

GENERAL NOTES

- 1. ALL GRADING FOR THIS PROJECT SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR.
2. THERE IS A 100' WIDE DRAINAGE AND UTILITIES EASEMENT ALONG ALL FRONT LOT LINES AND AN 80' WIDE DRAINAGE AND UTILITIES EASEMENT ALONG ALL SIDE AND REAR LOT LINES HEREBY RESERVED UNLESS OTHERWISE SHOWN HEREON.
3. A PUBLIC WORKS AGREEMENT AND PERFORMANCE SECURITY WILL BE REQUIRED FOR ALL IMPROVEMENTS WITHIN THE COUNTY RIGHT-OF-WAY THAT ARE NOT OTHERWISE REGULATED UNDER A UTILITY PERMIT OR ENTRANCE PERMIT.

WASHINGTON COUNTY SAFETY TRAINING CENTER

WASHINGTON COUNTY MARYLAND
18350 PUBLIC SAFETY PLACE, HAGERSTOWN MARYLAND 21740

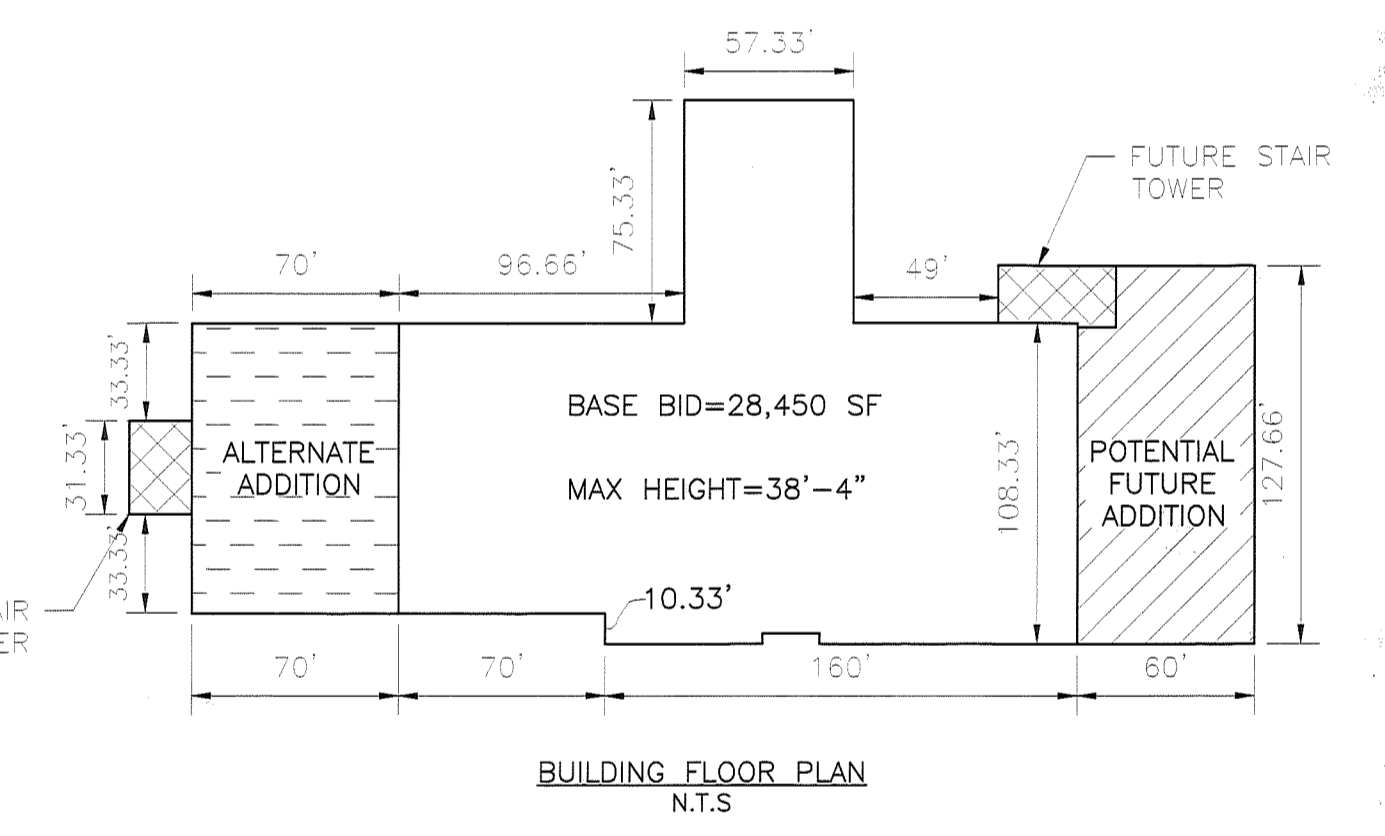
OWNER/APPLICANT: WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON STREET
HAGERSTOWN, MD 21740
PHONE: (240) 313-2200
CONTACT: BRENNAN GARRETT
ENGINEER: KCI TECHNOLOGIES, INC.
11830 WEST MARKET PLACE, SUITE F
FULTON, MARYLAND 20759
PHONE: (410) 792-8086
CONTACT: TIMOTHY H. MILLER
SITE DATA: ADDRESS: 9238 SHARPSBURG PIKE
HAGERSTOWN, MD 21740
TAX IDENTIFICATION NO.: 018579
PARCEL: 0062/0010
LIBER/FOLIO: 0059
ELECTION DISTRICT: 05374/00077
SEWER: 10
WATER: COUNTY CITY



VICINITY MAP

Table with 3 columns: POINT, NORTHING, EASTING, ELEVATION. Rows include KCI#11, KCI#12, and KCI#5 with their respective coordinates and elevations.

SHEET INDEX table listing sheet numbers, titles, and descriptions. Includes sheets for Title Sheet, Existing Conditions, Overall Site Plan, Detailed Site Plans (1-15), Road Profiles, Storm Drain Profiles, Construction Details, Landscape Plan, and Stormwater Management Plans.



SITE ANALYSIS DATA CHART

- A. TOTAL SITE AREA: 49.29 AC. OR 2,147,072 SQ.FT
B. AREA OF PLAN SUBMISSION: 49.29 AC. OR 2,147,072 SQ.FT
C. LIMIT OF DISTURBED AREA: 10.81 AC OR 470,978 SQ.FT
D. EXISTING IMPERVIOUS AREA: 0.00 AC
E. PROPOSED IMPERVIOUS AREA: 4.30 AC OR 187,310 SQ.FT
F. PRESENT ZONING DESIGNATION: R-T
G. PROPOSED USES FOR SITE AND STRUCTURES: TRAINING CENTER
H. OPEN SPACE ON SITE: 5.05 ACRES AND 54% OF DISTURBED AREA.

SWM SUMMARY TABLE

Table with 4 columns: AREA OF DISTURBANCE (Ac.), EX. IMP. AREA (Ac.), PROP. IMP. AREA (Ac.), and ESD VOLUME (CF). Rows show required and provided values for each category.

PARKING SPACE REQUIREMENT RATIONALE:
1. TOTAL SEATS SHOWN IN BUILDING DESIGN = 507 COLLEGE AND CONFERENCE CENTERS ARE PARKED AT 1 PARKING SPACE PER 3 SEATS RESULTING IN 169 SPACES
2. BASED ON THE ORGANIZATIONAL CHARTS FOR THE WASHINGTON COUNTY SHERIFFS OFFICE, JUDICIAL SYSTEM AND DETENTION CENTER, THERE ARE CURRENTLY 258 EMPLOYEES. IF 1/3 OF THE EMPLOYEES ARE ON THE JOB AT ONE TIME AND A COMBINED CLASS IS HELD FOR THE REST, THEN THIS EQUATES TO 170 IN ATTENDANCE RESULTING IN 170 PARKING SPACES REQUIRED.

PARKING SPACES PROVIDED:
TOTAL = 176 SPACES
HANDICAP = 6 SPACES
NORMAL SPOTS = 170 SPACES
BIKE SPACES = BIKE RACK FOR 7
SHA NOTE: THE FOLLOWING SHA STANDARDS ARE REQUIRED FOR THIS PROJECT: MD-104.02-01 - SHOULDER WORK/ 2-LANE, 2-WAY GREATER THAN 40 MPH...

Owner/Developer Certification and Engineer Certification sections for Erosion Control and Storm Water Management. Includes signature lines for Scott Hobbs and dates like 7/31/19.

WASHINGTON COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL PLAN APPROVAL
By: [Signature]
Date: 8/9/19

DISTURBED AREA QUANTITIES
THE TOTAL AREA TO BE DISTURBED SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE APPROXIMATELY 10.81 ACRES AND THE TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE APPROXIMATELY 27,050 C.Y. OF EXCAVATION AND 42,350 C.Y. OF FILL.



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REVISIONS table with columns for MM-DD-YY, NAME, and DESCRIPTION OF CHANGES.

100% PLAN SET
www.cra-architects.com
PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS
401 EAST WINDING HILL ROAD
717-458-0272 FAX 717-458-0047

OWNER WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST
HAGERSTOWN, MD 21740
240-313-220
CIVIL KCI TECHNOLOGIES, INC.
11830 W. MARKET PLACE, SUITE F
FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

PROJECT 3089
C-0.00
7/25/19

ZONING REQUIREMENTS:

1. ZONING: "RT" - RESIDENTIAL TRANSITION DISTRICT

2. SETBACK REQUIREMENTS:

	FRONT YARD DEPTH	SIDE YARD (WITH EACH SIDE YARD)	REAR YARD DEPTH
OTHER PRINCIPAL PERMITTED OR CONDITIONAL USES	40 ft.	25 ft.	50 ft.

3. BUFFER REQUIREMENTS: NOT PERMITTED: IMPERVIOUS SURFACES, DUMPSTERS, PARKING OR LOADING AREAS, STORMWATER MANAGEMENT AREAS, OUTDOOR STORAGE AREAS, STRUCTURES, OR OTHER IMPERVIOUS SURFACES.

4. PARKING REQUIREMENTS (TRAINING CENTER BUILDING):

DESIGN STANDARDS: 90 DEGREE PARKING
 REGULAR: W = 9', L = 20', AISLE WIDTH = 24' TWO WAY
 ADA: W = 8', L = 20' (1 VAN AISLE = 8' WIDE, REGULAR AISLE = 5' WIDE)
 PARKING FACILITY SETBACKS:
 10' BUFFER FROM ROW, STREET, OR PROPERTY LINE.

5. LANDSCAPING:
 MINIMUM PERCENTAGE: 10% OF THE SITE
 LANDSCAPE ISLANDS AFTER EVERY 15 PARKING SPACES

ENVIRONMENTAL NOTES:

- MDE PERFORMED A SITE REVIEW ON AUGUST 14, 2017 AND CONCURRED THAT NO JURISDICTIONAL WETLAND OR WATERWAY RESOURCES EXIST ONSITE. NO AUTHORIZATION IS NEEDED FROM MDE'S WATERWAY CONSTRUCTION DIVISION FOR ANY WORK AT THE SITE.
- THE 100 YEAR FLOODPLAIN IS SOUTH OF LAPPANS ROAD, WHICH IS APPROXIMATELY 4,200' SOUTH OF THE SITE. FEMA PANEL NUMBER 240070 0155 A.
- 26 SPECIMEN TREES HAVE BEEN LOCATED THROUGHOUT THE SITE.
- A FOREST CONSERVATION PLAN IS REQUIRED FOR SITE DEVELOPMENT.
- THE WILDLIFE AND HERITAGE SERVICE HAS DETERMINED THAT THERE ARE NO OFFICIAL STATE OR FEDERAL RECORDS FOR LISTED PLANT OR ANIMAL SPECIES WITHIN THE PLAN AREA
- THE MARYLAND HISTORICAL TRUST HAS DETERMINED THAT THERE ARE NO HISTORIC PROPERTIES AFFECTED BY THIS DEVELOPMENT.

WATERSHED NOTES:

MDE6DIGIT: 021405

MDE6NAME: UPPER POTOMAC RIVER

MDE8DIGIT: 02140503

MDE8NAME: MARSH RUN

SITE NOTES

- APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST.
 SUITE 1101
 HAGERSTOWN, MD 21740
- SITE DATA:
 TAX IDENTIFICATION No.: 018579
 TAX MAP / GRID: 0062/0010
 LIBER / FOLIO: 05374/00077
 PLAT: M683
 ELECTION DISTRICT: 10
 SITE ADDRESS: 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740
- EXISTING USE: VACANT
- PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
- ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
- LIMIT OF DISTURBANCE = 470,978 sq.ft or 10.81 Ac.
- EXISTING IMPERVIOUS AREA = 0.00 sq.ft or 0.00 Ac.
- PROPOSED IMPERVIOUS AREA = 4.30 Ac.
- TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
- NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE OWNER/CONTRACTOR SHALL CONDUCT ALL THE WORK ASSOCIATED WITH THE TERMINATION OF THE SERVICE INCLUDING REMOVING METER TILE, EXCAVATION, BACKFILL, SHORING, AND RESTORATION WITH THE CITY OF HAGERSTOWN PHYSICALLY TERMINATING THE SERVICE AT THE MAIN.

