NEW SINGLE FAMILY HOMES

3987 STANLEY BOULEVARD PLEASANTON, CALIFORNIA



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		NDEX OF	SHEETS		REVISIONS	DATE
	A-	ARCHITEC	TURAL PLANS			
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	A1.2	ELEVAT	ONS HOUSE # 1			
	A1.3		ONS COLOR ONS COLOR			
	A1.5	ROOF P				
	A2.0 A2.1	BLDG # 2 -1 at & 2n ELEVAT	d FLOOR PLAN ONS HOUSE # 2			
1	A2.2	ELEVAT	ONS HOUSE #2			DATE:
2	A2 3 A2 4		IONS COLOR			
	A2.5	ROOF P	LAN			2
	A3.0 A3.1	BLDG # 3 -1 sl & 2n ELEVAT	d FLOOR PLAN IONS HOUSE # 3			1
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	A3.3 A3.4		ION COLOR		· 953:	
1	A3.5	ROOF P	LAN		ocv	
MENT	A4.0	DETAILS	PLAN		Ken McCoy P.O. 60X 379 MODESTO CA, 95353 (209) 662-1231	
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	C-	CIVIL PLAN TOPOGRAPHY PL			(BO) 662	RIOG
	C1.0	SITE PLAN			\mathbf{X}	1
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	EX-A	EXISTING IMPERV	IOUS AREAS			
	EX-8 DW-1	PROPOSED PERV DRIVEWAY EXHIB	IOUS AND IMPERVIOUS AREA			
	L-	LANDSCAPE PLAN				
	L-2	IRRIGATION PLAN	4			
	DOC	SUPPORTIN	NG DOCUMENTS			
	201 201	IS PROJECT SHALL C ALFORNA CA. BUILDING C G. CA. MECHANIC CA. PLUMBING	N, CODE (CMC)			
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-	RECEIVED July 3, 2019			APN:	946-1668-003-01	
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 1st. FLOOR PLAN No. 1

 FLOOR AREA :
 656 SF 455 SF PORCH :
 SCALE: 1/4" = 1'-0"

 SCALE: 1/4" = 1'-0"
 FLOOR AREA :
 979 SF

 SCALE: 1/4" = 1
 SCALE: 1/4" = 1'-0"



EAST ELEVATION





12

	REVISIONS	DATE
- KNEE BRACE AT GABLE END		
		1
		a
- FASCIA BOARD W/ GUTTER		
		20 2
- ROOF DOWNSPOUT	95353	
	Ken McCoy P.O. BOX 379 MODESTO CA 95353 (209) 662-1231	
- GARAGE LOWER ROOF W/ COMPOSITION SHINGLES	Coy	
	McC	
	Ken McCoy P.O. BOX 379 MODEST (209) 662-1231	(Crono)
- FASCIA BOARD W/ GUTTER	K X	18
- GARAGE WOOD SECTIONAL DOOR		
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58	USE # 1	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
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ELEVATIONS HO BLACK BAL DATE: SCATE: JOB NO: Abbi: STA	
DRAWN BY: CHECK BY: DATE: SCALE: JOB NO.: APN: CRAFT	
ELEVATIONS HO BLACK BAL DATE: SCATE: JOB NO: Abbi: STA	



5
ION SHINGLES (PRESIDENT STYLE)
MOSS N380-3
-

ASPHALT COMPOSITION SHINGLE (PRESIDENT, STYLE (ROOF)-SEE ROOF PLAN

REVISIONS	DATE	
Ken McCoy P.O. BOX 779 MODESTO CA 95353 (209) 662-1231	3000	
ELEVATIONS COLOR	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.	
JOB NO :	AS SHOWN 946-1686-003-01 71 E -	
CRAFTSMAN A1.3		



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MPOSITION SHINGLES (PRESIDENT STYLE)
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HERED MOSS N380-3
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DNCRETE
52

BEHR, WEATHERED MOSS N380-3 (HOUSE BODY)

ASPHALT COMPOSITION SHINGLE (PRESIDENT, STYLE (ROOF)-SEE ROOF PLAN

BEHR, ENGLISH CUSTARD M290-5 (FRONT DOOR)

REVISIONS	DATE
	рана П
Ken McCoy P.0. B0X 379 MODESTO CA. 95353 (2009) 662-1231	otenese
ELEVATIONS COLOR	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
JOB NO.:	AS SHOWN 946-1686-003-01
SPAN A1.4	



REVISIONS	DATE	
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533	21M	
Ken McCoy P.O. BOX 379 MODESTO CA. 9333 (209) 662-1231	DESNIER:	
ROOF PLAN No 1	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.	
DRAMA SH		
DRAWN BY: CHECK BY:	KMC	
	01-17-19	
SCALE: JOB NO.:	AS SHOWN	
	46-1666-003-01	
STYLE CRAFTSMAN A1.5		

ROOF COLOR & MATERIAL

ASPHALT COMPOSITION CLASS C SHINGLES "PRESIDENT STYLE"











664 SF 456 SF 139 SF

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REVISIONS	DATE	
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ESE26 T	Per c	
Ken McCoy P.0. Box 379 MODESTO CA. 95353 (209) 662-1231	(Jacob)	
ELEVATIONS HOUSE # 2	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3967 STANLEY BLVD PLEASANTON CA.	
DRAWN BY: H	(MC	
DATE: 0	1-17-19	
SCALE: /	AS SHOWN	
APN: 0	46-1888-003-01	
STYLE: CRAFTSMAN A2.1		



4050 HS

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120

LAP WOOD EXTERIOR FINISH

SLOPE GROUND AWAY FROM FOOTING AT 5' MIN. AT 2%.

KNEE BRACE TYP. AT GABLE END

WEST ELEVATION

SCALE: 1/4" = 1'-0"

8768 33

TOP OF STRUCTURE

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FINISH GRADE

FINISH FLOOR

AT GABLE END

RENCH

REVISIONS	DATE	
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Ken McCoy P.O. BOX 379 MODESTO CA 95353 (209) 662-1231	aboood	
ELEVATIONS HOUSE # 2	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.	
CHECK BY:		
SCALE: A	1-17-19 S SHOWN	
JOB NO.: APN: 9	46-1686-003-01	
STYLE: CRAFTSMAN A2.2		



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AND FINISHES
ENT STYLE COMPOSITION SHINGLE
ANTIQUE WHITE 23
SUSTAINABLE S350-4
ANTIQUE WHITE-23
ANTIQUE WHITE-23
ANTIQUE WHITE-23
SUSTAINABLE S350-4
LIGHT YEAR N370-3
ARTISAN CRAFTS-N250-4
AL CONCRETE COLOR

- BEHR, LIGHTYEAR N370-3 (STONE VENEER)
- BEHR, SUSTAINABLE S350-4 (HOUSE BODY)
- PRESIDENT STYLE COMPOSITION SHINGLE TILE
- BEHR, ANTIQUE WHITE (GARAGE DOOR & TRIMS)

REVISIONS	DATE
Ken McCoy 7.0. B0X 379 MODESTO CA 95353 (209) 662-1231	3.00
ELEVATIONS COLOR	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
DRAWN BY: CHECK BY: DATE: SCALE: JOB NO:	as shown
APN: 9	M6-1686-003-01
CRAFT: A2.	



