Appendix E

Hydrology Reports, Phase 1 and Phase 2

1005 O'BRIEN DRIVE
Preliminary Hydrology Report
Phase 1

February 8, 2022
Revised: March 8, 2022
C20181310

PREPARED FOR:
DES Architects + Engineers, Inc.
399 Bradford St.
Redwood City, CA

On behalf of
Tarlton Properties, Inc.
1530 O'Brien Dr., Suite C
Menlo Park, CA

DESIGN ENGINEER:
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1. INTRODUCTION

Tarlton Properties, Inc. (Tarlton Properties), has proposed redevelopment of three parcels in Menlo Park currently containing three buildings: 985 and 1001 O'Brien Drive and 1320 Willow Road. The buildings are planned to be replaced with a new building identified as 1005 O'Brien Drive, parking garage, and other various site improvements (Project). This is Phase 1 of a planned two-phase project. This report will only consider the improvements and redevelopment occurring within Phase 1.

The purpose of this report is to document the existing drainage conditions in and around the Project property as well as the design of storm water conveyance and management facilities per the City of Menlo Park Drainage Guidelines (City Guidelines).

2. BACKGROUND

Tarlton Properties intends to redevelop the Project site currently containing 985 and 1001 O'Brien Drive and 1320 Willow Road. Location can be seen in Figure 1 below. The project intends to demolish 985 and 1001 O'Brien Drive as well as the east half of the 1320 Willow Road building. The buildings are planned to be replaced with a new building, identified as 1005 O'Brien Drive, as well as new parking garage and storm water treatment.

The adjacent property to the east, 1035 O'Brien Drive, will be slightly modified with a relocated west property line and driveway access into the Project site. The adjacent property to the west, 965 and 935 O'Brien Drive, will remain undisturbed. The west half of the existing property to the northwest, 1320 Willow Road, will remain with a new exterior wall as an interim condition until it is demolished and redeveloped in Phase 2.

The Project site is approximately 3.2 acres and is bound by an improved area directly north of the site. This area consists of a parking lot and playing field adjacent to Mid-Peninsula High School. Record maps indicate that the adjacent improved parcel is partially within the San Francisco Public Utility Commission (SFPUC) / Hetch Hetchy right of way. The site is also bound by existing buildings and Willow Road to the west, O'Brien Drive to the south, and an existing building to the east.

The existing site is composed of existing industrial businesses encompassing a gross floor area of approximately 67,000 square feet, parking areas, and minor landscape features. The existing site is 99% covered with impervious surface. The Project intends to significantly increase the site's pervious area. With the proposed improvements on 1005 O'Brien Drive, approximately 26,080 square feet of new pervious surface will be added. The modified landscape area will include one bio-retention area and one self-treating area to treat run-off from the newly created and replaced impervious areas.

The Project site is located near the downstream end of the drainage shed noted as the San Francisco Bay drainage basin; based on Attachment A of the City of Menlo Park Requirements for the Preparation of Hydrology Reports (City Hydrology Requirements). The location is outside of the problem areas indicated in Attachment B of the City Hydrology Requirements, thus not requiring hydrograph modifications. Both attachments are included in Appendix A of this report. The site is not connected to any of the storm drainage systems analyzed as a part of the May 2003 City-wide Drainage Study. Therefore, it is assumed the system that this site's storm drain will outlet to has no capacity issues.

The current Federal Emergency Management Agency (FEMA) base flood elevation (BFE) for the site was determined to be between elevations 12 to 13 (NAVD 88) based on the Federal Emergency Management Agency Insurance Rate Map dated April 5, 2019. The flood elevation was interpolated to be 12.8. The site is located within Zone AE which is indicated as a Special Flood Hazard Area. The currently available FEMA Insurance Rate Map is attached as Figure 7. The proposed finished grades for the project range between elevations 12.50 at the lowest connection to the existing condition and 14.80 as the finished floor of both the proposed building and garage. Therefore, the finished floors of the buildings and the garage will be 2 ft above the BFE. Note that the BFE is the flood elevation that will occur during a 100 year storm event. All elevations presented in this report are NAVD 88.

Figure 1: Vicinity Map

3. EXISTING CONDITION

The regional drainage pattern in the vicinity of the Project site appears to be from south to north. The project site itself does not have a known underground storm drain system but instead uses overland flow to direct the majority of the storm water run-off to a long valley gutter system internal to the property. The on-site storm water is collected via the valley gutter and drained from the south and west toward and outfalls to an off-site existing inlet near the northeast corner of the property. Run-off for the site ultimately drains to a 48-inch storm drain line located west of 1315 O'Brien Drive. The existing conditions for the site and immediate area can be seen in the attached Figure 3.

3.1 ON-SITE DRAINAGE

As stated above, the site does not have a known underground storm drain system. A survey performed by Kier+Wright indicates an on-site catch basin, noted as a drywell with no outlets. Therefore, it is assumed that run-off from the existing roof water leaders is discharged directly to the hardscape surface where it and the other storm water discharge collect in the valley gutter. The site relies almost completely on overland flow to discharge storm water to the receiving inlet. Currently, there are no known storm water management facilities on-site that provide treatment or detention.

3.2 OFF-SITE DRAINAGE

Topographic information indicates that, except for minor losses around the edges of the properties, the site's drainage remains on-site until it flows to the outfall. Off-site drainage immediately around the Project site is limited to overland flow along O'Brien Drive's gutter system and overland flow onto the SFPUC's parcel.

Off-site drainage immediately around the Project site is limited to overland flow along O'Brien Drive's gutter system. The gutter system conveys stormwater from the site, as well as other properties bordering the street, east to the nearest public storm drain catch basins at the intersection of Kelly Court and O'Brien Drive. From there, storm water is conveyed through the City's storm drain system to eventually discharge to the SFPUC parcel and eventually flows to a 48-inch storm drain line west of 1315 O'Brien Drive, northeast of the Project. The adjacent parcel, to be developed in Phase 2, as well as those properties immediately west of the site, currently drain to Willow Road and are picked up by the existing 66-inch storm drain therein. Flow through the 66-inch Willow Road storm drain line is part of a separate system and does not appear to receive tributary flow from the Phase 1 project site. Nevertheless, both the 48 and 66 -inch lines ultimately discharge to the San Francisco Bay.

A significant portion of the off-site drainage area for the 48-inch line lies within East Palo Alto's jurisdiction. Off-site drainage to the 48-inch line was approximately delineated only for the purpose of visualizing a reasonable tributary area. It is not intended to provide a detailed analysis of off-site system and drainage pattern. Refer to the attached Figure 2 for the off-site drainage area delineation map.

4. BASIS OF DESIGN

The following summarizes the basis of design for the corresponding calculations found in the attached Tables 2 and 3.

Determination of site design flow rates are based on the Rational Method: The Rational Method is defined as Q = C I A, where:

Q = peak flow (cfs)

C = run-off coefficient

I = rainfall intensity (in/hr)

A = area (acres)

Design Storm Event: The storm drain system is evaluated for a 10-year storm event.

Time of Concentration: For this report, on-site time of concentration is assumed to be 10 minutes.

Run-off Coefficient: Run-off coefficients are developed using the City of Menlo Park Requirements for the Preparation of Hydrology Reports (August 20, 2006). Run-off coefficient of 0.95 was used for all impervious areas. Run-off coefficient of 0.3 was used for all pervious and landscaped areas based on the upper limit of the Coefficient of Run-off chart provided within the City Hydrology Requirements. A weighted run-off coefficient of 0.944 and 0.821 were calculated and implemented for the existing and proposed coefficients, respectively.

Rainfall Intensity: The rainfall intensity for the 10-year design storm event was calculated using Attachment C - Menlo Park IDF Curve.

Freeboard: The existing system is evaluated against the 10-year event contained within the storm drain system.

Rim Elevations: Rim elevations are based on a combination of the DES Architects+ Engineers (DES) grading plan and the topographic survey for the site.

5. PROJECT IMPROVEMENTS

Tarlton Properties intends to demolish two and a half existing buildings over three parcels and redevelop the property to contain an office building, parking structure, and landscaping. The existing buildings on the parcels are proposed to be demolished, with the notable exception of the west half of the 1320 Willow Road building, which will receive a new exterior wall and remain standing until being demolished in Phase 2.

With the proposed improvements, the Project is anticipated to add 26,082 square feet of new pervious surface. The Project will also be replacing 111,026 square feet of impervious surface; and proposes to meet storm water treatment requirements by directing run-off from uncovered parking area and/or driveways onto vegetated areas, minimize impervious surfaces, provide self-treating areas, and provide a bio-treatment basin.

As can be seen in Figure 5: Preliminary Stormwater Management Plan, the bio-retention basin area, SWTM 1, will be located on the south side of the lot. Storm water will enter SWMT 1 via two bubble-up structures, one on either end of the basin, each with an outlet elevation of 12.00. A maximum ponding elevation of 11.75 is noted on Figure 6: Preliminary Utility Plan. If the storm water level exceeds elevation 11.75, it will be directed into the FTP's downstream overflow structure, bypassing the media filtration. SWTM 2 is located on the north end of the lot and is self-treating. Storm water will flow north and be intercepted by a French drain along the northern boundary line.

Storm water is collected via overland flow which directs it to a network of proposed storm drain lines accessed by multiple catch basins throughout the property. The storm water is then channeled to the basin on the south side of the property. After traversing the basin, storm water ultimately drains to a lift station at the northeast corner of the property. Likewise, the stormwater entering collected by the French drain from SWMT 2 will be conveyed to the lift station. The lift station will be equipped with a low-flow pump to lift the storm water up to the surface where it will then flow overland across the property into the existing catch basin just north of the property, mimicking the existing flow pattern of the valley gutter system. The design of the proposed drainage system is depicted in Figure 4: Preliminary Grading Plan and Figure 6: Preliminary Utility Plan. Proposed functions of the pump are intended to remove stormwater from the proposed storm drain pipes and structure during low flow scenarios. During high flow situations, the water will bypass the pump and exit the structure as described above. Additional pump details and functions are described in Section 5.2 of this report.

5.1 STORMWATER MANAGEMENT

The Project will create or replace approximately 111,026 square feet of impervious area and convert 27,400 square feet of existing impervious surface to pervious surface. See Table 1: Existing vs Proposed Area Summary below for the changes regarding existing and proposed allocations of impervious and pervious areas.

Per the San Mateo Countywide Water pollution Prevention program (SMCWPPP) C.3 Stormwater Handbook, "Projects that create and/or replace 10,000 square feet or more of impervious surface must comply with Provision C.3". The proposed improvements meet this threshold, and therefore qualifies as a Regulated Project and must include treatment measures.

The footprint of SWTM 1, 4,440 square feet, is approximately 4% of the total proposed and replaced impervious area. Additionally, the project intends to provide 7,820 square feet of pervious self-treating area. Pervious and impervious areas are tabulated on the attached Figure 5: Preliminary Stormwater Management Plan.

	Area (ft^2)		
	Existing	**Proposed**	**Delta**
Impervious	137,108	111,026	-26,082
Pervious	1,318	27,400	+26,082
Total	138,426	138,426	0

Table 1: Existing vs Proposed Area Summary

To meet C.3 requirements, the aforementioned SWMT 1 treatment basin is sized based on the 4% rule for new or replaced impervious area. SWMT 1 and 2 are intended to capture and treat run-off from all 111,026 square feet of impervious area on site. Refer to Figures 4 through 6 for an overview of the proposed drainage system.

The Menlo Park Impervious Area Worksheet prepared by DES is provided under Appendix B of this report. The SMCWPPP C.3 checklist will be provided by DES under a separate submittal with the Stormwater Management Plan.

5.2 PUMP DESIGN

A low flow pump will be installed in the lift station, indicated on the northeast corner property, as seen in Figure 6: Preliminary Utility Plan. A 1/3 horsepower automatic pump with a 2-inch discharge pipe and multiple mechanical float switches will be utilized. The pump shall be a Goulds 2WD Submersible 2" Non-Clog Pump, or approved equal. Further specifications can be seen in Appendix C: Pump Specifications. Per the current development plans, the pump will need to lift the stormwater approximately 6 feet, to the outlet elevation of 11.50. The pump floats will need to be programmed by the manufacturer and installed by the contractor to switch on when the water level rises above elevation 6.20, or 8 inches above the lift station's invert, assuming the invert in of the storm drain pipes is the same elevation as the lift station's invert. If not, the contractor will need to adjust the inverts accordingly. The pump shall continue to run until the water level reaches an elevation 8 inches above the lift station's invert elevation. The floats will be required to be programmed to switch the pump off when the stormwater level in the structure drops below that elevation. This will allow the pump to function properly and minimize the amount of ponding water within the structure. The lift station should incorporate weep holes in the bottom of the structure in order to ensure the remaining water in the base can dissipate after the pump shuts off.

As stated previously, the proposed functions of the pump are only intended to remove stormwater from the proposed storm drain pipes and lift station structure during low flow scenarios. During high flow situations, the water will bypass the pump and exit the structure through the outfall pipe at outlet elevation 11.50.

A control panel for the pump shall be programmed to alert the owner when the pump is active and running normally, when pump is triggered "on" but no movement is recognized, and/or a malfunction has occurred.

The proposed pump shall only function while storm water in the structure is at an elevation 8 inches or more above the lift station's sump invert. Contractor shall construct the structure and device to ensure that the float switches will recognize the correct elevations in order for the water level to always cover the pump impeller during "on" functions. Failure to do so will break suction at the bottom of the pump, introducing air to the system resulting in pump cavitation.

5.2 DETENTION FACILITIES

The City Guidelines require an on-site retention (or detention where retention is impracticable) device if a project increases run-off to the public storm drain system during a 10-year storm event. As shown in Tables 2 and 3, the existing discharge is estimated to be 5.06 cubic feet per second (cfs) and the proposed site discharge is estimated to be 4.41cfs. The reduction is due to the addition of 26,082 square feet of new pervious area. Therefore, the total amount of run-off produced to the public storm drain system will be reduced, and the Project will not need to implement a retention or detention device. As stated, the Project will, however, install one bio-treatment basin and self-treating pervious area to conform to C3 guidelines.

6. STORM DRAIN ANALYSES

The proposed system will collect run-off from the proposed impervious area and convey it to the SWMT 1 and 2. After passing through the SWMT areas, the storm water will ultimately exit the site via a pump conveying the discharge to an off-site inlet, mimicking the existing condition. Based on a review of the existing conditions, it appears that the entire on-site system ultimately conveys storm water to an existing off-site 12-inch collector pipe. This pipe was recently cleaned and inspected via a video camera to confirm its outlet point. This is represented in the topographic survey for 1340 Willow Road shown in Figure 3: Existing Conditions. See Figure 6: Preliminary Utility Plan for the proposed on-site system layout.

Preliminary calculations of the system performed by DES, shown in attached Tables 2 and 3, indicate that the existing discharge for a 10-year storm to the off-site system is approximately 5.06 cfs. The proposed discharge for a 10-year storm to the off-site system was calculated to be 4.41 cfs. These values were calculated using the City Guidelines. The proposed discharge is expected to be less than the existing discharge, therefore, no adverse effects to the existing off-site system are anticipated.

7. CONCLUSION

The existing Project site is served by overland flow to a valley gutter system internal to the property. The valley gutter discharges to an off-site inlet, near the northeastern corner of the property. Currently there are no known storm water management facilities on-site that provide treatment or detention. The discharge of the existing system was estimated to be 5.06 cfs.

The proposed Project improvements include transforming the existing buildings and paved lot on the property to a new office building, parking garage, bio-retention basin and landscaping.

With the proposed improvements, the Project is anticipated to add 26,082 square feet of new pervious surface and create or replace a total of approximately 111,026 square feet of impervious surface. As a result of the increase in pervious surface, the proposed discharge will decrease to 4.41 cfs.

To meet C.3 requirements, the Project proposes to implement one bio-retention basin, equal in area to approximately 4% of the new and replaced impervious area, as well as self-treating landscape area to capture and treat run-off. The basin will be located on the south side of the Project site. After flowing through the basin, the water will discharge to the off-site system, either via gravity or the proposed pump.

The existing off-site system has no known capacity issues, and with the reduction in total discharge from the site, no adverse effects to the existing system are expected.

8. REFERENCES

California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit, November 28, 2011

City of Menlo Park City-wide Drainage Study, May 2003

City of Menlo Park Commercial, Multi-Family and Subdivison Grading & Drainage Guidelines, 2020

City of Menlo Park Impervious Area Worksheet, 2020

City of Menlo Park Requirements for the Preparation of Hydrology Reports, August 20, 2006.

Federal Emergency Management Agency insurance Rate Map, October 2012

Kier + Wright Topographic Surveys for 1320 Willow Road, 1001-1015 O'Brien Drive, 985 O'Brien Drive, Dated February 2021

Kier + Wright Topographic Surveys for 1340 Willow Road, Dated November 2021

Kier + Wright ALTA / ACSM Land Title Surveys for 1320 Willow Road and 1001-1015 O'Brien Drive, 985 O'Brien Drive, Dated September 2015

Kier + Wright ALTA / ACSM Land Title Surveys for 985 O'Brien Drive, Dated November 2015

San Mateo County C.3 and C.6 Development Review Checklist, January 2019

San Mateo County, C.3 Regulated Projects Guide, Version 1.0., January 2020.

TABLES

PRELIMINARY ON-SITE DISCHARGE CALCULATIONS FOR PHASE 1 1005 O'BRIEN DRIVE

DES ARCHITECTS+ ENGINEERS
399 BRADFORD, SUITE 300
REDWOOD CITY, CA 94063

Date 11/24/2021
P# 10025.002

Source: "Requirements for the Preparation of Hydrology Reports" by Menlo Park Public Works (August 2006)

LAND USE: Office Bldg, Parking Garage
RUNOFF "C": 0.95(Conc/AC/Roof), 0.30(Landscape)
Rainfall Intensity 10yr Per Attachment C - Menlo Park IDF Curve
Time of Concentration: Initial Tc is assumed to be10 min.

Total Runoff Q for 10-year is calculated using the Rational Formula (Q=CIA)

Existing Onsite Discharge Summary

Existing On-Site Runoff Coefficient Calculation Summary

Type of Surface	C_{runoff}	Area (ft^2)	Weight
Impervious	0.95	137,108	130,253
Pervious	0.3	1,318	395
	Total	138,426	130,648
Total Existing Site Composite Run-off C =			0.944

On-Site Discharge Calculation Summary Q=CIA

Area SF	Area acres	Comp. Coef. C	CA	Total TIME (MIN.)	INTENSITY $I_{10\text{-}yr}$ (IN/HR)	DES. Q (CFS)
138,426	3.178	0.944	3.00	10.00	1.69	5.06

PRELIMINARY ON-SITE DISCHARGE CALCULATIONS FOR PHASE 1 1005 O'BRIEN DRIVE

DES ARCHITECTS+ ENGINEERS
399 BRADFORD, SUITE 300
REDWOOD CITY, CA 94063
Date 11/24/2021
P# 10025.002

Proposed Onsite Discharge Summary

Existing On-Site Runoff Coefficient Calculation Summary

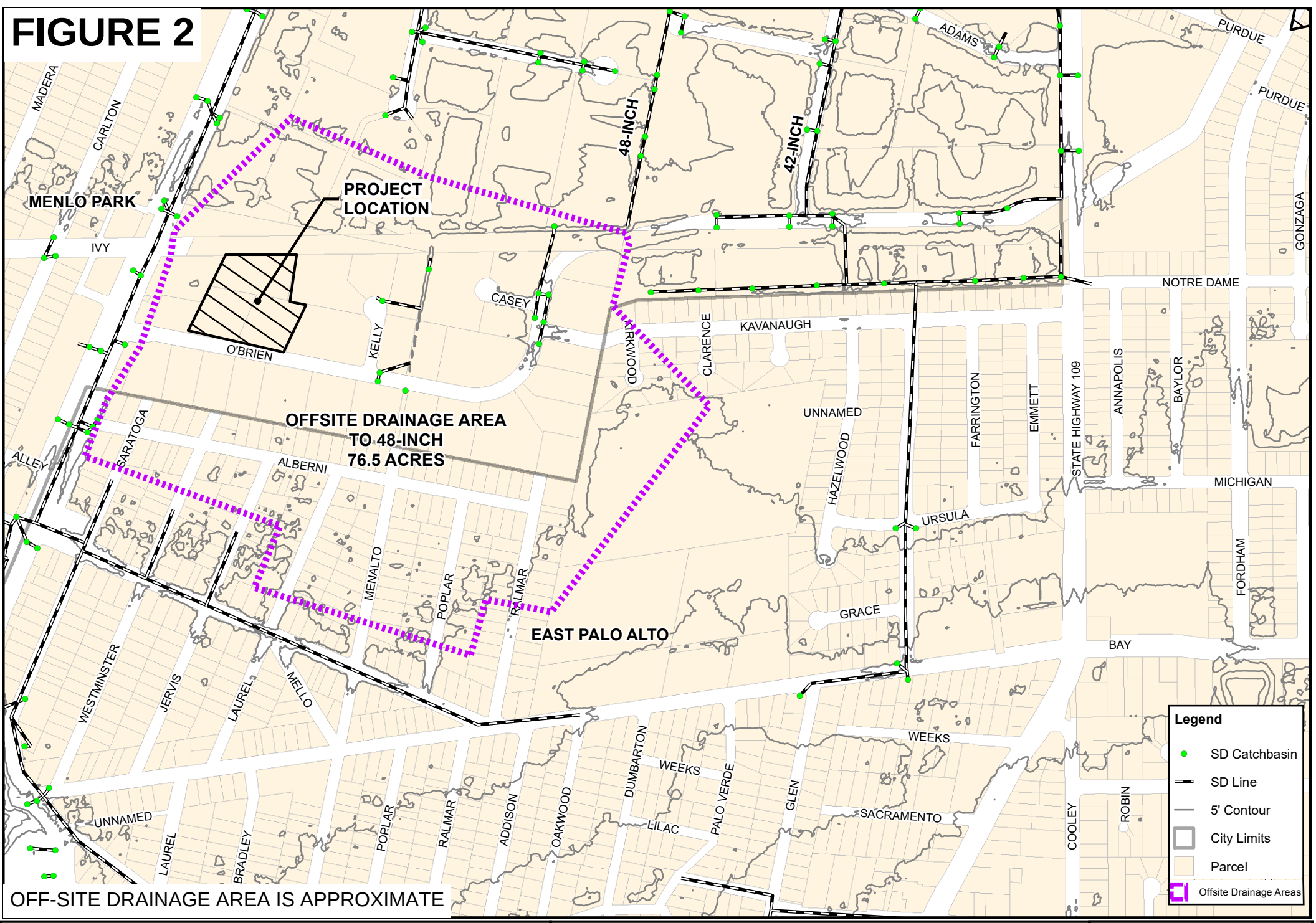
Type of Surface	C_{runoff}	Area (ft^2)	Weight
Impervious	0.95	111,026	105,475
Pervious	0.3	27,400	8,220
	Total	138,426	113,695
Total Existing Site Composite Run-off C =			0.821

On-Site Discharge Calculation Summary Q=CIA

Area SF	Area acres	Comp. Coef. C	CA	Total TIME (MIN.)	INTENSITY $I_{10\text{-}yr}$ (IN/HR)	DES. Q (CFS)
138,426	3.178	0.821	2.61	10.00	1.69	4.41

FIGURES

FIGURE 2



OFF-SITE DRAINAGE AREA IS APPROXIMATE

Datum: NAD83
Projection: CA State Plane III
Scale: 1 in equals 500 feet

N

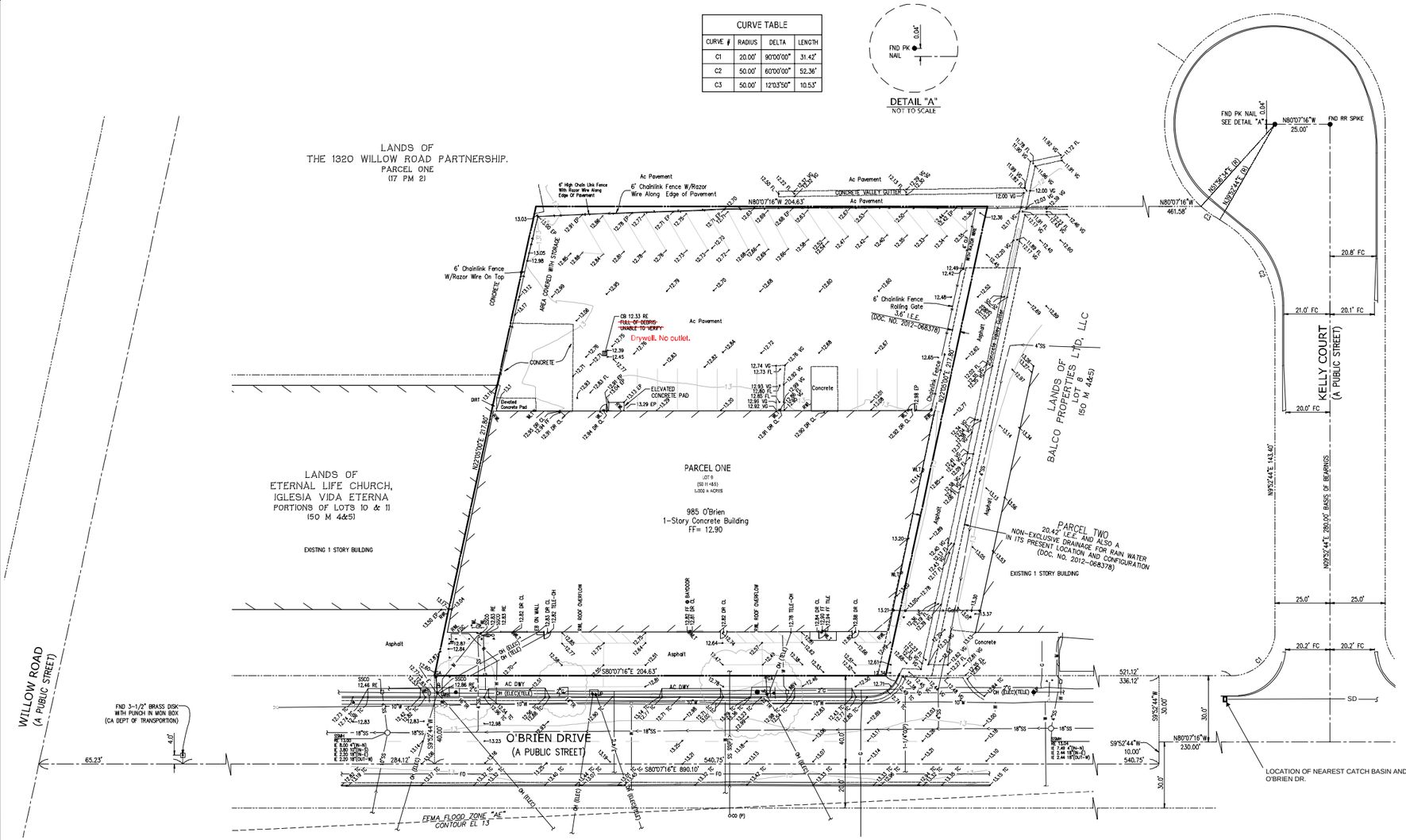
0 260 520 Feet

FIGURE 2: OFFSITE DRAINAGE AREAS
1005 O'BRIEN DRIVE

BKF

FIGURE 3 - EXISTING CONDITIONS

CURVE TABLE			
CURVE #	RADIUS	DELTA	LENGTH
C1	20.00'	90°00'00"	31.42'
C2	50.00'	60°00'00"	52.36'
C3	50.00'	12°03'50"	10.53'



NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN A PRELIMINARY TITLE REPORT, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED DECEMBER 16, 2020, ORDER NUMBER NCS-1049175-SM. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.
2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING ON-SITE UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED BY FIELD LOCATING AND MAPPED BY SUBDYNAMIC LOCATING SERVICES, INC. ON 02-29-2021. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.
4. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR SAN MATEO COUNTY, CALIFORNIA, MAP NUMBER 06081C0307E FOR COMMUNITY NUMBER 060321 (CITY OF MENLO PARK), WITH AN EFFECTIVE DATE OF OCTOBER 12, 2012, AS BEING LOCATED IN FLOOD ZONE "AE". ACCORDING TO FEMA THE DEFINITION OF ZONE "AE" IS:SPECIAL FLOOD HAZARD AREA WITH BASE FLOOD ELEVATIONS DETERMINED.
5. BENCHMARK: W-150; U.S. COAST GEODETIC SURVEY BENCHMARK DISK STAMPED "W 150", "1933" SET IN TOP OF CONCRETE MONUMENT. 0.8 MILE NORTHEAST ALONG WILLOW ROAD FROM THE INTERSECTION OF BAYSHORE HIGHWAY AT MENLO PARK, AT THE NORTHEAST CITY LIMITS OF MENLO PARK, AT THE CROSSING OF THE SOUTHERN PACIFIC COMPANY RAILROAD, 35 FEET WEST OF THE CENTER LINE OF THE ROAD, 19.5 FEET NORTH OF THE NORTH RAIL, 10.3 FEET NORTHWEST OF THE SOUTHWEST CORNER OF THE CONCRETE BASE OF A CROSSING SIGNAL, 1.0 FOOT EAST OF A WITNESS POST, ABOUT LEVEL WITH THE TRACK AND THE ROAD, FLUSH WITH THE GROUND, AND SET IN TOP OF A CONCRETE POST.
ELEVATION: 9.884 FEET (NGVD 1988 DATUM)
7. BASIS OF BEARINGS:THE BEARING OF NORTH 09°52'44" EAST TAKEN ON THE CENTERLINE OF KELLY COURT AS SHOWN THAT CERTAIN PARCEL MAP FILED FOR RECORD ON FEBRUARY 27, 1991 IN BOOK 64 OF PARCEL MAPS AT PAGE 66, SAN MATEO COUNTY RECORDS WAS TAKEN AS THE BASIS OF ALL BEARINGS SHOWN HEREON.
8. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

NOTE: THIS SITE HAS FIBER OPTIC LINES
LOCATED ON OR ADJACENT TO IT.

