

# SITE DEVELOPMENT PLAN ROMANO CONSTRUCTION PARCEL 'B'

SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	DEMOLITION PLAN
3	SITE DEVELOPMENT PLAN
4	SEDIMENT AND EROSION CONTROL PLAN
5	SOILS AND STORM DRAINAGE AREA MAP
6	LANDSCAPE PLAN
7	GEOMETRY PLAN
8	LANDSCAPE DETAILS AND BUILDING ELEVATIONS
9	SITE DETAILS
10	STORM DRAIN PROFILES
11	STORM DRAIN PROFILES, STRUCTURE SCHEDULE, AND CHARTS
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16	TRAFFIC CONTROL PLAN
17	BORING LOGS
18	WEST RETAINING WALL PLAN AND ELEVATION
19	EAST RETAINING WALL PLAN AND ELEVATION
20	RETAINING WALL DETAILS AND GENERAL NOTES
21	RETAINING WALL DETAILS
22	UNDERGROUND SWM PLAN VIEWS AND NOTES
23	UNDERGROUND SWM DETAILS

STREET SIGN CHART				
STREET NAME	NORTH	EAST	POSTED SIGN	SIGN CODE
DRIVEWAY (EXIT)	529,878.15	1,362,332.27	STOP SIGN	R1-1
DRIVEWAY (EXIT)	529,879.29	1,362,333.22	STOP SIGN	R1-1
DRIVEWAY (EXIT)	529,889.29	1,362,725.86	STOP SIGN	R1-1

STREET LIGHT CHART					
STREET NAME	NORTH	EAST	POLE HT.	FIXTURE	LAMP TYPE
DRIVEWAY (EXIT)	529,832.98	1,362,375.24	14'	PREMIER	LED 100
DRIVEWAY (EXIT)	529,700.30	1,362,556.93	14'	PREMIER	LED 100
DRIVEWAY (EXIT)	529,588.60	1,362,713.00	14'	PREMIER	LED 100

LEGEND - EX. CONDITIONS		LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL	---	EXISTING CONTOUR 2' INTERVAL
- - -	EXISTING CONTOUR 10' INTERVAL	- - -	EXISTING CONTOUR 10' INTERVAL
s	EXISTING SAN. SEWER LINE	s	EXISTING SAN. SEWER LINE
d	EXISTING STORM DRAIN LINE	d	EXISTING STORM DRAIN LINE
w	EXISTING WATER LINE	w	EXISTING WATER LINE
UGE	EXISTING UNDERGROUND ELECTRIC LINE	UGE	EXISTING UNDERGROUND ELECTRIC LINE
C/TV	EXISTING CABLE/TV LINE	C/TV	EXISTING CABLE/TV LINE
ohe	EXISTING OVERHEAD ELECTRIC LINE	ohe	EXISTING OVERHEAD ELECTRIC LINE
g	EXISTING GAS LINE	g	EXISTING GAS LINE
X	EXISTING FENCE	X	EXISTING FENCE
X	EXISTING MACADAM PAVING	X	PROPOSED FENCE
- - -	EXISTING TREELINE	- - -	PROPOSED CONTOUR 2' INTERVAL
- - -	DEMOLITION AREA	- - -	PROPOSED CONTOUR 10' INTERVAL
- - -	EXISTING BUILDING TO REMAIN	+ 170.50	PROPOSED SPOT ELEVATION
- - -	EXISTING TREES	- - -	PROPOSED CONCRETE WALK
- - -		- - -	PROPOSED MACADAM PAVING
- - -		- - -	EXISTING TREELINE
- - -		- - -	PROPOSED TREELINE
- - -		- - -	PROPOSED PRIVATE WATER
- - -		- - -	PROPOSED STORMDRAIN
- - -		- - -	PROPOSED BUILDING
- - -		- - -	EXISTING TREES

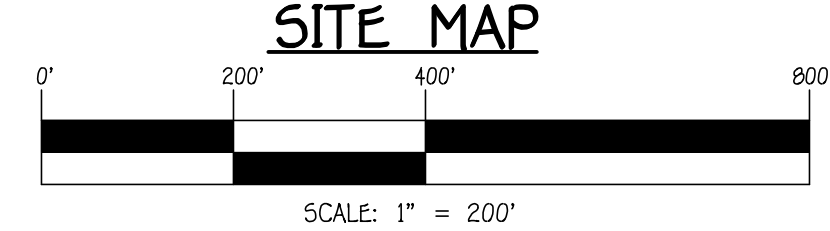
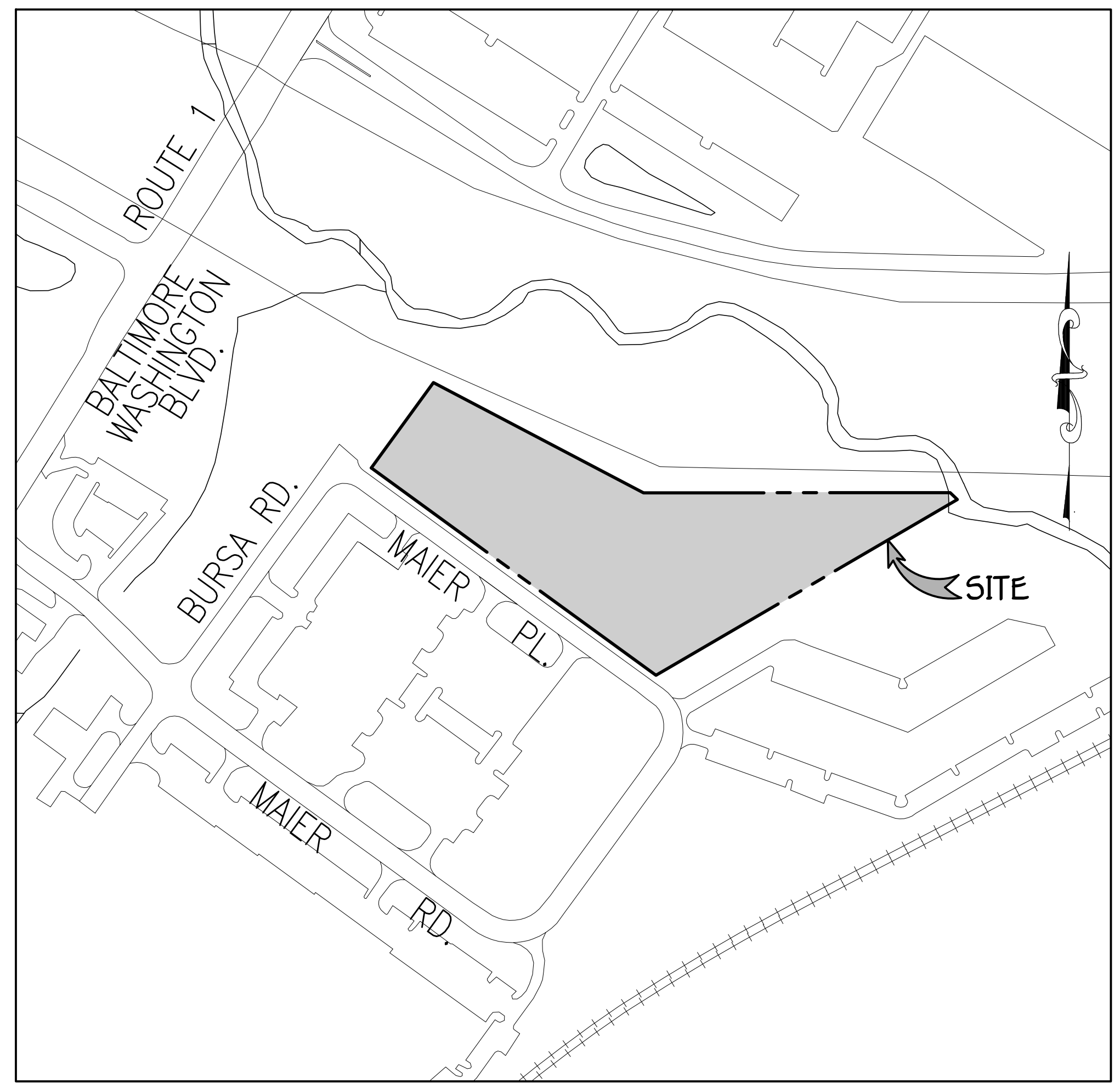
STORMWATER MANAGEMENT INFORMATION						
PARCEL ID	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	HOA MAINTAINED	OWNER MAINTAINED
B	E.S.D. NO. 1	M-6 (1)	N	Y	N	Y
B	E.S.D. NO. 2	M-6 (1)	N	Y	N	Y
B	E.S.D. NO. 3	M-6 (1)	N	Y	N	Y

STORMWATER MANAGEMENT SUMMARY						
AREA ID	LOCATION	DRAINAGE AREA SF.	% IMPERVIOUS	ESDv REQUIRED CuFt.	ESDv PROVIDED CuFt.	SURFACE AREA S.F.
E.S.D. 1	0970 MAIER PLACE	12,611	71%	-	957	593
E.S.D. 2	0970 MAIER PLACE	14,238	49%	-	1,224	795
E.S.D. 3	0970 MAIER PLACE	8,916	63%	-	751	422
FT-1	0970 MAIER PLACE	14,215	100%	-	1,125	-
PIPE STORAGE 1	0970 MAIER PLACE	-	-	-	1,777	-
FT-2	0970 MAIER PLACE	18,123	100%	-	1,435	-
PIPE STORAGE 2	0970 MAIER PLACE	-	-	-	2,265	-
FT-3	0970 MAIER PLACE	17,822	100%	-	1,411	-
PIPE STORAGE 3	0970 MAIER PLACE	-	-	-	2,228	-
FT-4	0970 MAIER PLACE	8,468	100%	-	670	-
PIPE STORAGE 4	0970 MAIER PLACE	-	-	-	1,059	-
FT-5	0970 MAIER PLACE	9,409	100%	-	745	-
PIPE STORAGE 5	0970 MAIER PLACE	-	-	-	1,176	-
FT-6	0970 MAIER PLACE	19,979	100%	-	1,582	-
PIPE STORAGE 6	0970 MAIER PLACE	-	-	-	2,497	-
FT-7	0970 MAIER PLACE	17,444	99%	-	1,368	-
PIPE STORAGE 7	0970 MAIER PLACE	-	-	-	2,181	-
FT-8	0970 MAIER PLACE	19,754	99%	-	1,549	-
STONE RECHARGE	0970 MAIER PLACE	-	-	-	2,469	-

ESDv REQUIRED = 24,156 CuFt.  
ESDv PROVIDED = 28,469 CuFt.  
WEIGHTED P<sub>r</sub> REQUIRED = 191"  
P<sub>r</sub> PROVIDED = 225"

PIPE STORAGE COMPUTATIONS:  
r = 4' (8' PIPE)  
h = 7' (WEIR HEIGHT)  
AREA = π × r × h × (r-h/r) - (r-h) × sqft(2 × r × h - h²) = 46.64 SF  
VOLUME = AREA × LENGTH  
FT-1 UTILIZES 99' OF 8' PIPE = 1,819 CF > 1,777 CF CREDITED  
FT-2 THRU FT-7 UTILIZE 245' OF 8' PIPE = 11,427 CF > 11,405 CF CREDITED

STORMWATER MANAGEMENT PRACTICES							
AREA ID	PERMEABLE PAVING A-2 (Y/N)	DISCONNECTION OF ROOFTOP RUNOFF N-1 (Y/N)	DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (Y/N)	FILTERRA INLETS (Y/N)	MICRO-BIO-RETENTION F-6 (Y/N)	BIO-RETENTION F-5 (Y/N)	RAINWATER HARVESTING M-1
BUILDING 1	NO	NO	NO	NO	NO	NO	NO
PARKING LOT	NO	NO	NO	Y-(6)	Y-(3)	NO	NO



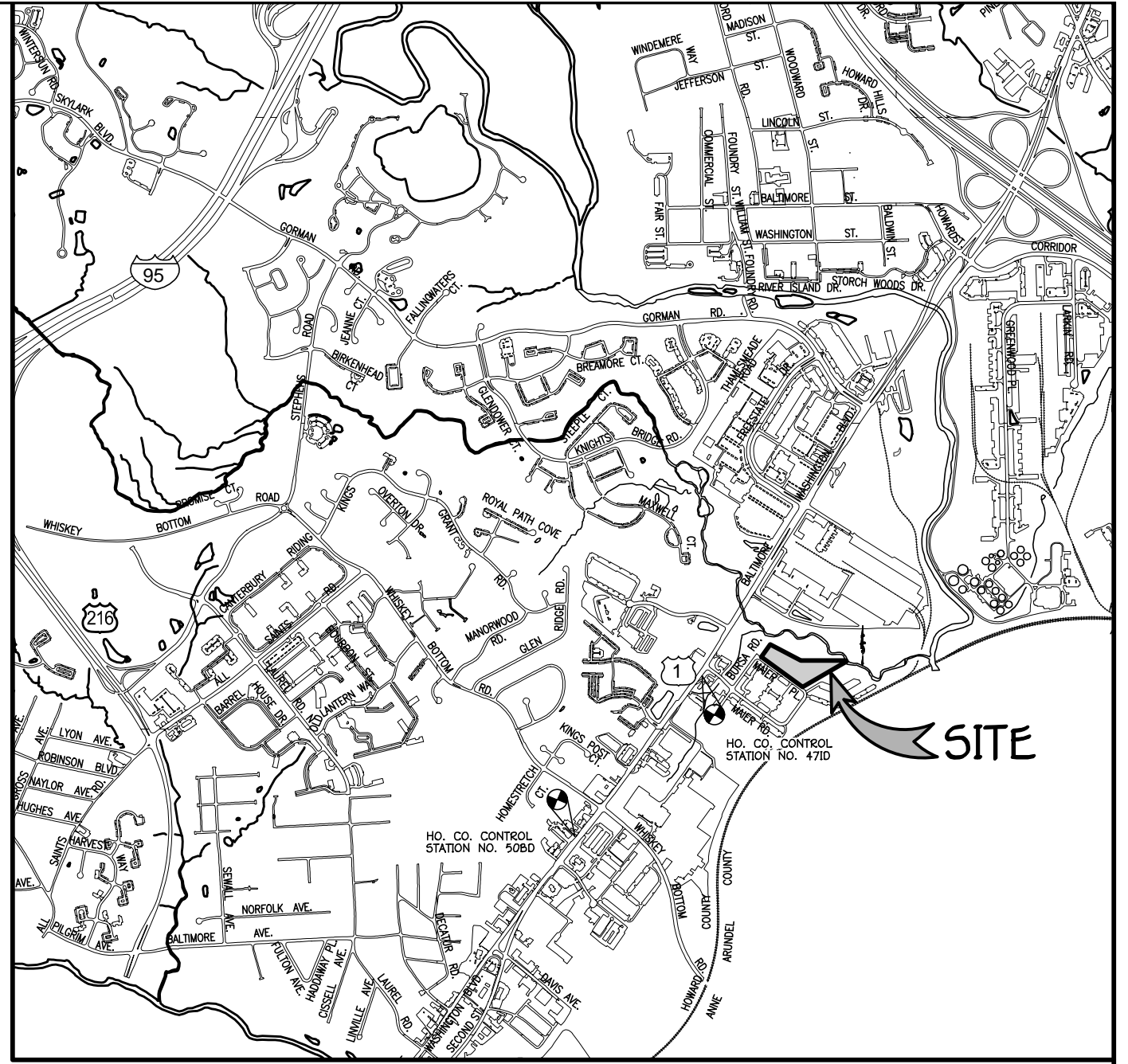
### DESIGN NARRATIVE

**INTRODUCTION:** THIS REPORT WILL DEMONSTRATE HOW THE CRITERIA SET FORTH IN THE MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II (EFFECTIVE OCTOBER 2000, REVISED MAY 2009) WILL BE SATISFIED FOR THESE LOTS. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF "WOODS IN GOOD CONDITION" WILL BE ACCOMPLISHED THROUGH THE USE OF MICRO-BIORETENTION FACILITIES (3) AND FILTERRA INLETS (6) WITH ADDITIONAL PIPE STORAGE AND A STONE RECHARGE CHAMBER AS SUGGESTED WITHIN CHAPTER 5 OF PREVIOUSLY MENTIONED MANUAL. THE ACHIEVEMENT OF THIS GOAL WILL REMOVE THE REQUIREMENT OF PROVIDING CHANNEL PROTECTION VOLUME.

**GENERAL SITE CONDITIONS:** THE ROMANO CONSTRUCTION PROJECT IS ZONED M-2 AND LOCATED ON TAX MAP 47, PARCEL NO. 540 OF THE HOWARD COUNTY, MARYLAND TAX MAP DATABASE SYSTEM. THIS PROPERTY CONSISTS OF 5.52 ACRES OF WHICH NO ACRES ARE ENCUMBERED WITH A PRESERVATION EASEMENT DEDICATED TO HOWARD COUNTY MARYLAND AGRICULTURAL LAND PRESERVATION PROGRAM.

- NATURAL RESOURCE PROTECTION:** TO ENSURE THE PROTECTION OF NATURAL RESOURCES LOCATED ON THIS SITE, ALL BUFFERS WILL BE HONORED AND ALL IMPROVEMENT WILL BE LOCATED OUTSIDE OF ENVIRONMENTALLY SENSITIVE AREAS. THERE ARE NO DEFINED SPECIMEN TREES LOCATED ON THIS PROPERTY.
- MAINTENANCE OF NATURAL FLOW PATTERNS:** THE PROPOSED DEVELOPMENT IS DESIGNED WITH THE INTENT OF CREATING DRAINAGE DIVIDES SIMILAR TO THOSE OF THE NATURAL FLOW PATTERNS IN THE PROJECT AREA.
- REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN, ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES:** THIS SITE PROPOSES THE MINIMUM IMPERVIOUS AREAS NECESSARY TO PROVIDE ADEQUATE ACCESS TO THE PROPOSED BUILDINGS. ALL PROPOSED IMPERVIOUS SURFACES ARE RECEIVING TREATMENT THROUGH THE USE OF ESD STORMWATER MANAGEMENT FACILITIES. WE ARE PROVIDING FOR 3 MICRO-BIORETENTION FACILITIES TO TREAT PART OF THE ROOFS AND PAVING, 6-FILTERRA INLETS TO TREAT MORE PAVING, AND PIPE STORAGE OR A STONE RECHARGE CHAMBER PAST THE FILTERRA TO TREAT THE REMAINING PAVING.
- INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO STORMWATER STRATEGY:** THIS SUBMISSION ONLY PROPOSES ON-LOT SEDIMENT CONTROLS SUCH AS SUPER SILT FENCE, TEMPORARY ASPHALT BERM, A STOCKPILE AND A STABILIZED CONSTRUCTION ENTRANCE.
- IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES TO THE MAXIMUM EXTENT PRACTICABLE (MEP):** THIS SUBMISSION PROPOSES 3 MICRO-BIORETENTION FACILITIES (M-6), 6-FILTERRA INLETS, ADDITIONAL PIPE STORAGE AND A STONE RECHARGE CHAMBER TO MEET AND EXCEED ENVIRONMENTAL SITE DESIGN TO THE MAXIMUM EXTENT PRACTICABLE (ESD TO THE MEP).
- REQUEST FOR DESIGN MANUAL WAIVER:** NO WAIVERS ARE EXPECTED TO BE REQUESTED ON THIS PROJECT RELATING TO SWM REQUIREMENTS.

PARKING DATA	
REQUIREMENTS: GENERAL OFFICE	3.3 SPACES PER 1000 SQ.FT. x 2,080 SQ.FT. = 6.9 SPACES
WAREHOUSE	0.75 SPACES PER 1000 SQ.FT. x 8,320 SQ.FT. = 6.2 SPACES
TOTAL	13.1 SPACES OR 14 SPACES
PROVIDED:	15 SPACES (INCLUDING 1 HC SPACE)



### GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MSS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES:
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG; THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- COORDINATES ARE BASED ON NAD 83 MARYLAND COORDINATES SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
  - 47D N 529,698.859 E 1,361,467.982 ELEV. 180.229
  - 40B N 527,993.830 E 1,359,803.018 ELEV. 245.803
- BACKGROUND INFORMATION:
  - A. SUBDIVISION NAME: A.C. MILLER PROPERTY
  - B. USE: OFFICE AND WAREHOUSE
  - C. BUILDING NO. 1 AREA: OFFICE 2,080 SF, WAREHOUSE 8,320 SF, TOTAL 10,400 SF
  - D. LIMIT OF DISTURBANCE: 4.50+
  - E. TAX MAP NO.: 47
  - F. PARCEL NOS.: 540
  - G. ZONING: M-2 PER 10/6/13 COMPREHENSIVE ZONING PLAN.
  - H. ELECTION DISTRICT: SIXTH
  - I. TOTAL AREA OF PARCEL B: 240,518 SF (5.52 AC.+)
  - J. AREA OF STEEP SLOPES 25% AND GREATER = 0 AC.+
  - K. NO. OF BUILDABLE PARCELS: 1
  - L. AREA OF BUILDABLE PARCELS: 5.52 AC.+
  - M. TOTAL AREA OF ROADWAY TO BE DEDICATED: 0 AC.+
  - N. AREA OF FLOODPLAIN: 0.84 AC.+
  - O. DEED REFERENCE: L 8135 F. 210
- PREVIOUS FILE NOS.: WP-02-01, WP-98-97, F-02-010, SP-02-003, ECP-18-050
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.
- SOILS INFORMATION TAKEN FROM NRCS WEB SOIL SURVEY.
- THE WETLAND AREAS SHOWN ON THIS PLAN WERE TAKEN FROM PLAT 16329.
- FOREST CONSERVATION WAS ADDRESSED UNDER F-02-10.
- OFF-SITE GRADING IN THE BGE EASEMENT IS PERMITTED BY DEED (L 7544 F. 530).
- PERIMETER LANDSCAPING FOR THIS DEVELOPMENT SHALL BE IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY FISHER COLLINS AND CARTER, INC. DATED DECEMBER 2017 AND OFFSITE TOPOGRAPHY IS FROM HOWARD COUNTY GIS DATA.
- BOUNDARY INFORMATION IS BASED ON A SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED DECEMBER, 2017.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- STORM WATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUME I AND II, REVISED 2009. PROVIDED STORM WATER MANAGEMENT INCLUDES THE USE OF 2 MICRO-BIORETENTION FACILITIES (M-6), 4 CISTERNS (TRUCK MAINTENANCE) AND 6 FILTERRA INLETS WITH ADDITIONAL PIPE OR STONE STORAGE TO MEET AND EXCEED THE REQUIRED ESD VOLUME.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- ALL PROPOSED UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNTY STANDARDS AND SPECIFICATIONS.
- ANY DAMAGE TO COUNTY AND/OR STATE OWNED RIGHT-OF-WAY SHOULD BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- GUTTER PAN OF CURBS SHALL BE PITCHED TO CONFORM TO THE ADJACENT DRAINAGE PATTERNS OF THE ADJOINING PAVING FOR VEHICULAR USE.
- ALL PROPOSED RAMPS SHALL BE IN ACCORDANCE WITH CURRENT A.D.A. STANDARDS ACCESSIBILITY GUIDELINES. MAXIMUM SIDEWALK CROSS SLOPE SHALL BE TWO PERCENT. PROVIDE A (5'X5') FIVE FOOT BY FIVE FOOT LEVEL LANDING (MAX. SLOPE 2%) AT THE TOP AND BOTTOM OF ALL RAMPS AND BUILDING ENTRANCES AND EXITS. HANDRAILS SHALL BE PROVIDED ON ALL RAMPS IN ACCORDANCE WITH SECTION 505 OF THE A.D.A. STANDARDS ACCESSIBILITY GUIDELINES.
- ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIAL BETWEEN ITEMS UNLESS OTHERWISE NOTED.
- THE KNOX BOX IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5' IN HEIGHT AND NO MORE THAN 6' LATERALLY FROM THE DOOR. THE BOX SHALL BE ELECTRONICALLY SUPERVEISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE ALARM SYSTEM). NFPA-1.10.12.1.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993).
- ALL SITE LIGHTING TO BE PROVIDED BY WALL PACKS.
- WATER AND SEWER IS PUBLIC (CONTRACT NO. 24-9216-0).
- A TRAFFIC STUDY HAS BEEN PROVIDED FOR THIS PROJECT AND WAS PERFORMED IN NOVEMBER 2022.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$11,580.00 FOR 24 SHADE TREES AND 146 SHRUBS HAS BEEN POSTED WITH THE DEVELOPER'S AGREEMENT.
- THIS SITE CONTAINS AN EXISTING 100-YEAR FLOODPLAIN. TWO ARE SHOWN. ONE WAS DETERMINED BY KJODE CONSULTANTS, INC. AS SHOWN ON PLAT 16329 RECORDED ON NOVEMBER 29, 2008. THE OTHER WAS DELINEATED BASED ON FEMA PRMETTE CROSS SECTION ELEVATIONS DOWNLOADED ON JUNE 16, 2022.
- SUMMARY OF FINDING FOR APFO TRAFFIC ANALYSIS:
  - A. DATE OF REPORT: NOVEMBER 2022
  - B. DATE OF COUNT(S): OCTOBER 2022
  - C. REPORT SUBMITTED AS PART OF PLAN NUMBER: SDP-23-012
  - D. SCHOOLS WERE IN SESSION DURING THE TRAFFIC COUNT.
  - E. 1) INTERSECTIONS STUDIED: US 1 @ GORMAN ROAD AND US 1 @ WHISKEY BOTTOM ROAD
- BOTH INTERSECTIONS ARE UNDER STATE JURISDICTION
- DESIGN OR HORIZON YEAR OF PROJECT: 2025
- US 1 @ GORMAN ROAD AM LOS: A
  - US 1 @ WHISKEY BOTTOM ROAD AM LOS: B
  - US 1 @ WHISKEY BOTTOM ROAD PM LOS: B
  - US 1 @ WHISKEY BOTTOM ROAD PM LOS: E
- MITIGATION IS NOT REQUIRED FOR US 1 @ GORMAN ROAD. MITIGATION FOR WHISKEY BOTTOM ROAD WILL BE ADDRESSED WITH FEE-IN-LIEU.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- A DESIGN MANUAL WAIVER TO HOWARD COUNTY DESIGN MANUAL, VOLUME III, SECTION 2.5.0 FOR 110' MINIMUM DISTANCE BETWEEN DRIVEWAYS FOR COMMERCIAL, INDUSTRIAL, AND MULTIFAMILY USE ON A LOCAL ROAD WAS APPROVED ON SEPTEMBER 11, 2023.
- CONTRACTOR SHALL PROVIDE ANCHORING DETAILS AND IMPLEMENTATION OF ANTI-FLOTATION FOR UNDERGROUND PIPE STORAGE FROM MANUFACTURER.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
BLOOMINGTON, MARYLAND 21142  
(410) 461-2095

**PROFESSIONAL CERTIFICATION**  
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

*Paul G. Cavanaugh* 5/23/2024

PAUL GERALD CAVANAUGH DATE

DATE	DESCRIPTION
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING
6/5/2024	Director - Department of Planning and Zoning
6/11/2024	Chief, Division of Land Development
	Chief, Development Engineering Division

**OWNER/DEVELOPER**  
A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele: (301)-362-0080



ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

PROJECT	SECTION/AREA	PARCEL
ROMANO CONSTRUCTION	N/A	B

PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
16329-16332	N/A	M-2	47	SIXTH	601101

WATER CODE	SEWER CODE
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**TITLE SHEET**

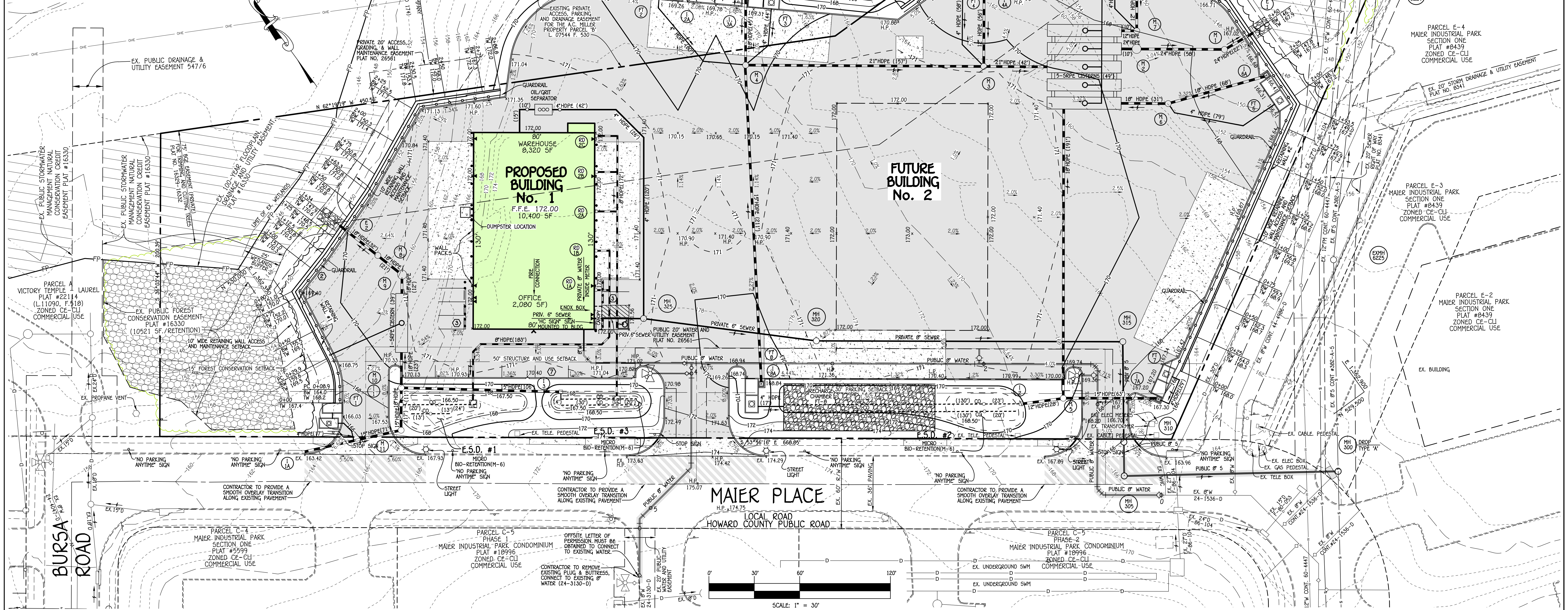
**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE  
ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 1 OF 23  
SCALE: AS SHOWN







LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION
--- 446 ---	EXISTING CONTOUR 2' INTERVAL
--- 440 ---	EXISTING CONTOUR 10' INTERVAL
S	EXISTING SAN. SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
U/E	EXISTING UNDERGROUND ELECTRIC LINE
C/TV	EXISTING CABLE/TV LINE
O/E	EXISTING OVERHEAD ELECTRIC LINE
G	EXISTING GAS LINE
X	EXISTING FENCE
X X	PROPOSED FENCE
446	PROPOSED CONTOUR 2' INTERVAL
440	PROPOSED CONTOUR 10' INTERVAL
+ 445.51	PROPOSED SPOT ELEVATION
[Pattern]	PROPOSED CONCRETE WALK
[Pattern]	PROPOSED MACADAM PAVING
[Pattern]	EXISTING TREELINE
[Pattern]	PROPOSED TREELINE
[Pattern]	PROPOSED PRIVATE WATER
[Pattern]	PROPOSED STORMDRAIN
[Pattern]	PROPOSED BUILDING
[Pattern]	PROPOSED GRAVEL LOT
[Pattern]	EXISTING TREES
[Pattern]	PROPOSED SURFACE OVERLAY
FP	EX. 100 YEAR FLOODPLAIN BY KIDDE 2008
FP21	EX. 100 YEAR FLOODPLAIN FROM FEMA 2022
[Pattern]	FOREST CONSERVATION EASEMENT



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2095

**PROFESSIONAL CERTIFICATION**  
 "PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."  
 Paul G. Cavanaugh 6/3/2024  
 PAUL GERALD CAVANAUGH DATE

**OWNER/DEVELOPER**  
 A.J. ROMANO CONSTRUCTION INC.  
 8970 MAIER PLACE  
 LAUREL, MARYLAND 20723  
 Attn: ANTONIO ROMANO, PRESIDENT  
 Tele. (301)-362-0080

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
 Director - Department of Planning and Zoning 6/11/2024  
 Chief, Division of Land Development 6/11/2024  
 Chief, Development Engineering Division

**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

**PROJECT**  
 ROMANO CONSTRUCTION

PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
16329-16332	N/A	M-2	47	SIXTH	601101

SECTION/AREA N/A  
 PARCEL B  
 WATER CODE --- SEWER CODE ---

**SITE DEVELOPMENT PLAN**

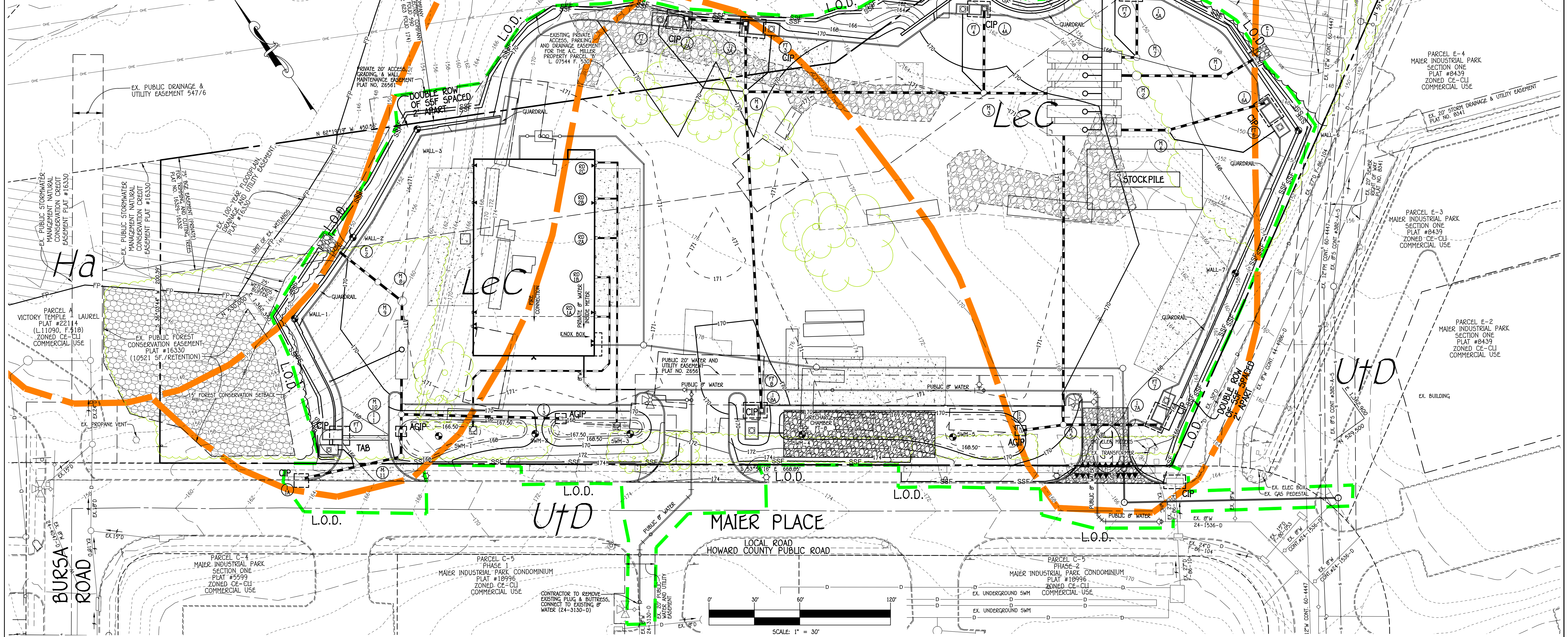
**ROMANO CONSTRUCTION**  
 A.C. MILLER PROPERTY  
 PARCEL 'B'  
 OFFICE AND WAREHOUSE USE  
 ZONED: M-2  
 TAX MAP: 47 GRID: 23 PARCEL: 540  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: APRIL, 2024  
 SHEET 3 OF 23  
 SCALE: 1" = 30'



LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	EXISTING SAN. SEWER LINE
---	EXISTING STORM DRAIN LINE
---	EXISTING WATER LINE
---	EXISTING UNDERGROUND ELECTRIC LINE
---	EXISTING CABLE/TV LINE
---	EXISTING OVERHEAD ELECTRIC LINE
---	EXISTING GAS LINE
---	EXISTING FENCE
---	PROPOSED FENCE
---	PROPOSED CONTOUR 2' INTERVAL
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---	PROPOSED SPOT ELEVATION
---	PROPOSED CONCRETE WALK
---	SOIL TYPES
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	PROPOSED PRIVATE WATER
---	PROPOSED STORMDRAIN
---	EXISTING TREES
---	EX. 100 YEAR FLOODPLAIN BY KIDDE 2008
---	EX. 100 YEAR FLOODPLAIN FROM FEMA 2022
---	FOREST CONSERVATION EASEMENT

SOILS LEGEND		
SOIL	NAME	GROUP
Ha	Hatboro-Codorus silt loam, 0 to 3 percent slopes, K VALUE = 0.43	D
LeC	Legore silt loam, 0 to 15 percent slopes, stony, K VALUE = 0.64	C
Utd	Urban land-Udorthents complex, 0 to 15 percent slopes	D
ZbA	Zekiah and Issue soils, 0 to 2 percent slopes, frequently flooded, K VALUE = 0.55	D

NOTES:  
 \* Hydric soils and/or contains hydric inclusions  
 \*\* May contain hydric inclusions  
 † Generally only within 100-year floodplain areas



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10572 BALTIMORE NATIONAL PIKE  
 ELLESMERE CITY, MARYLAND 21042  
 (410) 461-2255

**ENGINEER'S CERTIFICATE**  
 "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 Paul G. Cavanaugh 5/23/2024  
 SIGNATURE OF ENGINEER DATE

**DEVELOPER'S CERTIFICATE**  
 "I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."  
 Antonio Romano 5/23/2024  
 SIGNATURE OF DEVELOPER DATE

**PROFESSIONAL CERTIFICATION**  
 "PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."  
 Paul G. Cavanaugh 5/23/2024  
 PAUL GERALD CAVANAUGH DATE

**HOWARD SCD SIGNATURE BLOCK**  
 THIS PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Alexander Bratchie 6/4/2024  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
 Director - Department of Planning and Zoning  
 Chief, Division of Land Development  
 Chief, Development Engineering Division  
 6/11/2024  
 6/5/2024  
 6/11/2024  
 DATE DATE DATE

**OWNER/DEVELOPER**  
 A.J. ROMANO CONSTRUCTION INC.  
 8970 MAIER PLACE  
 LAUREL, MARYLAND 20723  
 Attn: ANTONIO ROMANO, PRESIDENT  
 Tele. (301)-362-0080

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

PROJECT	SECTION/AREA	PARCEL
ROMANO CONSTRUCTION	N/A	B

PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
16329-16332	N/A	M-2	47	SIXTH	601101

WATER CODE --- SEWER CODE ---

**SEDIMENT AND EROSION CONTROL PLAN**

**ROMANO CONSTRUCTION**  
 A.C. MILLER PROPERTY  
 PARCEL 'B'  
 OFFICE AND WAREHOUSE USE  
 ZONED: M-2  
 TAX MAP: 47 GRID: 23 PARCEL: 540  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: APRIL, 2024  
 SHEET 4 OF 23  
 SCALE: 1" = 30'

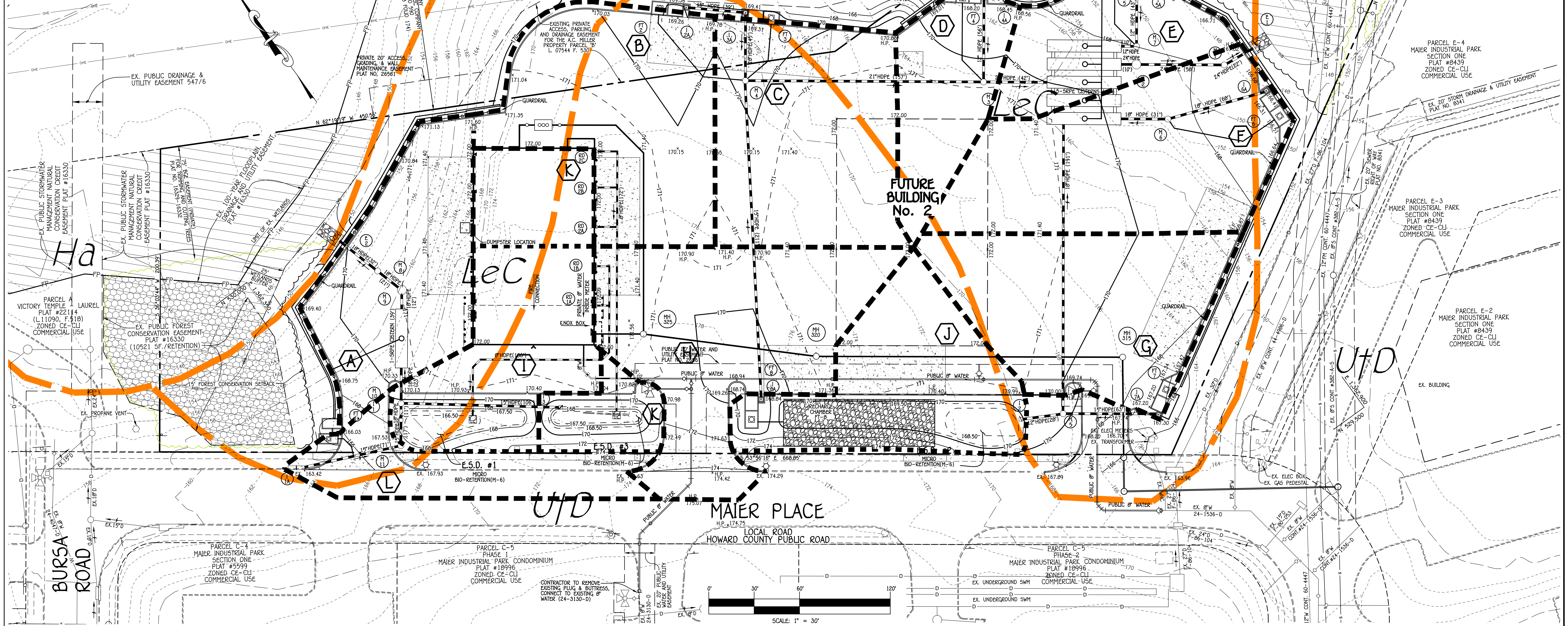


LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION
445	EXISTING CONTOUR 2' INTERVAL
440	EXISTING CONTOUR 10' INTERVAL
S	EXISTING SAN. SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
UGE	EXISTING UNDERGROUND ELECTRIC LINE
C/TV	EXISTING CABLE/TV LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
G	EXISTING GAS LINE
X	EXISTING FENCE
X	PROPOSED FENCE
446	PROPOSED CONTOUR 2' INTERVAL
440	PROPOSED CONTOUR 10' INTERVAL
+ 445.51	PROPOSED SPOT ELEVATION
---	PROPOSED CONCRETE WALK
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	PROPOSED PRIVATE WATER
---	PROPOSED STORMDRAIN
---	EXISTING TREES
FP	EX. 100 YEAR FLOODPLAIN BY KIDDE 2008
FP21	EX. 100 YEAR FLOODPLAIN FROM FEMA 2022
---	FOREST CONSERVATION EASEMENT
---	SOIL TYPES
---	DRAINAGE LIMITS

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA	'C' FACTOR	% IMP.	
FT-1	A	14,215 SF	0.06	100%	
FT-2	B	18,123 SF	0.06	100%	
FT-3	C	17,822 SF	0.06	100%	
FT-4	D	8,468 SF	0.06	100%	
FT-5	E	9,409 SF	0.06	100%	
FT-6	F	19,979 SF	0.06	100%	
FT-7	G	17,444 SF	0.05	99%	
FT-8	H	19,754 SF	0.05	99%	
E.S.D.#1	I	12,611 SF	0.67	71%	
E.S.D.#2	J	14,238 SF	0.53	49%	
E.S.D.#3	K	8,916 SF	0.62	63%	
I-1A	L	8,390 SF	0.72	79%	

SOILS LEGEND		
SOIL	NAME	GROUP
Ha	Harboro-Codorus silt loam, 0 to 3 percent slopes, K VALUE = 0.43	D
LeC	Legore silt loam, 0 to 15 percent slopes, stony, K VALUE = 0.64	C
UdD	Urban land-Udorthents complex, 0 to 15 percent slopes	D
ZbA	Zekiah and Issue soils, 0 to 2 percent slopes, frequently flooded, K VALUE = 0.55	D

NOTES:  
 • Hydric soils and/or contains hydric inclusions  
 • May contain hydric inclusions  
 † Generally only within 100-year floodplain areas



**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE: PARC - 10572 BALTIMORE NATIONAL PIKE  
 ELLSWORTH CITY, MARYLAND 21104  
 (410) 461-2099

**PROFESSIONAL CERTIFICATION**  
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 Paul G. Cavanaugh 5/23/2024  
 PAUL GERALD CAVANAUGH DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning 6/5/2024  
 Chief, Division of Land Development 6/11/2024  
 Chief, Development Engineering Division

**OWNER/DEVELOPER**  
 A.J. ROMANO CONSTRUCTION INC.  
 8970 MAIER PLACE  
 LAUREL, MARYLAND 20723  
 Attn: ANTONIO ROMANO, PRESIDENT  
 Tele. (301)-362-0080

**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

**SOILS AND STORM DRAINAGE AREA MAP**

**ROMANO CONSTRUCTION**  
 A.C. MILLER PROPERTY  
 OFFICE AND WAREHOUSE USE  
 ZONED: M-2  
 TAX MAP: 47 GRID: 23 PARCEL: 540  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: APRIL, 2024  
 SHEET 5 OF 23  
 SCALE: 1" = 30'



LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
S	EXISTING SAN. SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
U/E	EXISTING UNDERGROUND ELECTRIC LINE
C/TV	EXISTING CABLE/TV LINE
O/E	EXISTING OVERHEAD ELECTRIC LINE
G	EXISTING GAS LINE
X	EXISTING FENCE
X	PROPOSED FENCE
446	PROPOSED CONTOUR 2' INTERVAL
440	PROPOSED CONTOUR 10' INTERVAL
+ 445.51	PROPOSED SPOT ELEVATION
[Pattern]	PROPOSED CONCRETE WALK
[Pattern]	PROPOSED MACADAM PAVING
[Pattern]	EXISTING TREELINE
[Pattern]	PROPOSED TREELINE
[Pattern]	PROPOSED PRIVATE WATER
[Pattern]	PROPOSED STORMDRAIN
[Pattern]	PROPOSED BUILDING
[Symbol]	EXISTING TREES
FP	EX. 100 YEAR FLOODPLAIN BY KIDDE 2008
FP21	EX. 100 YEAR FLOODPLAIN FROM FEMA 2022
[Symbol]	FOREST CONSERVATION EASEMENT

**BIORETENTION FACILITY PLANTING SPECIFICATIONS:**

1. PLANT INSTALLATION SHALL BE PER MDE SPECIFICATIONS IN THE 2000 STORMWATER DESIGN MANUAL, PER THE PROJECT SPECIFICATIONS, AND AS BELOW.

