tree report affected by the development which are required to remain within the development."*

As site design and thus designations for tree removal or preservation, so did the requirement for appraisal values. Not including values in the reports is not synonymous with the trees having no value. Additionally, my reports include the comment *"Trees to be retained for habitat: 7 of the 12 trees are in such poor condition that I judged them of no appraisal value, but are proposed to be retained solely to provide habitat for wildlife<sup>3</sup> (Rating 3; nos. A-E, G, J.), as requested by the client (G. Houston)."*

Also, note that the guiding publication, Council of Tree and Landscape Appraisers, 2000, Guide for Plant Appraisal, Ninth Edition, International Society of Arboriculture, page 28, states *"Trees posing unreasonable risks should not be appraised for amenity value...a tree may be important to wildlife and could be kept..."* and page 29, *"A tree to be removed may have a negative value if its timber or firewood value is less than the removal and cleanup costs."*

<sup>1</sup> Comments are as cited by Guy Houston, from Jennifer.

<sup>2</sup> City of Pleasanton Municipal Code, Title 17 Planning and Related Matters, Chapter 17.16 Tree Preservation (revised, 2012).

- “And the report does not indicate that the arborist did a return site visit yet there comments have now changed, specifically Heritage tree 259 which is listed as preservable and had a substantial value now has no value at all? It also is now listed as having a poor structure but wasn’t mentioned in the first report? Our landscape architect has recommended that tree 259 be retained since there was no health reason for it to be removed.”

**T. Young:** I did not feel subsequent site visits were yet necessary, as work has not commenced and I have multiple images of all trees on site, i.e., no changes have occurred.

The comment "*poor structure*" was referring to the observation codes described consistently in all three reports. Health and structure are not synonymous. Tree no. 959 is physiologically sound, but has dramatic and irreparable structural defects, as described in the reports. Please also refer to the report's endnote definitions for more information. Also, the tree has been repeatedly topped for power line clearance.

The client has modified plans to preserve tree no. 959. The impacts on reported data are included in this addendum.

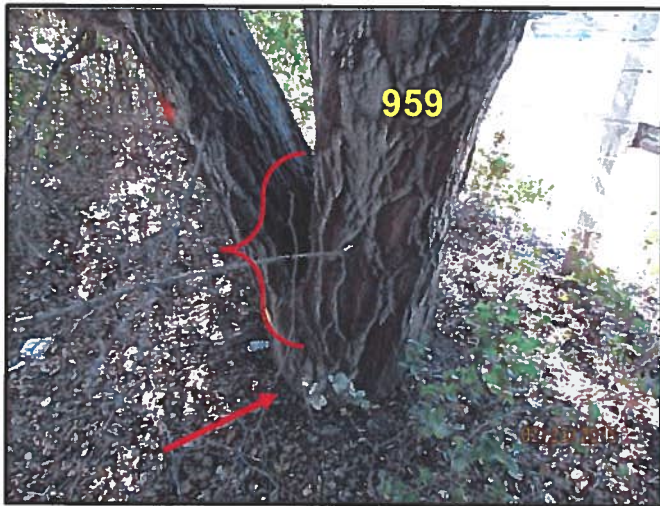
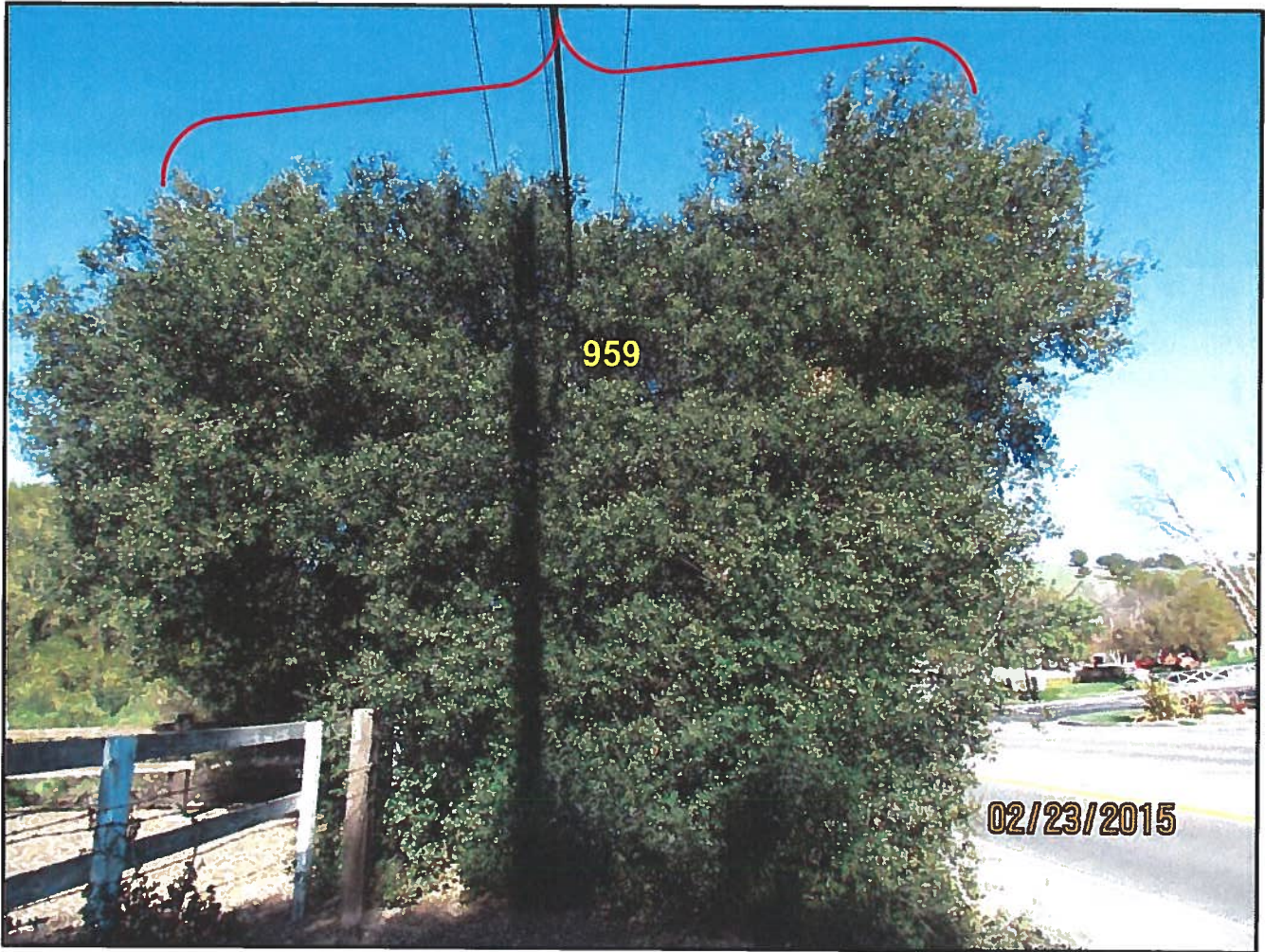
**PREVIOUS REPORT REFERENCES TO TREE NO. 959:**

- **Original report, 03/14/15:** Tree no., 959 was rated a no. 2 (Preservable, but not worthy of extensive effort or design accommodation), with abbreviations UL, AAA, RC (utility line conflicts, acute-angle attachments<sup>A</sup>, excess soil over root crown<sup>D</sup>). At this time, decision other than my evaluation had not been made as to what trees were to be removed or retained. The plan I received (in report) did not show a conflict other than overhead utility lines. As per the City of Pleasanton code<sup>2</sup>, I included an appraisal value (\$21,300) assuming it would be retained.

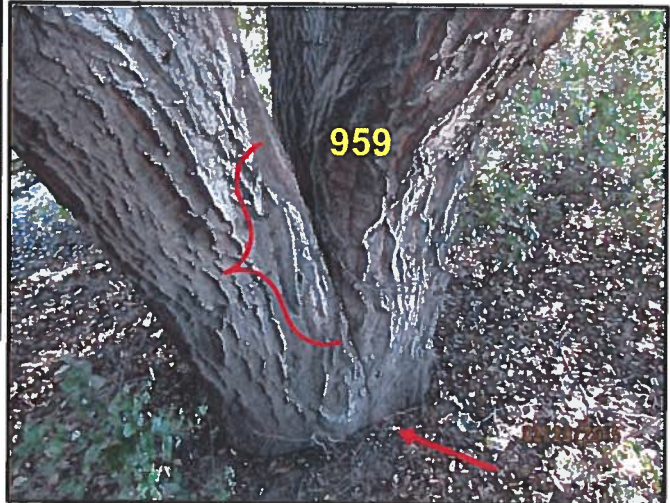
**Report Addendum 1, 12/23/15:** Tree no. 959 was rated a no. 2 and cited for removal as a result of the addition of a sidewalk, with the same abbreviation codes (UL, AAA, RC; AAA & AAC are synonymous) No appraisal value was included, as per the City of Pleasanton<sup>2</sup>, as the tree was to be removed.

**Report Addendum 2, 06/24/16:** As of this report, the sidewalk had been modified to preserve trees, and although still present are planned for undergrounding. Tree no. 959 was again rated a no. 2, with the same abbreviation codes (UL, AAA, RC), but with the added comment "weak structure", referring to the multitude of acute-angle attachments (AAA). From review of my original images, I determined the tree was a poor candidate for preservation, hence no appraisal required. This is not synonymous with the tree having no value.





Tree no. 959: illustrating topping for power line clearance (above), the primary acute-angle attachment<sup>A</sup> with included bark and excess soil over the root crown/collar. (below).



**DATA SUMMARIES, CODES, ABBREVIATIONS:**

Description	Quantity	Tree nos.
Trees (individual trees addressed in report)	30	941-60, A-J (all)
Heritage Trees	19	952-955, 959, 960, A-J
Other than Heritage Trees	11	941, 943, 944, 946, 948-951, 956-958
Trees to retain	20	944, 945, 947, 948, 950, 952, 953, 955-958, 959, 960, A-E, G, J
Heritage Trees to be retained	13	945, 947, 952, 953, 955, 960, A-E, G, J
Trees to be retained for wildlife habitat	7	A-E, G, J
Trees to remove	10	941-943, 946, 949, 951, 954, 959, F, H, I
Heritage trees to remove	6	942, 954, 959, F, H, I
Trees to remove due to existing condition	4	954, F, H, I
Trees in conflict with proposed pathway	3	941-43
Trees in conflict with construction	1	946 (does not include pathway conflict trees)
Trees appraised	15	944, 945, 947-953, 955-960
Trunk Formula Method	11	945, 947, 949-953, 955, 957, 959, 960
Replacement Method	4	944, 948, 956, 958
Total value of appraised trees	\$121,380	944, 945, 947-953, 955-960
Average value of appraised trees	\$8,092	

Genus-species breakdown	Quantity
CA coast live oaks ( <i>Quercus agrifolia</i> )	22
CA bay laurels ( <i>Umbellularia californica</i> )	7
Valley oaks ( <i>Quercus lobata</i> )	1

Rating Code	Description	Quantity	Tree nos.
1	Preserve, condition warrants long-term preservation.	8	947, 950, 952, 953, 955-958
2	Preservable, but not worthy of extensive effort or design accommodation.	7	944, 945, 948, 949, 951, 959, 960
3	Current condition warrants removal, but preserve as habitat if viable.	7	A-E, G, J.
4	Remove due to current condition.	4	954, F, H, I.
5	Remove due to conflict with construction only.	4	941-943, 946 (includes pathway conflict trees)

Abbreviations	
AAA	Acute-angle attachment <sup>A</sup> of trunks and/or major limbs
DSH	Diameter at Standard Height (4.5 ft. or 54 ins above grade) <sup>B</sup>
CD	Codominant <sup>C</sup> trunks or primary limbs
L	Lean (significant, => 10°)
RC	Excess soil over root collar <sup>D</sup>
UL	Utility lines overhead

**TREE INVENTORY & DATA:**

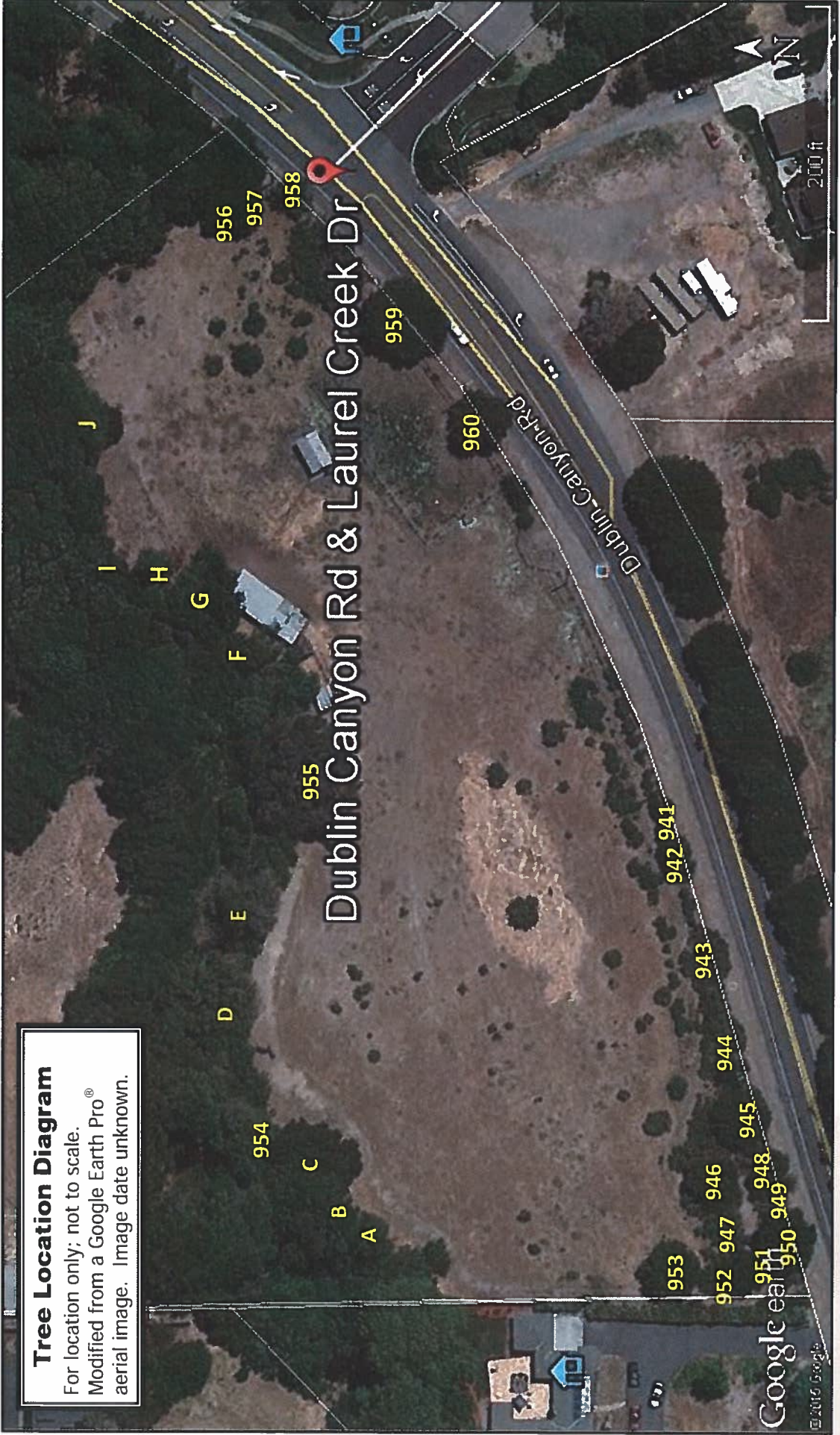
No.	Common name (Genus-species)	Trunk diameter (inches)							Total (2 largest)	Canopy (feet)	Height (feet)	Heritage Status	Rating	Tree Site Plan		Appraisal Method	Value	Comments
		DSH1	DSH2	DSH3	DSH4	DSH5	N	E						S	W			
941	CA coast live oak ( <i>Quercus agrifolia</i> )	7.00	6.00				6	8	6	6	6	15	No	5		X	N/A	UL, CD; conflicts with proposed pathway.
942	CA coast live oak ( <i>Quercus agrifolia</i> )	10.00	9.00				6	8	6	8	21	Yes	5		X	N/A	N/A	UL, CD; conflicts with proposed pathway.
943	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00					6	4	6	8	18	No	5		X	N/A	N/A	UL, CD; conflicts with proposed pathway.
944	CA coast live oak ( <i>Quercus agrifolia</i> )	6.50					8	6	4	7	23	No	2		X	Replacement	\$2,160	UL, L
945	CA coast live oak ( <i>Quercus agrifolia</i> )	17.50					15	15	12	---	25	Yes	2		X	Trunk Formula	\$5,700	UL, AAC, RC
946	CA coast live oak ( <i>Quercus agrifolia</i> )	11.00					20	16	8	15	23	No	5		X	N/A	N/A	RC
947	CA coast live oak ( <i>Quercus agrifolia</i> )	11.00	10.00				21.00				23	Yes	1		X	Trunk Formula	\$2,160	AAC, RC
948	CA coast live oak ( <i>Quercus agrifolia</i> )	9.00					9.00	6	8	8	20	No	2		X	Replacement	\$5,700	UL, RC
949	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00	6.00	5.00	4.00	4.00	14.00	6	8	8	18	No	2		X	Trunk Formula	\$2,160	UL, L (5+ clumped trees treated as 1); poor-structure for all.
950	CA coast live oak ( <i>Quercus agrifolia</i> )	16.00					16.00				23	No	1		X	Trunk Formula	\$5,700	UL, AAC, RC
351	CA coast live oak ( <i>Quercus agrifolia</i> )	9.00	8.00	7.00			17.00	18	10	10	16	No	2		X	Trunk Formula	N/A	UL, AAC, RC; conflicts with proposed pathway.
352	CA coast live oak ( <i>Quercus agrifolia</i> )	14.00	11.00	9.00			25.00	12	10	10	16	Yes	1		X	Trunk Formula	\$13,200	RC
353	CA coast live oak ( <i>Quercus agrifolia</i> )	14.00	13.00	13.00			27.00	18	20	18	14	Yes	1		X	Trunk Formula	\$10,800	AAC, RC
354	CA coast live oak ( <i>Quercus agrifolia</i> )	11.50					11.50	---	6	4	4	53	Yes	4		X	N/A	Partially uprooted, largest trunk was removed.

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No.	Common name (Genus-species)	Trunk diameter (inches)						Total (2 largest)	Canopy (feet)				Height (feet)	Heritage Status	Rating	Tree Site Plan		Appraisal Method	Value	Comments
		DSH1	DSH2	DSH3	DSH4	DSH5			N	E	S	W				Retain	Remove			
955	CA coast live oak ( <i>Quercus agrifolia</i> )	43.00						43.00	30	40	30	55	Yes	1	X		Trunk Formula	\$30,600	L to south, RC; heavily defoliated	
956	CA coast live oak ( <i>Quercus agrifolia</i> )	8.00					8.00		25	25	25	25	No	1	X		Replacement	\$2,440	L, AAC, RC	
957	CA coast live oak ( <i>Quercus agrifolia</i> )	17.00					17.00						No	1	X		Trunk Formula	\$6,700	AAC, RC	
958	Valley oak ( <i>Quercus lobata</i> )	9.00					9.00	4	8	10	12	22	No	1	X		Replacement	\$2,160	UL, L, RC	
959	CA coast live oak ( <i>Quercus agrifolia</i> )	21.00	20.00	16.00	11.00		41.00	24	18	15	20	18	Yes	2	X		Trunk Formula	\$21,300	UL, AAC, RC; poor structure.	
960	CA coast live oak ( <i>Quercus agrifolia</i> )	16.00	14.00	13.00			30.00	16	18	20	16	22	Yes	2	X		Trunk Formula	\$10,600	UL, AAC, RC	
A	CA bay laurel ( <i>Umbellularia californica</i> )	34.00					34.00						Yes	3	X		N/A	N/A		
B	CA coast live oak ( <i>Quercus agrifolia</i> )	30.00					30.00						Yes	3	X		N/A	N/A	L	
C	CA bay laurel ( <i>Umbellularia californica</i> )	20.00					20.00						Yes	3	X		N/A	N/A	L	
D	CA bay laurel ( <i>Umbellularia californica</i> )	60.00					60.00						Yes	3	X		N/A	N/A	Decayed and declining	
E	CA bay laurel ( <i>Umbellularia californica</i> )	40.00	30.00	24.00	20.00		70.00						Yes	3	X		N/A	N/A	Decayed and declining	
F	CA bay laurel ( <i>Umbellularia californica</i> )	20.00					20.00						Yes	4		X	N/A	N/A	L (severe)	
G	CA bay laurel ( <i>Umbellularia californica</i> )	30.00					30.00						Yes	3	X		N/A	N/A	L	
H	CA coast live oak ( <i>Quercus agrifolia</i> )	30.00					30.00						Yes	4		X	N/A	N/A	Dead	
I	CA coast live oak ( <i>Quercus agrifolia</i> )	36.00					36.00						Yes	4		X	N/A	N/A	Declining; major limb removed (50% of canopy)	
J	CA bay laurel ( <i>Umbellularia californica</i> )	36.00					36.00						Yes	3	X		N/A	N/A	Seriously eroded beneath rootball.	

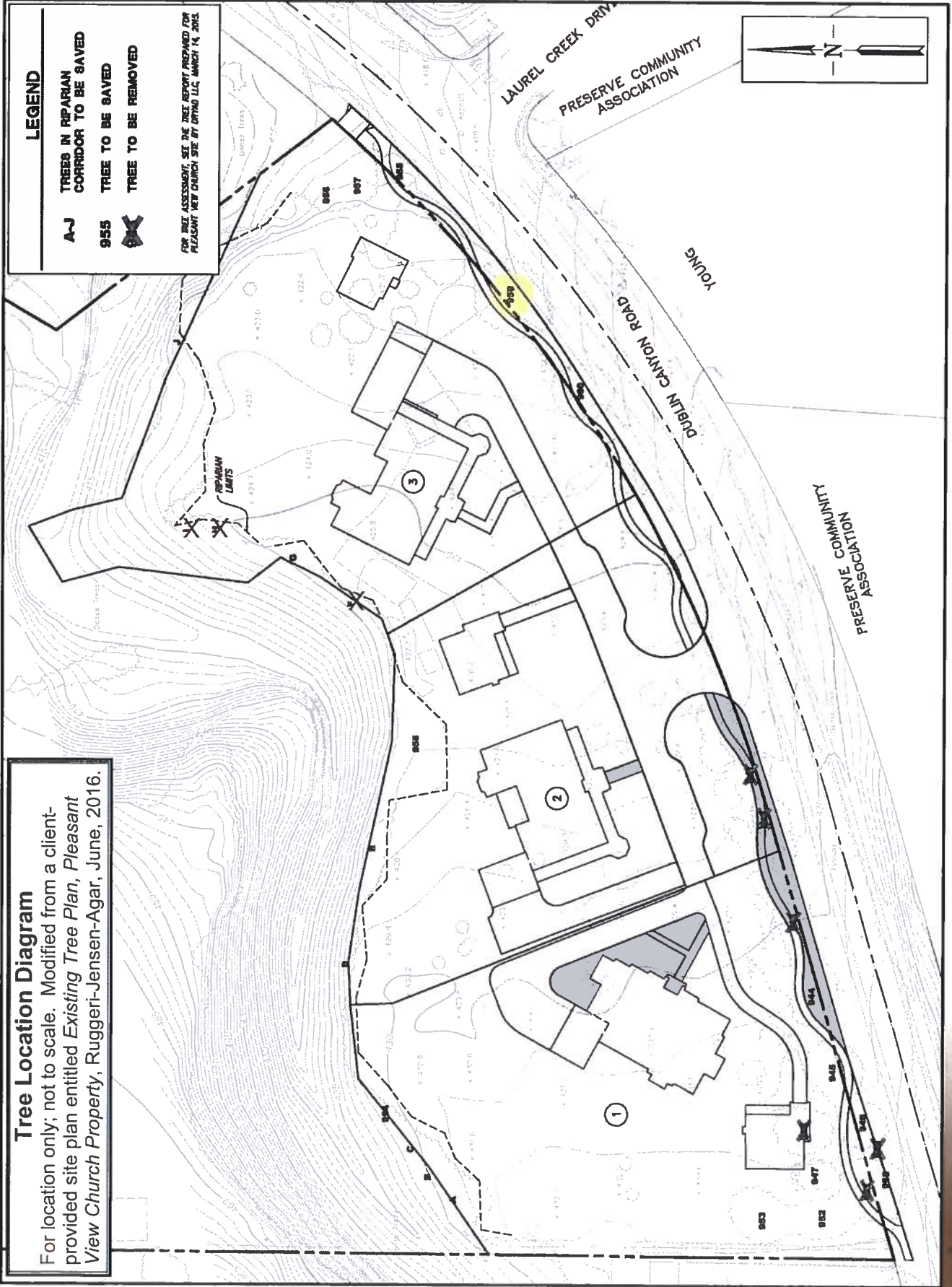


Dryad,



### Tree Location Diagram

For location only; not to scale. Modified from a client-provided site plan entitled *Existing Tree Plan, Pleasant View Church Property*, Ruggeri-Jensen-Agar, June, 2016.

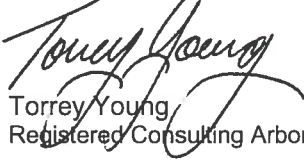




June 29, 2016  
Dryad, LLC  
15007-20068 Houston, Guy

Please feel free to contact me for further discussion or services.

Respectfully,



Torrey Young  
Registered Consulting Arborist®

ASCA Registered Consulting Arborist No. 282  
ISA Board Certified Master Arborist No. WE-0131BM  
CUFC Certified Urban Forester No. 121  
ISA Tree Risk Assessment Qualified  
CA Contractors License No. 363372 (C-27 & D-49; inactive)  
CA QAL No. 104772



<sup>A</sup> Acute-angle attachments (crotches): Branch/limb, limb/trunk, or codominant trunks originating at acute angles from each other. Bark remains between such crotches, preventing the development of a branch-bark ridge (branch collar). The inherent weakness of such attachments increases with time, through the pressure of opposing growth and increasing weight of wood and foliage, frequently resulting in failure.

<sup>B</sup> D.S.H.: Diameter at Standard Height, or approximately 4.5 feet (54 inches) above grade. This expression is commonly used as a point of reference in determining tree size (synonymous with DBH, or Diameter at Breast Height).

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<sup>D</sup> Root collar (root crown): One of several accepted terms describing the junction of trunk and buttress roots at the original soil grade.

Synonymous terms: root collar, root flare

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# BIOLOGICAL RESOURCES ANALYSIS REPORT

FOR THE

## DUBLIN CANYON ROAD PROPERTY

PLEASANTON, ALAMEDA COUNTY, CALIFORNIA



Prepared for:

**GUY HOUSTON**

Valley Capital

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Dublin, California 94568

Prepared by:

**OLBERDING ENVIRONMENTAL, INC.**

Wetland Regulatory Consultants

3170 Crow Canyon Place, Suite 260

San Ramon, California 94583

Phone: (925) 866-2111 ~ FAX (925) 866-2126

Contact: Jeff Olberding

**SEPTEMBER 2014**

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## LIST OF ATTACHMENTS

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### ATTACHMENT 1 FIGURES

Figure 1	Regional Map
Figure 2	Vicinity Map
Figure 3	USGS Topographic Map
Figure 4	Aerial Map
Figure 5	CNDDDB Wildlife Occurrences within 5 miles and 10 years
Figure 6	CNDDDB Plant Occurrences within 5 miles and 10 years
Figure 7	USFWS Critical Habitat
Figure 8	Soils Map
Figure 9	Photo Map
Figure 10	Habitat Map

### ATTACHMENT 2 TABLES

Table 1	Plant and Wildlife Species Observed Within/Adjacent to the Survey Area
Table 2	Special-Status Species Occurring within the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps

### ATTACHMENT 3 SITE PHOTOGRAPHS

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This report should be cited as: Olberding Environmental, Inc. September, 2014. *Biological Resources Analysis Report for the Dublin Canyon Road Property, Pleasanton, Alameda County, California*. Prepared for Valley Capital, Dublin, California.

## SUMMARY

On September 9, 2014 Olberding Environmental, Inc. conducted a field reconnaissance survey of the Dublin Canyon Road Property (Property) for the purpose of identifying sensitive plant and wildlife species, sensitive habitats, and biological constraints potentially occurring on the Property. The Property surveyed is comprised of approximately 4.5 acres located within the City of Pleasanton, Alameda County, California.

Results of this initial reconnaissance survey identified the presence of a single intermittent creek channel (Dublin Creek) flowing across the northern Property boundary. Dublin Creek would be considered jurisdictional by the U.S. Army Corps of Engineers (Corps) as the incised channel showed sign of an ordinary high water mark and sediment transport suggesting intermittent flows. Other agencies that may consider this feature jurisdictional include the San Francisco Bay Regional Water Quality Control Board (RWQCB), and/or the California Department of Fish and Wildlife (CDFW). The general location of the intermittent creek channel has been presented in Attachment 1, Figure 10. It is recommended that a formal delineation be performed to adequately identify the extent of Corp, RWQCB and CDFW jurisdiction on the Property. If impacts are to occur to Dublin Creek, permit application to the above-mentioned agencies would be required.

Congdon's tar plant (*Hemizonia parryi ssp. congdonii*) was observed on portions of the Property during the September 2014 survey. A query of the California Natural Diversity Database (CNDDDB) did show that one special-status plant species had a moderate potential to occur on the Property. Congdon's tarplant was identified as having a potential to occur on the Property based on the presence of suitable habitat for this species and a CNDDDB occurrence located within the vicinity of the Property. Suitable habitat for this plant species occurs throughout the Property within grassland, and riparian habitats. Olberding Environmental, Inc. recommends that a rare plant survey be conducted prior to any construction activities to document the extent of this species on site. Congdon's tar plant blooms between June through November and should be surveyed during this time period by a qualified biologist to determine the precise location. If possible, seed should be collected or the plants collect for redistribution if these areas are to be impacted by proposed development.

A total of 16 bird species were identified as having a potential to occur on the Property. The following bird species have a moderate potential to nest and forage on the property including Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*) bank swallow (*Riparia riparia*), and California horned-lark (*Eremophila alpestris actia*). The following 7 species have low potential to occur due to lack of suitable habitat: tri-colored blackbird (*Agelaius tricolor*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), grasshopper sparrow (*Ammodramus savannarum*), northern harrier (*Circus cyaneus*), yellow warbler (*Dendroica petechia*), and Ferruginous hawk (*Buteo regalis*). The red-tailed hawk (*Buteo jamaicensis*) and red-shouldered hawk (*Buteo lineatus*) have a high potential to nest and forage on the property due to suitable habitat found in the large oak and bay trees on the northern border of the property. If project construction-related activities such as tree and vegetation removal or grading take place during

the nesting season (February through August), preconstruction surveys for nesting passerine birds and raptors are recommended.

No sign of bat use was observed on the Property during the September 2014 survey; however, based on habitat suitability, it was determined that bats have a moderate potential to utilize the site in a roosting and foraging capacity. This holds especially true for the large eucalyptus trees and structures found on the Property. If project construction-related activities such as tree removal or building demolition take place it is recommended that a pre-construction bat survey be conducted by a qualified bat biologist during seasonal periods of bat activity to determine suitability of the on-site habitat. If special-status bat species are discovered, construction activities may be timed to minimize impacts and additional mitigation may be required.

The CNDDDB has listed one occurrence of the California red-legged frog (*Rana draytonii*) roughly 5 miles southwest of the Property. Dublin Creek would be considered potentially suitable for California red-legged frogs (CRLF). A single occurrence of California tiger salamander (*Ambystoma californiense*) was also identified 2.5 miles to the southwest. However, the Property is partially surrounded by existing residential development with Highway 580 situated several hundred feet to the north. There is no breeding habitat for either species present in close proximity to the Property and Dublin Creek begins to flow through urban development at this point. The semi-isolated nature of the site would preclude the existence of any remnant population of CRLF or CTS. Our site assessment concluded that CRLF and CTS would not be present based on the lack of breeding habitat both on and immediately surrounding the Property, lack of occurrences in the vicinity, dispersal barriers such as existing development and major roads, and existing use of the property for horse boarding purposes. While CRLF could potentially use the site for dispersal purposes it is highly unlikely. Both CRLF and CTS are presumed to be absent from the Property.

The CNDDDB listed Alameda whipsnake (*Masticophis lateralis euryxanthus*) as occurring in the hills to the west of the Property. The oak woodland and grassland habitats are suitable for the Alameda whipsnake but their preference is scrub and rock outcrop habitats which are not present on the Property. The Property is heavily impacted by existing horse boarding land use activities and vegetative cover is sparse. Like the California red-legged frog, the Alameda whipsnake would need a corridor in order to disperse to the Property, without an existing corridor the presence of the Alameda whipsnake is unlikely due to the isolation of the site. Alameda whipsnake are presumed to be absent from the Property.

The San Francisco dusky-footed woodrat was determined to have a moderate potential of occurring on the Property as CNDDDB lists several occurrences of this species approximately 3.5 miles west of the site. This species is identified as a California Species of Special Concern. Although no woodrat nests were observed throughout the Property the species can occur within the mixed riparian woodland and mixed oak woodland habitats which are both present at this Property. Olberding Environmental recommends that prior to commencing any Project activities that may result in the destruction of dusky-footed woodrat nests; surveys shall be conducted by a qualified biologist to determine the occupancy of the nests and the possible need for additional mitigation to be coordinated with CDFW.

## 1.0 INTRODUCTION

At the request of the Valley Capital, Olberding Environmental conducted a biological resources analysis of the Dublin Canyon Road Property, located within the City of Pleasanton, Alameda County, California. This biological resources analysis includes a review of pertinent literature on relevant background information and habitat characteristics of the site including the California Natural Diversity Database (CNDDDB 2014) and the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California*, and a review of information related to species of plants and animals that could potentially utilize the described habitats. A field reconnaissance investigation of the Property was conducted on September 9, 2014. This report documents the methods, results, and conclusions of the reconnaissance-level survey associated with the biological resources analysis for the Property.

## 2.0 LOCATION

The Property is located approximately 3.73 miles northwest of downtown Pleasanton in Alameda County. The survey area for this study is situated just north of Dublin Canyon Road and south of residential development, a church and open space. Attachment 1, Figure 1 depicts the regional location of the Property in Alameda County, while Attachment 1, Figure 2 illustrates the vicinity of the Property in relationship to the City of Pleasanton. Attachment 1, Figure 3 identifies the location of the Property on the USGS 7.5-minute Quadrangle Map for Dublin. An aerial photograph of the Property is included as Attachment 1, Figure 4.

Access to the Property is provided from Interstate 680 and Interstate 580. From San Ramon heading south on 680 for 5.1 miles, take the exit for 580 west towards Oakland travel 0.8 miles and exit at the San Ramon Road exit. Turn left onto San Ramon Road and continue onto Foothill Road. Turn right onto Dublin Canyon Road once traveling approximately 0.2 miles the Property will be on the right hand side.

## 3.0 PROPERTY DESCRIPTION

The Dublin Canyon Road Property consists of roughly 4.5 acres, being relatively flat and square in shape with the exception of the northern border which undulates following an intermittent creek channel (Dublin Creek) to the north of the Property. The Property is currently used as a horse boarding area that has otherwise been left fallow which allowed non-native grass and weed species to propagate on the soil making it a sparsely vegetated ruderal/non-native grassland habitat. Dominate species on site include but are not limited to: black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), Italian rye grass (*Festuca Perrenis*) and wild oat (*Avena fatua*). The area adjacent to the creek consists of large valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*) and California bay (*Umbellularia californica*) trees. The Property has two abandoned structures: one shed and one horse stable. The Property is bound by existing residential areas to the west and bound by a creek and open space to the north. To the south lies the main access road, Dublin Canyon road, while to the east lies single residence. Elevations are flat and consistent across the property at approximately 426 feet above sea level.

## **4.0 REGULATORY SETTING**

### **4.1 Federal Regulatory Setting**

#### ***4.1.1 Plants and Wildlife***

The federal Endangered Species Act of 1973 (16 USC 1531 et seq., as amended) prohibits federal agencies from authorizing, permitting, or funding any action that would result in biological jeopardy to a plant or animal species listed as Threatened or Endangered under the Act. Listed species are taxa for which proposed and final rules have been published in the Federal Register (U.S. Fish and Wildlife Service [USFWS] 2014a). If a proposed project may jeopardize listed species, Section 7 of the ESA requires consideration of those species through formal consultations with the USFWS. Federal Proposed species (USFWS, 2014b) are species for which a proposed listing as Threatened or Endangered under ESA has been published in the Federal Register. If a proposed project may jeopardize proposed species, Section 7 of the ESA affords consideration of those species through informal conferences with USFWS. The USFWS defines federal Candidate species as “those taxa for which we have on file sufficient information on biological vulnerability and threats to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded by other higher priority listing actions” (USFWS, 2014b). Federal Candidate species are not afforded formal protection, although USFWS encourages other federal agencies to give consideration to Candidate species in environmental planning.