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S AND FINISHES
SIDENT STYLE COMPOSITION SHINGLE
R, ANTIQUE WHITE 23
R, SUSTAINABLE S350-4
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R, ANTIQUE WHITE-23
R, SUSTAINABLE S350-4
R, LIGHT YEAR N370-3
R, ARTISAN CRAFTS-N250-4
URAL CONCRETE COLOR

- BEHR, LIGHTYEAR N370-3 (STONE VENEER)
- BEHR, SUSTAINABLE S350-4 (HOUSE BODY)
- PRESIDENT STYLE COMPOSITION SHINGLE TILE
- BEHR, ANTIQUE WHITE (GARAGE DOOR & TRIMS)

BEHR, ARTISAN CRAFTS-N250-4

VES Ken McCoy P.O. BOX 379 MODESTO CA. 9333 (209) 662-1231 COPD	REVISIONS	1 DATE
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COLOR IN FOR: MILY HOMES EASANTON CA.		
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	Ken McCoy P.0. B0X 379 MODESTO CA. 93333 (209) 662-1231	ane .
	ELEVATIONS COLOR	
CRAFTSMAN	A2.	4



SCALE: 1/4" = 1'-0"

ROOF PLAN

UPPER ROOF AREA: 1,217 SF LOWER ROOF AREA: 417 SF TOTAL ROOF AREA: 1,634 SF

- 20

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2



PRESIDENTIAL STYLE COMPOSITION ROOF SHINGLE

ROOF MATERIAL

REVISIONS	DATE	
Ken McCoy P.0. B0X 379 MODESTO CA. 9333 2009 662-1211	and .	
ROOF PLAN	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.	
CHECK BY: DATE: 0	KMC D1-17-19 AS SHOWN	
APN: 946-1686-003-01		
STYLE CRAFTSMAN A2.5		







REVISIONS	DATE	
Ken McCoy P.0. B0X 379 MODESTO CA 95353 (2009 662-1231	DATE	
Ken McC P.O. BOX 379 MO (209) 662-1231	tooots	
ELEVATIONS HOUSE # 3	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3887 STANLEY BLVD PLEASANTON CA.	
DRAWN BY: P	(MC	
CHECK BY: DATE: 0	01-17-19	
SCALE: A	S SHOWN	
JOB NO.: APN: 9	46-1686-003-01	
STYLE: CRAFTSMAN A3.1		



WEST ELEVATION

SCALE: 1/4" = 1'-0"



SCALE: 1/4" = 1'-0"

REVISIONS	DATE	
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A. 95353	an	
Ken McCoy P.O. BOX 379 MODESTO CA. 95353 (209) 662-1231	DESIGNER	
ELEVATIONS HOUSE # 3	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.	
CHECK BY: DATE: 0 SCALE: A JOB NO.:	MC 1-17-19 IS SHOWN 48-1686-003-01	
STYLE: CRAFTSMAN A3.2		





NORTH ELEVATION

SCALE: 1/4" = 1'-0"

SHINGLES (PRESIDENT STYLE)
UTY MQ3-08
70-3
UTY MQ3-08
UTY MQ3-08
UTY MQ3-08
UTY MQ3-08
7-10

BEHR, MAUVETTE PPU17-10 (GABLE END, DOORS, GARAGE DOOR, SHUTTERS)

ASPHALT COMPOSITION SHINGLE (PRESIDENT, STYLE (ROOF)-SEE ROOF PLAN





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IINGLES (PRESIDENT STYLE)
MQ3-08
3
MQ3-08
MQ3-08
MQ3-08
MQ3-08

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BEHR, MAUVETTE PPU17-10 (GABLE END, DOORS, GARAGE DOOR, SHUTTERS)

	1
REVISIONS	DATE
Ken McCoy P.0. B0X 379 MODESTO CA, 95353 (2009) 662-1231	and
Ken McCoy P.O. BOX 379 MODEST (209) 662-1231	-CONSTRUCE
ELEVATIONS HOUSE # 3 (COLOR)	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
DRAWN BY: CHECK BY:	
DATE:	AS SHOWN
SCALE: JOB NO.:	C CHUYIN
APN: 9	48-1686-003-01
STYLE: CRAFTSMAN A3.4	

ASPHALT COMPOSITION CLASS C SHINGLES "PRESIDENT STYLE" ROOF



ROOF PLAN

UPPER ROOF AREA: 1,381 SF LOWER ROOF AREA: 451 SF

TOTAL ROOF AREA: 1,832 SF

SCALE: 1/4" = 1'-0"



ROOF COLOR & MATERIAL

REVISIONS	DATE
Ken McCoy 0. box 379 modesto ca. 9333 209/ 662-1331	1000
Cen McCo 0. B0X 379 MOD 09) 662-1231	DESIMIPI:
8 % X	18
ROOF PLAN HOUSE No 3	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
CHECK BY: DATE: 0	KMC 01-17-19 NS SHOWN
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STY CRAFT	
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	TOPOGRAPHY PLAN	PACIFIC LAND	PREVAILS UNDER THE DREETION OF	No.
30, 2018 RIC <u>E</u>	ALAMEDA COUNTY APN: 946-1686-3-1 3987 STANLEY BOULEVARD, PLEASANTON, CA 94566	SURVEYS 1121 Dokdole Rd, Suite 3 Modeato, CA 95355 209.678.7662 www.pacsurv.com	HO DESCRIPTIONS DATE APPROVED 1 REVISED ELEVATION DATUM AUG.17 AUG.17	AND CALLER W. OF CALLER CALLER CALLER MARKEN







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		REVISIONS	DATE
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		Sewo	
		0X 37 62-12	
	(1) Remove sanitary sewer clean out and install city standard sanitary sewer manhole.	Ken McCoy P.O. Box 379 Modesto CA. 9333 (209) 662-1231	0000
	(2) Storm drain laterals, private.		18
	(3) Sanitary sewer laterals with pump where		
	required, private.		
	(4) Storm drain lateral to 18", stub at storm		
	drain manhole, public.		
	(E) SD-MH RM: 356.55		
1	INV 18" IN: 347.50 (N)		
/	NW. 300,03 NW 18" NF 347.50 (N) NV 24" NF 346.00 (S) NV 24" NF 341.66 (N) NV 24" OUT: 341.66 (E)		
	CONNECT PROPOSED 18" DAL RCP STORM TO Existing Storm Drain Manhole. Per City STD. INV 24" IN: 341.86 (W)		
	310. WY 24 W. 341.00 (W)		
	(E) SS-MH Rild: 356.83		
	NV 6 NV 350.55 (N) NV 6 NV 350.55 (S) NV 8 NV 350.55 (S)		
			ω (
	CONNECT TO EXISTING OF DIA. SEWER LATERIAL ALONG STANLEY BOULEVARD. INV.= 350.33 (N)		Ш
			DR: Y HOMES NNTON CA.
	CONNECT TO EXISTING 6" DIA. WATER LATERAL AT STA 25+46	7	PR: Y HON NTON CA.
	SEWER NOTE:		
	Sewer note: Sewer complete design shall be presented		S L S
	WITH CONSTRUCTION PLANS SUBMITTAL. THE SEWER SYSTEM PRESENTED IS CONCEPTUAL FOR	ת.	N N N
	PLANNING PURPOSE ONLY.		I A I
	THE CONCEPT IS BASED ON EXISTING SEWER SYSTEM INFORMATION GATHERED FROM AS-BUILT PLANS.	Ĥ	3
	INFORMATION OBTAINED FROM AS-BUILTS SHALL		
	BE VERIFIED DURING DESIGN PROCESS.	тісіту рі	PUD APPLICATION FOR: INGLE FAMILY FANLEY BLVD PLEASANT
	LEGEND		PUD APPLICATION FO NEW SINGLE FAMIL 3987 STANLEY BLVD PLEASA
	(N) NEW		S S
	(F) EXISTING		300 200
	S SEWER		4
	W WATER SD STORM DRAIN		~
	MH MANHOLE		
	INV INVERT SCO SEWER CLEAN OUT		
	SS SANITARY SEWER		
	i		
	WATER NOTE: ALL NEW HOUSE MUST BE PROVIDED WITH	DRAWN BY: 1	KMC
	SEPARATE WATER METER. ALL EXISTING WATER LATERAL NOT USED SHALL BE ADANDONED PER GTY STANDARD. ALL NEW WATER METERS MUST	CHECK BY: DATE: 0	01-17-19
	BE INSTALLED WITHIN PUE (BACK OF SIDEWALK)		AS SHOWN
	PROVIDE LANDSCAPE IRRIGATION SERVICE W/ BACK-FLOW PREVENTION DEVICE PER CITY	JOB NO:	
	STANDARD.	APN: 9	46-1686-003-01
		C-:	3
			~