LEGEND

ASPHALT BERM
BUILDING LINE
CENTERLINE
CONCRETE CURB & GUTTER
MAJOR CONTOUR LINE
MINOR CONTOUR LINE
DRIVEWAY
EASEMENT LINE
EDGE OF PAVEMENT
EDGE OF WATER/FLOWLINE
ELECTRIC LINE
FENCE LINE
FEMA FLOOD ZONE CONTOUR (APPROXIMATE LOCATION)
FIBER OPTICS LINE
GAS LINE-VALVE & METER
LOT LINE
MONUMENT/MONUMENT LINE
OVERHEAD POWER LINE
PROPERTY LINE
SANITARY SEWER LINE-MANHOLE & CLEANOUT
SPOT ELEVATION
STORM DRAIN LINE-MANHOLE & CATCH BASIN
WATER LINE & VALVE
ANODE
AREA DRAIN
AUTOMATIC SPRINKLER RISER
BACKFLOW PREVENTION DEVICE
BENCHMARK/TEMPORARY BENCHMARK
BLOWOFF VALVE
ELECTROLIER
FIRE DEPARTMENT CONNECTION
FIRE HYDRANT
GAS METER
GUY ANCHOR
POWER POLE/JOINT POLE
TRAFFIC SIGN
TREE
UTILITY BOX
WATER VALVE
WELL

ABBREVIATIONS

AC	ASPHALT CONCRETE
AD	AREA DRAIN
BEG	BEGIN
BL	BUILDING LINE
BLDG	BUILDING
BOL	BOLLARD
CB	CATCH BASIN
CL	CENTER LINE
CLF	CHAIN LINK FENCE
CO	CLEANOUT
DI	DRAIN INLET
DR	DOOR
DS	DOWN SPOUT
DWY	DRIVEWAY
E	EAST
EB	ELECTRIC BOX
ELEC	ELECTRICAL LINE
EP	EDGE OF PAVEMENT
FC	FACE OF CURB
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FND	FOUND
FO	FIBER OPTICS
FW	FACE OF WALL
GA	GUY ANCHOR
GAS	GAS LINE
GV	GAS VALVE
GM	GAS MARKER/METER
GUY	GUY ANCHOR
GV	GAS VALVE
I.E.E.	INGRESS EGRESS EASEMENT
IE	INVERT ELEVATION
JP	JOINT POWER POLE
LIP	LIP OF GUTTER
LL	LANE LINE
LT	LIGHT
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P	PAVEMENT
PG	PAGE
PM	PARCEL MAP
RE	RIM ELEVATION
ROOF	ROOF LINE
RR	RAILROAD RAIL
RWL	RAIN WATER LEADER
S	SOUTH
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
TC	TOP OF CURB
TELE	TELEPHONE LINE
TR	TREE
VG	VALLEY GUTTER
W	WEST
WB	WATER BOX
WBV	WATER BOX WITH VALVE
WL	WATER LINE
WLT	WALL LIGHT
WV	WATER VALVE

J. R. Vigil 02-23-2021
PREPARED BY OR UNDER THE SUPERVISION OF JIMMY R. VIGIL P.L.S. 6256 DATE

LICENSED LAND SURVEYOR
JIMMY R. VIGIL
No. 6256
STATE OF CALIFORNIA

NO.	BY	REVISION

KIER+WRIGHT
3850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
985 O'BRIEN DRIVE
FOR
O'BRIEN DRIVE PORTFOLIO, LLC
MENLO PARK, CALIFORNIA

DATE	FEB., 2021
SCALE	AS SHOWN
SURVEYOR	JRV
DRAWN BY	DWA
JOB NO.	A13116-4
SHEET	C1.0
OF	1 SHEET

Z:\2013\A13116-4\DWG\SURVEY\TOPO\13-A13116-4.dwg 2-23-21 03:02:43 PM kwilkins

FIGURE 3 - EXISTING CONDITIONS

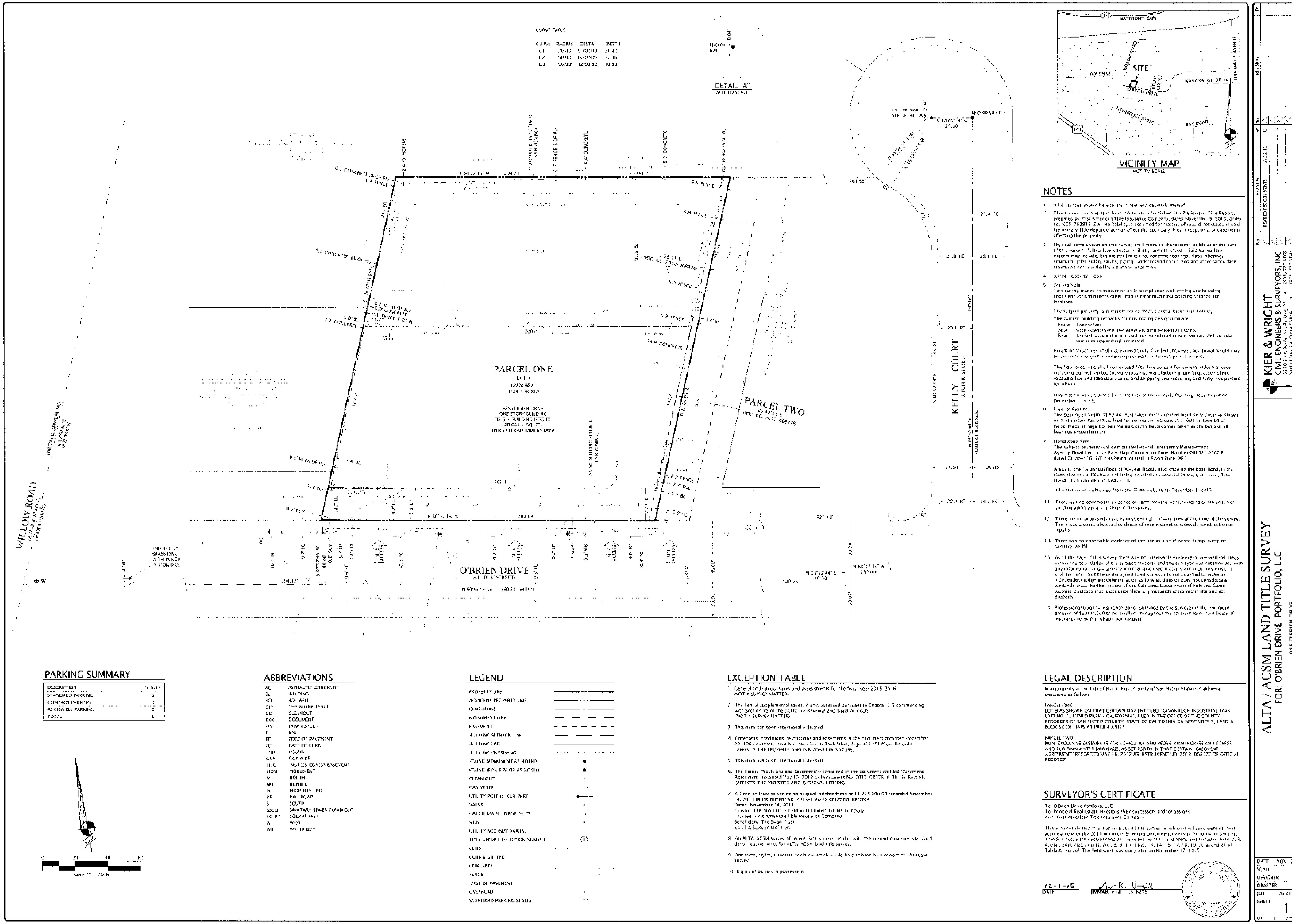
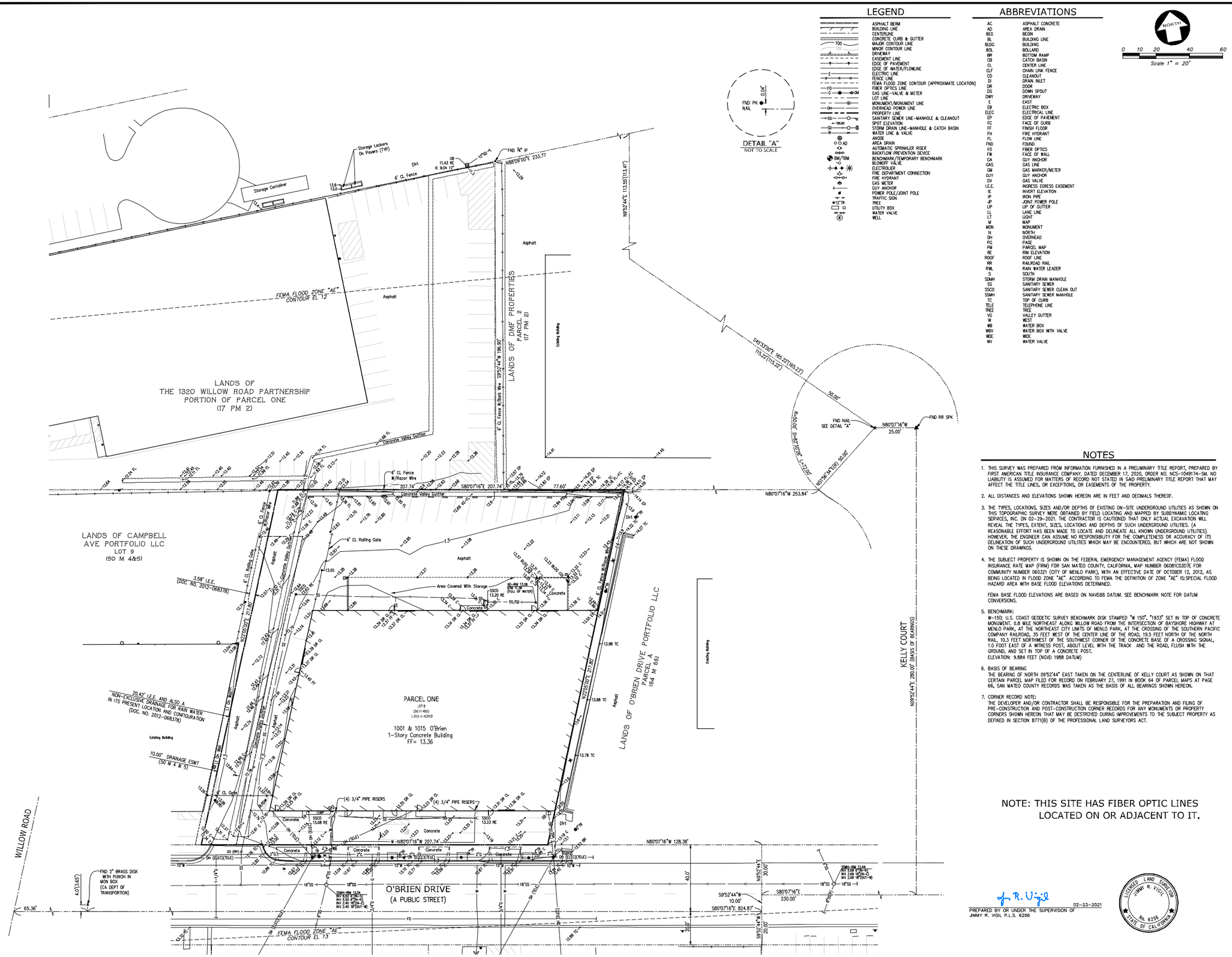


FIGURE 3 - EXISTING CONDITIONS



NO.	BY	REVISION

KIER+WRIGHT
3835 Cadillac Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

TOPOGRAPHIC SURVEY

OF

1001-1015 O'BRIEN DRIVE

FOR

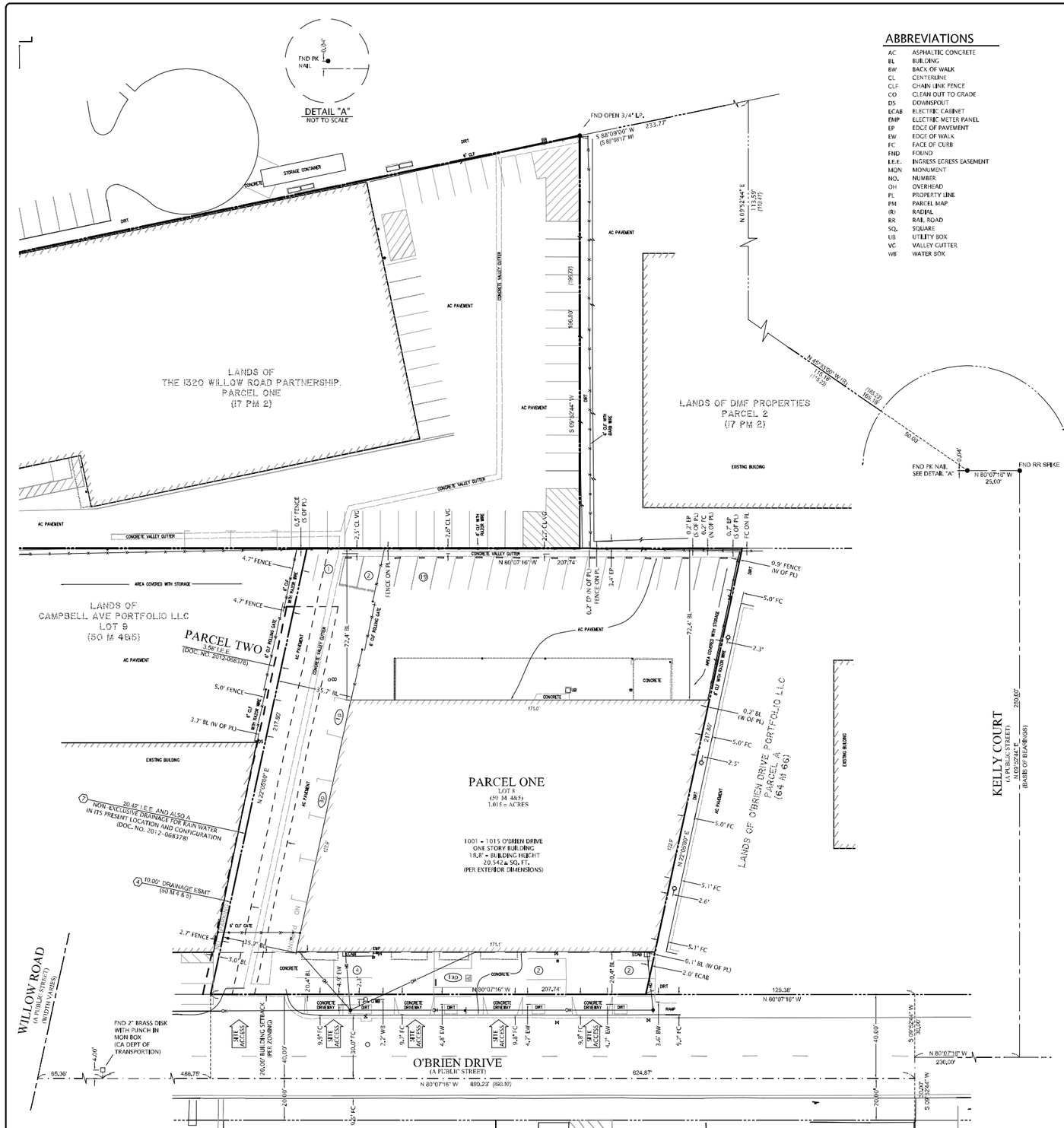
O'BRIEN DRIVE PORTFOLIO, LLC

MENLO PARK, CALIFORNIA

DATE	FEB., 2021
SCALE	AS SHOWN
SURVEYOR	JRV
DRAWN BY	DWA
JOB NO.	A15124-5
SHEET	C1.0
OF	1 SHEET

Z:\2015\A15124-5\DWG\SURVEY\TOPO\15-A15124-5.dwg 2-23-21 03:00:00 PM kwilkins

FIGURE 3 - EXISTING CONDITIONS



ABBREVIATIONS

AC	ASPHALTIC CONCRETE
BL	BUILDING
BW	BACK OF WALK
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT TO GRADE
DS	DOWNSPOUT
ECAB	ELECTRIC CABINET
EMP	ELECTRIC METER PANEL
EP	EDGE OF PAVEMENT
EW	EDGE OF WALK
FC	FACE OF CURB
FND	FOUND
I.E.E.	INGRESS EGRESS EASEMENT
MON	MONUMENT
NO.	NUMBER
OH	OVERHEAD
PL	PROPERTY LINE
PM	PARCEL MAP
(R)	RADIAL
RR	RAIL ROAD
SQ.	SQUARE
UB	UTILITY BOX
VC	VALLEY CUTTER
WB	WATER BOX

0 20 40 60
Scale 1" = 20' ft

EXCEPTION TABLE

1. General and special taxes and assessments for the fiscal year 2015-2016, a lien not yet due or payable.
(NOT A SURVEY MATTER)

2. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.
(NOT A SURVEY MATTER)

3. This item has been intentionally deleted.

4. An easement shown or dedicated on the map of Kavanaugh Industrial Park Unit No. 1 recorded November 07, 1958 on file in book 50 , page 4-5, of Tract Maps.
For Drainage, Public Utility and Incidental purposes.
(EASEMENT PLOTTED HEREON)

5. Covenants, conditions, restrictions and easements in the document recorded December 29, 1965 as Book 5087, Page 325 of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition, or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, sexual orientation, familial status, disability, handicap, national origin, genetic information, gender, gender identity, gender expression, source of income (as defined in California Government Code § 12955(p)) or ancestry, to the extent such covenants, conditions or restrictions violation 42 U.S.C. § 3604(c) or California Government Code § 12955. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.
(BLANKET IN NATURE)

6. This item has been intentionally deleted.

7. The Terms, Provisions and Easement(s) contained in the document entitled "Easement Agreement " recorded May 16, 2012 as Instrument No. 2012-68378 of Official Records.
(EASEMENT PLOTTED HEREON)

8. A deed of trust to secure an original indebtedness of $30,000,000.00 recorded November 07, 2012 as Instrument No. 2012-165197 of Official Records.
Dated: October 30, 2012
(NOT A SURVEY MATTER)

9. A financing statement recorded November 07, 2012 as Instrument No. 2012-165198 of Official Records.
(NOT A SURVEY MATTER)

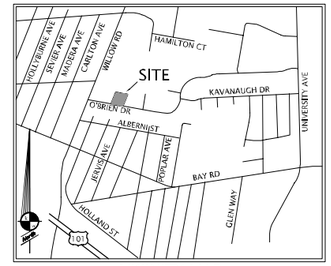
10. Rights of parties in possession.
(NOT A SURVEY MATTER)

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- CENTERLINE
- MONUMENT LINE
- APPURTENANT PARCEL LINE
- BUILDING SETBACK LINE
- BUILDING LINE
- BUILDING OVERHANG
- FOUND IRON PIPE OR AS NOTED
- BOLLARD LIGHT
- MANHOLE
- GAS METER
- VALVE
- CATCH BASIN / DROP INLET
- WATER METER
- FIRE DEPARTMENT CONNECTION
- BACK FLOW PREVENTER
- POST INDICATOR VALVE
- UTILITY BOX (SIZE VARIES)
- SIGN
- BOLLARD (UNLESS OTHERWISE NOTED)
- CURB
- CURB & GUTTER
- CONCRETE
- FENCE
- RETAINING WALL
- EDGE OF PAVEMENT
- STANDARD PARKING STALLS
- ACCESSIBLE PARKING STALLS
- OVERHEAD

PARKING SUMMARY

DESCRIPTION	STALLS
STANDARD PARKING	30
PARALLEL PARKING	4
ACCESSIBLE PARKING	1
TOTAL	35



VICINITY MAP
NOT TO SCALE

NOTES

1. All distances shown hereon are in feet and decimals thereof.

2. This survey was prepared from information furnished in a Preliminary Title Report, prepared by First American Title Insurance Company, dated August 31, 2015, Order No. NCS-745606-SM, updated September 21, 2015. No liability is assumed for matters of record not stated in said Preliminary Title Report that may affect the boundary lines, exceptions, or easements affecting the property.

3. Physical items shown on this survey are limited to those items visible as of the date of this survey. Subsurface structures, if any, are not shown. Said subsurface objects may include, but are not limited to, concrete footings, slabs, shoring, structural piles, utility vaults, piping, underground tanks, and any other subsurface structures not revealed by a surface inspection.

4. A.P.N.: 055-421-060

5. Zoning Note:
This survey makes no evaluation as to compliance with zoning and building codes and/or ordinances other than current municipal building setback line locations.

The subject property is currently zoned "M2"; General Industrial District

The current building setbacks for this zoning designation are:
Front: 20'
Side: 10', except that side yard may be reduced to 0' provided the side yard is correspondingly increased
Rear: 0', except 20' where abutting residential district
Floor Area Ratio: The floor area ratio shall not exceed fifty-five percent (55%) for general industrial uses, including but not limited to, warehousing, manufacturing, printing, assembling, related office and laboratory uses, and shipping and receiving, and forty-five percent (45%) for offices.
Building Height: Height of structures shall not exceed thirty-five feet (35); however, additional height may be permitted subject to obtaining a conditional development permit.

Information was obtained from the City of Menlo Park, Planning Department Website on September 10, 2015.

6. Basis of Bearings:
The bearing of North 09°52'44" East taken on the centerline of Kelly Court as shown on that certain Parcel Map filed for record on February 27, 1991 in Book 64 of Parcel Maps at Page 66, San Mateo County Records was taken as the Basis of all Bearings shown hereon.

7. Flood Zone Note:
The subject property is shown on the Federal Emergency Management Agency Flood Insurance Rate Map, Community Panel Number 06032I 0307 F, dated October 16, 2012, as being located in Flood Zone "AE".

Areas of the 1% annual flood (100-year flood), also know as the base flood, is the flood that has a 1% chance of being equalled or exceeded in any given year; Base Flood elevations determined as 13 feet.

Information was obtained from the FEMA website (www.fema.gov) on September 9, 2015.

8. There was no observable evidence of earth moving work, building construction or building additions at the time of the survey.

9. There are no proposed changes in street right of way lines at the time of the survey. There was also no observed evidence of recent street or sidewalk construction or repairs.

10. There was no observable evidence of site use as a solid waste dump, sump or sanitary landfill.

11. As of the date of this survey there was no observable evidence of any wetland areas within the boundaries of the subject property and the surveyor was not provided with any information or documentation that disclosed that any wetlands may exist. It shall be noted that the undersigned Land Surveyor is not qualified to make an independent judgment determination as to what does or does not constitute a wetlands area. Further review of the California Department of Fish and Game website discloses that it does not show any wetlands areas within the subject property.

LEGAL DESCRIPTION

Real property in the City of Menlo Park, County of San Mateo, State of California, described as follows:

PARCEL ONE:
LOT 8 AS SHOWN ON THAT CERTAIN MAP ENTITLED "KAVANAUGH INDUSTRIAL PARK, UNIT NO. 1, MENLO PARK, SAN MATEO COUNTY, CALIFORNIA", WHICH MAP WAS FILED FOR RECORD IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA ON NOVEMBER 7, 1958 IN BOOK 50 OF MAPS AT PAGES 4 AND 5.

PARCEL TWO:
A NONEXCLUSIVE EASEMENT FOR VEHICULAR AND PEDESTRIAN INGRESS AND EGRESS OVER UPON AND ACROSS LOT 9 AS SHOWN ON THAT CERTAIN MAP ENTITLED "KAVANAUGH INDUSTRIAL PARK, UNIT NO. 1, MENLO PARK, SAN MATEO COUNTY, CALIFORNIA", WHICH MAP WAS FILED FOR RECORD ON NOVEMBER 7, 1958 IN BOOK 50 OF MAPS AT PAGES 4 AND 5 ACROSS THE FOLLOWING STRIP OF LAND:

A 3.58 FOOT WIDE STRIP OF LAND ALONG THE EASTERLY LINE OF SAID LOT 9 HEREINABOVE AND EXTENDING FROM THE PROPERTY LINE FRONTING O'BRIEN DRIVE TO A POINT 28.5 FEET FROM THE NORTHERLY PROPERTY LINE OF SAID LOT 9 HEREINABOVE, AS SET FORTH IN THAT CERTAIN EASEMENT AGREEMENT BY AND BETWEEN VELA CORPORATION, A CALIFORNIA CORPORATION AND LIVE OAK PROPERTIES, A CALIFORNIA CORPORATION FILED RECORD MAY 16, 2012, INSTRUMENT NO, 2012-068378, OFFICIAL RECORDS OF SAN MATEO COUNTY.

SURVEYOR'S CERTIFICATE

TO: O'Brien Drive Portfolio, LLC
TO: O'Brien Drive Portfolio Member, LLC
TO: Principal Real Estate Investors, LLC
AND: First American Title Insurance Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 2, 3, 4, 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 11(a), 13, 14, 16, 17, 18 and 19 of Table A thereof. The field work was completed on September 15, 2015.