ADDITIONAL SPECIFICATIONS:

1. PLANT BMP LEVEL SURFACE AS SHOWN IN THE ABOVE TABLE WITH AN EVEN DISTRIBUTION DENSITY. STABILIZE BMP SIDE SLOPES WITH PERMANENT GRASS SEED PER NRCS SPECIFICATIONS. SIDE SLOPE PERMANENT GRASS AREAS SHALL HAVE 3" OF CLEAN TOPSOIL ON TILLED SUB-SOIL AND CURLEX MATTING, WATER AS NECESSARY UNTIL ESTABLISHED VEGETATION.

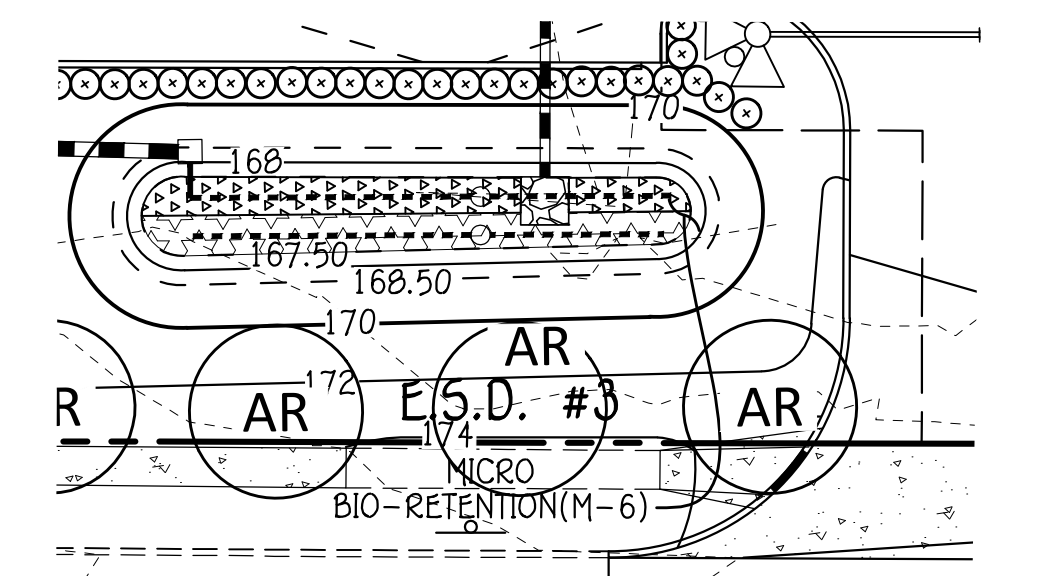
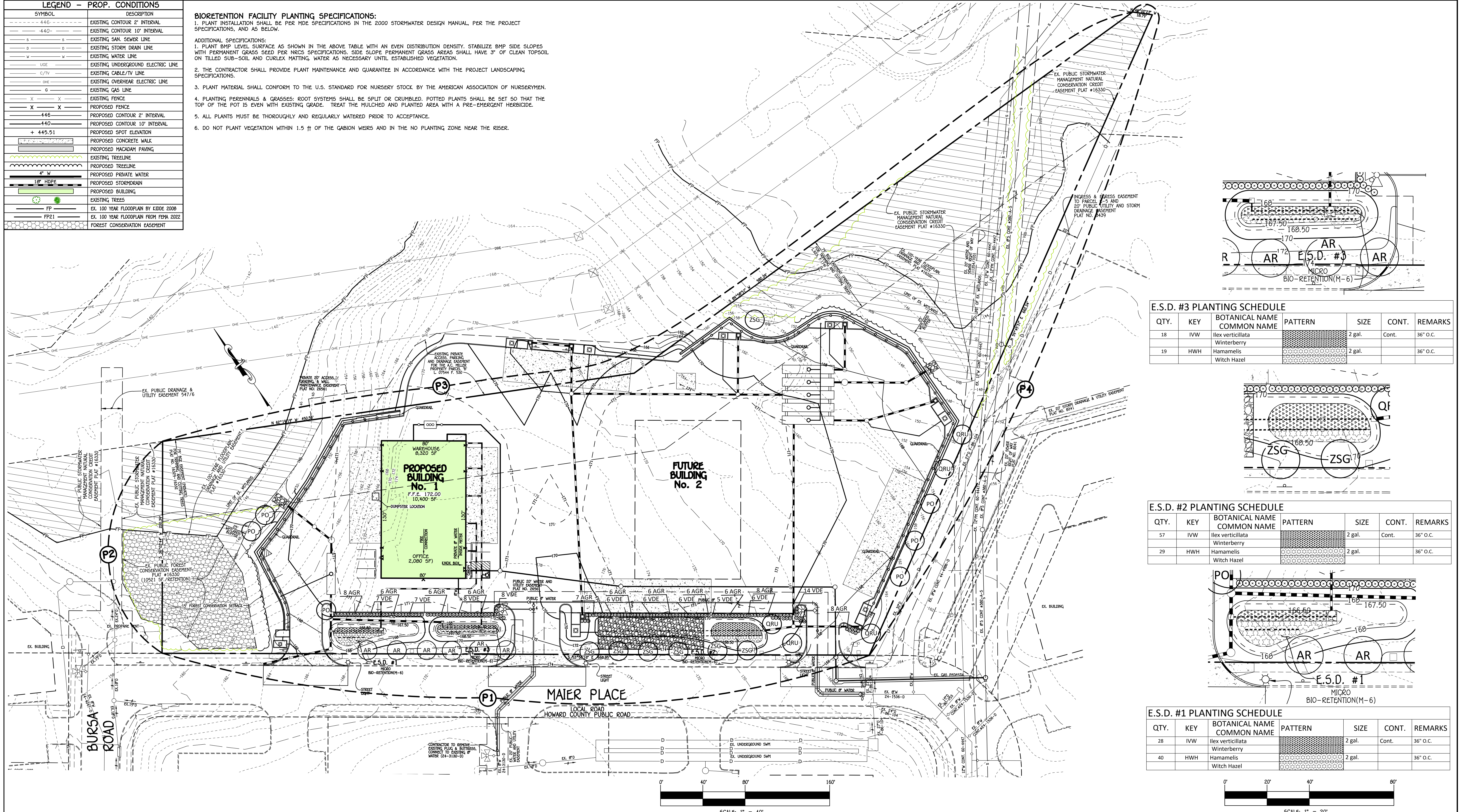
2. THE CONTRACTOR SHALL PROVIDE PLANT MAINTENANCE AND GUARANTEE IN ACCORDANCE WITH THE PROJECT LANDSCAPING SPECIFICATIONS.

3. PLANT MATERIAL SHALL CONFORM TO THE U.S. STANDARD FOR NURSERY STOCK BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

4. PLANTING PERENNIALS & GRASSES: ROOT SYSTEMS SHALL BE SPLIT OR CRUMBLED. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH EXISTING GRADE. TREAT THE MULCHED AND PLANTED AREA WITH A PRE-EMERGENT HERBICIDE.

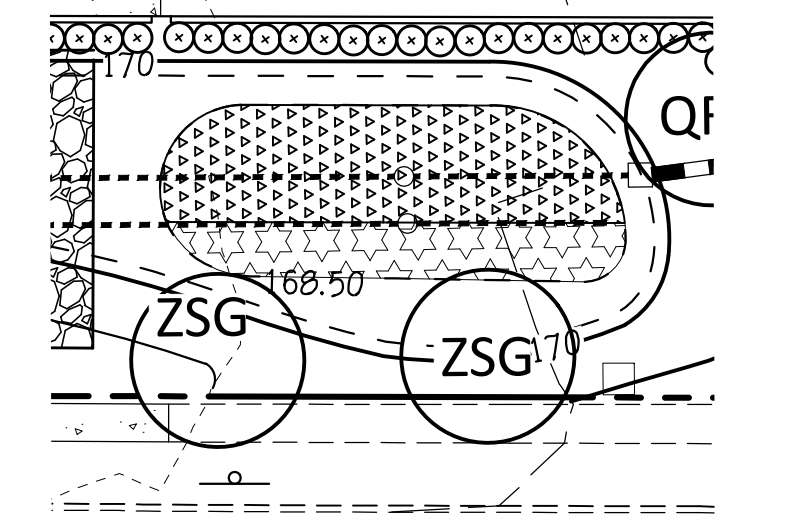
5. ALL PLANTS MUST BE THOROUGHLY AND REGULARLY WATERED PRIOR TO ACCEPTANCE.

6. DO NOT PLANT VEGETATION WITHIN 1.5 FT OF THE GABION WEIRS AND IN THE NO PLANTING ZONE NEAR THE RISER.



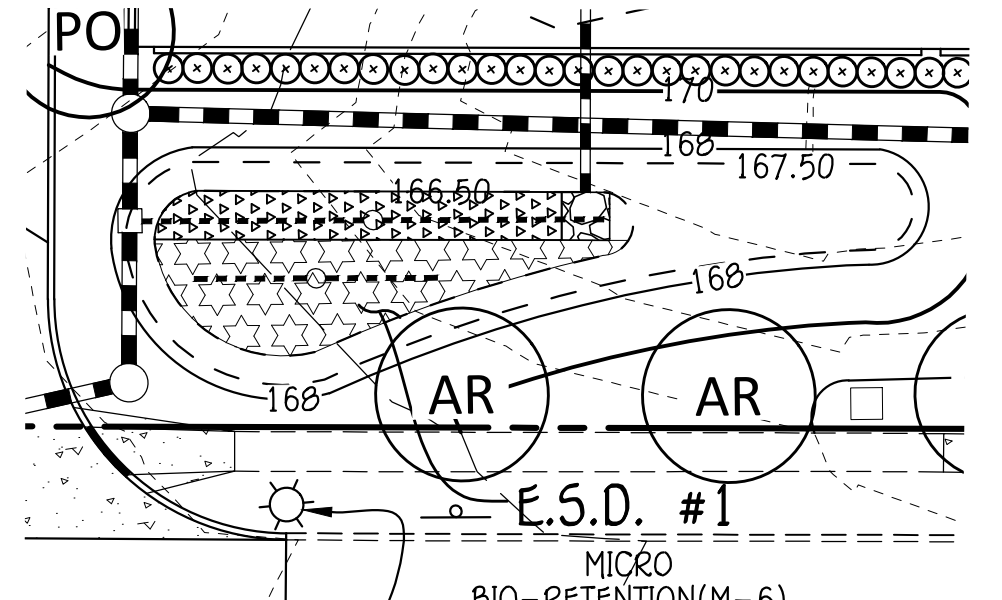
**E.S.D. #3 PLANTING SCHEDULE**

QTY.	KEY	BOTANICAL NAME COMMON NAME	PATTERN	SIZE	CONT.	REMARKS
18	IVW	Ilex verticillata Winterberry	[Pattern]	2 gal.	Cont.	36" O.C.
19	HWH	Hamamelis Witch Hazel	[Pattern]	2 gal.		36" O.C.



**E.S.D. #2 PLANTING SCHEDULE**

QTY.	KEY	BOTANICAL NAME COMMON NAME	PATTERN	SIZE	CONT.	REMARKS
57	IVW	Ilex verticillata Winterberry	[Pattern]	2 gal.	Cont.	36" O.C.
29	HWH	Hamamelis Witch Hazel	[Pattern]	2 gal.		36" O.C.



**E.S.D. #1 PLANTING SCHEDULE**

QTY.	KEY	BOTANICAL NAME COMMON NAME	PATTERN	SIZE	CONT.	REMARKS
28	IVW	Ilex verticillata Winterberry	[Pattern]	2 gal.	Cont.	36" O.C.
40	HWH	Hamamelis Witch Hazel	[Pattern]	2 gal.		36" O.C.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
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ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2899

**PROFESSIONAL CERTIFICATION**  
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20720, EXPIRATION DATE: 01/25/24."  
*Paul G. Cavanaugh* 5/23/2024  
PAUL GERALD CAVANAUGH DATE

**DEVELOPER'S / BUILDER'S CERTIFICATE**  
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
Antonio Romano 5/23/2024  
NAME DATE

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
Designated by: *Judith Brinkley* 6/11/2024  
Date  
Director - Department of Planning and Zoning 6/5/2024  
Date  
Chief, Division of Land Development 6/11/2024  
Date  
Chief, Development Engineering Division  
Date

**OWNER/DEVELOPER**  
A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele. (301)-362-0080

**ADDRESS CHART**

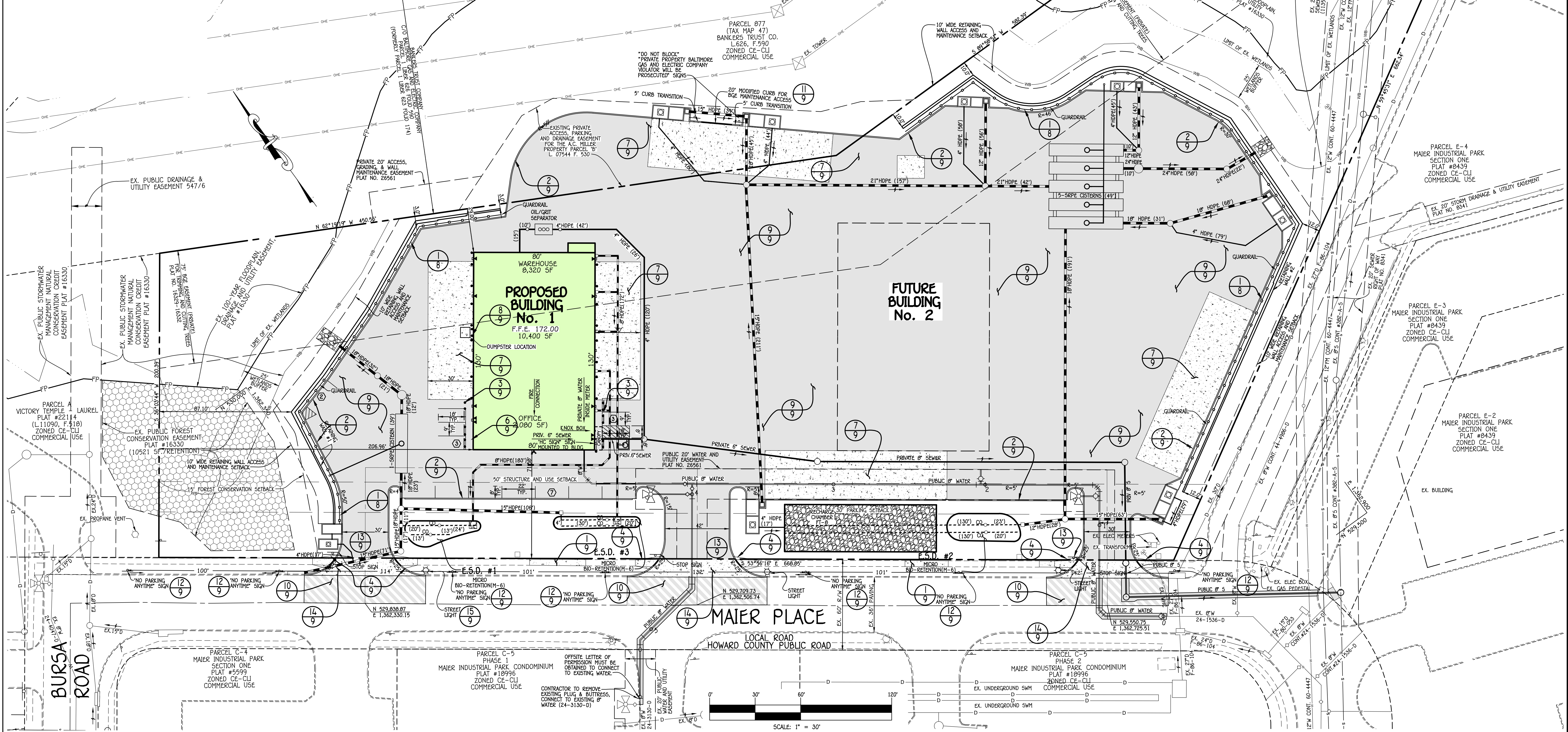
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

**LANDSCAPE PLAN**

**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE  
ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 6 OF 23  
SCALE: 1" = 40'



LEGEND - PROP. CONDITIONS	
SYMBOL	DESCRIPTION
S	EXISTING SAN SEWER LINE
D	EXISTING STORM DRAIN LINE
W	EXISTING WATER LINE
U/E	EXISTING UNDERGROUND ELECTRIC LINE
C/TV	EXISTING CABLE/TV LINE
O/E	EXISTING OVERHEAD ELECTRIC LINE
G	EXISTING GAS LINE
X	PROPOSED FENCE
▬	PROPOSED CONCRETE WALK
▬	PROPOSED MACADAM PAVING
▬	PROPOSED PRIVATE WATER
▬	PROPOSED STORMDRAIN
▬	PROPOSED BUILDING
▬	PROPOSED GUARDRAIL



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 BALDWIN CITY, MARYLAND 21042  
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 Paul G. Cavanaugh 5/23/2024  
 PAUL GERALD CAVANAUGH DATE

DATE	DESCRIPTION
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING
6/5/2024	Director - Department of Planning and Zoning
6/11/2024	Chief, Division of Land Development
	Chief, Development Engineering Division

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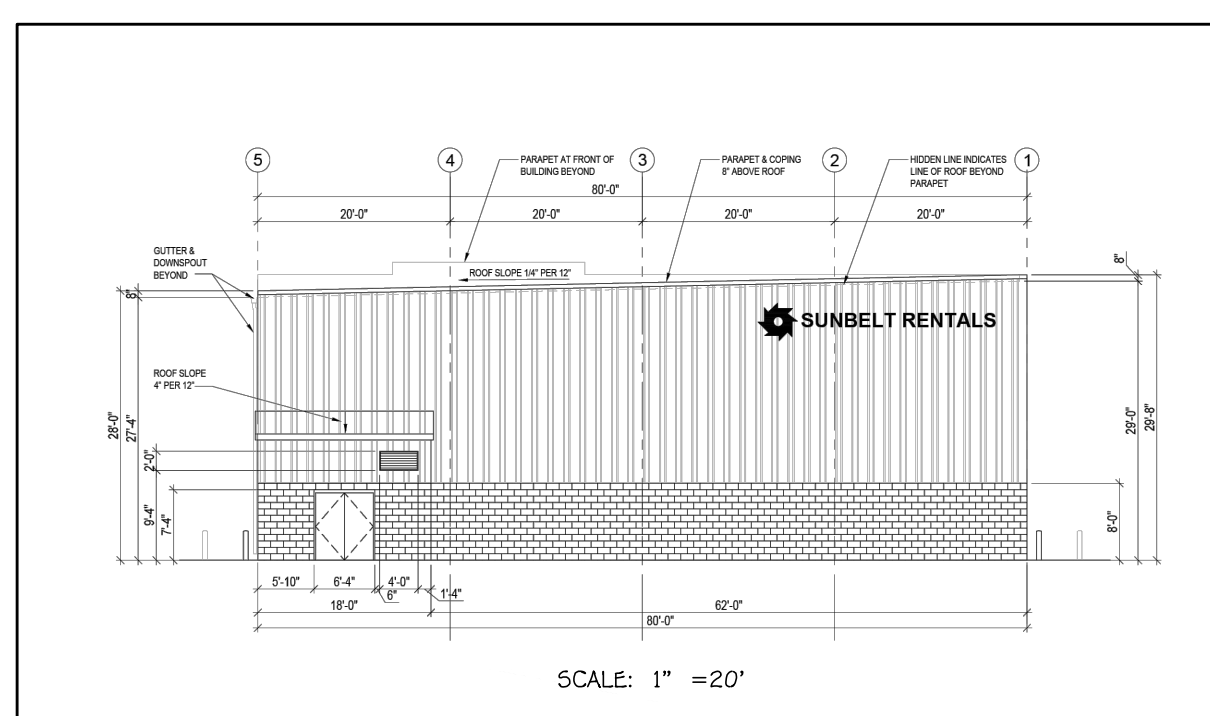
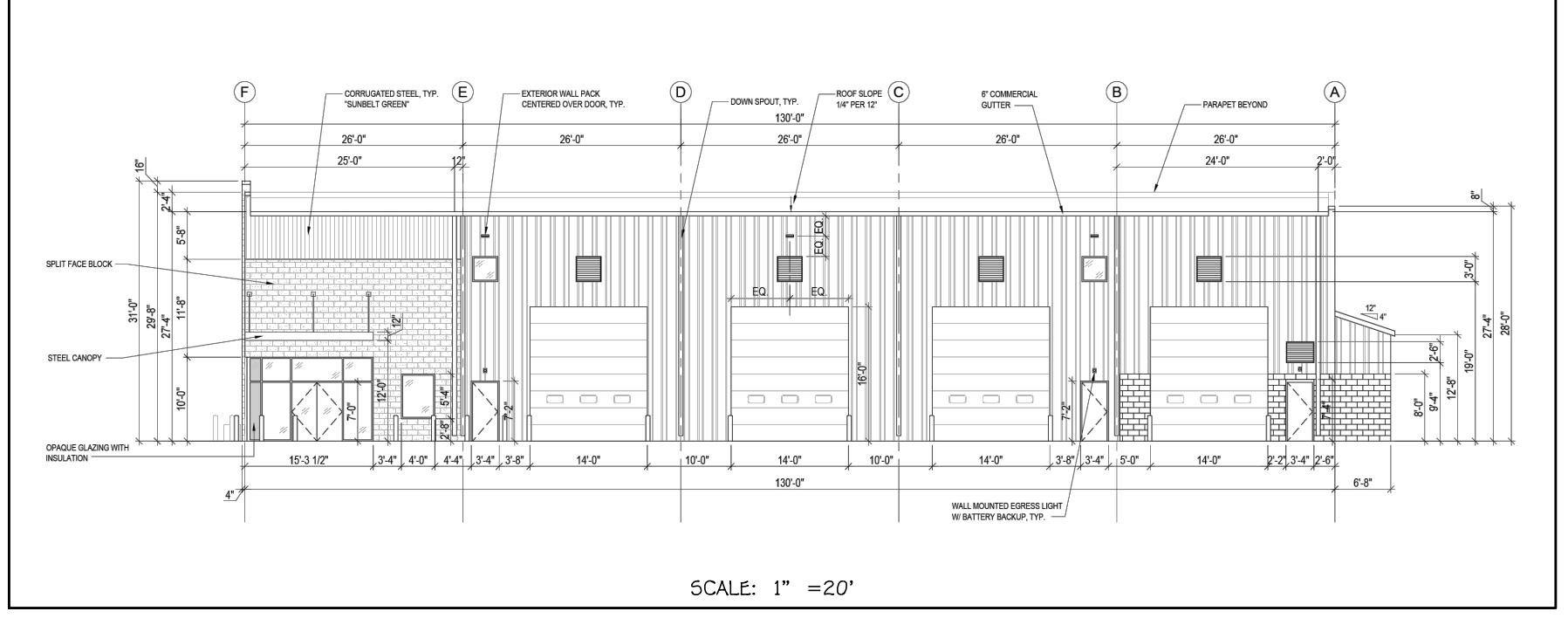
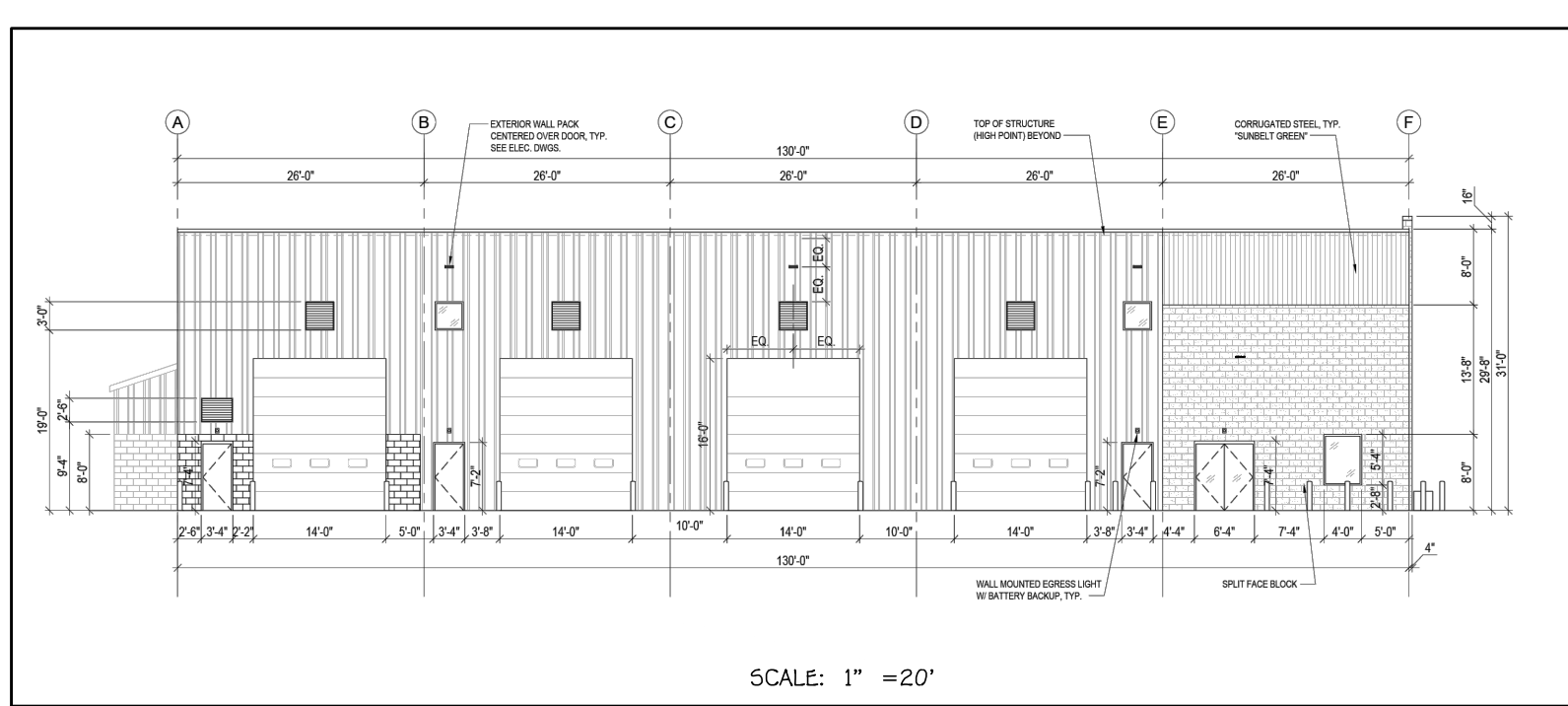
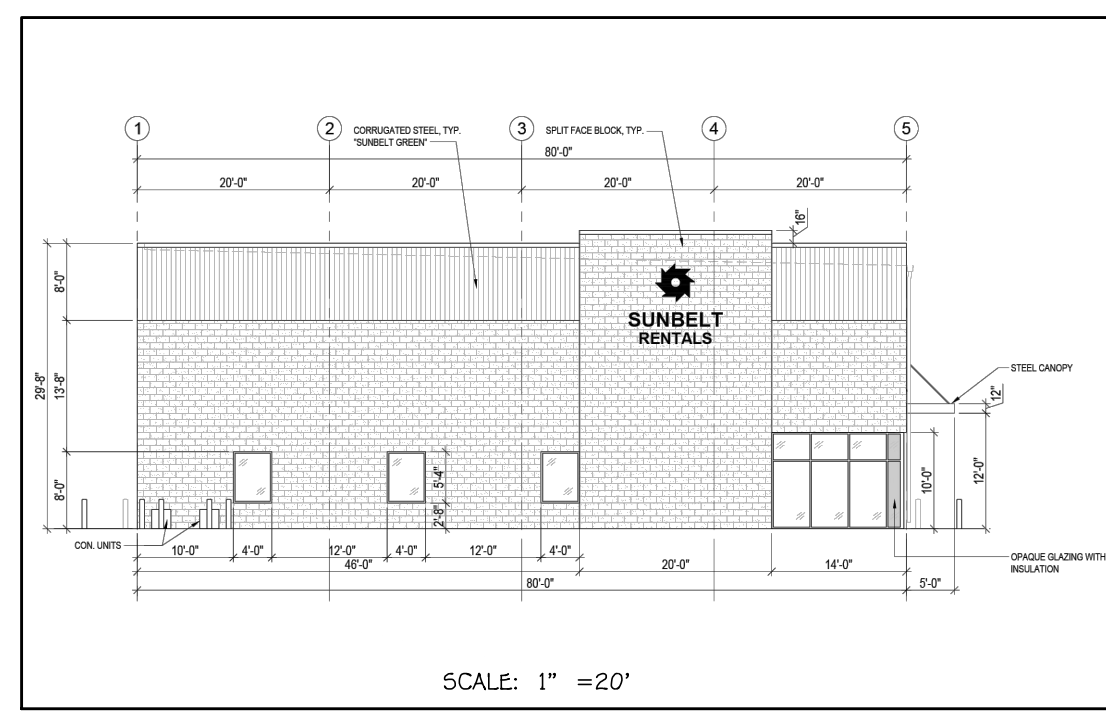
**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

**GEOMETRY PLAN**

**ROMANO CONSTRUCTION**  
 A.C. MILLER PROPERTY  
 PARCEL 'B'  
 OFFICE AND WAREHOUSE USE  
 ZONED: M-2  
 TAX MAP: 47 GRID: 23 PARCEL: 540  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: APRIL, 2024  
 SHEET 7 OF 23  
 SCALE: 1" = 30'





SCHEDULE A - PERIMETER LANDSCAPE EDGE				
PERIMETER	P-1	P-2	P-3	P-4
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	E	A	A	A
LINEAR FEET OF PERIMETER	668.9 L.F.	200.4 L.F.	661.3 L.F.	681.1 L.F.
CREDIT FOR EXISTING TREES (YES/NO, LENGTH)	YES, 88 L.F.	YES, 110 L.F.	YES, 619 L.F.	YES, 430 L.F.
NUMBER OF PLANTS REQUIRED	(580.9/40 = 14.5 OR 15)	(90.4/60 = 1.5 OR 2)	(42.3/60 = 0.7 OR 1)	(251.1/60 = 4.2 OR 5)
SHADE TREES	0	0	0	0
EVERGREENS	0	0	0	0
SHRUBS	(580.9/4 = 145.2 OR 146)	0	0	0
CREDIT FOR EXISTING VEGETATION				
SHADE TREES	0	0	0	0
SMALL/MEDIUM DECIDUOUS TREES/EVERGREENS	0	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED				
SHADE TREES	15	2	1	5
SMALL/MEDIUM DECIDUOUS TREES/EVERGREENS	0	0	0	0
SHRUBS	146	0	0	0

PLANT LIST					
QTY.	KEY	BOTANICAL NAME COMMON NAME	SIZE	CONT.	REMARKS
<b>TREES - DECIDUOUS SHADE</b>					
6	PO	Platanus occidentalis American Sycamore	2-1/2" - 3" cal.	B & B	
6	AR	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2-1/2" - 3" cal.	B & B	
7	ZSG	Zelkova serrata var. 'Greenvase' Green Vase Zelkova	2-1/2" - 3" cal.	B & B	
5	QRU	Quercus rubra Red Oak	2-1/2" - 3" cal.	B & B	
<b>SHRUBS</b>					
73	AGR	Prunus laurocerasus 'Otto Lukeyn' Dwarf Cherry Laurel	24"-30"HT.	Container	36" o/c
73	VDE	Viburnum dentatum 'Christom' Arrowwood Viburnum "Blue Muffin"	24"-30"HT.	Container	36" o/c

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	14
NUMBER OF TREES REQUIRED (1/20 SP)	1
NUMBER OF TREES PROVIDED	BOTANICAL AND COMMON NAME
SHADE TREES - 1	1 - Platanus occidentalis "American Sycamore" (PO)
OTHER TREES (2:1 SUBSTITUTION)	N/A

**PLANTING SPECIFICATIONS**

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISUSE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES. CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

BID SHALL BE BASED ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS.

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE.

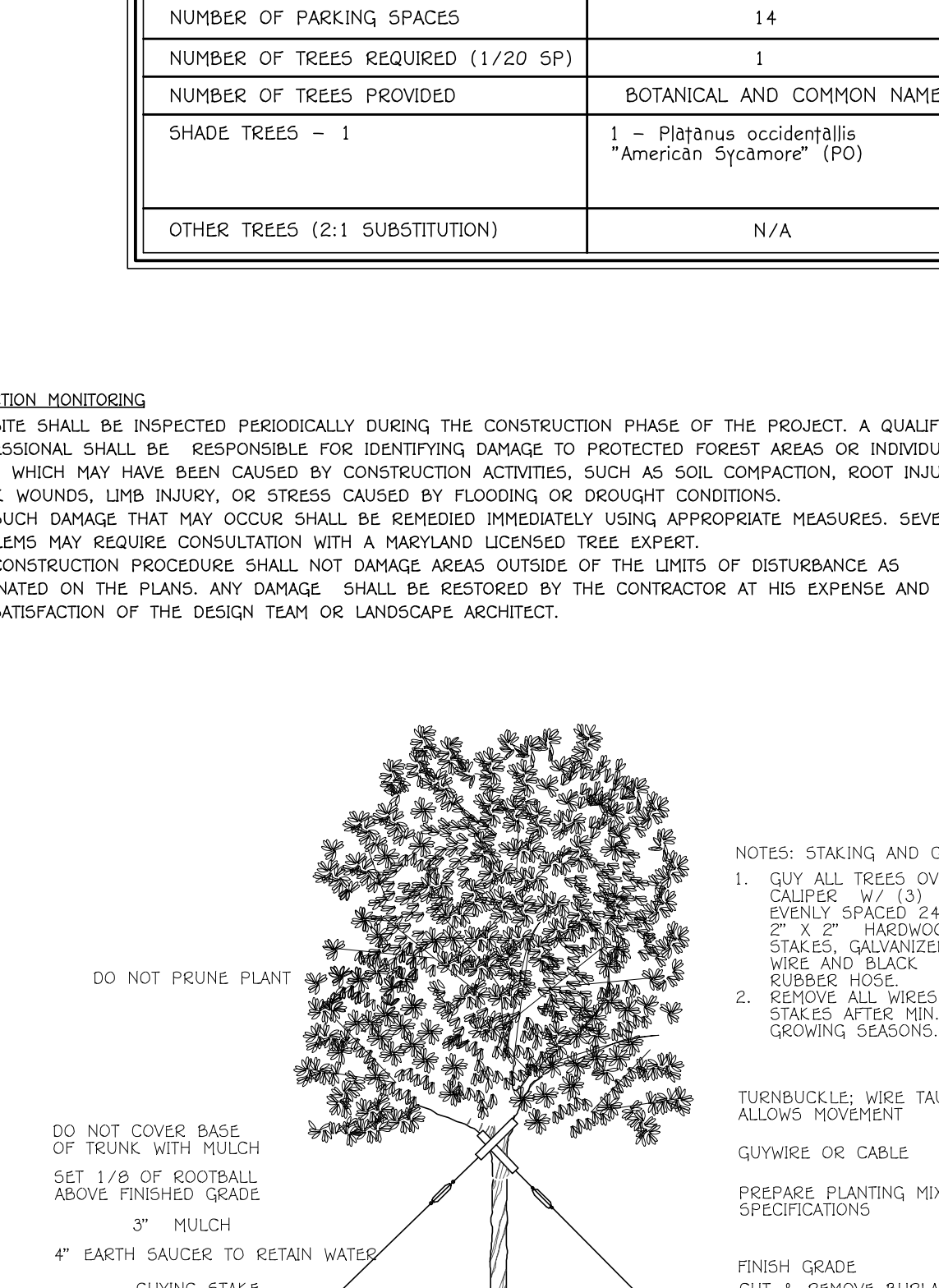
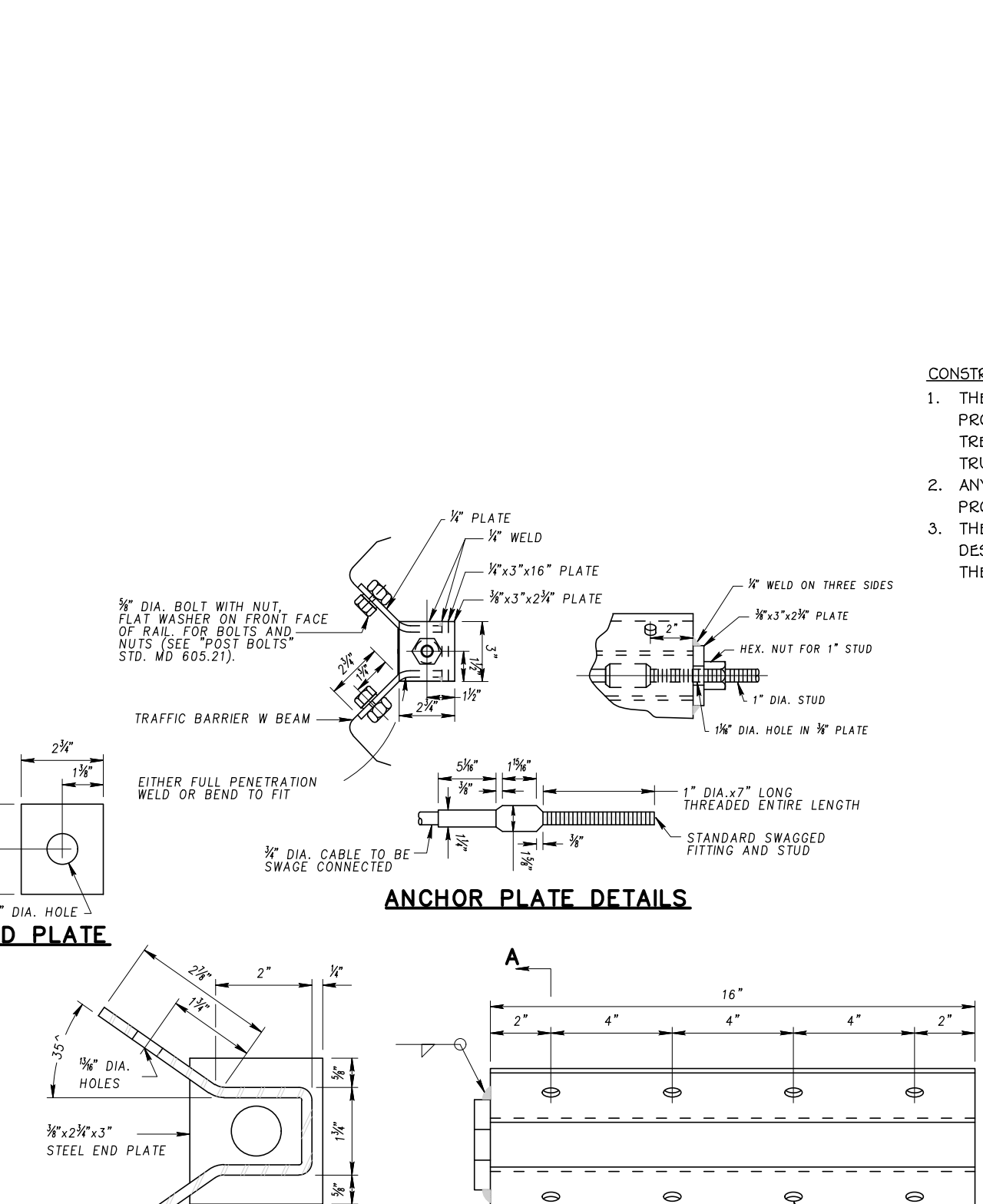
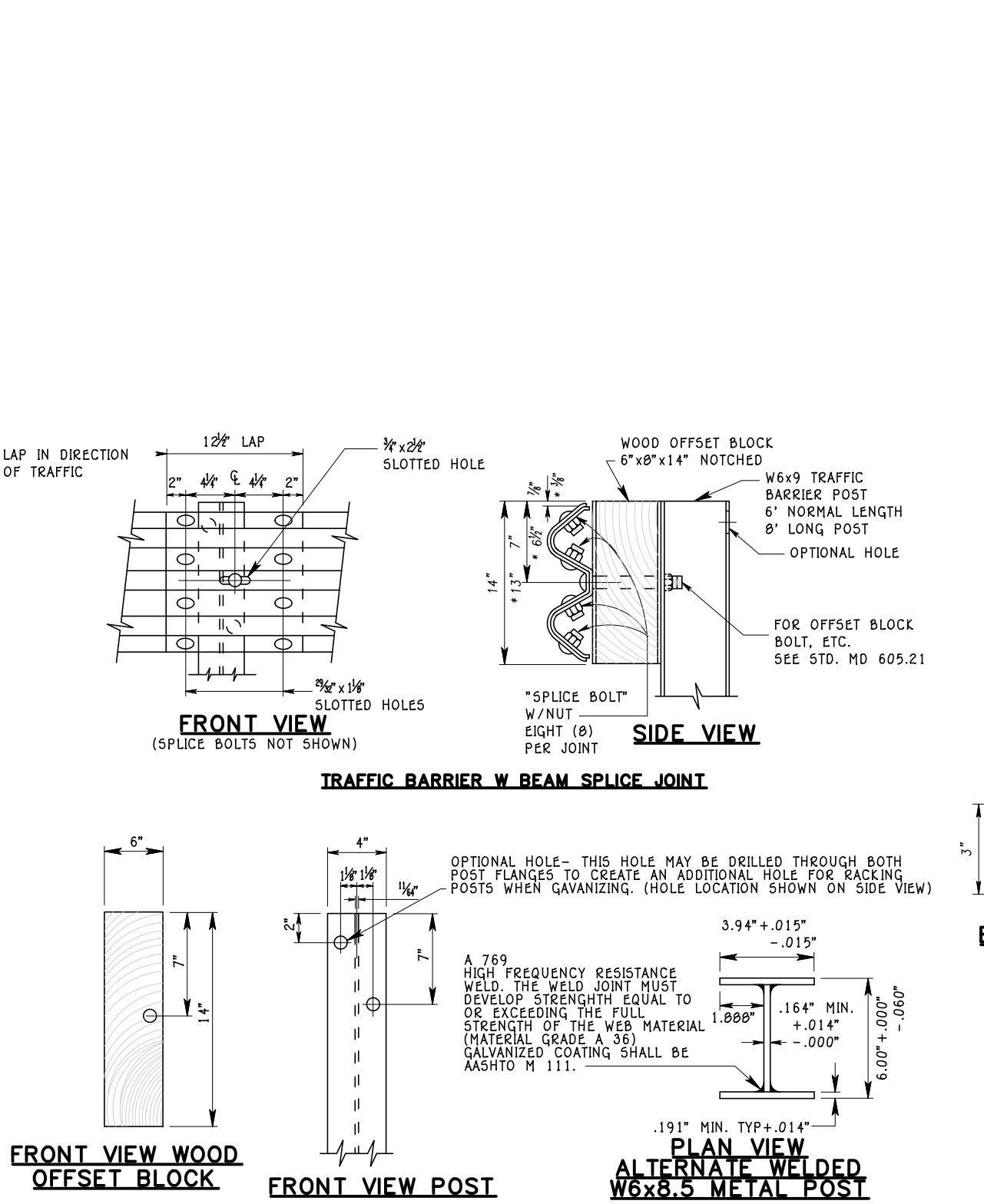
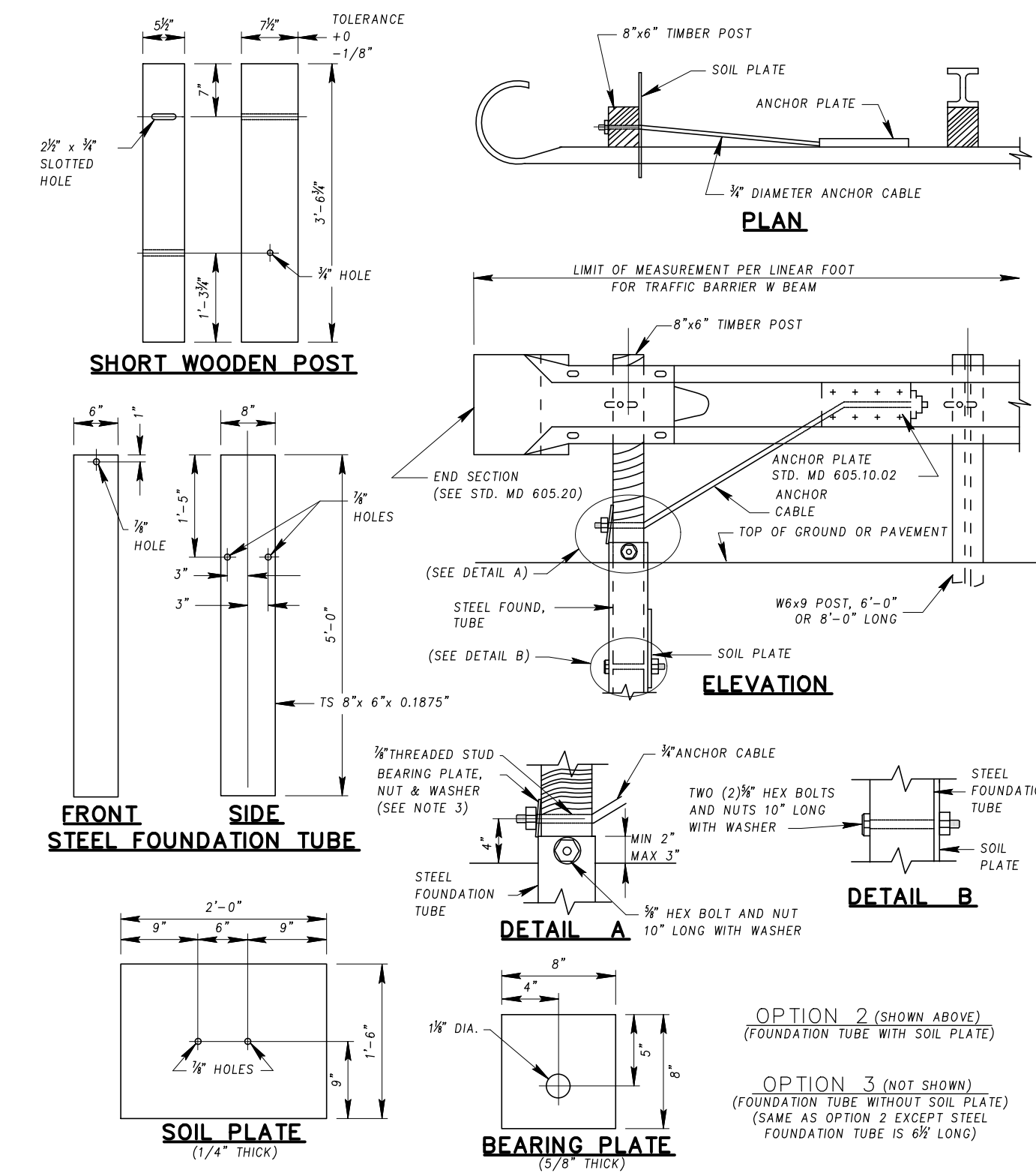
PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

**PLANTING NOTES:**

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND LANDSCAPE MANUAL AND IS TO BE USED FOR PLANTING ONLY. LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THIS PLAN SHEET.
- CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK. ALL GENERAL NOTES FROM SHEET 1, SHALL APPLY.
- FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK, EVEN WHERE PLANT LOCATIONS ARE DIMENSIONED. CONTACT CONSTRUCTION MANAGER IF ANY RELOCATION ARE REQUIRED.
- PLANT QUANTITIES SHOWN ON PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE A.A.N. SPECIFICATIONS, AND BE INSTALLED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED OR MULCHED SHALL BE SEEDED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ALL EXPOSED EARTH WITHIN THE LIMITS OF THE PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER PLANTING DETAILS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF SOIL OR DRAINAGE CONDITIONS ARE ENCOUNTERED WHICH MAY BE DETRIMENTAL TO THE GROWTH OF PLANTS.
- NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR HIS REPRESENTATIVE.
- AT THE TIME OF PLANT INSTALLATION, ALL TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATIONS FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE SITE DEVELOPMENT PLANS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED PERIMETER LANDSCAPING. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL THE OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.



