ATTACHMENT IV

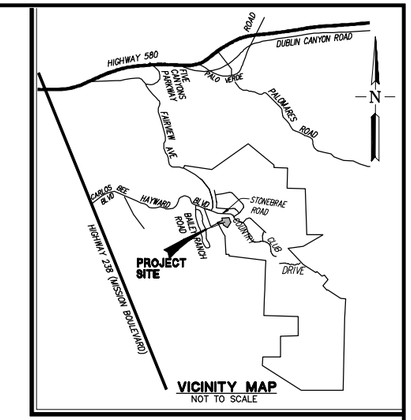
VESTING TENTATIVE MAP
TRACT 8353 - CAVALLO HIGHLANDS
CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

BENCHMARK:
STREET MONUMENT LOCATED 256± EAST OF THE INTERSECTION OF ARBUTUS COURT AND FAIRVIEW AVENUE, CITY OF HAYWARD
BENCHMARK B.M. J-21
ELEVATION: 1018.966 FEET

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	TRACT BOUNDARY	
	LOT LINE	
	RIGHT OF WAY	
	CENTER LINE	
	MATCH LINE	
	RETAINING WALL	
	EASEMENT LINE	
12"SD	STORM DRAIN	EX 12"SD
8"SS	SANITARY SEWER	EX 12"SS
12"W	POTABLE WATER	EX 12"W
8"W(R)	RECYCLED WATER	EX 8"W(R)
	CURB & GUTTER	EX FC
	SAWCUT	
	SIDEWALK	
	EARTH OR GRASS SWALE	
	VALLEY GUTTER	
	STORM WATER INLET	
	DROP INLET	
	AREA DRAIN	
	BUBBLE UP	
	MANHOLE	
	SANITARY SEWER CLEAN OUT	
	SANITARY SEWER LATERAL	
	FIRE HYDRANT	
	BLOW OFF	
	WATER SERVICE WITH METER BOX	
	BACKFLOW DEVICE	
	WATER VALVE	
	AIR RELEASE VALVE	
	POST INDICATOR VALVE	
	FIRE DEPARTMENT CONNECTION	
	SINGLE ARM STREET LIGHT	
	DOUBLE ARM STREET LIGHT	
	POST TOP LIGHT	
	PEDESTRIAN LIGHT	
	MONUMENT	
	TRAFFIC SIGN	
	STREET NAME SIGN	
	FENCE	
	BARRICADE	
	CURB RAMP	
130	CONTOUR ELEVATIONS	130
x 525.2	SPOT ELEVATION	×525.2
	NEW ASPHALT PAVEMENT	
	IRRIGATION SLEEVE	

LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

GENERAL NOTES

1. OWNER: CARRIE AITKEN
C/O ERIK HAYDEN
HAYDEN LAND COMPANY, LLC
15732 LOS GATOS BLVD, #101
LOS GATOS, CA 95032
(408) 348-5679

2. APPLICANT: CARRIE AITKEN
C/O ERIK HAYDEN
HAYDEN LAND COMPANY, LLC
15732 LOS GATOS BLVD, #101
LOS GATOS, CA 95032
(408) 348-5679

3. CIVIL ENGINEER: RUGGERI-JENSEN-AZAR
4690 CHABOT DRIVE, SUITE 200
PLEASANTON, CA 94588
(925) 227-9100
CONTACT: JOSEPH AZAR
R.C.E # 44628

4. GEOTECHNICAL ENGINEER: ENGEO INCORPORATED
2010 CROW CANYON PLACE, SUITE 250
SAN RAMON, CA 94583
(925) 866-9000
CONTACT: KELSEY GERHART

5. LEGAL DESCRIPTION: THE LAND REFERRED TO HEREIN IS SITUATED IN THE CITY OF HAYWARD, COUNTY OF ALAMEDA, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEASTERN CORNER OF THE RANCHO SAN LORENZO, THENCE ALONG THE EASTERN BOUNDARY LINE THEREOF TO THE TRUE POINT OF BEGINNING. THENCE ALONG THE PARCEL OF LAND DESCRIBED IN THE DEED BY A.C. SILVA TO ARTHUR M. CARDEN AND AGNES D. CARDEN, DATED APRIL 30, 1940, RECORDED OCTOBER 14, 1940, AND TRACT OF LAND DESCRIBED IN THE DEED, DATED JUNE 21, 1931, RECORDED FEBRUARY 16, 1932, IN BOOK 2728 OF OFFICIAL RECORDS OF ALAMEDA COUNTY, AND JANUARY 27, 1938, RECORDED DECEMBER 1, 1938, IN BOOK 3710 OF OFFICIAL RECORDS OF ALAMEDA COUNTY.

6. ASSESSOR'S PARCEL NUMBER: 085A-6428-002

7. CURRENT USE: RESIDENTIAL

8. PROPOSED USE: RESIDENTIAL

9. EXISTING ZONING: AGRICULTURAL B160A

10. PROPOSED ZONING: SDR (1-4.3 UNITS/ACRE)

11. GROSS SITE AREA: 8.9± ACRES

12. NET AREA: 7.5± ACRES

13. TOTAL NUMBER OF PROPOSED LOTS: 19 LOTS

14. OPEN SPACE: LOT A & B(OWNED AND MAINTAINED BY HOA)

15. PRIVATE STREET: LOT C (OWNED AND MAINTAINED BY HOA)

16. DEVELOPMENT DENSITY: 2.5 DWELLING UNITS/NET ACRES

17. UTILITIES
   a. WATER: CITY OF HAYWARD
   b. SANITARY SEWER: CITY OF HAYWARD
   c. STORM DRAIN: CITY OF HAYWARD
   d. FIRE: CITY OF HAYWARD
   e. GAS AND ELECTRIC: PG&E
   f. TELEPHONE: AT&T
   g. CABLE TV: COMCAST

18. THIS PROPERTY LIES WITHIN FLOOD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS SHOWN IN FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 06001C0294G, DATED AUGUST 3, 2009.

19. ALL EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE CRITERIA AND STANDARDS OF THE CITY OF HAYWARD.

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
ARV	AIR RELEASE VALVE
BC	BEGINNING OF CURVE
BO	BLOWOFF
BW	BOTTOM OF WALL
CL	CENTER LINE
COMM	COMMUNICATION
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DW	DOMESTIC WATER
EAE	EMERGENCY ACCESS EASEMENT
EC	END OF CURVE
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT
EX	EXISTING
FC	FACE OF CURB
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FS	FIRE SERVICE
FW	FIRE WATER
GE	GARAGE ELEVATION
GB	GRADE BREAK
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HM	HYDROMODIFICATION
INV	INVERT ELEVATION
LF	LINEAR FOOT
LP	LOW POINT
MAX	MAXIMUM
ME	MAINTENIANCE EASEMENT
MH	MANHOLE
MIN	MINIMUM
P	PAD ELEVATION
PAE	PUBLIC ACCESS EASEMENT
PAV	PAVEMENT
PCC	POINT OF COMPOUND CURVATURE
PIV	POST INDICATOR VALVE
PL	PROPERTY LINE
PMAE	PRIVATE MAINTENANCE ACCESS EASEMENT
PPAE	PRIVATE PEDESTRIAN ACCESS EASEMENT
PRC	POINT OF REVERSE CURVE
PRUE	PRIVATE SERVICES AND UTILITY EASEMENT
PSDE	PRIVATE STORM DRAIN EASEMENT
PSE	PUBLIC SERVICE EASEMENT
PUE	PUBLIC UTILITY EASEMENT
PVAE	PRIVATE VEHICLE ACCESS EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
PWLE	PRIVATE WATER LINE EASEMENT
RCP	REINFORCED CONCRETE PIPE
RET	CURB RETURN
RW	RIGHT OF WAY
SD	STORM DRAIN
SS	SANITARY SEWER
SNS	STREET NAME SIGN
SL	STREET LIGHT
STA	STATION
STD	STANDARD
SW	STORM WATER INLET
SWK	SIDEWALK
SLE	SANITARY SEWER LINE EASEMENT
TC	TOP OF CURB
TFC	TOP OF FLUSH CURB
TG	TOP OF GRATE
TMC	TOP OF MOUNTABLE CURB
TRW	TOP OF RETAINING WALL
TW	TOP OF WALL
TYP	TYPICAL
W(R)	RECYCLED WATER
W	WATER LINE
WLE	WATER LINE EASEMENT

ALTERNATIVE STREET NAMES

1. CALLE TRAMONTO
2. CALLE PENDIO

SHEET INDEX

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

DATE: JANUARY 7, 2019 JOB NO. 111044TM

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EXISTING CONDITIONS PLAN
TRACT 8353 - CAVALLO HIGHLANDS

CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

RJA
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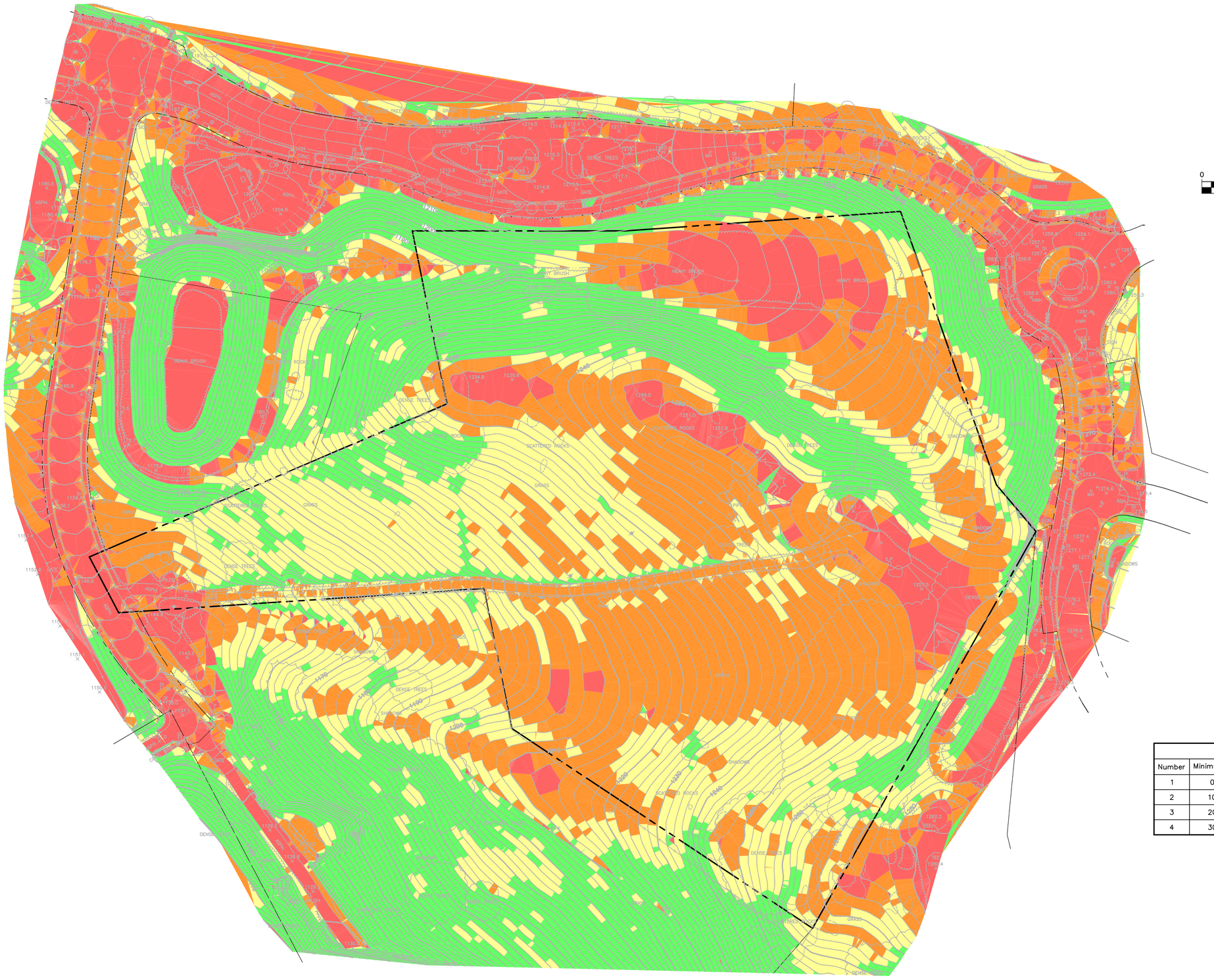

Slopes Table			
Number	Minimum Slope	Maximum Slope	Color
1	0.00%	10.00%	
2	10.00%	20.00%	
3	20.00%	30.00%	
4	30.00%	> 30.00%	

SLOPE CLASSIFICATION MAP
TRACT 8353 - CAVALLO HIGHLANDS

CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

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PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: MARCH 5, 2018 JOB NO. 111044TM

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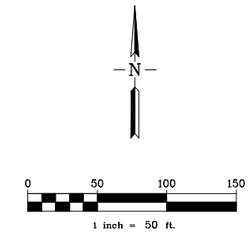


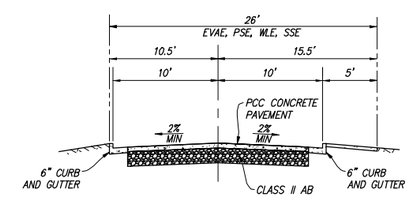
LOT AREA TABLE

LOT	AREA (SF)
1	19,280
2	13,790
3	11,420
4	11,353
5	11,353
6	10,804
7	12,554
8	9,017
9	10,913
10	15,202
11	11,018
12	11,377
13	11,736
14	12,138
15	15,534
16	9,885
17	10,662
18	8,804
19	7,915

LOT	AREA (SF)
A	56,684
B	42,071
C	63,390
TOTAL	386,900
AVG (LOTS 1–19)	11,829

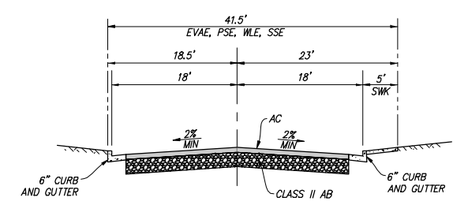
LOT NOTES:

1. LOT C, SHALL BE DESIGNATED AS PRIVATE STREET AREA TO BE MAINTAINED BY HOA.
2. LOTS A & B SHALL BE DESIGNATED AS OPEN SPACE AREA TO BE OWNED AND MAINTAINED BY HOA.
3. LOTS 1–19 SHALL BE DESIGNATED AS RESIDENTIAL LOTS.



VIA DEL CORSO

NOT TO SCALE



CALLE CERVO

NOT TO SCALE

NOTE:

1. INSTALL PCC VALLEY GUTTER AND APRON PER CITY STD SD-110A ALONG CARDEN LANE AT STREET "A" ENTRANCE.

PROPOSED LOTTING PLAN
TRACT 8353 - CAVALLO HIGHLANDS

CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

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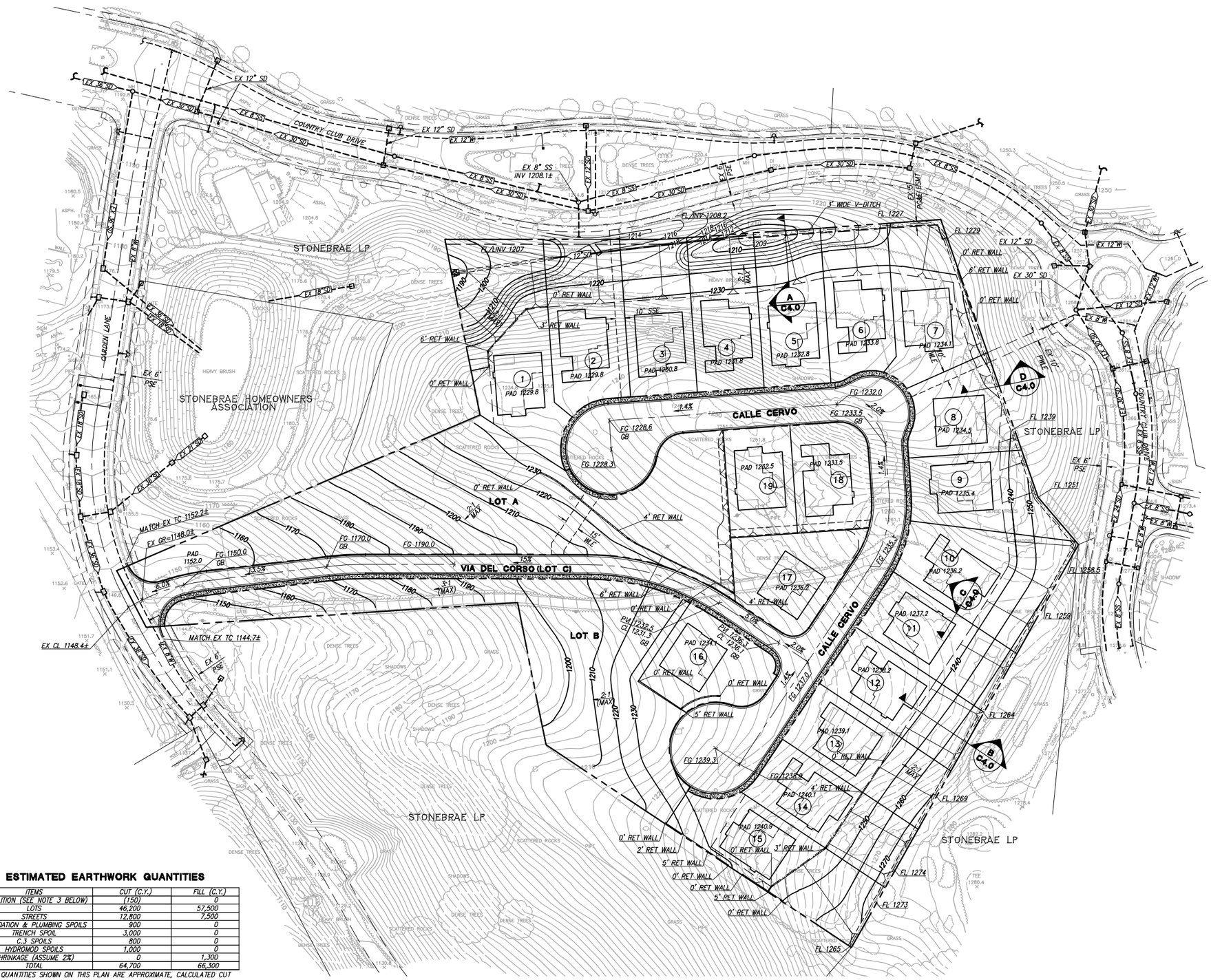