(E) IMPERVIOUS	AREAS
(E) ROOF AREA : (E) BRICK PAVE:	2,681 SF 2,087 SF
(E) ASPHALT PAVE:	201 SF
TOTAL IMPERVIOUS AREA:	4,969 SF

Ken McCoy P. O. BOX 379 MODESTO CA. 95353 (209) 662-1231	DATE
EXISTING IMPERVIOUS AREAS	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
DRAWN BY: KMC CHECK BY: DATE: 01-17-19 SCALE: AS SHOWN JOB NO: APN: \$46-1666-003-01 EXHIBIT 1	

EXHIBIT A



IMPERVIOUS AREAS

PRIVATE DRIVEWAY W/ DECO PAVERS :	2,014 SF
CONCRETE CURB & GUTTER :	493 SF
5' WIDE CONCRETE SIDE WALK :	731 SF
16' WIDE x 20' CONCRETE DRIVEWAY :	960 SF
3' CONCRETE WALK AT REFUSE AREA:	246 SF
PROPOSED BUILDINGS ROOF AREA :	4,877 SF
TOTAL PROPOSED IMPERVIOUS AREA:	9,321 SF

PERVIOUS AREAS

LANDSCAPE AREA :	5,474 SF
TOTAL PROPOSED PERVIOUS AREA:	5,474 SF

SITE PLAN

TOTAL LOT SIZE: 14,400 SF

SCALE: 1" = 10'

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REVISIONS	DATE	
	_	
Ken McCoy P.0. B0X 379 MODESTO CA. 95353 (289) 662-1231	OVE:	
Ken Mc P.O. BOX 379 ((209) 662-1231	100000	
PROPOSED IMPERVIOUS AREAS	PUD APPLICATION FOR: NEW SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.	
	KMC	
CHECK BY: DATE: 0)1-17-19	
SCALE: /	AS SHOWN	
JOB NO .: APN: 9	46-1686-002-04	
APN: 946-1886-003-01		
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EXHIBIT B



DRIVEWAY

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E	REVISIONS	DATE
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LEGEND:		ana
CONCRETE AREA		l. M
LANDSCAPE AREA-SEE LANDSCAPE PLANS.	L 95353	
PAVERS AREA	Coy todesto c/	
DRIVEWAY EXTENSION	Ken McCoy P.O. BOX 379 MODESTO CA, 95353 (209) 662-1231	10000
		1.91
	IBIT	ES
	AY EXHIB	PUD APPLICATION FOR: W SINGLE FAMILY HOMES 3987 STANLEY BLVD PLEASANTON CA.
	∖	FOR: ILY F SANTO
	Š	PUD APPLICATION I NEW SINGLE FAMI 3987 STANLEY BLVD PLEAS
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	H.	Z
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	JOB NO.: APN: 9	46-1686-003-01
SCALE: 1" = 5'	D	W-1

STANLEY BOULEVARD





1. A.





Existing

Proposed

Render View I FROM STANLEY BLVD. LOOKING NORTHWEST

STRIKEFORCE DESIGN 971 270 0951 SARAH@STRIKEFORCE

SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANTON, CA





Existing

Proposed

Render View 2 From Stanley BLVD. Looking Northeast



SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANTON, CA





Existing

Proposed

RENDER VIEW 3 FROM EAST NEIGHBOR'S PROPERTY AT REAR (EXISTING TREES ON NEIGHBORING PROPERTY NOT SHOWN)

STRIKEFORCE DESIGN 971 270 0951 SARAH@STRIKEFORCE

SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANT

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γον, CA	4



EXISTING

Proposed

RENDER VIEW 4 FROM STANLEY BLVD. LOOKING EAST, HIGH ANGLE VIEW

STRIKEFORCE DESIGN 971 270 0951 SARAH@STRIKEFORCE

SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANTON, CA




Existing

Proposed

Render View 5 Aerial view showing east property existing canopy

STRIKEFORCE DESIGN 971 270 0951 SARAH@STRIKEFORCE

SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANTON, CA







Existing



Proposed

Render View 6 Street View From Across Stanley



SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANTON, CA





Render View 7

FROM EAST, CONSTRUCTED AT II' FROM CENTER OF PROPERTY; NOTE THAT ONLY LANDSCAPING ON 3987 IS SHOWN, BUT SATELLITE IMAGES SUGGEST THERE ARE SIGNIFICANT TALL TREES THAT WOULD FURTHER OBSTRUCT THIS VIEW.

STRIKEFORCE STRIKEFORCE DESIGN 971 270 0951 DESIGN SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISIO 3987 STANLEY BOULEVARD, PLEASANT

N Ton, CA	8



Render View 8 FROM WEST, CONSTRUCTED AT 5' AND II' FROM CENTER OF TWO HOMES; ONLY 3987 PROPERTY FEATURES SHOWN







SARAH@STRIKEFORCEDESIGN.NET

RENDER VIEW ANALYSES REVISION 3987 STANLEY BOULEVARD, PLEASANT

N fon, CA	9



Updated Arborist Report

3987 Stanley Pleasanton, CA

PREPARED FOR Saravana Chilla 4132 Eugene St. Fremont, CA 94538

PREPARED BY: HortScience, Inc. 325 Ray St. Pleasanton, CA 94566

November 21, 2018



Updated Arborist Report 3987 Stanley Pleasanton, CA

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Introduction and Overview	1
Tree Assessment Methods	1
Description of Trees	2
Suitability for Preservation	3
Preliminary Evaluation of Impacts and Recommendations for Preservation	5
Tree Preservation Guidelines	7

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Table 2. Tree Suitability for Preservation	5	
Table 3. Appraised Value of Trees Identified for Removal	7	
Table 4. Appraised Value of Trees Identified for Preservation	7	

Exhibits

Tree Assessment Map Tree Assessment Form Tree Appraisal

Updated Arborist Report 3987 Stanley Pleasanton, CA

Introduction and Overview

You are planning to construct multiple housing units on the property you recently purchased. The large lot had a house, detached garage, two out buildings and was moderately forested. The City of Pleasanton requires that an **Arborist Report** be prepared as part of project submittals.