10-8-15
DATE

JIMMY R. VIGIL, L.S. 6256
jvigil@kierwright.com

LICENSED LAND SURVEYOR
JIMMY R. VIGIL
No. 6256
STATE OF CALIFORNIA

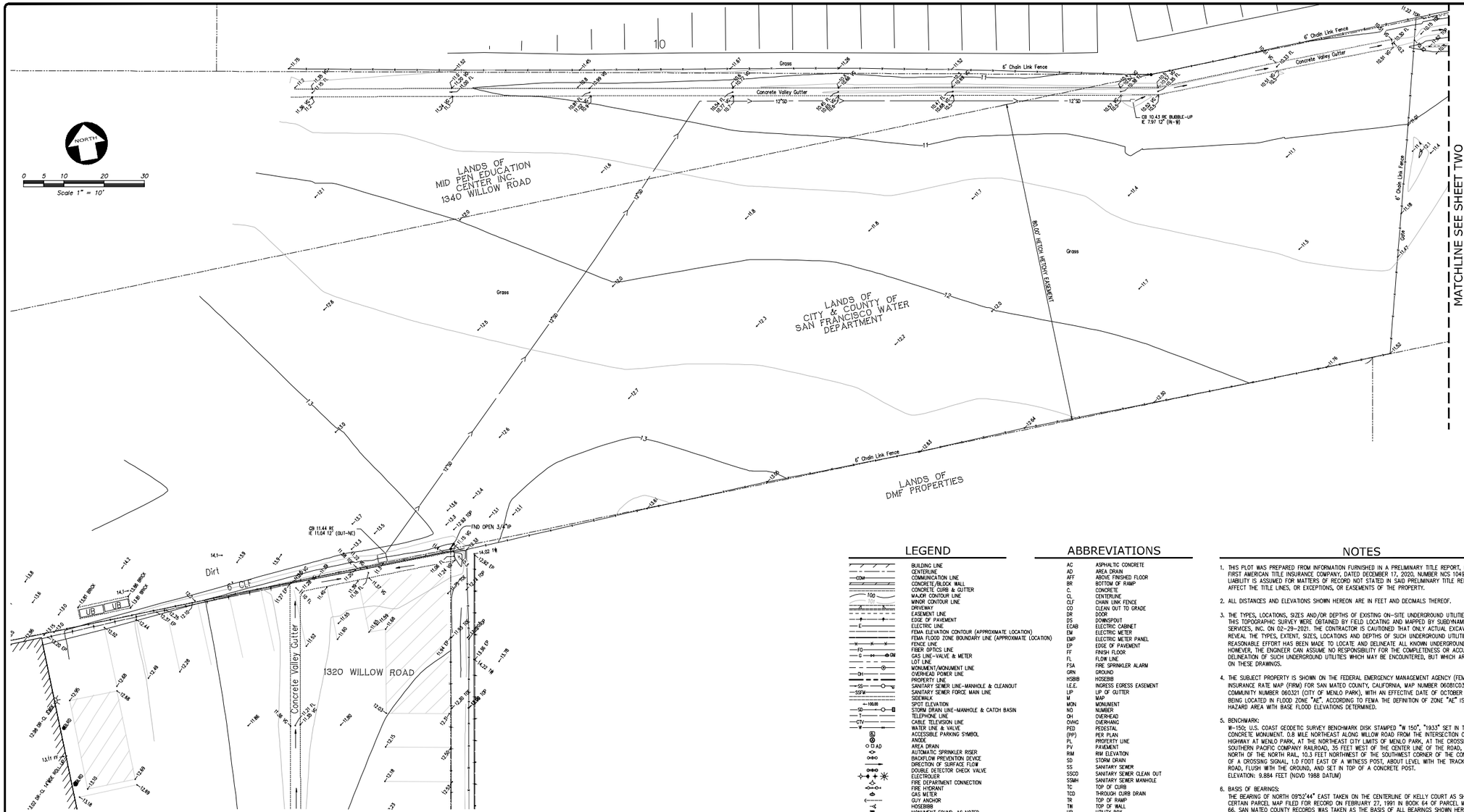
No.		
1	REVISED PER COMMENTS - 11/11/15	CJ
2	REVISED SURVEYOR'S CERTIFICATE - 11/16/15	CJ

KIER & WRIGHT
CIVIL ENGINEERS & SURVEYORS, INC.
3350 Scott Boulevard, Building 22 • Santa Clara, California 95054 • (408) 727-6665 • (408) 727-5641

ALTA / ACSM LAND TITLE SURVEY
FOR: TARLTON PROPERTIES, INC.
1001 - 1015 O'BRIEN DRIVE
MENLO PARK
CALIFORNIA

DATE	SEPT., 2015
SCALE	1" = 20'
DESIGNER	JRV
DRAFTER	CJ
JOB	A15124-1
SHEET	1
OF	1 SHEETS

FIGURE 3 - EXISTING CONDITIONS



LEGEND

	BUILDING LINE
	CENTERLINE
COM	COMMUNICATION LINE
	CONCRETE/BLOCK WALL
	CONCRETE CURB & GUTTER
100	MAJOR CONTOUR LINE
100	MINOR CONTOUR LINE
	DRIVEWAY
	EASEMENT LINE
	EDGE OF PAVEMENT
E	ELECTRIC LINE
	FEMA ELEVATION CONTOUR (APPROXIMATE LOCATION)
	FEMA FLOOD ZONE BOUNDARY LINE (APPROXIMATE LOCATION)
	FENCE LINE
FO	FIBER OPTICS LINE
G GM	GAS LINE-VALVE & METER
	LOT LINE
	MONUMENT/MONUMENT LINE
OH	OVERHEAD POWER LINE
	PROPERTY LINE
SS	SANITARY SEWER LINE-MANHOLE & CLEANOUT
SSFM	SANITARY SEWER FORCE MAIN LINE
	SIDEWALK
100.00	SPOT ELEVATION
SD	STORM DRAIN LINE-MANHOLE & CATCH BASIN
T	TELEPHONE LINE
CTV	CABLE TELEVISION LINE
W	WATER LINE & VALVE
	ACCESSIBLE PARKING SYMBOL
	ANODE
	AREA DRAIN
	AUTOMATIC SPRINKLER RISER
	BACKFLOW PREVENTION DEVICE
	DIRECTION OF SURFACE FLOW
	DOUBLE DETECTOR CHECK VALVE
	ELECTROLIER
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT
	GAS METER
	GUY ANCHOR
	HOSEBIBB
	MONUMENT FOUND, AS NOTED
	IRON PIPE FOUND, OR AS NOTED
	LIGHT ON BUILDING
	POST INDICATOR VALVE
	POWER POLE/JOINT POLE
	TRANSFORMER
	TRAFFIC SIGNAL POLE
	TRAFFIC SIGN
12"TR	TREE
	UTILITY BOX
	WATER VALVE
	DIRECTION OF SURFACE FLOW

ABBREVIATIONS

AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
BR	BOTTOM OF RAMP
C	CONCRETE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT TO GRADE
DR	DOOR
DS	DOWNSPOUT
ECAB	ELECTRIC CABINET
EM	ELECTRIC METER
EMP	ELECTRIC METER PANEL
EP	EDGE OF PAVEMENT
FF	FINISH FLOOR
FL	FLOW LINE
FSA	FIRE SPRINKLER ALARM
GRN	GROUND
HSBIB	HOSEBIB
I.E.E.	INGRESS EGRESS EASEMENT
LIP	LIP OF GUTTER
M	MAP
MON	MONUMENT
NO	NUMBER
OH	OVERHEAD
OVHG	OVERHANG
PED	PEDESTAL
(PP)	PER PLAN
PL	PROPERTY LINE
PV	PAVEMENT
RIM	RIM ELEVATION
SD	STORM DRAIN
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
TC	TOP OF CURB
TCD	THROUGH CURB DRAIN
TR	TOP OF RAMP
TW	TOP OF WALL
UB	UTILITY BOX
UTM	UNABLE TO MEASURE
WB	WATER BOX
WDE	WIDE
WR	WATER RISER
WV	WATER VALVE
(XX.XX')	RECORD INFORMATION

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN A PRELIMINARY TITLE REPORT, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED DECEMBER 17, 2020, NUMBER NCS 1049171-SM. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.

2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.

3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING ON-SITE UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED BY FIELD LOCATING AND MAPPED BY SUBDYNAMIC LOCATING SERVICES, INC. ON 02-29-2021. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES), HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.

4. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR SAN MATEO COUNTY, CALIFORNIA, MAP NUMBER 06081C0307E FOR COMMUNITY NUMBER 060321 (CITY OF MENLO PARK), WITH AN EFFECTIVE DATE OF OCTOBER 12, 2012, AS BEING LOCATED IN FLOOD ZONE "AE". ACCORDING TO FEMA THE DEFINITION OF ZONE "AE" IS:SPECIAL FLOOD HAZARD AREA WITH BASE FLOOD ELEVATIONS DETERMINED.

5. BENCHMARK:
W-150; U.S. COAST GEODETIC SURVEY BENCHMARK DISK STAMPED "W 150", "1933" SET IN TOP OF CONCRETE MONUMENT. 0.8 MILE NORTHEAST ALONG WILLOW ROAD FROM THE INTERSECTION OF BAYSHORE HIGHWAY AT MENLO PARK, AT THE NORTHEAST CITY LIMITS OF MENLO PARK, AT THE CROSSING OF THE SOUTHERN PACIFIC COMPANY RAILROAD, 35 FEET WEST OF THE CENTER LINE OF THE ROAD, 19.5 FEET NORTH OF THE NORTH RAIL, 10.3 FEET NORTHWEST OF THE SOUTHWEST CORNER OF THE CONCRETE BASE OF A CROSSING SIGNAL, 1.0 FOOT EAST OF A WITNESS POST, ABOUT LEVEL WITH THE TRACK AND THE ROAD, FLUSH WITH THE GROUND, AND SET IN TOP OF A CONCRETE POST.
ELEVATION: 9.884 FEET (NGVD 1988 DATUM)

6. BASIS OF BEARINGS:
THE BEARING OF NORTH 09°52'44" EAST TAKEN ON THE CENTERLINE OF KELLY COURT AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON FEBRUARY 27, 1991 IN BOOK 64 OF PARCEL MAPS AT PAGE 66, SAN MATEO COUNTY RECORDS WAS TAKEN AS THE BASIS OF ALL BEARINGS SHOWN HEREON.

7. CORNER RECORD NOTE:
THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

J. R. Vigil
PREPARED BY OR UNDER THE SUPERVISION OF JIMMY R. VIGIL P.L.S. 6256
11/11/2021
DATE

LICENSED LAND SURVEYOR
JIMMY R. VIGIL
No. 6256
STATE OF CALIFORNIA

NO.	BY	REVISION

NO.	BY	REVISION

KIER+WRIGHT
3350 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

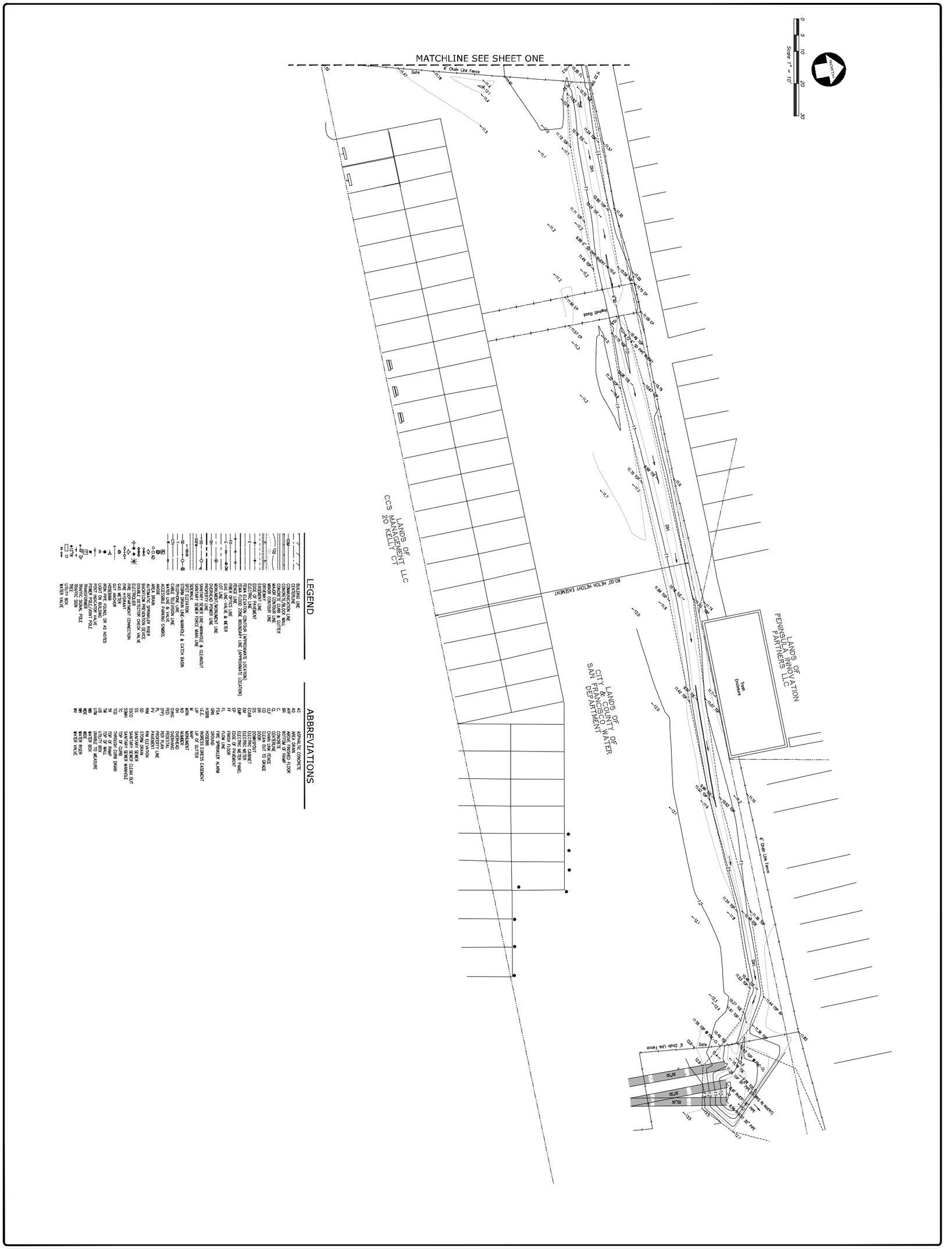
TOPOGRAPHIC SURVEY
OF
1340 WILLOW ROAD
FOR
O'BRIEN DRIVE PORTFOLIO, LLC
MENLO PARK, CALIFORNIA

DATE	NOV., 2021
SCALE	AS SHOWN
SURVEYOR	JRV
DRAWN BY	JF
JOB NO.	A15124-7
SHEET	1
OF	2 SHEET

Z:\2015\A15124-7\DWG\SURVEY\DWG\TOPO\TS-A15124-7.dwg 11-11-21 11:03:09 AM jkong

FIGURE 3 - EXISTING CONDITIONS

Z:\2015\A15124-7\DWG\SURVEY\DWG\TOPO\TS-A15124-7.dwg 11-11-21 11:03:41 AM jfang



TOPOGRAPHIC SURVEY
OF
1340 WILLOW ROAD
FOR
O'BRIEN DRIVE PORTFOLIO, LLC
MENLO PARK, CALIFORNIA

KIER+WRIGHT
2850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

NO.	REVISION	BY	NO.	REVISION	BY

DATE NOV., 2021
SCALE AS SHOWN
SURVEYOR JRV
DRAWN BY JF
JOB NO. A15124-7
SHEET 2
OF 2 SHEET

LEGEND:

▬▬ ▬▬	BOUNDARY OF WORK LIMIT
TP	TOP OF PAVEMENT
TC	TOP OF CURB
FF	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
FL	FLOWLINE
FG	FINISH GRADE
RIM	RIM OF SD CATCH BASIN
SDCB	STORM DRAIN CATCH BASIN
AD	AREA DRAIN
HP	HIGH POINT
(E)	EXISTING
(P)	PROPOSED
→	DIRECTION OF SURFACE DRAINAGE
□	CATCH BASIN
	BIORETENTION BASIN
	DG PAVEMENT
	COBBLE BAND
	LANDSCAPE AREA
	STREET LIGHTS PER CITY STANDARD DETAILS

NOTE:

1. SEE SHEET C6.1 FOR SECTIONS OF EXISTING AND PROPOSED CONDITIONS ALONG O'BRIEN DRIVE AND BOUNDARY.
2. SLOPES WITHIN THE FIRST 10' MUST SLOPE AWAY FORM THE BUILDING AT 5% MIN. FOR PERVIOUS SURFACES AND 2% MIN. FOR IMPERVIOUS AREAS.
3. ALL OFFSITE IMPROVEMENTS SHALL BE PER CITY OF MENLO PARK STANDARD DETAILS.
4. PER MUNICIPAL CODE CHAPTER 16, ELECTRICAL UNDERGROUNDING (LESS THAN 60KV AND COMMUNICATION LINES).

BENCHMARK:

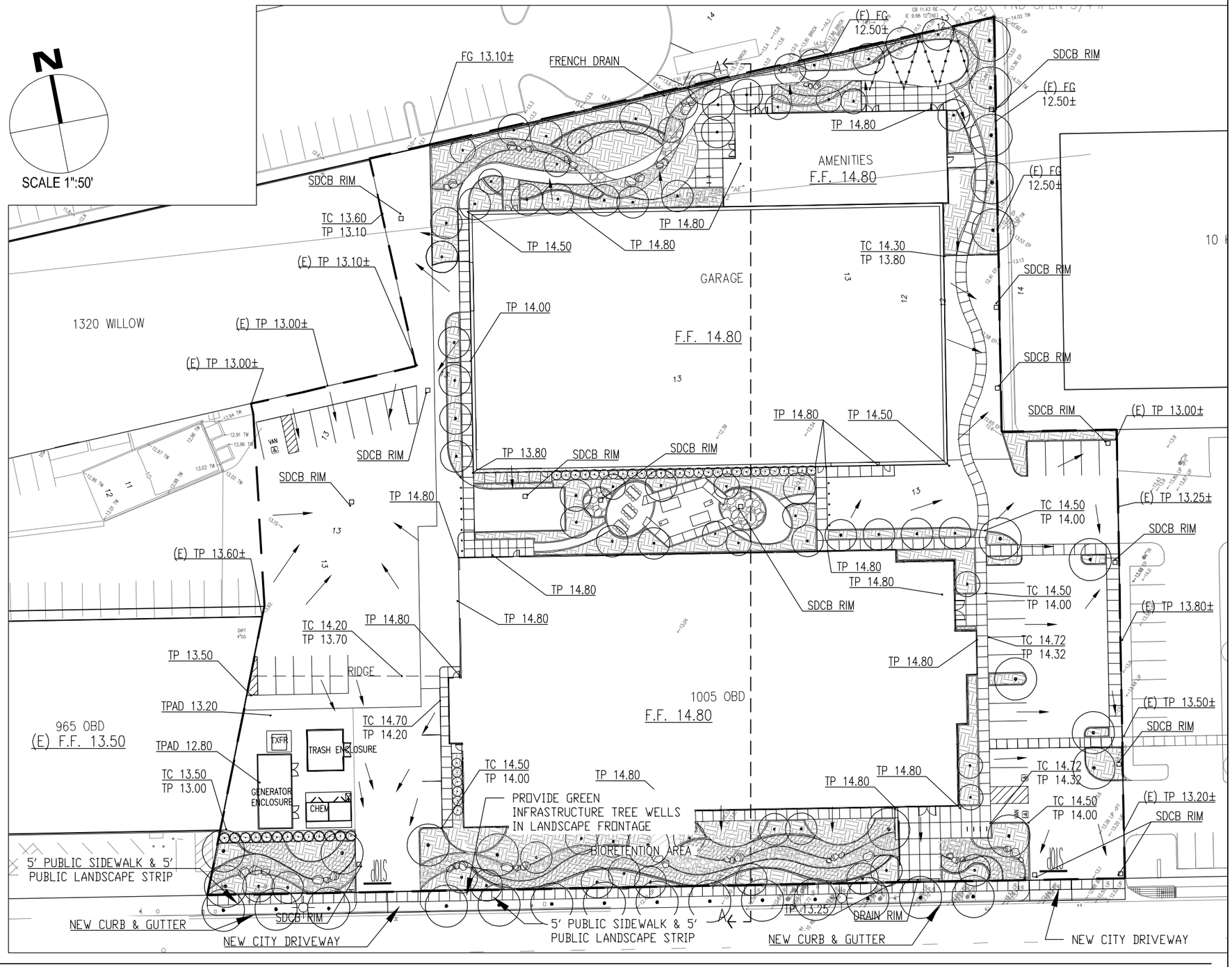
(FROM TOPOGRAPHIC SURVEY PREPARED BY KIER & WRIGHT SURVEYORS: JOB A15124-5 DATED FEB. 2021)

FLOOD ZONE NOTE:

THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NUMBER 06081C0307E FOR COMMUNITY PANEL NUMBER 060321 0307 E, DATED OCTOBER 16, 2012, WITH THE SITE BEING LOCATED IN FLOOD ZONE "AE";

BASE FLOOD ELEVATION DETERMINED AS 12.8 FEET.

NOTE: THE PROJECT WILL BE DESIGNED AND CONSTRUCTED IN COMPLIANCE WITH CURRENT FEMA REGULATIONS AND CITY'S FLOOD DAMAGE PREVENTION ORDINANCE.



TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

10-15-2021 C.U.P. RESPONSE 1
05-26-2021 C.U.P. SUBMITTAL

PHASE 1 PRELIMINARY GRADING PLAN

FIGURE 4 - PROPOSED GRADING PLAN

C2.1

DES ARCHITECTS ENGINEERS

BIM 360://Tarlton - 1005 OBD/10025002_A_1005OBD_SHELL_2020_Central.rvt

SHEET NOTES:

1. DIRECT RUNOFF FROM UNCOVERED PARKING AREAS AND/OR DRIVEWAYS ONTO VEGETATED AREAS.
2. MINIMIZE IMPERVIOUS SURFACES.
3. PROVIDED SELF-TREATING AREAS.
4. PRELIMINARY SIZING IS BASED ON THE SIMPLIFIED APPROACH OR FLOW-BASED SIZING APPROACH IN WHICH THE SURFACE AREA OF THE TREATMENT MEASURE IS DESIGNED TO BE 4% OF THE IMPERVIOUS AREA TO BE TREATED.

LEGEND:

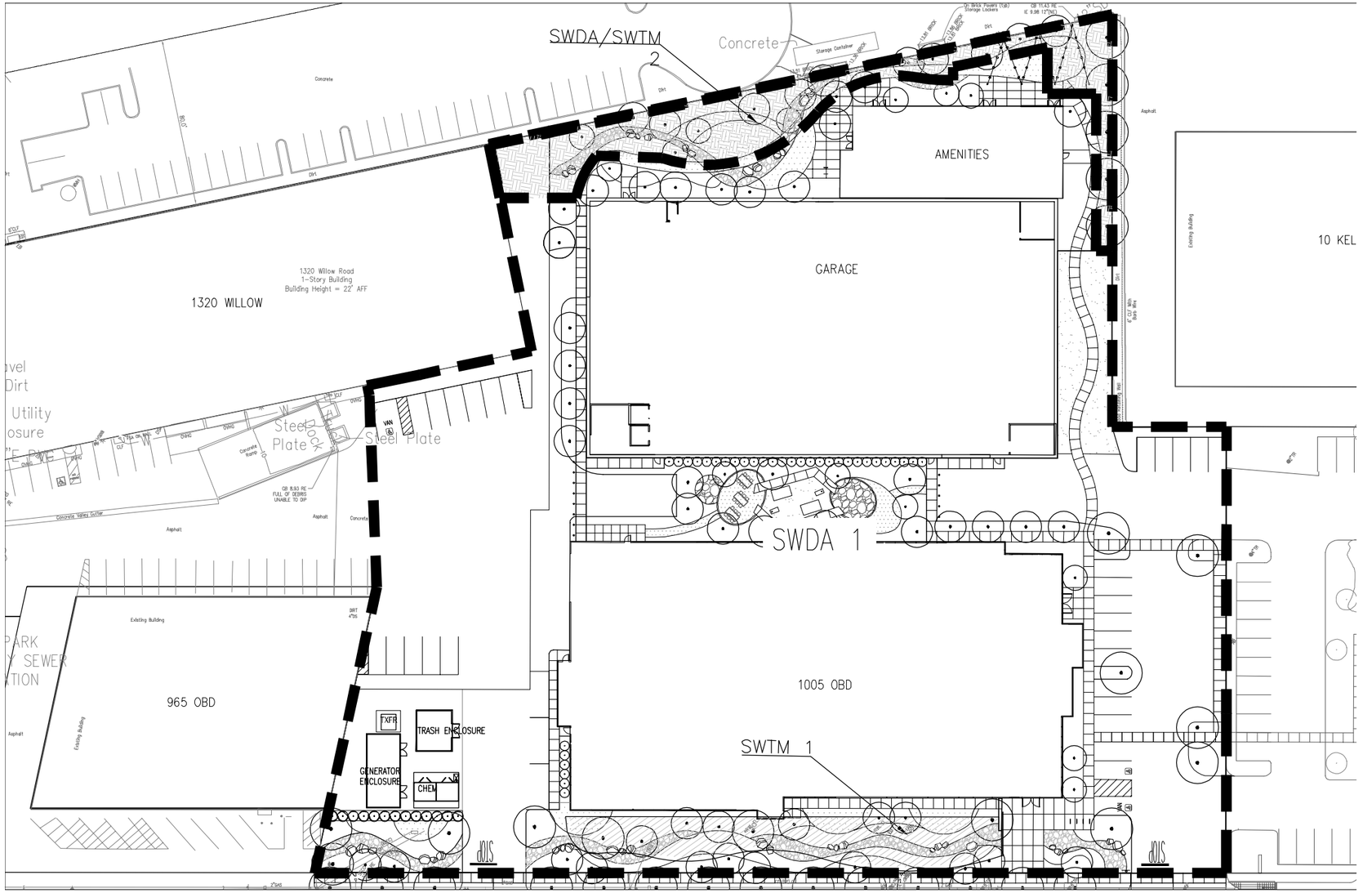
PROPOSED STORMWATER DRAINAGE AREA BOUNDARY

BIORETENTION BASIN

SELF TREATING AREA

ABBREVIATIONS:

SWDA	STORMWATER DRAINAGE AREA
SWTM	STORMWATER TREATMENT MEASURE



STORMWATER MANAGEMENT TREATMENT MEASURE SUMMARY:

DRAINAGE AREA #	STORMWATER TREATMENT MEASURE	TREATMENT MEASURE DESIGNATION #	TOTAL AREA (SQ. FT.)	IMPERVIOUS AREA (SQ. FT.)	PERVIOUS AREA (SQ. FT)	TREATMENT AREA REQUIRED (SQ.FT.)	TREATMENT AREA PROVIDED (SQ. FT.)
SWDA 1	BIORETENTION AREA	SWTM 1	130606	111026	19580	4440	4440
SWDA 2	SELF-TREATING AREA	SWTM 2	7820	0	7820	N/A	7820

N

SCALE 1": 60'

TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

PHASE 1 PRELIMINARY STORMWATER MANAGEMENT PLAN

10-15-2021 C.U.P. RESPONSE 1

FIGURE 5 - PROPOSED SWMP PLAN

C3.1A

DES ARCHITECTS ENGINEERS

FIGURE 4 - PROPOSED CONDITIONS

ABBREVIATIONS & LEGEND:

BFP	BACKFLOW PREVENTOR
SS	SANITARY SEWER
SD	STORM DRAIN
TP	TOP OF PAVEMENT
TC	TOP OF CURB
E	ELECTRICAL LINE
FF	FINISH FLOOR ELEVATION
FS	FIRE SERVICE
DW	DOMESTIC WATER
(P)	PROPOSED
SDCB	STORM DRAIN CATCH BASIN
AD	AREA DRAIN
JUT	JOINT UTILITY TRENCH
HP	HIGH POINT
(E)	EXISTING
FH	FIRE HYDRANT
RIM	GRATE OF CATCH BASIN, MANHOLE OR AREA DRAIN RIM ELEVATION
RWL	RAIN WATER LEADER
P.O.C.	POINT OF CONNECTION
P.I.V.	POST INDICATOR VALVE
F.D.C.	FIRE DEPT. CONNECTION

BIORETENTION BASIN

CATCH BASIN

STORM DRAIN MANHOLE

(P) SD — STORM DRAIN LINE

(P) FS LINE

(P) DW LINE

(P) SS LINE

PROPOSED BACKFLOW PREVENTOR DOUBLE DETECTOR CHECK ASSEMBLY

SANITARY SEWER MANHOLE

FDC

PIV

FIRE HYDRANT

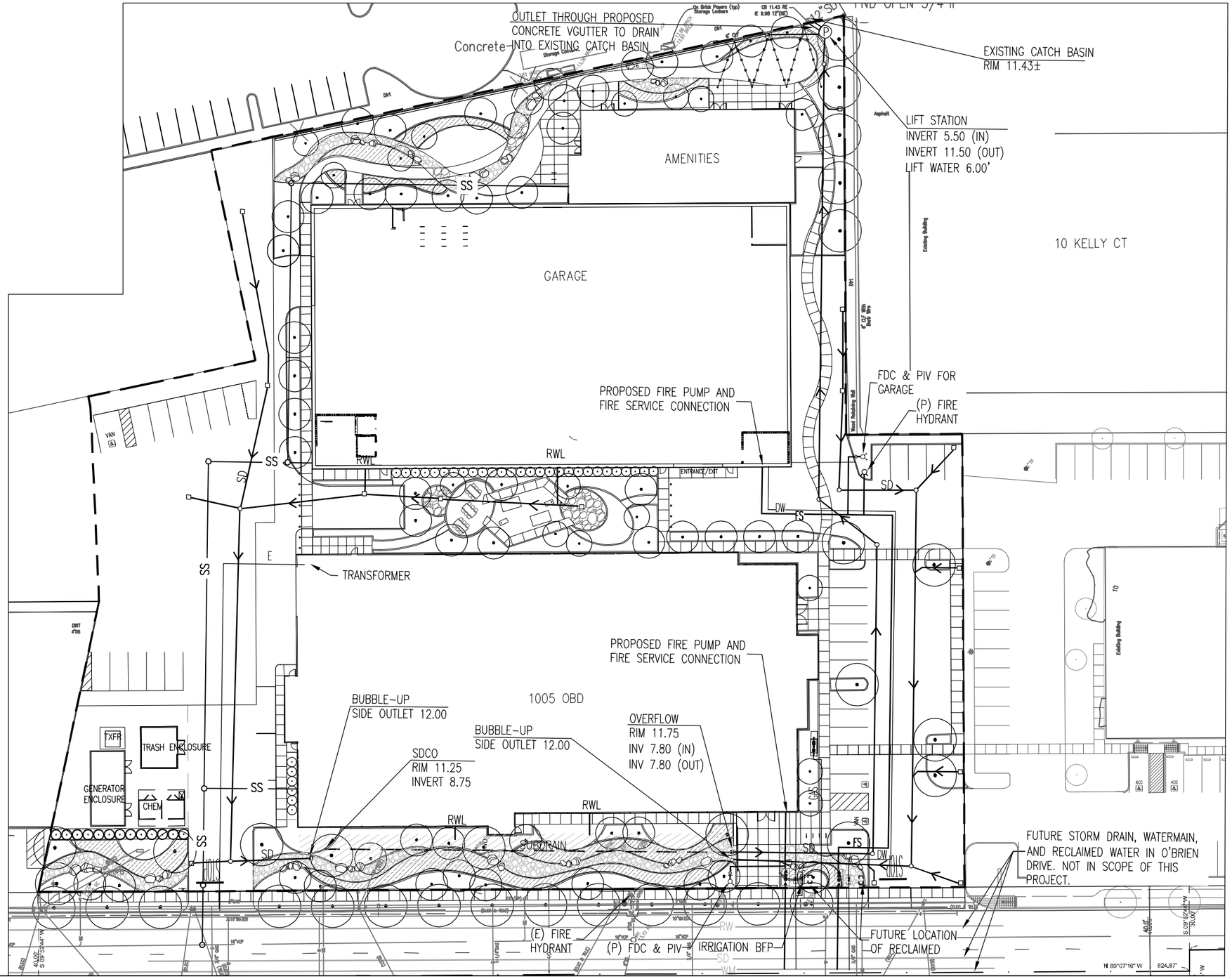
BUBBLE-UP STRUCTURE

OVERFLOW STRUCTURE

FUTURE GAS REGULATOR

BOUNDARY OF WORK LIMIT

SCALE 1":50'



TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

10-15-2021 C.U.P. RESPONSE 1

PHASE 1 PRELIMINARY UTILITY PLAN

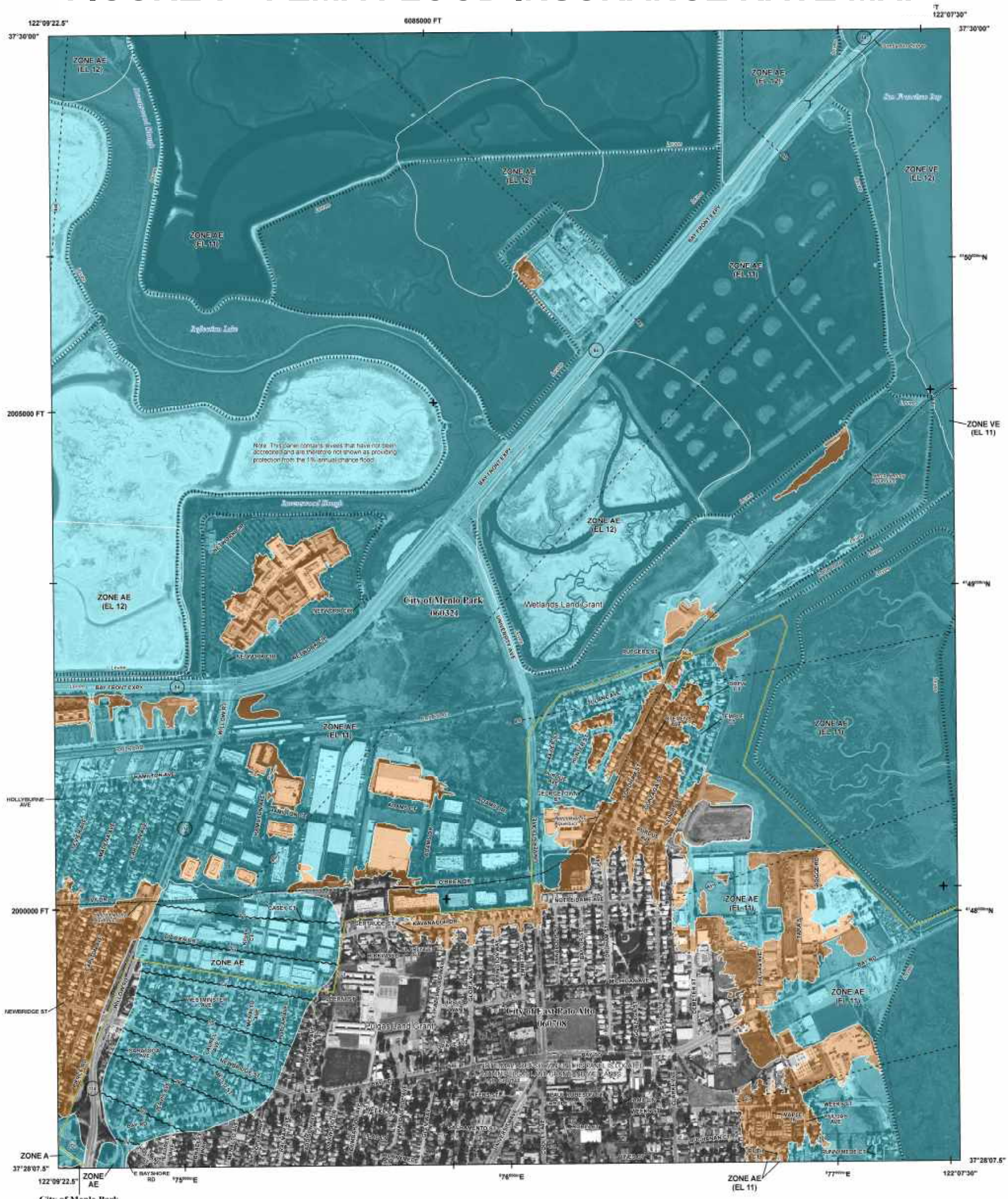
FIGURE 6 - PROPOSED UTILITY PLAN

C4.1

DES ARCHITECTS ENGINEERS

BIM 360://Tarlton - 1005 OBD/10025002_A_1005OBD_SHELL_2020_Central.rvt

FIGURE 7 - FEMA FLOOD INSURANCE RATE MAP



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes Zone X
OTHER AREAS	NO SCREEN Areas of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES	Channel, Culvert or Storm Sewer
	Accredited or Provisionally Accredited Levee, Dike or Floodwall
	Non-accredited Levee, Dike or Floodwall
	(E) 18.2 Cross Sections with 1% Annual Chance
	17.5 Water Surface Elevation (BFE)
	(8) Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
OTHER FEATURES	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from USGS LiDAR dated 2010 and Coastal California digital imagery dated 2011. USDA NAIP imagery dated 2012 is used in areas not covered by the Coastal California digital imagery.