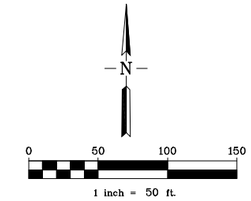

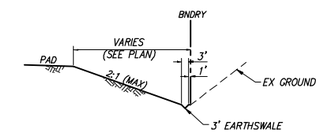

SECTION A-A
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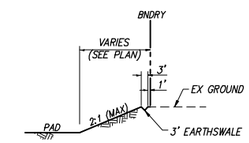

SECTION B-B
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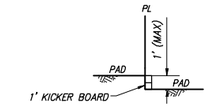

SECTION C-C
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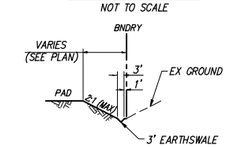

SECTION D-D
NOT TO SCALE

ESTIMATED EARTHWORK QUANTITIES

ITEMS	CUT (C.Y.)	FILL (C.Y.)
DEMOLITION (SEE NOTE 3 BELOW)	(150)	0
LOTS	46,200	57,500
STREETS	12,800	7,500
FOUNDATION & PLUMBING SPOILS	900	0
TRENCH SPOIL	3,000	0
C.3 SPOILS	800	0
HYDROMOD SPOILS	1,000	0
SHRINKAGE (ASSUME 2%)	0	1,300
TOTAL	64,700	66,300

1. ALL QUANTITIES SHOWN ON THIS PLAN ARE APPROXIMATE, CALCULATED CUT AND FILL ARE TO "ROUGH GRADE" AND EXISTING GROUND. THE ACTUAL AMOUNT OF EARTH MOVED IS VARIABLE DEPENDENT ON COMPACTION, CONSOLIDATION, STRIPPING REQUIREMENTS, AND THE CONTRACTOR'S METHOD OF OPERATION.
2. THE CONTRACTOR SHALL VERIFY ALL EARTHWORK QUANTITIES BEFORE START OF WORK. THE CONTRACTOR SHALL CONTACT THE CIVIL ENGINEER WITH ANY DISCREPANCIES.
3. DEMOLITION MATERIAL TO BE OFFHAULED BY THE CONTRACTOR.
4. FOUNDATION AND PLUMBING SPOILS ARE ASSUMED AT 50 CY/BUILDING

PRELIMINARY GRADING AND DRAINAGE PLAN
TRACT 8353 - CAVALLO HIGHLANDS

CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

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4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: JANUARY 7, 2019 JOB NO. 111044TM

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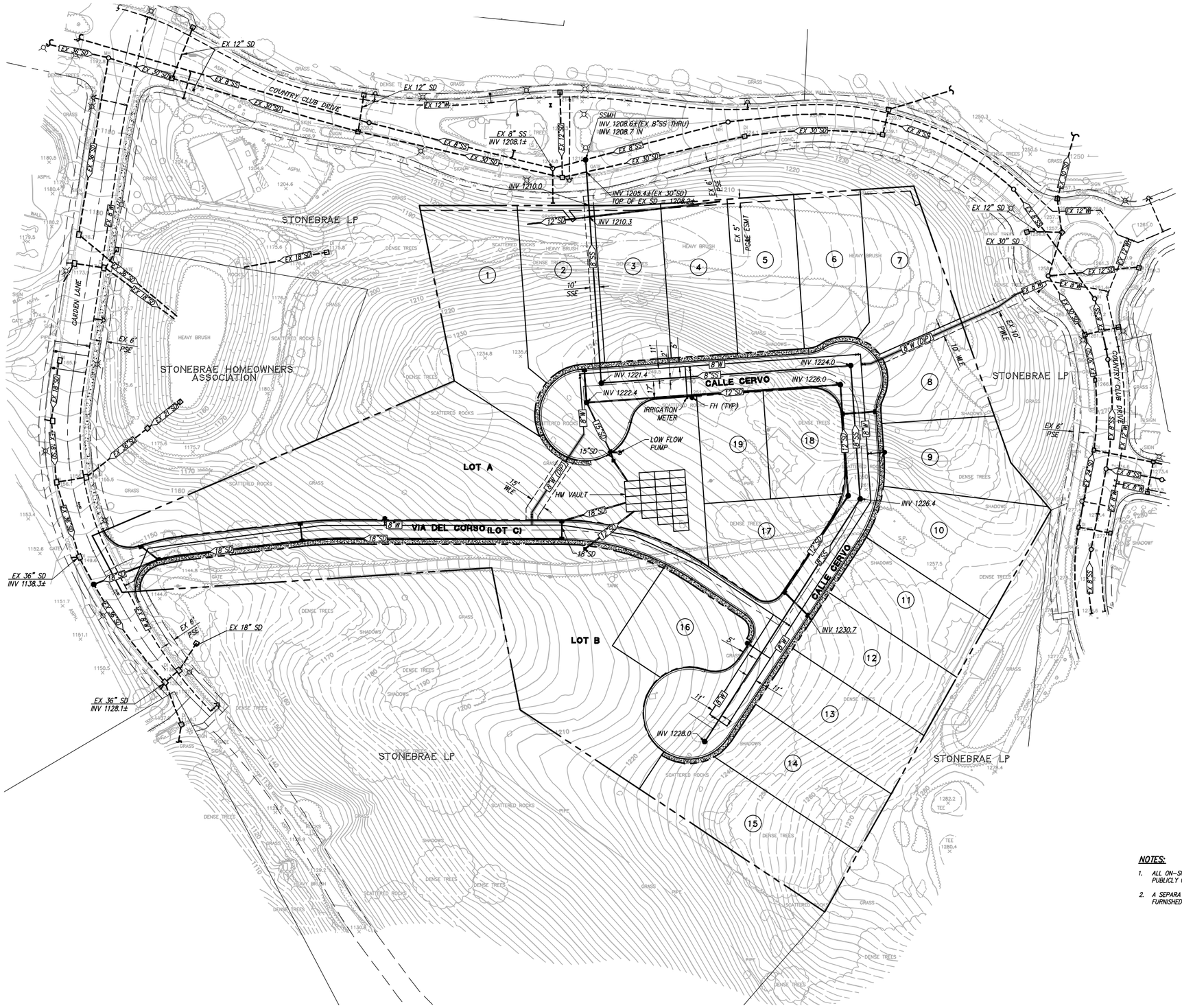

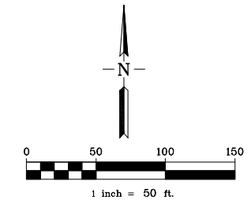

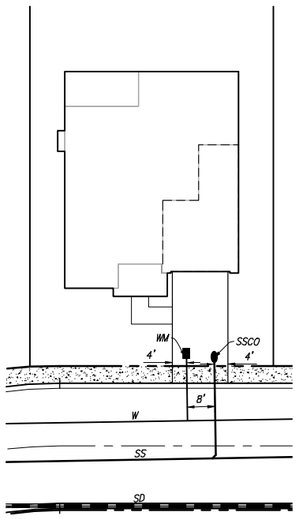

DETAIL 1 - TYPICAL UTILITY LAYOUT

NOT TO SCALE

NOTES:

1. ALL ON-SITE SANITARY SEWER & WATER LINES WILL BE PUBLICLY OWNED AND MAINTAINED BY THE CITY OF HAYWARD.
2. A SEPARATE IRRIGATION METER AND SERVICE SHALL BE FURNISHED FOR COMMON AREA LANDSCAPING.

PRELIMINARY UTILITY PLAN
TRACT 8353 - CAVALLO HIGHLANDS

CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

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PHONE: (925) 227-9100 FAX: (925) 227-9300

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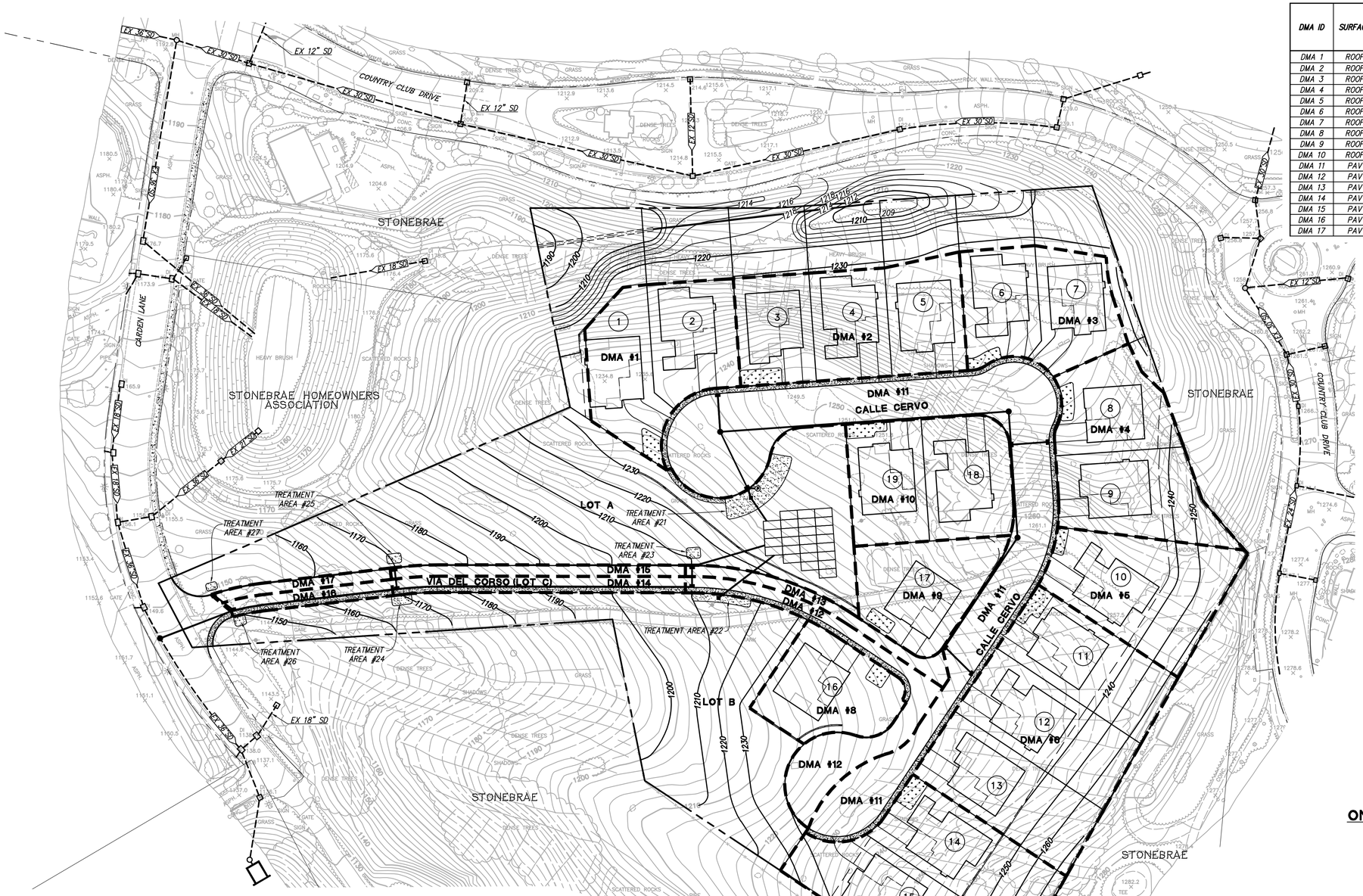
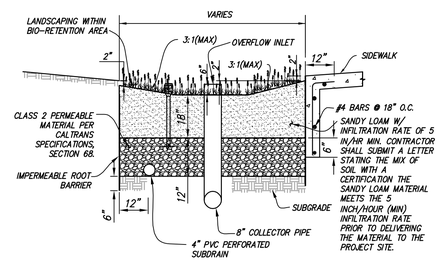


STORMWATER TREATMENT CALCULATION

DMA ID	SURFACE	IMPERVIOUS AREA (SF)	REDUCTION IN IMPERVIOUS AREA (TREE CREDIT)	EFFECTIVE LANDSCAPE AREA (SF)	TOTAL EFFECTIVE IMPERVIOUS AREA	BMP USED	SIZING FACTOR	REQUIRED AREA (SF)	SURFACE AREA AS PROVIDED (SF)
DMA 1	ROOF	11,028	0	698	11,726	BIORETENTION	0.04	469	470
DMA 2	ROOF	13,432	0	777	14,209	BIORETENTION	0.04	568	569
DMA 3	ROOF	8,728	350	540	8,918	BIORETENTION	0.04	357	359
DMA 4	ROOF	9,434	925	980	9,489	BIORETENTION	0.04	380	382
DMA 5	ROOF	5,330	0	995	6,325	BIORETENTION	0.04	253	254
DMA 6	ROOF	13,451	1,975	2,087	13,563	BIORETENTION	0.04	543	549
DMA 7	ROOF	10,285	0	1,755	12,040	BIORETENTION	0.04	482	485
DMA 8	ROOF	7,026	0	344	7,370	BIORETENTION	0.04	295	295
DMA 9	ROOF	7,240	0	353	7,593	BIORETENTION	0.04	304	304
DMA 10	ROOF	10,909	150	608	11,367	BIORETENTION	0.04	455	459
DMA 11	PAV	38,000	0	0	38,000	BIORETENTION	0.04	1,520	1520
DMA 12	PAV	9,419	0	0	9,419	BIORETENTION	0.04	377	378
DMA 13	PAV	3,100	0	0	3,100	BIORETENTION	0.04	124	124
DMA 14	PAV	4,061	0	0	4,061	BIORETENTION	0.04	162	164
DMA 15	PAV	2,900	0	0	2,900	BIORETENTION	0.04	116	117
DMA 16	PAV	2,296	0	0	2,296	BIORETENTION	0.04	92	93
DMA 17	PAV	1,700	0	0	1,700	BIORETENTION	0.04	68	69

NOTES:

1. THE ABOVE CALCULATIONS ARE BASED ON THE ALAMEDA COUNTYWIDE CLEAN WATER PROGRAM, C.3 STORMWATER TECHNICAL GUIDANCE, DATED JANUARY 1, 2015, AND THE FOLLOWING CRITERIA:
   a. EFFECTIVE IMPERVIOUS AREA = IMPERVIOUS AREA + 10% OF PERVIOUS AREA
   b. 0.2 INCHES/HOUR RAINFALL INTENSITY ON 100% OF EFFECTIVE IMPERVIOUS AREA.
   c. SOIL FOR TREATMENT MEDIUM WITH A 5 INCHES/HOUR INFILTRATION RATE.
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. SITE HAS A TOTAL OF 34 DECIDUOUS TREES. THIS ALLOWS FOR A 3,400 REDUCTION IN IMPERVIOUS AREA



ON-LOT BIO-RETENTION (ADJACENT TO SIDEWALK)

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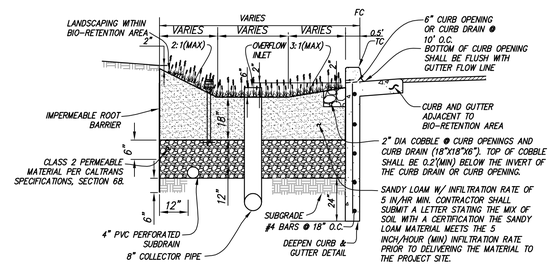

BIORETENTION AT OPEN SPACE

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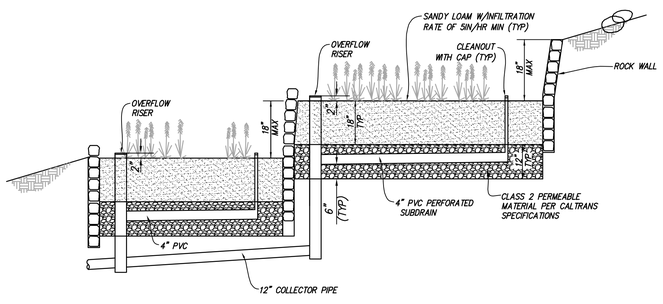

BIORETENTION AREAS FOR DMA #12-17

NOT TO SCALE

LEGEND

ON-LOT BIORETENTION

BIORETENTION AT OPEN SPACE

PRELIMINARY STORMWATER TREATMENT PLAN

TRACT 8353 - CAVALLO HIGHLANDS

CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA

N

0 50 100 150

1 inch = 50 ft.

RJA
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PHONE: (925) 227-9100 FAX: (925) 227-9300

DATE: JANUARY 7, 2019 JOB NO. 111044TM

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GRAPHIC SCALE

40 0 20 40 80 160

(In Feet)
1 inch = 40 feet

EXISTING TREE SUMMARY	
TOTAL TREES TO REMAIN "OFF SITE"	7
TOTAL TREES TO BE REMOVED "ON SITE"	78
TOTAL EXISTING TREES ON SITE	78

TREE PROTECTION LEGEND	
DESCRIPTION	SYMBOL
TREE (ON SITE) TO BE REMOVED	✕#
TREE (OFF SITE) TO REMAIN/PROTECT	●#

NOTES:
1. SEE SHEET L1.2 FOR TREE MITIGATION SUMMARY CHART.
2. SEE SHEET L1.3 FOR TREE INVENTORY AND TREE PROTECTION NOTES.
3. TREE MITIGATION SHALL COMPLY WITH CITY OF HAYWARD TREE PRESERVATION ORDINANCE REQUIREMENTS, MUNICIPAL CODE CHAPTER 10, ARTICLE 15.