This report provides the following information:

- 1. An evaluation of the health and structural condition of the trees within the proposed project area based on a visual inspection from the ground.
- 2. An assessment of the impacts of constructing the proposed project on the trees.
- 3. An appraisal value of the trees according to the procedures described in the *Guide for Plant Appraisal* (Council of Tree and Landscape Appraisers).
- 4. Guidelines for tree preservation prior to and during the demolition and construction phases of development.

Tree Assessment Methods

Trees were assessed on December 8, 2016. The survey included trees 6" in diameter and greater, located on the property and adjacent to property lines. The assessment procedure consisted of the following steps:

- 1. Identifying the tree as to species;
- 2. Tagging each tree with an identifying number and recording its location on a map;
- 3. Measuring the trunk diameter at a point 4.5' above grade;
- 4. Evaluating the health and structural condition using a scale of 1 5:
 - **5** A healthy, vigorous tree, reasonably free of signs and symptoms of disease, with good structure and form typical of the species.
 - 4 Tree with slight decline in vigor, small amount of twig dieback, minor structural defects that could be corrected.
 - 3 Tree with moderate vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that might be mitigated with regular care.
 - 2 Tree in decline, epicormic growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated.
 - Tree in severe decline, dieback of scaffold branches and/or trunk; most of foliage from epicormics; extensive structural defects that cannot be abated.
- 5. Rating the suitability for preservation as "high", "moderate" or "low". Suitability for preservation considers the health, age and structural condition of the tree, and its potential to remain an asset to the site for years to come.
 - *High*: Trees with good health and structural stability that have the potential for longevity at the site.
 - *Moderate*: Trees with somewhat declining health and/or structural defects than can be abated with treatment. The tree will require more intense management and monitoring, and may have shorter life span than those in 'high' category.

Low: Tree in poor health or with significant structural defects that cannot be mitigated. Tree is expected to continue to decline, regardless of treatment. The species or individual may have characteristics that are undesirable for landscapes, and generally are unsuited for use areas.

Description of Trees

Nineteen (19) trees were evaluated and are summarized in Table 1. Three (3) of the trees (#1, 17 and 19 were off-site with a portion of the crown extending onto the property). Descriptions of each tree are provided in the *Tree Assessment Form* and approximate locations are plotted on the *Tree Assessment Map* (see Exhibits).

Common Name	ame Scientific Name Condition			Total	
		Poor (1-2)	Fair (3)	Good (4-5)	
Italian alder	Alnus cordata	-	1	-	1
Lemon	Citrus limon	-	-	1	1
California black walnut	Juglans hindsii	-	1	-	1
Crape Myrtle	Lagerstroemia indica	-	1	-	1
Glossy privet	Ligustrum lucidum Liguidambar	-	1	-	1
Sweetgum	, styraciflua	-	-	1	1
Plum	Prunus domestica	1	2	-	3
Valley oak	Quercus lobata	-	-	2	2
Windmill palm	Trachycarpus fortunei	-	-	8	8
Total		1	6	12	19

Table 1. Tree condition and frequency of occurrence3987 Stanley, Pleasanton, CA

Overall, the trees were in fair (6 trees) to good (12 trees) condition with one tree in poor.

The most common species was windmill palm (8 trees). All eight of these trees were in good condition. Windmill palms were semi-mature (8-10" DBH). Trees had brown trunks that ranged from 15-25' (photo 1, next page). Five trees (#11-15) were located along the north perimeter fence line and three (#7-9) were located near the house and out buildings.

Three (3) plum trees were assessed. Two (2) were in fair condition and one (1) was in poor. These trees had either multiple or codominant trunks. The largest tree (#6) was mature and had a 10" trunk diameter. Several pruning cuts had been made in the top of the canopy known as heading back. The other two were young trees located near the property fence. Tree #16 was leaning and tree #4 was growing through metal fence at the base.

The third most common species assessed was valley oak (2 trees). Both trees were in good condition. One was off-site (#17) and tree #18 was located on the property line. The fence separating the two properties was built on either side of the tree (photo 2). Diameters were estimated for both trees. Trees were mature with respectively 36 and 38" trunk diameter.

The following six (6) species were represented by one (1) tree.

- The Italian alder (#2) had multiple trunks arising at the base and was semi-mature with 7, 8 and 8" trunk diameters. It was growing near the front of the house and was located 11' from overhead utilities. It was in fair condition.
- The lemon (#5) was located on the west side of the house and in good condition. It had multiple branches arising from 3'. This semi-mature tree had 3, 3, 2 and 1" diameter trunks.
- The California black walnut (#19) was located off-site to the east of the house. This mature tree was in fair



Photo 1 (above): Windmill palms lined the north property fence. Photo 2 (below): Valley oak #18 was growing on the property line and the fence was built around it.



condition. It had codominant trunks arising from 3' and its' canopy extended 9' onto the property. Trunk diameters were estimated to be 17 and 12".

- The crape myrtle (#1) was a young tree (7" DBH) located off-site near the fence line. It was in fair condition with several harsh pruning cuts known as topping. The canopy was extending 3' over the fence.
- The glossy privet (#10) was located on the rear property to the west. This young tree had multiple trunks and was in fair condition. One branch had decay and a metal fence post was embedded in the north trunk.
- Sweetgum #3 was a semi-mature tree with a tall, narrow crown. It was in good condition with good form and structure. The trunk diameter was 7".

The City of Pleasanton Municipal Code (Chapter 17.6) defines a Heritage tree as having either a trunk diameter of 18" or greater or a height of 35' or greater. Two valley oak trees meet both criteria. One tree was located on the property line (#18) the one was an off-site tree (#17).

Suitability for Preservation

Before evaluating the impacts that will occur during development, it is important to consider the quality of the tree resource itself, and the potential for individual trees to function well over an extended length of time. Trees that are preserved on development sites must be carefully selected to make sure that they may survive development impacts, adapt to a new environment and perform well in the landscape.

Our goal is to identify trees that have the potential for long-term health, structural stability and longevity. For trees growing in open fields, away from areas where people and property are present, structural defects and/or poor health presents a low risk of damage or injury if they fail. However, we must be concerned about safety in use areas. Therefore, where development encroaches into existing plantings, we must consider their structural stability as well as their potential to grow and thrive in a new environment. Where development will not occur, the normal life cycles of decline, structural failure and death should be allowed to continue.

Evaluation of suitability for preservation considers several factors:

• Tree health

Healthy, vigorous trees are better able to tolerate impacts such as root injury, demolition of existing structures, changes in soil grade and moisture, and soil compaction than are non-vigorous trees. For example plum (#4) had multiple trunks growing through metal wire located at the base of the tree. The lack of proper maintenance had weakened the tree and it may not handle construction impacts as well as a healthier tree.

