

K-2

**Hydraulic
Modeling, San
Dieguito Water
District's
Potable Water
System**

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TECHNICAL MEMORANDUM

To: Christina Olson, San Dieguito Water District
From: Elizabeth Caliva, Dudek; Justin Scheidel, Dudek; Jenny Li, Dudek
Subject: As-Needed Development Services Hydraulic Modeling (TO 8) – Torrey Crest (1220-1240 Melba Road, 1190 Island View Lane)
Date: September 21, 2022

Torrey Pacific Corporation (Developer) is constructing thirty (30) single family residential units on approximately 6.6 acres of existing residential and vacant land. The proposed development, known as Torrey Crest, fronts Melba Rd approximately 1,000 feet east of Balour Dr. The existing site addresses are 1220, 1230, 1234, and 1240 Melba Rd and 1190 Island View Ln. **Figure 1** depicts the location of the project site. Attachment A includes preliminary site drawings for the proposed development.

The following technical memorandum evaluates the impacts of the proposed development on San Dieguito Water District's (District) existing potable water system. Both existing (2021) and future (2040) scenarios were analyzed to determine what, if any, improvements to the off-site or on-site system are required to maintain District design criteria while delivering water service to the proposed development and surrounding customers.

The memorandum is organized into the following sections:

- **Section 1 – Potable Water Demands** – Summarizes the anticipated potable water demands, including fire flow requirement, of the proposed development.
- **Section 2 – On-Site Improvements** – Summarizes the proposed on-site potable water facility improvements and tie-in to the District's existing system.
- **Section 3 – Existing Scenario Analysis & Results** – Summarizes the impact of the proposed development on the District's existing potable water system.
- **Section 4 – Future Scenario Analysis & Results** – Summarizes the impact of the proposed development on the District's future potable water system.
- **Section 5 – Recommendations** – Recommends improvements to the existing off-site and/or proposed on-site potable water system based on the results of the existing and future scenario analyses.

Figure 1: Location Map



1 Potable Water Demands

The potable water demand of the proposed development was estimated using Table 4-1-1 from the Water Agencies' Standards Design Guidelines for Water and Sewer Facilities (Attachment B), the District's standard for estimating residential demands. **Table 1** presents the anticipated demands of the proposed development.

Table 1. Potable Water Demand Projections for Torrey Crest

Dwelling Units (DUs)	Gross Area (Ac)	Dwelling Unit Density (DU/Ac)	Unit Water Demand ¹ (gal/gross acre-day)	Average Day Water Demand (gpm)	Maximum Day Water Demand ² (gpm)	Peak Hour Water Demand ³ (gpm)
30	6.646	4.5	2100	9.7	14.5	26.6

Notes:

¹ Assumed a dwelling unit density of 4 DU/Ac.

² Potable water MDD is equal to 1.5 x ADD per Table 3-5 from the District's 2022 Water System Master Plan.

³ Peak hour demand is equal to 1.83 x MDD per pattern "MDD" in the District's latest potable water model.

According to the District's 2022 Water Master Plan, the fire flow requirement of the proposed development is 1,500 gpm for 2 hours as summarized in **Table 2**.

Table 2. Fire Flow Requirement for Torrey Crest

Land Use Category	Fire Flow Requirement (gpm) ¹	Duration (hours)
Single Family Residential	1,500	2

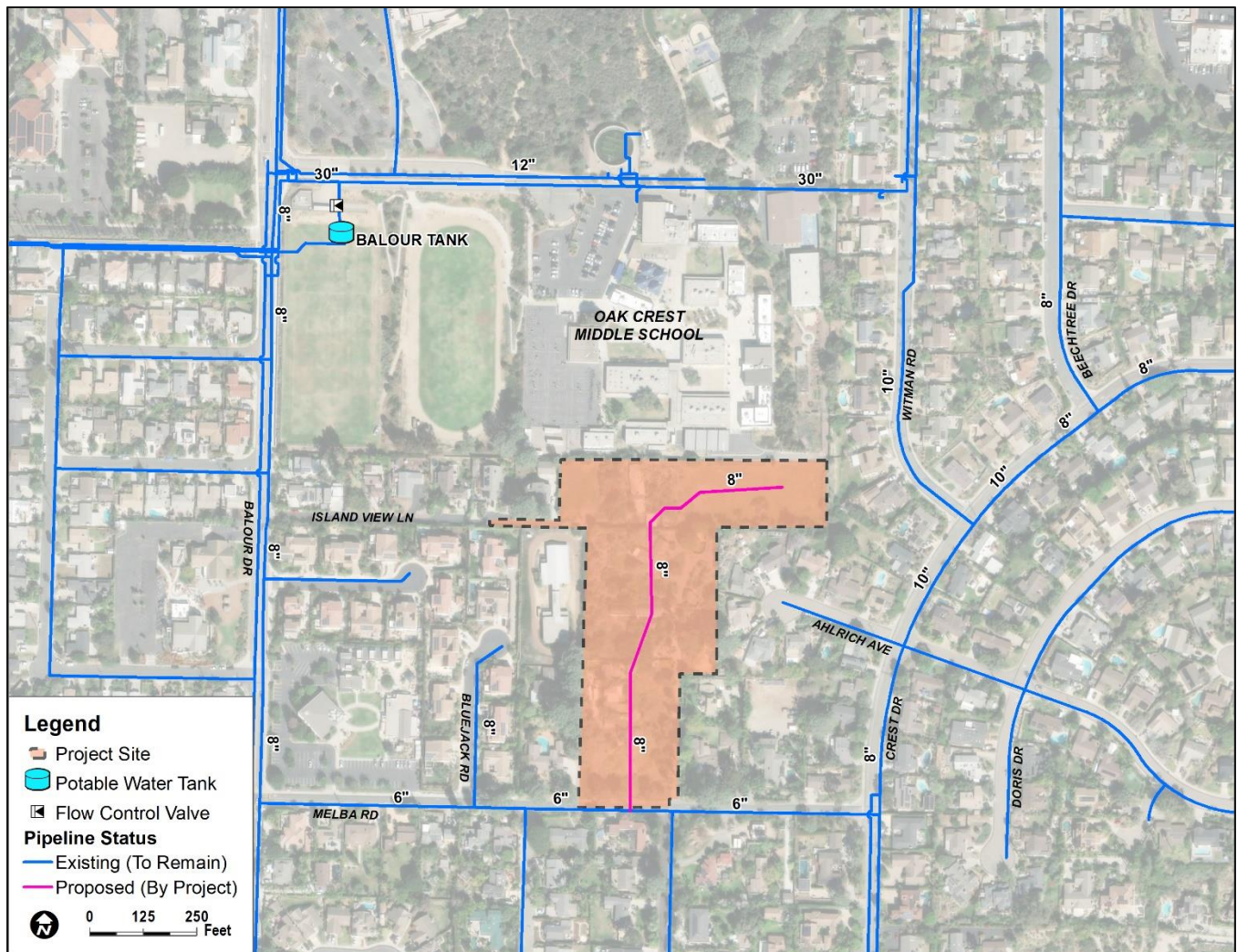
Notes:

¹ Fire flow requirement per Table 4-2 from the District's 2022 Water System Master Plan.

2 On-Site Improvements

Per the preliminary site drawings in Attachment A and as shown in **Figure 2**, the developer proposes to install an on-site 8-inch PVC waterline beginning from a point of connection to the existing 6-inch waterline in Melba Rd and terminating in a cul-de-sac at the northeast corner of the project site. The proposed on-site waterline is designated as public and therefore will be maintained by the District.

Figure 2: Proposed On-Site Water Improvements



The proposed 8-inch waterline was added to the District's existing InfoWater™ model, created and calibrated by IEC in 2021. A Hazen-Williams coefficient ("C") of 130 was assumed for the new PVC waterline. On-site junction elevations were approximated from contour lines depicted on the preliminary grading plans. The proposed development resides within the District's 520 pressure zone.

3 Existing Scenario Analysis & Results

Analysis of the existing conditions included two (2) extended period simulation (EPS) scenarios—maximum day demand (MDD), which includes peak hour, and MDD plus fire flow. The following sections detail each analysis and results.

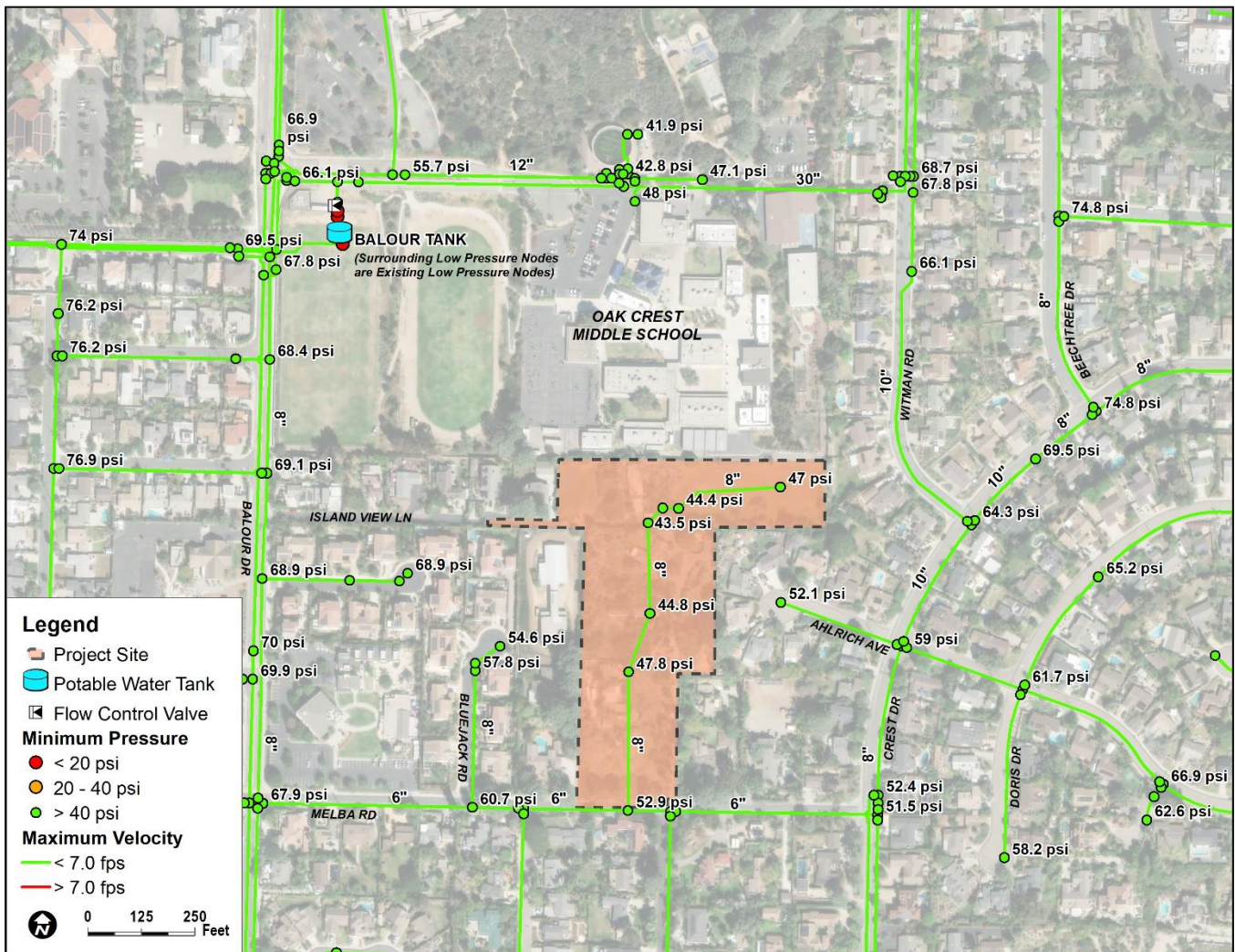
3.1 Existing Maximum Day and Peak Hour Analysis

Scenario “2021_MDD_FF” in the existing potable water model was used to evaluate the impacts of the proposed development on the existing system and verify the on-site waterline is adequately sized for immediate service. The MDD of 14.5 gpm calculated in Table 1 was allocated evenly between the six (6) on-site model junctions. A twenty-four (24) hour EPS was performed under MDD conditions.

The model results were compared to District design criteria listed in Table 4-1 from the 2022 Water System Master Plan, which call for a minimum service pressure of 40 psi and maximum pipeline velocity of 7 fps under peak flow conditions.

The results shown in **Figure 3** indicate pipeline velocities surrounding and within the proposed development are not expected to exceed 7 fps. Furthermore, junction pressures are not projected to fall below 40 psi. The low-pressure nodes surrounding the Balour Tank northwest of the proposed development are existing low-pressure nodes with zero demands and therefore not applicable to the analysis. Therefore, the proposed on-site 8-inch waterline can meet peak demand while maintaining District design criteria in the existing system.

Figure 3: Minimum Junction Pressures and Maximum Pipeline Velocities – Existing MDD Analysis



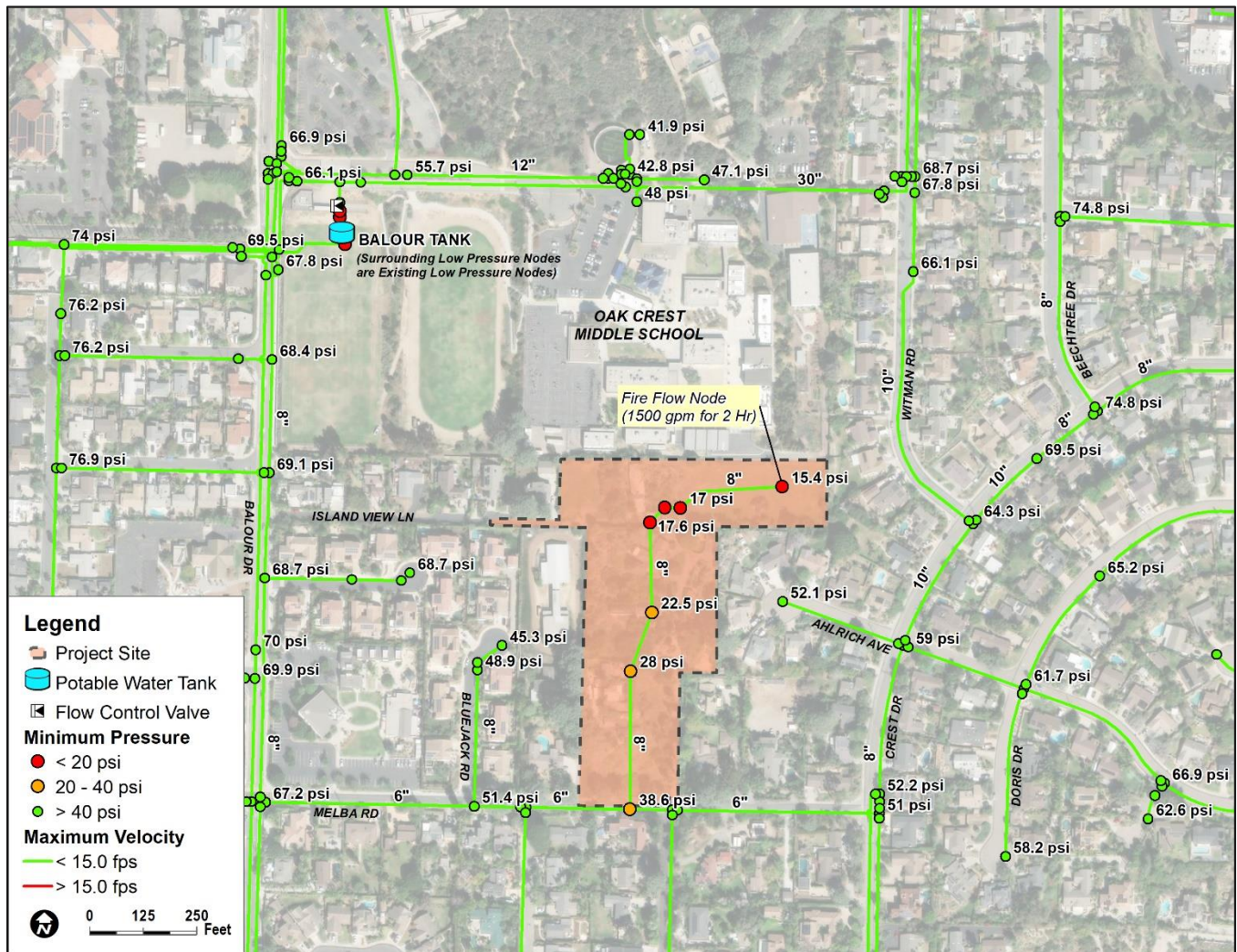
3.2 Existing Maximum Day Plus Fire Flow Analysis

An additional 24-hour EPS was performed under existing MDD plus fire flow conditions to verify the proposed on-site waterline can deliver the required fire flow while maintaining District design criteria. The District allows a minimum service pressure of 20 psi and maximum pipeline velocity of 15 fps under MDD plus fire flow conditions.

A worst-case fire event was simulated by applying the required fire flow of 1,500 gpm to the dead-end node at the northeast corner of the project site.

The results shown in **Figure 4** indicate pipeline velocities surrounding and within the proposed development are not expected to exceed 15 fps. However, pressures will fall below 20 psi on-site due to the fire flow demand. Off-site pressures will remain above 20 psi. The low-pressure nodes surrounding the Balour Tank northwest of the proposed development are existing low-pressure nodes with zero demands and therefore not applicable to the analysis.

Figure 4: Minimum Junction Pressures and Maximum Pipeline Velocities – Existing Fire Flow Analysis



Two options to minimize headloss through the distribution system and therefore improve low pressures under fire flow conditions are presented below, including:

1. Upsizing a portion of the proposed on-site 8-inch waterline to 12-inch
2. Upsizing a portion of the existing off-site 6-inch waterline in Melba Rd to 8-inch

3.2.1 Option 1: Upsize On-Site Waterline

Under Option 1, a portion of the proposed on-site waterline is upsized to reduce headloss and convey existing maximum day plus fire flow demands without violating District pressure design criteria. **Figure 5** presents the results of an MDD plus fire flow analysis with approximately 320 feet of proposed on-site 8-inch waterline upsized to 12-inch. On-site and off-site pressures remain above 20 psi and pipeline velocities do not exceed 15 fps. Therefore, Option 1 requires a minimum of 320 feet of the proposed on-site 8-inch waterline north of Melba Rd to be upsized to 12-inch to accommodate maximum day plus fire flow demands while maintaining District design criteria under existing demand conditions.

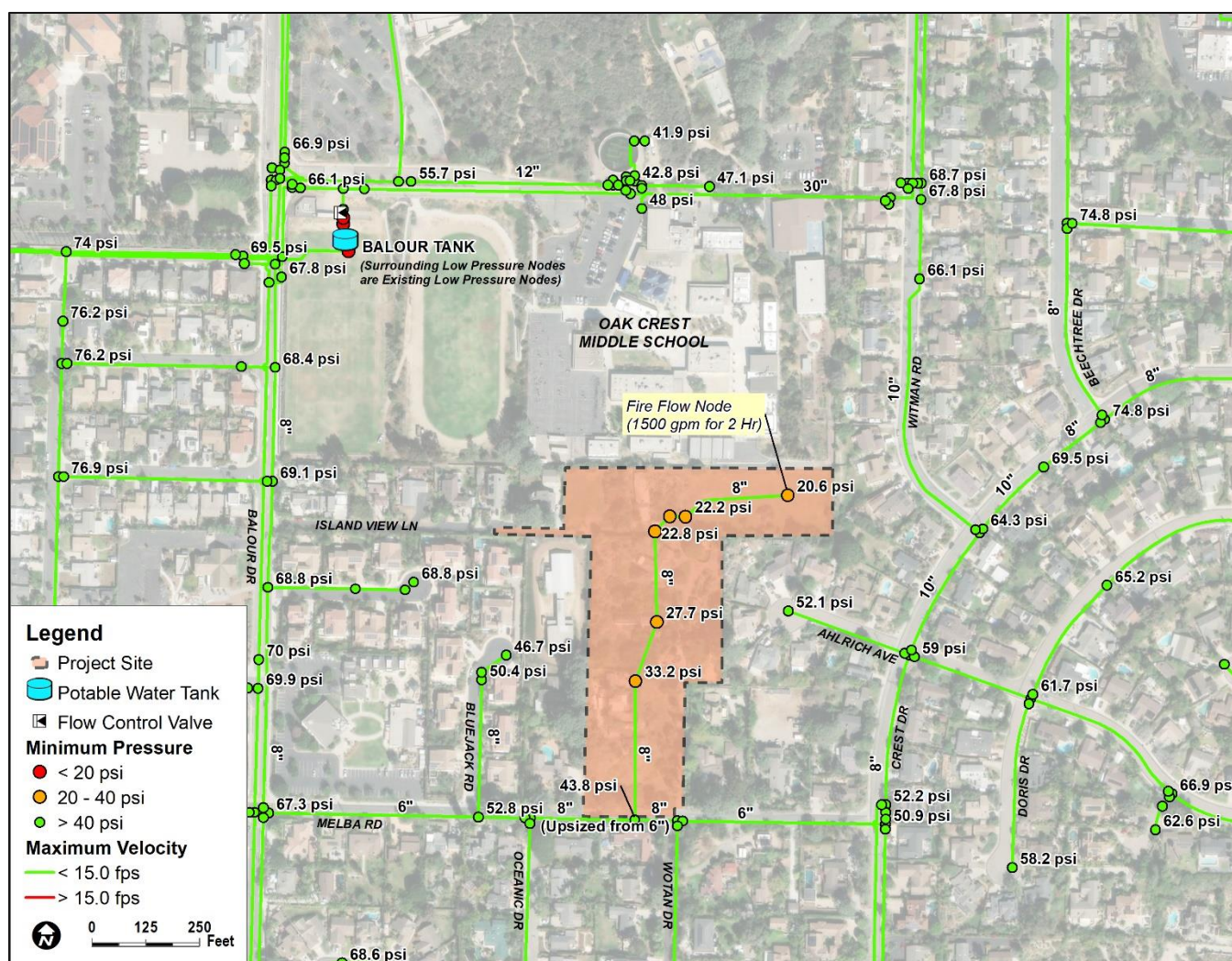
Figure 5: Minimum Junction Pressures and Maximum Pipeline Velocities – Existing Fire Flow Analysis with Upsizing On-Site



3.2.2 Option 2: Upsize Off-Site Waterline

Under Option 2, a portion of the existing off-site waterline in Melba Rd is upsized to reduce headloss and convey existing maximum day plus fire flow demands without violating District pressure design criteria. **Figure 6** presents the results of an MDD plus fire flow analysis with approximately 350 feet of existing off-site 6-inch waterline in Melba Rd between Oceanic Dr and Wotan Dr upsized to 8-inch. On-site and off-site pressures remain above 20 psi and pipeline velocities do not exceed 15 fps. Therefore, Option 2 requires a minimum of 350 feet of existing off-site 6-inch waterline in Melba Rd to be upsized to 8-inch to accommodate maximum day plus fire flow demands while maintaining District design criteria under existing demand conditions.

Figure 6: Minimum Junction Pressures and Maximum Pipeline Velocities – Existing Fire Flow Analysis with Upsizing Off-Site



4 Future Scenario Analysis & Results

Analysis of the future conditions included two (2) EPS scenarios—MDD, which includes peak hour, and MDD plus fire flow. The following sections detail each analysis and results.

4.1 Future Maximum Day and Peak Hour Analysis

In addition to the existing “2021_MDD_FF” scenario, Dudek created a future “2040_MDD_FF” scenario to evaluate the impacts of the proposed development on the future system and verify the on-site waterline is adequately sized for the ultimate condition. Future average daily demands were calculated using the growth factors outlined in the District’s 2022 Water Master Plan. As in the existing scenario analysis, a 24-hour EPS was performed under MDD conditions and model results compared to District design criteria.