#### ***4.1.2 Wetlands/Waters***

The federal government, acting through the U.S. Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA), has jurisdiction over all “waters of the United States” as authorized by §404 of the Clean Water Act (CWA) and §10 of the Rivers and Harbors Act of 1899 (33 CFR Parts 320-330). Properties that cause the discharge of dredged or fill material into waters of the United States require permitting by the Corps. Actions affecting small areas of jurisdictional waters of the United States may qualify for a Nationwide Permit (NWP), provided conditions of the permit are met, such as avoiding impacts to threatened or endangered species or to important cultural sites. Properties that affect larger areas or which do not meet the conditions of an NWP require an Individual Permit. The process for obtaining an Individual Permit requires a detailed alternatives analysis and development of a comprehensive mitigation/monitoring plan. Waters of the United States are classified as wetlands, navigable waters, or other waters. Wetlands are transitional habitats between upland terrestrial areas and deeper aquatic habitats such as rivers and lakes. Under federal regulation, wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR Part 328.3[b]). Swamps, marshes, bogs, fens, and estuaries are all defined as wetlands, as are seasonally saturated or inundated areas such as vernal pools, alkali wetlands, seeps, and springs. In addition, portions of the riparian habitat along a river or stream may be a wetland where the riparian vegetation is at or below the ordinary high water mark and thus also meets the wetland hydrology and hydric soil criteria.



Navigable waters include all waters subject to the ebb and flow of the tides, including the open ocean, tidal bays, and tidal sloughs. Navigable waters also include some large, non-tidal rivers and lakes, which are important for transportation in commerce. The jurisdictional limit over navigable waters extends laterally to the entire water surface and bed of the waterbody landward to the limits of the mean high tide line. For non-tidal rivers or lakes, which have been designated (by the Corps) to be navigable waters, the limit of jurisdiction along the shoreline is defined by the ordinary high water mark. “Other waters” refer to waters of the United States other than wetlands or navigable waters. Other waters include streams and ponds, which are generally open water bodies and are not vegetated. Other waters can be perennial or intermittent water bodies and waterways. The Corps regulates other waters to the outward limit of the ordinary high water mark. Streams should exhibit a defined channel, bed, and banks to be delineated as other waters.

The Corps does not generally consider “non-tidal drainage and irrigation ditches excavated on dry land” to be jurisdictional waters of the United States (and such ditches would therefore not be regulated by the Corps (33 CFR Parts 320-330, November 13, 1986). Other areas generally not considered jurisdictional waters include: 1) artificially irrigated areas that would revert to upland habitat if the irrigation ceased; 2) artificial lakes and ponds created by excavating and/or diking of dry land to collect and retain water, used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing; 3) waste treatment ponds; 4) ponds formed by construction activities including borrow pits until abandoned; and 5) ponds created for aesthetic reasons such as reflecting or ornamental ponds (33 CFR Part 328.3). However, the preamble also states that “the Corps reserves the right on a case-by-case basis to determine that a particular waterbody within these categories” can be regulated as jurisdictional water. The EPA also has authority to determine jurisdictional waters of the U.S. on a case-by-case basis. Riparian habitat that is above the ordinary high water mark and does not meet the three-parameter criteria for a wetland would not be regulated as jurisdictional waters of the United States.

#### ***4.1.3 Migratory Bird Treaty Act***

Raptors are migratory bird species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Sections 3503, 3503.5, and 3800 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that Property-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (generally February 1 – September 1, annually). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or the loss of habitat upon which the birds depend, is considered “taking” and is potentially punishable by fines and/or imprisonment. Such taking would also violate federal law protecting migratory birds (e.g., MBTA).

#### **4.1.4 Federal Bald and Golden Eagle Protection Act**

In addition to protection under the MBTA, both the bald eagle and the golden eagle are also protected by the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668c). The Bald and Golden Eagle Protection Act, and amended several times since being enacted in 1940, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald or golden eagles, including their parts, nests, or eggs (USFWS 2014). The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (USFWS 2014).

For purposes of these guidelines, “disturb” means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (USFWS 2014).

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment (USFWS 2014).

## **4.2 State Regulatory Setting**

### **4.2.1 Plants and Wildlife**

Property permitting and approval requires compliance with California Environmental Quality Act (CEQA), the 1984 California Endangered Species Act (CESA), and the 1977 Native Plant Protection Act (NPPA). The CESA and NPPA authorize the California Fish and Wildlife Commission to designate Endangered, Threatened and Rare species and to regulate the taking of these species (§§2050-2098, Fish & Wildlife Code). The California Code of Regulations (Title 14, §670.5) lists animal species considered Endangered or Threatened by the State.

The Natural Heritage Division of the CDFW administers the state rare species program. The CDFW maintains lists of designated Endangered, Threatened, and Rare plant and animal species (CDFW 2014b and 2014c). Listed species either were designated under the NPPA or designated by the Fish and Game Commission. In addition to recognizing three levels of endangerment, the CDFW can afford interim protection to candidate species while they are being reviewed by the Fish and Game Commission.

The CDFW also maintains a list of animal species of special concern (CDFW 2014b), most of which are species whose breeding populations in California may face extirpation. Although these species have no legal status, the CDFW recommends considering them during analysis of

proposed property impacts to protect declining populations and avoid the need to list them as endangered in the future.

Under provisions of §15380(d) of the CEQA Guidelines, the CEQA lead agency and CDFW, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFW considers plant species on List 1A (Plants Presumed Extinct in California), List 1B (Plants Rare, Threatened, or Endangered in California and elsewhere), or List 2 (Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere) of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994) as qualifying for legal protection under §15380(d). Species on CNPS Lists 3 or 4 may, but generally do not, qualify for protection under this provision.

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species and CDFW Species of Special Concern, areas of high biological diversity, areas providing important wildlife habitat, and unusual or regionally restricted habitat types. Habitat types considered sensitive include those listed on the CNDDDB working list of “high priority” habitats (i.e., those habitats that are rare or endangered within the borders of California) (Holland 1986).

#### **4.2.2 Wetlands/Waters**

The RWQCB regulates activities in wetlands and other waters through §401 of the Clean Water Act. Section 401 requires a state water quality certification for properties subject to 404 regulations. Requirements of the certification include mitigation for loss of wetland habitat. In the San Francisco Bay region, the RWQCB may identify additional wetland mitigation beyond the mitigation required by the Corps. California Fish and Game Code §§1600-1607 require the CDFW be notified of any activity that could affect the bank or bed of any stream that has value to fish and wildlife. Upon notification, the CDFW has the discretion to execute a Streambed Alteration Agreement. The CDFW defines streams as follows:

*“... a body of water that flows at least periodically...through a bed or channel having banks and supporting fish and other aquatic life. This includes watercourses having a subsurface flow that supports or has supported riparian vegetation.”*

(Streambed Alteration Program, California Department of Fish and Wildlife).

In practice, CDFW authority is extended to any “blue line” stream shown on a USGS topographic map, as well as unmapped channels with a definable bank and bed. Wetlands, as defined by the Corps, need not be present for CDFW to exert authority.

#### **4.2.3 California Environmental Quality Act**

According to Appendix G of the California Environmental Quality Act (CEQA 2005) Guidelines, a proposed project would have a significant impact on biological resources if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

## **5.0 METHODS OF ANALYSIS FOR GENERAL BIOLOGICAL RESOURCES**

A special-status plant and wildlife species database search and review was conducted using the CNDDDB and other sources. An additional search was conducted for special-status plants using CNPS *Inventory* on-line. Special-status species reports were accessed by searching the CNDDDB database for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley USGS 7.5-minute quadrangles which surround the Property, and by examining those species that have been identified in the vicinity of the Property. The database report identified special-status species known to occur in the region or those that have the potential to occur in the vicinity of the Property. The CNDDDB report was used to focus special-status species analysis of the site prior to the reconnaissance surveys.

An Olberding Environmental biologist conducted a reconnaissance-level survey of the Property on September 9, 2014. The survey consisted of walking throughout the Property and evaluating the site and adjacent lands for potential biological resources. Existing conditions, observed plants and wildlife, adjacent land use, soils and potential biological resource constraints were recorded during the visit. Plant and wildlife species observed within and adjacent to the Property during the reconnaissance survey are included in Attachment 2, Table 1.

The objectives of the field survey were to determine the potential presence or absence of special-status species habitat listed in the CNDDDB database report and to identify any wetland areas that

could be potentially regulated by the Corps, RWQCB, and/or CDFW (CNDDDB 2014). In addition, the Olberding Environmental biologist looked for other potential sensitive species or habitats which may not have been obvious from background database reports or research. Surveys conducted after the growing season or conducted outside of the specific flowering period for a special-status plant cannot conclusively determine the presence or absence of such plant species; therefore, site conditions and habitat type were used to determine potential for occurrence. When suitable habitat was observed to support a special-status plant or animal species it was noted in the discussion for that particular species. Regulatory agencies evaluate the possibility of occurrence based on habitats observed on-site and the degree of connectivity with other special-status animal habitats in the vicinity of the Property. These factors are discussed in each special-status plant or animal section. Potential for occurrence of each special-status or protected plant and animal species was evaluated using the following criteria.

- **Present:** The species has been recorded by CNDDDB or other literature as occurring on the Property and/or was observed on the Property during the reconnaissance survey or protocol surveys.
- **May Occur:** The species has been recorded by CNDDDB or other literature as occurring within of the Property, and/or was observed within five miles of the Property, and/or suitable habitat for the species is present on the Property or its immediate vicinity.
- **Not Likely to Occur:** The species has historically occurred on or within five miles of the Property, but has no current records. The species occurs within five miles of the Property but only marginally suitable habitat conditions are present. The Property is likely to be used only as incidental foraging habitat or as an occasional migratory corridor.
- **Presumed Absent:** The species will not occur on the Property due to the absence of suitable habitat conditions, and/or the lack of current occurrences. Alternatively, if directed or protocol-level surveys were done during the proper occurrence period and the species was not found, it is presumed absent.

Sources consulted for agency status information include USFWS (2014) for federally listed species and CDFW (2014) for State of California listed species. Based on information from the above sources, Olberding Environmental developed a target list of special-status plants and animals with the potential to occur within or in the vicinity of the Property (Attachment 2, Table 2).

## 5.1 Soils Evaluation

The soils present on a property may determine if habitat on the site is suitable for certain special-status plants and animals. The host plants of some special-status invertebrates may also require specific soil conditions. In the absence of suitable soil conditions, special-status plants or animals requiring those conditions would be presumed absent. Information regarding soil characteristics for the Property was obtained by viewing the Natural Resources Conservation Service (NRCS) Web Soil Survey report for the Property (NRCS 2014).

## **5.2 Plant Survey Methods**

The purposes of the botanical surveys were (1) to characterize the habitat types (plant communities) of the study area; (2) to determine whether any suitable habitat for any special-status plant species occurs within the study area; and (3) to determine whether any sensitive habitat types (wetlands) occur within the study area. Site conditions and plant habitat surveys are important tools in determining the potential occurrence of plants not recorded during surveys (e.g., special-status plants) because presence cannot conclusively be determined if field surveys are conducted after the growing season or conducted outside a specific flowering period.

### ***5.2.1 Review of Literature and Data Sources***

The biologist conducted focused surveys of literature and special-status species databases in order to identify special-status plant species and sensitive habitat types with potential to occur in the study area. Sources reviewed included the CNDDDB occurrence records (CNDDDB 2014) and CNPS *Inventory* (Skinner and Pavlik 1994) for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley USGS 7.5-minute quadrangles; and standard flora (Hickman 1993). From the above sources, a list of special-status plant species with potential to occur in the Property vicinity was developed (Attachment 2, Table 2).

### ***5.2.2 Field Surveys***

A biologist from Olberding Environmental conducted a reconnaissance-level survey to determine habitat types and the potential for special-status plants based on the observed habitat types. All vascular plant species that were identifiable at the time of the survey were recorded and identified using keys and descriptions in Hickman (1993).

The habitat types occurring on the Property were characterized according to pre-established categories. In classifying the habitat types on the site, the generalized plant community classification schemes of *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evens 2009) were consulted. The final classification and characterization of the habitat types of the study area were based on field observations.

## **5.3 Wildlife Survey Methods**

The purposes of the wildlife survey were to identify special-status wildlife species and/or potential special-status wildlife habitats within the study area.

### ***5.3.1 Review of Literature and Data Sources***

A focused review of literature and data sources was conducted in order to determine which special-status wildlife species had potential to occur in the vicinity of the Property. Current agency status information was obtained from USFWS (2014) for species listed as Threatened or Endangered, as well as Proposed and Candidate species for listing, under the federal ESA; and

from CDFW (2014b, 2014c) for species listed as Threatened or Endangered by the state of California under the CESA, or listed as “species of special concern” by CDFW. From the above sources, a list of special-status wildlife species with potential to occur in the Property vicinity was developed (Attachment 2, Table 2).

### **5.3.2 Field Surveys**

**General Wildlife Survey** – An Olberding Environmental biologist conducted a survey of species habitat within the entire study area, including visible portions of the adjacent properties on September 9, 2014. The purpose of the habitat survey was to evaluate wildlife habitats and the potential for any protected species to occur on or adjacent to the Property.

**Reconnaissance-Level Raptor Survey** – A reconnaissance-level raptor survey was conducted in the Property on September 9, 2014. Observation points were established on the periphery of the site to view raptor activity over a fifteen- to thirty-minute time period. This survey was conducted with the use of binoculars and notes were taken for each species occurrence. Additionally, utility poles and perch sites in the vicinity of the Property were observed. All raptor activity within and adjacent to the Property was recorded during the reconnaissance-level observation period.

**Reconnaissance-Level Burrowing Owl (*Athene cunicularia*) Survey** – A reconnaissance-level burrowing owl (*Athene cunicularia*) survey was also conducted on the Property on September 9, 2014, to identify potential burrow sites or burrowing owl use of on-site habitat. The general presence and density of suitable burrow sites (e.g., rodent burrows) was evaluated for the Property. Rodent burrows encountered during the site visit were investigated for presence of potential burrowing owl residence. Each potential burrow observed was evaluated for the presence of castings, whitewash, bones, feathers, or other signs of burrowing owl habitation. Observations were recorded. Utility poles and any potential perching sites were investigated for signs of castings at the base of the posts.

## **6.0 RESULTS FOR GENERAL BIOLOGICAL RESOURCES**

The search and review of the CNDDDB database reports revealed the occurrence of special-status plant and wildlife species that occur in the habitats found within the Property boundaries (CNDDDB 2014). The CNDDDB database and background data were reviewed for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5-minute quadrangles (Attachment 2, Table 2). Those animals listed in Attachment 2, Table 2 were reviewed for their potential to occur on the Property based on general habitat types. Most of the plant and several of the animal species identified by the CNDDDB require specific habitat microclimates that were not found to occur within the Property. One plant and 27 wildlife species were identified by the CNDDDB and onsite assessment as having the potential to occur.

## 6.1 Soil Evaluation Results

The NRCS (2014) reports two soil types within the Property. A detailed map of these soil types can be found in Attachment 1, Figure 8. The soils mapped include the following types:

- **CdB: Clear Lake Clay, drained, 3-7 percent slopes (99.0%)** – Clear lake soils can be found at elevations Sorrento soils can be found at elevations between 25 and 2,000 feet with 0 to 15 percent slopes. The Clear Lake series consists of very deep, poorly drained soils that formed in fine textured alluvium derived from sandstone and shale. Clear Lake soils are in basins and in swales of drainage ways. Clear Lake soils exhibit slow to very slow permeability and negligible to high runoff (if assumed concave runoff is always negligible). These soils are used for growing many row crops such as tomatoes, beans and sugar beets, dry farmed to grain, or irrigated and dry farmed pasture, and for rangeland. Native vegetation consists of grasses and forbs. This series shows no frequency of ponding or flooding and is nonsaline. A water table is at depths of 4 to 10 feet in the late summer and in some areas is very near the surface during the wet months of winter. Some areas are artificially drained. Its stratified layers consist of the following (colors are for dry soil unless otherwise stated): exercise
- **DbD: Diablo clay, 15-30 percent slopes (1.0%)** – The Diablo series consists of well drained soils that formed in residuum weathered from shale, sandstone, and consolidated sediments with minor areas of tuffaceous material. These soils are found on complex undulating, rolling to steep uplands between 25 and 3,000 feet. The composition of this soil type within the Property consists of 85 percent Diablo and similar soils and 15 percent of minor components including Cropley (8%) and Altamont (7%).

## 6.2 Plant Survey Results

### 6.2.1 Floristic Inventory and Habitat Characterization

The Property supports two habitat types consisting of ruderal/non-native annual grassland, and Oak/Bay woodland. In classifying the habitat types on the Property, generalized plant community classification schemes were used (Sawyer, Keeler-Wolf, and Evens 2009). The final classification and characterization of the habitat type of the Property was based on field observations.

A description of the plant species present within each habitat type is provided below. Dominant plant species are noted. A complete list of plant species observed on the Property can be found within Attachment 2, Table 1.

#### **Ruderal/Non-native annual grassland**

This habitat type occurs throughout 85 percent of the survey area of the Property and is characterized by a lack of vegetation or dominated by non-native plant species. The Property is



currently being used for horse grazing and boarding otherwise the land has been left fallow allowing for non-native grass and weed species to take over. Dominant vegetation observed within this habitat type includes but not limited to wild oat, black mustard, Italian rye grass, and Russian thistle. Patches of coyote brush (*Baccharis pilularis*) also occurred in the southern portion of the habitat area.

### **Oak/Bay Woodland**

This habitat type occurs throughout approximately 15 percent of the survey area. Located along the edge of a riparian creek area on the north edge of the property. This habitat type included a dense, well developed canopy. Dominant tree species observed within these areas include California bay, valley oak, coast live oak, and California buckeye (*Aesculus californica*). Dominant understory vegetation consisted of but not limited to common snowberry (*Symphoricarpos albus*), and poison oak (*Toxicodendron diversilobum*). A few scattered live oak trees also occur along the southern corners of the property adjacent to Dublin Canyon Road.

### **6.2.2 Special-Status Plant Species**

Special-status plant species include species listed as Rare, Threatened, or Endangered by the USFWS (2014a) or by the State of California (CDFW 2014c). Federal Proposed and Candidate species (USFWS, 2009b) are also special-status species. Special-status species also include species listed on List 1A, List 1B, or List 2 of the CNPS Inventory (Skinner and Pavlik, 1994; CNPS 2014). All species in the above categories fall under state regulatory authority under the provisions of CEQA, and may also fall under federal regulatory authority. Considered special-status species are species included on List 3 (Plants About Which We Need More Information—A Review List) or List 4 (Plants of Limited Distribution—A Watch List) of the CNPS *Inventory*. These species are considered to be of lower sensitivity and generally do not fall under specific state or federal regulatory authority. Specific mitigation considerations are not generally required for List 3 and List 4 species.

Attachment 2, Table 2 includes a list of special-status plants with the potential to occur within or in the immediate vicinity of the Property based on a review of the USGS 7.5-minute quadrangles for Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley. The special-status plant species identified by the CNDDDB as potentially occurring on the Property are known to grow only from specific habitat types. The specific habitats or “micro-climate” necessary for many of the plant species to occur are not found within the boundaries of the Property. The habitats necessary for the CNDDDB reported plant species consist of valley and foothill grassland, cismontane woodlands, chaparral, playas, chenopod scrub, adobe clay soils, alkaline soils, serpentine soils, sandy soils, gravelly soils, coastal prairie, coastal scrub, coastal dunes, coastal bluff scrub, coastal salt marsh, vernal pools, seeps, meadows and sinks, marshes or swamps, riparian woodlands, on slopes near drainages, closed cone coniferous forest, north coast coniferous forest, redwood forest, lower montane coniferous forest, and broad-leafed upland forest.

Occurrences of special-status plants within a five-mile radius of the point roughly representing the center of the Property are described in detail. Occurrence distance from the Property is estimated from this center point (Attachment 1, Figure 6).

Based on the results of the CNDDDB search and observed habitat conditions on September 9, 2014, Olberding Environmental identified one special-status plant species as occurring in the site vicinity (refer to Attachment 2, Table 2). The Congdon's tarplant is listed on the CNDDDB as potentially occurring on site and the blooming season of the tarplant takes place between June and November. Congdon's tarplant was seen at the time of the September survey. None of the other plant species listed in Attachment 2, Table 2 are expected to occur due to lack of on-site suitable habitat, and consequent lack of suitable native substrates (e.g., Sandy and serpentine soils, vernal pools).

### **Congdon's Tarplant (*Hemizonia parryi* ssp. *congdonii*). CNPS List 1B.**

Congdon's tarplant is a member of the genus *Hemizonia* in the sunflower family (*Asteraceae*). It is one of four subspecies of Parry's tarplant (*Hemizonia parryi*). Congdon's tarplant is a prostrate to erect, annual herb with rigidly spine-tipped leaves and yellow ray- and disk-flowers (head). It occurs in valley and foothill grasslands in moist alkaline soils and blooms between June and November. Historically, Congdon's tarplant was distributed from Solano County south to San Luis Obispo County.

## **6.3 Wildlife Survey Results**

### **6.3.1 General Wildlife Species and Habitats**

A complete list of wildlife species observed within the Property can be found in Attachment 2, Table 1. Wildlife species commonly occurring within habitat types present on the Property are discussed below:

#### **Ruderal/Non-native annual grassland**

This habitat type dominates a majority of the surveyed Property. The non-native grassland habitat provides many foraging opportunities for a wide range of species. Observed wildlife within this habitat type includes red-tailed hawk, California ground squirrel (*Spermophilus beecheyi*), turkey vulture (*Cathartes aura*), western fence lizard (*Sceloporus occidentalis*), and Anna's hummingbird (*Calypte anna*).

#### **Oak/Bay Woodland**

This mixed oak woodland habitat provides an abundance of foraging opportunities for a wide range of species also providing an abundance of refugia habitat. The mature trees and thickets of vegetation provided by this habitat type offer suitable nesting and foraging habitat for a wide range of avian species including many raptor species and some bat species. Mammal species observed during the survey include the red fox squirrel (*Sciurus niger*) and bird species observed

included chestnut-backed chickadee (*Poecile rufescens*), Stellar's Jay (*Cyanocitta stelleri*), wild turkey (*Meleagris gallopavo*), dark-eyed junco (*Junco hyemalis*), and western scrub jay (*Aphelocoma californica*).

### 6.3.2 *Special-Status Wildlife Species*

Attachment 2, Table 2 includes a list of special-status wildlife species with potential to occur on the Property. Special-status wildlife species include species listed as Rare, Threatened, or Endangered by the USFWS (2014), as well as those species covered by the MBTA, or those species given special protection by the State of California (CDFW 2014b).

The search and review of the CNDDDB database reports revealed the occurrence of special-status species that could potentially occur within the habitat(s) present on the Property. Attachment 2, Table 2 provides a summary of the species, their status, and habitat requirements. Table 2 also provides a list of special status bird species (including potentially occurring raptors) that also have a potential to occur on the Property.

Based on the results of the CNDDDB search and observed habitat conditions on the surveyed portion of the Property on September 9, 2014, Olberding Environmental, Inc. identified 27 special-status wildlife species as potentially occurring. The mixed oak/bay woodland habitat surrounding the riparian area would provide suitable nesting and foraging opportunities for raptors and passerines such as red-shouldered hawk, red-tailed hawk, Cooper's hawk, white-tailed kite, Swainson's hawk, bank swallow and California horned-lark. The ruderal/non-native annual grassland habitat provides nesting and foraging opportunities for burrowing owls due to its low vegetation height and presence of numerous rodent burrows. The following 7 species have low potential to occur due to lack of suitable habitat: tri-colored blackbird, golden eagle, prairie falcon, grasshopper sparrow, northern harrier, yellow warbler, and Ferruginous hawk.

Alameda whipsnake and CTS (federally and State threatened) and CRLF (federally threatened) are considered unlikely to occur since minimal CNDDDB occurrences have been recorded and the site offers only sparse ruderal habitat due to horse boarding activities. An intermittent creek feature occurs to the north of the Property making the likelihood of CRLF occurring on site possible. The Property may be used as a dispersal habitat along the Dublin Creek channel and given the abundance of ground squirrel and their respective burrows is could be considered a suitable upland refuge habitat for CRLF. However existing development, close proximity to Highway 580 and the City of Dublin north, absence of breeding ponds on or surrounding the Property, and use of the site for horse boarding make it extremely unlikely that CRLF would occur on site.

## **BIRDS**

### **Red-shouldered Hawk (*Buteo lineatus*). State Protected.**

The red-shouldered hawk is a medium-sized, slender *Buteo* with long legs and a long tail and is smaller than the red-tailed hawk. Upperparts are dark with pale spotting, and rusty-reddish

feathers on the wing create the distinctive shoulder patch. The tail has several wide, dark bars; the intervening narrow stripes and the tip of the tail are white, and there is variation in the number of tail bars among adults and juveniles. The habitat that the red-shouldered hawk prefers varies from bottomland hardwoods and riparian areas to upland deciduous or mixed deciduous-conifer forest, and almost always includes some form of water, such as a swamp, marsh, river, or pond. In the west, the red-shouldered hawk sometimes occurs in coniferous forests, and has been expanding its range of occupied habitats to include various woodlands, including stands of eucalyptus trees amid urban sprawl. They typically place their nests in a broad-leaved tree (occasionally in a conifer), below the forest canopy but toward the tree top, usually in the crotch of the main trunk. Nest trees are often near a pond, stream, or swamp, and can be in suburban neighborhoods or parks. These hawks eat mostly small mammals, lizards, snakes, and amphibians. They also eat toads, snakes, and crayfish. They occasionally eat birds, sometimes from bird feeders; recorded prey includes sparrows, starlings, and doves.

CNDDDB did not list the red-shouldered hawk as occurring within the vicinity of the Property in the last 10 years. The large trees present on the Property located within the riparian area and mixed oak woodland habitats offer suitable nesting habitat. In addition, many foraging opportunities occur throughout the Property. Given the information above the red-shouldered hawk has a high potential to occur on the Property in a foraging and nesting capacity.

**Red-Tailed Hawk (*Buteo jamaicensis*). State Protected.**

The red-tailed hawk is a large *Buteo* that is distinct due to the red color of its tail feathers in contrast to the brown color of its body. Not all red-tailed hawks exhibit the distinct coloration on their tail and gradations may occur especially in young birds. Red-tailed hawks hunt rodents by soaring over grassland habitat. Nest trees for red-tailed hawks are usually tall trees with a well-developed canopy that includes a strong branching structure on which to build a nest.

CNDDDB has not listed the red-tailed hawk as occurring within the vicinity of the Property in the last 10 years but the species was seen soaring and calling above the Property during the survey. This species can occur in a wide range of habitat types. Large trees present within the mixed riparian woodland and mixed oak woodland habitats provide suitable nesting habitat. Suitable foraging habitat occurs throughout the Property. Given the information above, the red-tailed hawk has a high potential to occur on the Property in a foraging and nesting capacity.

**Burrowing Owl (*Athene cunicularia*). Federal Species of Special Concern, California Species of Special Concern.**

The U.S. Fish and Wildlife Service has identified the burrowing owl as a “candidate” species. Candidate species are animals and plants that may warrant official listing as threatened or endangered, but there is no conclusive data to give them this protection at the present time. As a candidate species, burrowing owls receive no legal protection under the Endangered Species Act (ESA). However, this species does receive some legal protection from the U.S. through the Migratory Bird Treaty Act, which forbids the destruction of the birds and active nests. In California, the burrowing owl is considered a “species of special concern.”

Burrowing owls are ground dwelling members of the owl family and are small brown to tan colored birds with bold spots and barring. Burrowing owls generally require open annual grassland habitats in which to nest, but can be found on abandoned lots, roads, airports, and other urban areas. Burrowing owls generally use abandoned California ground squirrel holes for their nesting burrow, but are also known to use pipes or other debris for nesting purposes. Burrowing owls prefer annual grassland habitats with low vegetative cover. The breeding season for burrowing owls occurs from March through August. Burrowing owls often nest in loose colonies about 100 yards apart. They lay three to twelve eggs from mid-May to early June. The female incubates the clutch for about 28 days, while the male provides her with food. The young owls begin appearing at the burrow's entrance two weeks after hatching and leave the nest to hunt for insects on their own after about 45 days. The chicks can fly well at six weeks old.

CNDDDB has listed a total of seven burrowing owl occurrences within the five miles of the survey area in the past 10 years with the closest and most recent occurrences (Occurrence #780, #1180, #1233 & #1234) occurring roughly 2.19 miles to the northeast of the survey area. The area of occurrence consisted of Camp Parks military base where a moderate population exists year round. The occurrences were recorded in 2008 and 2009 and consisted of one or two pairs a piece. Occurrence #780 noted a high of 7 pairs with 17 juveniles in 2008 and 8 pairs with 38 juveniles in 2009. Another 3 pairs were observed (Occurrence #740) in 2005 in a vacant lot at Arnold road in Dublin near Santa Rita Jail approximately 2.88 miles from the Property. The last two occurrences were wintering owls. One adult (Occurrence # 506) was observed in October of 2004 west of Camino Ramon approximately 4.7 miles from the property while another wintering adult (Occurrence # 671) was observed in January 2009 on the east side of Tassajara Road approximately 3.9 miles from the property.

The ruderal/non-native grassland habitat on the Property site provides high-quality foraging habitat for burrowing owls and a high density of ground squirrel burrows and low vegetation increases its overall habitat value. As such, there is potential for burrowing owls to occur. No burrowing owls or signs of owls were observed during the September survey.

**White-tailed Kite (*Elanus leucurus*). Federal Species of Concern, CDFW: Fully Protected.**

The white-tailed kite is falcon-shaped with a long white tail. This raptor has black patches on the shoulders that are highly visible while the bird is flying or perching. White-tailed kites forage in annual grasslands, farmlands, orchards, chaparral, and at the edges of marshes and meadows. They are found nesting in trees and shrubs such as willows (*Salix* sp.), California sycamore (*Platanus racemosa*), and coast live oak (*Quercus agrifolia*) often near marshes, lakes, rivers, or ponds. This raptor often hovers while inspecting the ground below for prey. The white-tailed kite eats mainly small mammals, as well as some birds, lizards, and insects. Annual grasslands are considered good foraging habitat for white-tailed kites, which will forage in human-impacted areas.

CNDDDB has listed one occurrence of the white-tailed kite as occurring within the vicinity of the Property in the last 10 years. Occurrence #158 took place 2.75 miles from the Property on Camp Parks military base in June 2009 and yielded a pair of kites and two juveniles. The Property

contains a wide variety of habitat types suitable to support this species similar to the habitat where this occurrence was made. The dense mixed riparian vegetation occurring along the on-site intermittent creek features allow for plentiful nesting opportunities. The annual grassland habitat provided by the Property offer an abundance of foraging opportunities. Given the information above, the white-tailed kite has a moderate potential to occur on the Property in a foraging and nesting capacity.

**Cooper's Hawk (*Accipiter cooperii*). California Species of Special Concern, State Protected.**

Cooper's hawk is a medium to large-size raptor, reaching an average of 25" to 36" wingspan. They are distinctive for the black and white horizontal banding on the elongated tail. Cooper's hawk hunt in woodlands, riparian areas, and can even be observed hunting in densely vegetated urban areas for small birds, rodents, and reptiles. Specialists at hunting avian prey, Cooper's hawk often hunt along the edges of woodlands, shorelines, and riparian habitats where migrating passerines typically occur. Cooper's hawk typically nests within the vegetation of tall trees near riparian habitat and nesting habitat for these raptors consists of woodlands, coniferous forest, and dense oak woodland.

CNDDDB did not list the Cooper's hawk as occurring within the vicinity of the Property in the last 10 years. Large trees within the mixed oak woodland and mixed riparian habitats provide many nesting opportunities for this species. The Property also offers many foraging opportunities throughout the Property. Given the information above, this species has a moderate potential to occur on the Property in a foraging and nesting capacity.

**Swainson's Hawk (*Buteo swainsoni*). State Threatened.**

The Swainson's hawk is a raptor that is slightly smaller than the red-tailed hawk with wings that taper slightly toward the outer wing tip. This hawk has a brown bib that covers its head and extends down the chest. The leading portion of the wing is light in color. In flight, this bird has an inverse color pattern in comparison to a red-tailed hawk. Swainson's hawks are summer migrants to the Central Valley and Delta region where they nest within larger-sized trees. Commonly, the Swainson's hawk builds nests in tall blue gum, valley oak, live oak, pine, or other tall tree stands. These raptors require nearby foraging habitat such as annual grasslands, alfalfa fields, grain fields and even row crops.

CNDDDB has not listed this species as occurring within five miles of the Property in the past 10 years. However, given the close proximity to an intermittent creek channel and the abundance of large trees, offers suitable nesting habitat for the Swainson's hawk. The surrounding grassland area with a plethora of ground squirrels present give optimum foraging opportunities. Given the information above this species has a moderate potential to occur on the Property in a foraging and nesting capacity.

## MAMMALS

### Special-status Bats

Bats (Order - *Chiroptera*) are the only mammals capable of “true” flight. They are nocturnal feeders and locate their prey which consists of small to medium sized insects by echolocation. Bats consume vast amounts of insects making them very effective pest control agents. They may eat as much as their weight in insects per day. Maternity roosts comprised of only females, may be found in buildings or mine shafts with temperatures up to 40 degrees Celsius and a high percentage of humidity to ensure rapid growth in the young. Female bats give birth to only one or two young annually and roost in small or large numbers. Males may live singly or in small groups, but scientists are still unsure of the whereabouts of most males in summer.

Special-status bats with the potential to occur on the Property are listed below. There is an abundance of tree cavities and peeling bark as well as abandoned structures that could serve as potential roosting habitat located within the proposed outfall area.

- Pallid bat (*Antrozous pallidus*), California Special Concern species
- Hoary bat (*Lasiurus cinereus*)
- Yuma myotis bat (*Myotis yumanensis*)

CNDDDB listed the no bats as occurring within the vicinity of the Property but there were a few trees with cavities and peeling bark observed throughout the Property. There were also an abandoned shed and open horse stall area that could potentially house bats. The habitats provided on the Property provide an array of insects allowing for abundant foraging opportunities. Given the presence of suitable roosting habitat and foraging opportunities; the pallid bat, hoary bat, and yuma myotis have a moderate potential to occur on the Property in a foraging and roosting capacity. No bats were present during the September survey.

## AMPHIBIANS

### California Tiger Salamander (*Ambystoma californiense*). Federally Threatened, State Threatened.

Adult California tiger salamanders (CTS) inhabit rolling grassland and oak savannah. Adults spend most of the year in subterranean retreats such as rodent burrows, but may be found on the surface during dispersal to and from breeding sites. The preferred breeding sites are vernal pools and other temporary ponds. However, CTS may use permanent manmade ponds as breeding habitat. CTS adults begin migrating to ponds after the first heavy rains of fall and can be found in or around the breeding ponds during and after winter rainstorm events. In extremely dry years, CTS may not reproduce.

After mating, females lay several small clusters of eggs, which contain from one to over 100 eggs. The eggs are deposited on both emergent and submerged vegetation, as well as submerged

detritus. A minimum of ten weeks is required to complete larval development through metamorphosis, at which time the larvae will normally weigh about ten grams. Larvae remaining in pools for a longer time period can grow to much larger sizes. Upon metamorphosis, juvenile CTS migrate in large masses at night from the drying breeding sites to refuge sites. Prior to this migration, the juveniles spend anywhere from a few hours to a few days near the pond margin. Adult CTS are largely opportunistic feeders, preying upon arthropod and annelid species that occur in burrow systems, as well as aquatic invertebrates found within seasonal pools. The larvae feed on aquatic invertebrates and insects, showing a distinct preference for larvae of the Pacific tree frog.

On August 4, 2004, the U.S. Fish and Wildlife Service (USFWS) announced the listing of the CTS as threatened throughout its range with the exception of the Sonoma and Santa Barbara County populations which are listed as endangered (USFWS 2006). On March 3, 2010, the California Fish and Game Commission designated CTS as threatened under the California Endangered Species Act. On August 23, 2005, the Service designated 199,109 acres of critical habitat in 19 counties for the central California population of the CTS. On August 2, 2005, they proposed 74,223 acres of critical habitat for CTS in Sonoma County, California. This habitat is located in the Santa Rosa Plain in central Sonoma and includes lands bordered on the west by Laguna de Santa Rosa, to the south by Skillman Road, northwest of Petaluma, to the east by foothills, and to the north by Windsor Creek. On December 14, 2005, in a final decision, USFWS designated and excluded 17,418 acres of critical habitat for CTS, so that no critical habitat is being designated for the Sonoma County population.

CNDDDB has listed a total of one occurrence of CTS in the past 10 years within five miles of the survey area. The one occurrence (Occurrence # 1139) occurred in 2011, 2.43 miles south of the Property off Sunol Ridge Trail within Pleasanton Ridge Regional Park. One larvae was observed.