SCALE

N

Map Projection: Universal Transverse Mercator Zone 10N, North American Datum 1983; Western Hemisphere, Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 250 500 750 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

SAN MATEO COUNTY, CALIFORNIA and Incorporated Areas

PANEL 307 OF 510

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
EAST PALO ALTO, CITY OF	060708	0307	F
MENLO PARK, CITY OF	060321	0307	F

VERSION NUMBER 2.3.2.0

MAP NUMBER 06081C0307F

MAP REVISED APRIL 5, 2019

APPENDIX A:

MENLO PARK HYDROLOGY REQUIREMENTS

ATTACHMENTS A AND B

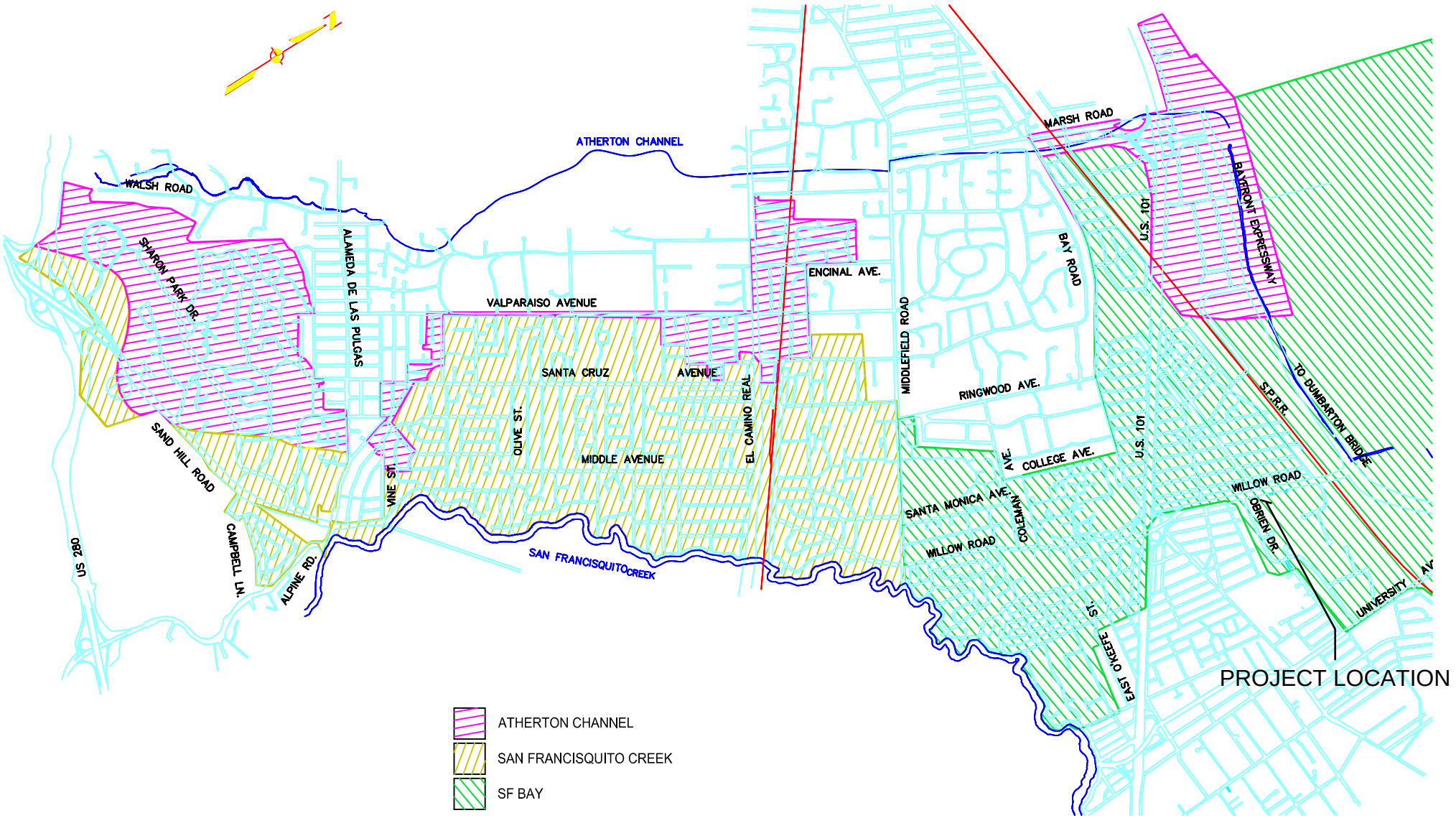
APPENDIX A

Attachment A

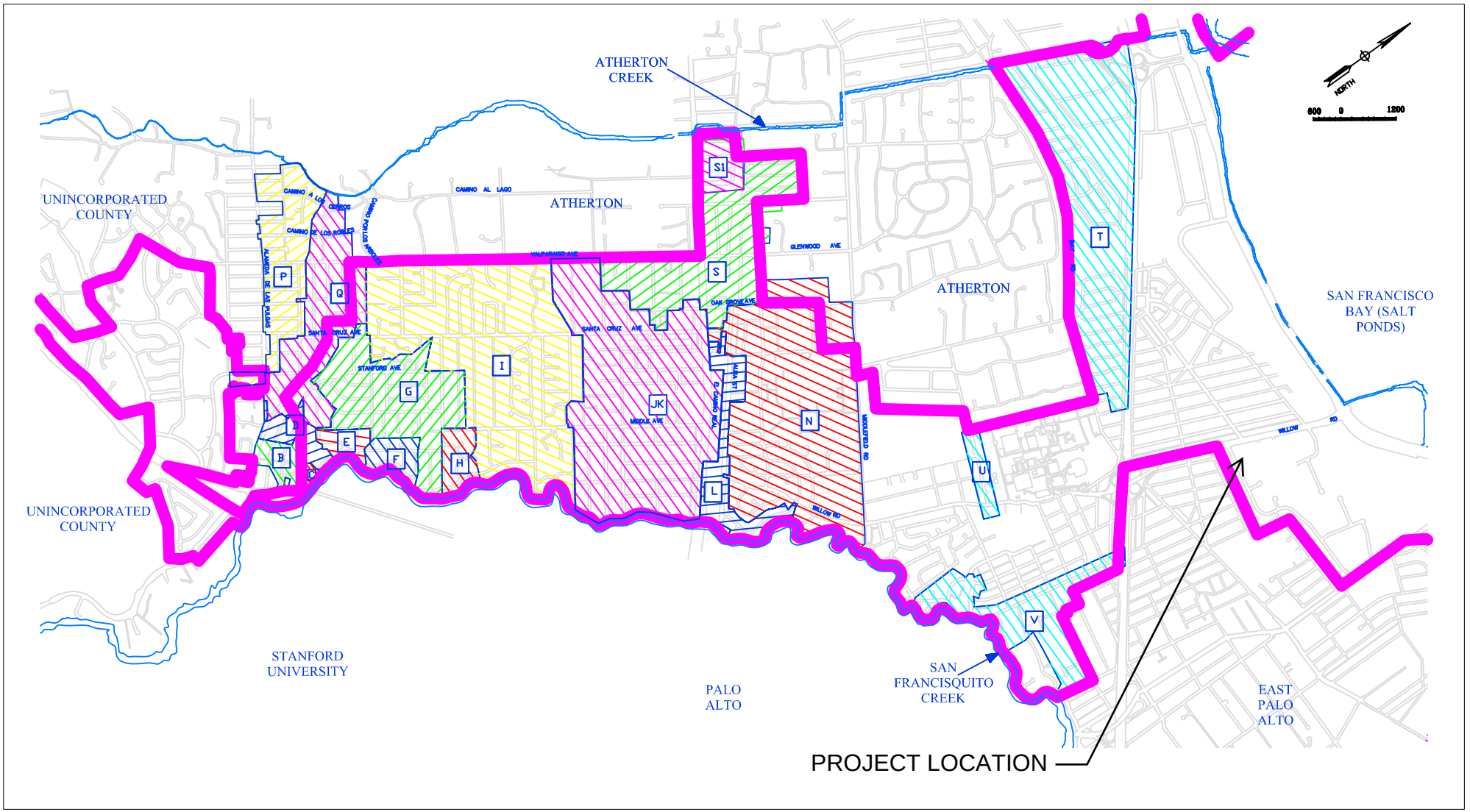
DRAINAGE BASIN MAP

CITY OF MENLO PARK

CALIFORNIA



APPENDIX A



ATTACHMENT B
STORM SYSTEM DRAINAGE AREAS MAP

APPENDIX B:

CITY OF MENLO PARK

IMPERVIOUS AREA WORKSHEET

APPENDIX B

IMPERVIOUS AREA WORKSHEET

Page 1

Submit this form with the improvement plan set to the City of Menlo Park Engineering Division.

Date: 055421060; 055421050; 055421160 APN: 055421060; 055421050; 055421160

Property Address: 1005 O'Brien Drive (Phase 1)

Project Description: New Building and Parking Garage

Contact Name: Elke MacGregor

Contact Telephone Number: 650-364-6453

Contact Email: emacgregor@des-ae.com

Title And Sheet# of Submitted Drawing used For Calculations: _____

Land Use (Circle One):

Residential (Commercial) Industrial Professional Roadway

Drainage Basin (Circle One):

(See the *Hydrology Report Requirements* for a Drainage Basin map.)

Atherton Creek San Francisquito Creek (San Francisco Bay)

I certify that the calculations below accurately reflect the proposed changes and final impervious surfaces for the above project.

Calculations Performed By (Print): Max DeAndreis, PE

Title: Civil Engineer

Calculations Performed By (Signature): Dylan Maxwell DeAndreis

Date: 11/24/2021

IMPERVIOUS AREA WORKSHEET

IMPERVIOUS AREA TABLE		
Total Area of Parcel		**A** 138426 ft^2
Existing Pervious Area		**B** 1318 ft^2
Existing Impervious Area		**C** ft^2 137108
Existing % Impervious	$\frac{C}{A}$ **x 100**	**D** 99.0 **%**
Existing Impervious Area To Be Replaced W/ New Impervious Area		**E** ft^2 109708
Existing Pervious Area To Be Replaced W/ New Impervious Area		**F** ft^2 1318
New Impervious Area (Creating and/or Replacing)* *If greater than 10,000sqft, a hydrology report must be submitted	**E** + **F**	**G** 111026 ft^2
Existing Impervious Area To Be Replaced W/ New Pervious Area		**H** 27400 ft^2
Net Change In Impervious Area[1]	**F** – **H**	**I** ft^2 -26082
Proposed Pervious Area	**B** – **I**	**J** ft^2 27400
Proposed Impervious Area* *Verify that J + K = A	**C** + **I**	**K** ft^2 111026
Proposed % Impervious	$\frac{K}{A}$ **x 100**	**L** **%** 80.2

[1] Net change in impervious area is the area required by

APPENDIX C:

PUMP SPECIFICATIONS

APPENDIX C

xylem
Let's Solve Water

TECHNICAL BROCHURE
B2WD-3WD R3

2WD/3WD

SUBMERSIBLE 2" NON-CLOG SEWAGE PUMP

DUAL SEAL WITH SEAL SENSOR PROBE

BUILT IN THE USA
ENGINEERED, ASSEMBLED & TESTED

GOULDS WATER TECHNOLOGY
a xylem brand

FEATURES

Impeller: Cast iron, semi-open or enclosed, non-clog, dynamically balanced with pump out vanes for mechanical seal protection. Optional silicon bronze impeller available.

Casing: Cast iron flanged volute type for maximum efficiency. Designed for easy installation on A10-20 guide rail.

Dual Mechanical Seals

- **Lower:** SILICON CARBIDE VS. SILICON CARBIDE sealing faces for superior abrasive resistance, stainless steel metal parts, BUNA-N elastomers.
- **Upper:** CARBON VS. CERAMIC sealing faces, stainless steel metal parts, BUNA-N elastomers.

Seal Sensor Probe: Located in oil-filled chamber. If pumpage should begin to leak past lower seal it indicates to pump control panel a fault has occurred. Requires optional Seal Fail Circuit in the control panel.

Shaft: Corrosion resistant, 400 stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association
File #LR38549

APPLICATIONS

Specifically designed for the following uses:

- Sewage systems
- Dewatering/Effluent
- Water transfer
- Light industrial
- Commercial applications

Anywhere waste or drainage must be disposed of quickly, quietly and efficiently.

SPECIFICATIONS

Pump:

- Solids handling capabilities: 2" maximum.
- Capacities: up to 183 GPM.
- Total heads: up to 52' TDH.
- Discharge size: 2" NPT threaded companion flange on 2WD. 3" NPT threaded companion flange on 3WD.
- Temperature: 104° F (40° C) continuous, 140° F (60° C) intermittent.

MOTORS

- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer. All ratings are within the working limits of the motor.
- Class F insulation

Single phase (60 Hz):

- All single phase models feature capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- ⅓ and ½ HP – 16/3 SJTOW with 115 V or 230 V three prong plug.
- ¾ and 1 HP – 14/3 STOW with bare leads.

Three phase (60 Hz):

- Overload protection must be provided in starter unit.
- ½-1 HP – 14/4 STOW with bare leads.

- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Power and Control Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. 20 foot standard with optional lengths available.

MODEL AND MOTOR INFORMATION

Order Number	HP	Phase	Volts	RPM	Impeller		Maximum Amps	L.R. Amps	KVA Code	F.L. Motor Efficiency %	Resistance		Wt. (lbs.)
					Dia. (in.)	Code					Start	Line-Line	
2WD52B0EA	0.33	1	115	1750	4.69	E	10.7	30.0	M	54	11.9	1.7	90
2WD52B8EA			208				6.8	19.5	K	51	9.1	4.2	
2WD52B1EA			230				4.9	14.1	L	53	14.5	8.0	
2WD52C0DA	0.5	1	115		5.00	D	14.5	31.1	J	55	9.3	1.4	94
2WD52C8DA			208				8.0	19.5	K	51	9.1	4.2	
2WD52C1DA			230				7.3	16.5	J	54	11.7	5.6	
2WD52C2DA		3	200				3.8	12.3	K	75	NA	6.7	
2WD52C3DA			230				3.3	9.7	K	75	NA	9.9	
2WD52C4DA			460				1.7	4.9	K	75	NA	39.4	
2WD52C5DA			575				1.4	4.3	K	68	NA	47.8	
2WD52D8CA	0.75	1	208		5.38	C	11.0	39.0	K	65	2.6	1.4	98
2WD52D1CA			230				9.4	24.8	J	57	4.8	2.3	
2WD52D2CA		3	200				4.1	21.2	H	74	NA	4.3	
2WD52D3CA			230				3.6	17.3	J	76	NA	5.6	
2WD52D4CA			460				1.8	8.9	J	76	NA	22.4	
2WD52D5CA			575				1.5	7.3	J	71	NA	29.2	
2WD52E8BA	1	1	208		5.75	B	14.0	39.0	K	65	2.6	1.4	104
2WD52E1BA			230				12.3	30.5	H	60	4.3	1.8	
2WD52E2BA		3	200				6.0	21.2	H	74	NA	4.3	
2WD52E3BA			230				5.8	17.3	J	76	NA	5.6	
2WD52E4BA			460				2.9	8.9	J	76	NA	22.4	
2WD52E5BA			575				2.4	7.3	J	71	NA	29.2	
2WD51B0KA	0.33	1	115		2.94	K	12.4	46.0	M	54	7.5	1.0	90
2WD51B8KA			208				6.8	31.0	K	68	9.7	2.4	
2WD51B1KA			230				6.2	34.5	M	53	9.6	4.0	
2WD51C0JA	0.5	1	115	3500	3.19	J	14.5	46.0	M	54	7.5	1.0	94
2WD51C8JA			208				8.4	31.0	K	68	9.7	2.4	
2WD51C1JA			230				7.6	34.5	M	53	9.6	4.0	
2WD51C2JA		3	200				4.9	22.6	R	68	NA	3.8	
2WD51C3JA			230				3.6	18.8	R	70	NA	5.8	
2WD51C4JA			460				1.8	9.4	R	70	NA	23.2	
2WD51C5JA			575				1.5	7.5	R	62	NA	35.3	
2WD51D8HA	0.75	1	208		3.44	H	11.0	31.0	K	68	9.7	2.4	98
2WD51D1HA			230				10.0	27.5	J	65	12.2	2.7	
2WD51D2HA		3	200				6.2	20.6	L	64	NA	5.7	
2WD51D3HA			230				5.4	15.7	K	68	NA	8.6	
2WD51D4HA			460				2.7	7.9	K	68	NA	34.2	
2WD51D5HA			575				2.2	9.9	L	78	NA	26.5	
2WD51E8AA	1	1	208		3.75	A	14.5	59.0	K	68	9.3	1.1	104
2WD51E1AA			230				13.0	36.2	J	69	10.3	2.1	
2WD51E2AA		3	200				8.6	37.6	M	77	NA	2.7	
2WD51E3AA			230				7.5	24.1	L	79	NA	4.1	
2WD51E4AA			460				3.8	12.1	L	79	NA	16.2	
2WD51E5AA			575				3.1	9.9	L	78	NA	26.5	

To order a pump with a 3" NPT discharge, change the 1st character to a 3, ex. 3WD51E5AA

APPLICATION DATA

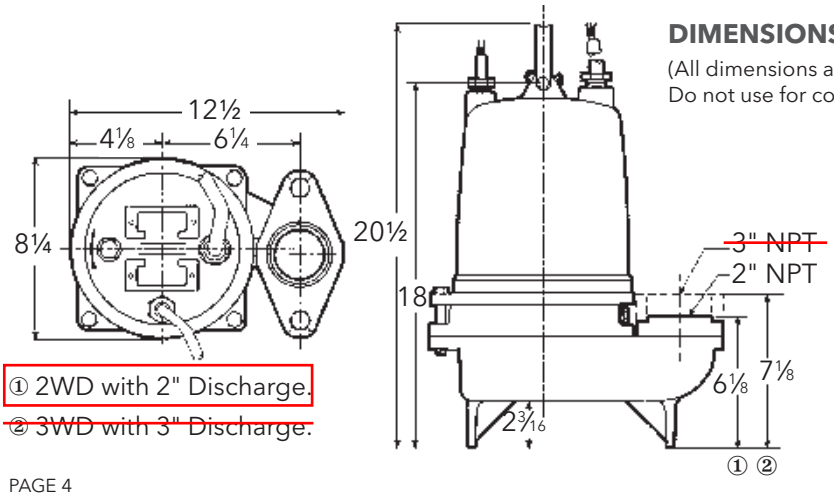
Maximum Solid Size	2"
Minimum Casing Thickness	5/16"
Casing Corrosion Allowance	1/8"
Maximum Working Pressure	22 PSI
Maximum Submergence	50 feet
Minimum Submergence	Fully submerged for continuous operation
	6" below top of motor for intermittent operation
Maximum Environmental Temperature	40°C (104°F) continuous operation
	60°C (140°F) intermittent operation

CONSTRUCTION DETAILS

Power Cable – Type	16/3, type SJTOW: single phase, ½ HP
	14/3, type STOW: single phase, ¾ & 1 HP
	14/4, type STOW: all three phase
Sensor Cable – Type	16/2, type SJTOW: seal sensor only
	18/4, type SJTOW: optional seal/heat sensor
Motor Cover	Gray Cast Iron – ASTM A48 Class 30
Bearing Housing	Gray Cast Iron – ASTM A48 Class 30
Seal Housing	Gray Cast Iron – ASTM A48 Class 30
Casing	Gray Cast Iron – ASTM A48 Class 30
Impeller	Gray Cast Iron – ASTM A48 or Cast Bronze – ASTM B584 C87600
Motor Shaft	AISI 300 Series Stainless Steel
Motor Design	NEMA 48 Frame, oil filled with Class F Insulation
Motor Overload Protection	Single Phase: on winding thermal overload protection
	Three Phase: require ambient compensated Class 10, quick trip overloads in the control panel.
Motor Seal Fail (Moisture) Detection	Seal fail sensor in an oil-filled seal chamber. Connect to an optional relay in control panel.
Optional Motor Thermal Protection	Normally closed on-winding thermostats open at 275° F (135 °C) and close at 112° F (78° C). Require terminal connection in the control panel.
External Hardware	300 Series Stainless Steel
Impeller Type	Semi-opened with pump out vanes on back shroud - 1750 RPM
	Enclosed with pump out vanes on back shroud - 3500 RPM
Oil Capacity – Seal Chamber	10 ounces
Oil Capacity – Motor Chamber	4.0 quarts

STANDARD PARTS

Ball Bearing	Upper	Single row ball – SKF™ 6203-2Z
	Lower	Single row ball – SKF™ 6203-2Z
Mechanical Seals – Standard	Upper	Carbon/Ceramic; John Crane Type 6
	Lower	Silicon Carbon/Silicon Carbon; Type 16
Mechanical Seals – Optional Lower		Silicon Carbide/Tungsten Carbide: Type 16
O-Ring – Stuffing Box		BUNA-N, AS 568A-163
O-Ring – Motor Cover		BUNA-N, AS 568A-166



① 2WD with 2" Discharge.

~~② 3WD with 3" Discharge.~~

DIMENSIONS

(All dimensions are in inches.
Do not use for construction purposes.)

NOMENCLATURE DESCRIPTION

1st Character – Discharge Size

2 = 2" discharge 3 = 3" discharge

2nd and 3rd Characters – Series/Solids Size

WD = wastewater, 2" solids handling, dual seal with seal fail probe in pump.

4th Character – Mechanical Seals

5 = silicon carbide/silicon carbide/BUNA – lower seal and carbon/ceramic/BUNA – upper seal (standard)

3 = silicon carbide/tungsten carbide/BUNA – lower seal and carbon/ceramic/BUNA – upper seal (optional)

5th Character – Cycle/RPM

1 = 60 Hz/3500 RPM 5 = 50 Hz/2900 RPM

2 = 60 Hz/1750 RPM 6 = 50 Hz/1450 RPM

6th Character – Horsepower

B = ⅓ HP D = ¾ HP

C = ½ HP E = 1 HP

7th Character – Phase/Voltage/Enclosure

0 = single phase, 115 V 4 = three phase, 460 V

1 = single phase, 230 V 5 = three phase, 575 V

2 = three phase, 200 V 8 = single phase, 208 V

3 = three phase, 230 V 9 = single phase, 220 V, 50 Hz

8th Character – Impeller Diameter

A = 3.75" 1 HP 3500 RPM E = 4.69" ⅓ HP 1750 RPM

B = 5.75" 1 HP 1750 RPM H = 3.44" ¾ HP 3500 RPM

C = 5.38" ¾ HP 1750 RPM J = 3.19" ½ HP 3500 RPM

D = 5.00" ½ HP 1750 RPM K = 2.94" ⅓ HP 3500 RPM

9th Character – Cord Length (Power and Sensor)

A = 20' (standard) F = 50'

D = 30' J = 100'

10th Character – Options

B = Bronze impeller E = Epoxy paint

F = Both epoxy paint and bronze impeller

Last Character – Option

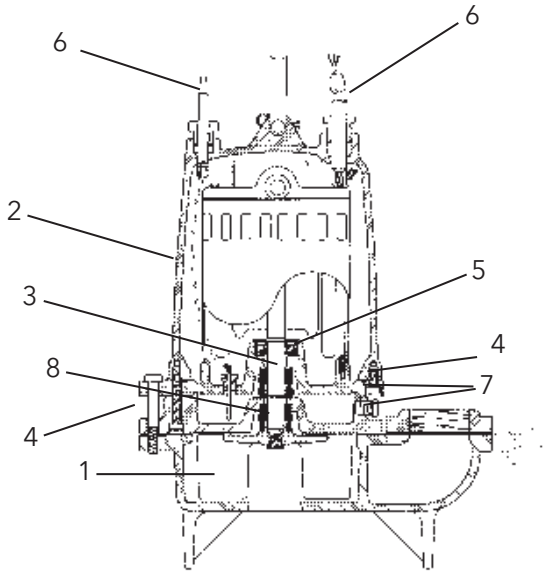
H= Pilot duty thermal sensors **(3 phase only!!)**

MATERIALS OF CONSTRUCTION

Item No.	Part Name	Material	
		Standard	Optional
1	Impeller	1003	1179
2	Motor cover	1003	
3	Shaft	300 Series SS	
4	Fasteners	300 Series SS	
5	Ball bearings	Steel	
6	Power cable	STOW, 20 feet	Additional lengths
	Seal sensor cable		
7	O-ring	BUNA-N	

8	Outer Mech. Seal	Service	Rotary	Stationary	Elasto-mers	Metal Parts
	OPT	Heavy duty	Silicon Carbide	Tungsten Carbide	BUNA-N	300 Series SS
	STD	Mild abrasives	Silicon Carbide		BUNA-N	300 Series SS

Material Code	Engineering Standard
1003	Cast iron – ASTM A48 Class 30
1179	Silicon bronze – ASTM C87600



STANDARD PANEL OPTIONS

Pump Order Number	Boulay Series		Disconnect Style	
	Simplex	Duplex	Simplex	Duplex
2WD52B0EA	S10020H	D10020J	CSD11016H	CDD11016J
2WD52B8EA	S10020H	D10020J	CSD16310H	CDD16310J
2WD52B1EA	S10020H	D10020J	CSD14063H	CDD14063J
2WD52C0DA	S10020H	D10020J	CSD11016H	CDD11016J
2WD52C8DA	S10020H	D10020J	CSD16310H	CDD16310J
2WD52C1DA	S10020H	D10020J	CSD16310H	CDD16310J
2WD52C2DA	S32540H	D32540J	CSD32540H	CDD32540J
2WD52C3DA	S32540H	D32540J	CSD32540H	CDD32540J
2WD52C4DA	S31615H	D31615J	CSD31625H	CDD31625J
2WD52C5DA	S31615H	D31615J	CSD31625H	CDD31625J
2WD52D8CA	S10020H	D10020J	CSD11016H	CDD11016J
2WD52D1CA	S10020H	D10020J	CSD16310H	CDD16310J
2WD52D2CA	S34063H	D34063J	CSD14063H	CDD14063J
2WD52D3CA	S32540H	D32540J	CSD32540H	CDD32540J
2WD52D4CA	S31625H	D31625J	CSD31625H	CDD31625J
2WD52D5CA	S31625H	D31625J	CSD31625H	CDD31625J
2WD52E8BA	S10020H	D10020J	CSD11016H	CDD11016J
2WD52E1BA	S10020H	D10020J	CSD11016H	CDD11016J
2WD52E2BA	S34063H	D34063J	CSD34063H	CDD34063J
2WD52E3BA	S34063H	D34063J	CSD34063H	CDD34063J
2WD52E4BA	S32540H	D32540J	CSD32540H	CDD32540J
2WD52E5BA	S32540H	D32540J	CSD32540H	CDD32540J
2WD51B0KA	S10020H	D10020J	CSD11016H	CDD11016J
2WD51B8KA	S10020H	D10020J	CSD16310H	CDD16310J
2WD51B1KA	S10020H	D10020J	CSD16310H	CDD16310J
2WD51C0JA	S10020H	D10020J	CSD11016H	CDD11016J
2WD51C8JA	S10020H	D10020J	CSD16310H	CDD16310J
2WD51C1JA	S10020H	D10020J	CSD16310H	CDD16310J
2WD51C2JA	S34063H	D34063J	CSD34063H	CDD34063J
2WD51C3JA	S32540H	D32540J	CSD32540H	CDD32540J
2WD51C4JA	S31625H	D31625J	CSD31625H	CDD31625J
2WD51C5JA	S31625H	D31625J	CSD31625H	CDD31625J
2WD51D8HA	S10020H	D10020J	CSD11016H	CDD11016J
2WD51D1HA	S10020H	D10020J	CSD11016H	CDD11016J
2WD51D2HA	S34063H	D34063J	CSD34063H	CDD34063J
2WD51D3HA	S34063H	D34063J	CSD34063H	CDD34063J
2WD51D4HA	S32540H	D32540J	CSD32540H	CDD32540J
2WD51D5HA	S31625H	D31625J	CSD31625H	CDD31625J
2WD51E8AA	S10020H	D10020J	CSD11016H	CDD11016J
2WD51E1AA	S10020H	D10020J	CSD11016H	CDD11016J
2WD51E2AA	S36310H	D36310J	CSD36310H	CDD36310J
2WD51E3AA	S36310H	D36310J	CSD36310H	CDD36310J
2WD51E4AA	S32540H	D32540J	CSD32540H	CDD32540J
2WD51E5AA	S32540H	D32540J	CSD32540H	CDD32540J

Note: Panel part numbers above do not include float switches

Note: Panel part numbers above include a seal fail circuit. If the 3 phase high temperature option is chosen for the pumps (H suffix), add an M suffix to the simplex part numbers above or an N suffix to the duplex models

Note: All panel part numbers above have additional available features, see page 7 for more information.