• Structural integrity

Trees with significant amounts of wood decay and other structural defects that cannot be corrected are likely to fail. Such trees should not be preserved in areas where damage to people or property is likely.

• Species response

There is a wide variation in the response of individual species to construction impacts and changes in the environment. Italian alder with adequate irrigation has good tolerance to construction impacts and valley oak has moderate tolerance to construction impacts.

• Tree age and longevity

Old trees, while having significant emotional and aesthetic appeal, have limited physiological capacity to adjust to an altered environment. Young trees are better able to generate new tissue and respond to change.

• Species invasiveness

Species that spread across a site and displace desired vegetation are not always appropriate for retention. This is particularly true when indigenous species are displaced. The California Invasive Plant Inventory Database (<u>http://www.cal-ipc.org/paf/</u>) lists species identified as being invasive. Pleasanton is part of the Central West Floristic Province. There were no species on this site found on the invasive plant inventory list.

Each tree was rated for suitability for preservation based upon its age, health, structural condition and ability to safely coexist within a development environment (see *Tree Assessment* in Exhibits and Table 2). We consider trees with high suitability for preservation to be the best candidates for preservation. We do not recommend retention of trees with poor suitability for preservation in areas where people or property will be present. Retention of trees with moderate suitability for preservation depends upon the intensity of proposed site changes.

Common Name	Suitab	Total		
	Low	Moderate	High	
California black				
walnut	-	1	-	1
Crape Myrtle	1	-	-	1
Glossy privet	-	1	-	1
Italian alder	-	1	-	1
Lemon	-	-	1	1
Plum	3	-	-	3
Sweetgum	-	-	1	1
Valley oak	-	-	2	2
Windmill palm	-	-	8	8
Total	4	3	12	19

Table 2. Tree suitability for preservation3987 Stanley, Pleasanton, CA

Evaluation of Impacts

In evaluating the potential impact to trees, I reviewed the Site Plans prepared by Ken McCoy dated September 15, 2018, Utility, Drainage and Grading Plans by Ken McCoy dated September 2017 were included. The proposed project would construct three new buildings, adjoining sidewalks and a driveway along the eastern portion of the property. Surveyed tree trunk locations were included on Topography Plan prepared by Pacific Land Surveys dated November 2016.

Using the proposed plans, potential impacts from construction were estimated for each tree. The most significant impact to the trees would occur as a result of the construction of building pads. Trees #2-7 are within the construction envelope of building #1. Trees #8 and 9 are within the construction envelope of building #2. These trees would not likely survive and I recommend removal. The only tree impacted by the construction of new buildings that qualifies as a *Heritage Tree* was plum tree #6.

Tree #1 was off-site in front of the house and 2' east of the driveway. The canopy extended over the property by 3' and the new driveway would be within the dripline of the tree. The driveway is to be installed 5' from the tree. The excavation for the new driveway may involve additional impacts imposed on the tree roots and the canopy.

Tree #18 was located on the eastern property line. The canopy extended over the property by 31' and the new driveway would be within the dripline of the tree. The excavation for the new driveway will involve significant impacts imposed on the tree roots as well as the canopy of the tree. This tree qualifies as a *Heritage Tree*. The latest plans indicated that a gravel driveway is

to be installed 10' to the west of the tree. The concrete driveway is 20' to the south and 20' to the west of the oak.

In order to retain the tree, I recommend the following design changes:

- No grading within 10' of the tree.
- No grass to be installed within 10' of the tree. Low drought-tolerant plants that thrive in shading conditions could be considered.
- No subsurface irrigation lines should be installed within 10' of the tree.
- The use of gravel is acceptable for the driveway, however only when used over a biaxial geogrid material as the subgrade layer below aggregate.
- The pavement section needs to be built up on top of existing grade so that no excavation occurs within the tree's root zone within the driveway area.

Trees #11-15 were located on the northern property line. All were windmill palms and outside of impacts. However, there should be no grade change within 5' of the base of the trees.

Trees #10 and 16 are outside of impacts. Tree #17 is an off-site valley oak with a canopy extending 5' onto the property. Tree #19 is an off-site walnut tree. The walnut had a canopy that extended onto the property by 9'. Care will need to be taken to prevent damage to the walnut tree canopy extending over the driveway from construction equipment.

Based on my assessment of the plan, I recommend removing eight trees. One tree (#4) was in poor condition including one of the eight trees that would be impacted by construction. One tree (#6) recommended for removal qualifies as a Heritage tree.

The following two trees need special considerations:

- Following the recommendations, including the utilization of the biaxial Geogrid under the gravel on the driveway to the west of the tree will allow for preservation of valley oak #18, which qualifies as a Heritage tree.
- Approach the neighbors about the future plans for off-site tree #1. This tree need to be protected against impacts from construction equipment and the new driveway.

Preservation is recommended for nine trees, including two off-site trees (#17 and 19). These two trees (#17 and 19) qualify as Heritage trees. Trees recommended for preservation are located along the perimeter of the site or on the edges of the building envelopes.

In summary, a total of eleven trees (#1, 10 - 18 and 19) can be retained and two are Heritage trees. One valley oak tree (#18) is a Heritage tree. Eight trees are within impacts and will need to be removed. One of the trees to be removed (#6) is a Heritage tree. Specific preservation requirements are provided in the *Tree Preservation Guidelines*.

Appraisal of Value

The City of Pleasanton requires that the value of trees to be preserved during construction be established and included as part of an **Arborist Report**. To establish the value of the trees, I employed the standard methods found in **Guide for Plant Appraisal**, 9th edition (published in 2000 by the International Society of Arboriculture, Savoy IL). In addition, I referred to **Species Classification and Group Assignment** (2004), a publication of the Western Chapter of the International Society of Arboriculture. These two documents outline the methods employed in tree appraisal.

The value of landscape trees is based upon four factors: size, species, condition and location. Size is measured as trunk diameter, normally 54" above grade. The species factor considers the adaptability and appropriateness of the plant in the East Bay. The **Species Classification and Group Assignment** lists recommended species ratings and evaluations. Condition reflects the health and structural integrity of the tree at the time of my inspection. The location factor considers the site, placement and contribution of the tree in its surrounding landscape. Considering the four factors noted above, I established the value of the eight trees recommended for removal at \$8,200 (Table 3). The appraised value for eleven trees to be retained was \$91,850 (Table 4).

Tree No.	Species	Trunk Diameter (in.)	Heritage Tree?	Appraised Value
2	Italian alder	7,8,8	No	700
3	Sweetgum	8	No	1050
4	Plum	3,3,2,2,1,1,1	No	100
5	Lemon	3,3,2,1	No	350
6	Plum	10,10	Yes	2050
7	Windmill palm	10	No	1400
8	Windmill palm	9	No	1150
9	Windmill palm	10	No	1400
				\$ 8,200

Table 3. Appraised value of trees identified for removal3987 Stanley Pleasanton, CA

Table 4. Appraised value of trees identified for preservation
3987 Stanley Pleasanton, CA

Tree No.	Species	Trunk Diameter (in.)	Heritage Tree?	Appraised Value
1	Crape myrtle	7	No	450
10	Glossy privet	3,3,3,3 2,2,1	No	100
11	Windmill palm	10	No	950
12	Windmill palm	10	No	950
13	Windmill palm	10	No	950
14	Windmill palm	10	No	950
15	Windmill palm	8	No	800
16	Plum	5,5	No	350
17	Valley oak	36	Yes	34750
18	Valley oak	38	Yes	48750
19	California black walnut	17,12	Yes	2850
				\$ 91,850

Tree Preservation Guidelines

The goal of tree preservation is not merely tree survival during development but maintenance of tree health and beauty for many years. Trees retained on sites that are either subject to extensive injury during construction or are inadequately maintained become a liability rather than an asset. The response of individual trees depends on the amount of excavation and grading, care with which demolition is undertaken, and construction methods. Coordinating any construction activity inside the **TREE PROTECTION ZONE** can minimize these impacts.