Despite an occurrences located 2.5 miles southeast of the Property, suitable habitat does not occur on the Property to support this species. Breeding ponds, such as vernal pools or seasonal wetlands, do not occur on or in close proximity to the Property to sustain a population of CTS. While several ground squirrels and their burrows were observed during the survey that would act as refuge habitat for this species, regular maintenance (disking) and horse boarding activities would preclude the use of the Property by CTS. In addition, surrounding development, roads adjacent to the site also act as migratory obstacles, isolating the site and hindering the dispersal of CTS that may be in the area. No individuals were observed during the reconnaissance survey conducted in September 2014. Therefore, due to these factors, CTS is presumed absent from the Property.

**California Red-Legged Frog (*Rana draytonii*). Federally Threatened, California Species of Special Concern.**

California red-legged frog (CRLF) was listed as a Federal threatened species on May 31, 1996 (61 FR 25813) and is considered threatened throughout its range. If a proposed Property may jeopardize listed species, Section 7 of the ESA requires consideration of those species through



formal consultations with the USFWS. Federal Proposed species (USFWS 2006c) are species for which a proposed listing as Threatened or Endangered under the ESA has been published in the Federal Register. If a proposed Property may jeopardize proposed species, Section 7 of the ESA affords consideration of those species through informal conferences with USFWS. On April 13, 2006, USFWS designated critical habitat for the CRLF under the ESA. In total, approximately 450,288 acres fell within the boundaries of critical habitat designation. A new ruling by the USFWS on March 17, 2010, revised the designation of critical habitat for CRLF (75 FR 12815 12959). In total, approximately 1,636,609 acres of critical habitat in 27 California counties fall within the boundaries of the final revised critical habitat designation. This rule became effective on April 16, 2010.

The CRLF is a rather large frog, measuring one and a half to five inches in length. They are reddish-brown to gray in color, with many poorly defined dark specks and blotches. Dorsolateral folds are present. The underside of the CRLF is washed with red on the lower abdomen and hind legs. The CRLF has a dark mask bordered by a light stripe on the jaw, smooth eardrums, and not fully webbed toes. The male has enlarged forearms and swollen thumbs. Its vocals consist of a series of weak throaty notes, rather harsh, and lasting two to three seconds. Breeding occurs from December to March with egg masses laid in permanent bodies of water.

The CRLF is found in lowlands, foothill woodland, and grasslands, near marshes, lakes, ponds or other water sources. These amphibians require dense shrubby or emergent vegetation closely associated with deep still or slow moving water. Generally these frogs favor intermittent streams with water at least two and a half feet deep and where the shoreline has relatively intact emergent or shoreline vegetation. CRLF is known from streams with relatively low gradients and those waters where introduced fish and bullfrogs are absent. CRLF are known to take refuge upland in small mammal burrows during periods of high water flow. CRLF occurs west of the Sierra Nevada-Cascade and in the Coast Ranges along the entire length of the state. Historically, they occurred throughout the Central Valley and Sierra Nevada foothills south to northern Baja California. Now they are found from Sonoma and Butte Counties south to Riverside, but mainly in Monterey, San Luis Obispo, and Santa Barbara Counties.

CNDDDB has listed two occurrences of CRLF within five miles of the survey area within the past 10 years. The most recent occurrence (occurrence #813) took place in 2006 approximately 4.51 miles from the Property site at Walpert Ridge 2.7 miles northeast of Hayward. One adult was caught in a trap during a preconstruction survey. The second occurrence took place in 2005 approximately 4.13 miles from the Property in Tassajara creek. A survey yielded 19 adults between August 9<sup>th</sup> and September 21<sup>st</sup>.

Potential CRLF habitat on the Property is limited to upland refuge sites located in ground squirrel burrows. However the intermittent creek adjacent to the northern border of the Property could provide suitable habitat for CRLF especially since there was water in the creek during the September survey thus slightly increasing the potential of CRLF to be onsite. Lastly, critical habitat for the CRLF (refer to Attachment 1, Figure 7) (critical habitat unit number ALA-1A/1B) is located roughly 0.84 miles west of the Property. Given the information above, there is a chance that the CRLF could occur on the site though it is unlikely to occur. Nevertheless, the use

of the site as dispersal habitat cannot be completely ruled out. No CRLF were observed during the September Survey.

No water was observed within the intermittent creek feature that flows through the Property with no instream pools observed. The portion of creek that flows through the Property provides marginally suitable habitat to support this species but is unlikely to support CRLF due to a barrier of residential development between the Property and other adjacent nearby suitable habitat. CRLF presence is unlikely and they are presumed absent from the Property.

## REPTILES

### **Alameda Whipsnake (*Masticophis lateralis euryxanthus*). Federally Threatened, State Threatened.**

The Alameda whipsnake is one of two subspecies of the California whipsnake. It is distinguished from the chaparral whipsnake (*M. l. lateralis*) by the broad orange striping on its sides. Adults reach approximately three to five feet in length and show a sooty black to dark brown back, cream colored undersides and pinkish tail. This species is typically found in chaparral, northern coastal sage scrub, and coastal sage habitats; however annual grasslands, oak woodlands, and oak savannah serve as habitat during the breeding season. Egg-laying occurs near scrub habitat on ungrazed grasslands with scattered shrub cover. The known distribution for Alameda whipsnake includes Sobrante Ridge, Oakland Hills, Mount Diablo, the Black Hills, and Wauhab Ridge.

Male and female snakes are active from April to November finding mates. During the breeding season from late March through mid-June, male snakes exhibit more movement throughout their home range, while female snakes remain sedentary from March until egg laying. Females lay a clutch of 6 to 11 eggs, usually in loose soil or under logs or rocks.

There are 15 listed CNDDDB occurrences of the Alameda whipsnake within a five-mile radius of the Project Area. These occurrences happened between the years of 2004 and 2008 and occurred between 2.74 and 4.83 miles from the Property site. No specific information about their locations are given due to the sensitive nature of the threatened species. Critical habitat for the Alameda whipsnake (refer to Attachment 1, Figure 7) (critical habitat unit number 3) is located roughly 0.29 miles southwest of the Property. The Property's annual sparse grassland habitat and adjacent oak woodland habitat could potentially house the Alameda whipsnake however due to the developed nature of the surrounding habitats including existing residential development, hose boarding activities, and Dublin Canyon Road create barriers that would prevent the Alameda whipsnake from dispersing across. The Alameda whipsnake is presumed absent from the Property Area. This species was not observed on site during the September survey.

## 7.0 CONCLUSIONS

### 7.1 Wetlands

Results of the biological resource analysis survey conducted by Olberding Environmental on September 9, 2014, identified a creek channel (Dublin Creek) on the Property that is considered jurisdictional by the Corps. Impacts to Dublin Creek would require the submittal of a permit application to the Corps. This feature is also a jurisdictional and regulated by the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). No other jurisdictional features were observed.

### 7.2 Special-status Plants

Condon's tar plant was the only special-status plant species identified on the Property. No other special status plant species were identified as having a potential to occur based on a review of the CNDDDB and none were observed during the September survey.

### 7.3 Special-status Wildlife

**Foraging or Nesting Raptor/Passerine Species** –A total of 16 bird species were identified as having a potential to occur on the Property. Cooper's hawk, white-tailed kite, Swainson's hawk, burrowing owl, bank swallow, and California horned-lark have a moderate potential to nest and/or forage on the Property. The following 7 species have low potential to occur due to lack of suitable habitat: tri-colored blackbird, golden eagle, prairie falcon, grasshopper sparrow, northern harrier, yellow warbler, and Ferruginous hawk. The red-tailed hawk and red-shouldered hawk have a high potential to nest and forage on the property due to suitable habitat found in the large oak and bay trees on the northern border of the property.

**Special-status Amphibian/Reptile Species** – Although CRLF are considered unlikely to occur within the survey area their presence cannot be completely ruled out. Potential dispersal habitat for CRLF exists along Dublin Creek located on the northern border of the Property. The presence of small mammal burrows within the survey area may serve as potential upland habitat sites for CRLF. However, habitat within the Property is heavily degraded due to horse boarding activities and routine management (disking).

**Special-Status Mammals** - No sign of bat use was observed on the Property during the September 2014 survey; however, based on habitat suitability, it was determined that bats have a moderate potential to utilize the site in a roosting and foraging capacity. This holds especially true for the large eucalyptus trees and structures found on the Property. Woodrats have been located to the west of the Property. While no woodrat nests were observed they could establish nest structures on site.

## 8.0 RECOMMENDATIONS

- **Corps and State Regulated Wetlands/Waters** – Jurisdictional wetlands and waters potentially regulated under the authority of the Corps, RWQCB, and CDFW are present on the Property. Fill of these regulated features may require authorization under Sections 404 and 401 of the Clean Water Act (CWA) and authorization under Section 1600 of the Fish and Wildlife Code. A Corps wetland delineation should be prepared to document the actual extent of jurisdictional features if any construction activity could result in impacts to wetlands/waters. If the wetlands/waters are deemed jurisdictional and construction activities are proposed that could impact these features, permits must be obtained prior to construction. Setbacks from the wetlands/water features may be required to protect habitat quality and to protect water quality. Permitting to allow impacts to wetlands/waters features may also require mitigation.
- **Rare Plant Survey** –Olberding Environmental, Inc. recommends that a rare plant survey be conducted prior to any construction activities to document the extent of this species on site. Congdon’s tar plant blooms between June through November and should be surveyed during this time period by a qualified biologist to determine the precise location. If possible, seed should be collected or the plants collect for redistribution if these areas are to be impacted by proposed development.
- **Pre-Construction Bird Survey** – If project construction-related activities would take place during the nesting season (February through August), preconstruction surveys for nesting passerine birds and raptors (birds of prey) within the Property and the surrounding area of influence should be conducted by a competent biologist prior to the commencement of the tree removal or site grading activities. If any bird listed under the Migratory Bird Treaty Act is found to be nesting within the project site or within the area of influence, an adequate protective buffer zone should be established by a qualified biologist to protect the nesting site. This buffer shall be a minimum of 75 feet from the project activities for passerine birds, and a minimum of 200 feet for raptors. The distance shall be determined by a competent biologist based on the site conditions (topography, if the nest is in a line of sight of the construction and the sensitivity of the birds nesting). The nest site(s) shall be monitored by a competent biologist periodically to see if the birds are stressed by the construction activities and if the protective buffer needs to be increased. Once the young have fledged and are flying well enough to avoid project construction zones (typically by August), the project can proceed without further regard to the nest site(s).
- **Pre-construction Burrowing Owl Surveys** – No more than 30 days prior to any ground disturbing activities, a qualified biologist will conduct a preconstruction/take avoidance survey for burrowing owls using methods described in Appendix D of the CDFW *Staff Report on Burrowing Owl Mitigation* (Staff Report) (CDFW 2012). If no owls are detected during the initial take avoidance survey, a final survey shall be conducted within 24 hours prior to ground disturbance to confirm that owls are still absent.

If present and no nesting has begun, nest exclusion doors or avoidance buffers may be used as negotiated with CDFW. No disturbance should occur within 50 meters (approximately 160 feet) of occupied burrows during the nonbreeding season of September 1 through January 31 or within 75 meters (approximately 250 feet) during the breeding season of February 1 through August 31. Avoidance also requires that a minimum of 6.5 acres of foraging habitat be preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird. It is recommended that an initial burrowing owl survey be performed during December and early January. If owls are discovered, passive relocation of the owls can take place. If owls are discovered after February 1, the owls must be left on site and a 250-foot buffer established until September 1.

- **Pre-construction Bat Survey** – To avoid “take” of special–status bats, the following mitigation measures shall be implemented prior to the removal of any existing trees or structures on the project site:
  - a) A bat habitat assessment shall be conducted by a qualified bat biologist during seasonal periods of bat activity (mid–February through mid–October – ca. Feb. 15 – Apr. 15, and Aug. 15 – October 30), to determine suitability of each existing structure as bat roost habitat.
  - b) Structures found to have no suitable openings can be considered clear for project activities as long as they are maintained so that new openings do not occur.
  - c) Structures found to provide suitable roosting habitat, but without evidence of use by bats, may be sealed until project activities occur, as recommended by the bat biologist. Structures with openings and exhibiting evidence of use by bats shall be scheduled for humane bat exclusion and eviction, conducted during appropriate seasons, and under supervision of a qualified bat biologist.
  - d) Bat exclusion and eviction shall only occur between February 15 and April 15, and from August 15 through October 30, in order to avoid take of non–volant (non–flying or inactive, either young, or seasonally torpid) individuals.

OR

A qualified wildlife biologist experienced in surveying for and identifying bat species should survey the portion of the mixed oak woodland and mixed riparian habitats if tree removal is proposed to determine if any special–status bats reside in the trees. Any special–status bats identified should be removed without harm. Bat houses sufficient to shelter the number of bats removed should be erected in open space areas that would not be disturbed by project development.

- **Pre-Construction Dusky-footed Woodrat Survey** – The dusky-footed woodrat was determined to have a moderate potential of occurring on the Property. This species is identified as a California Species of Special Concern. Although no woodrat nests were

observed throughout the Property during the September 2014 survey the species occurs within the mixed riparian woodland and mixed oak woodland habitats which are both present at this Property. Prior to commencing any Project activities that may result in the destruction of dusky-footed woodrat nests; surveys shall be conducted by a qualified biologist to determine the occurrence of the nests. If found, to avoided impact, orange construction fencing will be installed around the nest, and a biological monitor will be present upon the initiation of construction to monitor construction activities to ensure that the nests are not disturbed. The biological will educate construction workers so that they can identify and avoid the nests.

- **Pre-Construction Amphibian Surveys** – Directed pre-construction surveys for CRLF occurring no more than 48 hours prior to construction activities are recommended if impacts are to occur within the creek channel. USFWS protocol level surveys for the CRLF should be performed to document presence/absence of this species if work is to be performed in intermittent creek channel.
- **Erosion Control** – Grading and excavation activities could expose soil to increased rates of erosion during construction periods. During construction, runoff from the Property could adversely affect aquatic life within the adjacent water features. Surface water runoff could remove particles of fill or excavated soil from the site, or could erode soil down-gradient, if the flow were not controlled. Deposition of eroded material in adjacent water features could increase turbidity, thereby endangering aquatic life, and reducing wildlife habitat. Implementation of appropriate mitigation measures would ensure that impacts to aquatic organisms would be avoided or minimized. Mitigation measures may include best management practices (BMP's) such as hay bales, silt fencing, placement of straw mulch and hydro seeding of exposed soils after construction as identified in the Storm Water Pollution Prevention Plan (SWPPP).

## 9.0 LITERATURE CITED

- California Department of Fish and Wildlife (CDFW) Natural Diversity Data Base, computer listings and map locations of historic and current recorded occurrences of special-status species and natural communities of special concern for USGS 7.5 minute quadrangle map: Dublin, September 9, 2014.
- \_\_\_\_\_. 2014a. California Wildlife Habitat Relationships.  
[http://www.dfg.ca.gov/biogeodata/cwhr/wildlife\\_habitats.asp](http://www.dfg.ca.gov/biogeodata/cwhr/wildlife_habitats.asp)
- \_\_\_\_\_. 2014b. Special animals.  
<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf>
- \_\_\_\_\_. 2014c. State and federally listed Endangered, Threatened, and Rare plants of California. <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>
- \_\_\_\_\_. 2014d. California Department of Fish and Wildlife (CDFW) BIOS 2014; California Fish Passage Assessment; Coho Salmon ESU, Central California Coast; and Steelhead DPS, Central California Coast. Accessed September 9, 2014 from <http://www.dfg.ca.gov/biogeodata/bios/>.
- \_\_\_\_\_. 2012 California Department of Fish and Wildlife; Staff Report on Burrowing owl Mitigation, State of California, Natural Resource Agency March 7, 2012
- California Native Plant Society (CNPS). 2014. Inventory of Rare and Endangered Plants (online edition, v6-04d1). California Native Plant Society. Sacramento, CA. Accessed on September 9, 2014 from <http://www.cnps.org/inventory>
- CEQA. 2005. The California Environmental Quality Act. Appendix G, Environmental Checklist Form. Accessed September 9, 2014. Available online at [http://ceres.ca.gov/ceqa/guidelines/Appendix\\_G.html](http://ceres.ca.gov/ceqa/guidelines/Appendix_G.html).
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The Birder's Handbook: a field guide to the natural history of North American birds. Simon & Schuster, Inc., New York. 785 pp.
- Hickman, J. C. (ed.). 1993. The Jepson manual: higher plants of California. University of California Press, Berkeley, CA. 1400 pp.
- Holland (1986) Preliminary Description of the Natural Communities of California. CDFW.
- Mayer, K. E. and Laudenslayer W.F. 1988. A Guide to Wildlife Habitats of California. California.
- Natural Resources Conservation Service (NRCS). 2014. United States Department of Agriculture. Web Soil Survey. Accessed September 9, 2014. Available on-line at <http://websoilsurvey.nrcs.usda.gov>

- Pierce, Robert J. 1995. Wetland Delineation Lecture Notes. Wetland Training Institute, Inc., Poolesville, MD. WTI 95-2. 200pp.
- Sawyer, J.O., T. Keeler-Wolf, and J. Evens. 2009. A manual of California vegetation. 2nd Ed. California Native Plant Society, Sacramento, CA.
- Skinner, M. W. and B. M. Pavlik (eds.). 1994. Inventory of rare and endangered vascular plants of California. California Native Plant Society Special Publication No. 1 (5th edition). California Native Plant Society, Sacramento, CA. 338 pp.
- Sibley, D.A. 2000. The Sibley Guide to Birds. Alfred Knopf, New York.
- Sibley, C.G., and B.L. Munroe, Jr. 1990. Distribution and taxonomy of birds of the world. Yale University Press, New Haven and London. 1111 pp.
- United States Fish and Wildlife Service (USFWS). 2014a. Endangered and threatened plant and animal species. Accessed on September 9, 2014.  
[http://ecos.fws.gov/tess\\_public/pub/stateListingAndOccurrenceIndividual.jsp?state=CA&s8fid=112761032792&s8fid=112762573902](http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrenceIndividual.jsp?state=CA&s8fid=112761032792&s8fid=112762573902)
- \_\_\_\_\_. 2014b. Endangered and threatened wildlife and plants; review of plant and animal taxa that are Candidates or Proposed for listing as Endangered or Threatened; annual notice of findings on recycled petitions; annual description of progress on listing actions; proposed rule. Federal Register 64(205): 57534-57547.
- \_\_\_\_\_. 2014c. Bald Eagle Management Guidelines and Conservation Measures. The Bald and Golden Eagle Protection Act. Accessed on September 9, 2014. Available on-line at <http://www.fws.gov/midwest/eagle/protect/laws.html>



## **ATTACHMENTS**

## **ATTACHMENT 1 FIGURES**

<b>Figure 1</b>	<b>Regional Map</b>
<b>Figure 2</b>	<b>Vicinity Map</b>
<b>Figure 3</b>	<b>USGS Quadrangle Map for Hollister</b>
<b>Figure 4</b>	<b>Aerial Photograph</b>
<b>Figure 5</b>	<b>CNDDDB Map of Special Status Animals</b>
<b>Figure 6</b>	<b>CNDDDB Map of Special Status Plants</b>
<b>Figure 7</b>	<b>USFWS Designated Critical Habitat</b>
<b>Figure 8</b>	<b>Soils Map</b>
<b>Figure 9</b>	<b>Photo Location Map</b>
<b>Figure 10</b>	<b>Habitat Characteristic Map</b>

**Figure 1**  
**Regional Map**



193 Blue Ravine Road, Ste. 165  
Folsom, CA 95630  
Phone: (916) 985-1188

**Figure 1: Regional Map  
Dublin Canyon Road Property  
Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*

**Figure 2**  
**Vicinity Map**

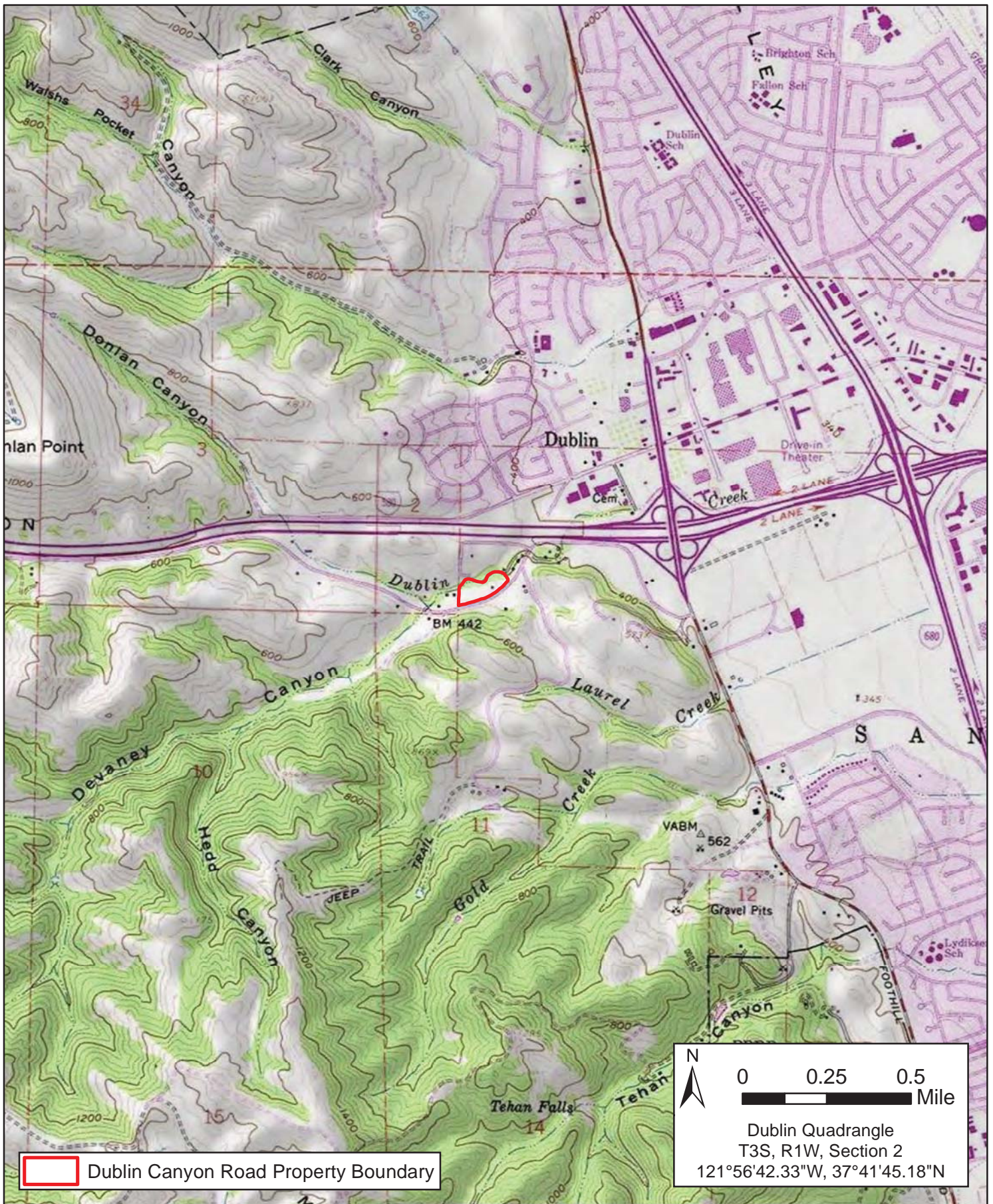


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**Figure 2: Vicinity Map  
Dublin Canyon Road Property  
Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*

**Figure 3**  
**USGS Quadrangle Map for Hollister**



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**Figure 3: USGS Topographic Map  
Dublin Canyon Road Property  
Pleasanton, California**



**Figure 4**  
**Aerial Photograph**

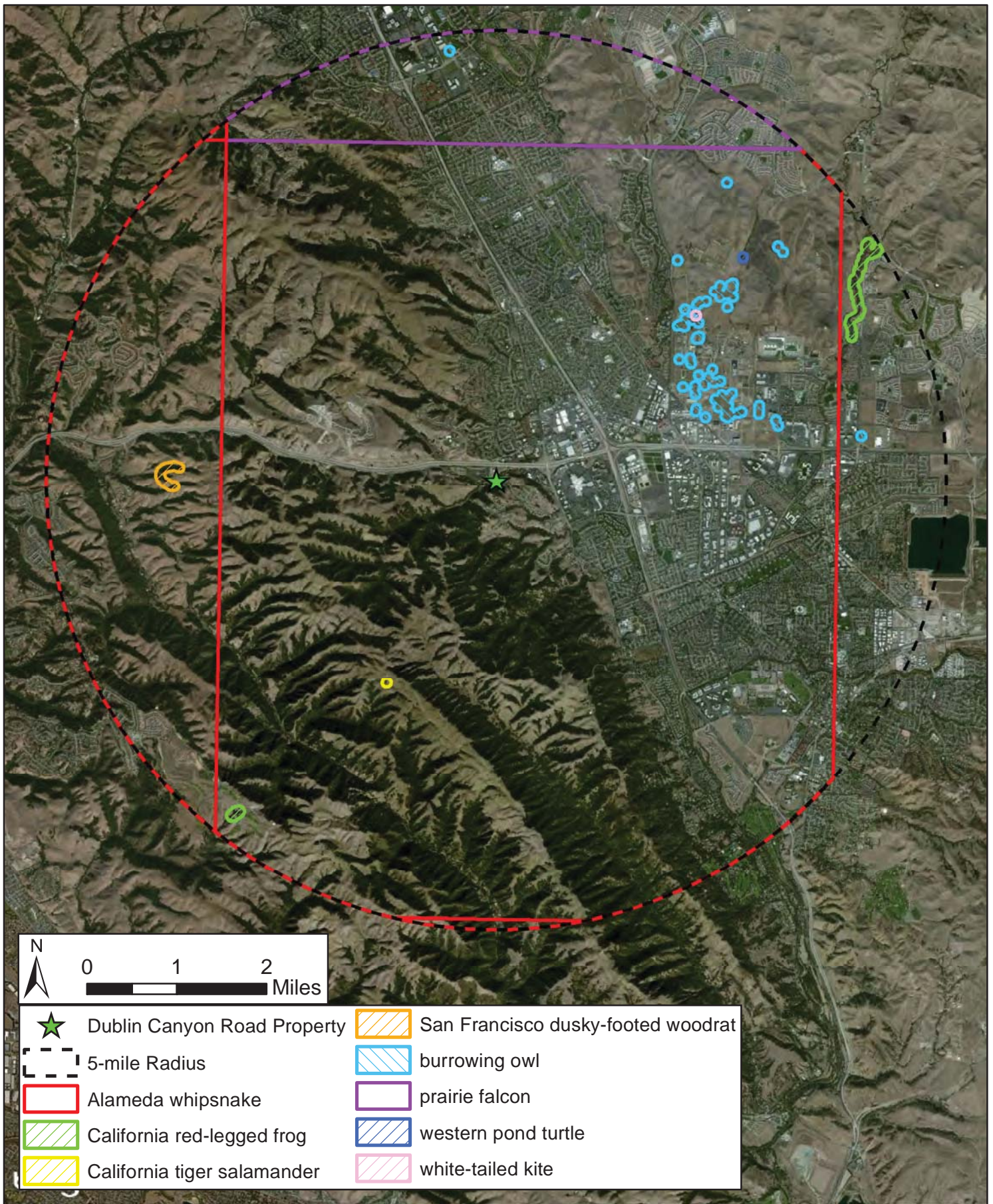


193 Blue Ravine Road, Ste. 165  
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**Figure 4: Aerial Map  
Dublin Canyon Road Property  
Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*

**Figure 5**  
**CNDDDB Map of Special Status Animals**



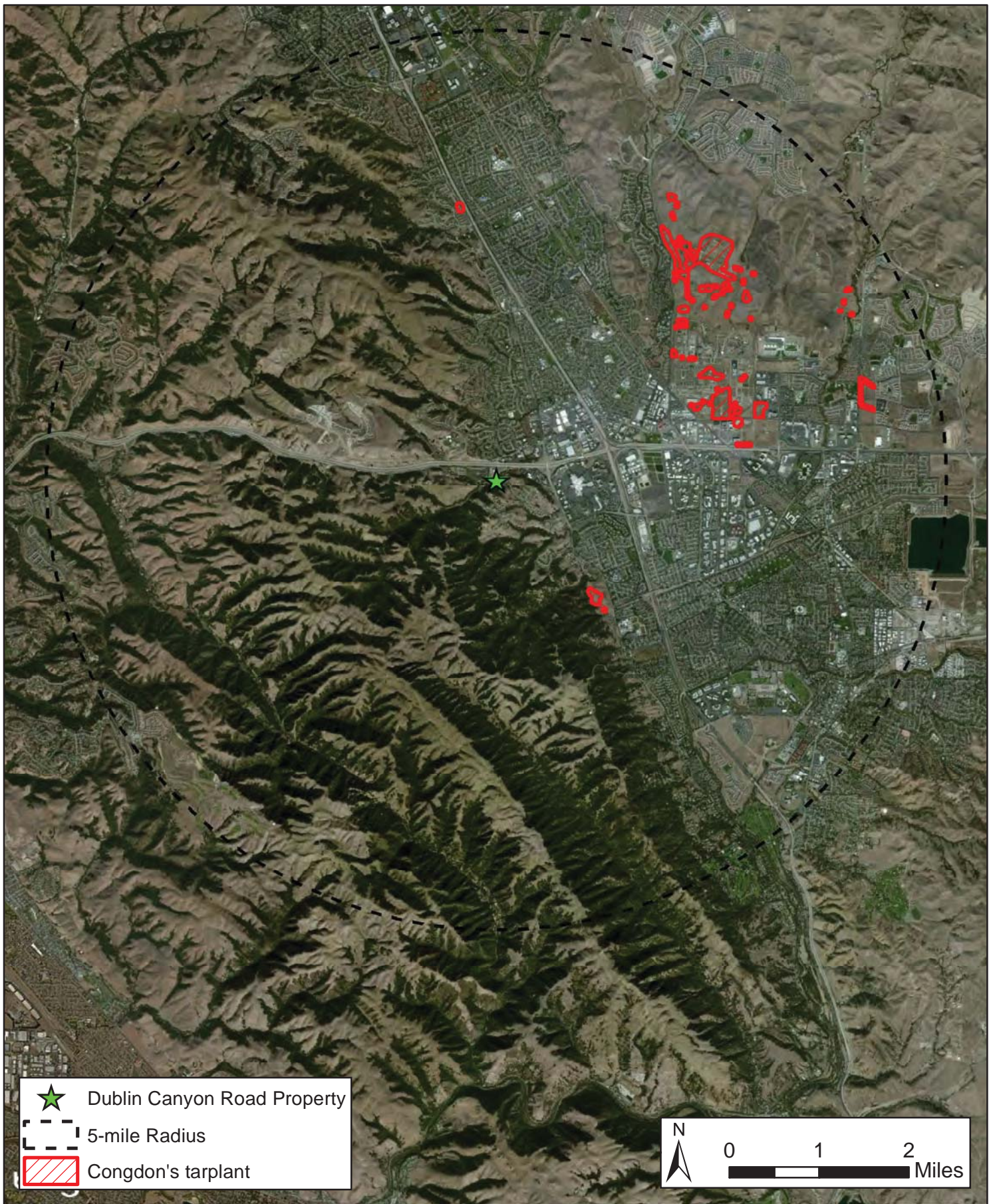
**Figure 5: CNDDDB Wildlife Occurrences Within 5-miles and 10-years Dublin Canyon Road Property Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*



193 Blue Ravine Road, Ste. 165  
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**Figure 6**  
**CNDDDB Map of Special Status Plants**



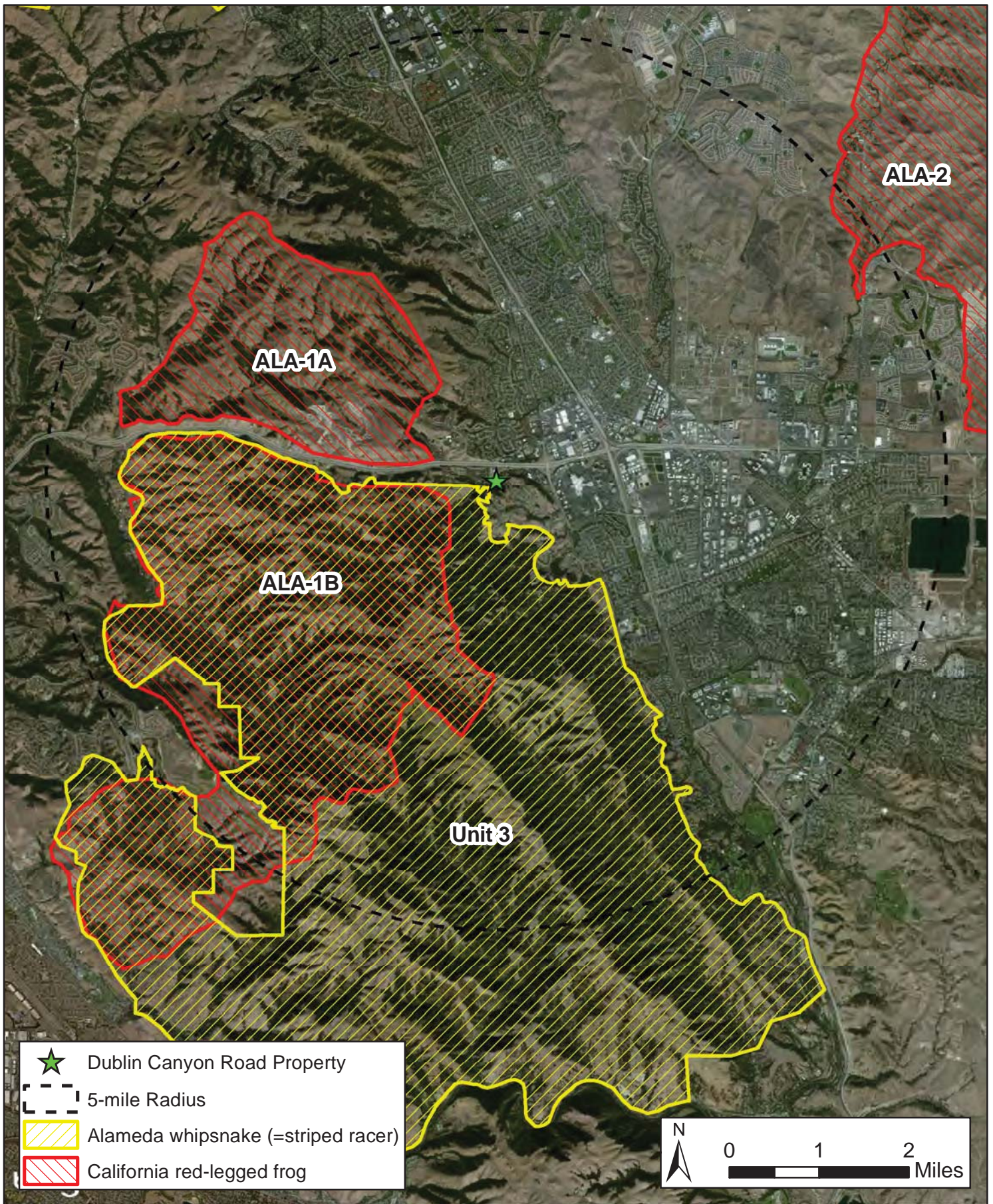
**Figure 6: CNDDDB Plant Occurrences  
 Within 5-miles and 10-years  
 Dublin Canyon Road Property  
 Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*



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**Figure 7**  
**USFWS Designated Critical Habitat**



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**Figure 7: USFWS Critical Habitat Map  
 Dublin Canyon Road Property  
 Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*



**Figure 8**  
**Soils Map**



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**Figure 8: Soils Map  
 Dublin Canyon Road Property  
 Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*

**Figure 9**  
**Photo Location Map**



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**Figure 9: Photo Location Map  
 Dublin Canyon Road Property  
 Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*

**Figure 10**  
**Habitat Characteristic Map**



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**Figure 10: Habitat Map  
 Dublin Canyon Road Property  
 Pleasanton, California**