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	PERCENT SLOPE (%)	Kf VALUE	HYDRAULIC SOILS GROUP	HYDRIC (Y/N)
Ft	FUNKSTOWN SILT LOAM	-	0.37	C	NO
HoB	HAGERSTOWN SILT LOAM	3-8	0.37	B	NO
HoC	HAGERSTOWN SILT LOAM	8-15	0.37	B	NO
HbB	HAGERSTOWN SILTY CLAY LOAM	3-8	0.32	B	NO
HbC	HAGERSTOWN SILTY CLAY LOAM	8-15	0.32	B	NO
HcB	HAGERSTOWN-ROCK OUTCROP COMPLEX	3-8	0.32	B	NO
HcC	HAGERSTOWN-ROCK OUTCROP COMPLEX	8-15	0.32	B	NO
SpA	SWANPOND SILT LOAM	0-3	0.43	D	NO
SsA	SWANPOND-FUNKSTOWN SILT LOAMS	0-3	0.43	D	NO

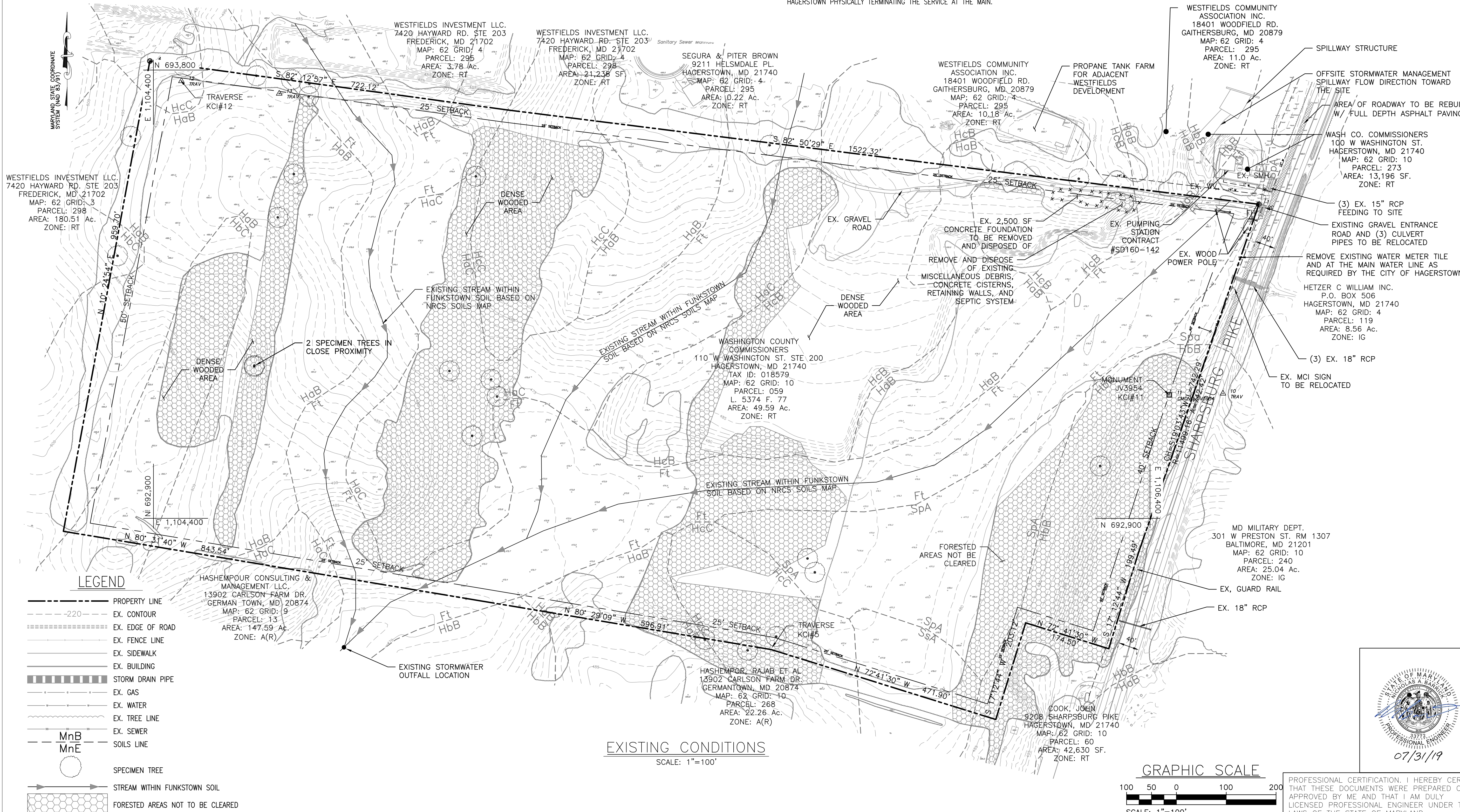


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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

NOTE: THE CITY OF HAGERSTOWN REQUIRES THE SERVICE TO BE TURNED OFF THE MAIN. THE PROPERTY OWNER/ CONTRACTOR SHALL CONDUCT ALL WORK ASSOCIATED WITH THE TERMINATION OF THE SHORING, SERVICE INCLUDING EXCAVATING BACKFILL, AND RESTORATION WHILE THE COH WILL PHYSICALLY TERMINATE THE SERVICES AT THE MAIN.



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100% PLAN SET

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 WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST
 HAGERSTOWN, MD 21740
 240-313-220

CIVIL
 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F
 FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

PROJECT
 3089
C-0.01

EX. CONDITIONS
 PLOT SCALE: 1" = 100'
 FILENAME: KCI# 271703606
 DATE: 7/25/19



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REVISIONS

NO.	DATE	DESCRIPTION OF CHANGES

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HAGERSTOWN, MD 21740
240-313-220

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KCI TECHNOLOGIES, INC.
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FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

OVERALL SITE PLAN

PLOT SCALE: 1:100
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT

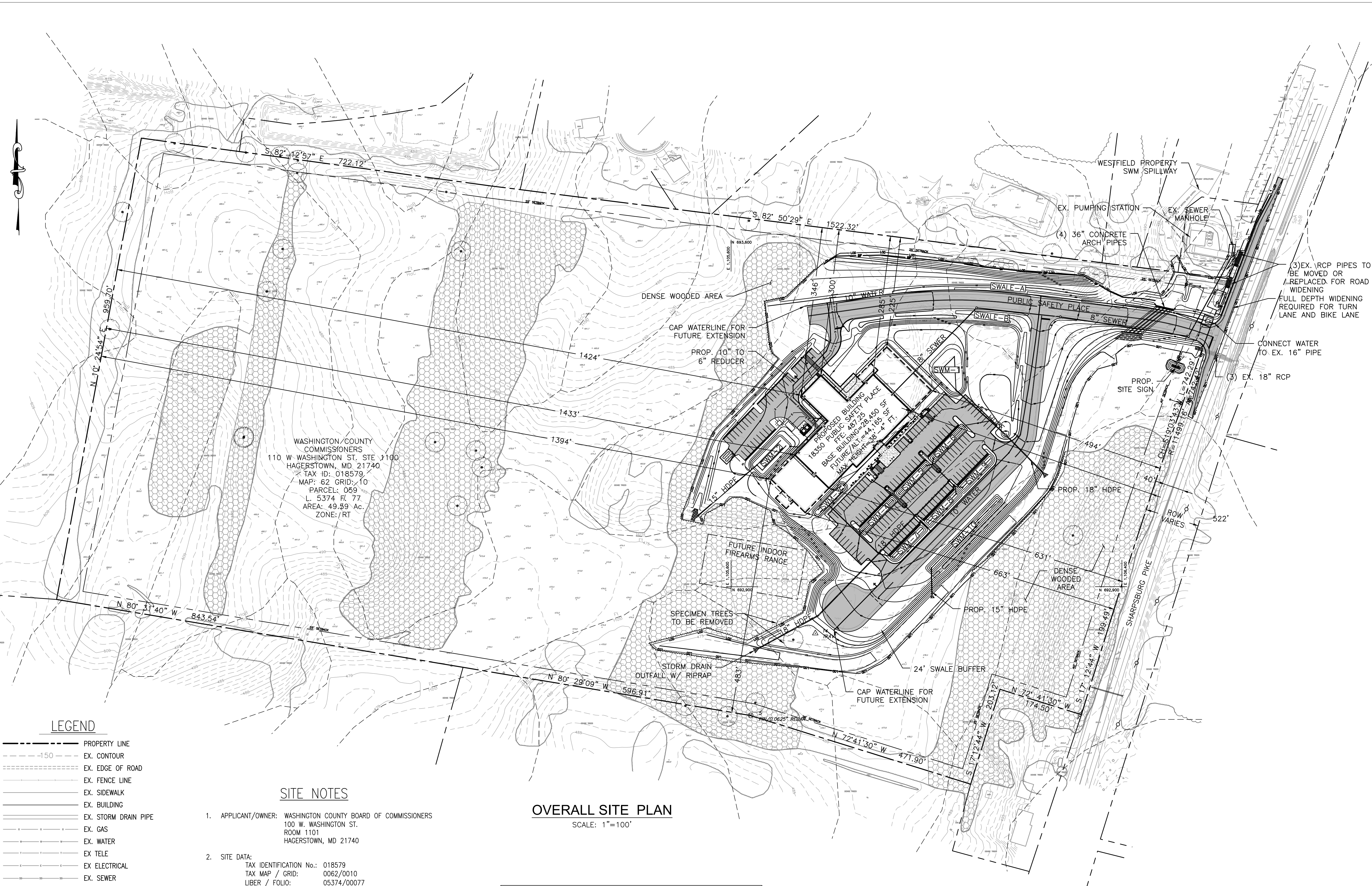
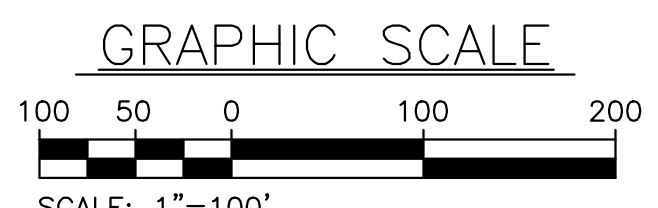
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WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

100% PLAN SET

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021



OVERALL SITE PLAN
SCALE: 1"=100'

NOTE:
SEE SHEETS C1.01 AND C1.02 FOR DETAILED SITE PLANS
SEE SHEETS C1.03 AND C1.04 FOR DETAILED GRADING PLANS
SEE SHEETS C1.05 AND C1.06 FOR ROAD PLANS AND PROFILES
SEE SHEETS C1.07 THRU C1.10 FOR UTILITY PLAN AND PROFILES
SEE SHEETS C2.00 THRU C2.10 FOR STORMWATER MANAGEMENT PLANS AND DETAILS

SITE NOTES

1. APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST.
ROOM 1101
HAGERSTOWN, MD 21740
2. SITE DATA:
TAX IDENTIFICATION No.: 018579
TAX MAP / GRID: 0062/0010
LIBER / FOLIO: 05374/00077
PLAT: M683
ELECTION DISTRICT: 10
HOURS OF OPERATION: 7AM-10PM M-F, 830AM-330PM SAT-SUN
SITE ADDRESS: 18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740
3. EXISTING USE: VACANT/FARM
4. PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
5. ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
6. LIMIT OF DISTURBANCE = 470,978 sq.ft or 10.81 Ac.
7. EXISTING IMPERVIOUS AREA = 0.00 sq.ft or 0.00 Ac.
8. PROPOSED IMPERVIOUS AREA = 4.30 Ac.
9. TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
10. NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
11. PROPOSED WATER USAGE: 1000 GPM OR 5 EDU'S. POTENTIAL 1500 GPM WITH FUTURE EXPANSION.

LEGEND	
	PROPERTY LINE
	EX. CONTOUR
	EX. EDGE OF ROAD
	EX. FENCE LINE
	EX. SIDEWALK
	EX. BUILDING
	EX. STORM DRAIN PIPE
	EX. GAS
	EX. WATER
	EX. TELE
	EX. ELECTRICAL
	EX. SEWER
	EX. TREE LINE
	EX. SEWER MANHOLE
	EX. ELECTRIC MANHOLE
	EX. FIRE HYDRANT
	LIMIT OF DISTURBANCE
	PROP. EDGE OF ROAD
	PROP. BUILDING
	PROP. CONTOUR
	PROP. FENCE
	PROP. GAS
	PROP. STORM DRAIN PIPE
	PROP. SEWER PIPE
	SOILS LINE
	SPECIMEN TREE
	FORESTED AREAS NOT TO BE CLEARED