GOULDS WATER TECHNOLOGY

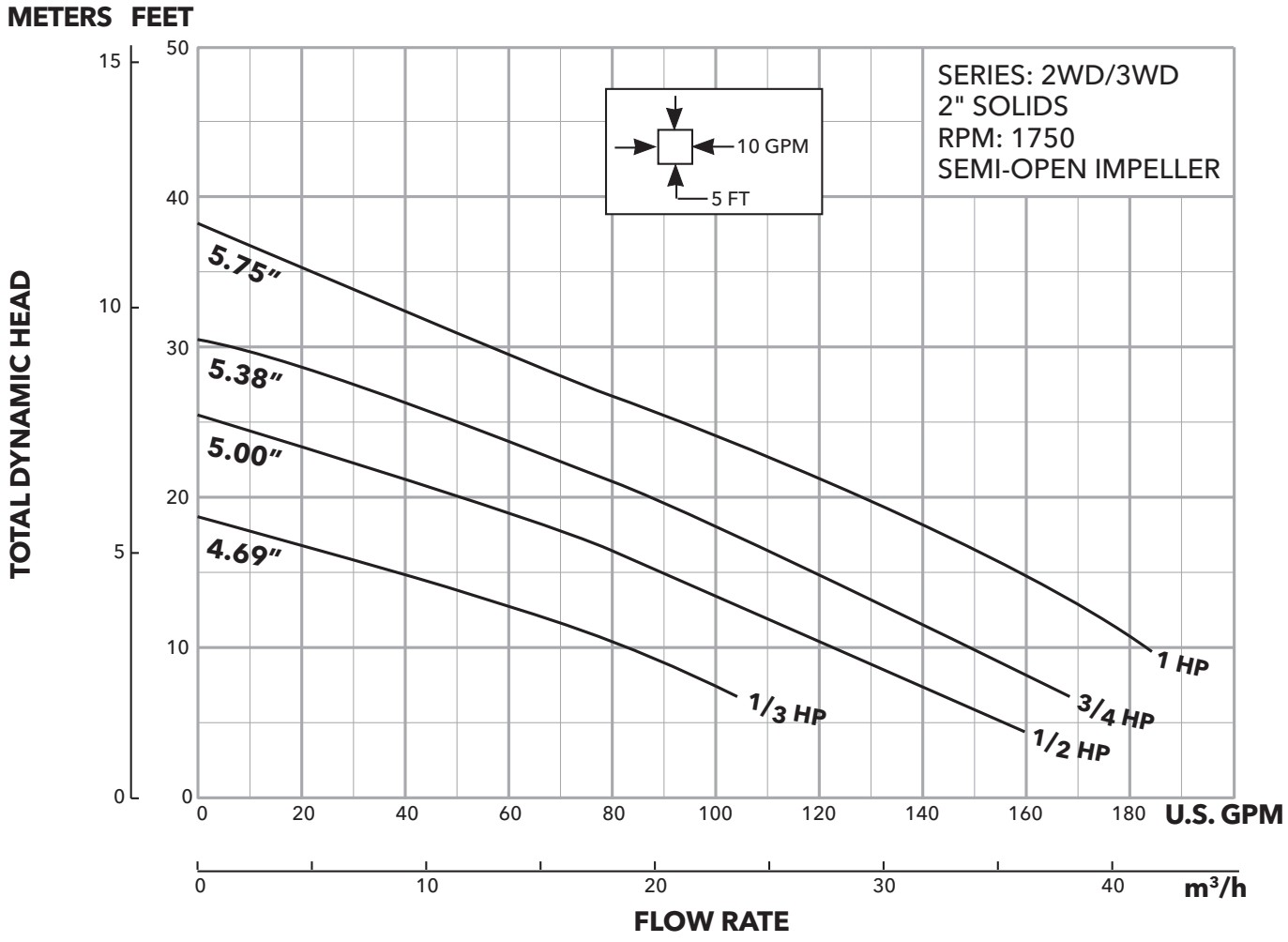
a xylem brand

PERFORMANCE CURVES

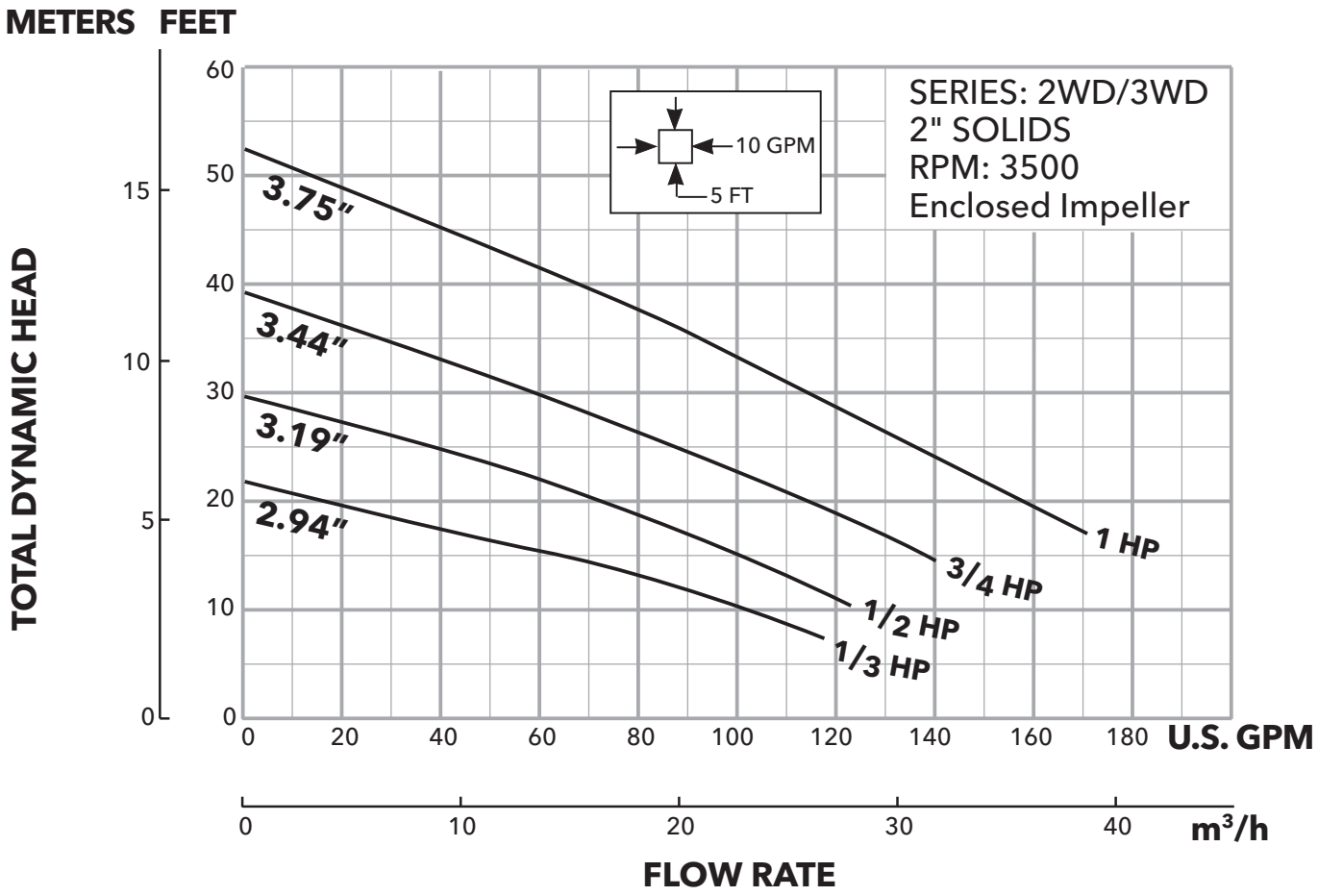
C2WD/3WD

2WD/3WD Submersible 2" Non-Clog Sewage Pump

Impeller Diameter	Impeller Code	Motor HP Rating
5.75"	B	1
5.38"	C	¾
5.00"	D	½
4.69"	E	1/3



Impeller Diameter	Impeller Code	Motor HP Rating
3.75"	A	1
3.44"	H	¾
3.19"	J	½
2.94"	K	1/3



Xylem Inc.
2881 East Bayard Street Ext., Suite A, Seneca Falls, NY 13148
Phone: (866) 325-4210 Fax: (888) 322-5877
www.xyleminc.com/brands/goulds watertechnology

GOULDS WATER TECHNOLOGY
a xylem brand

BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models information

DISCONNECT STYLE

- NEMA 4X outdoor rated enclosure, NEMA 1 also available
- Red alarm beacon
- Through door HOA selector switch
- Through door control on/off switch
- Through door main disconnect switch
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCPSDWWP R3" for additional information

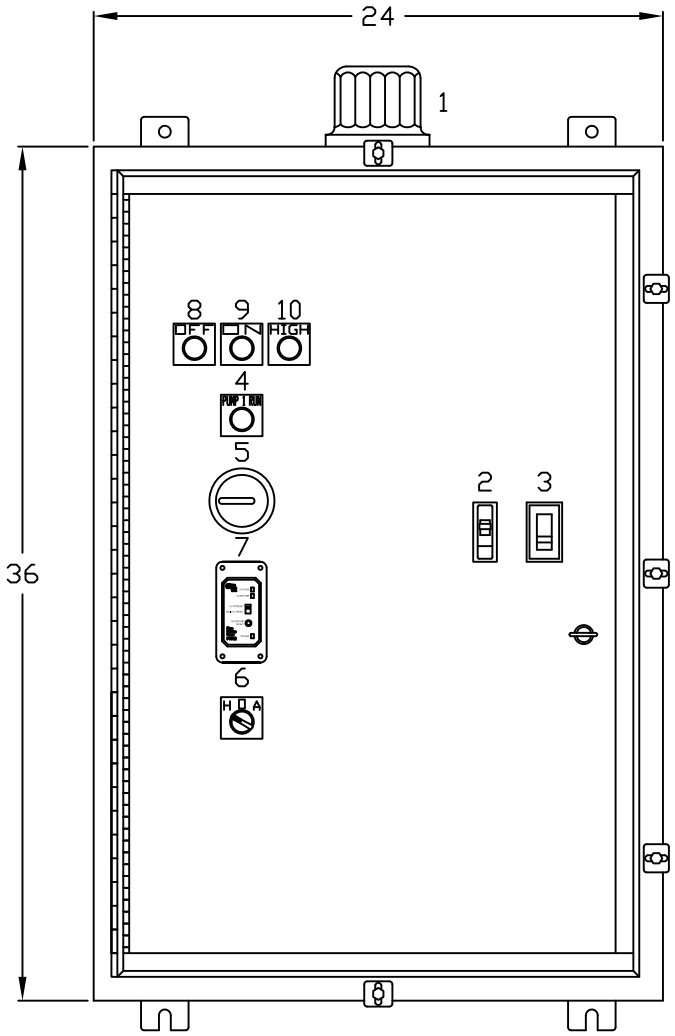
CONTRACTOR SHALL COORDINATE WITH MANUFACTURER TO ACQUIRE COMPATIBLE PUMP AND CONTROL PANEL. ADDITIONALLY, THE CONTRACTOR WILL COORDINATE WITH THE MANUFACTURER TO PROGRAM THE PUMP TO THE FOLLOWING SPECIFICATIONS:

- THE PROPOSED PUMP SHALL ONLY FUNCTION ABOVE ELEVATION 6.20.
- PUMP SHALL ONLY BEGINNING “ON” FUNCTIONS WHEN THE WATER ELEVATION IS ABOVE ELEVATION OF 6.20.

CONTRACTOR SHALL CONSTRUCT THE STRUCTURE AND DEVICE TO ENSURE THAT THE FLOAT SWITCHES WILL RECOGNIZE THE CORRECT ELEVATIONS IN ORDER FOR THE WATER LEVEL TO ALWAYS COVER THE PUMP IMPELLER DURING “ON” FUNCTIONS.

THE CONTROL PANEL FOR THE PUMP SHALL ALSO BE PROGRAMMED TO ALERT THE OWNER WHEN THE PUMP IS ACTIVE AND RUNNING NORMALLY OR WHEN PUMP IS TRIGGERED ON BUT NO MOVEMENT IS RECOGNIZED OR MALFUNCTION HAS OCCURRED.

EXAMPLE CONTROL PANEL

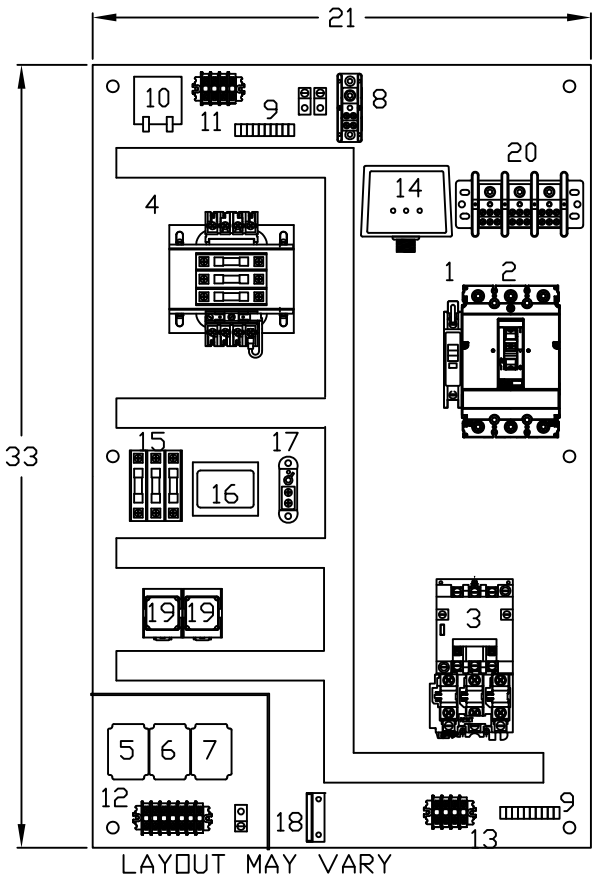


OUTER DOOR HAS BEEN REMOVED FOR CLARITY

1 - AL ALARM LIGHT
2 - CCB CONTROL BREAKER
3 - MB1 MOTOR BREAKER 1
4 - RL1 RUN LIGHT 1
5 - ETM ELAPSED TIME METER
6 - HOA HAND-OFF-AUTO
7 - PMR2-1 PUMP MONITOR RELAY 1
8 - PL1 OFF LEVEL
9 - PL2 ON LEVEL
10 ~~- PL3 HIGH LEVEL~~ MALFUNCTION

REVISION	DRAWN BY	DATE	QUOTE NO.
	DJL	5/15/2015	CAABAA

STACON
2525 SOUTH OBT
APOPKA, FLORIDA
32703

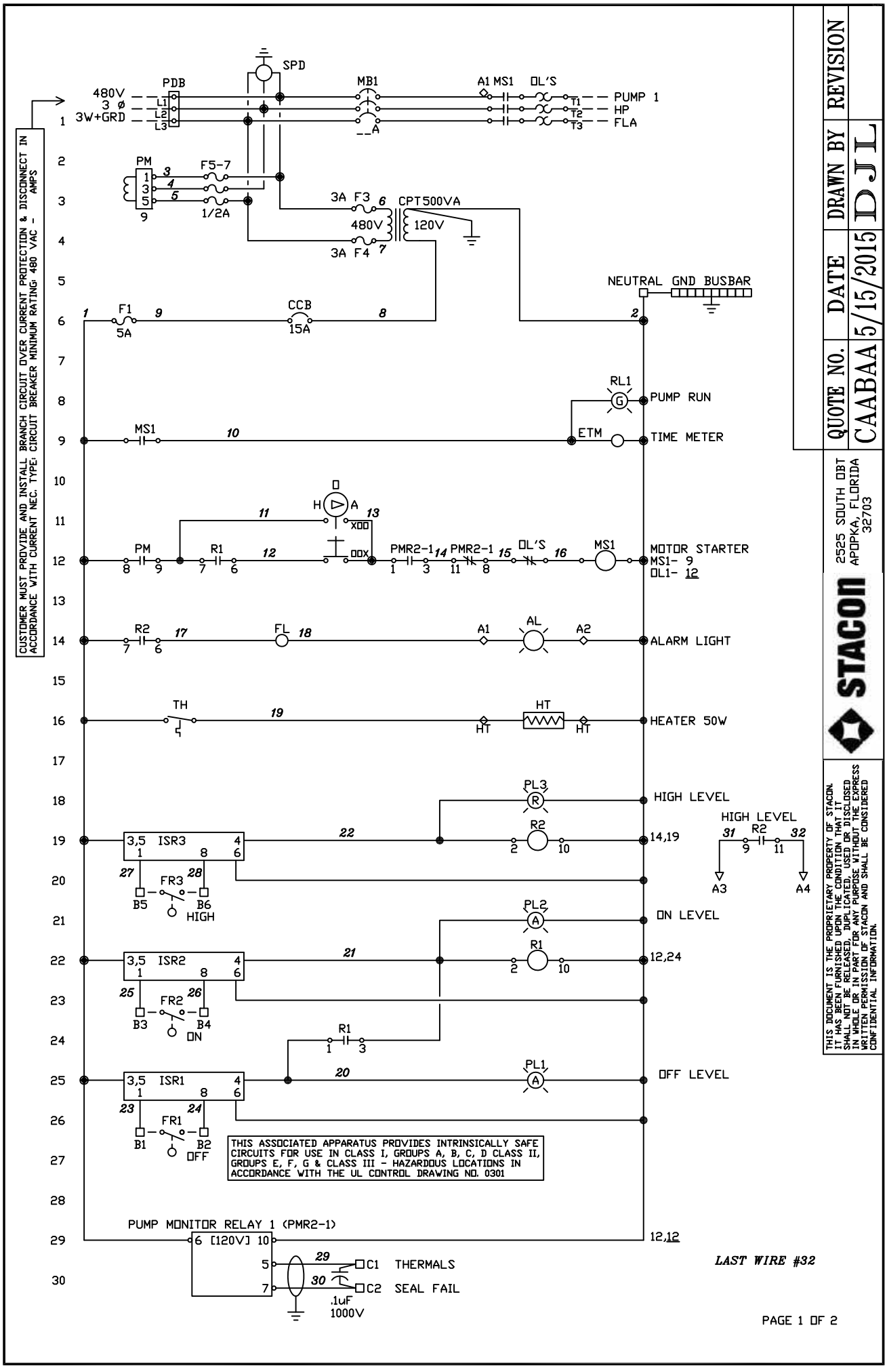


1 - CCB CONTROL BREAKER
2 - MB1 MOTOR BREAKER 1
3 - MS1 MOTOR STARTER 1
4 - TRANSFORMER
5-7 - ISR1-3 RELAY 1-3
8 - NB NEUTRAL BLOCK
9 - G GROUND
10 - FL FLASHER
11 - TSA TERMINAL STRIP A
12 - TSB TERMINAL STRIP B
13 - TSC TERMINAL STRIP C
14 - SPD SURGE PROTECTION DEVICE
15 - FUSE BLOCK
16 - PM PHASE MONITOR
17 - TH THERMOSTAT
18 - HT HEATER
19 - R1-2 RELAY 1-2
20 - PDB POWER DISTRIBUTION BLOCK

REVISION	DRAWN BY	DATE	QUOTE NO.
	DJL	5/15/2015	CAABAA

STACON
2525 SOUTH OBT
APOPKA, FLORIDA
32703

EXAMPLE CONTROL PANEL



EXAMPLE CONTROL PANEL

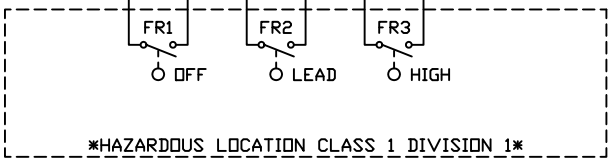
REVISION	DRAWN BY	DATE	QUOTE NO.
	DJL	5/15/2015	CAABAA

THE CIRCUIT WIRING IN THE HAZARDOUS AREA MUST NOT EXCEED 1000 FEET BASED ON CABLE WITH 60pF/FT CAPACITANCE AND 0.2uH/FT INDUCTANCE

Intrinsically safe wiring terminals
'Install in accordance with Article 504 of the National Electrical Code.'

TERMINAL STRIP B (TS-B)

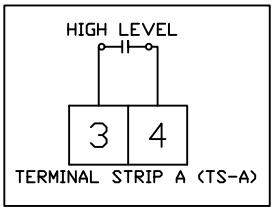
1	2	3	4	5	6



Nonintrinsically safe wiring terminals

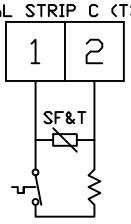
Dry contacts leaving panel powered by other source

REMOTE ALARMS



CONTACT RATING 5 AMP @ 120VAC

TERMINAL STRIP C (TS-C)



DEVICES ON THE BOTTOM OF THE TERMINAL STRIP ARE REMOTE COMMING INTO CONTROL PANEL.
DEVICES ON THE TOP OF THE TERMINAL STRIP ARE CONTACTS LEAVING THE CONTROL PANEL.

FUSE REPLACEMENT CHART	
FUSE	REPLACEMENT
F1	KTK-R-5/600V
F3-4	FNQ-R-3/600V
F5-7	KTK-R-1/2/600V

CUSTOMER
JOB NAME
ENCLOSURE UL TYPE RATING: UL TYPE 1
VOLTAGE 480V PHASE 3 HZ 60
H.P. #1 #2 X #3 X #4 X
F.L.A. X X X
TOTAL F.L.A.
SERIAL # R DATE:
SCCR: 10KA SYMMETRICAL RMS,480V. MAX.
MANUFACTURED BY:
STA CON INC 2525 S. OBT APOPKA FL 32703

SQD Ground Busbar PK7GTA, PK12GTA, PK15GTA	
Wire Range AWG CU-AL	Torque lb-in.
14-10 CU, 12-10 AL	20
8	25
6-4	35
Two 14 or 12 CU, Two 12 or 10 AL	25

SQD Terminal Block GK6 + GR6	
Wire Range AWG CU	Torque lb-in.
(Type GK6) 22-10	11-12
(Type GR6) 22-8	18-20

T&B BLACKBURN LUG TORQUE TIGHTENING	
Wire Range/Screw Type & Wrench Size AWG CU	Torque lb-in.
(SLOTTED) 10-14	20
(SLOTTED) 8	25
(SLOTTED) 4-6	35
(SLOTTED) 2-2/0	50
(3/16 HEX) 2/0	100
(5/16 HEX) 3/0(250)-350	275
(3/8 HEX) 500-600	450*
(3/8 HEX) 750-1000	550
*=UNLESS OTHERWISE NOTED ON CONNECTOR	

2525 SOUTH OBT
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32703

STACON

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

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Fax: (888) 322-5877
www.xylem.com/goulds

PHASE 2:
1320 WILLOW ROAD
Preliminary Hydrology Report

February 3, 2023

C20181310

PREPARED FOR:
DES Architects + Engineers, Inc.
399 Bradford St.
Redwood City, CA

On behalf of
Tarlton Properties, Inc.
1530 O'Brien Dr., Suite C
Menlo Park, CA

PREPARED BY OR UNDER DIRECTION OF:
BKF ENGINEERS
150 California St, Suite 600
San Francisco, CA 94111
Mike O'Connell
P.E. CA 75811

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APPENDICES

1. INTRODUCTION

Tarlton Properties, Inc. (Tarlton Properties), has proposed a redevelopment of three parcels in Menlo Park currently containing three buildings: 985 and 1001/1015 O'Brien Drive and 1320 Willow Road. The existing buildings are planned to be replaced with two new buildings to be identified as 1005 O'Brien Drive and 1320 Willow Road, and a parking garage, along with other various site improvements. The overall project is split into two phases. This report will only consider the improvements and redevelopment occurring within Phase 2, unless otherwise stated.

The purpose of this report is to document the existing drainage conditions in and around the subject property as well as the design of the proposed storm water conveyance and management facilities per the City of Menlo Park Drainage Guidelines (City Guidelines). All elevations presented in this report are on the NAVD 88 datum.

2. OVERVIEW

With regards to the overall project scope, Tarlton Properties intends to redevelop the three parcels currently containing 985 and 1001/1015 O'Brien Drive and 1320 Willow Road. The site location can be seen in Figure 1 below. The existing buildings are planned to be demolished and replaced with new structures, identified as 1005 O'Brien Drive, 1320 Willow Road, as well as a new multi-level parking garage. This is to be segmented into two phases: Phase 1 includes developing 1005 O'Brien Drive and the parking garage, Phase 2 includes constructing a new 1320 Willow Road building. Both phases will include utility work and other various site enhancements, including stormwater treatment.

The Phase 2 project site is approximately 0.85 acres and is bound to the north by a parking lot and playing field adjacent to Mid-Peninsula High School and the San Francisco Public Utility Commission (SFPUC) / Hetch Hetchy parcel. Willow Road borders the site to the west. To the south, Phase 2 is bordered by 965 and 935 O'Brien Drive and a Menlo Park sanitary sewer lift station. At the time that Phase 2 is ready to commence, the Phase 1 improvements will have been completed and will also border the property to the south and east.

Phase 1 will be constructed to the south and east of Phase 2 and includes a partial demolition of the eastern portion of 1320 Willow Road coupled with the installation of an interim exterior wall. The properties to the south, 965 and 935 O'Brien Drive, as well as the sanitary sewer lift station, will all remain undisturbed through Phases 1 and 2.

The overall existing site is composed of industrial businesses encompassing a gross floor area of approximately 90,630 square feet, parking areas, and minor landscape features. In the existing condition, the Phase 2 area is approximately 93% covered with impervious surface. Phase 2 intends to significantly increase the site's pervious area by adding approximately 6,264 square feet of new pervious surface. This will subsequently lower the impervious area to approximately 76%. The modified landscape area will include two bioretention basins to treat run-off from the site.