**TYPE 'K' TRAFFIC BARRIER END TREATMENT OPTION 2 & 3 ANCHORAGE**

MD 605.10-01

**NOTES**

- NOTES ON STD. MD 605.10 APPLY TO OPTION 2 & 3.
- IF THE FOUNDATION TUBE AND SOIL PLATE (OPTION 2) ARE DRIVEN INTO THE SOIL, PROPER CARE SHOULD BE TAKEN TO ENSURE THAT THE SOIL PLATE FASTENERS ARE NOT BROKEN DURING THE DRIVING PROCESS.
- SECURE BEARING PLATE WITH 16 PENNY GALVANIZED NAIL TO PREVENT ROTATION OF PLATE.
- SAME AS MD 605.01 NOTE 6

**TRAFFIC BARRIER W BEAM METAL POST, W BEAM SPLICE AND WOOD OFFSET BLOCK**

MD 605.23

**NOTES**

- EXCEPT FOR THE DIMENSIONS SHOWN ON THE ALTERNATE WELDED W6x8.5 PLAN VIEW, ALL DIMENSIONS FOR HOLES, HOLE SPACING, LENGTHS, ETC. WILL REMAIN THE SAME AS THEY ARE FOR THE W6x9 POSTS AND WOOD OFFSET BLOCKS.
- FOR COMPOSITE OFFSET BLOCKS SEE NOTE 5 ON MD 605.21.
- POSTS SHALL BE SPACED 6'-3" C/C, UNLESS OTHERWISE STATED ON THE PLANS OR DIRECTED BY THE ENGINEER.

**TYPE 'K' TRAFFIC BARRIER END TREATMENT ANCHORAGE DETAILS**

MD 605.10-02

**NOTE**

- FOR MOUNTING DETAILS SEE STD. MD 605.10.



**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-1099

**PROFESSIONAL CERTIFICATION**

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

*Paul G. Cavanaugh* 5/23/2024  
PAUL GERALD CAVANAUGH DATE

**DEVELOPER'S / BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

*Antonio Romano* 5/23/2024  
NAME DATE

**OWNER/DEVELOPER**

A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele. (301)-362-0080

**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

**PROJECT**

ROMANO CONSTRUCTION	SECTION/AREA	PARCEL
	N/A	B

**PLAT NOS.** 16329-16332 **BLOCK NO.** N/A **ZONE** M-2 **TAX MAP** 47 **ELEC. DIST.** SIXTH **CENSUS TR.** 601101

**WATER CODE** --- **SEWER CODE** ---

**LANDSCAPE DETAILS AND BUILDING ELEVATIONS**

**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE

ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 8 OF 23  
SCALE: AS SHOWN

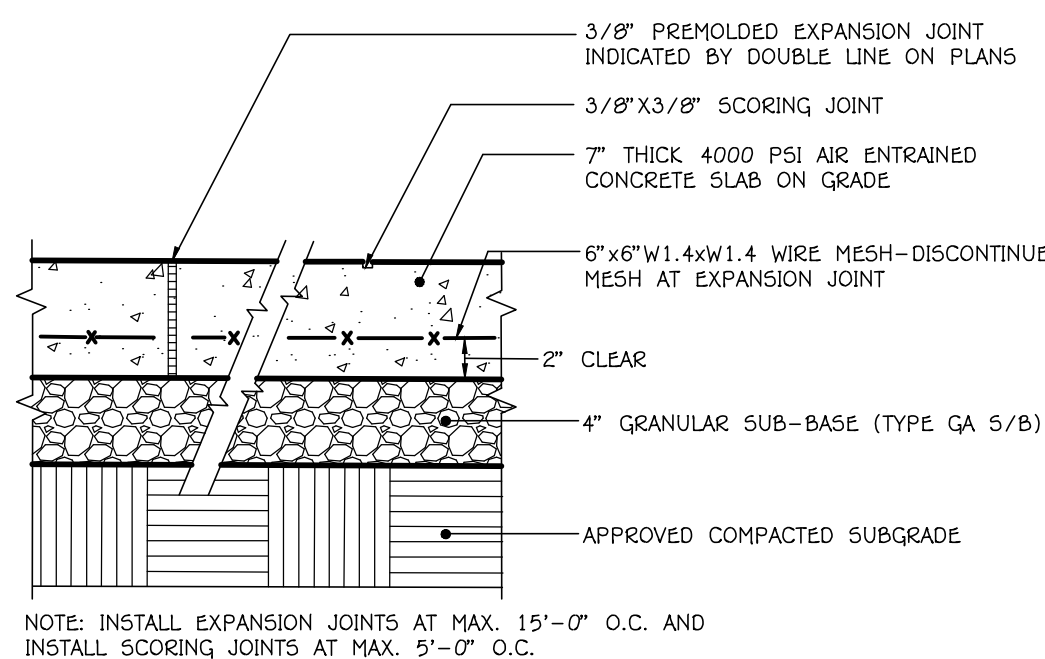
**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

*Lynda Brubaker* 6/11/2024  
Director - Department of Planning and Zoning

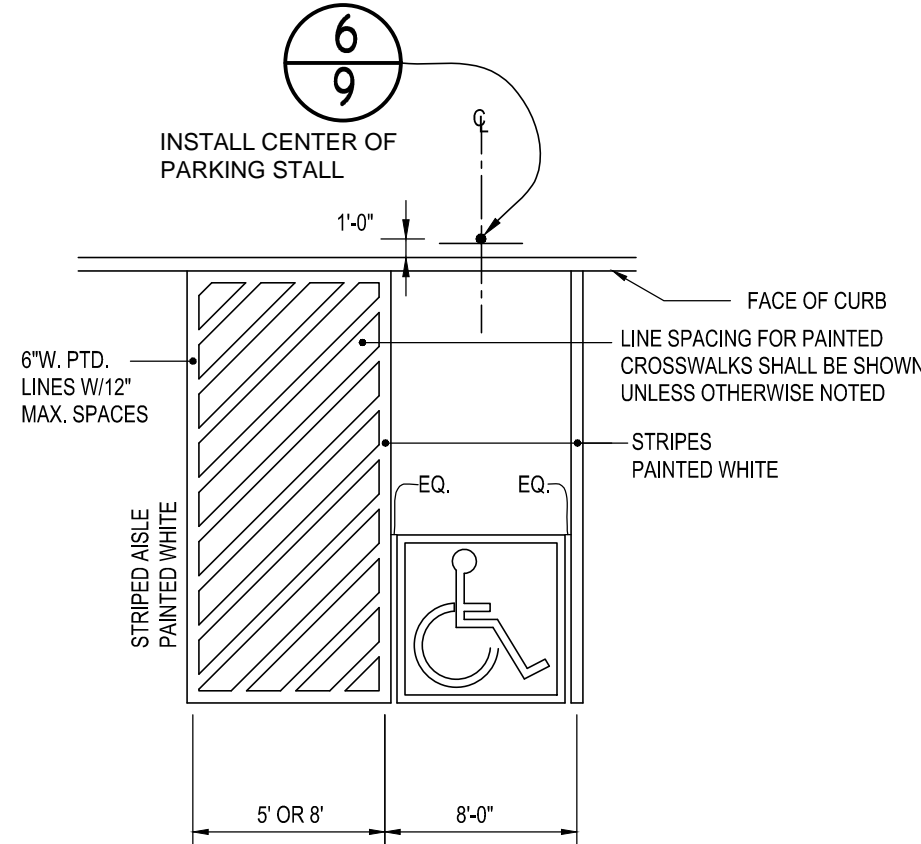
*Chris Edmondson* 6/11/2024  
Chief, Development Engineering Division

STATE OF MARYLAND  
DEPARTMENT OF PLANNING AND ZONING

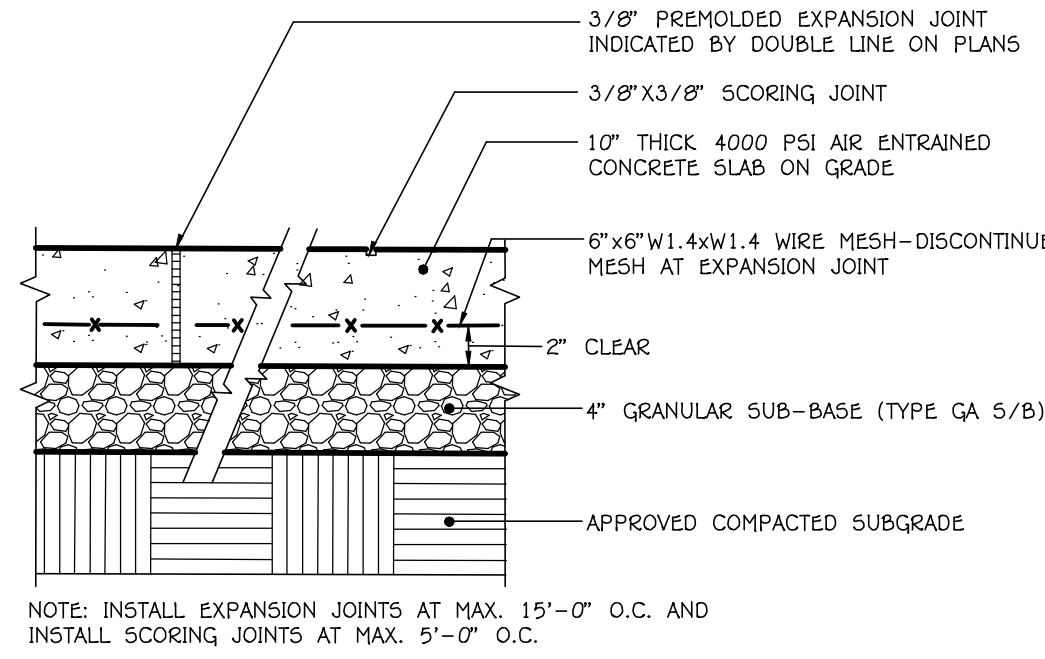




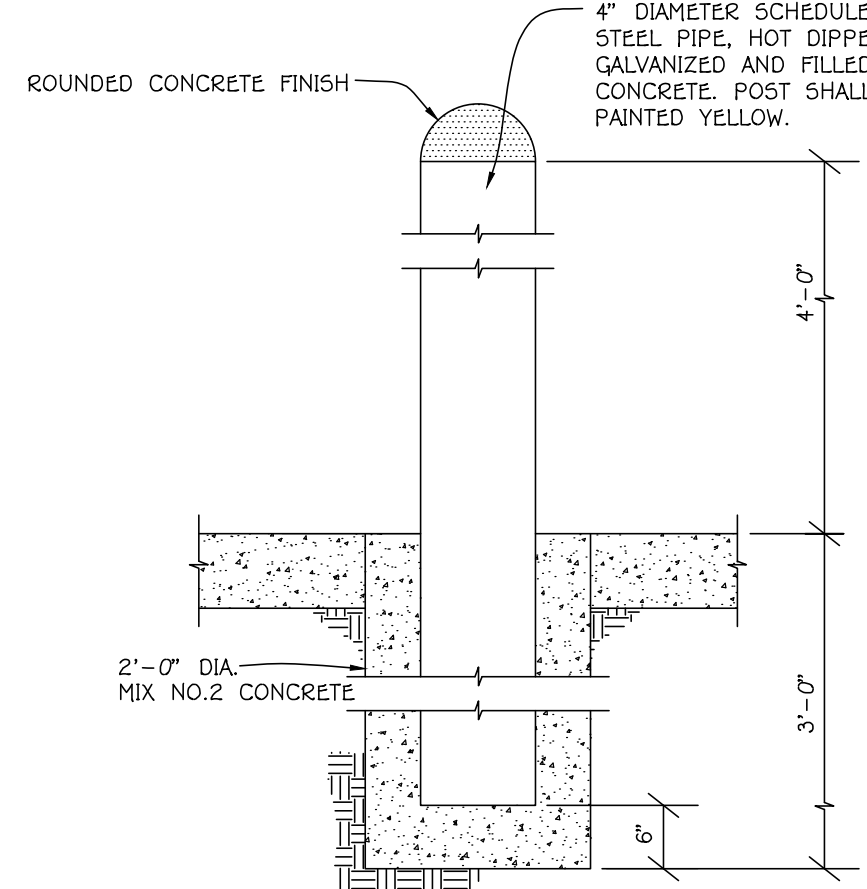
**1**  
**9**  
**CONCRETE WALK DETAIL**  
 HOWARD COUNTY STANDARD DETAIL R-3.05  
 NO SCALE



**5**  
**9**  
**HANDICAP PARKING SPACE LAYOUT**  
 NO SCALE



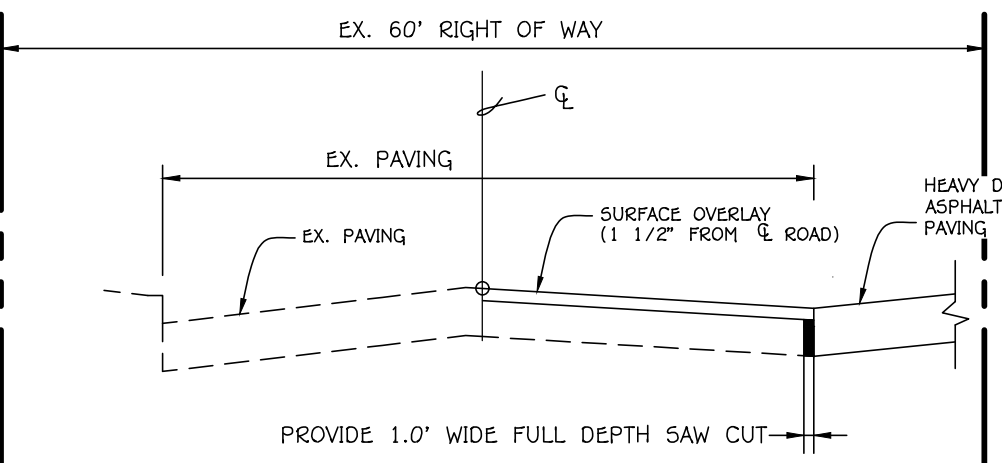
**7**  
**9**  
**HEAVY DUTY CONCRETE PAVING DETAIL**  
 NO SCALE



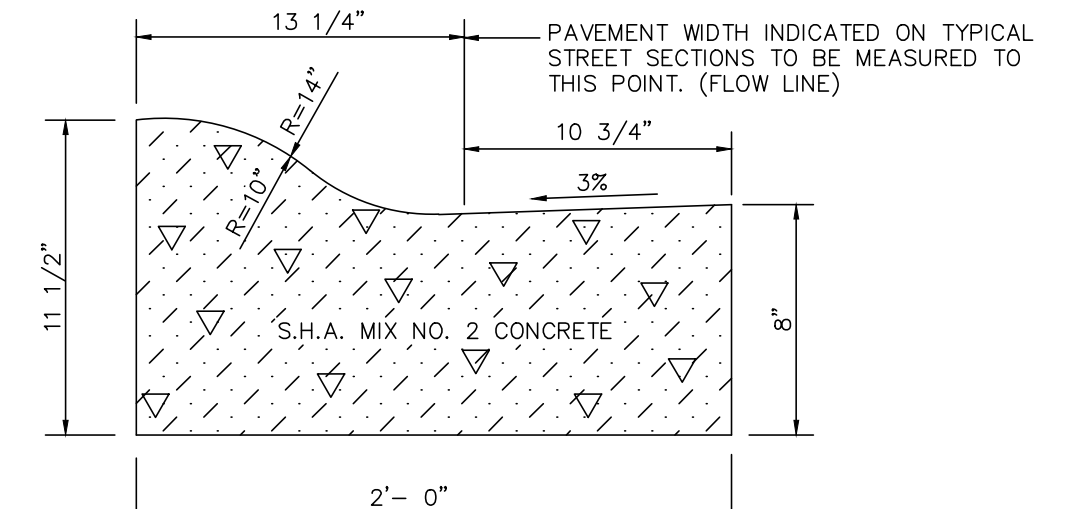
**8**  
**9**  
**BOLLARD DETAIL**  
 HOWARD COUNTY STANDARD DETAIL G-7.42  
 NO SCALE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)						
		3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7	
P-4	MINOR COLLECTORS: NON-RESIDENTIAL MAJOR COLLECTORS	PAVEMENT MATERIAL (INCHES)		MIN HMA WITH GAB		HMA WITH CONSTANT GAB		
		SUPERPAVE ASPHALT MIX FINAL SURFACE 12.5 MM, PG 64-225, LEVEL 2 (LOW ESAL)		2.0	2.0	2.0	2.0	2.0
		SUPERPAVE ASPHALT MIX INTERMEDIATE SURFACE 12.5 MM, PG 64-225, LEVEL 2 (LOW ESAL)		2.0	2.0	2.0	2.0	2.0
		SUPERPAVE ASPHALT MIX BASE 19.0 MM, PG 64-225, LEVEL 2 (LOW ESAL)		4.0	4.0	3.0	6.0	3.0
		GRADED AGGREGATE BASE (GAB)		13.0	7.0	4.0	6.0	6.0

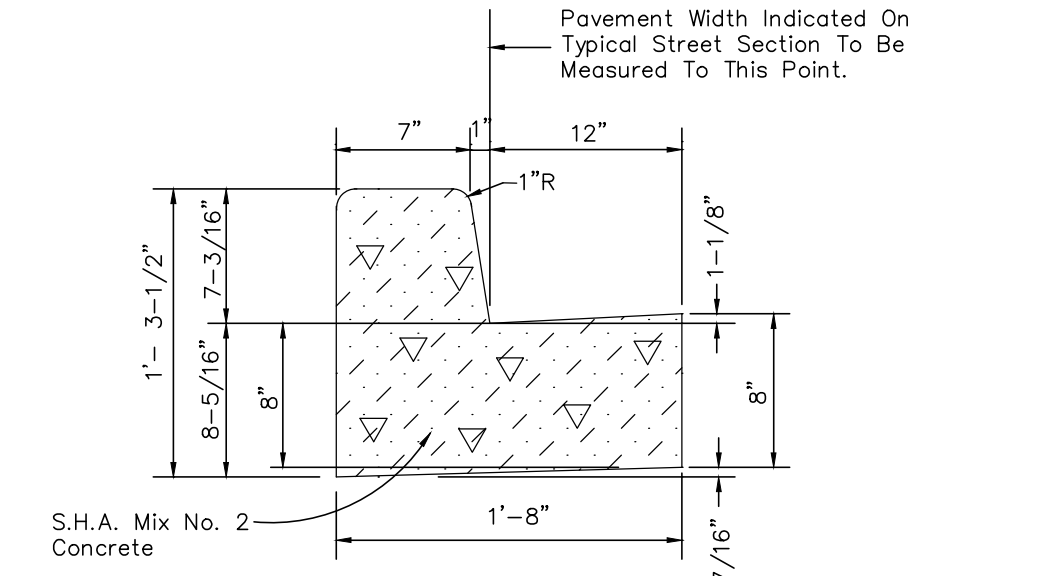
**9**  
**9**  
**PAVING SECTION**  
 HOWARD COUNTY STANDARD DETAIL R-2.01  
 NO SCALE



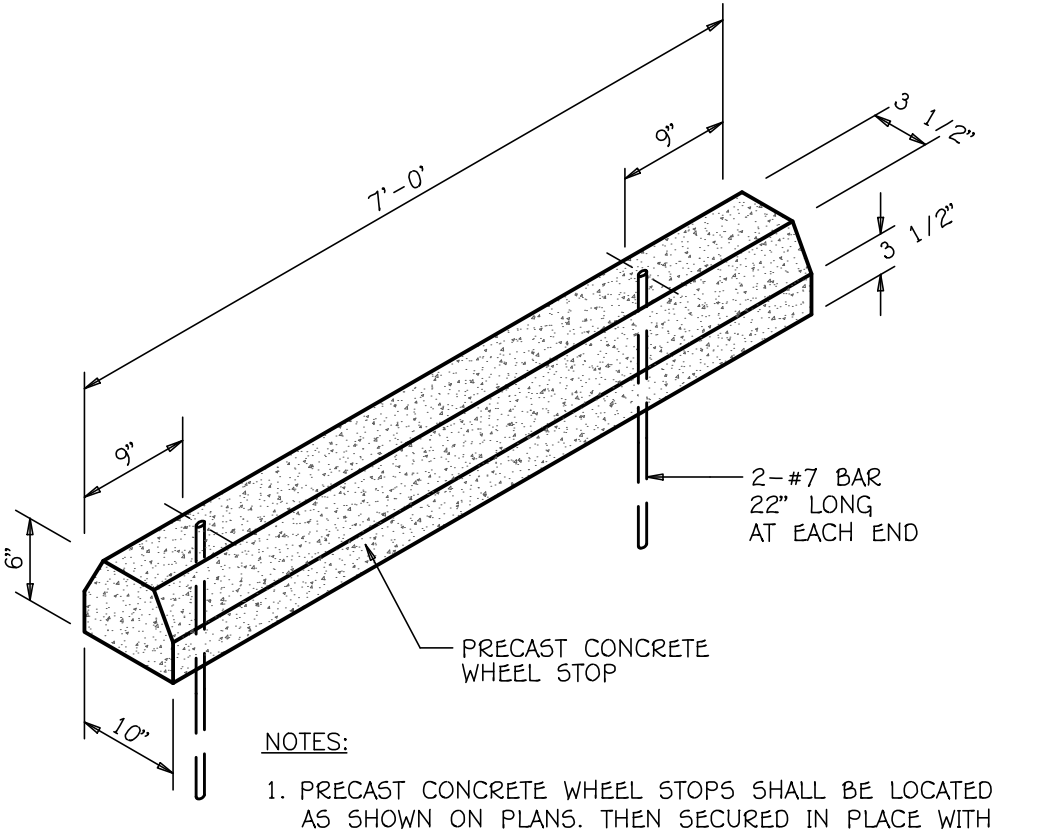
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**9**  
**EXISTING ROADWAY WIDENING STRIP**  
 HOWARD COUNTY STANDARD DETAIL R-1.14  
 NO SCALE



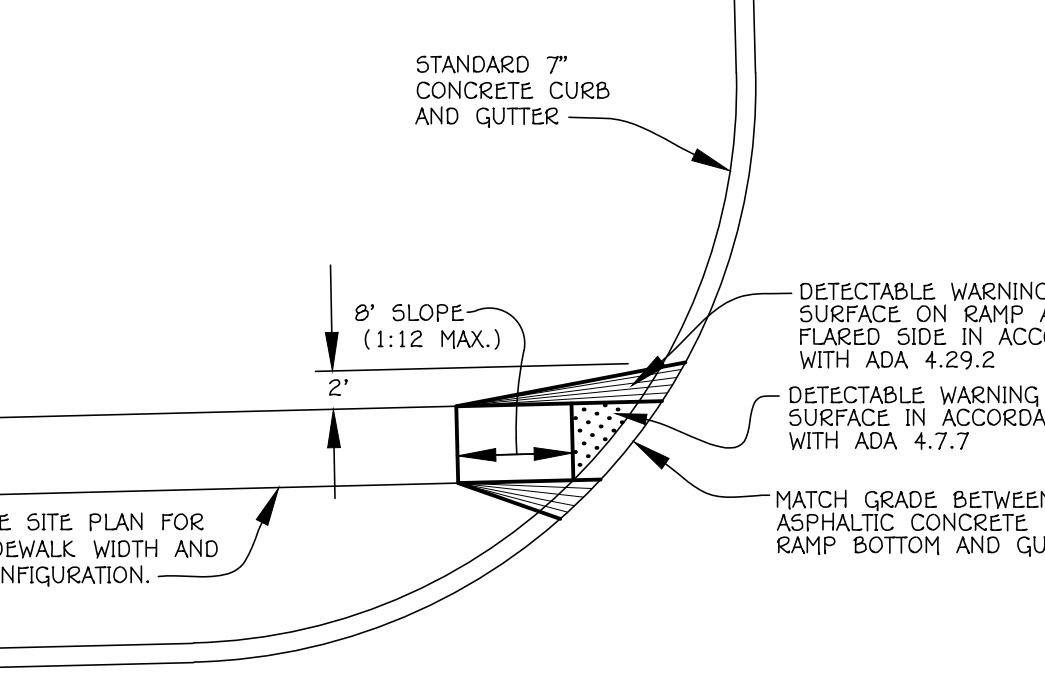
**11**  
**9**  
**MODIFIED COMBINATION CURB AND GUTTER**  
 NO SCALE



**2**  
**9**  
**STANDARD 7" COMB. CONC. CURB AND GUTTER**  
 HOWARD COUNTY STANDARD DETAIL R-3.01  
 NO SCALE



**3**  
**9**  
**WHEEL STOP DETAIL**  
 MSHA STANDARD DETAIL MD-534.04  
 NO SCALE



**4**  
**9**  
**SIDEWALK RAMP PERPENDICULAR TO CURB DETAIL**  
 HOWARD COUNTY STANDARD DETAIL R-4.05  
 NO SCALE

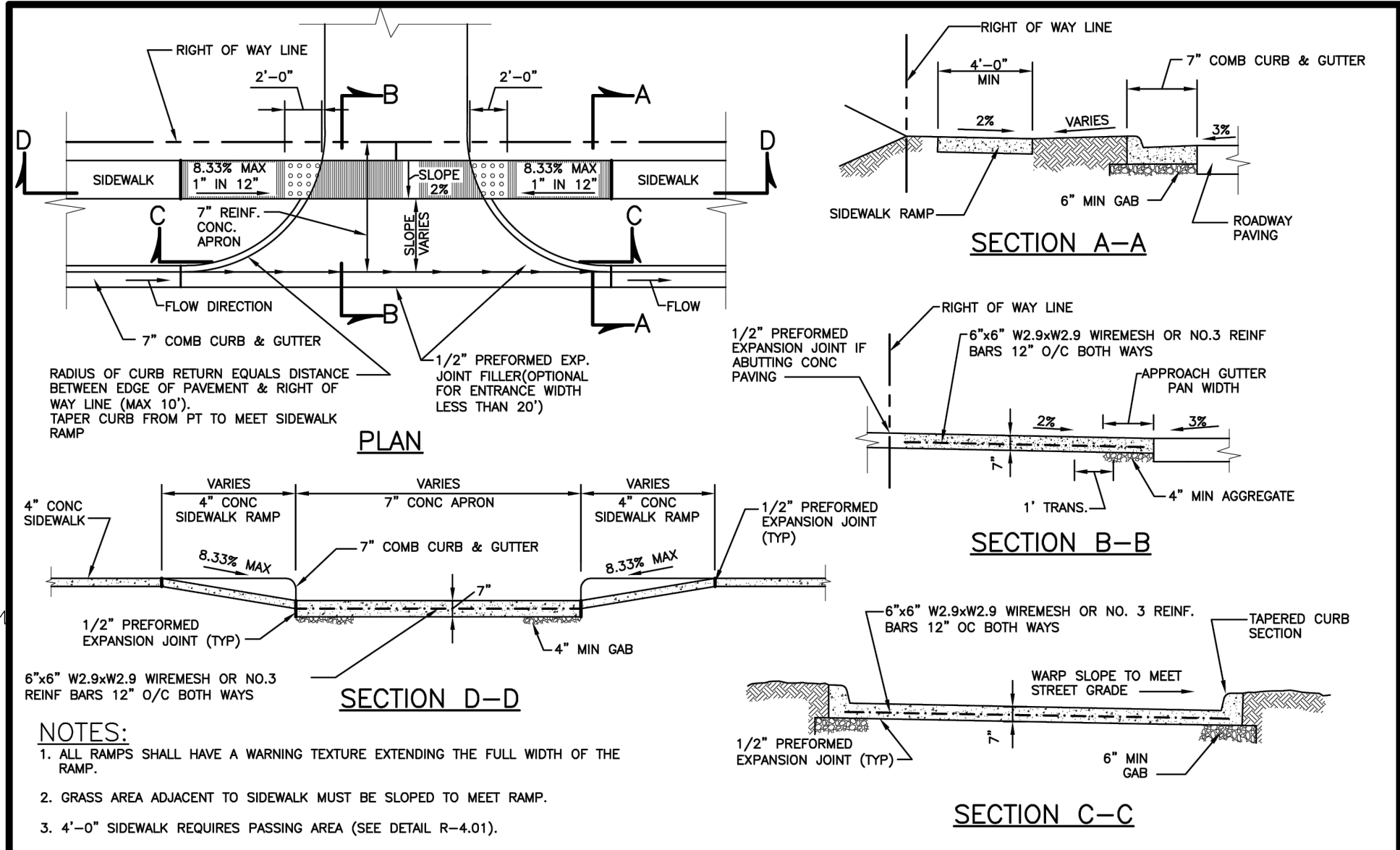


**6**  
**9**  
**HANDICAP PARKING SIGN DETAIL**  
 NOT TO SCALE



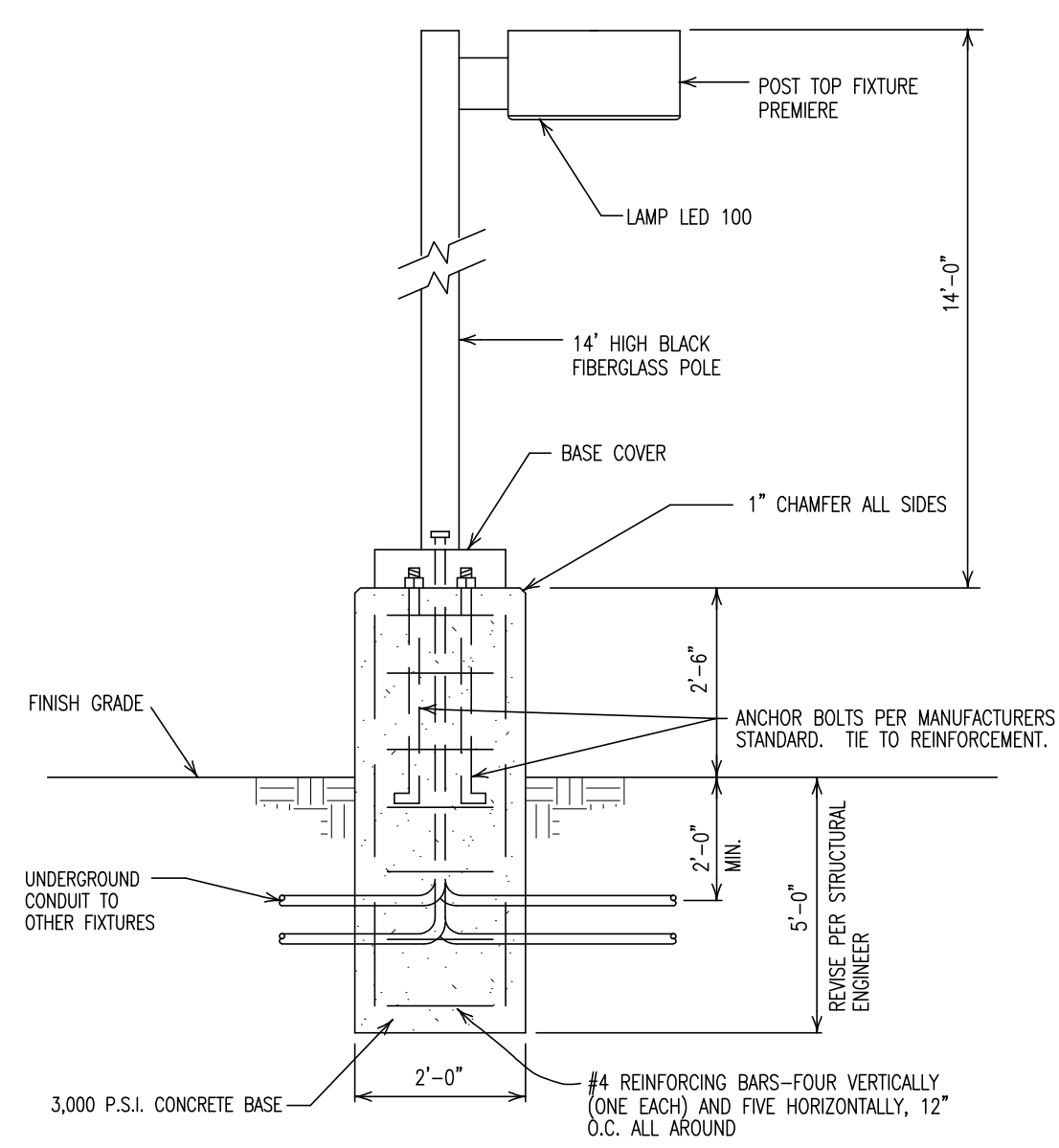
**12**  
**9**  
**NO PARKING SIGN DETAIL**  
 NOT TO SCALE

**13**  
**9**  
**"STOP" SIGN DETAIL**  
 NOT TO SCALE



Howard County, Maryland  
 Department of Public Works  
 COMMERCIAL-INDUSTRIAL-APARTMENT  
 Entrance Concrete Apron  
 Detail R-6.07

**14**  
**9**  
**COMMERCIAL ENTRANCE DETAIL**  
 NOTE: RADIUS OF ENTRANCE CURB RETURNS SHALL BE 25'.  
 NO SCALE



**15**  
**9**  
**LIGHTING FIXTURE**  
 NO SCALE

- GENERAL NOTES:  
 1. SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.  
 2. ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE IMPROVEMENT PLAN.  
 3. SIGNS SHALL BE POLE MOUNTED WITH HOT DIPPED GALVANIZED COUNTY APPROVED PERFORATED CHANNEL POSTS W/TOP OF SIGNS 9'-1" ABOVE FINISHED GRADE OR AS INDICATED ON SITE DRAWINGS.  
 4. SIGN SHALL BE ATTACHED TO FLANGED SIDE OF POST. POST SHALL EXTEND INTO GROUND 2'-6" MIN.  
 5. COLORS: LEGEND AND BORDER-GREEN SYMBOL-WHITE ON BLUE BACKGROUND BACKGROUND-WHITE  
 6. CONTRACTOR SHALL COORDINATE ARROW DIRECTION WITH LOCATION OF ADJACENT AISLE.  
 7. SPACES INDICATED ON SITE DEVELOPMENT PLANS AS "VAN ACCESSIBLE" SHALL BE SIGNED ACCORDINGLY.

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2000

**PROFESSIONAL CERTIFICATION**  
 "PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."  
 Paul G. Cavanaugh  
 PAUL GERALD CAVANAUGH  
 5/23/2024  
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Director - Department of Planning and Zoning  
 Chief, Division of Land Development  
 Chief, Development Engineering Division

6/11/2024  
 Date  
 6/5/2024  
 Date  
 6/11/2024  
 Date

**OWNER/DEVELOPER**  
 A.J. ROMANO CONSTRUCTION INC.  
 8970 MAIER PLACE  
 LAUREL, MARYLAND 20723  
 Attn: ANTONIO ROMANO, PRESIDENT  
 Tele. (301)-362-0080

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 License No. 27020

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

PROJECT	SECTION/AREA	PARCEL
ROMANO CONSTRUCTION	N/A	B

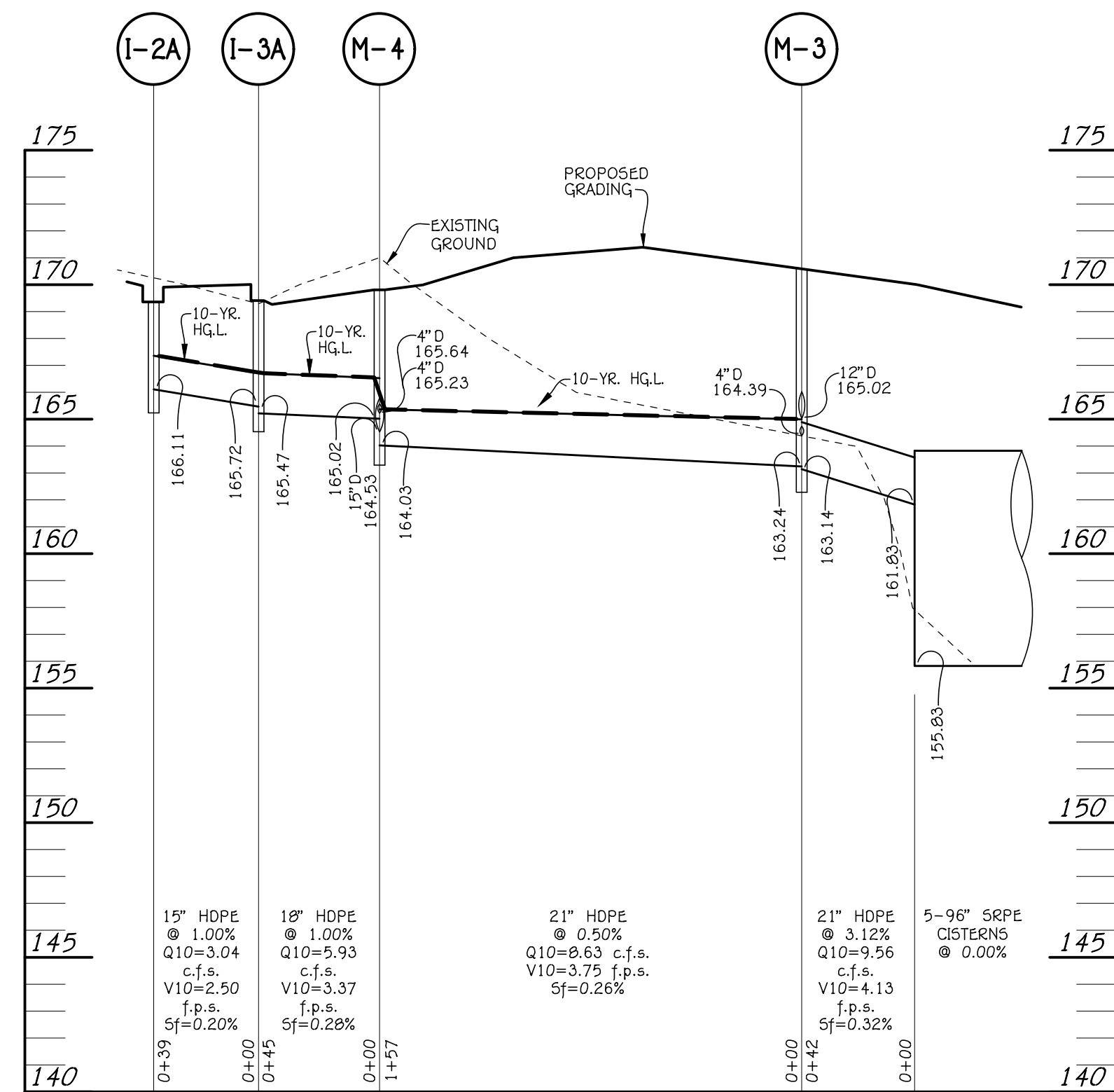
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
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WATER CODE: --- SEWER CODE: ---

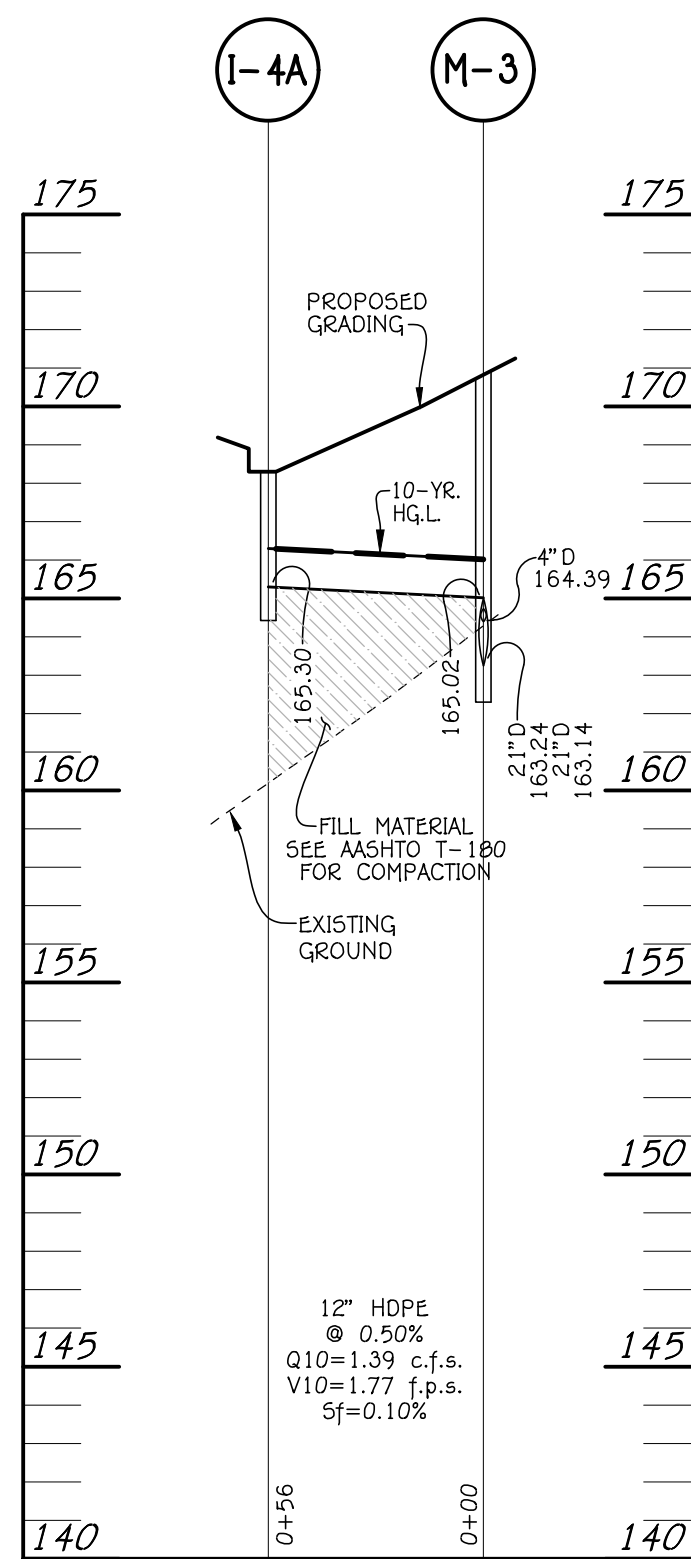
**SITE DETAILS**

**ROMANO CONSTRUCTION**  
 A.C. MILLER PROPERTY  
 PARCEL 'B'  
 OFFICE AND WAREHOUSE USE  
 ZONED: M-2  
 TAX MAP: 47 GRID: 23 PARCEL: 540  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: APRIL, 2024  
 SHEET 9 OF 23  
 SCALE: AS SHOWN

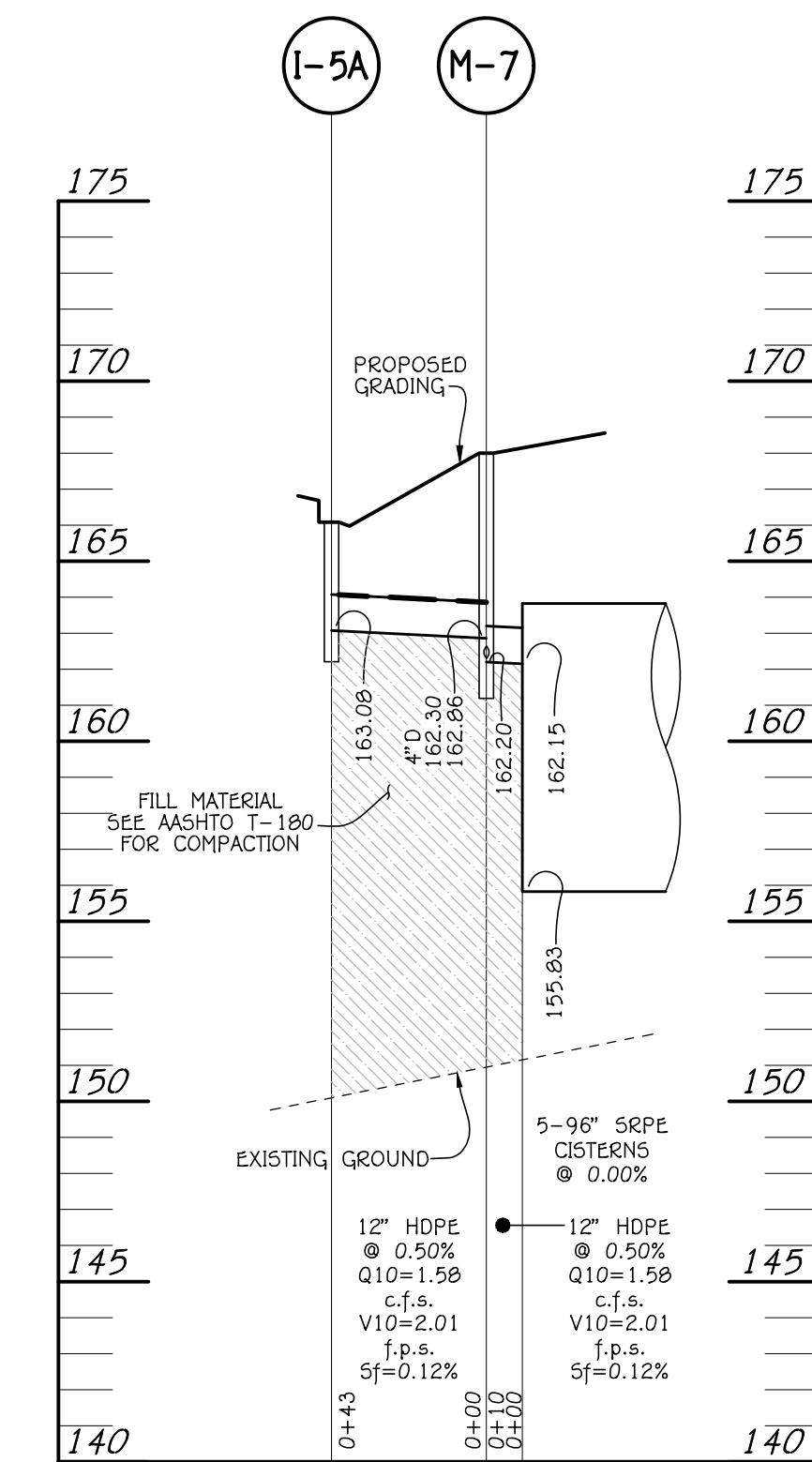




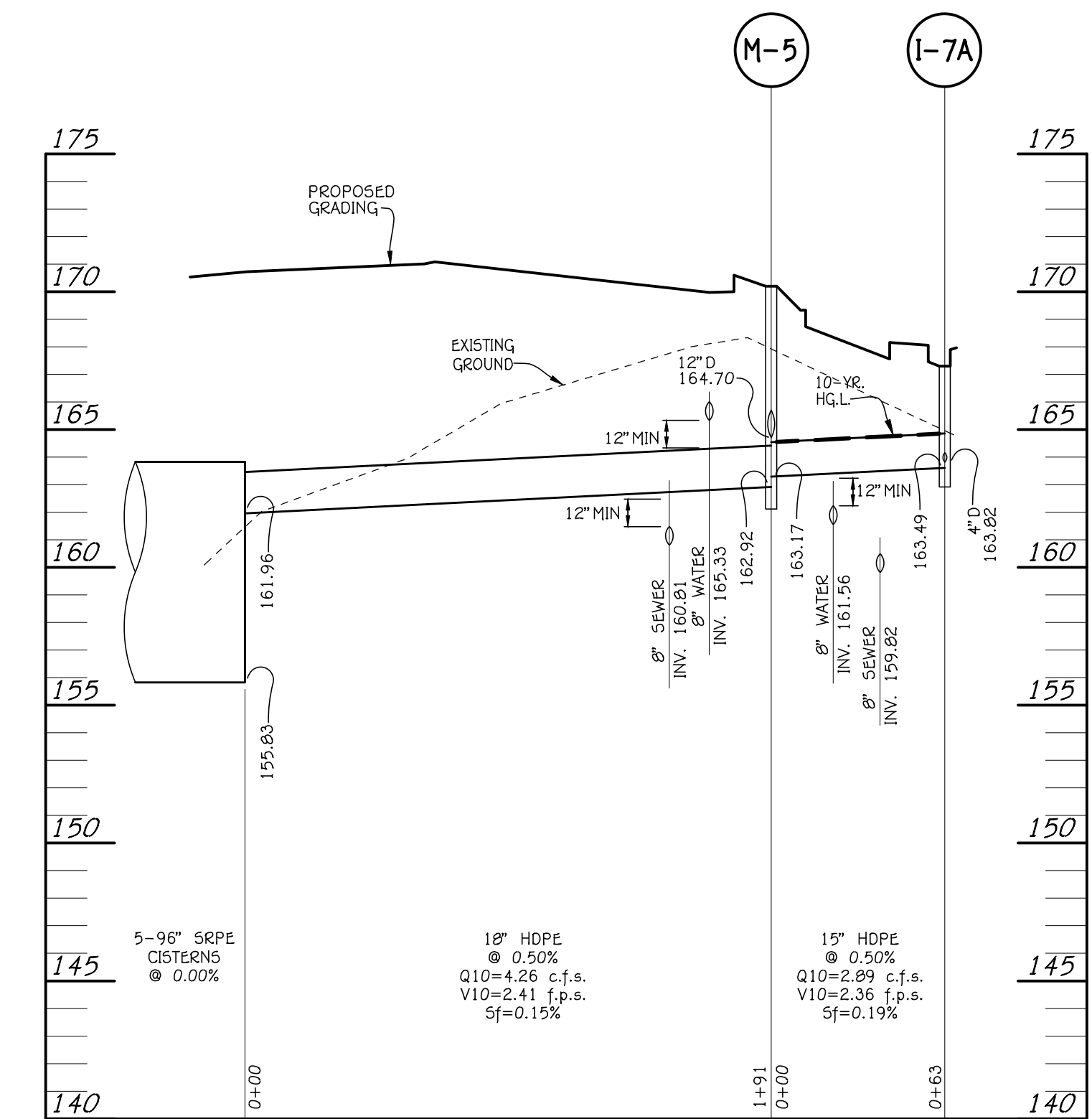
**STORM DRAIN PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