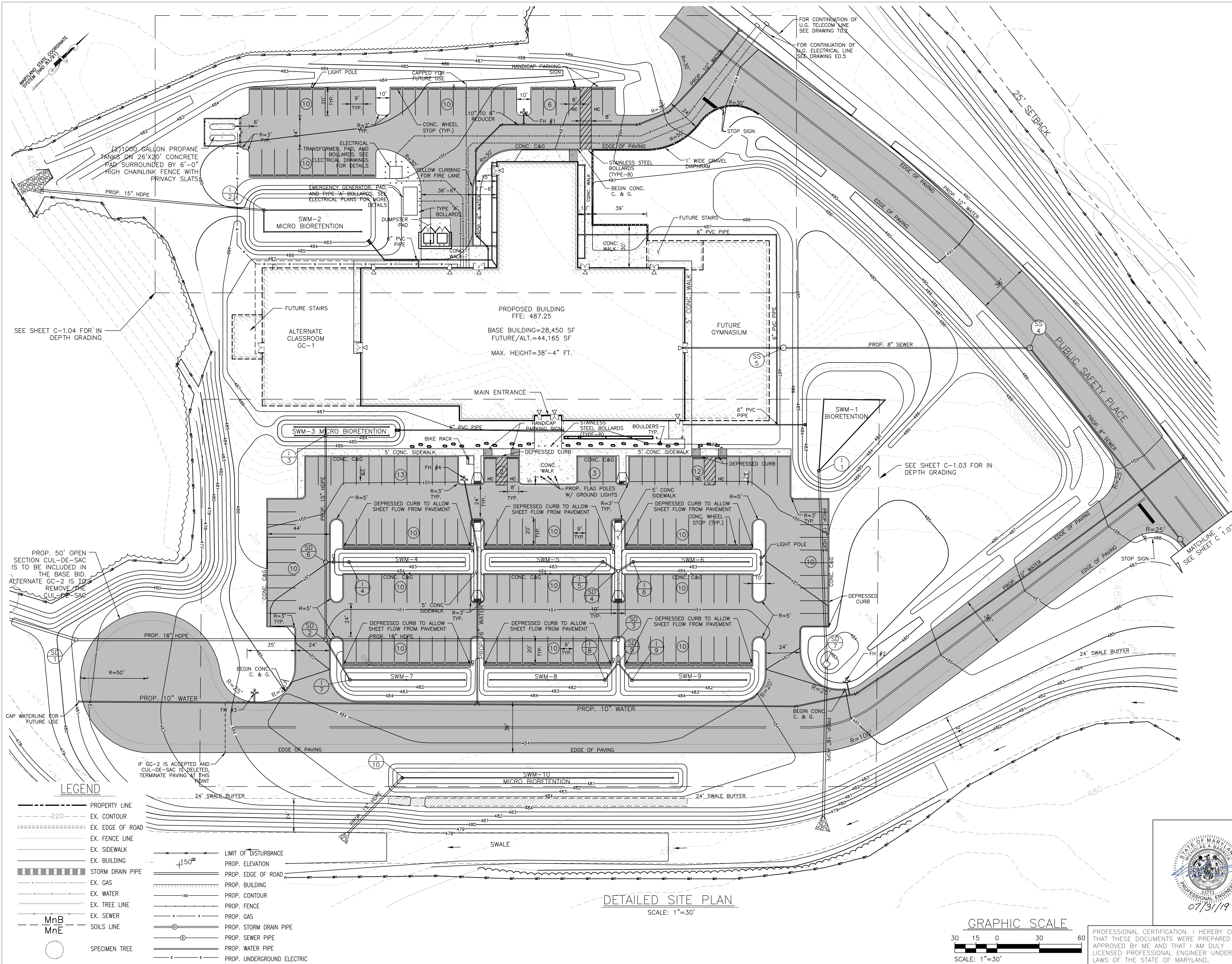
WASHINGTON COUNTY COMMISSIONERS
110 W WASHINGTON ST. STE 1100
HAGERSTOWN, MD 21740
TAX ID: 018579
MAP: 62 GRID: 10
PARCEL: 059
L: 5374 PL 77
AREA: 49.99 Ac.
ZONE: RT



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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES



100% PLAN SET

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DETAILED SITE PLAN
PLOT SCALE: 1:30
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT 3089
C-1.01



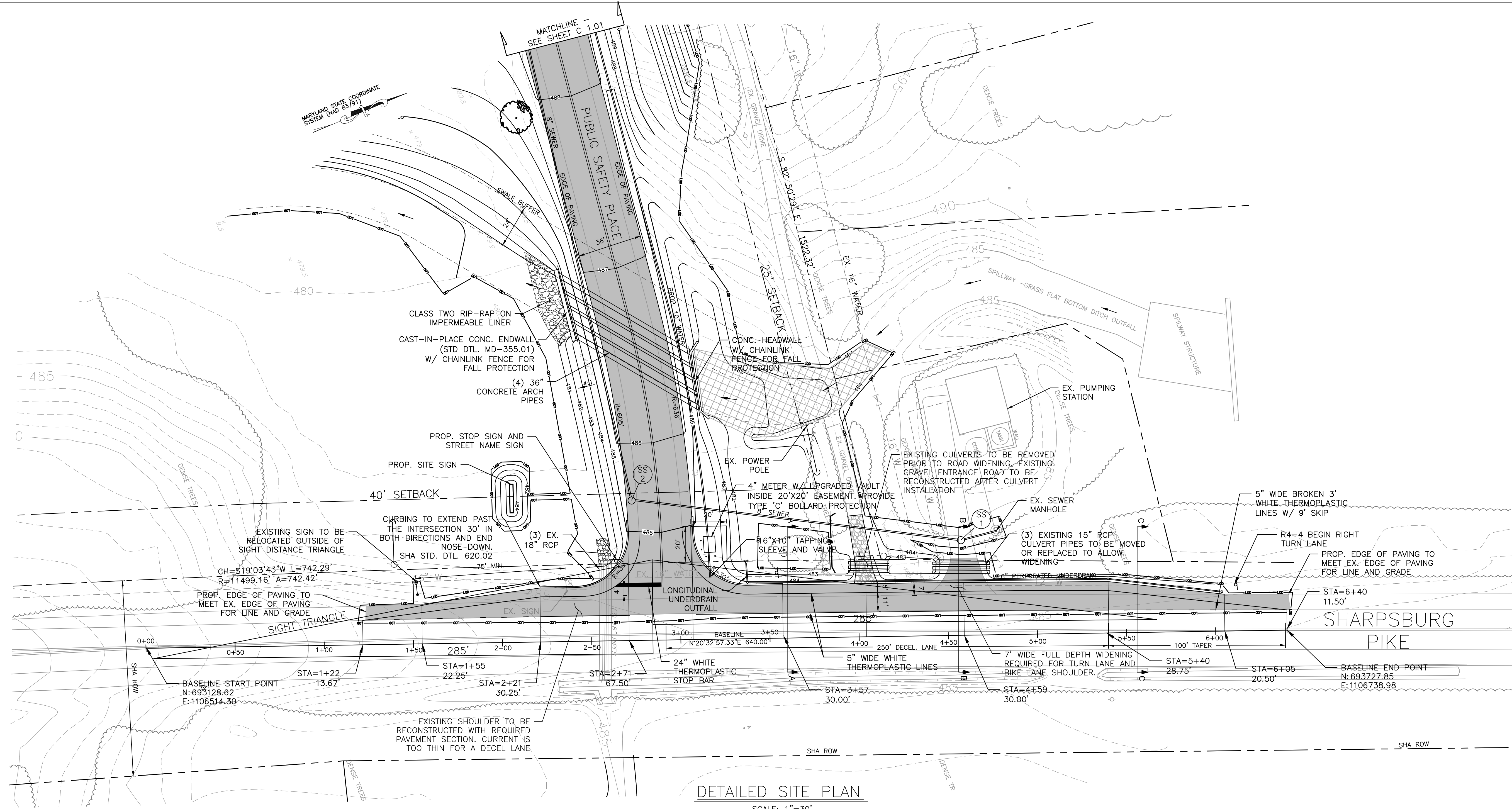
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33772 EXP. DATE: 06/16/2021



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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES



DETAILED SITE PLAN

SCALE: 1"=30'

100% PLAN SET

LEGEND

- PROPERTY LINE
- - - -220- EX. CONTOUR
- ===== EX. EDGE OF ROAD
- ===== EX. FENCE LINE
- ===== EX. SIDEWALK
- ===== EX. BUILDING
- ===== STORM DRAIN PIPE
- ===== EX. GAS
- ===== EX. WATER
- ===== EX. TREE LINE
- EX. SEWER
- SOILS LINE
- SPECIMEN TREE
- LIMIT OF DISTURBANCE
- PROP. ELEVATION
- PROP. EDGE OF ROAD
- PROP. BUILDING
- PROP. CONTOUR
- PROP. FENCE
- PROP. GAS
- PROP. STORM DRAIN PIPE
- PROP. SEWER PIPE
- PROP. WATER PIPE

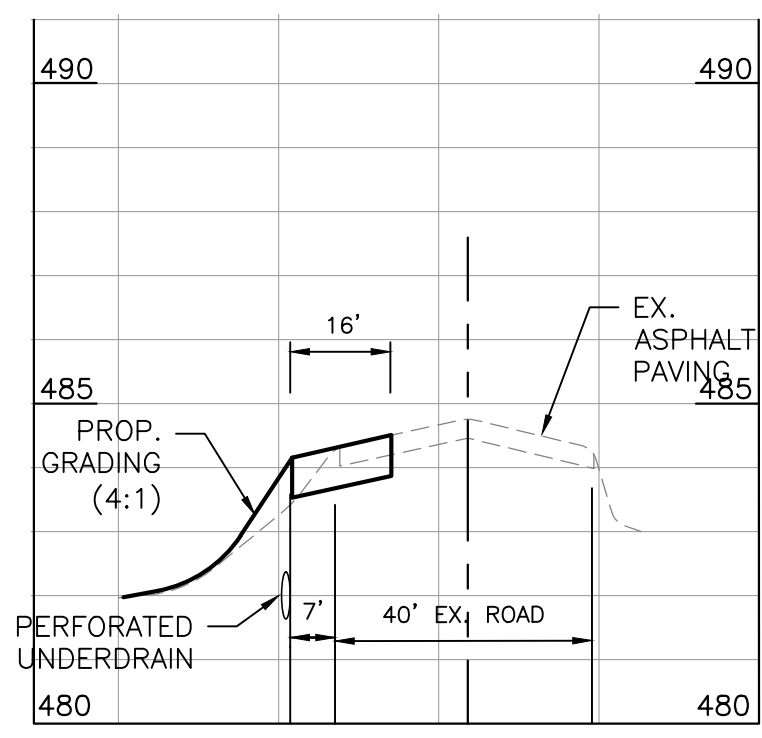
GENERAL PAVING NOTES

- ALL ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE GENERAL SPECIFICATIONS FOR HIGHWAY AND STREET CONSTRUCTION, THE SHA.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCES TO WATER AND SEWER LINES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, CONTACT THE DEPARTMENT OF PLANNING AND GROWTH MANAGEMENT BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL ELEVATIONS SHOWN ON THESE PLANS ARE REFERRED TO NAVD 88.
- ALL AREAS DISTURBED WITHIN THE SITE SHALL BE REPAIRED IN KIND.
- ALL CONCRETE TO BE SHA MIX #3 AIR ENTRAINED CONCRETE.
- TOPSOIL OR OTHER ORGANIC MATERIALS, FROZEN, SOFT OR LOOSE SOILS, AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE THE PLACEMENT OF FILL OR AGGREGATE BASE.
- AT THE CURB FILLETS, NOTE THAT THE WIDENING OF A SUPERPAVE ASPHALT MIX PAVEMENT SECTION MUST BE A MINIMUM OF 4- FEET WIDE TO ACHIEVE PROPER COMPACTION PER SPECIFICATIONS. IF NARROWER, A CONCRETE PAVEMENT MAY BE USED.
- DUE TO POOR SOILS ON SITE, CLASS 1-A EXCAVATION AND BACKFILL IS REQUIRED FOR ROAD CONSTRUCTION. PROPOSED WORK REQUIRES 9,000CF OF EXCAVATION/BACKFILL.

SEPARATION GEOTEXTILE FABRIC WITH AN A.D.S. OF 0.012in. OR LESS. TEXTILE STRENGTH OF 250lbs. AND BURST STRENGTH OF 320psi OR EQUAL

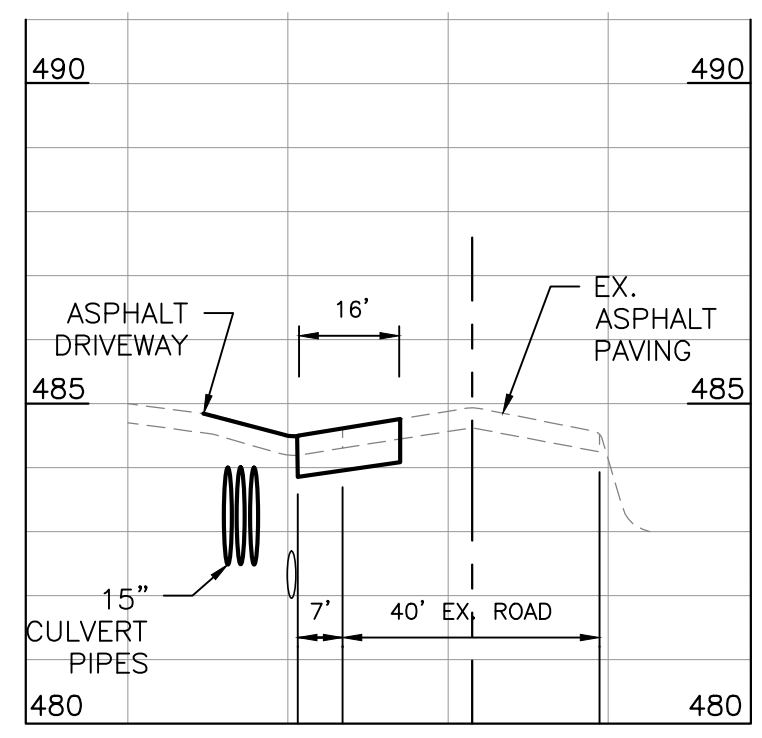
ASPHALT PAVING SECTION

① PAVEMENT SECTION FOR WORK WITHIN SHA RIGHT-OF-WAY



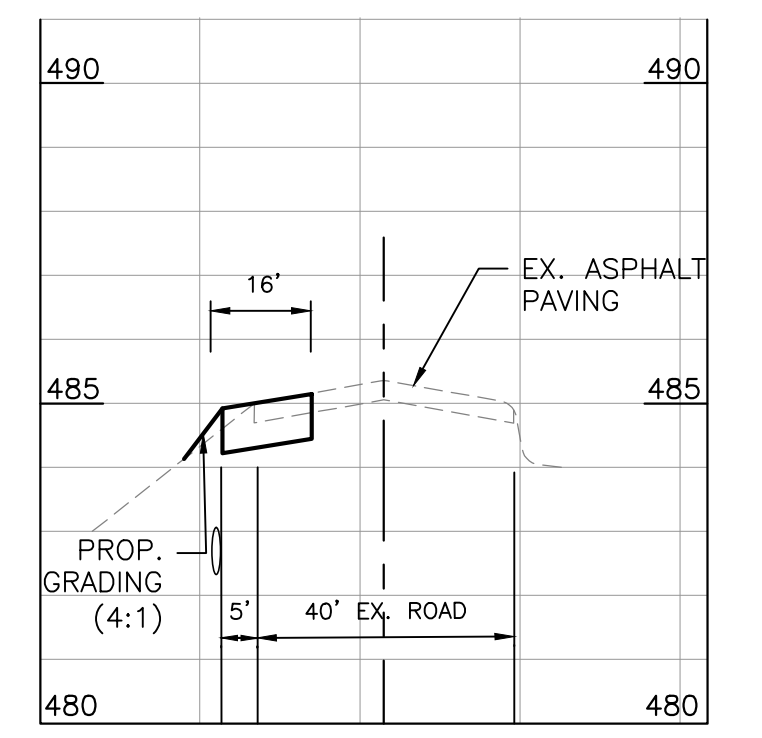
CROSS SECTION A-A

SCALE: 1"= 30'(HORIZ)
1"= 3'(VERT)