The following recommendations will help reduce impacts to trees from development and maintain and improve their health and vitality through the clearing, grading and construction phases.

Tree Protection Prior to and During Demolition

- 1. The construction superintendent demolition contractor shall meet with the Project Arborist before beginning work to discuss work procedures and tree protection.
- 2. For design purposes, the **TREE PROTECTION ZONE** for this project is defined as the dripline of any tree to be preserved. Any demolition and construction activity within this zone must be monitored by the Project Arborist.
- 3. In those areas close to construction including trees #11 - 15, install trunk protection devices such as winding silt sock wattling (see photo at right) or wood planks around trunks or stacking hay bales around tree trunks to the height of the lowest branch. Any low branches that are within the work zone also should be protected. Hay bales shall surround the tree as well as cover any surface roots greater than 3" diameter.
- 4. Maintain the existing irrigation system. If the existing irrigation system is not functional, have a temporary system installed (using soaker hoses or pvc laid on the ground and covered with mulch) as soon as possible to supply trees with water to help

recovery and prepare it for impacts associated with the demolition and construction process.

- 5. Prune trees to be preserved to clean the crown of dead branches 1" and larger in diameter, raise canopy of tree #1, 10, 16 and 18 if needed for construction traffic as approved by the Project Arborist. Branches extending into the work area that can remain following demolition shall be tied back and protected from damage. All pruning shall be done by a State of California Licensed Tree Contractor (C61/D49) and Certified Arborist or Certified Tree Worker. Pruning shall be in accordance with the Best Management Practices for Pruning (International Society of Arboriculture, 2002) and adhere to the most recent editions of the American National Standard for Tree Care Operations (Z133.1) and Pruning (A300).
- 6. Trees to be removed shall be felled so as to fall away from **TREE PROTECTION ZONE** of trees to remain and avoid pulling and breaking of roots of trees to remain. If roots are entwined, the Project Arborist may require first severing the major woody root mass before extracting the trees, or grinding the stump below ground.
- 7. Structures and underground features to be removed within the 10' of a tree shall use equipment that will minimize damage to trees above and below ground, and operate from outside the Tree Protection Zone. Tie back branches and wrap with protective materials to protect from injury as directed by the Project Arborist. The Project Arborist shall be onsite during all operations within the Tree Protection Zone to monitor demolition activity.

8. When demolition adjacent to trees is completed, install Tree Protection fencing a minimum of 5' from the trunk of each tree. Fences shall be 6 ft. chain link or equivalent as approved by the City. Fences are to remain until all grading and construction in the area is completed

Tree No.	TPZ
10	5' N and S
	5' E of fence line to W fence line
16	5' N and S
	5 ' W of fence line to E fence line
18	10' to the W, N and S

Specific Tree Protection Zones

Tree Protection during Construction

- 1. Tree protection fences are to remain until all site work has been completed within the work area. Fences or other protection devices may not be relocated or removed without permission of the Project Arborist.
- 2. Any approved grading, construction, demolition or other work within the **TREE PROTECTION ZONE** should be monitored by the Project Arborist.
- 3. All contractors shall conduct operations in a manner that will prevent damage to trees to be preserved.
- 4. Utilities may be installed by boring at least 4' below grade within the **TREE PROTECTION ZONE** of any Heritage tree to avoid excessive root injury.
- Hydrated lime to stabilize plastic soils shall not be incorporated into soil within the TREE PROTECTION ZONE. Lime is toxic to plant roots. Subsoil stabilization treatments must be discussed with the Project Arborist and designed to protect tree roots.
- 6. Irrigation systems must be designed so that no trenching that severs roots larger than 1" diameter will occur within the **TREE PROTECTION ZONE**.
- 7. Construction trailers, traffic and storage areas must remain outside **TREE PROTECTION ZONE** at all times.
- 8. Any root pruning required for construction purposes shall receive the prior approval of and be supervised by the Project Arborist. Roots should be cut with a saw to provide a flat and smooth cut. Removal of roots larger than 2" in diameter should be avoided. If roots 2" and greater in diameter are encountered and during site work must be cut to complete the construction, the Project Arborist must be consulted to evaluate effects on the health and stability of the tree and recommend treatment.
- 9. If injury should occur to any tree during construction, it should be evaluated as soon as possible by the Project Arborist so that appropriate treatments can be applied.
- 10. No excess soil, chemicals, debris, equipment or other materials shall be dumped or stored within the **TREE PROTECTION ZONE**.
- 11. Any additional tree pruning needed for clearance during construction must be performed by a Certified Arborist and not by construction personnel.
- 12. Trees that accumulate a sufficient quantity of dust on their leaves, limbs and trunk as judged by the Project Arborist shall be spray-washed at the direction of the Project Arborist.
- 13. All trees shall be irrigated on a schedule to be determined by the Project Arborist (every 3 to 6 weeks during the warm season is typical). Each irrigation shall wet the soil within the **TREE PROTECTION ZONE** to a depth of 30".

Maintenance of impacted trees

Trees preserved at the Stanley site may experience a physical environment different from that of pre-development. As a result, tree health and structural stability should be monitored. Occasional pruning, fertilization, mulch, pest management, replanting and irrigation may be required.

Summary

You are planning to construct three residential buildings on the property. Four trees are considered to be Heritage as defined by the City of Pleasanton. I recommend that eight trees be removed, one of which is in poor condition. I recommend preservation of nine, including two off-site trees.

Tree #18 can be retained with the recommendations for the design change, including no turf or grade change within 10' of the tree. Tree #1 is an off-site tree and approaching the neighbor is recommended. Two trees are located on the east portion of the yard, adjacent to the proposed driveway. Tree vigor and overall structure of tree #1 was fair and tree #18 was good. At its closest point, the footprint will be within the trunk. Impacts from the project to the tree will come primarily from excavation for the driveway foundation. The driveway will impact crape myrtle (#1). I established the appraised value of these two trees as \$49200. Preliminary **Tree Preservation Guidelines** are provided.

Please contact me with any questions. I look forward to hearing from you.

Sincerely,

- Tangth Bull

Maryellen Bell ISA Certified Arborist WE-5643A

Attached: Tree Assessment Map Tree Assessment Form Tree Appraisal

Tree Assessment Plan



3987 Stanley Blvd. Pleasanton, CA

Prepared for: Sarvanna Chilla Pleasanton, CA

November 2018



No Scale

Tree Protection Zone

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Notes:

Base map provided by: Ken McCoy Modesto, CA

Numbered tree locations are approximate

Tree numbers 17 & 19 are off-site and not tagged.