*Imagery Source and Date: Bing; 11/05/2010*

**ATTACHMENT 2  
TABLES**

**Table 1**  
**Plant and Wildlife Species Observed**  
**Within/Adjacent to the Survey Area**



**Table 1****Wildlife Species Observed Within/Adjacent to the Survey Area**

<b>Scientific Name</b>	<b>Common Name</b>
<b>Plant Species Observed</b>	
<i>Aesculus californica</i>	California buckeye
<i>Avena fatua</i>	Wild oat
<i>Baccharis pilularis</i>	Coyote brush
<i>Brassica nigra</i>	Black mustard
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Centromadia parryi ssp. congdonii</i>	Congdon's tarplant
<i>Festuca perennis</i>	Italian rye grass
<i>Lactuca serriola</i>	Prickly lettuce
<i>Mentha pulegium</i>	Penny royal
<i>Quercus agrifolia</i>	Live oak
<i>Quercus lobata</i>	Valley oak
<i>Rumex crispus</i>	Curly dock
<i>Salsola tragus</i>	Russian thistle
<i>Umbellularia californica</i>	California bay
<b>Animal Species Observed</b>	
<b>Birds</b>	
<i>Aphelocoma californica</i>	Western scrub jay
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Calypte anna</i>	Anna's hummingbird
<i>Cathartes aura</i>	Turkey vulture
<i>Cyanocitta stelleri</i>	Stellar's Jay
<i>Junco hyemalis</i>	Dark-eyed junco
<i>Meleagris gallopavo</i>	Wild turkey
<i>Poecile rufescens</i>	Chestnut-backed chickadee
<b>Mammals</b>	
<i>Sciurus niger</i>	Fox squirrel
<i>Spermophilus beecheyi</i>	California ground squirrel
<b>Reptiles</b>	
<i>Sceloporus occidentalis</i>	Western fence lizard

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore,  
Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La  
Costa Valley 7.5 Minute Quadrangle Maps**

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
<b>PLANTS</b>					
Large-Flowered Fiddleneck ( <i>Amsinckia grandiflora</i> )	E/E/1B	April – May	Cismontane woodland, valley and foothill grassland, annual grassland in various soils.	Moderate Suitable habitat present	Not likely to occur
Bent-flower Fiddleneck ( <i>Amsinckia lunaris</i> )	-/-/1B	March-June	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland	Moderate Suitable habitat present	Not likely to occur
Big-Scale Balsamroot ( <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i> )	-/-/1B	March – June	Chaparral, cismontane woodland, and valley and foothills grasslands, sometimes in serpentine outcrops.	Low No suitable habitat present	Presumed absent
Mount Diablo Fairy-Lantern ( <i>Calochortus pulchellus</i> )	-/-/1B	April – June	Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland; on wooded and brushy slopes.	Low No suitable habitat present	Presumed absent

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

<b>Common Name/ Scientific Name</b>	<b>Status (Fed/State/ CNPS)<sup>2</sup></b>	<b>Blooming or Survey Period</b>	<b>Habitats of Occurrence</b>	<b>Potential on Site</b>	<b>Status on Site**</b>
Chaparral Harebell ( <i>Campanula exigua</i> )	-/-/1B	May – June	Chaparral, in rocky, usually serpentine soils.	Low No suitable habitat present	Presumed absent
Congdon's tarplant ( <i>Centromadia parryi</i> )	-/-/1B	June-November	Present in grassland habitats	High Survey during blooming period	Present
Palmate-Bracted Bird's-Beak ( <i>Chloropyron palmatum</i> )	E/E/1B	May – October	Annual herb occurring in alkaline soils within chenopod scrub and valley and foothill grassland habitats	Low Survey during blooming period	Presumed absent
Santa Clara Red Ribbons ( <i>Clarkia concinna</i> ssp. <i>automixa</i> )	-/-/4	May – June	Cismontane woodland, chaparral, on slopes and near drainages.	Low No suitable habitat present	Presumed absent
Hospital Canyon Larkspur ( <i>Delphinium californicum</i> ssp. <i>interius</i> )	-/-/1B	April – June	Cismontane woodland, chaparral; in wet, boggy meadows, openings in chaparral and in canyons, mesic.	Low No suitable habitat present	Presumed absent

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

<b>Common Name/ Scientific Name</b>	<b>Status (Fed/State/ CNPS)<sup>2</sup></b>	<b>Blooming or Survey Period</b>	<b>Habitats of Occurrence</b>	<b>Potential on Site</b>	<b>Status on Site**</b>
Mount Diablo Buckwheat ( <i>Eriogonum truncatum</i> )	-/-/1B	April – November	Chaparral, coastal scrub, and valley and foothill grasslands in sandy soils.	Low Survey during blooming period	Presumed absent
Fragrant fritillary ( <i>Fritillaria liliacea</i> )	-/-/1B	February-April	Occurs in coastal prairie, valley grassland, Northern coastal scrub, and wetland-riparian habitats often found in Serpentine soils.	Low No suitable habitat present	Presumed absent
Diablo Helianthella ( <i>Helianthella castanea</i> )	-/-/1B	March – June	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils, often in partial shade.	Moderate Suitable habitat present	May occur
Brewer's Western Flax ( <i>Hesperolinon breweri</i> )	-/-/1B	May – July	Chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soils.	Low No suitable habitat present	Presumed absent

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

<b>Common Name/ Scientific Name</b>	<b>Status (Fed/State/ CNPS)<sup>2</sup></b>	<b>Blooming or Survey Period</b>	<b>Habitats of Occurrence</b>	<b>Potential on Site</b>	<b>Status on Site**</b>
Loma Prieta Hoita ( <i>Hoita strobilima</i> )	-/-/1B	May – October	Chaparral, cismontane woodland, riparian woodland, usually in mesic, serpentine soils.	Presumed absent	Presumed absent
Shining Navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>radians</i> )	-/-/1B	May – July	Cismontane woodland, valley and foothill grasslands, and vernal pools.	Low No suitable habitat present	Presumed absent
Mount Diablo Phacelia ( <i>Phacelia phacelioides</i> )	-/-/1B	April – May	Chaparral, cismontane woodland; adjacent to trails, on rock outcrops and talus slopes; sometimes on serpentine.	Low No suitable habitat present	Presumed absent
Mount Diablo Jewel-Flower ( <i>Streptanthus hispidus</i> )	-/-/1B	March – June	Valley and foothill grassland, chaparral; talus or rocky outcrops.	Low No suitable habitat present	Presumed absent
Caper-Fruited Tropidocarpum ( <i>Tropidocarpum capparidum</i> )	-/-/1B	March – April	Valley and foothill grasslands on alkaline hills.	Low No suitable habitat present	Presumed absent

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
<b>BIRDS</b>					
Cooper's Hawk ( <i>Accipiter cooperii</i> )	-/CP/-	February – August	Oak woodlands, coniferous forests, riparian corridors. Often hunts on edges between habitats.	Moderate Suitable habitat present	May occur
Sharp-Shinned Hawk ( <i>Accipiter striatus</i> )	-/CP/-	February – August	Oak woodlands, coniferous forests, riparian corridors. Often hunts on edges between habitats. (Nesting) Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 feet of water.	Moderate Suitable habitat present	May occur
Tricolored Blackbird ( <i>Agelaius tricolor</i> )	SOC/-/SSC	February – August	Nesting within seasonal wetland marshes, blackberry brambles or other protected substrates. Forages in annual grassland and wetland habitats.	Low No suitable habitat present	Not likely to occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
Grasshopper Sparrow ( <i>Ammodramus savannarum</i> )	-/SSC	February – August	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes; favors native grasslands with a mix of grasses, forbs, and scattered shrubs. Nesting and feeding mostly takes place on the ground; loosely colonial when nesting.	Low Close to dense residential area	Not Likely to Occur
Golden Eagle ( <i>Aquila chrysaetos</i> )	-/CP/SC	February – August	Nests in cliff-walled canyons and tall trees in open areas. (Nesting and wintering) Rolling foothills mountain areas, sage-juniper flats, and desert.	Low Close to dense residential area	Not Likely to Occur
Burrowing Owl ( <i>Athene cunicularia</i> )	SOC/-/SC	February – August	Dry open annual or perennial grassland, desert and scrubland. Uses abandoned mammal burrows for nesting.	Moderate Suitable habitat present	May occur
Red-tailed Hawk ( <i>Buteo jamaicensis</i> )	-/CP/-	February – August	Various grassland habitats, urban land, oak woodlands with grassland for foraging.	High Suitable habitat present	Present



**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
Red-shouldered Hawk ( <i>Buteo lineatus</i> )	-/CP/-	February – August	Forages in variety of semi-developed habitats including orchards. Forages in woodlands and riparian areas. Nests in riparian habitat but also eucalyptus groves.	High Suitable habitat present	May occur
Ferruginous Hawk ( <i>Buteo regalis</i> )	-/CP/-	Late Fall – Winter	Open country such as semiarid grasslands with few trees, rocky outcrops, and open valleys. Also along streams or in agricultural areas during migration.	Low Foraging only	Not likely to occur
Swainson’s Hawk ( <i>Buteo swainsoni</i> )	-/T/-	February – October	Nests in riparian areas and in oak savannah near foraging areas. Forages in alfalfa and grain fields with rodent populations.	Moderate Suitable habitat present	May occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
Northern Harrier ( <i>Circus cyaneus</i> )	-/SSC	February – August	Nests in grasslands and marshlands, ground nesting bird. (Nesting) Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Low No suitable habitat present	Not likely to occur
Yellow Warbler ( <i>Dendroica petechia brewsteri</i> )	-/SSC	February – August	(Nesting) Riparian plant associations, prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Also nests in montane shrubbery in open conifer forests.	Low No suitable habitat present	Not likely to occur
White-tailed Kite ( <i>Elanus leucurus</i> )	SOC/CP/FP	February – August	Various grassland habitats, urban land, oak woodlands with grassland for foraging.	Moderate Suitable habitat present	May occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
California Horned Lark <i>(Eremophila alpestris actia)</i>	-/-/SSC	February – August	Short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats. Prefer open terrain where they construct nests on the ground, often in sparsely vegetated areas.	Moderate Suitable habitat present	May occur
Prairie Falcon <i>(Falco mexicanus)</i>	-/CP/-	February – August	Nests on cliffs in dry open terrain. Forages in marshlands and ocean shores.	Low No suitable habitat present	Not likely to occur
Bank Swallow <i>(Riparia riparia)</i>	SOC/T/-	February – August	Nests in colonies in riparian or other lowland habitats. Nest is constructed in vertical bank or cliff with fine sandy soils near streams, rivers, lakes or ocean.	Moderate Suitable habitat present	May occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
AMPHIBIAN					
California Tiger Salamander ( <i>Ambystoma californiense</i> )	T/T/-	Aquatic Surveys - Once each in March, April, and May with at least 10 days between surveys.  Upland Surveys - 20 nights of surveying under proper conditions beginning October 15 and ending March 15.	Vernal pools, swales and depressions for breeding, needs underground refugia.	Moderate Suitable habitat present	Not likely to occur
Foothill Yellow-Legged Frog ( <i>Rana boylei</i> )	SOC/-/SC	Year-round resident	Partially-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need cobble for egg-laying.	Moderate Suitable habitat present	Not likely to occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

<b>Common Name/ Scientific Name</b>	<b>Status (Fed/State/ CNPS)<sup>2</sup></b>	<b>Blooming or Survey Period</b>	<b>Habitats of Occurrence</b>	<b>Potential on Site</b>	<b>Status on Site**</b>
California Red-Legged Frog ( <i>Rana draytonii</i> )	T/-/SC	May 1 – November 1	Lowlands and foothills in or near permanent deep water with dense, shrubby or emergent riparian habitat. Requires 11-20 weeks of permanent water for breeding and larval development. Must have access to aestivation habitat.	Moderate Suitable habitat present	Not likely to occur
<b>REPTILES</b>					
Western Pond Turtle ( <i>Emys marmorata</i> )	-/-/SC	March – October	Aquatic turtle needs permanent water in ponds, streams, irrigation ditches. Nests on sandy banks or grassy fields.	Moderate Suitable habitat present	May occur
Alameda Whipsnake ( <i>Masticophis lateralis euryxanthus</i> )	T/T/-	Year-round resident	Valley-foothill hardwood habitat of the coast ranges between Monterey and north San Francisco Bay areas. Inhabits south-facing slopes and ravines where shrubs form a vegetative mosaic with oak trees and grasses.	Low	Not likely to occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
<b>MAMMALS</b>					
Pallid Bat <i>(Antrozous pallidus)</i>	-/SC/-	N/A	Forages in grasslands, shrublands, deserts, forests, and woodlands. Most common in open, dry habitats. Roosts in rock crevices, caves, tree hollows, and buildings. Roosts must protect bats from high temperatures; very sensitive to disturbance of roosting sites.	Low Close to dense residential area	Not Likely to Occur
Townsend's Big-Eared Bat <i>(Corynorhinus townsendii)</i>	-/SSC/-	Resident	Throughout California in a wide variety of habitats; roosts in the open, hanging from walls and ceilings. Needs sites free from human disturbance. Most common in mesic sites.	Low Close to dense residential area	Not Likely to Occur
Hoary Bat <i>(Lasiurus cinereus)</i>	-/-/-	Resident	Prefers open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees near water. Feeds mainly on moths.	Moderate Suitable habitat present	May occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
Yuma Myotis ( <i>Myotis yumanensis</i> )	-/-/-	Resident	Optimal habitats are open forests and woodlands with sources of water over which to feed. Maternal colonies occur in caves, mines, buildings or crevices.	Moderate Suitable habitat present	May occur
San Francisco Dusky-Footed Woodrat ( <i>Neotoma fuscipes annectens</i> )	-/SC/-	Resident	Forest habitats of moderate canopy and moderate to dense understory, may prefer chaparral and redwood habitats. Nests constructed of grass, leaves, sticks, feathers, etc. Population may be limited by availability of nest materials.	Moderate Suitable habitat present	May occur
American Badger ( <i>Taxidea taxus</i> )	-/-/SSC	Resident	Shrub, forest, and herbaceous habitats with friable soils to dig burrows. Need open, uncultivated ground. Prey on fossorial mammals.	Moderate Suitable habitat present	Not likely to occur

**Table 2**

**Special-Status Species for the Hayward, Dublin, Livermore, Newark, Niles, Diablo, Las Trampas Ridge, Tassajara, La Costa Valley 7.5 Minute Quadrangle Maps<sup>1</sup>**

Common Name/ Scientific Name	Status (Fed/State/ CNPS) <sup>2</sup>	Blooming or Survey Period	Habitats of Occurrence	Potential on Site	Status on Site**
<p>1. Special-status plants and animals as reported by the California Natural Diversity Data Base, California Native Plant Society, and other background research September 2014.</p> <p>2. Order of Codes for Plants - Fed/State/CNPS Order of Codes for Animals - Fed/State/CDFW Codes: SOC - Federal Species of Concern SC - California Species of Special Concern E - Federally/State Listed as an Endangered Species T - Federally/State Listed as a Threatened Species C - Species listed as a Candidate for Federal Threatened or Endangered Status R - Rare D - Delisted CP- California protected FP - State Fully Protected DFG: SC California Special Concern species IB - California Native Plant Society considers the plant Rare, Threatened, or Endangered in California and elsewhere. 1A - CNPS Plants presumed extinct in California. 2 - CNPS Plants Rare, Threatened or Endangered in California, but more common elsewhere. 3 - CNPS Plants on a review list to find more information about a particular species. 4 - CNPS Plants of limited distribution - a watch list.</p>					



**ATTACHMENT 3**  
**SITE PHOTOGRAPHS**



Photo 1: Photo of the ruderal/non-native grassland habitat facing north towards mixed oak/bay woodland area.



Photo 2: Photo taken from the east facing west showing the ruderal/non-native grassland and the large oak and bay trees bordering the riparian area.



Photo 3: Photo from the east facing northwest showing large coast live oaks and California bay trees along the northern border of the property.



Photo 4: Photo taken from the southeastern corner facing west showing ruderal/non-native grassland and grazing horses on site.



Photo 5: Photo taken within abandoned structure on site, a possible place for roosting bats. No bats were present at the time of the September survey.



Photo 6: Photo taken of a large California bay tree with peeling bark, a possible place for roosting bats. No bats were present at the time of the September survey.



Photo 7: Photo of large California bay tree with a fox squirrel nest located on the exterior branches. No bird or raptor nests were observed during the September survey.



Photo 8: Photo facing north along riparian/creek area. Mixed oak/bay woodland borders an intermittent creek feature.



Photo 9: Photo shows Congdon's tarplant in the ruderal/non-native grassland habitat.



Photo 10: Photo shows one of many California ground squirrel burrows located on the property. Each burrow was observed to check if burrowing owl sign was present. No owls or owl sign were observed during the September survey.

December 14, 2015

Mr. Guy Houston  
Valley Capital Realty & Mortgage  
7080 Donlon Way, Suite 208  
Dublin, California 94568

**Subject: PU-114 (11300 Dublin Canyon Road) – Riparian Assessment**

Dear Mr. Houston:

Olberding Environmental, Inc. has completed an assessment of the riparian corridor along the northern portion of the Houston Property (Property), located at 11300 Dublin Canyon Road in Pleasanton, California. This assessment has been prepared in response to the City of Pleasanton Planning Division letter dated October, 29, 2015, requesting an addendum to the Biological Report prepared by Olberding Environmental in September 2014.

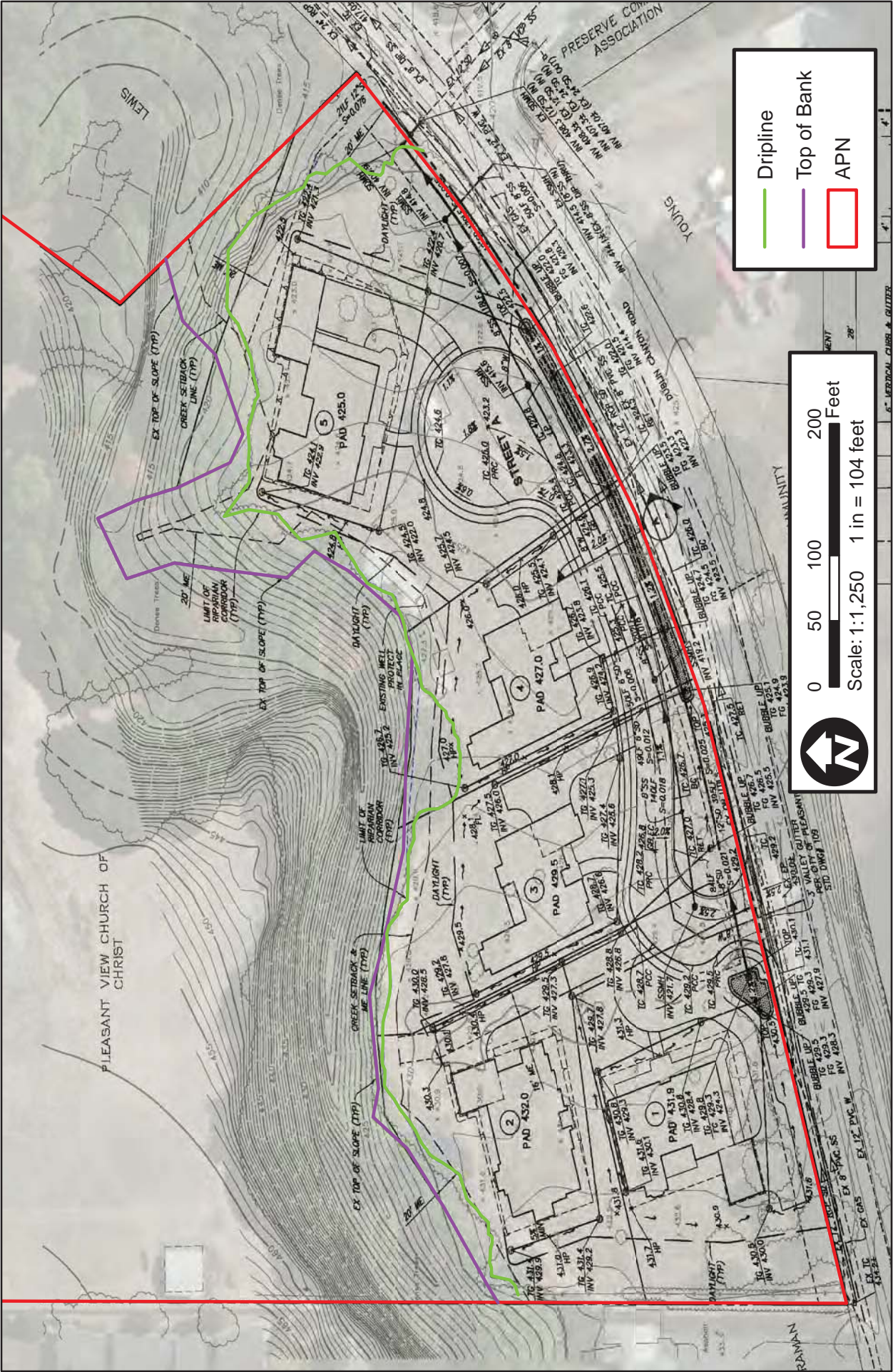
On December 10, 2015, Olberding Environmental Biologist Lisa Henderson visited the Property in order to map the riparian dripline (extent of riparian canopy) and to identify the location of the top-of-bank along Dublin Creek as it traverses across the Property. Mapping of both the riparian dripline and top-of-bank were performed with a handheld Trimble GPS unit with sub-meter accuracy. This information was then placed on the Project site plan prepared by Ruggeri, Jensen and Azar. A copy of the map containing this information has been included as an attachment to this letter.

If you have any questions or comments, please feel free to contact me at (925) 866-2111.

Sincerely,



Jeff Olberding  
Wetland Regulatory Scientist



PLEASANT VIEW CHURCH OF CHRIST

193 Blue Ravine Road, Ste. 165  
 Folsom, CA 95630  
 Phone: (916) 985-1188



Top of Bank & Riparian Drip Line  
 Huston Property  
 Pleasanton, CA



***NICHOLAS ENGINEERING CONSULTANTS***

***6743 Dublin Boulevard, Suite 15\*Dublin\*California 94568***

*Tel. (925) 829-8090, nicholasengineering@comcast.net*

GEOTECHNICAL INVESTIGATION  
PROPOSED RESIDENTIAL DEVELOPMENT  
PLEASANT VIEW CHURCH PROPERTY  
PORTION OF PARCEL MAP 941-1600-7-3  
11300 DUBLIN CANYON ROAD  
PLEASANTON, CALIFORNIA

FOR

Mr. Guy Houston  
Valley Capital  
7080 Donlon Way, Suite 208  
Dublin, CA 94568

BY

**NICHOLAS ENGINEERING CONSULTANTS**

Project No. 2292

20 February 2015

# **NICHOLAS ENGINEERING CONSULTANTS**

**6743 Dublin Boulevard, Suite 15\*Dublin\*California 94568**

*Tel. (925) 829-8090, nicholasengineering@comcast.net*

Project No. 2292  
20 February 2015

Mr. Guy Houston  
Valley Capital  
7080 Donlon Way, Suite 208  
Dublin, CA 94568

Subject: Proposed Residential Development  
Pleasant View Church Property  
Portion of Parcel Map 941-1600-7-3  
11300 Dublin Canyon Road  
Pleasanton, California  
**Geotechnical Investigation**

Dear Mr. Houston:

In response to your request and authorization, we have completed a geotechnical investigation for the above project.

It is our opinion based on our findings that the site is suitable for the proposed residential development provided that the recommendations of this report are carefully followed and are included into the project plans and specifications.

We appreciate the opportunity to be of service to you. If you have any questions concerning our findings and conclusions please contact our office at your convenience.

Respectfully submitted,  
**NICHOLAS ENGINEERING  
CONSULTANTS**

Dewy A. Nicholas, GE  
Geotechnical Engineer

Copies: 2 to Mr. Guy Houston.



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## **1.0 INTRODUCTION**

In accordance with your authorization, **Nicholas Engineering Consultants**, referred to as the Geotechnical Engineer in this report, has completed a geotechnical investigation at the subject site for the proposed residential development.

The scope of our work included the following:

1. Site reconnaissance by the Geotechnical Engineer.
2. Review of published geologic reference maps & reports.
3. Subsurface exploration consisted of drilling of five (5) test borings. Representative samples of the soil were obtained for laboratory testing.
4. Performing laboratory tests to provide engineering design criteria.
5. The preparation and writing of this report which presents our findings, conclusions and recommendations.

The purpose of this investigation was to evaluate the surface and subsurface soils at the site for the proposed residential development. Based on the data and information obtained, we have provided recommendations for foundation design and grading criteria for the site.

Our findings indicate that the proposed residential development is feasible from a geotechnical standpoint provided the recommendations in this report are included into the project plans and specifications and adhered to during and after construction.

## **2.0 SITE LOCATION & DESCRIPTION**

The site is irregular in shape. The site is the southern portion of Parcel 941-1600-7-3 located at 11300 Dublin Canyon Road in the City of Pleasanton. The southern portion is located south of the creek/drainage channel that runs through the property. The parcel is about 16 acres and the southern portion proposed for development is about 4 acres.

The site is relatively flat and is bounded by the drainage channel/creek to the north and east, Dublin Canyon Road to the south and residential properties to the east and west.

The site is currently vacant and was used as a horse stables and few barns are located at the site. Vegetation at the site is minimal and limited to seasonal grass & weed. Trees are located north and east of the property next to the creek/drainage channel.

The above description is based on a surface site reconnaissance by the geotechnical engineer and maps and plans as shown in attached figures 1 through 9.

## **3.0 PROPOSED CONSTRUCTION**

It is proposed to construct nine (9) single-family residences. The residences will be one or two stories and wood framed structures. Associated site improvements including streets, driveway,

utilities etc. will be constructed at the site. Grading is expected to be minimal and limited to provide building pads and new streets as shown in attached Figure 9.

#### **4.0 FIELD INVESTIGATION**

The field investigation was performed on 9 February 2015 and included a site reconnaissance by the Geotechnical Engineer and the drilling of five (5) exploratory borings at the approximate locations shown on Figure 9, "Site Plan."

The borings were drilled to a maximum depth of 30 feet below the existing ground surface where bedrock was encountered. West Coast Exploration, Inc. performed the drilling using a truck-mounted rig.

Visual classifications were made from the auger cuttings and the samples in the field. As the drilling proceeded, undisturbed samples were obtained by means of 2.5 & 3.0 inches split-tube samplers (Outer Diameter of Sampler). The samplers were driven under the impact of a 140 pounds hammer with a free fall of 30 inches. The number of blows required driving the samplers the last 12 inches were adjusted to the standard penetration resistance (N-Value) and are presented in the "Log of Test Borings". Classifications made in the field were verified in the laboratory after further examination and testing. The results are shown on the respective Logs of Test Borings (Figures 10 through 15).

#### **5.0 SOIL CONDITIONS**

The soil conditions were derived from our site reconnaissance and the information and samples obtained from our exploratory borings.

The surface soil consisted of dark brown sandy silty clay that is wet and soft in the upper 1 to 2 feet and than moist and medium stiff to stiff. At four feet the material is moist and very stiff to hard and is dark brown at borings 1 through 3 and dark yellowish brown at borings 4 and 5. Below eight (8) feet, the material is dark yellowish brown sandy silty clay that is moist to very moist and very stiff/hard. Layers/lenses of silty clayey gravelly sand was encountered between a depth of 8 to 18 feet that are very moist to wet and medium dense to very dense. Below 17 to 18 feet the material was yellowish brown sandy silty clay that is very moist and medium stiff to very stiff. Dark brown sandstone/claystone was encountered below a depth of 23 feet that is moist and friable and became more claystone & harder and less weathered with increase in depth.

Water was encountered during drilling at approximate depth of 23 feet at boring 1 and 19 feet at boring 5 and was measured at depth of 15 feet at boring 1 about 2 hours after drilling. No water was encountered at borings 2, 3 & 4 during drilling. However, water may stabilize at depth of 15 feet in all borings if left for longer periods of time. The water encountered in the borings appears to be perched water stored in the sandy and gravelly layers. Water may be encountered at depth of >40 feet based on the seismic hazard zone report No. 112 for the Dublin Quadrangle dated 2008 (See Figure 8). However, water levels do vary with seasonal rainfall.

A description and stratification of the soils encountered are shown on the "Logs of Test Borings", Figures 10 through 15. The approximate location of these borings is shown on Figure 9.

## 6.0 LABORATORY TESTING

6.1 All samples were visually classified in the laboratory in accordance with the Unified Soil Classification System per ASTM D-2487 and/or D-2488 in order to verify the field classification (See Figures 10 through 15)

6.2 The natural moisture contents and dry unit weights were determined for all undisturbed samples per ASTM D-2216 (See Figures 10 through 15)

6.3 The Atterberg Limits were determined per ASTM D-4318 for selected samples in order to classify the soil, as well as to obtain an indication of the expansion potential of the material (See Figure 16).

6.4 Gradation tests were performed on all samples per ASTM D-422 in order to provide engineering characteristics of the material and for liquefaction potential evaluation (See Figures 17 through 21).

6.5 Unconfined compressive strength tests were determined per ASTM D-2166 for selected samples in order to obtain strength characteristics of the subsurface soil to be used for foundation design (See Figures 22 through 26).

A summary of all laboratory test results is presented on the respective "Logs of Test Borings" and Figures 16 through 26.

## 7.0 GEOLOGIC SETTING & FAULTS

### **Geologic Setting:**

Generally, the site area is located on the North American Plate just northeast of the plate boundary formed by the San Andreas Fault. Crustal strain produced by movements along the San Andreas and subsidiary faults has created pervasive, northwest-trending complex folding and faulting.

Nilsen (1975-Figure 5 attached) and Crane (1988-Figure 6 attached) have mapped the geologic formation underlying this site and its vicinity underlain by alluvial deposits. Seismic Hazard Zone Report 112, Dated 2008 has mapped the site area as Holocene Alluvium undifferentiated (Qha) and Pre-Quaternary bedrock is mapped north of the site & creek area (See Figure 7 attached).

### **Faults:**

According to published maps (See Figures 2 and 3 attached), the site is located approximately 25.5 and 6.8 miles northeast of the active San Andreas and Hayward Faults, respectively. The Greenville & Calaveras Faults are 11.5 and 0.5 miles northeast & east of the site.

## 8.0 POTENTIAL GEOLOGIC HAZARDS

### **Fault Rupture:**

No active faults have been mapped to cross the site (See Figure 3 attached).

**Seismic Shaking:**

The site is located in the seismically active San Francisco Bay Area. Several major earthquakes, which have been produced by movement on one of the principal active faults, affected the region during historic time. These earthquakes include the 1868 earthquake on the Hayward Fault and the 1906 San Francisco and recent 1989 Loma Prieta earthquakes originating on the San Andreas Fault.

Considering the past seismic history of the region, the site will be affected by strong seismic shaking during the expected lifetime of the proposed buildings. The intensity of shaking is determined by the distance of the site to the seismic source and the properties of the material along the path of the transmitted energy.

To mitigate the shaking effects, all structures should be designed using engineering judgement and the latest Building Code requirements and the latest standards of practice design methods.

Seismic design provisions of current building codes generally prescribe minimum forces applied statically to the structure, combined with the gravity forces of dead and live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the forces that would be associated with major earthquake. Therefore, structures should be able: (1) resist minor earthquake without damage. (2) resist moderate earthquakes without structural damage but with some nonstructural damage and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake. However, it is reasonable to assume that a well designed and well-constructed structure will not collapse or cause loss of life in a major earthquake.

**Lurching:**

Ground lurching is a result of the rolling imparted to the ground during energy released by an earthquake. Such rolling motion causes ground cracks to form. The potential for the formation of these cracks is considered greater at contacts between deep alluvium and bedrock. Such an occurrence is possible at other locations in the Bay Area, but based on the site location; it is our opinion that the potential offset is expected to be low to nil.

**Liquefaction:**

Soil liquefaction is a phenomenon in which saturated, cohesionless, loose soil experience a temporary, but essentially total loss of shear strength when subjected to reversing cyclic shear stresses caused by earthquake ground shaking.

The soil material encountered in the borings drilled within the site generally consist of sandy clay and clayey sand. The sandy deposits are generally dense with the exception of lenses (non-continuous layers) between 14 and 17 feet encountered at boring 1. This lens/layer is medium dense. Groundwater was encountered in two borings at depth of 19 and 23 feet and was measured at 15 feet at boring 1.

Evaluation of liquefaction potential of the on-site sand encountered in the borings were conducted. The methodology employed was in accordance with the "Recommended Procedures For Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating

Liquefaction Hazards in California”. The Calaveras Fault, located about 0.5 miles from the site, is predicted to be capable of producing a maximum earthquake of moment magnitude of 7.0 (See Figure 3.2 of SHZR 112 for the Dublin Quadrangle). A weighted pseudo-peak acceleration of 0.52 may be used for the site for liquefaction opportunity evaluation (Figure 3.3 of SHZR 112 for the Dublin Quadrangle).

Based on our analysis, the 3 feet lens/layer of medium dense silty clayey gravelly sand between 14 & 17 feet encountered at boring 1 may have a low to moderate potential for liquefaction. All other layers have high clay content and/or are dense to very dense and are not considered to have a potential for liquefaction.

Therefore, densification of the medium dense layer during earthquake shaking can conceivably cause settlement of the overlying ground surface. Our calculations based on the above reference & based on Tokimatsu & Seed indicate that the densification is less than 3/4 inches in settlement. The densification of this sand layer should be mitigated by consideration in the structural design of the foundation.

In addition, the presence of more than sufficient thickness of non-liquifiable surface layers will prevent the effects of at-depth liquefaction from reaching the surface (No surface manifestation).

**Lateral Spreading:**

Lateral Spreading is a failure within the soil zone (possibly due to liquefaction) which causes the overlying soil mass to move towards a free surface or down a gentle slope. However, since the liquefiable lens/layer is deep and no nearby slopes extend that deep, lateral spreading is considered unlikely.

**Tsunamis and Seiches:**

Tsunamis, which are large ocean waves generated by strong earthquakes, can be damaging to lowland coastal areas. Since the site is far from the coast and at a relatively high elevation, the risk of damage due to a tsunami is very low.

Large earthquakes can also generate oscillating waves in enclosed bodies of water, such as lakes and reservoirs. Since the site is not located near any lakes or reservoirs, the probability of a seiche affecting the property is very low.

**Slopes:**

The site is relatively flat. The only slopes are north and east of the property at the creek/drainage channel. No instabilities were observed at the creek slopes that pose a potential hazard for the proposed development. The creek slopes are heavily vegetated and numerous trees were observed at the creek that provides stability. We recommend that grading at the creek slopes and removal of vegetation/trees be minimized and allowed only when mitigation measures are implemented. In addition, we recommend that structures be setback a minimum of 20 feet from top of slopes unless the area is approved by the Geotechnical Engineer and supplemental recommendations are provided. Furthermore, setbacks from top of banks as required by Alameda County and City of Pleasanton are adhered to in the planning of the development.



### IBC Seismic Design Values & Response Spectrum:

Below are the seismic design values and response spectrum for the site based on the 2012 IBC.

#### Design Maps Summary Report

##### User-Specified Input

**Report Title** Pleasant View Church Property  
Tue February 17, 2015 22:04:22 UTC

**Building Code Reference Document** 2012 International Building Code  
(which utilizes USGS hazard data available in 2008)

**Site Coordinates** 37.696°N, 121.945°W

**Site Soil Classification** Site Class D - "Stiff Soil"

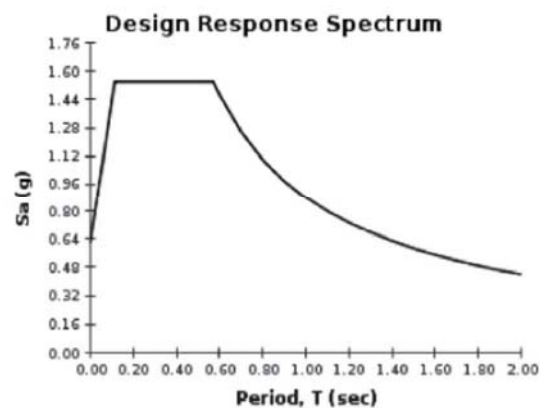
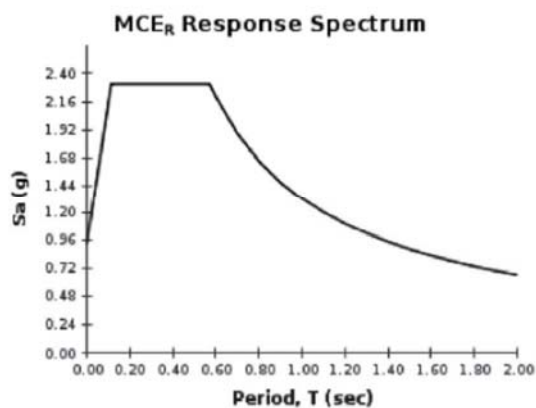
**Risk Category** I/II/III



##### USGS-Provided Output

$S_s = 2.311 \text{ g}$	$S_{MS} = 2.311 \text{ g}$	$S_{OS} = 1.541 \text{ g}$
$S_1 = 0.880 \text{ g}$	$S_{M1} = 1.320 \text{ g}$	$S_{O1} = 0.880 \text{ g}$

For information on how the  $S_s$  and  $S_1$  values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



## 9.0 REFERENCES

- 9.1** California Division of Mines & Geology, Special Studies Zones, Dublin Quadrangle, Alameda County. Dated 1-1-82.
- 9.2** Crane, R. C., "Preliminary Geologic Map of the Dublin, Alameda County, California," 1988.
- 9.3** Nilsen, T. H., "Preliminary Photointerpretation Map of Landslide and Other Surficial Deposits of the Dublin Quadrangle, Alameda County, California," 1975.
- 9.4** International Building Code, 2012 Edition.
- 9.5** Seismic Hazard Zone Report 112 for the Dublin 7.5 Minute Quadrangle, Alameda County, CA. By the California Geologic Survey, Dated 2008 (Posted 27 August 2008 at CGS web-site).
- 9.6** State of California, Seismic Hazards Zones for the Dublin Quadrangle, Released 27 August 2008.
- 9.7** Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California, California Geologic Survey, Dated 2008.
- 9.8** Recommended Procedures for Implementation of DMG Special Publication 117 Guidelines for Analyzing and Mitigating Liquefaction Hazards in California. Dated March 1999.
- 9.9** LiquefyPro, Liquefaction and Settlement Analysis, Software Manual, Version 5 and Later, CivilTech Software, Dated 2015.