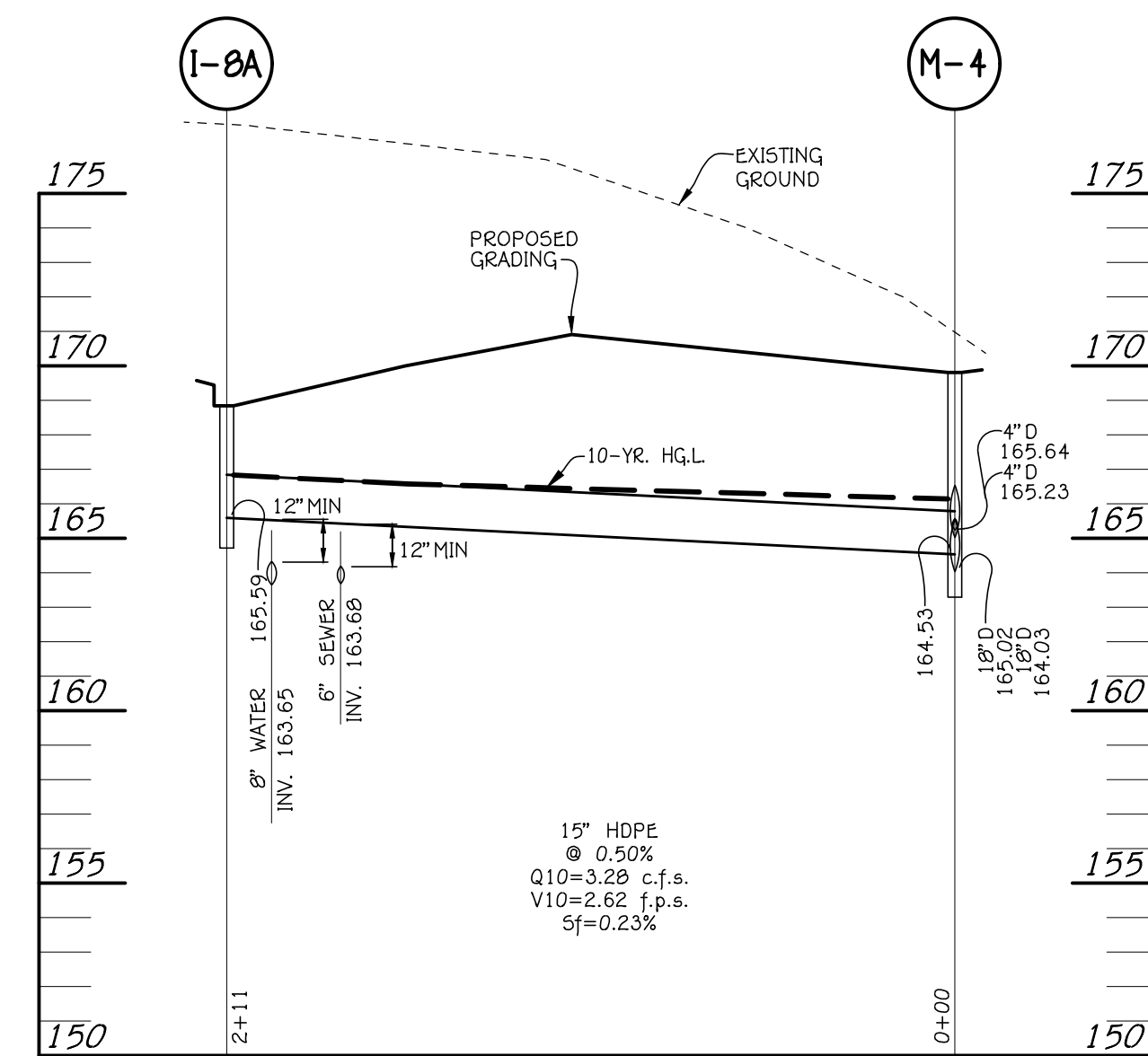
**STORM DRAIN PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



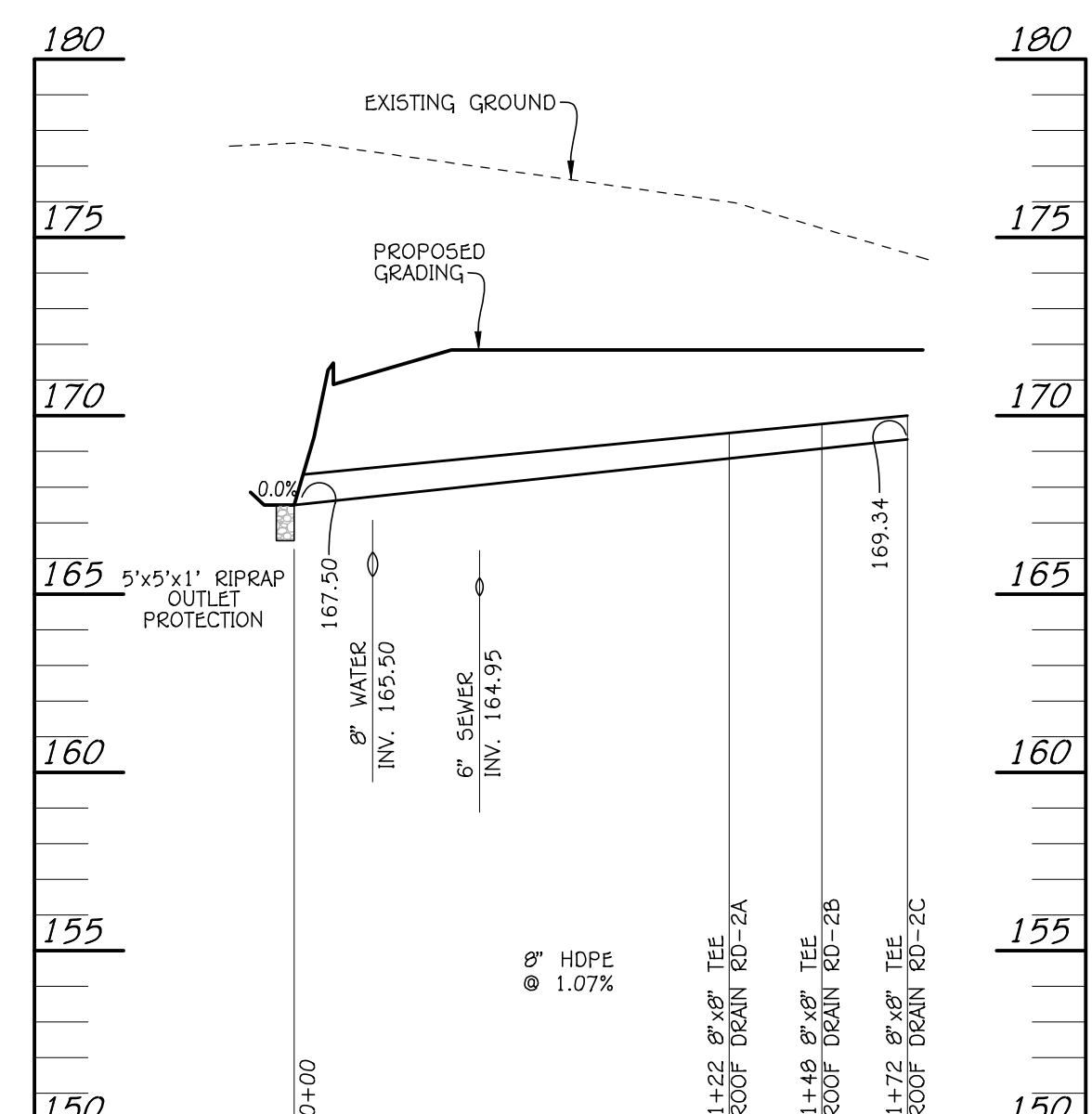
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SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



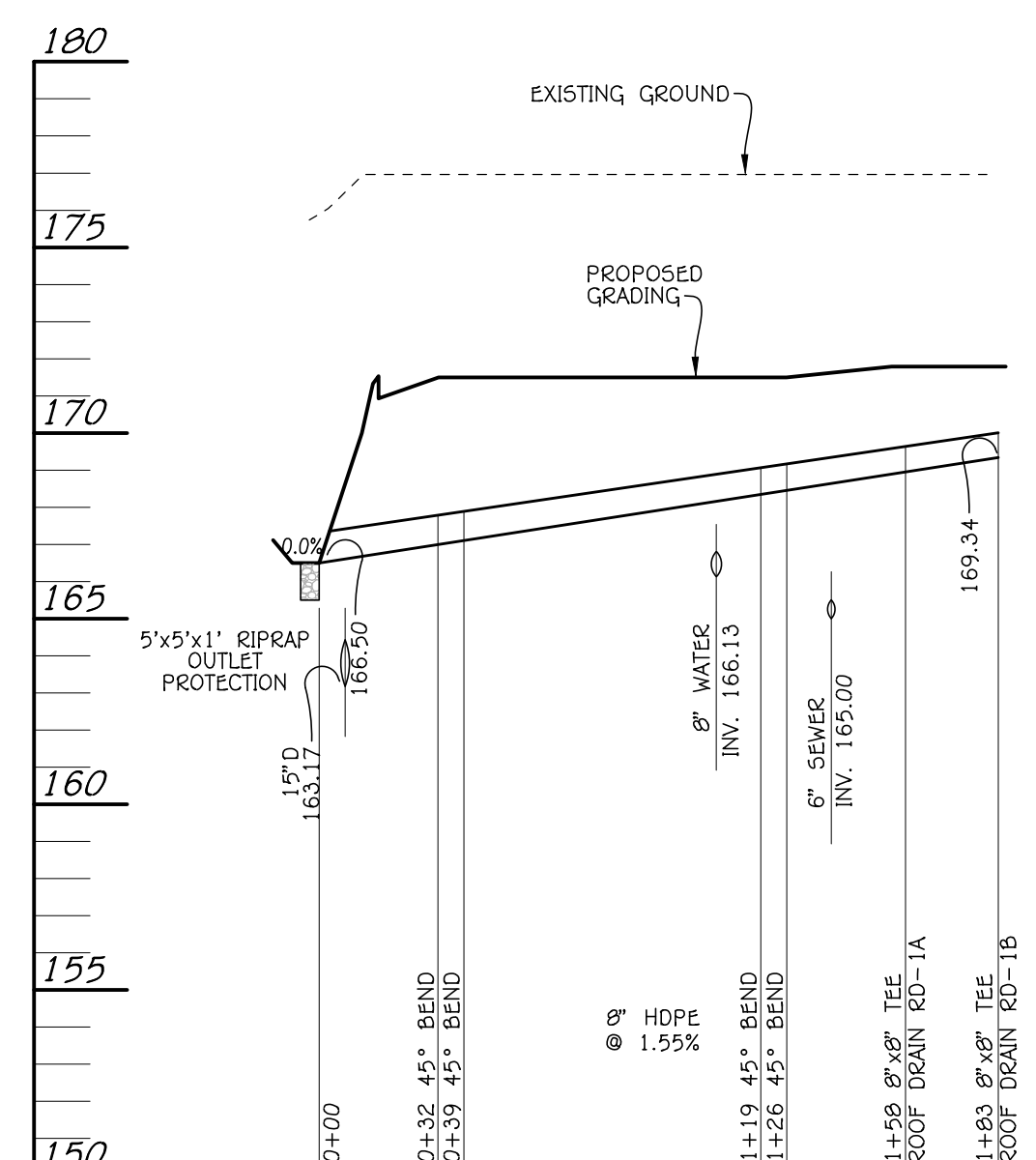
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SCALE: HORIZ. : 1" = 50'  
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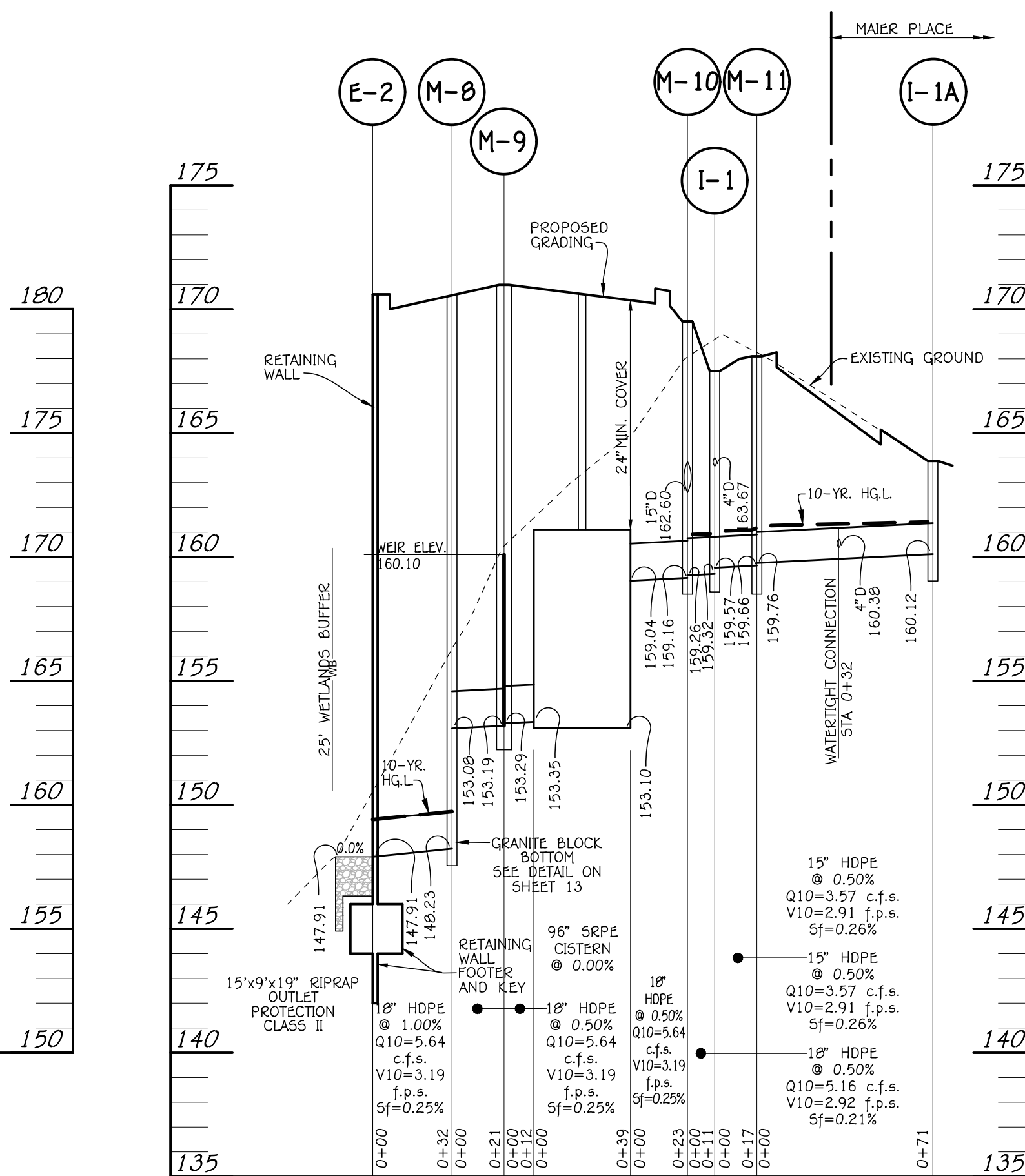
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SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



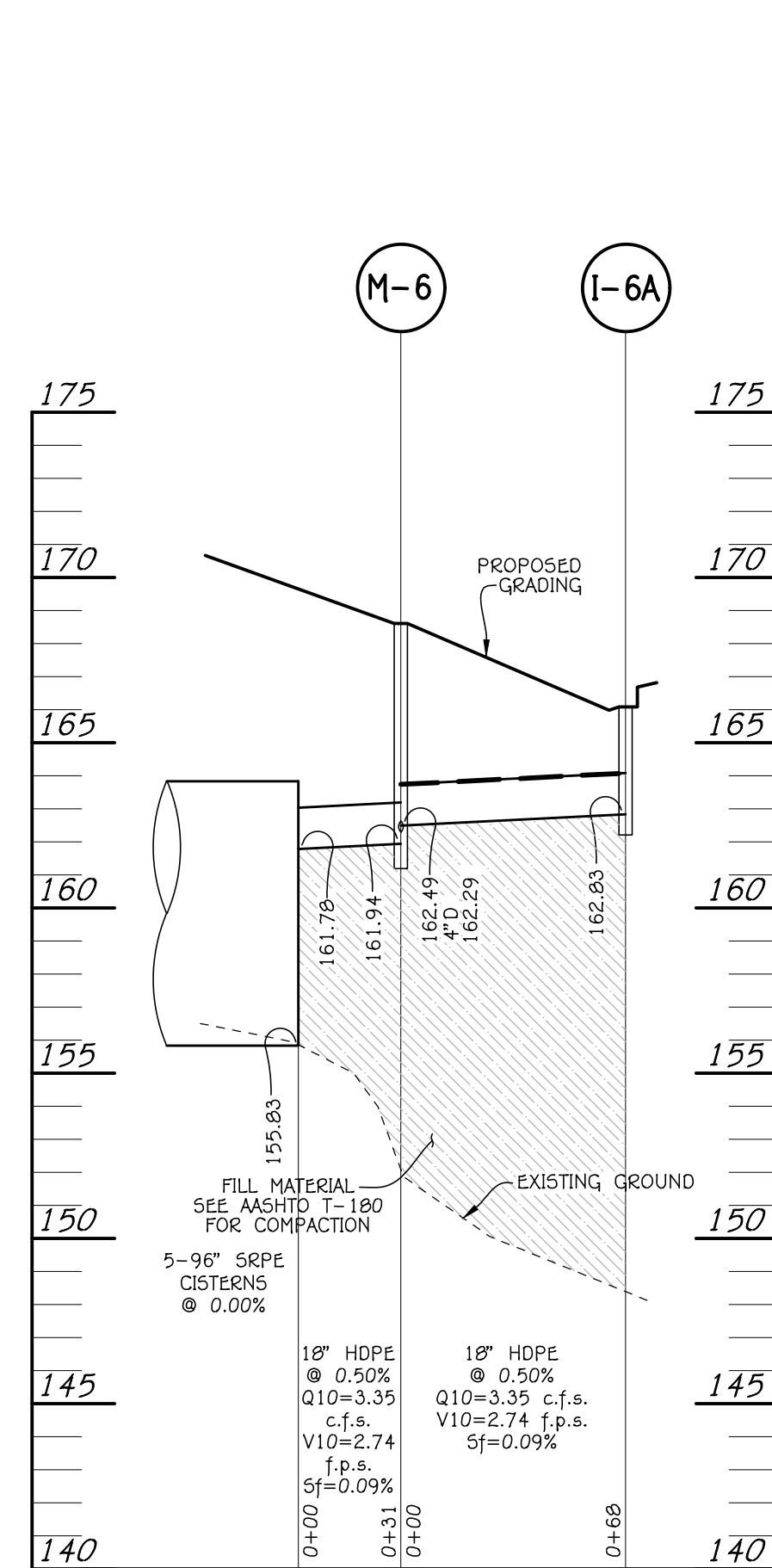
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SCALE: HORIZ. : 1" = 50'  
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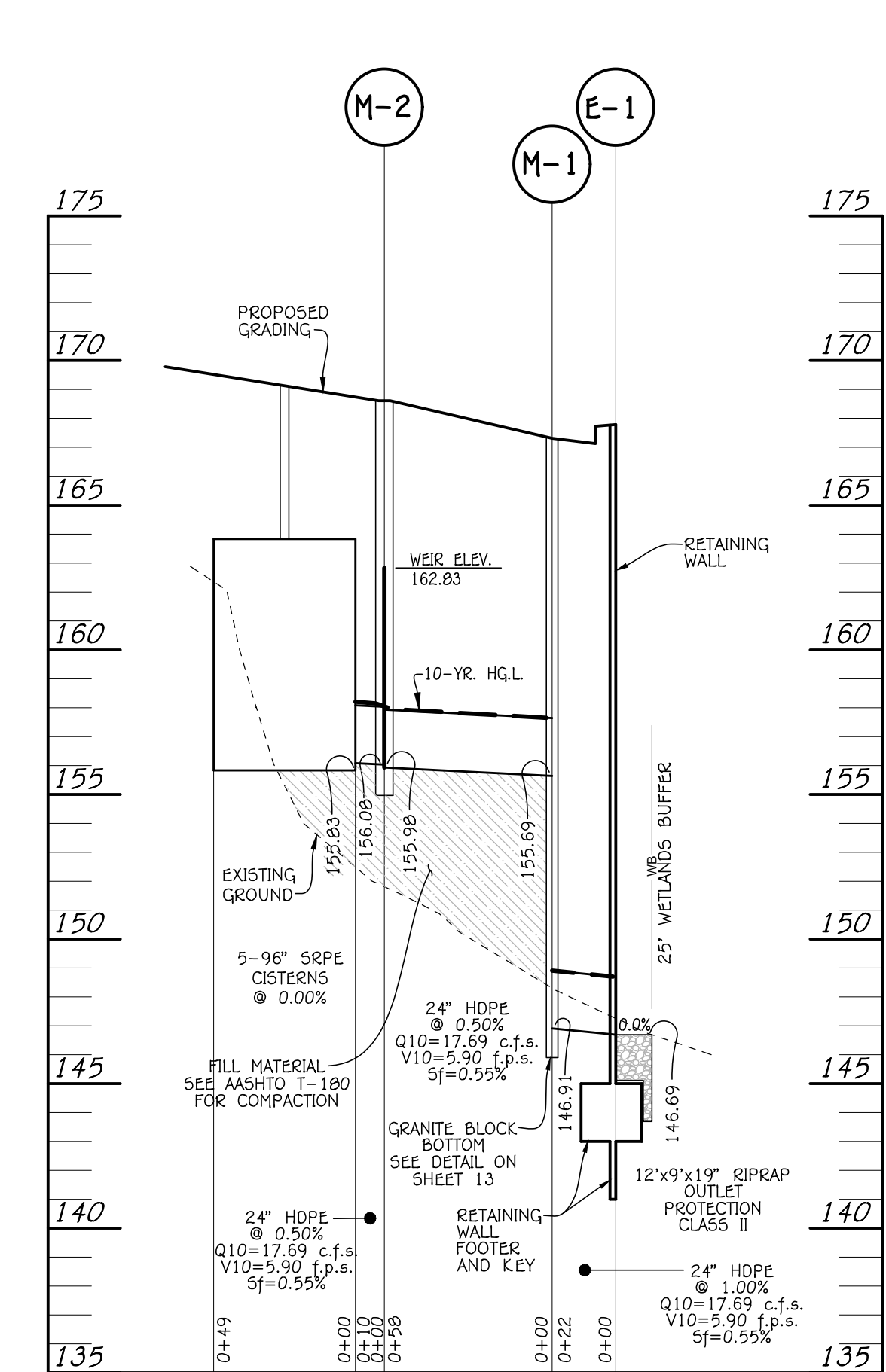
**STORM DRAIN PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



**STORM DRAIN PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



**STORM DRAIN PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'



**STORM DRAIN PROFILE**  
SCALE: HORIZ. : 1" = 50'  
VERT. : 1" = 5'

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Paul G. Cavanaugh  
PAUL GERALD CAVANAUGH  
DATE: 5/23/2024

DATE	DESCRIPTION	REVISION BLOCK
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING	
6/5/2024	Director - Department of Planning and Zoning	
6/11/2024	Chief, Division of Land Development	
	Chief, Department of Engineering Division	

**OWNER/DEVELOPER**  
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Attn: ANTONIO ROMANO, PRESIDENT  
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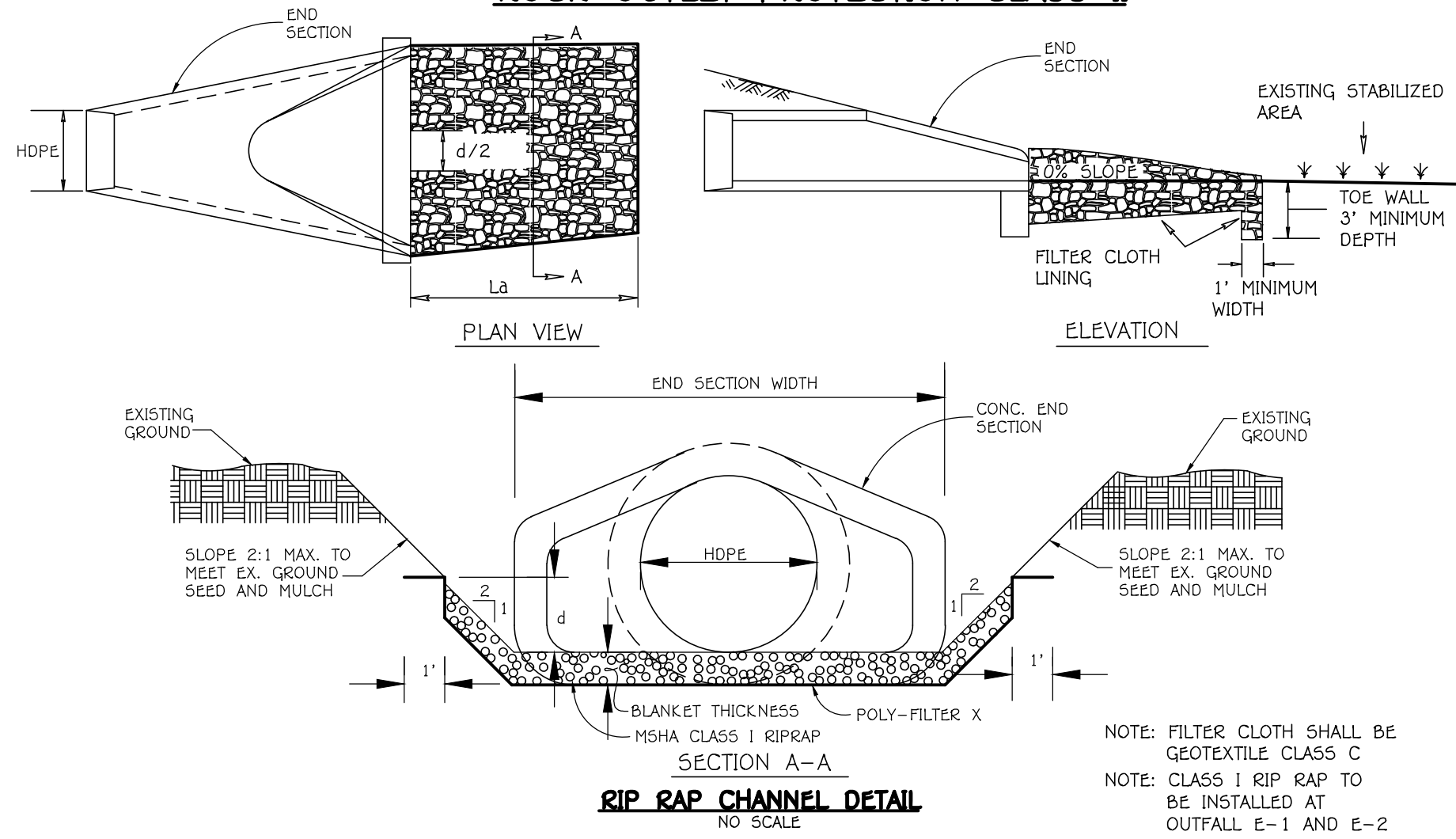
ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725
PROJECT	SECTION/AREA
ROMANO CONSTRUCTION	N/A
PLAT NOS.	BLOCK NO.
16329-16332	N/A
ZONE	TAX MAP
M-2	47
ELEC. DIST.	CENSUS TR.
SIXTH	601101
WATER CODE	SEWER CODE
---	---

**STORM DRAIN PROFILES**  
**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE  
ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 10 OF 23  
SCALE: AS SHOWN



RIPRAP OUTFALL TABLE				
STR. NO.	APRON LENGTH (L <sub>a</sub> )	APRON WIDTH	APRON THICKNESS	MAX. STONE DIAMETER
E-1	12'	9'	19"	9.5"
E-2	15'	9'	19"	9.5"

**ROCK OUTLET PROTECTION CLASS II**



**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**

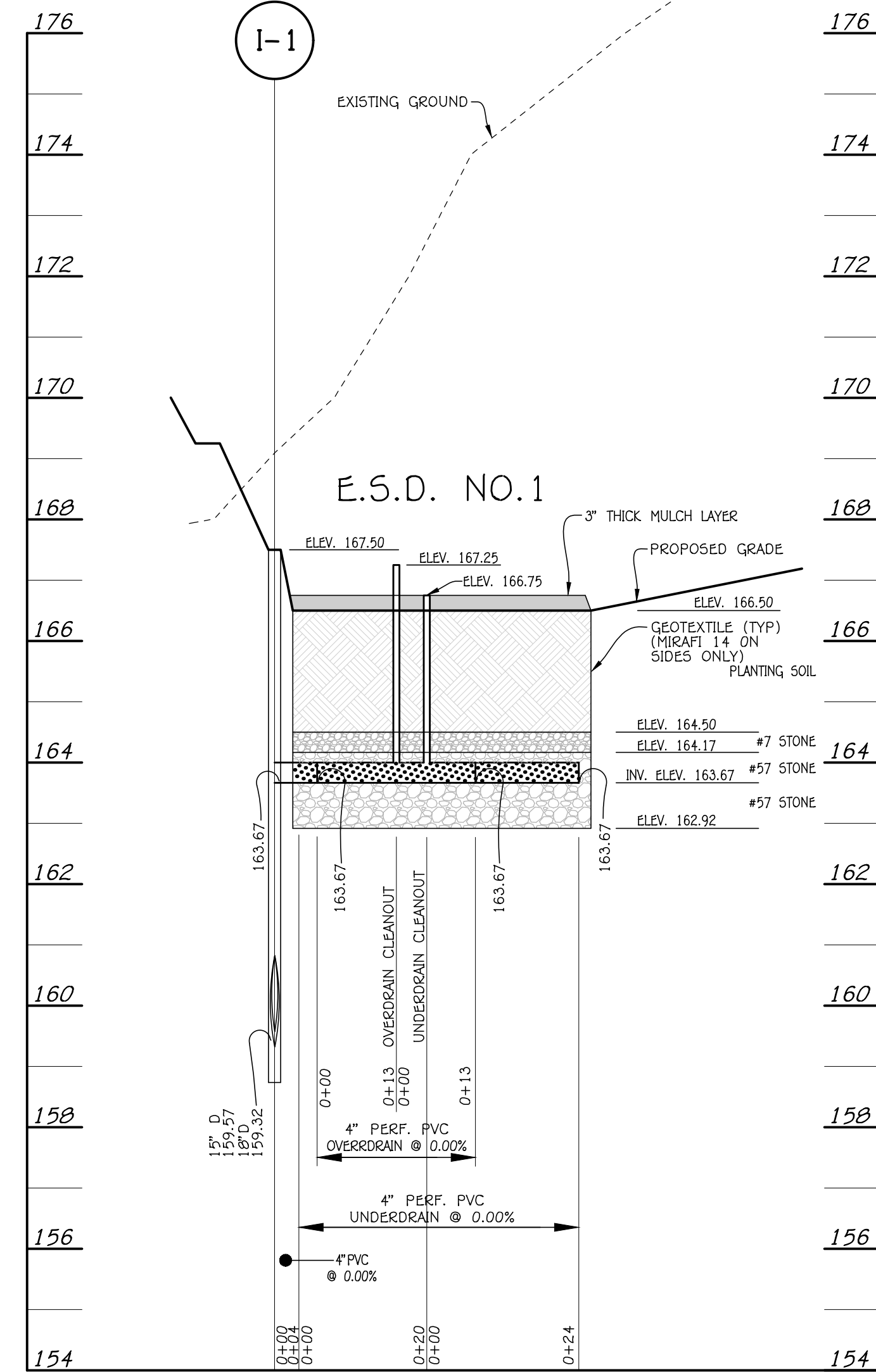
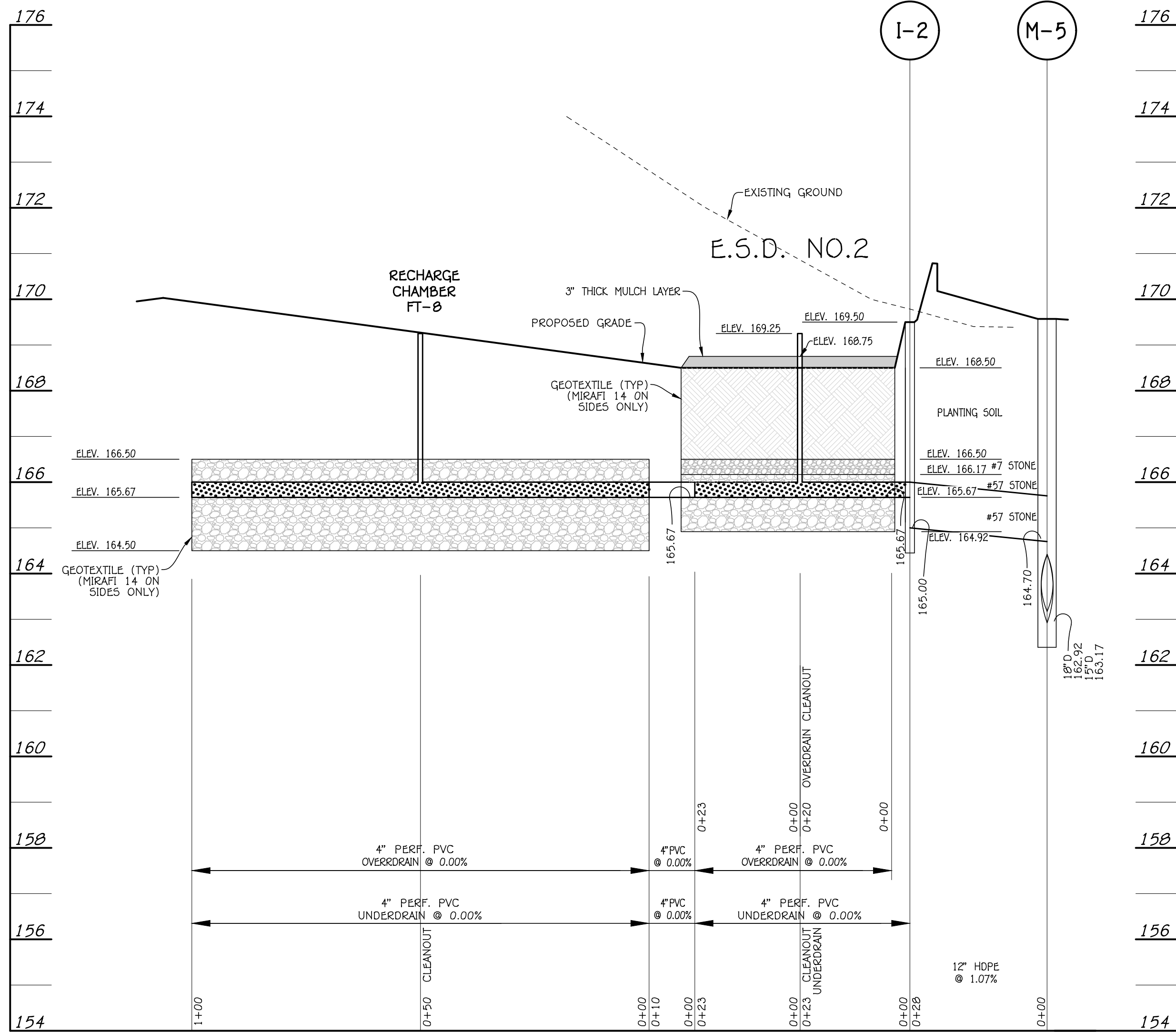
- THE SUBGRADE FOR THE FILTER, RIPRAP OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIPRAP OR FILTER.
- FILTER CLOTH SHALL BE PROTECTED FROM PUNCHING, CUTTING OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF CLOTH OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE CLOTH. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF CLOTH SHALL BE A MINIMUM OF ONE FOOT.
- STONE FOR THE RIPRAP OR GABION OUTFALLS MAY BE PLACED BY EQUIPMENT. BOTH SHALL EACH BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIPRAP OR GABION OUTFALLS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIPRAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR FILTER CLOTH. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.

STRUCTURE SCHEDULE								
STRUCTURE NO.	OWNERSHIP AND MAINTENANCE	TOP ELEVATION	INV. IN	INV. OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	PRIVATE	167.50 *	163.67 (12") 159.57 (15')	159.32 (18")	N 529,866.49 E 1,362,379.39	2.58'	5 INLET W/ RET. GRATE	D-4.24 & D-4.34
I-2	PRIVATE	169.50 *	165.67 (4")	165.00 (12")	N 529,626.68 E 1,362,711.63	2.58'	5 INLET W/ RET. GRATE	D-4.24 & D-4.34
I-3	PRIVATE	168.50 *	164.67 (4")	163.75 (15')	N 529,811.46 E 1,362,469.82	2.58'	5 INLET W/ RET. GRATE	D-4.24 & D-4.34
I-1A	PRIVATE	163.87	-	160.12 (15')	N 529,880.99 E 1,362,304.15	2.5'	A-10 INLET	D - 4.03
I-2A	PRIVATE	169.36 *	-	166.11 (15')	N 529,976.96 E 1,362,692.13	2.58'	"5" INLET	D-4.24 & D-4.27
I-3A	PRIVATE	169.41 *	165.72 (15')	165.47 (18")	N 529,951.31 E 1,362,721.81	2.58'	"5" INLET	D-4.24 & D-4.27
I-4A	PRIVATE	168.30 *	-	165.30 (12")	N 529,866.93 E 1,362,895.74	2.58'	"5" INLET	D-4.24 & D-4.27
I-5A	PRIVATE	166.08 *	-	163.08 (12")	N 529,816.22 E 1,362,943.42	2.58'	"5" INLET	D-4.24 & D-4.27
I-6A	PRIVATE	166.41 *	-	162.83 (18")	N 529,707.51 E 1,362,970.39	2.58'	"5" INLET	D-4.24 & D-4.27
I-7A	PRIVATE	167.30 *	163.82 (4")	163.49 (15')	N 529,575.78 E 1,362,787.00	2.58'	"5" INLET	D-4.24 & D-4.27
I-8A	PRIVATE	168.84 *	-	165.59 (15')	N 529,737.99 E 1,362,580.20	2.58'	"5" INLET	D-4.24 & D-4.27
M-1	PRIVATE	167.31	155.69 (24")	146.91 (24")	N 529,737.60 E 1,362,957.94	4'	STD. MANHOLE	G - 5.12
M-2	PRIVATE	168.61	156.08 (24")	155.98 (24")	N 529,771.94 E 1,362,911.06	6'	STD. MANHOLE	SEE SHEET 23
M-3	PRIVATE	170.78	163.24 (21"), 165.02 (12"), 164.39 (4")	163.14 (21")	N 529,821.83 E 1,362,822.45	4'	STD. MANHOLE	G - 5.12
M-4	PRIVATE	169.81	165.02 (18"), 164.53 (15"), 165.64 (4"), 165.23 (4")	164.03 (21")	N 529,914.86 E 1,362,695.44	4'	STD. MANHOLE	G - 5.12
M-5	PRIVATE	170.20	163.17 (15"), 164.70 (12")	162.92 (18")	N 529,613.27 E 1,362,736.37	4'	STD. MANHOLE	G - 5.12
M-6	PRIVATE	168.61	162.49 (18"), 162.29 (4")	161.94 (18")	N 529,730.45 E 1,362,906.78	4'	STD. MANHOLE	G - 5.12
M-7	PRIVATE	168.00	162.86 (12"), 162.30 (4")	162.20 (12")	N 529,791.59 E 1,362,918.15	4'	STD. MANHOLE	G - 5.12
M-8	PRIVATE	170.56	153.08 (18")	148.23 (18")	N 529,955.49 E 1,362,424.67	4'	STD. MANHOLE	G - 5.12
M-9	PRIVATE	170.98	153.29 (18")	153.19 (18")	N 529,935.84 E 1,362,430.27	6'	STD. MANHOLE	SEE SHEET 23
M-10	PRIVATE	169.50	159.26 (18"), 162.60 (15")	159.16 (18")	N 529,875.51 E 1,362,389.98	4'	STD. MANHOLE	G - 5.12
M-11	PRIVATE	168.10	159.76 (15")	159.66 (15")	N 529,852.89 E 1,362,369.38	4'	STD. MANHOLE	G - 5.12
FT-1	PRIVATE	166.63	-	162.80 (4")	N 529,890.06 E 1,362,348.87	20"XB	FTSC 10' x 8'	SEE DETAIL SHEET 13
FT-2	PRIVATE	169.86	-	166.03 (4")	N 529,884.40 E 1,362,344.75	20"XB	FTSC 10' x 8'	SEE DETAIL SHEET 13
FT-3	PRIVATE	169.91	-	166.08 (4")	N 529,986.33 E 1,362,701.99	20"XB	FTSC 10' x 8'	SEE DETAIL SHEET 13
FT-4	PRIVATE	168.80	-	164.97 (4")	N 529,951.14 E 1,362,718.89	20"XB	FTSC 10' x 8'	SEE DETAIL SHEET 13
FT-5	PRIVATE	166.58	-	162.75 (4")	N 529,844.46 E 1,362,991.43	16"XB	FTSC 8' x 6'	SEE DETAIL SHEET 13
FT-6	PRIVATE	166.91	-	162.81 (4")	N 529,813.70 E 1,362,739.24	16"XB	FTSC 8' x 6'	SEE DETAIL SHEET 13
FT-7	PRIVATE	167.80	-	163.08 (4")	N 529,899.32 E 1,362,833.13	22"XB	FTSC 11' x 8'	SEE DETAIL SHEET 13
FT-8	PRIVATE	169.34	-	165.51 (4")	N 529,562.33 E 1,362,789.29	20"XB	FTSC 10' x 8'	SEE DETAIL SHEET 13
E-1	PRIVATE	-	-	146.69 (24")	N 529,735.40 E 1,362,979.75	24"	TYPE 'C' HEADWALL	D - 5.21
E-2	PRIVATE	-	-	147.91 (18")	N 529,986.32 E 1,362,415.94	18"	TYPE 'C' HEADWALL	D - 5.21

\* - DENOTES GRATE ELEVATION  
 \*\* - DENOTES FRONT CORNERS

PIPE SCHEDULE (PRIVATE)		
SIZE	CLASS	LENGTH
4"	PVC SCH 40	408 L.F.
4"	PERF PVC	483 L.F.
8"	HDPE	395 L.F.
12"	HDPE	139 L.F.
15"	HDPE	507 L.F.
18"	HDPE	426 L.F.
21"	HDPE	199 L.F.
24"	HDPE	80 L.F.
96"	SPE	234 L.F.