HMH
Land Use Entitlements
Land Planning
Landscape Architecture
Civil Engineering
Utility Design
Land Surveying
Stormwater Compliance
1570 Oakland Road
San Jose, CA 95131
(408) 487-2200
HMHca.com

CAVALLO HIGHLANDS
TRACT 8353
HAYWARD,CA

NO	DATE	DESCRIPTION

PROJECT NO:	4795.00
CAD DWG FILE:	479500CL.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	1" = 40'

TREE REMOVAL PLAN

L1.1

PLOTTED: 1/8/2019 2:05 PM

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LSA
TIM MILLIKEN
CERTIFIED ARBORIST WE5539A

CAVALLO HIGHLANDS
TREE EVALUATION MATRIX
AUGUST 2016

Proposed Required Trees	Quantity	Sizes
Required Street Trees	54	24" BOX
Required Alley Accent Tree	0	15 GALLON
Required Group Open Space	1	15 GALLON
Required Front Setback Tree	18	24" BOX
Required Evergreen Screening	0	15 GALLON
Required Parking Bay	0	15 GALLON
Total Trees Planted (Required)	73	24" BOX
	0	15 Gallon
Total	73	

TREE MITIGATION MEASURES CHART

COST OF MATERIALS - PERMEABLE PAVERS

	STANDARD CONCRETE	PROPOSED PERMEABLE PAVER	IMPROVEMENT COST	S.F.	COST OF IMPROVEMENT
DRIVE & WALKWAYS	$3.00	$16.00	$13.00	11500	$149,500
			TOTAL MATERIAL UPGRADES		**$149,500**

COST OF LABOR - PERMEABLE PAVER

	STANDARD CONCRETE	PROPOSED POR.US CONCRETE	IMPROVEMENT COST	S.F.	COST OF IMPROVEMENT
DRIVE & WALKWAYS	$3.00	$18.50	$15.50	11500	$178,250
			TOTAL LABOR UPGRADES		**$178,250**
			TOTAL UPGRADES		**$327,750**

COST OF MATERIALS - TREE UPGRADES

	15 GALLON	24" BOX	IMPROVEMENT COST
ADDITIONAL TREES BEYOND REQUIRED	$0.00	45 X $250 = $11,250	$11,250
REPLACE (1 OPEN SPACE) 15 GALLON TREE WITH 24" BOX TREE		1 X $250 = $250	$250
		TOTAL MATERIAL UPGRADES	**$11,500**

COST OF LABOR - TREE UPGRADES

	15 GALLON	24" BOX	IMPROVEMENT COST
REQUIRED	$0.00	45 X $50 = $2250	$2,250
REPLACE (1 OPEN SPACE) 15 GALLON TREE WITH 24" BOX TREE		1 X $50 = $50	$50
		TOTAL MATERIAL UPGRADES	**$2,300**
		TOTAL UPGRADES	**$13,800**

Mitigation Summary	
Permeable Paver Mitigation Value	$327,750.00
Tree Upgrade Mitigation Value	$13,800.00
Total Mitigation	$341,550.00

Total Value of Trees to be Removed	$682,015.92
Total Value to Mitigate	$340,465.92

Tree #	Species	Common Name	Nursery Group	Multi-stem	Total DBH (inches)	Species Rating	Estimated Height (feet)	Crown Radius (feet)	Condition Rating	Site Rating	Contribution Rating	Location Rating	Protected Tree Trunk Area (square inches)	Adjusted Trunk Area (square inches)	Replacement Tree Trunk Area (square inches)	Replacement Size Basic Price Per Trunk Area	Installed Tree Cost	Approximate Tree Trunk Increase	Average Regional Tree Cost	Unit Tree Cost	Difference Between Appraised Tree Increase and Replacement Tree Size	Basic Tree Cost	Appraised Tree Value	TO BE REMOVED
1701	*Pinus halepensis*	Aleppo pine	3	no	16	50%	20	15	100%	50%	40%	50%	201	201	3.8	$45.46	$345.46	197	172.73	$45	$8,961.96	$9,307.42	$ 2,326.85	YES
1702	*Pinus halepensis*	Aleppo pine	3	no	22	50%	20	15	100%	50%	40%	50%	380	380	3.8	$45.46	$345.46	376	172.73	$45	$17,097.54	$17,443.00	$ 4,360.75	YES
1703	*Pinus halepensis*	Aleppo pine	3	no	28	50%	20	15	100%	50%	50%	50%	615	615	3.8	$45.46	$345.46	612	172.73	$45	$27,802.26	$28,147.72	$ 7,036.93	YES
1704	*Quercus agrifolia*	Coast live oak	1	no	4	90%	20	15	100%	50%	30%	50%	13	13	2.09	$82.82	$345.46	10	172.73	$83	$865.30	$1,210.76	$ 544.84	NO
1705	*Quercus agrifolia*	Coast live oak	1	no	5	0%	20	15	100%	50%	30%	50%	20	20	2.09	$82.82	$345.46	18	172.73	$83	$1,449.20	$1,794.66	$ -	NO
1706	*Quercus agrifolia*	Coast live oak	1	no	5	90%	20	15	100%	50%	30%	50%	20	20	2.09	$82.82	$345.46	18	172.73	$83	$1,449.20	$1,794.66	$ 807.60	NO
1707	*Quercus agrifolia*	Coast live oak	1	no	9	0%	20	15	100%	50%	30%	50%	64	64	2.09	$82.82	$345.46	61	172.73	$83	$5,082.31	$5,427.77	$ -	NO
1708	*Quercus agrifolia*	Coast live oak	1	no	10	90%	20	15	100%	50%	30%	50%	79	79	2.09	$82.82	$345.46	76	172.73	$83	$6,314.98	$6,660.44	$ 2,997.20	NO
1709	*Umbellularia californica*	California bay	1	yes	100	70%	30	30	100%	50%	50%	50%	7,850	2,493	2.09	$82.82	$345.46	2,491	172.73	$83	$205,863.58	$206,209.04	$ 72,173.16	YES
1710	*Umbellularia californica*	California bay	1	yes	60	70%	30	25	100%	50%	50%	50%	2,826	1,865	2.09	$82.82	$345.46	1,863	172.73	$83	$153,961.94	$154,307.40	$ 54,007.59	YES
1711	*Umbellularia californica*	California bay	1	yes	60	70%	30	20	100%	50%	50%	50%	2,826	1,865	2.09	$82.82	$345.46	1,863	172.73	$83	$153,961.94	$154,307.40	$ 54,007.59	YES
1712	*Umbellularia californica*	California bay	1	yes	90	70%	30	15	94%	50%	50%	50%	6,359	2,437	2.09	$82.82	$345.46	2,434	172.73	$83	$201,194.09	$201,539.55	$ 66,130.16	YES
1713	*Umbellularia californica*	California bay	1	no	48	70%	30	20	97%	50%	50%	50%	1,809	1,468	2.09	$82.82	$345.46	1,465	172.73	$83	$121,115.14	$121,460.60	$ 41,182.73	YES
1714	*Umbellularia californica*	California bay	1	no	48	70%	30	20	100%	50%	50%	50%	1,809	1,468	2.09	$82.82	$345.46	1,465	172.73	$83	$121,115.14	$121,460.60	$ 42,511.21	YES
1715	*Quercus agrifolia*	Coast live oak	1	no	15	90%	20	15	100%	50%	40%	50%	177	177	2.09	$82.82	$345.46	175	172.73	$83	$14,424.61	$14,770.07	$ 6,646.53	NO
1716	*Eucalyptus globulus*	Blue gum	5	no	52	10%	100	30	97%	50%	50%	50%	2,123	1,611	4.75	$36.36	$345.46	1,606	172.73	$36	$58,401.29	$58,746.75	$ 2,845.55	YES
1717	*Eucalyptus globulus*	Blue gum	5	no	24	10%	60	30	84%	50%	50%	50%	452	452	4.75	$36.36	$345.46	447	172.73	$36	$16,269.71	$16,615.17	$ 700.95	YES
1718	*Eucalyptus globulus*	Blue gum	5	no	20	10%	75	30	84%	50%	40%	50%	314	314	4.75	$36.36	$345.46	309	172.73	$36	$11,245.63	$11,591.09	$ 489.00	YES
1719	*Eucalyptus globulus*	Blue gum	5	no	32	10%	60	30	84%	50%	50%	50%	804	788	4.75	$36.36	$345.46	783	172.73	$36	$28,466.27	$28,811.73	$ 1,215.49	YES
1720	*Eucalyptus globulus*	Blue gum	5	no	48	10%	80	30	81%	50%	50%	50%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 2,175.04	YES
1721	*Eucalyptus globulus*	Blue gum	5	no	24	10%	80	30	81%	50%	50%	50%	452	452	4.75	$36.36	$345.46	447	172.73	$36	$16,269.71	$16,615.17	$ 674.99	YES
1722	*Eucalyptus globulus*	Blue gum	5	no	14	10%	60	30	78%	50%	40%	50%	154	154	4.75	$36.36	$345.46	149	172.73	$36	$5,422.27	$5,767.73	$ 225.30	YES
1723	*Eucalyptus globulus*	Blue gum	5	no	16	10%	55	30	78%	50%	40%	50%	201	201	4.75	$36.36	$345.46	196	172.73	$36	$7,135.02	$7,480.48	$ 292.21	YES
1724	*Eucalyptus globulus*	Blue gum	5	no	16	10%	50	30	81%	50%	40%	50%	201	201	4.75	$36.36	$345.46	196	172.73	$36	$7,135.02	$7,480.48	$ 303.89	YES
1725	*Eucalyptus globulus*	Blue gum	5	no	16	10%	35	30	81%	50%	40%	50%	201	201	4.75	$36.36	$345.46	196	172.73	$36	$7,135.02	$7,480.48	$ 303.89	YES
1726	*Eucalyptus globulus*	Blue gum	5	no	16	10%	60	30	81%	50%	40%	50%	201	201	4.75	$36.36	$345.46	196	172.73	$36	$7,135.02	$7,480.48	$ 303.89	YES
1727	*Eucalyptus globulus*	Blue gum	5	no	48	10%	60	30	81%	50%	50%	50%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 2,175.04	YES
1728	*Eucalyptus globulus*	Blue gum	5	no	22	10%	60	30	81%	50%	40%	50%	380	380	4.75	$36.36	$345.46	375	172.73	$36	$13,643.49	$13,988.95	$ 568.30	YES
1729	*Eucalyptus globulus*	Blue gum	5	no	28	10%	80	30	81%	50%	50%	50%	615	615	4.75	$36.36	$345.46	611	172.73	$36	$22,207.26	$22,552.72	$ 916.20	YES
1730	*Eucalyptus globulus*	Blue gum	5	no	12	10%	45	30	81%	50%	30%	50%	113	113	4.75	$36.36	$345.46	108	172.73	$36	$3,937.88	$4,283.34	$ 174.01	YES
1731	*Eucalyptus globulus*	Blue gum	5	no	20	10%	30	30	81%	50%	40%	50%	314	314	4.75	$36.36	$345.46	309	172.73	$36	$11,245.63	$11,591.09	$ 470.89	YES
1732	*Eucalyptus globulus*	Blue gum	5	no	48	10%	80	30	81%	50%	50%	50%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 2,175.04	YES
1733	*Eucalyptus globulus*	Blue gum	5	no	10	10%	35	30	81%	50%	30%	50%	79	79	4.75	$36.36	$345.46	74	172.73	$36	$2,681.86	$3,027.32	$ 122.98	YES
1734	*Eucalyptus globulus*	Blue gum	5	no	6	0%	30	30	69%	50%	30%	50%	28	28	4.75	$36.36	$345.46	24	172.73	$36	$854.92	$1,200.38	$ -	YES
1735	*Eucalyptus globulus*	Blue gum	5	no	18	10%	75	30	81%	50%	40%	50%	254	254	4.75	$36.36	$345.46	250	172.73	$36	$9,076.14	$9,421.60	$ 382.75	YES
1736	*Eucalyptus globulus*	Blue gum	5	no	42	10%	90	30	81%	50%	50%	50%	1,385	1,233	4.75	$36.36	$345.46	1,228	172.73	$36	$44,651.98	$44,997.44	$ 1,828.02	YES
1737	*Eucalyptus globulus*	Blue gum	5	no	23	10%	80	30	81%	50%	40%	50%	415	415	4.75	$36.36	$345.46	411	172.73	$36	$14,928.05	$15,273.51	$ 620.49	YES
1738	*Eucalyptus globulus*	Blue gum	5	no	22	10%	80	30	81%	50%	40%	50%	380	380	4.75	$36.36	$345.46	375	172.73	$36	$13,643.49	$13,988.95	$ 568.30	YES
1739	*Eucalyptus globulus*	Blue gum	5	yes	18	10%	35	30	69%	50%	40%	50%	254	254	4.75	$36.36	$345.46	250	172.73	$36	$9,076.14	$9,421.60	$ 323.87	YES
1740	*Eucalyptus globulus*	Blue gum	5	no	28	10%	40	30	69%	50%	50%	50%	615	615	4.75	$36.36	$345.46	611	172.73	$36	$22,207.26	$22,552.72	$ 775.25	YES
1741	*Eucalyptus globulus*	Blue gum	5	no	19	10%	60	30	81%	50%	40%	50%	283	283	4.75	$36.36	$345.46	279	172.73	$36	$10,132.34	$10,477.80	$ 425.66	YES
1742	*Eucalyptus globulus*	Blue gum	5	no	50	10%	90	30	78%	50%	50%	50%	1,963	1,541	4.75	$36.36	$345.46	1,536	172.73	$36	$55,846.34	$56,191.80	$ 2,194.99	YES