CROSS SECTION B-B

SCALE: 1"= 30'(HORIZ)
1"= 3'(VERT)

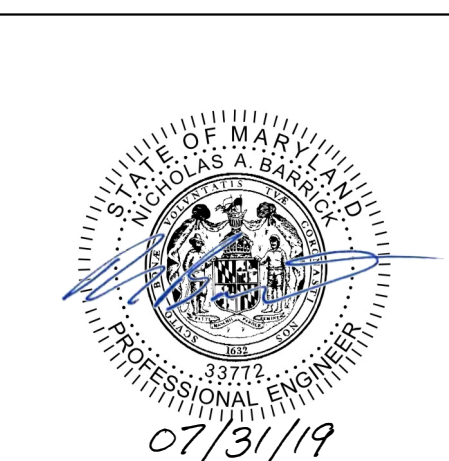


CROSS SECTION C-C

SCALE: 1"= 30'(HORIZ)
1"= 3'(VERT)

NOTE: CURRENT ROW PAVEMENT SECTION IS AROUND 8.25 INCHES THICK. ASPHALT IS BETWEEN 3.25 TO 4.5 INCHES AND GAB IS BETWEEN 3.75 AND 5.0 INCHES THICK.

GRAPHIC SCALE



07/31/19

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DETAILED SITE PLAN

PLOT SCALE: 1:30
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT 3089

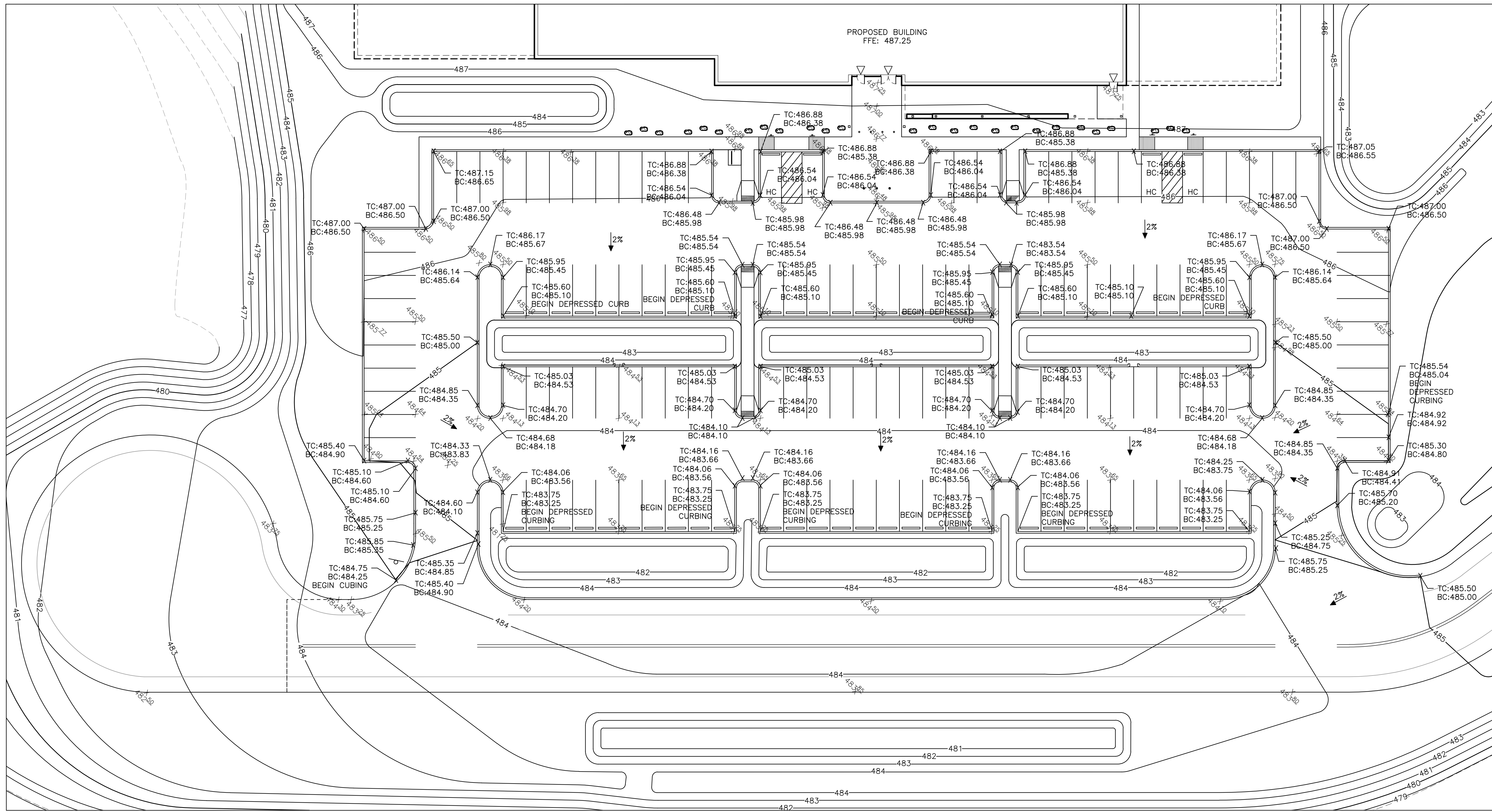
C-1.02



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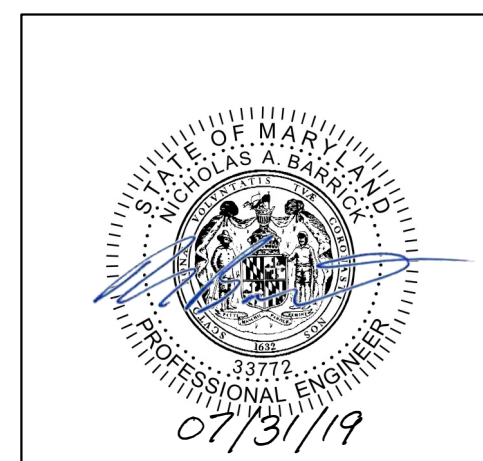
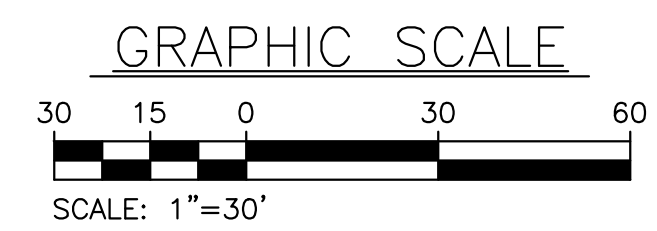
NO.	DATE	DESCRIPTION OF CHANGES



DETAILED GRADING PLAN
SCALE: 1"=30'

LEGEND

	PROPERTY LINE		LIMIT OF DISTURBANCE
	EX. CONTOUR		PROP. ELEVATION
	EX. EDGE OF ROAD		PROP. EDGE OF ROAD
	EX. FENCE LINE		PROP. BUILDING
	EX. SIDEWALK		PROP. CONTOUR
	EX. BUILDING		PROP. FENCE
	STORM DRAIN PIPE		PROP. GAS
	EX. GAS		PROP. STORM DRAIN PIPE
	EX. WATER		PROP. SEWER PIPE
	EX. TREE LINE		PROP. WATER PIPE
	EX. SEWER		
	SOILS LINE		
	SPECIMEN TREE		



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021

100% PLAN SET

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS

401 EAST WINDING HILL ROAD
717-458-0272 FAX 717-458-0047

www.cra-architects.com

OWNER
WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST
HAGERSTOWN, MD 21740
240-313-220

CIVIL
KCI TECHNOLOGIES, INC.
11830 W. MARKET PLACE, SUITE F
FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

DETAILED SITE PLAN

PLOT SCALE: 1:30
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT 3089

C-1.03

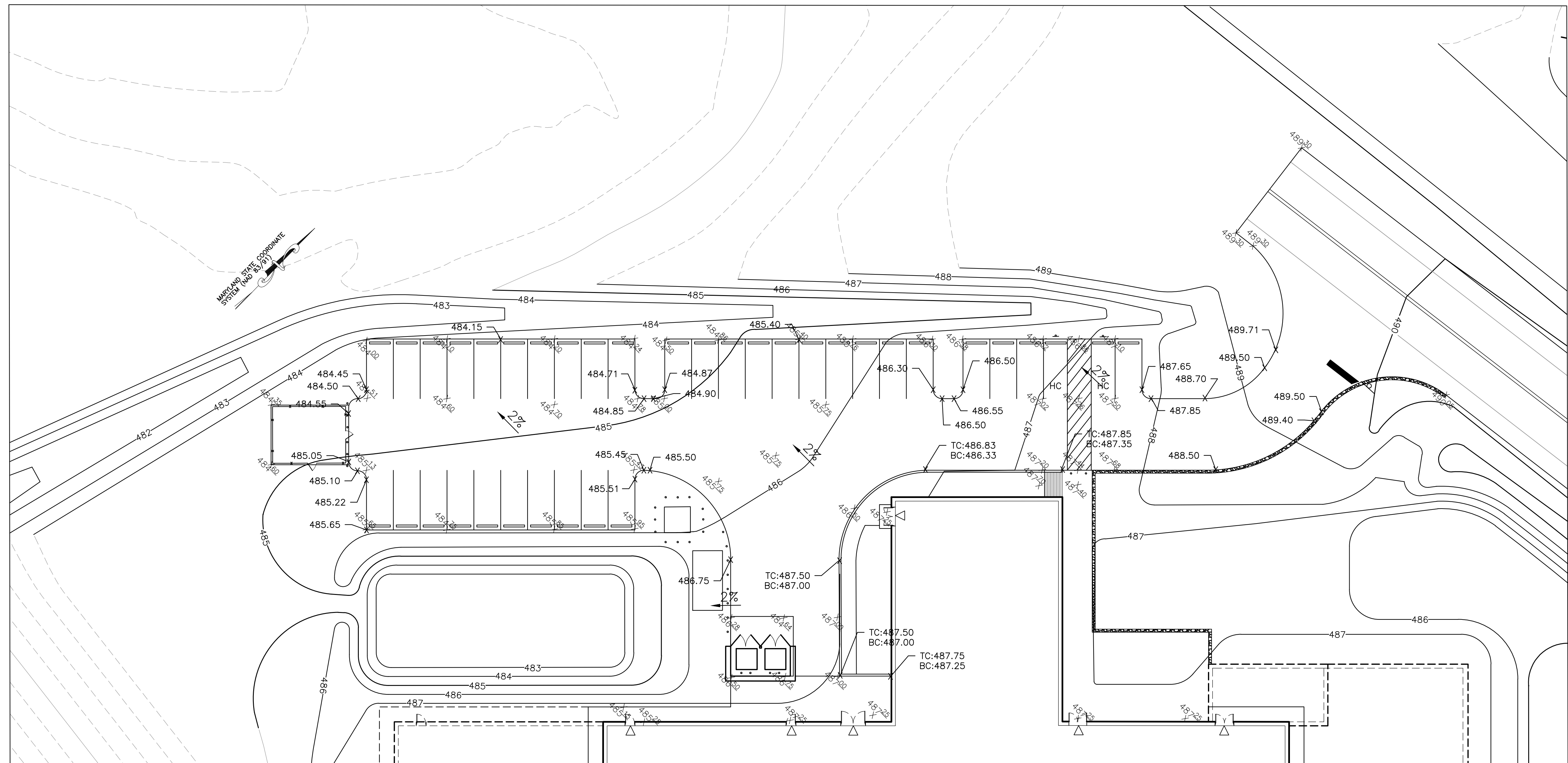
PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740



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NO.	DATE	NAME	DESCRIPTION OF CHANGES

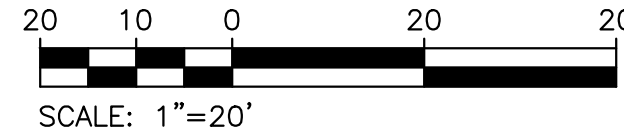


DETAILED GRADING PLAN
SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- - - - - EX. CONTOUR
- +150' PROP. ELEVATION
- ==== PROP. EDGE OF ROAD
- ▭ PROP. BUILDING
- PROP. CONTOUR

GRAPHIC SCALE



100% PLAN SET

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18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

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410-792-7419 (F)