FILTERRA UNDERDRAIN SCHEDULE					
FILTERRA PIPE DIA.	INV. IN	LENGTH	SLOPE	INV. OUT	
1	4"	162.80	17'	14.24%	160.38
2	4"	166.03	80'	1.00%	165.23
3	4"	166.08	44'	1.00%	165.64
4	4"	164.97	58'	1.00%	164.39
5	4"	162.75	45'	1.00%	162.30
6	4"	163.08	79'	1.00%	162.29
7	4"	163.97	29'	0.50%	163.82
8	4"	165.51	17'	1.00%	165.34



**PROFESSIONAL CERTIFICATION**

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

Paul G. Cavanaugh  
 PAUL GERALD CAVANAUGH  
 5/23/2024  
 DATE

**OWNER/DEVELOPER**

A.J. ROMANO CONSTRUCTION INC.  
 8970 MAIER PLACE  
 LAUREL, MARYLAND 20723  
 Attn: ANTONIO ROMANO, PRESIDENT  
 Tele. (301)-362-0080

DATE	DESCRIPTION
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING
6/5/2024	Director - Department of Planning and Zoning
6/11/2024	Chief, Division of Land Development
	Chief, Department of Engineering Division



ADDRESS CHART			
PARCEL NO.	STREET ADDRESS		
B	8970 MAIER PLACE LAUREL, MARYLAND 20725		
PROJECT	SECTION/AREA	PARCEL	
ROMANO CONSTRUCTION	N/A	B	
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP
16329-16332	N/A	M-2	47
WATER CODE		SEWER CODE	
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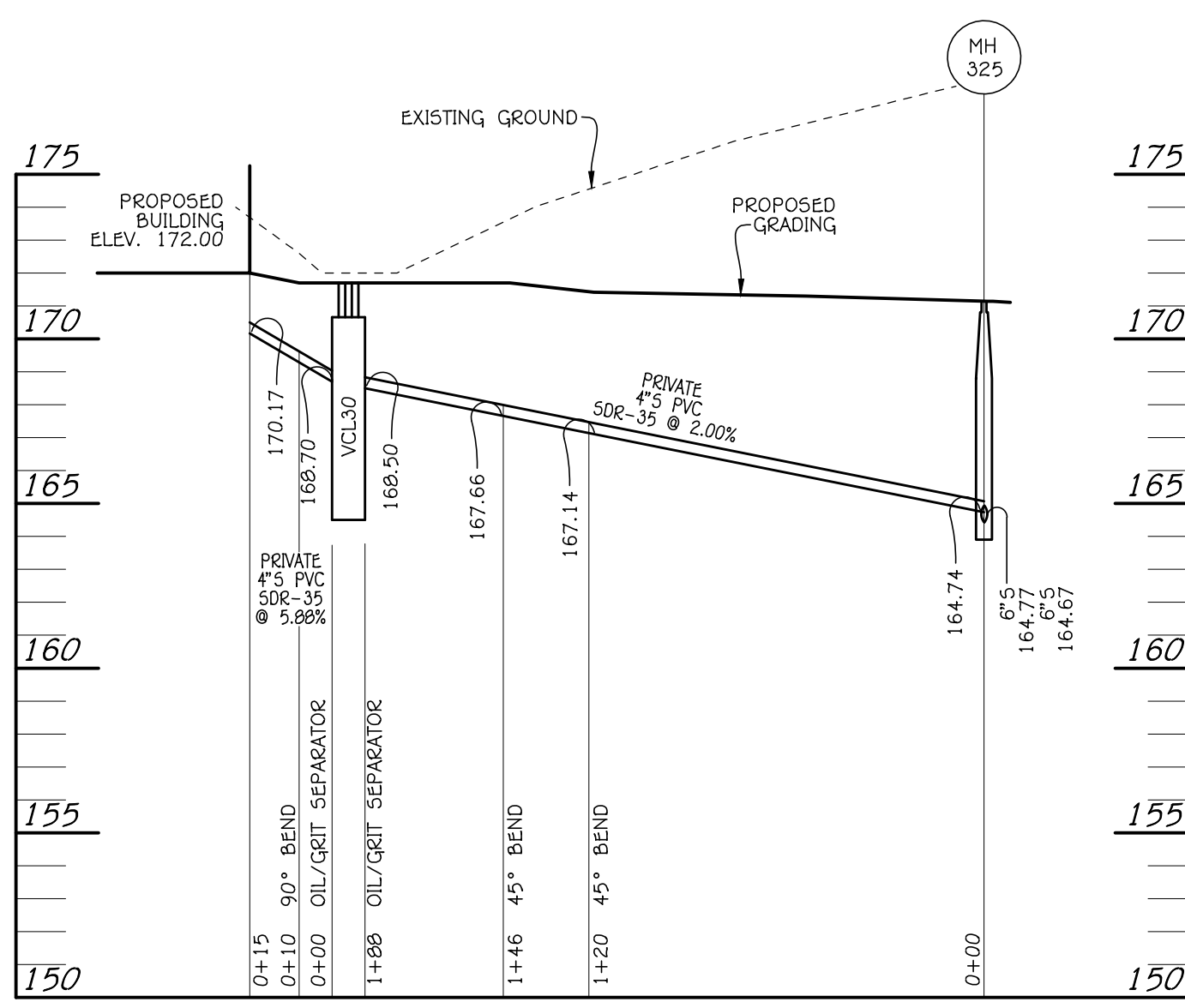
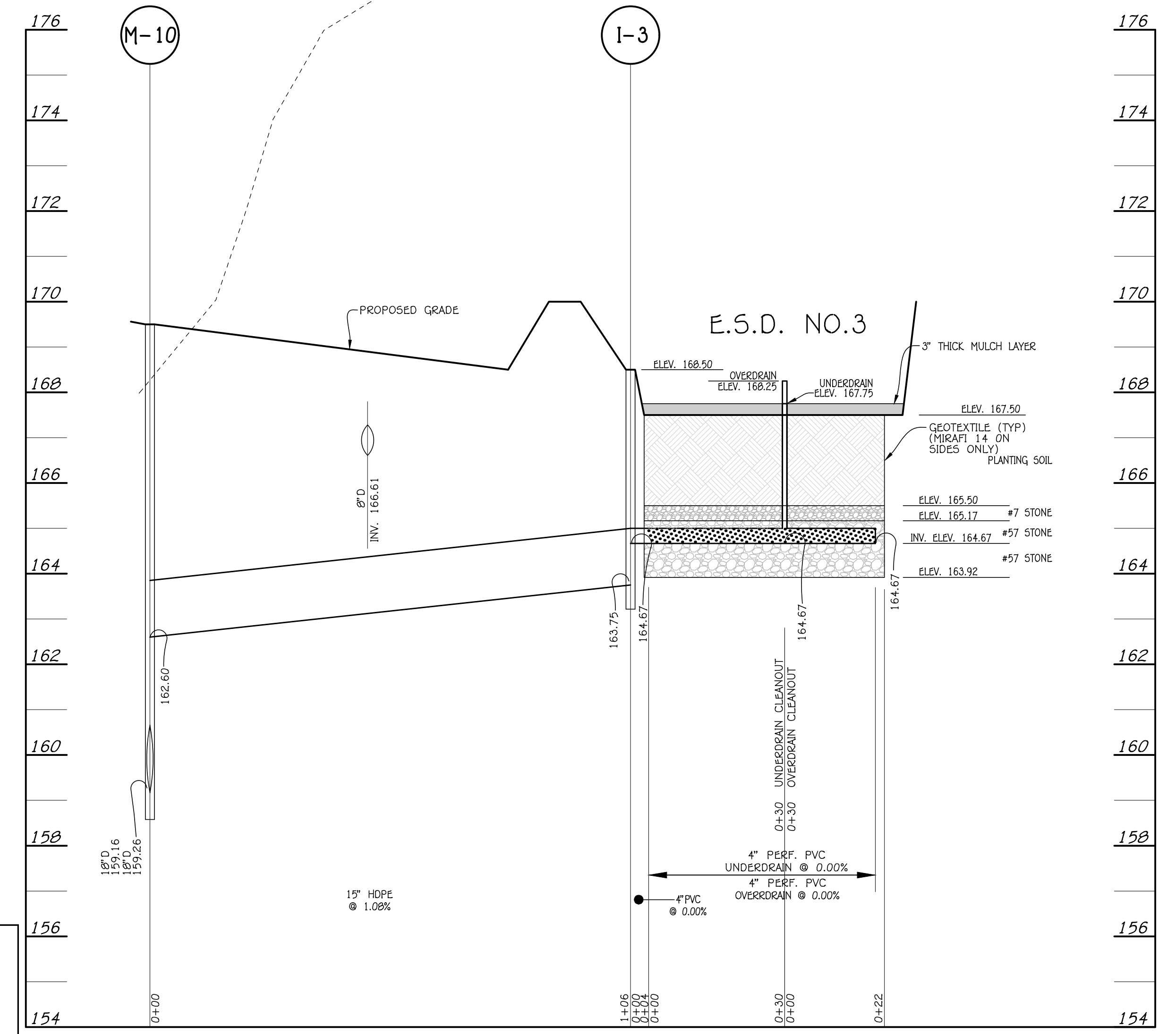
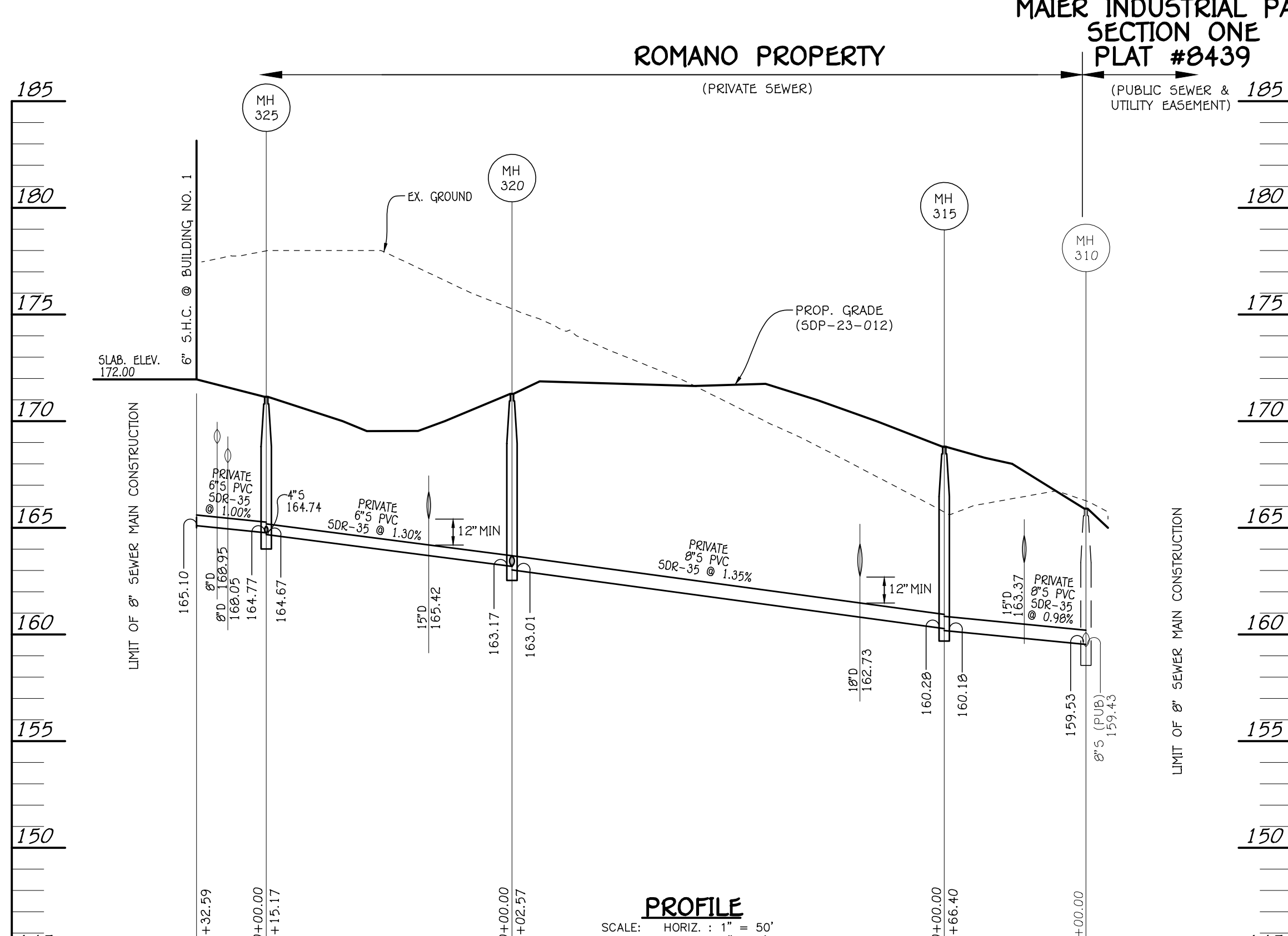
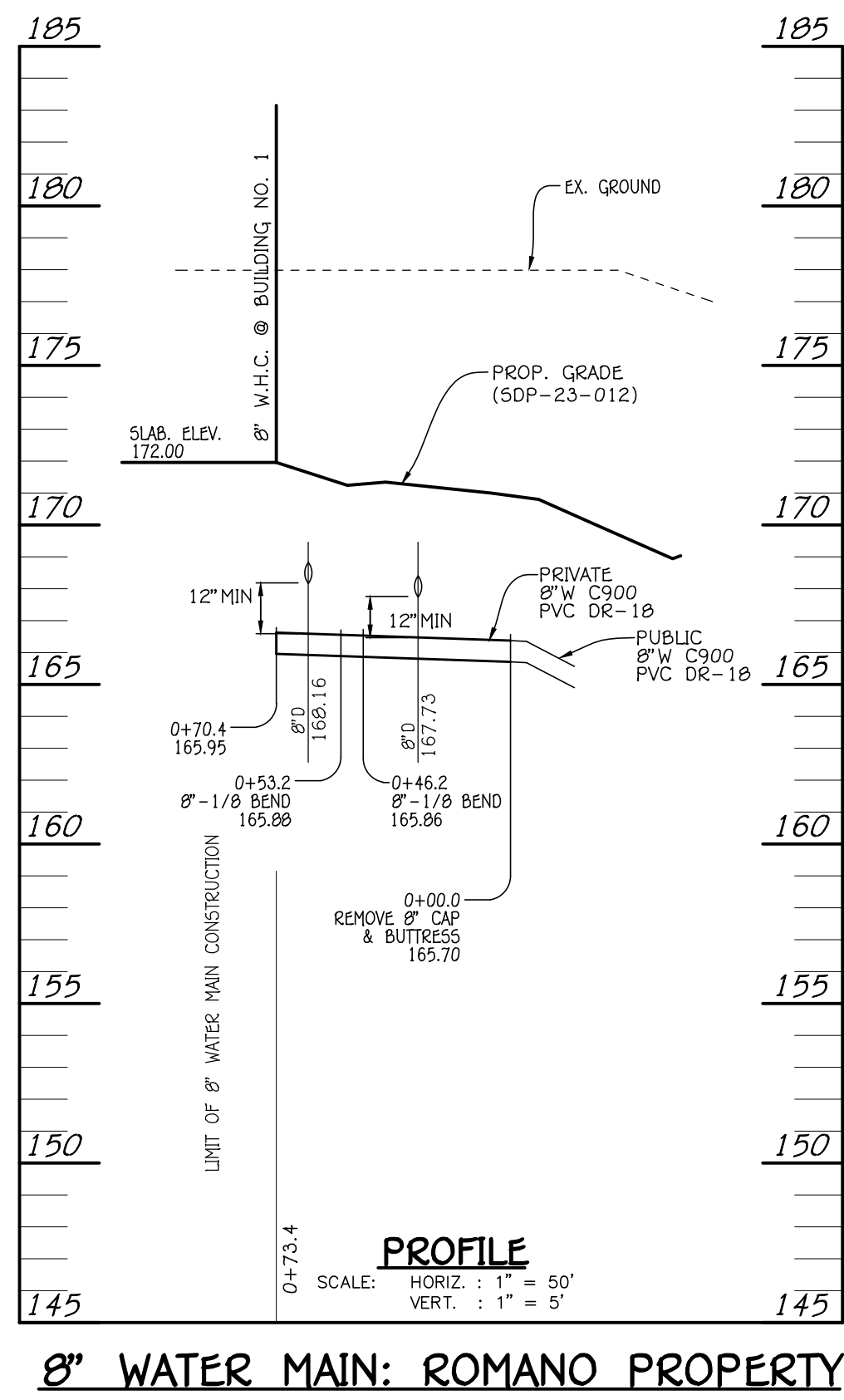
**STORM DRAIN PROFILES, STRUCTURE SCHEDULE, AND CHARTS**

**ROMANO CONSTRUCTION**  
 A.C. MILLER PROPERTY  
 PARCEL 'B'  
 OFFICE AND WAREHOUSE USE  
 ZONED: M-2  
 TAX MAP: 47 GRID: 23 PARCEL: 540  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 DATE: APRIL, 2024  
 SHEET 11 OF 23  
 SCALE: AS SHOWN



FISHER, COLLINS & CARTER, INC.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10272 BALDWIN NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 461-2000





**VCL30 DESIGN NOTES**

VCL30 RATED TREATMENT CAPACITY IS 110 GPM (8.9 AFD) OR PER LOCAL REGULATIONS. IF THE SITE CONDITIONS EXCEED RATED TREATMENT CAPACITY, AN OVERTHEAD BYPASS STRUCTURE IS REQUIRED.

THE VORTCLAREX SYSTEM SHALL REMOVE ESSENTIALLY ALL FREE AND DISPERSED NON-EMULSIFIED OIL FROM THE WATER STREAM AND PRODUCE A DESIRED EFFLUENT BASED ON AN OIL DROPLET TYPICAL OF THE SITE.

THE STANDARD INLET/OUTLET CONFIGURATION IS SHOWN. FOR OTHER CONFIGURATION OPTIONS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com

**GENERAL NOTES**

- CONTRACTOR TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com
- VORTCLAREX WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET ASHTO H20 AND CASTINGS SHALL MEET ASHTO MOD. LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
- INLET AND OUTLET PIPES MUST BE PERPENDICULAR TO THE WALL TO ALLOW CONNECTION WITH PROVIDED PIPE STUBS.
- FLOW LINE IN AND OUT OF THE VORTCLAREX IS RECOMMENDED TO BE AT THE SAME ELEVATION.
- ALTERNATE UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

**INSTALLATION NOTES**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE VORTCLAREX STRUCTURE (LIFTING CLIMBERS PROVIDED).
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLY STRUCTURE.
- CONTRACTOR TO PROVIDE AND INSTALL FERRUL OR EQUIVALENT, COUPLER TO MATE EXISTING TRUNKLINE TO THE PROVIDED PIPE STUBS. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.

**30" x 36" [762 x 914] ACCESS HATCH**  
(ACTUAL PRODUCT MAY VARY) N.T.S.

**VortClarex®**

**CONTECH ENGINEERED SOLUTIONS LLC**  
www.conteches.com  
8025 Carle Place Dr., Suite 400, West Chester, OH 45380  
800-338-1122 613-666-7000 613-645-7993 FAX

**VORTCLAREX VCL30 STANDARD DETAIL**

**MANHOLE TABULATION CHART**

NO.	NORTHING	EASTING	RIM ELEVATION
315 (PRIVATE)	529,620.49	1,362,790.13	168.80
320 (PRIVATE)	529,739.74	1,362,626.38	171.27
325 (PRIVATE)	529,818.68	1,362,542.51	171.14

NOTE: SET MH RIMS FLUSH W/PROPOSED GRADE AND SLOPE.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-1200

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Paul G. Cavanaugh  
PAUL GERALD CAVANAUGH

5/23/2024  
DATE

DATE	DESCRIPTION	REVISION BLOCK
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING	
6/5/2024	Director - Department of Planning and Zoning	
6/11/2024	Chief, Division of Land Development	
	Chief, Department of Engineering Division	

**OWNER/DEVELOPER**

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LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele. (301)-362-0080

**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

**PROJECT**

PROJECT	SECTION/AREA	PARCEL
ROMANO CONSTRUCTION	N/A	B

**PLAT NOS.** 16329-16332  
**BLOCK NO.** N/A  
**ZONE** M-2  
**TAX MAP** 47  
**ELEC. DIST.** SIXTH  
**CENSUS TR.** 601101

**WATER CODE** ---  
**SEWER CODE** ---

**WATER AND SEWER AND STORM DRAIN PROFILES**

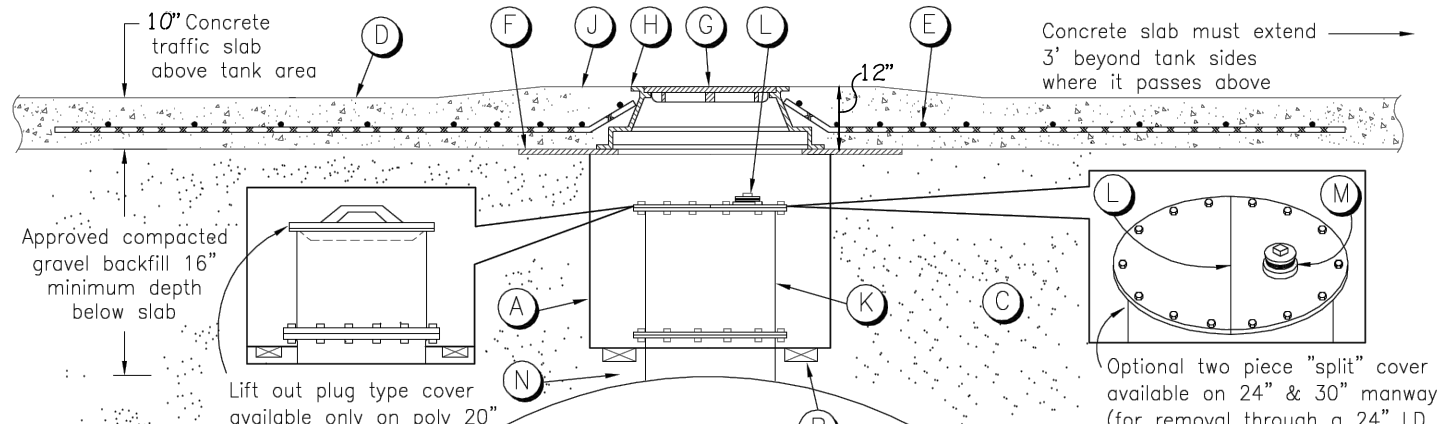
**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE

ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 12 OF 23  
SCALE: AS SHOWN



### H-20 Traffic Slab Details with Simple Low Cost Manway Enclosure

Shown with Internal Manway Extension

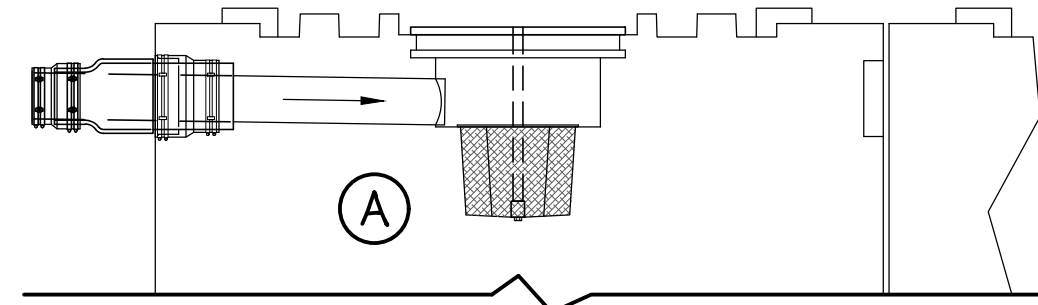


- COMPONENTS**
- Subgrade enclosure created with a piece of 48" diameter fiberglass pipe available from Darco with your tank order. FRP pipe is available in 1 foot length increments and is easily saw cut to size in the field. Plastic or steel culvert pipe may also be used. Do not use concrete rings due to the unnecessary weight in close proximity of the tank.
  - CCA treated 2x8s support sharp pipe edges and eliminate downward movement toward tank.
  - Approved back fill material, (compacted with a vibrating plate) minimum 16" deep from top of tank to bottom of slab (24" minimum from top of tank to top of 8" reinforced traffic surface).
  - 8" thick traffic slab over tank extending at least 3' beyond tank where it passes above.
  - Re-bar #5 mat on 8" centers around thickened manway area only, re-bar #5 mat on 16" centers in remainder of 8" traffic slab.
  - CCA treated 3/4" plywood bridging enclosure to manhole lip for concrete pour.
  - H-20 rated cast iron ring and cover (24" nominal cover diameter recommended).
  - Manway ring must have upper circumferential lip for proper support in slab.
  - Thickened slab around manhole to repel surface water (install iron ring in raised area).
  - Spool type manway extension with split two piece fiberglass cover or 20" ID poly riser and plug.
  - Caulk two piece cover saw cut edges for water tightness if necessary.
  - Optional fitting for telemetry or inspection available in bolted fiberglass cover only.
  - Maintain a distance of several inches between enclosure pipe and tank. Avoid contact or tank damage may occur.

**Notes**

- The manway may be offset to one side of the enclosure for easier step down access.
- Warning - follow confined space regulations when working around water storage vessels.

Darco Inc.  
All Rights Reserved  
Revision 5/31/07



### Clarifier with silt dam and debris basket

### SPECIFICATIONS FOR POLYETHYLENE UNDERGROUND WATER TANKS QUALITY ASSURANCE

MANUFACTURER: DARCO INC. 980 DARCO DR. - P.O. BOX 779 - BENNETT, CO 80102 OR EQUAL  
PHONE NUMBER 800-232-8660, FAX 303-644-5001, INTERNET - WWW.DARCOINC.COM

- GENERAL GOVERNING STANDARDS**
- ASTM 1998-93, POLYETHYLENE STORAGE TANKS, THOSE SPECIFIC SECTIONS CONSIDERED GERMANE AND PRUDENT AS APPLIED TO UNDERGROUND WATER STORAGE TANKS ONLY.
  - SECTION 4 : TYPE 2 HIGH DENSITY WIGON LINEAR POLYETHYLENE RESIN
  - SECTION 5 : MATERIAL STANDARDS FOR FOOD CONTACT GRADE POLYETHYLENE RESIN
  - SECTION 7 : FITTINGS FOR POLYETHYLENE WATER TANKS
  - SECTION 8 : PERFORMANCE REQUIREMENTS BASED ON IMPACT TESTING
  - SECTION 9 : DIMENSIONS AND TOLERANCES
  - SECTION 10 : WORKMANSHIP

- DESIGN STANDARDS / DARCO MODULAR POLYETHYLENE OCTANK SYSTEMS**
- EXTERNAL HYDROSTATIC LOADING : THE EMPTY TANK SYSTEM WITH MANWAY RISERS, WHEN ANCHORED INTO A SAND BACKFILLED EXCAVATION AT A 3 FOOT BURY DEPTH AND FLOODED WITH WATER TO SPRING LINE, MUST MAINTAIN ITS STRUCTURAL SHAPE AND 100% WATER TIGHTNESS.
  - TRAFFIC LOADING : TANK SYSTEMS, WHEN PROPERLY INSTALLED AND INCORPORATING AN APPROVED CONCRETE SURFACE SLAB, MUST WITHSTAND AUTOMOTIVE AND HEAVY TRUCK TRAFFIC LOADS.
  - DEPT BURY INSTALLATION : TANK SYSTEMS MUST HAVE SUFFICIENT WALL STRENGTH AND STRUCTURAL INTEGRITY TO BE INSTALLED AND COMPLETELY BACKFILLED TO A 3 FOOT BURY DEPTH WITHOUT THE ADDITION OF WATER DURING THE BACKFILL PROCESS. FURTHERMORE, TANK SYSTEMS MUST MAINTAIN THEIR STRUCTURAL SHAPE AND FULL STORAGE CAPACITY WHEN LEFT EMPTY FOR EXTENDED PERIODS.

**TANK FITTINGS**

ALL FITTINGS SHALL BE OF POLYOLEFIN OR PVC CONSTRUCTION AND INCORPORATE ONLY 300 SERIES STAINLESS STEEL HARDWARE. COMPATIBLE AND WARRANTED TANK-TO-PIPE FLEXIBLE COUPLERS MUST BE MADE AVAILABLE ALONG WITH THE TANK SYSTEM AT THE TIME OF PURCHASE. FITTINGS, COUPLERS, AND HARDWARE MUST BE AVAILABLE SPECIFICALLY FOR DOMESTIC WATER USE.

**POTABLE WATER APPLICATIONS**

THE VIRGIN POLYETHYLENE RESIN USED FOR CONSTRUCTION OF POTABLE WATER STORAGE TANKS MUST BE NSF LISTED AND COMPLY WITH FDA TITLE 21 WHEN IN CONTACT WITH DRINKING WATER.

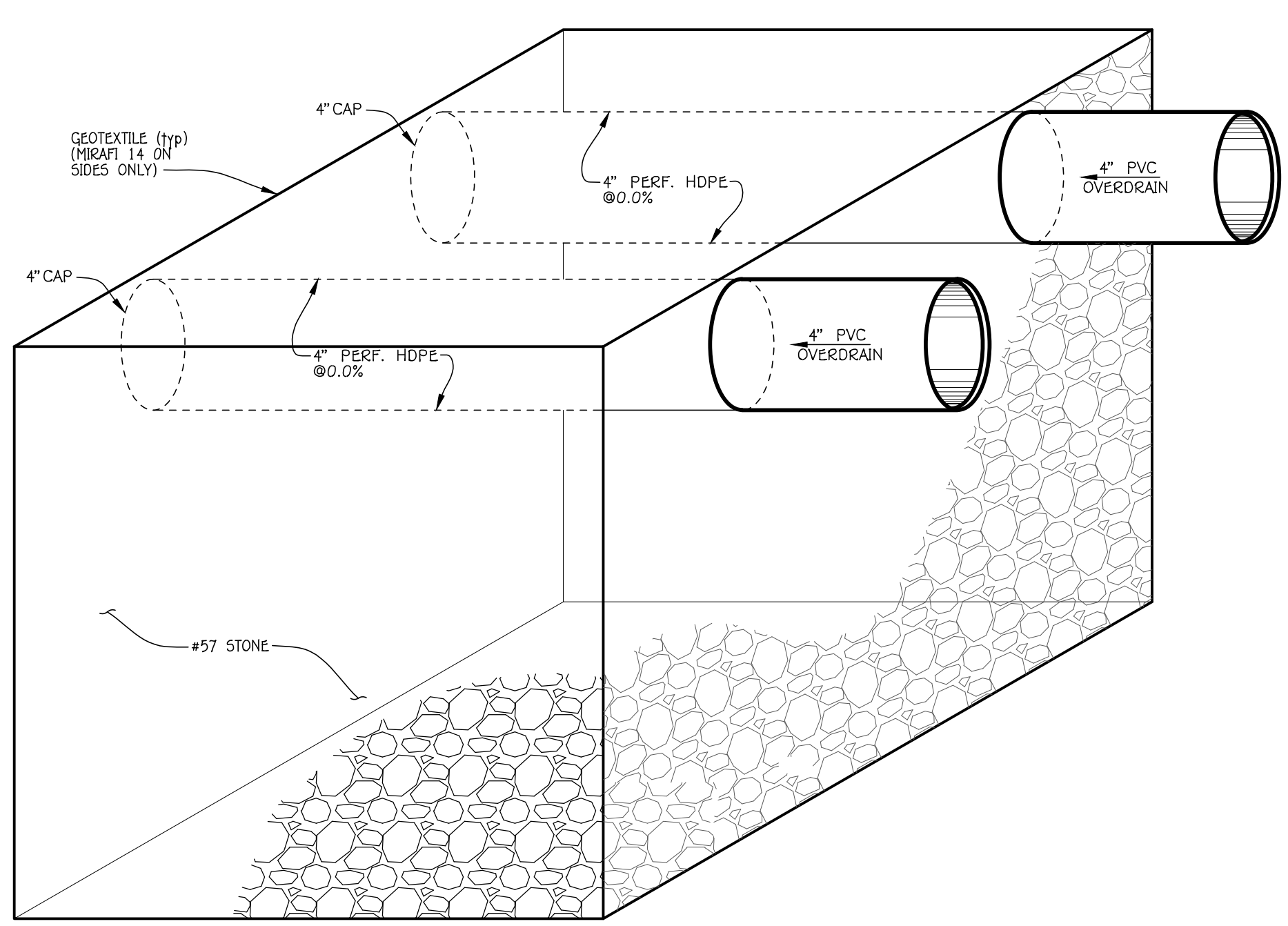
**ACCESSORIES**

THE ACCESSORY PACKAGE PROVIDED WITH ANY STORAGE TANK SYSTEM MUST CONTAIN ONLY FULLY APPROVED ACCESSORIES AND APPURTENANCES WHICH MEET ALL PERFORMANCE STANDARDS AND WARRANTY COVERAGE GUIDELINES OF TANK MANUFACTURER.

- CAPACITY AND SIZE REQUIREMENTS**
- THE NOMINAL VOLUME OF THE TANK SYSTEM SHALL BE \_\_\_\_\_ GALLONS.
  - THE NOMINAL TANK DIAMETER SHALL BE \_\_\_\_\_ FEET BY A NOMINAL LENGTH OF \_\_\_\_\_ FEET.

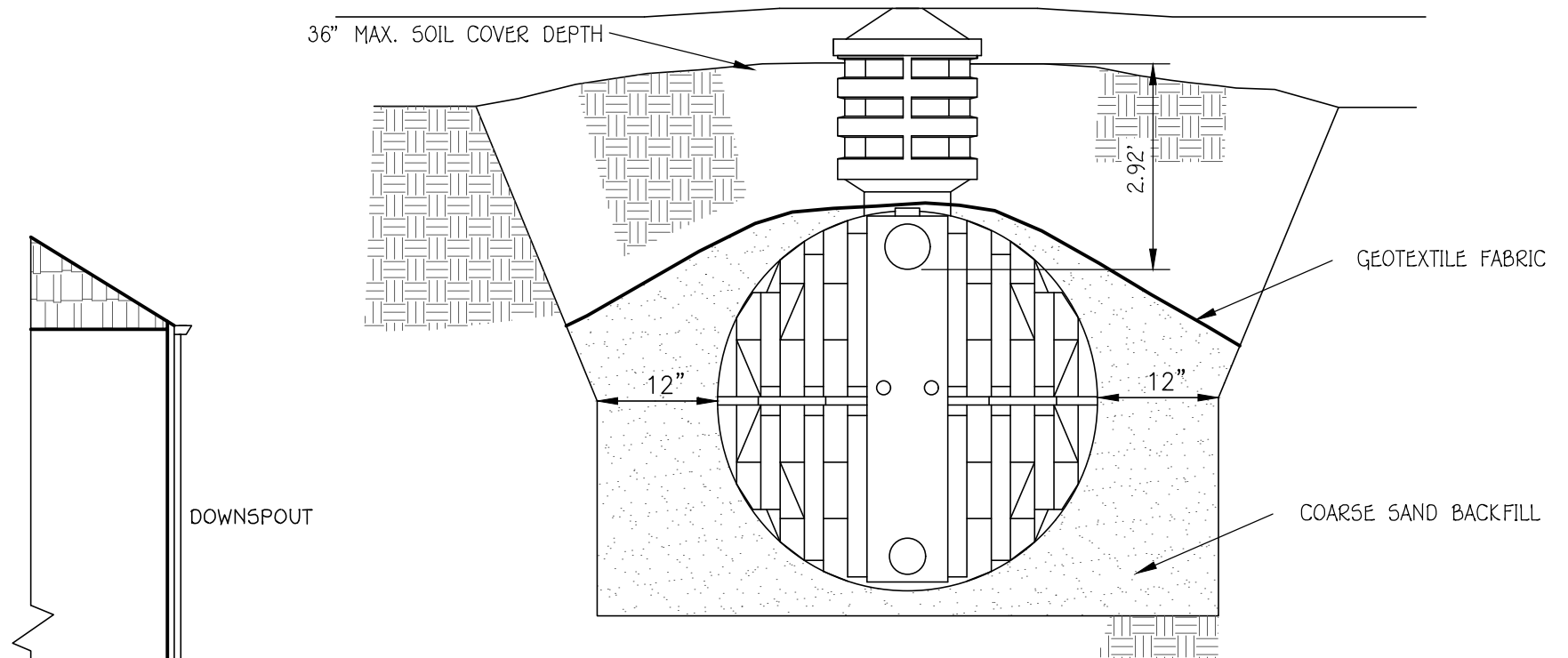
**LIMITED WARRANTY**

A STANDARD 2 YEAR STRUCTURAL AND CORROSION WARRANTY SHALL BECOME EFFECTIVE UPON TANK DELIVERY. AN OPTIONAL EXTENDED WARRANTY PROGRAM MUST BE AVAILABLE AT TIME OF PURCHASE.

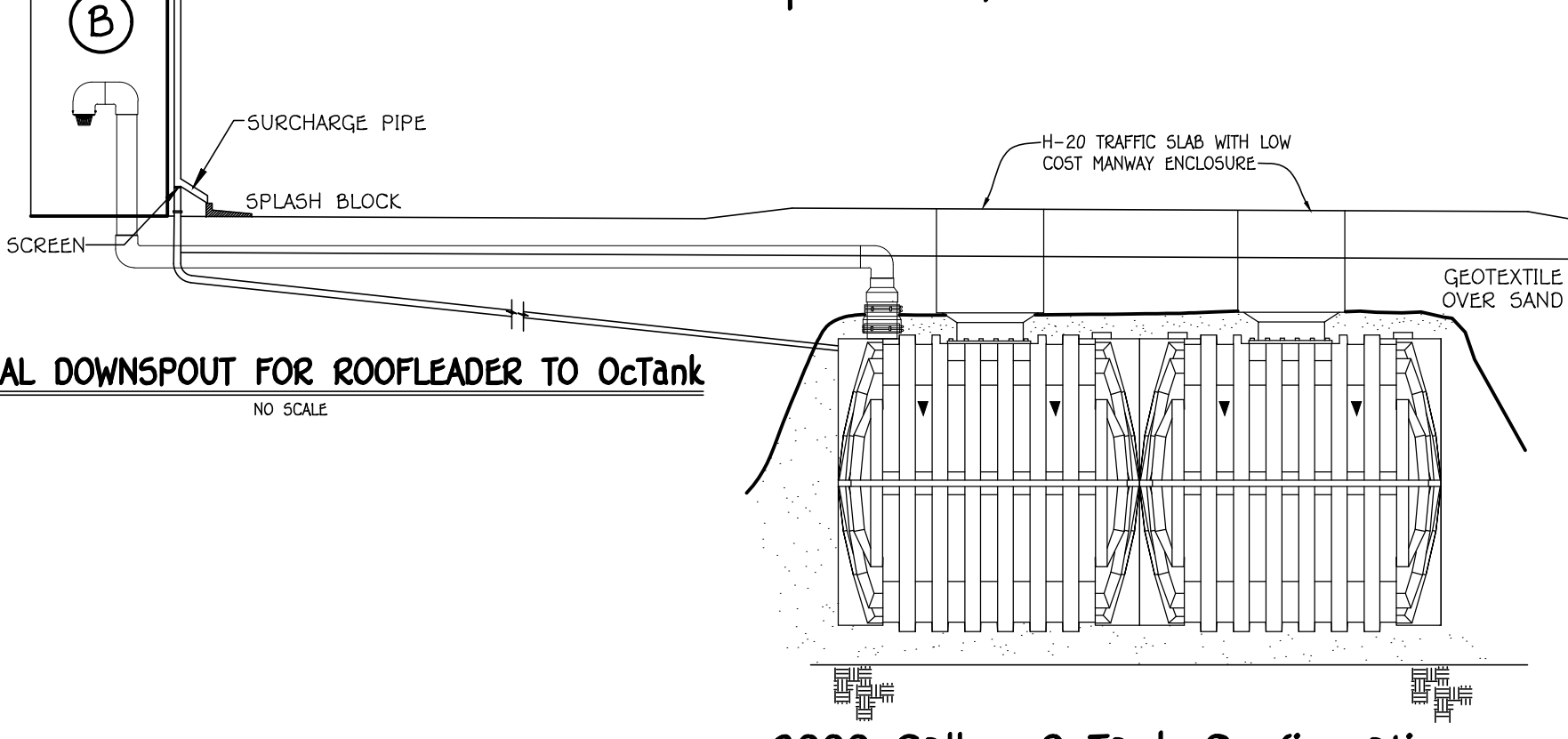


TYPICAL SECTION - RECHARGE CHAMBER  
NOT TO SCALE

FACILITY NO.	LENGTH	WIDTH	HEIGHT	STORAGE VOLUME INCL. 40% VOIDS	ESV VOLUME CREDITED	TOP ELEV.	BOTTOM ELEV.	4" DRAIN INV.
B	100'	31'	2'	2,480 CF	2,469 CF	166.25	164.25	165.42

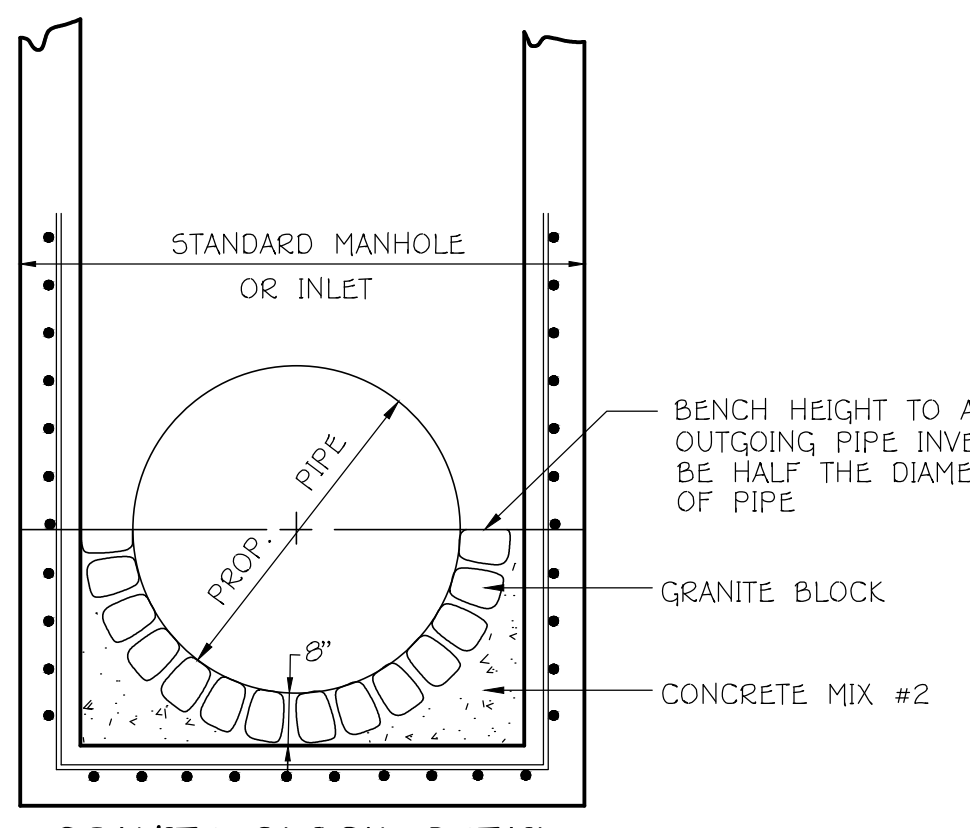


Full Bury Below Grade

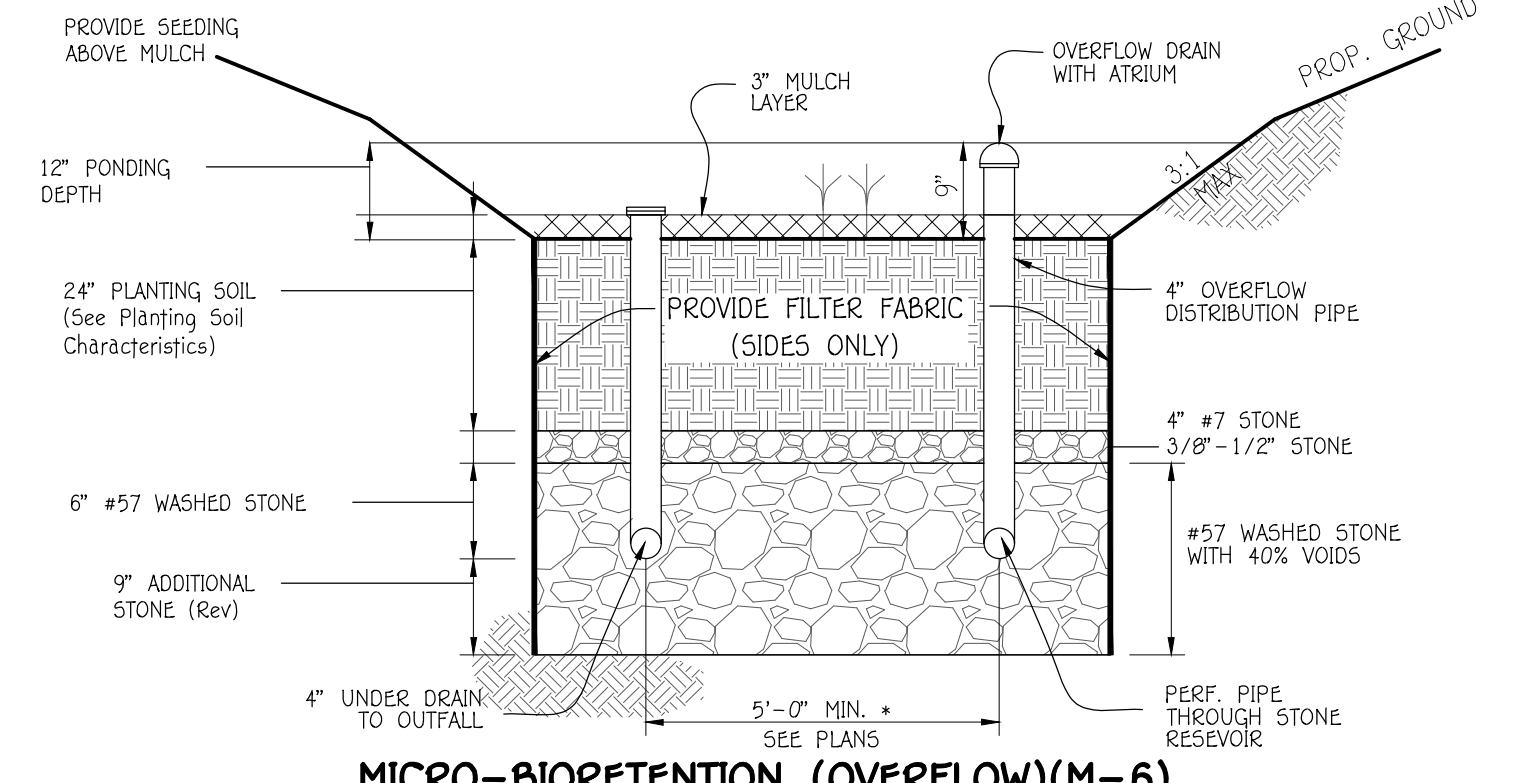


TYPICAL DOWNSPOUT FOR ROOFLEADER TO Octank  
NO SCALE

8000 Gallon Octank Configuration



GRANITE BLOCK DETAIL  
NOT TO SCALE

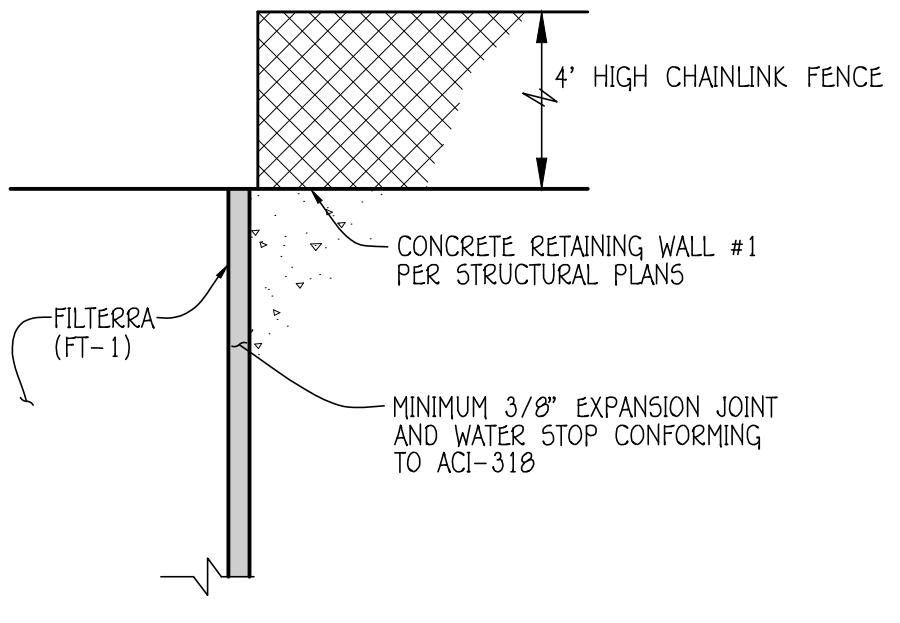


MICRO-BIORETENTION (OVERFLOW)(M-6)  
NO SCALE

- MICRO-BIORETENTION NOTES**
- ONLY THE SIDES OF THE MICRO-BIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICRO-BIORETENTION WILL CAUSE THE MICRO-BIORETENTION TO FAIL AND THEREFORE SHALL NOT BE INSTALLED.
  - WRAP THE PERFORATED MICRO-BIORETENTION UNDER DRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.
  - PROVIDE 5" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLAN)

### OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6)

- The owner shall maintain the plant material, mulch layer and soil layer annually. maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A.4.1 and 2.
- The owner shall perform a plant in the spring and in the fall each year, during the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material, Treat diseased trees and shrubs and replace all deficient stakes and wires.
- The owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
- The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

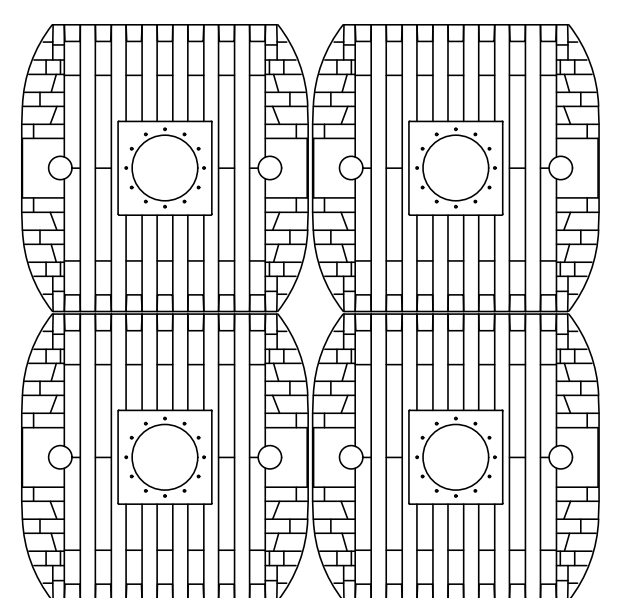


WALL #1 AND FILTERRA-1 JOINT DETAIL  
NOT TO SCALE

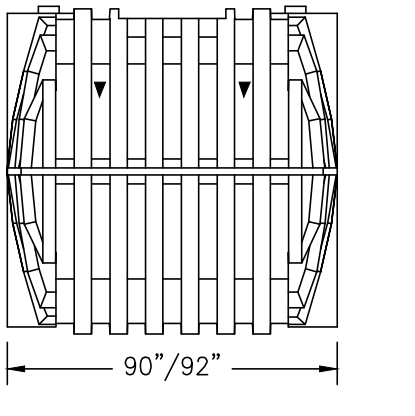
### ACCESSORIES

- 20" I.D. POLYETHYLENE SPOOL TYPE MANWAY EXTENSION TO GRADE w/MESH BASKET ASSEMBLY AND INFLOW PIPE.
- PVC VENT WITH GUARD AND STAINLESS STEEL INSECT SCREEN.

ALL DIMENSIONS ARE NOMINAL AND MAY VARY SLIGHTLY.



8,000 GAL. OCTANK CONFIGURATION



SINGLE 2,000 GAL. MODULE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2995

**PROFESSIONAL CERTIFICATION**  
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

Paul G. Cavanaugh 5/23/2024  
PAUL GERALD CAVANAUGH DATE

DATE	DESCRIPTION	REVISION BLOCK
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING	
6/5/2024	Director - Department of Planning and Zoning	
6/11/2024	Chief, Division of Development	
	Chief, Development Engineering Division	

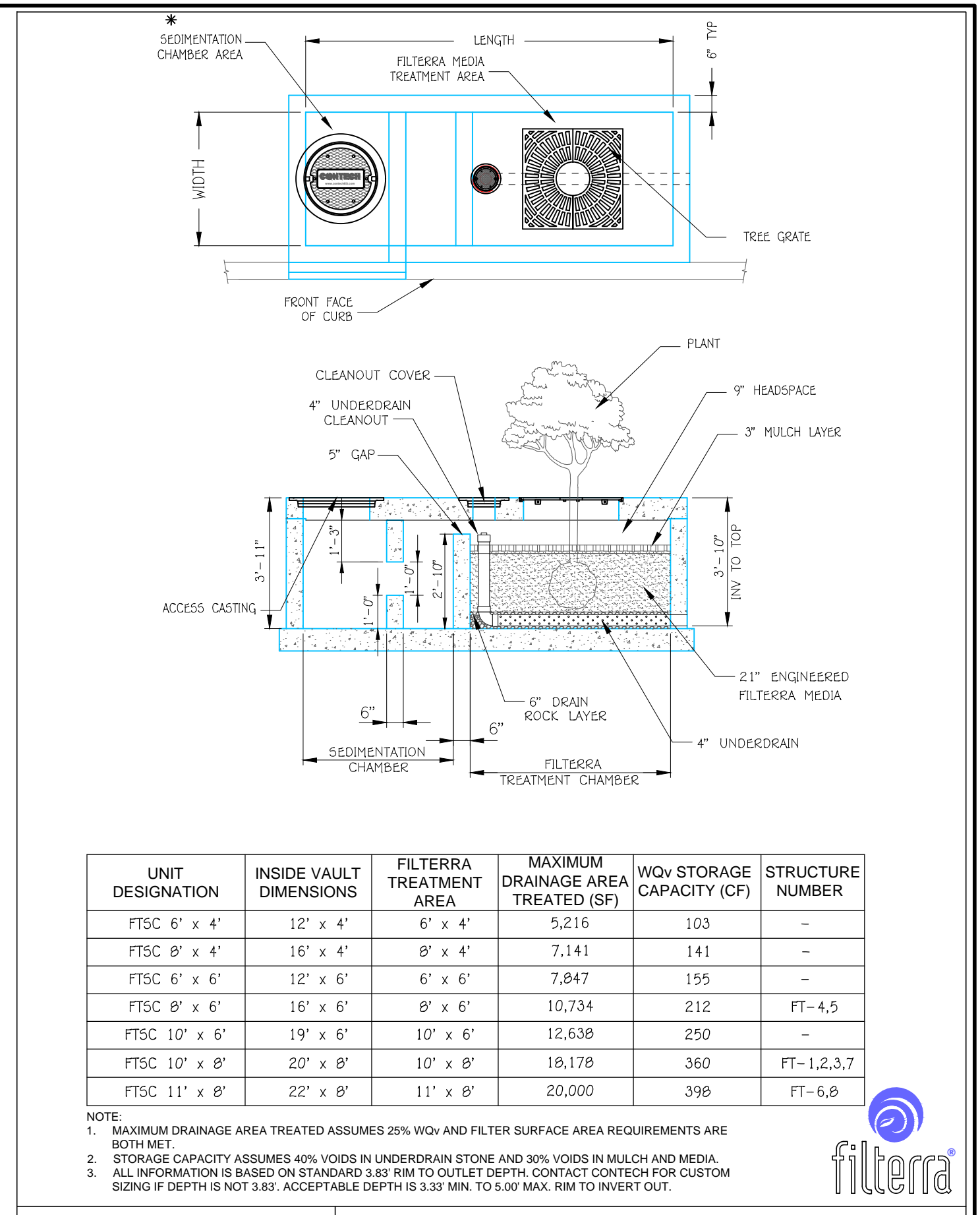
**OWNER/DEVELOPER**  
A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele. (301)-362-0080



ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725
PROJECT	SECTION/AREA
ROMANO CONSTRUCTION	N/A
PLAT NOS.	BLOCK NO.
16329-16332	N/A
ZONE	TAX MAP
M-2	47
ELEC. DIST.	CENSUS TR.
SIXTH	601101
WATER CODE	SEWER CODE
----	----

**STORM DRAIN DETAILS**

**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE  
ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 13 OF 23  
SCALE: AS SHOWN

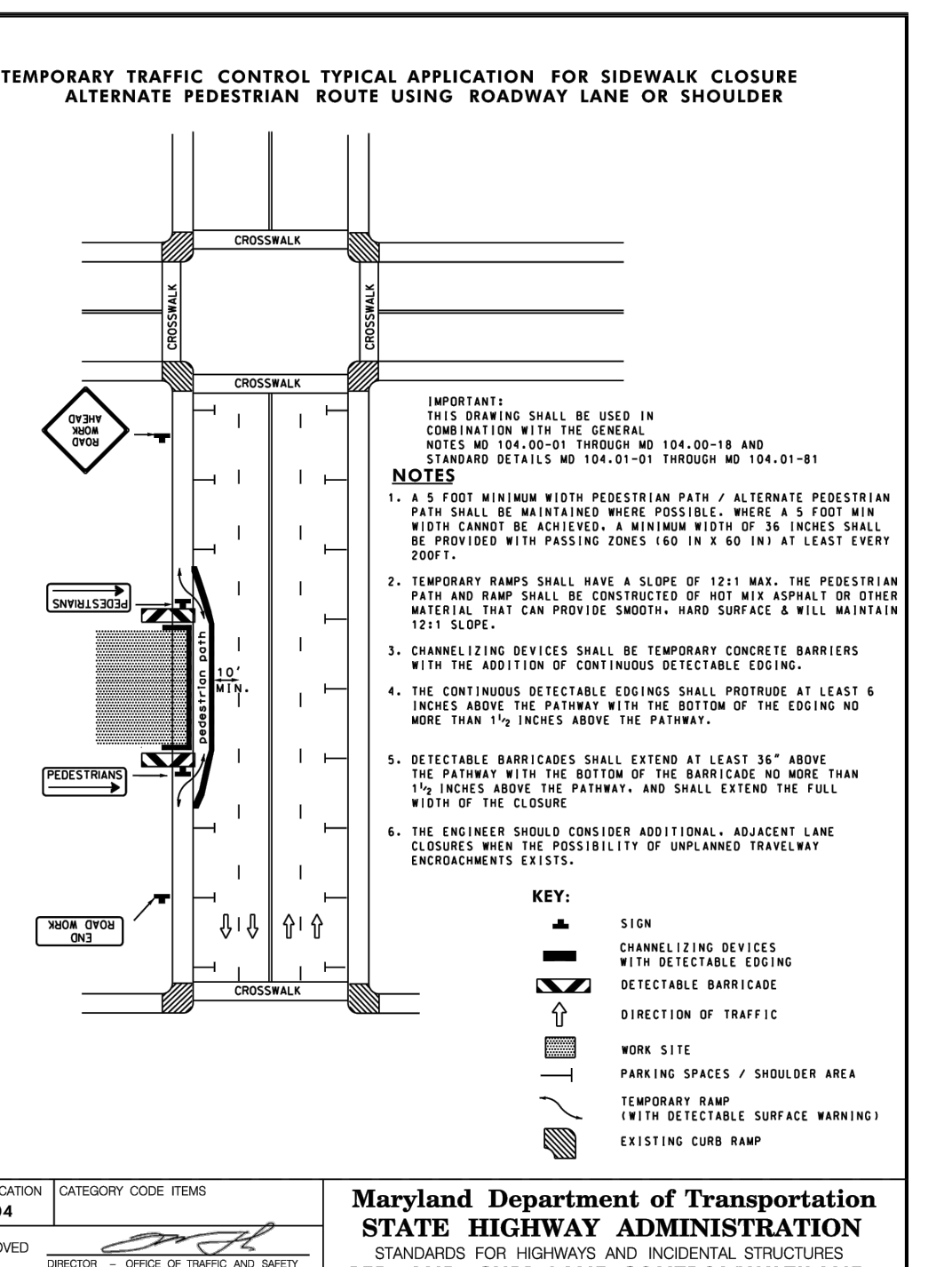
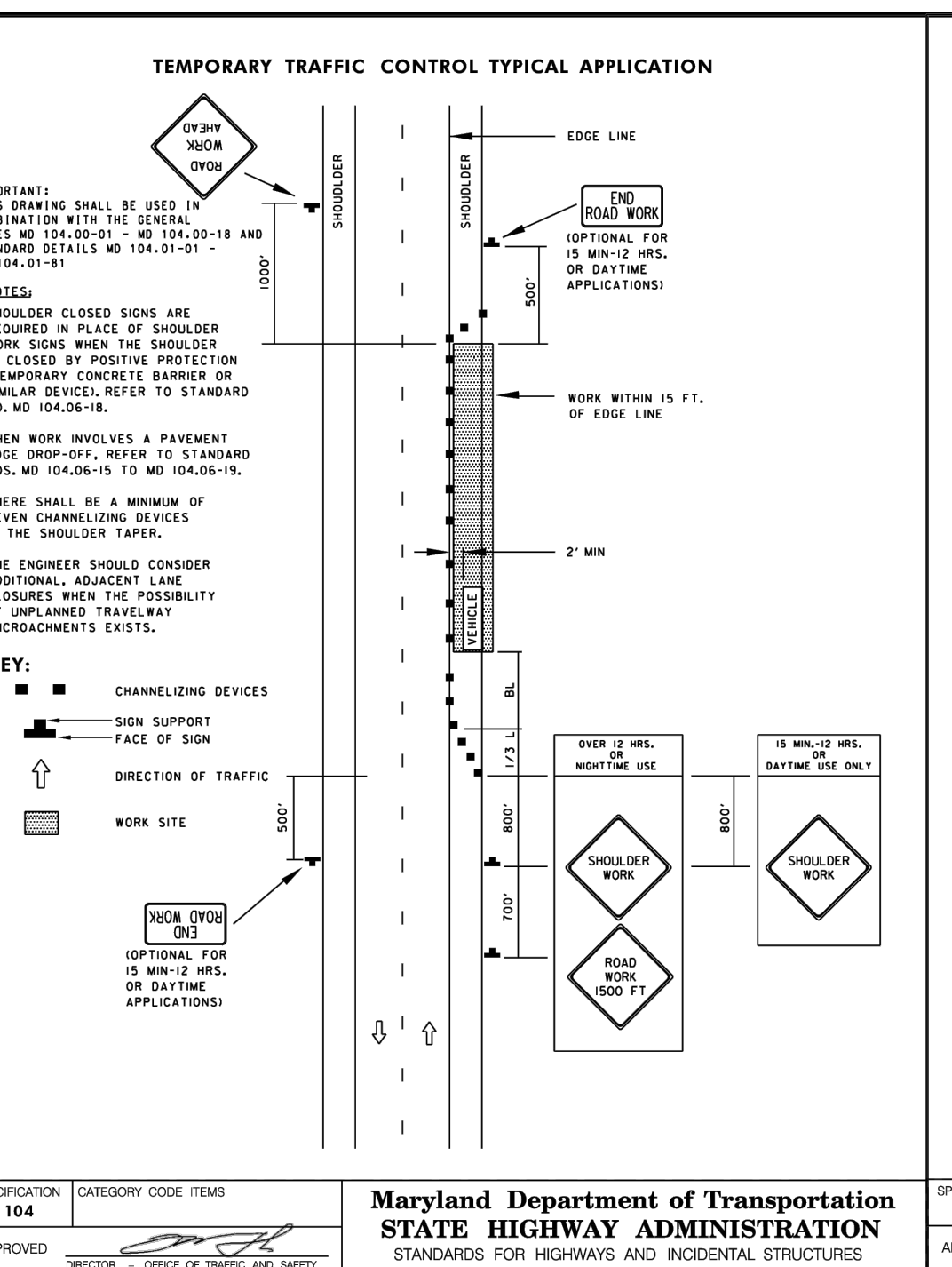
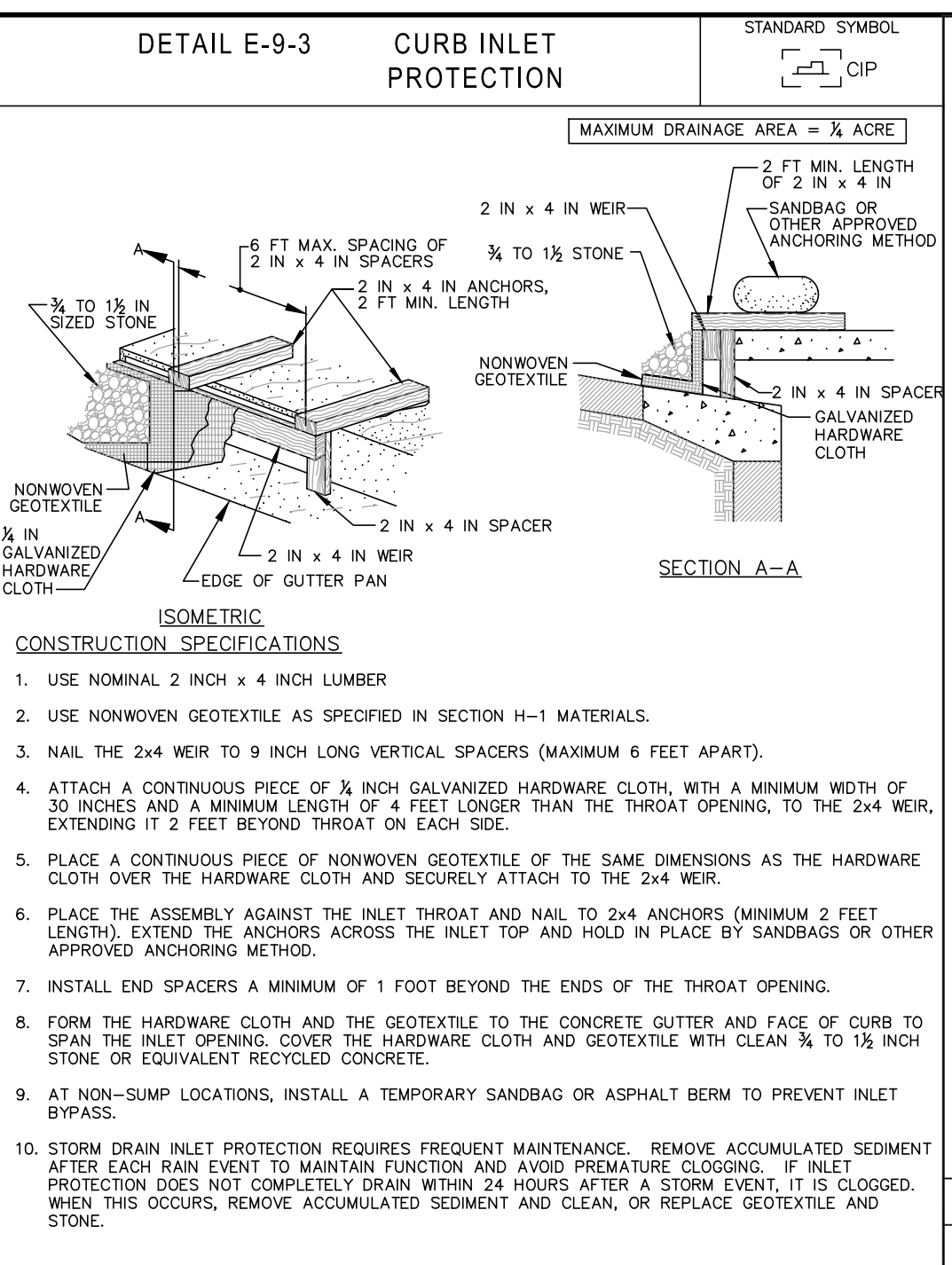
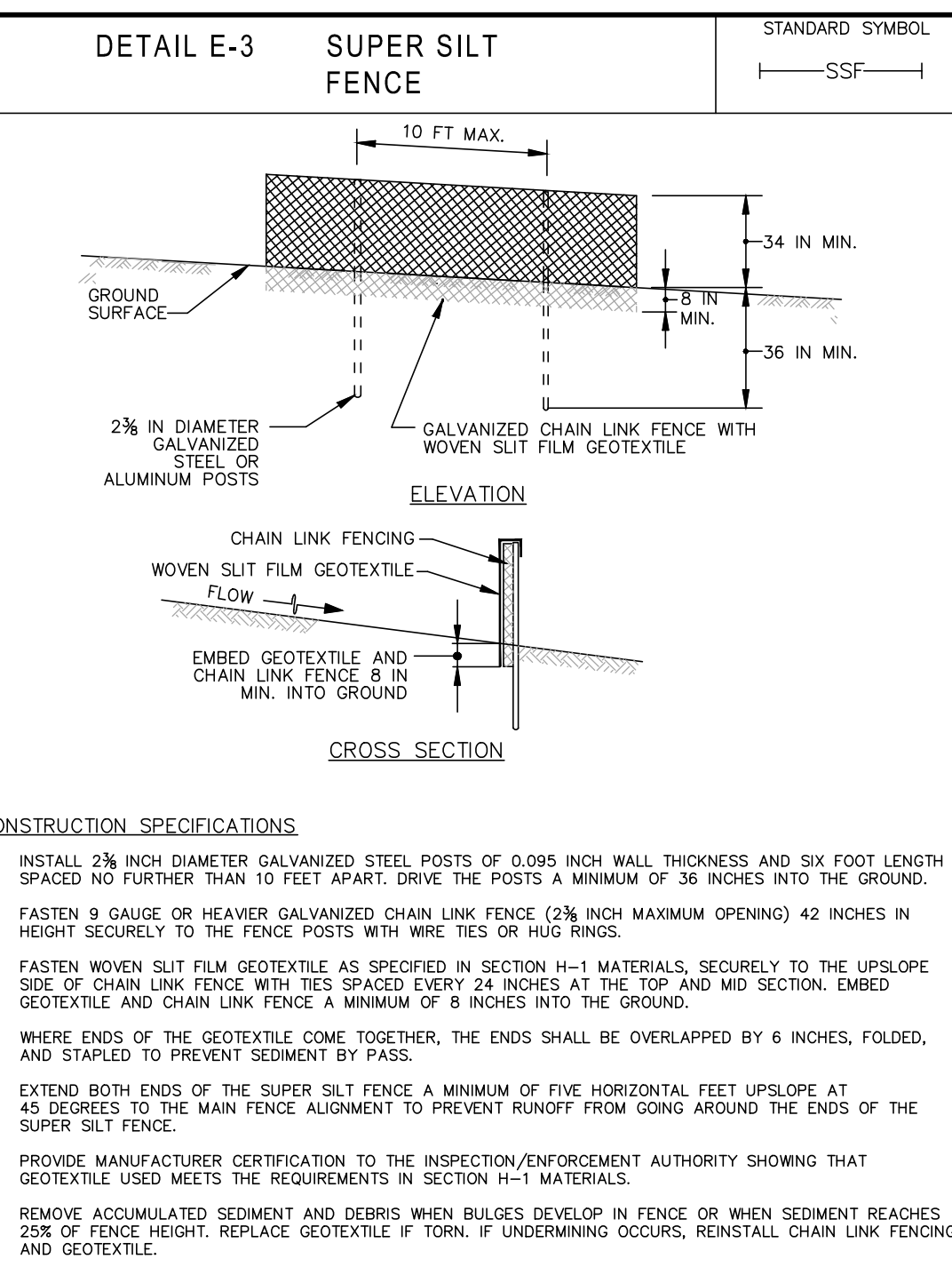
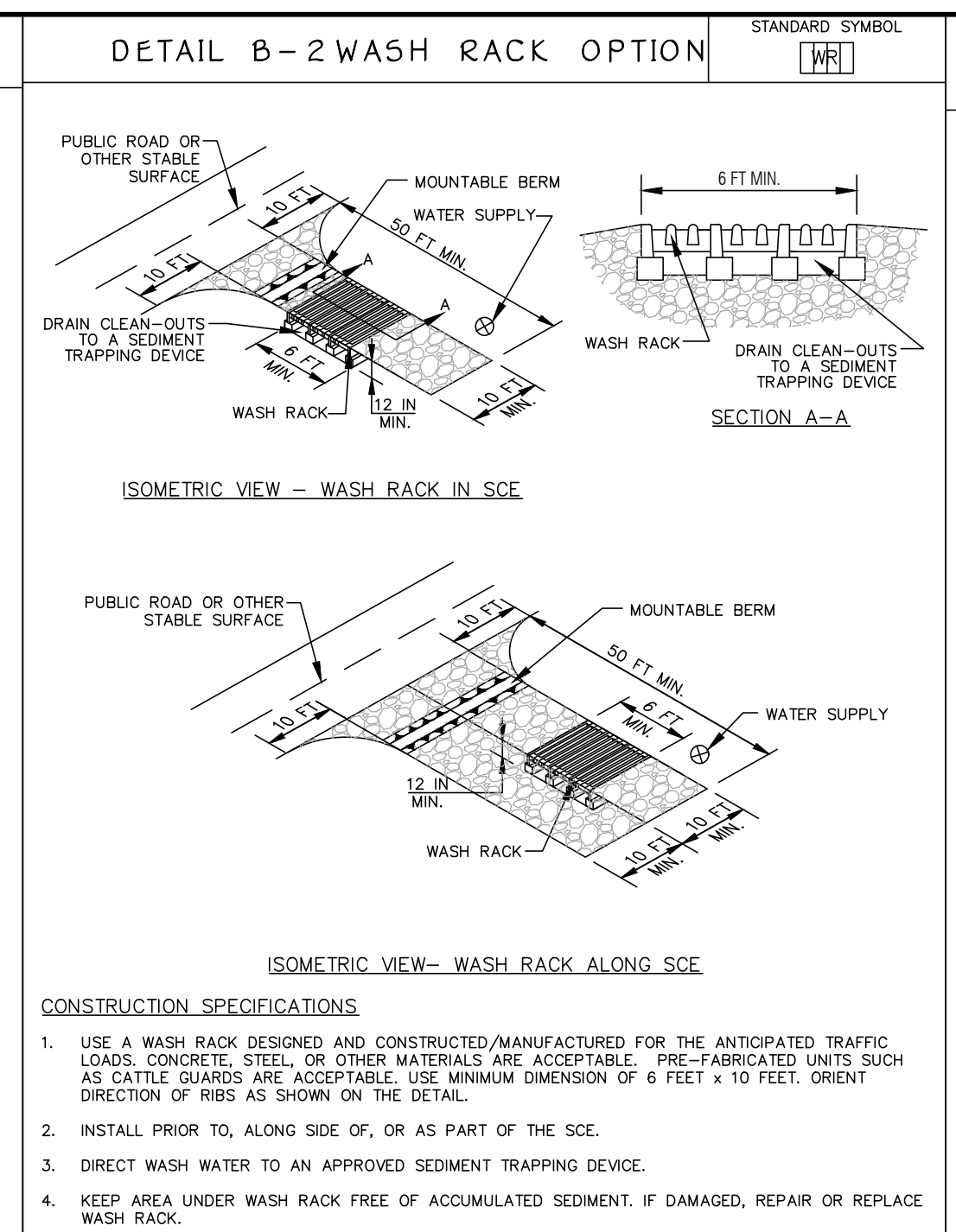
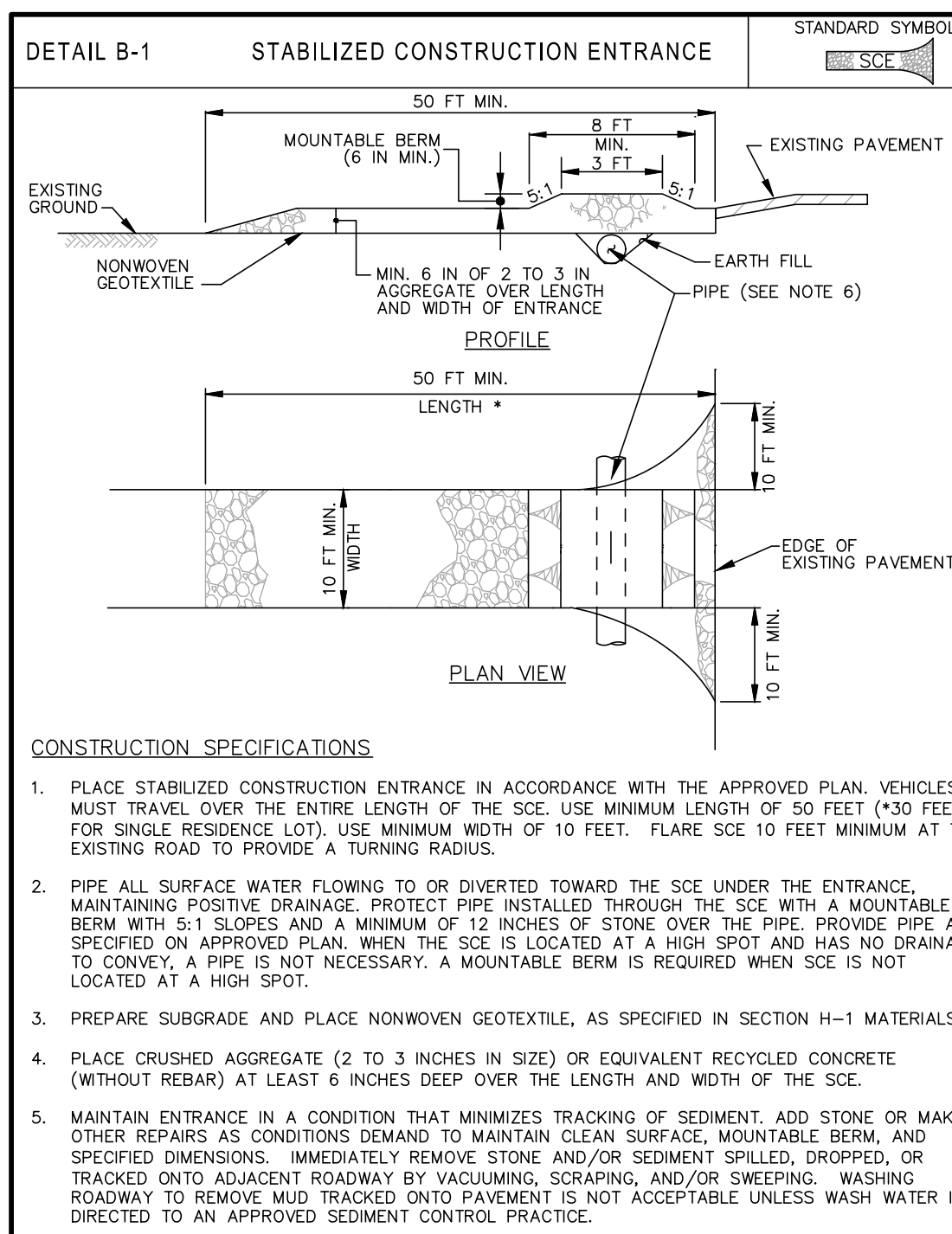


UNIT DESIGNATION	INSIDE VAULT DIMENSIONS	FILTERRA TREATMENT AREA	MAXIMUM DRAINAGE AREA TREATED (SF)	WQV STORAGE CAPACITY (CF)	STRUCTURE NUMBER
FTSC 6' x 4'	12' x 4'	6' x 4'	5,216	103	-
FTSC 8' x 4'	16' x 4'	8' x 4'	7,141	141	-
FTSC 6' x 6'	12' x 6'	6' x 6'	7,847	195	-
FTSC 8' x 6'	16' x 6'	8' x 6'	10,734	212	FT-4,5
FTSC 10' x 6'	19' x 6'	10' x 6'	12,638	250	-
FTSC 10' x 8'	20' x 8'	10' x 8'	18,179	360	FT-1,2,3,7
FTSC 11' x 8'	22' x 8'	11' x 8'	20,000	398	FT-6,8

**CONTECH ENGINEERED SOLUTIONS LLC**  
0 SEDIMENTATION CHAMBER

- FILTERRA STANDARD PLAN NOTES**
- CONSTRUCTION & INSTALLATION**
- EACH UNIT SHALL BE CONSTRUCTED AT THE LOCATIONS AND ELEVATIONS ACCORDING TO THE SIZES SHOWN ON THE APPROVED DRAWINGS. ANY MODIFICATIONS TO THE ELEVATION OR LOCATION SHALL BE AT THE DIRECTION OF AND APPROVED BY THE ENGINEER.
  - IF THE FILTERRA IS STORED BEFORE INSTALLATION, THE TOP SLAB MUST BE PLACED ON THE BOX USING THE 2X4 WOOD PROVIDED, TO PREVENT ANY CONTAMINATION FROM THE SITE. ALL INTERNAL FITTINGS SUPPLIED (IF ANY), MUST BE LEFT IN PLACE AS PER THE DELIVERY.
  - THE UNIT SHALL BE PLACED ON A COMPACTED SUB-GRADE WITH A MINIMUM 6-INCH GRAVEL BASE MATCHING THE FINAL GRADE OF THE CURB LINE IN THE AREA OF THE UNIT. THE UNIT IS TO BE PLACED SUCH THAT THE UNIT AND TOP SLAB MATCH THE GRADE OF THE CURB IN THE AREA OF THE UNIT. COMPACT UNDERGRADE SUB-GRADE MATERIALS TO 95% OF MAXIMUM DENSITY AT +1% - 2% OF OPTIMUM MOISTURE. UNSUITABLE MATERIAL BELOW SUB-GRADE SHALL BE REPLACED TO THE SITE ENGINEER'S APPROVAL.
  - OUTLET CONNECTIONS SHALL BE ALIGNED AND SEALED TO MEET THE APPROVED DRAWINGS WITH MODIFICATIONS NECESSARY TO MEET SITE CONDITIONS AND LOCAL REGULATIONS.
  - ONCE THE UNIT IS SET, THE INTERNAL WOODEN FORMS AND PROTECTIVE MESH COVER MUST BE LEFT INTACT. REMOVE ONLY THE TEMPORARY WOODEN SHIPPING BLOCKS BETWEEN THE BOX AND TOP SLAB. THE TOP LID SHOULD BE SEALED ON THE BOX SECTION BEFORE BACKFILLING, USING A NON-SHEDDING GROUT, BUTYL RUBBER OR SIMILAR WATERPROOF SEAL. THE BOARDS ON TOP OF THE LID AND BOARDS SEALED IN THE UNITS FRONT MUST NOT BE REMOVED. THE SUPPLIER (AND/OR HIS AUTHORIZED DEALERS) WILL REMOVE THESE SECTIONS AT THE TIME OF ACTIVATION. BACKFILLING SHOULD BE PERFORMED IN A CAREFUL MANNER, BRACING THE APPROPRIATE FILL MATERIAL UP IN 6" LIFTS ON ALL SIDES. PRECAST SECTIONS SHALL BE SET IN A MANNER THAT WILL RESULT IN A WATER-TIGHT JOINT. IN ALL INSTANCES, INSTALLATION OF FILTERRA UNIT SHALL CONFORM TO ASTM SPECIFICATION C991 "STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST UTILITY STRUCTURES", UNLESS DIRECTED OTHERWISE IN CONTRACT DOCUMENTS.
  - THE CONTRACTOR IS RESPONSIBLE FOR INLET PROTECTION/SEDIMENT CONTROL AND CLEANING AROUND EACH FILTERRA UNIT.
  - CURB AND GUTTER CONSTRUCTION (WHERE PRESENT) SHALL ENSURE THAT THE FLOW-LINE OF THE FILTERRA UNITS IS AT A GREATER ELEVATION THAN THE FLOW-LINE OF THE BYPASS STRUCTURE OR RELIEF (DROP INLET, CURB CUT OR SIMILAR). FAILURE TO COMPLY WITH THIS GUIDELINE MAY CAUSE FAILURE AND/OR DAMAGE TO THE FILTERRA ENVIRONMENTAL DEVICE.
  - EACH FILTERRA UNIT MUST RECEIVE ADEQUATE IRRIGATION TO ENSURE SURVIVAL OF THE LIVING SYSTEM DURING PERIODS OF DRIER WEATHER. THIS MAY BE ACHIEVED THROUGH A PIPED SYSTEM, GUTTER FLOW OR THROUGH THE TREE GRATE.
- ACTIVATION**
- ACTIVATION OF THE FILTERRA UNIT IS PERFORMED ONLY BY THE SUPPLIER. PURCHASER IS RESPONSIBLE FOR FILTERRA INLET PROTECTION AND SUBSEQUENT CLEAN OUT COST. THIS PROCESS CANNOT COMMENCE UNTIL THE PROJECT SITE IS FULLY STABILIZED AND CLEANED (FULL LANDSCAPING, GRASS COVER, FINAL PAVING AND FINAL SWEEPING COMPLETED), NEGATING THE CHANCE OF CONSTRUCTION MATERIALS CONTAMINATING THE FILTERRA SYSTEM. CARE SHALL BE TAKEN DURING CONSTRUCTION NOT TO DAMAGE THE PROTECTIVE THROAT AND TOP PLATES.
  - ACTIVATION INCLUDES INSTALLATION OF PLANTS AND MULCH LAYERS AS NECESSARY.
- INCLUDED MAINTENANCE**
- EACH CORRECTLY INSTALLED FILTERRA UNIT IS TO BE MAINTAINED BY THE SUPPLIER, OR A SUPPLIER APPROVED CONTRACTOR FOR A MINIMUM PERIOD OF 1 YEAR. THE COST OF THIS SERVICE IS TO BE INCLUDED IN THE PRICE OF EACH FILTERRA UNIT. EXTENDED MAINTENANCE CONTRACTS ARE AVAILABLE AT EXTRA COST UPON REQUEST.
  - ANNUAL INCLUDED MAINTENANCE CONSISTS OF A MAXIMUM OF (2) SCHEDULED VISITS. THE VISITS ARE SCHEDULED SEASONALLY: THE SPRING VISIT AIMS TO CLEAN UP AFTER WINTER LOADS THAT MAY INCLUDE SALTS AND SANDS. THE FALL VISIT HELPS THE SYSTEM BY REMOVING EXCESSIVE LEAF LITTER.
  - EACH INCLUDED MAINTENANCE VISIT CONSISTS OF THE FOLLOWING TASKS:
    - FILTERRA UNIT INSPECTION
    - FOREIGN DEBRIS, SILT, MULCH & TRASH REMOVAL
    - FILTER MEDIA EVALUATION AND RECHARGE AS NECESSARY
    - PLANT HEALTH EVALUATION AND PRUNING OR REPLACEMENT AS NECESSARY
    - REPLACEMENT OF MULCH
    - DISPOSAL OF ALL MAINTENANCE REFUSE ITEMS
    - MAINTENANCE RECORDS UPDATED AND STORED (REPORTS AVAILABLE UPON REQUEST)
  - THE BEGINNING AND ENDING DATE OF SUPPLIER'S OBLIGATION TO MAINTAIN THE INSTALLED SYSTEM SHALL BE DETERMINED BY THE SUPPLIER AT THE TIME THE SYSTEM IS ACTIVATED. OWNERS MUST PROMPTLY NOTIFY THE SUPPLIER OF ANY DAMAGE TO THE PLANTS(S), WHICH CONSTITUTE(S) AN INTEGRAL PART OF THE BIORETENTION TECHNOLOGY.





MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

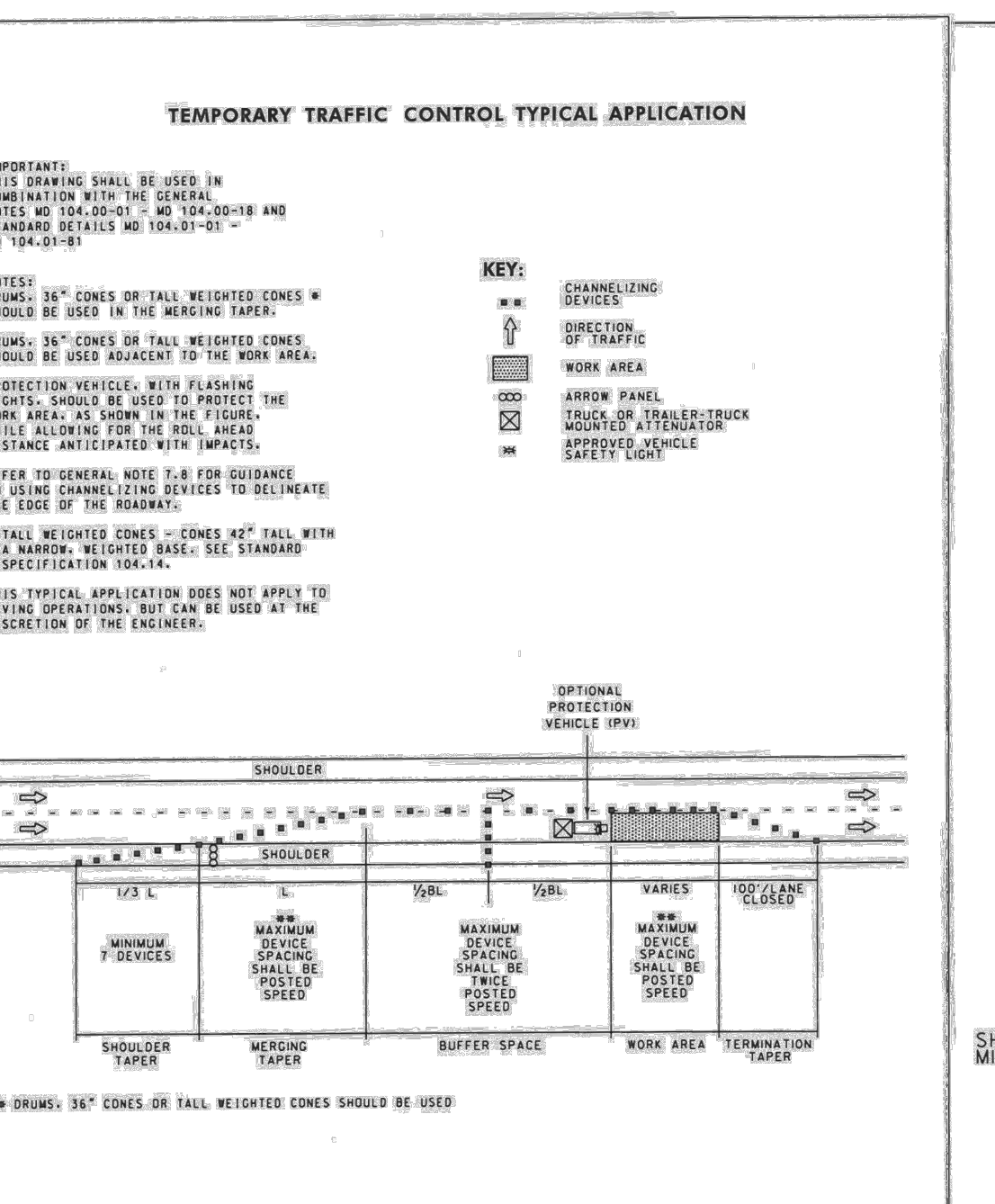
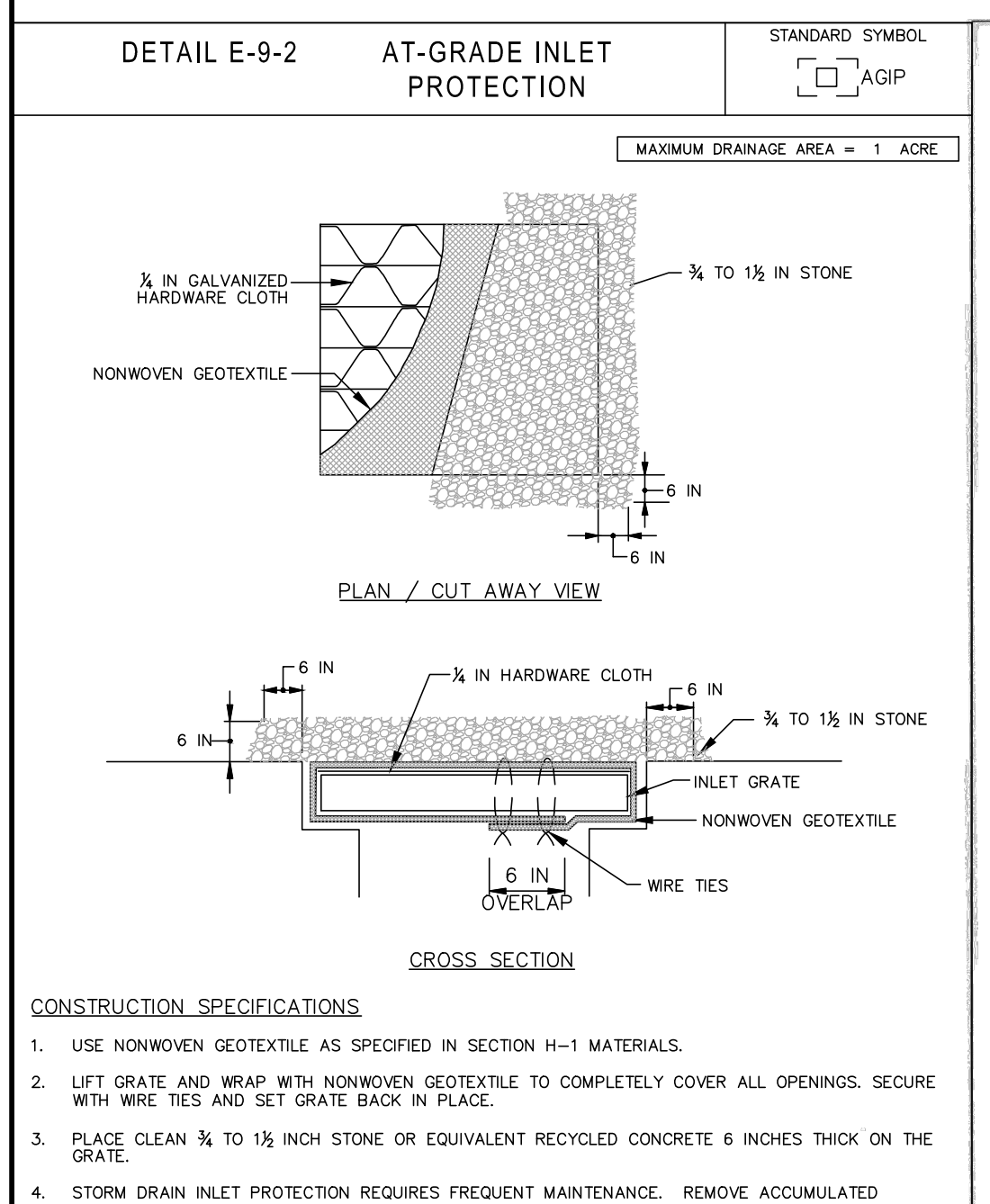
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U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**SHOULDER WORK/2-LANE, 2-WAY EQ/LESS THAN 40 MPH**  
STANDARD NO. MD 104.02-02

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**PED AND CURB-LANE CONTROL/MULTILANE UNDIV. SPEED LESS THAN OR EQUAL TO 40 MPH / OVER 12 HRS. OR NIGHTTIME USE**  
STANDARD NO. MD 104.06-09A

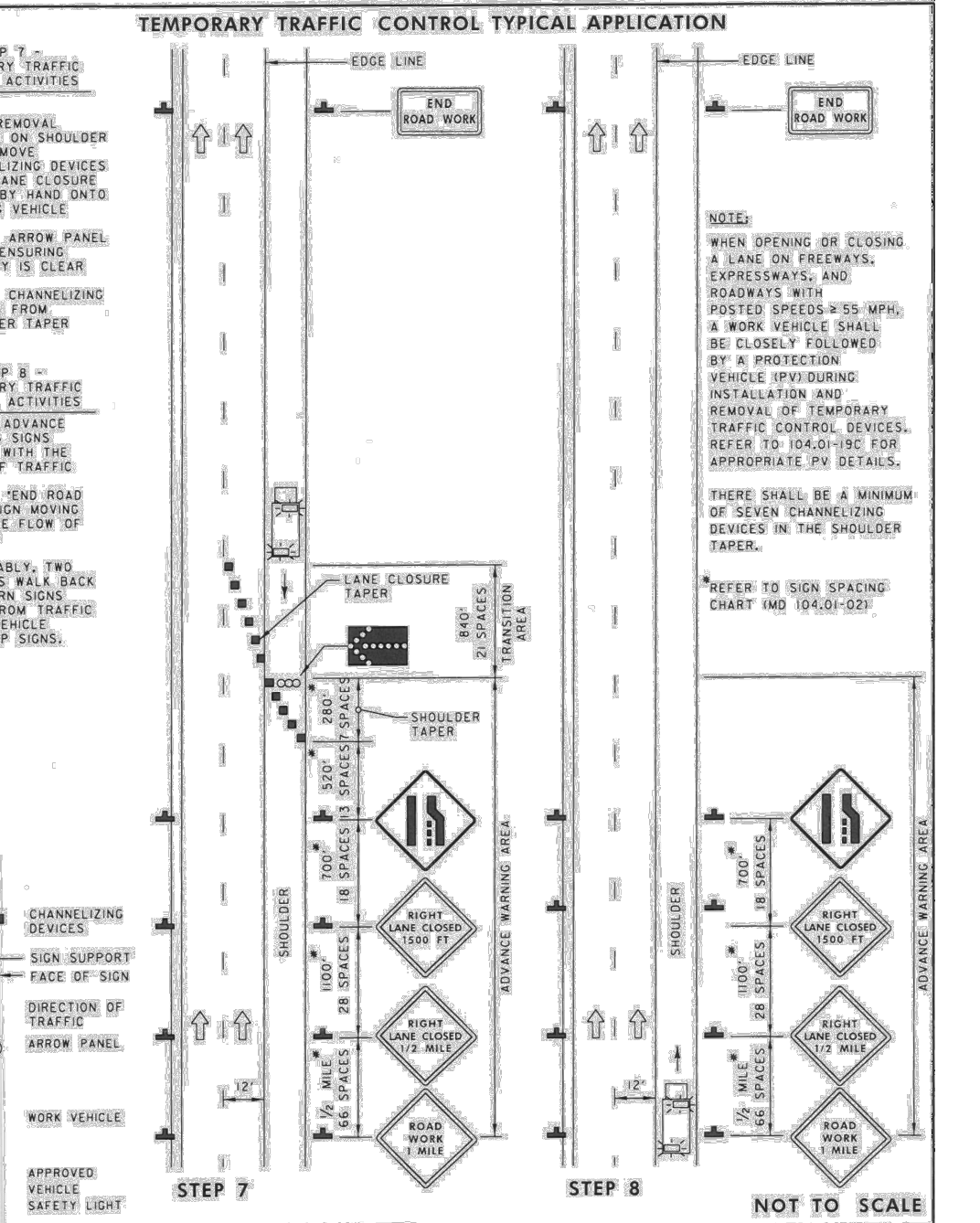
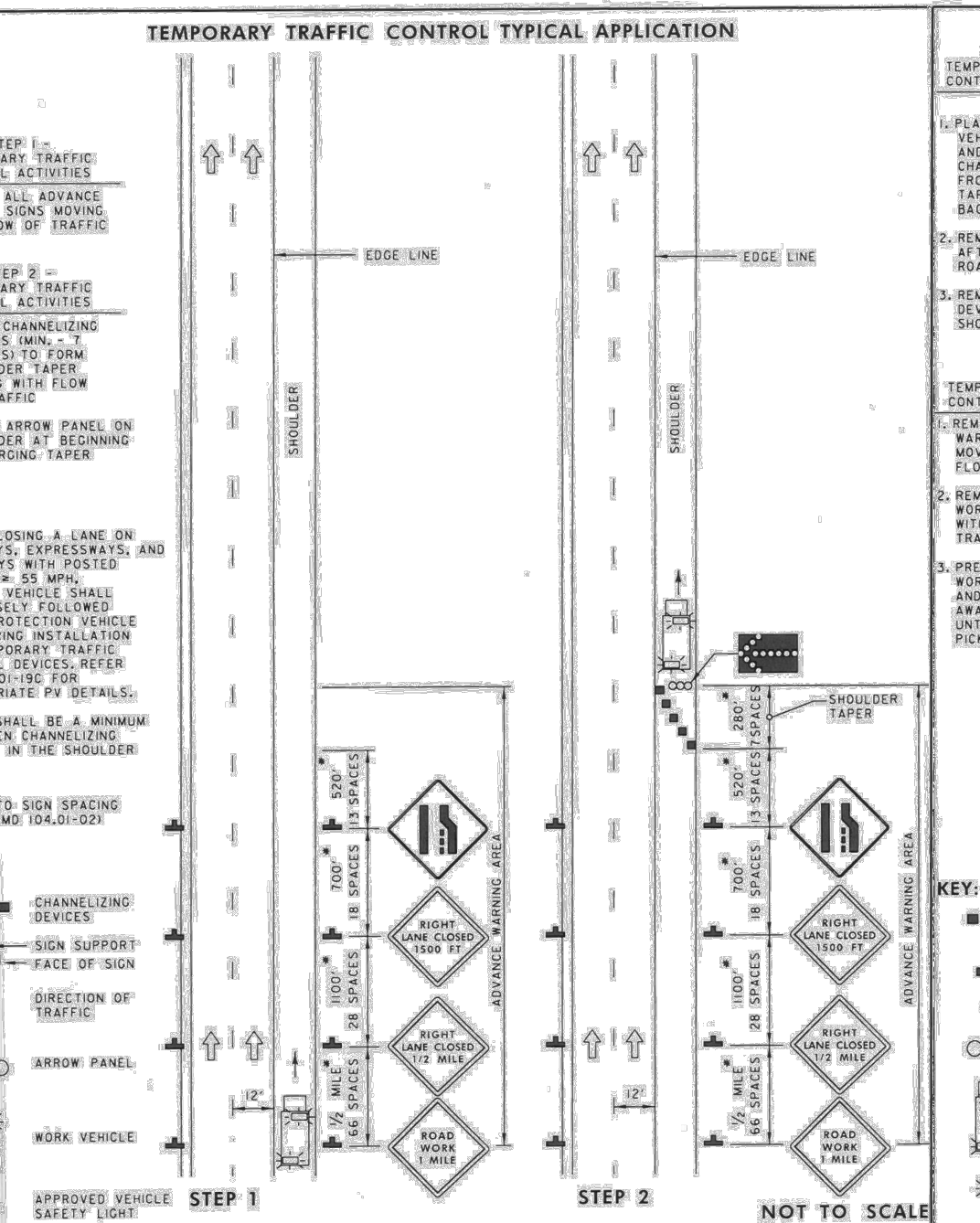
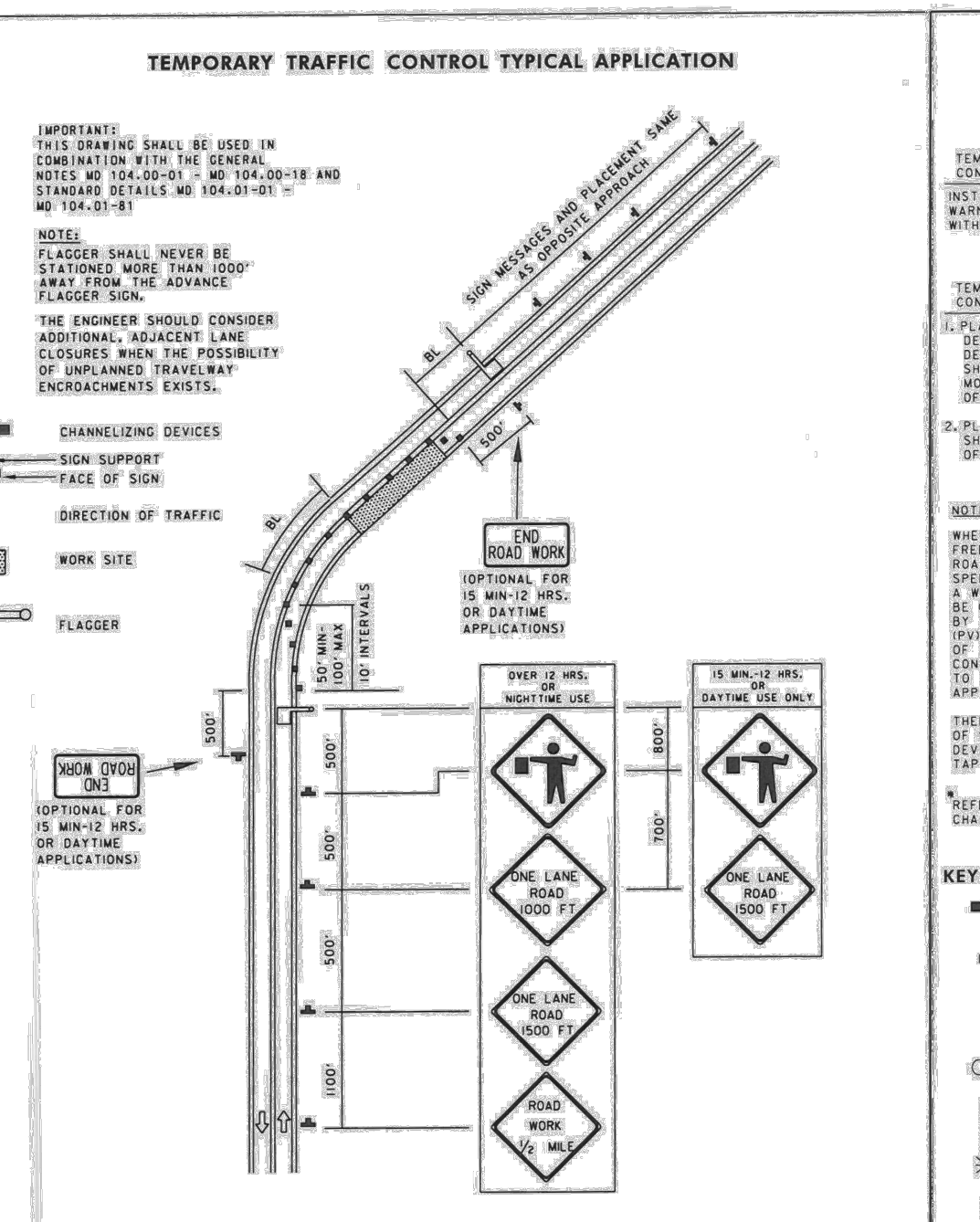


### TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

SPEED IN MPH	MIN. MERGING TAPER (L) (LENGTH/* DEVICES)						BUFFER (BL) (LENGTH/* DEVICES)
	9	10	11	12	14	15	
30	135	150	165	180	210	200	
35	184	205	225	245	270	250	
40	240	267	294	320	360	305	
45	405	450	495	540	600	360	
50	450	500	550	600	645	425	
55	495	550	605	660	705	495	
60	1000		26		570	8	
65	1000		26		645	9	
70	1000		26		730	10	
75	1000		26		820	11	

\* DEVICES = (LENGTH / DEVICE SPACING) + 1

SHOULDER TAPER = MINIMUM 7 DEVICES



MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**CHANNELIZATION DEVICE SPACING EQ/LESS THAN 40 MPH**  
STANDARD NO. MD 104.01-30 B

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**CHANNELIZATION DEVICE USAGE CRITERIA TABLE**  
STANDARD NO. MD 104.01-30 D

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**FLAGGING OPERATION/2-LANE, 2-WAY EQ/LESS THAN 40 MPH**  
STANDARD NO. MD 104.02-10

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**INSTALLING LANE CLOSURE STEPS 1 AND 2**  
STANDARD NO. MD 104.06-01

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES  
**REMOVING LANE CLOSURE STEPS 7 AND 8**  
STANDARD NO. MD 104.06-04

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
CROFTON CITY, MARYLAND 21114  
(410) 461-2099

**ENGINEER'S CERTIFICATE**  
"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
**Paul G. Cavanaugh** 5/23/2024  
SIGNATURE OF ENGINEER DATE

**DEVELOPER'S CERTIFICATE**  
"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."  
**Antonio Romano** 5/23/2024  
SIGNATURE OF DEVELOPER DATE

**PROFESSIONAL CERTIFICATION**  
"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."  
**Paul G. Cavanaugh** 5/23/2024  
PAUL GERALD CAVANAUGH DATE

**HOWARD SCD SIGNATURE BLOCK**  
THIS PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
**Alexander Banothie** 6/4/2024  
HOWARD SOIL CONSERVATION DISTRICT DATE

**OWNER/DEVELOPER**  
A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele: (301)-362-0080

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
**Director - [Signature]** 6/11/2024  
**Chief, Division of Planning and Zoning** 6/5/2024  
**Chief, Division of Planning and Zoning** 6/11/2024



**ADDRESS CHART**

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

PROJECT: ROMANO CONSTRUCTION SECTION/AREA: N/A PARCEL: B  
PLAT NOS.: 16329-16332 BLOCK NO.: N/A ZONE: M-2 TAX MAP: 47 ELEC. DIST.: SIXTH CENSUS TR.: 601101  
WATER CODE: SEWER CODE:

**SEDIMENT AND EROSION CONTROL DETAILS AND TRAFFIC CONTROL DETAILS**

**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE

ZONE: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 14 OF 23  
SCALE: AS SHOWN



SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation
1. Temporary Stabilization
a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment...

B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth...
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications...

C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more...

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING
Definition
To protect disturbed soils from erosion during and at the end of construction.
Conditions Where Practice Applies
To the surface of all perimeter contours, slopes, and any disturbed area not under active grading.

1. WCM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
2. Application
a. Apply mulch to all seeded areas immediately after seeding.
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water.

TEMPORARY SEEDING NOTES (B-4-4)
Definition
To stabilize disturbed soils with vegetation for up to 6 months.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for the period of 6 months or less. For longer duration of time, permanent stabilization practices are required.
Criteria
1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone...

Table with 4 columns: Species, Application Rate (lb/ac), Seeding Dates, Seeding Depth. Rows include BARLEY, OATS, RYE.

PERMANENT SEEDING NOTES (B-4-5)
A. Seed Mixtures
1. General Use
a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone...

2. Turfgrass Mixtures
a. Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose.

Table with 4 columns: Hardness Zone, Species, Application Rate, Seeding Dates, Seeding Depth, N, P2O5, K2O. Rows include TALL FESCUE.

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).
General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and Inspector.
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.

B-4-6 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS
Definition
A mound or pile of soil protected by approved temporary designed erosion and sediment control measures.

Conditions Where Practice Applies
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
Criteria
1. The stockpile location and all related sediment control practices must be clearly identified on the erosion and sediment control plan.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES
1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID).

Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.
All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL...

Site Analysis:
Total Area of Site: 5.52 Acres
Area Disturbed: 4.50 Acres
Area to be seeded or paved: 3.65 Acres
Area to be vegetatively stabilized: 0.85 Acres
Total Cut: 5,000 Cu. Yds.
Total Fill: 5,000 Cu. Yds.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (14 DAYS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. (7 DAYS)
3. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.

DEFINITION
CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION WITH SOIL. EXISTING TREES OR LARGE SHRUBS MAY PROVIDE VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING - COVERING WITH LESS ERODIBLE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE - COVER SURFACE WITH COARSE STONE OR CORNER GRAVEL.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

Definition
Establishment of vegetative cover on cut and fill slopes.
Purpose
To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies
Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.
Criteria
A. Incremental Stabilization - Cut Slopes
1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height.

B. Incremental Stabilization - Fill Slopes
1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seeded and apply seed and mulch on all cut slopes as the work progresses.

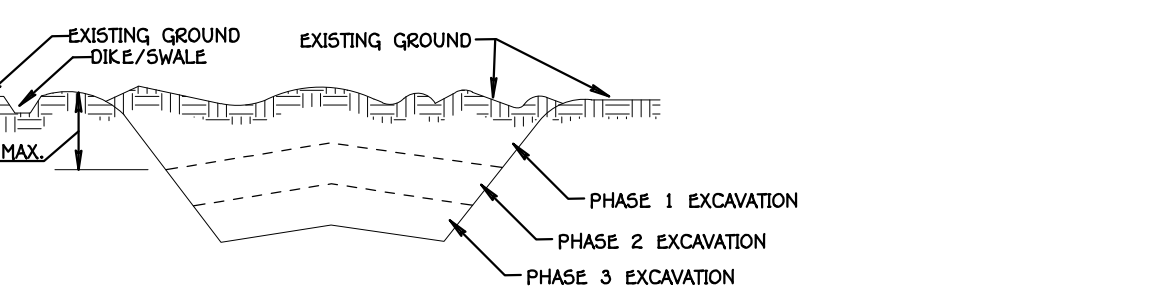


Figure B.1: Incremental Stabilization - Cut

2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.

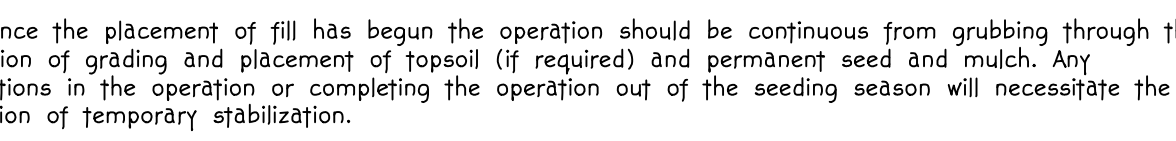


Figure B.2: Incremental Stabilization - Fill

CONSTRUCTION SPECIFICATIONS
1. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.
2. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 6 INCHES MINIMUM AND APPROXIMATE WIDTH OF 36 FEET.

Table with 2 columns: STANDARD SYMBOL, DETAIL C-5 TEMPORARY ASPHALT BERM. Includes a diagram of a temporary asphalt berm and construction specifications.

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS. CENTRAL SQUARE OFFICE, PARC. 10272, BALTIMORE NATIONAL FIRE ELLIOTT CITY, MARYLAND (410) 461-1005

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

PROFESSIONAL CERTIFICATION
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HOWARD SCD SIGNATURE BLOCK
THIS PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER/DEVELOPER
A.J. ROMANO CONSTRUCTION INC.
8970 MAIER PLACE
LAUREL, MARYLAND 20723
Attn: ANTONIO ROMANO, PRESIDENT
Tele. (301)-362-0080

ADDRESS CHART
PARCEL NO. B
STREET ADDRESS 8970 MAIER PLACE
LAUREL, MARYLAND 20725

SEDIMENT AND EROSION CONTROL NOTES
ROMANO CONSTRUCTION
A.C. MILLER PROPERTY
PARCEL 'B'
OFFICE AND WAREHOUSE USE
ZONED: M-2
GRID: 23
TAX MAP: 47 GRID: 23 PARCEL: 540
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: APRIL 2024
SHEET 15 OF 23
SCALE: AS SHOWN







**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Romano Concrete SWM and RW's Boring No. SWM-1  
Location: Laurel, MD Job # 22709A

Datum: Hammer Wt. 140 lbs. Hole Diameter 3.25 in. Foreman J. Russell  
Surf. Elev. 175.02 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector  
Date Started 11/29/22 Date Completed 11/29/22

Elevation/Depth (ft)	SOIL SYMBOLS/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Sample No.	Rec. (in)	NM (%)	SPT N (blows/ft)		
							N	10	30
175.0	D	Brown to dark brown, moist, medium dense to very dense, gravelly, silty SAND. (SM, FI)	Topsoil - 4"	1	10		9-11-9	20	
175.0	D	Brown		2	6		14-50/4	50/4	
175.0	D	Brown to tan, moist, medium dense, silty SAND. (SM)	Groundwater was not encountered while drilling	3	12		8-14-9	23	
165.10	D	Light gray to brown, moist, very stiff, sandy CLAY. (CL)		4	10		6-9-12	21	
165.15	D	Brown to tan		5	14		5-7-11	18	
155.20	D	Light gray, moist, medium dense, clayey SAND. (SC) Bottom of boring at 30'	Boring was backfilled after 24 hours	6	12		5-10-10	20	

SAMPLER TYPE	DRIVEN SPLIT SPOON UNLESS OTHERWISE	D - DISINTEGRATED	AT COMPLETION	GROUND WATER	CAVE IN DEPTH	BORING METHOD
PT - PRESSED SHELVY TUBE	I - INTACT	AFTER 24 HRS.	Dry	17.3	HSA - HOLLOW STEM AUGERS	
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER ___ HRS.			DC - DRIVING CASING	
RC - ROCK CORE	L - LOST				MD - MUD DRILLING	

STANDARD PENETRATION TEST DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Romano Concrete SWM and RW's Boring No. SWM-2  
Location: Laurel, MD Job # 22709A

Datum: Hammer Wt. 140 lbs. Hole Diameter 3.25 in. Foreman J. Russell  
Surf. Elev. 179.08 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector  
Date Started 12/01/22 Date Completed 12/01/22

Elevation/Depth (ft)	SOIL SYMBOLS/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Sample No.	Rec. (in)	NM (%)	SPT N (blows/ft)		
							N	10	30
175.0	D	Brown to tan, moist, medium stiff, CLAY, some sand. (CL, FI)	Asphalt - 1"	1	10		3-3-4	7	
175.0	D	Brown to dark brown, moist, medium dense, clayey SAND, with roots. (SC, FI)	Groundwater was encountered at 18' while drilling	2	14		4-6-8	14	
170.10	D	Light gray and tan, moist, stiff to very stiff, sandy CLAY. (CL)		3	12		4-6-10	16	
165.10	D	Brown to gray, moist, medium dense, silty SAND. (SM)		4	14		5-9-11	20	
165.15	D	Light gray, moist, stiff to hard, sandy SILT. (ML)		5	4		5-6-10	16	
160.20	D	Brown to gray, moist, medium dense, silty SAND. (SM) Bottom of boring at 30'	Boring was backfilled after 24 hours	6	14		3-5-8	13	

SAMPLER TYPE	DRIVEN SPLIT SPOON UNLESS OTHERWISE	D - DISINTEGRATED	AT COMPLETION	GROUND WATER	CAVE IN DEPTH	BORING METHOD
PT - PRESSED SHELVY TUBE	I - INTACT	AFTER 24 HRS.	Dry	13.5	HSA - HOLLOW STEM AUGERS	
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER ___ HRS.			DC - DRIVING CASING	
RC - ROCK CORE	L - LOST				MD - MUD DRILLING	

STANDARD PENETRATION TEST DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Romano Concrete SWM and RW's Boring No. SWM-3  
Location: Laurel, MD Job # 22709A

Datum: Hammer Wt. 140 lbs. Hole Diameter 3.25 in. Foreman J. Russell  
Surf. Elev. 176.70 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector  
Date Started 12/01/22 Date Completed 12/01/22

Elevation/Depth (ft)	SOIL SYMBOLS/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Sample No.	Rec. (in)	NM (%)	SPT N (blows/ft)		
							N	10	30
175.0	D	Dark brown to gray, moist, loose, clayey SAND. (SC)	Topsoil - 5"	1	10		3-4-6	10	
175.0	D	Light gray, moist, very stiff to hard, sandy CLAY. (CL)		2	12		12-18-22	40	
170.10	D	some gravel	Groundwater was not encountered while drilling	3	12		8-11-15	26	
165.10	D	Brown to light gray		4	14		4-8-11	19	
165.15	D	Light gray, moist, medium dense, silty SAND. (SM)		5	18		4-6-8	14	
160.20	D	Light gray, moist, stiff to hard, sandy SILT. (ML)		6	18		3-4-6	10	
155.20	D	Dark red to dark brown to tan		7	14		4-6-8	14	
145.20	D	Bottom of boring at 30'	Boring was backfilled after 24 hours	8	18		14-22-38	60	

SAMPLER TYPE	DRIVEN SPLIT SPOON UNLESS OTHERWISE	D - DISINTEGRATED	AT COMPLETION	GROUND WATER	CAVE IN DEPTH	BORING METHOD
PT - PRESSED SHELVY TUBE	I - INTACT	AFTER 24 HRS.	16.8	23.0	HSA - HOLLOW STEM AUGERS	
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER ___ HRS.			DC - DRIVING CASING	
RC - ROCK CORE	L - LOST				MD - MUD DRILLING	

STANDARD PENETRATION TEST DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Romano Concrete SWM and RW's Boring No. SWM-4  
Location: Laurel, MD Job # 22709A

Datum: Hammer Wt. 140 lbs. Hole Diameter 3.25 in. Foreman J. Russell  
Surf. Elev. 177.60 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector  
Date Started 11/29/22 Date Completed 11/29/22

Elevation/Depth (ft)	SOIL SYMBOLS/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Sample No.	Rec. (in)	NM (%)	SPT N (blows/ft)		
							N	10	30
175.0	D	Brown, moist, loose to very dense, silty SAND, trace clay. (SM)	Asphalt - 2"	1	18		4-4-5	9	
175.0	D	Light brown	Groundwater was encountered at 25' while drilling	2	18		4-16-27	43	
170.10	D	Light gray to brown, moist, stiff, sandy CLAY. (CL)		3	18		9-16-35	51	
165.10	D	Light gray, moist, medium dense, clayey SAND. (SC)		4	18		5-5-6	11	
165.15	D	Light gray, moist, medium dense, clayey SAND. (SC)		5	18		4-4-7	11	
160.20	D	Light gray, moist, medium dense, clayey SAND. (SC)		6	18		4-6-7	13	
155.20	D	Gray, moist, hard, CLAY, trace sand. (CL)		7	18		4-7-9	16	
145.20	D	Dark gray, moist, stiff, sandy CLAY. (CL) Bottom of boring at 30'	Boring was backfilled after 24 hours	8	18		10-13-19	32	

SAMPLER TYPE	DRIVEN SPLIT SPOON UNLESS OTHERWISE	D - DISINTEGRATED	AT COMPLETION	GROUND WATER	CAVE IN DEPTH	BORING METHOD
PT - PRESSED SHELVY TUBE	I - INTACT	AFTER 24 HRS.			17.3	HSA - HOLLOW STEM AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER ___ HRS.				DC - DRIVING CASING
RC - ROCK CORE	L - LOST					MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

**HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION**

Project Name: Romano Concrete SWM and RW's Boring No. SWM-5  
Location: Laurel, MD Job # 22709A

Datum: Hammer Wt. 140 lbs. Hole Diameter 3.25 in. Foreman J. Russell  
Surf. Elev. 172.44 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector  
Date Started 11/29/22 Date Completed 11/29/22

Elevation/Depth (ft)	SOIL SYMBOLS/SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Sample No.	Rec. (in)	NM (%)	SPT N (blows/ft)		
							N	10	30
170.0	D	Brown to light brown, moist, medium dense, silty SAND, with roots. (SM)	Topsoil - 1"	1	18		5-6-8	14	
170.0	D	Brown, moist, dense, silty SAND. (SM)	Groundwater was not encountered while drilling	2	18		9-11-12	23	
165.10	D	Light gray, moist, stiff, sandy CLAY. (CL)		3	18		10-12-18	30	
165.15	D	Light gray, moist, stiff, sandy CLAY. (CL)		4	18		6-5-7	12	
160.20	D	Light gray to brown, moist, medium dense, clayey SAND. (SC)		5	18		3-5-7	12	
155.20	D	Dark gray, moist, stiff, sandy CLAY. (CL) Bottom of boring at 20'	Boring was backfilled after 24 hours	6	18		9-6-9	15	

SAMPLER TYPE	DRIVEN SPLIT SPOON UNLESS OTHERWISE	D - DISINTEGRATED	AT COMPLETION	GROUND WATER	CAVE IN DEPTH	BORING METHOD
PT - PRESSED SHELVY TUBE	I - INTACT	AFTER 24 HRS.			14.0	HSA - HOLLOW STEM AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER ___ HRS.				DC - DRIVING CASING
RC - ROCK CORE	L - LOST					MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" O.D. SAMPLER 1" WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS.

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2999

**PROFESSIONAL CERTIFICATION**

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

Paul G. Cavanaugh 5/23/2024  
PAUL GERALD CAVANAUGH DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Director - [Signature] 6/11/2024  
Chief, Division of Planning and Zoning  
Chief, Development Engineering Division 6/11/2024

DATE	DESCRIPTION
	REVISION BLOCK

**OWNER/DEVELOPER**

A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele. (301)-362-0080

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725

PROJECT	SECTION/AREA	PARCEL
ROMANO CONSTRUCTION	N/A	B

PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
16329-16332	N/A	M-2	47	SIXTH	601101

WATER CODE: --- SEWER CODE: ---

**BORING LOGS**

**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE

ZONE: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 17 OF 23  
SCALE: AS SHOWN









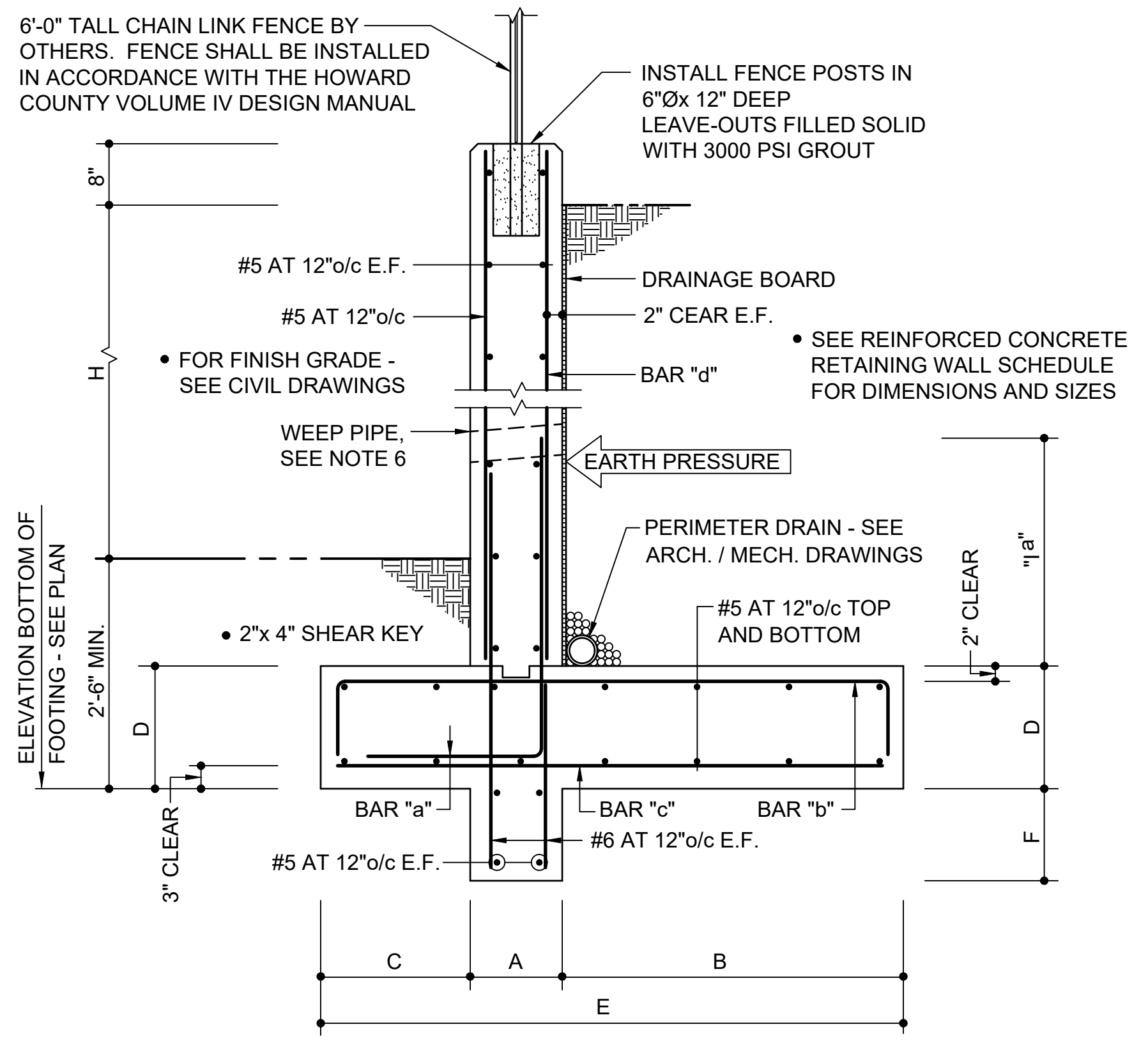


### CONCRETE RETAINING WALL SCHEDULE

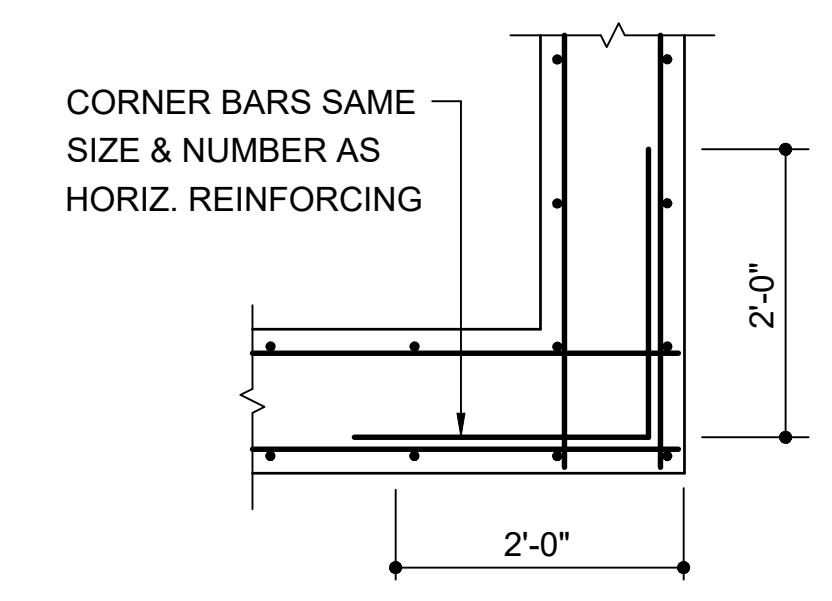
MARK	HEIGHT (NOTE 4)	WALL	FOOTING			REINFORCING				SHEAR KEY	
			H	A	E x D	B	C	BAR "a"	l <sub>a</sub>		BAR "b"
A	4'-0"	12"	5'-0" x 12"	2'-6"	1'-6"	#5 AT 12"o/c	42"	#5 AT 12"o/c	#5 AT 12"o/c	#5 AT 12"o/c	1'-0"
B	6'-0"	12"	6'-0" x 12"	3'-0"	2'-0"	#5 AT 12"o/c	42"	#5 AT 12"o/c	#5 AT 12"o/c	#5 AT 12"o/c	1'-0"
C	10'-0"	12"	9'-0" x 18"	4'-6"	3'-6"	#8 AT 12"o/c	48"	#6 AT 12"o/c	#6 AT 12"o/c	#6 AT 12"o/c	1'-6"
D	16'-0"	18"	13'-6" x 18"	6'-6"	5'-6"	#9 AT 9"o/c	66"	#8 AT 12"o/c	#8 AT 12"o/c	#8 AT 9"o/c	3'-0"
E	20'-0"	24"	20'-0" x 24"	10'-0"	8'-0"	#9 AT 6"o/c	66"	#9 AT 12"o/c	#9 AT 12"o/c	#8 AT 6"o/c	3'-0"
F	23'-0"	24"	21'-0" x 24"	10'-0"	9'-0"	#9 AT 4"o/c	66"	#9 AT 9"o/c	#9 AT 9"o/c	#8 AT 4"o/c	5'-0"
G	16'-0"	18"	16'-0" x 18"	10'-3"	4'-3"	#9 AT 9"o/c	66"	#8 AT 12"o/c	#8 AT 12"o/c	#8 AT 9"o/c	3'-0"
H	20'-0"	24"	16'-0" x 24"	10'-0"	4'-0"	#9 AT 6"o/c	66"	#9 AT 12"o/c	#9 AT 12"o/c	#8 AT 6"o/c	3'-0"
I	20'-0"	24"	16'-0" x 24"	11'-0"	3'-0"	#9 AT 6"o/c	66"	#9 AT 12"o/c	#9 AT 12"o/c	#8 AT 6"o/c	3'-0"
J	20'-0"	24"	21'-0" x 24"	11'-0"	8'-0"	#9 AT 6"o/c	66"	#9 AT 12"o/c	#9 AT 12"o/c	#8 AT 6"o/c	3'-0"
K	16'-0"	18"	13'-0" x 18"	8'-3"	3'-3"	#9 AT 9"o/c	66"	#8 AT 12"o/c	#8 AT 12"o/c	#8 AT 9"o/c	3'-0"

#### RETAINING WALL NOTES:

- ALL CONCRETE FOR RETAINING WALLS AND RETAINING WALL FOOTINGS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI
- LATERAL EARTH PRESSURE OF 45H (PSF) AND ALLOWABLE BEARING PRESSURE OF 2,500 PSF WERE USED IN THE DESIGN OF BELOW GRADE SITE WALLS AND FOOTINGS AND MUST BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER.
- DO NOT BACKFILL WALLS UNTIL CONCRETE HAS ATTAINED DESIGN STRENGTH.
- RETAINED EARTH SHALL NOT EXCEED THE CORRESPONDING HEIGHT, H, AS NOTED IN SCHEDULE.
- RETAINING WALL WAS NOT DESIGNED TO SUPPORT THE VEHICULAR GUARDRAIL.
- PROVIDE 4" SOLID PVC WEEP PIPES AT 15'-0" o/c MAX. U.N.O. - WEEP PIPES TO BE LOCATED 12" ABOVE LOW GRADE

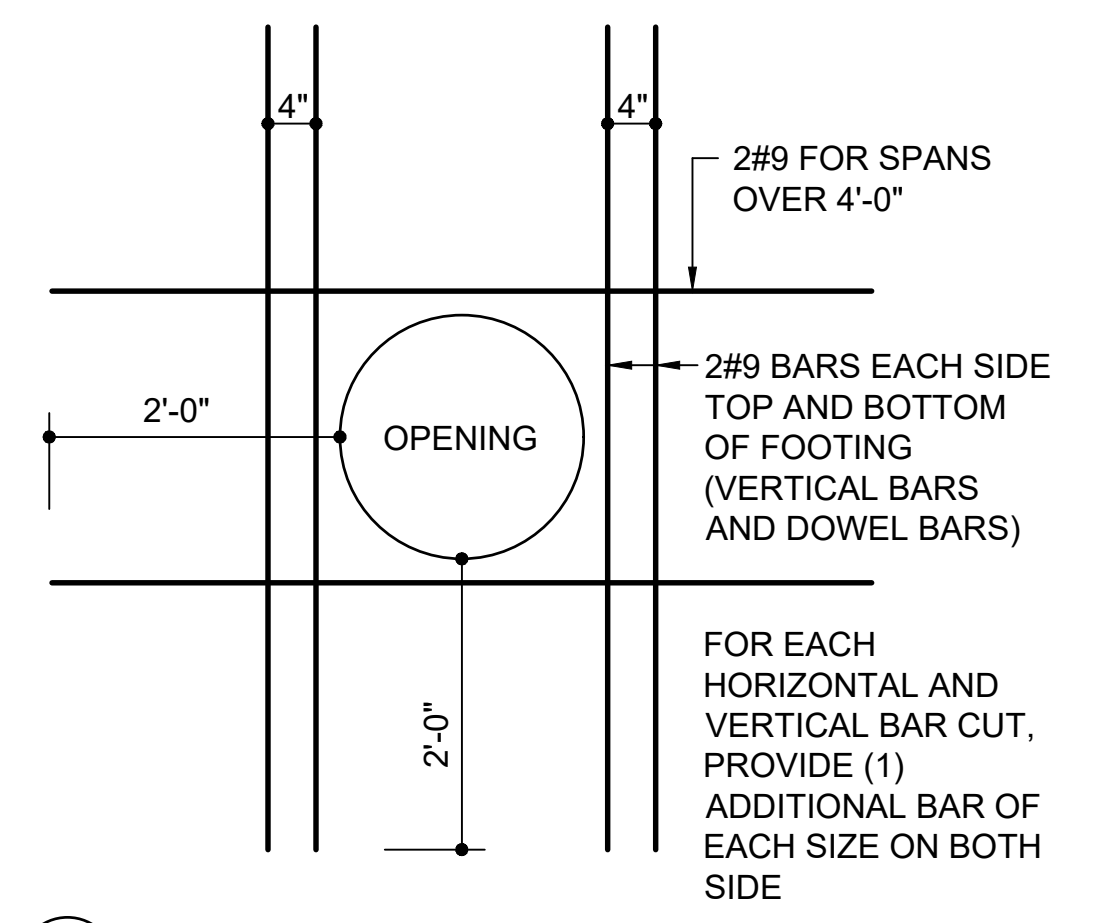


### 1 TYPICAL CONCRETE RETAINING WALL

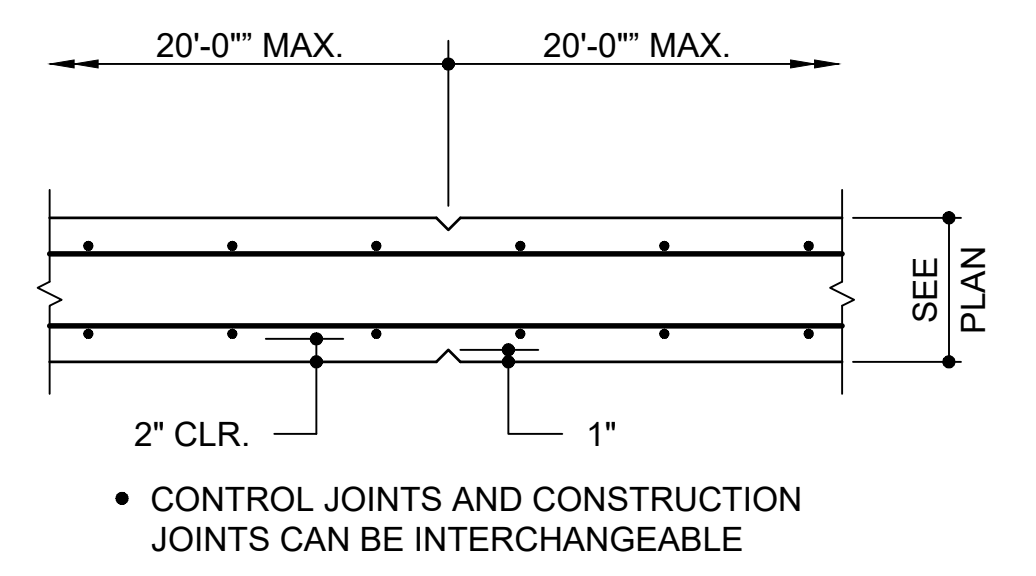


### 2 TYP. CORNER BARS

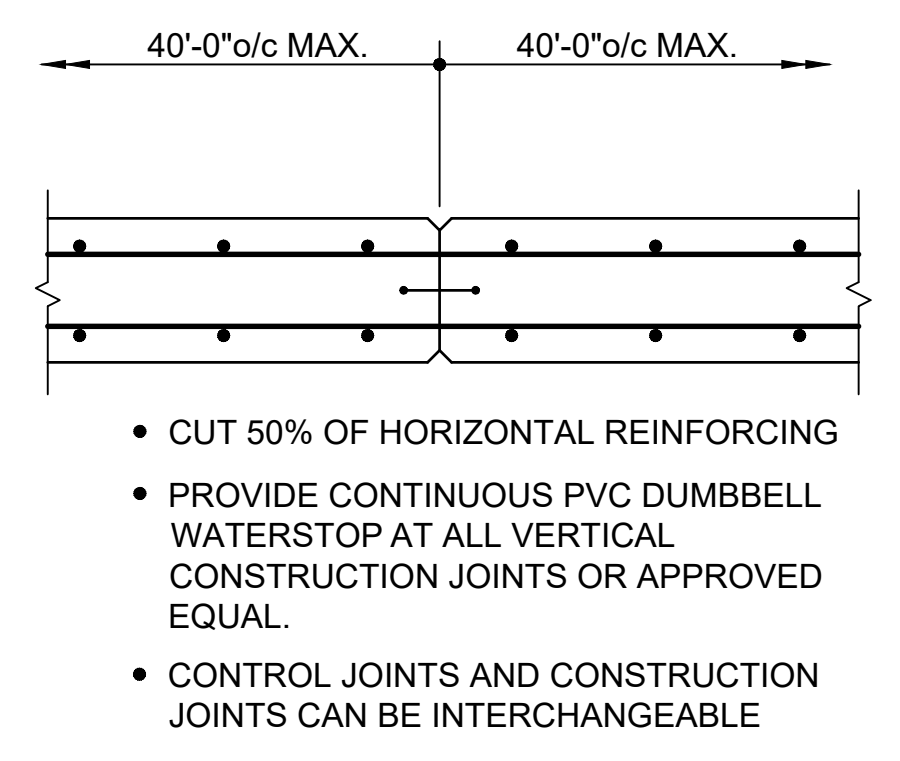
- PROVIDE CONTINUOUS PVC DUMBELL WITH CENTER BULB WATERSTOP AT ALL VERTICAL EXPANSION JOINTS OR APPROVED EQUAL.



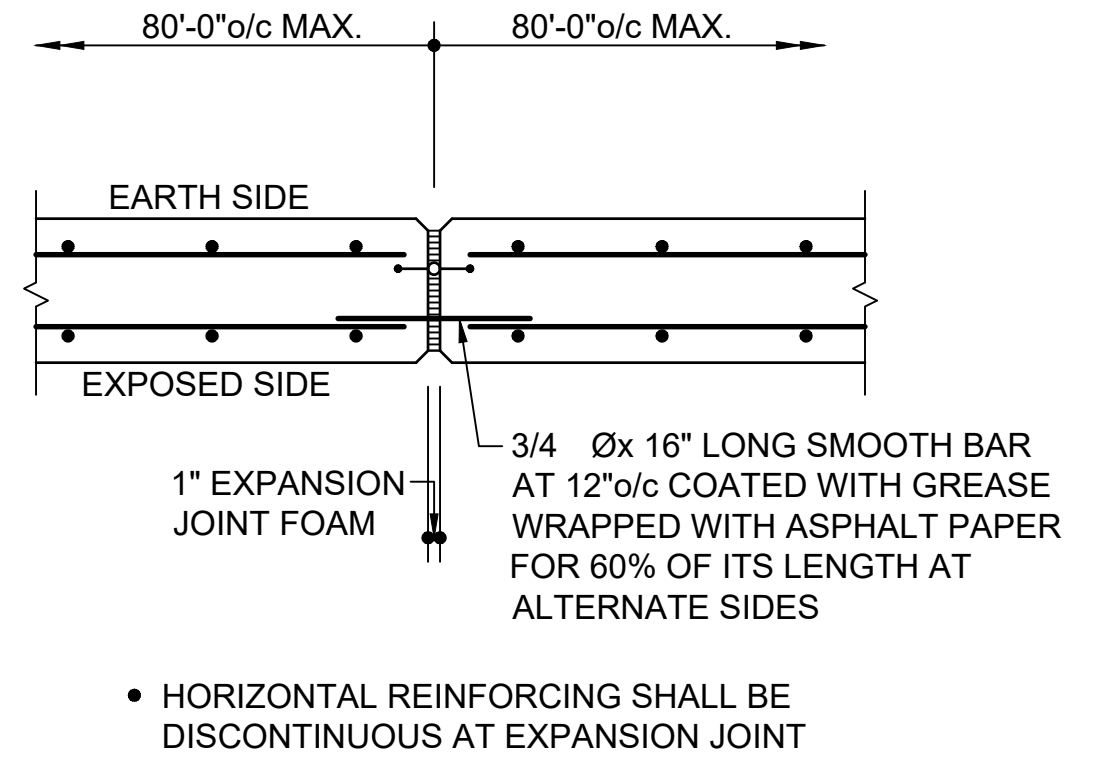
### 3 TYPICAL OPENING IN CONCRETE WALL



### 4 CONTROL JOINT IN CONCRETE WALLS



### 5 CONSTRUCTION JOINT IN CONCRETE WALLS



### 6 EXPANSION JOINT IN CONCRETE WALLS

- CONTROLLED FILL AND BACKFILL:**
- SAMPLES OF ALL MATERIALS THAT THE CONTRACTOR PROPOSES TO USE FOR COMPACTED FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.
  - COMPACTED FILL SHALL CONSIST OF LOCAL MATERIAL FREE OF DELETERIOUS MATTER AND CLASSIFIED SP, SW, SC, GP, GW, GM, OR GC PER ASTM D-2487.
  - THE CONTROL OF THE MOISTURE FOR PLACING THE FILL WILL BE BASED ON THE RESULTS OF COMPACTION TESTS PER ASTM D-698.
  - ALL COMPACTED FILL SHALL HAVE A DENSITY OF AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.
  - PRIOR TO PLACEMENT OF ANY FILLS, THE SITE SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROCKS, AND ORGANIC MATERIALS AND THE EXPOSED SUBGRADE SHALL BE COMPACTED IN PLACE TO A CONFIRMED DENSITY OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
  - FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8" IN THICKNESS AND SHALL BE MIXED, SPREAD AND PLACED IN SUCH A WAY AS TO PRODUCE A UNIFORM THICKNESS OF MATERIAL AFTER PLACING.
  - EACH LAYER OF FILL SHALL BE COMPACTED WITH A MINIMUM OF 6 COMPLETE PASSES ON ALL PORTIONS OF THE SURFACE OF EACH LIFT OF FILL BY RUBBER-TIRED ROLLERS, SHEEPS-FOOT ROLLERS OR OTHER MECHANICAL EQUIPMENT APPROVED BY THE GEOTECHNICAL ENGINEER.
  - COMPACTED FILL PLACED WITHIN 4 FEET OF STRUCTURES AND PIPES SHOULD BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED 4 INCHES THICKNESS AND COMPACTED WITH HAND TAMPERS OR LIGHT COMPACTION EQUIPMENT TO THE SAME STANDARD.
  - HEAVY COMPACTION EQUIPMENT SHOULD NOT BE ALLOWED WITHIN 4 FEET OF STRUCTURES UNLESS A MINIMUM 2 FEET DEPTH OF FILL COVERS THE STRUCTURES.
  - WHENEVER IN PLACE DENSITIES ARE FOUND BELOW ACCEPTABLE LIMITS, ADDITIONAL ROLLING TO PRODUCE THE SPECIFIED DENSITIES SHALL BE REQUIRED.
  - THE CONTRACTOR SHALL TAKE ALL MEASURES REQUIRED TO PROVIDE FOR FREE DRAINAGE OF THE SITE AND TO PREVENT PONDING OF WATER. SEWAGE CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES.
  - PLACING OF FILL CONTAINING ORGANIC MATTER: PLACING OF FILL WITH MOISTURE CONTENT TOO HIGH OR TOO LOW FOR PROPER COMPACTION; PLACING OF FILL WHEN FREE WATER IS STANDING ON THE EXISTING FILL SURFACE; PLACING OF FILL IN A FROZEN CONDITION OR ON TOP OF FROZEN MATTER WILL NOT BE PERMITTED.
  - THE SOILS ENGINEER SHALL SUPERVISE THE PLACING OF THE COMPACTED FILL AND ALL THE MATERIAL AND EQUIPMENT USED FOR THIS PURPOSE AND SHALL MAKE SUCH SOILS TESTS AS MAY BE REQUIRED FOR THE COMPLETION OF THE WORK PERFORMING AT LEAST 6 IN PLACE DENSITY TESTS DURING EACH EIGHT HOUR SHIFT.

- FOUNDATIONS-SPREAD FOOTINGS:**
- BOTTOM OF ALL FOOTINGS SHALL BE A MINIMUM OF 2'-0" BELOW ORIGINAL GRADE OR PLACED IN APPROVED COMPACTED FILL.
  - BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISHED GRADE.
  - A SOIL BEARING CAPACITY OF 2500 PSF WAS USED IN THE FOUNDATION DESIGN AND MUST BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER. IF SOIL OF THIS BEARING CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS INDICATED ON THE CONTRACT DRAWINGS, FOOTINGS SHALL BE LOWERED OR INCREASED IN SIZE AS DIRECTED BY THE STRUCTURAL ENGINEER.
  - ELEVATIONS SHOWN ON PLAN ARE TO THE BOTTOM OF THE FOOTINGS.

- CONCRETE:**
- ALL CONCRETE WORK SHALL CONFORM TO ALL THE PROVISIONS OF THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301) AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).
  - CONCRETE PROPERTIES FOR EACH STRUCTURAL ELEMENT IS DEFINED IN THE DESIGN DATA SECTION ON THIS SHEET.
  - CONCRETE SHALL CONFORM TO ALL THE PROVISIONS OF "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING" (ACI 305) AND "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING" (ACI 308).
  - ALL FORMWORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "FORMWORK FOR CONCRETE" SPECIAL PUBLICATION NO. 4 AND ACIS "STANDARD RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" (ACI-347).
  - CONCRETE MIX DESIGN SHALL BE BASED ON LABORATORY TRIAL BATCH METHOD DESCRIBED IN ACI-318. CONCRETE SHALL ALSO CONFORM TO THE FOLLOWING REQUIREMENTS.
  - ALL CONCRETE EXPOSED TO THE WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% ± 1%.
  - THE MAXIMUM WATER CEMENT RATIO W/C SHALL NOT EXCEED 0.56 FOR ALL CONCRETE EXCEPT CONCRETE EXPOSED TO WEATHER WHICH SHALL NOT EXCEED 0.45.
  - NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED.
  - THE MAXIMUM SLUMP OF ALL CONCRETE SHALL BE 4".
  - CONTRACTOR SHALL SUPPORT ADJACENT STRUCTURES, UTILITIES, AND EXCAVATIONS AS REQUIRED FOR COMPLETION OF WORK.
  - ONE SET OF COMPRESSIVE TEST CYLINDERS FOR EACH 100 CUBIC YARDS POURED, BUT NOT LESS THAN ONE SET FOR EACH DAY'S POUR AND EACH CLASS OF CONCRETE, ALONG WITH SLUMP TESTS SHALL BE PERFORMED BY A TESTING LABORATORY APPROVED BY THE STRUCTURAL ENGINEER.
  - NO CONCRETE SHALL BE PLACED UNTIL CONCRETE DESIGN MIXES HAVE BEEN SUBMITTED FOR EACH CLASS OF CONCRETE AND HAVE BEEN APPROVED BY THE ENGINEER.

- REINFORCING STEEL:**
- REINFORCING STEEL SHALL BE DEFORMED BARS IN ACCORDANCE WITH ASTM A-615, GRADE 60.
  - BENDS AND HOOKS ARE TO BE FABRICATED IN ACCORDANCE WITH ACI SP-66 ACI DETAILING MANUAL AND AS PER DETAILS.
  - PLACE MAIN REINFORCING STEEL SO AS TO PROVIDE 3" MINIMUM COVER FOR FOUNDATIONS POURED ON EARTH, 2" MINIMUM COVER FOR BEAMS AND COLUMNS, 3/4" MINIMUM COVER FOR SLABS AND 1 1/2" FOR ALL REBAR IN EXPOSED CONCRETE.
  - LAP DEFORMED BARS IN ACCORDANCE WITH LAP SPICE SCHEDULE ON THESE DRAWINGS, UNO.
  - HOOKS SHALL BE STANDARD HOOKS, UNO.
  - PROVIDE ACCESSORIES AND BAR SUPPORTS IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315).
  - WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-1064, UNO.
  - WWF REINFORCING SHALL BE PLACED AT MID-DEPTH OF SLABS ON GRADE AND DRAPED OVER SUPPORTS IN CONCRETE ON METAL DECK SLABS.
  - END LAPS OF ALL WWF REINFORCING SHALL BE LAPPED (1) SQUARE.

- POST-INSTALLED ANCHORS:**
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS.
  - SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS.
  - ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP FATIGUE, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
  - ANCHOR CAPACITY IS HIGHLY DEPENDENT UPON SPACINGS BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE/MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACINGS AND EDGE CLEARANCES INDICATED ON THE DRAWINGS. IF EDGE DISTANCES OR ANCHOR SPACING IS NOT SPECIFIED ON THE DRAWINGS, PROVIDE THE FOLLOWING MINIMUM DISTANCES.

- A. EDGE DISTANCES:**
- ADHESIVE ANCHORS: 2 TIMES THE ANCHOR EMBEDMENT LENGTH
  - UNDERCUT ANCHORS: 2.5 TIMES THE ANCHOR EMBEDMENT LENGTH
  - EXPANSION ANCHORS (ELEV OR WEDGE): 4 TIMES THE ANCHOR EMBEDMENT LENGTH
- B. ANCHOR SPACING:**
- ALL ANCHORS: 3 TIMES THE ANCHOR EMBEDMENT
- 4. ANCHORS SHALL BE INSTALLED BY QUALIFIED PERSONNEL IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, BUILDING CODE, AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPI).**
- THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL POST-INSTALLED ANCHORS HAVE BEEN PROPERLY TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING FOR EACH SPECIFIC PRODUCT.
  - INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS (AS DETERMINED BY THE ENGINEER) SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY THE MANUFACTURER'S ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.
  - ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL FURNISH A REPORT TO THE STRUCTURAL ENGINEER OF RECORD AND BUILDING OFFICIAL THAT THE WORK DESCRIBED BY THE REPORT HAS BEEN PROPERLY PERFORMED AND THAT THE MATERIALS USED AND THE INSTALLATION PROCEDURES USED CONFORM WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPI).
  - ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. IF HIGH-EARLY STRENGTH CONCRETE MIXES ARE SPECIFIED, CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL OF MINIMUM INSTALLATION AGE.
  - EXISTING REINFORCING BARS OR PRESTRESSING STEEL IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TESTING TO LOCATE THE POSITION AND DEPTH OF THE REINFORCING BARS OR PRESTRESSING STEEL. THE LOCATIONS OF THE CONCRETE ANCHORS BY HILTI FERROSCAN GPR, X-RAY, CHIPPING OR OTHER MEANS.
  - EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES. ANCHORS EXPOSED TO WEATHER AND AT SILL PLATES SHALL BE STAINLESS STEEL.
    - MECHANICAL ANCHORS IN CRACKED OR UNCRACKED CONCRETE USE:
      - HILTI KWIK BOLT-TZ EXPANSION ANCHORS
      - HILTI KWIK HUS-EZ AND KWIK HUS E-ZI SCREW ANCHORS
    - ADHESIVE ANCHORS IN CRACKED OR UNCRACKED CONCRETE USE:
      - HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD
      - HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT SYSTEM WITH HAS-E THREADED ROD

- SUBMITTALS:**
- SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY GENERAL CONTRACTOR AND REVIEWED BY THE ENGINEER.
  - ALL SHOP DRAWINGS USED FOR WORK SHALL BEAR THE STAMP OF THE ARCHITECT/ENGINEER AND SHALL BE MARKED "APPROVED" OR "APPROVED AS NOTED".
  - CONTRACTOR SHALL CHECK SHOP DRAWINGS THOROUGHLY BEFORE SUBMITTING. VERIFY DIMENSIONS REQUIRING FIELD VERIFICATION BEFORE SUBMITTING AND MARK AS HAVING BEEN VERIFIED.
  - ALL CONTRACTOR MODIFICATIONS (INCLUDING PRODUCTS SUBMISSION) MUST BE IDENTIFIED IN WRITING AS A PROPOSED "AS EQUAL" CHANGES AT TIME OF SUBMISSION.
  - IF A CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS OR FAILS TO FOLLOW THE ABOVE "AS EQUAL" PROCEDURE, THE FIRM MORABITO CONSULTANTS, INC. WILL NOT BE RESPONSIBLE FOR THE STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT.
  - SHOP DRAWINGS ARE REVIEWED BY THE ENGINEER AS A CONVENIENCE TO THE CONTRACTOR AND ARE NOT A CONTRACT DOCUMENT.

- INSPECTION:**
- ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES.
  - THE OWNER SHALL HIRE AN EXPERIENCED QUALIFIED INSPECTOR TO PERFORM ALL REQUIRED INSPECTION WORK FOR THE PURPOSE OF ASCERTAINING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE DESIGN INTENT.
  - THE ENGINEER WILL NOT PERFORM THE REQUIRED INSPECTIONS AS PART OF THIS PRESENT CONTRACT WITH THE ARCHITECT/ENGINEER.
  - UNDER THIS PRESENT CONTRACT, THE ENGINEER MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. HOWEVER, SUCH VISITS SHALL NOT BE RELIED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHOULD IT BE CONSTRUED TO RELIEVE THE CONTRACTOR IN ANY WAY FROM HIS OBLIGATIONS AND RESPONSIBILITIES UNDER THE CONSTRUCTION CONTRACT. HOWEVER, IF DESIRED, MORABITO CONSULTANTS, INC. MAY BE HIRED UNDER A SEPARATE CONTRACT TO PERFORM THIS INSPECTION WORK.

**DESIGN WITHOUT CONSTRUCTION REVIEW:**

IT IS AGREED THAT IF MORABITO CONSULTANTS, INC.'S PROFESSIONAL SERVICES DO NOT EXTEND TO OR INCLUDE THE REVIEW OR SITE OBSERVATION OF THE CONTRACTOR'S WORK OR PERFORMANCE, THEN THE OWNER WILL DEFEND, INDEMNIFY AND HOLD HARMLESS MORABITO CONSULTANTS, INC. FROM ANY CLAIM OR SUIT WHATSOEVER, INCLUDING BUT NOT LIMITED TO ALL PAYMENTS, EXPENSES OR COSTS INVOLVED, ARISING FROM OR ALLEGED TO HAVE ARISEN FROM THE CONTRACTOR'S PERFORMANCE OR THE FAILURE OF THE CONTRACTOR'S WORK TO CONFORM TO THE DESIGN INTENT AND THE CONTRACT DOCUMENTS.

2. MORABITO CONSULTANTS, INC. AGREES TO BE RESPONSIBLE FOR ITS OWN OR ITS EMPLOYEES' NEGLIGENCE, ACTS, ERRORS OR OMISSIONS.

**OWNERSHIP OF DOCUMENTS:**

1. THE CONTRACTOR ACKNOWLEDGES THESE PLANS AND SPECIFICATIONS PREPARED BY MORABITO CONSULTANTS, INC. AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE PLANS AND SPECIFICATIONS PREPARED UNDER THIS AGREEMENT SHALL REMAIN THE PROPERTY OF MORABITO CONSULTANTS, INC. UPON COMPLETION OF THE WORK.

3. THE CONTRACTOR AGREES TO HOLD HARMLESS AND INDEMNIFY MORABITO CONSULTANTS, INC., AGAINST ALL DAMAGES, CLAIMS, AND LOSSES, INCLUDING DEFENSE COSTS, ARISING OUT OF ANY REUSE OF THE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN AUTHORIZATION OF MORABITO CONSULTANTS, INC.

**DESIGN DATA:**

CONCRETE:  
NORMAL WEIGHT CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f<sub>c</sub>) AS FOLLOWS:  
ALL CONCRETE = 5000 PSI

REINFORCING STEEL: F<sub>y</sub> = 60,000 PSI

LATERAL EARTH PRESSURE:  
EQUIVALENT ACTIVE FLUID PRESSURE = 40 PSF/FT  
EQUIVALENT PASSIVE FLUID PRESSURE = 360 PSF/FT  
COEFFICIENT OF FRICTION = 0.30  
SURCHARGE = 250 PSF

**FISHER, COLLINS & CARTER, INC.**  
CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10722 BALTRACRE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2855

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 50265.  
EXPIRATION DATE: 12/2024

*Tyler Brings* 5/24/2024  
Tyler J. Brings, P.E. DATE

DATE	DESCRIPTION
6/11/2024	APPROVED: DEPARTMENT OF PLANNING AND ZONING
6/5/2024	Date
6/11/2024	Date
	Date

**OWNER/DEVELOPER**  
A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
LAUREL, MARYLAND 20723  
Attn: ANTONIO ROMANO, PRESIDENT  
Tele. (301)-362-0080



ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
B	8970 MAIER PLACE LAUREL, MARYLAND 20725
PROJECT	SECTION/AREA PARCEL
ROMANO CONSTRUCTION	N/A B
PLAT NOS.	BLOCK NO. ZONE TAX MAP ELEC. DIST. CENSUS TR.
16329-16332	N/A M-2 47 SIXTH 601101
WATER CODE	SEWER CODE

**RETAINING WALL DETAILS AND GENERAL NOTES**

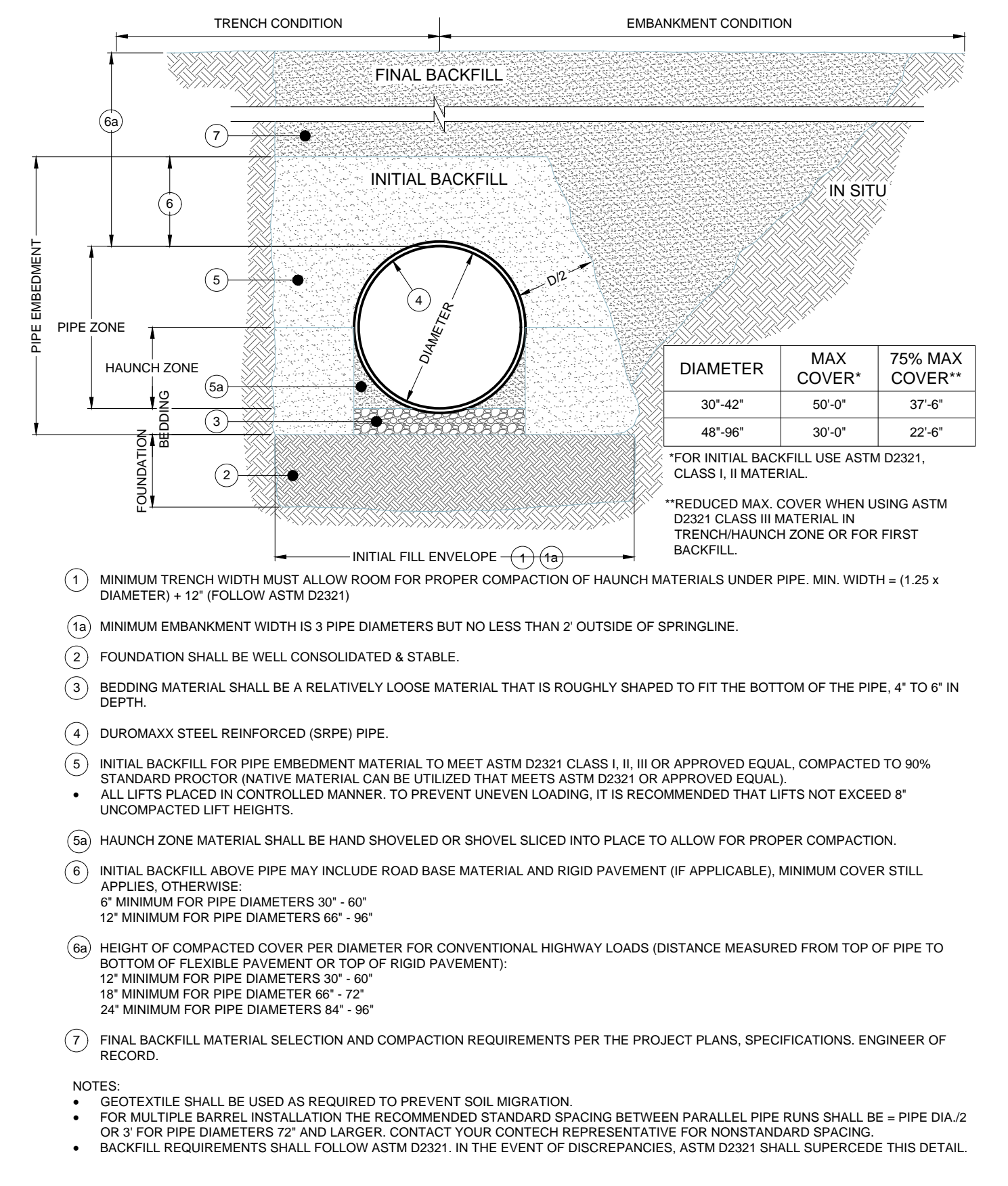
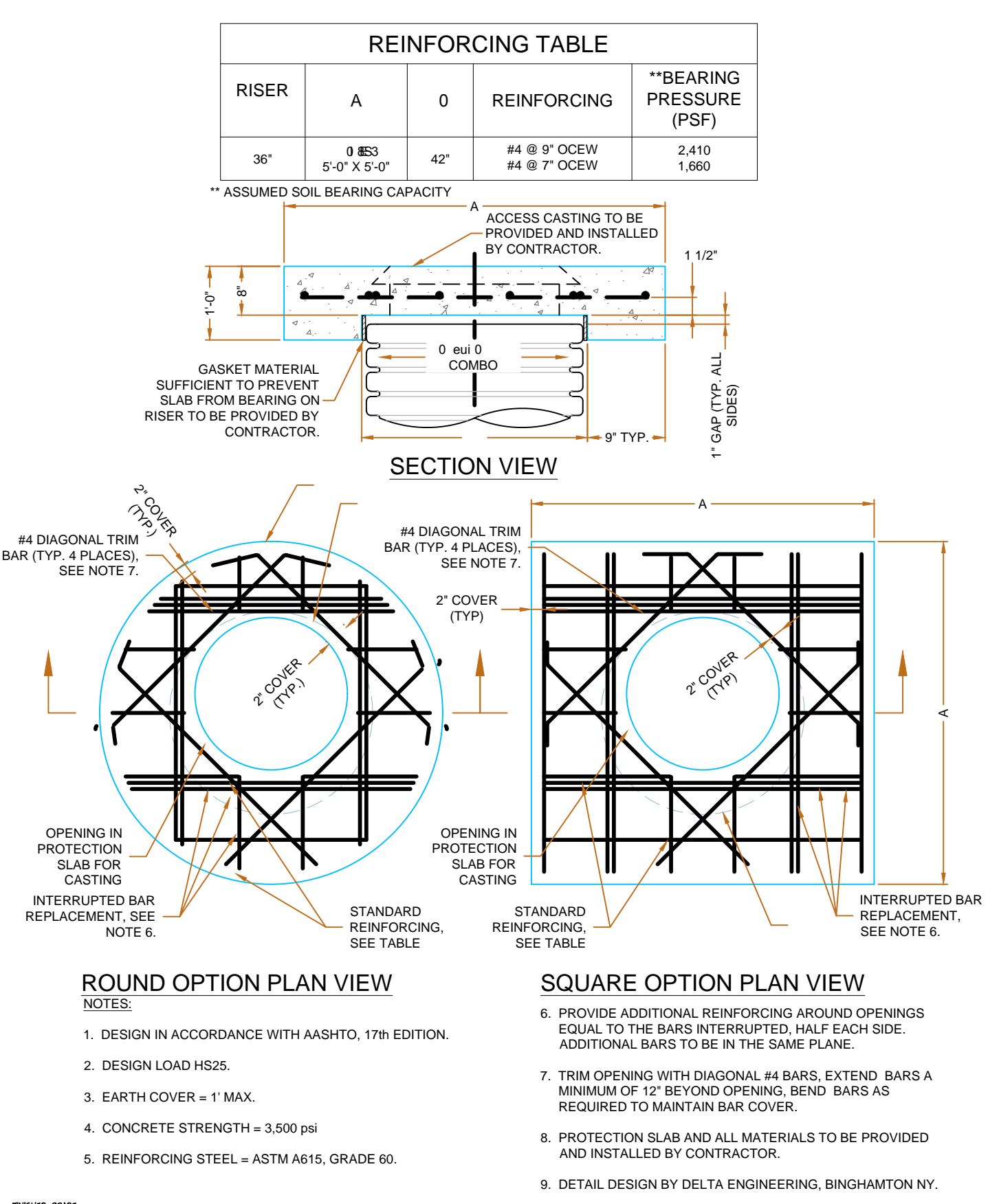
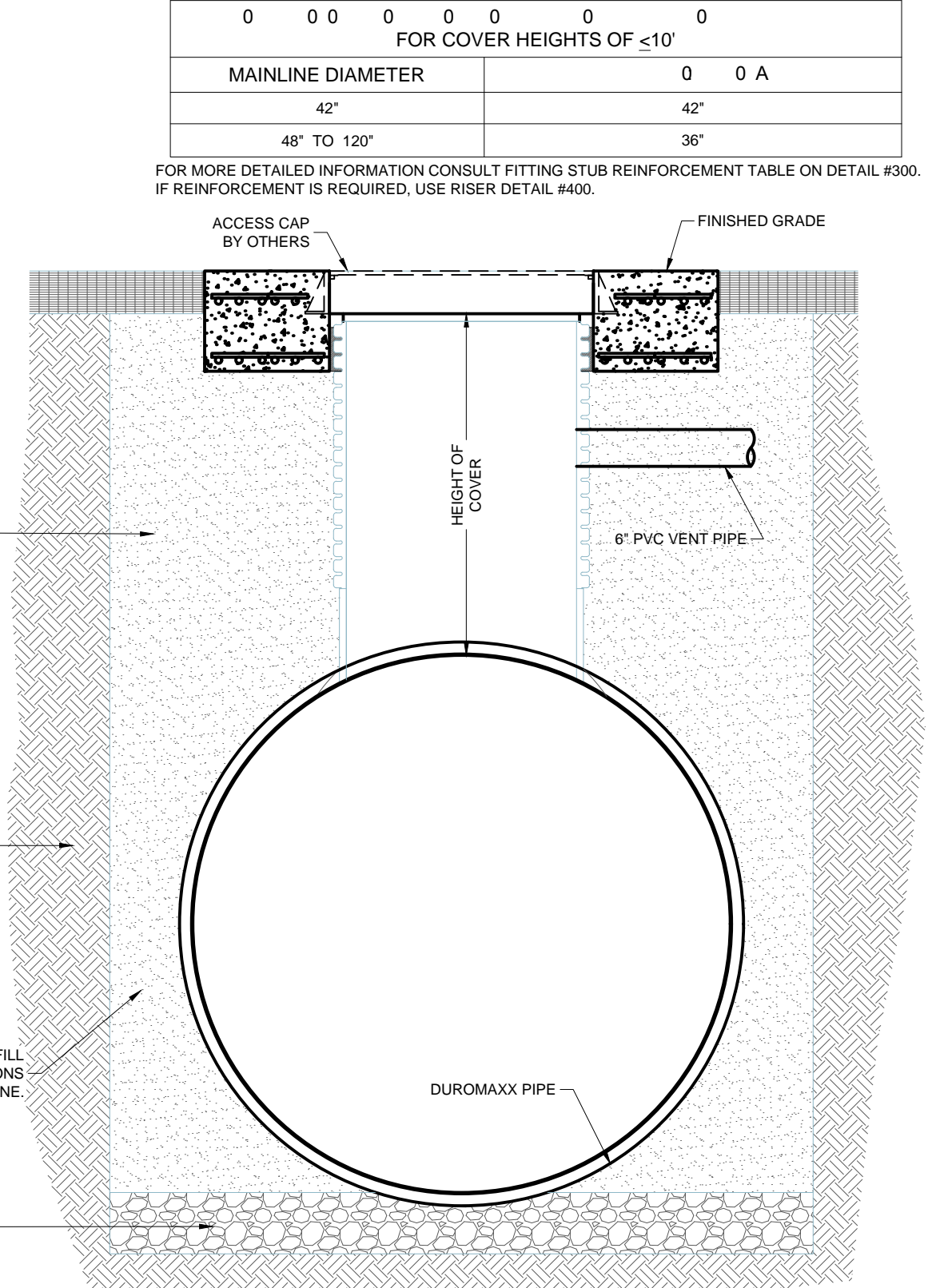
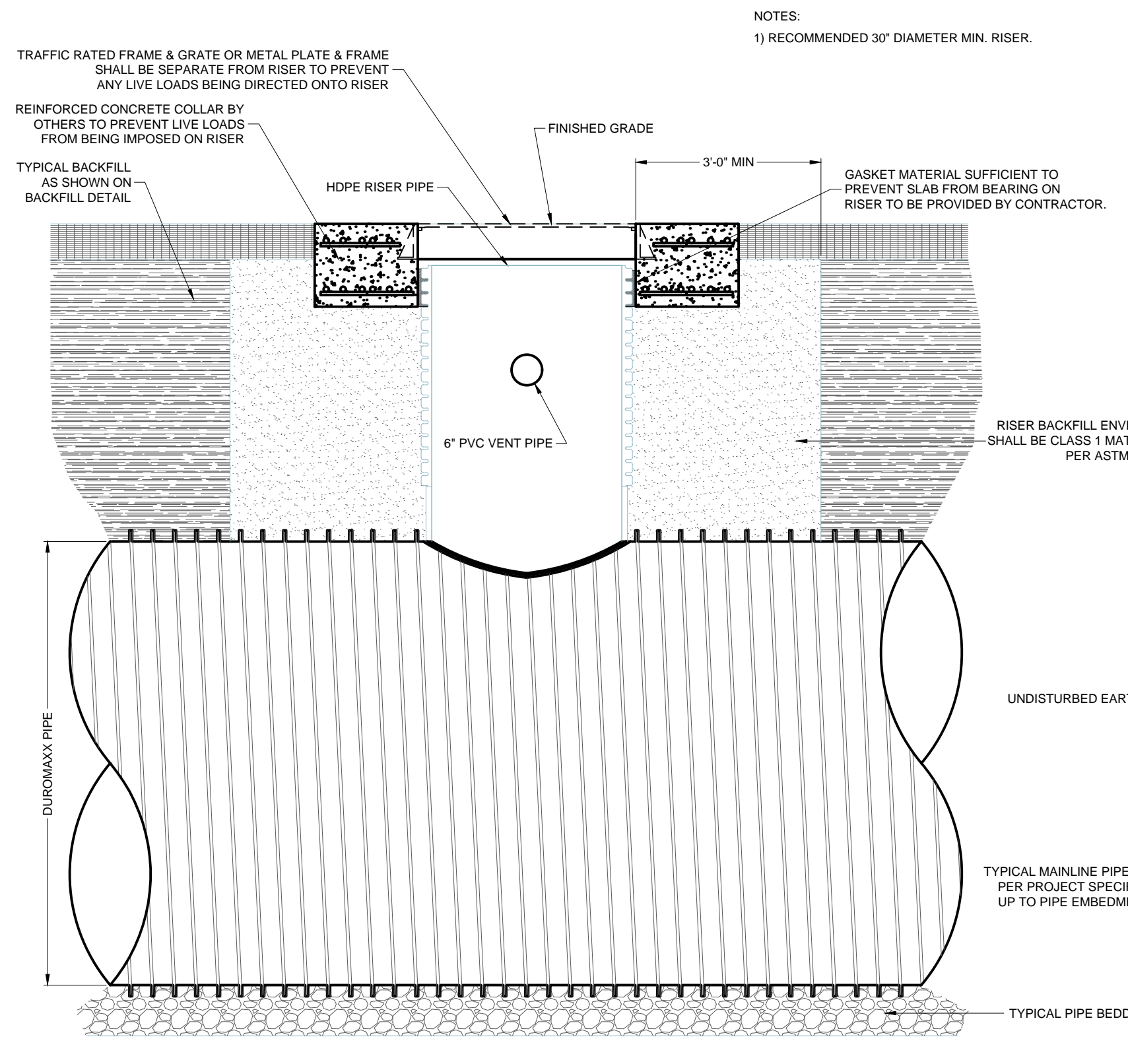
**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'

ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: JANUARY 26, 2023  
SHEET 20 OF 23  
SCALE: 3/4" = 1'-0"





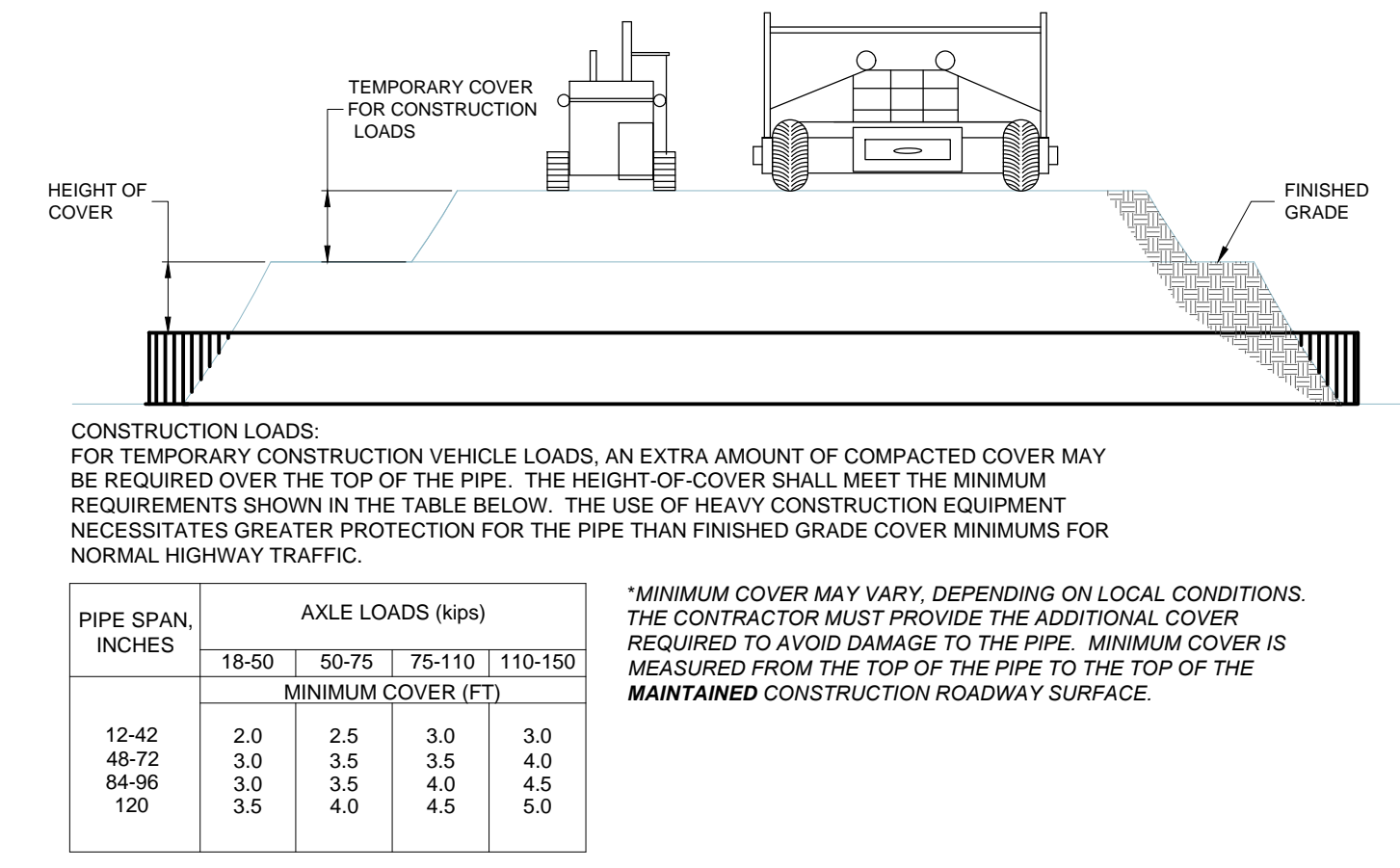
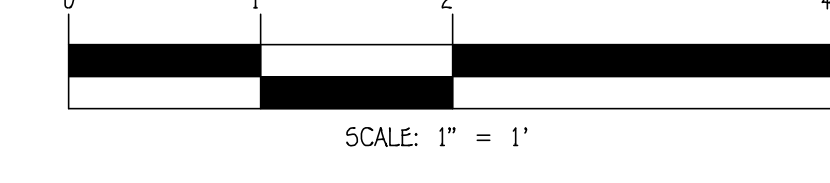
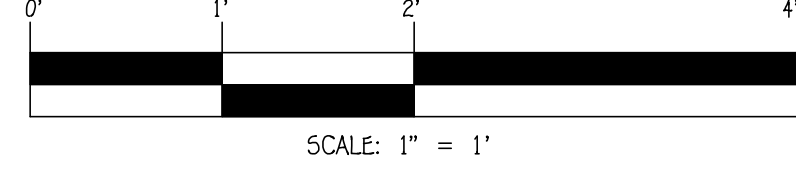
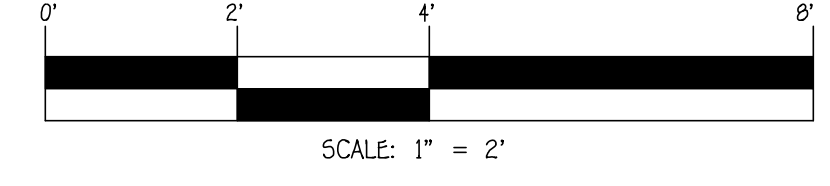




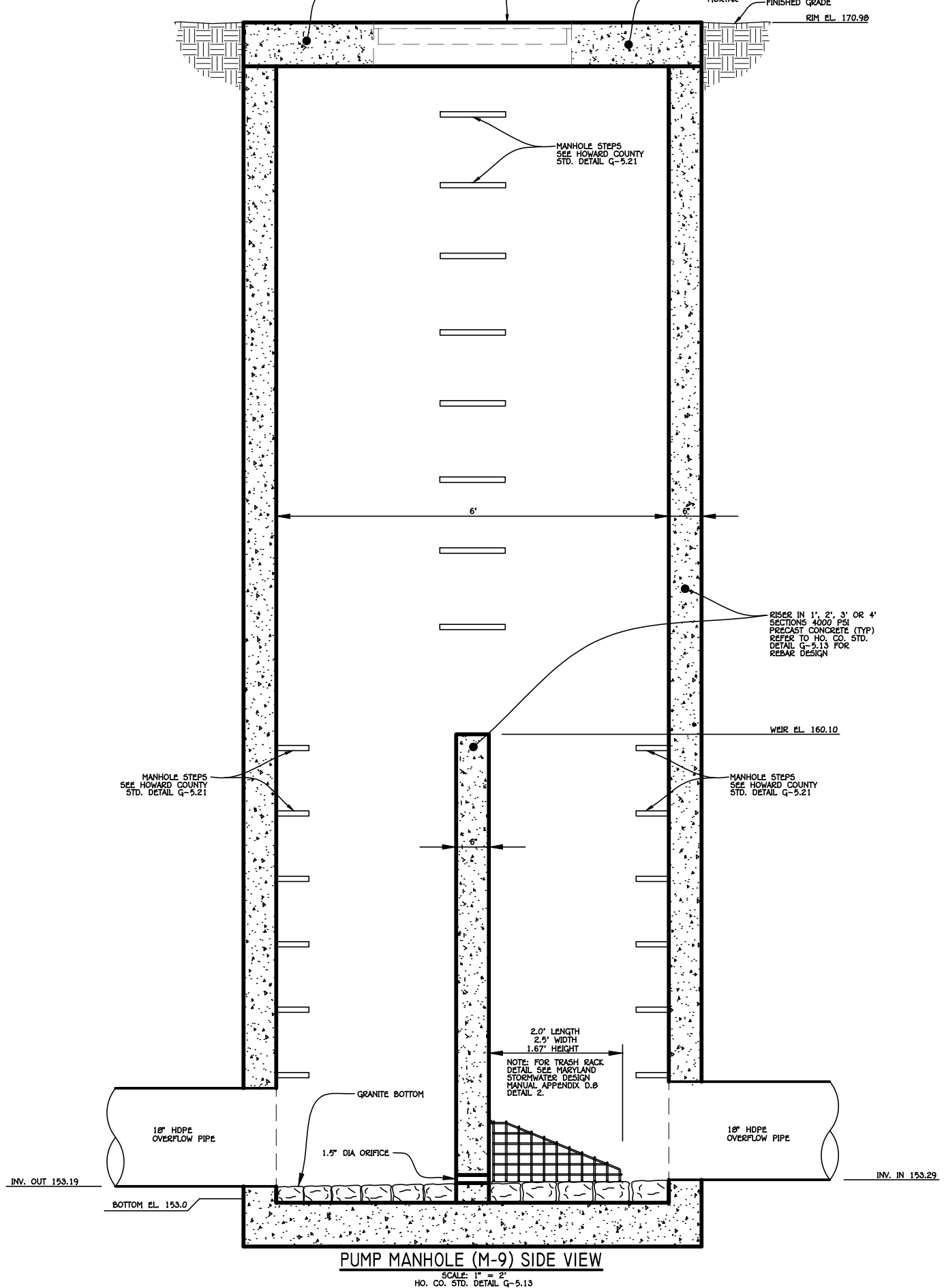
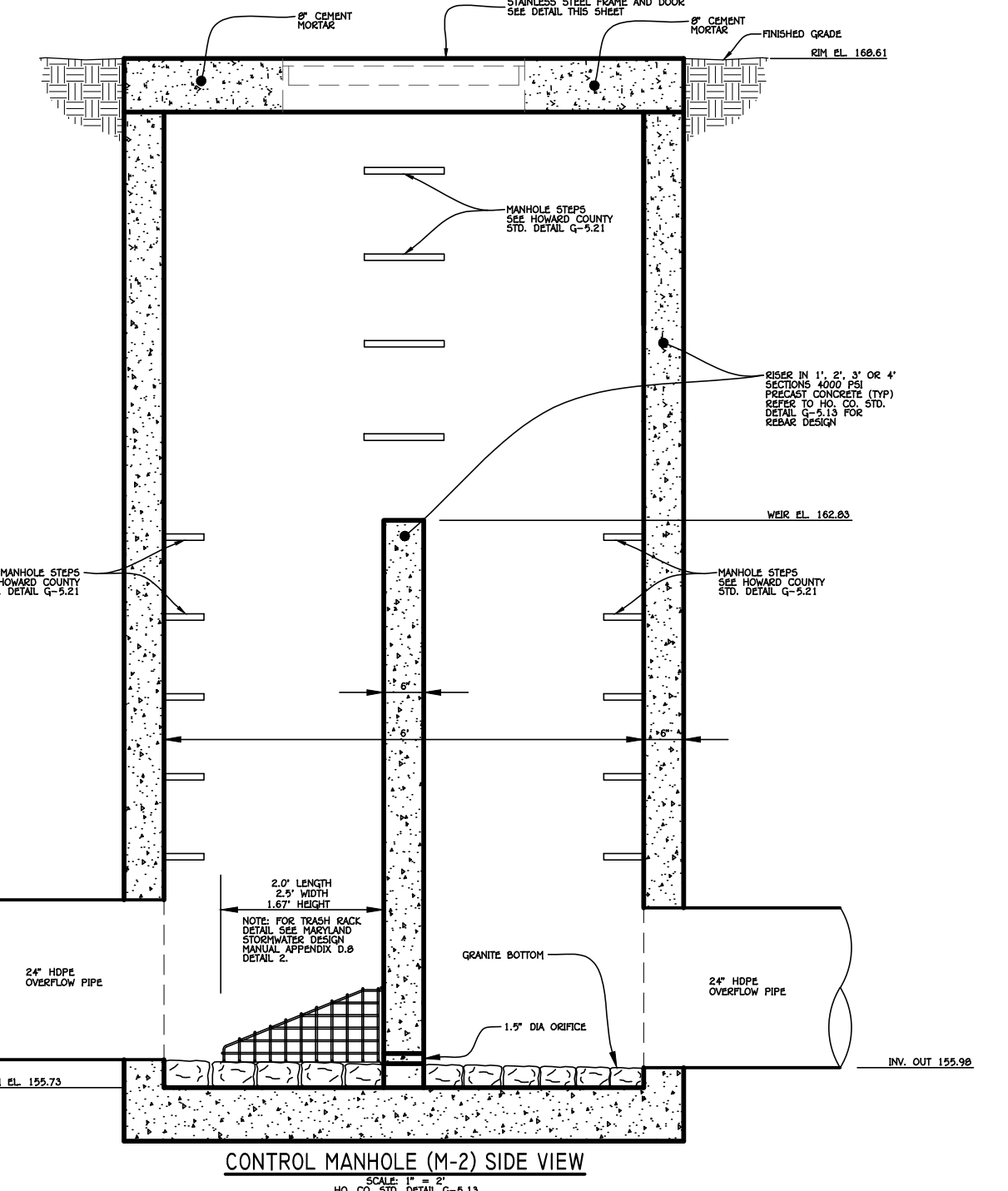
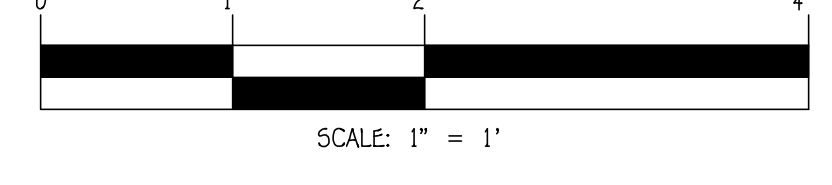
TYPICAL RISER WITH CONCRETE REINFORCEMENT DETAIL

CONCRETE CAP DETAIL

STANDARD BACKFILL DETAIL



CONSTRUCTION LOADING DETAIL



CONTROL MANHOLE (M-2) SIDE VIEW

PUMP MANHOLE (M-9) SIDE VIEW

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE: PAUL - 10272 BALTIMORE NATIONAL PIKE, ELICOTT CITY, MARYLAND 21042 (410) 461-2895

**PROFESSIONAL CERTIFICATION**

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 27020, EXPIRATION DATE: 01/25/24."

*Paul G. Cavanaugh* 5/23/2024

PAUL GERALD CAVANAUGH DATE

DATE DESCRIPTION REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING 6/11/2024

Director - Department of Planning and Zoning 6/5/2024

Chief, Division of Land Use Development 6/11/2024

Chief, Development Engineering Division

**OWNER/DEVELOPER**

A.J. ROMANO CONSTRUCTION INC.  
8970 MAIER PLACE  
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Attn: ANTONIO ROMANO, PRESIDENT  
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ROMANO CONSTRUCTION	N/A				
PLAT NOS.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
16329-16332	N/A	M-2	47	SIXTH	601101
WATER CODE	SEWER CODE				
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**UNDERGROUND SWM DETAILS**

**ROMANO CONSTRUCTION**  
A.C. MILLER PROPERTY  
PARCEL 'B'  
OFFICE AND WAREHOUSE USE

ZONED: M-2  
TAX MAP: 47 GRID: 23 PARCEL: 540  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
DATE: APRIL, 2024  
SHEET 23 OF 23  
SCALE: 1" = 30'