The future scenario analysis was evaluated under upsizing Options 1 and 2 from Section 3.2 above, as required to meet design criteria under existing MDD plus fire flow conditions.

The results shown in **Figures 7** and **8** indicate that under future peak demand conditions, pipeline velocities surrounding and within the proposed development are not expected to exceed 7 fps under either upsizing Options 1 or 2. Furthermore, junction pressures are not projected to fall below 40 psi. Therefore, both upsizing options are anticipated to be able to meet peak hour demand while maintaining District design criteria in the future system.

Figure 7: Minimum Junction Pressures and Maximum Pipeline Velocities – Future MDD Analysis (Option 1)

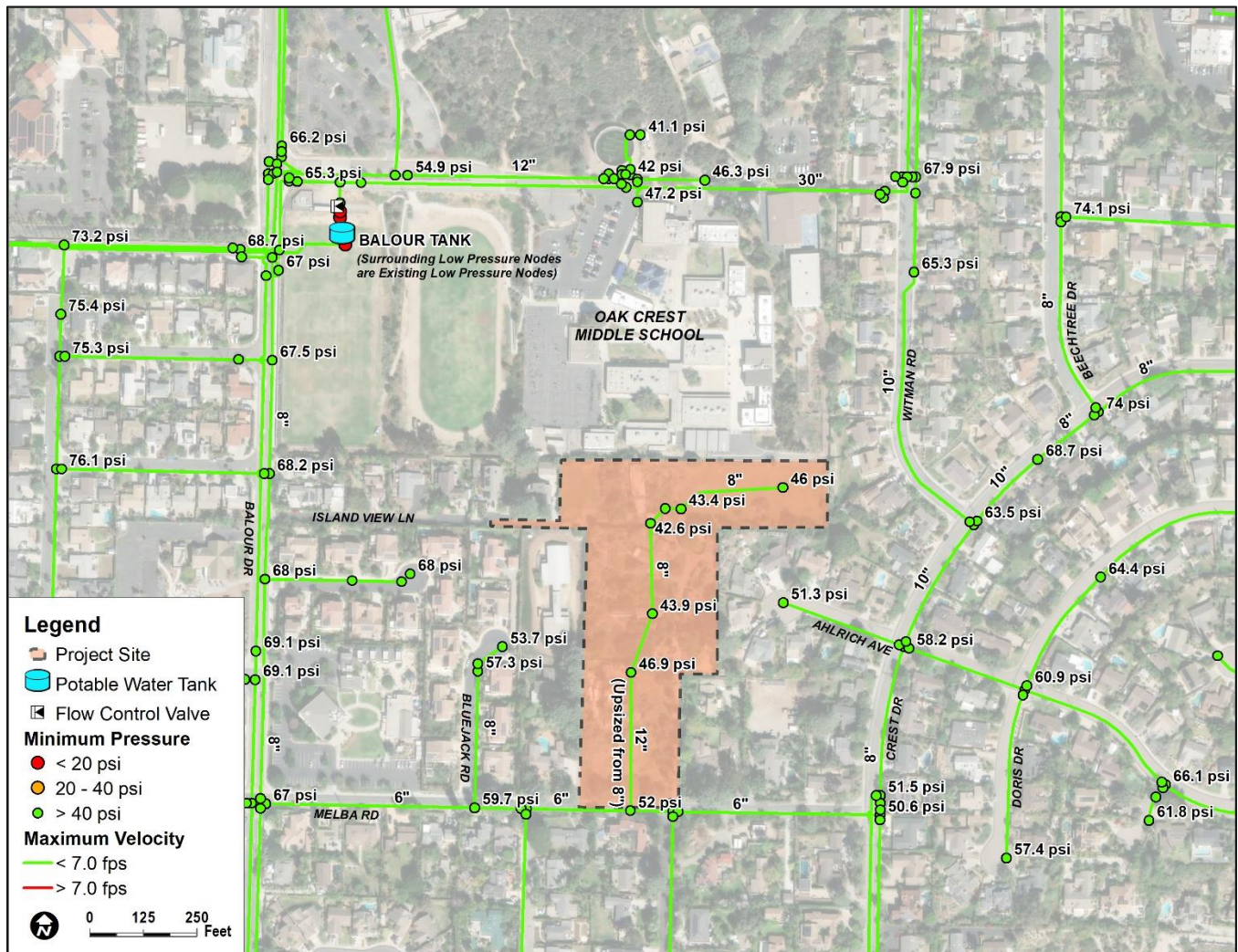
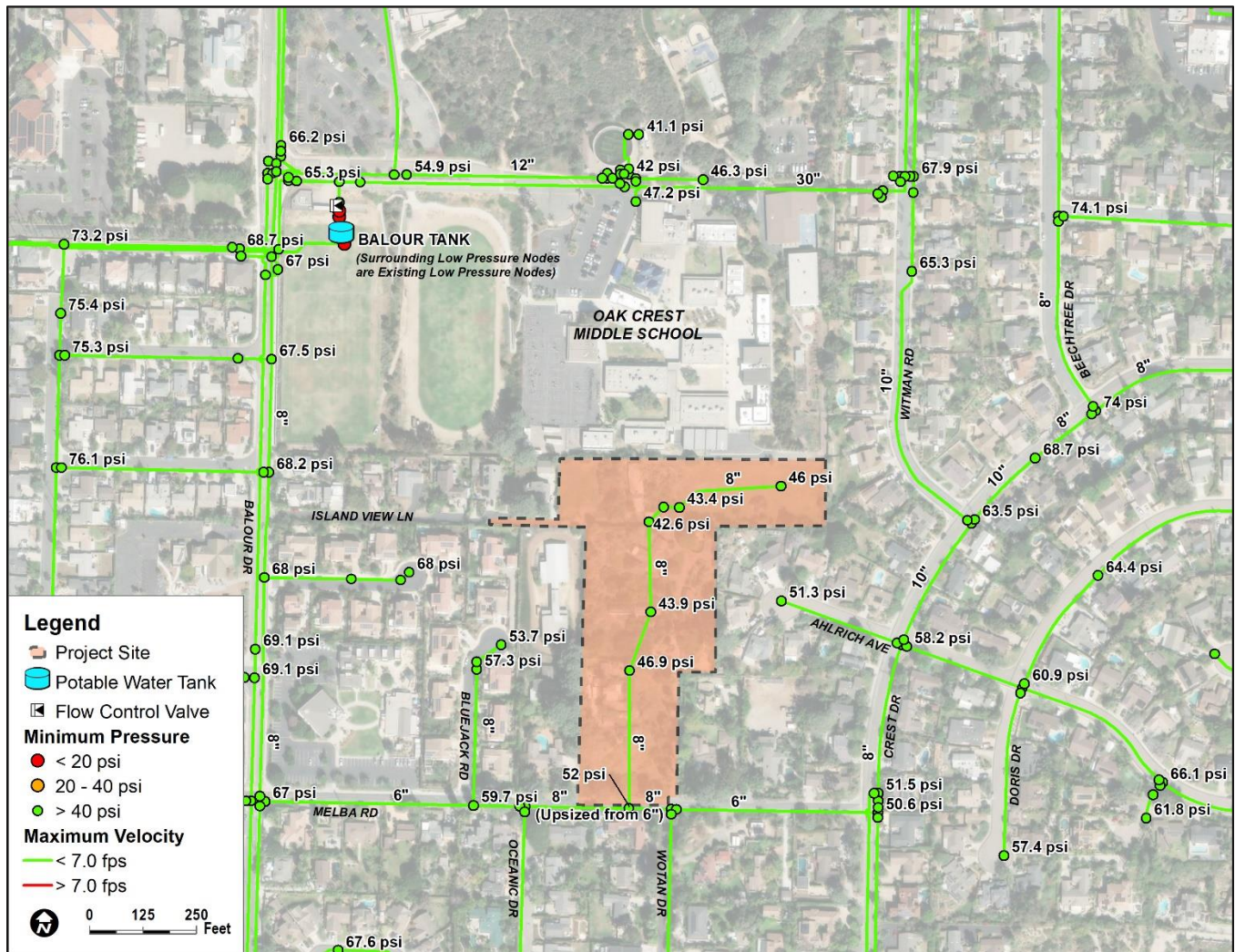


Figure 8: Minimum Junction Pressures and Maximum Pipeline Velocities – Future MDD Analysis
(Option 2)



4.2 Future Maximum Day Plus Fire Flow Analysis

As in the existing demand analysis, an additional 24-hour EPS was performed under future MDD plus fire flow conditions to verify the on-site waterline can deliver the required fire flow while maintaining District design criteria. This condition was evaluated under both upsizing Options 1 and 2. Once again, a worst-case fire event was simulated by applying the required fire flow of 1,500 gpm to the dead-end node at the northeast corner of the project site.

4.2.1 Option 1: Upsize On-Site Waterline

Under upsizing Option 1, with 320 LF of on-site waterline sized at 12-inch diameter, the results shown in **Figure 9** indicate pipeline velocities surrounding and within the proposed development are not expected to exceed 15 fps. However, the pressure at the dead-end node on site falls just below 20 psi due to the fire flow demand. Off-site pressures will remain above 20 psi. The low-pressure nodes surrounding the Balour Tank northwest of the proposed development are existing low-pressure nodes with zero demands and therefore not applicable to the analysis.

An additional segment of the proposed on-site waterline must be upsized to convey future maximum day plus fire flow demands without violating District low pressure design criteria. **Figure 10** presents the results of an MDD plus fire flow analysis with approximately 40 feet of proposed on-site 8-inch waterline upsized to 12-inch, in addition to the 320 feet of waterline upsized in the existing system analysis. On-site and off-site pressures remain above 20 psi and pipeline velocities do not exceed 15 fps. Therefore, approximately 360 feet of the proposed on-site 8-inch waterline north of Melba Rd must be upsized to 12-inch to maintain District design criteria under future MDD plus fire flow conditions.

Figure 9: Minimum Junction Pressures and Maximum Pipeline Velocities – Future Fire Flow Analysis Under Option 1 (320 LF On-Site Waterline Sized at 12-inch)

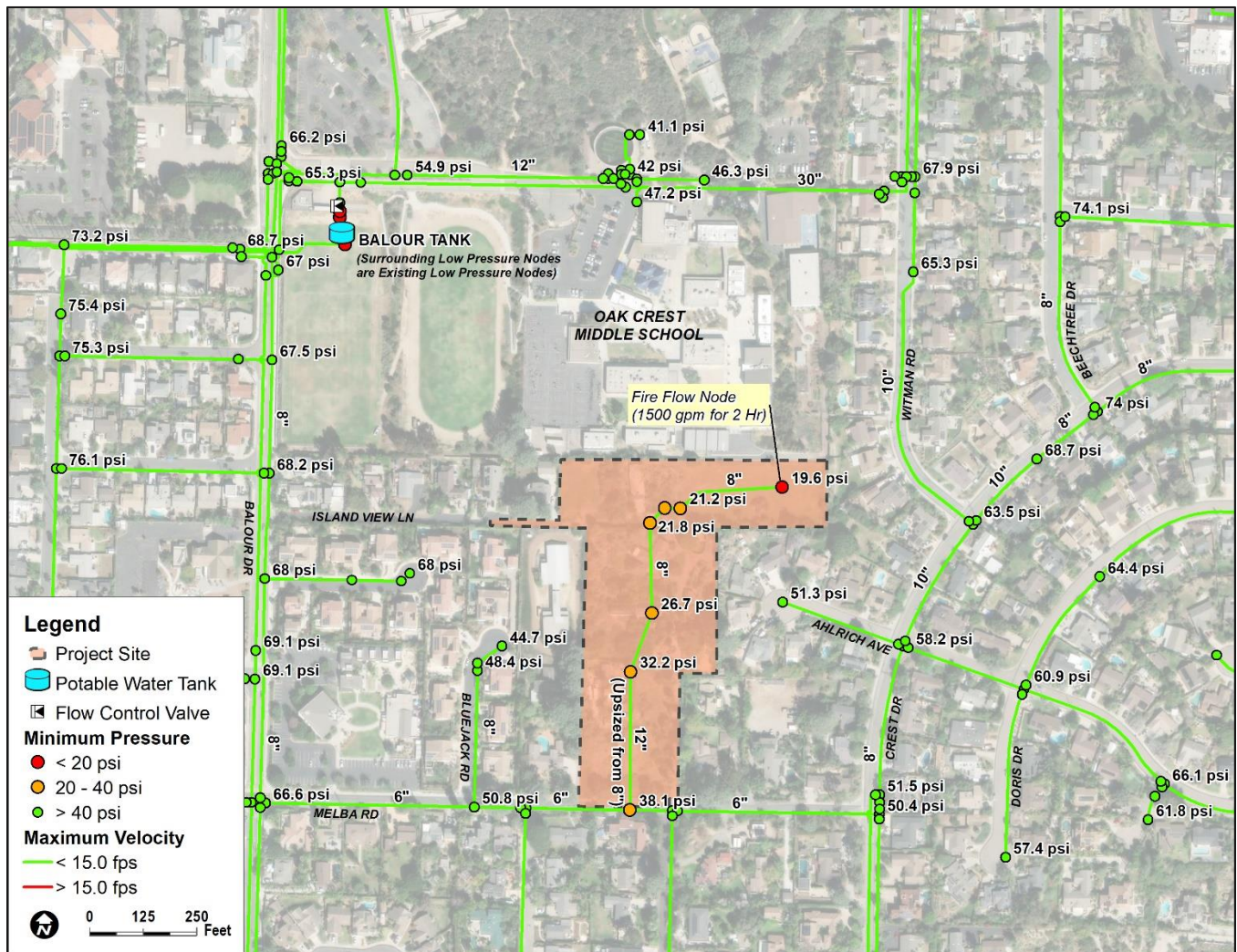
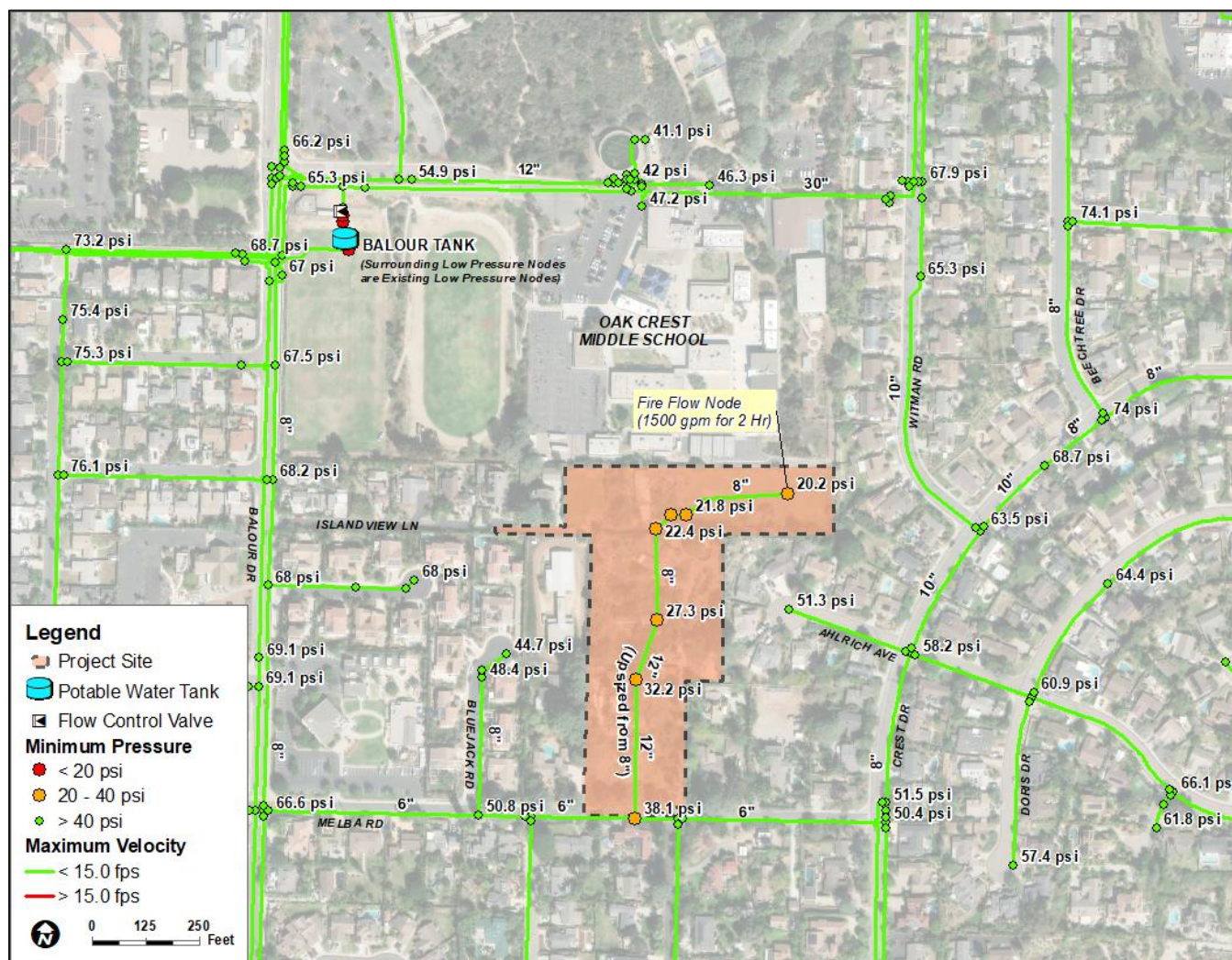


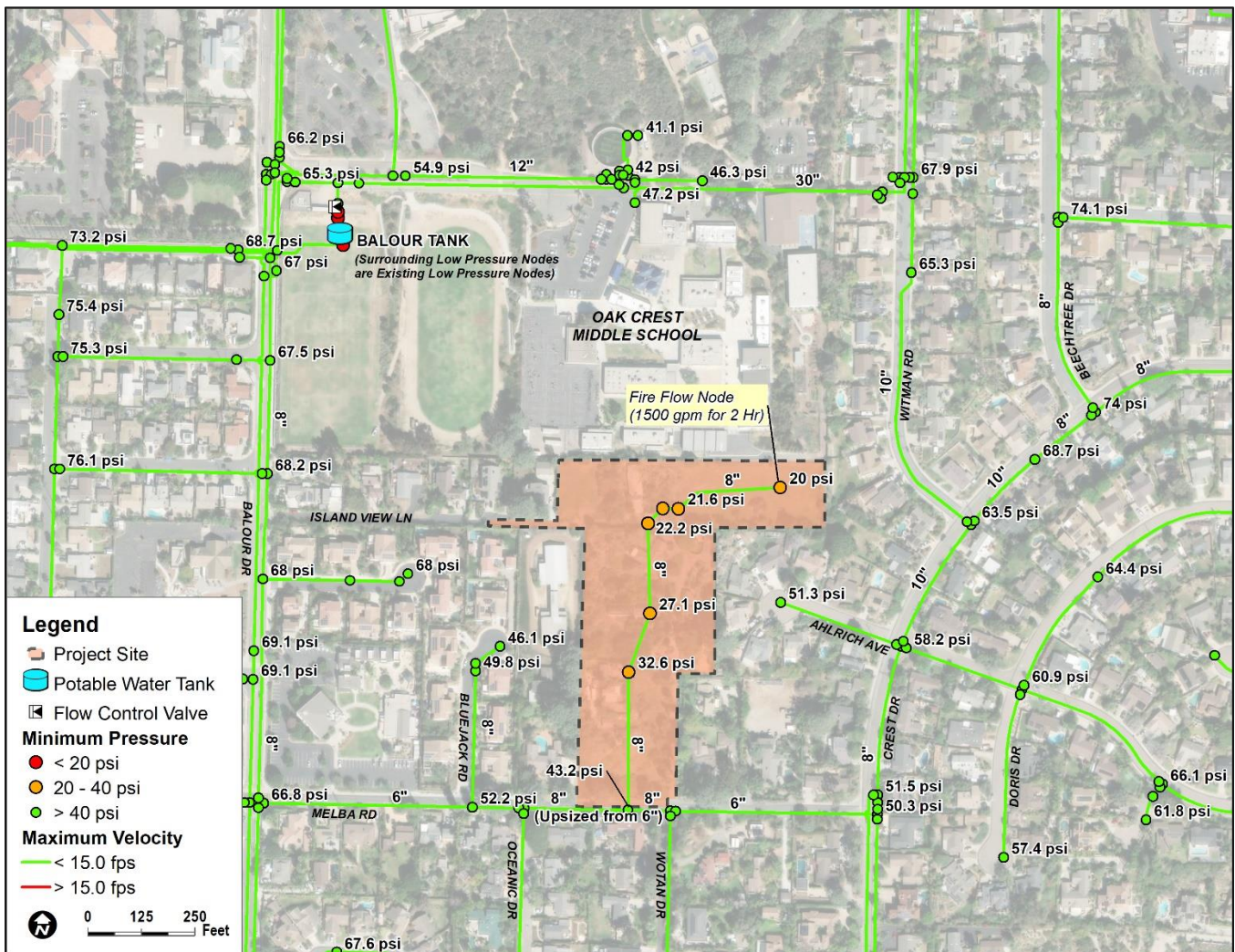
Figure 10: Minimum Junction Pressures and Maximum Pipeline Velocities – Future Fire Flow Analysis Under Option 1 with Additional Upsizing On-Site



4.2.2 Option 2: Upsize Off-Site Waterline

Under upsizing Option 2, with 350 LF of existing off-site 6-inch waterline in Melba Road upsized to 8-inch diameter, the results shown in **Figure 11** indicate pipeline velocities surrounding and within the proposed development are not expected to exceed 15 fps. Additionally, off-site and on-site pressures remain at or above the District's minimum requirement of 20 psi. Therefore, no additional off-site waterline upsizing in Melba Rd beyond the 350 LF previously determined as required for the existing system is necessary to maintain District design criteria under future MDD plus fire flow conditions.

Figure 11: Minimum Junction Pressures and Maximum Pipeline Velocities – Future Fire Flow Analysis Under Option 2 (350 LF Off-Site Waterline Sized at 8-inch)



5 Recommendations

Based on the results of the existing and future analyses presented in the preceding sections, the proposed development cannot proceed as proposed in the preliminary site drawings. Either on-site or off-site waterline upsizing will be necessary to convey the required fire flow to the project site while maintaining District design criteria. Since the project is served by a dead-end line, the District will not allow a portion of the on-site proposed waterline to be upsized to 12-inch due to on-going water quality considerations (i.e., the need for regular flushing of the line). Therefore, it is recommended that 350 LF of existing off-site 6-inch waterline in Melba Ave between Oceanic Dr and Wotan Dr be upsized to 8-inch to ensure sufficient fire flow to the project site under maximum day demand conditions within District design criteria.