325 Ray Street Pleasanton, California 94566 Phone 925.484.0211 Fax 925.484.0596

Tree Assessment

3987 Stanley Pleasanton, CA December 13, 2016



Tree No.	Species	Trunk Diameter (in.)	Heritage Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
1	Crape myrtle	7	No	3	Low	Off-site tree; several harsh pruning cuts in top of canopy; canopy extended over fence 3'.
2	Italian alder	7,8,8	No	3	Moderate	Multiple trunks arise from base; trunk located 11' from utility lines.
3	Sweetgum	8	No	4	High	Tall, narrow crown; good form and structure.
4	Plum	3,3,2,2,1,1, 1	No	2	Low	Multiple trunks arise from base.
5	Lemon	3,3,2,1	No	4	High	Multiple trunks arise from 3'; good form and structure; good color.
6	Plum	10,10,10	Yes	3	Low	Codominant trunks arise from 2' and 3'; heading back cuts at top of canopy.
7	Windmill palm	10	No	4	High	15' brown trunk.
8	Windmill palm	9	No	4	High	Growing up thru cut out to in shed roof; 25' brown trunk.
9	Windmill palm	10	No	4	High	Growing is raised planter; 25' brown trunk.
10	Glossy privet	3,3,3,3 2,2,1	No	3	Moderate	Multiple trunks arise from base; one branch decay at 6'; metal fence post embedded in N trunk.
11	Windmill palm	10	No	4	High	20' brown trunk.
12	Windmill palm	10	No	4	High	25' brown trunk.
13	Windmill palm	10	No	4	High	25' brown trunk.
14	Windmill palm	10	No	4	High	20' brown trunk.
15	Windmill palm	8	No	4	High	25' brown trunk.
16	Plum	5,5	No	3	Low	Poor form and structure; leans N; codominant trunks arise from 4'
17	Valley oak	36	Yes	4	High	Off-site; tag on fence; canopy hangs over 5'.

Tree Assessment			Plea	7 Stanley santon, CA ember 13, 2016	5	HORTSCIENCE
Tree No.	Species	Trunk Diameter (in.)	Heritage Tree?	Condition 1=poor 5=excellent	Suitability for Preservation	Comments
18	Valley oak	38	Yes	5	High	Growing on property line; fence built on either side of tree; codominant trunks arise from 7' and 8'; broad spreading in crown; good form and structure; 32' to W;31' N;32' to S.
19	California black walnut	17,12	Yes	3	Moderate	Off-site tree; tag on fence; codominant trunks arise from 3'; canopy extends to W on to property 9'.

Tree Appraisal

Tree No.	Species	Trunk Diameter (in.)	Heritage Tree?	Appraised Value	
1	Crape Myrtle	7	No	\$	450.00
2	Italian alder	7,8,8	No	\$	700.00
3	Sweetgum	8	No	\$	1,050.00
4	Plum	3,3,2,2,1,1,1	No	\$	100.00
5	Lemon	3,3,2,1	No	\$	350.00
6	Plum	10,10	Yes	\$	2,050.00
7	Windmill palm	10	No	\$	1,400.00
8	Windmill palm	9	No	\$	1,150.00
9	Windmill palm	10	No	\$	1,400.00
10	Glossy privet	3,3,3,3 2,2,1	No	\$	100.00
11	Windmill palm	10	No	\$	950.00
12	Windmill palm	10	No	\$	950.00
13	Windmill palm	10	No	\$	950.00
14	Windmill palm	10	No	\$	950.00
15	Windmill palm	8	No	\$	800.00
16	Plum	5,5	No	\$	350.00
17	Valley oak	36	Yes	\$	34,750.00
18	Valley oak	38	Yes	\$	48,750.00
19	California black walnut	17,12	No	\$	2,850.00
	Tota	I		\$	100,050.00

3987 Stanley

Pleasanton, CA

Environmental Noise Assessment

4 March 2017 (revised 4 August 2017)

Prepared for:

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CSA Project Number: 17-0125

INTRODUCTION

This report summarizes our environmental noise study for 3987 Stanley Drive, a single family home development in Pleasanton. The purpose of the study was to quantify the noise environment at the proposed site, compare it with applicable City and State noise standards, and propose noise attenuation measures where necessary to comply with these standards. For those readers unfamiliar with environmental acoustics, Appendix A has been included at the end of this report for further explanation.

CRITERIA

Pleasanton General Plan

The applicable acoustical criteria are contained within Policy 1 and 3 of Chapter 11: Noise Element in the Pleasanton General Plan 2025 and the California Building Code.

Policy 1: Require new projects to meet acceptable exterior noise level standards.

- Program 1.1: Use the normally acceptable designation and text description contained in Table 11-5 "Noise and Land-Use Compatibility Guidelines," to determine the acceptability of new development and to determine when noise studies are required. For new single-family residential development, maintain a maximum day/night average noise level standard of 60 dBA Ldn for exterior noise in private or shared outdoor use areas excluding front yards. For new multi-family residential development, maintain a maximum standard of 65 dBA Ldn in community outdoor recreation areas (or 60 dBA Ldn when the outdoor noise is due to aircraft). Noise standards are not applied to balconies or front yards. In the Downtown, the City Council will evaluate the requirement to achieve these standards on a case-by-case basis.
- Program 1.2: Where high noise levels are the result of railroad trains, an exterior noise level of up to 70 dBA Ldn would be considered compatible with most residential development recognizing that day-night average noise levels are controlled by intermittent, loud events. Vibration-sensitive land uses located near the Union Pacific Railroad tracks should demonstrate compatibility with the Federal Transit Administration's vibration impact criteria by completing site-specific vibration analyses.
- Program 3.2: Require noise-attenuation measures when necessary to ensure that interior noise levels for new single- and multi-family residences do not exceed 45 dBA L_{dn}. Interior noise levels shall not exceed 45 dBA L_{dn} in any new residential units (single and multi family). Development sites exposed to noise levels exceeding 60 dBA L_{dn} shall be analyzed following protocols in Appendix Chapter 12, Section 1208, A, Sound Transmission Control, 2001 (current) *California Building Code*, Section 1207.
- Program 3.3: New residential development affected by noise from railroad trains and aircraft shall be designed to limit typical maximum instantaneous noise levels to 50 dBA in bedrooms and 55 dBA in other rooms.

California Building Code 2016

Section 104.7 – Allowable interior noise levels. Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The metric shall be either the day-night average noise level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

Federal Transit Administration

Chapter 9 of the FTA Handbook describes a preliminary screening process to determine the likelihood that a new transit project would cause a vibration disturbance to adjacent land uses. This same screening process may be applied to determine the critical distances in which existing transit vibration sources may be an issue for new sensitive land uses.

The proposed residential project is categorized as Type 2 per Chapter 9 of the FTA handbook. At this distance, the minimum critical distance is 200 feet from any rail line. For any Type2 project within 200 feet of a rail line, FTA would advise further investigative study to determine any potential impacts from rail and transit. The proposed Stanley housin development is almost 500 feet from the nearest rail line. At

this distance, this project is significantly beyond the maximum FTA screening distance and would be categorized as "no vibration impact likely." Per the FTA, no further study would be required.