## **10.0 CONCLUSIONS AND RECOMMENDATIONS**

### **10.1 GENERAL**

10.1.1 The site is suitable for the proposed residential development provided the recommendations in this report are incorporated into the project plans and specifications.

10.1.2 After the grading and foundation plans have been developed, we recommend that these plans be reviewed by the Geotechnical Engineer for conformance to the intent of this report.

10.1.3 It is noted that all recommendations in this original geotechnical report must be strictly adhered to in the design, construction and future maintenance of the project. Review of plans is not approval for any deviations from the geotechnical report recommendations and the current standards of practice. Any deviations/changes are totally the responsibility of the designer during plan preparations, the contractor during construction and the owner during future maintenance. Any deviations/changes must be requested specifically and clearly in writing by the designer, the contractor and owner and must be approved in writing by the geotechnical engineer.

10.1.4 The Geotechnical Engineer and/or his representatives must provide field observation and testing during the grading and foundation excavation operations. Any work performed without the full knowledge of the Geotechnical Engineer and under his direct observations will render the recommendations of this report invalid.

### **10.2 GRADING**

#### **Site Clearing & Preparation:**

10.2.1 No major grading is expected at the proposed building areas. Recommendations are provided for grading operations that may be needed to re-compact the soft soil at the site and to render building pads.

10.2.2 Demolition and debris removal should be performed prior to grading operations. The owner should designate the saving of any substructures at the site prior to commence of the demolition operations. In addition, any areas of old septic tanks, pipes, trenches, leach fields, tree roots etc. must be excavated to clear all un-suitable material and expose undisturbed native material. Areas of trees will require excavation to remove the tree root system (Estimated 3 to 5 feet).

10.2.3 The site should be cleared of all obstructions and deleterious materials. After clearing, the fill areas should be stripped of all organic laden soil. The Geotechnical Engineer should determine final stripping depths in the field. Organic-laden materials should be removed from the site or stockpiled for use in landscape areas only.

10.2.4 At the completion of the clearing, stripping and over-excavation operations, all fill areas should be scarified a minimum depth of 12 inches, moisture conditioned by aerating or adding water and compacted in accordance with the requirements of this report.

**Over-excavation:**

10.2.5 Soft areas should be excavated to firm base prior to commence of fill operation. This should include any existing fill material and the soft native material. Unless all fill and soft material are excavated and re-engineered they should be assumed not to provide any structural support.

10.2.6 Based on the borings, the upper two feet of soft native material must be excavated a minimum distance of 5 feet outside the buildings envelope and include any structures designated by your structural engineer. The bottom of the excavation must be scarified a minimum depth of 12 inches and compacted as directed by the soil engineer in accordance with the recommendations in this report. Should localized loose material be encountered at the bottom of the excavations it must be excavated. Compacted-engineered fill must be placed at these locations. Localized areas of excavations must be compacted to a minimum relative Compaction of 95% unless the excavations are widened to provide uniform fill material underneath the foundation.

**On-Site & Import Material:**

10.2.7 All on-site material having an organic content of less than 1% by volume and free from other deleterious materials are suitable for use as fill on site. All fill material should have a maximum particle size of 6 inches with no more than 15% larger than 2.5 inches.

10.2.8 Any import fills which is predominately granular in nature and with plasticity index of 12 or less can be used. The Geotechnical Engineer should give final approval of any import fill material prior to placement. The contractor shall notify the Geotechnical Engineer 5 working days in advance of his intention to import soil from any other source outside the site area.

**Compaction:**

10.2.9 After preparation of the native ground soils, the site may be brought to the desired finish grade by placing on-site native material or import material in lifts not to exceed 8 inches in uncompacted thickness and compacted to a minimum of 90% as determined by ASTM D-1557 laboratory testing procedures.

10.2.10 The moisture content of the fill material should be 0 to 3% above optimum and sufficient to obtain the required density. Water should be added or the fill material shall be aerated by blading or other satisfactory methods in order to have acceptable range for moisture.

**Non-Uniform Soil (Cut/Fill):**

10.2.11 It is highly emphasized that uniform soil conditions be provided underneath the foundation and slab on grade construction. Cut/fill or non-uniform soil conditions areas should be excavated and replaced with uniform engineered fill material in order to minimize differential movement.

**Observation & Testing:**

10.2.12 Field density tests should be performed by the Geotechnical Engineer and his representatives. The number of tests and frequency of testing will be determined by the engineer or applicable specifications.

### 10.3 FOUNDATION

10.3.1 Based on our evaluation of the soil conditions, the proposed building foundations may consist of piers and grade beam foundation system.

10.3.2 Structural setbacks from the top of the creek bank should be in accordance Section 8.0 (Slopes) of this report.

10.3.3 The piers should be designed as friction piers in the stiff native soil/engineered fill. An allowable skin friction of 500 p.s.f. for dead plus live loads with 1/3 increase allowed for transient wind or seismic loading may be used in the design of the piers. The upper 2 feet of the piers should not be considered to provide any support.

10.3.4 The piers should have a minimum diameter of 16 inches and should extend a minimum depth of 10 feet below the lowest adjacent finish grade (Upper 2 feet should not be considered to provide any support).

10.3.5 For lateral design, a passive pressure equivalent to that of a fluid weighing 250 pcf is recommended for the pier design. The passive pressure can be assumed to act on an area encompassing 1.6 times the pier diameter along the length of the pier. Upper 2 feet should not be considered to provide any support.

10.3.6 All exterior piers and interior piers for the residence (No Exceptions) should be tied together with reinforced grade beam and rigid tie beams.

10.3.7 Provided a minimum spacing of three pier diameters is maintained between piers, no reduction in allowable soil parameters is required. The designer should consult with the Geotechnical Engineer for closely spaced piers for supplemental recommendations.

10.3.8 All piers located at or near slopes should be increased in depth as directed by Geotechnical Engineer per field conditions. Depth of piers will be determined at a depth below a 10 feet lateral setback from the slope. For example piers located on 2:1 (horizontal to vertical) slope should be increased a depth of 5 feet (Minimum pier depth 15 feet).

10.3.9 The bottom of the pier excavation should be dry and free of all loose cuttings and soil fall-in prior to concrete placement. Pier drilling operations and concrete placement should be coordinated so that the pier holes are left open for a minimum amount of time. Proper procedures should be followed per ACI for placement of concrete when water is present.

10.3.10 Actual pier depth and spacing should be determined by the Structural Engineer based on actual loading conditions. Pier and grade beam reinforcement will depend on the loading.

#### **Settlement:**

10.3.11 Settlement of foundation designed as recommended in this report is expected to be less than 1" with a differential settlement less than 1/2" within a distance of 40 feet for sustained loads. Settlement due to densification of the medium dense sand due to earthquake loads is expected to be less than 3/4" with a differential settlement of less than 1/2" in 40 feet.

### 10.4 SLAB-ON-GRADE CONSTRUCTION (Non-Structural)

10.4.1 Movement of the concrete slab with resulting cracking should be expected. Controlled pre-determined failure planes should be scored in the concrete in both directions over the slab area. To reduce the potential cracking of the concrete, ACI and UBC standards should be utilized in the design in addition to the following recommendations:

- a. The subgrade should be of uniform material compacted to a minimum relative compaction of 90% and at moisture of 0 to 3% above optimum in accordance with the recommendation of the grading section of this report.
- c. A minimum of 4 inches of ¾” gravel or clean crushed rock material should be placed between the finished subgrade and the concrete slab to serve as capillary break between the subsoil and the slab.
- d. All slabs should be properly reinforced to meet structural design criteria. The reinforcement shall be placed in the center of the slab unless otherwise designated by the design engineer. We recommend a minimum thickness of 5 inches of concrete with #4 bars at maximum spacing of 16 inches. Crack control joints should be spaced at a maximum spacing of 10 feet. Porous materials such as wood, soil and bricks should not be allowed to come in contact with the reinforcement.
- e. Slabs should be constructed with a curl or a thickened edge extending a minimum of 8 inches into native ground or compacted fill.
- f. In areas where moisture transmission through slabs is undesirable, the concrete slab should be protected by an impervious membrane overlaying a minimum of 4 inches of ¾” gravel or clean crushed material. The membrane should be covered with 2 inches of sand, being slightly moist prior to placement of concrete to aid in curing the slab.

### 10.5 RETAINING WALLS

10.5.1 Retaining walls under 10 feet in height should be designed to resist lateral soil pressure exerted from a media having an equivalent fluid weight as follows:

Gradient of Back-slope	Equivalent Fluid Weight Active (PCF)	Equivalent Fluid Weight At Rest (PCF)	Seismic Equivalent Fluid Weight Active (PCF)	Seismic Equivalent Fluid Weight At Rest (PCF)
Flat	40	60	20	30
3:1	60	80	27	37
2:1	65	85	30	40

Note: For soil seismic loads the pressure distribution is an inverted triangular distribution for example for a 10 feet high retaining wall (Flat-Unrestrained) at top of wall the seismic pressure is 200 psf and the pressure decreases linearly to zero at 10 feet deep.

If surcharge loads are expected near the back of the wall, an additional uniform lateral pressure equal to one-half the surcharge pressure should be assumed to act against the back of the wall.

10.5.2 The above criteria are based on fully drained conditions. For these conditions, we recommend that a filter material blanket be placed behind the wall. The blanket should be a minimum of 12 inches thick and should extend the full height of the wall to within 12 inches of the surface. A 4-inch diameter perforated drainpipe should be installed in the bottom of the filter blanket and should be underlain by at least 4 inches of filter type material. Sufficient gradient shall be provided to discharge water that collects behind the wall to an adequately controlled discharge system away from the building foundations and nearby engineered fill. Moisture proofing the wall in accordance with the UBC and standard practice is necessary where wall moisture is undesirable.

10.5.3 Foundations for the retaining walls should be designed in accordance with the recommendations presented in the foundation section of this report. However, site walls that are not within 15 feet of descending slopes/vertical cuts and are not part of the structure or attached to it may be supported on spread footings designed as follows: -

- a. Spread footings should be founded a minimum depth of eighteen inches below the lowest adjacent pad grade. The allowable bearing capacity for footings is 2500 psf. A 1/3 increase is allowed for seismic loads.
- b. The passive soil pressures can be assumed to act against the front face of the footing below the ground surface. It is recommended that a passive pressure equivalent to that of a fluid weighing 250 p.c.f. be used (Below a depth of 2 feet). For design purposes the allowable friction coefficient of 0.30 can be assumed at the base of the spread footing.
- c. The foundation trenches should be excavated with minimal disturbance to the subgrade. Any loose material should be removed and/or compacted as directed by the Geotechnical Engineer per field conditions.

## 10.6 PAVEMENT SECTIONS

10.6.1 **Preparation of Subgrade:** After underground facilities have been placed in the areas to receive pavement and removal of excess material has been completed, the upper 12 inches of the subgrade soil shall be scarified, moisture conditioned and compacted to a minimum relative compaction of 95% in accordance with the grading recommendations specified in this report.

10.6.2 **Aggregate Base:** All aggregate base material placed subsequently should also be compacted to a minimum relative compaction of 95% based on ASTM Test Procedure D1557. The construction of the pavement in the parking and traffic areas should conform to the requirements of the Department of Transportation of the State of California and/or County of Alameda and/or City of Pleasanton, Department of Public Works.

10.6.3 **Flexible Pavement Sections:** Based on an estimated R-Value of 10.0 and on the traffic indices presented below, recommended preliminary pavement section thickness, shown below may be incorporated in the preliminary design. When the subgrade is established, samples

may be obtained and an accurate pavement section can be designed. The traffic index should be determined by the civil engineer.

Traffic Index	Asphaltic Concrete (Inches)	Aggregate Base (1) (Inches)	Aggregate Subbase (2) (Inches)
4.5	3.0	9.0	0
5.0	3.0	11	0
5.0	3.0	6	6
5.5	3.0	12	0
5.5	3.0	6.0	7.0
6.0	4.0	12	0
6.0	4.0	6.0	7.0

- NOTES:
- (1) Minimum R-Value = 78.
  - (2) Minimum R-Value = 50.
  - (3) R-Value: Resistance Value.
  - (4) All layers in compacted thickness to Cal-Trans Standard Specifications.
  - (5) These pavement sections are for auto and trucks only, and are not intended to support heavy concentrated loads such as forklifts and debris boxes.

**Private Drives:**

10.6.4 Flexible Pavement Sections: For a private drive we recommend a minimum pavement section consisting of 3 inches of asphaltic concrete on 9 inches of aggregate base rock (Increase to 12 inches for trucks traffic areas).

10.6.5 Rigid Pavement Section: For a private drive we recommend a minimum pavement section of 6 inches (Increase to 8 inches to trucks traffic areas) of concrete on 6 inches of aggregate base rock.

10.6.6 The subgrade should be protected from water entering the baserock from landscape areas, and causing settlement in the pavement. Therefore, we recommend that measures be taken such as providing deepened curbs or moisture barriers.

**10.7 GENERAL CONSTRUCTION REQUIREMENTS**

**Surface Drainage & Irrigation:**

10.7.1 All finish grades should provide a positive gradient to an adequate discharge point in order to provide rapid removal of surface water runoff away from all foundation. No ponding of water should be allowed on the pad or adjacent to the foundations. These lot slopes should be provided to aid in the removal of water from the pads and to reduce the amount of water, which may seep beneath the building. Surface drainage should be provided as designed by the project engineer and maintained by the property owner at all times afterwards.

10.7.2 All finish grade drainage swales must be cut into compacted finish grade. Construction of the drainage swales using uncompacted loose surface fill does not meet the recommended grading requirement.



10.7.3 Continuous roof gutters are recommended. Downspouts from the gutters may be provided with adequate pipe conduits to carry storm water away from the foundation and graded areas, thus reduce the possibility of soil saturation adjacent to the foundations and engineered fill.

10.7.4 Planters should be avoided adjacent to the foundation. Should planters be constructed, foliage requiring little irrigation should be considered to further reduce the amount of water that could affect the foundation. Alternatively, a watertight planter box with controlled discharge should be provided.

10.7.5 Areas of potential future drainage problems and/or areas within close proximity of landscaped areas should be provided with adequate drainage provisions and subsurface drains as necessary to intercept water and reduce the potential of saturation of the foundation soil.

**Utility Trenches:**

10.7.6 Any utility trenches extending under the building areas should be backfilled with native on-site soils or approved import materials. Backfill should be properly compacted to prevent water migration through the utility trenches extending underneath the structure.

10.7.7 Utility trenches extending underneath all traffic areas must be backfilled with native or approved import material and compacted to a relative compaction of 90% to within 12 inches of the subgrade. The upper 12 inches should be compacted to 95% relative compaction. Backfilling and compaction of these trenches must meet the requirement set forth Alameda County and/or City of Pleasanton, Department of Public Works.

10.7.8 The soils generated from trenching may be used as backfill with the exception of cobbles greater than 6 inches in largest dimension. Compaction of the trench backfill should comply with the requirements set forth by Alameda County and/or City of Pleasanton, Department of Public Works.

**Trench Shoring & Temporary Slopes:**

10.7.9 Applicable safety standards require that trenches in excess of 5 feet must be properly shored or that the walls of the trench slope back to provide safety for installation of lines. If trench wall sloping is performed, the inclination should vary with the soil type. The underground contractor should request an opinion from the Geotechnical Engineer as to the type of soil and the resulting inclination. Slopes of 1:1 (horizontal to vertical) may be utilized for stable cohesive soils while 2:1 will be required for the more granular loose soil.

## **11.0 CONSTRUCTION OBSERVATION**

The performance of any project is dependent upon the construction procedures and quality. Geotechnical observations should be carried out by this firm to permit correlation between the preliminary soil data obtained during our investigation and the actual soil conditions encountered during construction. Construction observation performed by this firm will minimize the possibility of misunderstanding by others of both the letter and spirit of our report.

This will enable us to note any subsurface conditions different than those forming the basis of our recommendations. It is noted that any of these observations, testing and/or inspections are extra and are not covered by the basic charge of this report. The importance of careful adherence to the report recommendations cannot be overemphasized. The use of this report by others presumes that they have verified all information and assume responsibility for the total project.

Therefore, construction observation should be provided during clearing, demolition, grading, foundation excavation, trench excavation, trench backfill, subgrade preparation, baserock placement and all other construction operations referred to in the report or the project plans and specifications.

## **12.0 INVESTIGATION LIMITATIONS**

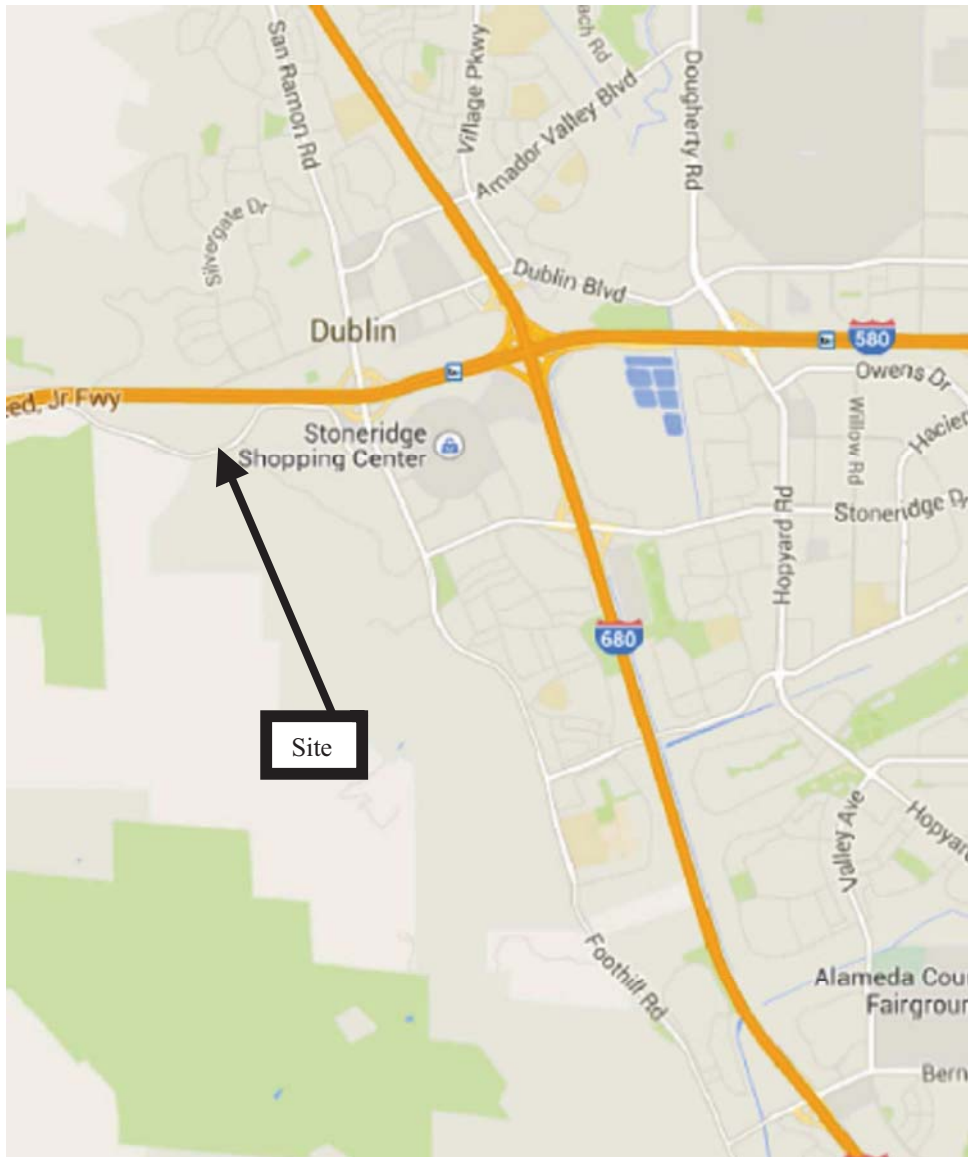
Our services consist of professional opinions and recommendations made in accordance with the generally accepted geotechnical engineering principles and practices. The analysis and the recommendations submitted in the report are based on our site reconnaissance, the soil information derived from the exploratory borings, the proposed development and the assumption that the subsurface conditions do not deviate from the anticipated conditions.

This warranty is in lieu of all other warranties either expressed or implied.

Unanticipated subsurface conditions are commonly encountered and cannot be fully determined by taking soil samples from exploratory borings. Different soil conditions may require that additional expenditures be made during construction to attain a properly constructed project. Therefore, a contingency fund is recommended to accommodate possible extra costs.

This report has been prepared in order to assist in the evaluation of the property and to assist the architect and engineer in the design of this project. In the event any changes in the design or location of the facilities are planned, or if any variation or undesirable conditions are encountered during construction, changes should be noted and reviewed by the Geotechnical Engineer for approval.

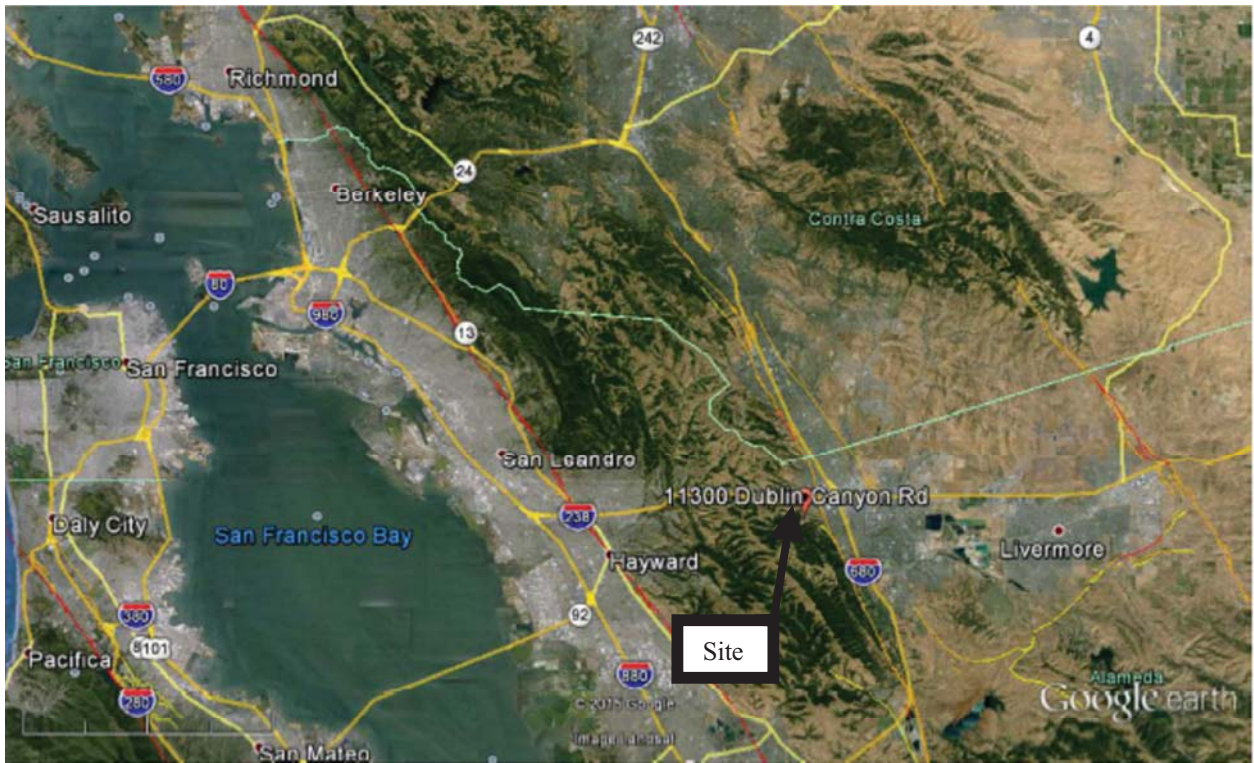
Standard maintenance should be expected after the initial construction has been completed. Should ownership of this property change hands, the prospective owner should be informed of this report so as not to change the grading or block drainage facilities of this project and the necessary steps are also taken to assure that the recommendations are followed in the field.



Base: Google Maps, 2015.  
Scale: 1" = 0.8 miles (approximate Reduced)

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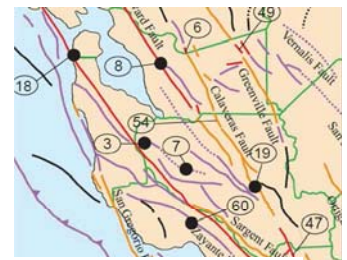
Figure 1  
Site Plan



Google earth



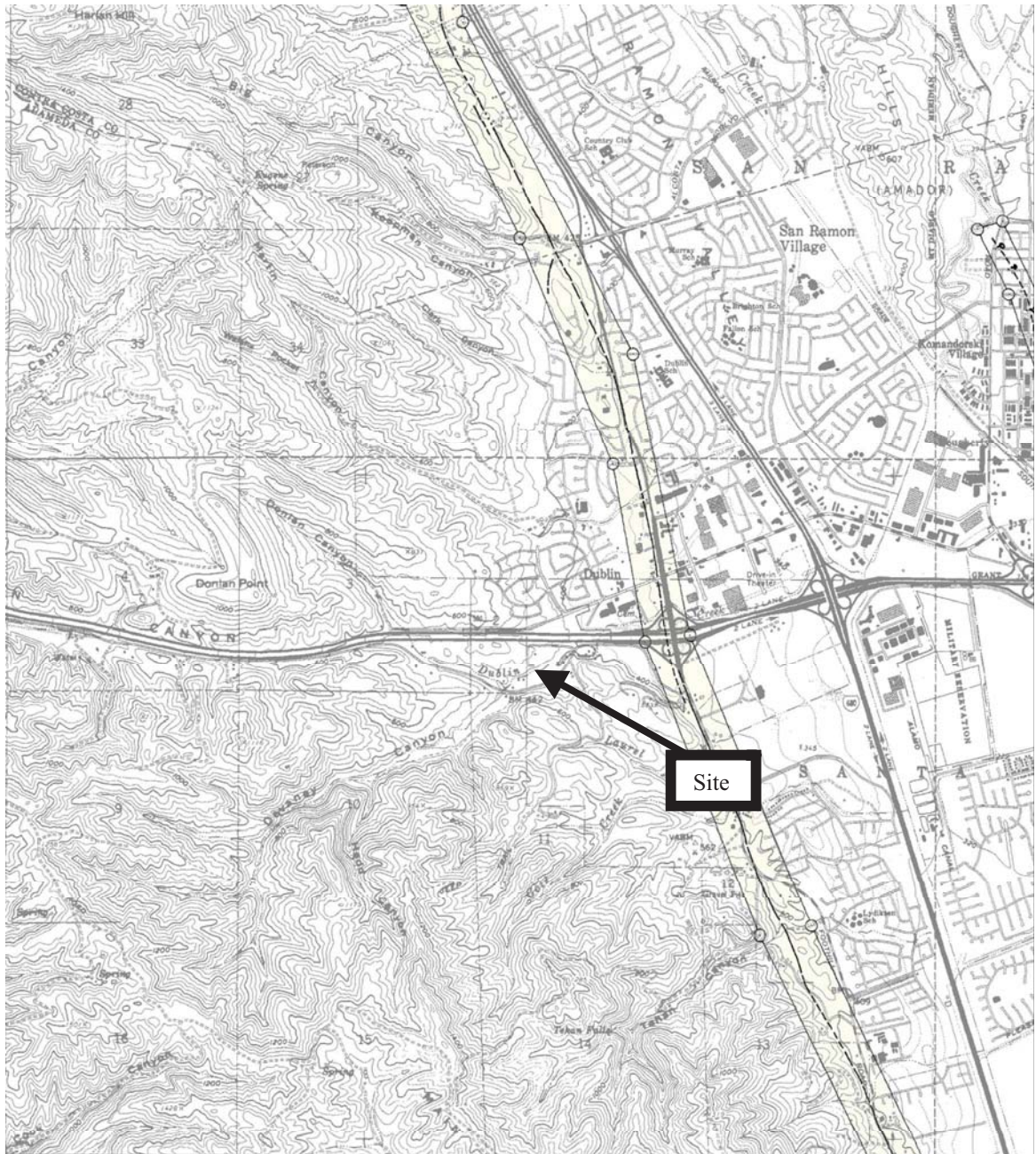
Base: Google Earth with Faults overlay-2015  
Scale: 1" = 7.46 Miles (Approximate Reduced)



Fault Activity Map  
California Geologic Survey  
Revised 2002

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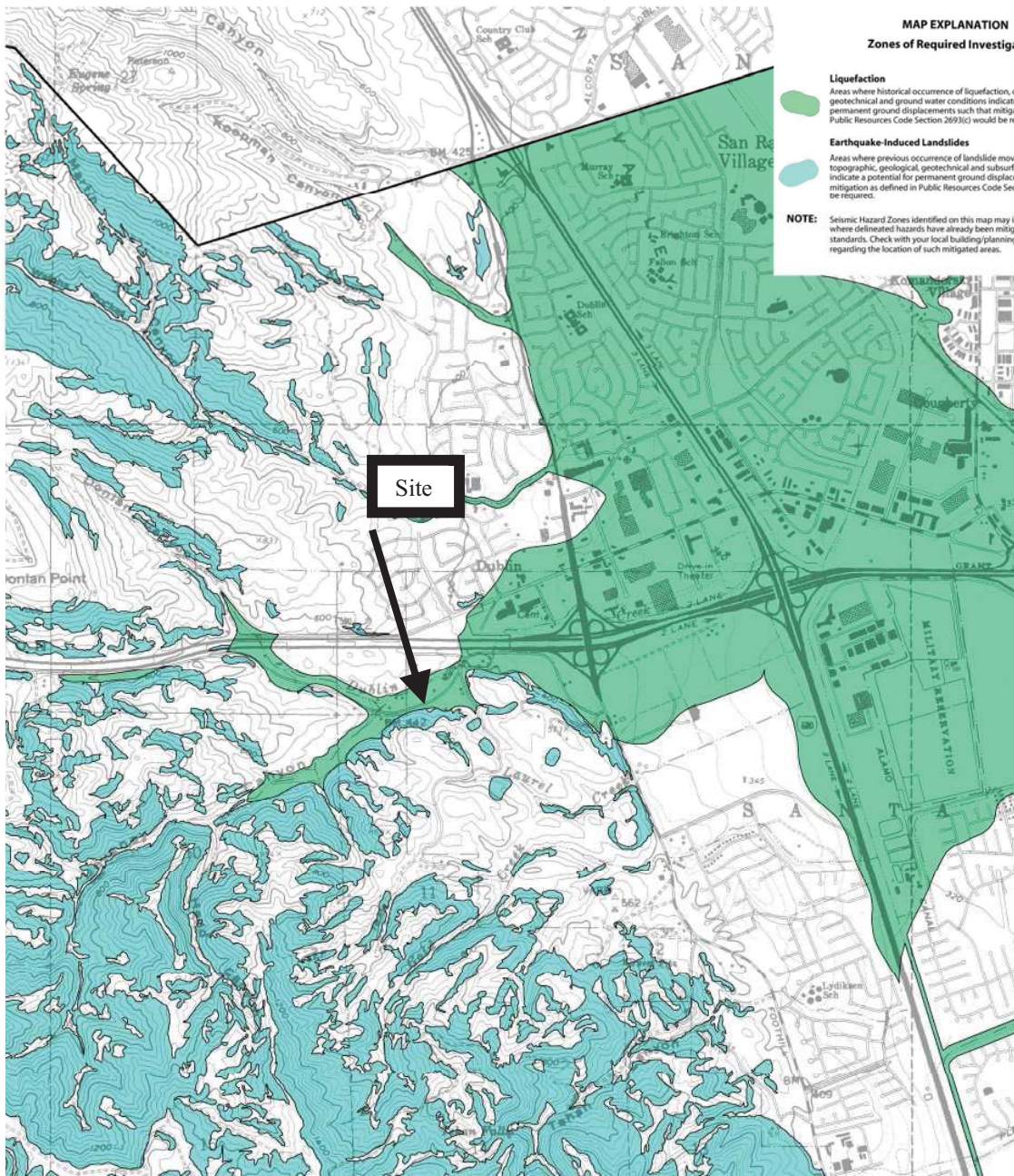
Figure 2  
Faults Map-Regional



Base: Special Studies Zones for Dublin Quadrangle, dated 1 January 1982.  
Scale: 1" = 0.76 Miles (approximate Reduced)

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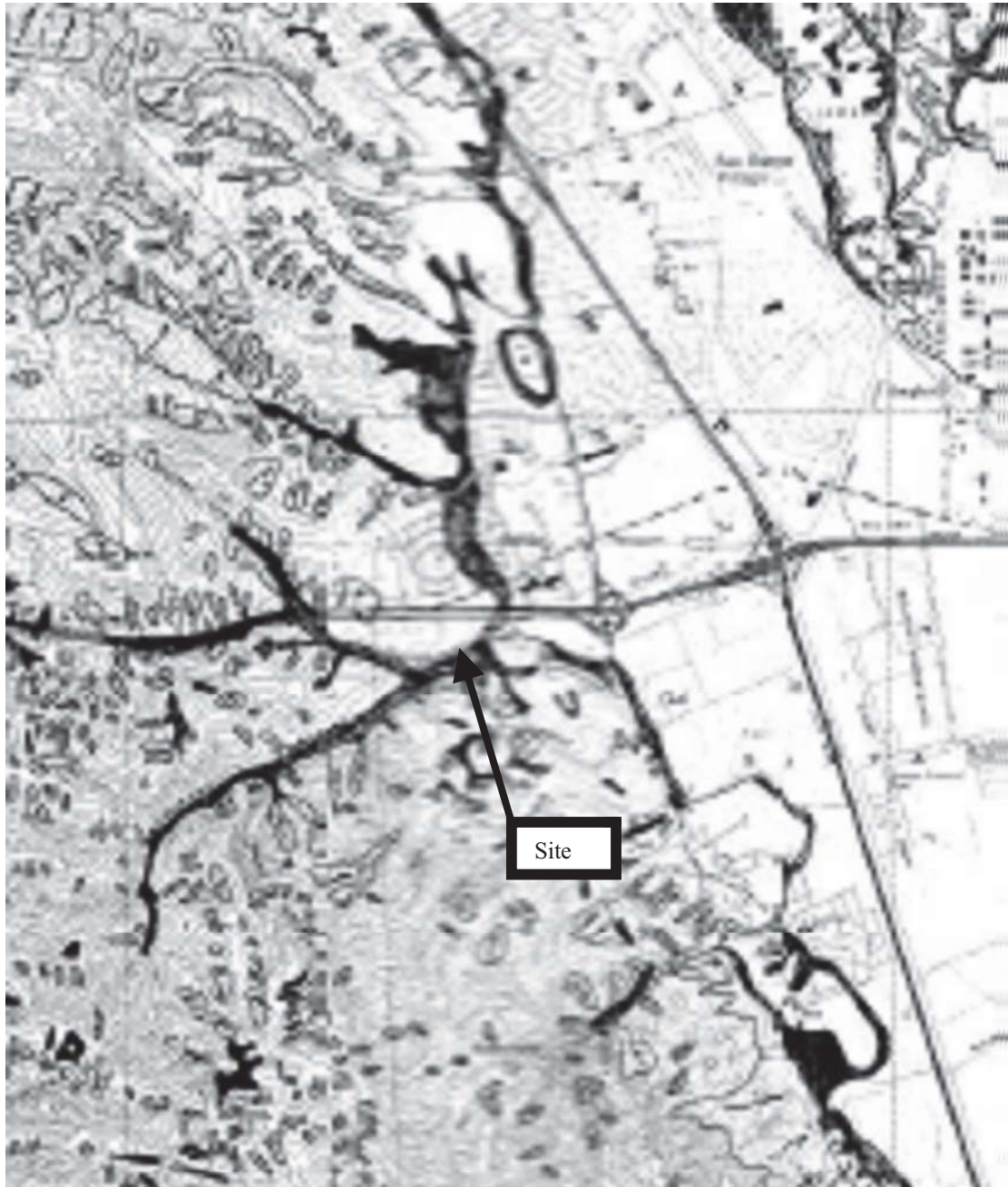
Figure 3  
Faults Map-Special Study



Base: Seismic Hazard Zone Map for Dublin Quadrangle, released 27 August 2008.  
Scale: 1" = 0.63 Miles (approximate Reduced)