ATTACHMENT A PRELIMINARY SITE DRAWINGS

LEGEND

PROPERTY LINE (PL)	---
ADJACENT PROPERTY LINE / RIGHT-OF-WAY (ROW)	=====
CENTERLINE OF ROAD	=====
EXISTING ASSESSOR'S PARCEL LIMITS	-----
EXISTING EASEMENTS	----
ADJACENT LOT LINES	----

EXISTING EASEMENT INFORMATION

REFER TO SHEET 3 FOR PLOTTING OF EXISTING EASEMENTS

*EXISTING EASEMENTS SHOWN IN ACCORDANCE WITH
PRELIMINARY TITLE REPORT PREPARED BY FIDELITY
NATIONAL TITLE DATED FEBRUARY 25, 2022 AS ORDER
NUMBER 00171756-986-SD1-RT4

PROPOSED EASEMENT INFORMATION

REFER TO SHEET 2 FOR PLOTTING OF PROPOSED EASEMENTS

DENSITY CALCULATIONS

GROSS ACREAGE		6.646 ACRES (289,503 SF)
SLOPE (%)	AREA (AC)	DENSITY (DU)
0 - 25	6.557	3.0
25 - 40	0.059	3.0 / 2
40 +	0.030	0
TOTAL	= 6.646	
BASE UNITS ALLOWED	=	6.646 GROSS AC * 3.0 DU / AC = 19.94
BASE DENSITY PER DENSITY BONUS ROUND UP	=	20.0
3 / 20 UNITS AS AFFORDABLE	=	15.0% AFFORDABLE
50.0% DENSITY BONUS PER GOVT. CODE 65915 FOR 15% "VERY LOW" AFFORDABLE UNITS	=	30.0
PER DENSITY BONUS ROUND UP	=	30.0 UNITS

NET ACREAGE CALCULATIONS	
ACREAGE	GROSS ACRES
6.646 AC	LESS: EXISTING PUBLIC ROAD EASEMENT (0.09 AC)
(0.03 AC)	LESS: PROPOSED MELBA ROAD DEDICATION (0.24 AC)
(0.24 AC)	LESS: EXISTING ROAD & PUBLIC UTILITY EASEMENT (0.68 AC)
(0.68 AC)	LESS: PROPOSED PRIVATE ROAD LOT (LOT A)
5.61 ACRES	NET ACRES

SLOPE ADJUSTED	=	5.52 AC + 0.06 AC * 50% + 0.03 AC * 0%
NET ACREAGE	=	5.55 AC

STATE DENSITY BONUS LAW CONCESSIONS / INCENTIVES

- THE PROJECT IS ALLOWED THREE (3) INCENTIVES FOR INCLUDING AT LEAST 15 PERCENT OF TOTAL UNITS FOR "VERY LOW" INCOME HOUSEHOLDS PURSUANT TO STATE DENSITY BONUS LAW (SDBL), CA GOVERNMENT CODE 65915. APPLICANT IS REQUESTING TO USE TWO (2) INCENTIVES AT THIS TIME AS IDENTIFIED IN SECTION 10 OF THE LETTER TITLED "DENSITY BONUS SUBDIVISION APPLICATION SUPPLEMENT" ("DB"), APPLICANT REQUESTS TO USE TWO (2) INCENTIVE REQUESTS. 1. TO NOT UNDERGROUND OVERHEAD UTILITIES AND 2. FOR BUILDING HEIGHT. REFER TO SEPARATE LETTER FOR ADDITIONAL INFORMATION.
- WAIVER OF "DEVELOPMENT STANDARDS" AS IDENTIFIED IN SECTION 30.16.010 IN THE CITY OF ENCINITAS MUNICIPAL CODE, INCLUDING NET LOT AREA, LOT WIDTH, LOT DEPTH, BUILDING HEIGHT, PRIVATE STREETS (ROAD WIDTH AND CUL-DE-SAC RADIUS), AND SIDE, FRONT, AND REAR YARD SETBACKS, CONNECTIVITY OF ADJACENT LAND USES (30.16.010H AND 24.12.090), SUBDIVISION DESIGN STANDARDS (24.12.030), AND DEVELOPMENT STANDARDS (30.28.010). REFER TO SEPARATE LETTER FOR ADDITIONAL INFORMATION.

SHEET INDEX

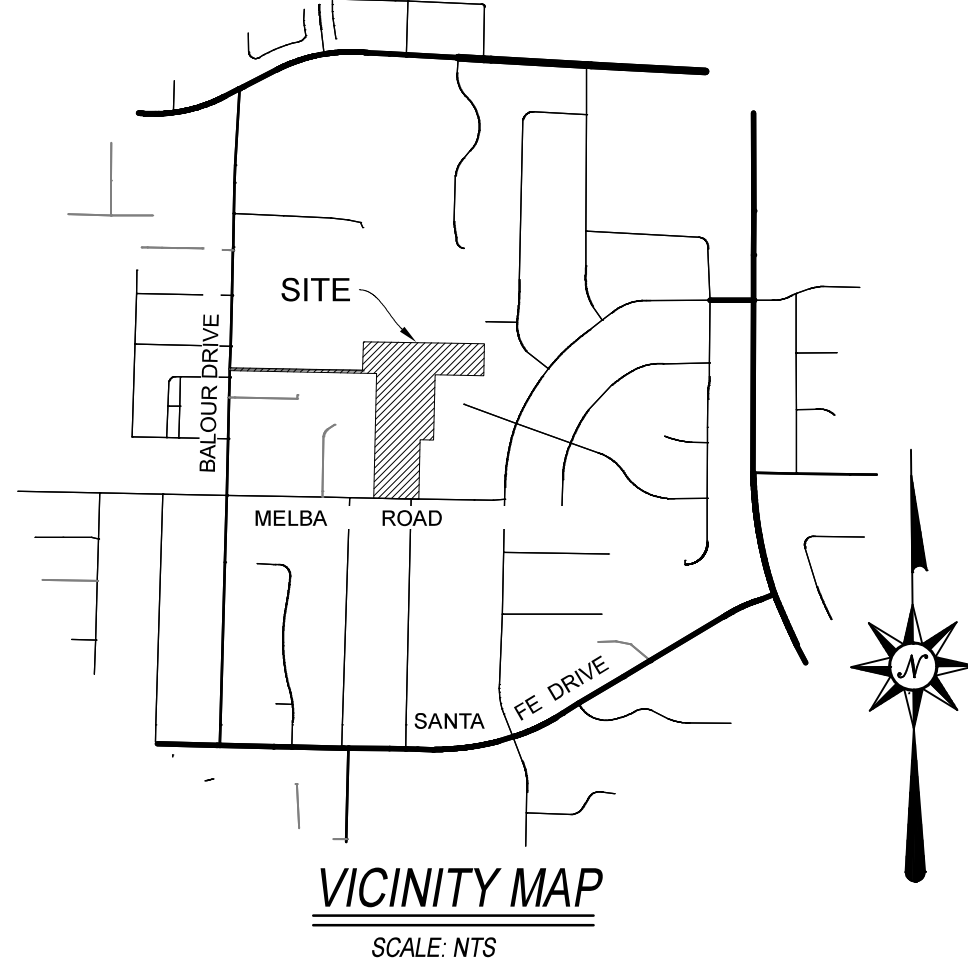
SHEET 1 - TENTATIVE MAP TITLE SHEET AND NOTES
SHEET 2 - PROJECT KEY MAP AND PROPOSED LOT LAYOUT
SHEET 3 - EXISTING EASEMENTS EXHIBIT
SHEET 4 - PRELIMINARY GRADING PLAN (LOTS 1-6, 24-30)
SHEET 5 - PRELIMINARY GRADING PLAN (LOTS 5-14, 20-25)
SHEET 6 - PRELIMINARY GRADING PLAN (LOTS 13-23)
SHEET 7 - PRELIMINARY UTILITY PLAN
SHEET 8 - SECTIONS AND DETAILS
SHEET 9 - SECTIONS AND DETAILS
SHEET 10 - SLOPE ANALYSIS
SHEET 11 - CURB UTILIZATION EXHIBIT
SHEET 12 - MELBA ROAD FRONTAGE IMPROVEMENTS
SHEET 13 - SOIL BURIAL EXHIBIT

DISTURBED AREA CALCULATIONS

TOTAL EXIST. GROSS SITE AREA:	289,503 SF (6.646 AC)
AREA DISTURBED BY PROJECT:	275,108 SF (6.316 AC)

SITE ADDRESS

1220 MELBA ROAD ENCINITAS, CA 92024 APN: 259-180-16-00	UNASSIGNED ADDRESS ENCINITAS, CA 92024 APN: 259-181-02-00
1230 MELBA ROAD ENCINITAS, CA 92024 APN: 259-180-33-00	1190 ISLAND VIEW LANE ENCINITAS, CA 92024 APN: 259-181-03-00
1234 MELBA ROAD ENCINITAS, CA 92024 APNS: 259-180-10-00	UNASSIGNED ADDRESS ENCINITAS, CA 92024 APN: 259-181-04-00
1240 MELBA ROAD ENCINITAS, CA 92024 APNS: 259-180-09-00 259-180-10-00	



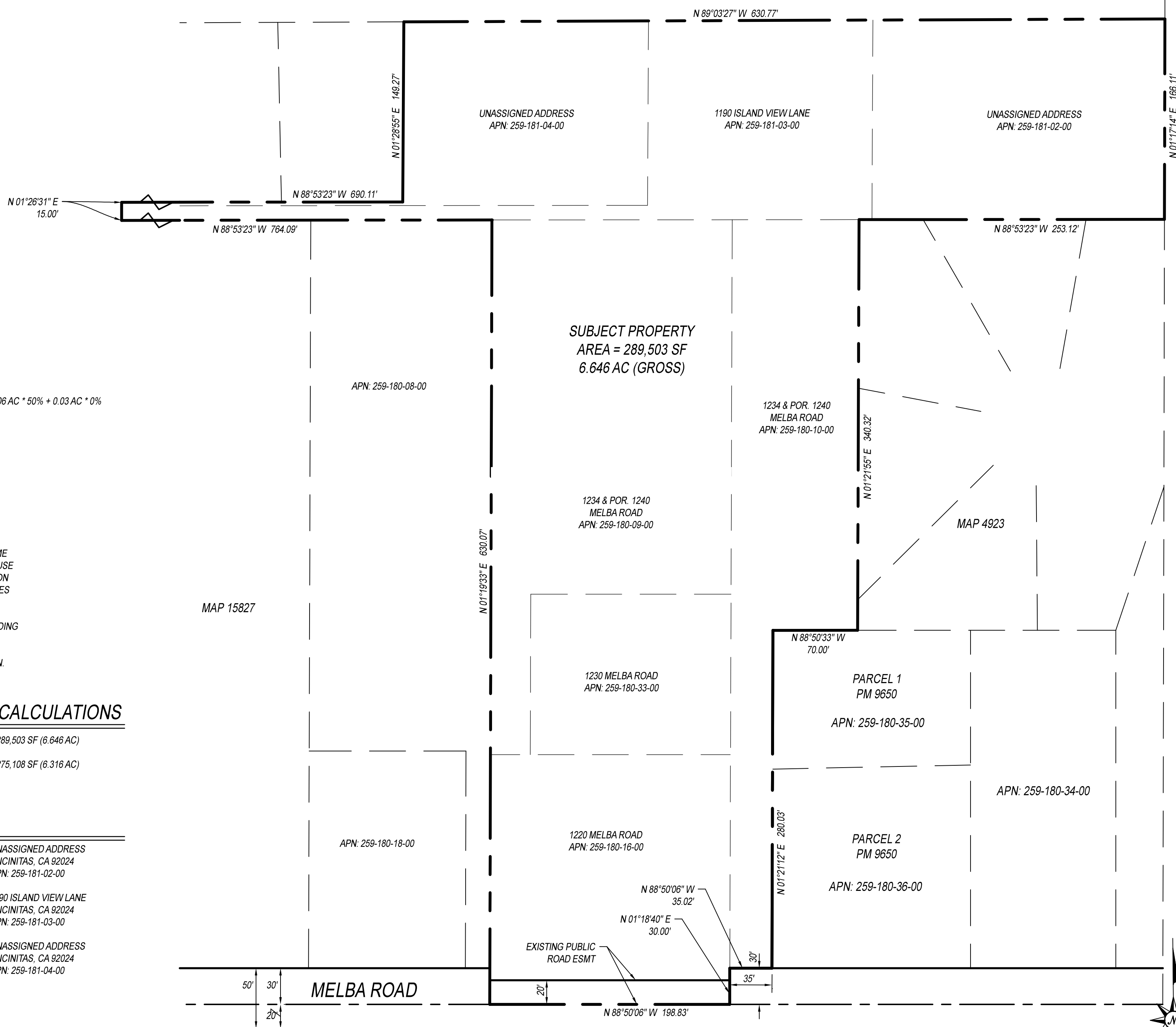
VICINITY MAP

SCALE: NTS

SCOPE OF WORK

THE PROJECT SEEKS APPROVAL TO DEMOLISH ALL EXISTING ONSITE STRUCTURES AND CONSTRUCT A SINGLE-FAMILY RESIDENTIAL DEVELOPMENT. THE DENSITY BONUS PROJECT PROPOSES TO SUBDIVIDE THE PROPERTY TO CREATE 30 NEW SINGLE-FAMILY LOTS WITH 27 MARKET-RATE UNITS AND 3 VERY-LOW AFFORDABLE UNITS, INCLUDING THE CONSTRUCTION OF A NEW PRIVATE ROAD, AND ASSOCIATED UTILITY, DRAINAGE, AND STORM WATER TREATMENT IMPROVEMENTS. THE PROJECT SEEKS APPROVAL OF A DENSITY BONUS TENTATIVE MAP, DESIGN REVIEW PERMIT, AND COASTAL DEVELOPMENT PERMIT, AND REQUESTS MULTIPLE WAIVERS OF DEVELOPMENT STANDARDS AS WELL AS TWO (2) INCENTIVES / CONCESSIONS ALLOTTED UNDER STATE DENSITY BONUS LAW BY PROVIDING AFFORDABLE HOUSING. THE PROJECT PROPOSES FILL IN EXCESS OF 4 FEET.

MULTI-004309-2021 / DR-004311-2021 / SUB-004310-2021 / CDPNF-004312-2021 TORREY CREST 1220-1240 MELBA ROAD, 1190 ISLAND VIEW LANE



PLAN VIEW - EXISTING APN LAYOUT

SCALE: 1" = 60' HORIZONTAL

IMPERVIOUS AREA CALCULATIONS

EXISTING IMPERVIOUS AREA (ONSITE):	39,862 SF (0.915 AC)
PROPOSED IMPERVIOUS AREA HEREON (ONSITE):	153,575 SF (3.526 AC)
ASSUMED FUTURE LOT IMPERVIOUS AREA (ONSITE):	15,135 SF (0.357 AC)
TOTAL IMPERVIOUS AREA (ONSITE):	168,710 SF (3.87 AC)
INCREASE IN IMPERVIOUS AREA:	128,858 SF (2.958 AC)

OWNER INFORMATION

WE HEREBY CERTIFY THAT WE ARE THE RECORDED OWNERS OF THE PROPERTY SHOWN ON THE ATTACHED TENTATIVE MAP, DESIGN REVIEW, AND COASTAL DEVELOPMENT PERMIT AND THAT SAID APPLICATION SHOWS THE ENTIRE, CONTIGUOUS OWNERSHIP. I UNDERSTAND THAT PROPERTY IS CONSIDERED CONTIGUOUS EVEN IF IT IS SEPARATED BY ROADS, STREETS, UTILITY EASEMENTS, OR RAILROAD RIGHTS OF WAY.

OWNER:
DAN STAVER FOR: TORREY PACIFIC CORPORATION
171 SAXONY ROAD, SUITE 109
ENCINITAS, CA 92024
PH: (760) 942-3256

SUBDIVIDER INFORMATION

THE SUBDIVIDER AGREES TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY OF ENCINITAS AND ITS AGENTS, OFFICERS, AND EMPLOYEES FROM ANY CLAIM ACTION, OR PROCEEDING AGAINST THE CITY OF ENCINITAS OR ITS AGENTS, OFFICERS OR EMPLOYEES, TO ATTACK, SET ASIDE, VOID, OR ANNUL AN APPROVAL FROM THE CITY OF ENCINITAS CONCERNING THE SUBDIVISION WHEN SUCH ACTION IS BROUGHT WITHIN THE TIME PERIOD SPECIFIED IN GOV. CODE SECTION 66499.37. THIS CERTIFICATION IS CONDITIONED UPON THE CITY OF ENCINITAS PROVIDING PROMPT NOTICE TO THE SUBDIVIDER AS PROVIDED FOR BY THE ACT (GOV. CODE 66474.9)

SUBDIVIDER:
DAN STAVER FOR: TORREY PACIFIC CORPORATION
171 SAXONY RD., SUITE 109
ENCINITAS, CA 92024
PH: (760) 942-3256

ABBREVIATED LEGAL DESCRIPTION

"PORTION OF THE NORTHEAST QUARTER OF THE
SOUTHWEST QUARTER OF SECTION 14, TOWNSHIP 13
SOUTH, RANGE 4 WEST, SAN BERNARDINO MERIDIAN,
IN THE COUNTY OF SAN DIEGO, STATE OF
CALIFORNIA

"FOR FULL LEGAL DESCRIPTION, REFER TO
PRELIMINARY TITLE REPORT PREPARED BY FIDELITY
NATIONAL TITLE DATED FEBRUARY 25, 2022 AS
ORDER NUMBER 00171756-986-SD1-RT4

TOPOGRAPHY

TOPOGRAPHY OBTAINED BY: FIELD SURVEY
TOPOGRAPHY OBTAINED ON: SEPTEMBER 25, 2019
PREPARED BY: PASCO, LARET, SUITER & ASSOCIATES

BENCHMARK

ELEVATIONS SHOWN HEREON ARE BASED ON A WELL
MONUMENT AT THE CENTER OF CUL DE SAC, EAST END
OF ORANGE VIEW DRIVE, PER ROS 18416, AS PT. NO. 1035
ELEVATION = 243.238
DATUM = NAVD 88

UTILITIES

WATER	SAN DIEGUITO WATER DISTRICT
FIRE	ENCINITAS FIRE PROTECTION DISTRICT
SEWER	CAROLIS SANITARY DIVISION
ELEMENTARY SCHOOL	ENCINITAS UNION SCHOOL DISTRICT
HIGH SCHOOL	SAN DIEGUITO UNION HIGH SCHOOL DISTRICT

ZONING INFORMATION

GENERAL PLAN DESIGNATION:	R-3	PRESENT USE:	RESIDENTIAL
PRESENT ZONING REQUIREMENTS:	R-3	PROPOSED USE:	30 SINGLE-FAMILY RESIDENCES
BUILDING HEIGHT:	*PER CODE 30.16.010 B7		1 PRIVATE ROAD LOT 1 NON-BUILDABLE PANHANDLE LOT 27 MARKET-RATE UNITS 3 VERY-LOW AFFORDABLE UNITS

*SEE NOTE REGARDING BUILDING HEIGHT ON SHEET 2

SMALLEST PROPOSED LOT:	LOT 17 (4,434 SF)
LARGEST PROPOSED LOT:	LOT 1 (114,456 SF)
AVERAGE PROPOSED LOT SIZE:	8,072 SF

EARTHWORK / PROJECT GRADING

CUT:	22,000 CY	MAX CUT HEIGHT:	8.0 FT
FILL:	6,500 CY	MAX FILL HEIGHT:	7.5 FT
EXPORT:	15,500 CY		
REMEDIAL:	-8,000 CY		

*ESTIMATE DOES NOT INCLUDE STRIPPINGS OR UTILITY TRENCH VOLUMES, IF REQUIRED
BY SITE CONDITIONS

CONTRACTOR SHALL SELF SATISFY THAT ESTIMATES ARE CORRECT PRIOR TO
COMMENCEMENT OF WORK.

EARTHWORK QUANTITIES ARE ESTIMATED FOR PERMIT PURPOSES ONLY. THESE
QUANTITIES ARE APPROXIMATE AND ARE SUBJECT TO CHANGE BASED ON FINAL
ENGINEERING DESIGN AND DETAILING

ACCESS

MELBA ROAD, A PUBLIC ROAD

PREPARED BY

PREPARED BY:
PASCO, LARET, SUITER & ASSOCIATES
535 N. HIGHWAY 101, SUITE A
SOLANA BEACH, CA 92075
PH: (858) 259-8212

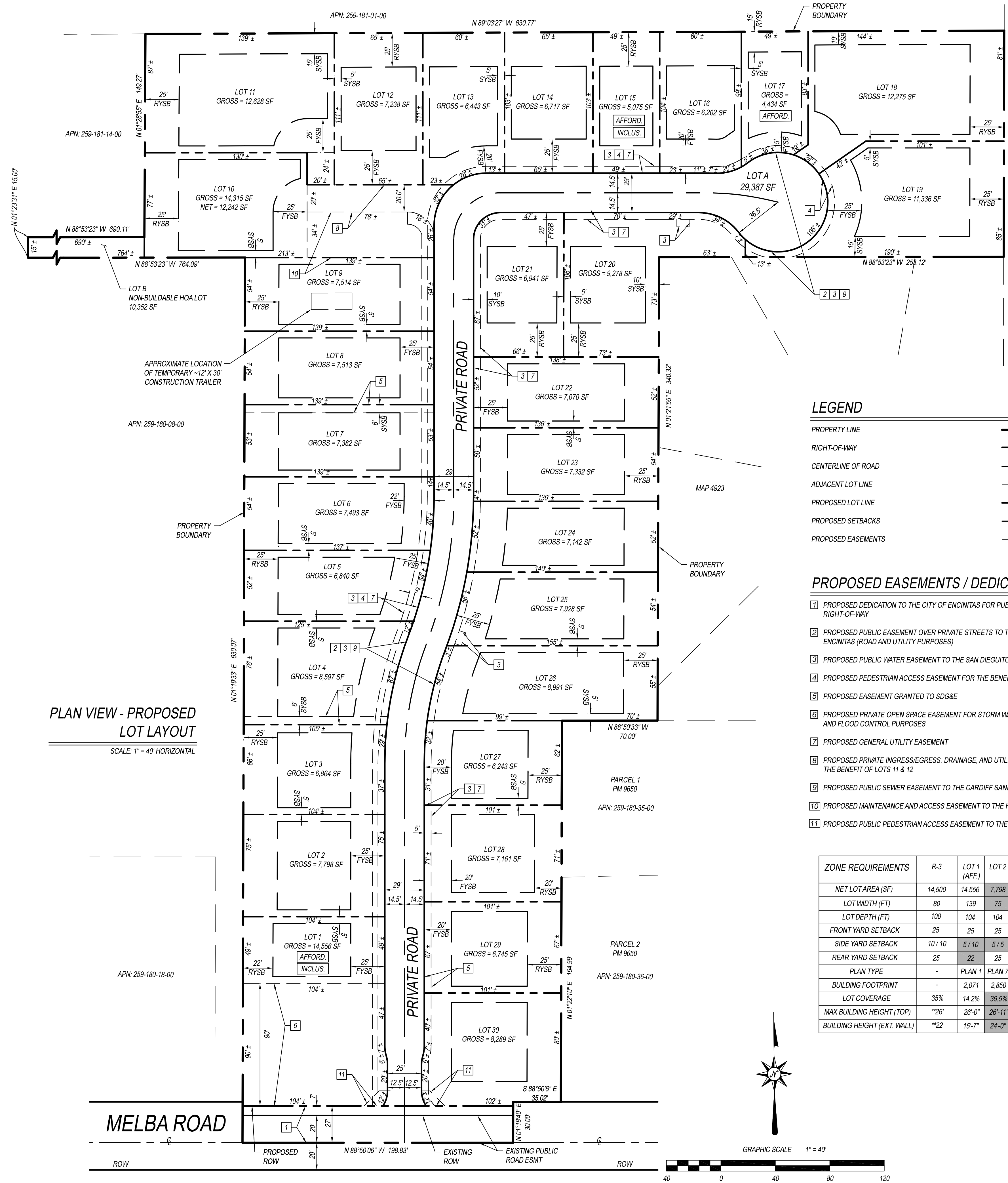
ENGINEER OF WORK

TYLER LAWSON, PE #80356

DATE



PASCO LARET SUITER
& ASSOCIATES
San Diego | Solana Beach | Orange County
Phone 858.259.8212 | www.plsaengineering.com



LEGEND

PROPERTY LINE	---
RIGHT-OF-WAY	---
CENTERLINE OF ROAD	---
ADJACENT LOT LINE	---
PROPOSED LOT LINE	---
PROPOSED SETBACKS	---
PROPOSED EASEMENTS	---