Tree #	Species	Common Name	Nursery Group	Multi-stem	Total DBH (inches)	Species Rating	Estimated Height (feet)	Crown Radius (feet)	Condition Rating	Site Rating	Contribution Rating	Location Rating	Protected Tree Trunk Area (square inches)	Adjusted Trunk Area (square inches)	Replacement Tree Trunk Area (square inches)	Replacement Size Basic Price Per Trunk Area	Installed Tree Cost	Approximate Tree Trunk Increase	Average Regional Tree Cost	Unit Tree Cost	Difference Between Appraised Tree Increase and Replacement Tree Size	Basic Tree Cost	Appraised Tree Value	TO BE REMOVED
1743	*Eucalyptus globulus*	Blue gum	5	no	19	10%	25	30	78%	50%	40%	50%	283	283	4.75	$36.36	$345.46	279	172.73	$36	$10,132.34	$10,477.80	$ 409.29	YES
1744	*Eucalyptus globulus*	Blue gum	5	no	72	10%	100	30	78%	50%	50%	50%	4,069	2,166	4.75	$36.36	$345.46	2,161	172.73	$36	$78,590.70	$78,936.16	$ 3,083.44	YES
1745	*Eucalyptus globulus*	Blue gum	5	no	12	10%	30	30	63%	50%	30%	50%	113	113	4.75	$36.36	$345.46	108	172.73	$36	$3,937.88	$4,283.34	$ 133.85	YES
1746	*Eucalyptus globulus*	Blue gum	5	no	36	10%	60	30	81%	50%	50%	50%	1,017	974	4.75	$36.36	$345.46	969	172.73	$36	$35,232.92	$35,578.38	$ 1,445.37	YES
1747	*Eucalyptus globulus*	Blue gum	5	no	30	10%	65	30	78%	50%	50%	50%	707	707	4.75	$36.36	$345.46	702	172.73	$36	$25,518.58	$25,864.04	$ 1,010.31	YES
1748	*Eucalyptus globulus*	Blue gum	5	no	6	0%	25	30	78%	50%	30%	50%	28	28	4.75	$36.36	$345.46	24	172.73	$36	$854.92	$1,200.38	$ -	YES
1749	*Eucalyptus globulus*	Blue gum	5	yes	32	10%	60	30	69%	50%	50%	50%	804	788	4.75	$36.36	$345.46	783	172.73	$36	$28,466.27	$28,811.73	$ 990.40	YES
1750	*Eucalyptus globulus*	Blue gum	5	no	36	10%	100	30	78%	50%	50%	50%	1,017	974	4.75	$36.36	$345.46	969	172.73	$36	$35,232.92	$35,578.38	$ 1,389.78	YES
1751	*Eucalyptus globulus*	Blue gum	5	no	48	10%	45	30	78%	50%	50%	50%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 2,091.38	YES
1752	*Eucalyptus globulus*	Blue gum	5	yes	36	10%	100	30	69%	50%	50%	50%	1,017	974	4.75	$36.36	$345.46	969	172.73	$36	$35,232.92	$35,578.38	$ 1,223.01	YES
1753	*Eucalyptus globulus*	Blue gum	5	no	8	10%	35	30	81%	50%	30%	50%	50	50	4.75	$36.36	$345.46	45	172.73	$36	$1,654.21	$1,999.67	$ 81.24	YES
1754	*Eucalyptus globulus*	Blue gum	5	no	28	10%	25	30	78%	50%	50%	50%	615	615	4.75	$36.36	$345.46	611	172.73	$36	$22,207.26	$22,552.72	$ 880.97	YES
1755	*Eucalyptus globulus*	Blue gum	5	no	20	10%	60	30	78%	50%	50%	50%	314	314	4.75	$36.36	$345.46	309	172.73	$36	$11,245.63	$11,591.09	$ 452.78	YES
1756	*Eucalyptus globulus*	Blue gum	5	yes	26	10%	60	30	78%	50%	50%	50%	531	531	4.75	$36.36	$345.46	526	172.73	$36	$19,124.30	$19,469.76	$ 760.54	YES
1757	*Eucalyptus globulus*	Blue gum	5	yes	48	10%	90	30	78%	50%	50%	50%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 2,091.38	YES
1758	*Eucalyptus globulus*	Blue gum	5	yes	26	10%	80	30	78%	50%	50%	50%	531	531	4.75	$36.36	$345.46	526	172.73	$36	$19,124.30	$19,469.76	$ 760.54	YES
1759	*Eucalyptus globulus*	Blue gum	5	yes	36	10%	100	30	81%	50%	50%	50%	1,017	974	4.75	$36.36	$345.46	969	172.73	$36	$35,232.92	$35,578.38	$ 1,445.37	YES
1760	*Eucalyptus globulus*	Blue gum	5	no	46	10%	100	30	78%	50%	50%	50%	1,661	1,392	4.75	$36.36	$345.46	1,387	172.73	$36	$50,444.07	$50,789.53	$ 1,983.97	YES
1761	*Eucalyptus globulus*	Blue gum	5	no	48	10%	100	30	78%	50%	50%	50%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 2,091.38	YES
1762	*Eucalyptus globulus*	Blue gum	5	no	26	10%	60	30	78%	50%	50%	50%	531	531	4.75	$36.36	$345.46	526	172.73	$36	$19,124.30	$19,469.76	$ 760.54	YES
1763	*Eucalyptus globulus*	Blue gum	5	no	28	10%	80	30	78%	50%	50%	50%	615	615	4.75	$36.36	$345.46	611	172.73	$36	$22,207.26	$22,552.72	$ 880.97	YES
1764	*Eucalyptus globulus*	Blue gum	5	no	30	10%	70	30	78%	50%	50%	50%	707	707	4.75	$36.36	$345.46	702	172.73	$36	$25,518.58	$25,864.04	$ 1,010.31	YES
1765	*Eucalyptus globulus*	Blue gum	5	no	100	10%	90	30	81%	50%	50%	50%	7,850	2,493	4.75	$36.36	$345.46	2,488	172.73	$36	$90,483.25	$90,828.71	$ 3,689.92	YES
1766	*Prunus cerasifera*	Plum	3	yes	8	30%	10	88	81%	50%	30%	50%	50	50	3.8	$45.46	$345.46	46	172.73	$45	$2,110.94	$2,456.40	$ 299.37	YES
1767	*Prunus cerasifera*	Plum	3	yes	24	30%	12	12	75%	50%	40%	50%	452	452	3.8	$45.46	$345.46	448	172.73	$45	$20,380.32	$20,725.78	$ 2,331.65	YES
1768	*Eucalyptus globulus*	Blue gum	5	no	15	10%	55	30	84%	50%	40%	50%	177	177	4.75	$36.36	$345.46	172	172.73	$36	$6,250.10	$6,595.56	$ 278.25	YES
1769	*Pinus palustris*	Longleaf pine	2	yes	44	70%	80	20	81%	50%	50%	60%	1,520	1,314	2.24	$77.04	$345.46	1,311	172.73	$77	$101,124.16	$101,469.62	$ 34,626.51	YES
1770	*Salix laevigata*	Red willow	2	no	8	70%	10	12	100%	50%	30%	60%	50	50	2.24	$77.04	$345.46	48	172.73	$77	$3,701.36	$4,046.82	$ 1,699.66	YES
1771	*Quercus agrifolia*	Coast live oak	1	no	7	90%	10	10	100%	50%	30%	60%	38	38	2.09	$82.82	$345.46	36	172.73	$83	$3,006.25	$3,351.71	$ 1,809.92	YES
1772	*Oleo europeaea*	Olive	2	no	16	20%	20	12	100%	50%	40%	70%	201	201	2.24	$77.04	$345.46	199	172.73	$77	$15,323.62	$15,669.08	$ 2,193.67	YES
1773	*Cedrus deodora*	Deodar cedar	1	no	54	90%	75	25	100%	50%	50%	70%	2,289	1,678	2.09	$82.82	$345.46	1,676	172.73	$83	$138,535.25	$138,880.71	$ 87,494.84	YES
1774	*Acacia melanoxylon*	Blackwood acacia	4	no	40	20%	30	25	84%	50%	50%	70%	1,256	1,149	4.75	$36.36	$345.46	1,144	172.73	$36	$41,609.75	$41,955.21	$ 4,955.96	YES
1775	*Prunus cerasifera*	Plum	3	no	16	30%	15	15	69%	50%	40%	70%	201	201	3.8	$45.46	$345.46	197	172.73	$45	$8,961.96	$9,307.42	$ 1,343.76	YES
1776	*Eucalyptus globulus*	Blue gum	5	no	48	10%	90	30	81%	50%	50%	70%	1,809	1,468	4.75	$36.36	$345.46	1,463	172.73	$36	$53,193.93	$53,539.39	$ 3,045.05	YES
1777	*Eucalyptus globulus*	Blue gum	5	no	72	10%	100	30	84%	50%	50%	70%	4,069	2,166	4.75	$36.36	$345.46	2,161	172.73	$36	$78,590.70	$78,936.16	$ 4,662.17	YES
1778	*Eucalyptus globulus*	Blue gum	5	no	15	10%	40	30	84%	50%	40%	70%	177	177	4.75	$36.36	$345.46	172	172.73	$36	$6,250.10	$6,595.56	$ 389.55	YES
1779	*Eucalyptus globulus*	Blue gum	5	no	11	10%	50	30	81%	50%	30%	70%	95	95	4.75	$36.36	$345.46	90	172.73	$36	$3,281.32	$3,626.78	$ 206.27	YES
1780	*Eucalyptus globulus*	Blue gum	5	no	19	10%	75	30	84%	50%	40%	70%	283	283	4.75	$36.36	$345.46	279	172.73	$36	$10,132.34	$10,477.80	$ 618.85	YES
1781	*Quercus agrifolia*	Coast live oak	1	no	42	90%	35	35	100%	50%	50%	70%	1,385	1,233	2.09	$82.82	$345.46	1,231	172.73	$83	$101,701.61	$102,047.07	$ 64,289.65	YES
1782	*Quercus agrifolia*	Coast live oak	1	no	40	90%	2	30	81%	50%	50%	70%	1,256	1,149	2.09	$82.82	$345.46	1,147	172.73	$83	$94,787.45	$95,132.91	$ 48,696.16	YES
1783	*Acer macrophyllum*	Bigleaf maple	4	no	52	30%	25	25	69%	50%	50%	50%	2,123	1,611	4.75	$36.36	$345.46	1,606	172.73	$36	$58,401.29	$58,746.75	$ 6,058.26	YES
1784	*Quercus agrifolia*	Coast live oak	1	yes	27	90%	15	20	100%	50%	50%	50%	572	572	2.09	$82.82	$345.46	570	172.73	$83	$47,122.64	$47,468.10	$ 21,360.65	YES
1785	*Quercus agrifolia*	Coast live oak	1	yes	51	0%	25	20	100%	50%	50%	50%	2,042	1,576	2.09	$82.82	$345.46	1,574	172.73	$83	$130,074.37	$130,419.83	$ -	NO
																					Total Tree Appraisal Evaluation		$ 693,012.09	

VALUE OF TREES TO BE REMOVED: $682,015.92

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HAYWARD,CA

NO	DATE	DESCRIPTION

PROJECT NO:	4795.00
CAD DWG FILE:	479500CL.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	NONE

TREE MITIGATION SUMMARY CHART

L1.2

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TREE PROTECTION NOTES

SECTION I
SITE PREPARATION: ALL EXISTING TREES SHALL BE FENCED OFF WITHIN, AT OR OUTSIDE THE DRIP LINE (FOLIAR SPREAD) OF THE TREE USING THE FOLLOWING FORMULA: TWELVE INCHES IN DISTANCE FROM THE TRUNK FOR EVERY INCH IN TRUNK DIAMETER, MEASURED 2.0 FEET ABOVE THE AVERAGE GROUND LEVEL. EXAMPLE: A 24 INCH DIAMETER TREE WOULD HAVE A FENCE ERECTED 24 FEET FROM THE BASE OF THE TREE (24 X 12 = 288 / 12 = 24). THE FENCE SHOULD BE A MINIMUM OF SIX FEET HIGH, MADE OF WIRE WITH STEEL STAKES, SUCH AS CYCLONE FENCING. IF THE FENCE IS WITHIN THE DRIP LINE OF THE TREES, EVERY ATTEMPT SHOULD BE MADE TO RELOCATE THE FENCE OUTSIDE THE DRIPLINE OF THE TREE. IF NOT POSSIBLE, THE TREE SHALL BE PRUNED TO REDUCE THE CHANCE OF LIMB BREAKAGE FROM CONSTRUCTION EQUIPMENT ENCROACHING WITHIN THE DRIP LINE. ALL CONTRACTORS, SUBCONTRACTORS AND OTHER PERSONNEL SHALL BE WARNED THAT ENCROACHMENT WITHIN THE FENCED AREA IS FORBIDDEN WITHOUT THE CONSENT OF THE CERTIFIED ARBORIST ON THE JOB. THIS INCLUDES, BUT IS NOT LIMITED TO, STORAGE OF LUMBER AND OTHER MATERIALS, DISPOSAL OF PAINTS, SOLVENTS OR OTHER NOXIOUS MATERIALS, PARKED CARS, GRADING EQUIPMENT OR OTHER HEAVY EQUIPMENT. PENALTIES, BASED ON THE COST OF REMEDIAL REPAIRS AND THE EVALUATION GUIDE PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE, SHALL BE ASSESSED FOR DAMAGES TO THE TREES.

SECTION II
GRADING/EXCAVATING: ALL GRADING PLANS THAT SPECIFY GRADING WITHIN THE DRIP LINE OF ANY TREE, OR WITHIN THE DISTANCE FROM THE TRUNK AS OUTLINED IN SECTION I WHEN SAID DISTANCE IS OUTSIDE THE DRIP LINE, SHALL FIRST BE REVIEWED BY THE CERTIFIED ARBORIST. PROVISIONS FOR AERATION, DRAINAGE, PRUNING, TUNNELING BENEATH ROOTS, ROOT PRUNING OR OTHER NECESSARY ACTIONS TO PROTECT THE TREES SHALL BE OUTLINED BY THE ARBORIST. IF TRENCHING IS NECESSARY WITHIN THE AREA AS DESCRIBED ABOVE, SAID TRENCHING SHALL BE UNDERTAKEN BY HAND LABOR. ALL ROOTS 2 INCHES OR LARGER SHALL BE TUNNELED UNDER AND OTHER ROOTS SHALL BE CUT SMOOTHLY TO THE TRUNK SIDE OF THE TRENCH. THE TRUNK SIDE SHOULD BE DRAPED IMMEDIATELY WITH TWO LAYERS OF UNTREATED BURLAP TO A DEPTH OF 3 FEET FROM THE SURFACE. THE BURLAP SHALL BE SOAKED NIGHTLY AND LEFT IN PLACE UNTIL THE TRENCH IS BACK FILLED TO THE ORIGINAL LEVEL. THE ARBORIST SHALL EXAMINE THE TRENCH PRIOR TO BACK FILLING TO ASCERTAIN THE NUMBER AND SIZE OF ROOTS CUT, SO AS TO SUGGEST THE NECESSARY REMEDIAL REPAIRS.

SECTION III
REMEDIAL REPAIRS: THE ARBORIST ON THE JOB SHALL HAVE THE RESPONSIBILITY OF OBSERVING ALL ONGOING ACTIVITIES THAT MAY AFFECT THE TREES, AND PRESCRIBING NECESSARY REMEDIAL WORK TO INSURE THE HEALTH AND STABILITY OF SAID TREES. THIS INCLUDES, BUT IS NOT LIMITED TO, ALL ARBORIST ACTIVITIES BROUGHT OUT IN SECTIONS I AND II. IN ADDITION, PRUNING, AS OUTLINED IN THE "PRUNING STANDARDS" OF THE WESTERN CHAPTER OF THE INTERNATIONAL SOCIETY OF ARBORICULTURE, SHALL BE PRESCRIBED AS NECESSARY. FERTILIZING, AERATION, IRRIGATION, PEST CONTROL AND OTHER ACTIVITIES SHALL BE PRESCRIBED ACCORDING TO THE TREE NEEDS, LOCAL SITE REQUIREMENTS, AND STATE AGRICULTURAL PEST CONTROL LAWS. ALL SPECIFICATIONS SHALL BE IN WRITING. FOR PEST CONTROL OPERATIONS, CONSULT THE LOCAL COUNTY AGRICULTURAL COMMISSIONERS OFFICE FOR INDIVIDUALS LICENSED AS PEST CONTROL ADVISORS OR PEST CONTROL OPERATORS.

SECTION IV
FINAL INSPECTION: UPON COMPLETION OF THE PROJECT, THE ARBORIST SHALL REVIEW ALL WORK UNDERTAKEN THAT MAY IMPACT THE EXISTING TREES. SPECIAL ATTENTION SHALL BE GIVEN TO CUTS AND FILLS, COMPACTING, DRAINAGE, PRUNING AND FUTURE REMEDIAL WORK. THE ARBORIST SHOULD SUBMIT A FINAL REPORT IN WRITING OUTLINING THE ONGOING REMEDIAL CARE FOLLOWING THE FINAL INSPECTION.

SECTION V
TREE RELOCATION:

- TREES TO BE RELOCATED SHALL BE RELOCATED DURING THE FALL MONTHS. FOR DECIDUOUS TREES, RELOCATION SHALL OCCUR AFTER LEAF DROP.
- THE SOIL BENEATH THE DRIPLINE OF TREES TO BE RELOCATED SHALL BE WATERED 72 HOURS PRIOR TO RELOCATION SO THE SOIL IS MOIST, BUT NOT SATURATED AT THE TIME OF RELOCATION.
- LANDSCAPE ARCHITECT OR ARBORIST SHALL SUPERVISE THE RELOCATION SO TREE CAN BE TRANSPLANTED IN A OPTIMAL ORIENTATION.
- ROOT BALL EXCAVATION SHALL BE NO LESS THAN 30 INCHES DEEP. THE ROOT BALL EXCAVATION DIAMETER SHALL BE NO LESS THAN 10 INCHES PER 1 INCH OF TRUNK DIAMETER. ROOTBALL SHALL BE SUPPORTED DURING TRANSPORT AND WRAPPED IN WIRE OR BURLAP.
- ALL TREES SHALL BE TRANSPLANTED WITHIN 48 HOURS OF EXCAVATION.
- TRANSPLANT HOLE SHALL BE PREPARED AND TWO TIMES THE DIAMETER OF THE ROOTBALL, BUT NO DEEPER THAN THE DEPTH OF THE ROOTBALL.
- TRIMMING AND PRUNING OF RELOCATED TREE SHALL BE LIMITED TO DISEASED OR DAMAGED LIMBS FOR THE YEAR FOLLOWING THE TRANSPLANT.

Tree #	Common Name (*Species Name*)	DBH (inches)	Health Condition	Notes
1749	Blue gum (*Eucalyptus globulus*)	32	Poor	3 stem. Poor form.
1750	Blue gum (*Eucalyptus globulus*)	36	Fair	Moderately good form considering other trees in grove.
1751	Blue gum (*Eucalyptus globulus*)	48	Fair	
1752	Blue gum (*Eucalyptus globulus*)	36	Poor.	3 stems. Broken top.
1753	Blue gum (*Eucalyptus globulus*)	8	Fair	Moderately good form considering other trees in grove.
1754	Blue gum (*Eucalyptus globulus*)	28	Fair	Poor form, rotten trunk.
1755	Blue gum (*Eucalyptus globulus*)	20	Fair	Poor form.
1756	Blue gum (*Eucalyptus globulus*)	26	Fair	2 stems. Poor form.
1757	Blue gum (*Eucalyptus globulus*)	48	Fair	2 stems.
1758	Blue gum (*Eucalyptus globulus*)	26	Fair	2 stems. Poor form.
1759	Blue gum (*Eucalyptus globulus*)	36	Fair	3 stems. Significant rot in main stem.
1760	Blue gum (*Eucalyptus globulus*)	46	Fair	Moderately good form considering other trees in grove.
1761	Blue gum (*Eucalyptus globulus*)	48	Fair	Moderately good form considering other trees in grove.
1762	Blue gum (*Eucalyptus globulus*)	26	Fair	Moderately good form considering other trees in grove.
1763	Blue gum (*Eucalyptus globulus*)	28	Fair	Moderately good form considering other trees in grove.
1764	Blue gum (*Eucalyptus globulus*)	30	Fair	Cankers.
1765	Blue gum (*Eucalyptus globulus*)	100	Fair	Multiple upright stems.
1766	Plum (*Prunus x domestica*)	8	Poor	Multiple stems, 2 are greater than 4 inches.
1767	Plum (*Prunus x domestica*)	24	Poor	Multiple stems, 2 are greater than 4 inches.
1768	Blue gum (*Eucalyptus globulus*)	15	Fair	Moderately good form considering other trees in grove.
1769	Pine (*Pinus* sp.)	44	Fair	2 co-dominant stems.
1770	Red willow (*Salix laevigata*)	8	Good	Multiple stems. Tree typical of species.
1771	Coast live oak (*Quercus agrifolia*)	7	Good	In rock outcrop. Tree typical of species.
1772	Olive (*Olea europaea*)	16	Good	
1773	Deodar cedar (*Cedrus deodara*)	54	Good	
1774	Blackwood acacia (*Acacia melanoxylon*)	40	Fair	

6/23/16 (\\ptrl1\projects\HLC1601 Aitken\Tree Inventory\Draft Aitken Tree Inventory (06-23-16).docx)

Tree #	Common Name (*Species Name*)	DBH (inches)	Health Condition	Notes
1775	Plum (*Prunus x domestica*)	16	Poor	Poor form. Half of tree dead.
1776	Blue gum (*Eucalyptus globulus*)	48	Fair	
1777	Blue gum (*Eucalyptus globulus*)	72	Fair	
1778	Blue gum (*Eucalyptus globulus*)	15	Fair	
1779	Blue gum (*Eucalyptus globulus*)	11	Fair	
1780	Blue gum (*Eucalyptus globulus*)	19	Fair	
1781	Coast live oak (*Quercus agrifolia*)	42	Good	Nice specimen tree.
1782	Coast live oak (*Quercus agrifolia*)	40	Good	Tree has fallen over but is still alive.
1783	Big leaf maple (*Acer macrophyllum*)	52	Poor	Tree is half dead.
1784	Coast live oak (*Quercus agrifolia*)	27	Good	3 stems. Nice tree.
1785	Coast live oak (*Quercus agrifolia*)	51	Good	3 stems. Tree is on knoll outside of property boundary.