The project site is located near the downstream end of the drainage shed noted as the San Francisco Bay drainage basin; based on Attachment A of the City of Menlo Park Requirements for the Preparation of Hydrology Reports (City Hydrology Requirements). The site is outside of the problem areas indicated in Attachment B of the City Hydrology Requirements, thus not requiring hydrograph modifications. Both attachments are included in Appendix A of this report. The site is not connected to any of the storm drainage systems analyzed as a part of the May 2003 City-wide Drainage Study. Therefore, it is assumed the system that this site's storm drain will discharge to has no capacity issues.

The current Federal Emergency Management Agency (FEMA) base flood elevation (BFE) for the site was determined to be between elevations 11 to 13 based on the Federal Emergency Management Agency Insurance Rate Map (FIRM) dated April 5, 2019. The flood elevation was determined by DES Engineers to be 12.8. The site is located within Zone AE which is indicated as a Special Flood Hazard Area. Coastal transect boundary and intersection B49, which approximately delineates the coastal flood zones, is located within the SFPUC parcel directly north of the project. The currently available FEMA Insurance Rate Map is attached as Figure 8. The proposed finished grades for the project range between elevations 11.50 at the lowest connection to the existing condition and 14.80 as the finished floor of both the proposed building and garage. Therefore, the finished floors of the buildings and the garage will be 2 feet above the determined BFE. Note that the BFE is the flood elevation that will occur during a 100-year storm event.

Figure 1: Vicinity Map

3. EXISTING DRAINAGE CONDITION

The regional drainage pattern in the vicinity of the project site appears to be from south to north. The project site itself does not have a known underground storm drain system but instead relies on overland flow to direct the majority of the storm water run-off to a valley gutter internal to the property. The on-site storm water is primarily collected via the valley gutter and drained from the east to west, toward the Willow Road driveway. Run-off then drains from the valley gutter to the curb flowline along Willow Road. Stormwater flows along the flowline until it is collected by a catch basin north of the property. The catch basin is directly connected to a 66-inch storm drain main in Willow Road. The existing conditions for the site and immediate area can be seen in the attached Figure 3 and Appendix C.

3.1 ON-SITE DRAINAGE

As stated, the site does not have a known underground storm drain system. A survey performed by Kier+Wright indicates one on-site catch basin at the bottom of a subgrade truck ramp with no recorded outlets. The survey did not indicate any pump facilities or other potential outlets for the catch basin around the perimeter of the site, nor other structures for it to connect to. Therefore, it is assumed that run-off from the existing roof water leaders is discharged directly to the hardscape surface where it, and the other storm water, collect in the on-site valley gutter for overland release. The site relies almost completely on overland flow to discharge storm water from the property to Except for the stormwater draining down the dock ramp, which held in the single on-site catch basin, the site relies almost completely on overland flow to discharge storm water. Currently, there are no known storm water management facilities on-site that provide significant treatment or detention.

3.2 OFF-SITE DRAINAGE

Off-site drainage immediately around the project site is limited to overland flow along Willow Road and overland flow onto and through the SFPUC's parcel. Phase 2 does not drain to the SFPUC parcel, but instead outfalls to Willow Road. Willow Road along Phase 2's frontage has a vertical curb, most of which is not accompanied by a gutter pan. Nevertheless, stormwater is directed north along the curb flowline to a catch basin in the City's right of way, just north of the project. GIS files provided by the City of Menlo Park show the catch basin is connected to the 66-inch storm drain main in Willow Road. The large storm drain main eventually discharges to a pump station adjacent to Bayfront Expressway where it is then transferred to a slough connected to the San Francisco Bay.

The adjacent Phase 1 parcel currently drains to the SFPUC parcel and is picked up by the existing 48-inch storm drain main east of the project site. Flow through the 48-inch storm drain line is part of a separate system and does not appear to receive tributary flow from the Phase 2 site. Both the 48 and 66 -inch lines ultimately discharge to the San Francisco Bay.

The drainage area for the 66-inch line appears to lie almost exclusively within Menlo Park's jurisdiction. Off-site drainage to the 66-inch line was approximately delineated only for the purpose of visualizing a reasonable tributary area. It is not intended to provide a detailed analysis of off-site system and drainage pattern. Refer to the attached Figure 2 for the off-site drainage area delineation map.

4. BASIS OF DESIGN

The following summarizes the basis of design for the corresponding calculations found in the attached Tables 2 and 3.

Determination of site design flow rates are based on the Rational Method: The Rational Method is defined as Q = C I A, where:

Q = peak flow (cfs)

C = run-off coefficient

I = rainfall intensity (in/hr)

A = area (acres)

Design Storm Event: The storm drain system is evaluated for a 10-year storm event.

Time of Concentration: For this report, on-site time of concentration is assumed to be 10 minutes.

Run-off Coefficient: Run-off coefficients are developed using the City of Menlo Park Requirements for the Preparation of Hydrology Reports (August 20, 2006). Run-off coefficient of 0.95 was used for all impervious areas. Run-off coefficient of 0.3 was used for all pervious and landscaped areas based on the upper limit of the Coefficient of Run-off chart provided within the City Hydrology Requirements. A weighted run-off coefficient of 0.904 and 0.795 were calculated and implemented for the existing and proposed coefficients, respectively.

Rainfall Intensity: The rainfall intensity for the 10-year design storm event was calculated using Attachment C - Menlo Park IDF Curve.

Freeboard: The existing system is evaluated against the 10-year event contained within the storm drain system.

Rim Elevations: Rim elevations are based on a combination of the DES Architects+ Engineers (DES) grading plan and the topographic survey for the site.

5. PROJECT IMPROVEMENTS

Tarlton Properties intends to completely demolish the western portion of 1320 Willow Road. The eastern portion of the building is planned to be demolished and the building will be closed off with a new exterior wall as an interim condition in Phase 1. After demolition of the building and surrounding site, a new office building, landscaping and supporting utilities will be constructed.

With the proposed improvements, Phase 2 is anticipated to add 6,264 square feet of new pervious surface. Subsequently lowering the impervious coverage from 93% to 76%. The project will also be replacing 28,324 square feet of impervious surface. The site proposes to meet storm water treatment requirements by directing run-off to vegetated areas, minimize impervious surfaces, and provide two biotreatment basins.

Storm water will be collected via overland flow which will direct it to a network of new storm drain lines accessed by multiple catch basins throughout the property. Storm water from the new building roof will be directed to the new underground system, through rain water leaders. The new system will convey the flow to the treatment basins on the west side of the property. After filtration in the basins, storm water will exit the property near the northwest corner. The stormwater discharge will gravity flow to the existing 66-inch main in Willow Road via a new connection to an existing manhole.

The proposed invert connection to the public manhole is 7.20. The invert out from the structure is 2.81. This results in 4.39 feet of freeboard between the inverts. If the hydraulic grade line in the 66-inch main rises above the rim elevation of the public manhole, the discharge pipe from the site will be equipped with a check valve. Although the rim elevations of the directly connected structures on-site are higher than the rim elevation of the public manhole, a check valve will further deter stormwater from backflowing onto the property in the event that Menlo Park receives excessive stormwater. The design of the proposed drainage system is depicted in Figure 4: Preliminary Phase 2 Grading Plan and Figure 7: Preliminary Phase 2 Utility Plan.

Noted in Figure 5: Preliminary Phase 2 Stormwater Management Plan, the bioretention areas, PH2-TM#3 & 4, will be located on the west side of the lot. Storm water will be collected from across the site and enter the treatment areas via bubble-up structures at the edges of the basins. A portion of the Phase 2 storm water collected by the roof and ground will be directed to the storm system constructed in Phase 1 and treated by basin PH1-TM#2. All four basins in Phase 1 and 2 are sized larger than required.

PH2-TM#4's two bubble up structures outlet at elevation of 12.30. Likewise, PH2-TM#3's bubble up structure outlets at an elevation of 11.30. Stormwater will either percolate through the treatment soil or collect in the basin until the ponding is 0.25 below PH2-TM#3's and 0.05 feet below PH2-TM#4's bubble up invert. If the storm water level exceeds these ponding elevations, it will flow into overflow structures, bypassing the media filtration. The full design can be seen in Figure 7: Preliminary Phase 2 Utility Plan.

The proposed stormwater drainage design closely mimics the existing drainage conditions. In lieu of overland flow to a public catch basin, the site's stormwater is now proposed to discharge to the same public main at a structure 200 feet closer to the property, reducing surface flow in the public right of way. In the scenario of a high-flow event that overwhelms the basins, excess stormwater will overland release into the public right of way and overland flow to the same public catch basin it does in the existing condition.

5.1 STORMWATER MANAGEMENT

The project will create or replace approximately 28,324 square feet of impervious area and convert 6,264 square feet of existing impervious surface to pervious surface. See Table 1: Existing vs Proposed Area Summary below for the changes regarding existing and proposed allocations of impervious and pervious areas.

Per the San Mateo Countywide Water Pollution Prevention program (SMCWPPP) C.3 Stormwater Handbook, "Projects that create and/or replace 10,000 square feet or more of impervious surface must comply with Provision C.3". The proposed improvements meet this threshold, and therefore qualify as a Regulated Project and must include treatment measures.

To meet C.3 requirements, the proposed treatment basins are sized based on the Flow and Volume method and calculated per Section 5.1.3 of C.3 Regulated Projects. Four proposed treatment basins between Phases 1 & 2 are intended to capture and treat run-off from the site. Refer to Figures 4 through 7 for an overview of the proposed drainage system and stormwater management plan.

	Area (ft^2)		
	Existing	**Proposed**	**Delta**
Impervious	34,588	28,324	-6,264
Pervious	2,612	8,876	+6,264
Total	37,200	37,200	0

Table 1: Phase 2 Existing vs Proposed Area Summary

It should be noted that the drainage management areas between Phase 1 and Phase 2 overlap. Nevertheless, in its final condition the site will have more treatment than required for the proposed improvements. This is documented in Figure 5: Preliminary Phase 2 Stormwater Management Plan. For reference, Figure 6: Preliminary Overall Stormwater Management Plan depicts the stormwater treatment plan after completion of both Phase 1 and Phase 2.

The Menlo Park Impervious Area Worksheet prepared by DES is provided under Appendix B of this report. The SMCWPPP C.3 checklist will be provided by DES under a separate submittal with the Stormwater Management Plan.

5.2 DETENTION FACILITIES

The City Guidelines require an on-site retention (or detention where retention is impracticable) device if a project increases run-off to the public storm drain system during a 10-year storm event. As shown in Tables 2 and 3, the existing discharge is estimated to be 1.58 cfs and the proposed site discharge is estimated to be 1.39 cfs. These values were calculated using the City Guidelines. The reduction is due to the addition of 6,264 square feet of new pervious area. Therefore, the total amount of discharge to the public storm drain system will be reduced, and the project will not need to implement a retention or detention device. The project will, however, install two biotreatment facilities to conform to C3 guidelines.

6. STORM DRAIN ANALYSES

The proposed system will collect run-off from the site and convey it to PH2-TM#3 & 4. After filtering through the treatment areas, the storm water will exit the Phase 2 side of the site via gravity to an existing off-site manhole. This marginally differs from the existing condition, as it will no longer discharge overland to City curb's flowline. Instead it will discharge directly to a closer structure connected to the same 66-inch public collector main it is currently tributary to.

Preliminary calculations of the system performed by DES, shown in attached Tables 2 and 3, indicate that the existing discharge for a 10-year storm to the off-site system is approximately 1.58 cfs. The proposed discharge for a 10-year storm to the off-site system was calculated to be 1.39 cfs. The proposed discharge is expected to be less than the existing discharge, therefore, no adverse effects to the existing off-site system are anticipated. A proposed check valve on the outfall pipe from Phase 2 will further assist in preventing backflow onto the property in the event the hydraulic grade line rises above the rim elevation of the public manhole.

7. CONCLUSION

The existing project site is served by overland flow to a valley gutter internal to the property. The valley gutter discharges via overland flow to the curb flowline in the City's right of way. Currently there are no known storm water management facilities on-site that provide significant treatment or detention. The discharge of the existing system was estimated to be 1.58 cfs.

The proposed project improvements include replacing the existing building and paved lot on the property with a new office building, bioretention planters, impervious area, and pervious landscaping.

With the proposed improvements, the project is anticipated to add 6,264 square feet of new pervious surface and create or replace approximately 28,324 square feet of impervious surface. As a result of the increase in pervious surface, the proposed discharge will decrease to 1.39 cfs.

To meet C.3 requirements, the project proposes to implement two bioretention basins. The treatment areas are sized via the Flow and Volume method and will be located on the south side of the site. After flowing through the basins, the storm water will discharge by gravity directly to the public storm drain system.

The existing off-site system has no known capacity issues. With the reduction in total discharge from the site to the same system, no adverse effects to the existing system are expected.

8. REFERENCES

California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit, November 28, 2011

City of Menlo Park City-wide Drainage Study, May 2003

City of Menlo Park Commercial, Multi-Family and Subdivison Grading & Drainage Guidelines, 2020

City of Menlo Park Impervious Area Worksheet, 2020

City of Menlo Park Requirements for the Preparation of Hydrology Reports, August 20, 2006.

City of Menlo Park Existing Storm Drain GIS, Provided for conceptual reference: January 2023

Federal Emergency Management Agency insurance Rate Map, April 2019

Kier + Wright Topographic Surveys for 1320 Willow Road, 1001-1015 O'Brien Drive, 985 O'Brien Drive, Dated February 2021

Kier + Wright Topographic Surveys for 1340 Willow Road, Dated November 2021

Kier + Wright ALTA / ACSM Land Title Surveys for 1320 Willow Road and 1001-1015 O'Brien Drive, 985 O'Brien Drive, Dated September 2015

Kier + Wright ALTA / ACSM Land Title Surveys for 985 O'Brien Drive, Dated November 2015

San Mateo County C.3 and C.6 Development Review Checklist, January 2019

San Mateo County, C.3 Regulated Projects Guide, Version 1.0., January 2020.

TABLES

TABLE 2 - EXISTING ON-SITE DISCHARGE SUMMARY

PRELIMINARY ON-SITE DISCHARGE CALCULATIONS FOR 1320 Whipple Road (Phase 2)

DES ARCHITECTS+ ENGINEERS
399 BRADFORD, SUITE 300
REDWOOD CITY, CA 94063

Date 1/6/2023
P# 10025.002

Source: "Requirements for the Preparation of Hydrology Reports" by Menlo Park Public Works (August 2006)

LAND USE: Office Bldg, Parking Garage
RUNOFF "C": 0.95(Conc/AC/Roof), 0.30(Landscape)
Rainfall Intensity 10yr Per Attachment C - Menlo Park IDF Curve
Time of Concentration: Initial Tc is assumed to be 7 min.
Total Runoff Q for 10-year is calculated using the Rational Formula (Q=CIA)

Existing Onsite Discharge Summary

Existing On-Site Runoff Coefficient Calculation Summary

Type of Surface	C_{runoff}	Area (ft^2)	Weight
Impervious	0.95	34,588	32,859
Pervious	0.3	2,612	784
	Total	37,200	33,642
Total Existing Site Composite Run-off C =			0.904

On-Site Discharge Calculation Summary Q=CIA

Area SF	Area acres	Comp. Coef. C	CA	Total TIME (MIN.)	INTENSITY $I_{10\text{-}yr}$ (IN/HR)	DES. Q (CFS)
37,200	0.854	0.904	0.77	7.00	2.04	1.58

TABLE 3 - PROPOSED ON-SITE DISCHARGE SUMMARY

PRELIMINARY ON-SITE DISCHARGE CALCULATIONS FOR 1320 Whipple Road (Phase 2)

DES ARCHITECTS+ ENGINEERS
399 BRADFORD, SUITE 300
REDWOOD CITY, CA 94063
Date 1/6/2023
P# 10025.002

Proposed Onsite Discharge Summary

Existing On-Site Runoff Coefficient Calculation Summary

Type of Surface	C_{runoff}	Area (ft^2)	Weight
Impervious	0.95	28,324	26,908
Pervious	0.3	8,876	2,663
	Total	37,200	29,571
Total Existing Site Composite Run-off C =			0.795

On-Site Discharge Calculation Summary Q=CIA

Area SF	Area acres	Comp. Coef. C	CA	Total TIME (MIN.)	INTENSITY $I_{10\text{-}yr}$ (IN/HR)	DES. Q (CFS)
37,200	0.854	0.795	0.68	7.00	2.04	1.39

TABLE 3 - PROPOSED ON-SITE DISCHARGE SUMMARY

1320 Willow Road Outlet Pipe

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

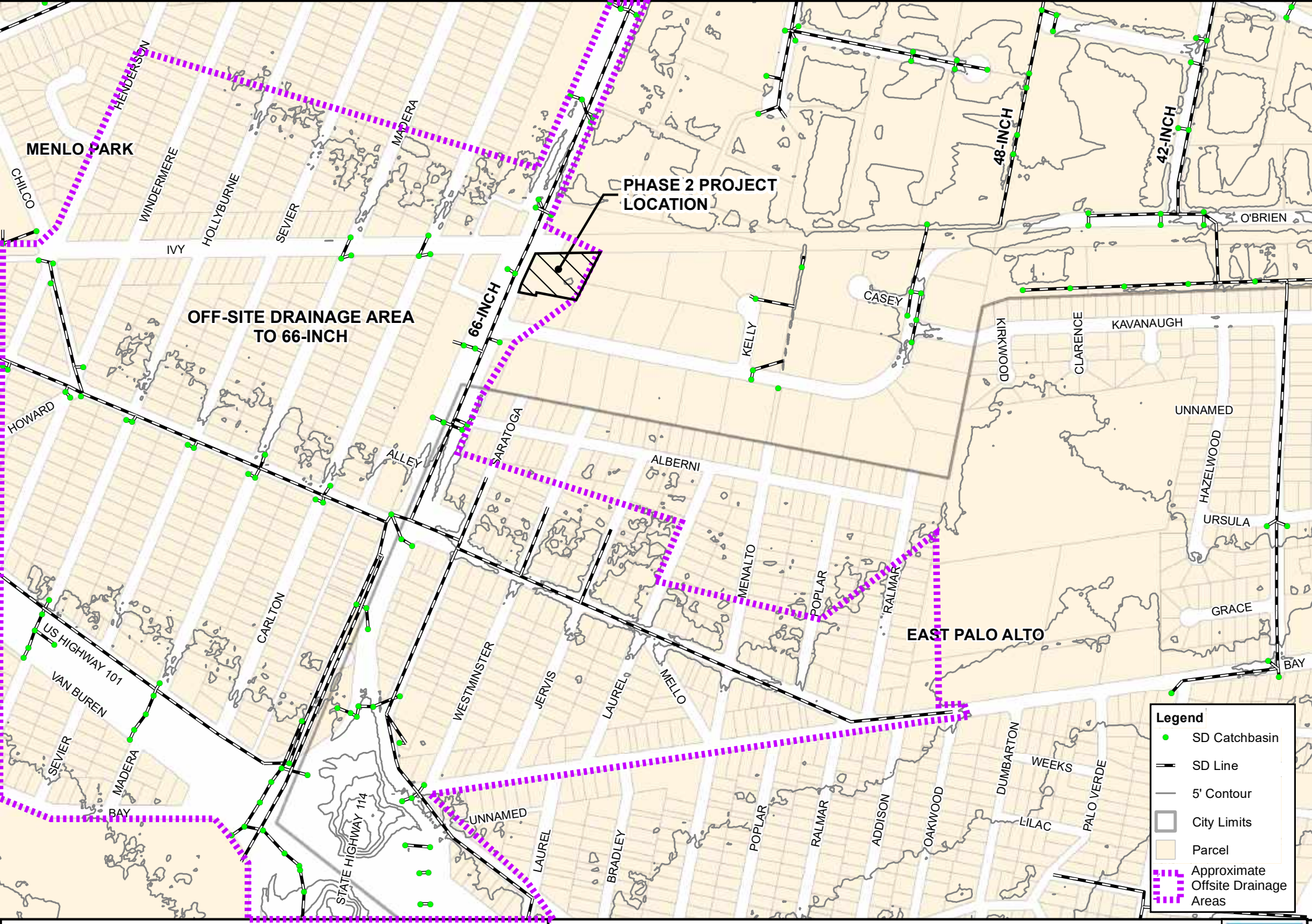
Input Data	
Roughness Coefficient	0.010
Channel Slope	0.005 ft/ft
Diameter	12.0 in
Discharge	1.40 cfs

Results	
Normal Depth	5.5 in
Flow Area	0.3 ft²
Wetted Perimeter	1.5 ft
Hydraulic Radius	2.8 in
Top Width	1.00 ft
Critical Depth	6.0 in
Percent Full	45.6 %
Critical Slope	0.004 ft/ft
Velocity	4.01 ft/s
Velocity Head	0.25 ft
Specific Energy	0.71 ft
Froude Number	1.194
Maximum Discharge	3.52 cfs
Discharge Full	3.27 cfs
Slope Full	0.001 ft/ft
Flow Type	Supercritical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	45.6 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	5.5 in
Critical Depth	6.0 in
Channel Slope	0.005 ft/ft
Critical Slope	0.004 ft/ft

FIGURES



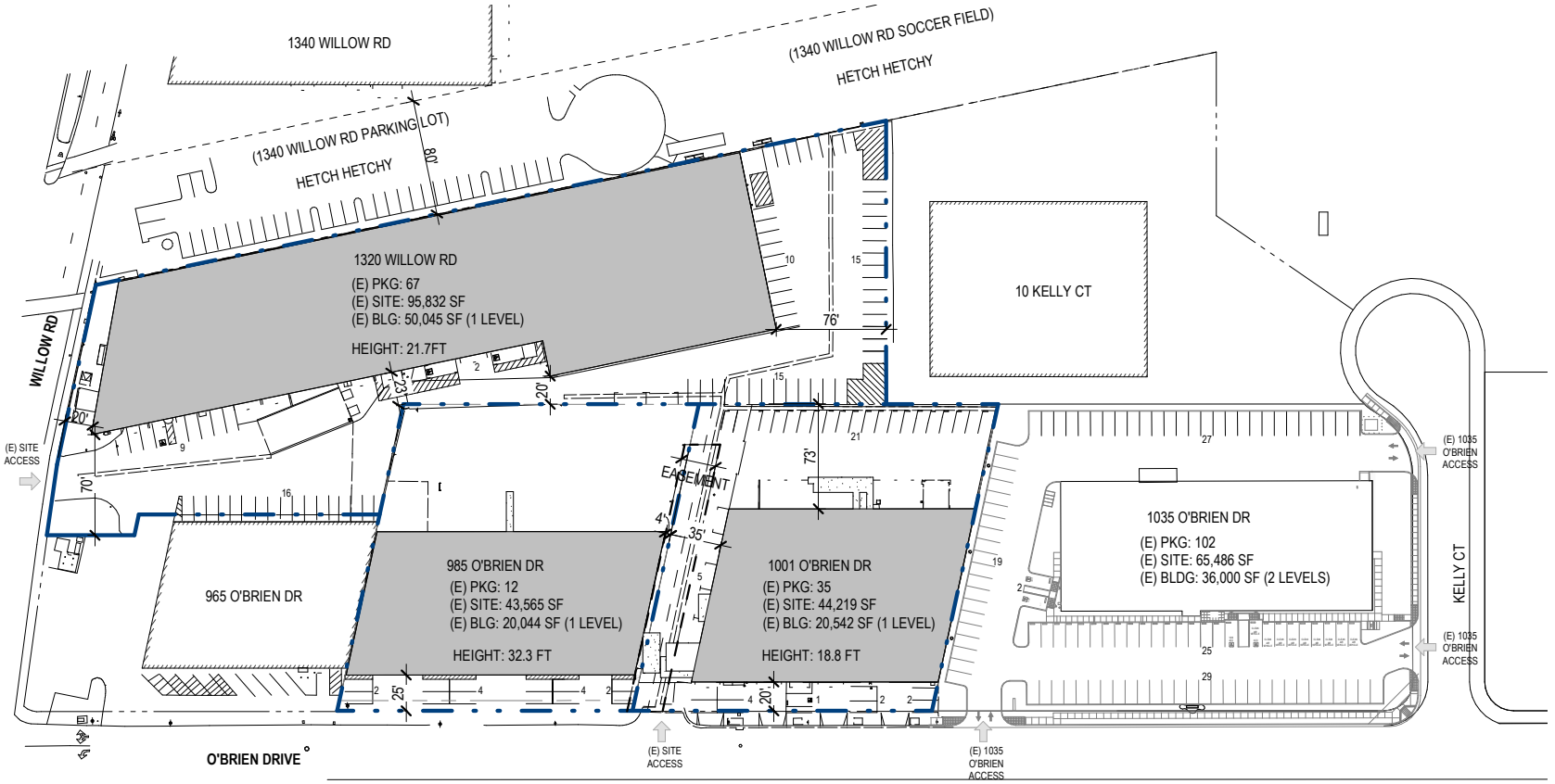
Datum: NAD83
Projection: CA State Plane III
Scale: 1 in equals 500 feet

N

0 260 520 Feet

FIGURE 2: APPROXIMATE OFF-SITE DRAINAGE AREA
PHASE 2: 1320 WILLOW ROAD

BKF



1 EXISTING SITE PLAN
1" = 80'-0"

EXISTING PROPERTY LINES

20.42' INGRESS EGRESS EASEMENT & NON-EXCLUSIVE DRAINAGE FOR RAIN WATER (TO BE REMOVED)

N

TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

04-15-2021	D.R.T. REVIEW
06-23-2021	C.U.P. SUBMITTAL
10-28-2021	C.U.P. RESPONSE 1
06-22-2022	C.U.P. RESPONSE 2

EXISTING SITE PLAN

A3.1

DES ARCHITECTS + ENGINEERS

BIM 360://Tarlton - MenloParkLabs/10025002_A_1005OBD_SHELL_2020_Central.rvt

FIGURE 3 - EXISTING CONDITIONS

LEGEND:

	BOUNDARY OF WORK LIMIT FOR PHASE 2
TP	TOP OF PAVEMENT
TC	TOP OF CURB
FF	FINISH FLOOR ELEVATION
FH	FIRE HYDRANT
FL	FLOWLINE
FG	FINISH GRADE
RIM	RIM OF SD CATCH BASIN
SDCB	STORM DRAIN CATCH BASIN
AD	AREA DRAIN
HP	HIGH POINT
(E)	EXISTING
(P)	PROPOSED
	DIRECTION OF SURFACE DRAINAGE
	CATCH BASIN
	BIORETENTION BASIN
	DG PAVEMENT
	COBBLE BAND
	LANDSCAPE AREA

NOTE:

1. SEE SHEET C6.1 FOR SECTIONS OF EXISTING AND PROPOSED CONDITIONS ALONG O'BRIEN DRIVE AND BOUNDARY.

2. SLOPES WITHIN THE FIRST 10' MUST SLOPE AWAY FORM THE BUILDING AT 5% MIN. FOR PERVIOUS SURFACES AND 2% MIN. FOR IMPERVIOUS AREAS.

BENCHMARK:

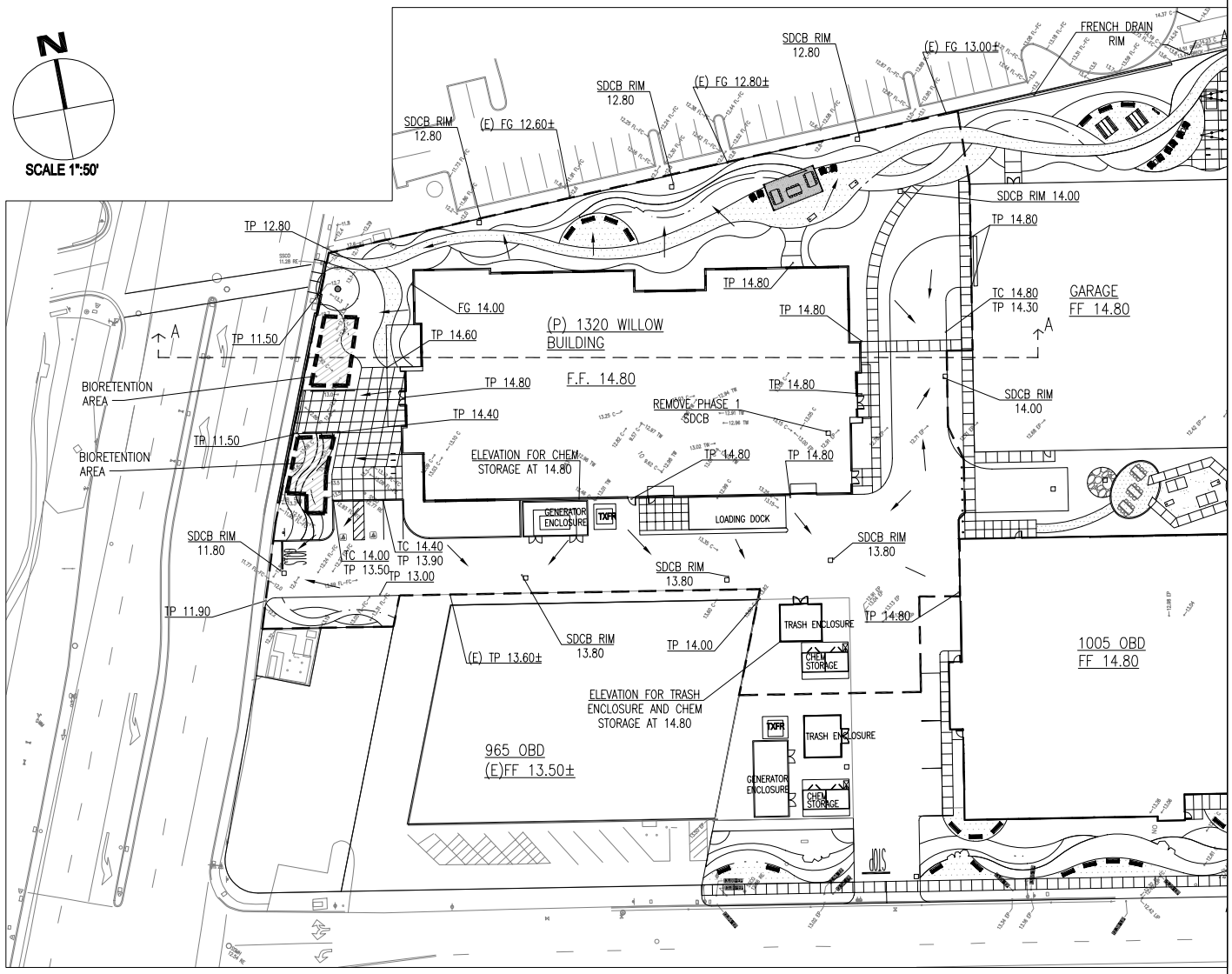
(FROM TOPOGRAPHIC SURVEY PREPARED BY KIER & WRIGHT SURVEYORS: JOB A15124-5 DATED FEB. 2021)

FLOOD ZONE NOTE:

THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, MAP NUMBER 06081C0307E FOR COMMUNITY PANEL NUMBER 060321 0307 E, DATED OCTOBER 16, 2012, WITH THE SITE BEING LOCATED IN FLOOD ZONE "AE";

BASE FLOOD ELEVATION DETERMINED AS 12.8 FEET.