PROPOSED EASEMENTS / DEDICATIONS

- PROPOSED DEDICATION TO THE CITY OF ENCINITAS FOR PUBLIC STREET RIGHT-OF-WAY
- PROPOSED PUBLIC EASEMENT OVER PRIVATE STREETS TO THE CITY OF ENCINITAS (ROAD AND UTILITY PURPOSES)
- PROPOSED PUBLIC WATER EASEMENT TO THE SAN DIEGO WATER DISTRICT
- PROPOSED PEDESTRIAN ACCESS EASEMENT FOR THE BENEFIT OF ALL LOTS
- PROPOSED EASEMENT GRANTED TO SD&E
- PROPOSED PRIVATE OPEN SPACE EASEMENT FOR STORM WATER POLLUTION AND FLOOD CONTROL PURPOSES
- PROPOSED GENERAL UTILITY EASEMENT
- PROPOSED PRIVATE INGRESS/EGRESS, DRAINAGE, AND UTILITY EASEMENT FOR THE BENEFIT OF LOTS 11 & 12
- PROPOSED PUBLIC SEWER EASEMENT TO THE CARDIFF SANITARY DIVISION
- PROPOSED MAINTENANCE AND ACCESS EASEMENT TO THE HOA
- PROPOSED PUBLIC PEDESTRIAN ACCESS EASEMENT TO THE CITY OF ENCINITAS

ZONE REQUIREMENTS	R-3	LOT 1 (AFF)	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9	LOT 10	LOT 11	LOT 12	LOT 13	LOT 14	LOT 15 (AFF)	LOT 16	LOT 17 (AFF)	LOT 18	LOT 19	LOT 20	LOT 21	LOT 22	LOT 23	LOT 24	LOT 25	LOT 26	LOT 27	LOT 28	LOT 29	LOT 30
NET LOT AREA (SF)	14,500	14,556	7,798	6,864	8,597	6,840	7,493	7,382	7,513	7,514	12,242	12,628	7,238	6,443	6,717	5,075	6,202	4,434	12,275	11,336	9,278	6,941	7,070	7,332	7,142	7,928	8,991	6,243	7,161	6,745	8,289
LOT WIDTH (FT)	80	139	75	66	76	52	54	53	54	54	77	87	65	60	65	49	60	49	81	85	73	66	52	54	52	54	54	63	71	67	80
LOT DEPTH (FT)	100	104	104	105	115	131	138	139	139	139	125	135	111	107	103	104	102	91	144	167	106	106	137	136	138	148	162	100	101	101	102
FRONT YARD SETBACK	25	25	25	25	25	25	22'	25	25	25	25	25	25	20*	25	20*	25	15	25	25	25	25	25	25	25	25	25	20*	20*	20*	20*
SIDE YARD SETBACK	10'/10	5/10	5/5	5/5	6/5	5/5	5/5	5/6	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	10/5	5/10	10/5	10/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	15/5
REAR YARD SETBACK	25	22	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	15	25	25	25	25	25	25	25	25	25	25	25	25	25
PLAN TYPE	-	PLAN 1	PLAN 7	PLAN 5	PLAN 7	PLAN 6	PLAN 3	PLAN 8	PLAN 3	PLAN 6	PLAN 7	PLAN 7	PLAN 5	PLAN 4A	PLAN 5	PLAN 1	PLAN 4A	PLAN 1	PLAN 7	PLAN 7	PLAN 5	PLAN 4	PLAN 6	PLAN 3	PLAN 6	PLAN 3	PLAN 6	PLAN 4A	PLAN 2	PLAN 5	PLAN 4
BUILDING FOOTPRINT	-	2,071	2,850	2,383	2,850	2,528	3,446	2,528	3,446	2,528	2,850	2,850	2,383	2,272	2,383	2,071	2,272	2,071	2,850	2,850	2,383	2,218	2,528	3,446	2,528	3,446	2,528	2,272	3,004	2,383	2,218
LOT COVERAGE	35%	14.2%	36.5%	34.7%	33.2%	36.9%	45.9%	34.2%	45.8%	33.6%	23.3%	22.6%	32.9%	35.3%	35.5%	40.8%	36.6%	46.7%	23.2%	25.1%	25.7%	32.0%	35.8%	47.0%	35.4%	43.5%	28.1%	36.4%	41.9%	35.3%	26.8%
MAX BUILDING HEIGHT (TOP)	**26'	26'-0"	26'-11"	26'-0"	25'-10"	25'-11"	26'-0"	26'-0"	22'-9"	25'-11.5"	28'-10"	28'-10"	26'-0"	25'-11.5"	26'-0"	20'-8.5"	26'-0"	24'-11"	28'-5"	30'-0"	26'-0"	26'-0"	26'-0"	25'-10"	25'-11"	25'-4.5"	26'-0"	25'-11.5"	20'-11"	26'-0"	26'-0"
BUILDING HEIGHT (EXT. WALL)	**22	15'-7"	24'-0"	22'-0"	21'-7"	21'-8"	13'-10"	21'-10"	13'-9"	20'-9.5"	27'-3"	24'-4"	20'-10"	20'-8"	20'-9.5"	12'-6"	21'-4.5"	14'-0"	29'-9"	28'-5"	20'-10"	20'-8"	21'-10"	13'-5.5"	20'-8"	13'-5"	20'-9.5"	20'-8"	12'-11.5"	20'-9.5"	21'-4.5"

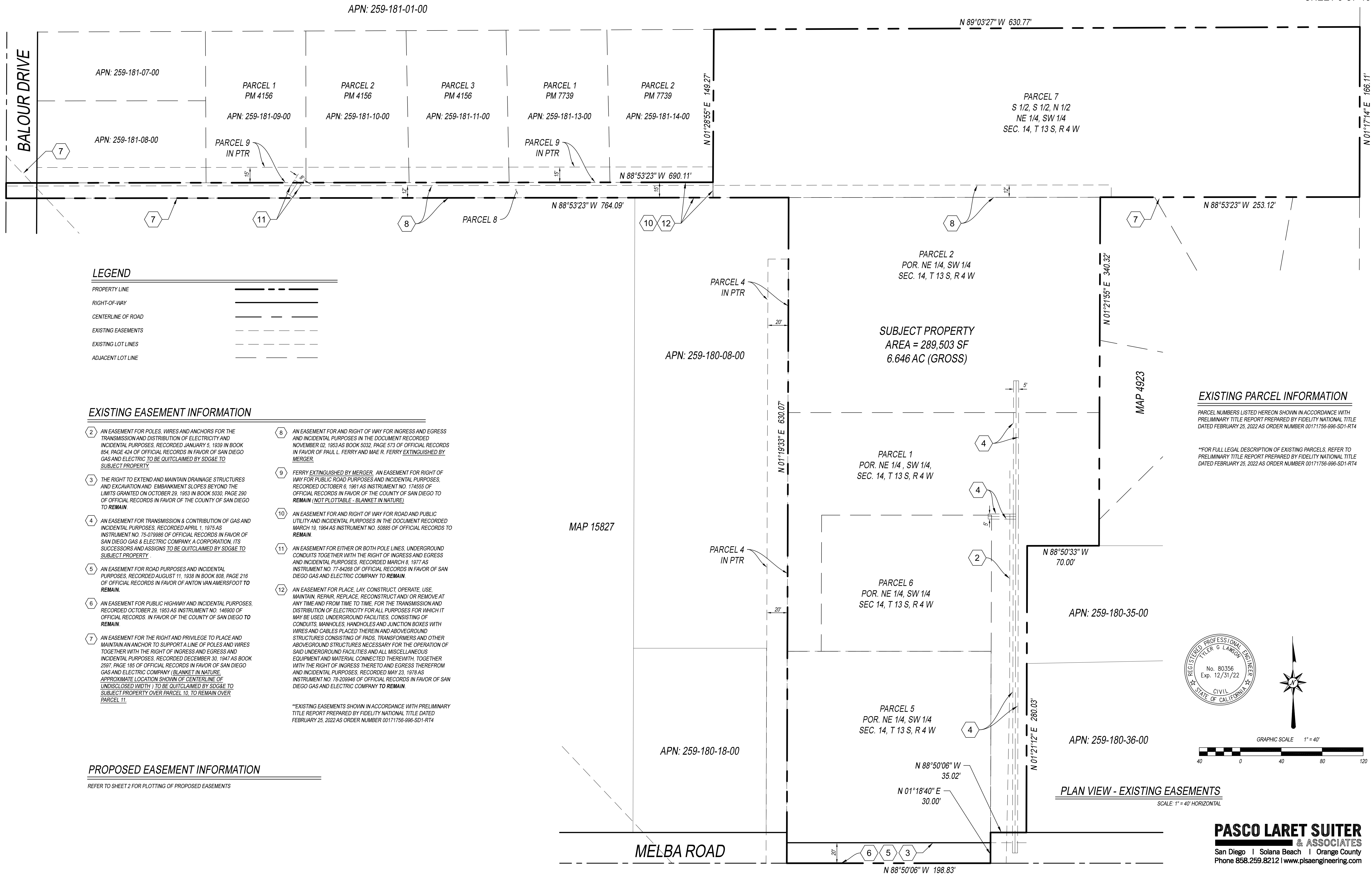
█ = REQUEST WAIVER OF DEVELOPMENT STANDARD UNDER DENSITY BONUS

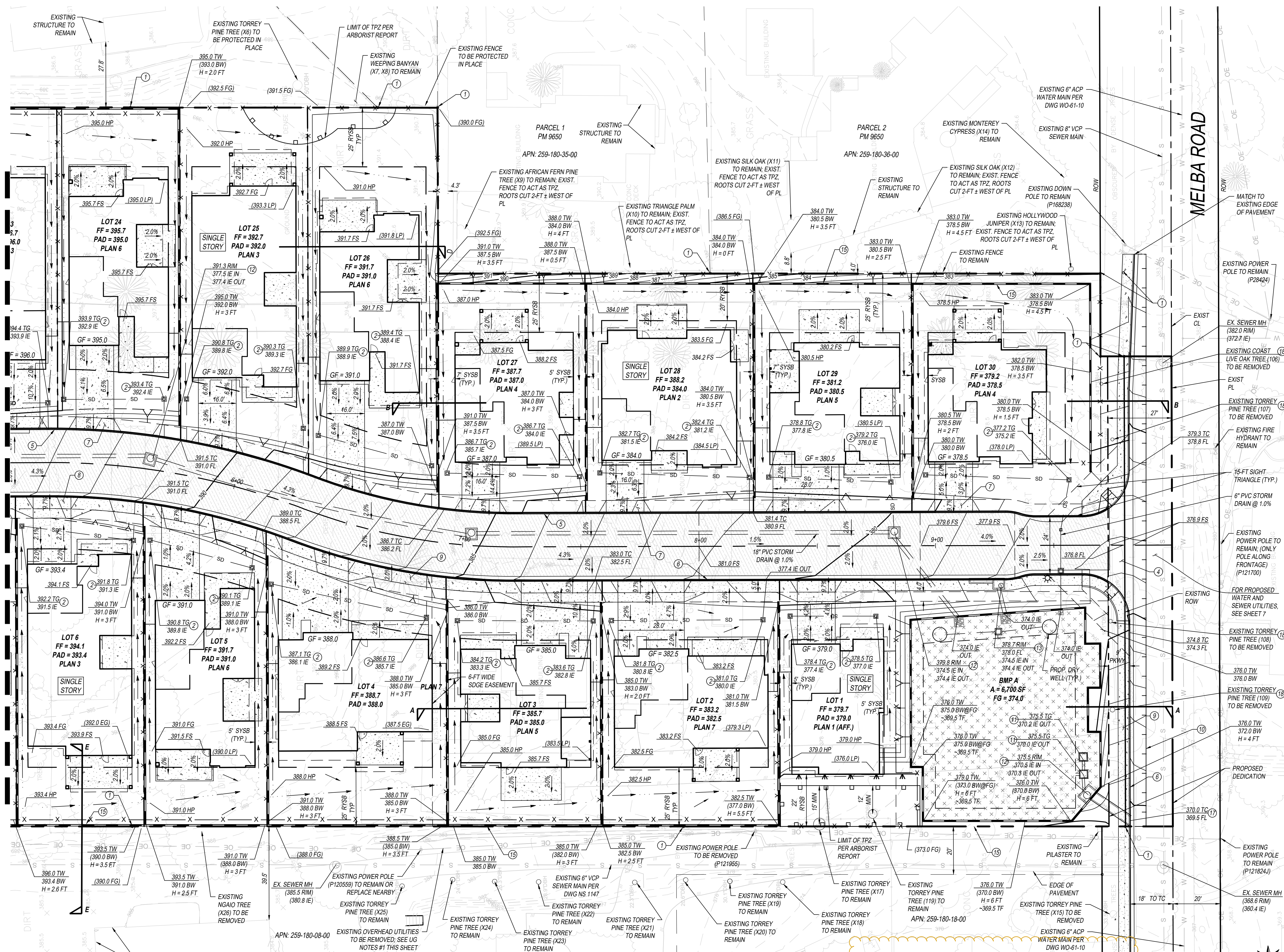
* = FOR A NEW TRACT, FRONT YARD SETBACKS MAY BE REDUCED UP TO 25% ON A MAXIMUM OF ONE-HALF OF THE DWELLING UNITS WITHIN A RESIDENTIAL TRACT PER E.M.C. 30.16.010 B11C. PROJECT PROPOSES 7 LOTS / 30 LOTS WITH REDUCED FYSB = 23.3%

** = PER EMC 30.16.010, BUILDING HEIGHT IN R-3 ZONE SHALL BE 22-FT FROM ADJACENT GRADE TO TOP OF ROOF ABOVE EXTERIOR WALL, WITH AN ADDITIONAL 4-FT ALLOWED FOR ROOF PITCH. APPLICANT REQUESTS TO USE WAIVER AND INCENTIVE OF BUILDING HEIGHT AS LISTED ABOVE, NOT TO EXCEED 30-FT



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LEGEND

EXISTING SUBDIVISION BOUNDARY (PL)	---
CENTERLINE OF ROAD	---
RIGHT-OF-WAY	---
PROPOSED SUBDIVISION BOUNDARY (AFTER DEDICATION)	---
ADJACENT PROPERTY LINE	---
SETBACK LINE	---
EXISTING CONTOUR LINE	---
PROPOSED CONTOUR LINE	---
PROPOSED FLOWLINE	---
PROPOSED DIRECTION OF FLOW	---
PROPOSED SAWCUT OF EXISTING AC PAVEMENT	---
PROPOSED LIMIT OF GRADING	---
PROPOSED 6" PCC CURB & GUTTER PER SDRSD G-2	---
PROPOSED PCC PAVEMENT	---
PROPOSED AC PAVEMENT (4" AC OVER 6" CLASS II AS MIN OR PER GEOTECH RECOMMENDATION)	---
PROPOSED BMP BIOFILTRATION BASIN PER DETAIL SHEET 9	---
PROPOSED MASONRY RETAINING WALL	---
PROPOSED 6"x16" FLUSH CURB	---
EXISTING CITY INVENTORIED STREET TREE IN CURRENT PUBLIC RIGHT-OF-WAY	---
EXISTING TREE	---
LIMIT OF TREE PROTECTION ZONE (TPZ) PER ARBORIST REPORT	---
"DIAMETER AT BREAST HEIGHT (DBH) MEASURED AT 54" ABOVE NATURAL GRADE	---

CONSTRUCTION NOTES

- EXISTING SURVEY MONUMENT SHALL BE PROTECTED IN PLACE. MONUMENT SHALL BE REPLACED BY A LICENSED LAND SURVEYOR WHO SHALL FILE A CORNER RECORD WITH THE COUNTY IF DISTURBED OR DESTROYED
- PROPOSED 12" X 12" AREA DRAIN
- PROPOSED 6" TRAFFIC RATED PRIVATE STORM DRAIN CLEANOUT
- PROPOSED PCC CROSS-GUTTER PER SDRSD G-12
- PROPOSED 6" PCC CURB PER SDRSD G-1
- PROPOSED 6" PCC CURB AND GUTTER PER SDRSD G-2
- PROPOSED PCC DRIVEWAY APRON PER SDRSD G-14A
- PROPOSED PCC DRIVEWAY APRON PER SDRSD G-14C
- PROPOSED PCC SIDEWALK PER SDRSD G-7
- SAWCUT EXISTING AC PAVEMENT; SEE DETAIL ON SHEET 7
- PROPOSED 36" X 36" BROOKS BOX OUTLET STRUCTURE
- PROPOSED TYPE A STORM DRAIN CLEANOUT PER SDRSD D-09
- PROPOSED TYPE B STORM DRAIN CURB INLET PER SDRSD D-02
- PROPOSED WING TYPE HEADWALL WITH 4" X 4" ROCK RIP RAP ENERGY DISSIPATER; 1.1" THICK, NO. 2 BACKING PER SDRSD D-34, D-40
- PROPOSED MASONRY RETAINING WALL
- PROPOSED TRENCH DRAIN BY NDS OR APPROVED EQUAL
- PROPOSED CURB OUTLET PER SDRSD D-25
- EXISTING TREE TO BE REMOVED; SEE STREET TREE NOTE 1 BELOW AND SHEET 12 FOR ADDITIONAL INFORMATION
- PROPOSED FREE-STANDING MASONRY WALL (NON-RETAINING)

SITE NOTES

- ALL UTILITIES SHOWN HEREON PER BEST AVAILABLE RECORD INFORMATION. FOR PROPOSED PUBLIC WATER AND SEWER UTILITIES, SEE SHEET 7 FOR PRELIMINARY UTILITY PLAN
- ALL EXISTING ONSITE STRUCTURES TO BE DEMOLISHED UNLESS OTHERWISE NOTED.
- ALL EXISTING ONSITE TREES TO BE REMOVED UNLESS OTHERWISE NOTED.
- HARDSCAPE SHALL DRAIN AWAY FROM PROPOSED STRUCTURES AT A MINIMUM OF 2.0% FOR 10 FEET, AND LANDSCAPE FOR A MINIMUM OF 5.0% IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE SECTION 1804.4.

PROPOSED EASEMENTS / DEDICATIONS

"SEE SHEET 2 FOR PROPOSED EASEMENTS AND DEDICATIONS"

UG NOTES

- EXISTING OVERHEAD UTILITIES TO BE REMOVED ALONG WESTERN PL BETWEEN POLE P121824J AND P120556 AND ON NORTHERN PL OF 1210 MELBA ROAD BETWEEN P120556 AND P120555. NEW UNDERGROUND SERVICE VIA PROJECT TO P120559 AND P120558 TO BE ADDED; OVERHEAD SERVICE FROM P120558 TO 1210 MELBA ROAD BARN TO REMAIN AND OVERHEAD SERVICE FROM P120559 TO 1210 MELBA RESIDENCE TO REMAIN.

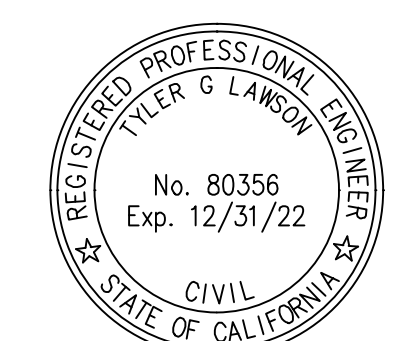
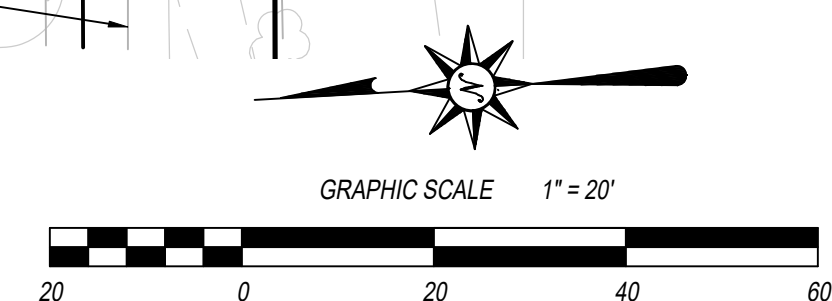
PLAN VIEW - PRELIMINARY GRADING PLAN

SCALE: 1" = 20' HORIZONTAL

All City tree work needs approval by the City Arborist as well as UFAC

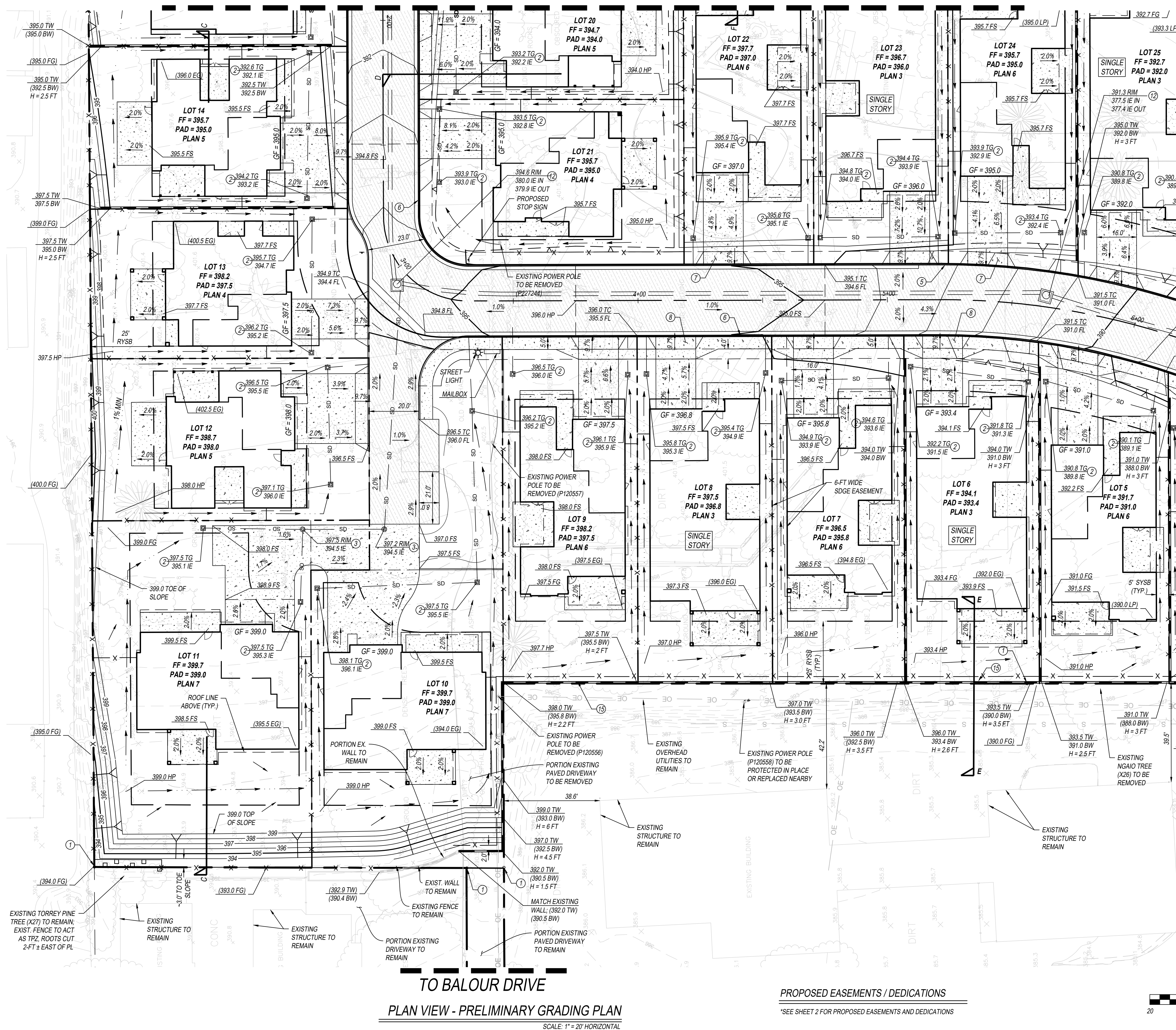
STREET TREE NOTE

- SEE SHEET 12 FOR MELBA ROAD FRONTAGE OPTION "B". TREES 108, 107, 108, 109, X15 AND X16 TO REMAIN AND BE PROTECTED IN PLACE FOR MELBA ROAD FRONTAGE OPTION "B". REFER TO SEPARATE ARBORIST REPORT FOR RECOMMENDATIONS WITHIN THE TREE PROTECTION ZONE (TPZ) FOR THE EXISTING TREES ON PRIVATE PROPERTY AND ALONG PROPERTY BOUNDARY TO BE PROTECTED IN PLACE