DETAILED SITE PLAN

PLOT SCALE: 1:20
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT
3089

C-1.04

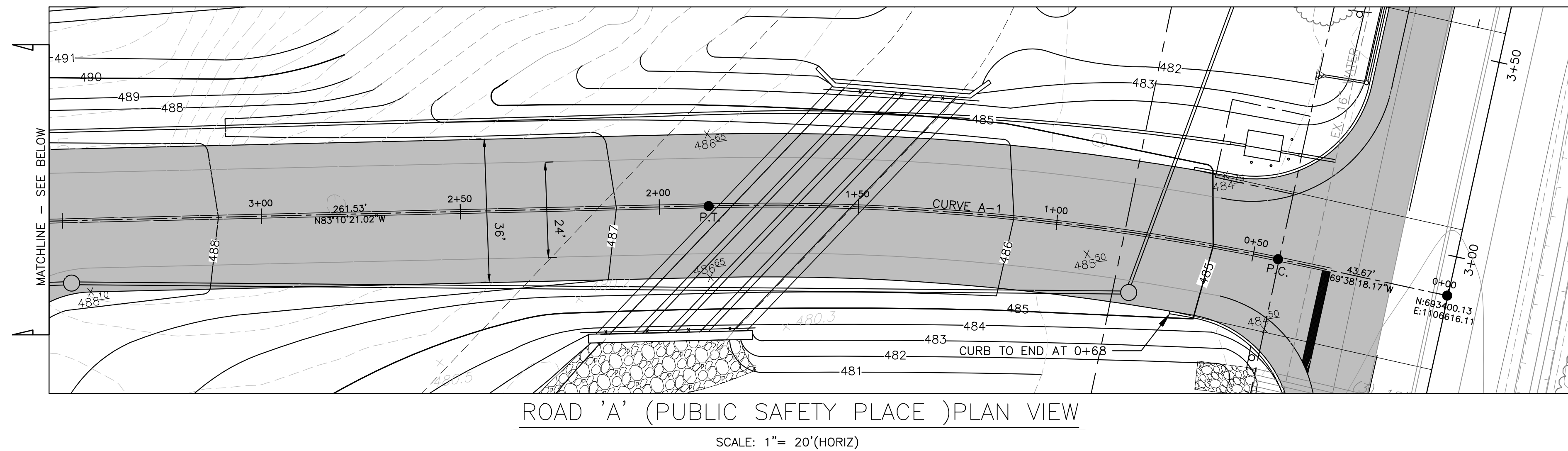
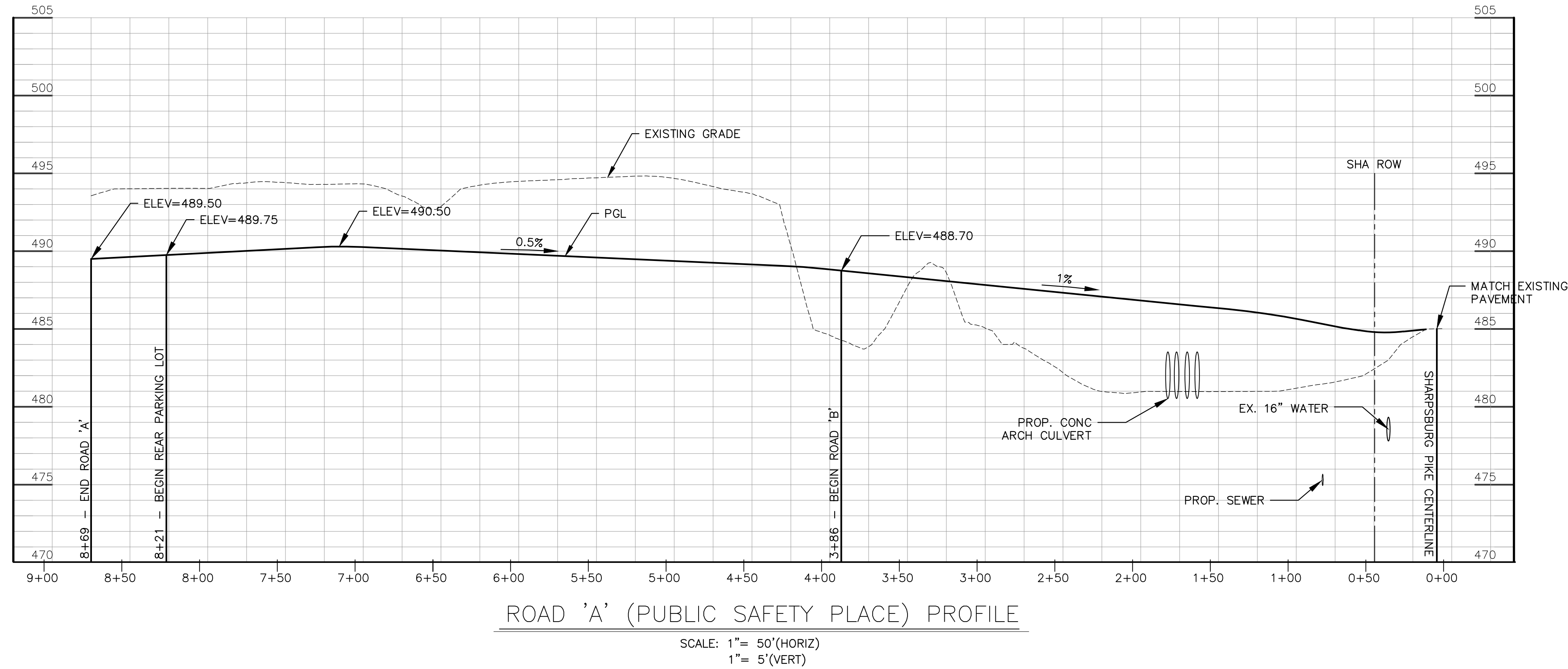
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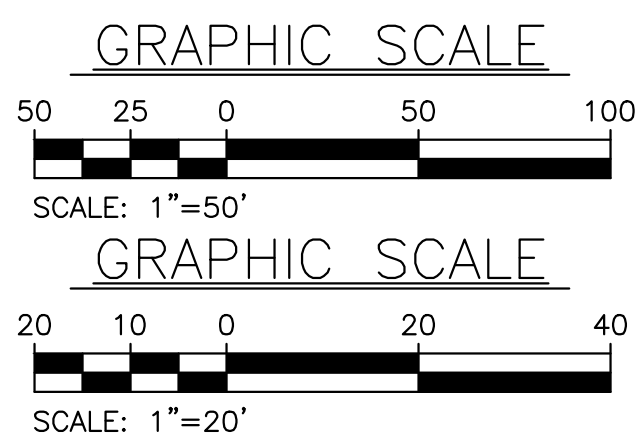
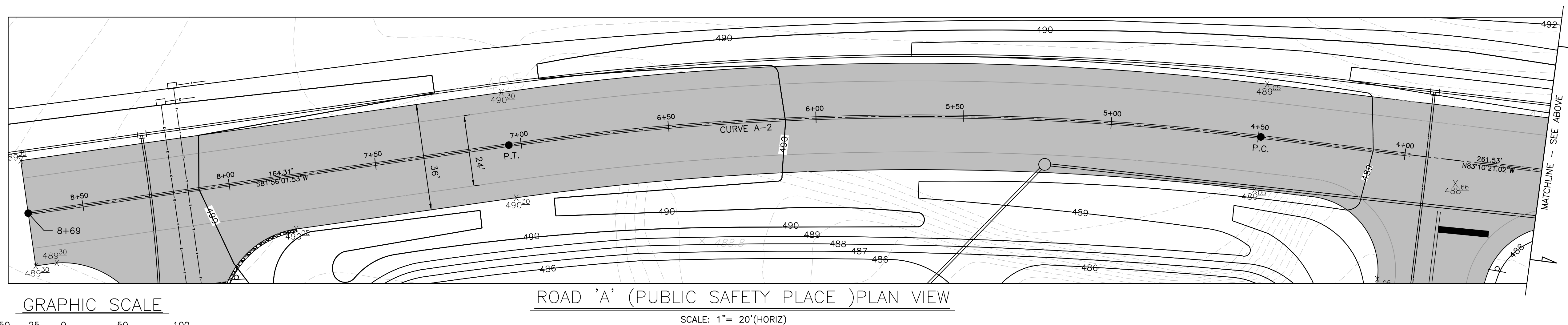
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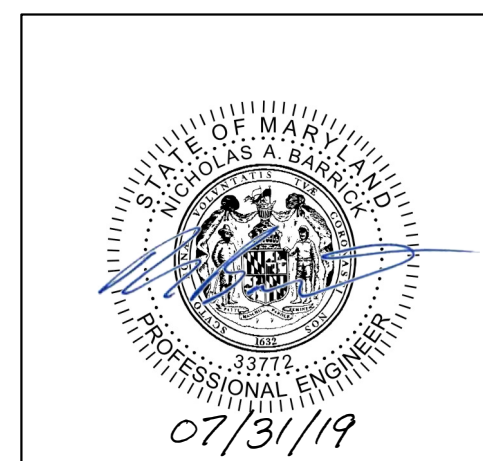
NO.	DATE	NAME	DESCRIPTION OF CHANGES



NO.	PC	PT	RADIUS	LENGTH	CHORD BEARING	CHORD
A-1	0+43.67	1+87.60	618.00	143.94	N76°30'00.85"W	143.61
A-2	4+49.15	7+04.20	982.00	255.27	S89°22'50.26"W	254.55



PAVING NOTE:
 ALL PAVING FOR PUBLIC SAFETY PLACE WILL HAVE A SUPERPAVE SURFACE COURSE OF 12.5MM. PARKING LOTS WILL BE 9.5MM. SEE PAVING SECTIONS ON SHEET C-1.11



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 WASHINGTON COUNTY PROJECT NO. 28-266
 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740

OWNER
 WASHINGTON COUNTY BOARD OF COMMISSIONERS
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 11830 W. MARKET PLACE, SUITE F
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ROAD PROFILES AND DETAILS
 PLOT SCALE: 1:30
 FILENAME: KCI# 271703606
 DATE: 7/25/19

PROJECT
 3089
C-1.05



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410-792-7419 (F)

ROAD PROFILES AND DETAILS

PLOT SCALE: 1:30
FILENAME: KCI# 271703606
DATE: 7/25/19

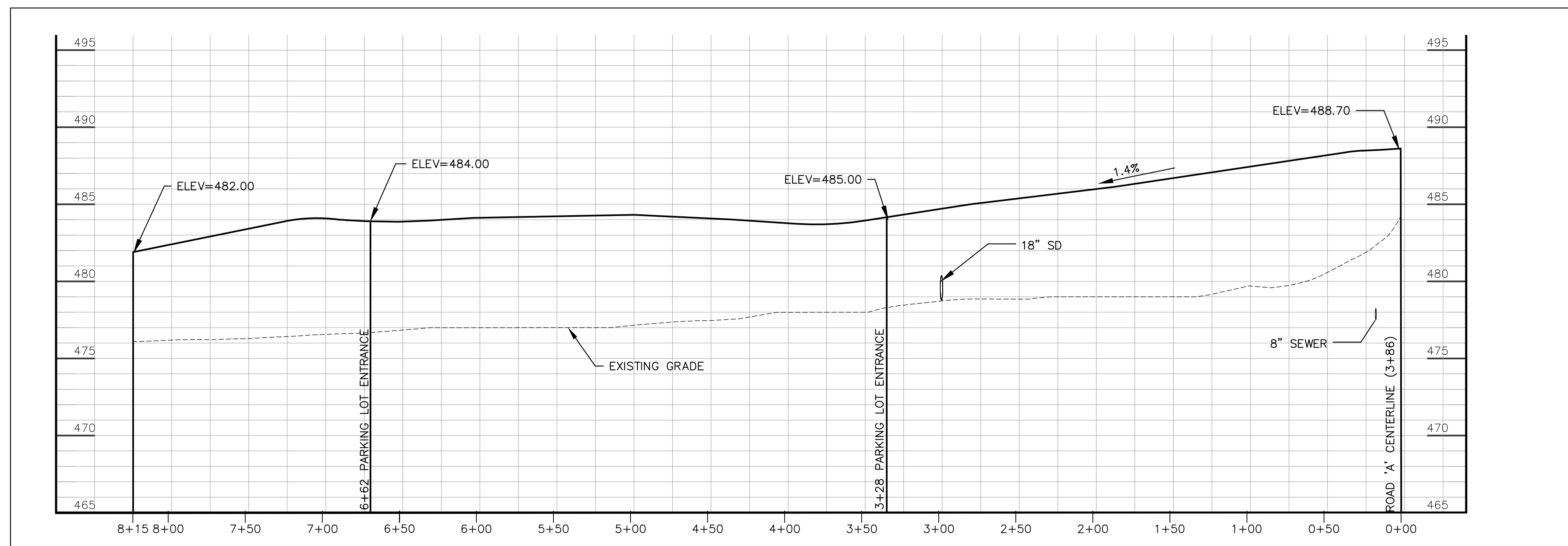
PROJECT 3089

C-1.06

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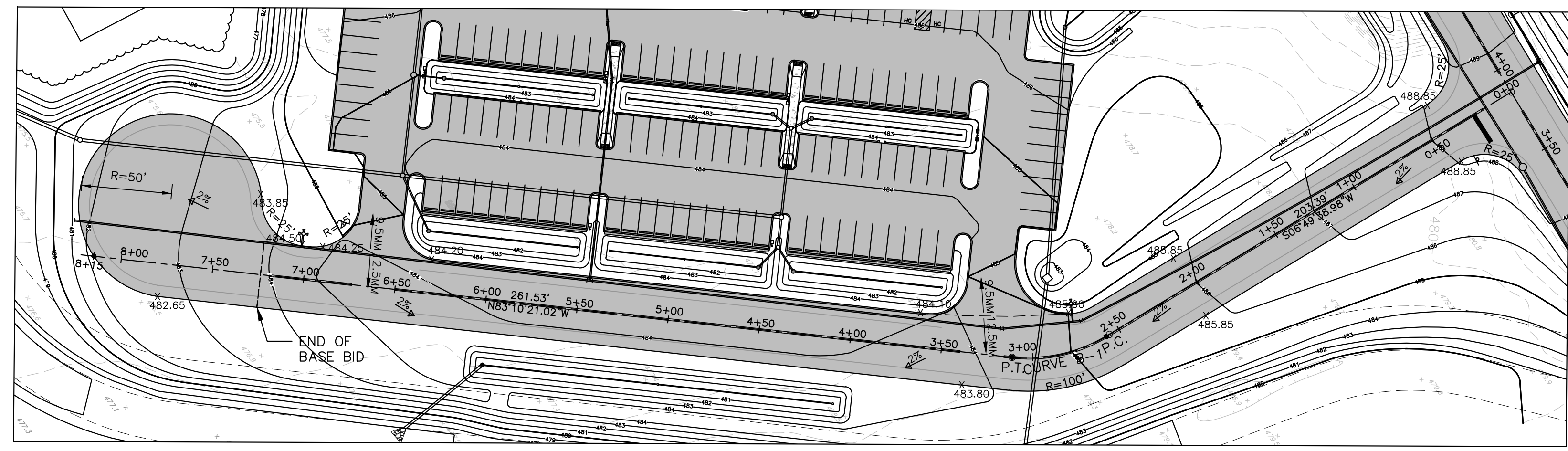