NOTE: THE PROJECT WILL BE DESIGNED AND CONSTRUCTED IN COMPLIANCE WITH CURRENT FEMA REGULATIONS AND CITY'S FLOOD DAMAGE PREVENTION ORDINANCE.



TARLTON

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MENLO PARK, CA 94025

04-15-2021	D.R.T. REVIEW
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06-22-2022	C.U.P. RESPONSE 2
10-28-2022	C.U.P. RESPONSE 3

PHASE 2 PRELIMINARY GRADING PLAN

C2.2

DES ARCHITECTS ENGINEERS

BIM 360://Tarlton - 1005 OBD/10025002_A_1005OBD_SHELL_2020_Central.rvt

FIGURE 4 - PRELIMINARY PHASE 2 GRADING PLAN DATED 01/06/2023

SHEET NOTES:

1. DIRECT RUNOFF FROM UNCOVERED PARKING AREAS AND/OR DRIVEWAYS ONTO VEGETATED AREAS.
2. MINIMIZE IMPERVIOUS SURFACES.
3. PRELIMINARY SIZING IS BASED ON THE COUNTY OF SAN MATEO WORKSHEET FOR CALCULATING THE COMBINATION FLOW AND VOLUME METHOD PER SECTION 5.1.3 OF C.3. REGULATED PROJECTS GUIDE.
4. SEE SHEET C3.1A FOR PHASE 1 STORMWATER MANAGEMENT SUMMARY. SEE SHEET C3.3 FOR FINAL CONDITION STORMWATER MANAGEMENT PLAN SUMMARY.

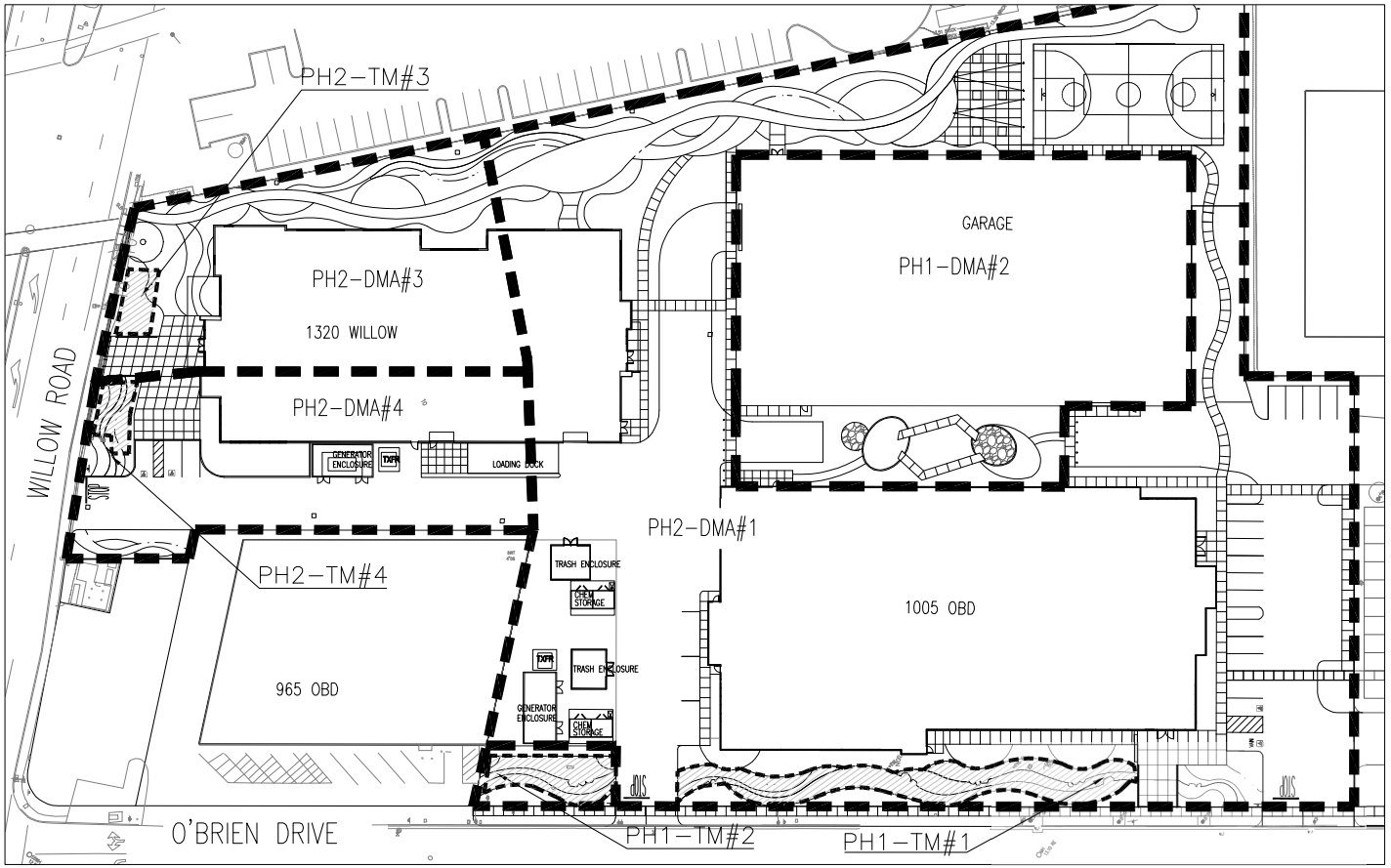
LEGEND:

PROPOSED STORMWATER DRAINAGE AREA BOUNDARY

BIORETENTION BASIN

ABBREVIATIONS:

PH#–DMA#	PHASE # DRAINAGE MANAGEMENT AREA #
PH#–TM#	PHASE # TREATMENT MEASURE #



STORMWATER MANAGEMENT TREATMENT MEASURE SUMMARY:

DRAINAGE AREA #	STORMWATER TREATMENT MEASURE	TREATMENT MEASURE DESIGNATION #	TOTAL AREA (SQ. FT.)	IMPERVIOUS AREA (SQ. FT.)	PERVIOUS AREA (SQ. FT)	EFFECTIVE IMPERVIOUS AREA (SQ. FT)	TREATMENT AREA REQUIRED (SQ.FT.)	TREATMENT AREA PROVIDED (SQ. FT.)
PH2–DMA#3	BIORETENTION AREA	PH2–TM#3	19170	13394	5776	13972	423	500
PH2–DMA#4	BIORETENTION AREA	PH2–TM#4	18030	14930	3100	15240	462	520

N

SCALE 1": 60'

TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

04-15-2021	D.R.T. REVIEW
05-26-2021	C.U.P. SUBMITTAL
10-28-2021	C.U.P. RESPONSE 1
06-22-2022	C.U.P. RESPONSE 2
10-28-2022	C.U.P. RESPONSE 3

PHASE 2 PRELIMINARY STORMWATER MANAGEMENT PLAN

C3.2A

DES ARCHITECTS ENGINEERS

FIGURE 5 - PRELIMINARY PHASE 2 STORMWATER MANAGEMENT PLAN DATED 02/01/2023

SHEET NOTES:

1. SEE SHEET C3.1A FOR PHASE 1 STORMWATER MANAGEMENT SUMMARY. SEE SHEET C3.2A FOR PHASE 2 STORMWATER TREATMENT SUMMARY.

LEGEND:

PROPOSED STORMWATER DRAINAGE AREA BOUNDARY

BIORETENTION BASIN

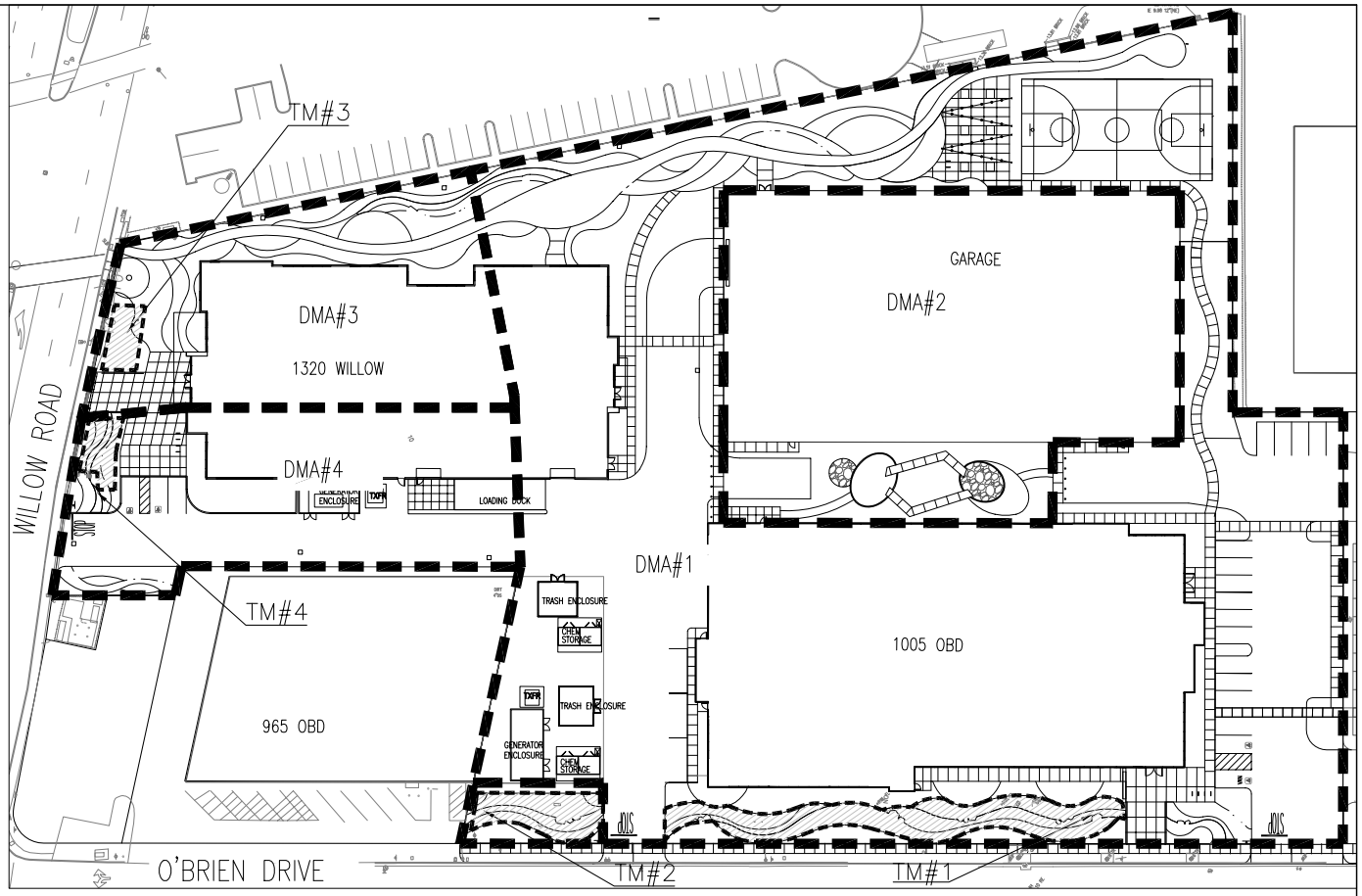
ABBREVIATIONS:

DMA# PHASE # DRAINAGE MANAGEMENT AREA #

TM# PHASE # TREATMENT MEASURE #

IMPERVIOUS/PERVIOUS AREA SUMMARY FOR FULL PROJECT

	FULL PROJECT EXISTING CONDITION	FULL PROJECT PROPOSED CONDITION
PERVIOUS AREA (SQ. FT.)	3930	36896
IMPERVIOUS AREA (SQ. FT.)	179825	146859
TOTAL AREA (SQ. FT.)	183755	183755



IMPERVIOUS/PERVIOUS AREA SUMMARY PER DRAINAGE MANAGEMENT AREAS:

	PHASE 0: DMA#1 AND DMA#2 SD OUTLET INTO O'BRIEN DR.	PHASE 1: DMA#1 AND DMA#2 SD OUTLET INTO O'BRIEN DR.	PHASE 2: DMA#1 AND DMA#2 SD OUTLET INTO O'BRIEN DR.
PERVIOUS AREA (SQ. FT.)	1318	24664	28020
IMPERVIOUS AREA (SQ. FT.)	145237	121891	118535
TOTAL AREA (SQ. FT.)	146555	146555	146555

	PHASE 1: DMA#3 AND DMA#4 SD OUTLET INTO WILLOW RD.	PHASE 2: DMA#1 AND DMA#2 SD OUTLET INTO WILLOW RD.
PERVIOUS AREA (SQ. FT.)	2612	8876
IMPERVIOUS AREA (SQ. FT.)	34588	28324
TOTAL AREA (SQ. FT.)	37200	37200

N

SCALE 1": 60'

TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

04-15-2021	D.R.T. REVIEW
05-26-2021	C.U.P. SUBMITTAL
10-28-2021	C.U.P. RESPONSE 1
06-22-2022	C.U.P. RESPONSE 2
10-28-2022	C.U.P. RESPONSE 3

FINAL CONDITION PRELIMINARY STORMWATER MANAGEMENT PLAN

C3.3

DES ARCHITECTS ENGINEERS

FIGURE 6 - PRELIMINARY OVERALL STORMWATER MANAGMENT PLAN DATED 01/06/2023

ABBREVIATIONS & LEGEND:

BFP	BACKFLOW PREVENTOR
SS	SANITARY SEWER
SD	STORM DRAIN
TP	TOP OF PAVEMENT
TC	TOP OF CURB
E	ELECTRICAL LINE
FF	FINISH FLOOR ELEVATION
FS	FIRE SERVICE
DW	DOMESTIC WATER
(P)	PROPOSED
SDCB	STORM DRAIN CATCH BASIN
AD	AREA DRAIN
JUT	JOINT UTILITY TRENCH
HP	HIGH POINT
(E)	EXISTING
FH	FIRE HYDRANT
RIM	GRATE OF CATCH BASIN, MANHOLE OR AREA DRAIN RIM ELEVATION
RWL	RAIN WATER LEADER
P.O.C.	POINT OF CONNECTION
P.I.V.	POST INDICATOR VALVE
F.D.C.	FIRE DEPT. CONNECTION

BIORETENTION BASIN

CATCH BASIN

STORM DRAIN MANHOLE

(P) SD

STORM DRAIN LINE

(P) FS LINE

(P) DW LINE

(P) SS LINE

PROPOSED BACKFLOW PREVENTOR DOUBLE DETECTOR CHECK ASSEMBLY

SANITARY SEWER MANHOLE

FDC

PIV

FIRE HYDRANT

BUBBLE-UP STRUCTURE

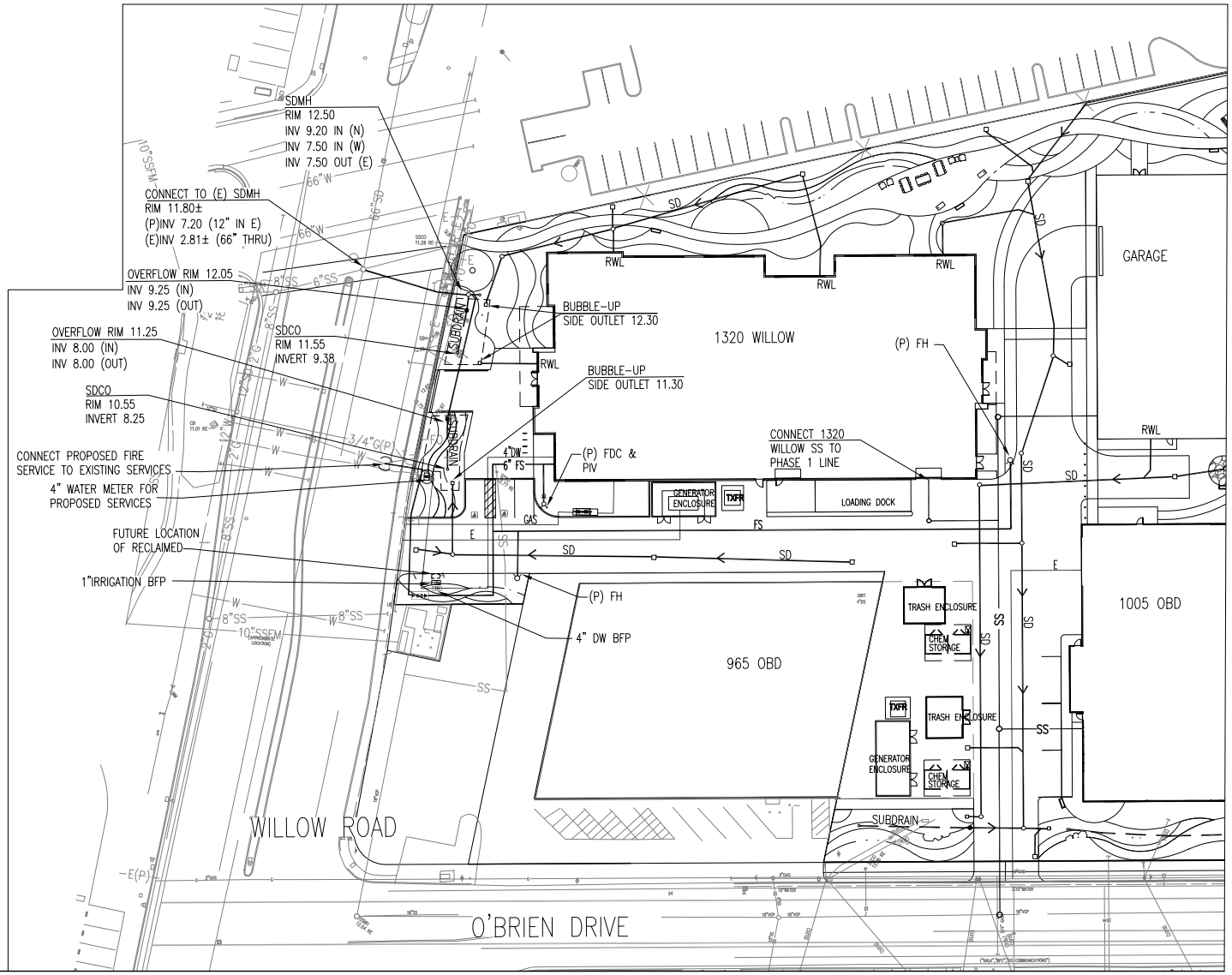
OVERFLOW STRUCTURE

FUTURE GAS REGULATOR

BOUNDARY OF WORK LIMIT

N

SCALE 1":50'



TARLTON

985 & 1001 O'BRIEN DR
1320 WILLOW RD
MENLO PARK, CA 94025

04-15-2021	D.R.T. REVIEW
05-26-2021	C.U.P. SUBMITTAL
10-28-2021	C.U.P. RESPONSE 1
06-22-2022	C.U.P. RESPONSE 2
10-28-2022	C.U.P. RESPONSE 3

PHASE 2 PRELIMINARY UTILITY PLAN

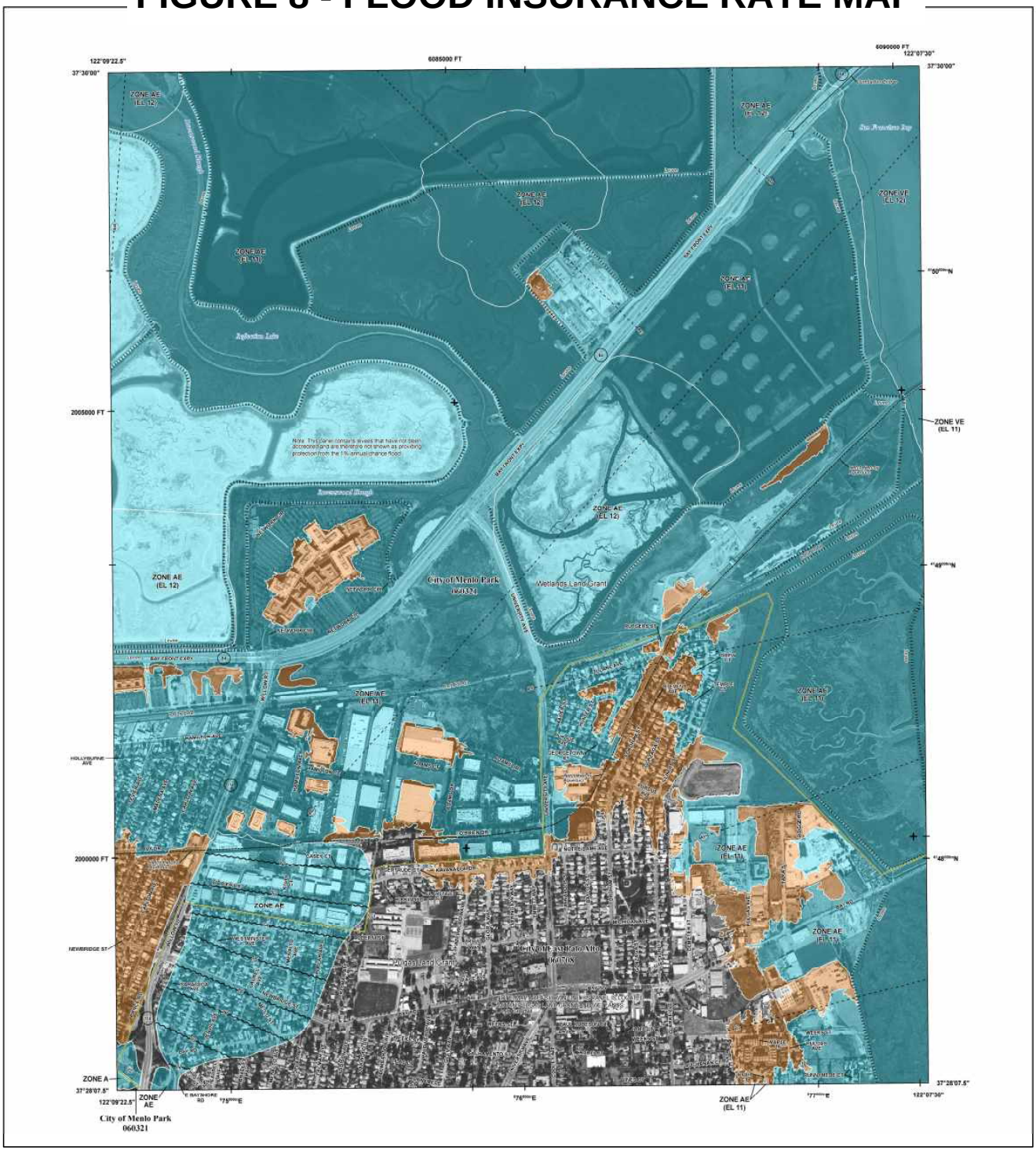
C4.2

DES ARCHITECTS ENGINEERS

BIM 360://Tarlton - 1005 OBD/10025002_A_1005OBD_SHELL_2020_Central.rvt

FIGURE 7 - PRELIMINARY PHASE 2 UTILITY PLAN
DATED 01/25/2023

FIGURE 8 - FLOOD INSURANCE RATE MAP



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*

OTHER AREAS
- NO SCREEN: Areas of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike or Floodwall
- Non-accredited Levee, Dike or Floodwall
- 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)

OTHER FEATURES
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from USGS LiDAR dated 2010 and Coastal California digital imagery dated 2011. USDA NAIP imagery dated 2012 is used in areas not covered by the Coastal California digital imagery.

SCALE

Map Projection: Universal Transverse Mercator Zone 10N, North American Datum 1983; Western Hemisphere, Vertical Datum: NAVD 88

N

1 inch = 500 feet 1:6,000

0 250 500 750 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP
SAN MATEO COUNTY, CALIFORNIA
and Incorporated Areas
PANEL 307 OF 510

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
EAST PALO ALTO, CITY OF	060708	0307	F
MENLO PARK, CITY OF	060321	0307	F

VERSION NUMBER
2.3.2.0

MAP NUMBER
06081C0307F

MAP REVISED
APRIL 5, 2019

APPENDIX A:

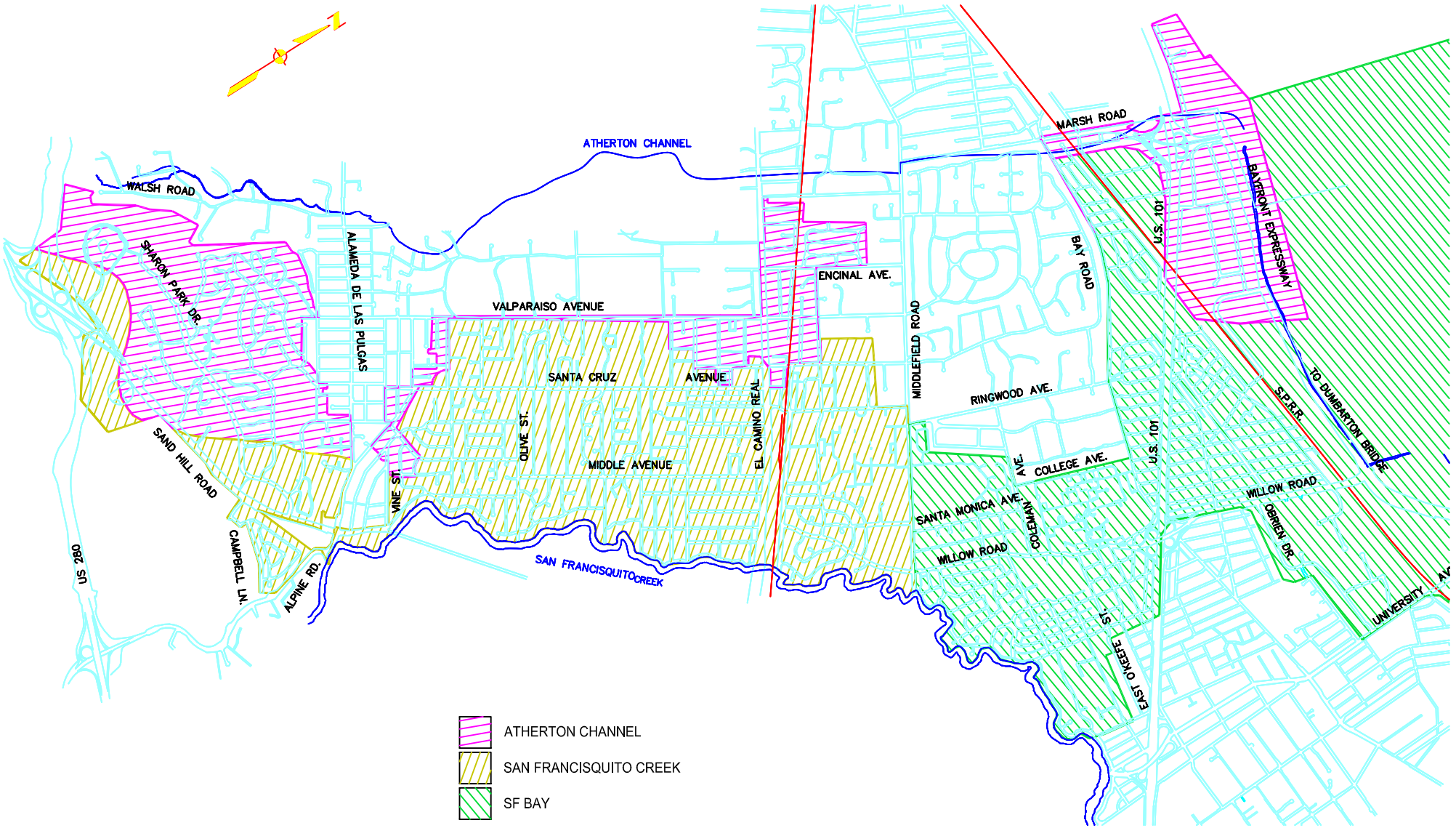
MENLO PARK HYDROLOGY REQUIREMENTS

ATTACHMENTS A AND B

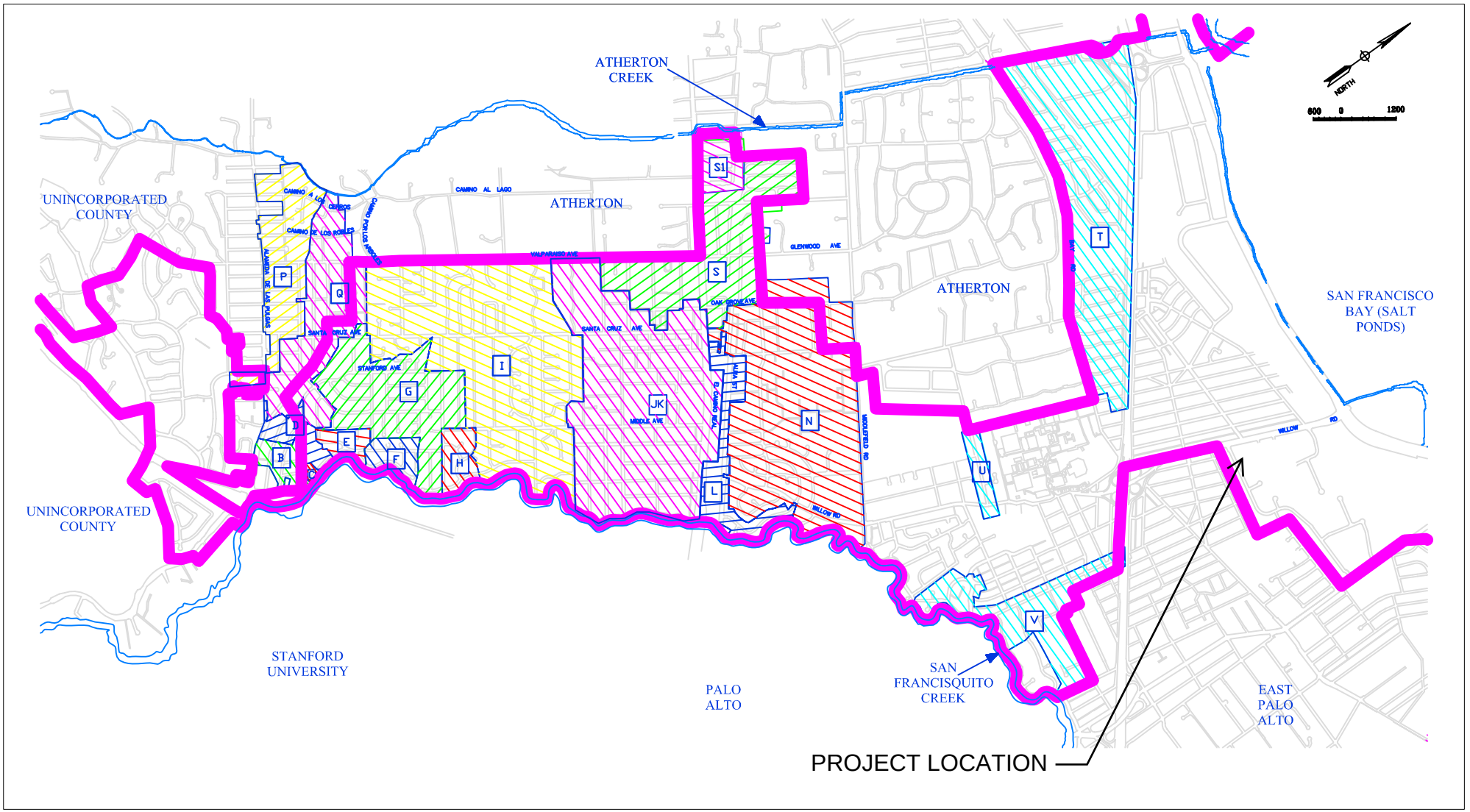
APPENDIX A -
MENLO PARK HYDROLOGY REQUIREMENTS ATTACHMENT A

DRAINAGE BASIN MAP

CITY OF MENLO PARK
CALIFORNIA



APPENDIX A -
MENLO PARK HYDROLOGY REQUIREMENTS
ATTACHMENT B



ATTACHMENT B
STORM SYSTEM DRAINAGE AREAS MAP

CITY OF MENLO PARK

APPENDIX B:

CITY OF MENLO PARK

IMPERVIOUS AREA WORKSHEET

APPENDIX B

IMPERVIOUS AREA WORKSHEET

Page 1

Submit this form with the improvement plan set to the City of Menlo Park Engineering Division.