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MATCHLINE: SEE SHEET 6



SEE CONTINUATION SHEET 4

LEGEND

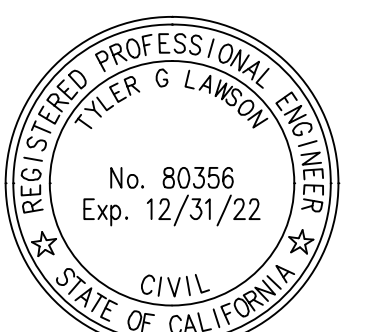
EXISTING SUBDIVISION BOUNDARY	
CENTERLINE OF ROAD	
RIGHT-OF-WAY	
PROPOSED SUBDIVISION BOUNDARY (AFTER DEDICATION)	
ADJACENT PROPERTY LINE	
SETBACK LINE	
EXISTING CONTOUR LINE	
PROPOSED CONTOUR LINE	
PROPOSED FLOWLINE	
PROPOSED DIRECTION OF FLOW	
PROPOSED SAWCUT OF EXISTING AC PAVEMENT	
PROPOSED LIMIT OF GRADING	
PROPOSED STEM WALL / PORTION OF BUILDING TO RETAIN PER SEPARATE ARCH PLAN	
PROPOSED DEEPEEN FOOTING PER SEPARATE ARCH PLAN	
PROPOSED 6" PCC CURB & GUTTER PER SDRSD G-2	
PROPOSED PCC PAVEMENT	
PROPOSED AC PAVEMENT (4" AC OVER 6" CLASS II AB MIN OR PER GEOTECH RECOMMENDATION)	
PROPOSED BMP BIOFILTRATION BASIN PER DETAIL SHEET 9	
PROPOSED MASONRY RETAINING WALL	
PROPOSED 6"X16" FLUSH CURB	
EXISTING CITY INVENTORIED STREET TREE IN CURRENT PUBLIC RIGHT-OF-WAY	
EXISTING TREE	
LIMIT OF TREE PROTECTION ZONE (TPZ) PER ARBORIST REPORT	
*DIAMETER AT BREAST HEIGHT (DBH) MEASURED AT 54" ABOVE NATURAL GRADE	

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- PROPOSED PCC DRIVEWAY APRON PER SDRSD G-14A
- PROPOSED PCC DRIVEWAY APRON PER SDRSD G-14C
- PROPOSED PCC SIDEWALK PER SDRSD G-7
- SAWCUT EXISTING AC PAVEMENT; SEE DETAIL ON SHEET 9
- PROPOSED 36" X 36" BROOKS BOX OUTLET STRUCTURE; SEE BIOFILTRATION BMP DETAIL SHEET 9
- PROPOSED TYPE A STORM DRAIN CLEANOUT PER SDRSD D-09
- PROPOSED TYPE B STORM DRAIN CURB INLET PER SDRSD D-02
- PROPOSED WING TYPE HEADWALL WITH 4' X 4' ROCK RIP RAP ENERGY DISSIPATOR, 1.1' THICK, NO. 2 BACKING PER SDRSD D-34, D-40
- PROPOSED MASONRY RETAINING WALL
- PROPOSED TRENCH DRAIN BY NDS OR APPROVED EQUAL
- PROPOSED CURB OUTLET PER SDRSD D-25

SITE NOTES

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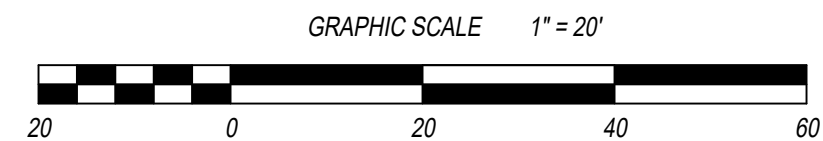
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SEE CONTINUATION SHEET 5

SEE CONTINUATION SHEET 4

PLAN VIEW - PRELIMINARY GRADING PLAN
SCALE: 1" = 20' HORIZONTAL

PROPOSED EASEMENTS / DEDICATIONS
*SEE SHEET 2 FOR PROPOSED EASEMENTS AND DEDICATIONS



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LEGEND

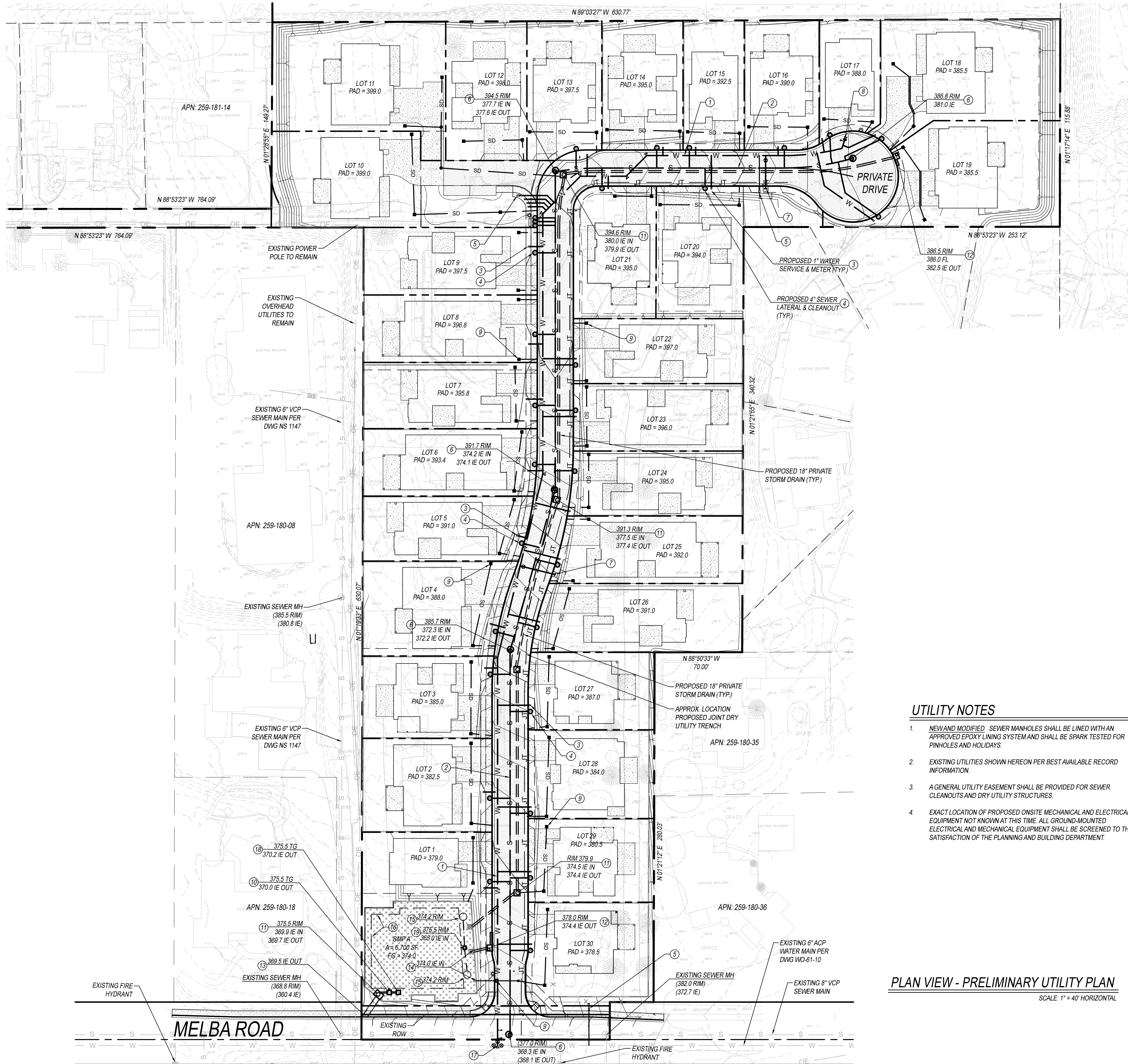
EXISTING SUBDIVISION BOUNDARY	---
CENTERLINE OF ROAD	==
RIGHT-OF-WAY	---
PROPOSED SUBDIVISION BOUNDARY (AFTER DEDICATION)	---
ADJACENT PROPERTY LINE	---
SETBACK LINE	---
EXISTING CONTOUR LINE	64
PROPOSED CONTOUR LINE	64
PROPOSED FLOWLINE	→
PROPOSED DIRECTION OF FLOW	→
PROPOSED SAWCUT OF EXISTING AC PAVEMENT	---
PROPOSED LIMIT OF GRADING	---
PROPOSED STEM WALL / PORTION OF BUILDING TO RETAIN PER SEPARATE ARCH PLAN	---
PROPOSED DEEPEENED FOOTING PER SEPARATE ARCH PLAN	---
PROPOSED 6" PCC CURB & GUTTER PER SDRSD G-2	---
PROPOSED PCC PAVEMENT	---
PROPOSED AC PAVEMENT (4" AC OVER 6" CLASS II AS MIN OR PER GEOTECH RECOMMENDATION)	---
PROPOSED BMP BIOFILTRATION BASIN PER DETAIL SHEET 9	---
PROPOSED MASONRY RETAINING WALL	---
PROPOSED 6"x16" FLUSH CURB	---
EXISTING CITY INVENTORIED STREET TREE IN CURRENT PUBLIC RIGHT-OF-WAY	○
EXISTING TREE	○
LIMIT OF TREE PROTECTION ZONE (TPZ) PER ARBORIST REPORT	○
*DIAMETER AT BREAST HEIGHT (DBH) MEASURED AT 54" ABOVE NATURAL GRADE	20" DBH

CONSTRUCTION NOTES

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- PROPOSED PCC CROSS-GUTTER PER SDRSD G-12
- PROPOSED 6" PCC CURB PER SDRSD G-1
- PROPOSED 6" PCC CURB AND GUTTER PER SDRSD G-2
- PROPOSED PCC DRIVEWAY APRON PER SDRSD G-14A
- PROPOSED PCC DRIVEWAY APRON PER SDRSD G-14C
- PROPOSED PCC SIDEWALK PER SDRSD G-7
- SAWCUT EXISTING AC PAVEMENT; SEE DETAIL ON SHEET 9
- PROPOSED 36" X 36" BROOKS BOX OUTLET STRUCTURE
- PROPOSED TYPE A STORM DRAIN CLEANOUT PER SDRSD D-09
- PROPOSED TYPE B STORM DRAIN CURB INLET PER SDRSD D-02
- PROPOSED WING TYPE HEADWALL WITH 4' X 4' ROCK RIP RAP ENERGY DISSIPATER; 1.1' THICK, NO. 2 BACKING PER SDRSD D-34, D-40
- PROPOSED MASONRY RETAINING WALL
- PROPOSED 6" TRENCH DRAIN BY NDS OR APPROVED EQUAL

SITE NOTES

- ALL UTILITIES SHOWN HEREON PER BEST AVAILABLE RECORD INFORMATION. FOR PROPOSED PUBLIC WATER AND SEWER UTILITIES, SEE SHEET 7 FOR PRELIMINARY UTILITY PLAN
- ALL EXISTING ONSITE STRUCTURES TO BE DEMOLISHED UNLESS OTHERWISE NOTED.
- ALL EXISTING ONSITE TREES TO BE REMOVED UNLESS OTHERWISE NOTED.
- HARDSCAPE SHALL DRAIN AWAY FROM PROPOSED STRUCTURES AT A MINIMUM OF 2.0% FOR 10 FEET, AND LANDSCAPE FOR A MINIMUM OF 5.0% IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE SECTION 1804.4.



LEGEND

SUBDIVISION BOUNDARY	---
SUBDIVISION BOUNDARY (PROPOSED AFTER RIGHT-OF-WAY DEDICATION)	---
EXISTING RIGHT-OF-WAY	---
ADJACENT PROPERTY LINE	---
CENTERLINE OF ROAD	---
PROPOSED EASEMENT	---
EXISTING EASEMENT	---
EXISTING CONTOUR LINE	---
PROPOSED CONTOUR LINE	---
PROPOSED LIMIT OF GRADING	---
EXISTING WATER MAIN (SIZE PER PLAN)	---
EXISTING SEWER MAIN (SIZE PER PLAN)	---
PROPOSED 8" PVC WATER MAIN	---
PROPOSED 8" PVC SEWER MAIN	---
PROPOSED 1" WATER SERVICE AND METER PER WAS WS-09	---
PROPOSED 4" SEWER LATERAL PER SDRSD SS-01	---
PROPOSED 4" PVC STORM DRAIN	---
PROPOSED 3" PVC SIDEWALK UNDERDRAIN	---
PROPOSED PVC STORM DRAIN (SIZE PER PLAN)	---

UTILITY CONSTRUCTION NOTES

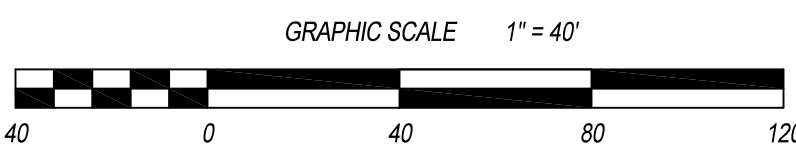
- PROPOSED PUBLIC 8" PVC WATER MAIN
- PROPOSED PUBLIC 8" PVC SEWER MAIN
- PROPOSED 1" DUAL DOMESTIC / FIRE WATER SERVICE PER WAS WS-09
- PROPOSED 4" PVC SEWER LATERAL PER SDRSD SS-01 WITH C.O. AT PL
- PROPOSED 1" IRRIGATION SERVICE, METER, AND BACKFLOW PER WAS WS-01, WR-01
- PROPOSED 60" SEWER MANHOLE WITH EPOXY LINER PER SDRSD SM-02
- PROPOSED FIRE HYDRANT PER WAS WF-01
- PROPOSED VNM END CAP THRUST BLOCK, AND 2" B.O. ASSEMBLY
- PROPOSED 12" X 12" AREA DRAIN BY NDS OR APPROVED EQUAL
- PROPOSED 36" X 36" BROOKS BOX OUTLET STRUCTURE WITH ORIFICE PLATE DRILLED TO INSIDE OF BOX AND LOW-FLOW ORIFICE; CONNECT DETENTION STORAGE VAULT TO CLEANOUT, SEE BIOFILTRATION BMP DETAIL SHEET 9
- PROPOSED TYPE A-4 STORM DRAIN CLEANOUT PER SDRSD D-09
- PROPOSED TYPE B STORM DRAIN CURB INLET PER SDRSD D-02
- PROPOSED MODIFIED CURB OUTLET PER SDRSD D-25
- PROPOSED WING TYPE HEADWALL FOR 18" PIPE CONCRETE ENERGY DISSIPATER, 2.7" THICK, NO. 2 BACKING PER SDRSD D-34, D-40
- PROPOSED MAXWELL IV DEEP INFILTRATION DRYWELL BY TORRENT RESOURCES OR APPROVED EQUAL
- PROPOSED 4,500 SF X 5.0 FT DEEP PERMAVOID DETENTION SYSTEM, SEE BIOFILTRATION BMP DETAIL SHEET 9
- BEGIN NEW PUBLIC WATER MAIN; CONNECT TO EXISTING 8" ACP WATER MAIN WITH 8" X 8" TEE AND GATE VALVES
- PROPOSED 36" X 36" BROOKS BOX EMERGENCY OVERFLOW STRUCTURE
- PROPOSED CLEANOUT WITH ORIFICE PLATE DRILLED TO INSIDE OF BOX AND LOW-FLOW ORIFICE; CONNECT DETENTION STORAGE VAULT TO CLEANOUT, SEE BIOFILTRATION BMP DETAIL SHEET 9

UTILITY NOTES

- NEW AND MODIFIED SEWER MANHOLES SHALL BE LINED WITH AN APPROVED EPOXY LINING SYSTEM AND SHALL BE SPARK TESTED FOR PINHOLES AND HOLIDAYS.
- EXISTING UTILITIES SHOWN HEREON PER BEST AVAILABLE RECORD INFORMATION.
- A GENERAL UTILITY EASEMENT SHALL BE PROVIDED FOR SEWER CLEANOUTS AND DRY UTILITY STRUCTURES.
- EXACT LOCATION OF PROPOSED ONSITE MECHANICAL AND ELECTRICAL EQUIPMENT NOT KNOWN AT THIS TIME. ALL GROUND-MOUNTED ELECTRICAL AND MECHANICAL EQUIPMENT SHALL BE SCREENED TO THE SATISFACTION OF THE PLANNING AND BUILDING DEPARTMENT.

PLAN VIEW - PRELIMINARY UTILITY PLAN

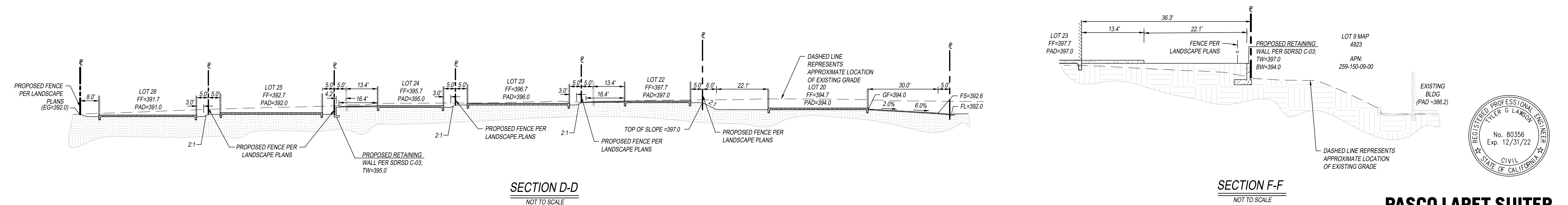
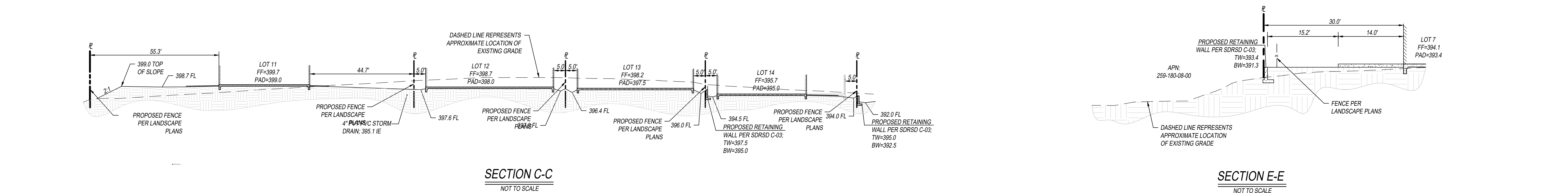
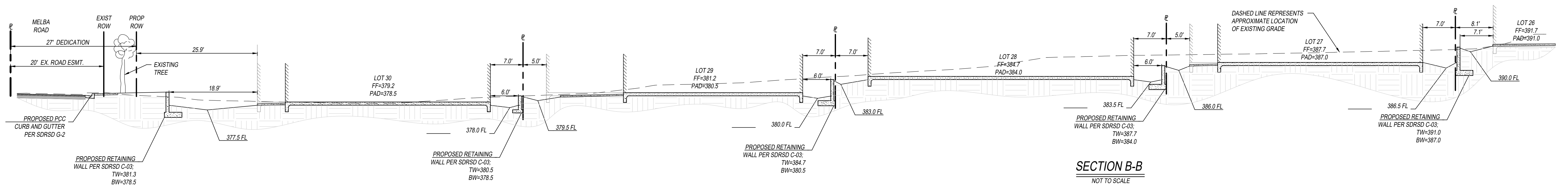
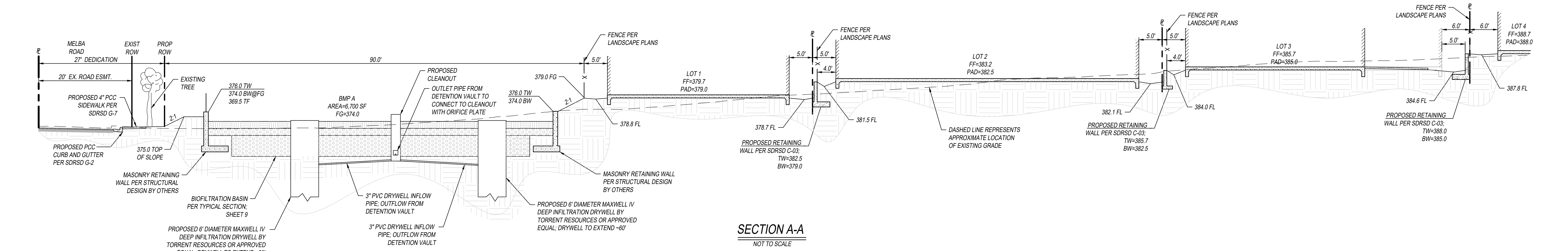
SCALE: 1" = 40' HORIZONTAL



PRELIMINARY UTILITY EXHIBIT

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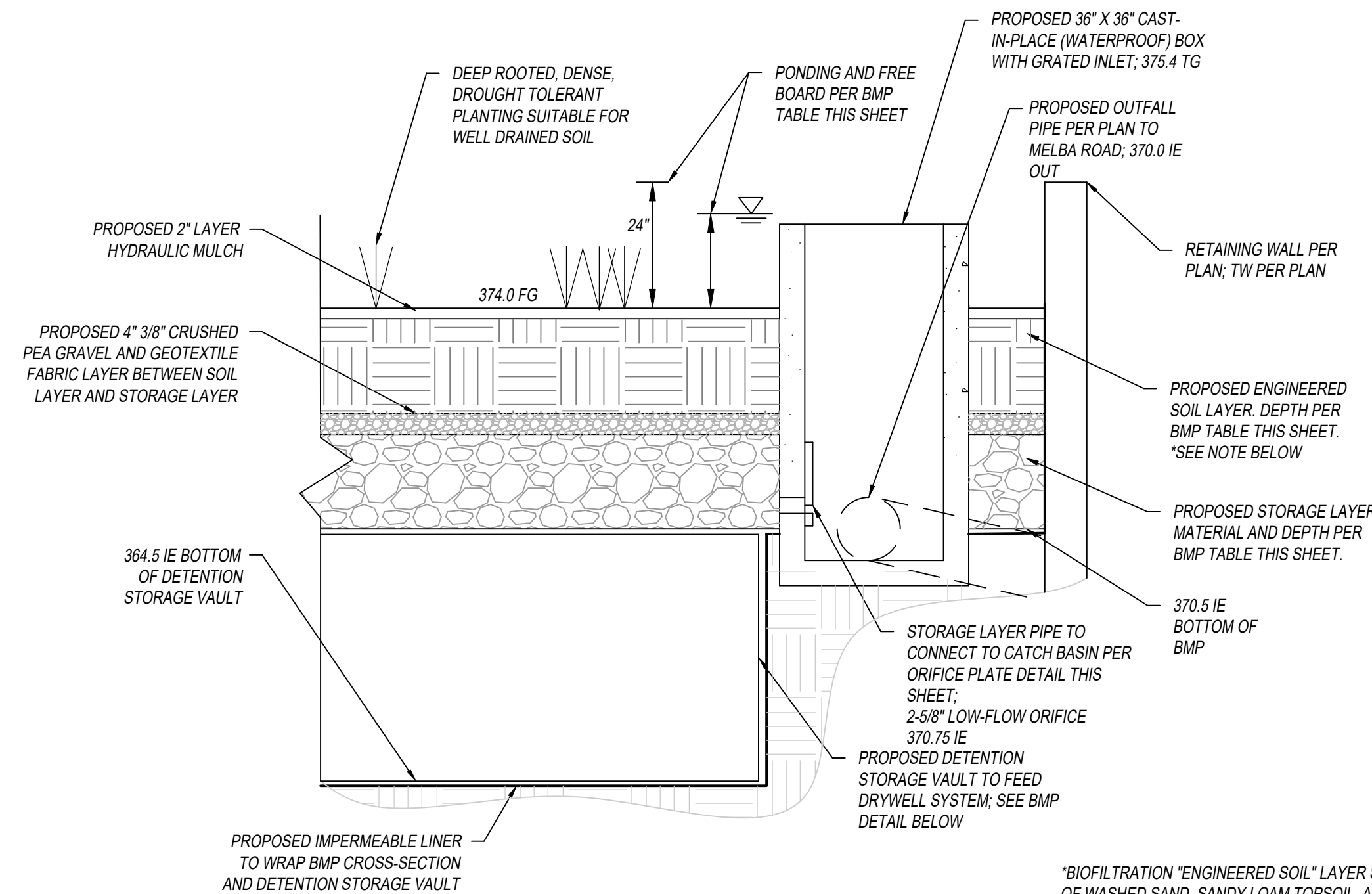
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NOTE: BUILDING HEIGHT TO BE MEASURED
FROM THE LOWER OF EXISTING OR
PROPOSED FINISHED GRADES