* TREE EVALUATION TABLES PREPARED BY: **TIMOTHY MILLIKEN** CERTIFIED ARBORIST AT LSA ASSOCIATES INC. ON JUNE 1, 2016.

Table B: Protected Tree Table – Aitken Property

Tree #	Common Name (*Species Name*)	DBH (inches)	Health Condition	Notes
1701	Aleppo pine (*Pinus halepensis*)	16	Good	One of three in grove.
1702	Aleppo pine (*Pinus halepensis*)	22	Good	One of three in grove.
1703	Aleppo pine (*Pinus halepensis*)	28	Good	One of three in grove.
1704	Coast live oak (*Quercus agrifolia*)	4	Good	On the fence line.
1705	Coast live oak (*Quercus agrifolia*)	5	Good	On other side of fence.
1706	Coast live oak (*Quercus agrifolia*)	5	Good	On the fence line.
1707	Coast live oak (*Quercus agrifolia*)	9	Good	On other side of fence.
1708	Coast live oak (*Quercus agrifolia*)	10	Good	On the fence line.
1709	California bay (*Umbellularia californica*)	200	Good	8 stems. Fairly typical for a wildland tree. Part of larger grove of bays growing in and around rock outcrop. Full canopy.
1710	California bay (*Umbellularia californica*)	60	Good	7 stems.
1711	California bay (*Umbellularia californica*)	60	Good	8 stems. Fairly typical for a wildland tree. Part of larger grove of bays growing in and around rock outcrop. Full canopy.
1712	California bay (*Umbellularia californica*)	90	Good	Many stems. One broken branch.
1713	California bay (*Umbellularia californica*)	48	Good	Giant tree with full canopy. Some rot in branches. These bays are irreplaceable and are a great asset to the property.
1714	California bay (*Umbellularia californica*)	48	Good	Asymmetric canopy normal for tree in grove setting. All trees bay trees are dependent on one another.
1715	Coast live oak (*Quercus agrifolia*)	15	Good	On other side of fence.
1716	Blue gum (*Eucalyptus globulus*)	52	Fair	Large tree with asymmetric canopy.
1717	Blue gum (*Eucalyptus globulus*)	24	Fair	Suppressed tree with rot in trunk.
1718	Blue gum (*Eucalyptus globulus*)	20	Fair	Dead top.
1719	Blue gum (*Eucalyptus globulus*)	32	Fair	Suppressed tree with rot in trunk.
1720	Blue gum (*Eucalyptus globulus*)	48	Fair	Large tree is typical of all trees in grove; asymmetric crown.
1721	Blue gum (*Eucalyptus globulus*)	24	Fair	
1722	Blue gum (*Eucalyptus globulus*)	14	Fair	Cavity in trunk.

6/23/16 (\\ptrl1\projects\HLC1601 Aitken\Tree Inventory\Draft Aitken Tree Inventory (06-23-16).docx)

Tree #	Common Name (*Species Name*)	DBH (inches)	Health Condition	Notes
1723	Blue gum (*Eucalyptus globulus*)	16	Fair	Cavity in trunk.
1724	Blue gum (*Eucalyptus globulus*)	16	Fair	
1725	Blue gum (*Eucalyptus globulus*)	16	Fair	
1726	Blue gum (*Eucalyptus globulus*)	16	Fair	
1727	Blue gum (*Eucalyptus globulus*)	48	Fair	
1728	Blue gum (*Eucalyptus globulus*)	22	Fair	
1729	Blue gum (*Eucalyptus globulus*)	28	Fair	
1730	Blue gum (*Eucalyptus globulus*)	12	Fair	
1731	Blue gum (*Eucalyptus globulus*)	20	Fair	
1732	Blue gum (*Eucalyptus globulus*)	48	Fair	
1733	Blue gum (*Eucalyptus globulus*)	10	Fair	
1734	Blue gum (*Eucalyptus globulus*)	6	Poor	**Not protected**, DBH < 8 inches. Most of trunk rotten.
1735	Blue gum (*Eucalyptus globulus*)	18	Fair	Moderately good form considering other trees in grove.
1736	Blue gum (*Eucalyptus globulus*)	42	Fair	Moderately good form considering other trees in grove.
1737	Blue gum (*Eucalyptus globulus*)	23	Fair	
1738	Blue gum (*Eucalyptus globulus*)	22	Fair	
1739	Blue gum (*Eucalyptus globulus*)	18	Poor	2 stems. Poor form. Half of tree dead.
1740	Blue gum (*Eucalyptus globulus*)	28	Poor	Leans.
1741	Blue gum (*Eucalyptus globulus*)	19	Fair	
1742	Blue gum (*Eucalyptus globulus*)	50	Fair	Leans.
1743	Blue gum (*Eucalyptus globulus*)	19	Fair	Broken top.
1744	Blue gum (*Eucalyptus globulus*)	72	Fair	2 stems. Poor form. Half of tree dead.
1745	Blue gum (*Eucalyptus globulus*)	12	Poor	Poor form. Leans.
1746	Blue gum (*Eucalyptus globulus*)	36	Fair	
1747	Blue gum (*Eucalyptus globulus*)	30	Fair	
1748	Blue gum (*Eucalyptus globulus*)	6	Fair	**Not protected**, DBH < 8 inches.

6/23/16 (\\ptrl1\projects\HLC1601 Aitken\Tree Inventory\Draft Aitken Tree Inventory (06-23-16).docx)

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CAVALLO HIGHLANDS
TRACT 8353
HAYWARD,CA

NO	DATE	DESCRIPTION
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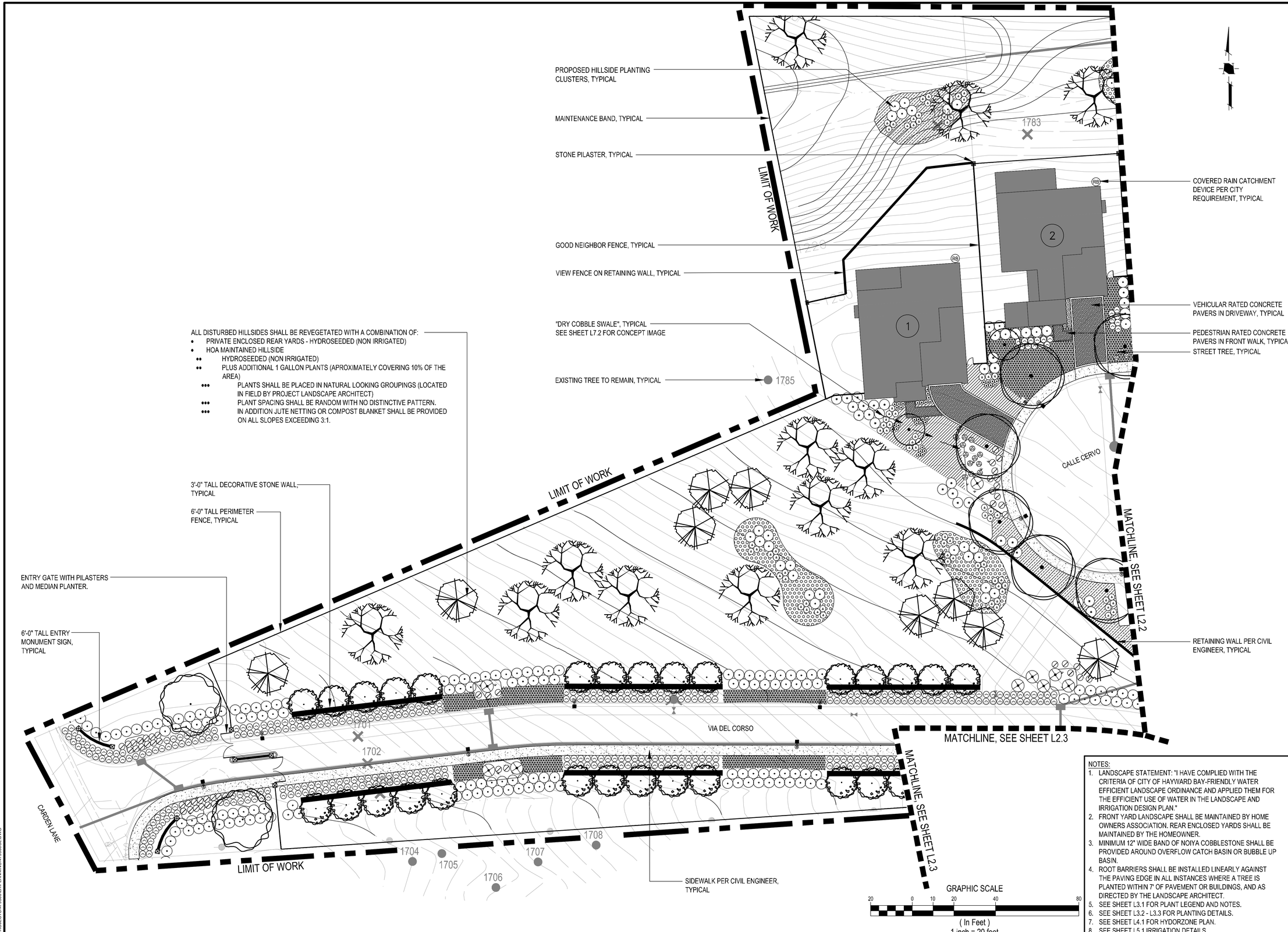
PROJECT NO:	4795.00
CAD DWG FILE:	479500CL.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	AS SHOWN

TREE INVENTORY AND TREE PROTECTION NOTES

L1.3



ALL DISTURBED HILLSIDES SHALL BE REVEGETATED WITH A COMBINATION OF:

- PRIVATE ENCLOSED REAR YARDS - HYDROSEEDED (NON IRRIGATED)
- HOA MAINTAINED HILLSIDE
  - •• HYDROSEEDED (NON IRRIGATED)
  - •• PLUS ADDITIONAL 1 GALLON PLANTS (APROXIMATELY COVERING 10% OF THE AREA)
    - ••• PLANTS SHALL BE PLACED IN NATURAL LOOKING GROUPINGS (LOCATED IN FIELD BY PROJECT LANDSCAPE ARCHITECT)
    - ••• PLANT SPACING SHALL BE RANDOM WITH NO DISTINCTIVE PATTERN.
    - ••• IN ADDITION JUTE NETTING OR COMPOST BLANKET SHALL BE PROVIDED ON ALL SLOPES EXCEEDING 3:1.

NOTES:

1. LANDSCAPE STATEMENT: "I HAVE COMPLIED WITH THE CRITERIA OF CITY OF HAYWARD BAY-FRIENDLY WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE AND IRRIGATION DESIGN PLAN."
2. FRONT YARD LANDSCAPE SHALL BE MAINTAINED BY HOME OWNERS ASSOCIATION. REAR ENCLOSED YARDS SHALL BE MAINTAINED BY THE HOMEOWNER.
3. MINIMUM 12" WIDE BAND OF NOIYA COBBLESTONE SHALL BE PROVIDED AROUND OVERFLOW CATCH BASIN OR BUBBLE UP BASIN.
4. ROOT BARRIERS SHALL BE INSTALLED LINEARLY AGAINST THE PAVING EDGE IN ALL INSTANCES WHERE A TREE IS PLANTED WITHIN 7' OF PAVEMENT OR BUILDINGS, AND AS DIRECTED BY THE LANDSCAPE ARCHITECT.
5. SEE SHEET L3.1 FOR PLANT LEGEND AND NOTES.
6. SEE SHEET L3.2 - L3.3 FOR PLANTING DETAILS.
7. SEE SHEET L4.1 FOR HYDORZONE PLAN.
8. SEE SHEET L5.1 IRRIGATION DETAILS.

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LANDSCAPE PLAN

L2.1

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GRAPHIC SCALE

20 0 10 20 40 80

(In Feet)
1 inch = 20 feet

NOTES:

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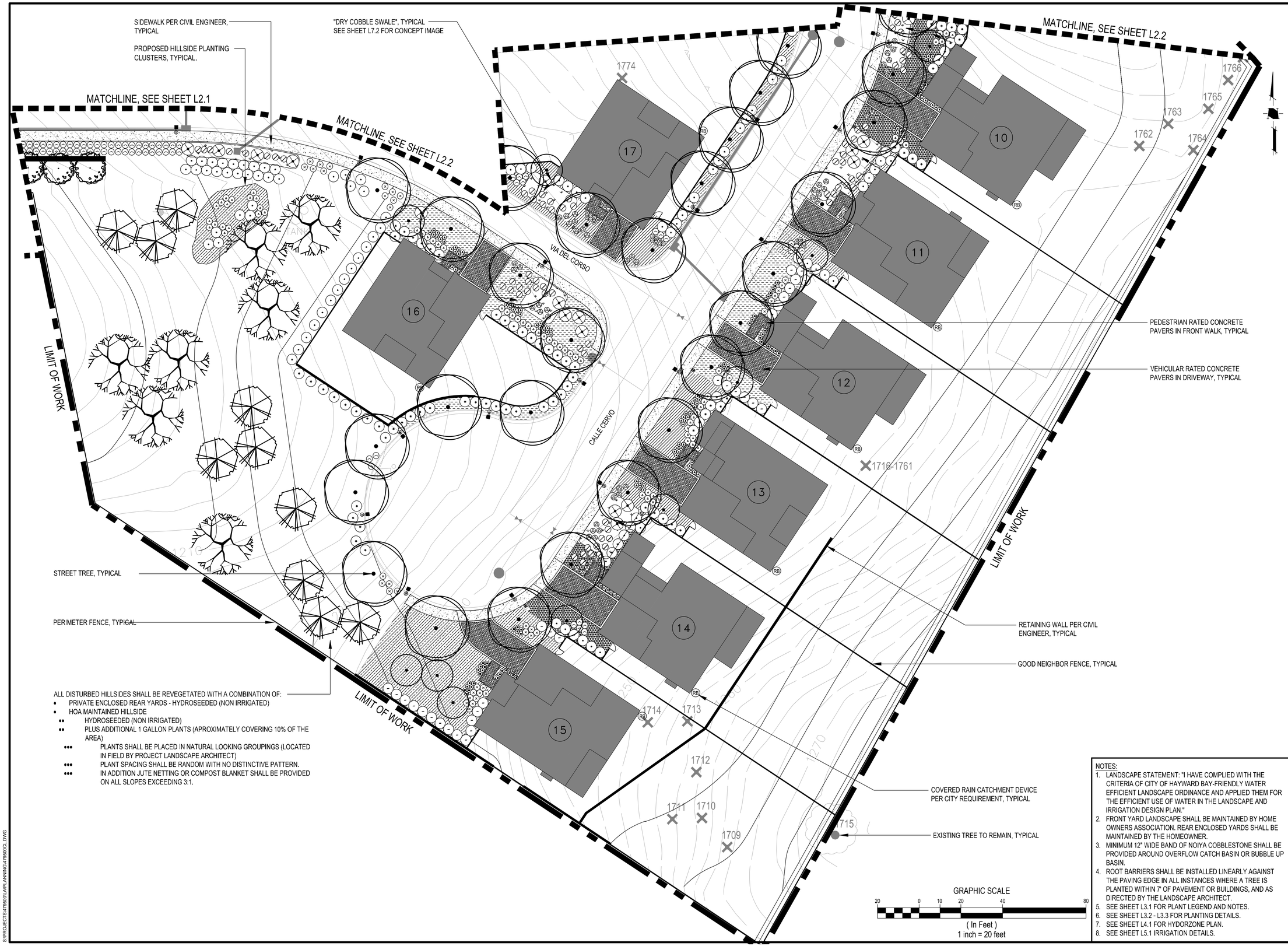
SCALE:	1" = 20'

LANDSCAPE PLAN

L2.2



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LANDSCAPE PLAN

L2.3

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PLANTING PLAN NOTES

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO FURNISH AND INSTALL PLANT MATERIAL AS SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THE SPECIFICATIONS.

UNLESS DESIGNATED ON THE DRAWINGS OTHERWISE, STRUCTURAL IMPROVEMENTS AND HARDSCAPE SHALL BE INSTALLED PRIOR TO PLANTING OPERATIONS.

PLANT LIST ON THE DRAWINGS SHALL BE USED AS A GUIDE ONLY. CONTRACTOR SHALL TAKEOFF AND VERIFY SIZES AND QUANTITIES BY PLAN CHECK.

A SOIL MANAGEMENT REPORT SHALL BE PROVIDED BY LANDSCAPE CONTRACTOR AND SOIL AMENDMENTS SHALL BE FOLLOWED PER THE REPORT. PHYSICAL COPIES OF THE SOIL MANAGEMENT REPORT SHALL BE PROVIDED TO THE CLIENT, PROJECT LANDSCAPE ARCHITECT AND LOCAL AGENCY AS REQUIRED. THE SOIL MANAGEMENT REPORT SHALL CONFORM TO STATE AB1881 WATER EFFICIENT LANDSCAPE ORDINANCE (WELO) OR LOCAL AGENCY ADOPTED WELO. CONTRACTOR SHALL OBTAIN A SOILS MANAGEMENT REPORT AFTER GRADING OPERATIONS AND PRIOR TO PLANT INSTALLATION.

