



# BIOMARIN PETALUMA

1700 S MCDOWELL BLVD  
PETALUMA, CA 94954

BIOMARIN

PLANNING SUBMITTAL

October 10, 2019

DGA | planning | architecture | interiors





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Mechanical, Plumbing & Electrical Engineer
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500 Washington Street, Suite 200
San Francisco, California 94111
415.512.9771
STAMP

KEY PLAN

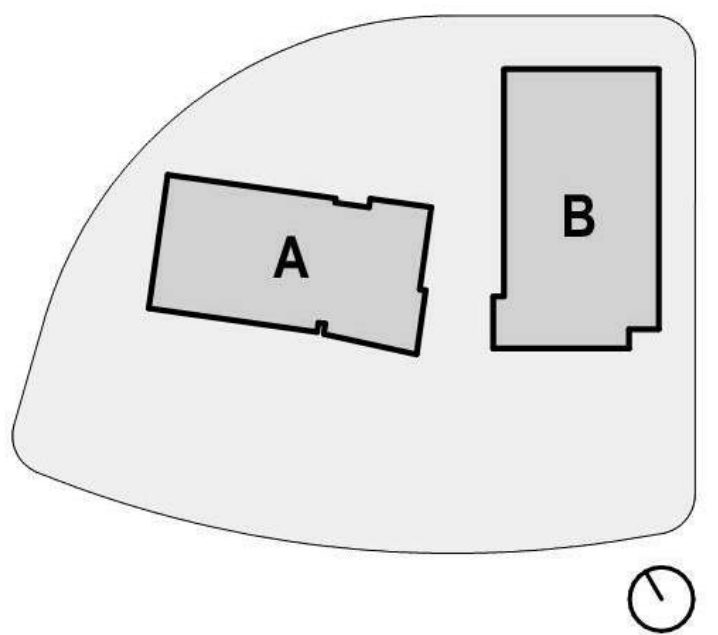


Table with 2 columns: Description, Date. Includes Planning Submittal (10/10/19) and Planning Entitlements (05/15/19)

Table with 3 columns: NO., DESCRIPTION, DATE



Table with 2 columns: Field, Value. Includes Client (BioMarin), Project (BioMarin Petaluma), Address (1700 S McDowell Blvd), Project No. (18306), Scale (AS SHOWN), Title (PROJECT DATA)

VICINITY MAP



SUSTAINABLE DESIGN FEATURES

ENVIRONMENTAL IMPACT IS AN ESSENTIAL CONCERN OF THE PROJECT. DECREASING ITS CARBON FOOTPRINT IS A CORE GOAL OF BIOMARIN AND THE PETALUMA PROJECT IS NO EXCEPTION. THIS PROJECT WILL MEET CALGREEN TIER 1 VERIFICATION. IN STRIVING TO DECREASE AN OVERALL CARBON FOOTPRINT, THE PROJECT WILL INCLUDE VARIOUS ENVIRONMENTALLY CONSCIOUS FEATURES, INCLUDING:

- LOW IMPACT DEVELOPMENT STRATEGIES AND STORM WATER IMPACT REDUCTION THROUGH THE USE OF NUMEROUS ELEMENTS INCLUDING A BIOSWALE AND PERMEABLE PAVEMENT.
MAXIMIZED OPEN SPACE AND VEGETATED SPACE ON SITE. APPROXIMATELY 45% OF THE SITE IS PROPOSED AS OPEN SPACE AND OVER 35% OF THE SITE PROPOSED AS VEGETATED. THESE VEGETATED AREAS WILL BE PLANTED WITH DROUGHT TOLERANT NATIVE SPECIES AND MINIMIZE THE USE OF "TURF AREAS". SITE IRRIGATION WILL BE EFFICIENT. THE IMMENSE VEGETATED SPACE WILL HELP TO REDUCE THE HEAT ISLAND EFFECT ALONG WITH THE USE OF LIGHT-COLORED HARDSCAPE AND LARGE AMOUNT OF PERMEABLE HARDSCAPE.
APPROXIMATELY 45% OF SITE HARDSCAPE IS PROPOSED TO BE PERMEABLE.
LIGHT COLORED ROOF MATERIALS THAT REFLECT HEAT, BUILDING "COOL ROOFS" WHICH USE HIGH ALBEDO MATERIALS WILL ALSO CONTRIBUTE TO THE ON-SITE HEAT ISLAND REDUCTION.
PROVIDING VARIOUS TRANSPORTATION OPTIONS AND INCENTIVES FOR TRAFFIC REDUCTION IS A GOAL OF THE PROJECT. BOTH ON-SITE SHORT TERM AND LONG TERM BICYCLE PARKING & STORAGE WILL BE PROVIDED. IN ADDITION, (2) EMPLOYEE SHOWERS WILL BE PROVIDED IN THE RESEARCH BUILDING LOCKER ROOMS AND RESTROOMS. ELECTRICAL VEHICLE CHARGING STATIONS AND STALLS AS WELL AS CARPOOL VANPOOL STALLS WILL BE ABUNDANT.
UTILIZING A PERCENTAGE OF RECYCLED CONTENT FOR CONSTRUCTION.
MINIMIZING CONSTRUCTION WASTE.
LOW-FLOW PLUMBING FIXTURES THROUGHOUT THE PROJECT IN AN EFFORT TO REDUCE WATER CONSUMPTION.
EFFICIENT HVAC SYSTEMS AND LIGHTING SYSTEMS AND USING LED LIGHTING AND MOTION SENSORS TO IMPROVE ENERGY PERFORMANCE AND REDUCE OVERALL ENERGY CONSUMPTION.
SOLAR PANELS ON AN AREA OF THE ROOF OVER THE RESEARCH BUILDING AND WAREHOUSE TO SUPPORT THE SITE.
ENERGY EFFICIENT LED SITE LIGHTING.
WATER CONSERVATION DEVICES AND MEASURES PURSUANT TO APPLICABLE STANDARDS CONTAINED IN PETALUMA MUNICIPAL CODE, CHAPTER 15.17, INCLUDING HIGH EFFICIENCY TOILETS, LAVATORY FAUCETS WITH FLOW RATES OF 1.5 GALLONS PER MINUTE OR LESS EQUIPPED WITH AN AERATION DEVICE, KITCHEN AND/OR UTILITY SINK FAUCETS WITH FLOW RATES OF 2.2 GALLONS PER MINUTE OR LESS EQUIPPED WITH AN AERATION DEVICE, AND APPROPRIATELY DESIGNED IRRIGATION SYSTEMS THAT MEET CODE REQUIREMENTS.

TRASH HAULING NARRATIVE

ON-SITE TRASH HAULING AND COLLECTION WILL BE ADMINISTERED BY RECOLOGY AND DONE IN ACCORDANCE TO SPAR APPENDIX B: TRASH ENCLOSURE STANDARDS. BOTH RESEARCH BUILDING AND WAREHOUSE BUILDING WILL COLLECT SEPARATELY. RECYCLING, ORGANICS, AND LANDFILL WASTE. EACH BUILDING WILL HAVE (1) TRASH ENCLOSURE AREA FOR A TOTAL OF (2) TRASH ENCLOSURE AREAS ON THE SITE. THE TRASH ENCLOSURE AREAS WILL BE SURROUNDED BY AN 8'-0" TALL ARCHITECTURAL CMU WALL, (SEE A5, A7, A12 FOR APPEARANCE), WITH EXTERIOR HEAVY GAUGE METAL GATES FOR ACCESS (SEE A8 FOR TRASH ENCLOSURE DETAILS). THE TRASH ENCLOSURE AREAS ARE LOCATED DIRECTLY ADJACENT TO THE LOADING AREA IN THE REAR OF THE BUILDINGS FOR EASY ACCESS BY TENANTS AND RECOLOGY SERVICES. THIS LOCATION ALSO ALLOWS FOR LIMITED VIEW FROM THE PUBLIC RIGHT OF WAY ADJACENT TO THE INFREQUENTLY TRAVELED STREET, FISHER DRIVE (SEE A1.1 FOR LOCATIONS OF TRASH ENCLOSURES). TRASH HAULING SERVICES, ADMINISTERED BY RECOLOGY, WILL ACCESS THE TRASH ENCLOSURES THROUGH THE LOADING GATE. THE SERVICES WILL BE ABLE TO DIRECTLY ACCESS THE ENCLOSURES, WHICH ARE ADJACENT TO THE LOADING DRIVE, AND USE THE LOADING AREA FOR ANY NECESSARY TURN AROUND.

SITE LOADING NARRATIVE

THE SITE WILL INCLUDE (3) VEHICULAR ACCESS POINTS. GATED ACCESS WILL BE REQUIRED AT EACH LOCATION AND THE DISTRIBUTION IS AS FOLLOWS:
EMPLOYEES AND VISITORS WILL HAVE VEHICULAR ACCESS ENTRY AND EXIT POINTS FROM THE EAST ALONG CADEN LANE AND DIRECTLY ACROSS THE SITE FROM THE WEST ALONG FISHER DRIVE.
TRUCKS AND LOADING WILL ACCESS THE SITE FROM THE NORTH ALONG FISHER DRIVE.

THE LOADING DEMANDS OF THE FACILITIES ARE AS FOLLOWS:
THE WAREHOUSE BUILDING CONTAINS (2) FULL SIZE LOADING BIRTHS FOR SHIPPING AND RECEIVING OF STANDARD TRAILER SIZES 53' IN LENGTH. DIMENSIONS ARE PROVIDED ON A1.3.
THE RESEARCH BUILDING CONTAINS (1) LOADING DOCK WHICH SHARES SHIPPING AND RECEIVING FOR THE BUILDING. THE LOADING DOCK AT THE RESEARCH BUILDING IS INTENDED FOR BOX TRUCK ACCESS AND NOT TRACTOR TRAILER TRUCK ACCESS. DIMENSIONS ARE PROVIDED ON A1.3.

ZONING REQUIREMENTS

Table with 2 columns: Requirement, Value. Includes Parcel Area (256,775 SF), Allowable Lot Coverage (128,387 SF), Allowable Height (40' MAX), Setbacks (Front & Rear 25', Side 20'), Parking Ratios (Warehousing: 1900, Office: 1300)

PROJECT DATA

Table with 2 columns: Field, Value. Includes Project Name (Biomarin Petaluma), Project Address (1700 S McDowell Blvd), Accessors Parcel No. (005-280-009), Zoning (Lakeville Business District), Parcel Area (256,775 SF), Construction Type (II-B), Occupancy Type (B)

SITE DATA

Table with 2 columns: Field, Value. Includes Parcel Area (256,775 SF), Lot Coverage Area (70,000 SF), Lot Coverage Area (Buildings-Utility Yard), Total Hardship Area, Total Hardship Area (Including Buildings), Total Permeable Hardship Area, Vegetated Area, Total Open Space Area

BUILDING AREA TABULATIONS

Table with 2 columns: Building Area, Value. Includes Total Research Building Area (32,000 SF), Total Warehouse Building Area (40,000 SF), Total Building Area (72,000 SF)

ESTIMATED CONSTRUCTION COSTS

Table with 2 columns: Construction Cost, Value. Includes Total Construction Cost (\$33,053,386), Research Building Construction Cost (\$22,402,731), Warehouse Building Construction Cost (\$10,650,655)

\* (2) EMPLOYEE SHOWERS WILL BE PROVIDED IN THE RESEARCH BUILDING LOCKER ROOMS AND RESTROOMS. THESE SHOWERS WILL ALSO SUPPORT THE ON-SITE BICYCLE FACILITIES.

PROJECT TEAM

OWNER

BIOMARIN PHARMACEUTICAL, INC
770 LINDARO STREET
SAN RAFAEL, CA 94901
AGENT: SHAR ZAMANPOUR
TEL: 415.382.5726

CIVIL

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500 WASHINGTON STREET, SUITE 200
SAN FRANCISCO, CALIFORNIA 94111
TEL: 415.512.9771

DRAWING INDEX

Table with 3 columns: Drawing Number, Drawing Name, Entitlements Package. Lists General, Civil, Landscape, Architectural, and Electrical drawings.



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550 Ellis Street, Mountain View, CA 94043 650-943-1660  
201 Filbert Street, 3rd Floor, San Francisco, CA 94133 415-477-2700  
2550 Fifth Avenue, Suite 115, San Diego, CA 92103 619-685-3990  
1720 8th Street, Sacramento, CA 95811 916-441-6800

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KEY PLAN

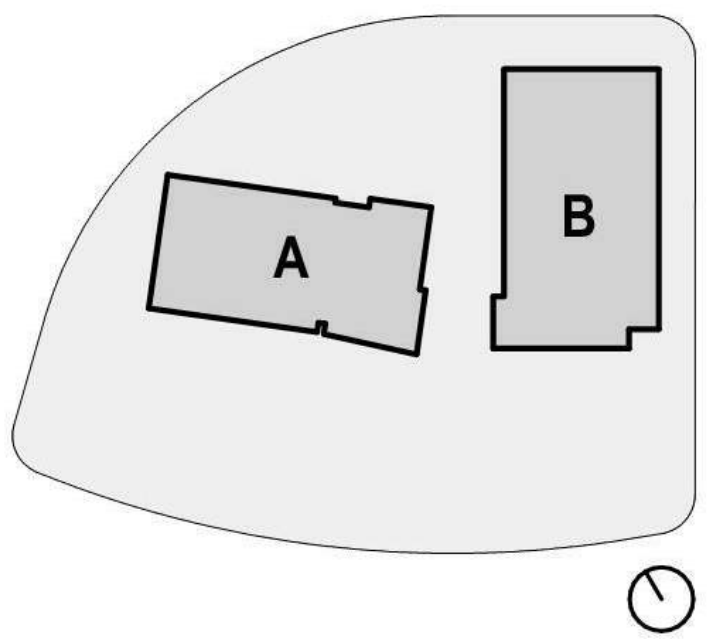


Table with 2 columns: NO., DESCRIPTION, DATE. Contains planning submission and entitlements response dates.

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B:OMARIN

CLIENT BioMarin  
PROJECT BioMarin Petaluma  
ADDRESS 1700 S McDowell Blvd  
Petaluma, CA 94954  
PROJECT NO. 18306  
SCALE AS SHOWN  
TITLE

VICINITY & CONTEXT MAP



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1 RESEARCH - FIRST FLOOR PLAN  
SCALE: 1" = 200'-0"



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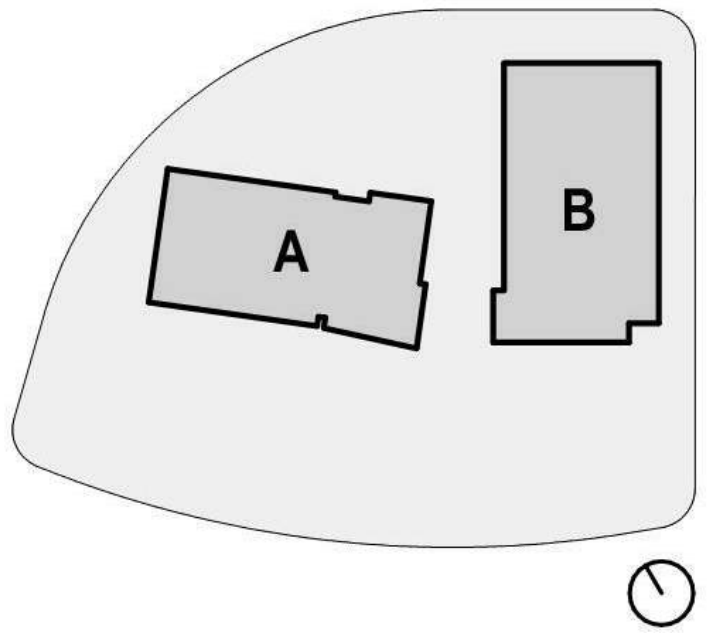


Table with 2 columns: NO., DESCRIPTION, DATE. Contains a list of project milestones.

Table with 2 columns: NO., DATE. Contains specific dates for planning submittal, entitlements response, and planning entitlements.

Table with 3 columns: NO., DESCRIPTION, DATE. Header row for a detailed project log.

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PROJECT BioMarin Petaluma  
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PROJECT NO. 18306  
SCALE AS SHOWN  
TITLE

SITE PHOTOS



1 VIEW FROM SOUTH OF SITE: CORNER OF SOUTH MCDOWELL AND FISHER



2 VIEW FROM SOUTH OF SITE: CORNER OF SOUTH MCDOWELL AND FISHER



3 VIEW FROM SOUTH OF SITE: CORNER OF SOUTH MCDOWELL AND CORPORATE



4 VIEW FROM EAST OF SITE: ALONG SOUTH MCDOWELL



5 VIEW FROM SOUTH OF SITE: CORNER OF SOUTH MCDOWELL AND CADER



6 VIEW FROM EAST OF SITE: CORNER OF SOUTH MCDOWELL AND CADER



7 VIEW FROM EAST OF SITE: ALONG CADER



8 VIEW FROM NORTH OF SITE: ALONG CADER



9 VIEW FROM CENTER OF SITE LOOKING SOUTH TOWARD SOUTH MCDOWELL

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1720 8th Street, Sacramento, CA 95811 916-441-6800

**PROJECT DATA**

LAKE VIEW BUSINESS PARK  
PARCEL SIZE 256,775SF (5.89 ACRES)  
APN: 005-280-009  
LOT 9

**PROPOSED DEVELOPMENT**

RESEARCH 32,000SF  
HEIGHT 24'  
WAREHOUSE 40,000SF  
HEIGHT 39'

**PARKING**

REQUIRED 152 SPACES  
(1/300 RESEARCH) 107 SPACES  
(1/900 WAREHOUSE) 45 SPACES  
(1/450 FUTURE DENSITY) 45 SPACES

PROVIDED 152 SPACES  
PARKING LOT 152 SPACES  
PARKING RESERVE 45 SPACES

**ZONING REQUIREMENTS**

LOT COVERAGE (50%): 128,500SF  
ALLOWABLE HEIGHT: 40'  
MAX. NUMBER OF FLOORS: 3  
SETBACKS: 25'

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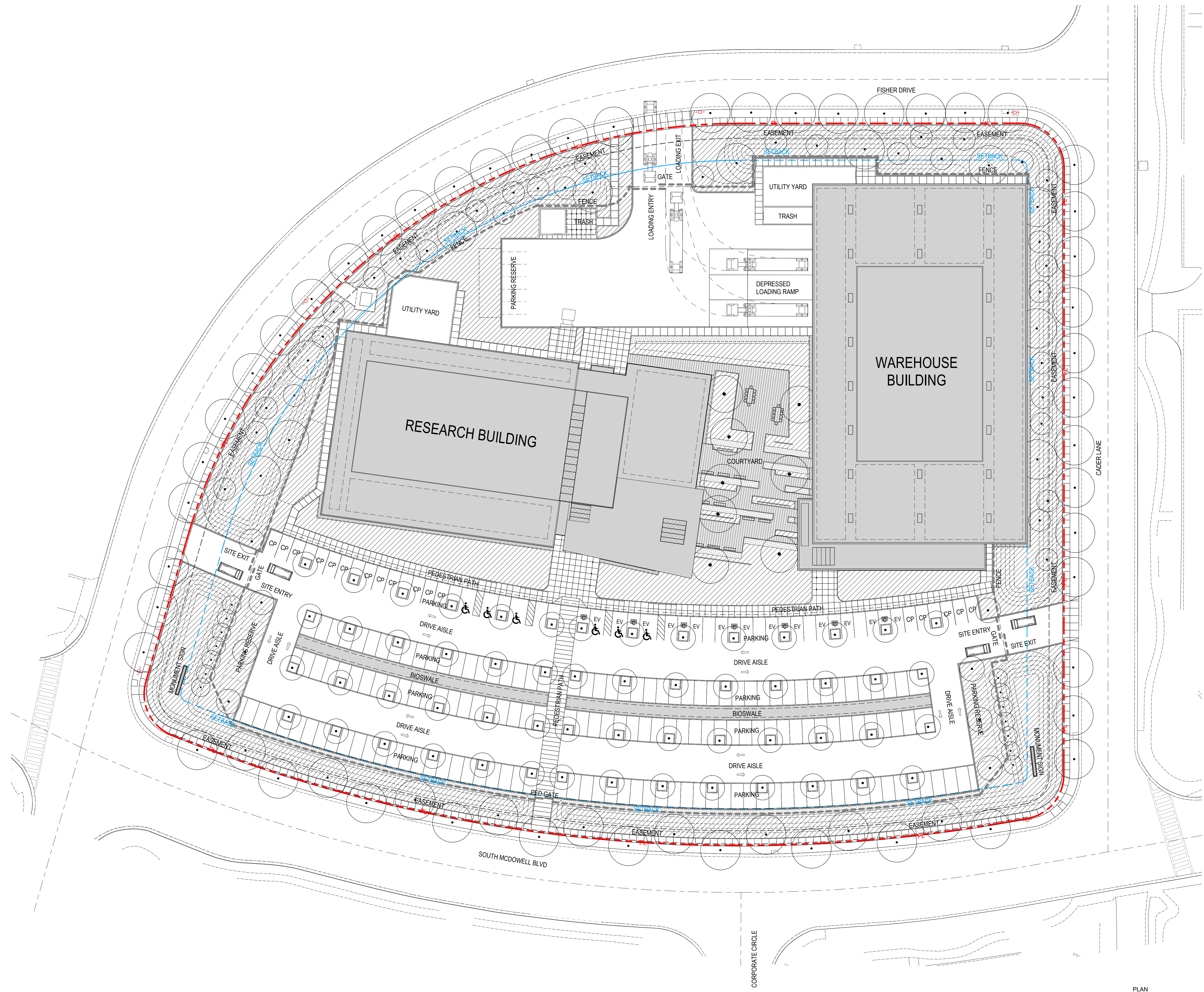
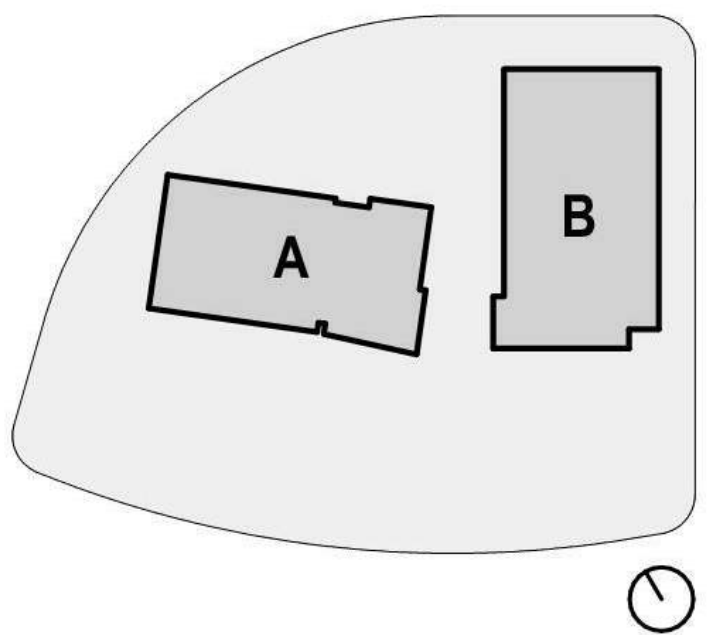
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STAMP

KEY PLAN



PLANNING SUBMITTAL 10/10/19  
PLANNING ENTITLEMENTS 05/15/19

NO. DESCRIPTION DATE

**BIO MARIN**

CLIENT BioMarin

PROJECT BioMarin Petaluma

ADDRESS 1700 S McDowell Blvd  
Petaluma, CA 94954

PROJECT NO. 18306

SCALE AS SHOWN

TITLE

**MASTER PLAN**

**G5**

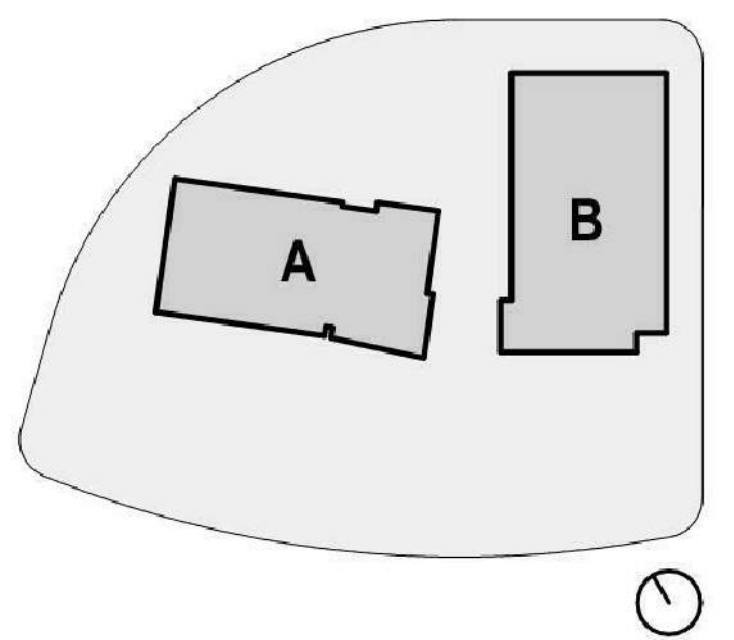
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1 MASTER PLAN  
SCALE: 1" = 30'-0"