100% PLAN SET



ROAD 'B' PROFILE

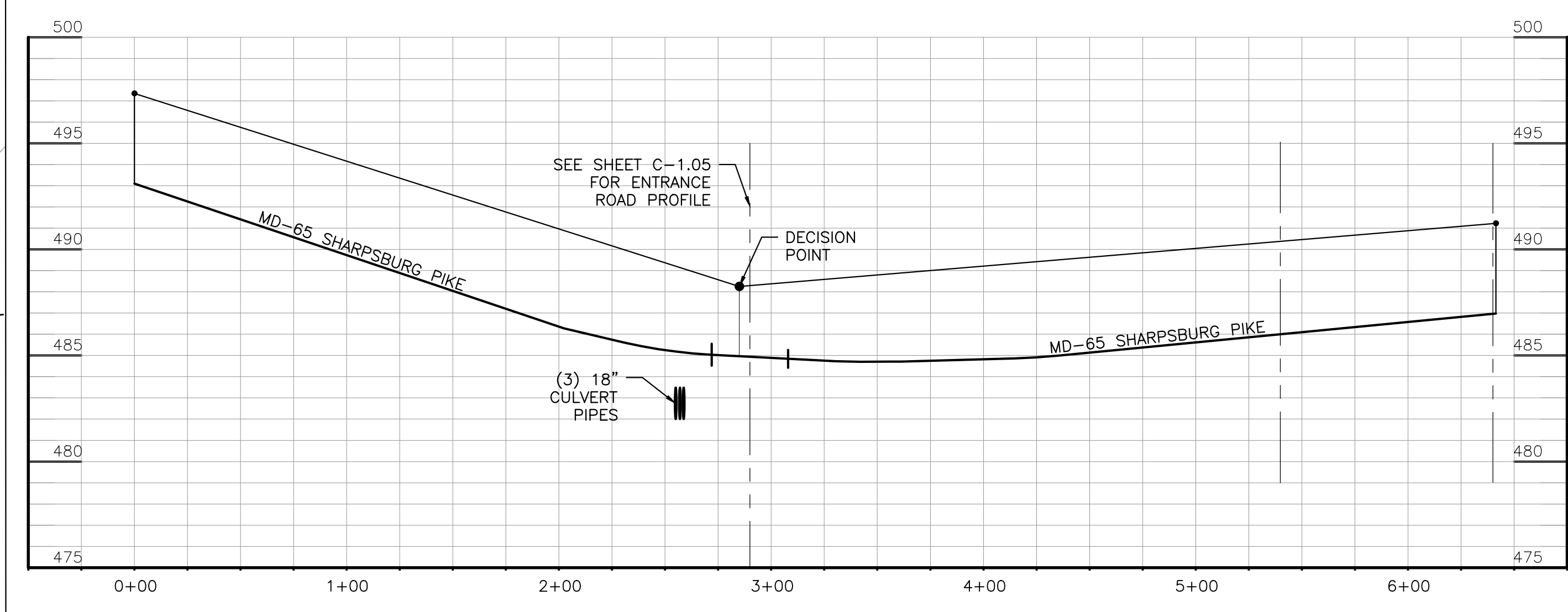
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



ROAD 'B' PLAN VIEW

SCALE: 1" = 50'(HORIZ)

NO.	PC	PT	RADIUS	LENGTH	CHORD BEARING	CHORD
B-1	2+58.10	3+11.30	82.50	53.56	S25°40'34.13"W	52.60'



SHARPSBURG PIKE PROFILE

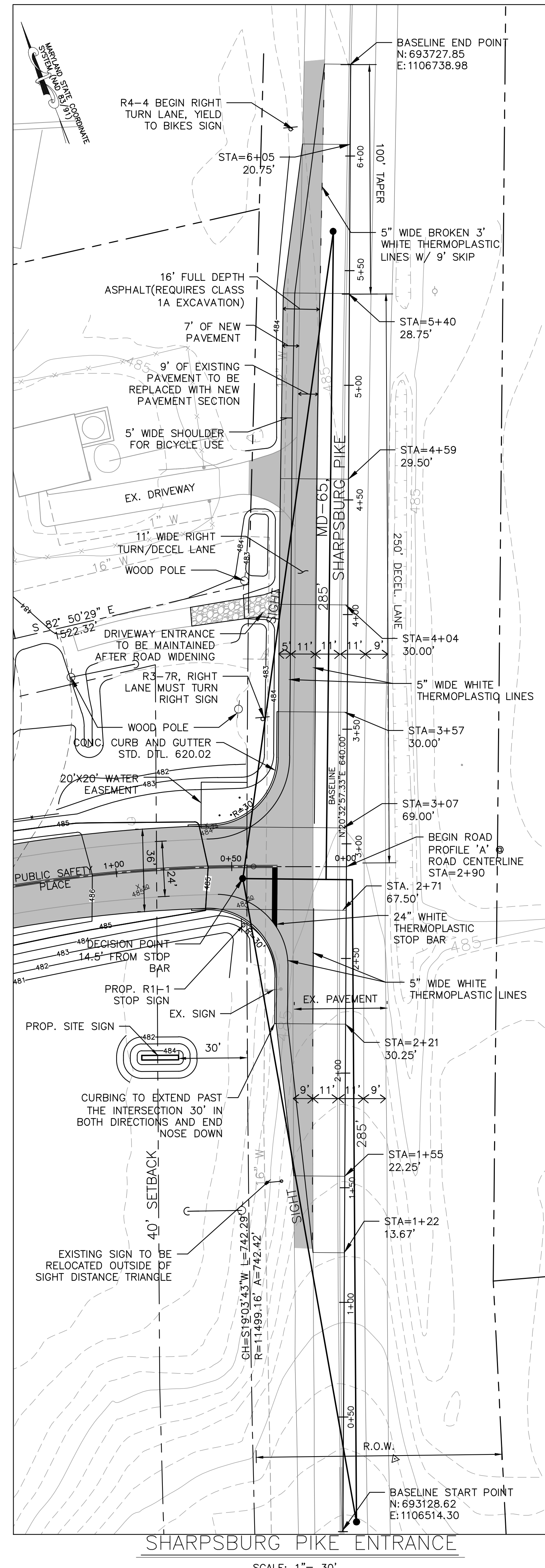
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)

GRAPHIC SCALE
SCALE: 1" = 30'

GRAPHIC SCALE
SCALE: 1" = 50'

NOTE: CURRENT ROW PAVEMENT SECTION IS AROUND 8.25 INCHES THICK. ASPHALT IS BETWEEN 3.25 TO 4.5 INCHES AND GAB IS BETWEEN 3.75 AND 5.0 INCHES THICK.

PAVING NOTE:
ALL PAVING ON SITE ROADWAY PAVING FOR WILL HAVE A SUPERPAVE SURFACE COURSE OF 12.5MM. PARKING LOTS WILL BE 9.5MM. SEE PAVING SECTIONS ON SHEET C-1.11.
PAVING WITHIN THE SHA ROW IS BASED ON THE PAVEMENT SECTION DETAIL IS FOUND ON SHEET C-1.02



SHARPSBURG PIKE ENTRANCE

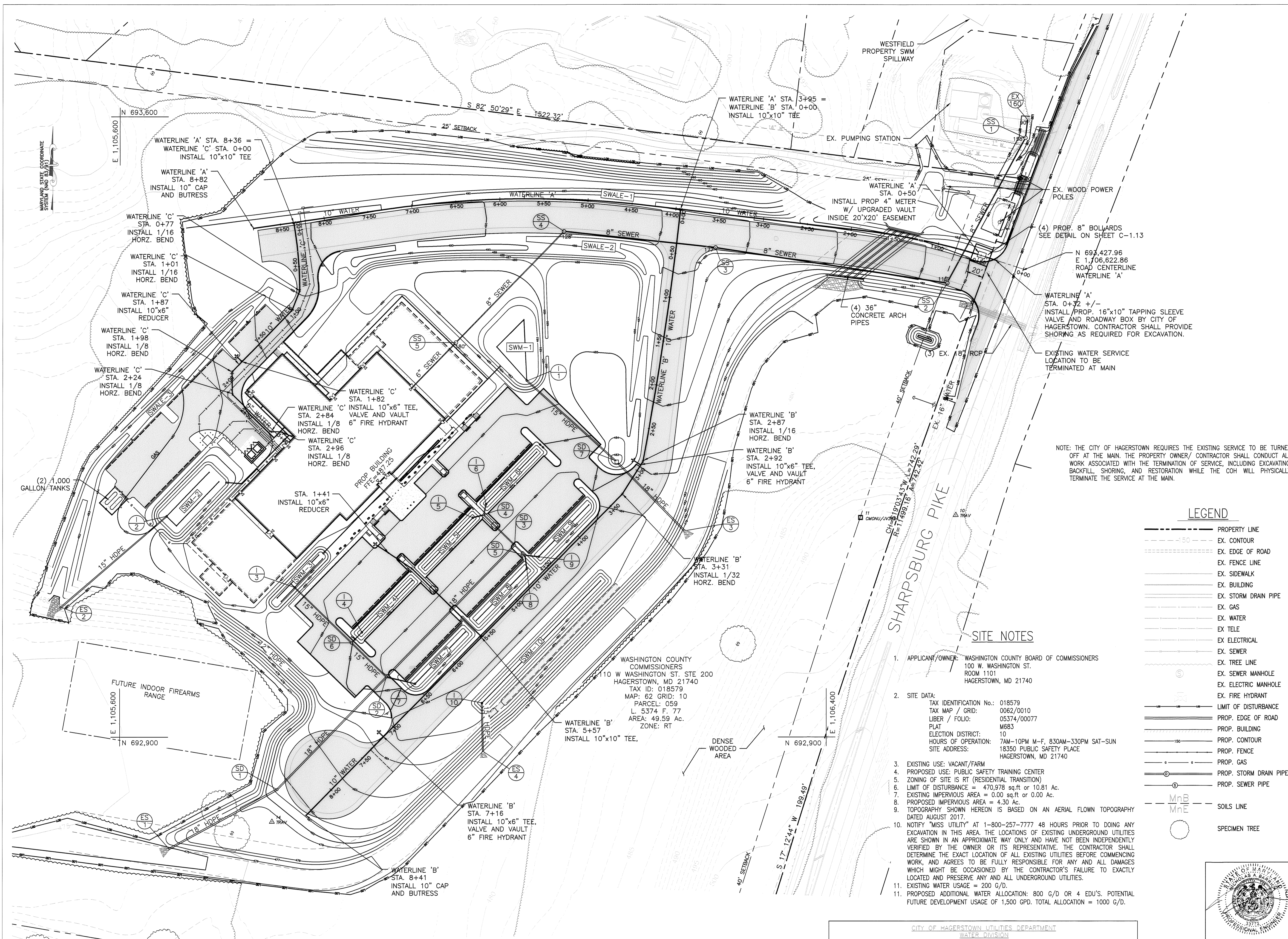
SCALE: 1" = 30'



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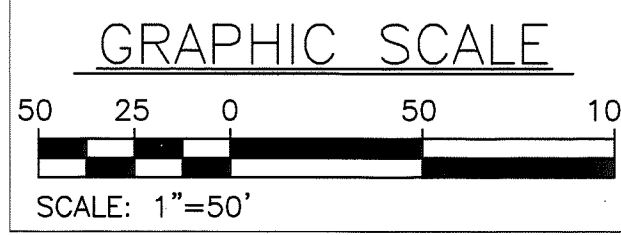


NOTE: THE CITY OF HAGERSTOWN REQUIRES THE EXISTING SERVICE TO BE TURNED OFF AT THE MAIN. THE PROPERTY OWNER/ CONTRACTOR SHALL CONDUCT ALL WORK ASSOCIATED WITH THE TERMINATION OF SERVICE, INCLUDING EXCAVATING, BACKFILL, SHORING, AND RESTORATION WHILE THE COH WILL PHYSICALLY TERMINATE THE SERVICE AT THE MAIN.