SAMPLES OF FERTILIZERS, ORGANIC AMENDMENT, SOIL CONDITIONERS, AND SEED SHALL BE SUBMITTED PRIOR TO INCORPORATION. CONTRACTOR SHALL FURNISH TO THE OWNER'S AUTHORIZED REPRESENTATIVE A CERTIFICATE OF COMPLIANCE FOR SUCH FURNISHED MATERIALS.

ALL WORK ON THE IRRIGATION SYSTEM, INCLUDING HYDROSTATIC, COVERAGE, AND OPERATIONAL TESTS AND THE BACKFILLING AND COMPACTION OF TRENCHES SHALL BE PERFORMED PRIOR TO PLANTING OPERATIONS.

LOCATIONS OF PLANT MATERIAL SHALL BE REVIEWED ON SITE BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.

TREES SHALL BE PLANTED NO CLOSER THAN TEN FEET (10') FROM UTILITIES.

ROOT BARRIERS SHALL BE LOCATED LINEARLY AGAINST THE PAVING EDGE IN ALL INSTANCES WHERE A TREE IS PLANTED WITHIN SEVEN FEET OF PAVEMENT OR BUILDINGS AS DIRECTD BY LANDSCAPE ARCHITECT.

ALL PLANTING AREAS TO RECEIVE 3" THICK BARK MULCH LAYER. BARK MULCH SHALL BE LYNGSO SMALL FIR BARK (3/4" TO 1-1/2") OR APPROVED EQUAL.

ALL PLANT MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1) FOR STANDARD FORM TREES, CALIPER SIZE SHALL BE MEASURED 6" ABOVE THE SOIL LINE FOR CALIPERS EQUAL TO OR LESS THAN 4" FOR CALIPERS GREATER THAN 4", CALIPER SHALL BE MEASURES 12" ABOVE THE SOIL LINE. FOR MULTI-TRUNK TREES THE CALIPER SHALL BE ESTABLISHED BY TAKING THE AVERAGE OF THE CALIPER OF THE TWO LARGEST TRUNKS. CALIPER IS MEASURED 6" ABOVE ORIGINATION POINT OF THE SECOND LARGEST TRUNK OR 6" ABOVE GROUND IF ALL TRUNKS ORIGINATE FROM THE SOIL.

CALIPER SIZES STANDARDS:
15 GALLON: 0.75-1.25"
24" BOX: 1.25-2"
36" BOX: 2-3.5"
48" BOX: 3.5-5"
60" BOX: 4-6"

WATER NEEDS CATEGORY BASED ON WUCOLS IV (JANUARY 2014) LANDSCAPE COEFFICIENT METHOD:

CATEGORY	*PERCENTAGE OF ETo*
(H) HIGH:	0.7-0.9
(M) MEDIUM:	0.4-0.6
(L) LOW:	0.1-0.3
(VL) VERY LOW:	<0.1

*PLANTS SELECTED FOR HILLSIDE PLANTING WITH TEMPORARY IRRIGATION.

PROPOSED PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER SIZE	HxW	WUCOLS WATER USE
TREES					
	M ACER FREEMANII X 'AUTUMN BLAZE'	AUTUMN BLAZE MAPLE	24" BOX	60' X 40'	M
	L ARBUTUS 'MARINA'	STRAWBERRY TREE	24" BOX	40' X 40'	L
	L ARBUTUS UNEDO	STRAWBERRY TREE	24" BOX	12 X 12'	L
	VL CERCIS OCCIDENTALIS	WESTERN REDBUD	24" BOX	20' X 20'	VL
	VL OLEA EUROPAEA 'WILSONII'	FRUITLESS OLIVE	24" BOX	30' X 25'	VL
	M PRUNUS CERASIFERA 'PURPLE PONY'	PURPLE PONY CHERRY PLUM	24" BOX	12' X 12'	M
	VL QUERCUS DOUGLASII	BLUE OAK	24" BOX	45' X 40'	VL
SHRUBS AND GRASSES					
	ANIGOZANTHOS 'YELLOW GEM'	YELLOW RED KANGAROO PAW	1 GALLON	3' X 3'	L
	* ARBUTUS UNEDO 'COMPACTA'	COMPACT STRAWBERRY TREE	1 GALLON	8' X 8'	L
SYMBOLS REPRESENTING LARGE SHRUBS (48" - 60")	BERBERIS THUNBERGII	JAPANESE BARBERRY	1 GALLON	5' X 5'	M
	BUXUS JAPONICA 'GREEN BEAUTY'	GREEN BEAUTY BOXWOOD	1 GALLON	5' X 5'	M
	CARPENTERIA CALIFORNICA	BUSH ANEMONE	5 GALLON	5' X 7'	M
	* CEANOTHUS 'DARK STAR'	DARK STAR CEANOTHUS	1 GALLON	5' X 6'	L
	CISTUS X HYBRIDUS	WHITE ROCKROSE	1 GALLON	5' X 5'	L
SYMBOLS REPRESENTING MEDIUM SHRUBS (24" - 48")	DIETES BICOLOR	FORTNIGHT LILY	1 GALLON	2' X 2'	L
	ECHINACEA PURPUREA	PURPLE CONEFLOWER	1 GALLON	4' X 2'	M
	HELICTOTRICHON SEMPERVIRENS	BLUE OAT GRASS	1 GALLON	2' X 2'	L
	LAVANDULA ANGUSTIFOLIA 'MISS MUFFET'	ENGLISH LAVANDER 'MISS MUFFET'	1 GALLON	3' X 3'	L
	LEUCADENDRON DISCOLOR	CONE BUSH	1 GALLON	6' X 6'	L
	* PHLOMIS FRUTICOSA	JERUSALEM SAGE	1 GALLON	4' X 4'	L
SYMBOLS REPRESENTING SMALL SHRUBS (18" - 24")	PHORMIUM 'ED CARMEN'	NEW ZEALAND FLAX	1 GALLON	3' X 3'	L
	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GALLON	3' X 3'	M
	* ROSMARINUS OFFICINALIS	ROSEMARY	1 GALLON	4' X 4'	L
	* SALVIA PACHYPHYLLA	BLUE SAGE	1 GALLON	3' X 3'	L
	* SALVIA SPATHACEA	HUMMINGBIRD SAGE	1 GALLON	2' X 4'	L
	* STIPA PULCHRA	PURPLE NEEDLE GRASS	1 GALLON	3' X 2'	VL
GROUNDCOVER				HxW (SPACING)	
	* ARCTOSTAPHYLOS	'EMERALD CARPET' - CARPET MANZANITA	1 GALLON	1' X 5' (SPACED 4' O.C.)	M
	* CEANOTHUS 'CENTENNIAL'	CENTENNIAL CEANOTHUS	1 GALLON	2' X 10' (SPACED 8' O.C.)	L
	ERIGERON KARVINSKIANUS	SANTA BARBARA DAISY	1 GALLON	1' X 3' (SPACED 3' O.C.)	L
	JUNIPERUS HOTIZONTALIS' BLUE CHIP'	CREEPING JUNIPER	1 GALLON	1' X 8' (SPACED 7' O.C.)	L
	LANTANA MONTEVIDENSIS	TRAILING LANTANA	1 GALLON	1' X 5' (SPACED 4' O.C.)	L
	LAVANDULA ANGUSTIFOLIA	ENGLISH LAVANDER	1 GALLON	2' X 2' (SPACED 2' O.C.)	L
BIO-TREATMENT					
	CHONDROPETALUM TECTORUM	SMALL CAPE RUSH	1 GALLON	3' X 3'	L
	FESTUCA CALIFORNIA	CALIFORNIA FESCUE	1 GALLON	3' X 2'	L
	JUNCUS PATENS	BLUE RUSH	1 GALLON	2' X 2' (SPACED 4' O.C.)	L
	SALVIA CLEVELANDII	BLUE SAGE	1 GALLON	5' X 5'	L

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CAVALLO HIGHLANDS
TRACT 8353
HAYWARD,CA

NO	DATE	DESCRIPTION

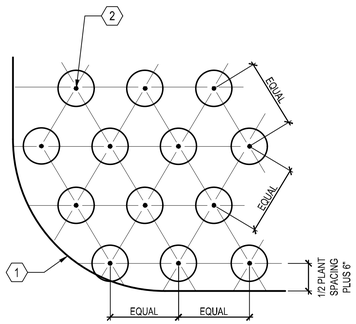
PROJECT NO:	4795.00
CAD DWG FILE:	479500CL.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	NOT TO SCALE

PLANTING LEGEND AND NOTES

L3.1

NOTES:
1. ALL PLANTS TO BE PLANTED AT EQUAL SPACING "TRIANGULATED" UNLESS OTHERWISE INDICATED ON PLANS.
2. INFILL PLANTS AS REQUIRED TO MAINTAIN SPACING AT IRREGULAR EDGES.

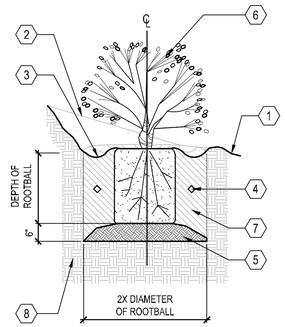
1. EDGE OF PLANTING AREA
2. TYPICAL PLANT SPACING VARIES SEE PLANTING LEGEND AND PLANS.



E GROUNDCOVER SPACING
SCALE: N.T.S.

NOTES:
1. SEE PLANTING SPECIFCATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. ROOTBALL CROWN TO BE 1" ABOVE FINISH GRADE.

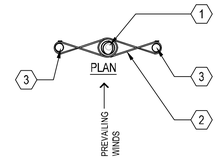
1. FINISH GRADE
2. EDGE OF SLOPE BEYOND
3. A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND ROOTBALL BELOW FINISH GRADE
4. AGRIFORM PLANT TABLETS 2 PER 1 GALLON, 3 PER 5 AND 15 GALLON
5. FOOT TAMP BASE
6. SHRUB-SEE PLAN AND LEGEND FOR SIZE AND TYPE
7. APPROVED BACKFILL, THOROUGHLY MIXED PRIOR TO INSTALLATION
8. NATIVE GRADE OR CERTIFIED COMPACTED SUBGRADE

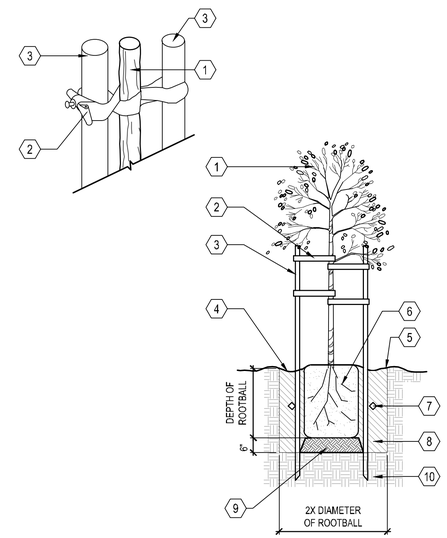


C SHRUB PLANTING ON SLOPE
SCALE: N.T.S.

NOTES:
1. SEE PLANTING SPECIFICATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. THIS DETAIL APPLIES TO 15 GALLON AND 24" BOX TREES.
3. ROOTBALL CROWN TO EXTEND 1" ABOVE FINISH GRADE.
4. TREES INSTALLED WITHIN TURF AREAS SHALL BE INSTALLED WITH 'ARBOR-GARD' AT BASE OF TRUNK.

1. TREE-SEE PLAN FOR SIZE AND TYPE
2. CINCH TIE OR APPROVED EQUAL
3. 2" DIAMETER TREATED LODGE POLE PINE STAKE PLACED ON WINDWARD SIDES OF TREE, AND OUTSIDE OF ROOTBALL
4. A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND ROOTBALL BELOW FINISH GRADE. TREES PLANTED IN TURF SHALL NOT HAVE BASINS.
5. FINISH GRADE
6. ROOTBALL
7. AGRIFORM PLANT TABLETS 3 PER 15 GALLON, 6 PER 24" BOX AND 8 FOR 36" BOX
8. APPROVED BACKFILL, THOROUGHLY MIXED PRIOR TO INSTALLATION. PUDDLE AND SETTLE PRIOR TO PLANTING TREE.
9. FOOT TAMP BASE
10. NATIVE GRADE

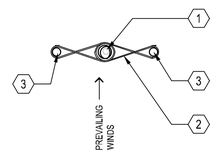


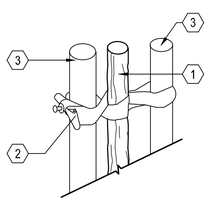


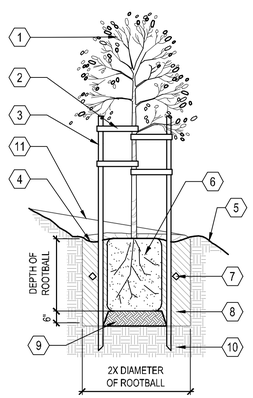
A TREE STAKING (DOUBLE)
SCALE: N.T.S.

NOTES:
1. SEE PLANTING SPECIFICATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. THIS DETAIL APPLIES TO 15 GALLON, 24" AND 36" BOX TREES.
3. ROOTBALL CROWN TO EXTEND 1" ABOVE FINISH GRADE.
4. TREES INSTALLED WITHIN TURF AREAS SHALL BE INSTALLED WITH 'ARBOR-GARD' AT BASE OF TRUNK.

1. TREE-SEE PLAN FOR SIZE AND TYPE
2. CINCH TIE OR APPROVED EQUAL
3. 2" DIAMETER TREATED LODGE POLE PINE STAKE PLACED ON WINDWARD SIDES OF TREE, AND OUTSIDE OF ROOTBALL
4. A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND ROOTBALL BELOW FINISH GRADE. TREES PLANTED IN TURF SHALL NOT HAVE BASINS.
5. FINISH GRADE
6. ROOTBALL
7. AGRIFORM PLANT TABLETS 3 PER 15 GALLON, 6 PER 24" BOX AND 8 FOR 36" BOX
8. APPROVED BACKFILL, THOROUGHLY MIXED PRIOR TO INSTALLATION. PUDDLE AND SETTLE PRIOR TO PLANTING TREE.
9. FOOT TAMP BASE
10. NATIVE GRADE OR CERTIFIED COMPACTED SUBGRADE
11. EDGE OF SLOPE BEYOND





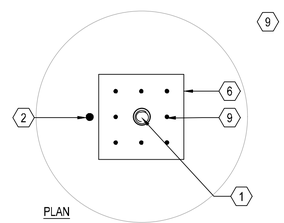


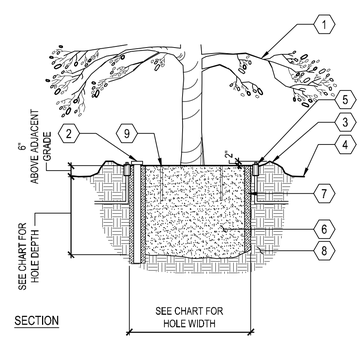
F TREE STAKING SLOPE (DOUBLE)
SCALE: N.T.S.

NOTES:
1. SEE PLANTING SPECIFICATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.

HOLE SIZING CHART					
BOX SIZE	24"	36"	48"	54"	60"
HOLE DEPTH	23"	34"	43"	44"	44"
HOLE WIDTH	36"	48"	60"	66"	72"

1. TREE-SEE PLAN FOR SIZE AND TYPE
2. 4" DIAMETER PLASTIC DRAIN PIPE WITH REMOVABLE CAP FOR MAINTENANCE CHECK. PIPE TO BE SET 1" ABOVE GRADE
3. A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND ROOTBALL.
4. FINISH GRADE
5. IRRIGATION HEAD (TYPICAL) SEE IRRIGATION PLAN FOR QUANTITY
6. ROOTBALL
7. NATIVE BACKFILL AROUND ROOTBALL. RUN WATER INTO PLANTING HOLE WHILE BACKFILLING TO HELP SETTLE THE BACKVILL AND AVOID VOIDS OR AIR POCKETS. TAMP FREQUENTLY.
8. NATIVE GRADE OR CERTIFIED COMPACTED SUBGRADE
9. 2"-3" DIAMETER HOLES, 3/4 THE DEPTH OF THE CONTAINER. FILL HOLES WITH COARSE SAND AND OSMOCOTE 15-9-10 @ 20 POUNDS PER CUBIC YARD. *4 HOLES FOR A 6" DIAMETER TREE TRUNK *8 HOLES FOR A 6-12" OR LARGER DIAMETER TREE TRUNK



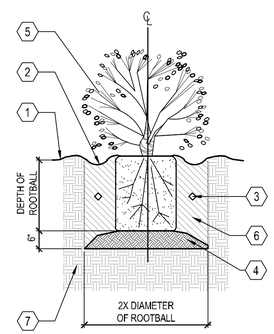


SECTION

D OLIVE TREE PLANTING
SCALE: N.T.S.

NOTES:
1. SEE PLANTING SPECIFCATIONS PRIOR TO INSTALLATION OF PLANT MATERIALS.
2. ROOTBALL CROWN TO BE 1" ABOVE FINISH GRADE.

1. FINISH GRADE
2. A SHALLOW BASIN 2" DEEP SHALL BE FORMED AROUND ROOTBALL BELOW FINISH GRADE
3. AGRIFORM PLANT TABLETS 2 PER 1 GALLON, 3 PER 5 AND 15 GALLON
4. FOOT TAMP BASE
5. SHRUB-SEE PLAN AND LEGEND FOR SIZE AND TYPE
6. APPROVED BACKFILL, THOROUGHLY MIXED PRIOR TO INSTALLATION
7. NATIVE GRADE OR CERTIFIED COMPACTED SUBGRADE



B SHRUB PLANTING
SCALE: N.T.S.