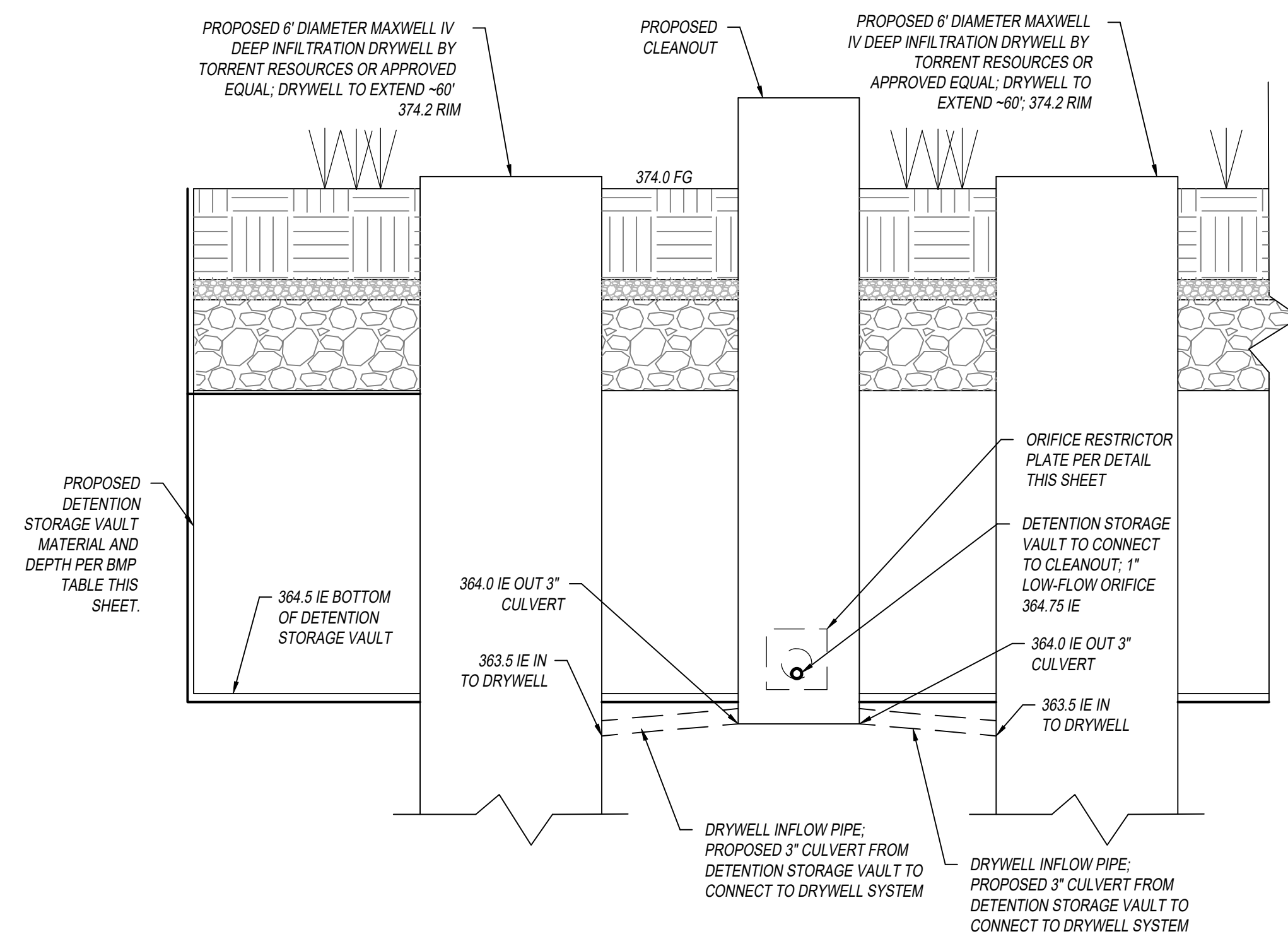


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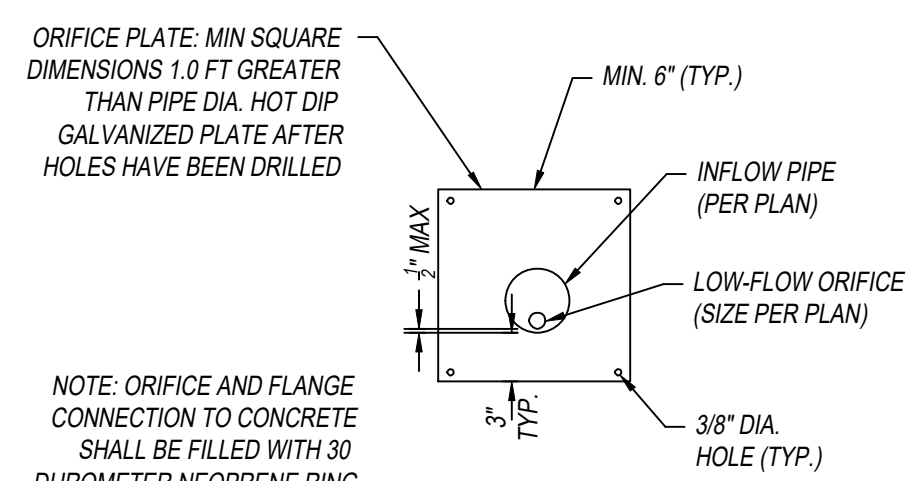
TYPICAL SECTION - BIOFILTRATION BASIN

BMP TABLE	
	BMP A
PONDING	16.8"
SOIL	18"
STORAGE TYPE	PERMAVOID (95% VOID RATIO)
STORAGE DEPTH	18"
LOW-FLOW	2-5/8"

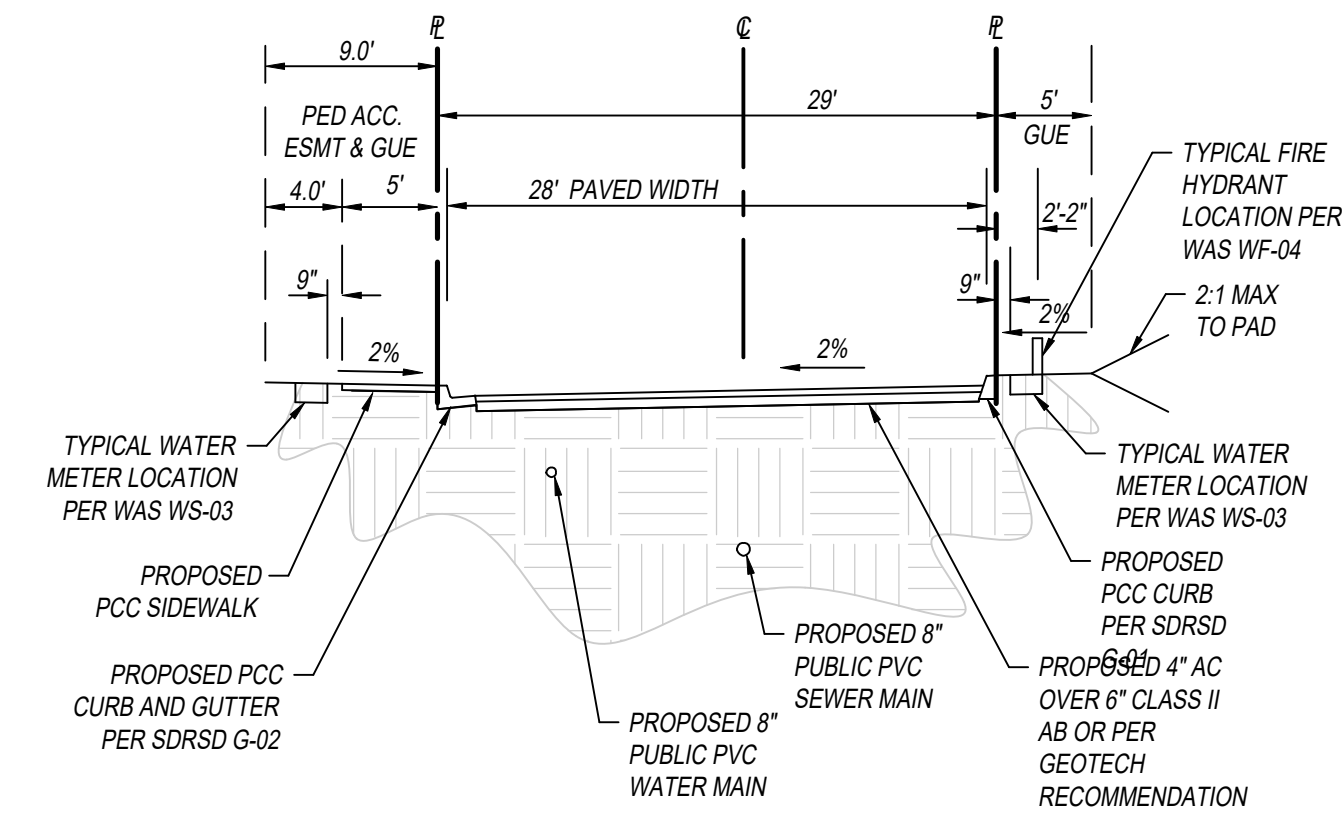


TYPICAL SECTION - BIOFILTRATION BASIN

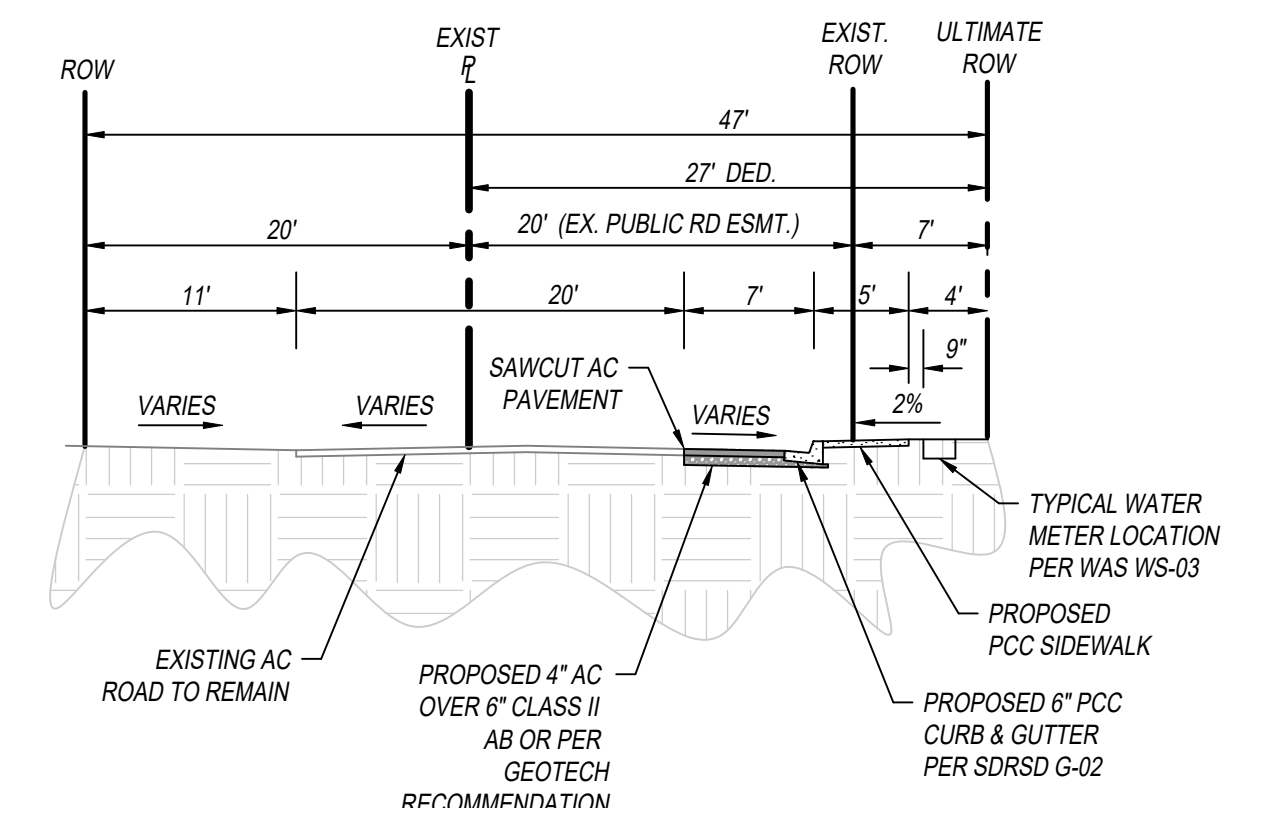
DETENTION TABLE	
	BMP A
STORAGE TYPE	PERMAVOID (95% VOID RATIO)
DETEN. DEPTH	6.0'
LOW-FLOW TO DRYWELLS	1.0"