LEGEND

	PROPERTY LINE
	EX. CONTOUR
	EX. EDGE OF ROAD
	EX. FENCE LINE
	EX. SIDEWALK
	EX. BUILDING
	EX. STORM DRAIN PIPE
	EX. GAS
	EX. WATER
	EX. TELE
	EX. ELECTRICAL
	EX. SEWER
	EX. TREE LINE
	EX. SEWER MANHOLE
	EX. ELECTRIC MANHOLE
	EX. FIRE HYDRANT
	LIMIT OF DISTURBANCE
	PROP. EDGE OF ROAD
	PROP. BUILDING
	PROP. CONTOUR
	PROP. FENCE
	PROP. GAS
	PROP. STORM DRAIN PIPE
	PROP. SEWER PIPE
	SOILS LINE
	SPECIMEN TREE

- #### SITE NOTES
1. APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST.
ROOM 1101
HAGERSTOWN, MD 21740
 2. SITE DATA:
TAX IDENTIFICATION No.: 018579
TAX MAP / GRID: 0062/0010
LIBER / FOLIO: 05374/00077
PLAT: M683
ELECTION DISTRICT: 10
HOURS OF OPERATION: 7AM-10PM M-F, 830AM-330PM SAT-SUN
SITE ADDRESS: 18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740
 3. EXISTING USE: VACANT/FARM
 4. PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
 5. ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
 6. LIMIT OF DISTURBANCE = 470,978 sqft or 10.81 Ac.
 7. EXISTING IMPERVIOUS AREA = 0.00 sqft or 0.00 Ac.
 8. PROPOSED IMPERVIOUS AREA = 4.30 Ac.
 9. TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
 10. NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
 11. EXISTING WATER USAGE = 200 G/D.
 11. PROPOSED ADDITIONAL WATER ALLOCATION: 800 G/D OR 4 EDU'S. POTENTIAL FUTURE DEVELOPMENT USAGE OF 1,500 GPD. TOTAL ALLOCATION = 1000 G/D.



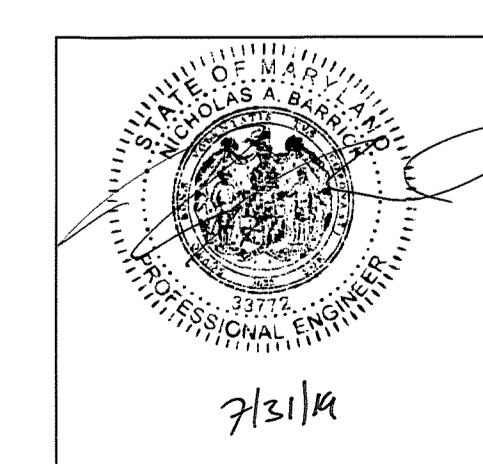
UTILITY PLAN
SCALE: 1"=50'

NOTE:
SEE SHEETS C1.08 THRU C1.10 FOR UTILITY PROFILES

CITY OF HAGERSTOWN UTILITIES DEPARTMENT
WATER DIVISION

THIS APPROVAL IS FOR THE DESIGN AND LAYOUT OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED TO THE STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION. THIS APPROVAL DOES NOT GUARANTEE AVAILABILITY OF WATER SERVICE. WATER SERVICE IS AVAILABLE SUBJECT TO CONFORMANCE WITH ALL POLICIES AND STANDARDS IN EFFECT AT THE TIME OF APPLICATION FOR SERVICE. PAYMENT OF FEES AND APPROVAL OF THE WATER SERVICE APPLICATION. THE WATER DIVISION DOES NOT GUARANTEE A SPECIFIC WATER PRESSURE OR FLOW AT ANY METER OR FIRE HYDRANT. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR.

[Signature] 8/2/19
SIGNATURE DATE



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100% PLAN SET

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FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

UTILITY PLAN
PLOT SCALE: 1:50
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT
3089
C-1.07

PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
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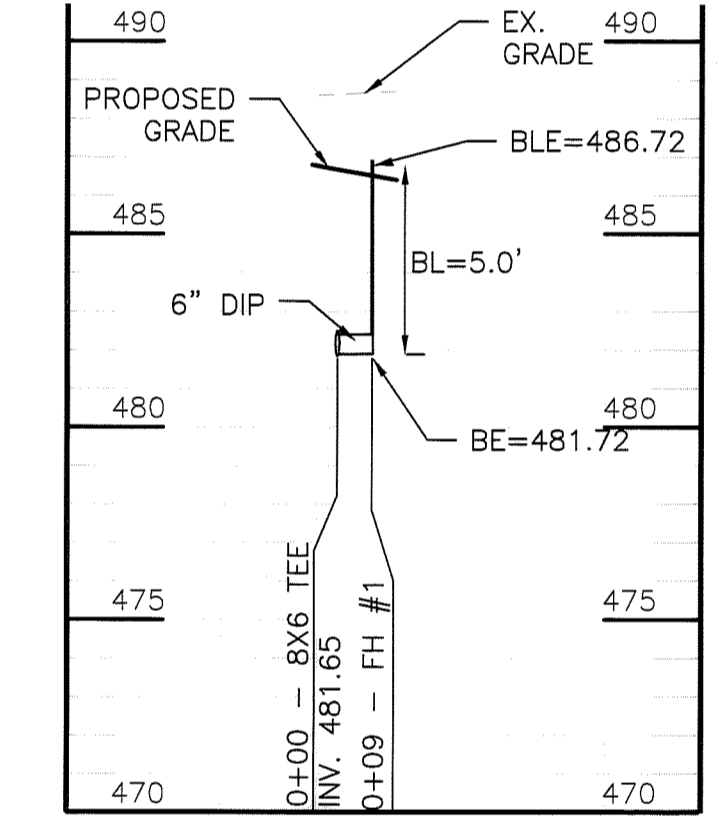
REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

FITTINGS CHART

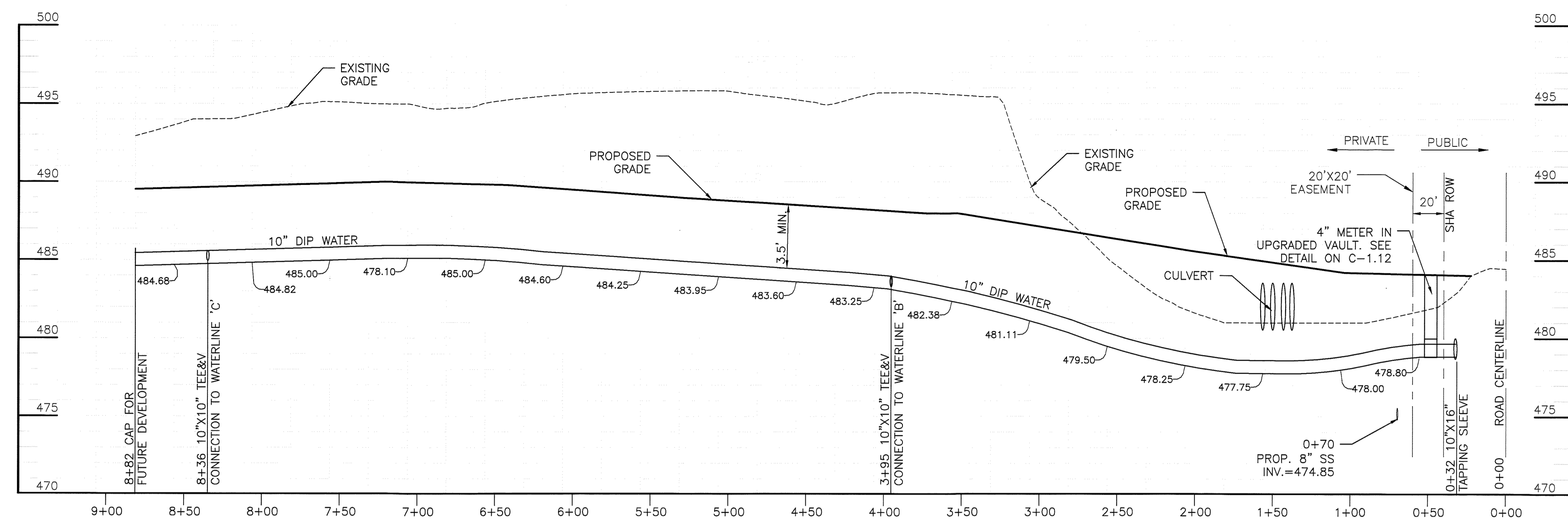
FITTING TYPE	STATION	NORTHING	EASTING
10X16" TS & V	0+32 (A)	693438.30	1106591.04
4" METER & VAULT	0+48 (A)	693443.27	1106575.38
10"X10" TEE&V	3+95 (A)	693495.41	1106234.53
10"X10" TEE&V	8+36 (A)	693480.79	1105796.96
10" CAP	8+82 (A)	693474.30	1105751.00
10" 1/16 H.B.	2+87 (B)	693211.37	1106192.38
10"X6" TEE&V	2+92 (B)	693207.32	1106189.16
8" 1/32 H.B.	3+31 (B)	693174.22	1106168.97
10"X10" TEE&V	5+57 (B)	693013.02	1106009.95
10"X6" TEE&V	7+16 (B)	692900.40	1105898.76
10" CAP	8+41 (B)	692811.90	1105810.59
10" 1/16 H.B.	0+77 (C)	693403.80	1105803.90
10" 1/16 H.B.	1+01 (C)	693381.98	1105795.10
10"X6" TEE&V	1+82 (C)	693323.76	1105738.35
10" TO 6" REDUCER	1+87 (C)	693320.43	1105735.11
6" 1/8 H.B.	1+98 (C)	693312.22	1105727.07
6" 1/8 H.B.	2+24 (C)	693286.96	1105727.47
6" 1/8 H.B.	2+84 (C)	693244.75	1105770.83
6" 1/8 H.B.	2+96 (C)	693244.83	1105783.11
8" 1/16 H.B.	1+10 (FH4)	693090.10	1105931.07
10" TO 6" REDUCER	1+41 (FH4)	693106.61	1105905.63

NOTE: PIPE SHALL BE DUCTILE IRON CLASS 52 (CL 52), CENTRIFUGALLY CAST IN 18 OR 20 FOOT NOMINAL LENGTHS, CONFORMING TO ASA A21.51-1965 (AWWA C151) AND SHALL BE GRIFFIN, ATLANTIC STATES OR APPROVED EQUAL.



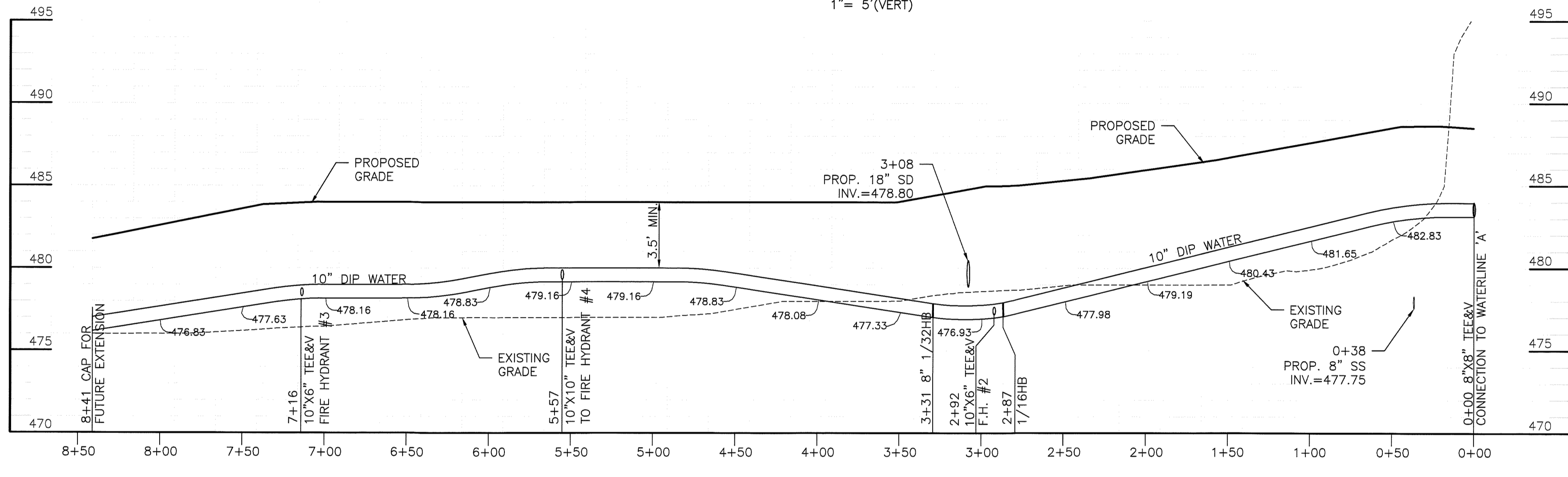
FIRE HYDRANT 1 PROFILE

SCALE: HOR: 1"=50'
VERT: 1"=5'