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1570 Oakland Road San Jose, CA 95131
(408) 487-2200 HMHca.com

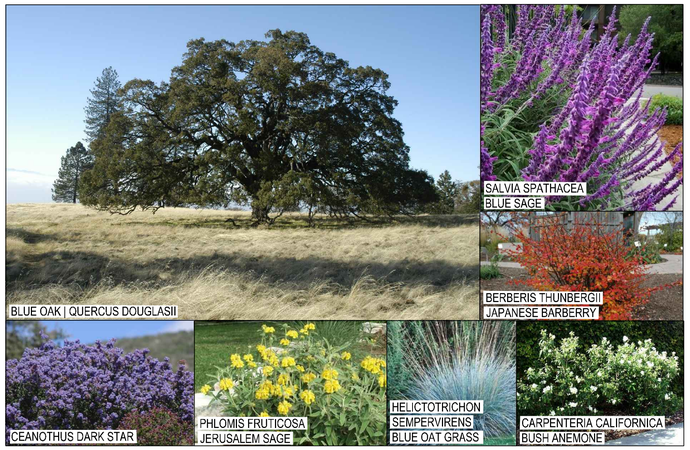
CAVALLO HIGHLANDS
TRACT 8353
HAYWARD,CA

NO	DATE	DESCRIPTION

PROJECT NO:	4795.00
CAD DWG FILE:	479500CL.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	AS SHOWN

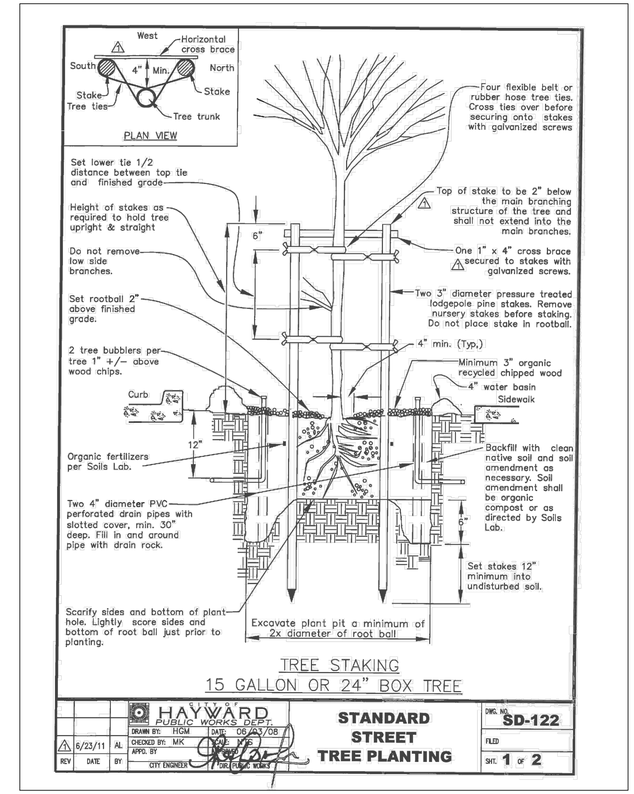
PLANTING DETAILS

L3.2



E HILLSIDE PLANTING CLUSTER
NTS

B MULTI TRUNK FRUITLESS OLIVE TREE
NTS



F BIOTREATMENT PLANTING
NTS

C LAVENDER MASS PLANTING
NTS

F HILLSIDE PLANTING WITH TEMPORARY IRRIGATION
NTS

D BLUE OAK TREE
NTS

A HILLSIDE PLANTING CLUSTER
NTS

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PLANTING DETAILS

L3.3

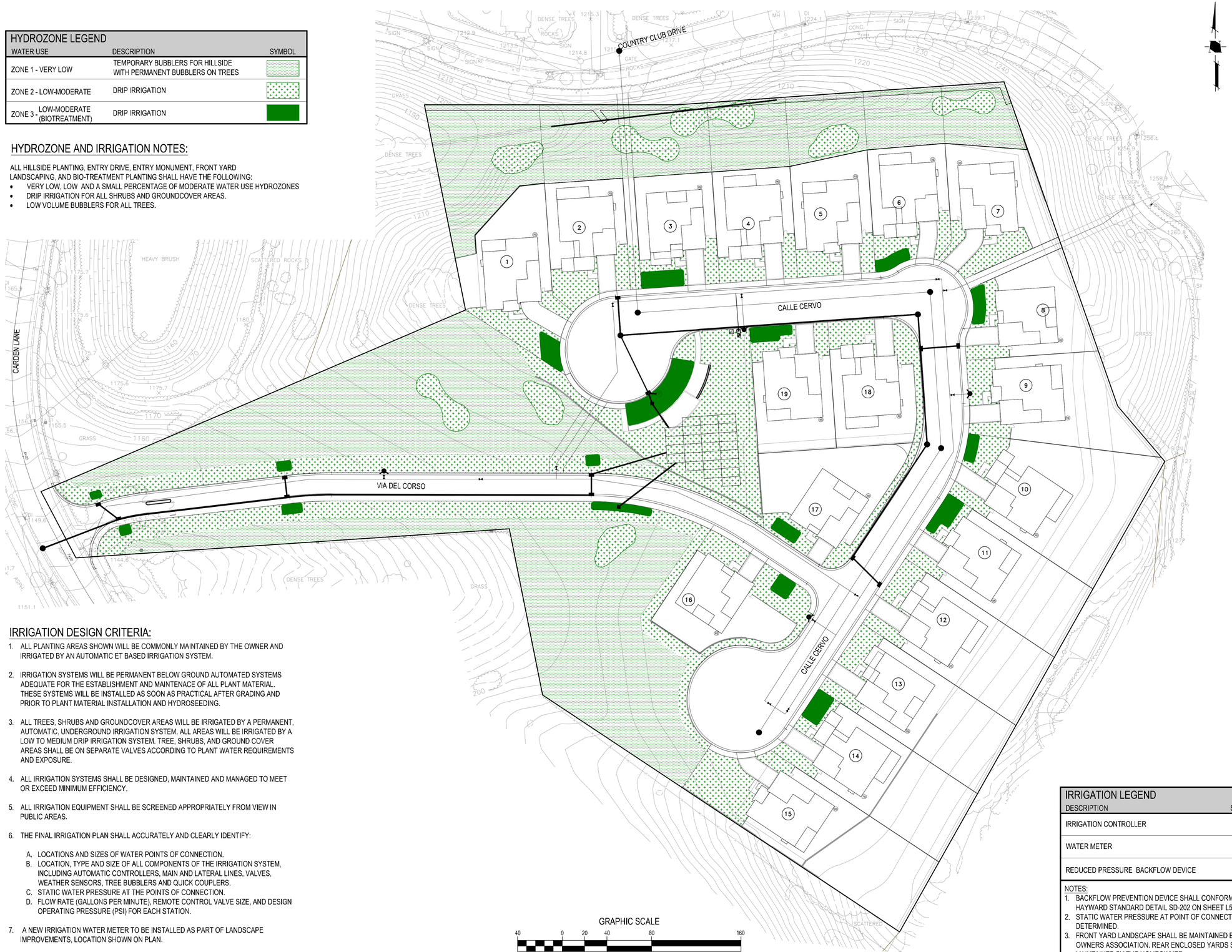
HYDROZONE LEGEND

WATER USE	DESCRIPTION	SYMBOL
ZONE 1 - VERY LOW	TEMPORARY BUBBLERS FOR HILLSIDE WITH PERMANENT BUBBLERS ON TREES	
ZONE 2 - LOW-MODERATE	DRIP IRRIGATION	
ZONE 3 - LOW-MODERATE (BIOTREATMENT)	DRIP IRRIGATION	

HYDROZONE AND IRRIGATION NOTES:

ALL HILLSIDE PLANTING, ENTRY DRIVE, ENTRY MONUMENT, FRONT YARD LANDSCAPING, AND BIO-TREATMENT PLANTING SHALL HAVE THE FOLLOWING:

- VERY LOW, LOW AND A SMALL PERCENTAGE OF MODERATE WATER USE HYDROZONES
- DRIP IRRIGATION FOR ALL SHRUBS AND GROUNDCOVER AREAS.
- LOW VOLUME BUBBLERS FOR ALL TREES.



IRRIGATION DESIGN CRITERIA:

1. ALL PLANTING AREAS SHOWN WILL BE COMMONLY MAINTAINED BY THE OWNER AND IRRIGATED BY AN AUTOMATIC ET BASED IRRIGATION SYSTEM.
2. IRRIGATION SYSTEMS WILL BE PERMANENT BELOW GROUND AUTOMATED SYSTEMS ADEQUATE FOR THE ESTABLISHMENT AND MAINTENACE OF ALL PLANT MATERIAL. THESE SYSTEMS WILL BE INSTALLED AS SOON AS PRACTICAL AFTER GRADING AND PRIOR TO PLANT MATERIAL INSTALLATION AND HYDROSEEDING.
3. ALL TREES, SHRUBS AND GROUNDCOVER AREAS WILL BE IRRIGATED BY A PERMANENT, AUTOMATIC, UNDERGROUND IRRIGATION SYSTEM. ALL AREAS WILL BE IRRIGATED BY A LOW TO MEDIUM DRIP IRRIGATION SYSTEM. TREE, SHRUBS, AND GROUND COVER AREAS SHALL BE ON SEPARATE VALVES ACCORDING TO PLANT WATER REQUIREMENTS AND EXPOSURE.
4. ALL IRRIGATION SYSTEMS SHALL BE DESIGNED, MAINTAINED AND MANAGED TO MEET OR EXCEED MINIMUM EFFICIENCY.
5. ALL IRRIGATION EQUIPMENT SHALL BE SCREENED APPROPRIATELY FROM VIEW IN PUBLIC AREAS.
6. THE FINAL IRRIGATION PLAN SHALL ACCURATELY AND CLEARLY IDENTIFY:
   A. LOCATIONS AND SIZES OF WATER POINTS OF CONNECTION.
   B. LOCATION, TYPE AND SIZE OF ALL COMPONENTS OF THE IRRIGATION SYSTEM, INCLUDING AUTOMATIC CONTROLLERS, MAIN AND LATERAL LINES, VALVES, WEATHER SENSORS, TREE BUBBLERS AND QUICK COUPLERS.
   C. STATIC WATER PRESSURE AT THE POINTS OF CONNECTION.
   D. FLOW RATE (GALLONS PER MINUTE), REMOTE CONTROL VALVE SIZE, AND DESIGN OPERATING PRESSURE (PSI) FOR EACH STATION.
7. A NEW IRRIGATION WATER METER TO BE INSTALLED AS PART OF LANDSCAPE IMPROVEMENTS, LOCATION SHOWN ON PLAN.

GRAPHIC SCALE

40 0 20 40 80 160

(In Feet)
1 inch = 40 feet

IRRIGATION LEGEND

DESCRIPTION	SYMBOL
IRRIGATION CONTROLLER	IA
WATER METER	M
REDUCED PRESSURE BACKFLOW DEVICE	

NOTES:

1. BACKFLOW PREVENTION DEVICE SHALL CONFORM TO CITY OF HAYWARD STANDARD DETAIL SD-202 ON SHEET L5.1.
2. STATIC WATER PRESSURE AT POINT OF CONNECTION TO BE DETERMINED.
3. FRONT YARD LANDSCAPE SHALL BE MAINTAINED BY HOME OWNERS ASSOCIATION. REAR ENCLOSED YARDS SHALL BE MAINTAINED BY THE HOMEOWNER.
4. SEE SHEET L5.1 IRRIGATION DETAILS.
5. SEE SHEET L6.1 FOR WATER EFFICIENCY CALCULATIONS.

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NO	DATE	DESCRIPTION

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CAD DWG FILE:	479500CL-HYDROZONE.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	1" = 40'

HYDROZONE PLAN

L4.1

S:\PROJECTS\4795\00\LA\PLANNING\479500CL-HYDROZONE.DWG

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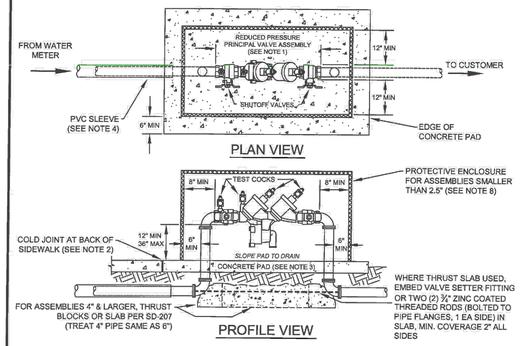
FOR IRRIGATION AND WATER SERVICES WHERE REQUIRED BY CCR, TITLE 17, § 7604



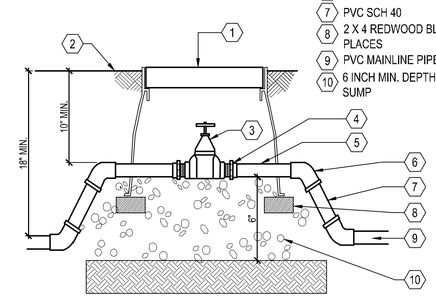
NOTES:

1. ALLOWED BACKFLOW ASSEMBLIES AND THEIR ORIENTATIONS SHALL BE LIMITED TO THOSE SPECIFIED ON THE "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES," BY THE UNIVERSITY OF SOUTHERN CALIFORNIA'S FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH, 2010 OR LATEST REVISION.
2. THE BACKFLOW DEVICE SHALL BE LOCATED: (A) A MAXIMUM OF 5' FROM BACK OF SIDEWALK (TYP.); (B) WHERE SCREENING IS REQUIRED, A MAXIMUM OF 30" FROM BACK OF SIDEWALK; OR (C) AT A LOCATION DETERMINED BY THE WATER DISTRIBUTION CROSS CONNECTION PERSONNEL IN THE FIELD.
3. CONCRETE PAD SHALL BE CLASS B CONCRETE, 4" MINIMUM THICKNESS, REINFORCED WITH WELDED WIRE MESH.
4. WHERE SERVICE LINES SMALLER THAN 4" PASS UNDER A SIDEWALK, THEY SHALL BE INSTALLED IN A PVC CASING/SLEEVE AT LEAST 1" LARGER THAN THE SERVICE LINE AND EXTENDS AT LEAST 6" BEYOND THE EDGES OF THE SIDEWALK.
5. METAL PIPES EXPOSED TO SOIL OR CONCRETE SHALL BE COATED WITH 3M SCOTCHWRAP PIPE PRIMER AND WRAPPED WITH 3M SCOTCHWRAP NO. 51 BLACK PVC TAPE (½" OVERLAP).
6. THE PORTION OF THE TRENCH FROM BACK OF METER TO THE DEVICE SHALL REMAIN OPEN UNTIL WATER DISTRIBUTION CROSS CONNECTION PERSONNEL HAVE INSPECTED AND APPROVED THE INSTALLATION.
7. THE TESTING SIDE OF THE DEVICE SHALL HAVE A MINIMUM 24" OF CLEARANCE FROM OBSTRUCTIONS (NON-TRIMABLE LANDSCAPING, BUILDINGS, UTILITIES, ETC.). MULTIPLE BACKFLOW DEVICES SHALL BE SEPARATED BY A MINIMUM OF 18".
8. BACKFLOW ASSEMBLIES SMALLER THAN 2.5" SHALL BE COVERED WITH AN INSULATION BLANKET, MIN R-13, GREEN, WEATHERGUARD OR EQUAL AND PROTECTED BY A LOCKABLE WIRE CAGE ENCLOSURE FASTENED TO THE PAD. THE ENCLOSURE SHALL BE HINGED, POWDER COATED GREEN AND SECURED WITH A DOUBLE-LOCKED GALVANIZED CHAIN SUCH THAT EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY.
9. BACKFLOW ASSEMBLIES 2.5" AND LARGER SHALL BE SECURED BY A DOUBLE-LOCKED, GALVANIZED, STRAIGHT LINK CHAIN THAT LOCKS THE VALVE HANDWHEELS IN THE OPEN POSITION AND EITHER LOCK CAN RELEASE THE CHAIN. ONE LOCK WILL BE SUPPLIED BY CITY. IN AREAS PRONE TO VANDALISM, CITY MAY ADDITIONALLY REQUIRE A LOCKABLE PROTECTIVE ENCLOSURE (SEE NOTE 8).
10. BOLLARDS MAY BE REQUIRED BY CITY TO PROVIDE ADDITIONAL PROTECTION (SEE SD-223 FOR BOLLARD DETAIL).
11. BACKFLOW ASSEMBLIES INSTALLED ON POTABLE WATER SERVICES SHALL BE LEAD FREE.
12. BACKFLOW ASSEMBLIES SHALL BE AT LEAST THE SIZE OF THE WATER METER OR THE WATER SUPPLY LINE ON THE PROPERTY SIZE OF THE METER, WHICHEVER IS LARGER.

REV	DATE	BY	CITY OF HAYWARD PUBLIC WORKS DEPT.	STANDARD - REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLIES	DWG. NO. SD-202
			DRW BY: RS / DATE: 11/30/12		FILED
			CHKD BY: AA / SCALE: NTS		
			APPD. BY: / APPROVED:		SHT. 1 OF 1
			CITY ENGINEER / DIR. PUBLIC WORKS		

NOTES:

1. PLACE AGGREGATE PRIOR TO INSTALLATION OF VALVE BOX
2. INSTALL VALVE BOX SO TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPE



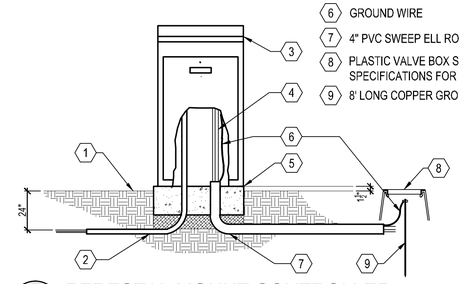
1. VALVE BOX (CARSON 910-12B) OR EQUAL W/ GREEN LID
2. FINISHED GRADE/ BEFORE PLANTING
3. GATE VALVE: SEE LEGEND FOR MAKE AND MODEL LINE SIZE
4. SCH 40 PVC MALE ADAPTOR
5. PVC SCH 40 MIN 8" LONG
6. PVC 45 FITTING SCH 40 (TYP.)
7. PVC SCH 40
8. 2 X 4 REDWOOD BLOCK (TYP.) 2 PLACES
9. PVC MAINLINE PIPE
10. 6 INCH MIN. DEPTH PEA GRAVEL SUMP

D GATE VALVE

N.T.S.