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Figure 4  
Geologic Hazard Map

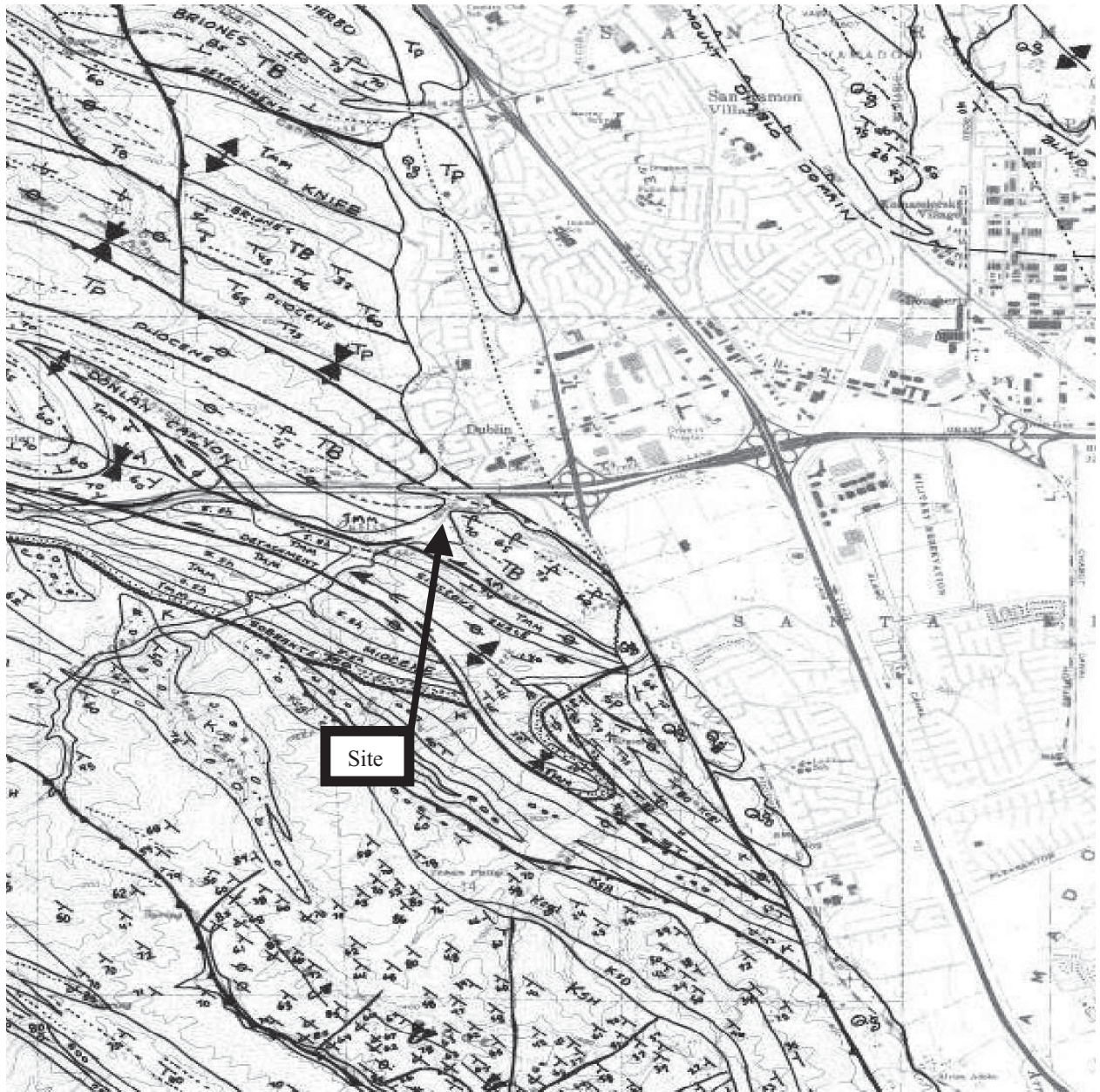


Base: Nilsen Geologic Map, Dublin Quadrangle-1975.  
Scale: 1"=0.7 Miles (approximate Reduced)

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Figure 5  
Geologic Map-Nilsen

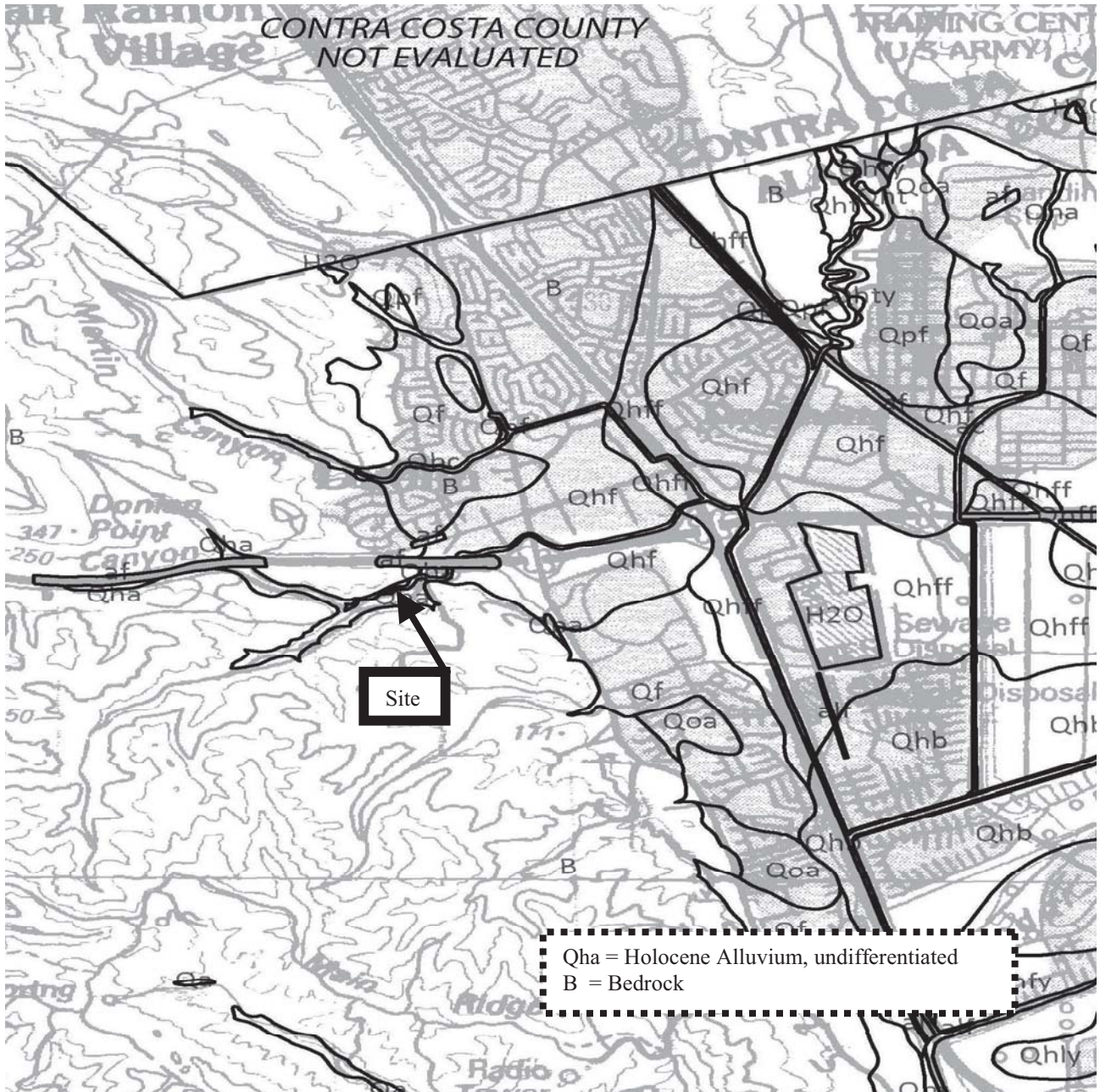




Base: Crane Geologic Map, Dublin Quadrangle 1988.  
Scale: 1" = 0.7 Miles (approximate Reduced)

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Figure 6  
Geologic Map-Crane

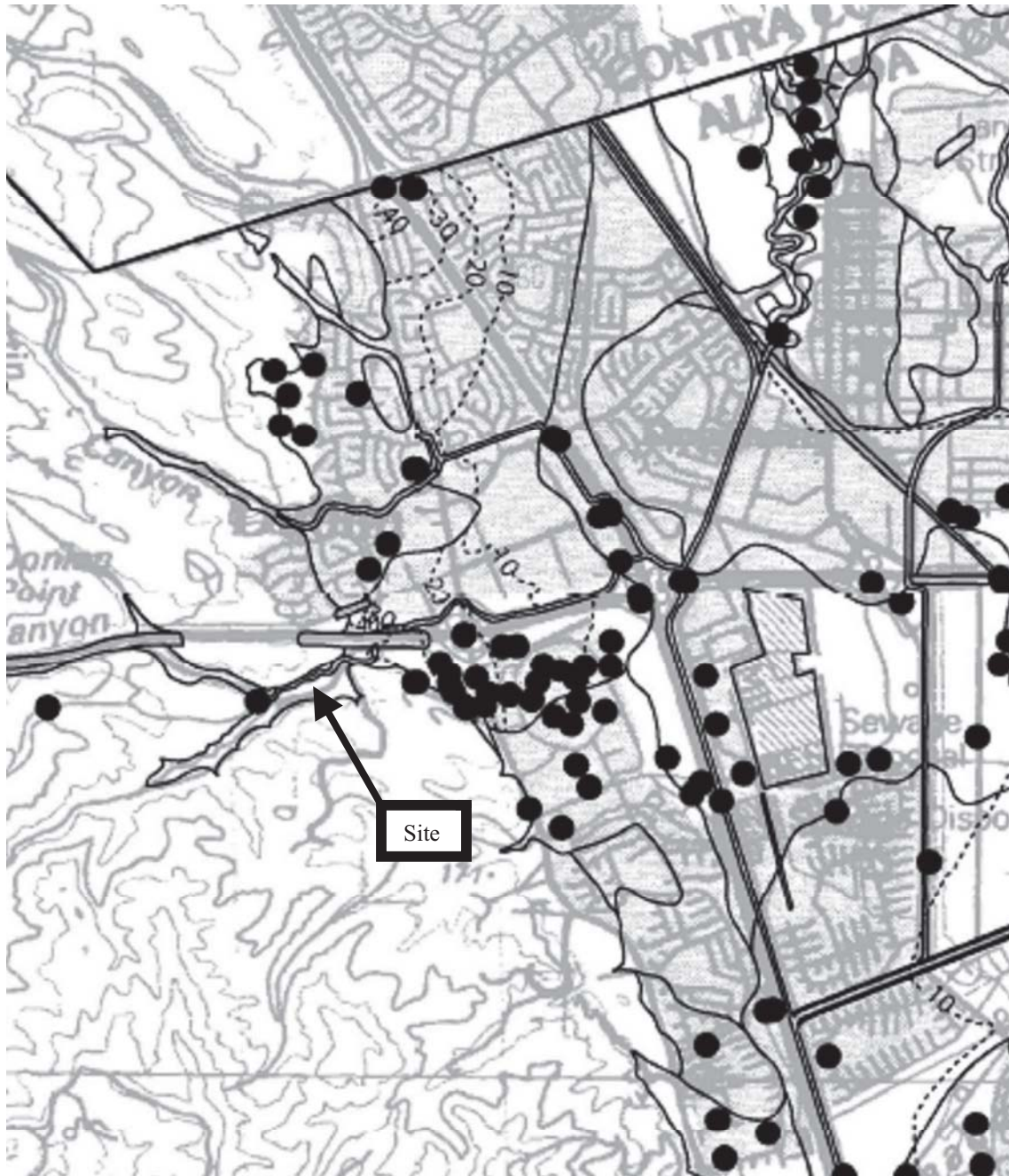


Qha = Holocene Alluvium, undifferentiated  
B = Bedrock

Base: Seismic Hazard Zone Report 121 for the Dublin 7.5-Minute Quadrangle, Alameda County, CA. By the California Geologic Survey, Dated 27 August 2008 (Post date at web-site).  
Scale: 1" = 0.79 Miles (approximate Reduced)

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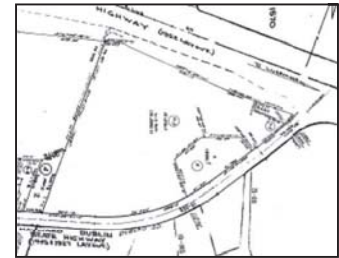
Figure 7  
Geologic Map-SHZR 121-CGS



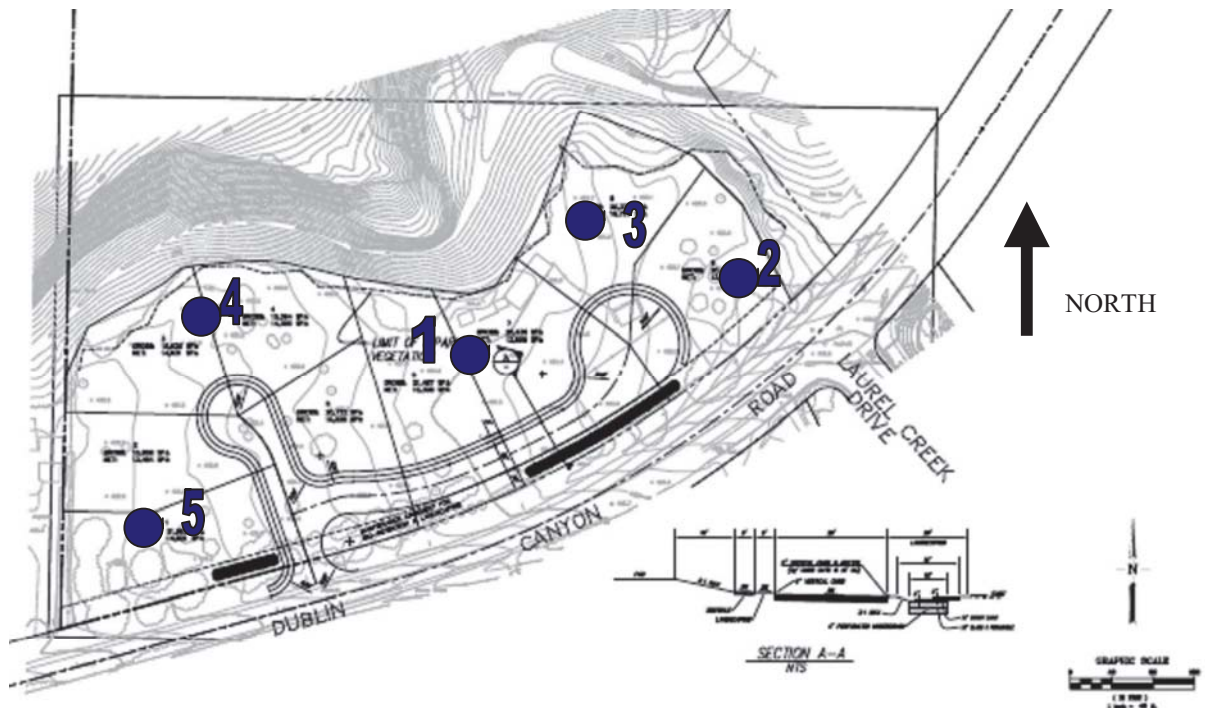
Base: Seismic Hazard Zone Report 121 for the Dublin 7.5-Minute Quadrangle, Alameda County, CA. By the California Geologic Survey, Dated 27 August 2008 (Post Date at web-site).  
Scale: 1" = 0.67 Miles (approximate Reduced)

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Figure 8  
Water Level Depth-SHZR 121-CGS



Parcel Map-Alameda County-Web-site  
Not to scale, reduced.



Base: Site Plan by Ruggeri-Jensen-Azar Engineers, Sheet 1, and Dated 12-22-2014.  
Scale: 1" = 190 feet (approximate Reduced)

● Indicate Test Boring by NEC-2015

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Figure 9  
Site Plan

# NICHOLAS ENGINEERING CONSULTANTS

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## LOG OF TEST BORING

<b>Project No.</b>	2292	<b>Project Name</b>	Pleasant View Church Property	<b>Date</b>	2-9-15
--------------------	------	---------------------	-------------------------------	-------------	--------

<b>Test Boring No.</b>	1	<b>Diameter</b>	5"
------------------------	---	-----------------	----

<b>Logged By</b>	DAN	<b>Depth of Water</b>	15'	<b>Date Checked</b>	2-9-15	<b>Depth of Caving</b>	None
------------------	-----	-----------------------	-----	---------------------	--------	------------------------	------

Depth	Symbol	USCS	Description	Remarks	Sample No.	Blows Per 12"	Density (PCF)	Moisture (%)
1		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, Wet to Moist & M. Stiff to Stiff (Upper 1 to 2 feet soft and wet)  G=0%, S=37%, F=63%; UC=1298 psf, LL=31%, PL=20%, PI =11		1-1	9	98	22.0
2	CAL	3, 5						
3	2.5	7						
4								
5		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, Moist & Hard  G=0%, S=40%, F=60%; UC=5148 psf @ 2.5%		1-2	32	104	15.9
6	CAL	10, 14						
7	2.5	26						
8								
9			Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay, Moist & Hard  G=26%, S=50%, F=24%, UC=2644 psf @ 5.0% (V. Moist & Dense)		1-3	46	107	16.3
11	CAL	20, 28						
12	2.5	32						
13		SC						
14								
15		SC	Dark Yellowish Brown (10YR-4/4) Silty Clayey Gravelly Sand  Wet & Medium Dense (Water measured after drilling)  G=25%, S=55%, F=20%; UC=1584 psf @ 8.75%		1-4	17	111	17.4
16	CAL	5, 9						
17	2.5	13						
18			Brown (10YR-4/3) Sandy Silty Clay, Wet & Medium Stiff  G=0%, S=36%, F=64%; UC=461 psf @ 15.0%		1-5	7	91	29.2
19		CL						
20								
21	CAL	4, 4						
22	2.5	5						
23			Water during drilling					
24		CLST	Dark Brown (10YR-3/3) Sandstone/Claystone  Moist & Friable					
25								
			Boring Continued at next page					

<h2 style="margin: 0;">NICHOLAS ENGINEERING</h2>	<h2 style="margin: 0;">FIGURE NO. 10</h2> <h3 style="margin: 0;">Log of Test Boring 1</h3>
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## LOG OF TEST BORING

<b>Project No.</b>	2292	<b>Project Name</b>	Pleasant View Church Property	<b>Date</b>	2-9-15
--------------------	------	---------------------	-------------------------------	-------------	--------

<b>Test Boring No.</b>	1-Continued	<b>Diameter</b>	5"
------------------------	-------------	-----------------	----

<b>Logged By</b>	DAN	<b>Depth of Water</b>	15'	<b>Date Checked</b>	2-9-15	<b>Depth of Caving</b>	None
------------------	-----	-----------------------	-----	---------------------	--------	------------------------	------

Depth	Symb ol	USCS	Description	Remarks	Sample No.	Blows Per 12"	Density (PCF)	Moisture (%)
26	CAL	32, 60	G=0%, S=52%, F=48%, UC=4710 psf @ 5%	PP>4.5	1-6	71	97	25.0
27	2.5							
28		CLST	Very Dark Grayish Brown (10YR-3/2) Sandy Claystone					
29			Damp to Moist & Friable					
30	CAL							
31	2.5	72/2"	G=0%, S=45%, F55%	PP>4.5	1-7	>77	---	15.3
32			Boring Terminated at 30.2 feet					
33								
34								
35								

NICHOLAS ENGINEERING	FIGURE NO. 11 Log of Test Boring 1-Cont.
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## LOG OF TEST BORING

<b>Project No.</b>	2292	<b>Project Name</b>	Pleasant View Church Property	<b>Date</b>	2-9-15
--------------------	------	---------------------	-------------------------------	-------------	--------

<b>Test Boring No.</b>	2	<b>Diameter</b>	5"
------------------------	---	-----------------	----

<b>Logged By</b>	DAN	<b>Depth of Water</b>	None	<b>Date Checked</b>	2-9-15	<b>Depth of Caving</b>	None
------------------	-----	-----------------------	------	---------------------	--------	------------------------	------

Depth	Symbol	USCS	Description	Remarks	Sample No.	Blows Per 12"	Density (PCF)	Moisture (%)
1		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, Wet to Moist & M. Stiff (Upper 1 to 2 feet soft and wet) G=0%, S=46%, F=59%; , LL=34%, PL=21%, PI =13	 PP=1.0	2-1	4	99	24.2
2	CAL	2, 3						
3	3.0	4						
4								
5	CAL	4, 10	Dark Brown (10YR-3/3) Sandy Silty Clay, V. Moist & Stiff G=0%, S=45%, F=55	PP=1.5 PP= 3.0	2-2	11	111	20.8
6	3.0	10						
7		CL						
8								
9								
10		SC	Dark Yellowish Brown (10YR-4/4) Silty Clayey Gravelly Sand, Moist & Hard/Dense G=11%, S=45%, F=44%, UC = 10662 psf @ 5%	 PP>4.5	2-3	32	105	16.8
11	CAL	8, 15						
12	2.5	27						
13								
14								
15		CL	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay Very Moist to wet and Stiff G=1%, S=34%, F=65%	PP=1.75	2-4	12	102	25.2
16	CAL	7, 7						
17	2.5	9						
18								
19								
20								
21	CAL	6, 7	G=0%, S=38%, F=62%, UC=1137 psf @15%	PP=1.25	2-5	12	97	26.0
22	2.5	9						
23								
24								
25			Boring Terminated at 21.5 feet					

<h3 style="margin: 0;">NICHOLAS ENGINEERING</h3>	<h3 style="margin: 0;">FIGURE NO. 12</h3> <h3 style="margin: 0;">Log of Test Boring 2</h3>
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# NICHOLAS ENGINEERING CONSULTANTS

6743 Dublin Boulevard, Suite 15 \*Dublin\* California 94568

Tel. (925) 829-8090, nicholasengineering@comcast.net

## LOG OF TEST BORING

<b>Project No.</b>	2292	<b>Project Name</b>	Pleasant View Church Property	<b>Date</b>	2-9-15
--------------------	------	---------------------	-------------------------------	-------------	--------

<b>Test Boring No.</b>	3	<b>Diameter</b>	5"
------------------------	---	-----------------	----

<b>Logged By</b>	DAN	<b>Depth of Water</b>	None	<b>Date Checked</b>	2-9-15	<b>Depth of Caving</b>	None
------------------	-----	-----------------------	------	---------------------	--------	------------------------	------

Depth	Symbol	USCS	Description	Remarks	Sample No.	Blows Per 12"	Density (PCF)	Moisture (%)
1		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, Wet to Moist & M. Stiff to Stiff (Upper 1 to 2 feet soft and wet) G=0%, S=42%, F=58%, UC=2005 psf @12.5%		3-1	8	97	22.3
2	CAL	2, 4						
3	2.5	7						
4								
5		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, V. Moist & Stiff to Hard G=0%, S=46%, F=54%, UC=3075 psf 3.75%		3-2	11	95	19.8
6	CAL	3, 7						
7	2.5	7						
8								
9		CL	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay Very Moist and V. Stiff to Hard G=1%, S=41%, F=58%, UC=10218 psf @5%		3-3	25	101	14.4
10								
11	CAL	10, 13						
12	2.5	19						
13								
14								
15		SC	Dark Yellowish Brown (10YR-4/4) Silty Clayey Gravelly Sand, Moist & Hard/Very Dense G=18%, S=62%, F=20%,		3-4	57	116	9.2
16	CAL	25, 42						
17	2.5	32						
18								
19		CL	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay Very Moist to Wet and V. Stiff to Hard G=0%, S=37%, F=63%, UC=4804 psf @2.5%		3-5	36	90	30.9
20								
21	CAL	12, 20						
22	2.5	27						
23								
24			Boring Terminated at 21.5 feet					
25								

<h3 style="margin: 0;">NICHOLAS ENGINEERING</h3>	<h3 style="margin: 0;">FIGURE NO. 13 Log of Test Boring 3</h3>
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# NICHOLAS ENGINEERING CONSULTANTS

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Tel. (925) 829-8090, nicholasengineering@comcast.net

## LOG OF TEST BORING

<b>Project No.</b>	2292	<b>Project Name</b>	Pleasant View Church Property	<b>Date</b>	2-9-15
--------------------	------	---------------------	-------------------------------	-------------	--------

<b>Test Boring No.</b>	4	<b>Diameter</b>	5"
------------------------	---	-----------------	----

<b>Logged By</b>	DAN	<b>Depth of Water</b>	None	<b>Date Checked</b>	2-9-15	<b>Depth of Caving</b>	None
------------------	-----	-----------------------	------	---------------------	--------	------------------------	------

Depth	Symbol	USCS	Description	Remarks	Sample No.	Blows Per 12"	Density (PCF)	Moisture (%)
1		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, Wet to Moist & M. Stiff to Stiff (Upper 1 to 2 feet soft and wet)  G=0%, S=37%, F=63%; UC=1498 psf @ 7.5%		4-1	7	98	20.1
2	CAL	2, 4						
3	2.5	5						
4								
5		CL	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay, Moist & Hard  G=0%, S=28%, F=72%,		4-2	35	95	10.5
6	CAL	8, 20						
7	2.5	26						
8								
9		SC	Dark Yellowish Brown (10YR-4/4) Silty Clayey Gravelly Sand,  Moist & Hard/Very Dense  G=17%, S=65%, F=18%;		4-3	58	107	9.7
10								
11	CAL	26, 50						
12	2.5							
13		SC/CL	Dark Yellowish Brown (10YR-4/4) Silty Clayey Gravelly Sand,  V. Moist & Hard/Very Dense  G=3%, S=51%, F=46%, UC=955 psf @ 2.5%		4-4	73	90	15.4
14								
15								
16	CAL	20, 35						
17	2.5	60						
18			Boring Terminated a 16.5 feet					
19								
20								
21								
22								
23								
24								
25								

<h2 style="margin: 0;">NICHOLAS ENGINEERING</h2>	<h2 style="margin: 0;">FIGURE NO. 14</h2> <h3 style="margin: 0;">Log of Test Boring 4</h3>
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# NICHOLAS ENGINEERING CONSULTANTS

6743 Dublin Boulevard, Suite 15 \*Dublin\* California 94568



Tel. (925) 829-8090, nicholasengineering@comcast.net

## LOG OF TEST BORING

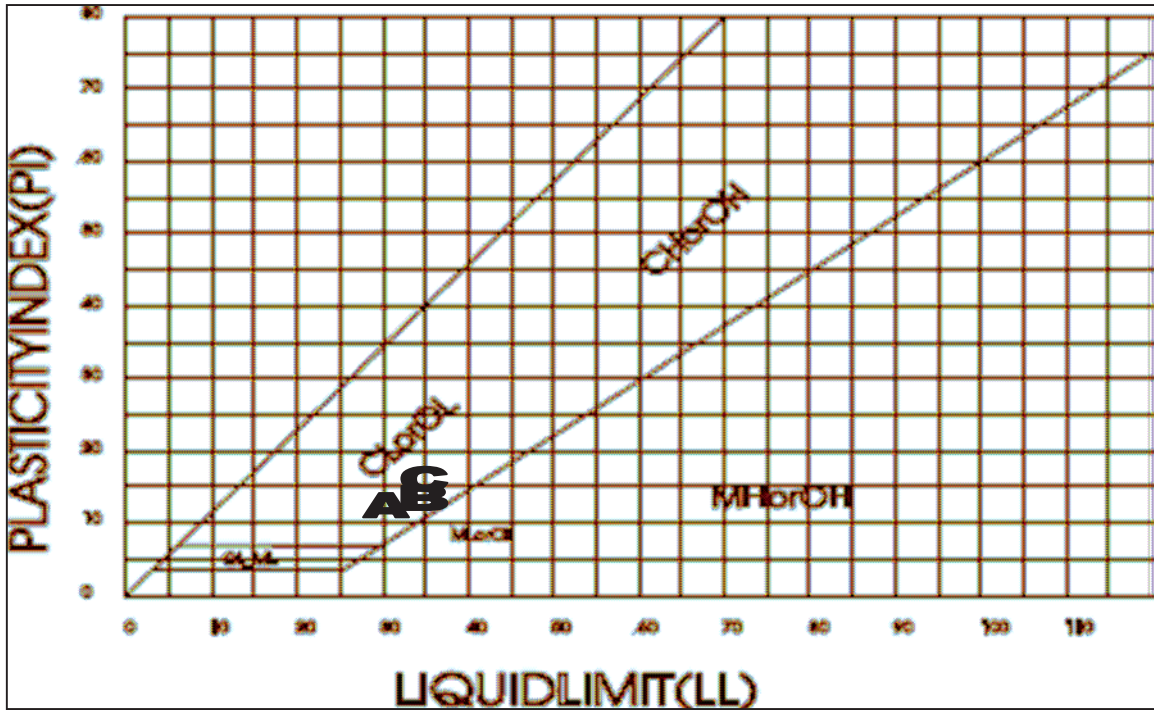
<b>Project No.</b>	2292	<b>Project Name</b>	Pleasant View Church Property	<b>Date</b>	2-9-15
--------------------	------	---------------------	-------------------------------	-------------	--------

<b>Test Boring No.</b>	5	<b>Diameter</b>	5"
------------------------	---	-----------------	----

<b>Logged By</b>	DAN	<b>Depth of Water</b>	19'	<b>Date Checked</b>	2-9-15	<b>Depth of Caving</b>	None
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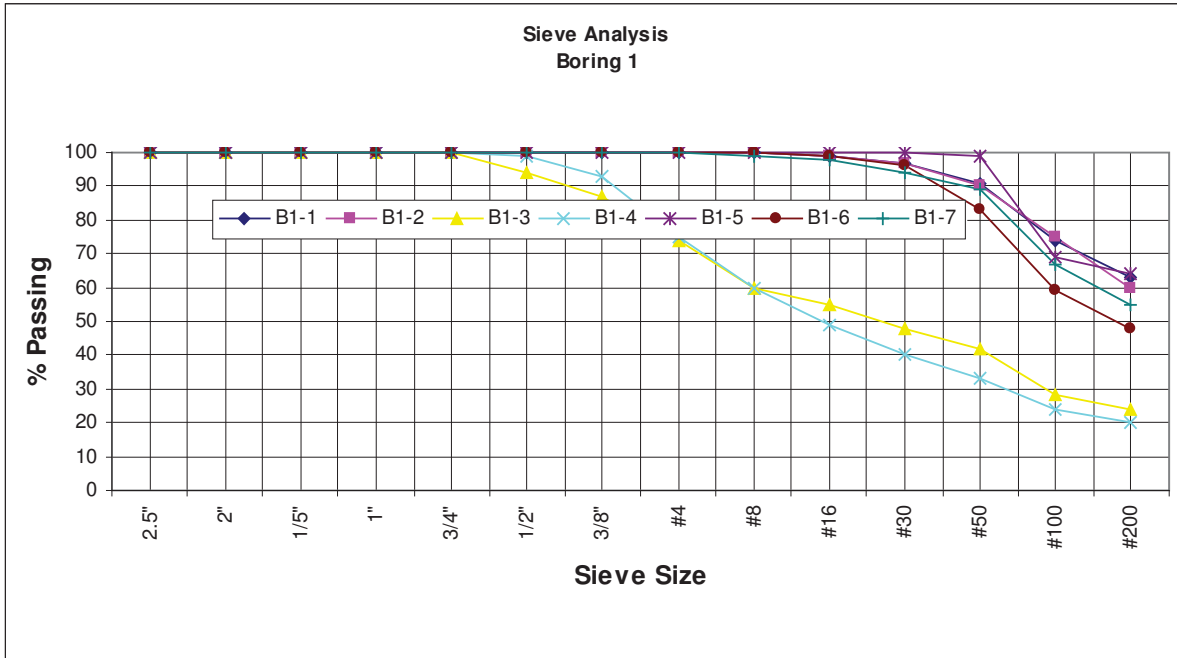
Depth	Symbol	USCS	Description	Remarks	Sample No.	Blows Per 12"	Density (PCF)	Moisture (%)
1		CL	Dark Brown (10YR-3/3) Sandy Silty Clay, Wet to Moist & M. Stiff					
2	CAL	2, 3	(Upper 1 to 2 feet soft and wet)	PP=1.0				
3	2.5	3	G=0%, S=43%, F=57%; UC=893 psf @ 10%; LL=35%, PL=20%, PI=15	PP=1.5	5-1	5	92	22.9
4								
5		CL	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay, V. Moist & Stiff					
6	CAL	5,7		PP=1.75				
7	2.5	10	G=0, S=43%, F=57%; UC=2318 psf @ 15%	PP=1.75	5-2	13	102	20.2
8								
9		CL	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay, Moist & Hard					
10	CAL			PP>4.5				
11	2.5	16, 32	G=0%, S=32%, F=68%, UC=10283 psf @ 3.75%	PP>4.5	5-3	55	104	17.6
12		40						
13		SC	Dark Yellowish Brown (10YR-4/4) Silty Clayey Sand, V. Moist & Dense					
14				PP=2.75			93	21.1
15	CAL		G=2%, S=65%, F=33%	PP=1.75			90	27.7
16	2.5	9,11	G=4%, S=29%, F=71%, UC=1350 psf @ 15%	PP=1.75	5-4	18		
17		12	Dark Yellowish Brown (10YR-4/4) Sandy Silty Clay, V. Moist & Very Stiff					
18		CL						
19			<i>Wet</i>					
20			<i>(Water measured at 19 feet after drilling)</i>	PP=1.25				
21	CAL	7, 10		PP=1.5				
22	2.5	11	G=1%, S=47%, F=52%, UC=965 psf @ 15.0%		5-5	16	90	29.0
23			Boring Terminated at 21.5 feet					
24								
25								

<h2 style="margin: 0;">NICHOLAS ENGINEERING</h2>	<h2 style="margin: 0;">FIGURE NO. 15</h2> <h3 style="margin: 0;">Log of Test Boring 5</h3>
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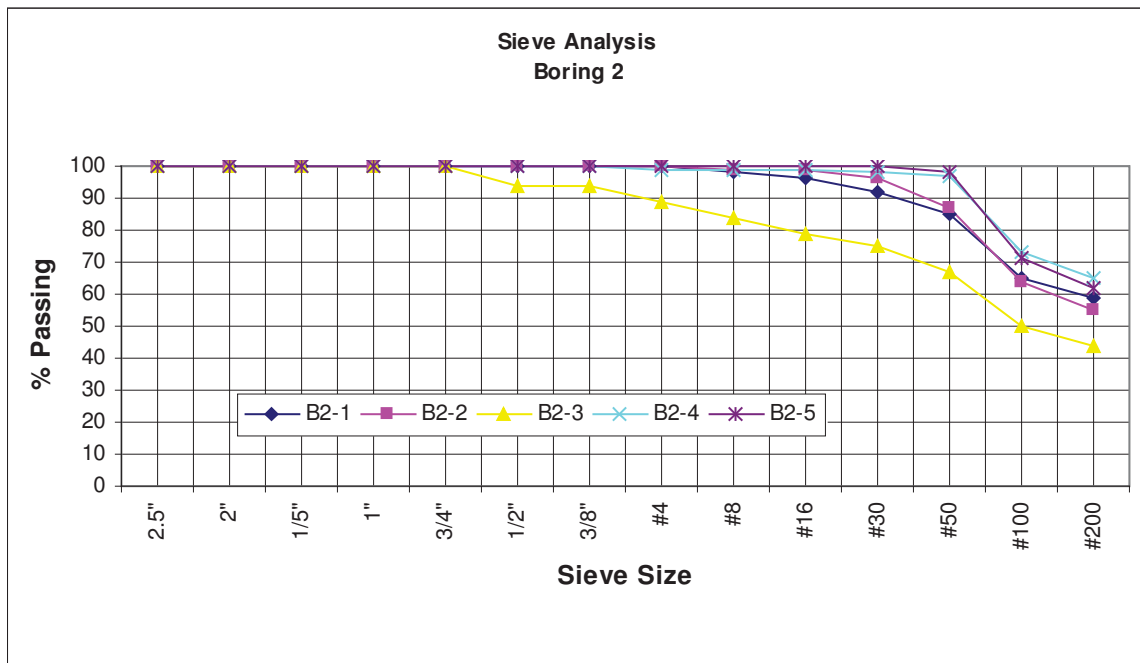
Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index	Classification
1-1 (A)	31%	20%	11	Non-plastic-CL
2-1 (B)	34%	21%	13	Non-plastic-CL
5-1 (C)	35%	20%	15	Non-plastic-CL

NICHOLAS ENGINEERING CONSULTANTS  
FIGURE 16-PLASTICITY INDEX



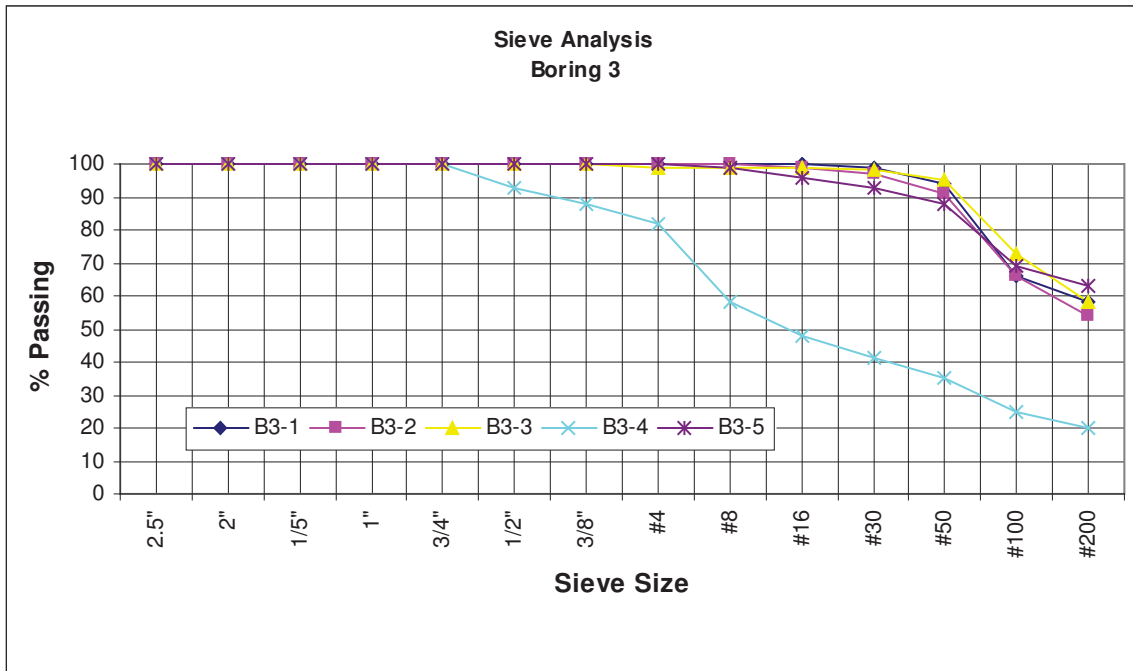
	B1-1	B1-2	B1-3	B1-4	B1-5	B1-6	B1-7
2.5"	100	100	100	100	100	100	100
2"	100	100	100	100	100	100	100
1/5"	100	100	100	100	100	100	100
1"	100	100	100	100	100	100	100
3/4"	100	100	100	100	100	100	100
1/2"	100	100	94	99	100	100	100
3/8"	100	100	87	93	100	100	100
#4	100	100	74	75	100	100	100
#8	100	100	60	60	100	100	99
#16	99	99	55	49	100	99	98
#30	97	97	48	40	100	96	94
#50	91	90	42	33	99	83	89
#100	74	75	28	24	69	59	67
#200	63	60	24	20	64	48	55

NICHOLAS ENGINEERING CONSULTANTS  
FIGURE 17-SIEVE ANALYSIS



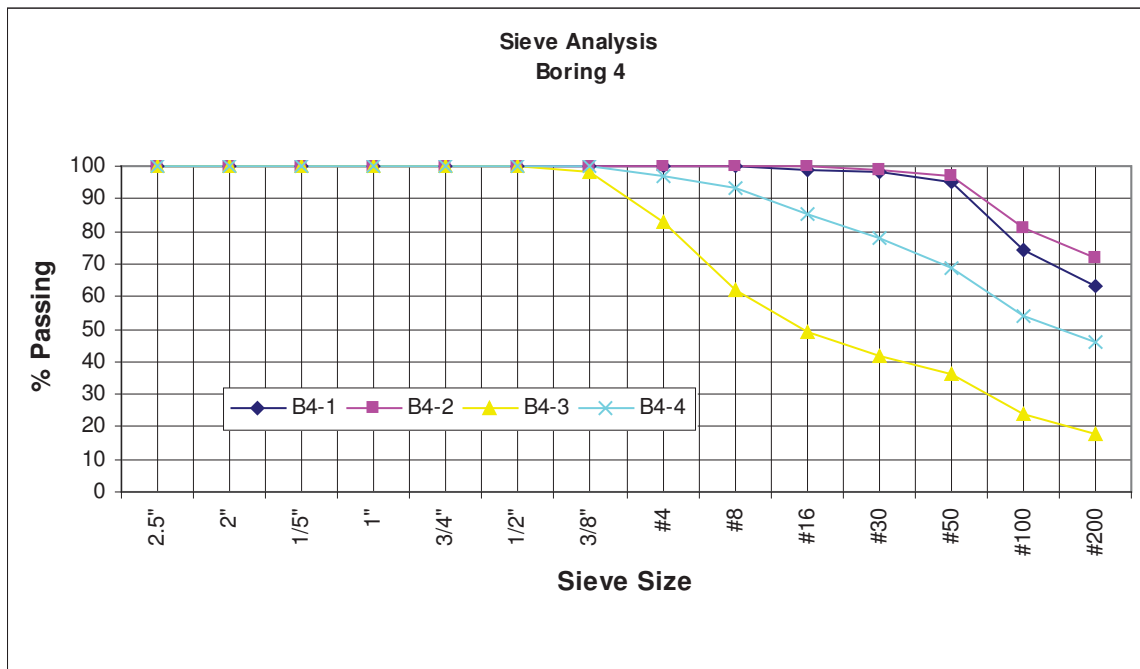
	B2-1	B2-2	B2-3	B2-4	B2-5
2.5"	100	100	100	100	100
2"	100	100	100	100	100
1/5"	100	100	100	100	100
1"	100	100	100	100	100
3/4"	100	100	100	100	100
1/2"	100	100	94	100	100
3/8"	100	100	94	100	100
#4	100	100	89	99	100
#8	98	99	84	99	100
#16	96	99	79	99	100
#30	92	96	75	98	100
#50	85	87	67	97	98
#100	65	64	50	73	71
#200	59	55	44	65	62

NICHOLAS ENGINEERING CONSULTANTS  
FIGURE 18-SIEVE ANALYSIS



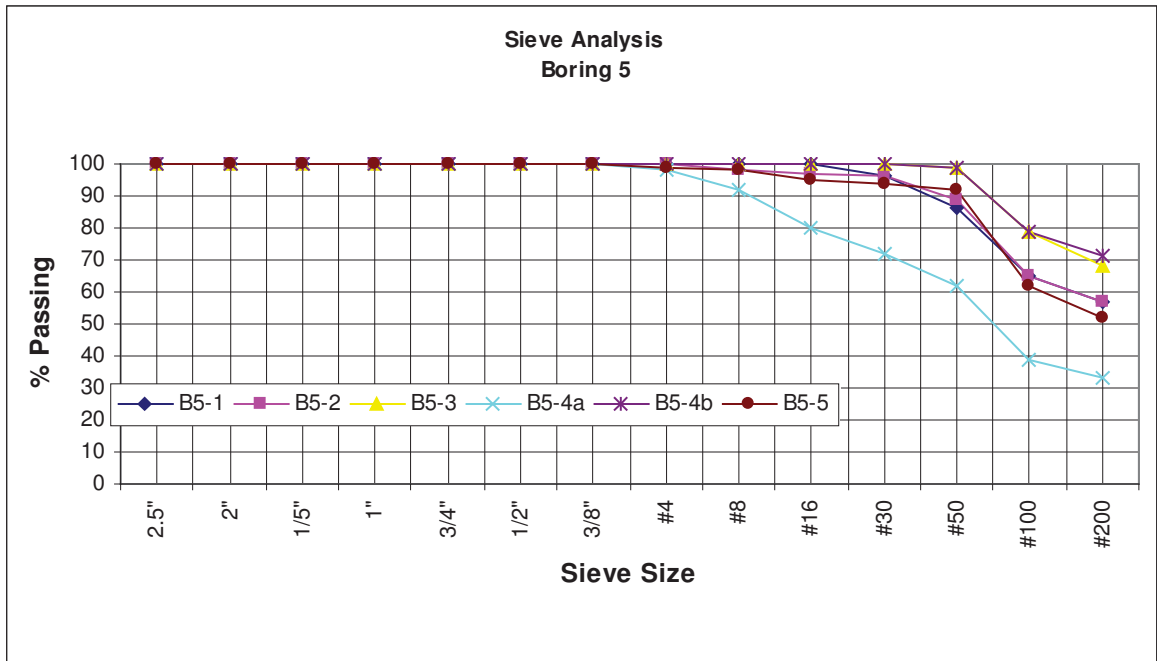
	B3-1	B3-2	B3-3	B3-4	B3-5
2.5"	100	100	100	100	100
2"	100	100	100	100	100
1/5"	100	100	100	100	100
1"	100	100	100	100	100
3/4"	100	100	100	100	100
1/2"	100	100	100	93	100
3/8"	100	100	100	88	100
#4	100	100	99	82	100
#8	100	100	99	58	99
#16	100	99	99	48	96
#30	99	97	98	41	93
#50	94	91	95	35	88
#100	66	66	73	25	69
#200	58	54	58	20	63

**NICHOLAS ENGINEERING CONSULTANTS**  
**FIGURE 19-SIEVE ANALYSIS**



	B4-1	B4-2	B4-3	B4-4
2.5"	100	100	100	100
2"	100	100	100	100
1/5"	100	100	100	100
1"	100	100	100	100
3/4"	100	100	100	100
1/2"	100	100	100	100
3/8"	100	100	98	100
#4	100	100	83	97
#8	100	100	62	93
#16	99	100	49	85
#30	98	99	42	78
#50	95	97	36	69
#100	74	81	24	54
#200	63	72	18	46

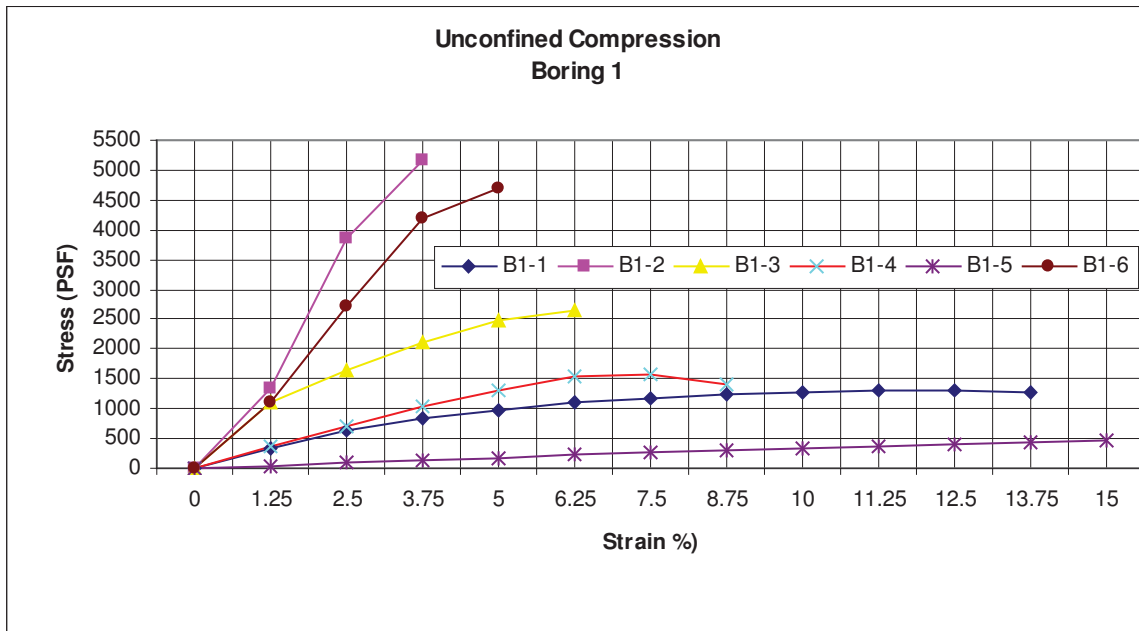
**NICHOLAS ENGINEERING CONSULTANTS**  
**FIGURE 20-SIEVE ANALYSIS**



	B5-1	B5-2	B5-3	B5-4a	B5-4b	B5-5
2.5"	100	100	100	100	100	100
2"	100	100	100	100	100	100
1/5"	100	100	100	100	100	100
1"	100	100	100	100	100	100
3/4"	100	100	100	100	100	100
1/2"	100	100	100	100	100	100
3/8"	100	100	100	100	100	100
#4	100	100	100	98	100	99
#8	100	98	100	92	100	98
#16	100	97	100	80	100	95
#30	96	96	100	72	100	94
#50	86	89	99	62	99	92
#100	65	65	79	39	79	62
#200	57	57	68	33	71	52

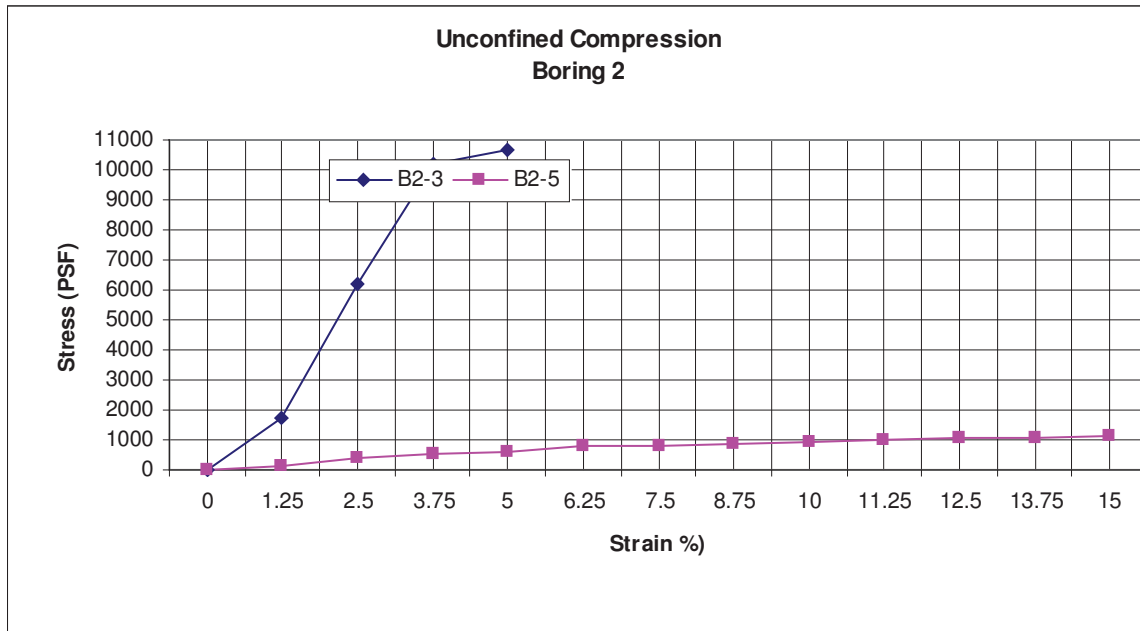
NICHOLAS ENGINEERING CONSULTANTS  
FIGURE 21-SIEVE ANALYSIS





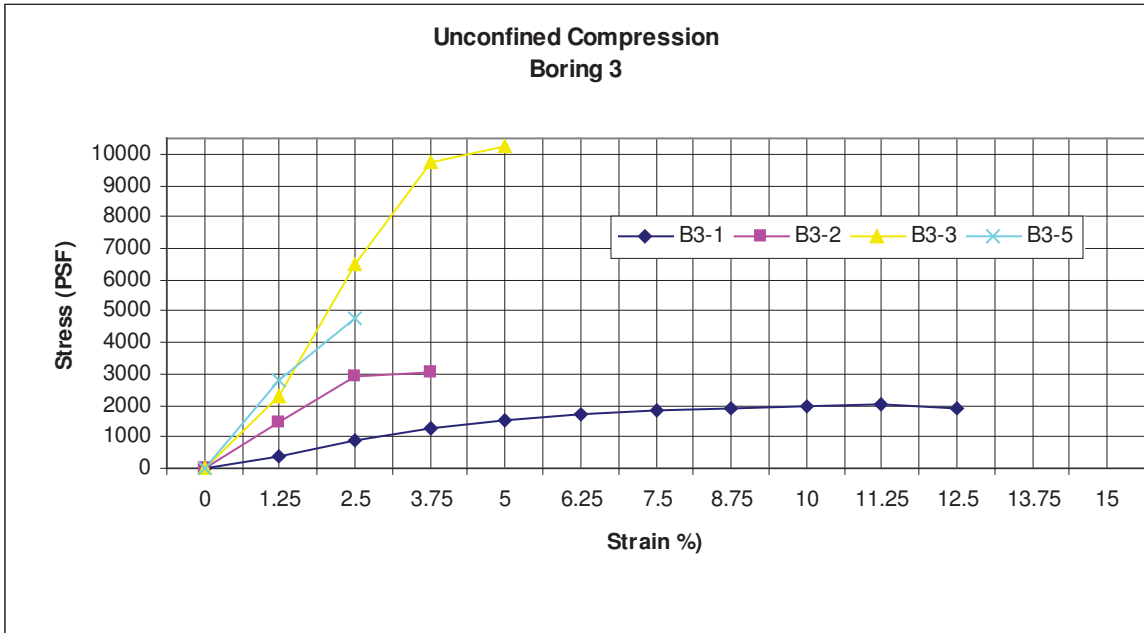
	B1-1	B1-2	B1-3	B1-4	B1-5	B1-6
0	0	0	0	0	0	0
1.25	351	1352	1090	381	42	1121
2.5	650	3845	1639	696	87	2704
3.75	837	5148	2114	1033	146	4202
5	975		2487	1316	174	4710
6.25	1108		2644	1547	230	
7.5	1180			1584	271	
8.75	1249			1420	310	
10	1274				334	
11.25	1298				357	
12.5	1294				406	
13.75	1275				427	
15					461	

NICHOLAS ENGINEERING CONSULTANTS  
FIGURE 22-Unconfined Compression



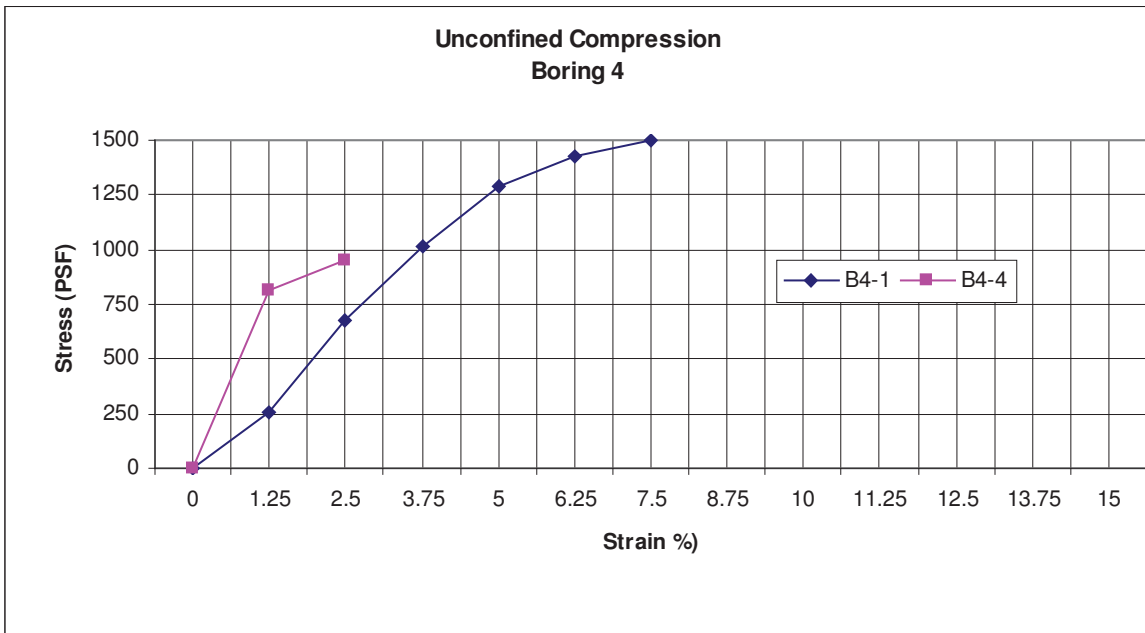
	B2-3	B2-5
0	0	0
1.25	1737	150
2.5	6215	392
3.75	10214	507
5	10662	604
6.25		828
7.5		805
8.75		879
10		951
11.25		1008
12.5		1062
13.75		1100
15		1137

**NICHOLAS ENGINEERING CONSULTANTS**  
 FIGURE 23-Unconfined Compression



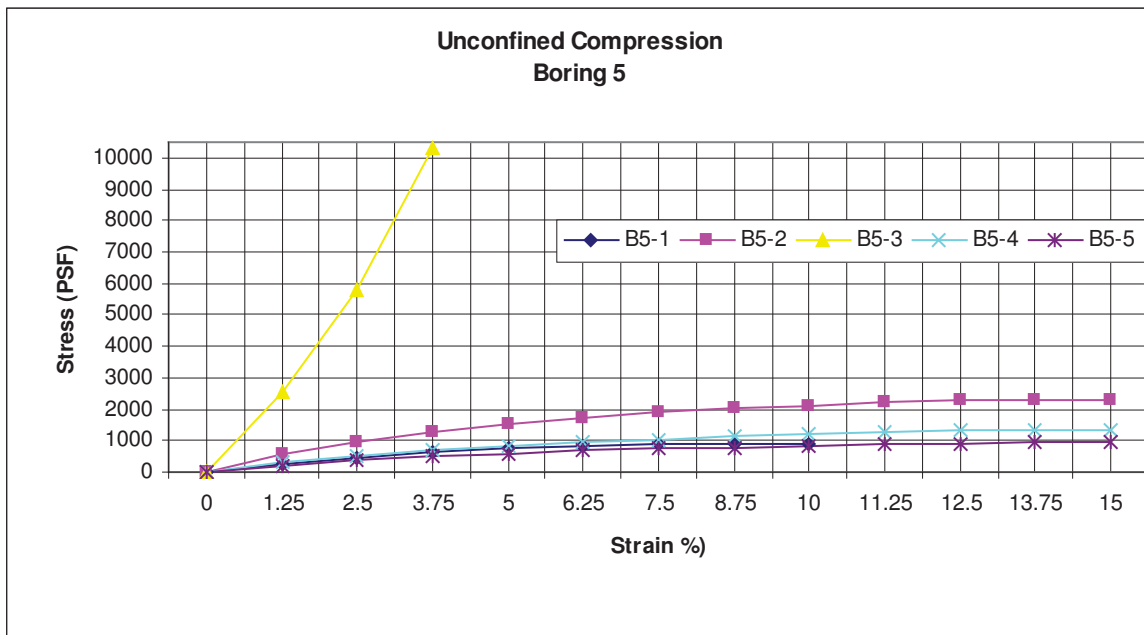
	B3-1	B3-2	B3-3	B3-5
0	0	0	0	0
1.25	412	1475	2277	2785
2.5	909	2902	6495	4804
3.75	1273	3075	9765	
5	1508		10218	
6.25	1693			
7.5	1830			
8.75	1933			
10	1977			
11.25	2005			
12.5	1922			
13.75				
15				

NICHOLAS ENGINEERING CONSULTANTS  
FIGURE 24-Unconfined Compression



	B4-1	B4-4
0	0	0
1.25	258	813
2.5	681	955
3.75	1018	
5	1286	
6.25	1430	
7.5	1498	
8.75		
10		
11.25		
12.5		
13.75		
15		

**NICHOLAS ENGINEERING CONSULTANTS**  
**FIGURE 25-Unconfined Compression**



	B5-1	B5-2	B5-3	B5-4	B5-5
0	0	0	0	0	0
1.25	227	551	2554	289	166
2.5	468	939	5793	483	377
3.75	657	1258	10283	672	507
5	752	1508		812	589
6.25	816	1723		933	669
7.5	862	1887		1036	733
8.75	893	2018		1150	794
10	881	2117		1232	825
11.25		2199		1284	869
12.5		2263		1321	898
13.75		2298		1343	939
15		2318		1350	965

**NICHOLAS ENGINEERING CONSULTANTS**  
**FIGURE 26-Unconfined Compression**



**EDWARD L. PACK ASSOCIATES. INC.**

1975 HAMILTON AVENUE  
SUITE 26  
SAN JOSE, CA 95125

*Acoustical Consultants*

TEL: 408-371-1195  
FAX: 408-371-1196  
www.packassociates.com

July 17, 2015  
Project No. 47-054

Mr. Guy Houston  
Valley Capital Realty  
7080 Donlon Way  
Suite 208  
Dublin, CA 94568

Subject: Noise Assessment Study for the Planned 5-Lot Single-Family Subdivision,  
Dublin Canyon Road, Pleasanton

Dear Mr. Houston:

This report presents the results of a noise assessment study for the planned 5-lot single-family subdivision along Dublin Canyon Road in Pleasanton, as shown on the Site Plan, Ref. (a). The noise exposures at the site were evaluated against the standards of the City of Pleasanton General Plan Noise Element, Ref. (b). An analysis of the on-site noise measurements indicates that the noise environment is created primarily by traffic sources on Interstate 580 and Dublin Canyon Road. The results of the study reveal that the traffic noise exposures from I-580 and Dublin Canyon Road traffic sources are within the limits of the City of Pleasanton Noise Element standards. Noise mitigation measures will not be required.

Section I of this report contains a summary of our findings. Subsequent sections contain site, traffic and project descriptions, analyses and evaluations. Appendices A, B and C contain the list of references, descriptions of the standards, definitions of the terminology, descriptions of the instrumentation used for the field survey, general building shell controls and the on-site noise measurement data and calculation tables.

## I. Summary of the Findings

The noise exposures presented herein were evaluated against the noise standards of the City of Pleasanton Noise Element, which utilizes the Day-Night Level (DNL) 24-hour descriptor to define acceptable noise levels for various land uses. The standards specify a limit of 60 dB DNL for single-family residential exterior areas and 45 dB DNL for residential interior living spaces

Throughout this report, noise levels will be added and subtracted. The mathematical relationship for combining noise levels is:

$$\text{Total} = 10\log_{10}(10^{SL1/10} + 10^{SL2/10} \dots 10^{SLx/10})$$

The noise exposures and noise levels shown below are without the application of mitigation measures, and represent the noise environment for the existing and project site conditions.

### A. Exterior Noise Exposures

- The existing exterior noise exposure in the rear yard and rear building façade (1<sup>st</sup> and 2<sup>nd</sup> floors) of Lot 1, which is most impacted by Dublin Canyon Road traffic sources, is 58 dB DNL. Of this 58 dB, 57 dB is due to Dublin Canyon Road traffic and 52 dB is due to I-580 traffic. Under future traffic conditions, the noise exposure is expected to increase to 59 dB DNL, with 57 dB due to Dublin Canyon Road traffic and 54 dB due to I-580 traffic. Thus, the exterior noise exposure is within the 60 dB DNL limit of the City of Pleasanton Noise Element standards.

- The existing exterior noise exposure at the planned minimum setback of the home on Lot 1, 100 ft. from the centerline of the road, is 57 dB DNL. Of this 57 dB, 57 dB is due to Dublin Canyon Road traffic and 46 dB is due to I-580 traffic. Under future traffic conditions, the noise exposure is expected to increase to 58 dB DNL, with 57 dB due to Dublin Canyon Road traffic and 48 dB due to I-580 traffic.
- The existing exterior noise exposure in the rear yard and rear building façade (1<sup>st</sup> floor) of Lot 5, which is most impacted by I-580 traffic sources, is 59 dB DNL. Of this 59 dB, 55 dB is due to Dublin Canyon Road traffic and 57 dB is due to I-580 traffic. Under future traffic conditions, the noise exposure is expected to increase to 60 dB DNL, with 55 dB due to Dublin Canyon Road traffic and 59 dB due to I-580 traffic. Thus, the exterior noise exposure is within the 60 dB DNL limit of the City of Pleasanton Noise Element standards.
- The existing exterior noise exposure at the planned minimum setback of the home on Lot 5, 155 ft. from the centerline of the road, is 56 dB DNL. Of this 56 dB, 55 dB is due to Dublin Canyon Road traffic and 46 dB is due to I-580 traffic. Under future traffic conditions, the noise exposure is expected to remain at 56 dB DNL, with 55 dB due to Dublin Canyon Road traffic and 48 dB due to I-580 traffic.
- The existing exterior noise exposure at the planned second floor rear façade of the home on Lot 5 is 63 dB DNL. Of this 63 dB, 55 dB is due to Dublin Canyon Road traffic and 62 dB is due to I-580 traffic. Under future traffic conditions, the noise exposure is expected to increase to 64 dB DNL, with 55 dB due to Dublin Canyon Road traffic and 64 dB due to I-580 traffic.



The noise exposures at Lots 2, 3 and 4 fall between the extremes reported for Lots 1 and 5.

As shown above, the exterior noise exposures at the exterior living areas of the site are within the 60 dB DNL limit of the City of Pleasanton Noise Element standards. Noise mitigation measures for exterior areas will not be required.

**B. Interior Noise Exposures**

- The interior noise exposures in the most impacted living spaces of Lot 1 will be up to 33 and 34 dB DNL under existing and future traffic conditions, respectively. Thus, the noise exposures will be within the 45 dB DNL limit of the City of Pleasanton Noise Element standards.
- The interior noise exposures in the most impacted first floor living spaces of Lot 5 will be up to 34 and 35 dB DNL under existing and future traffic conditions, respectively. The interior noise exposures in the most impacted second floor living spaces of Lot 5 will be up to 38 and 39 dB DNL under existing and future traffic conditions, respectively. Thus, the noise exposures will be within the 45 dB DNL limit of the City of Pleasanton Noise Element standards.

As with the exterior noise exposures, the interior noise exposures at Lots 2, 3 and 4 fall between the extremes reported for Lots 1 and 5.

As shown above, the interior noise exposures will be within the 45 dB DNL limit of the City of Pleasanton Noise Element standards.

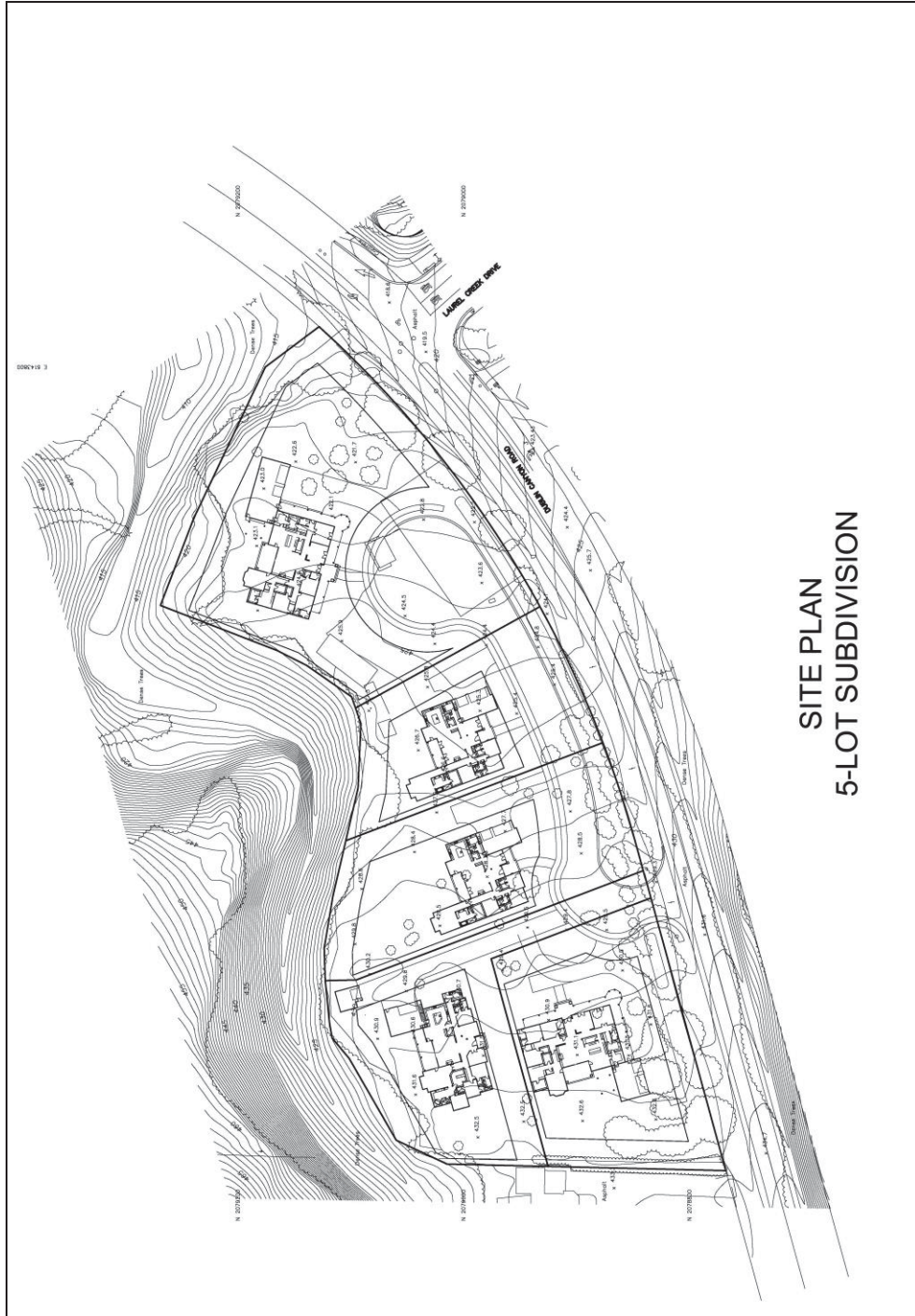
The findings reveal that noise exposures at the site will be within the limits of the standards. Noise mitigation measures will not be required.

## **II. Site, Traffic and Project Descriptions**

The planned project site is located along Dublin Canyon Road, west of Laurel Creek Drive in Pleasanton, and currently contains vacant livestock outbuildings. The site is slightly sloped down from west to east and is approximately at-grade with Dublin Canyon Road. I-580 ranges from 26 ft. above the easterly end of the site to 37 ft. above the westerly end of the site. A hill is interposed between the site and I-580 that ranges from 19 ft. above the site at the easterly end to 45 above the site at the westerly end. Surrounding land uses include single-family residential adjacent to the west and east and across Dublin Canyon Road to the south. The Pleasant View Church of Christ sits atop the interposed hill adjacent to the north.

The primary sources of noise at the site are traffic on I-580 and Dublin Canyon Road. I-580 carries an existing Average Daily Traffic (ADT) of 189,000 vehicles, as reported by CalTrans, Ref. (c). Dublin Canyon Road carries an ADT of 8,600 vehicles, as reported by the City of Pleasanton, Ref. (d).

The planned project includes the construction of 5 single-family homes. Ingress and egress to the development will be by way of a project access street off of Dublin Canyon Road. The Site Plan is shown on Figure 1 on page 6.



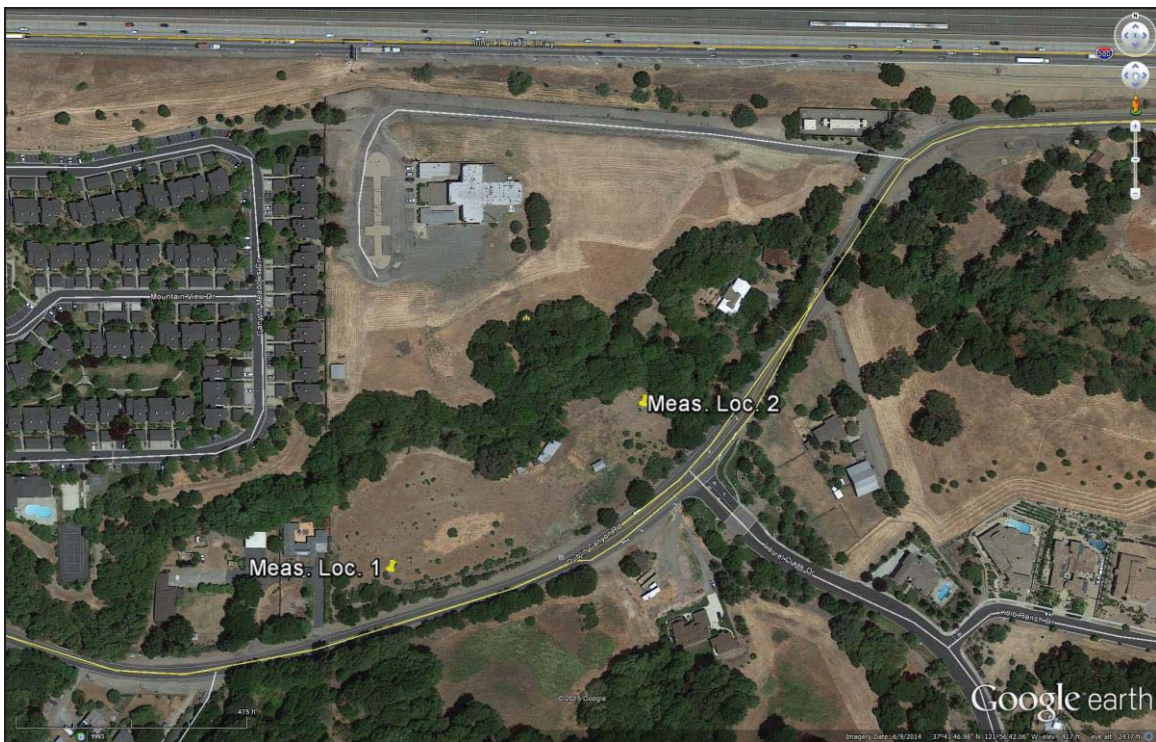
**SITE PLAN  
5-LOT SUBDIVISION**

**FIGURE 1 – Site Plan**

### III. Analysis of the Noise Levels

#### A. Existing Noise Levels

To determine the existing noise environment at the site, continuous recordings of the sound levels were made at two locations. Location 1 was 100 ft. from the centerline of Dublin Canyon Road and 1,120 ft. from the centerline of I-580, corresponding to the planned minimum setback of the home on Lot 1 from Dublin Canyon Road. Location 2 was 158 ft. from the centerline of Dublin Canyon Road and 785 ft. from the centerline of I-580, corresponding to the most impacted building setback of Lot 5 from I-580. The measurement locations are shown on Figure 2, below.