NOISE ENVIRONMENT

Background Noise Levels

To quantify the existing noise environment, we conducted one long-term 72-hour measurement (LT) between 24 and 27 February 2017. Figure 1 below shows the approximate location of this measurement.



Figure 1: Noise Measurement Location

A Rion NL-52 Sound level meter was hung from a tree at a height of about 12 feet above grade 35 feet north of the centerline of Stanley Boulevard. The primary noise source is local traffic on Stanley Boulevard. The site is also exposed to loud single event noise from train activity along the Union Pacific rail line, which is approximately 550 feet north of the project site.

Site	Location	Start Date and Time/Duration	Future L _{dn} (dB)
LT-1	35 feet from centerline of Stanley Boulevard	14 July 2014, 2:00 p.m. 48 Hours	62

In addition to monitoring the average sound levels at the project site, the equipment also recorded single event noise from rail activity along the Union Pacific Railroad. In the 72-hour measurement period the meter logged seven train events, two of which occurred in the evening hours (i.e. between 10:00p.m. and 7:00 a.m.). Maximum noise levels ranged between 78 to 84 dB.

RECOMMENDATIONS

- 1. Single event noise from trains will limit the minimum STC^1 window rating because of the volume of noise generated by train horns. To reduce single event noise from trains, it will be necessary for all windows to be sound rated to meet the interior L_{max} of 50 dB in bedrooms and 55 dB in other living spaces. This report provides preliminary STC ratings based on assumed window sizes. Final window size and STC rating should be verified once the design is finalized.
 - a. Assuming a standard 3-coat stucco exterior assembly and 40% glazing in each room, bedroom windows will need to be minimum STC 37 glazing (which incorporates a laminated glass pane). Note window STC ratings are inclusive of the window frame. The STC of the glazing alone is insufficient as framing can significantly degrade the overall acoustic performance of the window assembly.
 - b. Assuming a standard 3-coat stucco exterior assembly and 40% glazing in each room, other living space windows will need to be minimum STC 32 glazing.
- 2. Noise levels at the project site exceed the L_{dn} 60 dB guideline. To construct a residential project in this noise environment, it will be necessary for all windows to be sound-rated to meet an interior L_{dn} of 45 dB.
 - a. The STC rating to achieve the single event noise criteria in habitable rooms will meet the STC requirements to meet the interior L_{dn} of 45 dB.
- 3. The exterior noise level of L_{dn} 62 dB was measured 12 feet above the ground. For future residents in backyard recreation areas, the receiver elevation is reduced by 6 feet. The future homes should include solid fencing at least 6 feet high at each backyard. This fencing should reduce the outdoor noise to comply with the L_{dn} 60 dB criteria.

¹ Sound Transmission Class (STC) – A single-number rating standardized by ASTM and used to rate the sound insulation properties of partitions. The STC rating is derived from laboratory measurements of a building element and as such is representative of the maximum sound insulation. Increasing STC ratings correspond to improved airborne noise isolation.

APPENDIX A – FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

This section provides background information to aid in understanding the technical aspects of this report.

Three dimensions of environmental noise are important in determining subjective response. These are as follows:

- 1. a) The intensity or level of the sound;
- 2. b) The frequency spectrum of the sound; and
- 3. c) The time-varying character of the sound.

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing.

The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in level. The name of the frequency and level content of a sound is its sound spectrum. A sound spectrum for engineering purposes is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into ten segments.

Many rating methods have been devised to permit comparisons of sounds having quite different spectra. Surprisingly, the simplest method correlates with human response practically as well as the more complex methods. This method consists of evaluating all of the frequencies of a sound in accordance with a weighting that progressively de-emphasizes the importance of frequency components below 1000 Hz and above 5000 Hz. This frequency weighting reflects the fact that human hearing is less sensitive at low frequencies and at extreme high frequencies relative to the mid-range.

The weighting system described above is called "A"-weighting, and the level so measured is called the "A-weighted sound level" or "A-weighted noise level." The unit of A-weighted sound level is sometimes abbreviated "dBA." In practice, the sound level is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting characteristic. All U.S. and international standard sound level meters include such a filter. Typical sound levels found in the environment and in industry are shown in Figure A-1.

Although a single sound level value may adequately describe environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise is a conglomeration of distant noise sources which results in a relatively steady background noise having no identifiable source. These distant sources may include traffic, wind in trees, industrial activities, etc. and are relatively constant from moment to moment. As natural forces change or as human activity follows its daily cycle, the sound level may vary slowly from hour to hour. Superimposed on this slowly varying background is a succession of identifiable noisy events of brief duration. These may include nearby activities such as single vehicle passbys, aircraft flyovers, etc. which cause the environmental noise level to vary from instant to instant.

To describe the time-varying character of environmental noise, statistical noise descriptors were developed. "L10" is the A-weighted sound level equaled or exceeded during 10 percent of a stated time period. The L10 is considered a good measure of the maximum sound levels caused by discrete noise events. "L50" is the A-weighted sound level that is equaled or exceeded 50 percent of a stated time period; it represents the median sound level. The "L90" is the A-weighted sound level equaled or exceeded during 90 percent of a stated time period and is used to describe the background noise.

As it is often cumbersome to quantify the noise environment with a set of statistical descriptors, a single number called the average sound level or "Leq" is now widely used. The term "Leq" originated from the concept of a so-called equivalent sound level which contains the same acoustical energy as a varying sound level during the same time period. In simple but accurate technical language, the Leq is the average A-weighted sound level in a stated time period. The Leq is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

In determining the daily measure of environmental noise, it is important to account for the different response of people to daytime and nighttime noise. During the nighttime, exterior background noise levels are generally lower than in the daytime; however, most household noise also decreases at night, thus exterior noise intrusions again become noticeable. Further, most people trying to sleep at night are more sensitive to noise.

To account for human sensitivity to nighttime noise levels, a special descriptor was developed. The descriptor is called the L_{dn} (Day/Night Average Sound Level) which represents the 24-hour average sound level with a penalty for noise occurring at night.

The L_{dn} computation divides the 24-hour day into two periods: daytime (7:00 am to 10:00 pm); and nighttime (10:00 pm to 7:00 am). The nighttime sound levels are assigned a 10 dB penalty prior to averaging with daytime hourly sound levels. For highway noise environments, the average noise level during the peak hour traffic volume is approximately equal to the L_{dn} .

The effects of noise on people can be listed in three general categories:

- 1. Subjective effects of annoyance, nuisance, dissatisfaction;
- 2. Interference with activities such as speech, sleep, and learning; and
- 3. Physiological effects such as startle, hearing loss.

The sound levels associated with environmental noise usually produce effects only in the first two categories. Unfortunately, there has never been a completely predictable measure for the subjective effects of noise nor of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise over time.

Thus, an important factor in assessing a person's subjective reaction is to compare the new noise environment to the existing noise environment. In general, the more a new noise exceeds the existing, the less acceptable the new noise will be judged.

With regard to increases in noise level, knowledge of the following relationships will be helpful in understanding the quantitative sections of this report:

- 4. Except in carefully controlled laboratory experiments, a change of only 1 dB in sound level cannot be perceived.
- 5. Outside of the laboratory, a 3 dB change is considered a just-noticeable difference.
- 6. A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- 7. A 10 dB change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse community response.

FNDA2LDN 3 October 1990 (reformatted 2012)