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KEY PLAN

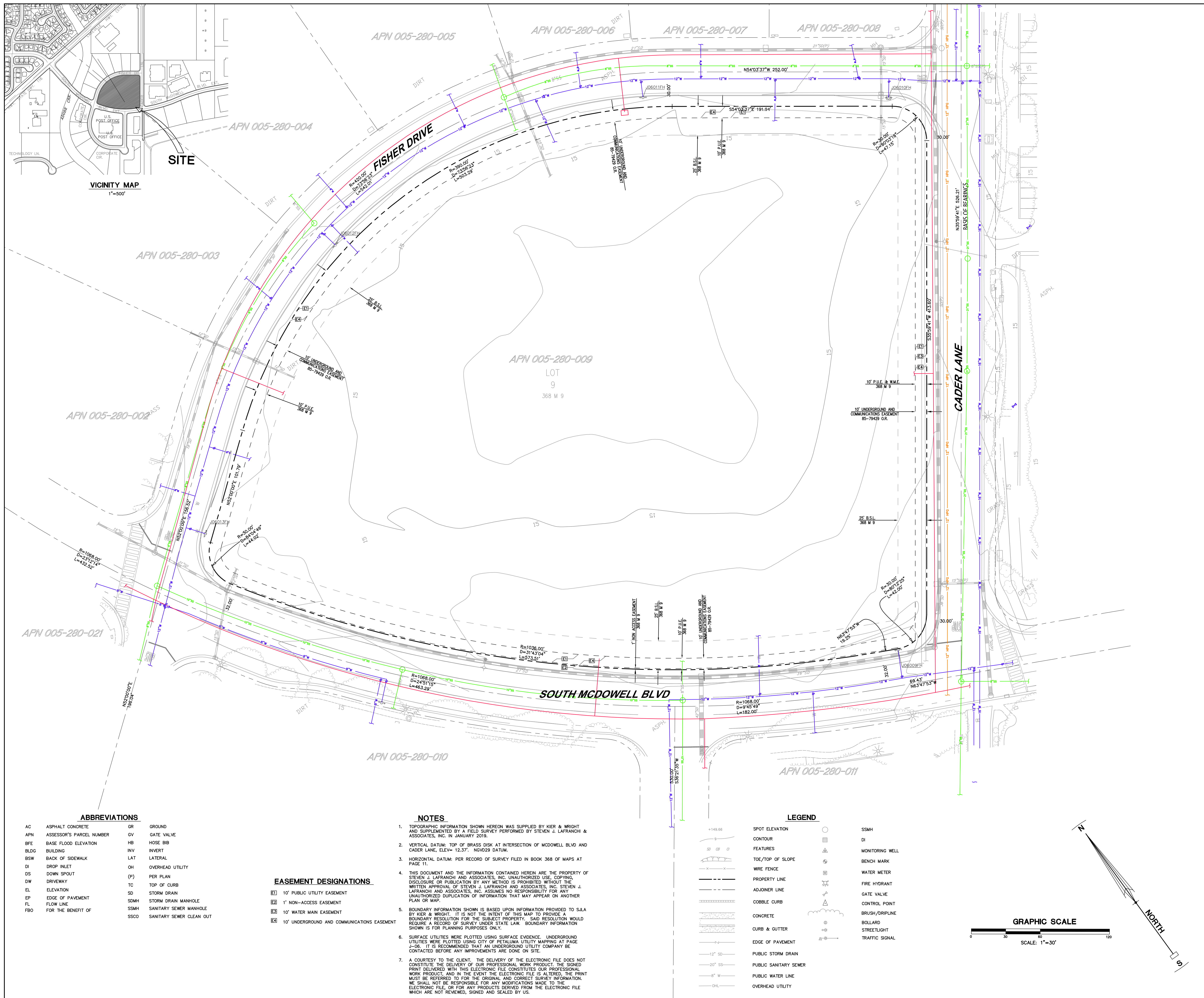


PLANNING SUBMITTAL	10/10/19	
ENTITLEMENTS RESPONSE #1	07/25/19	
PLANNING ENTITLEMENTS	05/15/19	
NO.	DESCRIPTION	DATE

# B:OMARIN

CLIENT BioMarin  
PROJECT BioMarin Petaluma  
ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954  
PROJECT NO. 18306  
SCALE 1" = 30'  
TITLE

## EXISTING CONDITIONS



### ABBREVIATIONS

AC	ASPHALT CONCRETE	GR	GROUND
APN	ASSESSOR'S PARCEL NUMBER	GV	GATE VALVE
BFE	BASE FLOOD ELEVATION	HB	HOSE BIB
BLDG	BUILDING	INV	INVERT
BSW	BACK OF SIDEWALK	LAT	LATERAL
DI	DROP INLET	OH	OVERHEAD UTILITY
DS	DOWN SPOUT	(P)	PER PLAN
DW	DRIVEWAY	TC	TOP OF CURB
EL	ELEVATION	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SDMH	STORM DRAIN MANHOLE
FL	FLOW LINE	SSMH	SANITARY SEWER MANHOLE
FBO	FOR THE BENEFIT OF	SSCO	SANITARY SEWER CLEAN OUT

### EASEMENT DESIGNATIONS

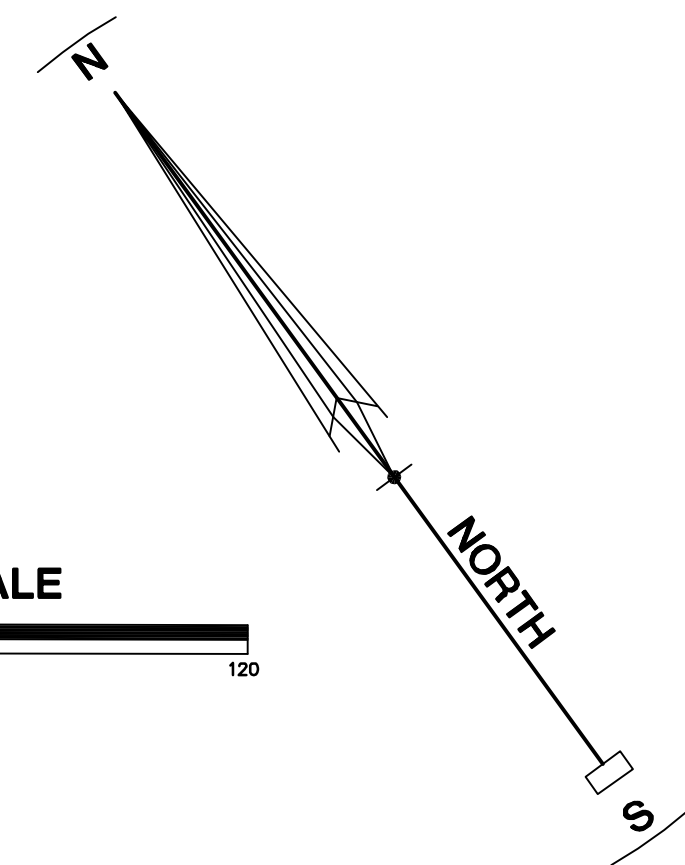
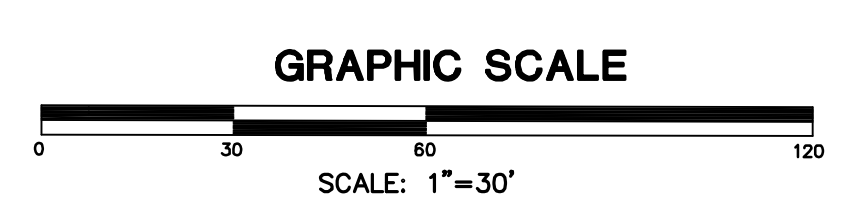
	10' PUBLIC UTILITY EASEMENT
	1' NON-ACCESS EASEMENT
	10' WATER MAIN EASEMENT
	10' UNDERGROUND AND COMMUNICATIONS EASEMENT

### NOTES

1. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS SUPPLIED BY KIER & WRIGHT AND SUPPLEMENTED BY A FIELD SURVEY PERFORMED BY STEVEN J. LAFRANCHI & ASSOCIATES, INC. IN JANUARY 2019.
2. VERTICAL DATUM: TOP OF BRASS DISK AT INTERSECTION OF MCDOWELL BLVD AND CADER LANE, ELEV= 12.37'. NGVD29 DATUM.
3. HORIZONTAL DATUM: PER RECORD OF SURVEY FILED IN BOOK 368 OF MAPS AT PAGE 11.
4. THIS DOCUMENT AND THE INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF STEVEN J. LAFRANCHI AND ASSOCIATES, INC. UNAUTHORIZED USE, COPYING, DISCLOSURE OR PUBLICATION BY ANY METHOD IS PROHIBITED WITHOUT THE WRITTEN APPROVAL OF STEVEN J. LAFRANCHI AND ASSOCIATES, INC. STEVEN J. LAFRANCHI AND ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR ANY UNAUTHORIZED DUPLICATION OF INFORMATION THAT MAY APPEAR ON ANOTHER PLAN OR MAP.
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6. SURFACE UTILITIES WERE PLOTTED USING SURFACE EVIDENCE. UNDERGROUND UTILITIES WERE PLOTTED USING CITY OF PETALUMA UTILITY MAPPING AT PAGE J-05. IT IS RECOMMENDED THAT AN UNDERGROUND UTILITY COMPANY BE CONTACTED BEFORE ANY IMPROVEMENTS ARE DONE ON SITE.
7. A COURTESY TO THE CLIENT, THE DELIVERY OF THE ELECTRONIC FILE DOES NOT CONSTITUTE THE DELIVERY OF OUR PROFESSIONAL WORK PRODUCT. THE SIGNED PRINT DELIVERED WITH THIS ELECTRONIC FILE CONSTITUTES OUR PROFESSIONAL WORK PRODUCT, AND IN THE EVENT THE ELECTRONIC FILE IS ALTERED, THE PRINT MUST BE REFERRED TO FOR THE ORIGINAL AND CORRECT SURVEY INFORMATION. WE SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE TO THE ELECTRONIC FILE, OR FOR ANY PRODUCTS DERIVED FROM THE ELECTRONIC FILE WHICH ARE NOT REVIEWED, SIGNED AND SEALED BY US.

### LEGEND

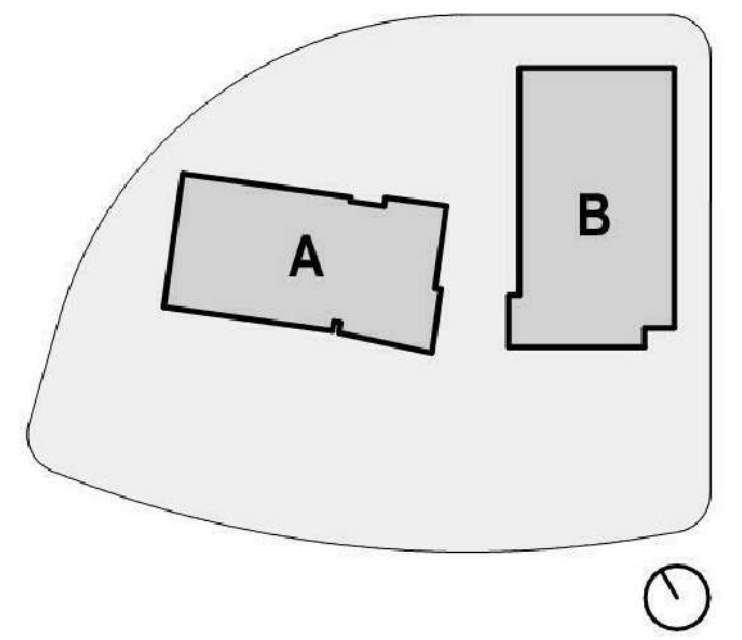
	SPOT ELEVATION		SSMH
	CONTOUR		DI
	FEATURES		MONITORING WELL
	TOE/TOP OF SLOPE		BENCH MARK
	WIRE FENCE		WATER METER
	PROPERTY LINE		FIRE HYDRANT
	ADJOINER LINE		GATE VALVE
	COBBLE CURB		CONTROL POINT
	CONCRETE		BRUSH/DRIPLINE
	CURB & GUTTER		BOLLARD
	EDGE OF PAVEMENT		STREETLIGHT
	PUBLIC STORM DRAIN		TRAFFIC SIGNAL
	PUBLIC SANITARY SEWER		
	PUBLIC WATER LINE		
	OVERHEAD UTILITY		





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KEY PLAN



**LEGEND**

EXISTING	PROPOSED	DESCRIPTION
---	---	CONTOUR
---	---	SURFACE FLOW
---	---	SPOTGRADE
---	---	PROPERTY LINE/RIGHT OF WAY
---	---	CURB & GUTTER
---	---	EASEMENT LINE
---	---	SANITARY SEWER
---	---	WATER LINE
---	---	FIRE SERVICE
---	---	GAS LINE
---	---	JOINT TRENCH
---	---	STORM DRAIN
---	---	ASPHALT PAVING
---	---	BIORETENTION BASIN
---	---	LANDSCAPE AREA
---	---	GRAVEL PAVING
---	---	PERMEABLE PAVERS
---	---	CONCRETE
---	---	DROP INLET
---	---	AREA DRAIN
---	---	TREE WELL
---	---	RETAINING WALL
---	---	ELECTRIC VEHICLE CHARGING STATION
---	---	SECURITY FENCE
---	---	EXISTING FIRE HYDRANT
---	---	PROPOSED FIRE HYDRANT LOCATION
---	---	FIRE HYDRANT TO BE MOVED
---	---	DOUBLE DETECTOR CHECK VALVE & FDC
---	---	DOWNSPOUT

ABBREVIATIONS

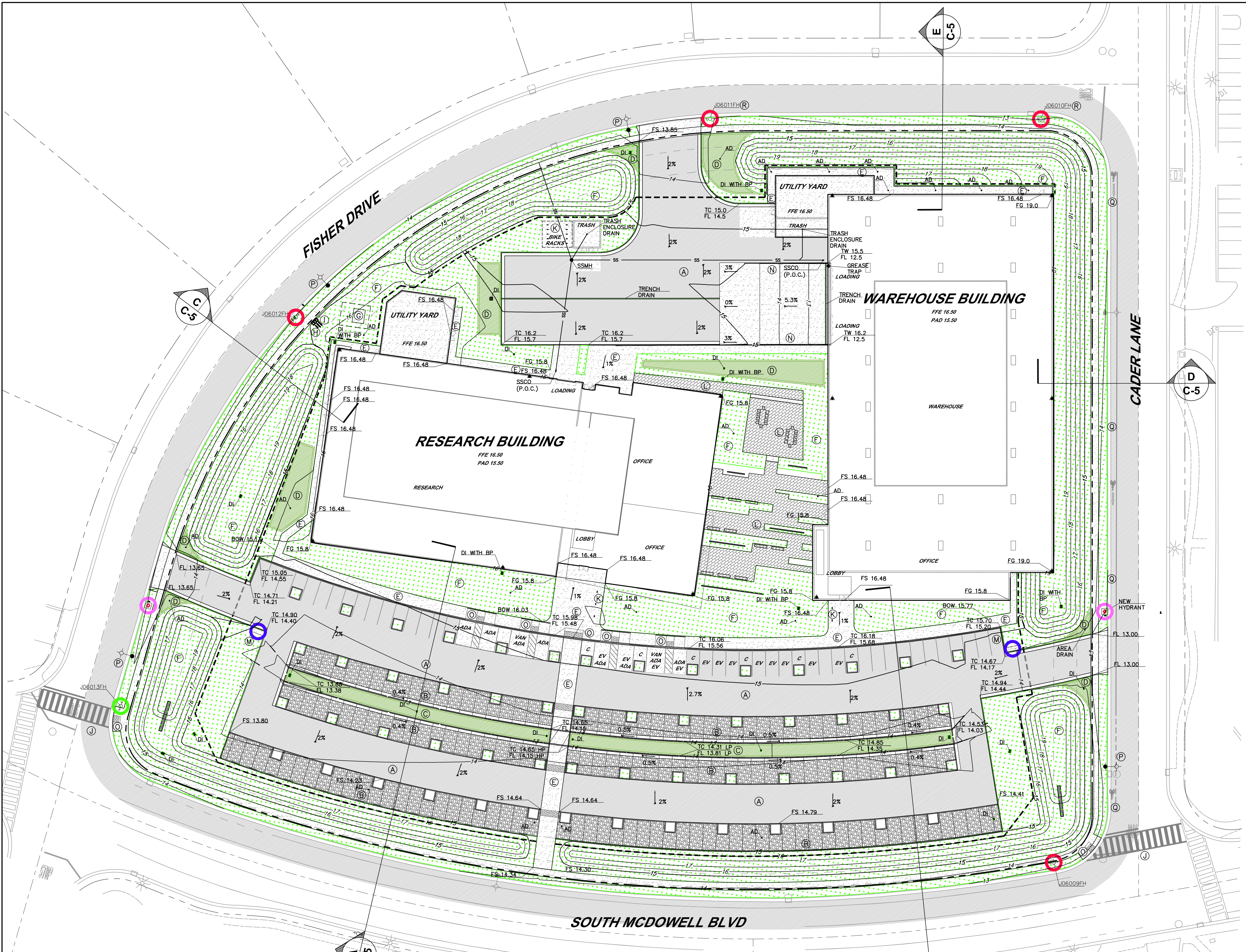
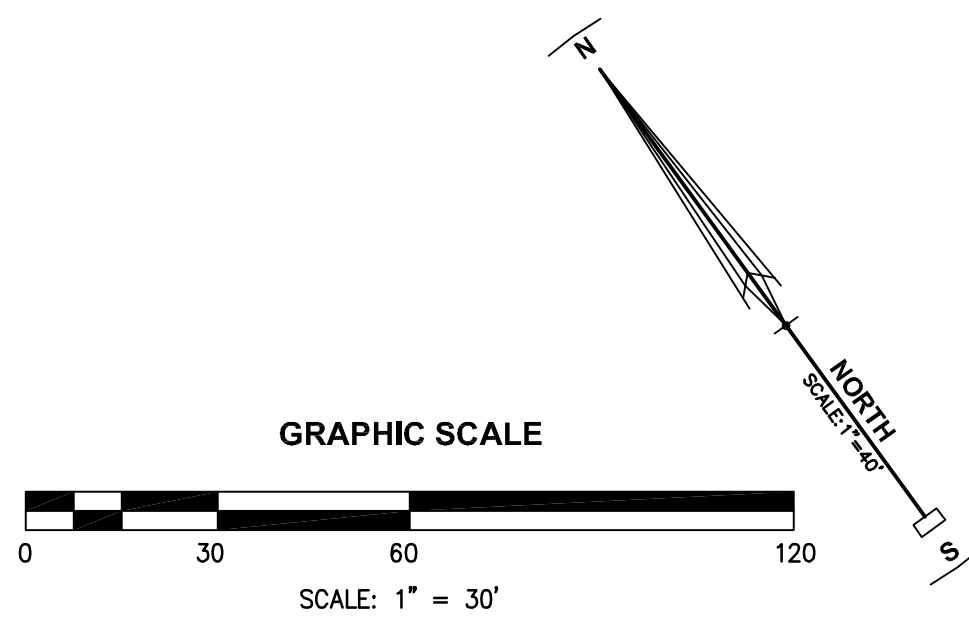
- AD AREA DRAIN
- CB CATCH BASIN
- BP BYPASS
- DI DROP INLET
- EG EXISTING GRADE
- FTE FINISHED FLOOR ELEVATION
- FH FIRE HYDRANT
- FG FINISHED GRADE
- FL FLOW LINE
- FS FINISHED SURFACE
- HP HIGH POINT
- IE INVERT ELEVATION
- LP LOW POINT
- MH MAN HOLE
- P.O.C. POINT OF CONNECTION
- RE RIM ELEVATION
- SDM STORM DRAIN
- SS STORM DRAIN MAN HOLE
- SG SUB-GRADE
- SS SANITARY SEWER
- SSCO SANITARY SEWER CLEAN OUT
- SSMH SANITARY SEWER MAN HOLE
- TC TOP OF CURB
- TW TOP OF WALL
- WV WATER VALVE

KEYNOTES

- (A) ASPHALT PAVING.
- (B) GRAVEL PERMEABLE PAVING.
- (C) BIORETENTION BASIN TYPE 1, SEE DETAIL ON SHEET C-6.
- (D) BIORETENTION AREA TYPE 2, SEE DETAIL ON SHEET C-6.
- (E) CONCRETE WALKWAY.
- (F) LANDSCAPE, SEE LANDSCAPE PLANS FOR DETAILS.
- (G) TRANSFORMER PAD.
- (H) WATER METERS.
- (I) COMMERCIAL & IRRIGATION BACKFLOW PREVENTERS.
- (J) NEW CROSSWALK (LADDER TYPE), SEE DETAIL ON SHEET C-6.
- (K) BICYCLE RACK.
- (L) PERMEABLE PAVERS.
- (M) DOUBLE DETECTOR CHECK VALVE W/ FDC.
- (N) RETAINING WALL WITH GUARD RAIL.
- (O) CURB RAMP, SEE DETAILS ON SHEET C-6.
- (P) STREET LIGHT PER CITY STANDARD 603.
- (Q) CLASS II BICYCLE PATH
- (R) HYDRANT TESTED, SEE FIRE FLOW INFO FROM TEST RESULTS. STATIC PSI > 70, 835 GPM @ 20 PSI

NOTES

- 1. FOR PAVEMENT STRUCTURAL SECTIONS SEE DETAILS ON SHEET C-6.



NO.	DESCRIPTION	DATE
	PLANNING SUBMITTAL	10/10/19
	ENTITLEMENTS RESPONSE #1	07/25/19
	PLANNING ENTITLEMENTS	05/15/19

**BIOMARIN**

CLIENT BioMarin  
PROJECT BioMarin Petaluma  
ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954  
PROJECT NO. 18306  
SCALE 1" = 30'  
TITLE

**PRELIMINARY SITE IMPROVEMENT**



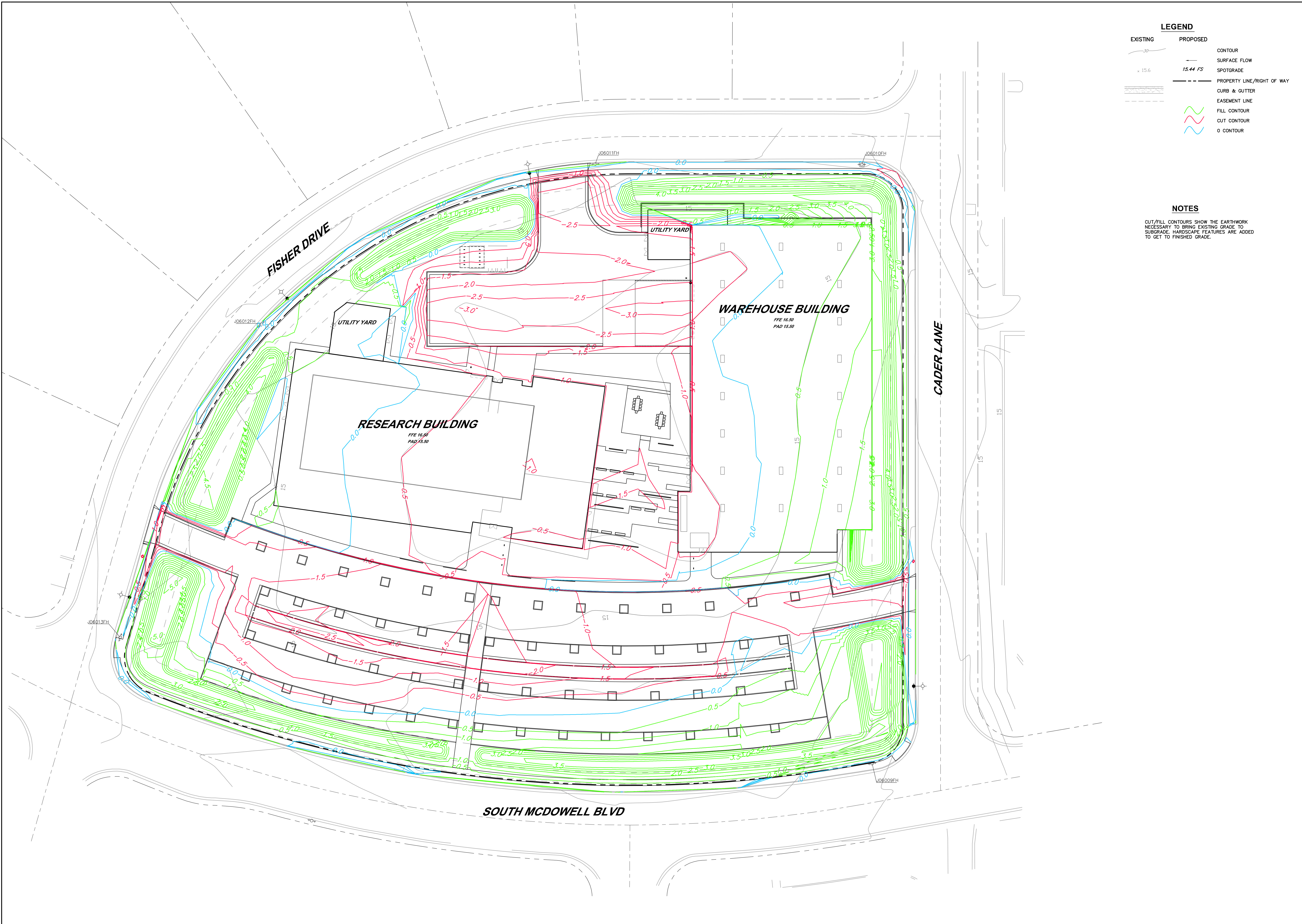
**LEGEND**

EXISTING PROPOSED

CONTOUR  
 SURFACE FLOW  
 SPOTGRADE  
 PROPERTY LINE/RIGHT OF WAY  
 CURB & GUTTER  
 EASEMENT LINE  
 FILL CONTOUR  
 CUT CONTOUR  
 O CONTOUR

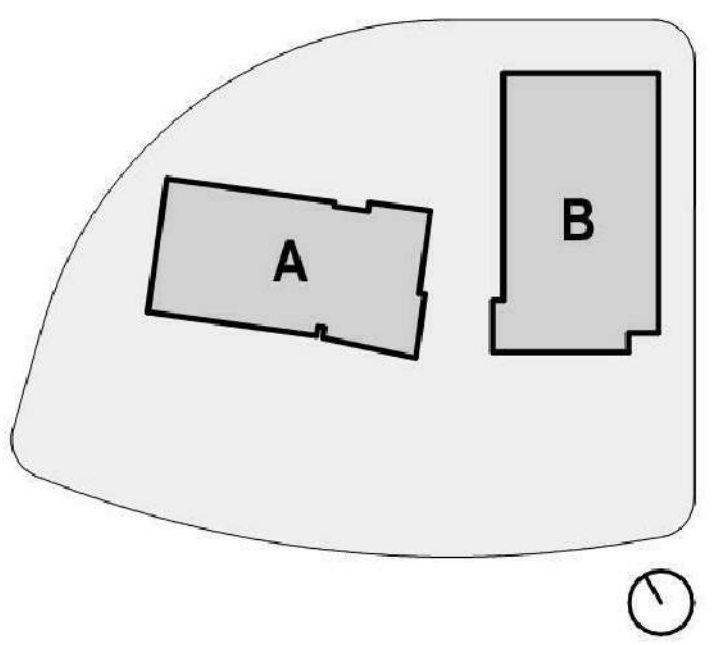
**NOTES**

CUT/FILL CONTOURS SHOW THE EARTHWORK NECESSARY TO BRING EXISTING GRADE TO SUBGRADE. HARDSCAPE FEATURES ARE ADDED TO GET TO FINISHED GRADE.



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**KEY PLAN**



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 PROJECT BioMarin Petaluma  
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 Petaluma, CA 94954  
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 TITLE

**PRELIMINARY CUT/FILL**

**PAVEMENT STRUCTURAL SECTIONS**

	AREA	AC	VOL.(CY)	AB	VOL.(CY)
DRIVE AISLES @ PARKING	32362 SF	4"	396	12"	1199
CONCRETE WALKWAYS	19327 SF	4" P.C.C.	236	4"	236
GRAVEL PAVING	12458 SF	4"	152	4"	152
TRUCK WADING AREA	17798 SF	5"	275	15"	824
ADA PARKING	252 SF	6" P.C.C.	4.67	6"	4.67
VEHICULAR CONCRETE	1062 SF	6" P.C.C.	19.7	8"	26.4
PERMEABLE PAVERS	5802 SF	4"	70.9	4"	70.9
<b>SUMMARY TOTALS</b>			671 CY		1513.56 CY

ASPHALT CONCRETE (AC)  
 CLASS II AGGREGATE BASE (AB)  
 PORTLAND CEMENT CONCRETE (P.C.C.)  
 GRAVEL PAVING  
 PERMEABLE PAVERS

**\*EARTHWORK QUANTITIES**  
 BUILDING PAD, & SUBGRADES OF WALKWAYS,  
 DRIVE AISLES & PARKING AREAS

CUT = 5670 CY  
 FILL = 6421 CY  
 NET FILL = 751 CY

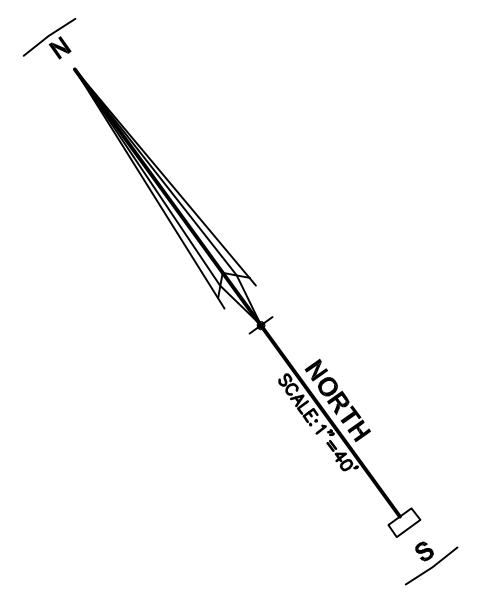
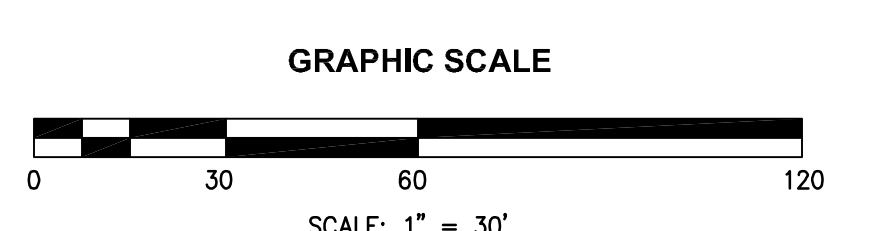
**NOTES:**

- EARTHWORK QUANTITIES ARE BASED ON IN SITE VOLUME AND SECTION OF FINISHED DESIGN PRIOR TO APPLICATION OF SHRINK/SWELL FACTORS.
- EARTHWORK QUANTITIES ARE CALCULATED FROM THE EXISTING TOPOGRAPHY DONE ON JULY 24, 2018 AND SUBGRADES OF THE FINISHED PAVEMENT GRADES SHOWN ON THIS GRADING PLAN.

Site Volume Table: Unadjusted

Site	Stratum	Surf1	Surf2	CUT	FILL	NET
BioMarin				5670 cy	6421 cy	751 cy (F)

EXISTING GRADE TO SUBGRADE



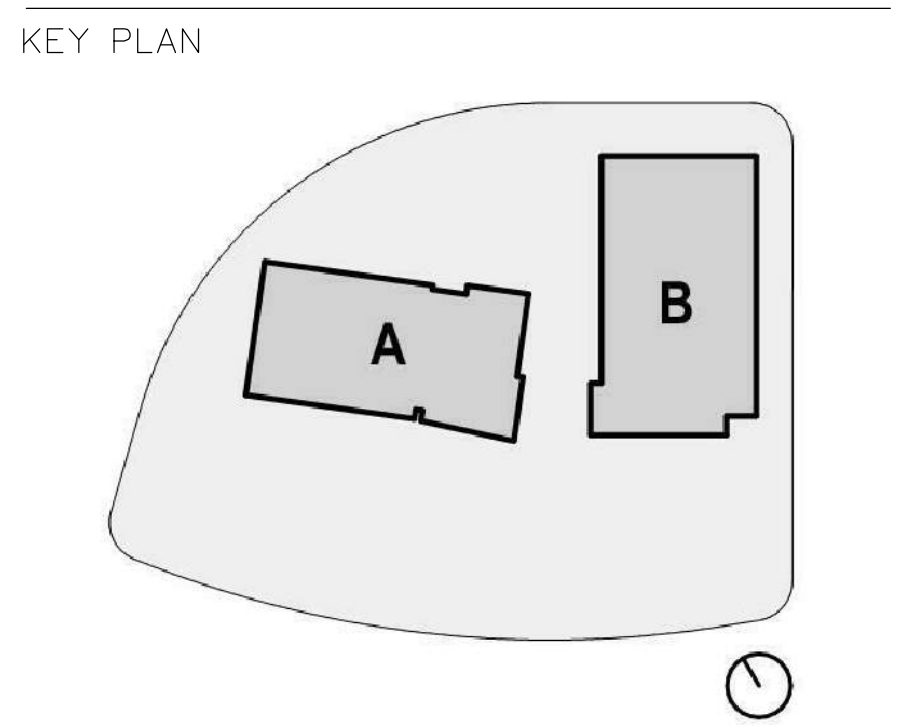
**C-3**  
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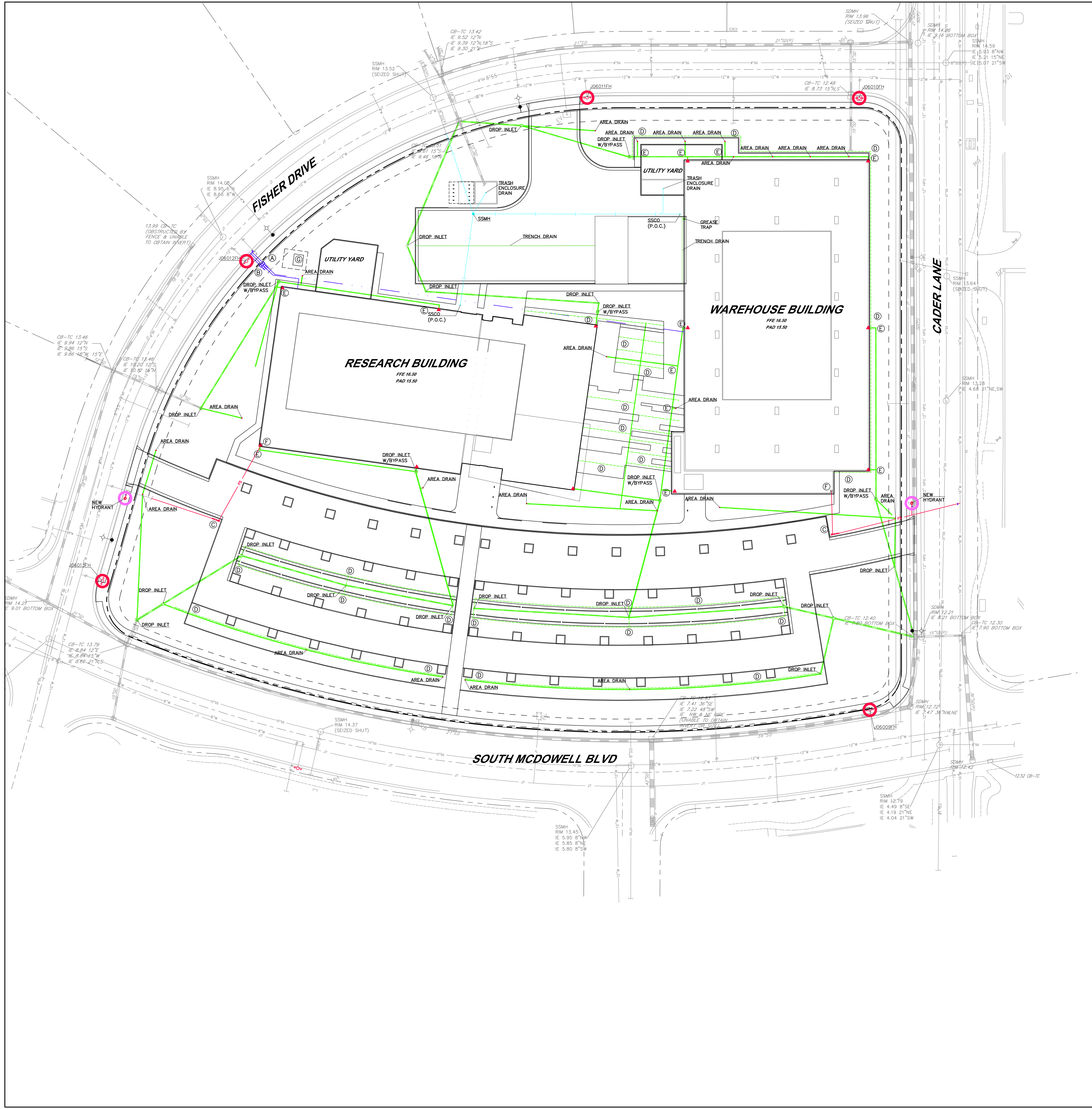



PLANNING SUBMITTAL	10/10/19
ENTITLEMENTS RESPONSE #1	07/25/19
PLANNING ENTITLEMENTS	05/15/19

NO.	DESCRIPTION	DATE
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CLIENT BioMarin  
 PROJECT BioMarin Petaluma  
 ADDRESS 1700 McDowell Blvd, Petaluma, CA 94954  
 PROJECT NO. 18306  
 SCALE 1" = 30'  
 TITLE PRELIMINARY UTILITY PLAN



**LEGEND**

EXISTING	PROPOSED	CONTOUR
+	+	SURFACE FLOW
-	-	SPOTGRADE
-	-	PROPERTY LINE/RIGHT OF WAY
-	-	CURB & GUTTER
-	-	EASEMENT LINE
-	-	SANITARY SEWER
-	-	WATER LINE
-	-	FIRE SERVICE
-	-	GAS LINE
-	-	JOINT TRENCH
-	-	STORM DRAIN
-	-	PERFORATED SUBDRAIN
-	▲	DOWNSPOUT
-	■	DROP INLET
-	●	AREA DRAIN
-	○	SANITARY SEWER CLEAN OUT
-	○	TRENCH DRAIN
-	○	FIRE HYDRANT
-	○	WATER METER
-	○	WATER VALVE
-	○	EXISTING HYDRANT
-	○	PROPOSED HYDRANT
-	-	BACK FLOW PREVENTER

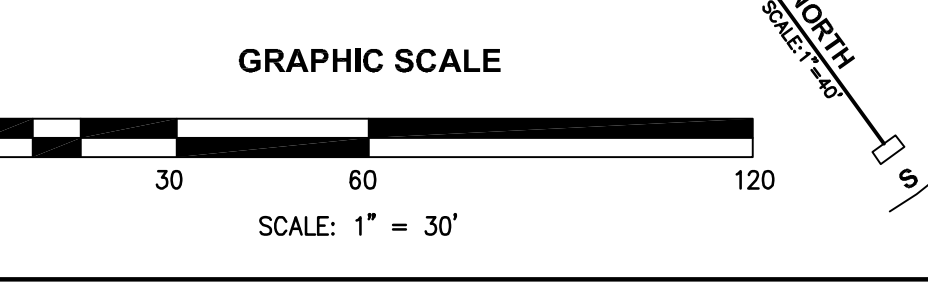
**ABBREVIATIONS**

AD AREA DRAIN  
 CB CATCH BASIN  
 DI DROP INLET  
 EG EXISTING GRADE  
 FFE FINISHED FLOOR ELEVATION  
 FH FIRE HYDRANT  
 FG FINISHED GRADE  
 FL FLOW LINE  
 FS FINISHED SURFACE  
 HP HIGH POINT  
 IE INVERT ELEVATION  
 LP LOW POINT  
 MH MAN HOLE  
 RE RIM ELEVATION  
 P.O.C. POINT OF CONNECTION  
 SD STORM DRAIN  
 SMH STORM DRAIN MAN HOLE  
 SG SUB-GRADE  
 SS SANITARY SEWER  
 SSCO SANITARY SEWER CLEAN OUT  
 SSMH SANITARY SEWER MAN HOLE  
 TC TOP OF CURB  
 WV WATER VALVE

**KEYNOTES**

(A) WATER METERS.  
 (B) COMMERCIAL & IRRIGATION BACKFLOW PREVENTERS.  
 (C) DOUBLE DETECTOR CHECK VALVE AND FDC.  
 (D) PERFORATED SUBDRAIN.  
 (E) BLIND CONNECTION.  
 (F) FIRE RISER.  
 (G) TRANSFORMER

**NOTES**  
 1. UTILITY INVERTS AND SIZES TO BE DETERMINED AT TIME OF CONSTRUCTION DOCUMENTS. LAYOUT IS CONCEPTUAL AND SUBJECT TO REVISION.

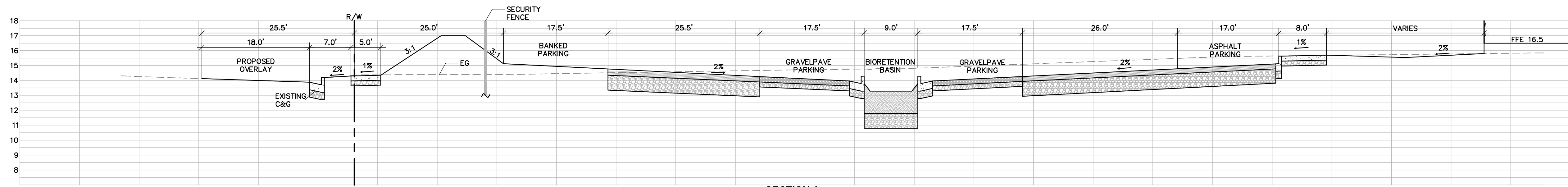




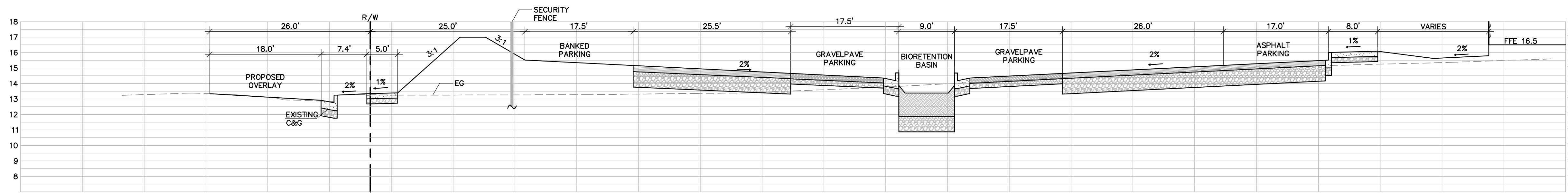
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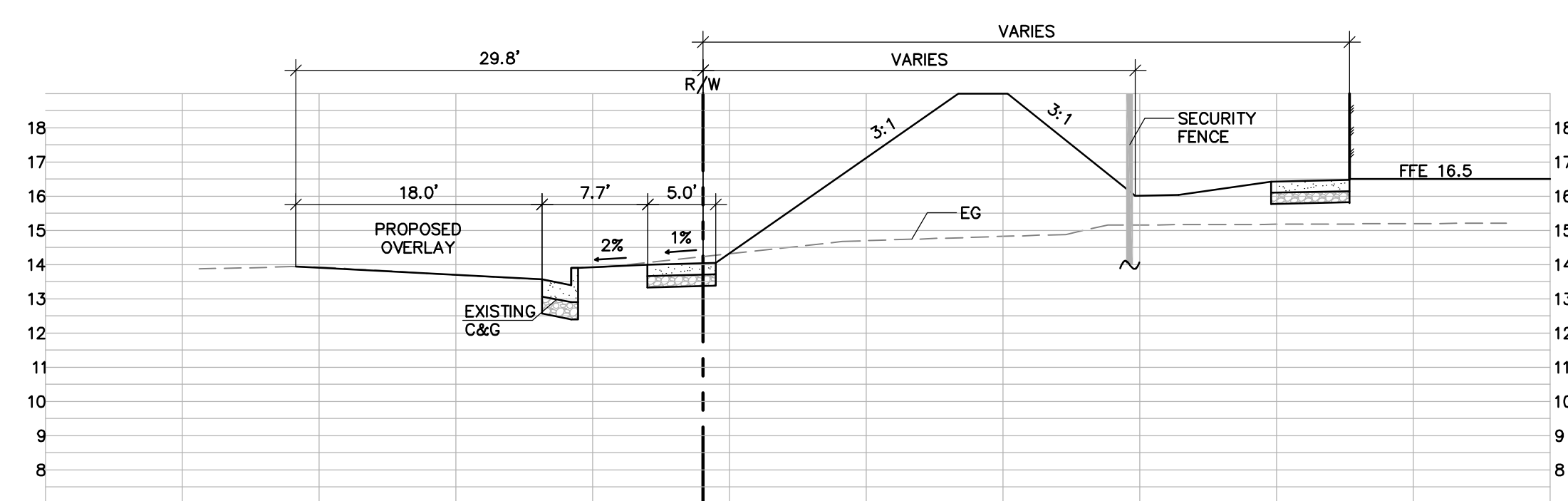
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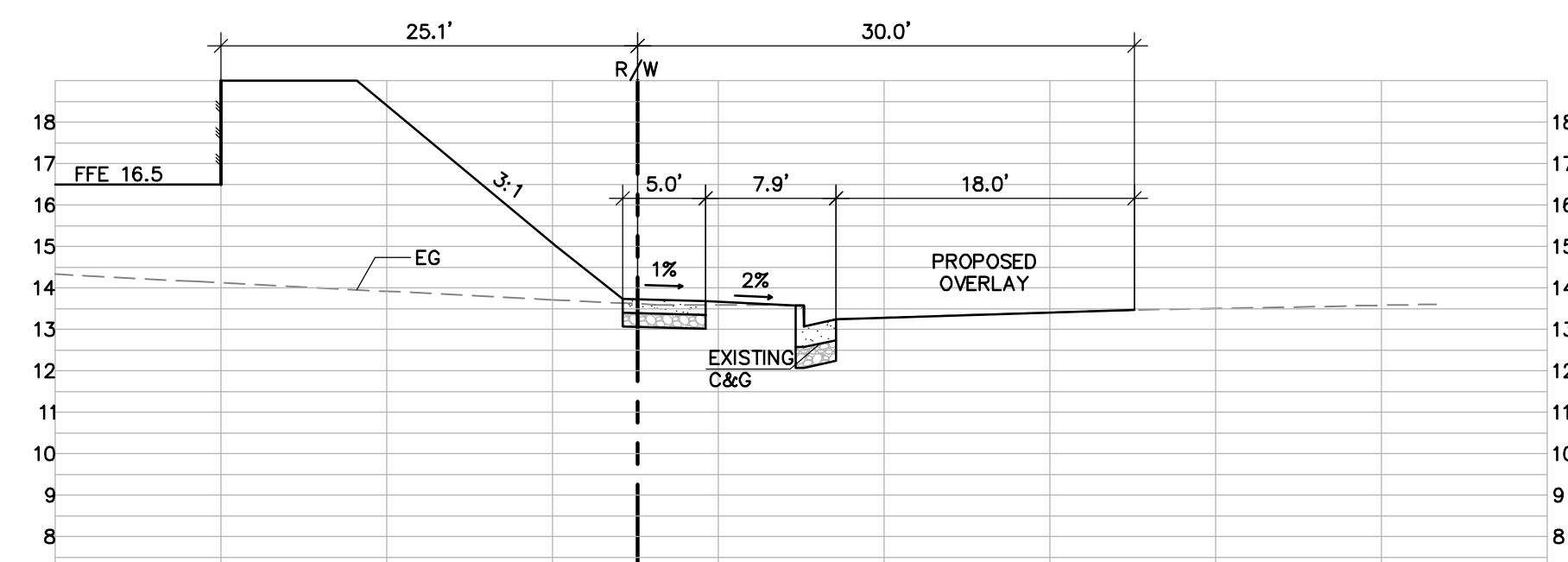
SECTION A  
SCALE: 1"=10' H 1"=4'V



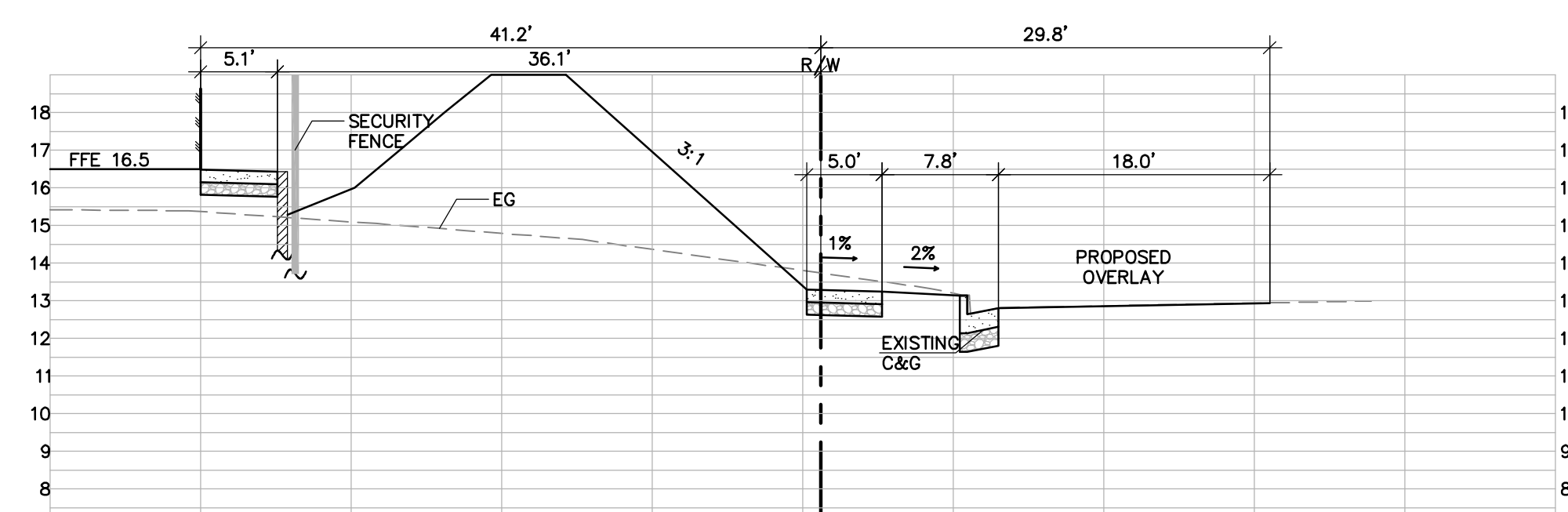
SECTION B  
SCALE: 1"=10' H 1"=4'V



SECTION C  
SCALE: 1"=10' H 1"=4'V



SECTION D  
SCALE: 1"=10' H 1"=4'V



SECTION E  
SCALE: 1"=10' H 1"=4'V

KEY PLAN

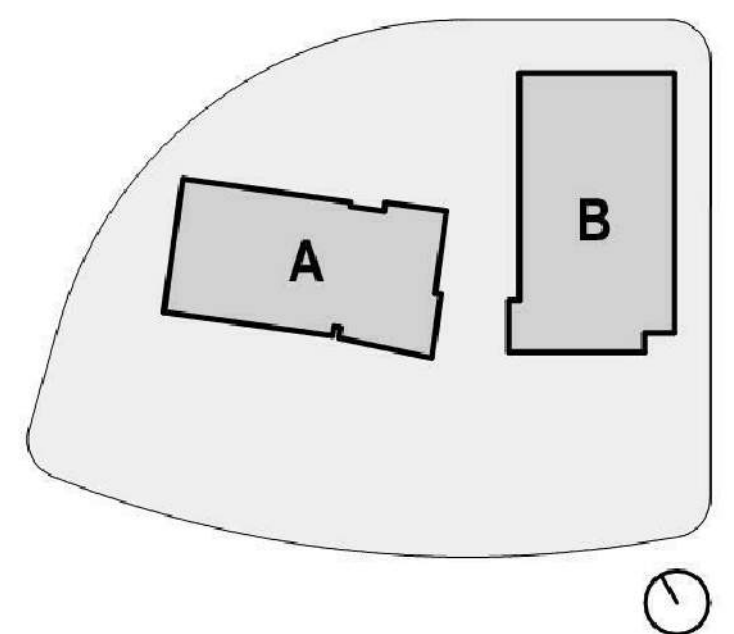


Table with 3 columns: NO., DESCRIPTION, DATE. The table is currently empty.

PLANNING SUBMITTAL	10/10/19
ENTITLEMENTS RESPONSE #1	07/25/19
PLANNING ENTITLEMENTS	05/15/19

NO.	DESCRIPTION	DATE

# B:OMARIN

CLIENT BioMarin

PROJECT BioMarin Petaluma

ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954

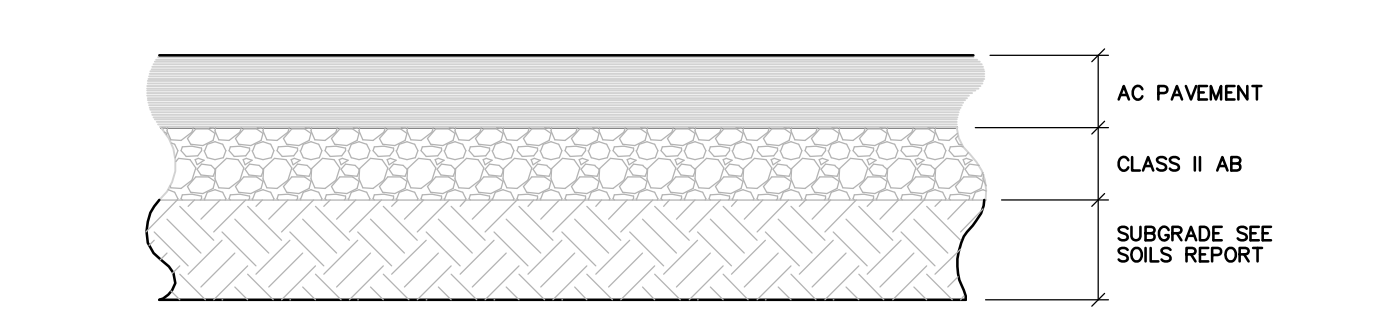
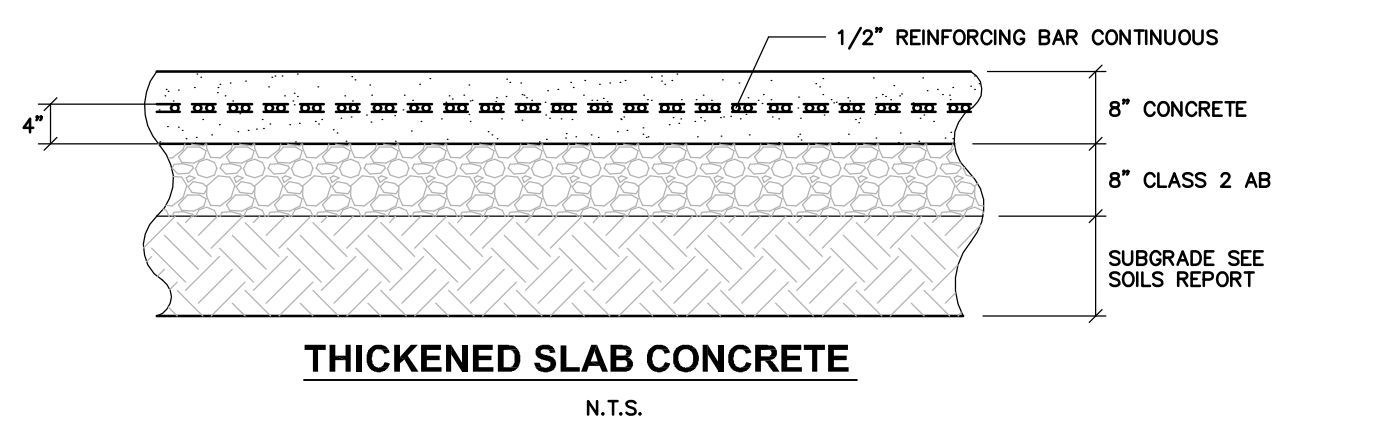
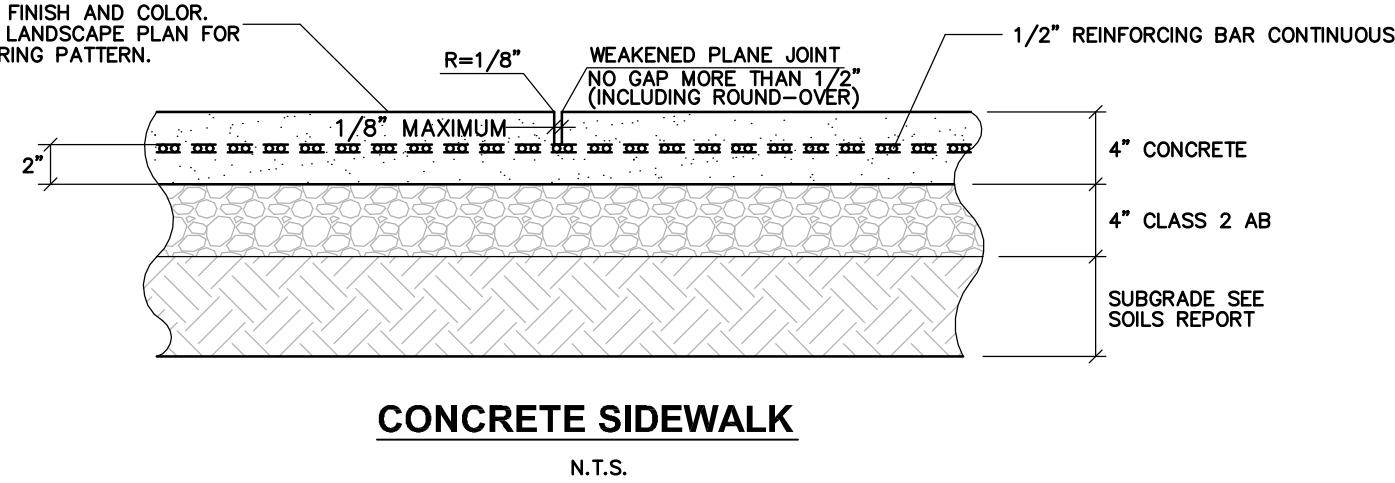
PROJECT NO. 18306

SCALE AS SHOWN

TITLE

## SECTIONS

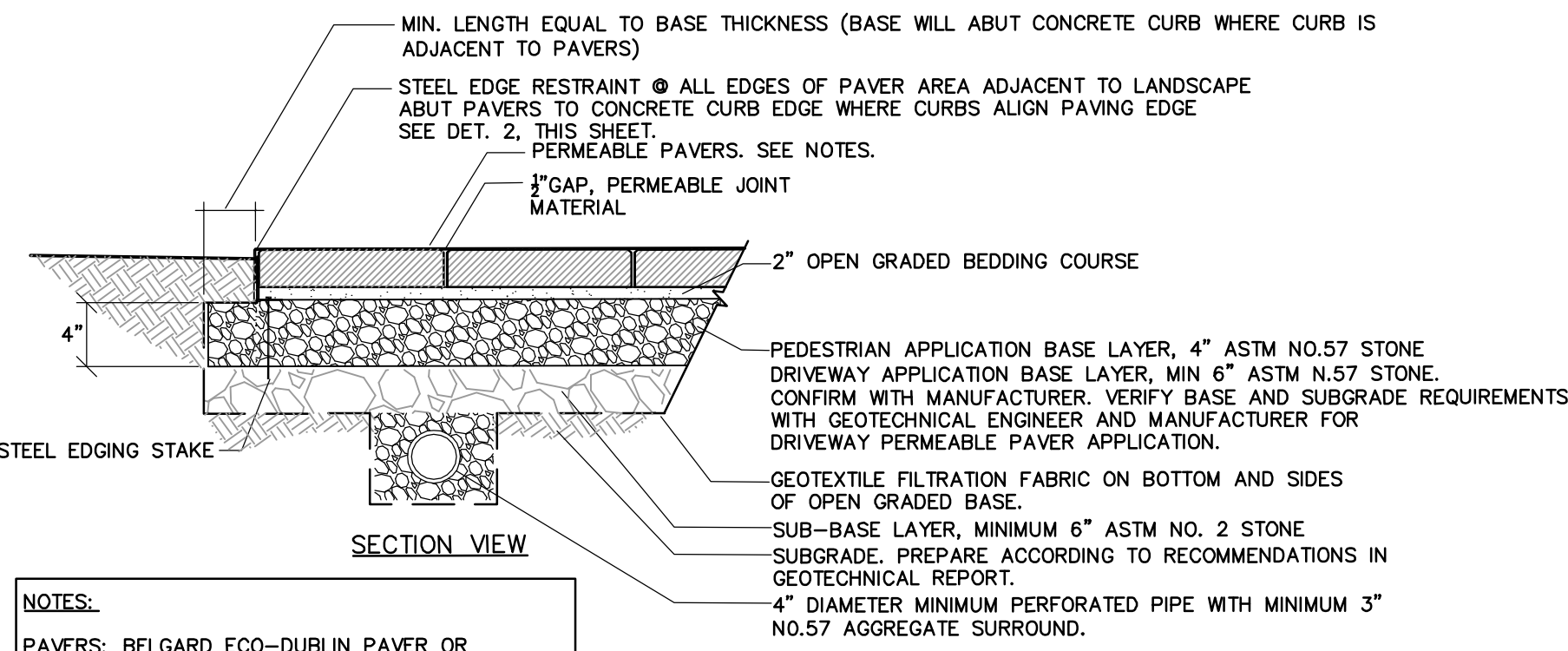
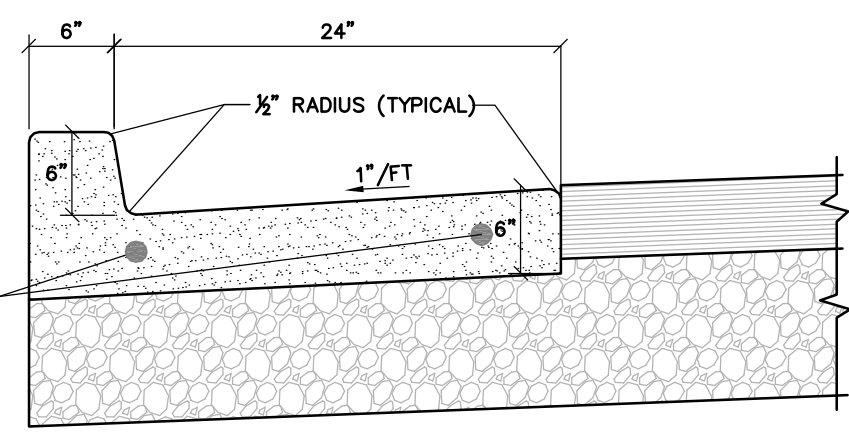
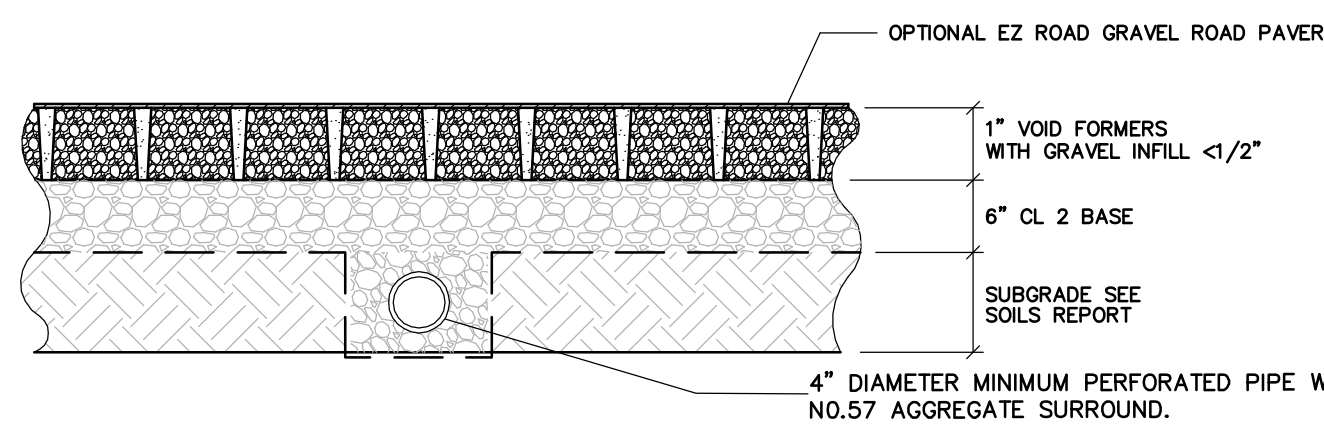
REFER TO SPECIFICATIONS FOR FINISH AND COLOR. SEE LANDSCAPE PLAN FOR SCORING PATTERN.



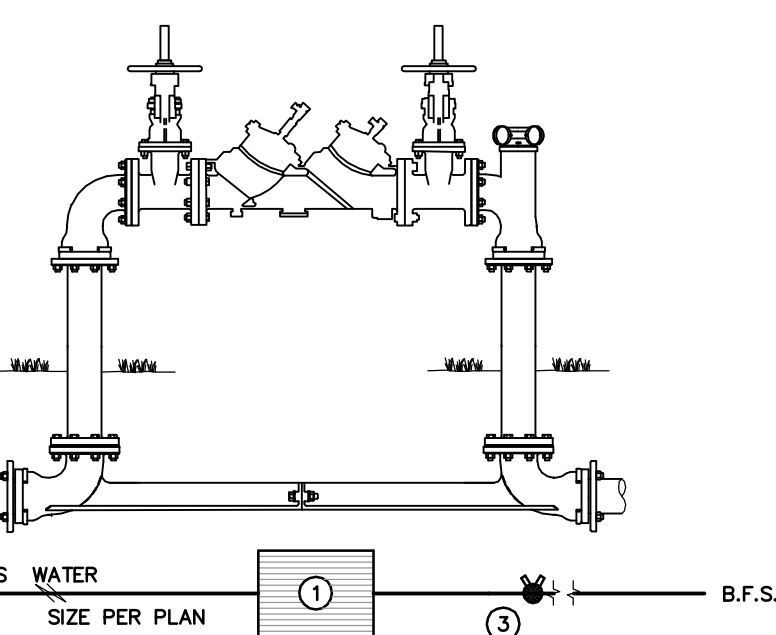
THE FOLLOWING INFORMATION IS BASED ON THE RECOMMENDATIONS AS EXPRESSED IN THE GEOTECHNICAL INVESTIGATION PREPARED BY MILLER PACIFIC ENGINEERING GROUP.

	A.C.	CL. 2 A.B.
PARKING AND ACCESS AREAS	3"	8"
HEAVY TRUCK ACCESS	3.5"	16"

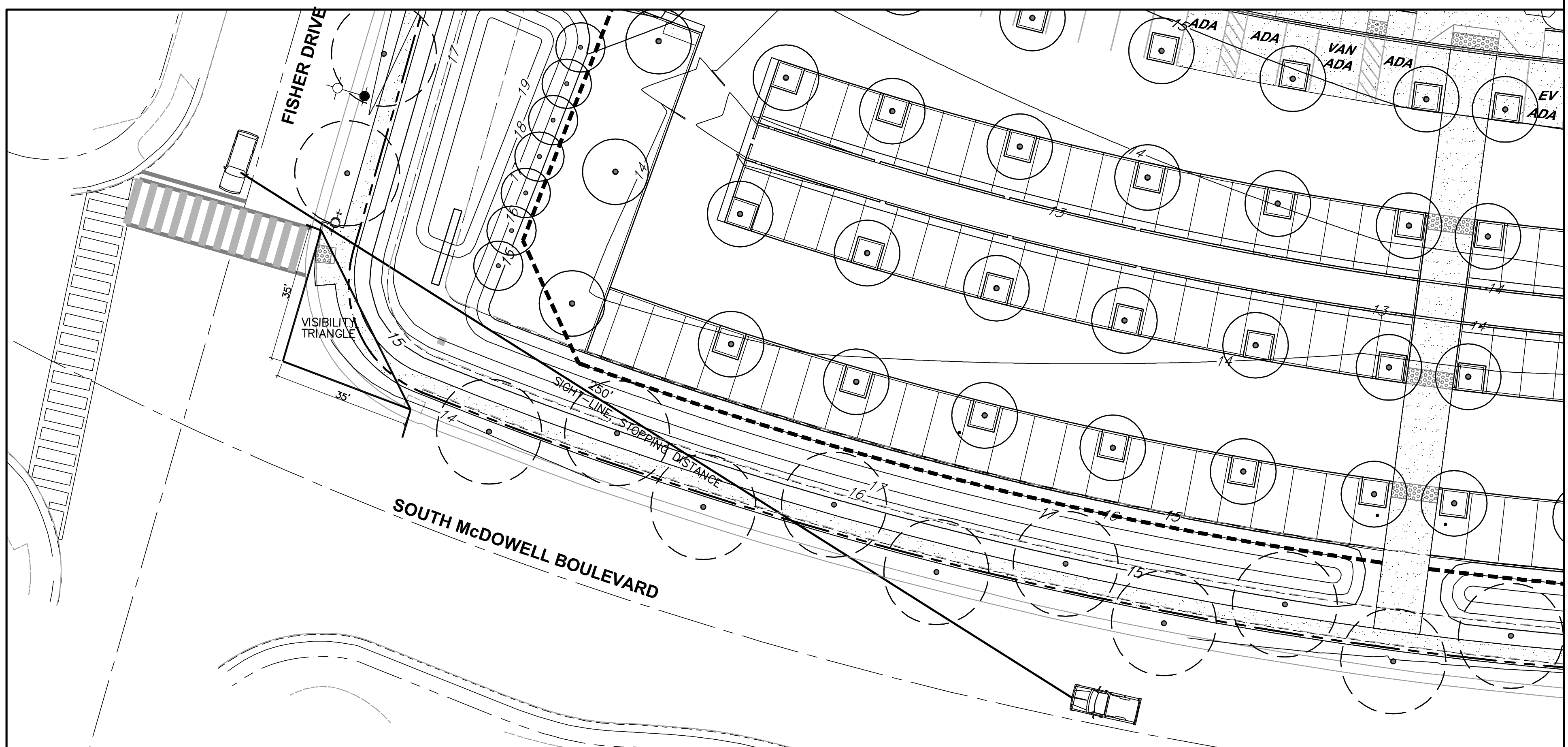
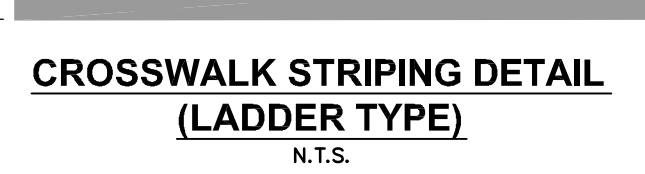
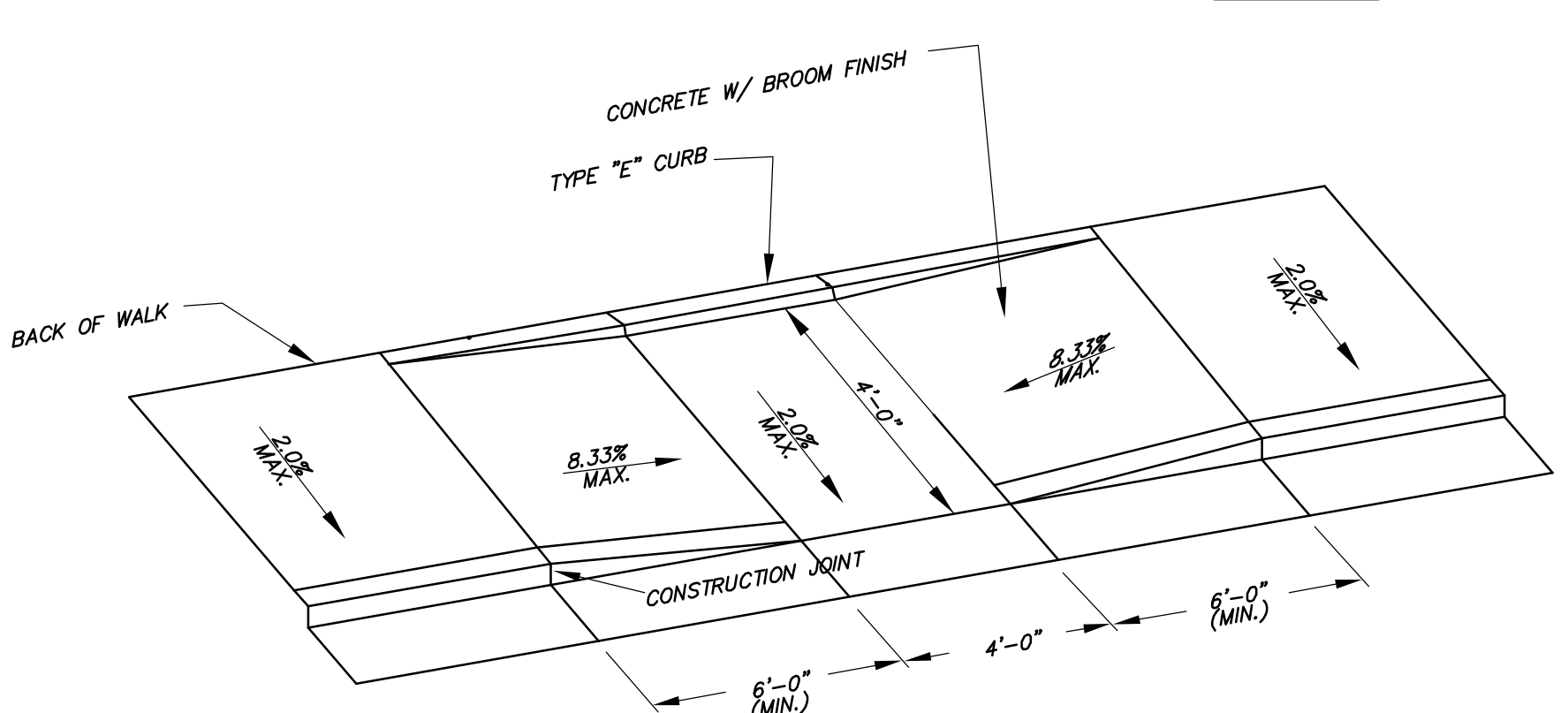
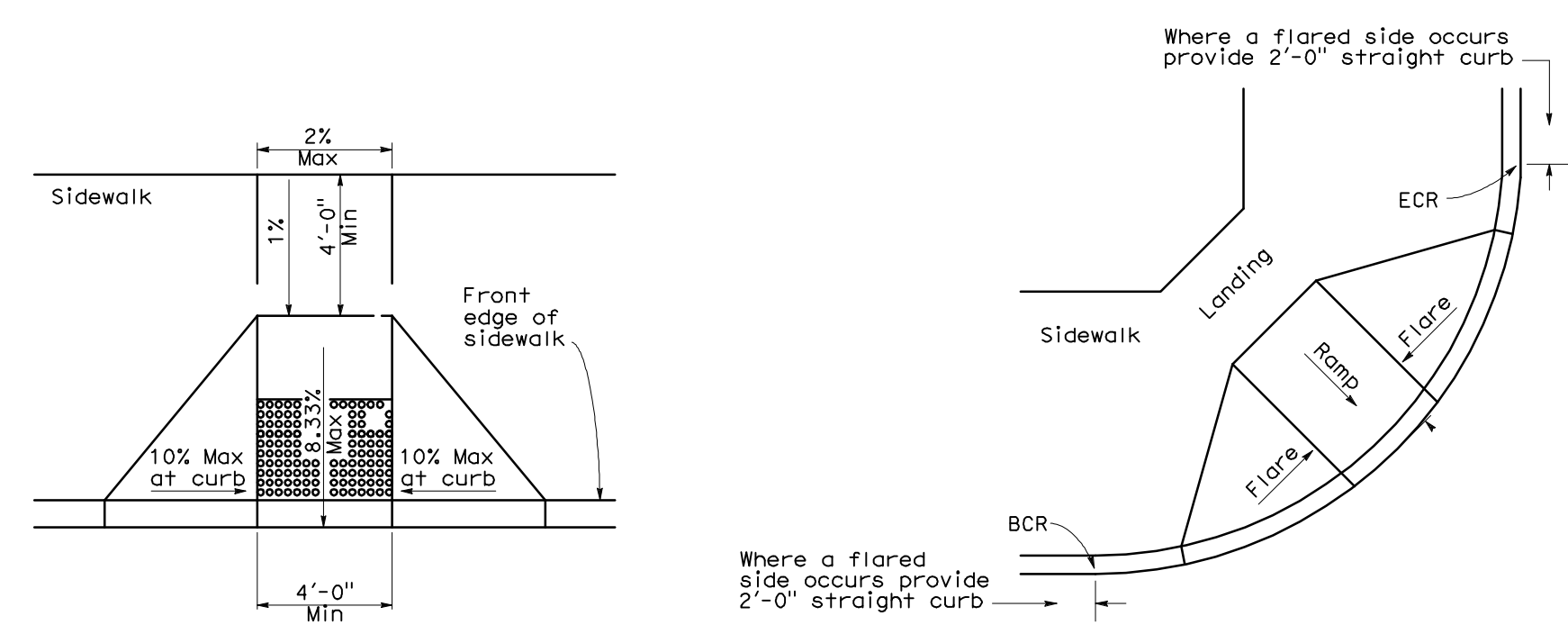
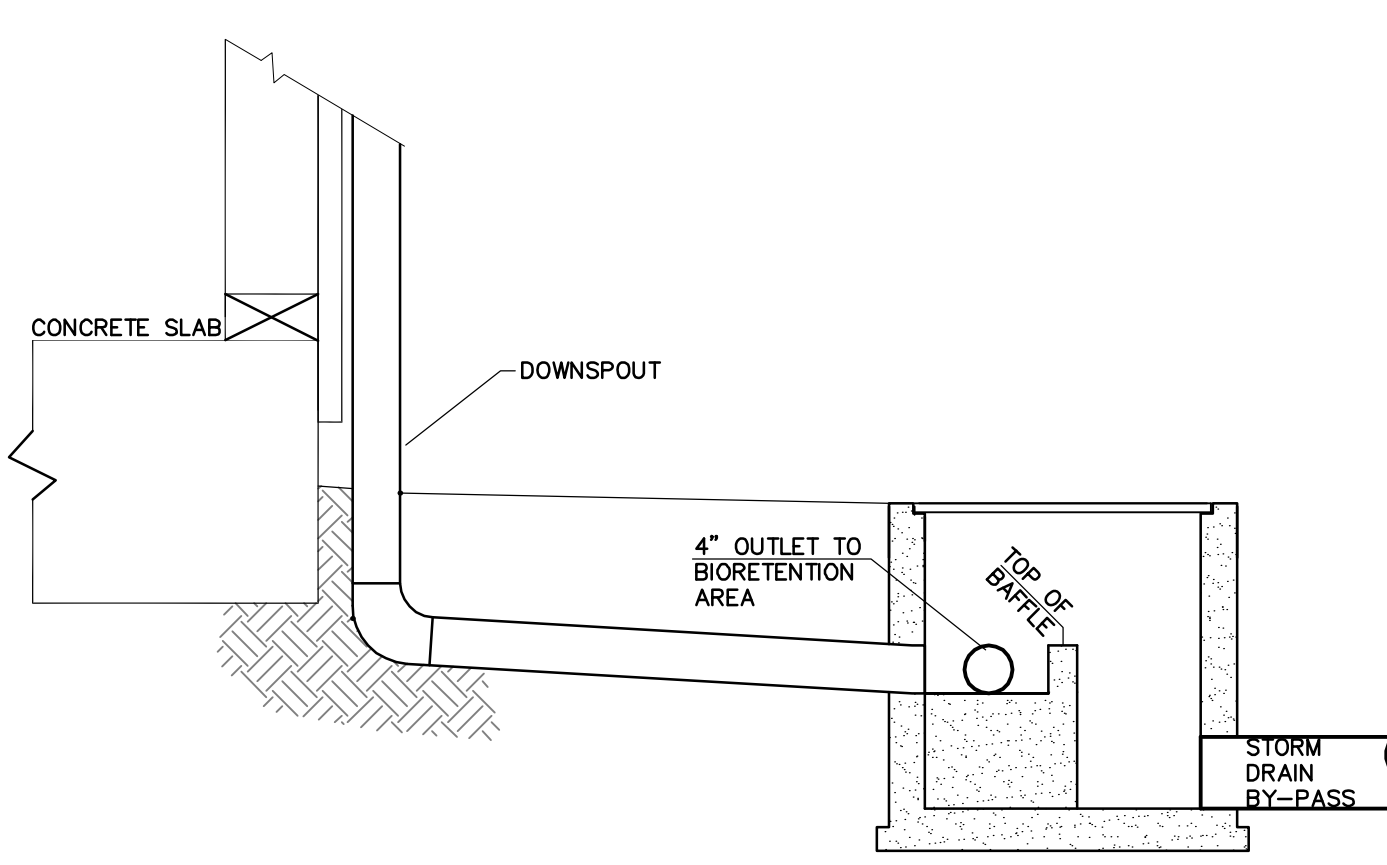
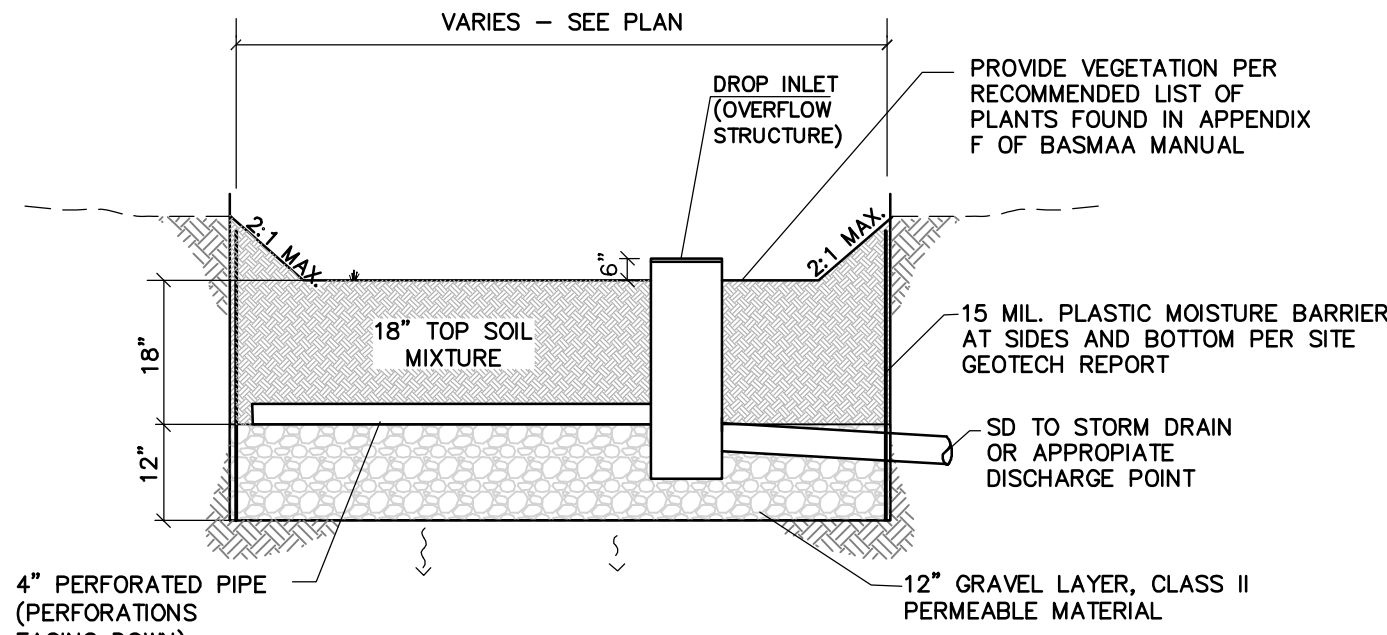
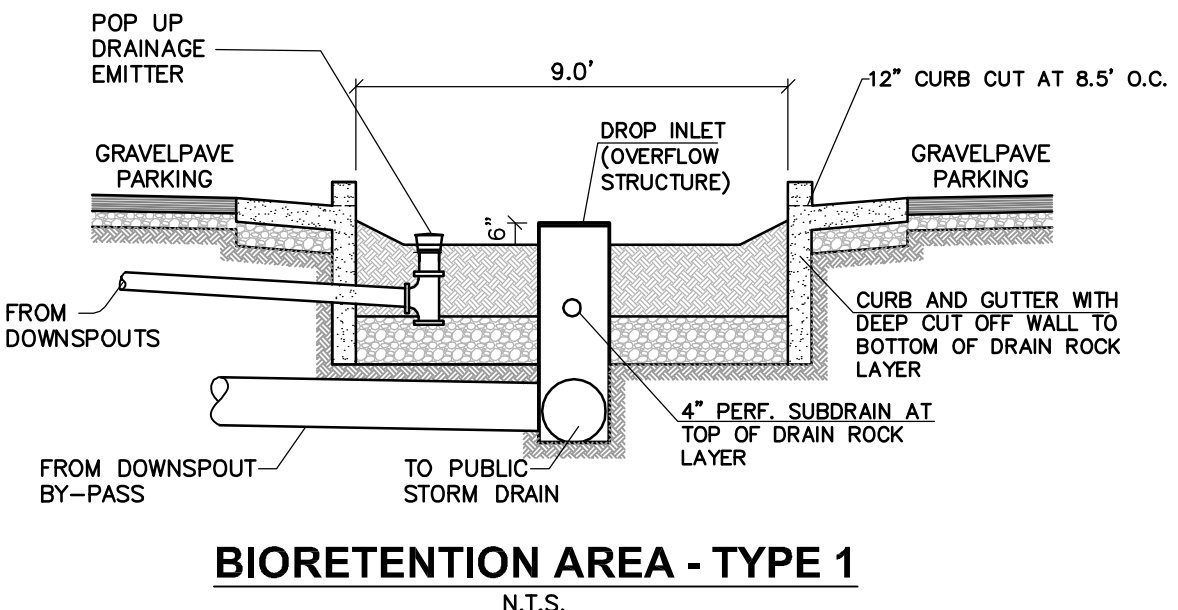
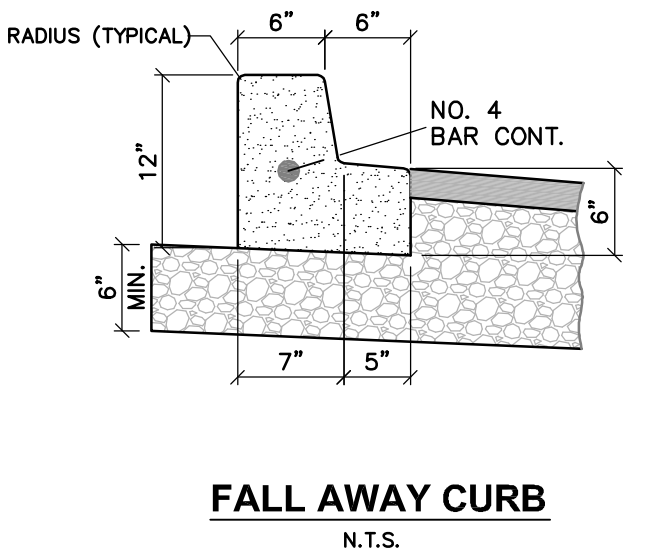
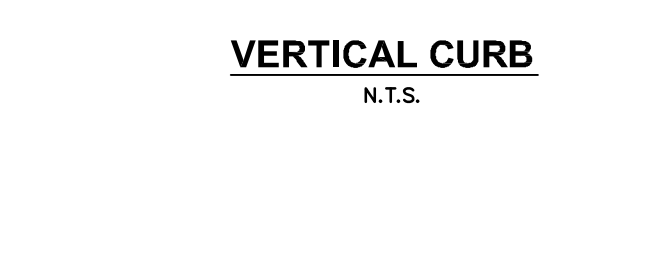
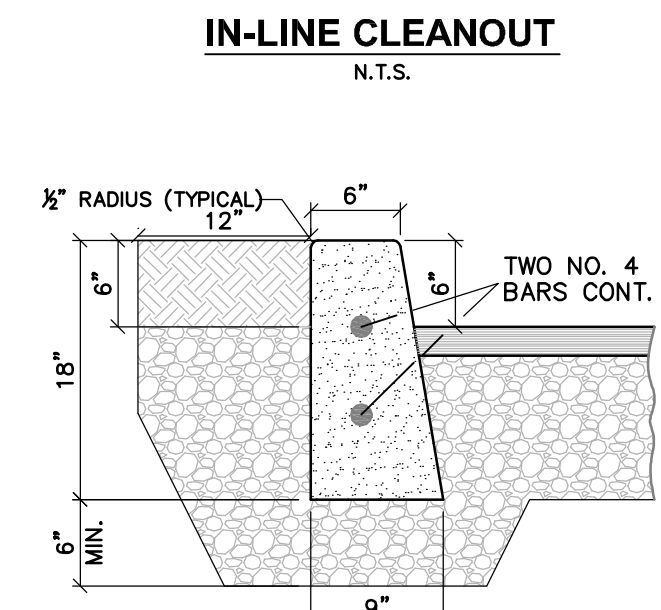
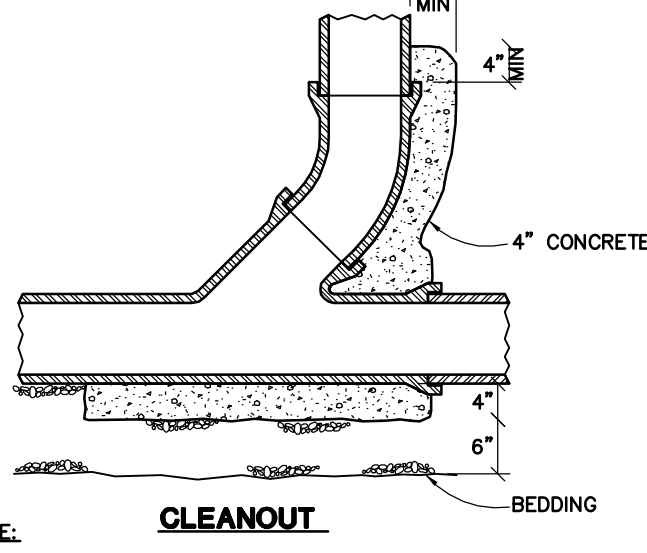
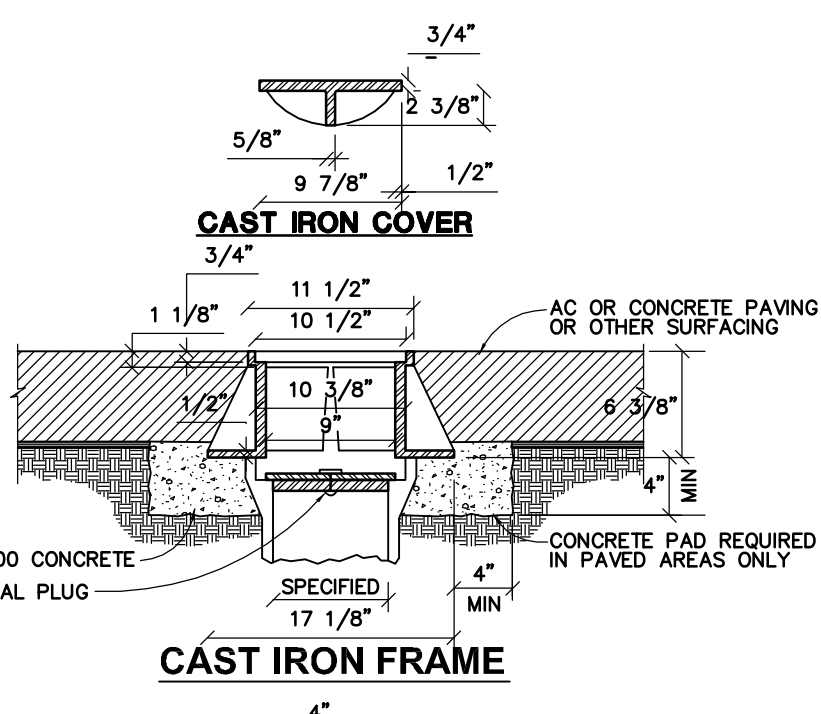
CONTRACTOR SHALL REFER TO SAID GEOTECHNICAL INVESTIGATION FOR DETAILED INFORMATION.



NOTES:  
PAVERS: BELGARD ECO-DUBLIN PAVER OR APPROVED EQUAL.  
COLOR: BLENDED RIO  
PATTERN: ASHLAR  
USE PERMALOC STEEL EDGING OR APPROVED EQUAL.



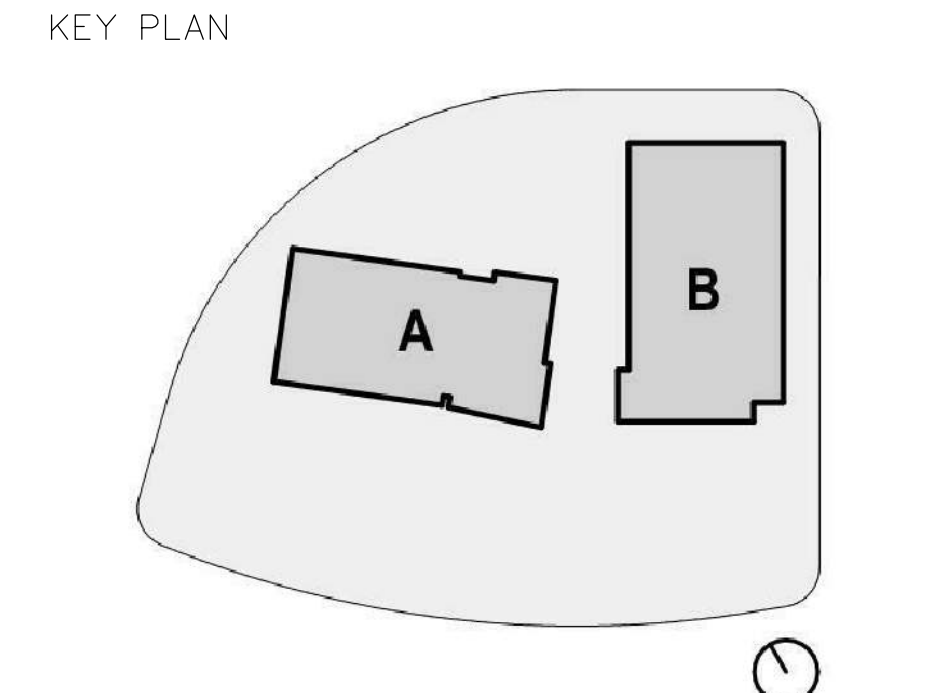
- ITEMS
- 1 DETECTOR CHECK ASSEMBLY SEE DETAIL RIGHT
  - 2 GATE VALVE
  - 3 FIRE DEPARTMENT CONNECTION (FDC)



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NO.	DESCRIPTION	DATE
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	PLANNING ENTITLEMENTS	05/15/19

**B:OMARIN**

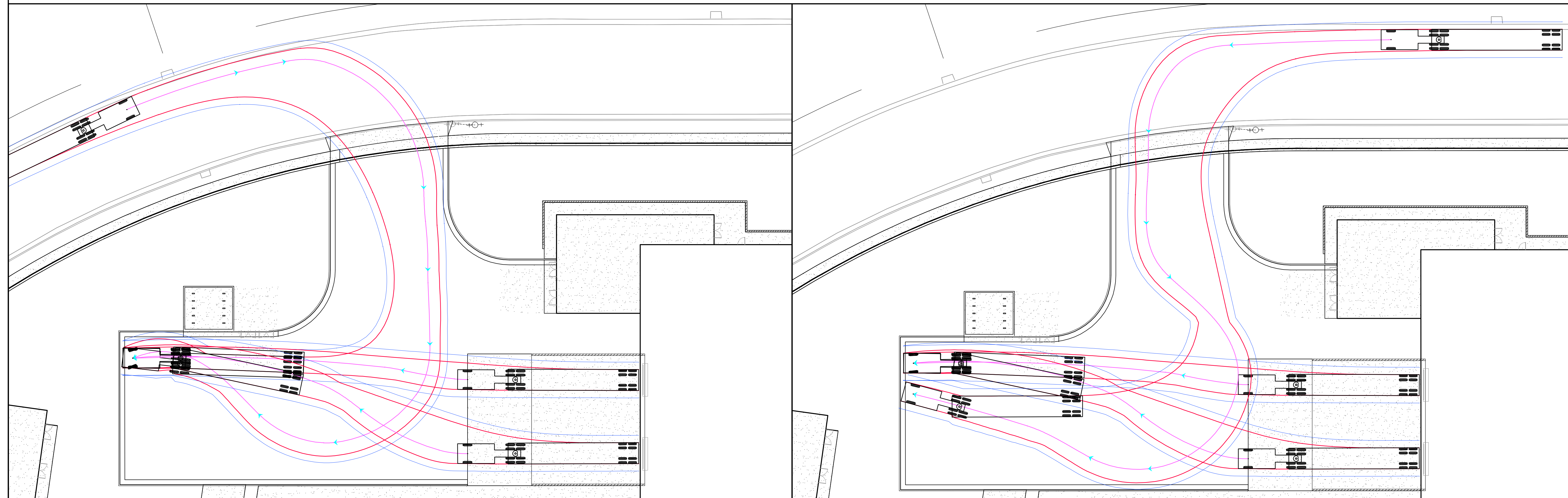
CLIENT BioMarin  
PROJECT BioMarin Petaluma  
ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954  
PROJECT NO. 18306  
SCALE NO SCALE  
TITLE

DETAILS

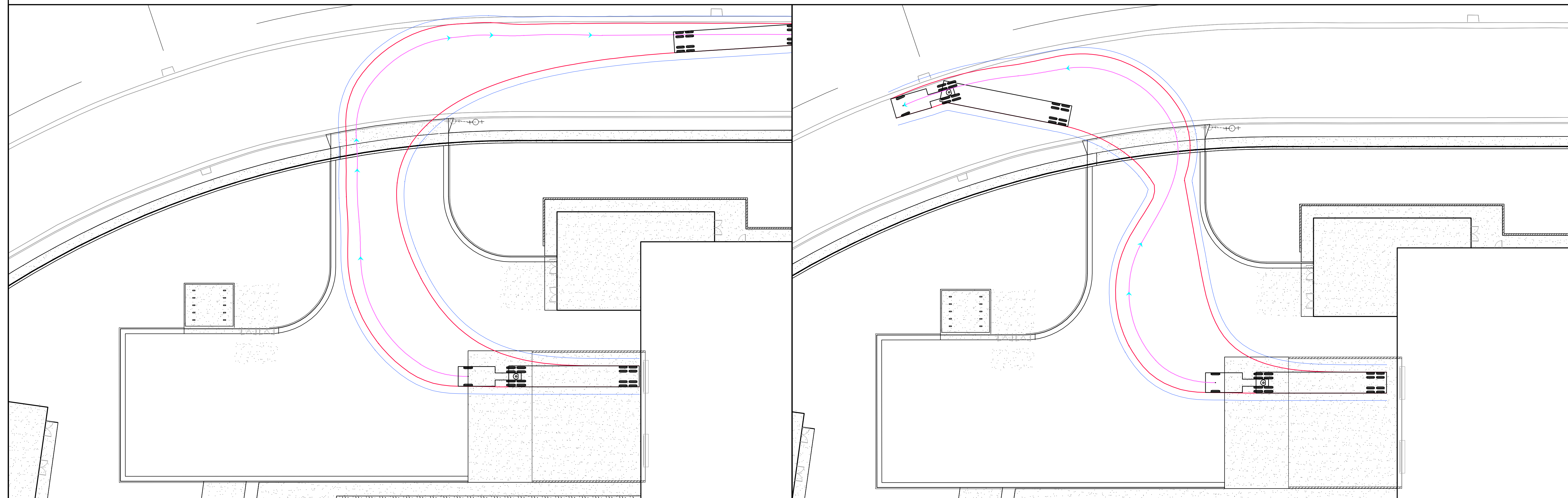
C-6



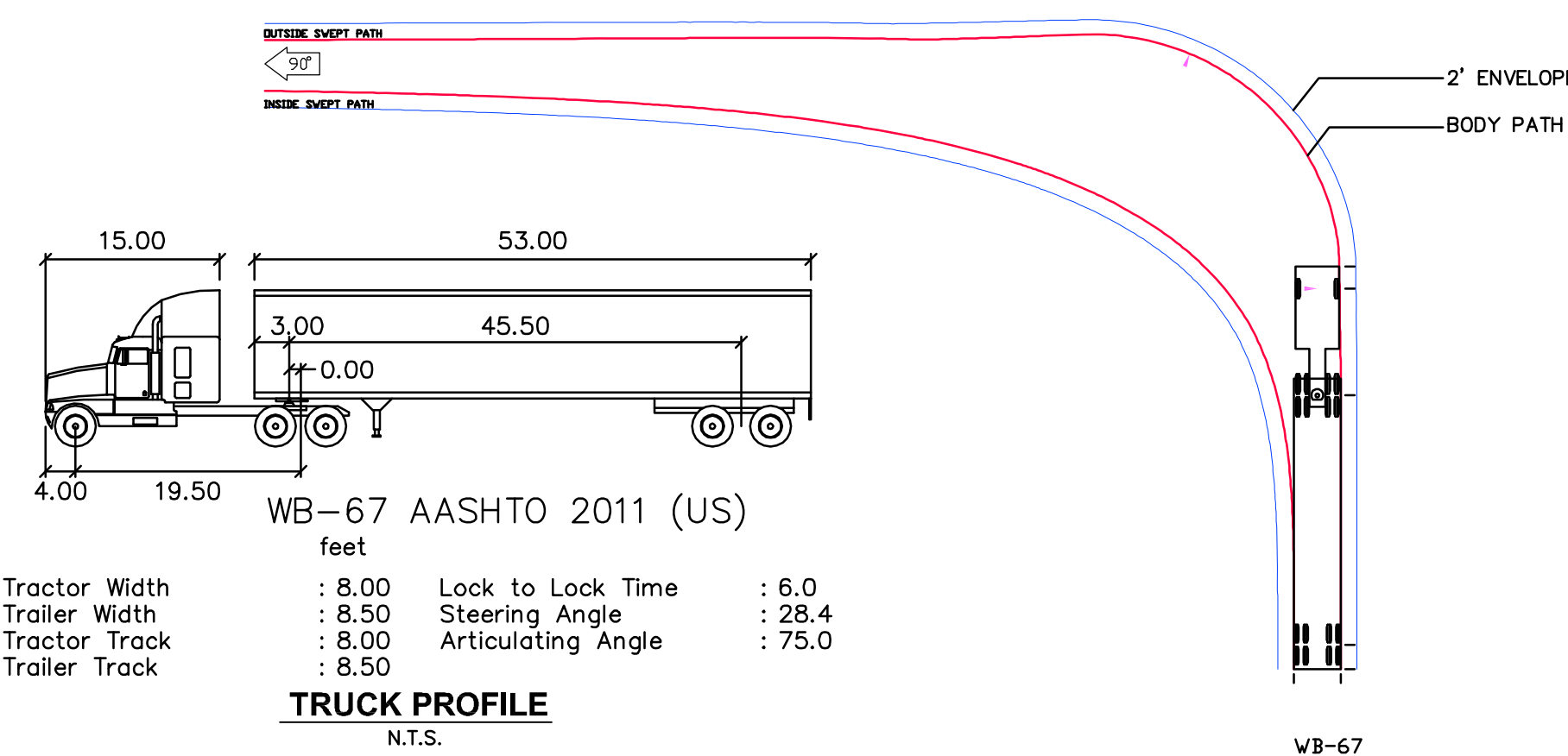
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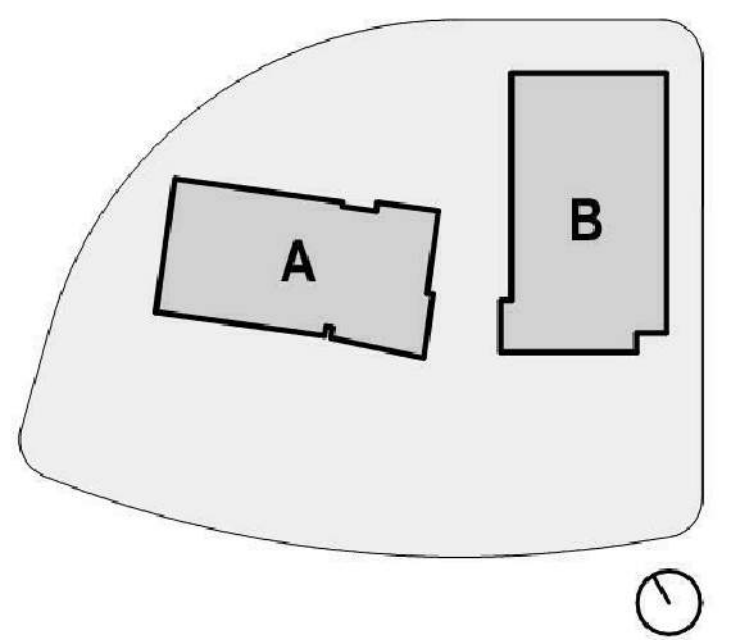
WADING AREA ENTRY AND MANEUVERING



TRUCK EGRESS



KEY PLAN



PLANNING SUBMITTAL	10/10/19
ENTITLEMENTS RESPONSE #1	07/25/19
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NO.	DESCRIPTION	DATE



CLIENT BioMarin

PROJECT BioMarin Petaluma

ADDRESS 1700 McDowell Blvd  
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PROJECT NO. 18306

SCALE 1" = 20'

TITLE

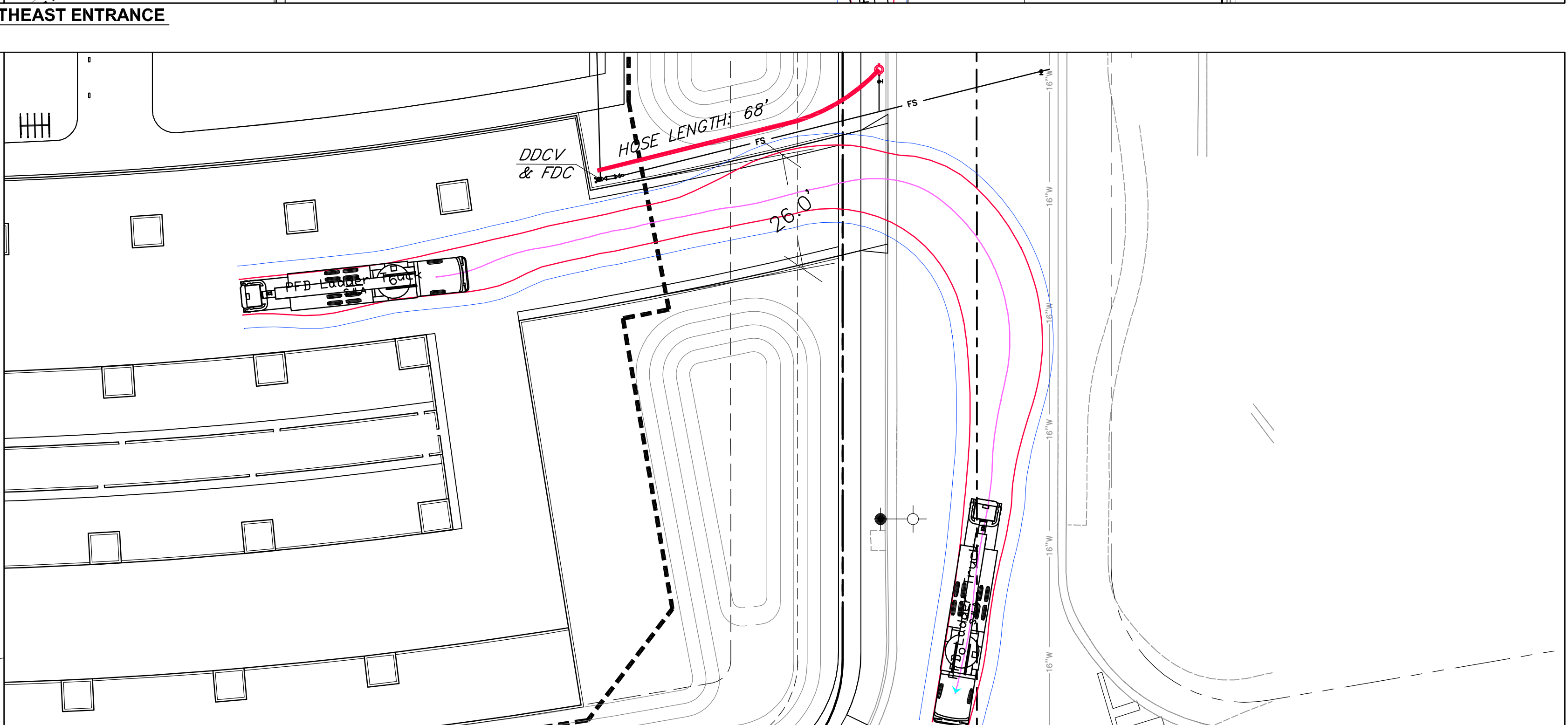
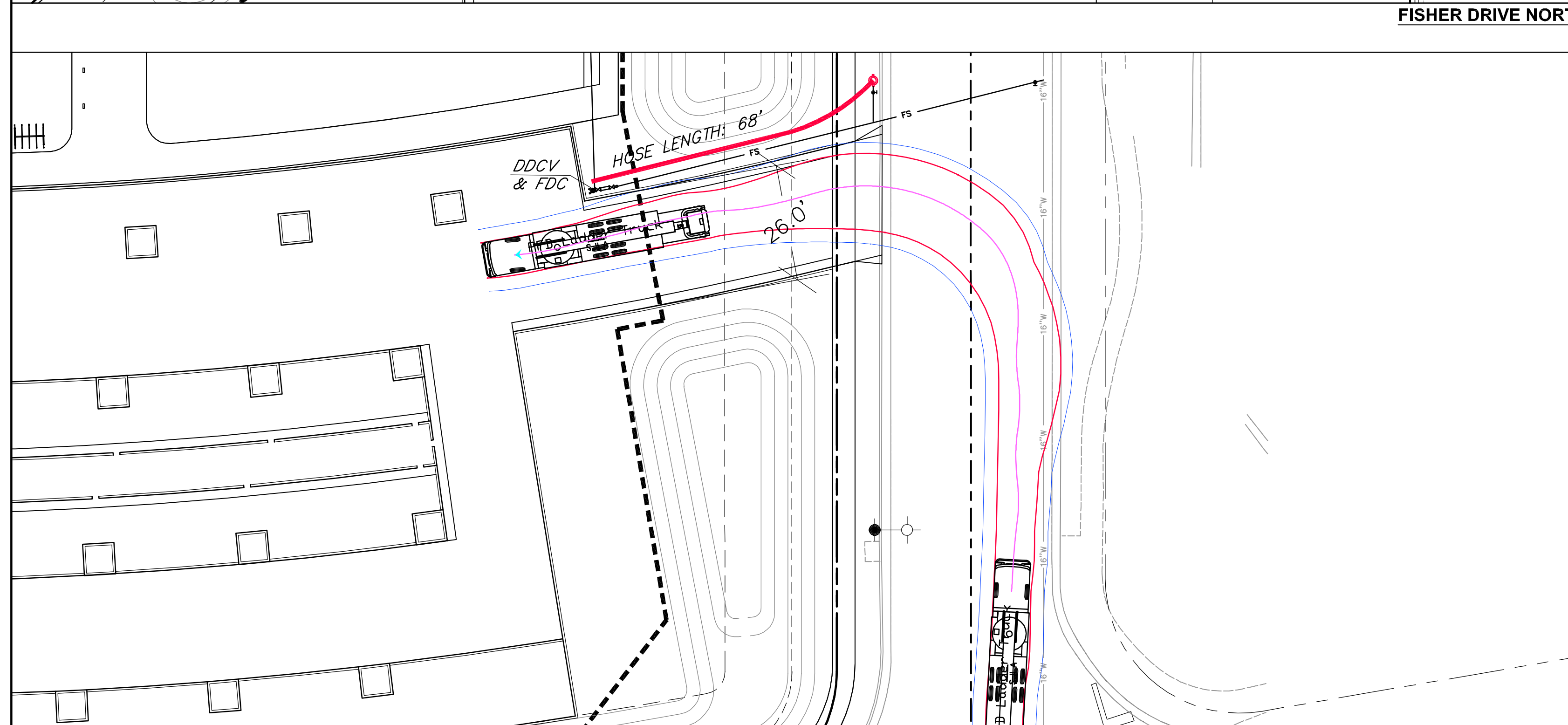
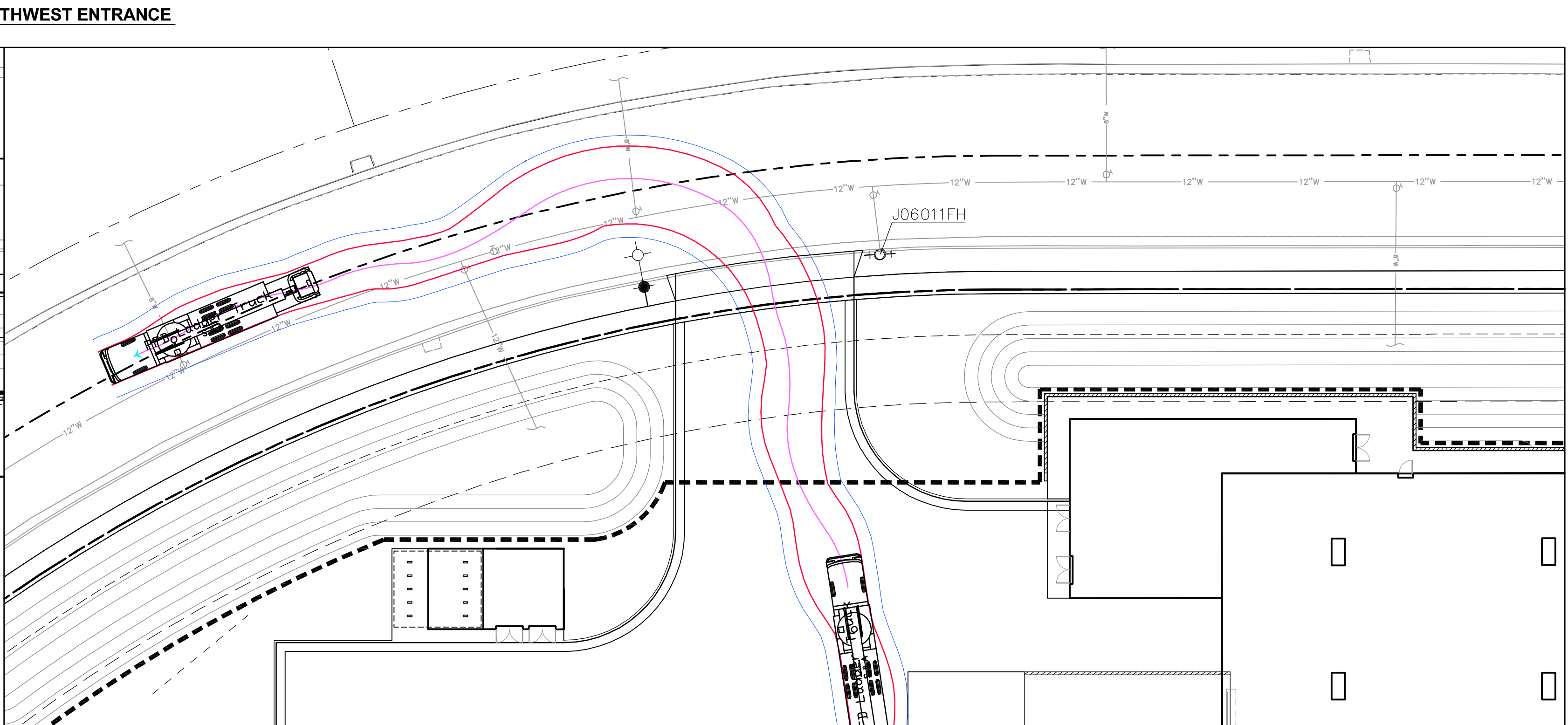
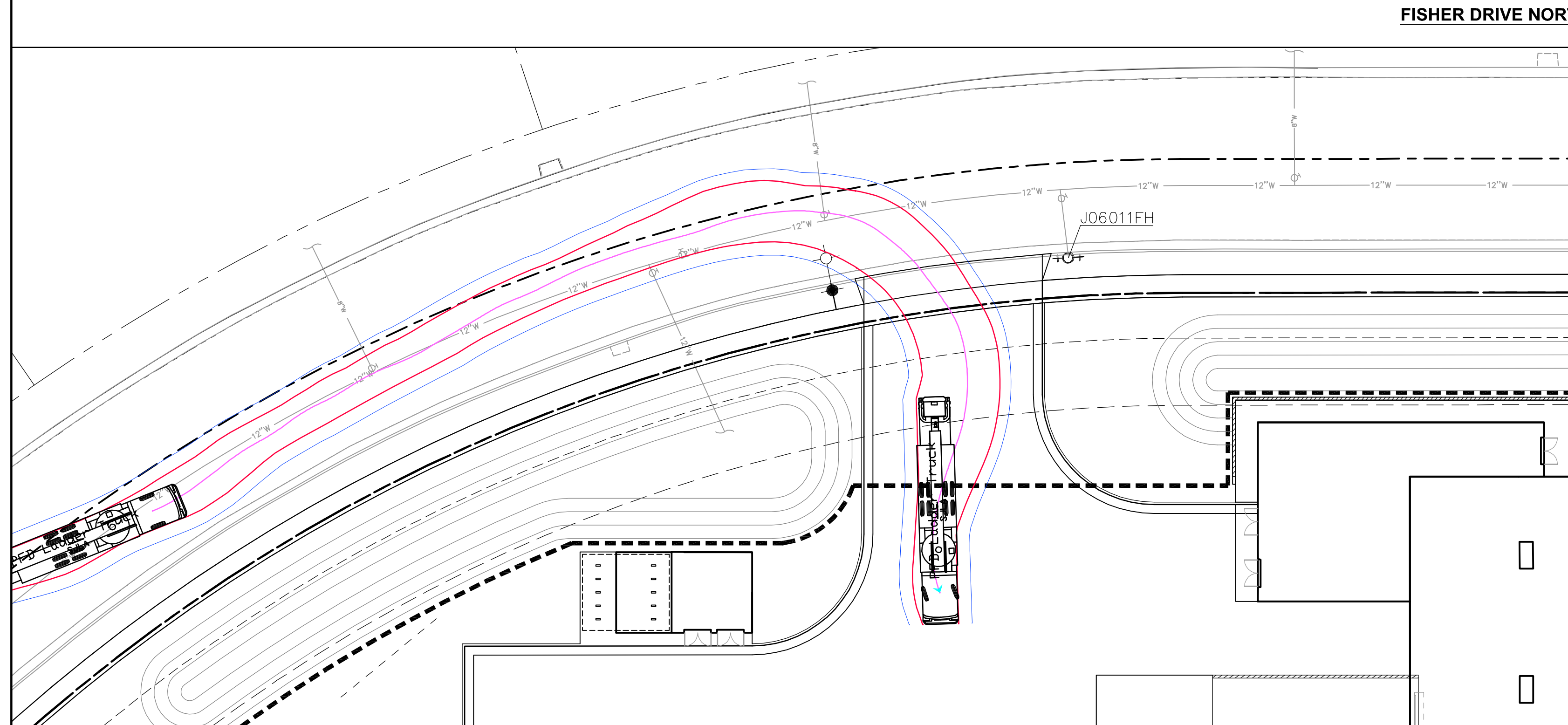
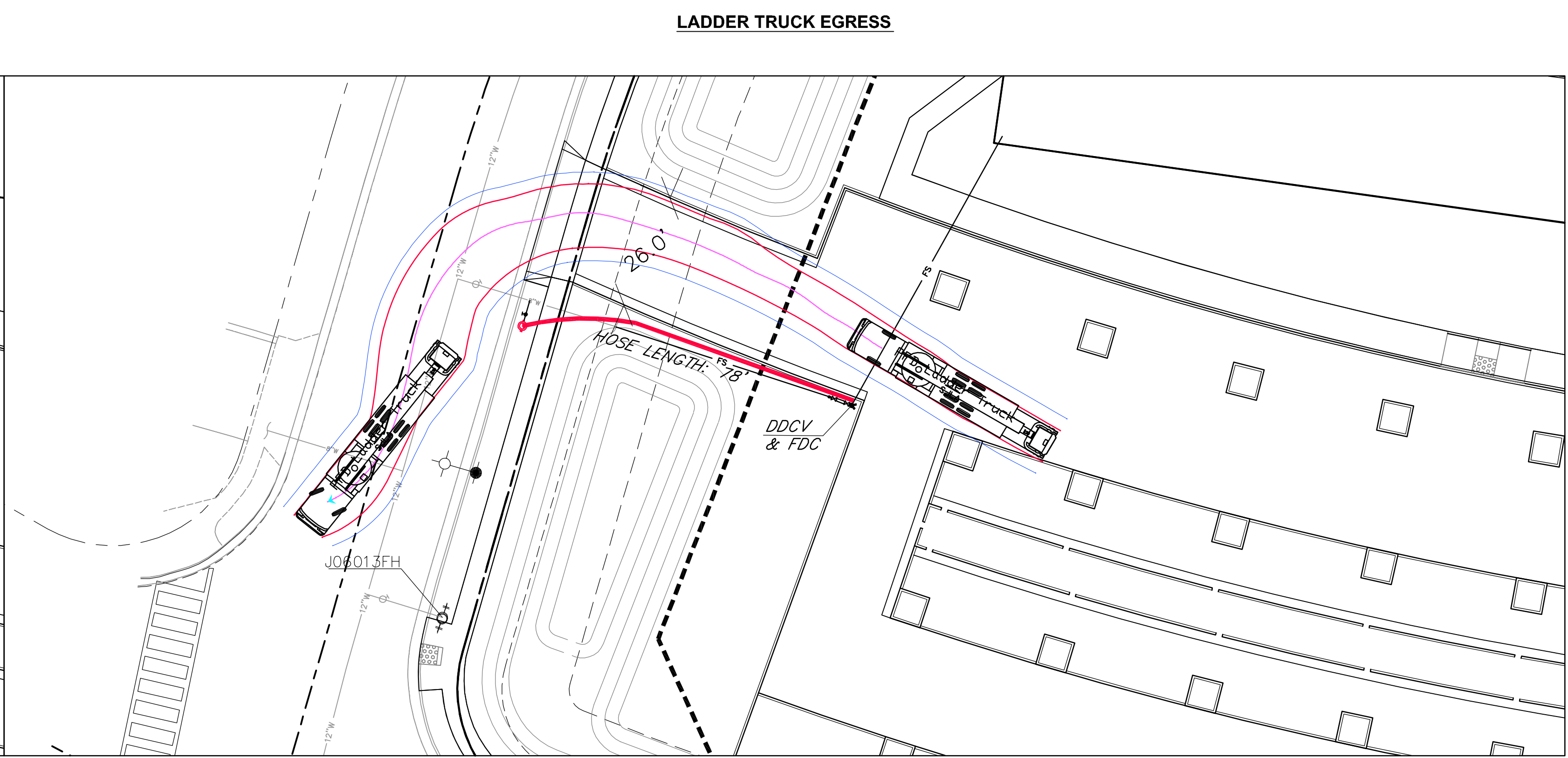
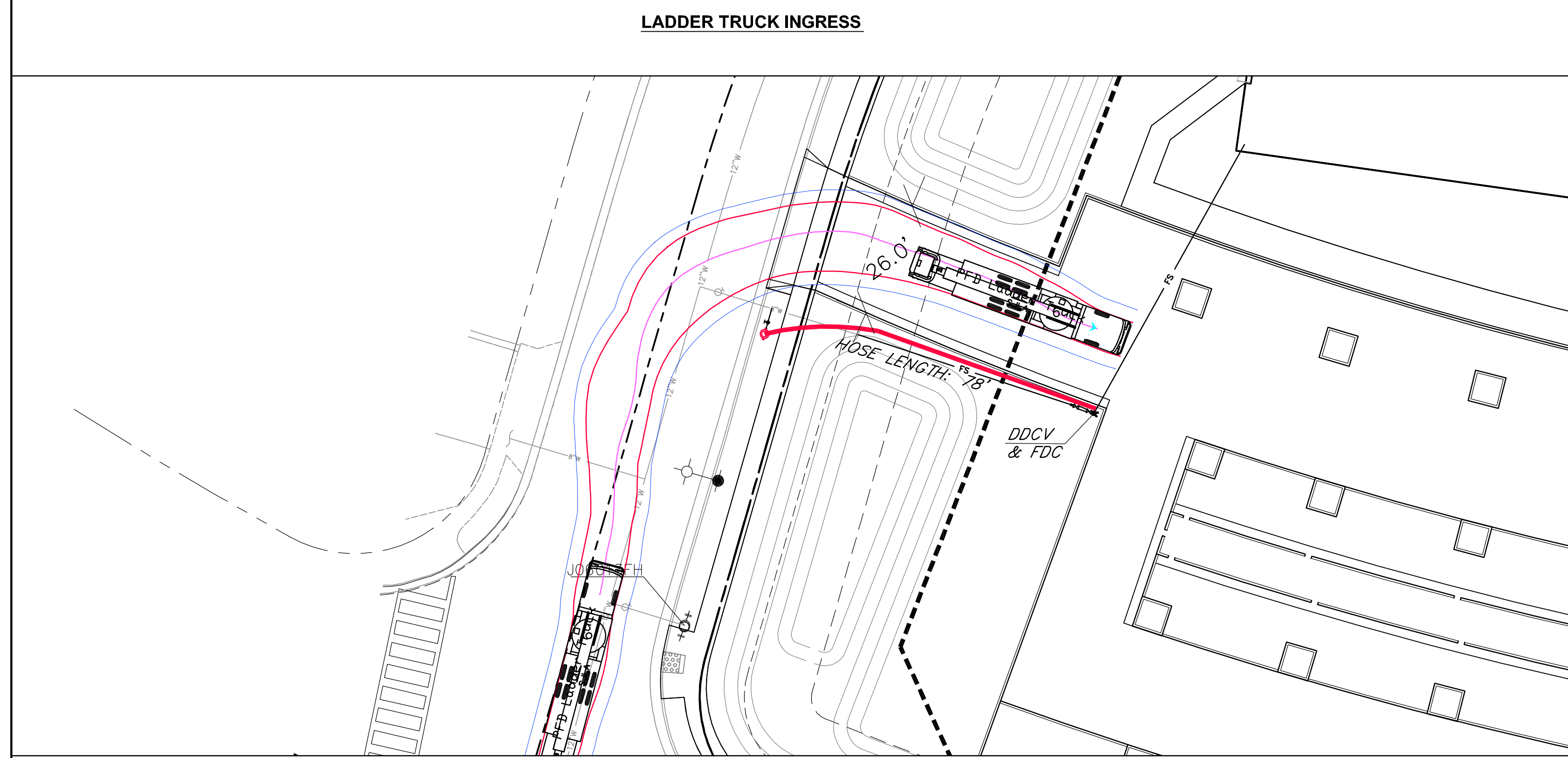
TRUCK WADING INGRESS  
AND EGRESS



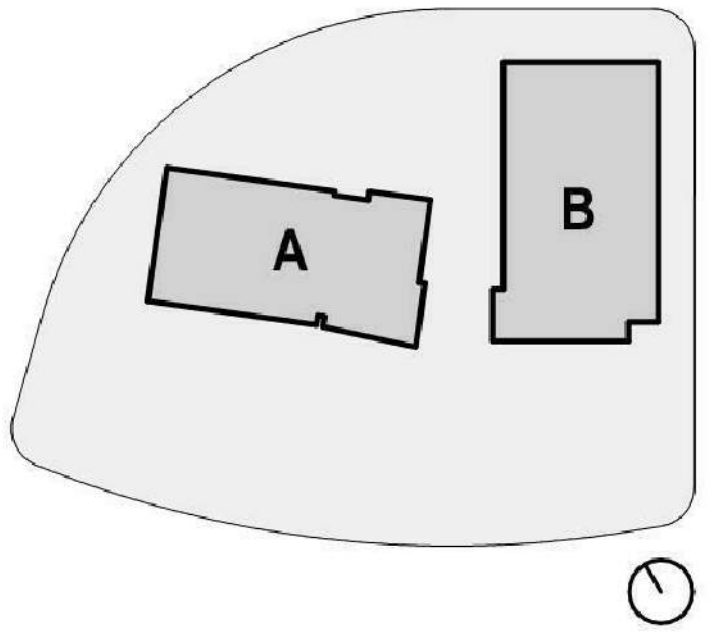
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NO.	DESCRIPTION	DATE
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2	ENTITLEMENTS RESPONSE #1	07/25/19
3	PLANNING ENTITLEMENTS	05/15/19



CLIENT BioMarin

PROJECT BioMarin Petaluma

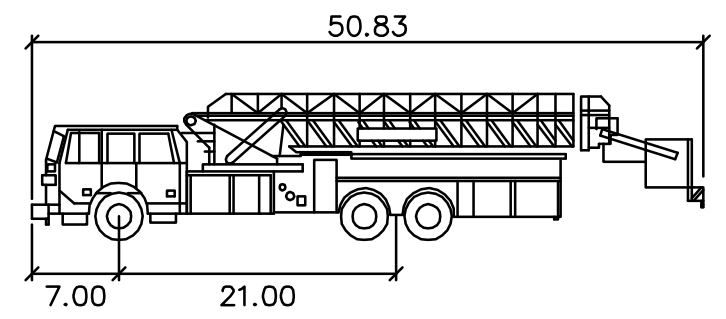
ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954

PROJECT NO. 18306

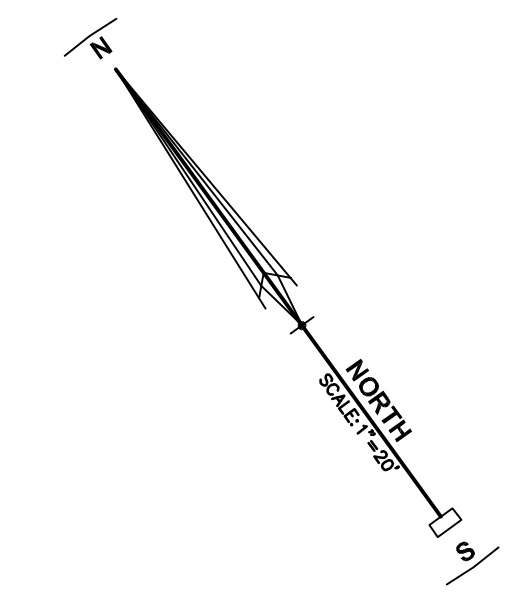
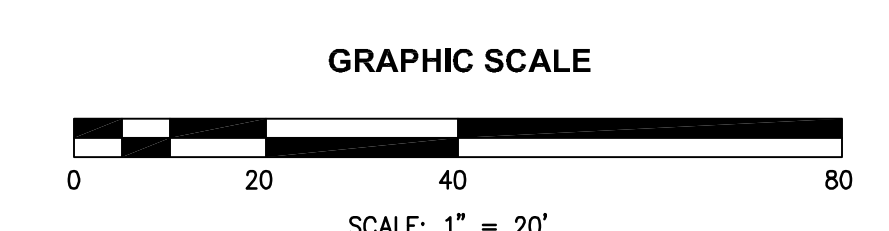
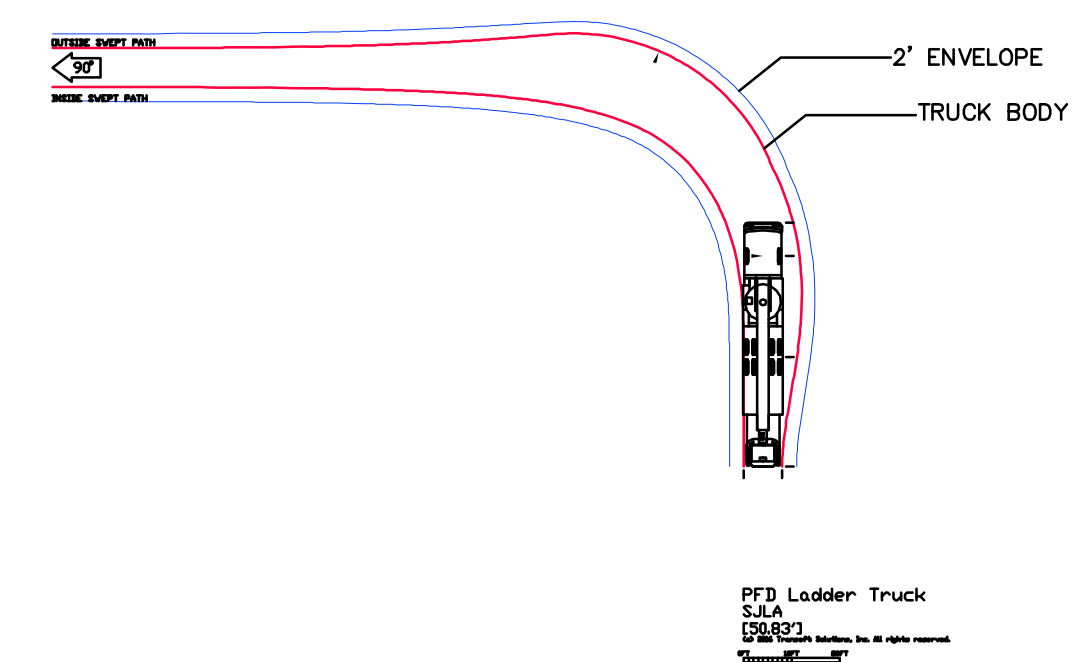
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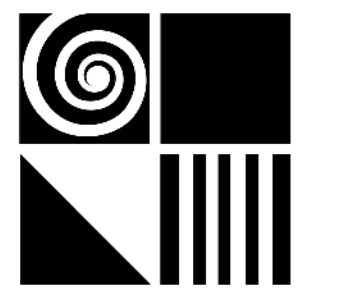
TITLE

LADDER TRUCK EXHIBIT



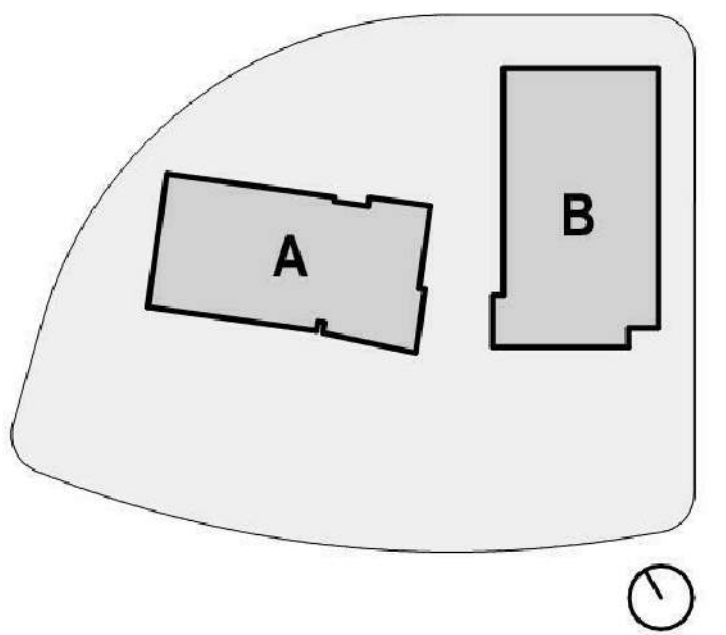
PFD Ladder Truck  
Width : 8.00  
Track : 7.67  
Lock to Lock Time : 5.0  
Steering Angle : 32.3  
LADDER TRUCK PROFILE  
N.T.S.





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KEY PLAN



NOTES

- 1. SEE "PRELIMINARY BASMAA STORMWATER CONTROL PLAN" DATED MAY 14, 2019 BY STEVEN J. LAFRANCHI & ASSOCIATES FOR FULL STORMWATER CONTROL REPORT

PLANNING SUBMITTAL	10/10/19
ENTITLEMENTS RESPONSE #1	07/25/19
PLANNING ENTITLEMENTS	05/15/19

NO.	DESCRIPTION	DATE
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CLIENT BioMarin

PROJECT BioMarin Petaluma

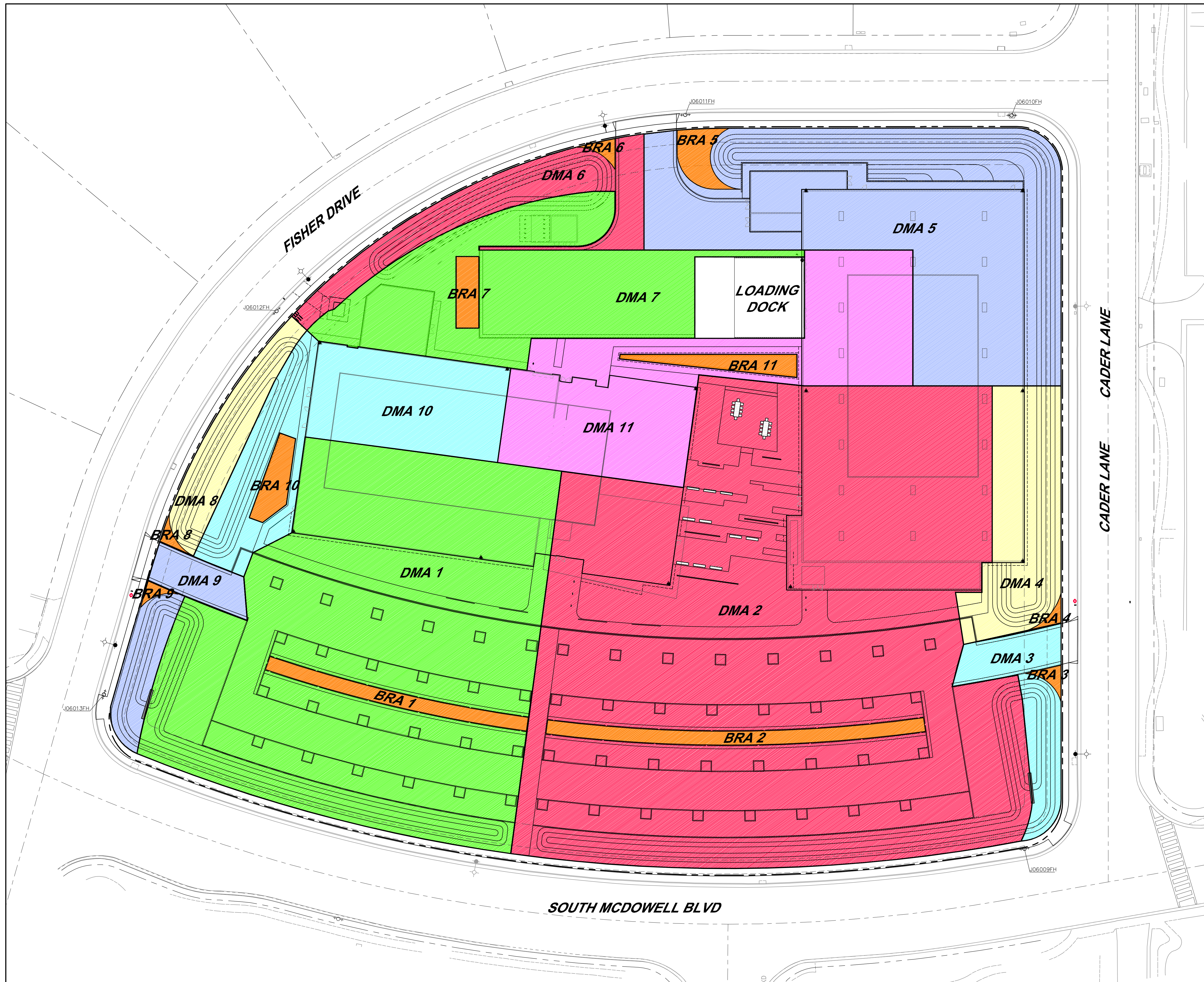
ADDRESS 1700 McDowell Blvd  
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PROJECT NO. 18306

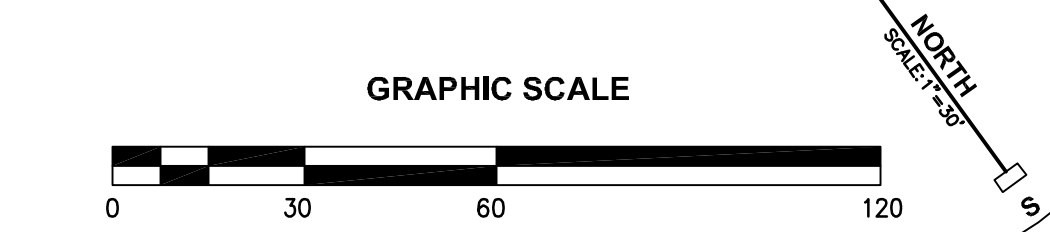
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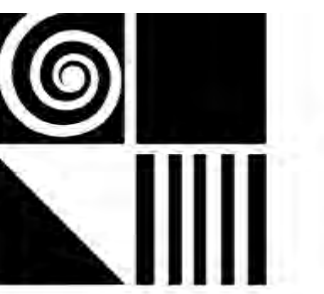
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LOW IMPACT DESIGN



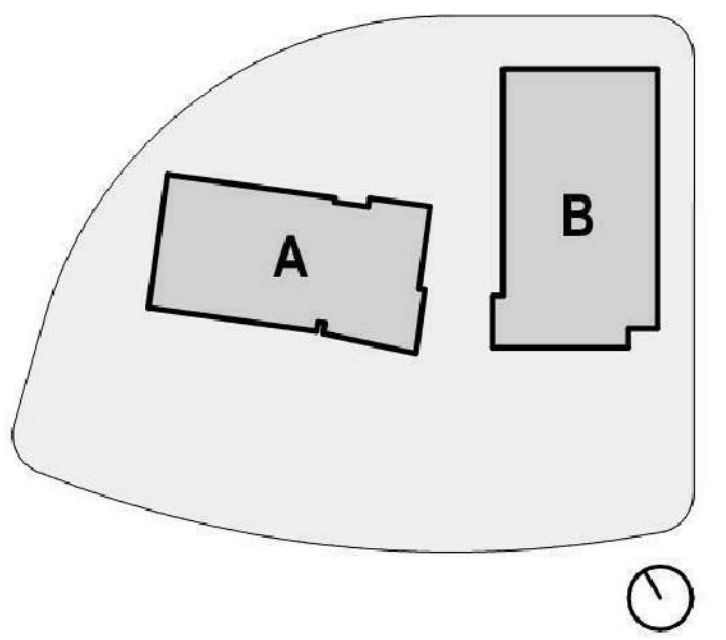
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DMA 1	10,780	Roof	1.0	10,780.0	BRA-1	DMA 4	2,443	Roof	1.0	2,443.0	BRA-4	DMA 7	2,302	Roof	1.0	2,301.7	BRA-7	DMA 10	8,023	Roof	1.0	8,023.0	BRA-10			
Landscape	24,286	Landscape	0.1	2,428.6		Landscape	5,642	Landscape	0.1	564.2		Landscape	6,101	Landscape	0.1	610.1		Landscape	4,738	Landscape	0.1	473.8				
Hardscape	16,773	Concrete	1.0	16,773.0		Hardscape	0	Concrete	1.0	0.0		Hardscape	9,579	Concrete	1.0	9,579.3		Hardscape	908	Concrete	1.0	907.9				
Total				29,981.6		Total				3,007.2		Total				12,491.1		Total				9,404.7				
					Sizing Factor	0.04	1199.3	1576.66						Sizing Factor	0.04	499.6	705						Sizing Factor	0.04	376.2	904
DMA 2	22,052	Roof	1.0	22,052.0	BRA-2	DMA 5	12,257	Roof	1.0	12,257.0	BRA-5	DMA 8	0	Roof	1.0	0.0	BRA-8	DMA 11	14,195	Roof	1.0	14,195.0	BRA-11			
Landscape	26,227	Landscape	0.1	2,622.7		Landscape	10,963	Landscape	0.1	1,096.3		Landscape	3,883	Landscape	0.1	388.3		Landscape	2,504	Landscape	0.1	250.4				
Hardscape	24,345	Concrete	1.0	24,345.0		Hardscape	7,115	Concrete	1.0	7,115.0		Hardscape	0	Concrete	1.0	0.0		Hardscape	2,018	Concrete	1.0	2,018.3				
Total				49,019.7		Total				20,468.3		Total				388.3		Total				16,463.7				
					Sizing Factor	0.04	1960.8	2233.13						Sizing Factor	0.04	818.7	885.72						Sizing Factor	0.04	658.5	1060
DMA 3	0	Roof	1.0	0.0	BRA-3	DMA 6	0	Roof	1.0	0.0	BRA-6	DMA 9	0	Roof	1.0	0.0	BRA-9									
Landscape	3,419	Landscape	0.1	341.9		Landscape	16,279	Landscape	0.1	1,627.9		Landscape	2,449	Landscape	0.1	244.9										
Hardscape	1,828	Concrete	1.0	1,828.3		Hardscape	1,703	Concrete	1.0	1,703.0		Hardscape	1,696	Concrete	1.0	1,696.0										
Total				2,170.2		Total				3,330.9		Total				1,940.9										
					Sizing Factor	0.04	86.8	183						Sizing Factor	0.04	133.2	180.25						Sizing Factor	0.04	77.6	129.4





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415.512.9771  
STAMP

KEY PLAN



MATERIALS LEGEND

- CONCRETE PAVING WITH ETCHED FINISH
- PERMEABLE PAVERS, SF-RIMA TUMBLE TANNED CHARCOAL
- POROUS GRAVEL PARKING GRAVELPAVE2
- BIOTREATMENT AREA SEE CIVIL DRAWINGS
- PLANTING AREAS SEE SHEET L2.0
- GRAVEL BAND AT BASE OF BUILDING
- GALVANIZED METAL HEADER
- 8' TALL PERIMETER FENCING

PLANNING SUBMITTAL	10/10/19	
ENTITLEMENTS RESPONSE #1	07/25/19	
PLANNING ENTITLEMENTS	05/15/19	
NO.	DESCRIPTION	DATE

# B:OMARIN®

CLIENT BioMarin

PROJECT BioMarin Petaluma

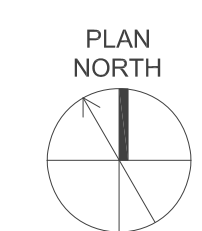
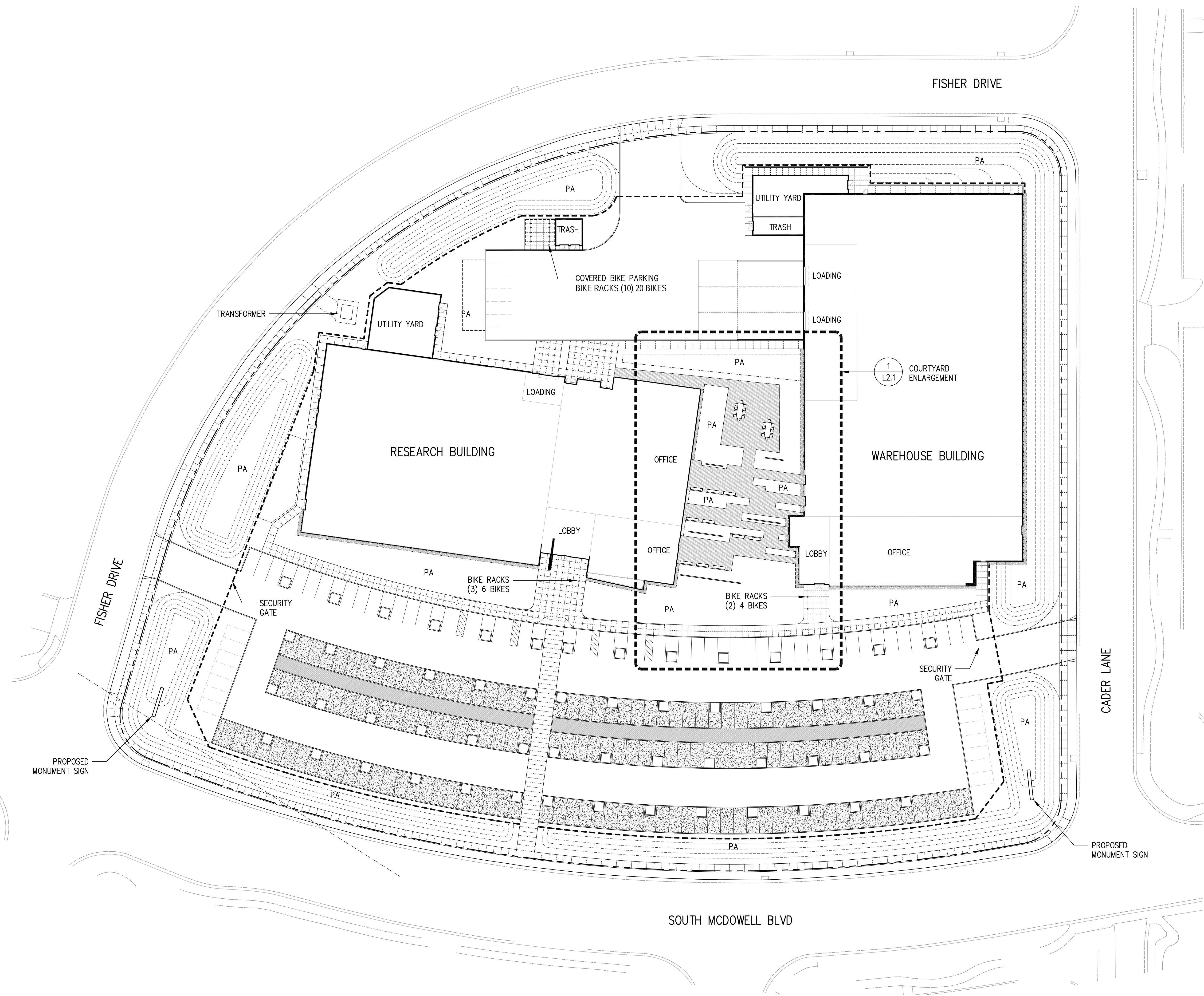
ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954

PROJECT NO. 18306

SCALE 1" = 30'

TITLE

## LANDSCAPE MATERIALS



01 LANDSCAPE MATERIALS PLAN  
1" = 30'

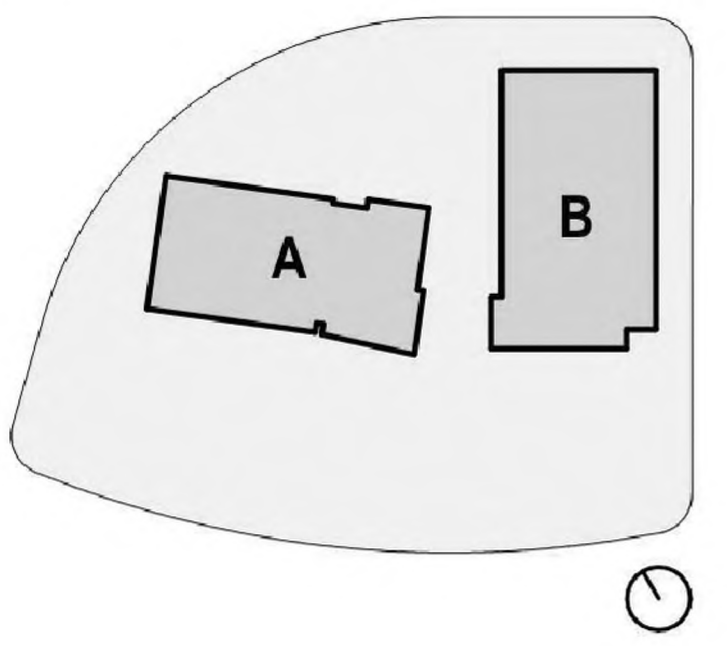
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550 Ellis Street, Mountain View, CA 94043 650-943-1660  
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 2550 Fifth Avenue, Suite 115, San Diego, CA 92103 619-685-3990  
 1720 8th Street, Sacramento, CA 95811 916-441-6800

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STAMP	

KEY PLAN



- PLANTING LEGEND**
- NATIVE GRASSES AND GROUND COVER
  - HEDGE PLANTING "LITTLE OLLIE" OLIVE
  - REDWOOD TREES 24" BOX, 15 GAL.
  - FRUITLESS OLIVE TREES 36" BOX, 24" BOX
  - STREET TREE - SOUTH MCDOWELL BLVD LONDON PLANE TREE, 24" BOX
  - STREET TREE - CADER LANE PISTACHE CHINENSIS "KEITH DAVIES", 24" BOX
  - STREET TREE - FISHER DRIVE PISTACHE CHINENSIS "KEITH DAVIES", 24" BOX

PLANNING SUBMITTAL	10/10/19	
ENTITLEMENTS RESPONSE #1	07/25/19	
PLANNING ENTITLEMENTS	05/15/19	
NO.	DESCRIPTION	DATE

**B:OMARIN**

CLIENT	BioMarin
PROJECT	BioMarin Petaluma
ADDRESS	1700 McDowell Blvd Petaluma, CA 94954
PROJECT NO.	18306
SCALE	1" = 30'
TITLE	

**LANDSCAPE PLANTING PLAN**

**L2**

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01 LANDSCAPE PLANTING PLAN  
1" = 30'



FISHER DRIVE

FISHER DRIVE

FISHER DRIVE

CADER LANE

SOUTH MCDOWELL BLVD

UTILITY YARD

TRASH

COVERED BIKE PARKING BIKE RACKS (10) 20 BIKES

UTILITY YARD

LOADING

LOADING

LOADING

1 L2.1 COURTYARD ENLARGEMENT

RESEARCH BUILDING

OFFICE

WAREHOUSE BUILDING

LOBBY

OFFICE

LOBBY

OFFICE

PA





DGA planning | architecture | interiors

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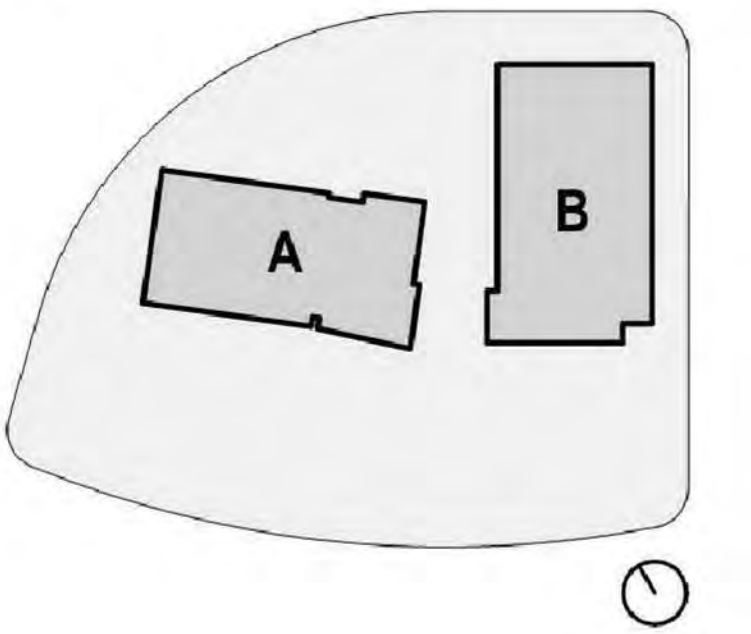
55 Harrison Street, Suite 550  
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 Randall Lamb Associates, Inc.

500 Washington Street, Suite 200  
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 415.512.9771

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**KEY PLAN**



NO.	DESCRIPTION	DATE

PLANNING SUBMITTAL	10/10/19
ENTITLEMENTS RESPONSE #1	07/25/19
PLANNING ENTITLEMENTS	05/15/19

NO.	DESCRIPTION	DATE

**BIO MARIN**

CLIENT BioMarin

PROJECT BioMarin Petaluma

ADDRESS 1700 McDowell Blvd  
 Petaluma, CA 94954

PROJECT NO. 18306

SCALE 1" = 10'

TITLE

**LANDSCAPE ENLARGEMENTS**

**L2.1**



**PAVING**



PERMEABLE PAVERS

**PLANTED SCREEN WALL**



**SITE FURNISHINGS**



BENCH



BICYCLE RACK



ARM CHAIR



CAFE TABLE



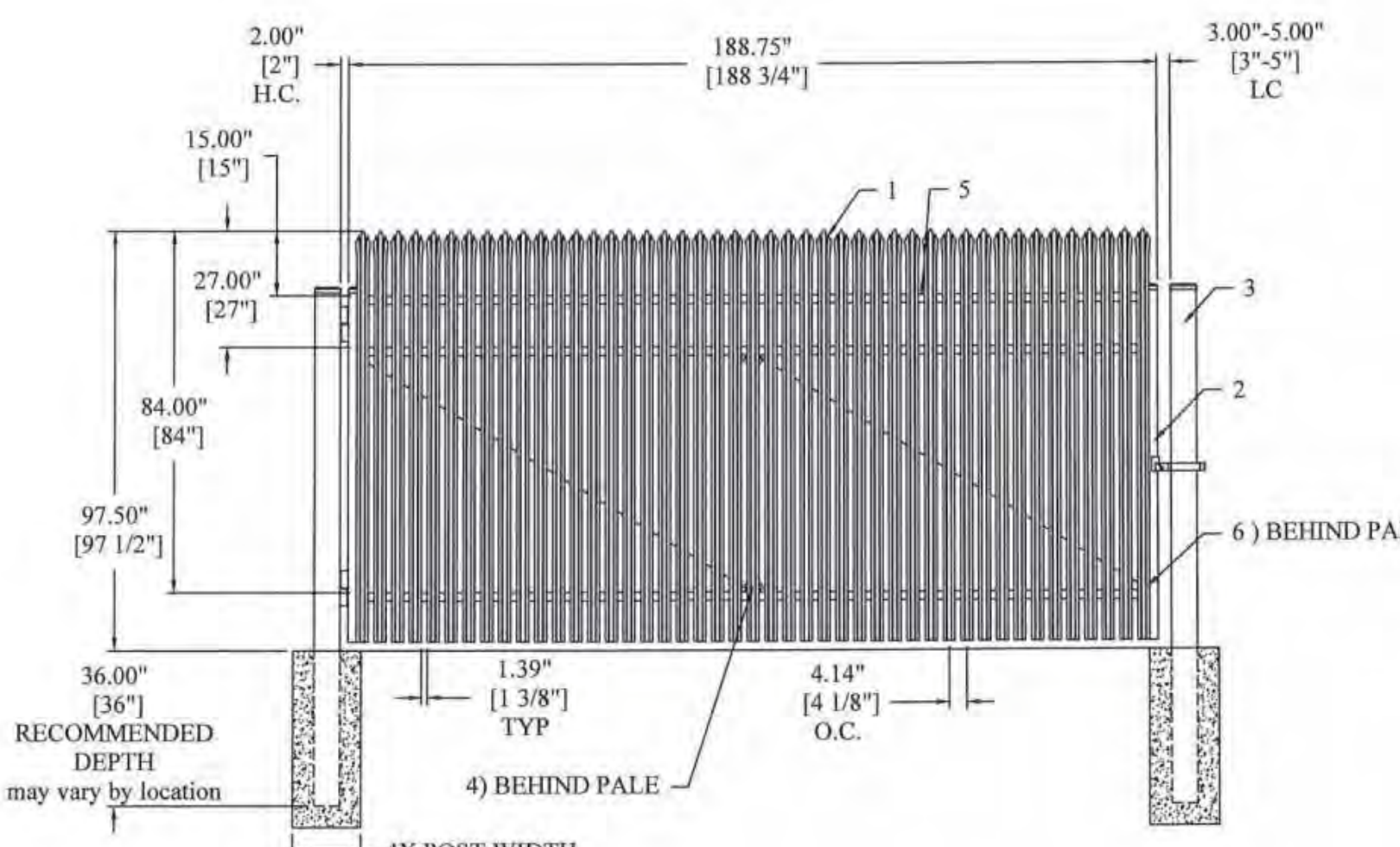
OUTDOOR CONFERENCE TABLE



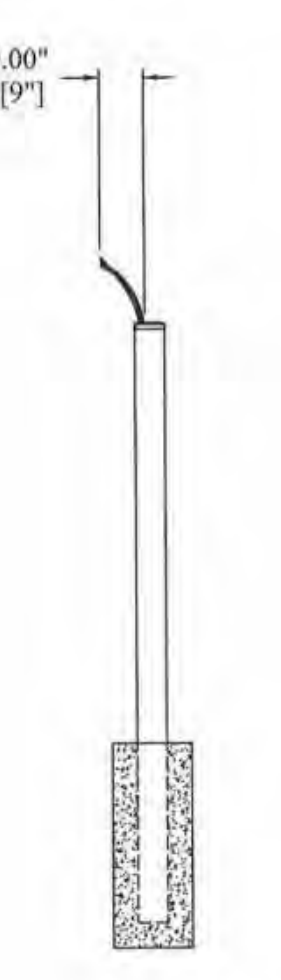
SECURITY FENCE



BIKE ENCLOSURE



SECURITY FENCE DETAIL



SIDE VIEW



01 LANDSCAPE ENLARGMENT  
 1" = 10'

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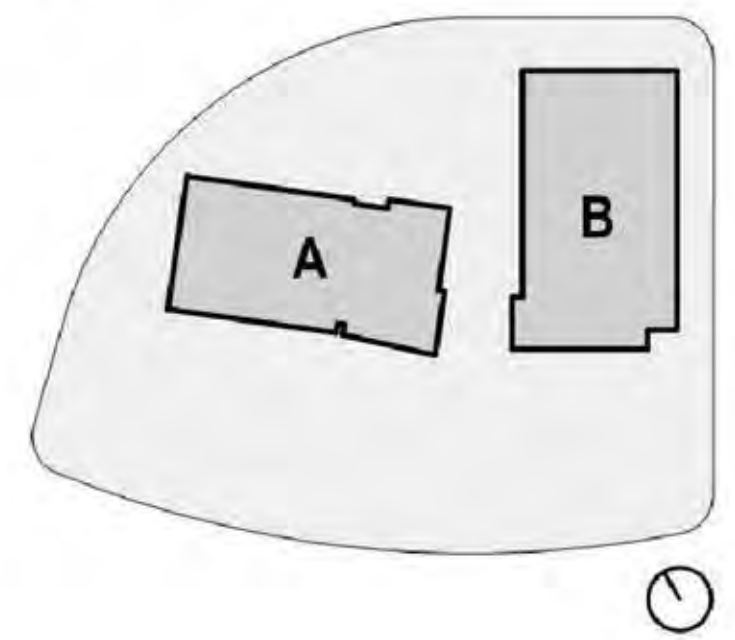
55 Harrison Street, Suite 550  
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KEY PLAN



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PLANNING SUBMITTAL 10/10/19  
ENTITLEMENTS RESPONSE #1 07/25/19  
PLANNING ENTITLEMENTS 05/15/19

NO. DESCRIPTION DATE



CLIENT BioMarin

PROJECT BioMarin Petaluma

ADDRESS 1700 McDowell Blvd  
Petaluma, CA 94954

PROJECT NO. 18306

SCALE 1/8" = 1'-0"

TITLE

LANDSCAPE SECTIONS / ELEVATIONS

L2.2



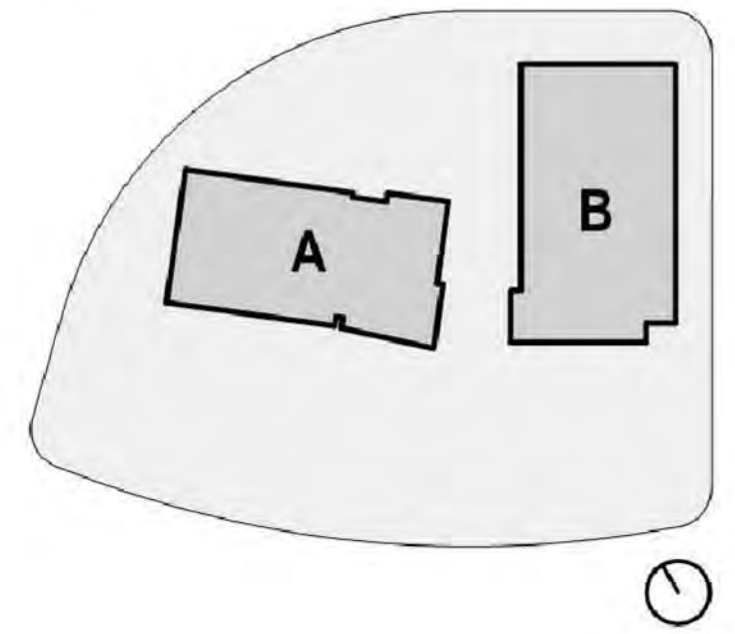
01 COURTYARD SECTION/ELEVATION LOOKING WEST  
1" = 8'



550 Ellis Street, Mountain View, CA 94043 650-943-1660  
201 Filbert Street, 3rd Floor, San Francisco, CA 94133 415-477-2700  
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KEY PLAN



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# B:OMARIN

**CLIENT** BioMarin  
**PROJECT** BioMarin Petaluma  
**ADDRESS** 1700 McDowell Blvd  
Petaluma, CA 94954  
**PROJECT NO.** 18306  
**SCALE** 1" = 30'  
**TITLE**

## LANDSCAPE PLANTING ZONE DIAGRAM

# L2.3

### PLANTING NARRATIVE

THE PLANTING DESIGN IS MEANT TO BE EVOCATIVE OF LOCAL SONOMA COUNTY CHARACTER AND THROUGHOUT WILL RELY ON A PALETTE OF DROUGHT TOLERANT GRASSES AND GROUNDCOVERS. THERE WILL BE A FOCUS ON CALIFORNIA NATIVES, WITH JUDICIOUS AND STRATEGIC USE OF ORNAMENTAL PLANTS. THE PLANTING DESIGN FOR BIOMARIN PETALUMA IS BROKEN INTO FOUR SIMPLE ZONES. THE ZONES ARE THE SOUTH MCDOWELL FRONTAGE, THE SITE PERIMETERS ON CADER LANE AND FISHER DRIVE, THE PARKING LOT, AND THE COURTYARD AND BUILDING FRONTAGES.



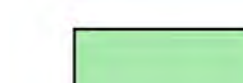




ALONG SOUTH MCDOWELL BOULEVARD A BAND OF ORNAMENTAL GRASSES, BACKED UP BY A HEDGE, WILL DEFINE AND REINFORCE THE MORE FORMAL CHARACTER OF THE DOUBLE ROW OF SYCAMORES WHILE ALSO SCREENING VIEWS OF THE PARKING LOT FROM THE ROAD.

THE BERMS OF THE SITE PERIMETER WILL BE PLANTED WITH REDWOOD TREES. THE GROUND PLANE WILL MAINLY FEATURE NATIVE GRASSES INTERSPERSED WITH NATIVE SHRUB AND FERN ACCENTS TO EVOKE THE FEELING OF A REDWOOD GROVE. TALLER SHRUBS WILL BE GROUPED AS SCREENING DEVICES ON EITHER SIDE OF THE TRANSFORMER ON FISHER DRIVE. AREAS DIRECTLY UNDER THE REDWOODS WILL BE DEFINED WITH BARK MULCH.

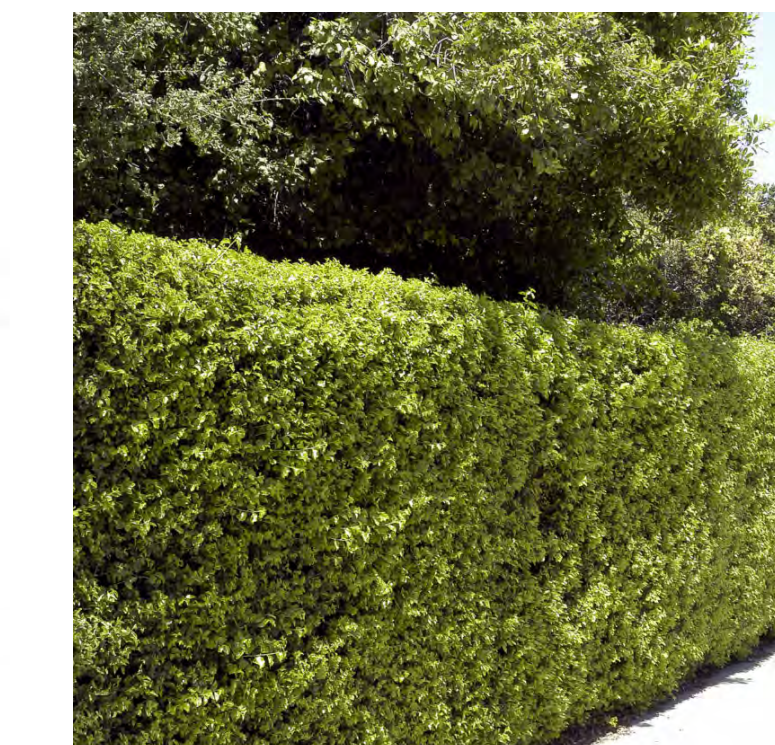
THE PARKING LOT UTILIZES A CLOSE SPACING OF OLIVE TREES TO GIVE THE EFFECT OF AN ORCHARD. A LONG BIOSWALE SEPARATING THE TWO BAYS FOR PARKING WILL BE PLANTED WITH APPROPRIATE GRASSES ADAPTED TO SEASONALLY WET CONDITIONS, WHILE BEING AS DROUGHT-TOLERANT AS POSSIBLE.

THE MORE FORMAL AND ORNAMENTAL CHARACTER OF THE SOUTH MCDOWELL FRONTAGE CARRIES THROUGH THE PARKING LOT ORCHARD TO THE PLANTING AT THE BUILDING FRONTAGES AND THE COURTYARD. THE LINEAR NATURE OF ROW CROPS WILL BE REFLECTED IN A SIMPLE BUILDING FRONTAGE PLANTING OF TWO TO THREE DIFFERENT TYPES OF PLANTS. THIS IDEA IS MOST REFINED AND DETAILED IN THE COURTYARD TREATMENT. IN BOTH AREAS THE PLANT PALETTE, WHILE STAYING DROUGHT TOLERANT, WILL TEND TOWARDS GREATER COLOR, FRAGRANCE AND VARIETY.

### PLANTING ZONE

-  SOUTH MCDOWELL FRONTAGE 15,243 sq ft
-  SITE PERIMETER BERMS 35,432 sq ft
-  BIO RETENTION GRASSES 8,338 sq ft
-  LOADING DOCK GRASSES 3,709 sq ft
-  BUILDING FRONTAGE 10,885 sq ft
-  COURTYARD GARDEN 4,346 sq ft
-  OLIVE ORCHARD 2,016 sq ft

### SCREENING SHRUB AT TRANSFORMER



HOLLYLEAF CHERRY



PLAN NORTH



## 01 LANDSCAPE PLANTING PLAN

1" = 30'



**IRRIGATION SYSTEM DESIGN NARRATIVE**

THE PROPOSED IRRIGATION SYSTEM FOR THIS SITE WILL BE DESIGNED WITH THE LATEST TECHNOLOGY IN WATER CONSERVATION AND EFFICIENCY. THE SYSTEM WILL CONSIST OF THE FOLLOWING TYPES OF IRRIGATION METHODS AND EQUIPMENT COMPLYING WITH THE STATE WATER ORDINANCE. ALL SMALL PLANTING BEDS WILL BE IRRIGATED WITH HIGHLY EFFICIENT, WATER CONSERVING IN-LINE DRIP. ALL BIOSWALES AREAS WILL BE IRRIGATED WITH HIGH EFFICIENCY POP-UP SPRAY PRESSURE COMPENSATING SPRAY SPRINKLERS. THESE SPRINKLERS APPLY THE WATER AT A LOWER APPLICATION RATE TO REDUCE RUNOFF AND PONDING. ALL SPRINKLERS WILL INCLUDE BUILT IN CHECK VALVES AND PRESSURE REGULATORS TO PREVENT MISTING AND LOW HEAD DRAINAGE ON SLOPED AREAS. THE CONTROLLER THAT WILL MANAGE THIS SYSTEM USES LOCAL WEATHER TO ADJUST THE RUN TIMES OF THE VALVES BASED ON DAILY WEATHER CONDITIONS. UTILIZING THIS TYPE OF WEATHER BASED SYSTEM WILL HELP THE LANDSCAPE MANAGER SAVE 25% MORE WATER THAN WITH A CONVENTIONAL CONTROLLER.

**IRRIGATION ZONES**

1. **LOW WATER USE/CALIFORNIA NATIVE SHRUBS/GROUNDCOVER AREA** WILL BE IRRIGATED WITH AN IN-LINE DRIP EMITTERS SYSTEM.
2. **MODERATE WATER USE/BIORETENTION** AREAS WILL BE IRRIGATED WITH HIGH EFFICIENCY POP-UP SPRAY PRESSURE COMPENSATING SPRAY SPRINKLERS.
3. **TREES** AREAS WILL USE POINT SOURCE BUBBLERS.

**IRRIGATION EQUIPMENT**

1. THE IRRIGATION SYSTEM WILL BE AUTOMATED USING AN "ET" WEATHER BASED CONTROLLER. THE CONTROLLER RECEIVES ET/WEATHER UPDATES FROM A LOCAL WEATHER STATION OR SENSING DEVICE AND WILL AUTOMATICALLY ADJUSTS THE IRRIGATION SYSTEM RUN TIMES ACCORDINGLY.
2. PRESSURIZED MAINLINE 3" AND SMALLER SHALL BE SOLVENT WELD SCHEDULE 40 PVC WITH SCHEDULE 40 FITTINGS.
3. LATERAL LINE PIPING SHALL BE SOLVENT WELD SCHEDULE 40 PVC WITH SCHEDULE 40 FITTINGS.
4. SUBSURFACE IN-LINE DRIP EMITTERS WILL BE BURIED APPROXIMATELY 4" BELOW GRADE.

IRRIGATION WATER USAGE CALCULATIONS

**WATER USE ESTIMATION**

<b>WATER TYPE</b>	<b>POTABLE</b>
<b>SITE ETO=</b>	<b>39.6</b>

HYDROZONE #	HYDROZONE NAME	PLANT WATER USE TYPE	PLANT FACTOR (PF)	IRRIGATION METHOD	IRRIGATION EFFICIENCY	ETAF (PF/IE)	AREA (SQ. FT) (HA)	ETAF X AREA (HA)	ETWU (GAL/YR)	ACRE FEET/ YEAR	HCF/ YEAR	PERCENTAGE OF LANDSCAPE	
<b>1</b>	GRASSES	LOW	0.3	DRIP	0.81	0.370	3,709	<b>1,374</b>	33,727	0.10	45.09	5%	
<b>2</b>	SHRUBS	LOW	0.3	DRIP	0.81	0.370	4,346	<b>1,610</b>	39,520	0.12	52.83	5%	
<b>3</b>	SHRUBS/GC	LOW	0.3	BUBBLER	0.81	0.370	49,564	<b>18,357</b>	450,702	1.38	602.54	62%	
<b>4</b>	BIOSWALE	LOW	0.3	SPRAY	0.75	0.400	8,338	<b>3,335</b>	81,886	0.25	109.47	10%	
<b>5</b>	SHRUBS/GC	MOD	0.5	DRIP	0.81	0.617	11,996	<b>7,405</b>	181,806	0.56	243.06	15%	
<b>4</b>	TREES	MOD	0.5	BUBBLER	0.81	0.617	2,016	<b>1,244</b>	30,554	0.09	40.85	3%	
							<b>TOTALS</b>	<b>79,969</b>	<b>33,325</b>	<b>818,194</b>	<b>2.51</b>	<b>1,093.84</b>	<b>100%</b>

HYDROZONE #	HYDROZONE NAME											
<b>N/A</b>												0%
											<b>TOTALS</b>	<b>0%</b>

<b>MAWA</b>	GALLONS/YR	<b>883,529</b>
	ACRE FEET/YR	<b>2.71</b>
	HCF/YR	<b>1,181.19</b>

<b>ETWU</b>	GALLONS/YR	<b>818,194</b>
	ACRE FEET/YR	<b>2.51</b>
	HCF/YR	<b>1,093.84</b>

<b>SITE IRRIGATION EFFICIENCY</b>	<b>SITE PLANT FACTOR</b>	<b>MAWA COMPLIANT</b>
<b>80.4%</b>	<b>0.34</b>	<b>YES</b>

ETAF Calculations	
REGULAR LANDSCAPE AREAS	
TOTAL ETAF x AREA	33,325
TOTAL AREA	79,969
AVG. ETAF	41.67%

<b>MAWA FORMULA</b>
<b>MAXIMUM APPLIED WATER ALLOWANCE (MAWA) GALLONS PER YEAR</b>
MAWA = (ET <sub>o</sub> )(0.62)[(LA x 0.45) + (0.55 x SLA)]

ET<sub>o</sub> = REFERENCE EVAPOTRANSPIRATION  
 0.55 = ET ADJUSTMENT FACTOR  
 LA = LANDSCAPED AREA (SQUARE FEET)  
 0.62 = CONVERSION FACTOR (GALLONS/SQ.FT/YR)

<b>ETWU FORMULA</b>
<b>ESTIMATED TOTAL WATER USE (ETWU) GALLONS PER YEAR</b>
ETWU = (ET <sub>o</sub> )(.62)(ETAF x LA)

ET<sub>o</sub> = REFERENCE EVAPOTRANSPIRATION  
 PF = PLANT FACTOR FOR HYDROZONES  
 HA = HYDROZONE AREA (SQ. FT)  
 0.62 = CONVERSION FACTOR (GALLONS/SQ.FT/YR)

IE = IRRIGATION EFFICIENCY (0.81)-BUBBLER/DRIP  
 IE = IRRIGATION EFFICIENCY (0.75)-ROTORS/SPRAY



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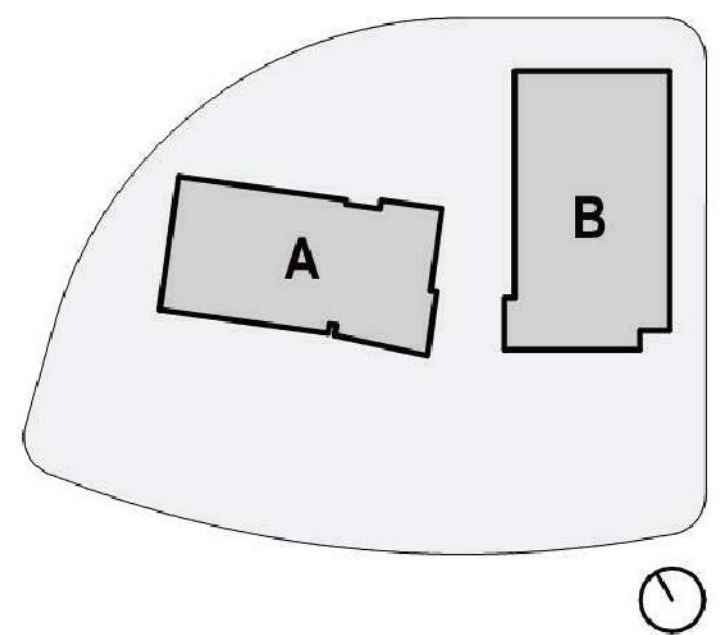
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KEY PLAN




PLANNING SUBMITTAL	10/10/19
ENTITLEMENTS RESPONSE #1	07/25/19
PLANNING ENTITLEMENTS	05/15/19

NO.	DESCRIPTION	DATE
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**B:OMARIN**

CLIENT	BioMarin
PROJECT	BioMarin Petaluma
ADDRESS	1700 McDowell Blvd Petaluma, CA 94954
PROJECT NO.	18306
SCALE	NTS
TITLE	<b>IRRIGATION DESIGN NARRATIVE &amp; WATER CALCULATIONS</b>

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