**FIGURE 2 – Noise Measurement Locations**

The measurements were made on July 15-16, 2015 using Larson-Davis 812 Precision Integrating Sound Level Meters. The meters yield, by direct readout, a series of descriptors of the sound levels versus time. The measured descriptors included the  $L_1$ ,  $L_{10}$ ,  $L_{50}$ , and  $L_{90}$ , i.e., those levels that are exceeded 1%, 10%, 50%, and 90% of the time. Also measured were the maximum and minimum levels, and the continuous equivalent-energy levels ( $L_{eq}$ ), which are used to calculate the DNL. The measurements were made for a total period of 24 hours at each location and included recordings of the noise levels during representative hours of the daytime and nighttime periods of the DNL index. The results of the measurements are shown in the data table in Appendix C.

As shown in the tables, the  $L_{eq}$ 's at Location 1 ranged from 52.5 to 55.7 dBA during the daytime and from 48.0 to 53.1 dBA at night.

The  $L_{eq}$ 's at measurement Location 2 ranged from 53.2 to 56.3 dBA during the daytime and from 48.3 to 54.8 dBA at night.

## **B. Future Noise Levels**

The future (2025) traffic volume for Dublin Canyon Road is reported in the Noise Element to be 9,100 ADT. From 2014 to 2025, the annual average growth rate was calculated to be 0.52% per year. Applying this growth rate to the future 20 years, the 2034 traffic volume on Dublin Canyon Road was determined to increase to 9,531 vehicles ADT. This increase in traffic volume from the existing 8,600 ADT yields an increase of less than 0.5 dB, which is considered negligible.

Future traffic volume data are not available from CalTrans. Therefore, to determine the future I-580 traffic volume, an annual average growth rate was calculated for the past 20 years of traffic volume. The 1994 traffic volume was reported to be 131,000 vehicles ADT, Ref. (e). The existing (2014) traffic volume is 189,000 vehicles ADT. The annual average growth rate over those 20 years was calculated to be 1.85% per year. Applying this growth rate to the future 20 years, the traffic volume for 2034 was calculated to be 272,679 vehicles ADT. This increase in traffic volume yields a 2 dB increase in the I-580 traffic noise levels.

#### **IV. Evaluation of the Noise Exposures**

##### **A. Exterior Noise Exposures**

To evaluate the on-site noise exposures against the City of Pleasanton Noise Element standards, the DNL's for the survey locations were calculated by decibel averaging of the  $L_{eq}$ 's as they apply to the daily sub-periods of the DNL index. A 10 decibel nighttime weighting factor was applied to account for the increased human sensitivity to noise at night. Adjustments were made to the measured noise levels to account for the difference in distance between the measurement locations and the various building setbacks, using methods established by the Highway Research Board, Ref. (f). The DNL formula is shown in Appendix B. The results of the calculations are shown in Appendix C.

The calculations show that the existing noise exposure at measurement Location 1, 100 ft. from the centerline of Dublin Canyon Road and 1,120 ft. from the centerline of I-580, is 58 dB DNL. To segregate Dublin Canyon Road traffic noise from I-580 traffic noise, computer modeling of the traffic volumes and noise levels yielded a noise exposure generated by Dublin Canyon Road traffic of 57 dB DNL at 100 ft. from the centerline. Subtracting 57 dB from 58 dB results in a noise exposure due to I-580 traffic of 52 dB DNL. Under future conditions, the Dublin Canyon Road traffic noise exposure is expected to remain at 57 dB DNL, while the I-580 traffic noise exposure is expected to increase to 54 dB DNL. The combined future noise exposure was calculated to be 59 dB DNL.

At measurement Location 2, 158 ft. from the centerline of Dublin Canyon Road and 785 ft. from the centerline of I-580, the noise exposure was calculated to be 59 dB DNL. Of this 59 dB, 55 dB is due to Dublin Canyon Road traffic and 57 dB is due to I-580 traffic. Under future traffic conditions, the noise exposure is expected to increase to 60 dB DNL, with 55 dB due to Dublin Canyon Road traffic and 59 dB due to I-580 traffic.

The exterior noise exposures at the site will be within the 60 dB DNL limit of the City of Pleasanton Noise Element standards under existing and future traffic conditions. Noise mitigation measures will not be required.

**B. Interior Noise Exposures**

To determine the interior noise exposures, a 25 dB reduction was applied to the exterior noise exposures at the minimum building setbacks to represent the attenuation provided by a typical building shell under a closed window condition. This condition assumes that residential dwellings have standard dual-pane, thermal insulating windows (nom. STC 28) that are kept closed all of the time, as adequate supplementary ventilation will be required by the Mechanical Code.

The interior noise exposures in the most impacted living spaces of the home on Lot 1 closest to Dublin Canyon Road will be up to 33 and 34 dB DNL under existing and future traffic conditions, respectively.

The interior noise exposures in the most impacted living spaces of the home on Lot 5 closest to I-580 will be up to 34 and 35 dB DNL under existing and future traffic conditions, respectively, at the first floor elevations and up to 38 and 39 dB DNL under existing and future traffic conditions, respectively, under future traffic conditions.

The interior noise exposures will be within the 45 dB DNL standard of the City of Pleasanton Noise Element standard. Noise mitigation for the interior living spaces will not be required.

The above report presents the results of a noise assessment study for the planned 5-lot subdivision along Dublin Canyon Road in Pleasanton. The study findings for present conditions are based on field measurements and other data and are correct to the best of our knowledge. The future noise level predictions are based on information provided by the City of Pleasanton and CalTrans. Significant deviations in the predicted traffic volumes, future changes in motor vehicle technology, speed limits, noise regulations, or other changes beyond our control may produce long-range noise results different from our estimates.

If you need any additional information or would like an elaboration on this report, please call me.

Sincerely,

EDWARD L. PACK ASSOC., INC.

A handwritten signature in blue ink, reading "Jeffrey K. Pack", is written over a horizontal line.

Jeffrey K. Pack  
President

Attachment: Appendices A, B and C



## APPENDIX A

### References:

- (a) Site Plan, Arace Residence, Lot 2 Church Property, by Terry J. Townsend Architect, April 28, 2015
- (b) Noise Element of the General Plan 2005-2025, City of Pleasanton, July 21, 2009
- (c) State of California Department of Transportation, Division of Traffic Operations, <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2014all/Route505-980.html>
- (d) City of Pleasanton, Department of Traffic Engineering, Traffic Counts Map 2014, <http://www.cityofpleasantonca.gov/gov/depts/cd/traffic/information/counts.asp>
- (e) 1994 Traffic Volumes on California State Highways, State of California Department of Transportation, Division of Traffic Operations, May 1994
- (f) Highway Research Board, "Highway Noise-A Design Guide for Highway Engineers", Report 117, 1971

## APPENDIX B

### Noise Standards, Terminology, Instrumentation and Building Shell Controls

#### 1. Noise Standards

##### A. City of Pleasanton Noise Element Standards

The City of Pleasanton Noise Element, Chapter VIII, Adopted July 21, 2009 specifies exterior and interior noise exposure standards.

#### **Residential Exterior**

<u>Source</u>	<u>Standard</u>
Traffic	
Single-Family	60 dB DNL
Multi-Family (common areas)	65 dB DNL
Railroad	70 dB DNL
Aircraft	55 dB DNL

#### **Residential Interior**

	45 dB DNL
For railroad sources:	50 dBA $L_{max}$ Bedrooms
	55 dBA $L_{max}$ Other Interior Spaces
If more than 4 trains daytime or any trains nighttime	
Aircraft	50 dBA $L_{max}$ Bedrooms
	55 dBA $L_{max}$ Living Spaces

## 2. Terminology

### A. Statistical Noise Levels

Due to the fluctuating character of urban traffic noise, statistical procedures are needed to provide an adequate description of the environment. A series of statistical descriptors have been developed which represent the noise levels exceeded a given percentage of the time. These descriptors are obtained by direct readout of the Sound Level Meters. Some of the statistical levels used to describe community noise are defined as follows:

- L<sub>10</sub> - A noise level exceeded for 10% of the time, considered to be an "intrusive" level.
- L<sub>50</sub> - The noise level exceeded 50% of the time representing an "average" sound level.
- L<sub>90</sub> - The noise level exceeded 90 % of the time, designated as a "background" noise level.
- L<sub>eq</sub> - The continuous-equivalent level is that level of a steady noise having the same energy as a given time-varying noise. The L<sub>eq</sub> thus represents the decibel level of the time-averaged value of sound energy or sound pressure squared. The L<sub>eq</sub> is the noise descriptor used to calculate the DNL and CNEL descriptors.

**B. Day-Night Level (DNL)**

Noise levels utilized in the standards are described in terms of the Day-Night Level (DNL). The DNL rating is determined by the cumulative noise exposures occurring over a 24-hour day in terms of A-Weighted sound energy. The 24-hour day is divided into two sub-periods for the DNL index, i.e., the daytime period from 7:00 a.m. to 10:00 p.m., and the nighttime period from 10:00 p.m. to 7:00 a.m. A 10 dBA weighting factor is applied (added) to the noise levels occurring during the nighttime period to account for the greater sensitivity of people to noise during these hours. The DNL is calculated from the measured  $L_{eq}$  in accordance with the following mathematical formula:

$$DNL = \left[ \left[ (10 \log_{10}(10^{\Sigma L_{eq}(7-10)})) \times 15 \right] + \left[ \left( (10 \log_{10}(10^{\Sigma L_{eq}(10-7)}) + 10) \times 9 \right) \right] \right] / 24$$

**C. A-Weighted Sound Level**

The decibel measure of the sound level utilizing the "A" weighted network of a sound level meter is referred to as "dBA". The "A" weighting is the accepted standard weighting system used when noise is measured and recorded for the purpose of determining total noise levels and conducting statistical analyses of the environment so that the output correlates well with the response of the human ear.

### **3. Instrumentation**

The on-site field measurement data were acquired by the use of one or more of the sound analyzers listed below. The instrumentation provides a direct readout of the L exceedance statistical levels including the equivalent-energy level ( $L_{eq}$ ). Input to the meters were provided by microphones extended to a height of 5 ft. above the ground unless otherwise noted. The “A” weighting network and the “Fast” response setting of the meters were used in conformance with the applicable standards. The meters conform to the Type 1 performance standards of ANSI S1.4. All instrumentation was acoustically calibrated before and after field tests to assure accuracy.

Bruel & Kjaer 2231 Precision Integrating Sound Level Meter

Larson Davis LDL 812 Precision Integrating Sound Level Meter

Larson Davis 2900 Real Time Analyzer

Tascam DR-40 Linear PCM Digital Audio Recorder

### **4. Building Shell Controls**

The following precautionary measures are recommended to assure the greatest potential for exterior-to-interior noise attenuation.

- Unshielded entry doors having a direct or side orientation toward the primary noise source must be 1-5/8" or 1-3/4" thick, insulated metal or solid-core wood construction with effective weather seals around the full perimeter. Mail slots should not be used in these doors or in the wall of a living space, as a significant noise leakage can occur through them.
- If any penetrations in the building shell are required for vents, piping, conduit, etc., sound leakage around these penetrations can be controlled by sealing all cracks and clearance spaces with a non-hardening caulking compound.
- Ventilation openings shall not compromise the acoustical integrity of the building shell.

**APPENDIX C**

**On-Site Noise Measurement Data and Calculation Tables**

## DNL CALCULATIONS

CLIENT: VALLEY CAPITAL REALTY  
 FILE: 47-054  
 PROJECT: 5-LOT SUBDIVISION  
 DATE: 7/15-16/2015  
 SOURCE: I-580, DUBLIN CANYON RD.

LOCATION 1	Westerly Side	10xLeq/10
Dist to Source	1,120 ft. to I-580 100 ft. to Dublin Cyn	
TIME	Leg	10xLeq/10
7:00 AM	53.5	223872.1
8:00 AM	55.0	316227.8
9:00 AM	53.9	245470.9
10:00 AM	53.9	245470.9
11:00 AM	53.9	245470.9
12:00 PM	52.5	177827.9
1:00 PM	53.8	239883.3
2:00 PM	53.7	234422.9
3:00 PM	54.4	275422.9
4:00 PM	55.0	316227.8
5:00 PM	55.7	371535.2
6:00 PM	55.6	363078.1
7:00 PM	54.4	275422.9
8:00 PM	54.1	257039.6
9:00 PM	52.9	194984.5
10:00 PM	51.2	131825.7
11:00 PM	51.7	147910.8
12:00 AM	50.5	112201.8
1:00 AM	49.5	89125.1
2:00 AM	48.0	63095.7
3:00 AM	49.0	79432.8
4:00 AM	52.0	158489.3
5:00 AM	52.6	181970.1
6:00 AM	53.1	204173.8
		SUM= 1168225
		1.0 Ld= 51.1
		Daytime Level= 66.0
		Nighttime Level= 70.6
		<b>DNL= 58</b>
		24-Hour Leq= 53.3

LOCATION 2	Easterly Side	10xLeq/10
Dist. To Source	785 ft. to I-580 158 ft. to Dublin Cyn	
TIME	Leg	10xLeq/10
7:00 AM	55.5	354813.4
8:00 AM	55.6	363078.1
9:00 AM	54.2	263026.8
10:00 AM	54.8	301995.2
11:00 AM	54.3	269153.5
12:00 PM	53.3	213796.2
1:00 PM	53.7	234422.9
2:00 PM	54.2	263026.8
3:00 PM	54.3	269153.5
4:00 PM	54.8	301995.2
5:00 PM	55.6	363078.1
6:00 PM	56.3	426579.5
7:00 PM	55.5	354813.4
8:00 PM	54.7	295120.9
9:00 PM	53.2	208929.6
10:00 PM	52.2	165958.7
11:00 PM	51.9	154881.7
12:00 AM	50.1	102329.3
1:00 AM	49.5	89125.1
2:00 AM	48.3	67608.3
3:00 AM	50.1	102329.3
4:00 AM	53.1	204173.8
5:00 AM	54.1	257039.6
6:00 AM	54.8	301995.2
		SUM= 1445441
		Ld= 52.1
		Daytime Level= 66.6
		Nighttime Level= 71.6
		<b>DNL= 59</b>
		24-Hour Leq= 53.9

## MEMORANDUM

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**To:** Guy Houston, Valley Capital Realty and Mortgage  
**From:** Matthew Morales, Dudek  
**Subject:** 11300 Dublin Canyon Road – Health Risk Assessment  
**Date:** August 4, 2015  
**Attachments:** 1 Health Risk Screening Interpolation  
**cc:** Jennifer Reed, Dudek

---

This memorandum evaluates the anticipated health impacts resulting from roadways and stationary sources in the vicinity of the 11300 Dublin Canyon Road project (project), which involves the entitlement of five single-family residences located north of Dublin Canyon Road, near the intersection with Laurel Creek Drive, in the City of Pleasanton (City), California. The proposed project is located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). This assessment is based on significance thresholds and methodologies in the BAAQMD's *California Environmental Quality Act Air Quality Guidelines* (BAAQMD Guidelines; BAAQMD 2011a).

### 1.0 INTRODUCTION

The proposed project involves the entitlement of five single-family homes on a site located north of Dublin Canyon Road and Laurel Creek Drive. Consistent with BAAQMD guidance, this memorandum evaluates exposure of residents of the proposed project to toxic air contaminants (TAC) from “major roadways” and stationary sources (e.g., gasoline dispensing facilities, manufacturing facilities, and emergency generators). A substance released into the air is considered a TAC if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. Examples of TACs include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, manufacturing facilities, and laboratories; mobile sources such as automobiles and trucks; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.



Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005). Future residents of the proposed single-family homes are considered sensitive receptors.

## **2.0 BAY AREA AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS**

The BAAQMD Guidelines provide guidance for Bay Area project proponents and the public for determining whether, based on substantial evidence, a project may have a significant effect on the environment under California Public Resources Code, Section 21082.2, or if a project may result in the exposure of sensitive receptors to substantial pollutant concentrations. In early 2012, the BAAQMD was ordered by the Alameda County Superior Court to set aside their air quality thresholds because the district board adopted the thresholds without undergoing CEQA review. The BAAQMD appealed this decision, and the Court of Appeal overturned the Superior Court decision. The appellate court decision, however, has been appealed to the California Supreme Court, which granted a limited review. The Supreme Court has limited review to the following issue: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project? With respect to the proposed project, this review would be related to the potential health impacts on its residents due to TAC emissions associated with major roadways and stationary sources in the vicinity of the project site. As of this date, a decision on this appeal is still pending. In light of these rulings, the BAAQMD is recommending that lead agencies determine their own appropriate air quality thresholds.<sup>1</sup> The air quality analysis below uses the previously-adopted 2011 thresholds of the BAAQMD to determine the potential impacts of the project. While the significance thresholds adopted by BAAQMD in 2011 are not currently recommended by the BAAQMD, these thresholds are based on substantial evidence identified in BAAQMD's 2009 *Justification Report* (BAAQMD 2009) and are therefore used within this document.

Quantitative health-based thresholds prescribed in the BAAQMD Guidelines are shown in Table 1. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 1 are exceeded.

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<sup>1</sup> <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa>

If health impacts would exceed these thresholds, the lead agency must implement feasible mitigation measures to reduce the associated impacts. The project’s mitigated impacts are then compared again to the significance thresholds. If a project’s impacts exceed the thresholds, the BAAQMD strongly encourages lead agencies to consider project alternatives that could lessen any identified significant impact, including a no project alternative in accordance with the CEQA Guidelines, Section 15126.6(e) (BAAQMD 2011a).

**Table 1**  
**Bay Area Air Quality Management District Air Quality**  
**Significance Thresholds for Toxic Air Contaminants**

Pollutant	Operational-Related
Risk and Hazards for new sources and receptors (Individual Project)	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of > 10.0 in 1 million* Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute)* Ambient PM <sub>2.5</sub> increase: > 0.3 µg/m <sup>3</sup> annual average* Zone of Influence: 1,000-foot radius from property line of source or receptor
Risk and Hazards for new sources and receptors (Cumulative Threshold)	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in 1 million (from all local sources)* Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic)* PM <sub>2.5</sub> : > 0.8 µg/m <sup>3</sup> annual average (from all local sources)* Zone of Influence: 1,000-foot radius from property line of source or receptor

Source: BAAQMD 2011a.

Notes:

\* Emphasis added.

µg/m<sup>3</sup> – micrograms per cubic meter

### Local Community Risk and Hazard Impacts

Local community risk and hazard impacts are associated with TACs and particulate matter less than or equal to 2.5 microns in diameter (PM<sub>2.5</sub>) because emissions of these pollutants can have significant health impacts at the local level. These thresholds from the BAAQMD Guidelines are intended to apply to projects that would site new permitted or non-permitted sources in proximity to receptors and for projects that would site new sensitive receptors in proximity to permitted or non-permitted sources of TAC or PM<sub>2.5</sub> emissions. If impacts due to emissions of TACs or PM<sub>2.5</sub> would exceed any of the thresholds listed below, the proposed project would result in a significant impact:

- Non-compliance with a Community Risk Reduction Plan
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant cumulatively considerable contribution
- An incremental increase of greater than 0.3 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) annual average  $\text{PM}_{2.5}$  from a single source would be a significant cumulatively considerable contribution.

A project would result in a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fenceline of a source, or from the location of a receptor, plus the contribution from the project, would exceed any of the following thresholds:

- Non-compliance with a qualified Community Risk Reduction Plan
- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0
- $0.8 \mu\text{g}/\text{m}^3$  annual average  $\text{PM}_{2.5}$ .

### **3.0 ANALYSIS AND FINDINGS**

The BAAQMD recommends that a lead agency identify all TAC and  $\text{PM}_{2.5}$  sources located within a 1,000-foot radius of the proposed project site. A lead agency should enlarge the 1,000-foot radius on a case-by-case basis if an unusually large source (or sources) of risk or hazardous emissions that may affect a proposed project is beyond the recommended radius. Permitted sources of TAC and  $\text{PM}_{2.5}$  should be identified and located as should freeways and major (high-volume) roadways (BAAQMD 2011a). BAAQMD has developed a Stationary Source Screening Analysis Tool (BAAQMD 2012a) and a Highway Screening Analysis Tool (BAAQMD 2011b), which are geo-referenced databases of TAC emissions sources throughout San Francisco Bay Area and used for estimating health risks to new sensitive receptors from existing sources.

Based on the BAAQMD guidance, one major roadway with more than 10,000 annual average daily trips (AADT) was identified within the project vicinity: Interstate 580 (I-580). I-580 is approximately 740 feet from the nearest proposed residence on the project site. The estimated risk and hazard impact values provided by the Highway Screening Analysis Tool were evaluated for two different heights—6 feet and 20 feet—to estimate receptors on the ground floor of a building and the second floor of a building, respectively. Values found in Tables 2 and 3 were estimated by linearly interpolating the distance from the project site to the highway, as described

in the BAAQMD’s *Recommended Methods for Screening and Modeling Local Risks and Hazards* (BAAQMD 2012b). The screening values for cancer risk, PM<sub>2.5</sub>, acute non-cancer hazard indices, and chronic non-cancer hazard indices for this roadway at 6 and 20 feet are shown in Tables 2 and 3, respectively.

**Table 2**  
**Screening Data for Existing Highway at 6-foot Elevation**  
**(within 1,000 feet of the proposed project)**

Roadway Segment	Distance to Project Site (feet)	Cancer Risk in 1 million	PM <sub>2.5</sub> Concentration (µg/m <sub>3</sub> )	Acute Non-Cancer Hazard Indices	Chronic Non-Cancer Hazard Indices
I-580	740	24.5	0.16	0.015	0.021
BAAQMD Individual Screening Threshold		10	0.3	1.0	1.0
<i>Threshold Exceeded?</i>		Yes	No	No	No

Source: BAAQMD 2011b; BAAQMD 2012b.

**Table 3**  
**Screening Data for Existing Highway at 20-foot Elevation**  
**(within 1,000 feet of the proposed project)**

Roadway Segment	Distance to Project Site (feet)	Cancer Risk in 1 million	PM <sub>2.5</sub> Concentration (µg/m <sub>3</sub> )	Acute Non-cancer Hazard Indices	Chronic Non-hazard Indices
I-580	740	23.9	0.15	0.015	0.020
BAAQMD Individual Screening Threshold		10	0.3	1.0	1.0
<i>Threshold Exceeded?</i>		Yes	No	No	No

Source: BAAQMD 2011b; BAAQMD 2012b.

As indicated in Table 1, the BAAQMD risk and hazards screening analysis requires that each source’s estimated cancer risk, hazard risk, and PM<sub>2.5</sub> concentration be compared to the single-source thresholds (10 in 1 million for cancer risk, 1.0 for hazard index, and 0.3 µg/m<sup>3</sup> for PM<sub>2.5</sub> concentration). The highway would result in individual TAC impacts that would be above the cancer risk threshold, as shown in Tables 2 and 3. Therefore, TAC impacts related to excessive cancer risk levels would be significant. Impacts related to excessive PM<sub>2.5</sub> levels and acute and chronic hazard indices would be less than significant.

Based on the BAAQMD Stationary Source Screening Analysis Tool, there are no permitted stationary sources of TACs located within 1,000 feet of the project. Therefore, no significant

impacts related to excessive cancer risk levels, PM<sub>2.5</sub> concentrations, and hazard indices from individual stationary sources within 1,000 feet of the proposed project would occur, and no further analysis is required.

As recommended in the BAAQMD Guidelines for a cumulative health risk assessment, the risk levels from all TAC sources within 1,000 feet of a proposed project should be combined to determine the cumulative risk to nearby sensitive receptors. As indicated previously in Table 1, the BAAQMD risk and hazards screening analysis requires that the combined total of each source's estimated risk and PM<sub>2.5</sub> concentration be compared to the cumulative thresholds (100 in 1 million for cancer risk, 0.8 µg/m<sup>3</sup> for PM<sub>2.5</sub> concentration, and 10.0 for hazard index). According to the BAAQMD Guidelines, a project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the cumulative thresholds. No other roadways or stationary sources in addition to I-580 were identified within 1,000 feet of the proposed project; therefore, health effects for this major roadway would not be combined with health effects from a permitted stationary source or other sources within the project vicinity to result in cumulative emissions that would be above these thresholds. Therefore, impacts related to cancer risks, non-cancer hazard indices, and PM<sub>2.5</sub> concentrations from cumulative roadway and permitted stationary sources were not evaluated.

#### **4.0 MITIGATION MEASURES**

Consistent with the BAAQMD Guidelines, implementation of mitigation measures were evaluated to ensure that siting of receptors near a major source would be below BAAQMD's significance thresholds and impacts related to community risk and hazards from placement of sensitive receptors proximate to major sources of air pollution would be less than significant (BAAQMD 2011a).

The BAAQMD Guidelines also recommend that projects install and maintain air filtration systems as mitigation. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers reported the particle-size removal efficiency for Minimum Efficiency Reporting Value 13 (MERV 13) filters of 90% for particles ranging from 1 to 3 micrometers, and less than 75% for particles ranging from 0.3 to 1 micrometer (ASHRAE 2007). In a study conducted by Fisk et al. (2002) on the performance and costs of particulate air filtration technologies, it was shown that MERV 13 (ASHRAE Dust Spot 85%) filters provide an 80% or greater reduction of outdoor fine particulate matter, such as diesel particulate matter (DPM), if the ventilation systems are operated with one air exchange per hour of outside air and four air exchanges per hour of recirculated air (Fisk et al. 2002). For our analysis, Dudek conservatively assumed a 70% particulate matter reduction for the air filters because substantive evidence supports that MERV

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13 filters can provide a 70% or greater reduction of outdoor fine particulate matter. The U.S. Environmental Protection Agency reports that people, on average, spend 90% of their time indoors. Taking into account the time spent outdoors, the overall effectiveness of filtration systems would be about 60% for MERV 13.

For projects that locate sensitive receptors near major sources of DPM, such as freeways, major roadways, railroads, and rail yards, the BAAQMD Guidelines recommend tiered plantings of vegetation such as redwood, deodar cedar, live oak, and oleander to reduce DPM exposure. This recommendation is based on limited studies that have shown that vegetative landscaping can reduce particulate emissions by up to 65% to 85% at lower wind speeds, with greater removal rates expected for ultra-fine particles less than 0.1 micrometers in diameter (Fujii et al. 2008). However, vegetative plantings were not included as mitigation for this project since a thick boundary of existing trees is located on the northern boundary of the project site between the I-580 freeway and proposed residential units. Reductions in ambient concentrations resulting from existing vegetation was not quantified for the purposes of impact determination because MM HRA-1 through MM HRA-3 mitigate impacts to particulate exposure to a level that is less than significant.

The following mitigation measures would reduce the significant impacts from I-580 to levels below the BAAQMD thresholds:

- MM HRA-1 The applicant or its successor shall install an air filtration system on any heating, ventilation, and air conditioning (HVAC) system on the air intakes (i.e., outside air) serving any residential unit located on the project site. The air filtration system shall achieve a reduction of at least 70% of freeway particulate matter emissions, such as can be achieved with a Minimum Efficiency Reporting Value (MERV) 13 air filtration system. Individual residence occupants shall maintain the air filtration system on any HVAC system installed for the specified residential units in accordance with the manufacturer's recommendations for the life of the project.
- MM HRA-2 The applicant or its successor shall locate air intake vents on the residential buildings such that they do not face the I-580 freeway and are as far from I-580 as practicable.
- MM HRA-3 A City-approved, authorized air quality consultant shall verify the implementation of all necessary measures to reduce toxic air contaminants prior to residential unit occupancy, including the installation of high-efficiency air filtration systems on return vents to reduce ambient particulate matter concentrations.

Implementing Mitigation Measures MM HRA-1, MM HRA-2, and MM HRA-3 would reduce the maximum cancer risks at the closest residence to I-580 to less than significant, as can be seen in Tables 4 and 5. Similarly, non-cancer and PM<sub>2.5</sub> impacts, while less than significant without mitigation measures, would also be reduced to some extent.

**Table 4**  
**Screening Data for Existing Highway (6-foot Elevation) after Mitigation**  
**(within 1,000 feet of the proposed project)**

Roadway Segment	Distance to Project Site (feet)	Cancer Risk in 1 million
I-580	740	9.8
BAAQMD Individual Screening Threshold		10
<i>Threshold Exceeded?</i>		No

Note: To estimate the mitigated cancer risk and to be conservative, no reduction was accounted for due to existing tree growth in between I-580 and the proposed residences.

**Table 5**  
**Screening Data for Existing Highway (20-foot Elevation) after Mitigation**  
**(within 1,000 feet of the proposed project)**

Roadway Segment	Distance to Project Site (feet)	Cancer Risk in 1 million
I-580	740	9.5
BAAQMD Individual Screening Threshold		10
<i>Threshold Exceeded?</i>		No

Note: To estimate the mitigated cancer risk and to be conservative, no reduction was accounted for due to existing tree growth in between I-580 and the proposed residences.

Additionally, although traffic volumes are forecast to increase with time due to growth, vehicular emission factors are expected to decrease with time due to California’s statewide regulation to increase fuel efficiency (Assembly Bill (AB) 1493, the Pavley I standard), fleet standards for in-use heavy-duty trucks, and other state and federal regulations aimed at emissions reduction.

If you have any questions regarding this assessment, please feel free to contact Matthew Morales at 916.847.9780 or mmorales@dudek.com and Jennifer Reed at 949.373.8333 or jreed@dudek.com

## REFERENCES

- ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers Inc.). 2007. *Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size*. ANSI/ASHRAE Standard 52.2-2007.
- BAAQMD (Bay Area Air Quality Management District). 2009. *Revised Draft Options and Justification Report California Environmental Quality Act Thresholds of Significance*, October 2009.
- BAAQMD. 2011a. *California Environmental Quality Act Air Quality Guidelines*. Updated May 2011.  
[http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines\\_May%202011\\_5\\_3\\_11.ashx](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_May%202011_5_3_11.ashx).
- BAAQMD. 2011b. Highway Screening Analysis Tool. Tools and Methodology. April 2011. Accessed July 2015. <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>
- BAAQMD. 2012a. Stationary Source Screening Analysis Tool. Tools and Methodology. May 2012. Accessed July 2015. <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>
- BAAQMD. 2012b. *Recommended Methods for Screening and Modeling Local Risks and Hazards*.  
<http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Risk%20Modeling%20Approach%20May%202012.ashx?la=en>.
- CARB (California Air Resources Board). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. <http://www.arb.ca.gov/ch/landuse.htm>.
- Fisk, W.J., D. Faulkner, J. Palonen, and O. Seppanen. 2002. *Performance and Costs of Particle Air Filtration Technologies*. Indoor Air 12: 223–234.
- Fujii, E., J. Lawton, T.A. Cahill, D.E. Barnes, C. Hayes, and N. Spada. 2008. *Removal Rates of Particulate Matter onto Vegetation as a Function of Particle Size*. Final Report to Breathe California of Sacramento-Emigrant Trails Health Effects Task Force (HETF) and Sacramento Metropolitan AQMD. April 30, 2008. Accessed July 2015.  
[http://actrees.org/files/Research/breatheca\\_vegstudy.pdf](http://actrees.org/files/Research/breatheca_vegstudy.pdf).



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ATTACHMENT 1: HEALTH RISK SCREENING INTERPOLATION

**Health Risk Screening - 11300 Dublin Canyon Road Project**

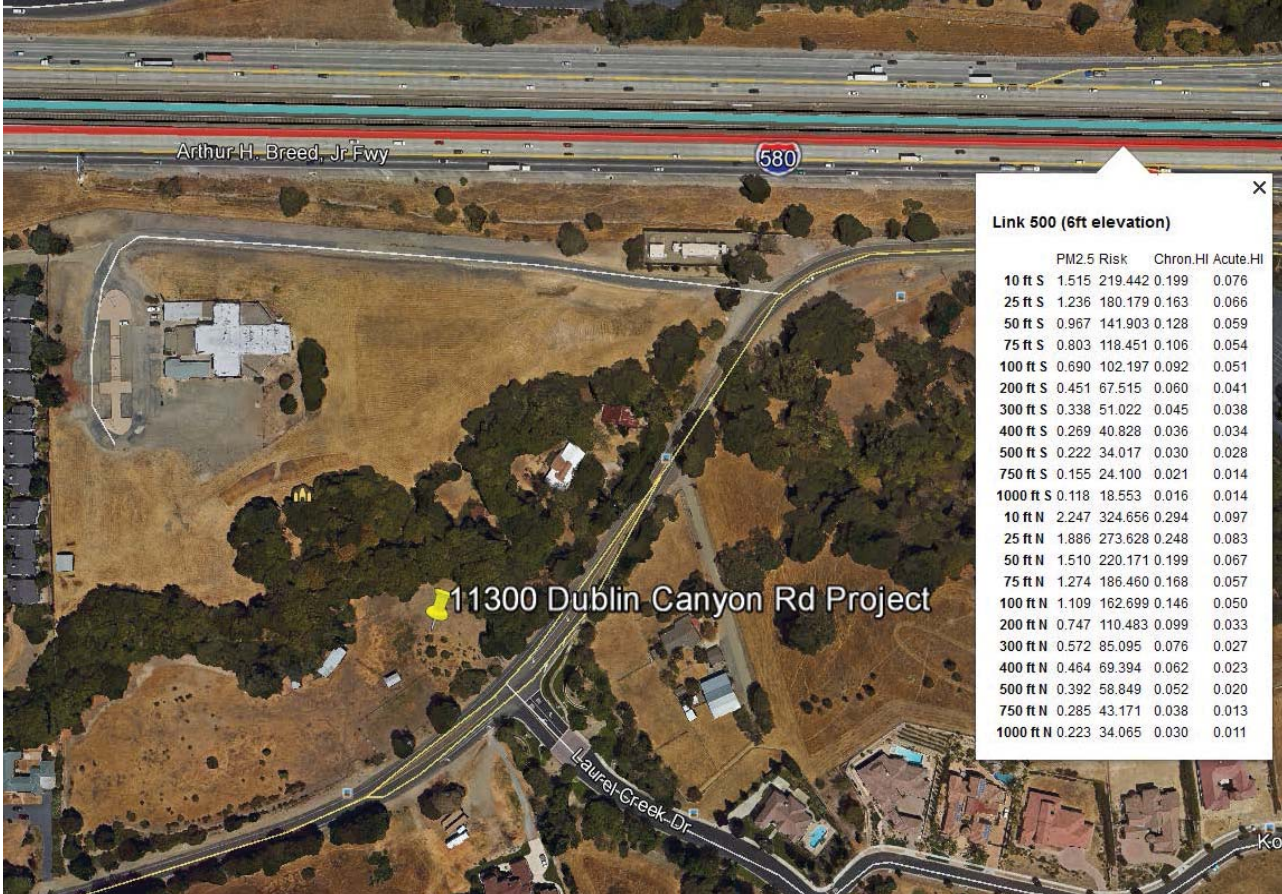
**Highway 580 (East-West) - 6 foot Elevation**

Nearest residence ~740 feet from I-580

Risk @ 740' =	24.49668	Mitigated	9.798672
PM2.5 @ 740' =	0.15768	Risk	
Chronic @ 740' =	0.02136		
Acute @ 740' =	0.01456		

Linear Interpolation

Distance	PM2.5	Risk	Chronic	Acute
500	0.222	34.017	0.03	0.028
750	0.155	24.1	0.021	0.014



**Highway 580 (East-West) - 20 foot Elevation**

Nearest residence ~740 feet from I-580

Risk @ 740' =	23.85124	Mitigated	9.540496
PM2.5 @ 740' =	0.15356	Risk	
Chronic @ 740' =	0.02036		
Acute @ 740' =	0.01456		

**Linear Interpolation**

Distance	PM2.5	Risk	Chronic	Acute
500	0.215	32.833	0.029	0.028
750	0.151	23.477	0.02	0.014