Date: 01/06/23 APN: 055421060; 055421050; 055421160

Property Address: 1320 Willow Road (Phase 2): Storm Drain Outleting into Willow RD.

Project Description: New Building and site improvements

Contact Name: Diana Rangel

Contact Telephone Number: 650-364-6453

Contact Email: drangelr@des-ae.com

Title And Sheet# of Submitted Drawing used For Calculations: C3.2A

Land Use (Circle One):
Residential (Commercial) Industrial Professional Roadway

Drainage Basin (Circle One):
(See the *Hydrology Report Requirements* for a Drainage Basin map.)

Atherton Creek San Francisquito Creek (San Francisco Bay)

I certify that the calculations below accurately reflect the proposed changes and final impervious surfaces for the above project.

Calculations Performed By (Print): Max DeAndreis, PE

Title: Civil Engineer

Calculations Performed By (Signature): Dylan Maxwell DeAndreis

Date: 01/06/23

APPENDIX B

IMPERVIOUS AREA WORKSHEET

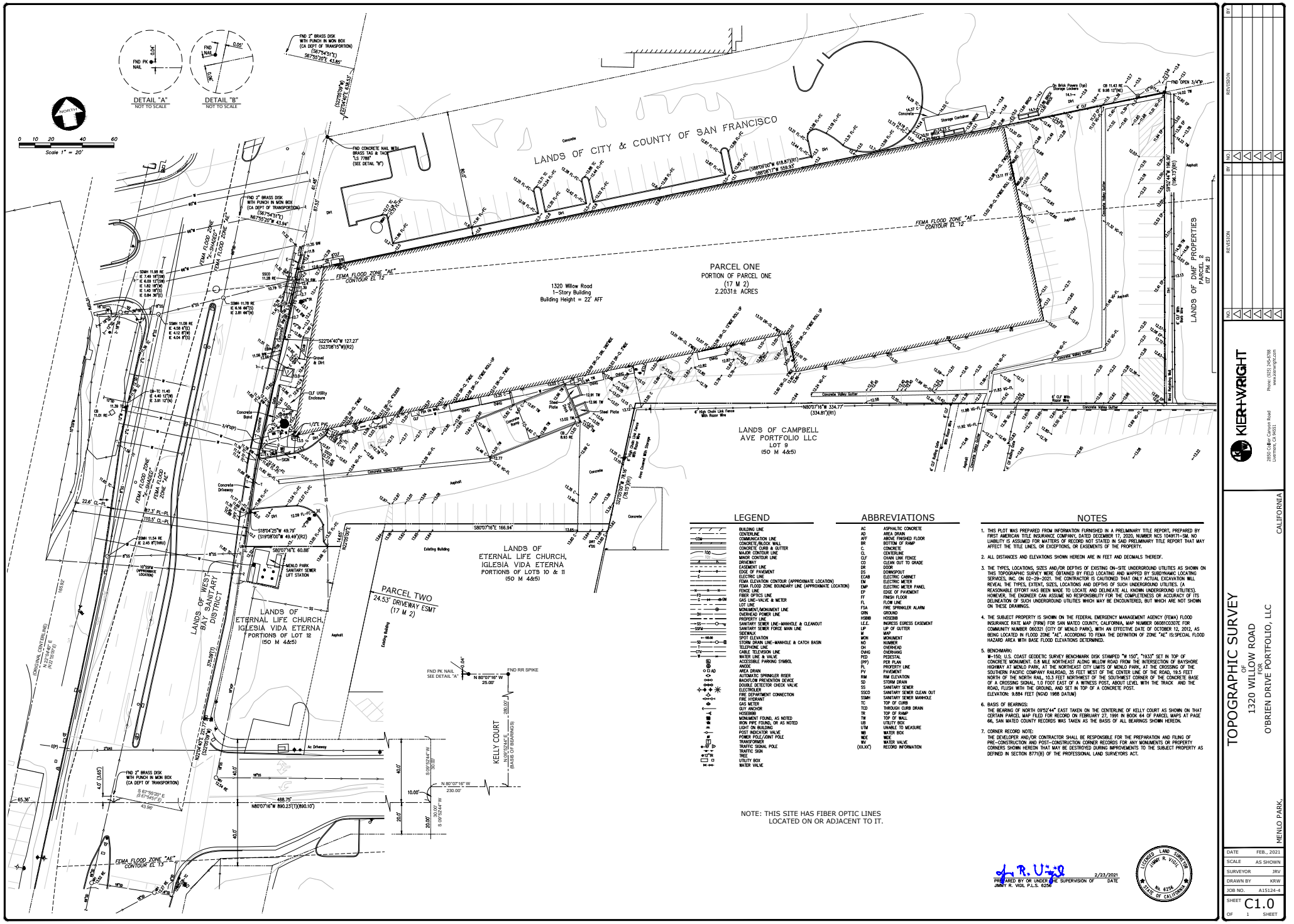
Page 2

IMPERVIOUS AREA TABLE		
Total Area of Parcel		**A** 37200 ft^2
Existing Pervious Area		**B** 2612 ft^2
Existing Impervious Area		**C** ft^2 34588
Existing % Impervious	$\frac{C}{A}$ **x 100**	**D** 92.9 **%**
Existing Impervious Area To Be Replaced W/ New Impervious Area		**E** ft^2 28324
Existing Pervious Area To Be Replaced W/ New Impervious Area		**F** ft^2 0
New Impervious Area (Creating and/or Replacing)* *If greater than 10,000sqft, a hydrology report must be submitted	**E** + **F**	**G** 28324 ft^2
Existing Impervious Area To Be Replaced W/ New Pervious Area		**H** 6264 ft^2
Net Change In Impervious Area[1]	**F** – **H**	**I** ft^2 -6264
Proposed Pervious Area	**B** – **I**	**J** ft^2 8876
Proposed Impervious Area* *Verify that J + K = A	**C** + **I**	**K** ft^2 28324
Proposed % Impervious	$\frac{K}{A}$ **x 100**	**L** **%** 76.1

[1] Net change in impervious area is the area required by

APPENDIX C:

EXISTING CONDITIONS TOPOGRAPHIC SURVEY



LEGEND

BUILDING LINE
CENTERLINE
COMMUNICATION LINE
CONCRETE/BLOCK WALL
CONCRETE CURB & GUTTER
MAJOR CONTOUR LINE
MINOR CONTOUR LINE
DRIVEWAY
EASEMENT LINE
EDGE OF PAVEMENT
ELECTRIC LINE
FEMA ELEVATION CONTOUR (APPROXIMATE LOCATION)
FEMA FLOOD ZONE BOUNDARY LINE (APPROXIMATE LOCATION)
FENCE LINE
FIBER OPTICS LINE
GAS LINE-VALVE & METER
LOT LINE
MONUMENT/MONUMENT LINE
OVERHEAD POWER LINE
PROPERTY LINE
SANITARY SEWER LINE-MANHOLE & CLEANOUT
SANITARY SEWER FORCE MAIN LINE
SIDEWALK
SPOT ELEVATION
STORM DRAIN LINE-MANHOLE & CATCH BASIN
TELEPHONE LINE
CABLE TELEVISION LINE
WATER LINE & VALVE
ACCESSIBLE PARKING SYMBOL
ANODE
AREA DRAIN
AUTOMATIC SPRINKLER RISER
BACKFLOW PREVENTION DEVICE
DOUBLE DETECTOR CHECK VALVE
ELECTROLIER
FIRE DEPARTMENT CONNECTION
FIRE HYDRANT
GAS METER
GUY ANCHOR
HOSEBIBB
MONUMENT FOUND, AS NOTED
IRON PIPE FOUND, OR AS NOTED
LIGHT ON BUILDING
POST INDICATOR VALVE
POWER POLE/JOINT POLE
TRANSFORMER
TRAFFIC SIGNAL POLE
TRAFFIC SIGN
TREE
UTILITY BOX
WATER VALVE

ABBREVIATIONS

AC	ASPHALTIC CONCRETE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
BR	BOTTOM OF RAMP
C	CONCRETE
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT TO GRADE
DR	DOOR
DS	DOWNSPOUT
ECAB	ELECTRIC CABINET
EM	ELECTRIC METER
EMP	ELECTRIC METER PANEL
EP	EDGE OF PAVEMENT
FF	FINISH FLOOR
FL	FLOW LINE
FSA	FIRE SPRINKLER ALARM
GRN	GROUND
HSBIB	HOSEBIB
I.E.E.	INGRESS EGRESS EASEMENT
LF	LIP OF GUTTER
M	MAP
MON	MONUMENT
NO	NUMBER
OH	OVERHEAD
OHW	OVERHANG
PED	PEDESTAL
(PP)	PER PLAN
PL	PROPERTY LINE
PV	PAVEMENT
RIM	RIM ELEVATION
SD	STORM DRAIN
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
TC	TOP OF CURB
TCD	THROUGH CURB DRAIN
TR	TOP OF RAMP
TW	TOP OF WALL
UB	UTILITY BOX
UTM	UNABLE TO MEASURE
WB	WATER BOX
WDF	WOOD
WV	WATER VALVE
(XX.XX')	RECORD INFORMATION

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN A PRELIMINARY TITLE REPORT, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED DECEMBER 17, 2020, NUMBER NCS 1049171-SM. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.
2. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN FEET AND DECIMALS THEREOF.
3. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING ON-SITE UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY WERE OBTAINED BY FIELD LOCATING AND MAPPED BY SUBDYNAMIC LOCATING SERVICES, INC. ON 02-09-2021. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. (A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES). HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.
4. THE SUBJECT PROPERTY IS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR SAN MATEO COUNTY, CALIFORNIA, MAP NUMBER 06081C0301E FOR COMMUNITY NUMBER 060321 (CITY OF MENLO PARK), WITH AN EFFECTIVE DATE OF OCTOBER 12, 2012, AS BEING LOCATED IN FLOOD ZONE "AE", ACCORDING TO FEMA THE DEFINITION OF ZONE "AE" IS:SPECIAL FLOOD HAZARD AREA WITH BASE FLOOD ELEVATIONS DETERMINED.
5. BENCHMARK:
   M-150; U.S. COAST GEODETIC SURVEY BENCHMARK DISK STAMPED "M 150", "1933" SET IN TOP OF CONCRETE MONUMENT. 0.8 MILE NORTHEAST ALONG WILLOW ROAD FROM THE INTERSECTION OF BAYSHORE HIGHWAY AT MENLO PARK, AT THE NORTHEAST CITY LIMITS OF MENLO PARK, AT THE CROSSING OF THE SOUTHERN PACIFIC COMPANY RAILROAD, 35 FEET WEST OF THE CENTER LINE OF THE ROAD, 19.5 FEET NORTH OF THE NORTH RAIL, 10.3 FEET NORTHWEST OF THE SOUTHWEST CORNER OF THE CONCRETE BASE OF A CROSSING SIGNAL, 1.0 FOOT EAST OF A WITNESS POST, ABOUT LEVEL WITH THE TRACK AND THE ROAD, FLUSH WITH THE GROUND, AND SET IN TOP OF A CONCRETE POST.
   ELEVATION: 9.884 FEET (NGVD 1988 DATUM)
6. BASIS OF BEARINGS:
   THE BEARING OF NORTH 09°52'44" EAST TAKEN ON THE CENTERLINE OF KELLY COURT AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON FEBRUARY 27, 1991 IN BOOK 64 OF PARCEL MAPS AT PAGE 66, SAN MATEO COUNTY RECORDS WAS TAKEN AS THE BASIS OF ALL BEARINGS SHOWN HEREON.
7. CORNER RECORD NOTE:
   THE DEVELOPER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND FILING OF PRE-CONSTRUCTION AND POST-CONSTRUCTION CORNER RECORDS FOR ANY MONUMENTS OR PROPERTY CORNERS SHOWN HEREON THAT MAY BE DESTROYED DURING IMPROVEMENTS TO THE SUBJECT PROPERTY AS DEFINED IN SECTION 8771(B) OF THE PROFESSIONAL LAND SURVEYORS ACT.

NOTE: THIS SITE HAS FIBER OPTIC LINES LOCATED ON OR ADJACENT TO IT.

PREPARED BY OR UNDER THE SUPERVISION OF JIMMY R. VIGIL P.L.S. 6256 — DATE 2/23/2021

LICENSED LAND SURVEYOR JIMMY R. VIGIL No. 6256 STATE OF CALIFORNIA

REVISION	NO.	BY

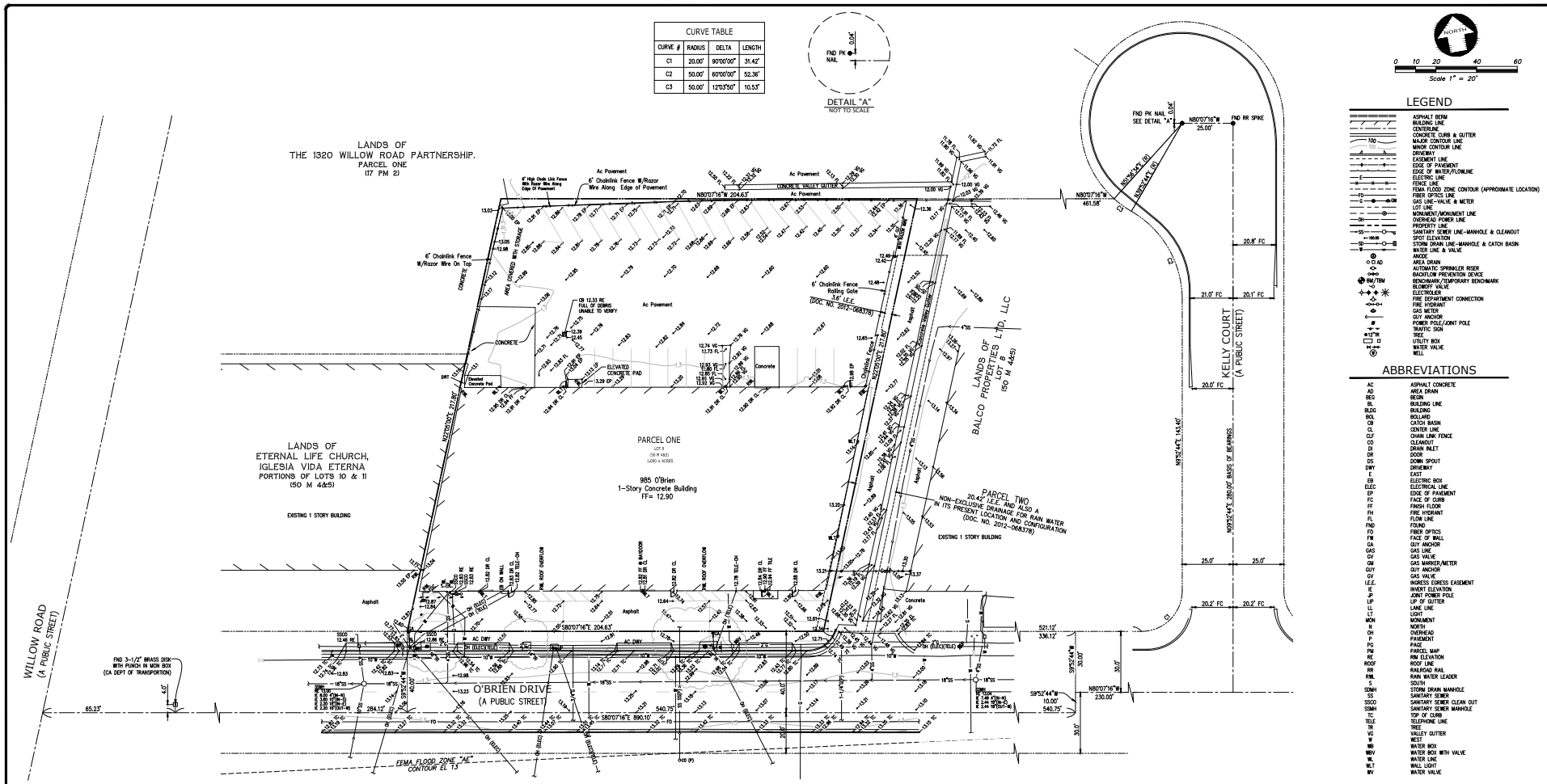
KIER+WRIGHT
2850 Collier Canyon Road
Livermore, CA 94551
Phone: (925) 245-8788
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
1320 WILLOW ROAD
FOR
O'BRIEN DRIVE PORTFOLIO, LLC
MENLO PARK, CALIFORNIA

DATE	FEB., 2021
SCALE	AS SHOWN
SURVEYOR	JRV
DRAWN BY	KRW
JOB NO.	A15124-4
SHEET	C1.0
OF	1 SHEET

2:\2015\A15124-4\SURVEY\TOPO\TS-A15124-4.dwg 2-23-21 03:04:39 PM kathina

APPENDIX C - EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY



CURVE TABLE			
CURVE #	RADIUS	DELTA	LENGTH
C1	20.00'	90°00'00"	31.42'
C2	50.00'	60°00'00"	52.36'
C3	50.00'	120°35'50"	10.53'

LEGEND

ASPHALT BERM
BUILDING LINE
CENTERLINE
CONCRETE CURB & GUTTER
MAJOR CONTOUR LINE
MINOR CONTOUR LINE
DRIVEWAY
EASEMENT LINE
EDGE OF PAVEMENT
EDGE OF WATER/FLOWLINE
ELECTRIC LINE
FENCE LINE
FEMA FLOOD ZONE CONTOUR (APPROXIMATE LOCATION)
FIBER OPTICS LINE
GAS LINE-VALVE & METER
LOT LINE
MONUMENT/MONUMENT LINE
OVERHEAD POWER LINE
PROPERTY LINE
SANITARY SEWER LINE-MANHOLE & CLEANOUT
SPOT ELEVATION
STORM DRAIN LINE-MANHOLE & CATCH BASIN
WATER LINE & VALVE
ANODE
AREA DRAIN
AUTOMATIC SPRINKLER RISER
BACKFLOW PREVENTION DEVICE
BENCHMARK/TEMPORARY BENCHMARK
BLOWOFF VALVE
ELECTROLIER
FIRE DEPARTMENT CONNECTION
FIRE HYDRANT
GAS METER
GUY ANCHOR
POWER POLE/JOINT POLE
TRAFFIC SIGN
TREE
UTILITY BOX
WATER VALVE
WELL

ABBREVIATIONS

AC	ASPHALT CONCRETE
AD	AREA DRAIN
BEG	BEGIN
BL	BUILDING LINE
BLDG	BUILDING
BOL	BOLLARD
CB	CATCH BASIN
CL	CENTER LINE
CLF	CHAIN LINK FENCE
CO	CLEANOUT
DI	DRAIN INLET
DR	DOOR
DS	DOWN SPOUT
DWY	DRIVEWAY
E	EAST
EB	ELECTRIC BOX
ELEC	ELECTRICAL LINE
EP	EDGE OF PAVEMENT
FC	FACE OF CURB
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
FND	FOUND
FO	FIBER OPTICS
FW	FACE OF WALL
GA	GUY ANCHOR
GAS	GAS LINE
GV	GAS VALVE
GM	GAS MARKER/METER
GUY	GUY ANCHOR
GV	GAS VALVE
I.E.E.	INGRESS EGRESS EASEMENT
IE	INVERT ELEVATION
JP	JOINT POWER POLE
LIP	LIP OF GUTTER
LL	LANE LINE
LT	LIGHT
MON	MONUMENT
N	NORTH
OH	OVERHEAD
P	PAVEMENT
PG	PAGE
PM	PARCEL MAP
RE	RIM ELEVATION
ROOF	ROOF LINE
RR	RAILROAD RAIL
RWL	RAIN WATER LEADER
S	SOUTH
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
TC	TOP OF CURB
TELE	TELEPHONE LINE
TR	TREE
VG	VALLEY GUTTER
W	WEST
WB	WATER BOX
WBV	WATER BOX WITH VALVE
WL	WATER LINE
WLT	WALL LIGHT
WV	WATER VALVE

NOTES

1. THIS PLOT WAS PREPARED FROM INFORMATION FURNISHED IN A PRELIMINARY TITLE REPORT, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED DECEMBER 16, 2020, ORDER NUMBER NCS-1049175-SM. NO LIABILITY IS ASSUMED FOR MATTERS OF RECORD NOT STATED IN SAID PRELIMINARY TITLE REPORT THAT MAY AFFECT THE TITLE LINES, OR EXCEPTIONS, OR EASEMENTS OF THE PROPERTY.
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LOCATED ON OR ADJACENT TO IT.

02-23-2021
PREPARED BY OR UNDER THE SUPERVISION OF JIMMY R. VIGIL P.L.S. 6256 DATE

LICENSED LAND SURVEYOR JIMMY R. VIGIL No. 6256 STATE OF CALIFORNIA

NO.	BY	REVISION

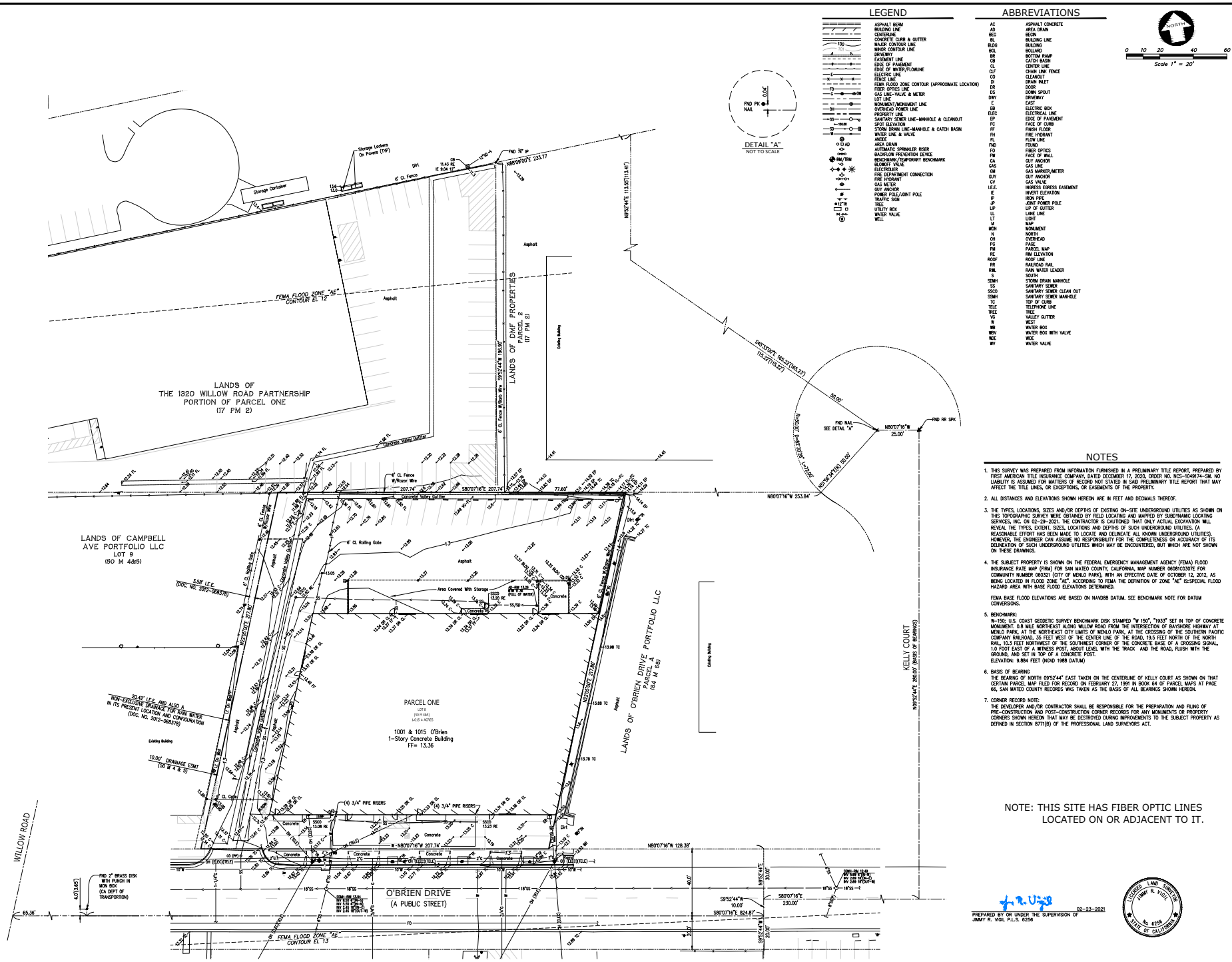
KIER+WRIGHT
2850 Collier Canyon Road
Livermore CA 94551
Phone: (925) 245-8788
www.kierwright.com

TOPOGRAPHIC SURVEY
OF
985 O'BRIEN DRIVE
FOR
O'BRIEN DRIVE PORTFOLIO, LLC
MENLO PARK, CALIFORNIA

DATE	FEB., 2021
SCALE	AS SHOWN
SURVEYOR	JRV
DRAWN BY	DWA
JOB NO.	A13116-4
SHEET	C1.0
OF	1 SHEET

Z:\2013\A13116-4\SURVEY\TOPO\13-A13116-4.dwg 2-23-21 03:02:43 PM kwilkins

APPENDIX C - EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY



APPENDIX C - EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY