“J”

Stormwater Control Plans

E&P Technology Way – Buildings A & B Use Permits
(P22-00307 / P22-00308)
Planning Commission Hearing Date November 20, 2024

Stormwater Control Plan
For a Regulated Project
For Use Permit Application
E&P Properties Building A
Technology Way
Napa County, CA 94558

July, 29th 2022

E&P Properties
5400 Industrial Way,
Benecia, CA 94510

Prepared By:

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Tables

Appendices

I. PROJECT DATA

Specific project information is summarized in the following **Table 1-Project Data Form**.

Table 1-Project Data Form	
Project Name/Number	E&P Properties Building A
Application Submittal Date	July 2022 (Application ENG22-000011)
Project Location	Technology Way and Morris Court, Napa, California APN: 057-250-030-000, -031-000
Project Phase No.	N/A
Project Type and Description	Industrial Warehouse and Office
Total Project Site Area	8.12-Acre Site
Total New and Replaced Impervious Surface Area	281,000 Square Feet (6.45 Acres)
Total Pre-Project Impervious Surface Area	0 Square Feet
Total Post-Project Impervious Surface Area	Approximately 80% of developed area (6.45 acres developed)

II. SETTING

II.A. PROJECT LOCATION AND DESCRIPTION:

The project location and Site Plan are shown on Sheet C-201 of **Appendix A, Civil Improvement Plans**. The project is located at Technology Way and Morris Court, in unincorporated Napa County, California (Assessor's Parcel Number: 057-250-030-000, 031-000) The property is a roughly 8.12 acres, with all 8.12 acres being undeveloped land. As shown on Sheet C-201 of **Appendix A, Civil Improvement Plans**, the proposed project includes a one-story warehouse building, totaling 143,311 SF with an asphalt parking lot.

II.B. EXISTING SITE FEATURES AND CONDITIONS:

The parcel is roughly trapezoidal and is approximately 1000 feet wide on the longest side by 375 feet deep. The ground elevation of the parcel ranges from approximately 18 to 34 feet (Napa County Datum). Soils at the site are loam (Hydrologic Soil Group D). Group D soils have low infiltration rates and high runoff rates. The Sheehy Creek runs west to east along the north side of the property with the natural ground flowing north into the creek. The property site is currently undeveloped.

II.C. OPPORTUNITIES AND CONSTRAINTS FOR STORMWATER CONTROL:

Opportunities for stormwater control at the site are afforded by landscaping requirements. The Sheehy Creek is currently used for onsite run off and can be utilities for an outfall after the site drainage filters through the bioretention.

The site also includes constraints. The industrial land use is high density/intensity and vehicular traffic space is limited by the land use objectives, and by architectural and design criteria and constraints. Also, clayey soils will limit infiltration potential.

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. OPTIMIZATION OF SITE LAYOUT:

III.A.1. LIMITATION OF DEVELOPMENT ENVELOPE

The Sheehy Creek flows through the north side of the property, the creek will not be altered or disturbed from the construction and included within a conservation easement.

III.A.2. PRESERVATION OF NATURAL DRAINAGE FEATURES

The Sheehy Creek flows through the north side of the property, natural drainage surface flows to the creek. The proposed drainage pattern will remain the same.

III.A.3. SETBACKS FROM CREEKS, WETLANDS, AND RIPARIAN HABITATS

An existing bike trail borders the Sheehy Creek, creating a natural setback for proposed construction. Proposed construction will not encroach within 5 ft of the existing bike trail and the creek to the north.

III.A.4. MINIMIZATION OF IMPERVIOUSNESS

Imperviousness was minimized with respect to land use objectives and to architectural and civil design criteria and constraints.

III.A.5. USE OF DRAINAGE AS A DESIGN ELEMENT

There are no significant natural drainage features on the property. Infiltration of runoff will be promoted by the use of bioretention facilities. Stormwater discharging from the property will be made to mimic natural drainage patterns to the maximum extent practicable.

III.B. USE OF PERMEABLE PAVEMENTS:

Permeable pavements were not used for this project.

III.C. DISPERSAL OF RUNOFF TO PERVIOUS AREAS:

Runoff will be dispensed to pervious swales and/or bioretention facilities.

III.D. STORMWATER CONTROL MEASURES:

Source control measures are proposed for potential sources of pollution, such as storm drain inlets, truck docks, refuse areas, and parking lots, as described below.

IV. DOCUMENTATION OF DRAINAGE DESIGN

IV.A. DESCRIPTIONS OF EACH DRAINAGE MANAGEMENT AREA:

The Drainage Management Areas (DMAs) for the site are shown on Sheet C-501 of **Appendix A, Civil Improvement Plans**, summarized in **Table 2-DMA Summary Information**, and described in more detail below.

IV.A.1. TABLE OF DRAINAGE MANAGEMENT AREAS

The following table is a summary of Drainage Management Areas (DMA) – **Table 2-DMA Summary Information**.

Table 2-DMA Summary Information

DMA Name	Surface Type	Area (Square Feet)	Area (Acres)
1A	71% Impervious	60,177	1.38
2A	81% Impervious	55,588	1.27
3A	75% Impervious	119,474	2.74
4A	90% Impervious	42,988	0.99
5A	78% Impervious	75,588	1.74

IV.A.2. DMA DESCRIPTIONS

DMAs 1A, 2A, 3A, 4A and 5A: Drain primarily impervious areas, the parking lot and proposed building. DMAs 1A, 2A, 3A, 4A and 5A drain to Bioretention Facilities 1A, 2A, 3A, 4A and 5A respectively. After being treated in the Bioretention Facilities, runoff that does not infiltrate into the natural soil underneath will be captured by underdrains. Stormwater culverts will overflow into the Sheehy Creek.

IV.B. TABULATION AND SIZING CALCULATIONS:

This Section describes sizing and design of Bioretention Facilities 1A through 5A, as shown on Sheet C-501 of **Appendix A, Select Improvement Plan Sheets**, and as specified in the 2019 BASMAA Design Manual[1].

IV.B.1. INFORMATION SUMMARY FOR BIORETENTION FACILITY DESIGN

Summary information for DMA's draining to bioretention facilities are shown in **Table 3-Areas Draining to Bioretention Facilities**.

Table 3-Areas Draining to Bioretention Facilities	
DMA Name	**Area (Square Feet)**
1A	60,177
2A	55,588
3A	119,474
4A	42,988
5A	75,588

IV.B.2. AREAS DRAINING TO BIORETENTION FACILITIES

Table 4A-Sizing Information for Bioretention Facility 1a, through **Table 4E-Sizing Information for Bioretention Facility 5A,** show the sizing information for BMP 1A, 2A, 3A, 4A and 5A . The bioretention facilities will treat runoff from the DMAs shown in the tables.

[1] BASMAA Post-Construction Manual, Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties. Bay Area Stormwater Management Agencies Association (BASMAA) Phase II Committee. January, 2019.

Table 4A-Sizing Information for Bioretention Facility 1A.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 1A		
1A	42,726	Impervious	1	42,726	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	17,451	Pervious/ landscaped	0.1	1,745			
Total				44,471	0.04	1,779 SF	3,351 SF

Table 4B-Sizing Information for Bioretention Facility 2A.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 2A		
2A	45,026	Impervious	1.0	45,026	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	10,562	Pervious/ landscaped	0.1	1,056			
Total				46,082	0.04	1,843 SF	2,497 SF

Table 4C-Sizing Information for Bioretention Facility 3A.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 3A		
3A	89,606	Impervious	1.0	89,606	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	29,869	Pervious/ landscaped	0.1	2,987			
Total				92,592	0.04	3,704 SF	3,751 SF

Table 4D-Sizing Information for Bioretention Facility 4A.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 4A		
4A	38,689	Impervious	1.0	38,689	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	4,299	Pervious/ landscaped	0.1	429			
Total				39,119	0.04	1,565 SF	1,725 SF

Table 4E-Sizing Information for Bioretention Facility 5A.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 5A		
5A	58,959	Impervious	1.0	58,959	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	16,629	Pervious/ landscaped	0.1	1,663			
Total				60,622	0.04	2,425 SF	4,317 SF

V. SOURCE CONTROL MEASURES

V.A. SITE ACTIVITIES AND POTENTIAL SOURCES OF POLLUTANTS:

Potential pollutant sources were identified for the project. The sources are listed in **Table 5-Sources and Source Control Measures**.

V.B. SOURCE CONTROL TABLE:

Source control measures were selected for the potential pollutant sources, as shown in the following **Table 5-Sources and Source Control Measures**. The most feasible measures were selected, considering site and design constraints.

Table 5-Sources and Source Control Measures

Potential Source Of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
On-site Storm Drain Inlets	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	Maintain and periodically repaint or replace inlet markings. Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
Landscape/Outdoor Pesticide Use/Building and Grounds Maintenance	Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.	Maintain landscaping using minimum or no pesticides.
Sidewalks and Parking Lots		Sweep sidewalks and parking lots regularly to prevent accumulation of litter and debris.
Truck Dock	Loading portion of dock shall be covered and is graded to prevent run-on and runoff from the loading area. Floor drains within the covered portion of the dock will be plumbed to the sanitary sewer.	Move loaded and unloaded items indoors as soon as possible.
Refuse Area	Area is enclosed and covered, and graded to prevent run-on and to minimize runoff.	Inspect receptacles regularly, pick up litter, and clean up spills. Keep receptacles covered.

V.C. FEATURES, MATERIALS, AND METHODS OF CONSTRUCTION OF SOURCE CONTROL BMPS:

Features, materials, and methods of construction of source control BMPs will be as shown on selected sheets of the Improvement Plans provided in **Appendix A, Civil Improvement Plans**. Unless specified otherwise, all construction and materials shall be in accordance with the plans and with County Design Standards.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. OWNERSHIP AND RESPONSIBILITY FOR MAINTENANCE IN PERPETUITY:

Maintenance of stormwater facilities will be the responsibility of the property owner and will be performed by the owner's contractors or employees as part of routine maintenance of buildings, grounds, and landscaping. The applicant will commit to execute any necessary written agreements prior to the County's approval of the building permit.
With this agreement, the applicant will accept responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

VI.B. SUMMARY OF MAINTENANCE REQUIREMENTS FOR EACH STORMWATER FACILITY:

The five (5) bioretention facilities will be inspected and maintenance activities will be completed at least annually. The frequency may be adjusted based on results of inspections. The maintenance activities will be specified in a Maintenance Plan to be approved by the County. The activities are summarized as follows:

Bioretention Facilities:

a. Clean Up: Remove any soil or debris blocking planter inlets or overflows. Remove trash that typically collects near inlets or gets caught in vegetation.

b. Prune Or Cut Back Plants: For health and to ensure flow into inlets and across the surface of the facility. Remove and replant as necessary.

c. Control Weeds: By manual methods and soil amendment.

d. Add Mulch: Replace compost mulch to maintain 1-inch to 2-inch thickness.

e. Check Signage: Remove graffiti and replace, if necessary.

VII. CONSTRUCTION CHECKLIST

Table 6-Construction Plan C.3 Checklist shown below summarizes the source control and treatment control measures proposed in for this project. Referenced Improvement Plan sheets are included in **Appendix A, Select Improvement Plan Sheets**.

Table 6-Construction Plan C.3 Checklist		
Stormwater Control Plan Section	**Source Control or Treatment Control Measure**	**See Plan Sheet Nos.**
V.B	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	C-501
IV.C.4	Bioretention Facilities 1A through 5A	C-501

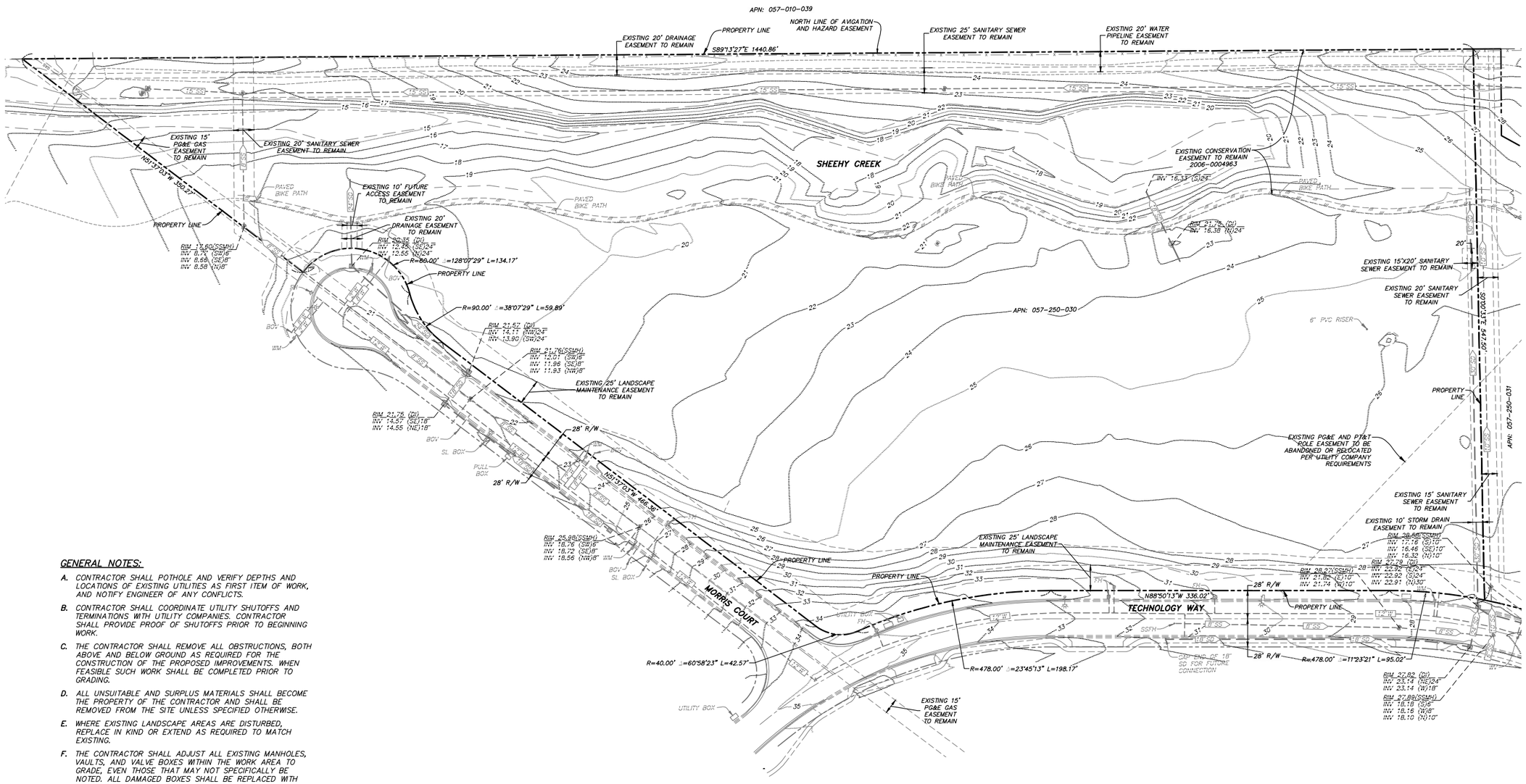
VIII. CERTIFICATIONS

The design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post-Construction Manual, to the maximum extent practicable.

APPENDIX A

CIVIL

IMPROVEMENT PLANS



GENERAL NOTES:

A. CONTRACTOR SHALL POTHOLE AND VERIFY DEPTHS AND LOCATIONS OF EXISTING UTILITIES AS FIRST ITEM OF WORK, AND NOTIFY ENGINEER OF ANY CONFLICTS.

B. CONTRACTOR SHALL COORDINATE UTILITY SHUTOFFS AND TERMINATIONS WITH UTILITY COMPANIES. CONTRACTOR SHALL PROVIDE PROOF OF SHUTOFFS PRIOR TO BEGINNING WORK.

C. THE CONTRACTOR SHALL REMOVE ALL OBSTRUCTIONS, BOTH ABOVE AND BELOW GROUND AS REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. WHEN FEASIBLE SUCH WORK SHALL BE COMPLETED PRIOR TO GRADING.

D. ALL UNSUITABLE AND SURPLUS MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS SPECIFIED OTHERWISE.

E. WHERE EXISTING LANDSCAPE AREAS ARE DISTURBED, REPLACE IN KIND OR EXTEND AS REQUIRED TO MATCH EXISTING.

F. THE CONTRACTOR SHALL ADJUST ALL EXISTING MANHOLES, VAULTS, AND VALVE BOXES WITHIN THE WORK AREA TO GRADE, EVEN THOSE THAT MAY NOT SPECIFICALLY BE NOTED. ALL DAMAGED BOXES SHALL BE REPLACED WITH NEW BOXES.

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NEW WAREHOUSE BUILDING A

TECHNOLOGY WAY & MORRIS COURT
NAPA COUNTY, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue :	description :	date :
A	INITIAL PLANNING REVIEW	07-27-2022

GENERAL CONTRACTOR:

drawn by : PJ plot date : 07-27-2022

checked by : PF

stamp

REGISTERED PROFESSIONAL ENGINEER
BRYAN P. BONING
No. 41804
CIVIL
STATE OF CALIFORNIA

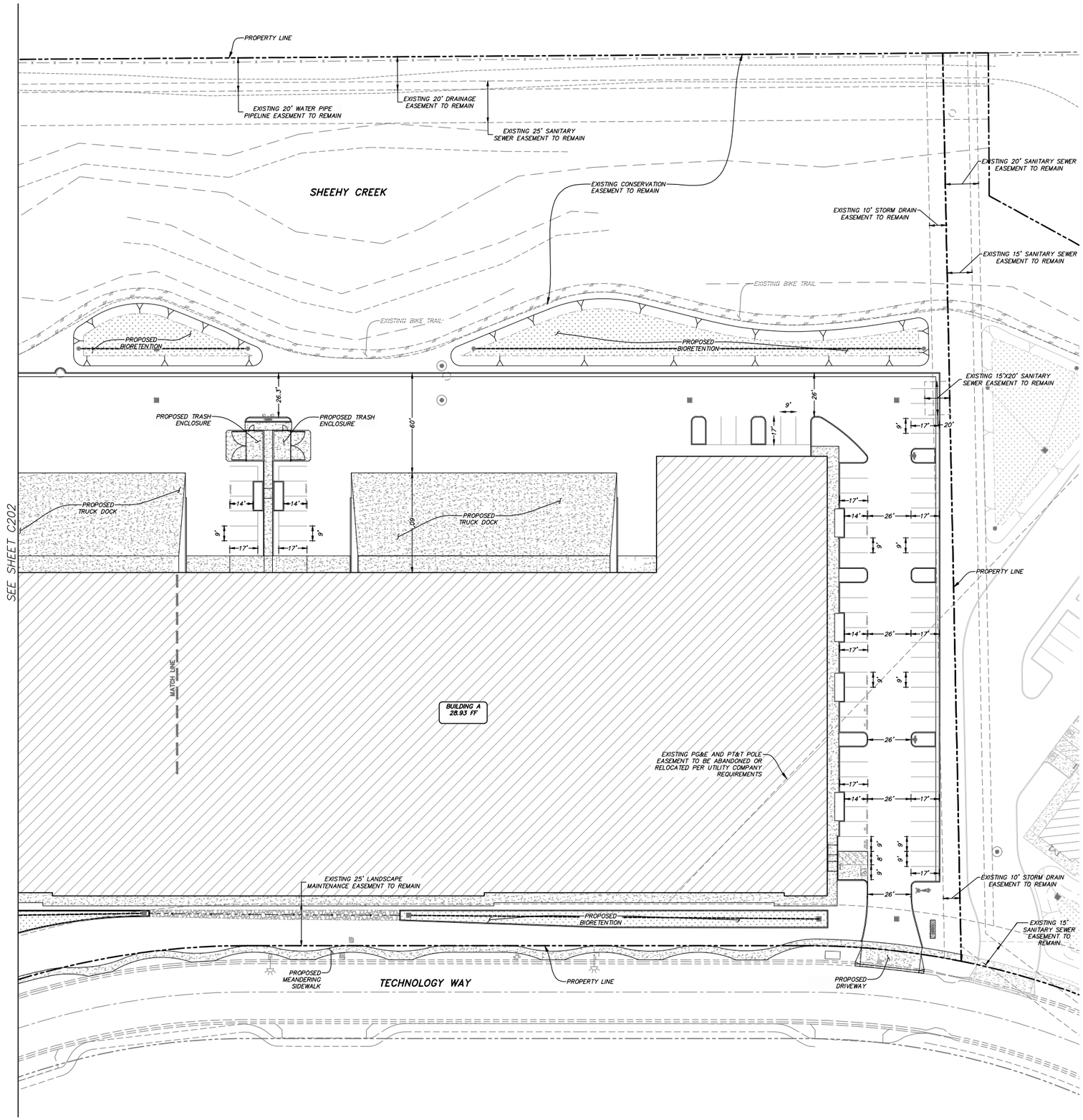
scale : AS NOTED

project number : 3687-13

TOPOGRAPHIC SURVEY & DEMOLITION PLAN

sheet no. :

C101



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project number : 3687-13

CIVIL SITE PLAN

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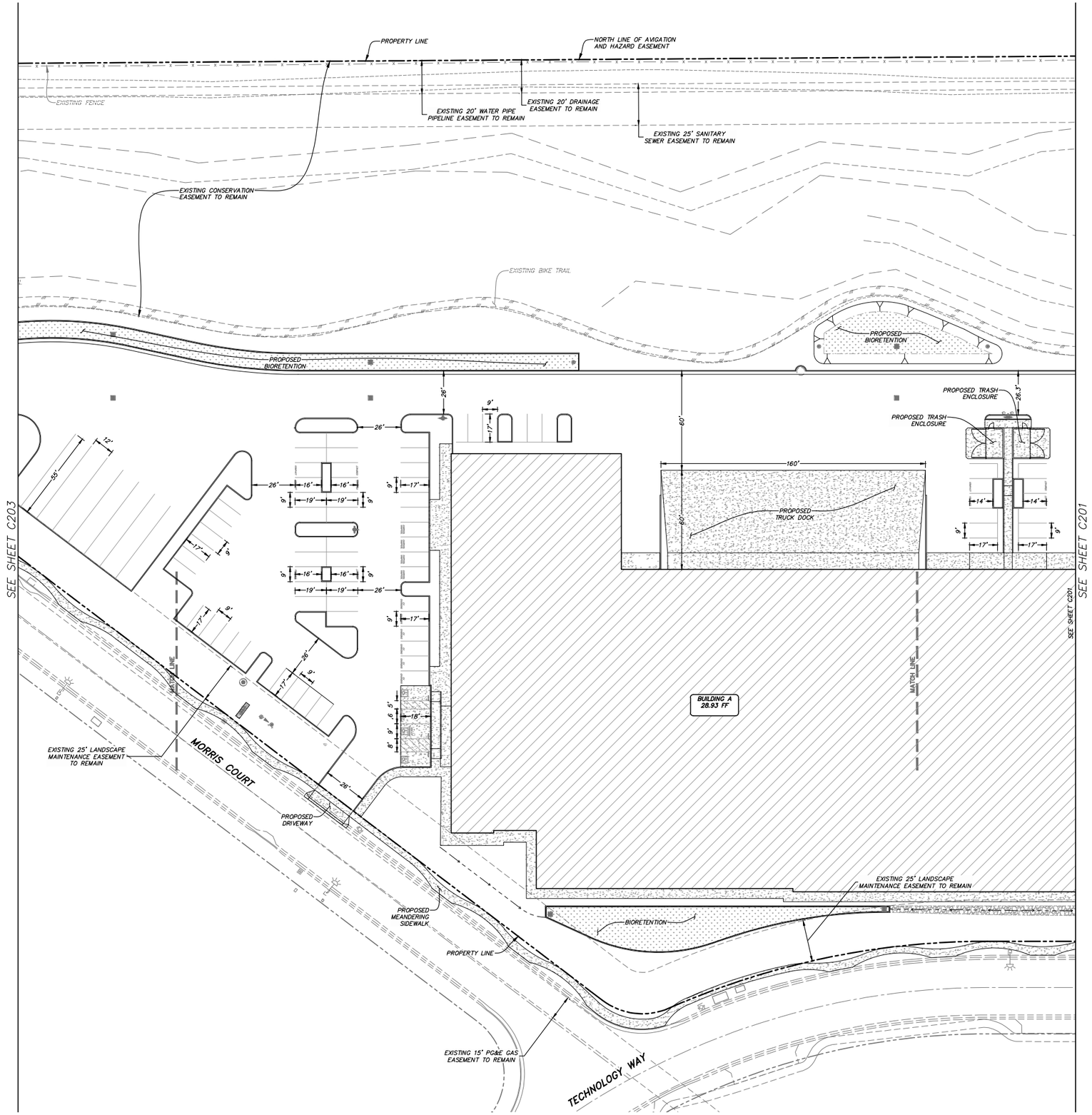

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CIVIL SITE PLAN

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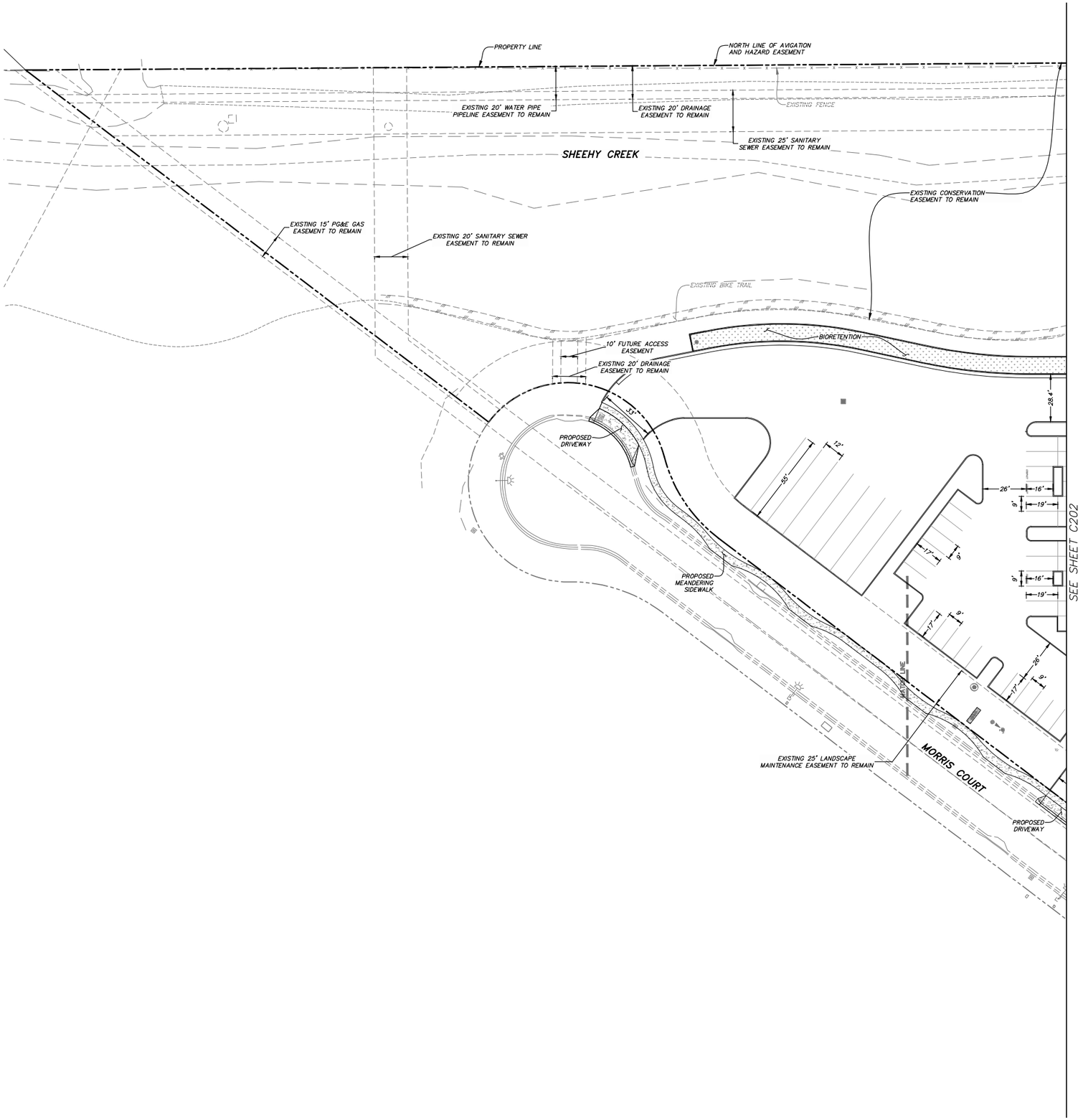

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CIVIL SITE PLAN

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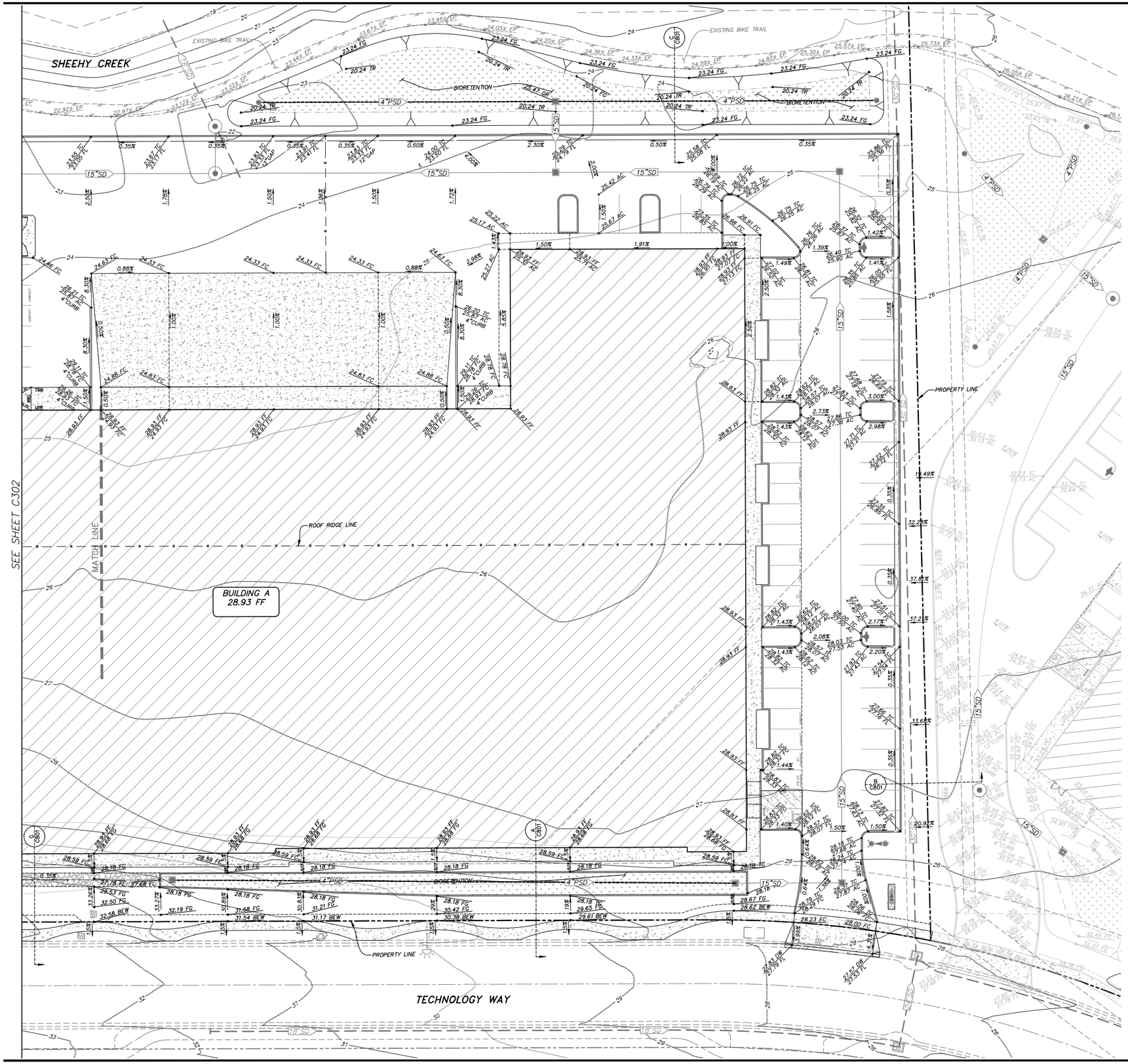

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project number : 3687-13

GRADING &
DRAINAGE PLAN

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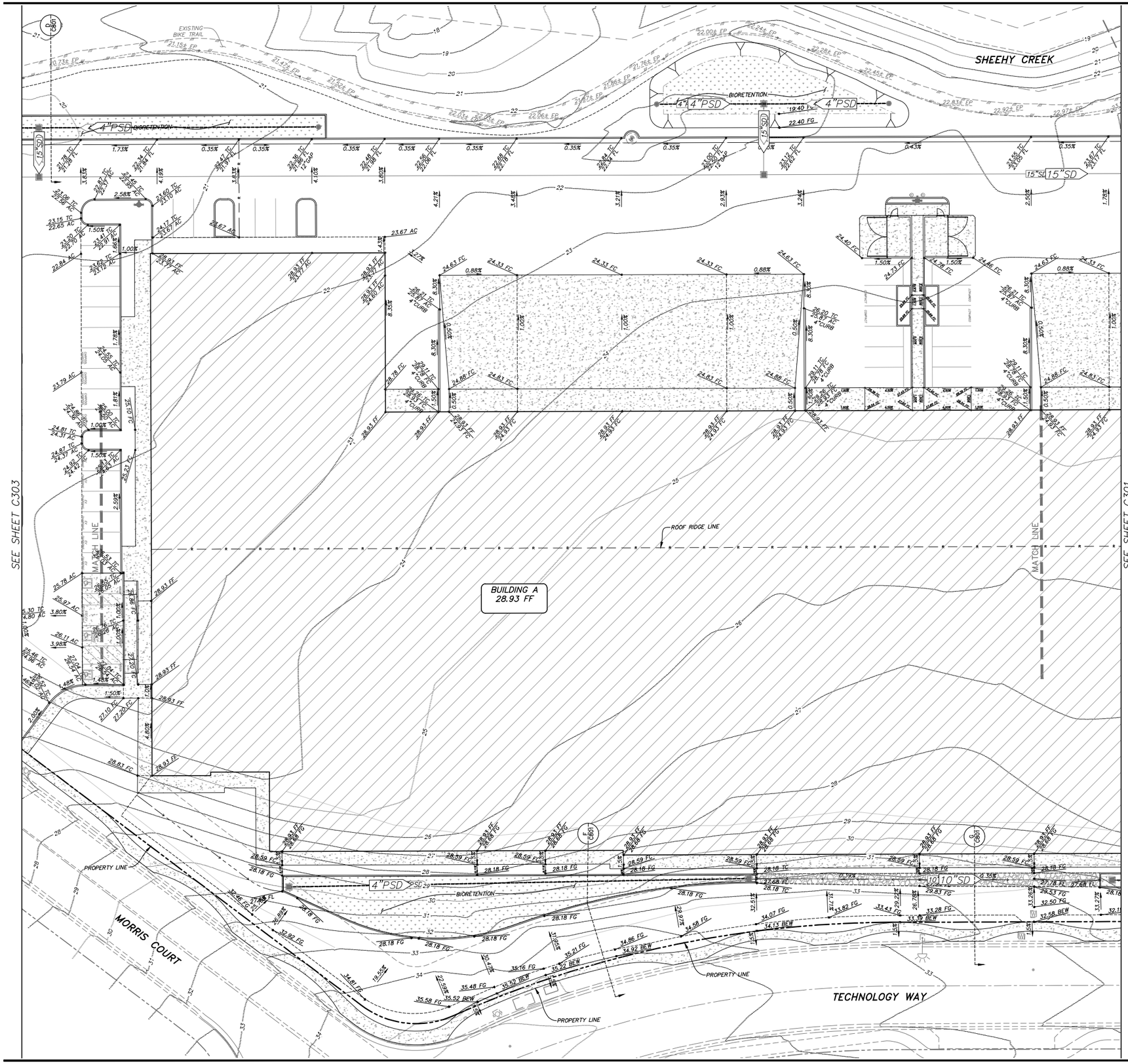

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GRADING &
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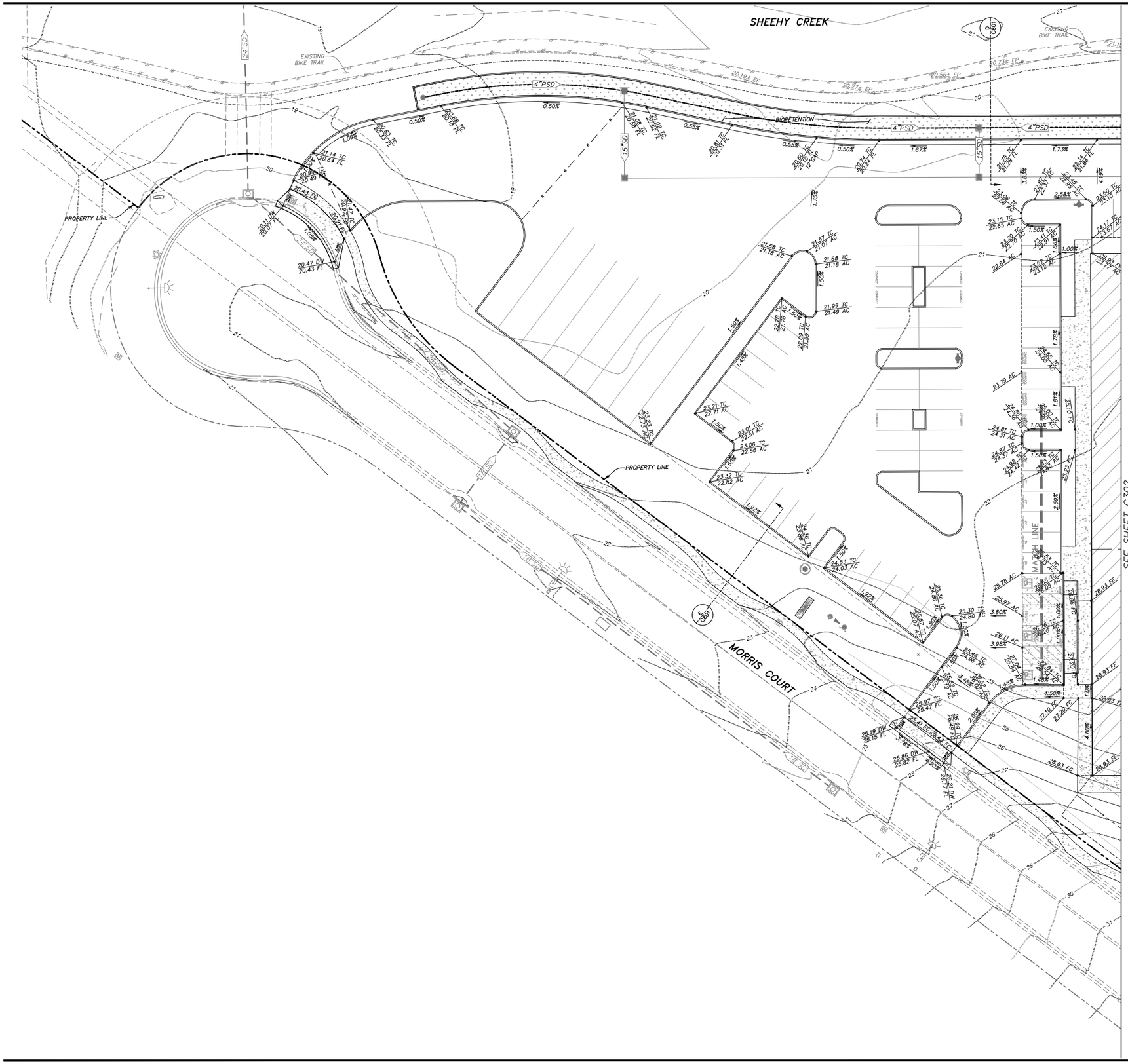

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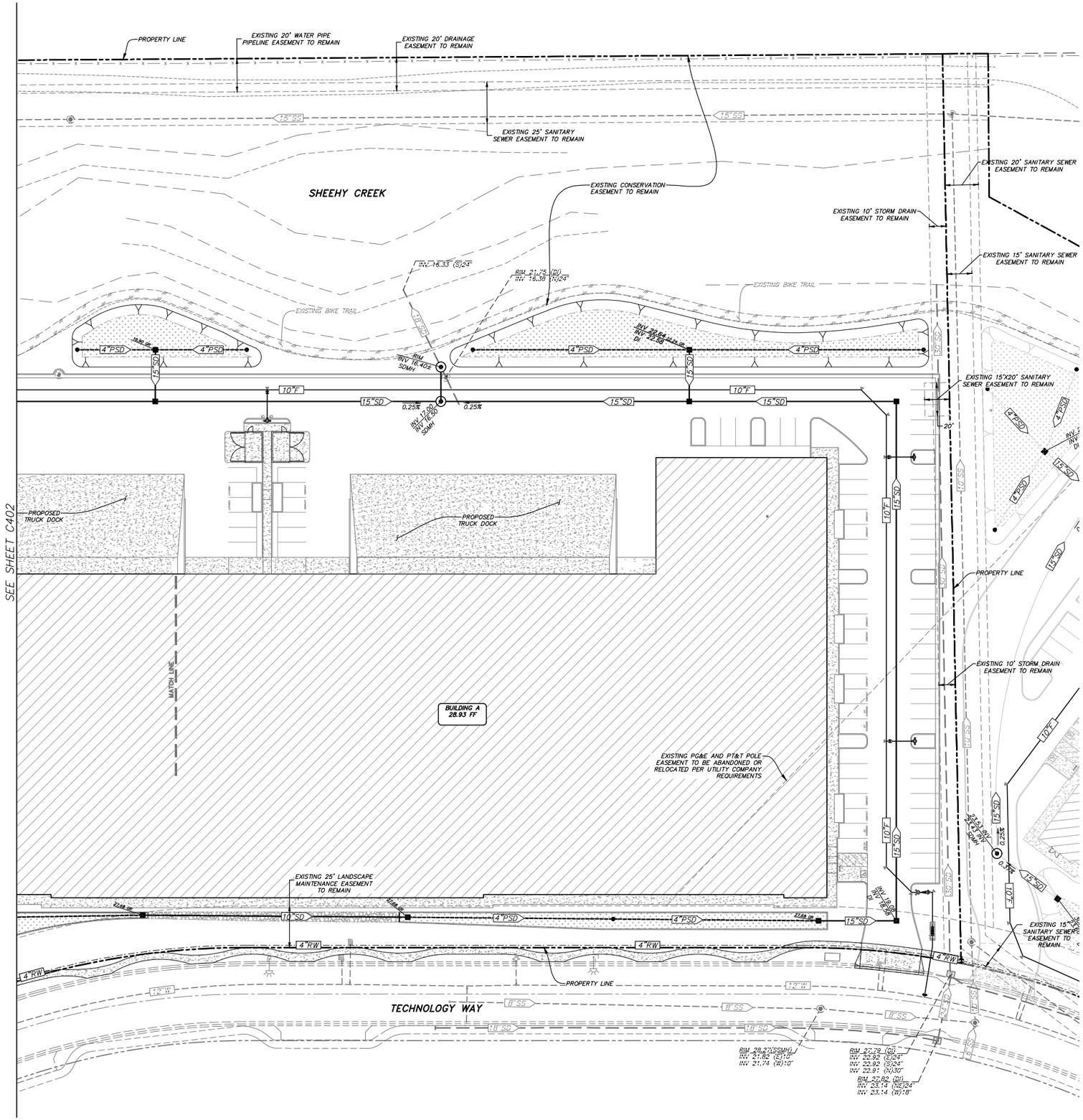

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project number : 3687-13

UTILITIES PLAN

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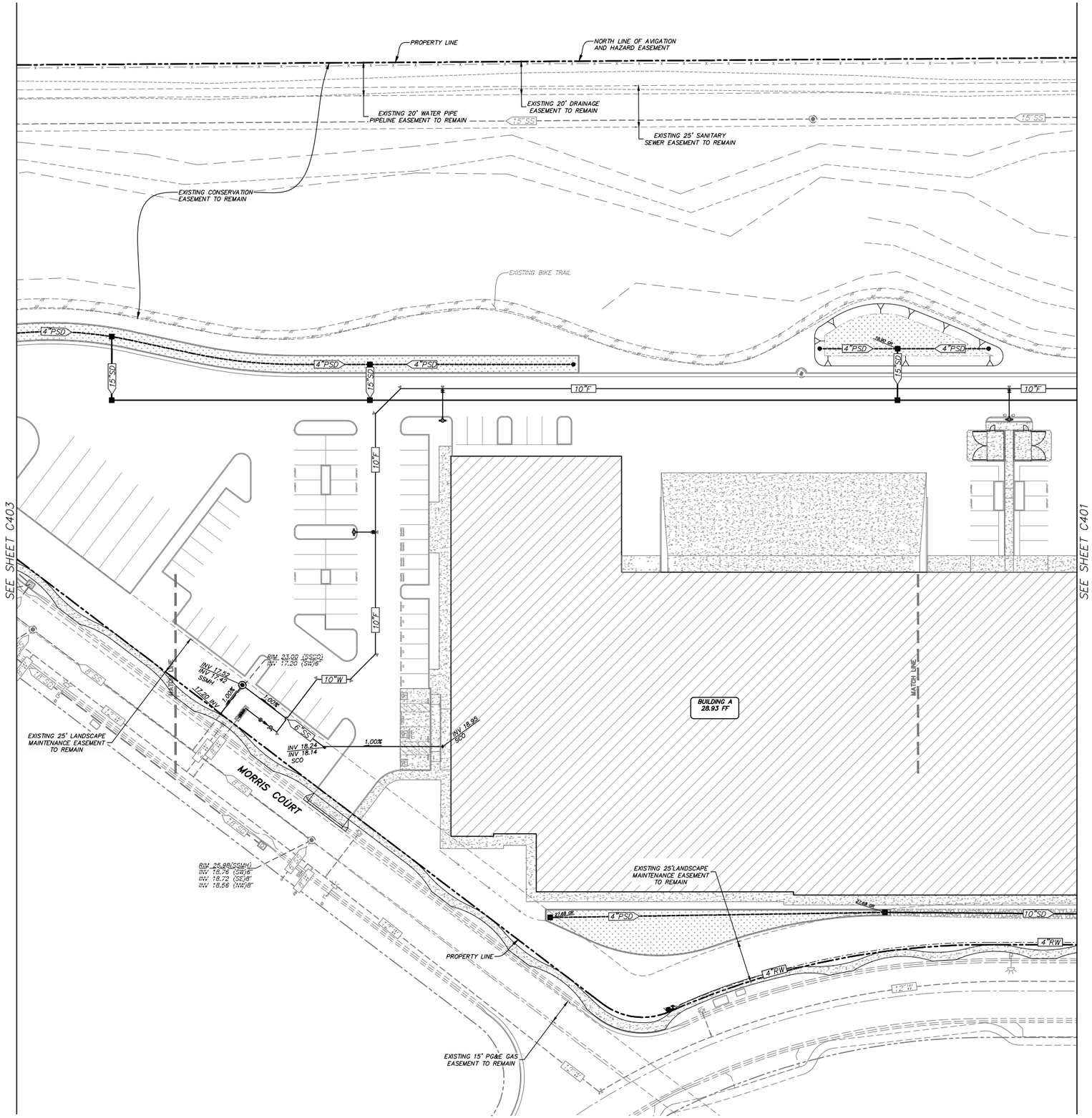

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PRELIMINARY DESIGN DOCUMENTS FOR:

NEW WAREHOUSE
BUILDING A

TECHNOLOGY WAY & MORRIS COURT
NAPA COUNTY, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue :	description :	date :
A	INITIAL PLANNING REVIEW	07-27-2022

GENERAL CONTRACTOR:

drawn by : PJ plot date : 07-27-2022

checked by : PF

stamp

REGISTERED PROFESSIONAL ENGINEER
BRYAN P. BONINO
No. 41804
CIVIL
STATE OF CALIFORNIA

scale : AS NOTED

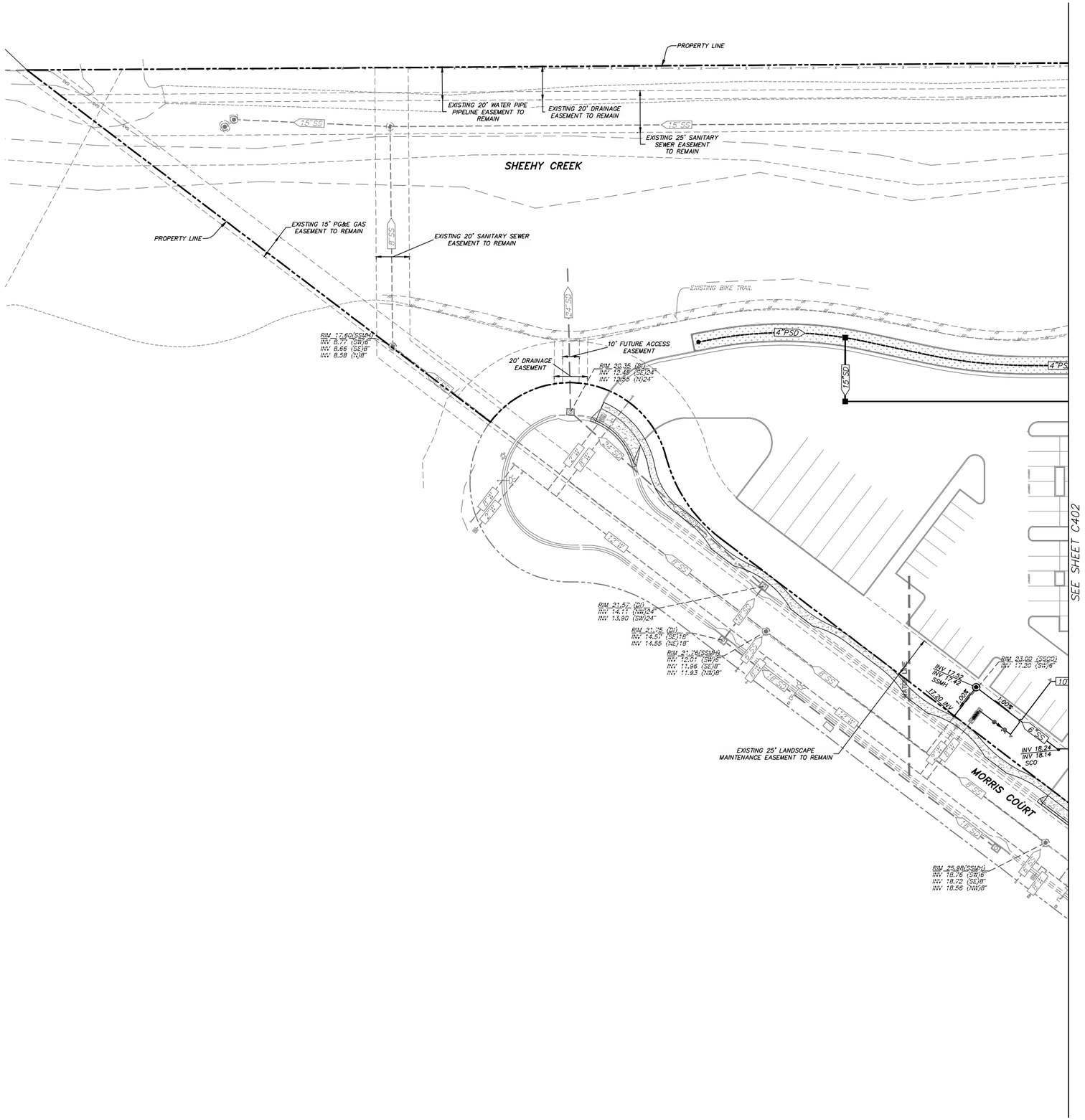
project number : 3687-13

UTILITIES PLAN

0 15 30 60
LM
SCALE: 1"=30'

sheet no. :

C402



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916 449-1400

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OWNER / DEVELOPER:

E & P
PROPERTIES

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STATE OF CALIFORNIA

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project number : 3687-13

UTILITIES PLAN

0 15 30 60
LM
SCALE: 1"=30'

sheet no. :

C403

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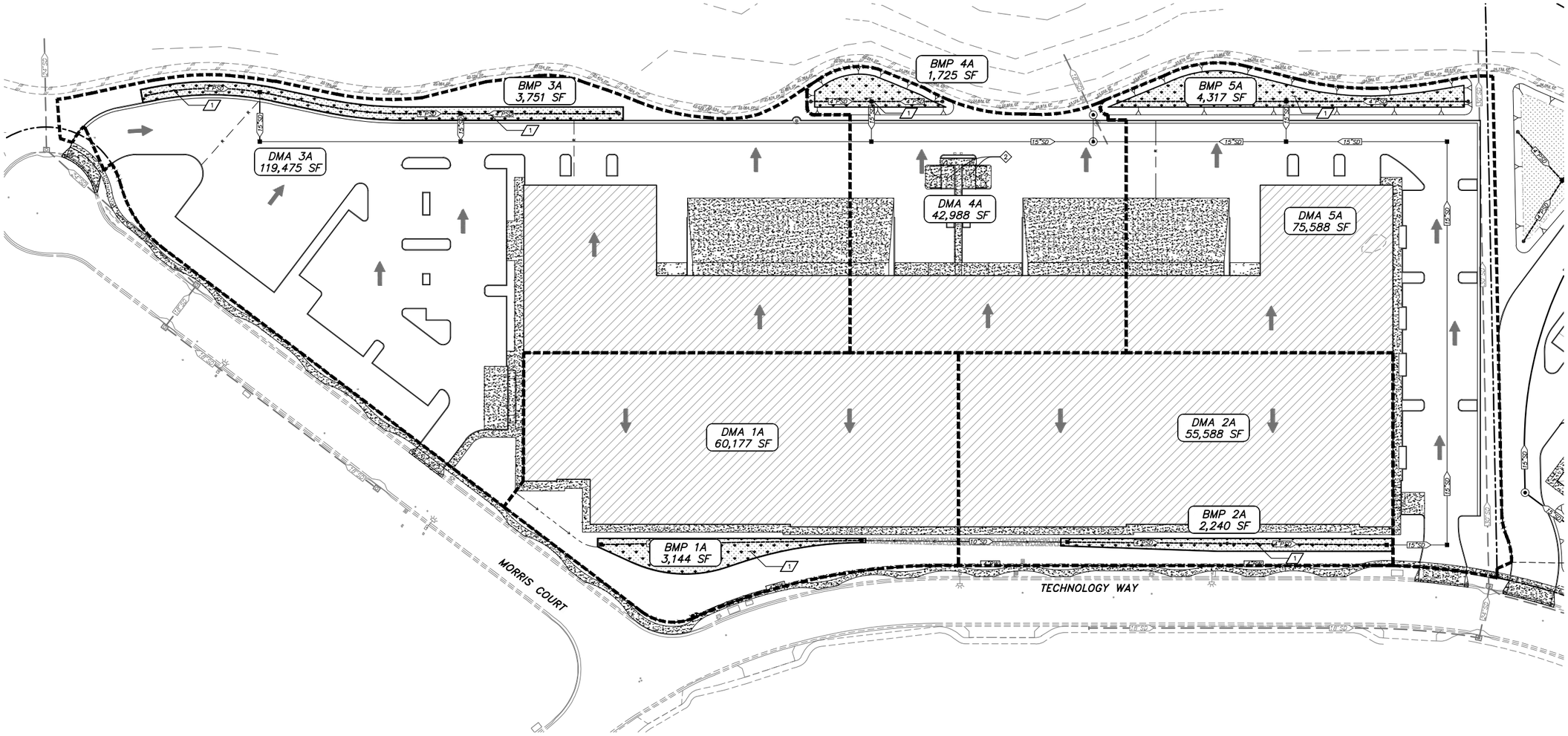

GENERAL NOTES:

A. TOTAL PROJECT AREA IS 353,800 SF (8.12 AC).

B. DMA – DRAINAGE MANAGEMENT AREA.

C. BF – BIORETENTION FACILITY, TREATMENT CONTROL MEASURE.

D. SOILS ARE GROUP D, PER USDA SOIL MAP VIEWER REPORT.

E. DEPTH TO GROUNDWATER IS YET TO BE DETERMINED.

F. RECEIVING WATER BODY IS SHEEHY CREEK.

SITE DESIGN MEASURES ⬡:

1. PRESERVE NATURAL DRAINAGE PATTERNS.
2. DIRECT RUNOFF FROM IMPERVIOUS AREAS TO LANDSCAPED AREAS. FLOW DIRECTION ( ).
3. PLANT TREES ADJACENT TO IMPERVIOUS AREAS. TREE LOCATIONS TO BE IDENTIFIED WITH FINAL CONSTRUCTION DOCUMENTS.
4. SELF–TREATING OR SELF–RETAINING AREA.
5. DMA DRAINING TO A SELF–RETAINING AREA.

POTENTIAL POLLUTION SOURCES AND CONTROL MEASURES ◇:

1. LOADING DOCK. COVERED FOR SIX FEET OUT BEYOND THE EDGE OF THE BUILDING ROOF. SEE ARCHITECTURAL PLANS FOR FURTHER DETAIL.
2. REFUSE AREA. COVERED AND ENCLOSED FOR DUMPSTERS. SEE ARCHITECTURAL PLANS FOR FURTHER DETAIL. GRADED TO MINIMIZE STORMWATER RUN–ON AND RUNOFF. SEE GRADING PLAN FOR FURTHER DETAIL.
3. STORM DRAIN INLET. MARK WITH WORDS "NO DUMPING! FLOWS TO BAY". SEE UTILITY PLAN FOR FURTHER DETAIL.

TREATMENT CONTROL MEASURES ▱:

1. INSTALL BIORETENTION FACILITY PER DETAILS ON SHEET C502. SEE GRADING PLAN, SITE PLAN, UTILITY PLAN, AND LANDSCAPING PLAN FOR MORE DETAIL.

O&M SUMMARY:

1. O&M ACTIVITIES AND RESPONSIBLE PARTIES WILL BE SPECIFIED WITH THE FINAL CONSTRUCTION DOCUMENTS.

LEGEND

DMA	DRAINAGE MANAGEMENT AREA
BMP	BEST MANAGEMENT PRACTICE
DMA 1 1,000 SF	WATER QUALITY AREA NAME AND SQUARE FOOTAGE
▬▬▬▬	WATER QUALITY AREA BOUNDARY
BMP 1 1,000 SF	BIORETENTION MANAGEMENT AREA NAME AND SQUARE FOOTAGE
▱	BIORETENTION MANAGEMENT AREA
→	DIRECTION OF FLOW

0 20 40 80
LM
SCALE: 1"=40'

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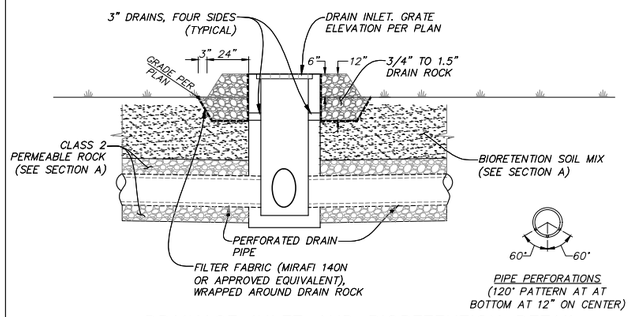
scale : AS NOTED

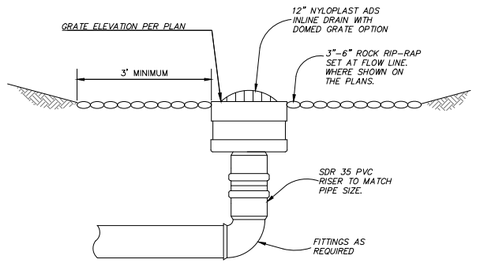
project number : 3687-13

STORMWATER CONTROL PLAN

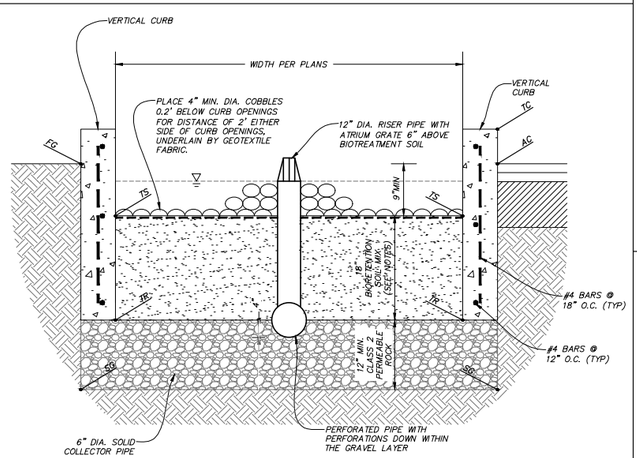
sheet no. : C501



1 DRAINAGE INLET AND BIORETENTION DETAIL
NTS



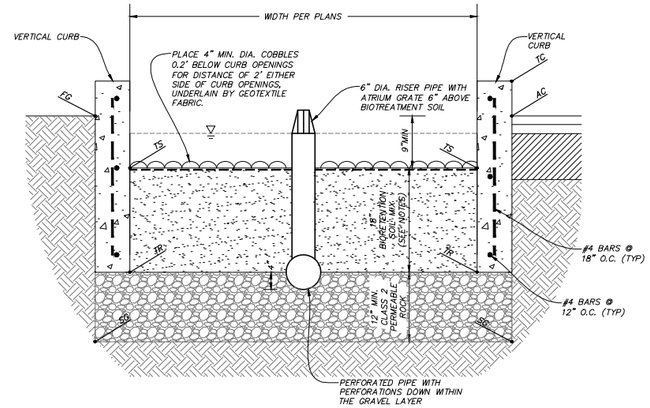
2 LANDSCAPE AREA DRAIN
NTS



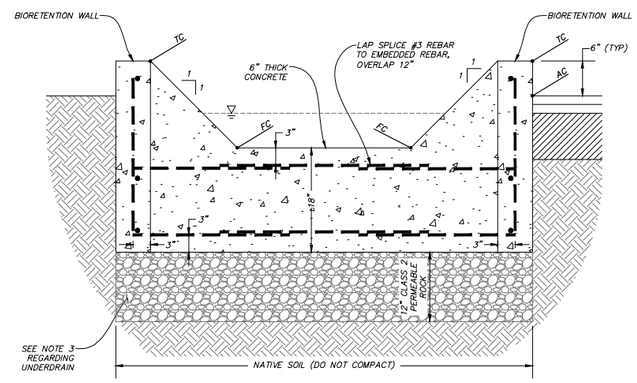
3 BIORETENTION FACILITY 12" OVERFLOW DRAIN
NTS

BIORETENTION NOTES:

1. FOR LOCATION, SIZE, AND IDENTIFICATION OF PROPOSED LANDSCAPING/PLANT MATERIAL SEE LANDSCAPE PLANS.
2. BIOTREATMENT SOIL MIX SHALL CONSIST OF 60%-70% SAND AND 30%-40% COMPOST PER BASMAA SPECIFICATIONS. SPECIFICATIONS AVAILABLE FROM CONTRA COSTA CLEAN WATER PROGRAM. (CCCWP) SOIL MIX MUST BE OBTAINED FROM LOCAL SUPPLIER APPROVED BY THE CCCWP.
3. INSTALLATION OF PERMEABLE SOIL SHALL BE PER BASMAA REQUIREMENTS.



4 BIORETENTION FACILITY 6" OVERFLOW DRAIN
NTS



5 FULL WIDTH CONCRETE CROSS BRACE
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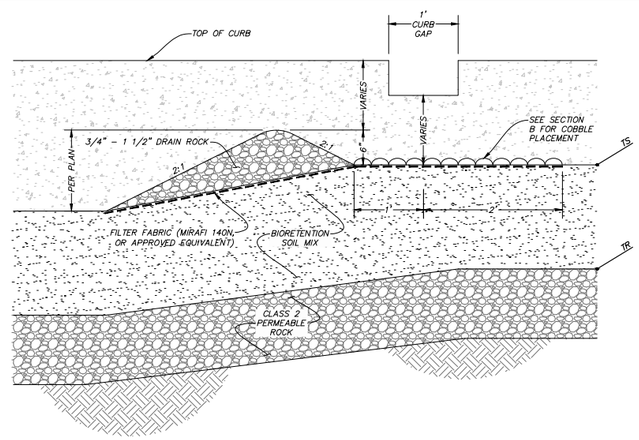
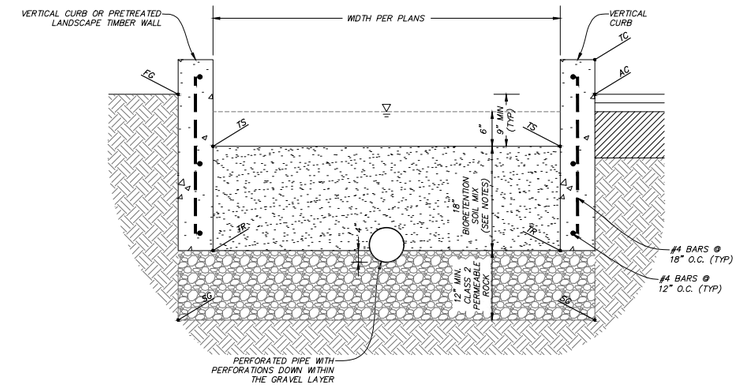
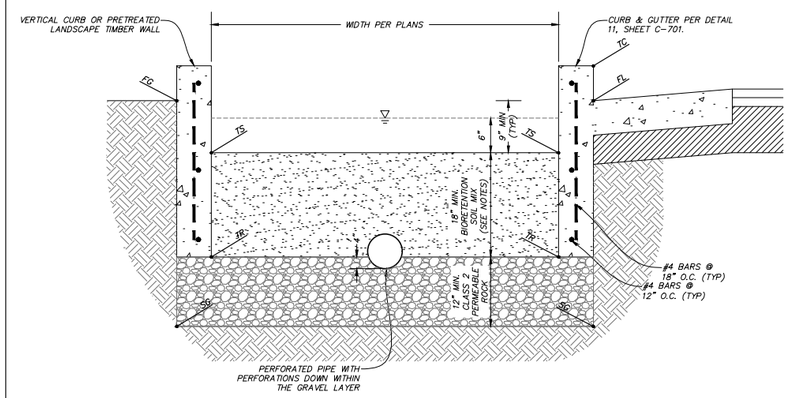


6 PERVIOUS ROCK WEIR
NTS



7 TYPICAL BIORETENTION FACILITY SECTION @ VERTICAL CURB
NTS



8 TYPICAL BIORETENTION FACILITY SECTION @ CURB & GUTTER
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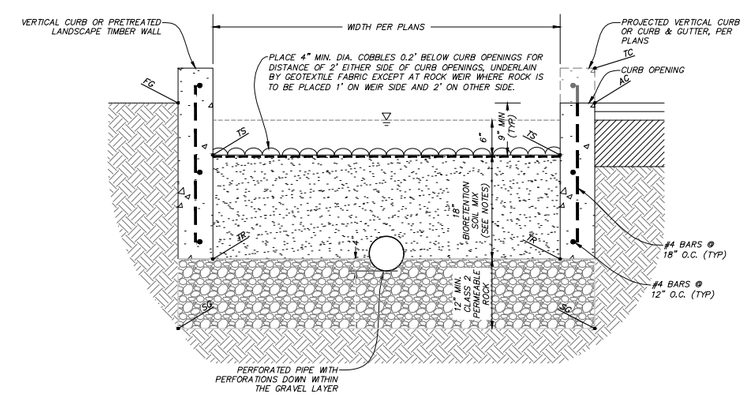

9 TYPICAL BIORETENTION FACILITY SECTION @ CURB OPENING
NTS

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PRELIMINARY DESIGN DOCUMENTS FOR:

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checked by : PF

stamp

REGISTERED PROFESSIONAL ENGINEER
ARTAN P. BONINO
No. 41804
CIVIL
STATE OF CALIFORNIA

scale : AS NOTED

project number : 3687-13

STORMWATER CONTROL PLAN DETAILS

sheet no. :

C502

BIORETENTION NOTES:

1. FOR LOCATION, SIZE, AND IDENTIFICATION OF PROPOSED LANDSCAPING/PLANT MATERIAL SEE LANDSCAPE PLANS.
2. BIOTREATMENT SOIL MIX SHALL CONSIST OF 60%–70% SAND AND 30%–40% COMPOST PER BASMAA SPECIFICATIONS. SPECIFICATIONS AVAILABLE FROM CONTRA COSTA CLEAN WATER PROGRAM. (CCCWP) SOIL MIX MUST BE OBTAINED FROM LOCAL SUPPLIER APPROVED BY THE CCCWP.
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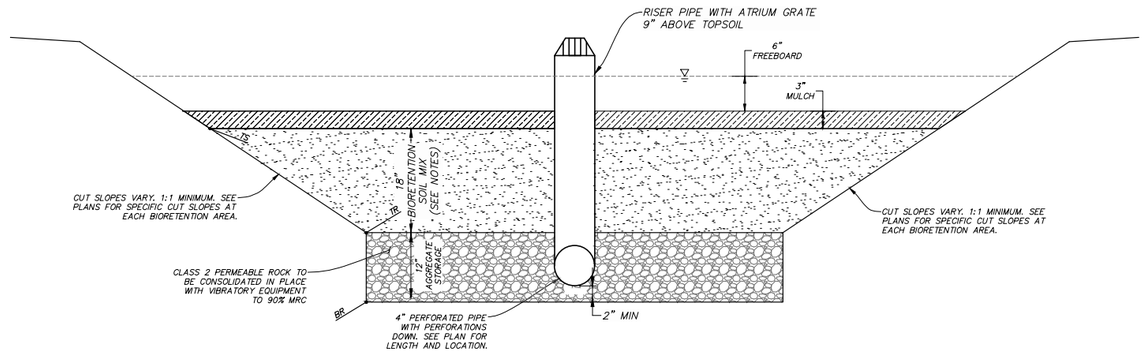

10 BIORETENTION FACILITY WITH SLOPED GROUND
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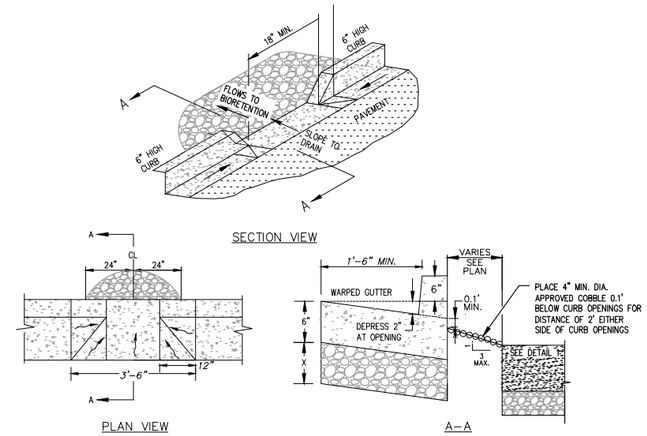
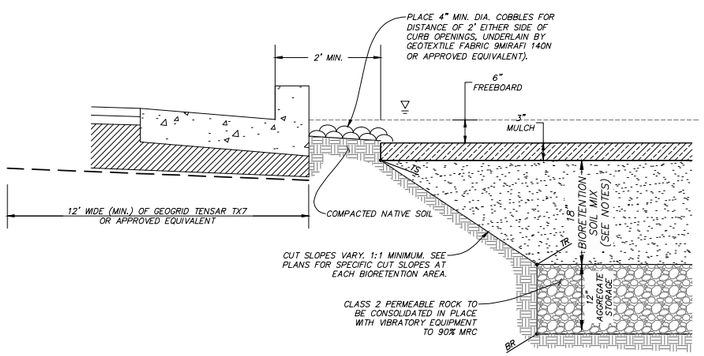


12 CURB OPENING
NTS



11 BIORETENTION FACILITY WITH SLOPED GROUND ADJACENT TO CURB AND GUTTER
NTS

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STATE OF CALIFORNIA

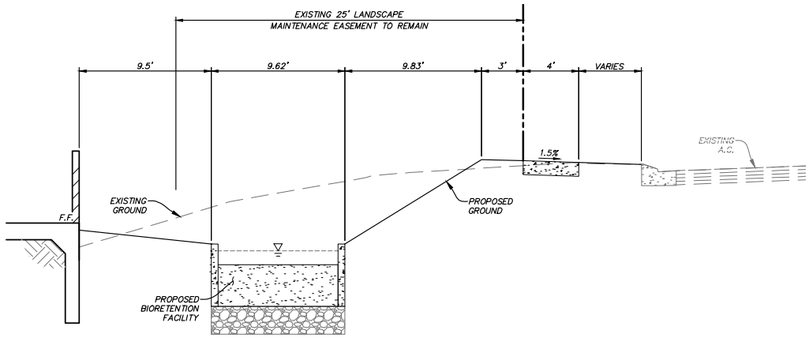
scale : AS NOTED

project number : 3687-13

STORMWATER CONTROL PLAN DETAILS

sheet no. :

C503



A SOUTHEAST CROSS SECTION ADJACENT TO TECHNOLOGY WAY
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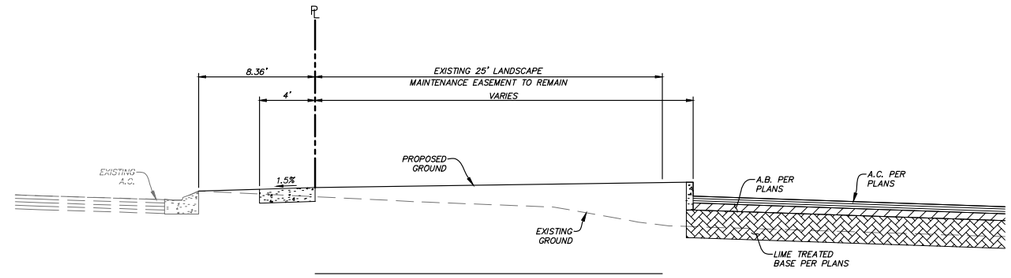

E WEST PROPERTY LINE
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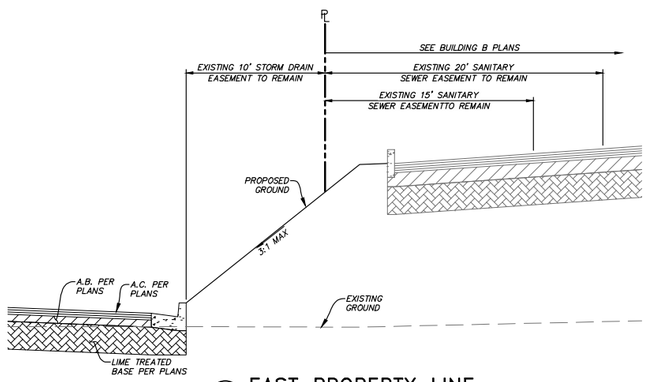

B EAST PROPERTY LINE
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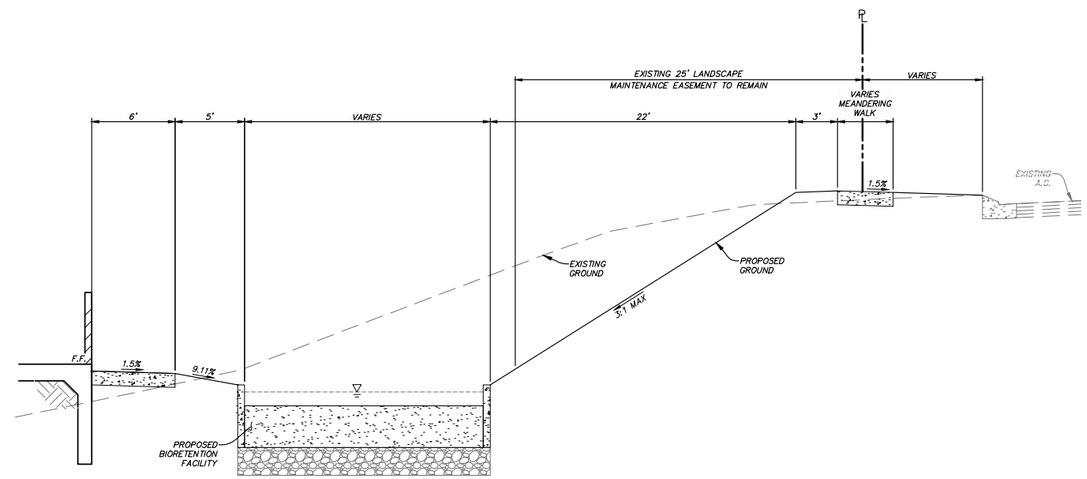

F SOUTHWEST BIORETENTION
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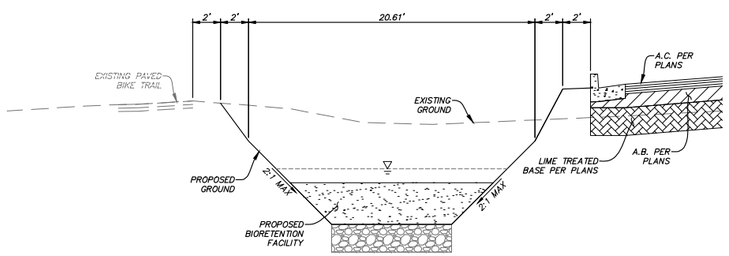

C NORTHEAST BIORETENTION
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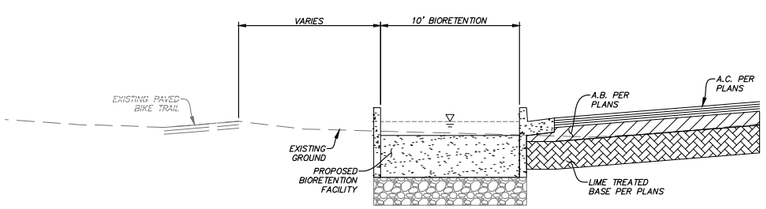

D NORTH CROSS SECTION
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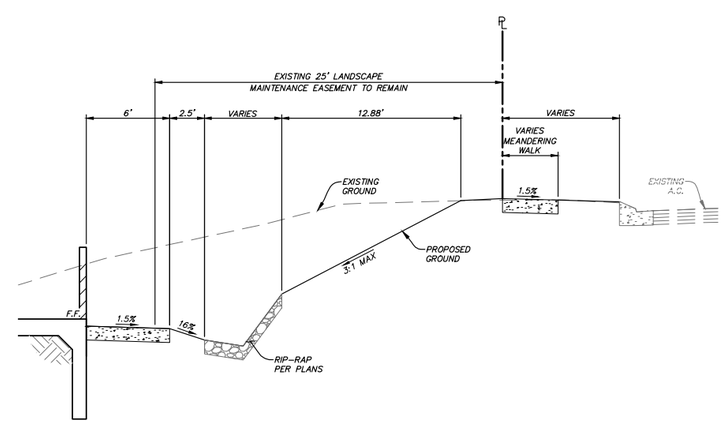

G SOUTH CROSS SECTION ADJACENT TO TECHNOLOGY WAY
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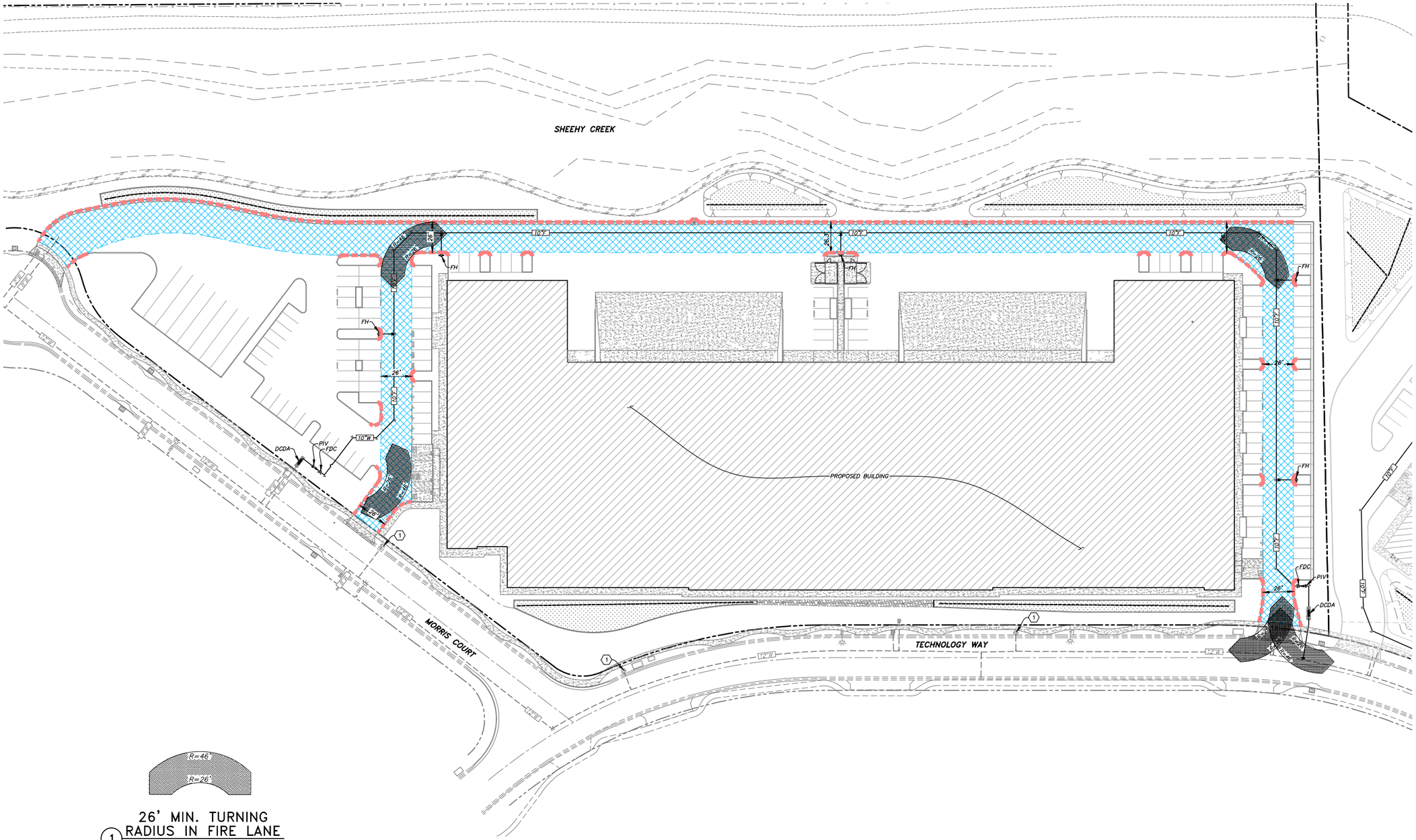
CIVIL
STATE OF CALIFORNIA

scale : AS NOTED

project number : 3687-13

CROSS-SECTIONS

sheet no. :
C801



26' MIN. TURNING RADIUS IN FIRE LANE
1
NTS

GENERAL NOTES:

A. FIRE LANES SHALL BE A MINIMUM OF 20 FEET CLEAR WIDTH AND 13 ½ FEET CLEAR HEIGHT.

B. SEE SHEETS C401 AND C402 FOR WATER MAIN, FIRE MAIN, APPURTENANCES, WATER CONNECTIONS, AND CONSTRUCTION SPECIFICATIONS.

C. FINAL FIRE ACCESS LANE AFTER CONSTRUCTION.

D. NO GATES SHALL BE INSTALLED ACROSS THE PROPOSED FIRE ACCESS LANES WITHIN THE LIMITS OF PROJECT IMPROVEMENTS.

E. CURBS ALONG FIRE LANE SHALL BE PAINTED RED, TYPICAL. ( )

CONSTRUCTION NOTES ⬡:

1. EXISTING FIRE HYDRANTS SHALL PROVIDE FIRE FIGHTING WATER DURING CONSTRUCTION.

FIRE PROTECTION NOTES:

A. ALL UNDERGROUND FIRE PROTECTION SHALL BE INSTALLED, TESTED, AND MAINTAINED PER NFPA 24, 2019 EDITION.

B. ALL FIRE HYDRANTS, PIV/FDC'S SHALL BE INSTALLED SO AS NOT TO BE BLOCKED BY PARKING STALLS, LOADING ZONES, LANDSCAPING, ETC.

C. ALL FIRE HYDRANTS SHALL HAVE AN 18-INCH CLEARANCE FROM THE CENTER OF THE 4-1/2" DISCHARGE TO FINISHED GRADE LEVEL.

D. ALL FIRE HYDRANTS SHALL HAVE A BLUE DOT REFLECTOR INSTALLED 12-INCHES OFF CENTERLINE IN FRONT OF ALL FIRE HYDRANTS ON THE HYDRANT SIDE.

E. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH BREAK-OFF BOLTS AND/OR BREAK-OFF SPOOLS.

F. ALL FIRE HYDRANTS SHALL BE EQUIPPED WITH A 3'X3' MINIMUM CONCRETE PAD AROUND THEM PER NFPA 24, 2010 EDITION. EXTEND PAD AS SHOWN ON PLANS TO BACK OF CURB.

G. INSTALL THRUST BLOCK AT ALL WATER FITTINGS PER CITY OF AMERICAN CANYON STANDARD DWG. #7.12 (▼- TYPICAL).

H. INSTALL WATER VALVES PER CITY OF AMERICAN CANYON STANDARD PLANS AND SPECIFICATIONS.

0 20 40 80
LM
SCALE: 1"=40'

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scale : AS NOTED

project number : 3687-13

FIRE PLAN

sheet no. :
C901

Stormwater Control Plan
For a Regulated Project
For Use Permit Application
E&P Properties Building B
Technology Way
Napa County, CA 94558

July, 29th 2022

E&P Properties
5400 Industrial Way,
Benecia, CA 94510

Prepared By:

LAUGENOUR AND MEIKLE
CIVIL ENGINEERING · LAND SURVEYING · PLANNING
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P.O. BOX 828, WOODLAND, CALIFORNIA 95776 · FAX: (530) 662-4602

Table of Contents

Tables

Appendices

I. PROJECT DATA

Specific project information is summarized in the following **Table 1-Project Data Form**.

Table 1-Project Data Form	
Project Name/Number	E&P Properties Building B
Application Submittal Date	July 2022 (Application ENG22-000011)
Project Location	Technology Way and Morris Court, Napa, California APN: 057-250-030-000, -031-000
Project Phase No.	N/A
Project Type and Description	Industrial Warehouse and Office
Total Project Site Area	5.30-Acre Site
Total New and Replaced Impervious Surface Area	193,500 Square Feet (4.44 Acres)
Total Pre-Project Impervious Surface Area	0 Square Feet
Total Post-Project Impervious Surface Area	Approximately 83% of developed area (4.44 acres developed)

II. SETTING

II.A. PROJECT LOCATION AND DESCRIPTION:

The project location and Site Plan are shown on Sheet C-201 of **Appendix A, Civil Improvement Plans**. The project is located at Technology Way, in unincorporated Napa County, California (Assessor's Parcel Number: 057-250-030-000, 031-000) The property is a roughly 5.30 acres, with all 5.30 acres being undeveloped land. As shown on Sheet C-201 of **Appendix A, Civil Improvement Plans**, the proposed project includes a one-story warehouse building, totaling 66,832 SF with an asphalt parking lot.

II.B. EXISTING SITE FEATURES AND CONDITIONS:

The parcel is roughly trapezoidal and is approximately 850 feet wide on the longest side by 325 feet deep. The ground elevation of the parcel ranges from approximately 25 to 36 feet (Napa County Datum). Soils at the site are loam (Hydrologic Soil Group D). Group D soils have low infiltration rates and high runoff rates. The Sheehy Creek runs west to east along the north side of the property with the natural ground flowing north into the creek. The property site is currently undeveloped.

II.C. OPPORTUNITIES AND CONSTRAINTS FOR STORMWATER CONTROL:

Opportunities for stormwater control at the site are afforded by landscaping requirements. The Sheehy Creek is currently used for onsite run off and can be utilities for an outfall after the site drainage filters through the bioretention.

The site also includes constraints. The industrial land use is high density/intensity and vehicular traffic space is limited by the land use objectives, and by architectural and design criteria and constraints. Also, clayey soils will limit infiltration potential.

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. OPTIMIZATION OF SITE LAYOUT:

III.A.1. LIMITATION OF DEVELOPMENT ENVELOPE

The Sheehy Creek flows through the north side of the property, the creek will not be altered or disturbed from the construction and included within a conservation easement.

III.A.2. PRESERVATION OF NATURAL DRAINAGE FEATURES

The Sheehy Creek flows through the north side of the property, natural drainage surface flows to the creek. The proposed drainage pattern will remain the same.

III.A.3. SETBACKS FROM CREEKS, WETLANDS, AND RIPARIAN HABITATS

An existing bike trail borders the Sheehy Creek, creating a natural setback for proposed construction. Proposed construction will not encroach within 5 ft of the existing bike trail and the creek to the north.

III.A.4. MINIMIZATION OF IMPERVIOUSNESS

Imperviousness was minimized with respect to land use objectives and to architectural and civil design criteria and constraints.

III.A.5. USE OF DRAINAGE AS A DESIGN ELEMENT

There are no significant natural drainage features on the property. Infiltration of runoff will be promoted by the use of bioretention facilities. Stormwater discharging from the property will be made to mimic natural drainage patterns to the maximum extent practicable.

III.B. USE OF PERMEABLE PAVEMENTS:

Permeable pavements were not used for this project.

III.C. DISPERSAL OF RUNOFF TO PERVIOUS AREAS:

Runoff will be dispensed to pervious swales and/or bioretention facilities.

III.D. STORMWATER CONTROL MEASURES:

Source control measures are proposed for potential sources of pollution, such as storm drain inlets, truck docks, refuse areas, and parking lots, as described below.

IV. DOCUMENTATION OF DRAINAGE DESIGN

IV.A. DESCRIPTIONS OF EACH DRAINAGE MANAGEMENT AREA:

The Drainage Management Areas (DMAs) for the site are shown on Sheet C-501 of **Appendix A, Civil Improvement Plans**, summarized in **Table 2-DMA Summary Information**, and described in more detail below.

IV.A.1. TABLE OF DRAINAGE MANAGEMENT AREAS

The following table is a summary of Drainage Management Areas (DMA) – **Table 2-DMA Summary Information**.

Table 2-DMA Summary Information			
DMA Name	**Surface Type**	**Area (Square Feet)**	**Area (Acres)**
1B	81% Impervious	91,819	1.38
2B	82% Impervious	50,674	1.27
3B	86% Impervious	88,351	

IV.A.2. DMA DESCRIPTIONS

DMAs 1B, 2B, and 3B: Drain primarily impervious areas, the parking lot and proposed building. DMAs 1B, 2B, and 3B drain to Bioretention Facilities 1B, 2B, and 3B respectively. After being treated in the Bioretention Facilities, runoff that does not infiltrate into the natural soil underneath will be captured by underdrains. Stormwater culverts will overflow into the Sheehy Creek.

IV.B. TABULATION AND SIZING CALCULATIONS:

This Section describes sizing and design of Bioretention Facilities 1B through 3B, as shown on Sheet C-501 of **Appendix A, Select Improvement Plan Sheets**, and as specified in the 2019 BASMAA Design Manual[1].

IV.B.1. INFORMATION SUMMARY FOR BIORETENTION FACILITY DESIGN

Summary information for DMA's draining to bioretention facilities are shown in **Table 3-Areas Draining to Bioretention Facilities**.

Table 3-Areas Draining to Bioretention Facilities	
DMA Name	**Area (Square Feet)**
1B	60,177
2B	55,588
3B	119,474

IV.B.2. AREAS DRAINING TO BIORETENTION FACILITIES

Table 4A-Sizing Information for Bioretention Facility 1B, through **Table 4C-Sizing Information for Bioretention Facility 3B,** show the sizing information for BMP 1B, 2B, and 3B. The bioretention facilities will treat runoff from the DMAs shown in the tables.

Table 4A-Sizing Information for Bioretention Facility 1B.							
DMA Name	**DMA Area (Square Feet)**	**Post-Project Surface Type**	**DMA Runoff Factor**	**DMA Area X Runoff Factor**	**Facility Name:** Bioretention Facility 1B		
1B	74,373	Impervious	1	74,373	**Sizing Factor**	**Minimum Facility Size**	**Proposed Facility Size**
	17,446	Pervious/ landscaped	0.1	1,745			
Total				76,118	0.04	3,045 SF	3,824 SF

[1] BASMAA Post-Construction Manual, Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties. Bay Area Stormwater Management Agencies Association (BASMAA) Phase II Committee. January, 2019.

Table 4B-Sizing Information for Bioretention Facility 2B.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 2B		
2B	41,553	Impervious	1.0	41,553	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	9,121	Pervious/ landscaped	0.1	912			
Total				42,465	0.04	1,699 SF	2,313 SF

Table 4C-Sizing Information for Bioretention Facility 3B.							
DMA Name	DMA Area (Square Feet)	Post-Project Surface Type	DMA Runoff Factor	DMA Area X Runoff Factor	Facility Name: Bioretention Facility 3B		
3B	77,749	Impervious	1.0	77,749	Sizing Factor	Minimum Facility Size	Proposed Facility Size
	10,602	Pervious/ landscaped	0.1	1,060			
Total				78,809	0.04	3,152 SF	4,391 SF

V. SOURCE CONTROL MEASURES

V.A. SITE ACTIVITIES AND POTENTIAL SOURCES OF POLLUTANTS:

Potential pollutant sources were identified for the project. The sources are listed in **Table 5-Sources and Source Control Measures**.

V.B. SOURCE CONTROL TABLE:

Source control measures were selected for the potential pollutant sources, as shown in the following **Table 5-Sources and Source Control Measures**. The most feasible measures were selected, considering site and design constraints.

Table 5-Sources and Source Control Measures

Potential Source Of Runoff Pollutants	Permanent Source Control BMPs	Operational Source Control BMPs
On-site Storm Drain Inlets	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	Maintain and periodically repaint or replace inlet markings. Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."
Landscape/Outdoor Pesticide Use/Building and Grounds Maintenance	Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.	Maintain landscaping using minimum or no pesticides.
Sidewalks and Parking Lots		Sweep sidewalks and parking lots regularly to prevent accumulation of litter and debris.
Truck Dock	Loading portion of dock shall be covered and is graded to prevent run-on and runoff from the loading area. Floor drains within the covered portion of the dock will be plumbed to the sanitary sewer.	Move loaded and unloaded items indoors as soon as possible.
Refuse Area	Area is enclosed and covered, and graded to prevent run-on and to minimize runoff.	Inspect receptacles regularly, pick up litter, and clean up spills. Keep receptacles covered.

V.C. FEATURES, MATERIALS, AND METHODS OF CONSTRUCTION OF SOURCE CONTROL BMPS:

Features, materials, and methods of construction of source control BMPs will be as shown on selected sheets of the Improvement Plans provided in **Appendix A, Civil Improvement Plans**. Unless specified otherwise, all construction and materials shall be in accordance with the plans and with County Design Standards.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. OWNERSHIP AND RESPONSIBILITY FOR MAINTENANCE IN PERPETUITY:

Maintenance of stormwater facilities will be the responsibility of the property owner and will be performed by the owner's contractors or employees as part of routine maintenance of buildings, grounds, and landscaping. The applicant will commit to execute any necessary written agreements prior to the County's approval of the building permit.
With this agreement, the applicant will accept responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner.

VI.B. SUMMARY OF MAINTENANCE REQUIREMENTS FOR EACH STORMWATER FACILITY:

The three (3) bioretention facilities will be inspected and maintenance activities will be completed at least annually. The frequency may be adjusted based on results of inspections. The maintenance activities will be specified in a Maintenance Plan to be approved by the County. The activities are summarized as follows:

Bioretention Facilities:

a. Clean Up: Remove any soil or debris blocking planter inlets or overflows. Remove trash that typically collects near inlets or gets caught in vegetation.

b. Prune Or Cut Back Plants: For health and to ensure flow into inlets and across the surface of the facility. Remove and replant as necessary.

c. Control Weeds: By manual methods and soil amendment.

d. Add Mulch: Replace compost mulch to maintain 1-inch to 2-inch thickness.

e. Check Signage: Remove graffiti and replace, if necessary.

VII. CONSTRUCTION CHECKLIST

Table 6-Construction Plan C.3 Checklist shown below summarizes the source control and treatment control measures proposed in for this project. Referenced Improvement Plan sheets are included in **Appendix A, Select Improvement Plan Sheets**.

Table 6-Construction Plan C.3 Checklist		
Stormwater Control Plan Section	**Source Control or Treatment Control Measure**	**See Plan Sheet Nos.**
V.B	Mark all inlets with the words "No Dumping! Flows to Bay" or similar.	C-501
IV.C.4	Bioretention Facilities 1A through 5A	C-501

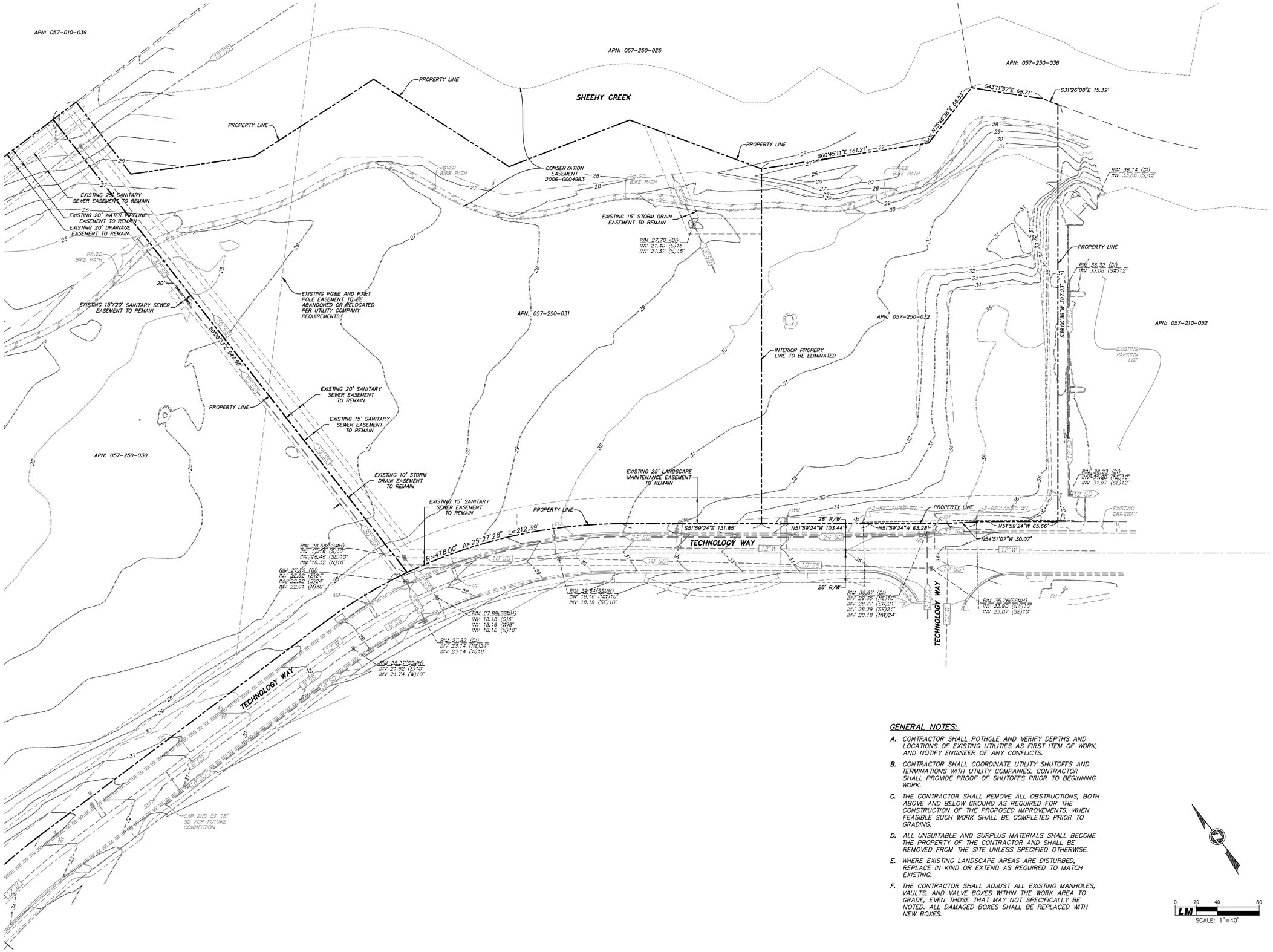
VIII. CERTIFICATIONS

The design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post-Construction Manual, to the maximum extent practicable.

APPENDIX A

CIVIL

IMPROVEMENT PLANS



GENERAL NOTES:

A. CONTRACTOR SHALL POTHOLE AND VERIFY DEPTHS AND LOCATIONS OF EXISTING UTILITIES AS FIRST ITEM OF WORK, AND NOTIFY ENGINEER OF ANY CONFLICTS.

B. CONTRACTOR SHALL COORDINATE UTILITY SHUTOFFS AND TERMINATIONS WITH UTILITY COMPANIES. CONTRACTOR SHALL PROVIDE PROOF OF SHUTOFFS PRIOR TO BEGINNING WORK.

C. THE CONTRACTOR SHALL REMOVE ALL OBSTRUCTIONS, BOTH ABOVE AND BELOW GROUND AS REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. WHEN FEASIBLE SUCH WORK SHALL BE COMPLETED PRIOR TO GRADING.

D. ALL UNSUITABLE AND SURPLUS MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS SPECIFIED OTHERWISE.

E. WHERE EXISTING LANDSCAPE AREAS ARE DISTURBED, REPLACE IN KIND OR EXTEND AS REQUIRED TO MATCH EXISTING.

F. THE CONTRACTOR SHALL ADJUST ALL EXISTING MANHOLES, VAULTS, AND VALVE BOXES WITHIN THE WORK AREA TO GRADE, EVEN THOSE THAT MAY NOT SPECIFICALLY BE NOTED. ALL DAMAGED BOXES SHALL BE REPLACED WITH NEW BOXES.

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PRELIMINARY DESIGN DOCUMENTS FOR:

NEW WAREHOUSE BUILDING B

TECHNOLOGY WAY & MORRIS COURT
NAPA COUNTY, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue :	description :	date :
A	INITIAL PLANNING REVIEW	07-27-2022

GENERAL CONTRACTOR:

drawn by : PJ plot date : 07-27-2022

checked by : PF

stamp

REGISTERED PROFESSIONAL ENGINEER
BRYAN P. BONINO
No. 41804
CIVIL
STATE OF CALIFORNIA

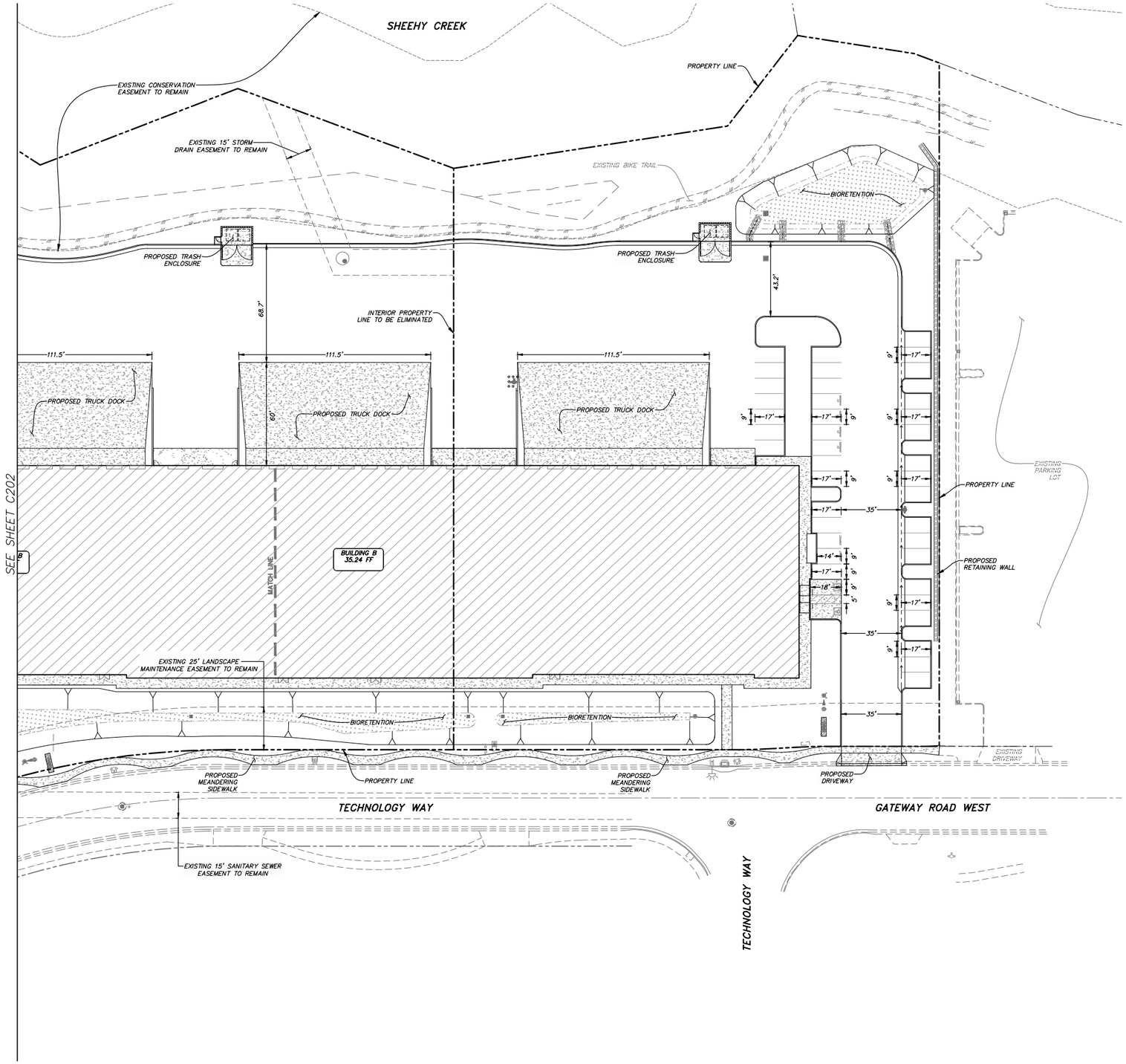
scale : AS NOTED

project number : 3687-13

TOPOGRAPHIC SURVEY & DEMOLITION PLAN

sheet no. :

C101



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project number : 3687-13

CIVIL SITE PLAN

0 15 30 60
LM
SCALE: 1"=30'

sheet no. :

C201

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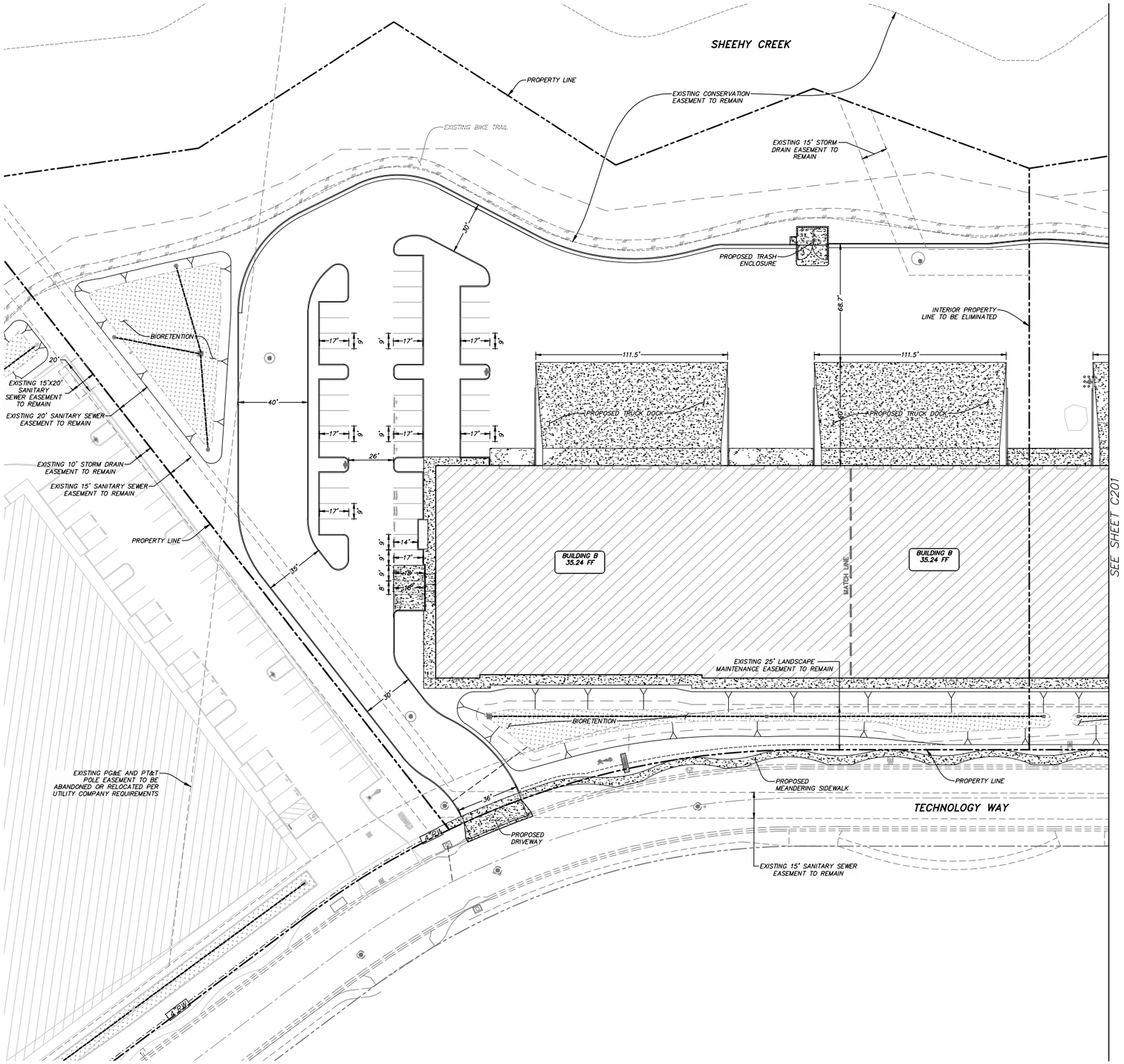

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CIVIL
STATE OF CALIFORNIA

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project number : 3687-13

CIVIL SITE PLAN

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LM
SCALE: 1"=30'

sheet no. :

C202

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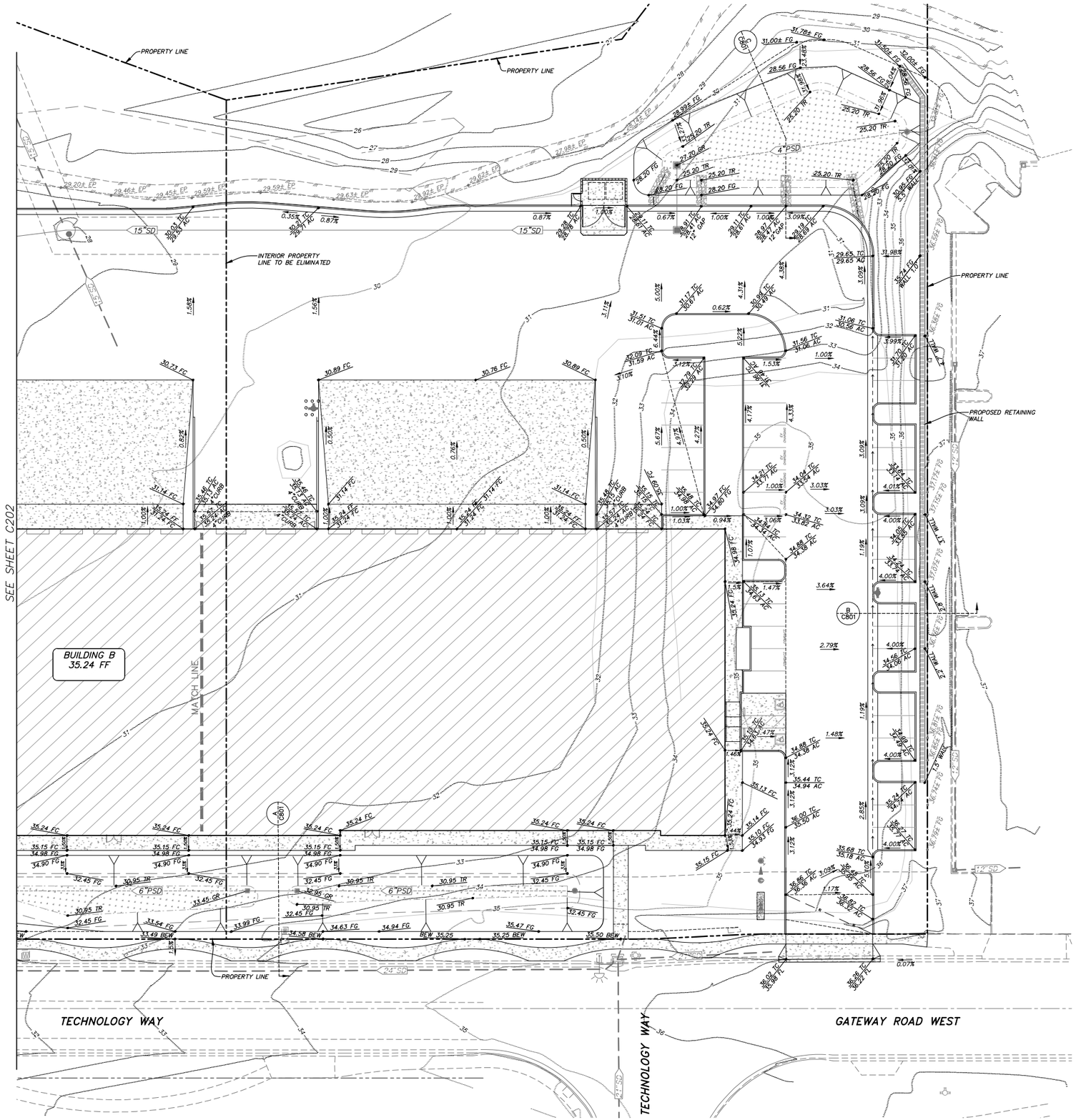

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project number : 3687-13

GRADING & DRAINAGE PLAN

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LM
SCALE: 1"=20'

sheet no. :

C301

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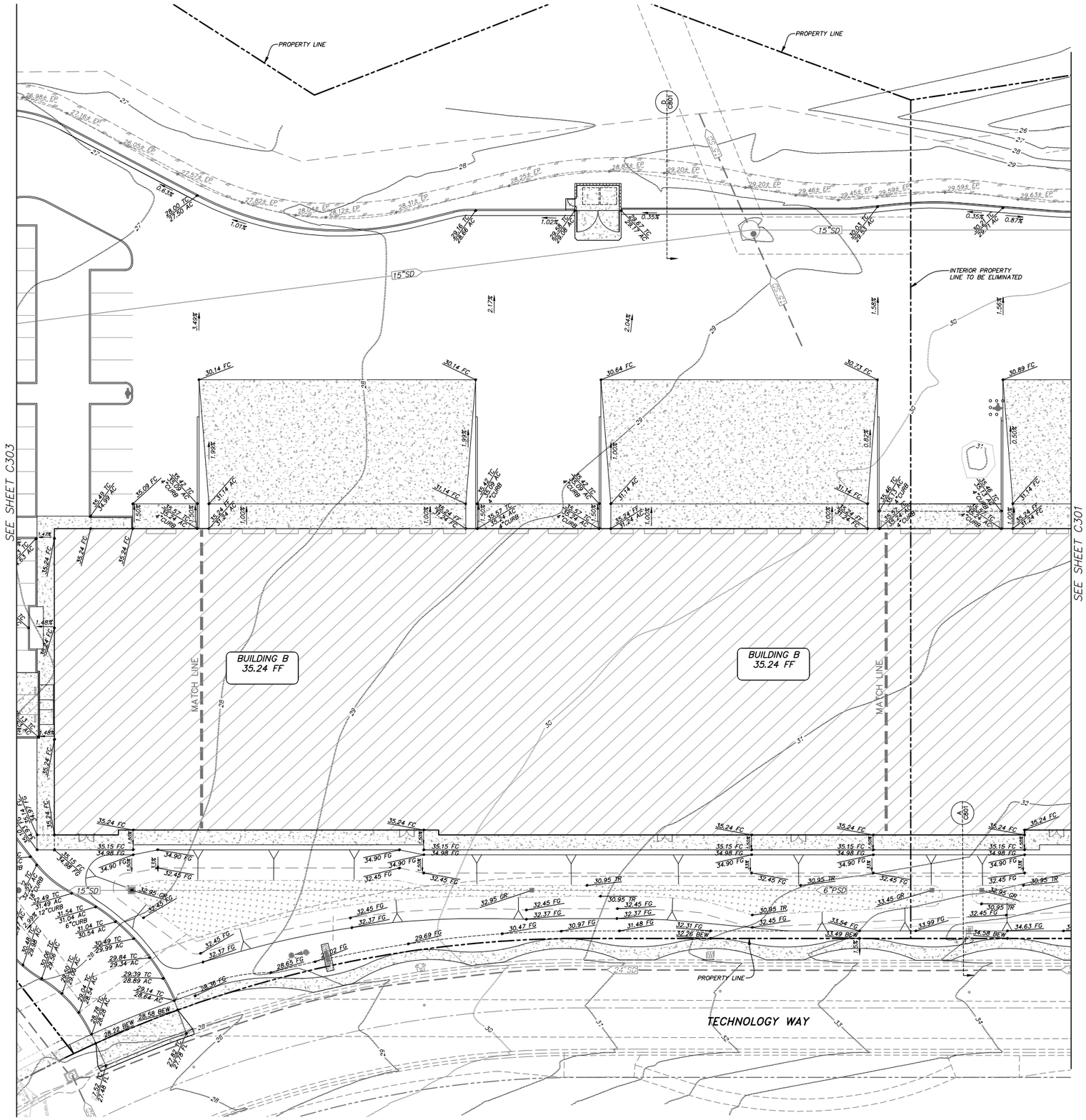

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scale : AS NOTED

project number : 3687-13

GRADING &
DRAINAGE PLAN

0 10 20 40
LM
SCALE: 1"=20'

sheet no. :

C302

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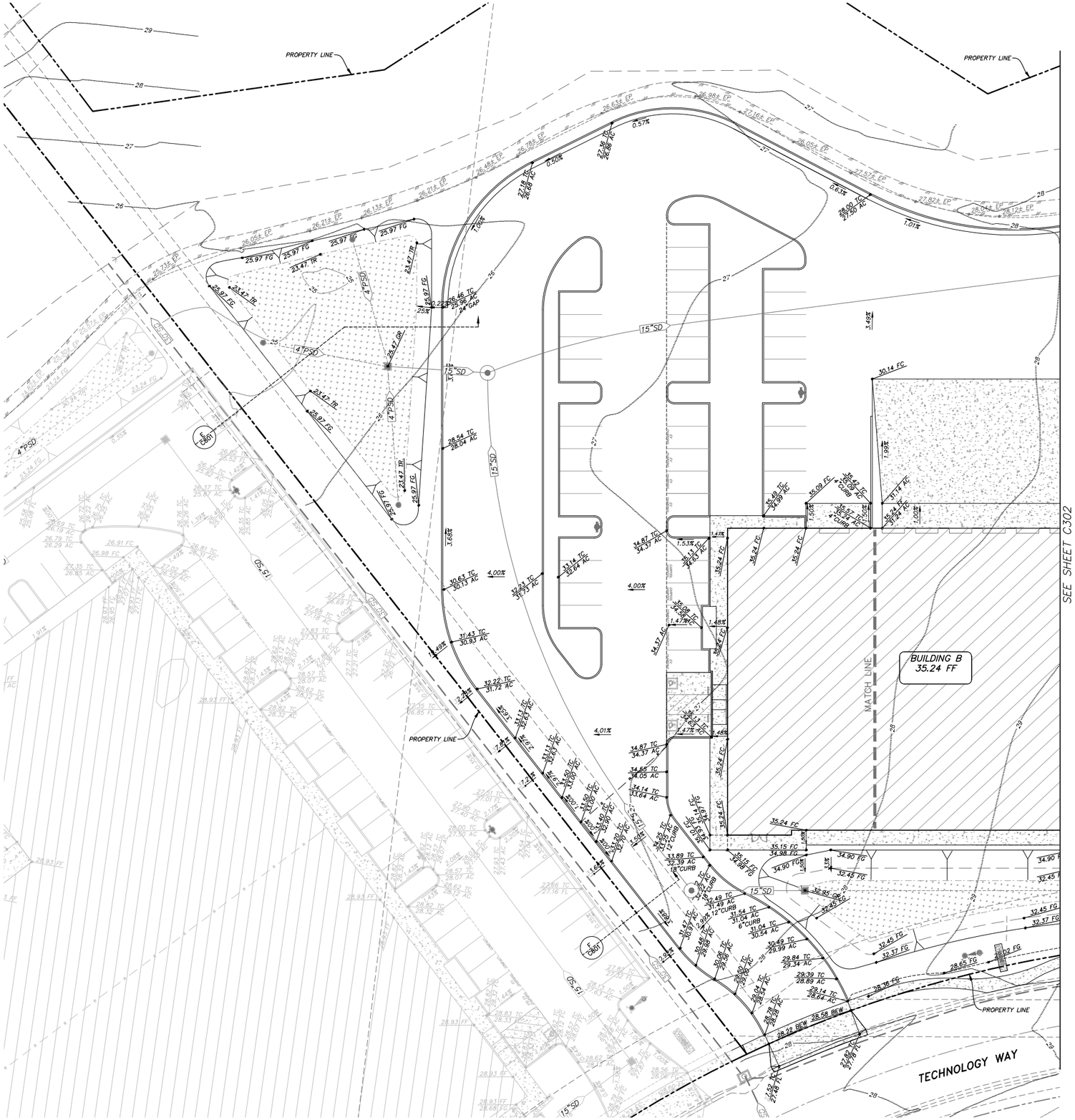

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CIVIL
STATE OF CALIFORNIA

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project number : 3687-13

GRADING &
DRAINAGE PLAN

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LM
SCALE: 1"=20'

sheet no. :

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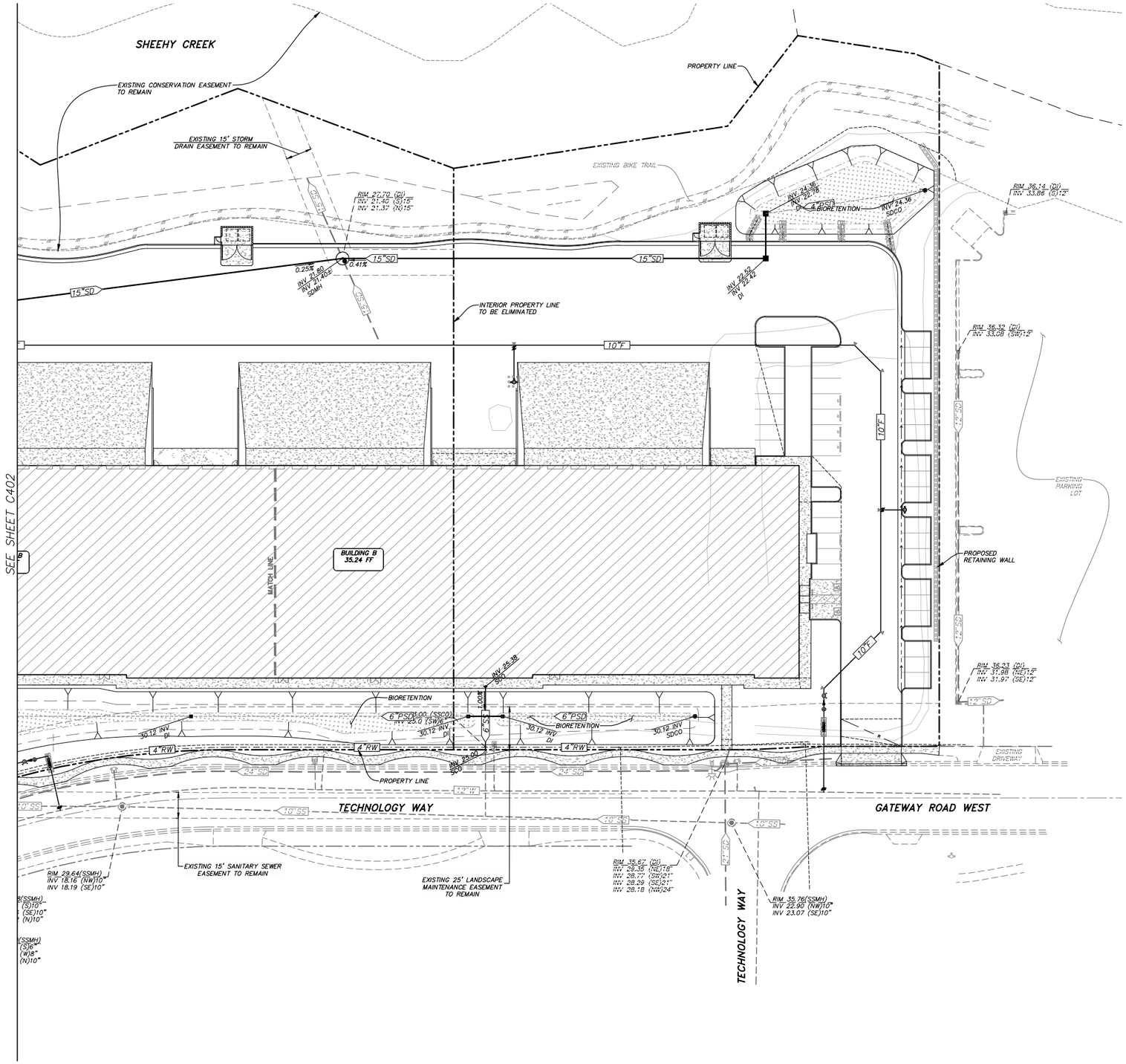

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scale : AS NOTED

project number : 3687-13

UTILITIES PLAN

0 15 30 60
LM
SCALE: 1"=30'

sheet no. :
C401

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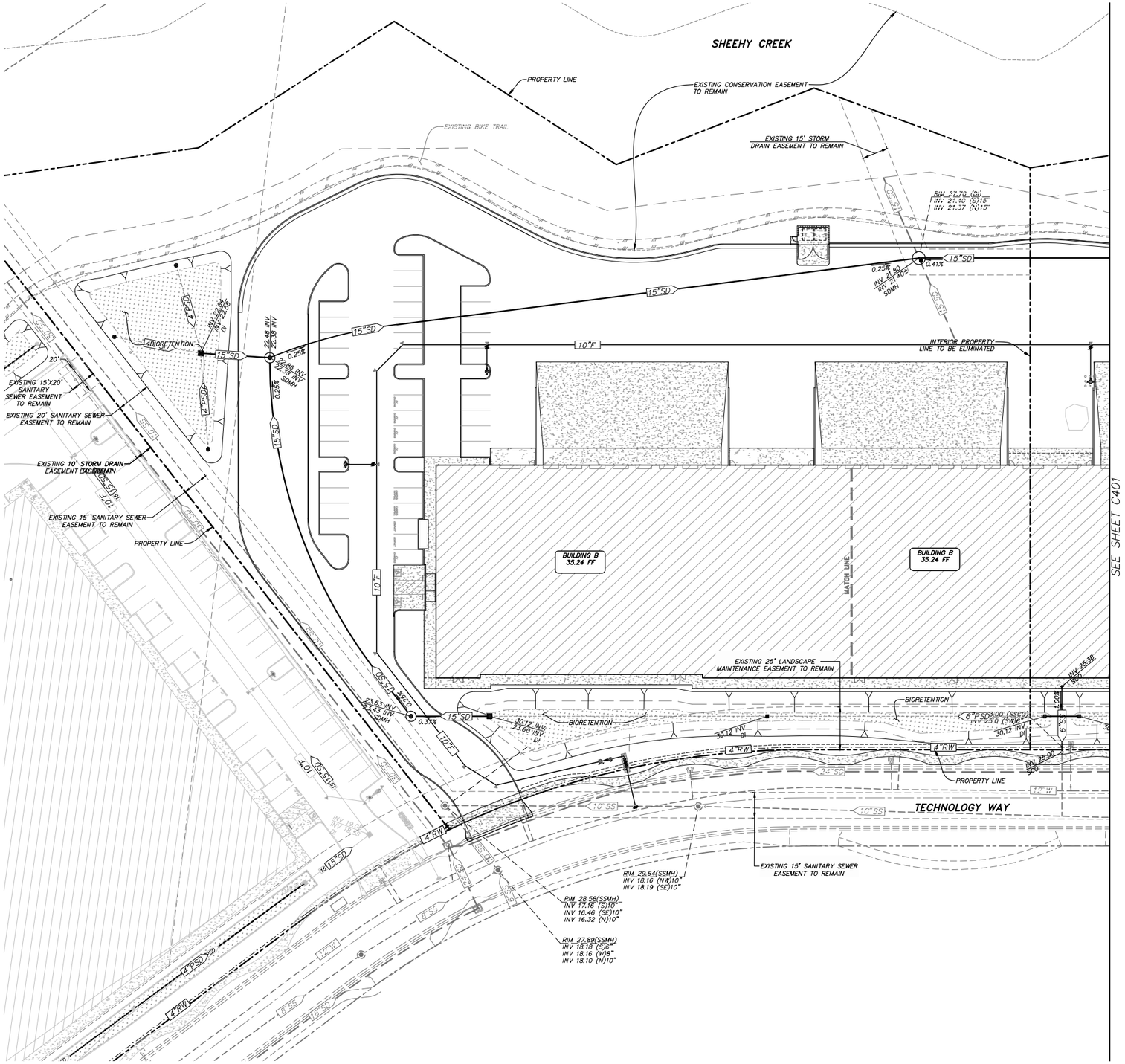

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scale : AS NOTED

project number : 3687-13

UTILITIES PLAN

0 15 30 60
LM
SCALE: 1"=30'

sheet no. :

C402

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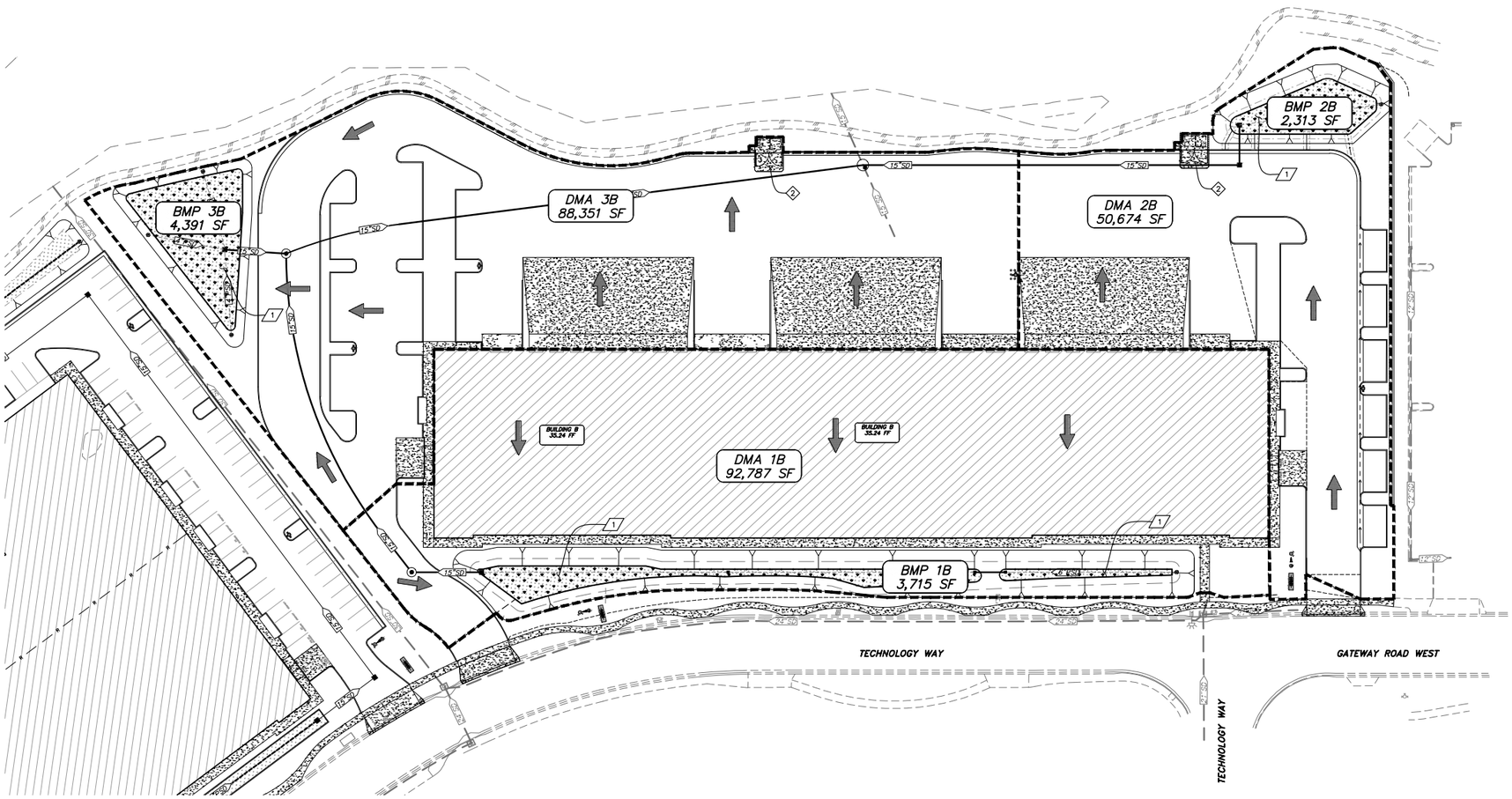

GENERAL NOTES:

A. TOTAL PROJECT AREA IS 231,800 SF (5.32 AC).
B. DMA – DRAINAGE MANAGEMENT AREA.
C. BF – BIORETENTION FACILITY, TREATMENT CONTROL MEASURE.
D. SOILS ARE GROUP D, PER USDA SOIL MAP VIEWER REPORT.
E. DEPTH TO GROUNDWATER IS YET TO BE DETERMINED.
F. RECEIVING WATER BODY IS SHEEHY CREEK.

SITE DESIGN MEASURES ⬡:

1. PRESERVE NATURAL DRAINAGE PATTERNS.
2. DIRECT RUNOFF FROM IMPERVIOUS AREAS TO LANDSCAPED AREAS. FLOW DIRECTION ( ).
3. PLANT TREES ADJACENT TO IMPERVIOUS AREAS. TREE LOCATIONS TO BE IDENTIFIED WITH FINAL CONSTRUCTION DOCUMENTS.
4. SELF–TREATING OR SELF–RETAINING AREA.
5. DMA DRAINING TO A SELF–RETAINING AREA.

POTENTIAL POLLUTION SOURCES AND CONTROL MEASURES ◇:

1. LOADING DOCK. COVERED FOR SIX FEET OUT BEYOND THE EDGE OF THE BUILDING ROOF. SEE ARCHITECTURAL PLANS FOR FURTHER DETAIL.
2. REFUSE AREA. COVERED AND ENCLOSED FOR DUMPSTERS. SEE ARCHITECTURAL PLANS FOR FURTHER DETAIL. GRADED TO MINIMIZE STORMWATER RUN–ON AND RUNOFF. SEE GRADING PLAN FOR FURTHER DETAIL.
3. STORM DRAIN INLET. MARK WITH WORDS "NO DUMPING! FLOWS TO BAY". SEE UTILITY PLAN FOR FURTHER DETAIL.

TREATMENT CONTROL MEASURES ▱:

1. INSTALL BIORETENTION FACILITY PER DETAILS ON SHEET C502. SEE GRADING PLAN, SITE PLAN, UTILITY PLAN, AND LANDSCAPING PLAN FOR MORE DETAIL.

O&M SUMMARY:

1. O&M ACTIVITIES AND RESPONSIBLE PARTIES WILL BE SPECIFIED WITH THE FINAL CONSTRUCTION DOCUMENTS.

LEGEND

DMA	DRAINAGE MANAGEMENT AREA
BMP	BEST MANAGEMENT PRACTICE
DMA 1 1,000 SF	WATER QUALITY AREA NAME AND SQUARE FOOTAGE
- - - - -	WATER QUALITY AREA BOUNDARY
BMP 1 1,000 SF	BIORETENTION MANAGEMENT AREA NAME AND SQUARE FOOTAGE
	BIORETENTION MANAGEMENT AREA
	DIRECTION OF FLOW

0 20 40 80
LM
SCALE: 1"=40'

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PRELIMINARY DESIGN DOCUMENTS FOR:

NEW WAREHOUSE
BUILDING B

TECHNOLOGY WAY & MORRIS COURT
NAPA COUNTY, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue :	description :	date :
A	INITIAL PLANNING REVIEW	07-27-2022

GENERAL CONTRACTOR:

drawn by : PJ plot date : 07-27-2022
checked by : PF

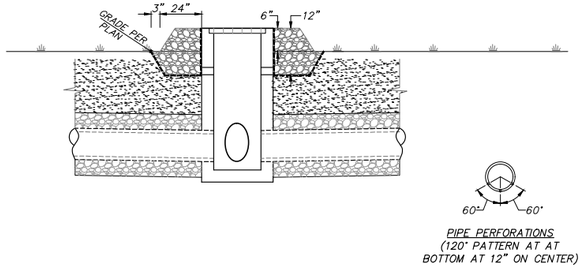
stamp

REGISTERED PROFESSIONAL ENGINEER
BRYAN P. BONINO
No. 41804
CIVIL
STATE OF CALIFORNIA

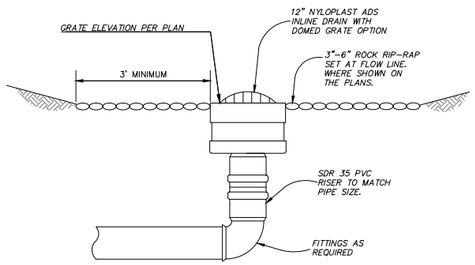
scale : AS NOTED
project number : 3687-13

STORMWATER
CONTROL PLAN

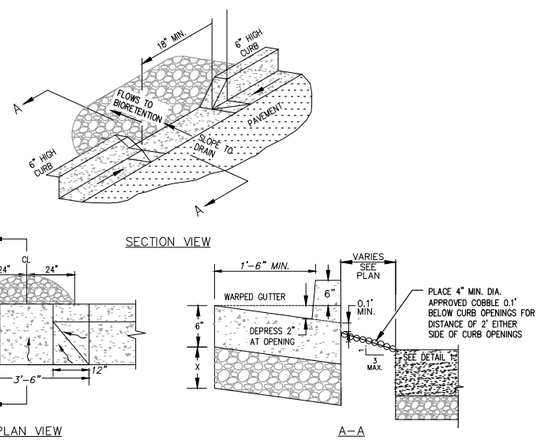
sheet no. :
C501



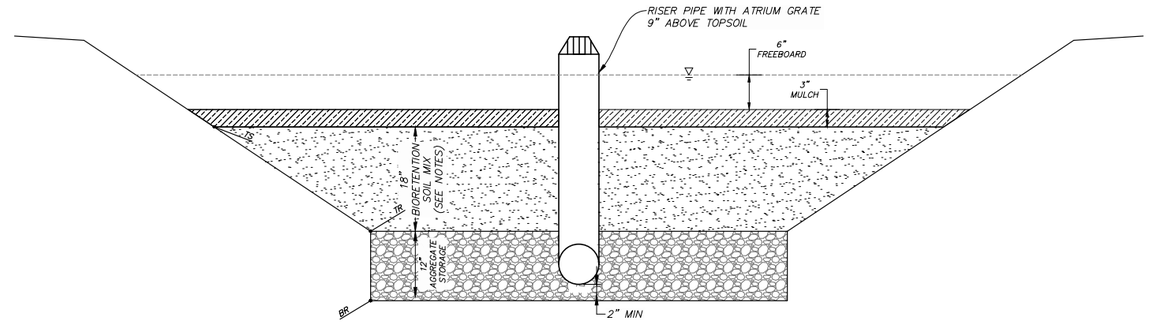
1 DRAINAGE INLET AND BIORETENTION DETAIL
NTS



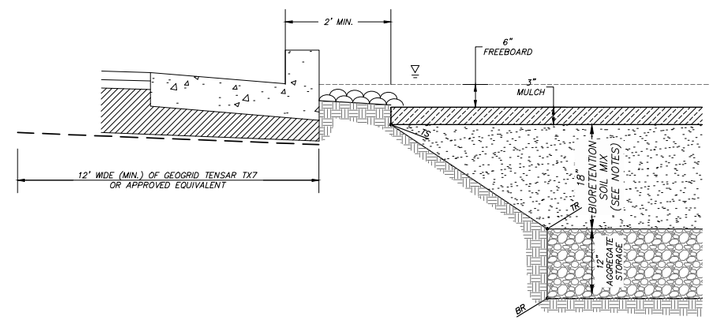
2 LANDSCAPE AREA DRAIN
NTS



3 CURB OPENING
NTS



4 BIORETENTION FACILITY WITH SLOPED GROUND
NTS



5 BIORETENTION FACILITY WITH SLOPED GROUND
ADJACENT TO CURB AND GUTTER
NTS

BIORETENTION NOTES:

1. FOR LOCATION, SIZE, AND IDENTIFICATION OF PROPOSED LANDSCAPING/PLANT MATERIAL SEE LANDSCAPE PLANS.
2. BIOTREATMENT SOIL MIX SHALL CONSIST OF 60%–70% SAND AND 30%–40% COMPOST PER BASMAA SPECIFICATIONS. SPECIFICATIONS AVAILABLE FROM CONTRA COSTA CLEAN WATER PROGRAM. (CCCWP) SOIL MIX MUST BE OBTAINED FROM LOCAL SUPPLIER APPROVED BY THE CCCWP.
3. INSTALLATION OF PERMEABLE SOIL SHALL BE PER BASMAA REQUIREMENTS.

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OWNER / DEVELOPER:

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PROPERTIES

5400 INDUSTRIAL WAY,
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PRELIMINARY DESIGN DOCUMENTS FOR:

NEW WAREHOUSE
BUILDING B

TECHNOLOGY WAY & MORRIS COURT
NAPA COUNTY, CALIFORNIA

approved for the owner by :

approved for the architect by :

issue :	description :	date :
A	INITIAL PLANNING REVIEW	07-27-2022

GENERAL CONTRACTOR:

drawn by : PJ plot date : 07-27-2022

checked by : PF

stamp

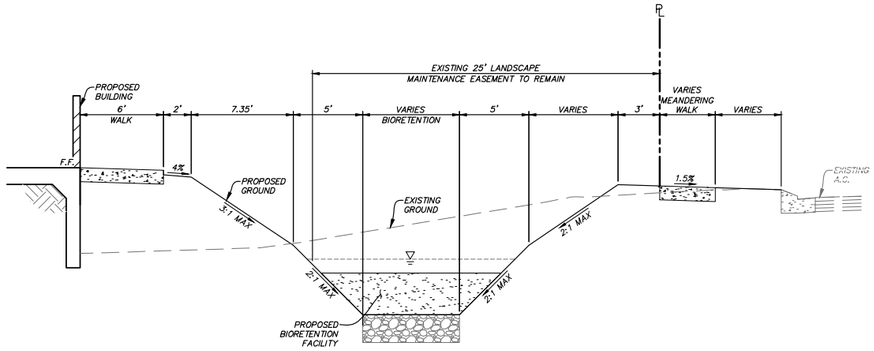
scale : AS NOTED

project number : 3687-13

STORMWATER
CONTROL PLAN
DETAILS

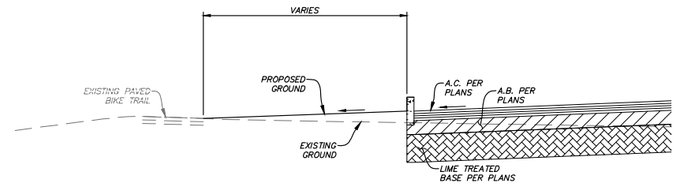
sheet no. :

C502



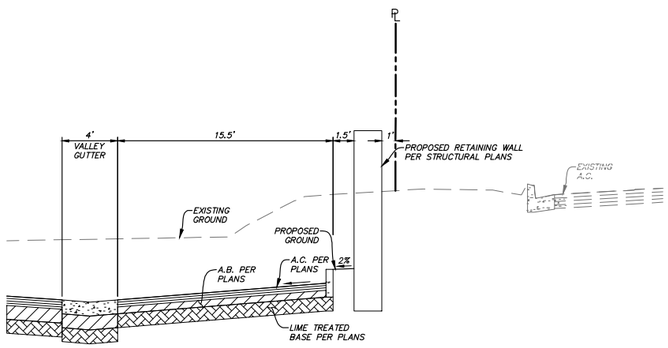
A BIORETENTION ADJACENT TO TECHNOLOGY WAY

NTS



D NORTHEAST PROPERTY LINE

NTS



B SOUTHEAST PROPERTY LINE

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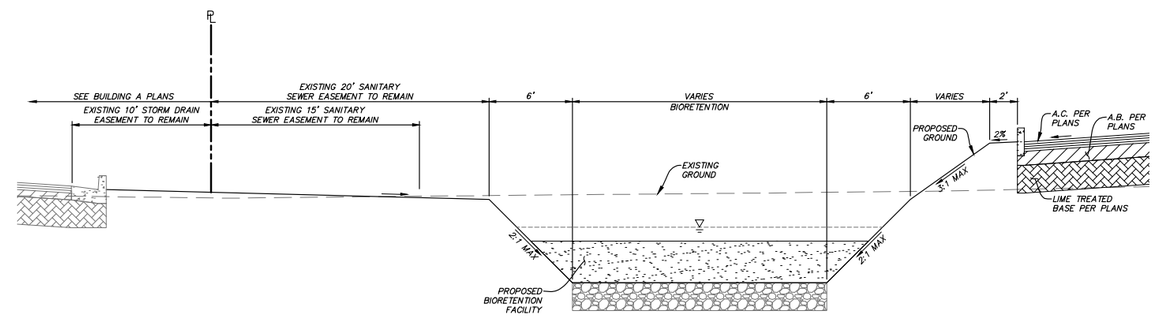

E NORTHWEST BIORETENTION

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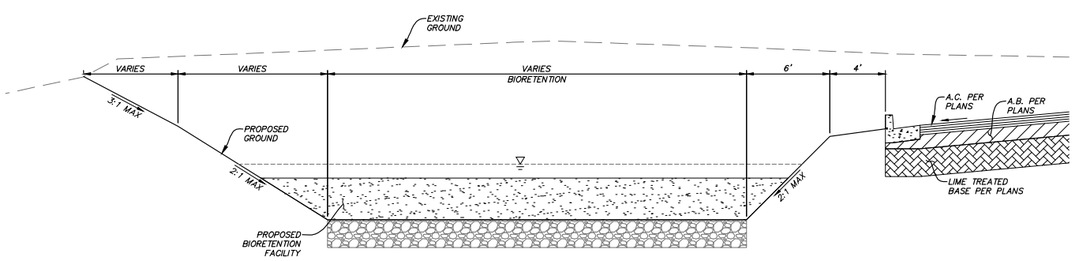

C NORTHEAST BIORETENTION

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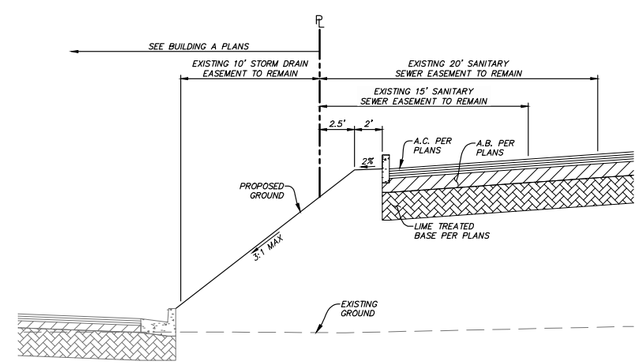

F WEST END PROPERTY LINE

NTS

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REGISTERED PROFESSIONAL ENGINEER
BRYAN P. BONTING
No. 41804
CIVIL
STATE OF CALIFORNIA

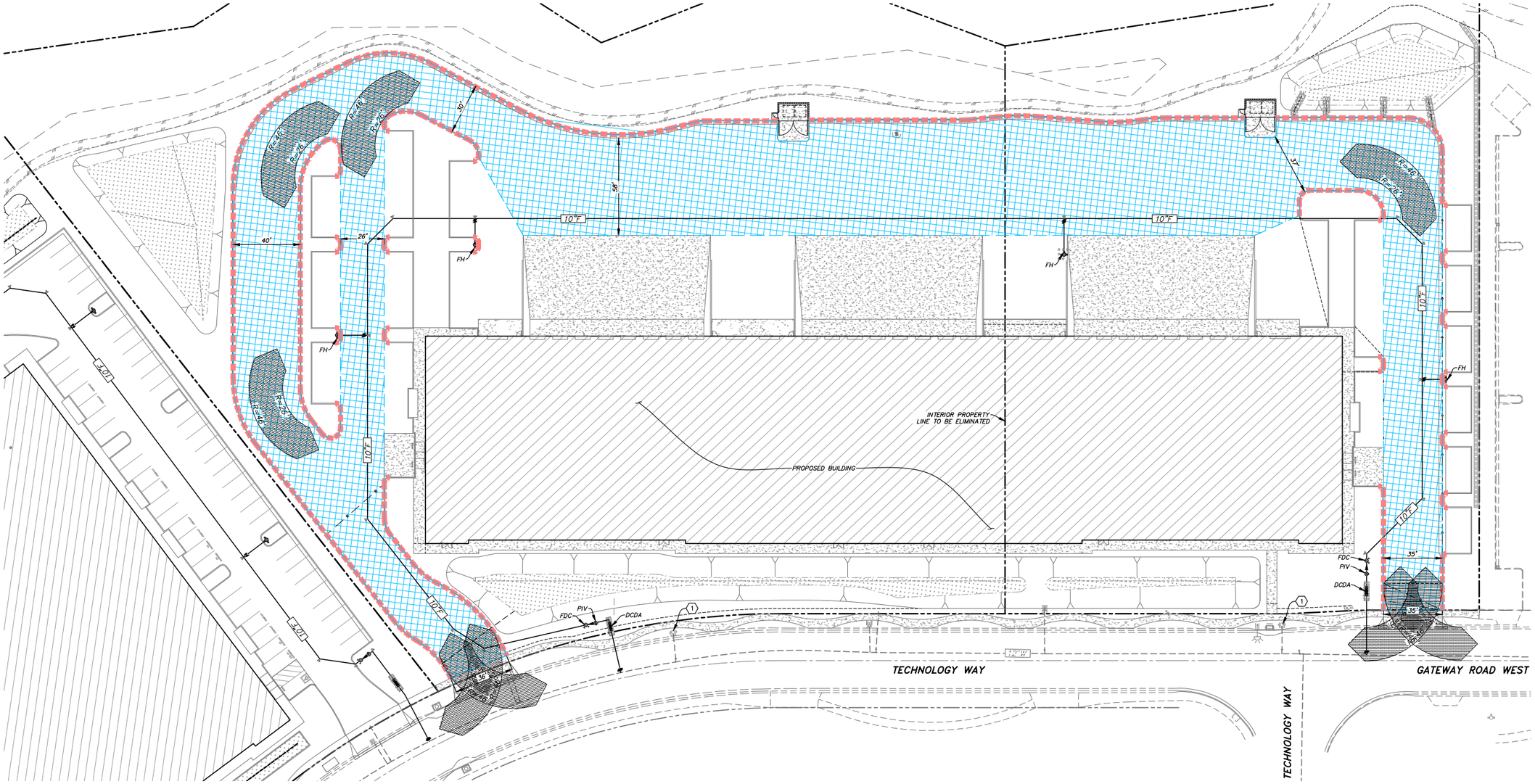
scale : AS NOTED

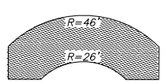
project number : 3687-13

CROSS SECTIONS

sheet no. :

C801





1 26' MIN. TURNING RADIUS IN FIRE LANE

NTS

GENERAL NOTES:

A. FIRE LANES SHALL BE A MINIMUM OF 20 FEET CLEAR WIDTH AND 13 ½ FEET CLEAR HEIGHT.

B. SEE SHEETS C401 AND C402 FOR WATER MAIN, FIRE MAIN, APPURTENANCES, WATER CONNECTIONS, AND CONSTRUCTION SPECIFICATIONS.

C. FINAL FIRE ACCESS LANE AFTER CONSTRUCTION.

D. NO GATES SHALL BE INSTALLED ACROSS THE PROPOSED FIRE ACCESS LANES WITHIN THE LIMITS OF PROJECT IMPROVEMENTS.

E. CURBS ALONG FIRE LANE SHALL BE PAINTED RED, TYPICAL. ( )

CONSTRUCTION NOTES ( ):

1. EXISTING FIRE HYDRANTS SHALL PROVIDE FIRE FIGHTING WATER DURING CONSTRUCTION.

FIRE PROTECTION NOTES:

A. ALL UNDERGROUND FIRE PROTECTION SHALL BE INSTALLED, TESTED, AND MAINTAINED PER NFPA 24, 2019 EDITION.

B. ALL FIRE HYDRANTS, PIV/FDC'S SHALL BE INSTALLED SO AS NOT TO BE BLOCKED BY PARKING STALLS, LOADING ZONES, LANDSCAPING, ETC.

C. ALL FIRE HYDRANTS SHALL HAVE AN 18-INCH CLEARANCE FROM THE CENTER OF THE 4-1/2" DISCHARGE TO FINISHED GRADE LEVEL.

D. ALL FIRE HYDRANTS SHALL HAVE A BLUE DOT REFLECTOR INSTALLED 12-INCHES OFF CENTERLINE IN FRONT OF ALL FIRE HYDRANTS ON THE HYDRANT SIDE.

E. ALL FIRE HYDRANTS SHALL BE INSTALLED WITH BREAK-OFF BOLTS AND/OR BREAK-OFF SPOOLS.

F. ALL FIRE HYDRANTS SHALL BE EQUIPPED WITH A 3'X3' MINIMUM CONCRETE PAD AROUND THEM PER NFPA 24, 2010 EDITION. EXTEND PAD AS SHOWN ON PLANS TO BACK OF CURB.

G. INSTALL THRUST BLOCK AT ALL WATER FITTINGS PER CITY OF AMERICAN CANYON STANDARD DWG. #7.12 (▽- TYPICAL).

H. INSTALL WATER VALVES PER CITY OF AMERICAN CANYON STANDARD PLANS AND SPECIFICATIONS.

0 15 30 60
LM
SCALE: 1"=30'

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scale : AS NOTED

project number : 3687-13

FIRE PLAN

sheet no. :

C901