NOTE:

1. VERIFY POWER SOURCE WITH PROJECT ELECTRICIAN.
2. ALL ELECTRICAL WORK MUST CONFORM TO LOCAL CODES.



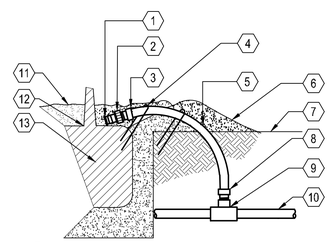
1. FINISHED GRADE
2. 2-1" PVC CONDUITS FOR 120 VOLT A.C. AND SIGNAL WIRE
3. IRRIGATION CONTROLLER-SEE IRRIGATION LEGEND FOR SPECIFICATION
4. 24 VOLT CONTROL WIRING
5. CONCRETE PAD-6" THICK (MIN.) EXTEND 6" BEYOND EACH SIDE AND BACK AND 24" IN FRONT
6. GROUND WIRE
7. 4" PVC SWEEP ELL ROUND
8. PLASTIC VALVE BOX SEE SPECIFICATIONS FOR TYPE
9. 8' LONG COPPER GROUND ROD

A PEDESTAL MOUNT CONTROLLER

N.T.S.

NOTES:

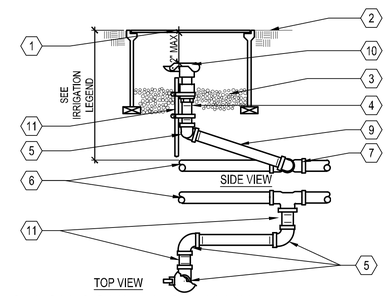
1. BUBBLER DISTANCE TO ROOT BALL WILL VARY DEPENDING ON THE CONTAINER SIZE OF THE PLANT.
2. PLACE ALL BUBBLER ON UPHILL SIDE OF SLOPE IF APPLICABLE CONCEAL ALL EQUIPMENT UNDER MULCH.



1. POSITION BUBBLER OVER ROOT BALL
2. FLOOD BUBBLER NOZZLE (SEE LEGEND FOR MODEL) SECURED TO SHRUB ADAPTER
3. UV RADIATION RESISTANT 1/2" PVC SCHED 40 (MIPT X SLIP) MALE ADAPTER
4. TUBING STAKES PVC COATED 12 GAUGE WIRE U STAKES QUANTITY AS NEEDED TO SECURE TUBING (2 MINIMUM) SALCO OR EQUAL
5. I.P.S. FLEXIBLE SCH 40 PVC HOSE (BLACK)
6. SOIL RING (SEE PLANTING DETAILS)
7. FINISHED GRADE
8. 1/2" PVC SCH 40 (MIPT X SLIP) MALE ADAPTER UV RADIATION RESISTANT
9. PVC SCH 40 TEE OR ELL 3/4" X 3/4" X 1/2" (SLIP XSLIP X FIPT)
10. PVC LATERAL PIPE
11. MULCH PER SPECIFICATIONS
12. PLANT CROWN
13. ROOT BALL

E SHRUB BUBBLER

N.T.S.



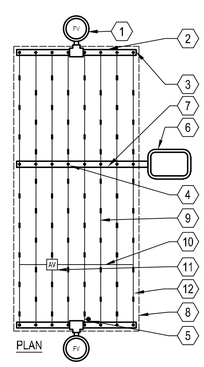
1. 10" ROUND PLASTIC VALVE BOX WITH BOLT DOWN LID
2. FINISHED GRADE
3. 3/4" CRUSHED ROCK, 6" MIN. DEPTH
4. 3" LONG SCHEDULE 80 PVC THREADED NIPPLE
5. SCH 80 PVC THREADED 90 DEGREE ELL
6. PVC MAINLINE
7. MAINLINE FITTING
9. 10" LONG SCH 80 PVC THREADED NIPPLE
10. QUICK COUPLING VALVE
11. 1 1/4" x 1 1/4" x 3/16" ANGLE IRON 30" LONG, 2 STAINLESS STEEL STRAPS

B QUICK COUPLING VALVE

N.T.S.

NOTE:

1. THE TOTAL LENGTH OF ALL INTERCONNECTED DRIP LINE SHALL NOT EXCEED THE MAXIMUM RUN LENGTH



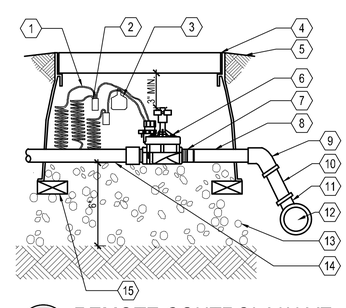
1. DRIPLINE AUTOMATIC FLUSH VALVE PLUMBED TO FLUSH MANIFOLD AT LOW POINT
2. PVC FLUSH MANIFOLD
3. DRIPLINE MANIFOLD-TO-ELBOW CONNECTION
4. DRIPLINE MANIFOLD-TO-TEE CONNECTION
5. DRIPLINE OPERATION INDICATOR
6. REMOTE CONTROL VALVE WITH FILTER AND PRESSURE REGULATOR
7. PVC SUPPLY MANIFOLD
8. ZONE PERIMETER
9. DRIPLINE LATERAL
10. AIR/VACUUM RELIEF LATERAL DRIPLINE BLANK TUBING CENTERED ON MOUND OR BERM
11. DRIPLINE AIR/VACUUM RELIEF VALVE PLUMBED TO DRIPLINE BLANK TUBING AT EACH HIGH POINT
12. PERIMETER LATERALS 2" TO 4" FROM EDGE

F DRIPLINE CENTER-FEED LAYOUT

N.T.S.

NOTES:

1. DO NOT LOCATE REMOTE CONTROL VALVE IN LAWN



1. 18" LENGTH EXPANSION LOOP
2. SCOTCH LOK #3577 CONNECTOR SEALING PACK OR EQUAL
3. ID TAG FOR VALVE STATION NUMBER
4. VALVE BOX (CARSON 910-12B) OR EQUAL
5. TOP OF MULCH
6. REMOTE CONTROL VALVE: SEE IRRIG. LEGEND
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 MIN 8" LONG
9. PVC 45 FITTING SCH 40
10. PVC SCH 40
11. S X S FITTING
12. PVC MAINLINE PIPE
13. 6" MIN. DEEP PEA GRAVEL SUMP
14. LATERAL LINE CL 200 PVC
15. BRICK-1 PER CORNER, 4 TOTAL

C REMOTE CONTROL VALVE

N.T.S.

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CAVALLO HIGHLANDS
TRACT 8353
HAYWARD,CA

NO	DATE	DESCRIPTION

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CAD DWG FILE:	479500CL.DWG
DESIGNED BY:	BG
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	AS SHOWN

IRRIGATION DETAILS

L5.1

PLOTTED: 1/8/2019 2:11 PM

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Appendix B – Water Efficient Landscape Worksheet.

WATER EFFICIENT LANDSCAPE WORKSHEET
This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

City of Hayward Reference Evapotranspiration (ETo) 44.2

Hydrozone #/ /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq, ft,)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
PLANTING (L & LV)	.2	DRIP	.81	.247	63,355	10,263	428,836
PLANTING (M)	.5	DRIP	.81	.617	7,040	4,346	119,034
				Totals	70,395	14,609	
Special Landscape Areas							
-NA-				1			
				1			
				1			
				Totals	(C)	(D)	
						ETWU Total	547,870
				Maximum Allowed Water Allowance (MAWA)[e]			868,096

[a] ***Hydrozone #/Planting Description***
E.g.
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] ***Irrigation Method***
overhead spray or drip or drip

[c] ***Irrigation Efficiency***
0.75 for spray head
0.81 for drip

[d] ***ETWU* (Annual Gallons Required) =**
Eto x 0.62 x ETAF x Area
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] ***MAWA (Annual Gallons Allowed) =***
(Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations
All Landscape Areas

Total ETAF x Area	(B÷D)
Total Area	(A÷C)
Sitewide ETAF	**(B+D) ÷ (A+C)**

Regular Landscape Area

Total ETAF x Area	(B)	14,609
Total Area	(A)	70,395
Sitewide ETAF	**B ÷ A**	0.208

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas and 0.45 or below for non-residential areas.

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
ALAMEDA													
Fremont	1.5	1.9	3.4	4.7	5.4	6.3	6.7	6.0	4.5	3.4	1.8	1.5	47.0
Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.2
Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Oakland Foothills	1.1	1.4	2.7	3.7	5.1	6.4	5.8	4.9	3.6	2.6	1.4	1.0	39.6
Pleasanton	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
Union City **	1.4	1.8	3.1	4.2	5.4	5.9	6.4	5.7	4.4	3.1	1.5	1.2	44.2

* The values in this table were derived from:

1) California Irrigation Management Information System (CIMIS);

2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and

3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922;

4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426

**ETo of Union City shall be used for City of Hayward.

PART 2. CERTIFICATION OF INSTALLATION
"I/we certify that based upon periodic site observations, the work has been completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."

Signature*	Date	
Name (print)	Telephone No.	
	Fax No.	
Title	Email Address	
License No. or Certification No.		
Company	Street Address	
City	State	Zip Code

*Signer of the landscape design plan, signer of the irrigation plan, or a licensed landscape contractor.

PART 3. IRRIGATION SCHEDULING
Attach parameters for setting the irrigation schedule on controller per ordinance Section 10.12-08.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE
Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 10.12-10.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT
Attach Landscape Irrigation Audit Report per ordinance Section 10-12.11.

PART 6. SOIL MANAGEMENT REPORT
Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 10-12.07.
Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 10-12-06.

PART 7. LANDFILL DIVERSION VERIFICATION
Attach Landfill Diversion Verification Statement per ordinance Section 10-12.07

Appendix C – Certificate of Completion.

PART 1. CERTIFICATE OF COMPLETION
This certificate is filled out by the project applicant upon completion of the landscape project.

Project Street Address:	Building Permit Number:	
City:	State:	Zip Code:

Property Owner:

Name:	Telephone No.:	
	Fax No.:	
Title:	Email Address:	
Company:	Street Address:	
City:	State:	Zip Code:

Property Owner
"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

Property Owner Signature Date

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Land Surveying
Stormwater Compliance
1570 Oakland Road San Jose, CA 95131
(408) 487-2200 HMHca.com

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HAYWARD,CA

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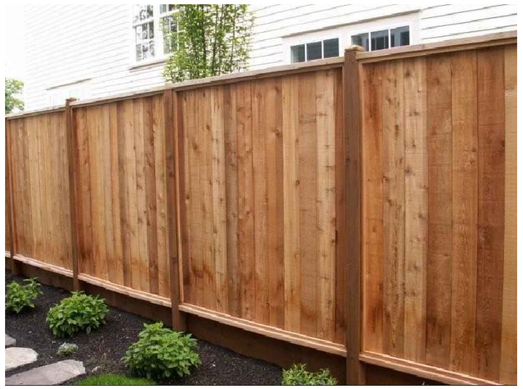
DRAWN BY:	JH
CHECKED BY:	BG
DATE:	JANUARY 8, 2019
SCALE:	AS SHOWN

WATER EFFICIENCY CALCULATIONS

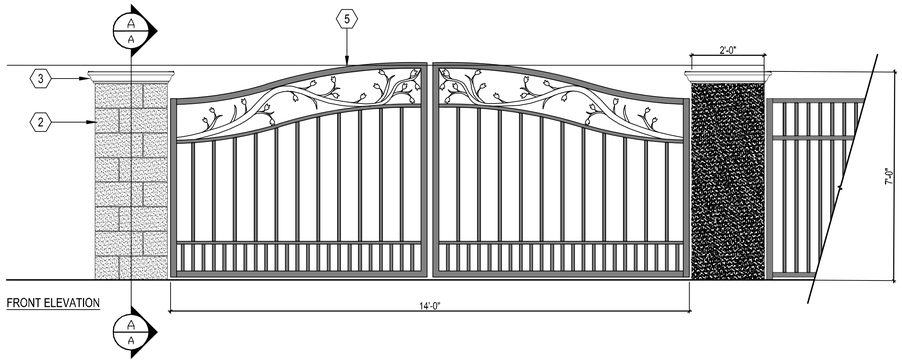
L6.1

C DECORATIVE STONE WALL
NTS

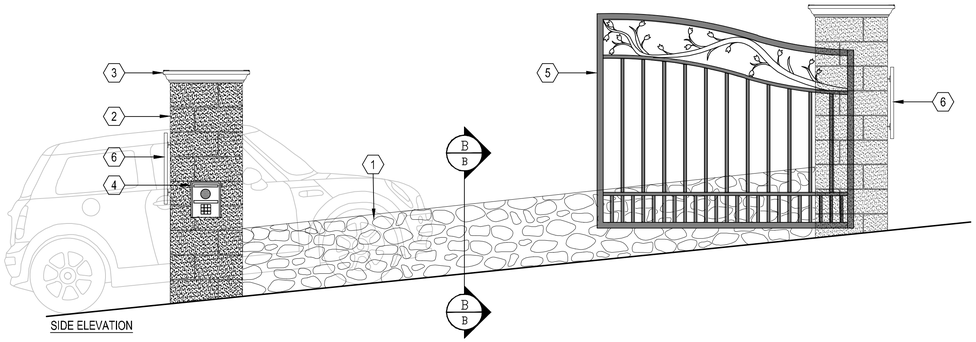
B MAILBOXES (PENDING USPS APPROVAL)
NTS



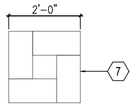
A 6'-0" TALL GOOD NEIGHBOR FENCE (WOOD)
NTS



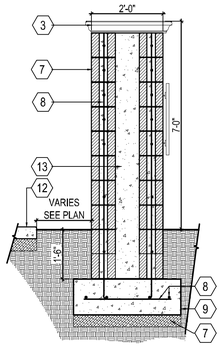
FRONT ELEVATION



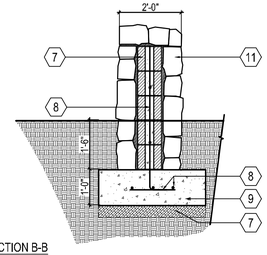
SIDE ELEVATION



PLAN VIEW
N.T.S.



SECTION A-A
(PILASTER)



SECTION B-B
(STONE WALL)

1. STONE WALL
2. PILASTER
3. PILASTER CAP
4. CALL BOX AND GATE ACCESS PANEL
5. DOUBLE SWING GATE
6. DECORATIVE NEIGHBORHOOD ENTRY SIGN PER DEVELOPER
7. 8X8X16 CONCRETE BLOCK- GROUT ALL CELLS SOLID.
8. REBAR
9. CONCRETE FOOTING
10. 4" THICK CLASS 2 AGGREGATE COMPACTED TO 90%
11. STONE VENEER
12. ADJACENT CONCRETE PAVING
13. GROUT SOLID

D ENTRY GATE AND PILASTERS
SCALE: 1/2"=1'-0"

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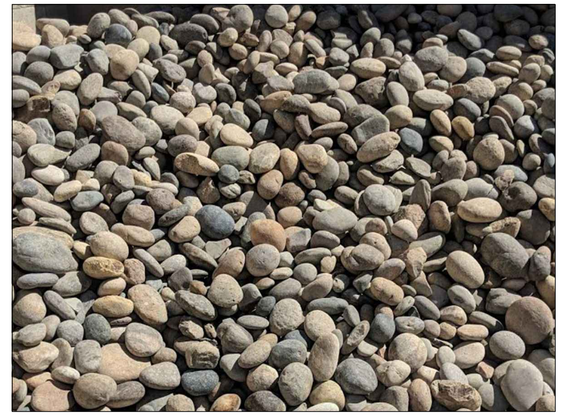
CONCEPT IMAGES

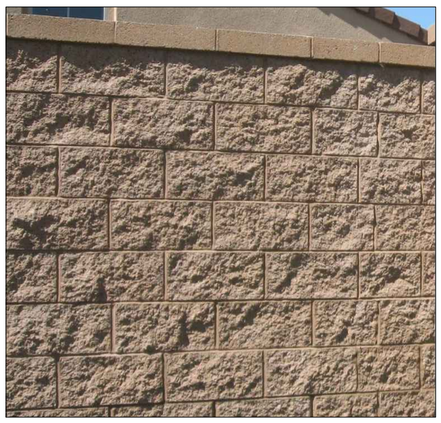
L7.1

G BENCH
NTS



D NOIYA COBBLESTONE
NTS

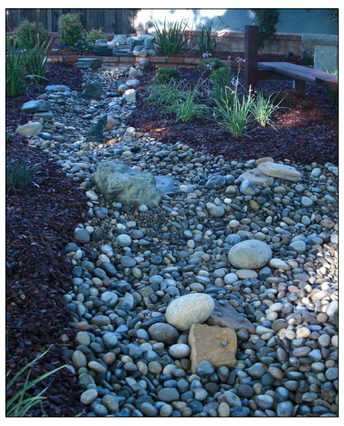
A 6' WROUGHT IRON PERIMETER FENCE
NTS



H RETAINING WALL (TAN, SPLIT FACE WITH TAN CAP)
NTS

E DRIVEWAY CONCRETE PAVERS
NTS

B STONE PILASTER AND WROUGHT IRON FENCE
NTS



I DRY COBBLE SWALE
NTS

F FRONT WALK CONCRETE PAVERS
NTS

C STONE MONUMENT SIGN
NTS

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CONCEPT IMAGES

L7.2