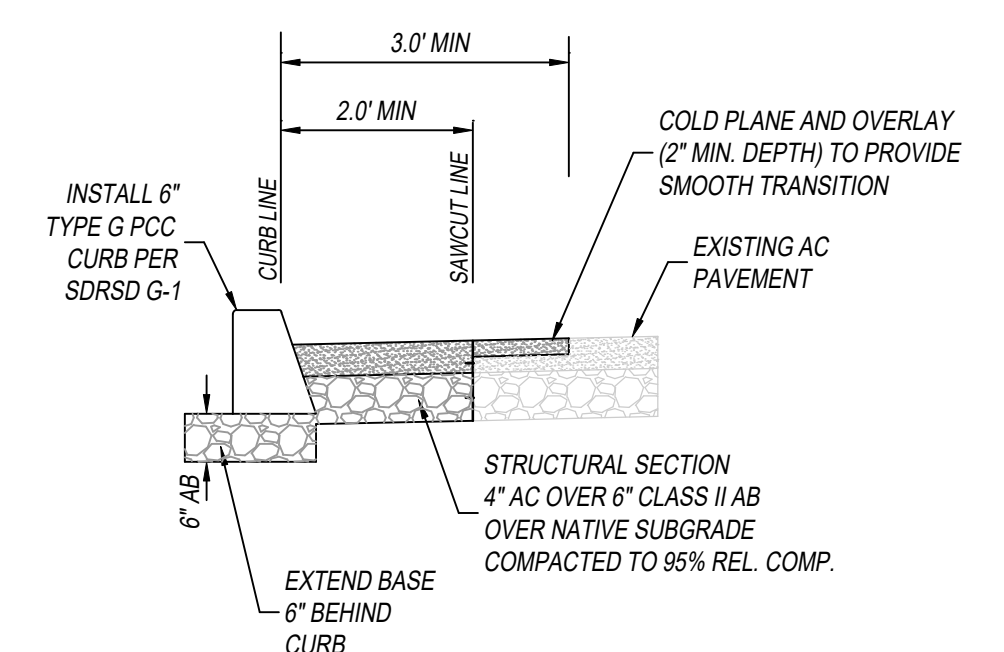
TYPICAL DETAIL - FLOW CONTROL ORIFICE PLATE
NOT TO SCALE



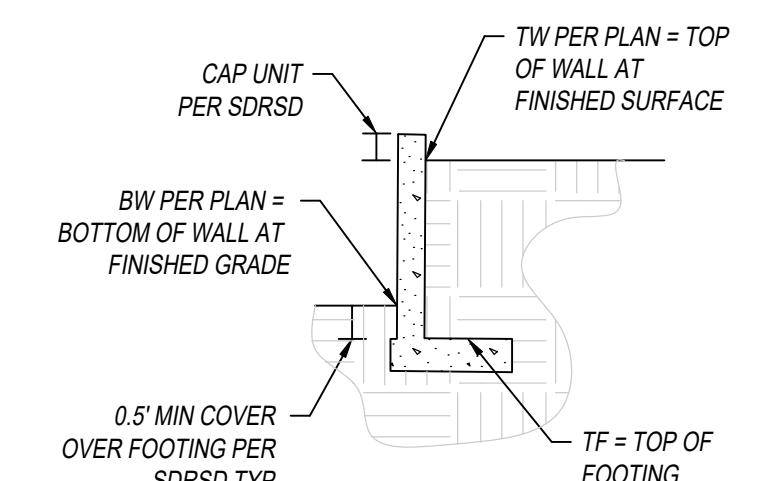
TYPICAL SECTION - PRIVATE ROAD
NOT TO SCALE



TYPICAL SECTION - MELBA ROAD
NOT TO SCALE

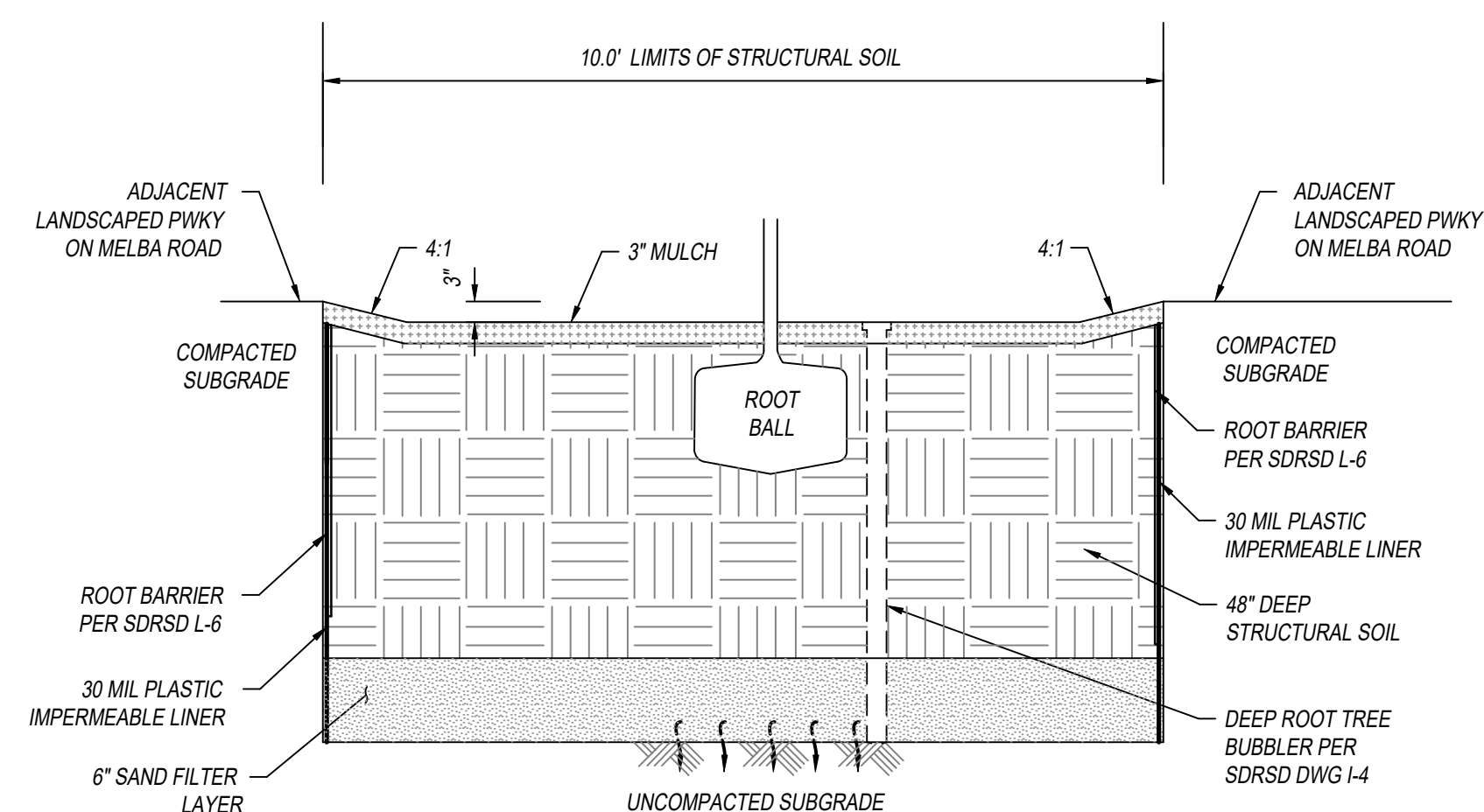


TYPICAL DETAIL - SAWCUT AC PAVEMENT

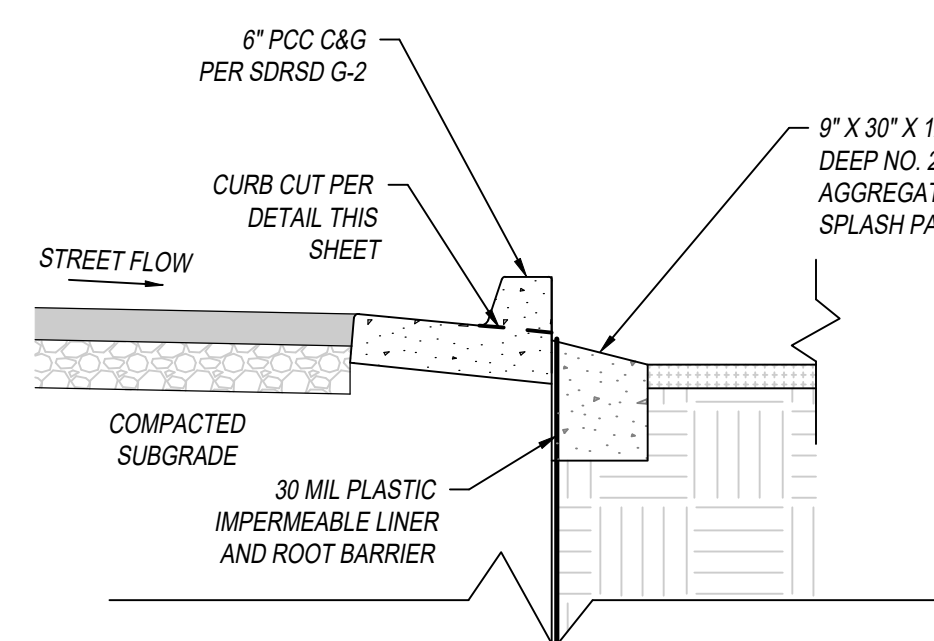


TYPICAL DETAIL - RETAINING WALL

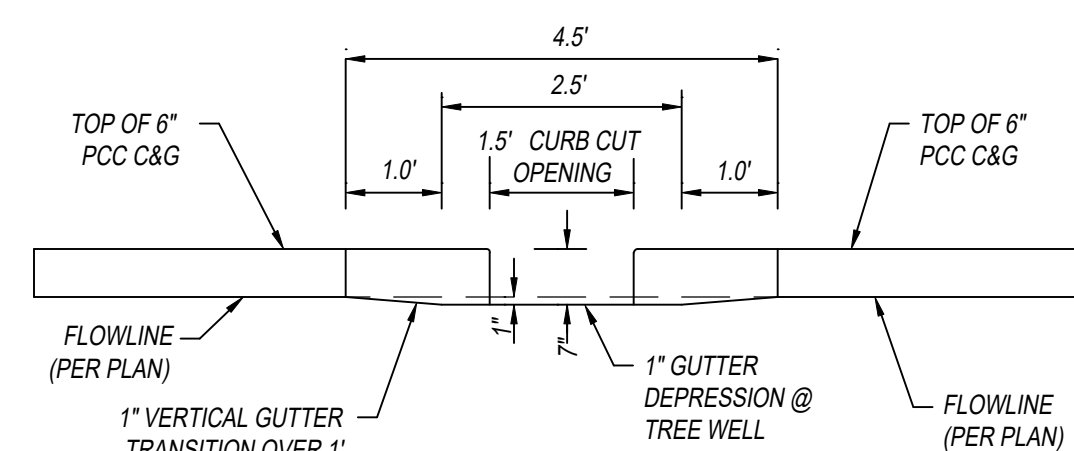
NOT TO SCALE



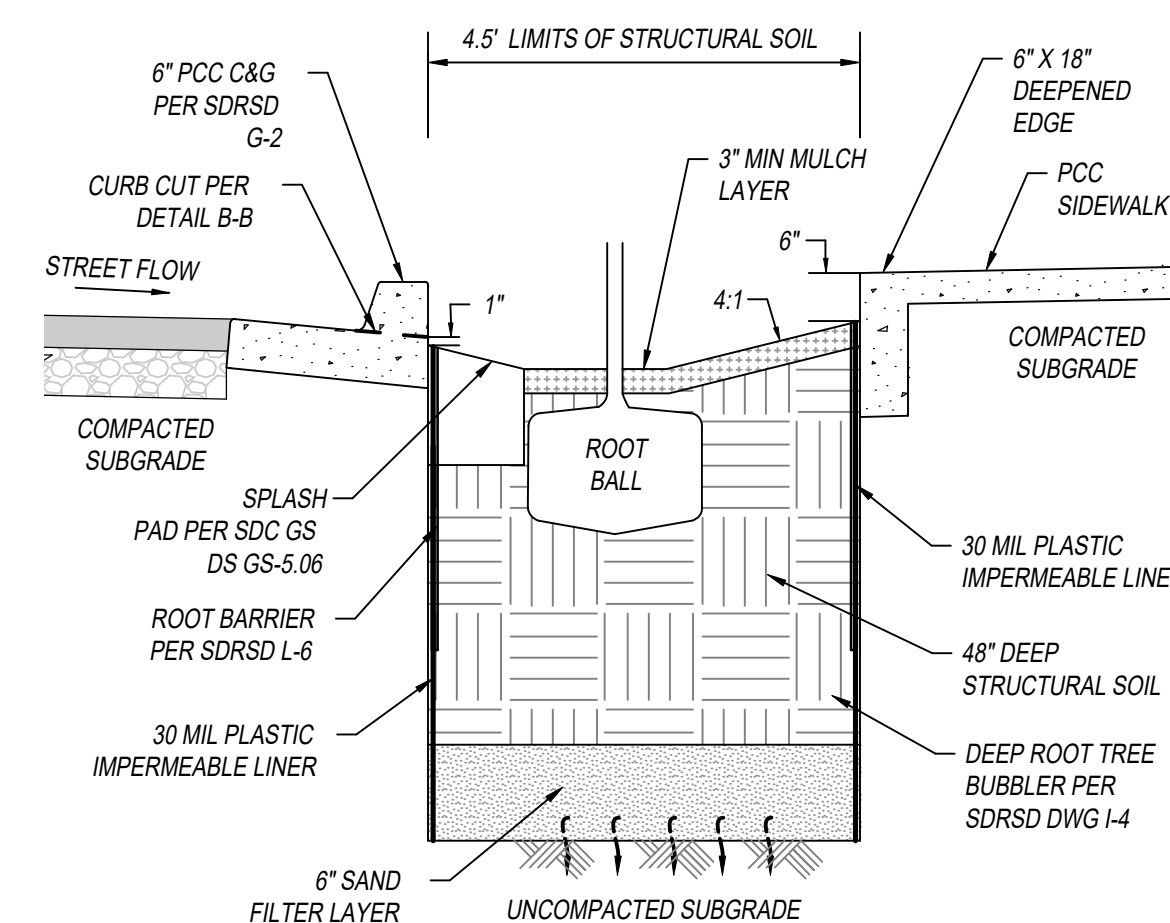
SECTION A-A - TREE WELL W/O GRATE
MODIFIED SDC GS DS GS-1.04a + GS-1.04b



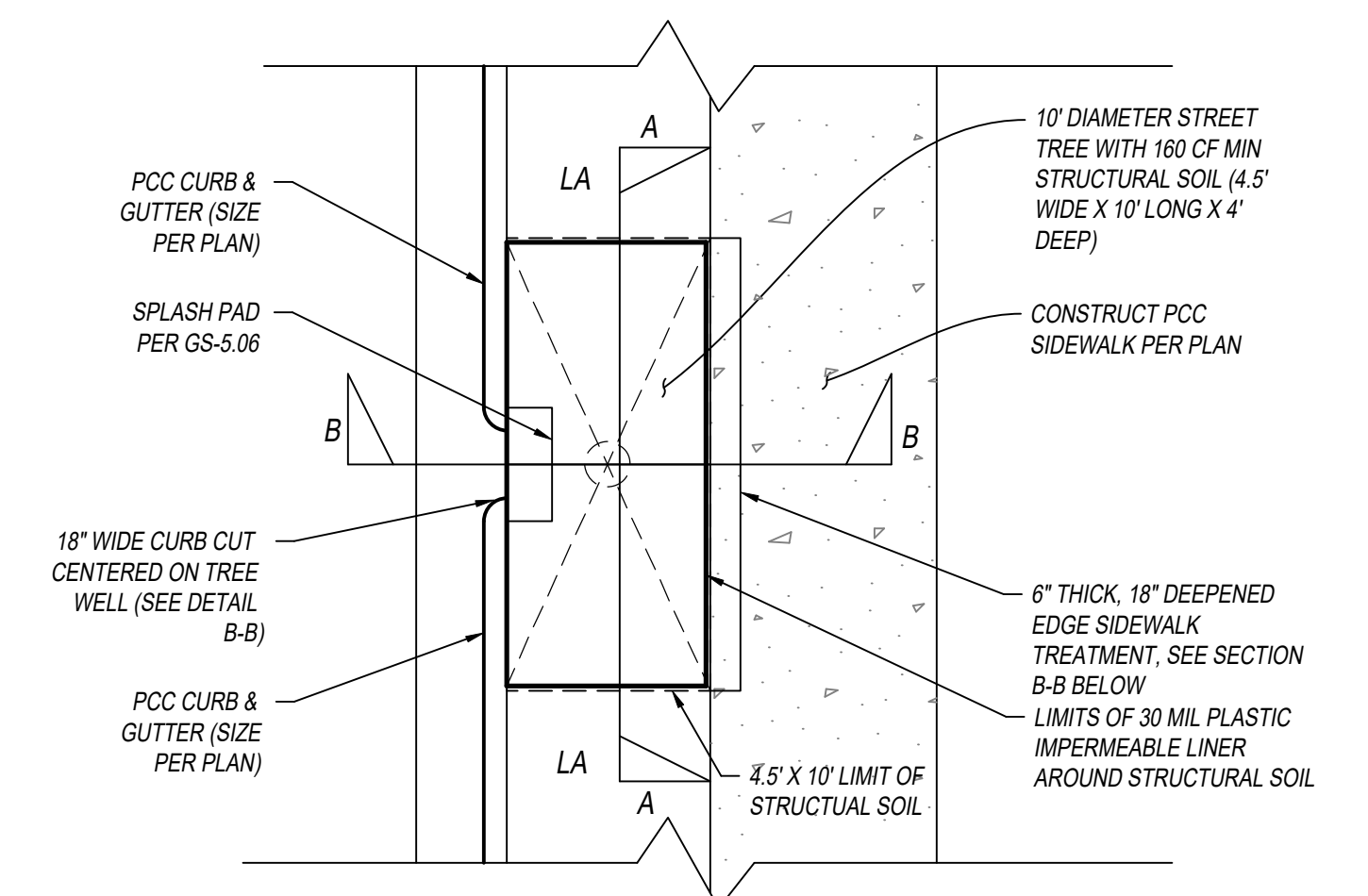
SECTION VIEW - CURB CUT @ TREE WELL
MODIFIED SDC GS DS GS-5.01



SECTION VIEW - CURB CUT @ TREE WELL
MODIFIED SDC GS DS GS-5.01

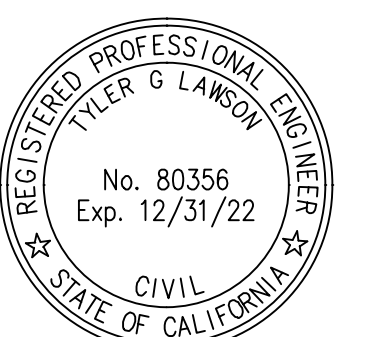


SECTION B-B - TREE WELL W/O GRATE
MODIFIED SDC GS DS GS-1.04a + GS-1.04b



PLAN VIEW - TREE WELL W/O GRATE
MODIFIED SDC GS DS GS-1.04a + GS-1.04b

NOT TO SCALE

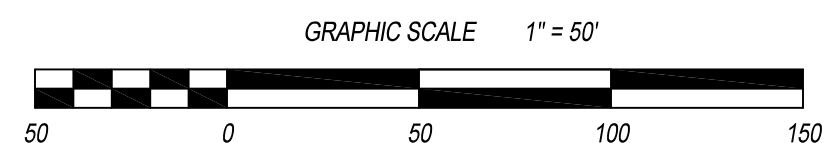
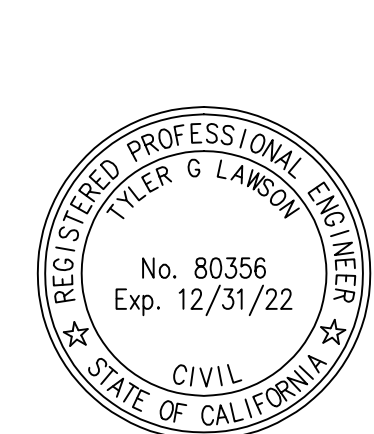
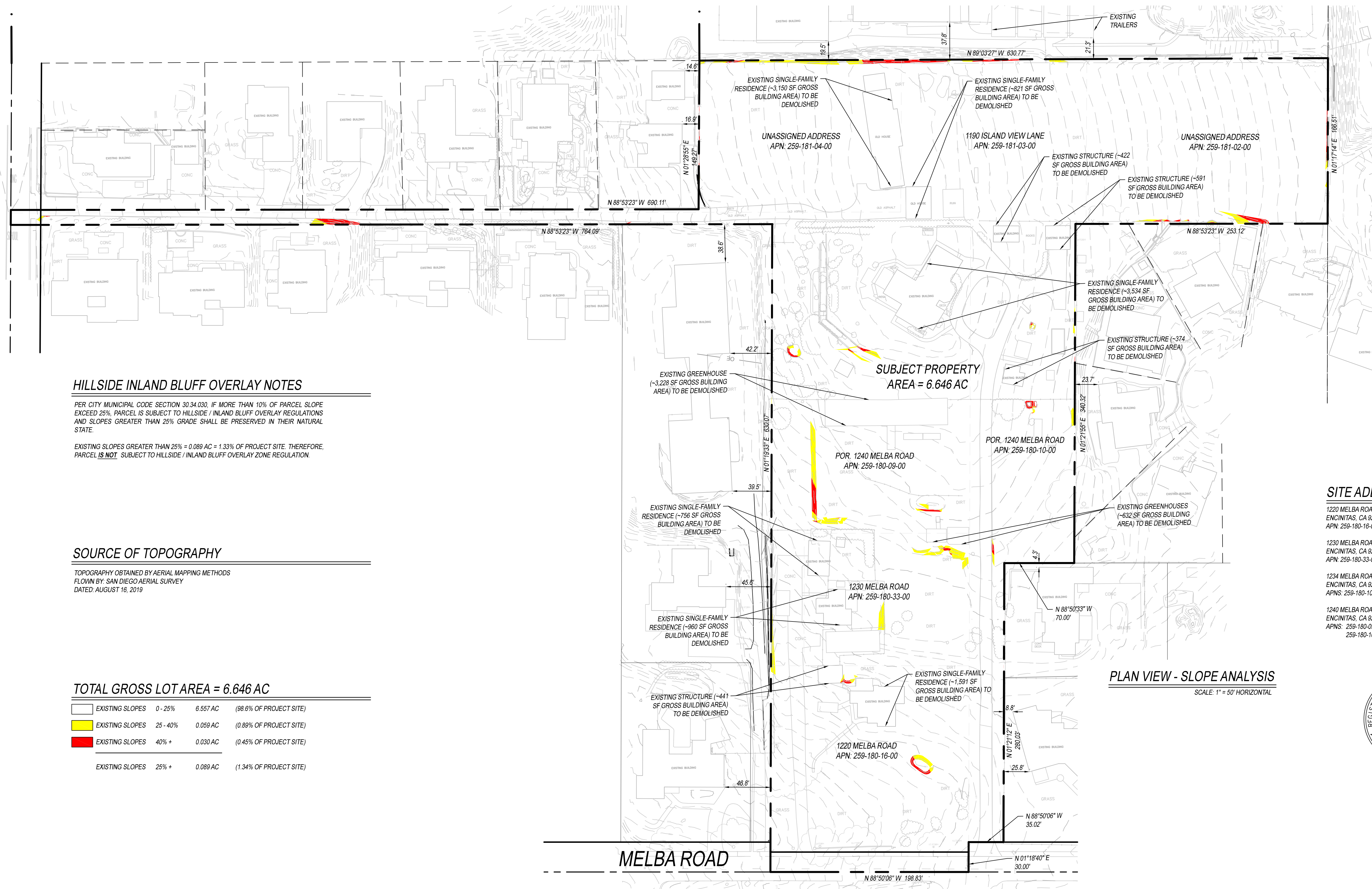


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SLOPE ANALYSIS

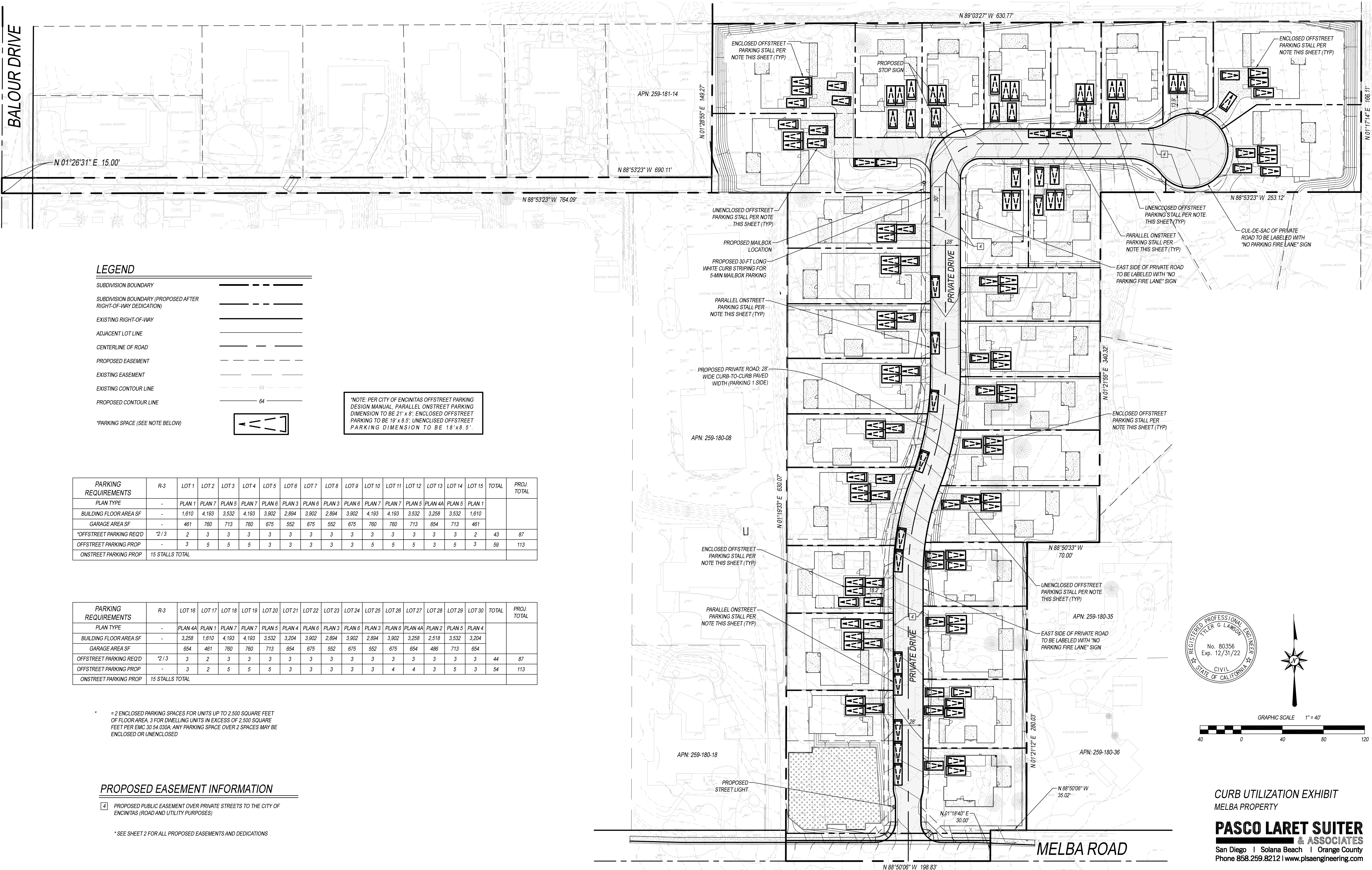
TORREY CREST

1220 - 1240 MELBA ROAD, 1190 ISLAND VIEW LANE



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BALOUR DRIVE



LEGEND

SUBDIVISION BOUNDARY	---
SUBDIVISION BOUNDARY (PROPOSED AFTER RIGHT-OF-WAY DEDICATION)	- - -
EXISTING RIGHT-OF-WAY	---
ADJACENT LOT LINE	---
CENTERLINE OF ROAD	---
PROPOSED EASEMENT	---
EXISTING EASEMENT	---
EXISTING CONTOUR LINE	---
PROPOSED CONTOUR LINE	---

*PARKING SPACE (SEE NOTE BELOW)



*NOTE: PER CITY OF ENCINITAS OFFSTREET PARKING DESIGN MANUAL, PARALLEL ONSTREET PARKING DIMENSION TO BE 21' x 8'; ENCLOSED OFFSTREET PARKING TO BE 19' x 8.5'; UNENCLOSED OFFSTREET PARKING DIMENSION TO BE 18' x 8.5'.

PARKING REQUIREMENTS	R-3	LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9	LOT 10	LOT 11	LOT 12	LOT 13	LOT 14	LOT 15	TOTAL	PROJ. TOTAL
PLAN TYPE	-	PLAN 1	PLAN 7	PLAN 5	PLAN 7	PLAN 6	PLAN 3	PLAN 6	PLAN 3	PLAN 6	PLAN 7	PLAN 7	PLAN 5	PLAN 4A	PLAN 5	PLAN 1		
BUILDING FLOOR AREA SF	-	1,610	4,193	3,532	4,193	3,902	2,894	3,902	2,894	3,902	4,193	4,193	3,532	3,258	3,532	1,610		
GARAGE AREA SF	-	461	760	713	760	675	552	675	552	675	760	760	713	654	713	461		
OFFSTREET PARKING REQ'D	*2/3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	2	43	87
OFFSTREET PARKING PROP	-	3	5	5	5	3	3	3	3	3	5	5	5	3	5	3	59	113
ONSTREET PARKING PROP	15 STALLS TOTAL																	

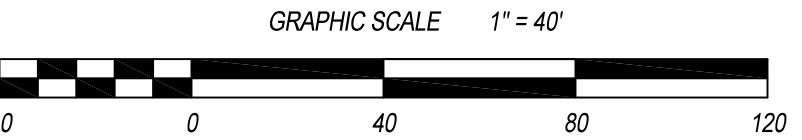
PARKING REQUIREMENTS	R-3	LOT 16	LOT 17	LOT 18	LOT 19	LOT 20	LOT 21	LOT 22	LOT 23	LOT 24	LOT 25	LOT 26	LOT 27	LOT 28	LOT 29	LOT 30	TOTAL	PROJ. TOTAL
PLAN TYPE	-	PLAN 4A	PLAN 1	PLAN 7	PLAN 7	PLAN 5	PLAN 4	PLAN 6	PLAN 3	PLAN 6	PLAN 3	PLAN 6	PLAN 4A	PLAN 2	PLAN 5	PLAN 4		
BUILDING FLOOR AREA SF	-	3,258	1,610	4,193	4,193	3,532	3,204	3,902	2,894	3,902	2,894	3,902	3,258	2,518	3,532	3,204		
GARAGE AREA SF	-	654	461	760	760	713	654	675	552	675	552	675	654	486	713	654		
OFFSTREET PARKING REQ'D	*2/3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	44	87
OFFSTREET PARKING PROP	-	3	2	5	5	5	3	3	3	3	3	3	4	4	3	5	54	113
ONSTREET PARKING PROP	15 STALLS TOTAL																	

* = 2 ENCLOSED PARKING SPACES FOR UNITS UP TO 2,500 SQUARE FEET OF FLOOR AREA, 3 FOR DWELLING UNITS IN EXCESS OF 2,500 SQUARE FEET PER EMC 30.54.030A; ANY PARKING SPACE OVER 2 SPACES MAY BE ENCLOSED OR UNENCLOSED

PROPOSED EASEMENT INFORMATION

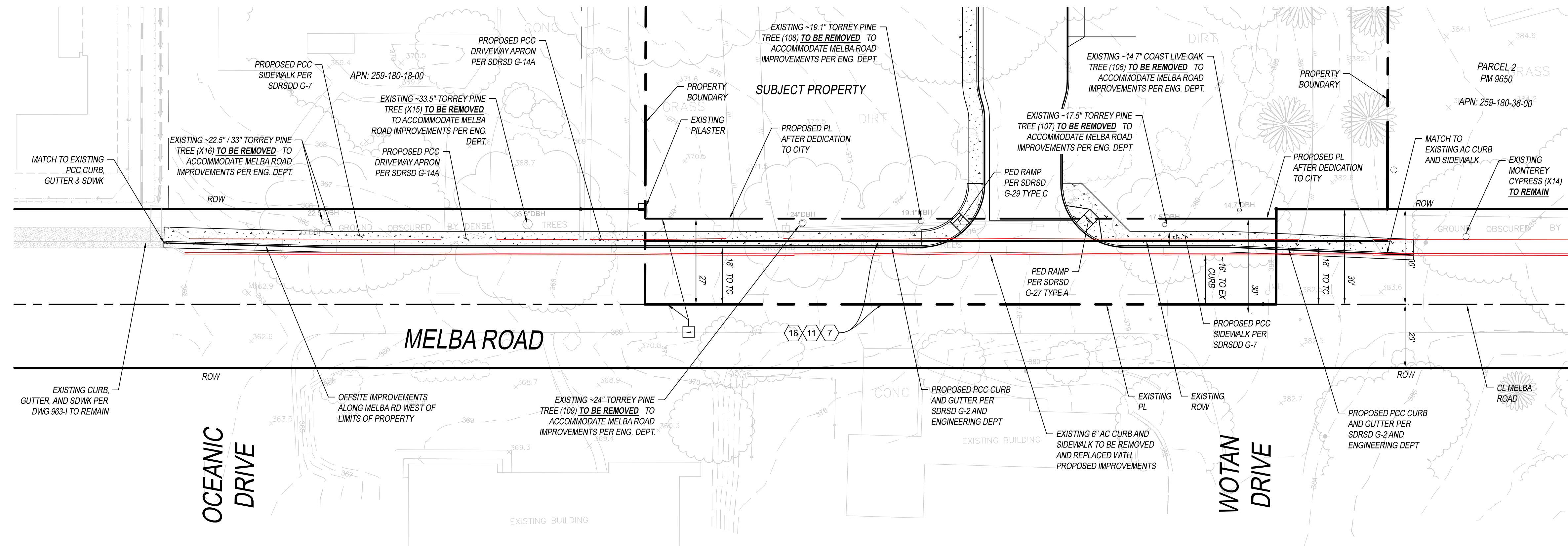
- 4 PROPOSED PUBLIC EASEMENT OVER PRIVATE STREETS TO THE CITY OF ENCINITAS (ROAD AND UTILITY PURPOSES)

* SEE SHEET 2 FOR ALL PROPOSED EASEMENTS AND DEDICATIONS



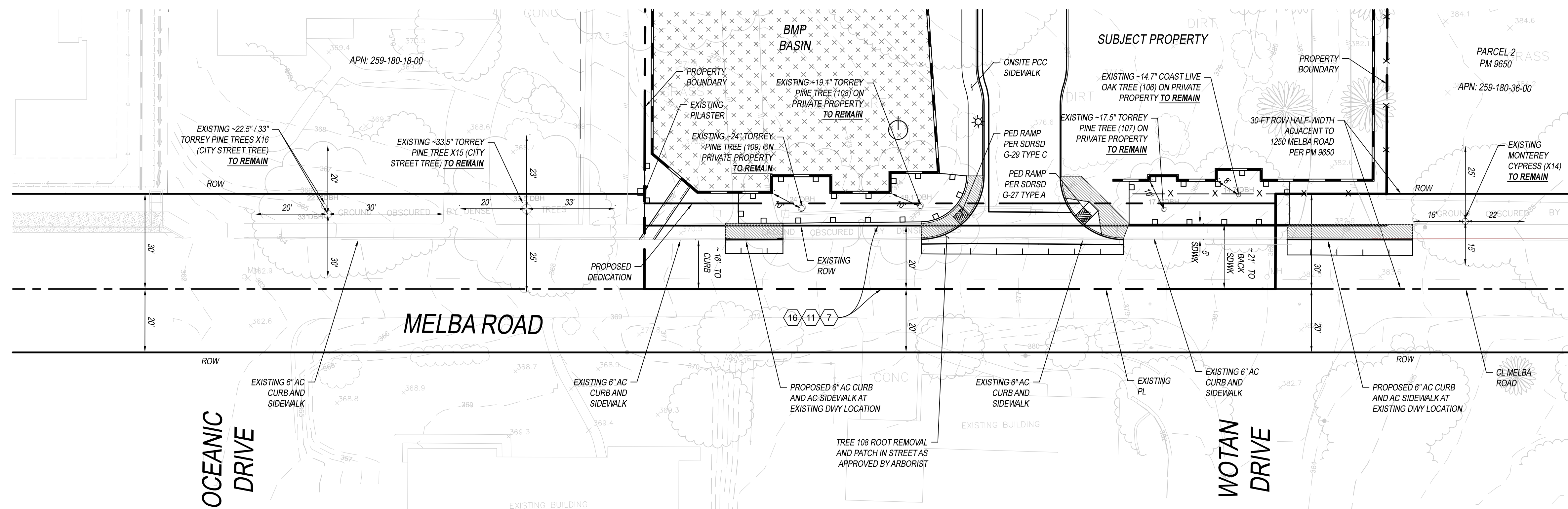
CURB UTILIZATION EXHIBIT
MELBA PROPERTY

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PLAN VIEW - OPTION A: MELBA ROAD ULTIMATE IMPROVEMENTS
PER CITY COUNCIL APPROVED PUBLIC ROAD STANDARDS

SCALE: 1" = 20' HORIZONTAL



PLAN VIEW - OPTION B: EXISTING
IMPROVEMENTS MELBA ROAD

SCALE: 1" = 20' HORIZONTAL

LEGEND

EXISTING SUBDIVISION BOUNDARY (PL)	---
CENTERLINE OF ROAD	—
RIGHT-OF-WAY (ROW)	---
PROPOSED SUBDIVISION BOUNDARY (AFTER DEDICATION)	---
ADJACENT PROPERTY LINE	---
EXISTING CONTOUR LINE	---
PROPOSED CONTOUR LINE	---
PROPOSED SAWCUT OF EXISTING AC PAVEMENT	---
PROPOSED LIMIT OF GRADING	---
PROPOSED 6" PCC CURB & GUTTER PER SDRSD G-2	---
PROPOSED PCC PAVEMENT / SIDEWALK	---
PROPOSED AC PAVEMENT / SIDEWALK	---
PROPOSED MASONRY RETAINING WALL	---
PROPOSED 6"x16" FLUSH CURB	---
LIMIT OF TREE PROTECTION ZONE (TPZ) PER ARBORIST REPORT	---
*DIAMETER AT BREAST HEIGHT (DBH) MEASURED AT 54" ABOVE NATURAL GRADE	20" DBH

PROPOSED EASEMENTS / DEDICATIONS

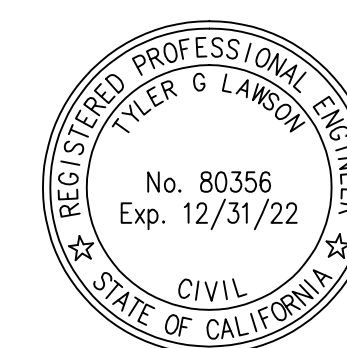
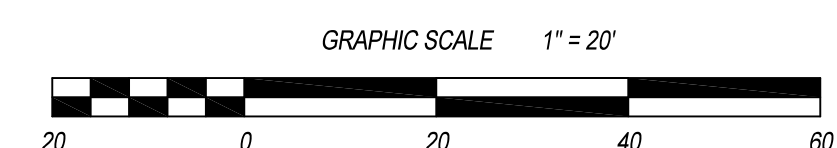
- [1] PROPOSED DEDICATION TO THE CITY OF ENCINITAS

EXISTING EASEMENT INFORMATION

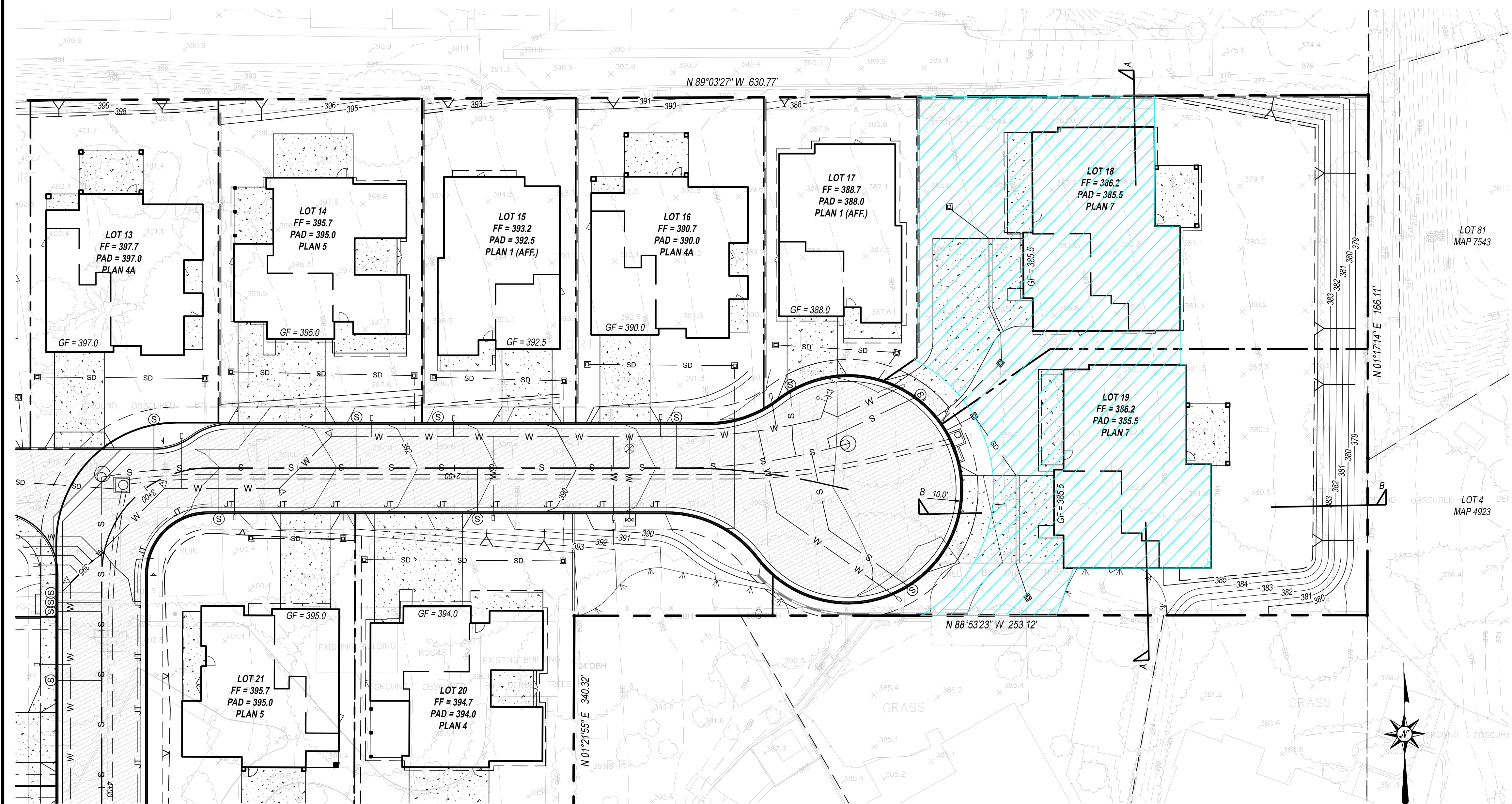
- [7] THE RIGHT TO EXTEND AND MAINTAIN DRAINAGE STRUCTURES AND EXCAVATION AND EMBANKMENT SLOPES BEYOND THE LIMITS GRANTED ON OCTOBER 29, 1953 IN BOOK 5030, PAGE 290 OF OFFICIAL RECORDS IN FAVOR OF THE COUNTY OF SAN DIEGO.
- [11] AN EASEMENT FOR ROAD PURPOSES AND INCIDENTAL PURPOSES, RECORDED AUGUST 11, 1938 IN BOOK 808, PAGE 216 OF OFFICIAL RECORDS IN FAVOR OF ANTON VAN AMERSFOOT.
- [16] AN EASEMENT FOR PUBLIC HIGHWAY AND INCIDENTAL PURPOSES, RECORDED OCTOBER 29, 1953 AS INSTRUMENT NO. 148900 OF OFFICIAL RECORDS, IN FAVOR OF THE COUNTY OF SAN DIEGO.

NOTES

- CITY STREET TREES AND PRIVATE TREES ALONG MELBA ROAD PROPERTY FRONTAGE TO BE REMOVED UNLESS OTHERWISE NOTED. REFER TO SEPARATE ARBORIST REPORT FOR REMOVAL AND TREE PROTECTION ZONE (TPZ) RECOMMENDATIONS.
- REFER TO SEPARATE ARBORIST REPORT FOR RECOMMENDATIONS WITHIN THE TREE PROTECTION ZONE (TPZ) FOR THE EXISTING TREES ON PRIVATE PROPERTY AND ALONG PROPERTY BOUNDARY TO BE PROTECTED IN PLACE.
- DBH AS IT RELATES TO THE EXISTING TREES SURVEYED REFERS TO DIAMETER AT BREAST HEIGHT MEASURED AT 54" ABOVE THE NATURAL GRADE.



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LEGEND:

PROJECT PROPERTY LINE	---
EXISTING RIGHT-OF-WAY / PROPERTY LINE	---
CENTERLINE OF ROAD	---
PROPOSED CONTOUR LINE	200
EXISTING CONTOUR LINE	---
PROPOSED MASONRY RETAINING WALL	---
PROPOSED SOUND WALL (NON-RETAINING)	---
LIMITS OF GRIND AND OVERLAY	---
LOT NUMBER	LOT 1
PAD ELEVATION	PAD = 200.0
FINISHED FLOOR ELEVATION	FF = 200.0
SOIL BURIAL AREA	---

SOIL BURIAL NOTES:

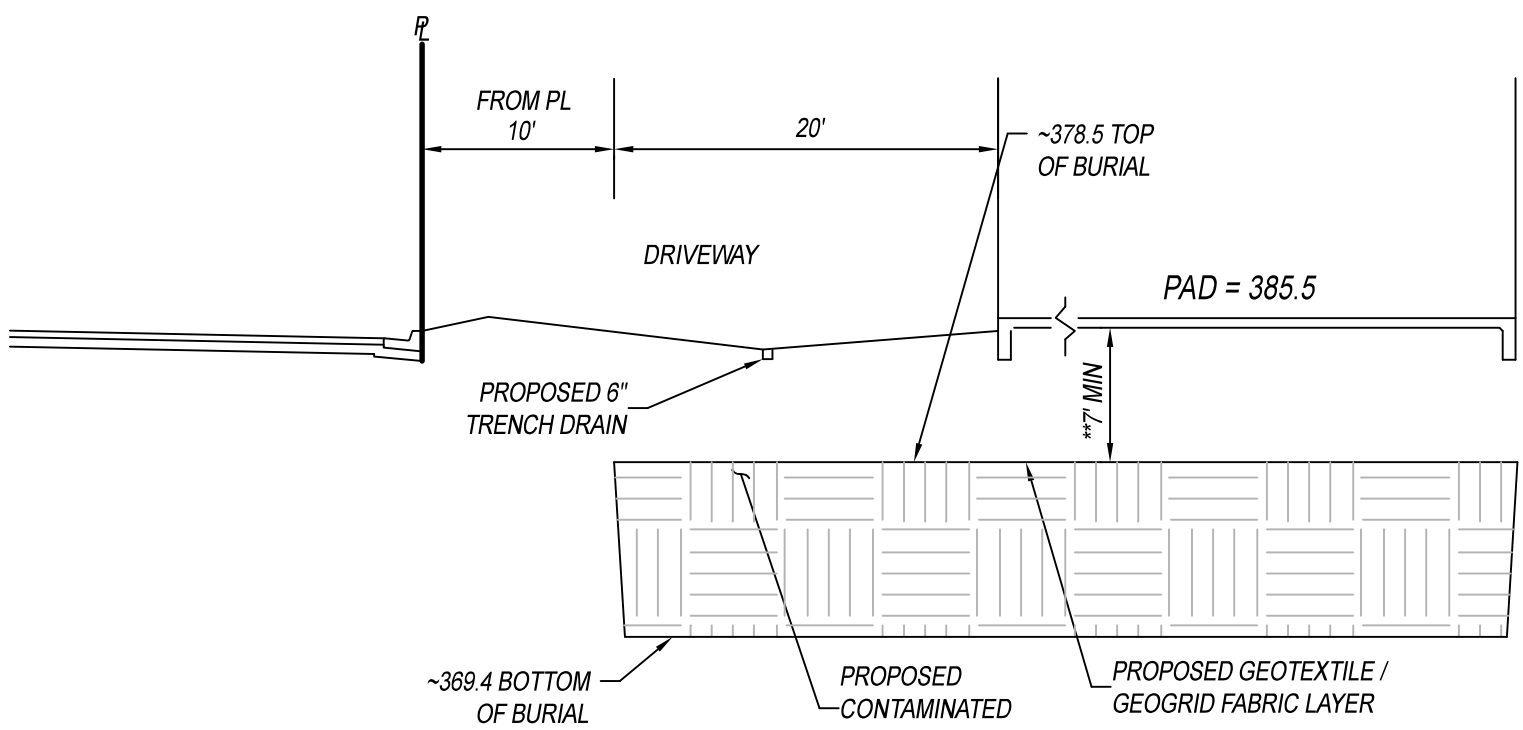
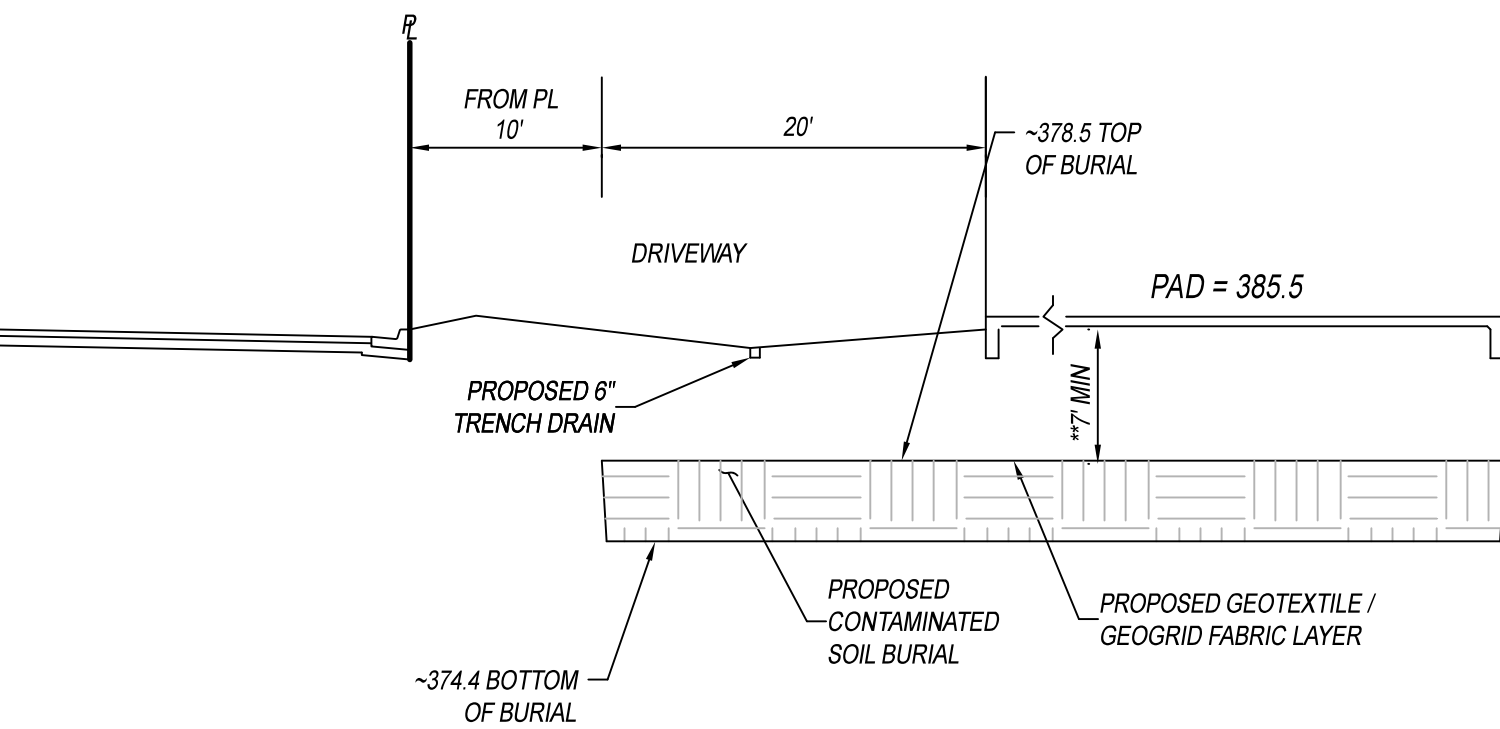
NOTE: THE ACTUAL BURIAL LIMITS MUST BE FIELD SURVEYED, AND A COVENANT RECORDED PRIOR TO ROUGH GRADE APPROVAL.

SOIL BURIAL CALCULATIONS (OPT 1)

**APPROX. VOLUME OF BURIAL ONSITE	1,800 CY
POTENTIAL SOIL BURIAL AREA	11,900 SF
AVERAGE DEPTH OF BURIAL	4.1 FT
LOWEST UTILITY INVERT ELEVATION	-
LOWEST DEPTH OF EXCAVATION	-
**EXACT VOLUME TO BE DETERMINED DURING CONSTRUCTION	

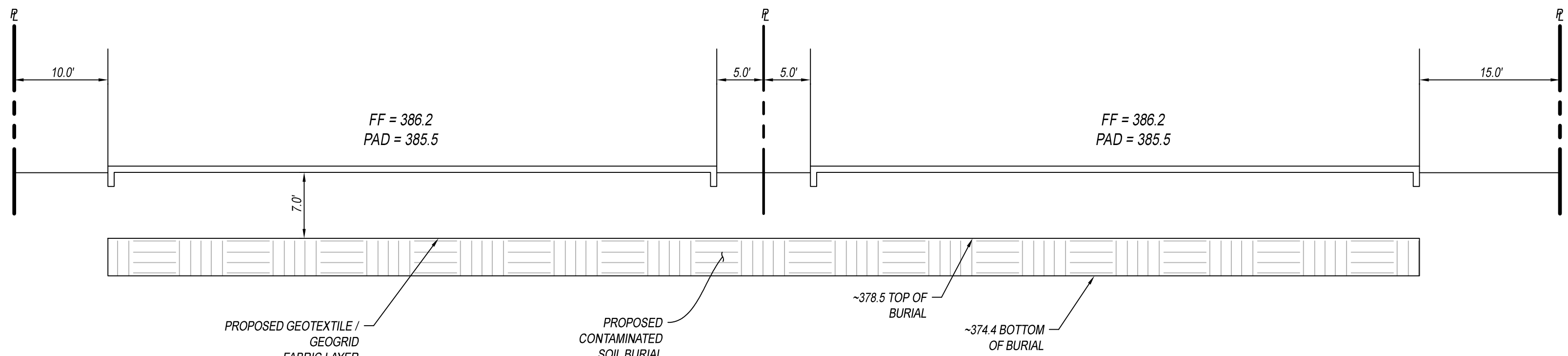
SOIL BURIAL CALCULATIONS (OPT 2)

**APPROX. VOLUME OF BURIAL ONSITE	4,000 CY
POTENTIAL SOIL BURIAL AREA	11,900 SF
AVERAGE DEPTH OF BURIAL	9.1 FT
LOWEST UTILITY INVERT ELEVATION	-
LOWEST DEPTH OF EXCAVATION	-
**EXACT VOLUME TO BE DETERMINED DURING CONSTRUCTION	



ENTOMBMENT NOTE

**TOP OF CONTAMINATED SOIL ENTOMBMENT SHALL BE 7" MINIMUM BELOW ADJACENT FINISHED GRADE



ATTACHMENT B

WAS DESIGN STANDARDS TABLE 4-1-1

From Water Agencies' Standards Design Guidelines for Water and Sewer Facilities, Section 4.1, Water Planning, Revised 07/28/2014.

4.1.5 DWELLING UNIT DENSITY AND RESIDENTIAL UNIT WATER DEMAND

The Engineer of Work shall estimate the residential population in the service area based on existing and ultimate allowable land use. Unless otherwise provided by the AGENCY, unit water demands shall be estimated based on dwelling unit density in Table 4-1-1.

Table 4-1-1
Dwelling Unit Density and Unit Water Demands

Dwelling Unit Density (dwelling units/gross acre)	Unit Density (persons/dwelling unit)	Population Density (persons/gross acre)	Unit Water Demand (gallons/gross acre-day)
0.1	6.0	0.6	90
0.2	6.0	1.2	180
1	6.0	6.0	900
2	3.5	7.0	1050
3	3.5	10.5	1575
4	3.5	14	2100
8	3.5	28	4200
9	3.5	32	4800
14	3.2	45	6750
29	3.0	87	13050
43	2.6	112	16800
73	2.2	161	24150
109	1.8	196	29400
218	1.5	327	49050