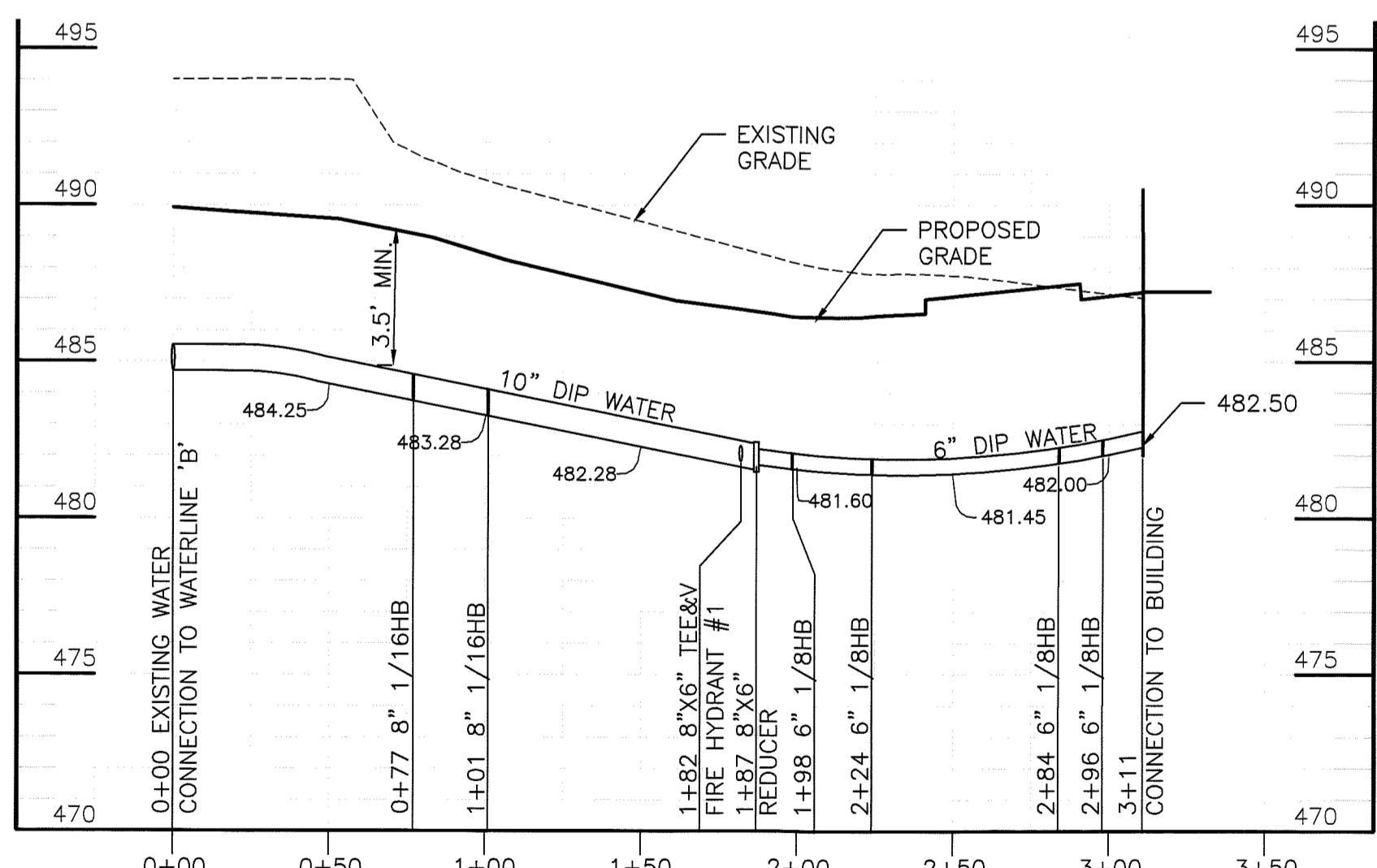
WATERLINE 'A' PROFILE

SCALE: 1"= 50'(HORIZ)
1"= 5'(VERT)



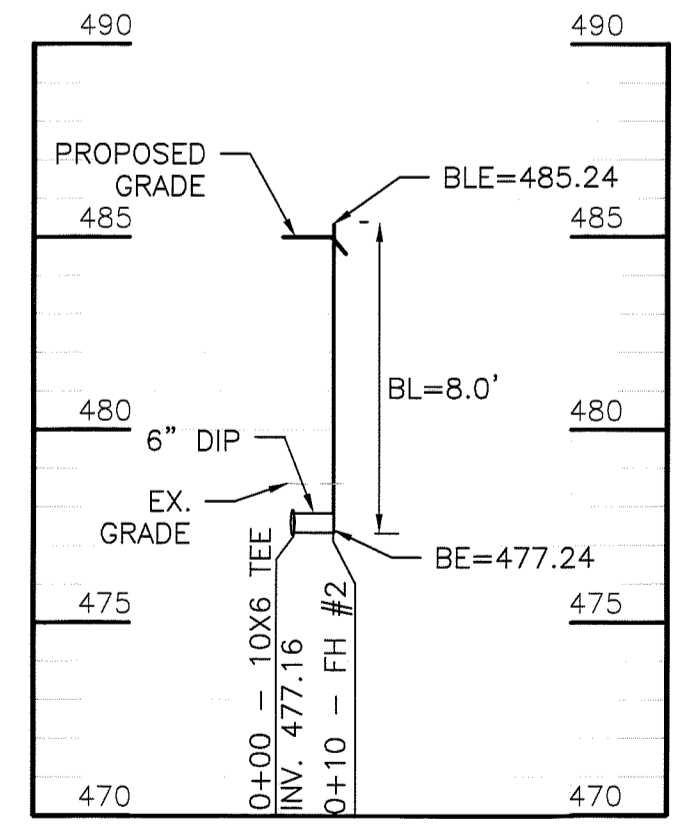
WATERLINE 'B' PROFILE

SCALE: 1"= 50'(HORIZ)
1"= 5'(VERT)



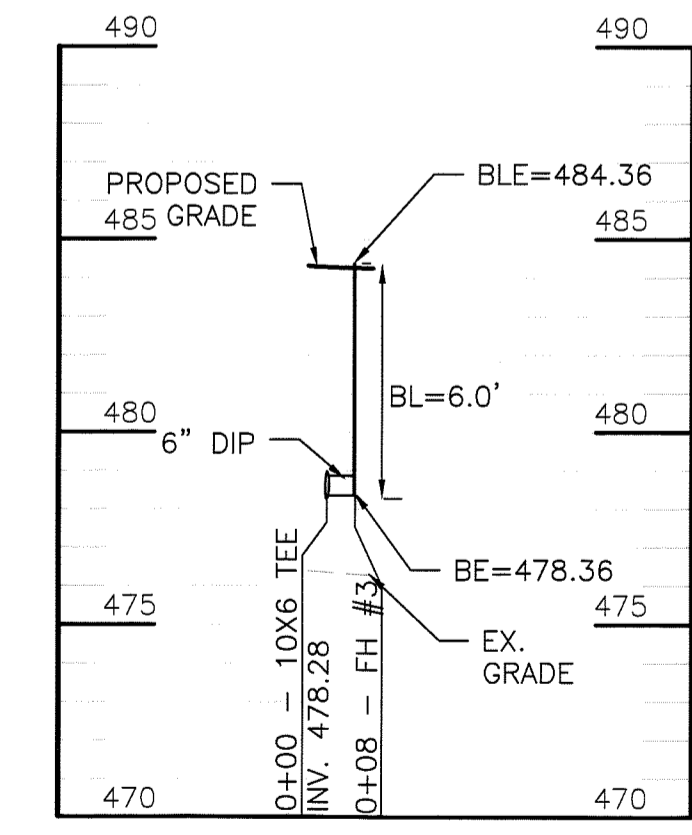
WATERLINE 'C' PROFILE

SCALE: 1"= 50'(HORIZ)
1"= 5'(VERT)



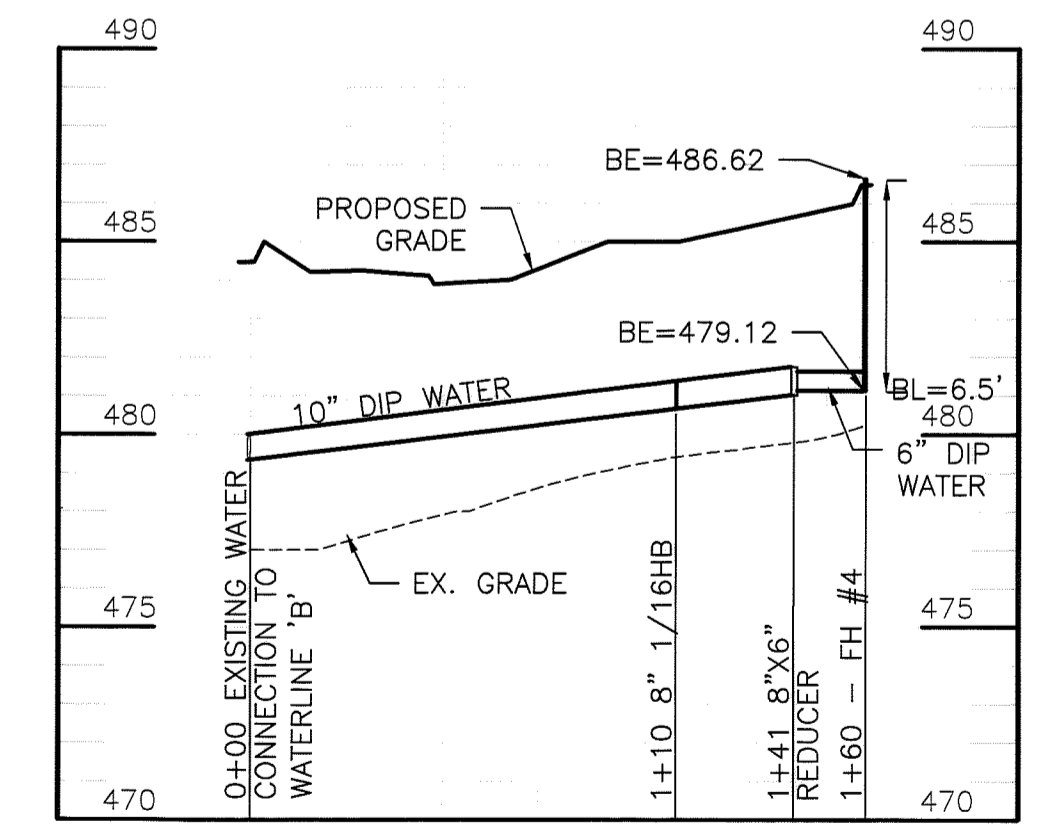
FIRE HYDRANT 2 PROFILE

SCALE: HOR: 1"=50'
VERT: 1"=5'



FIRE HYDRANT 3 PROFILE

SCALE: HOR: 1"=50'
VERT: 1"=5'



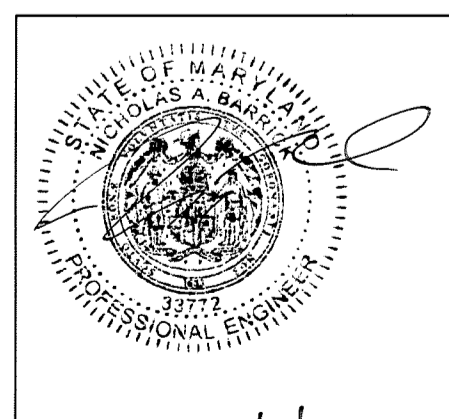
FIRE HYDRANT 4 PROFILE

SCALE: HOR: 1"=50'
VERT: 1"=5'

CITY OF HAGERSTOWN UTILITIES DEPARTMENT
WATER DIVISION

THIS APPROVAL IS FOR THE DESIGN AND LAYOUT OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED TO THE STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION. THIS APPROVAL DOES NOT GUARANTEE AVAILABILITY OF WATER SERVICE. WATER SERVICE IS AVAILABLE SUBJECT TO CONFORMANCE WITH ALL POLICIES AND STANDARDS IN EFFECT AT THE TIME OF APPLICATION FOR SERVICE, PAYMENT OF FEES AND APPROVAL OF THE WATER SERVICE APPLICATION. THE WATER DIVISION DOES NOT GUARANTEE A SPECIFIC WATER PRESSURE OR FLOW AT ANY METER OR FIRE HYDRANT. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR.

Signature: *E. J. [unclear]* DATE: 8/2/19



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100% PLAN SET

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FULTON, MD 20759
410-792-8086 (P)
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WATER PROFILES

PROJECT 3089

C-1.08

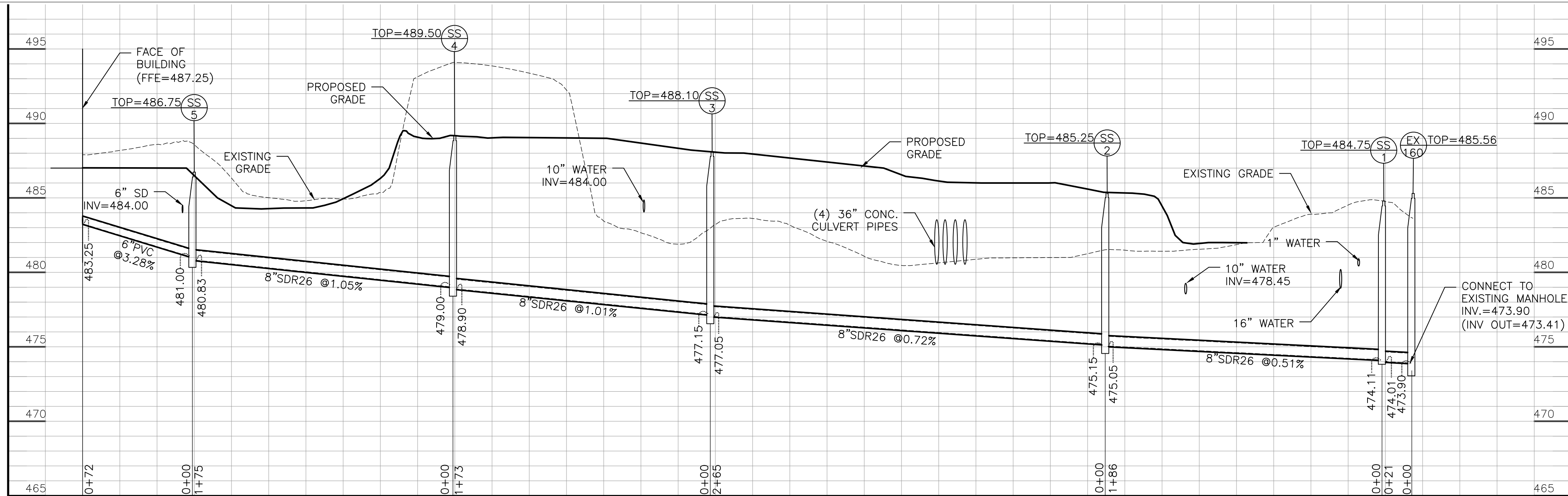
PLOT SCALE: 1:50
FILENAME: KCI# 271703606
DATE: 7/25/19



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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

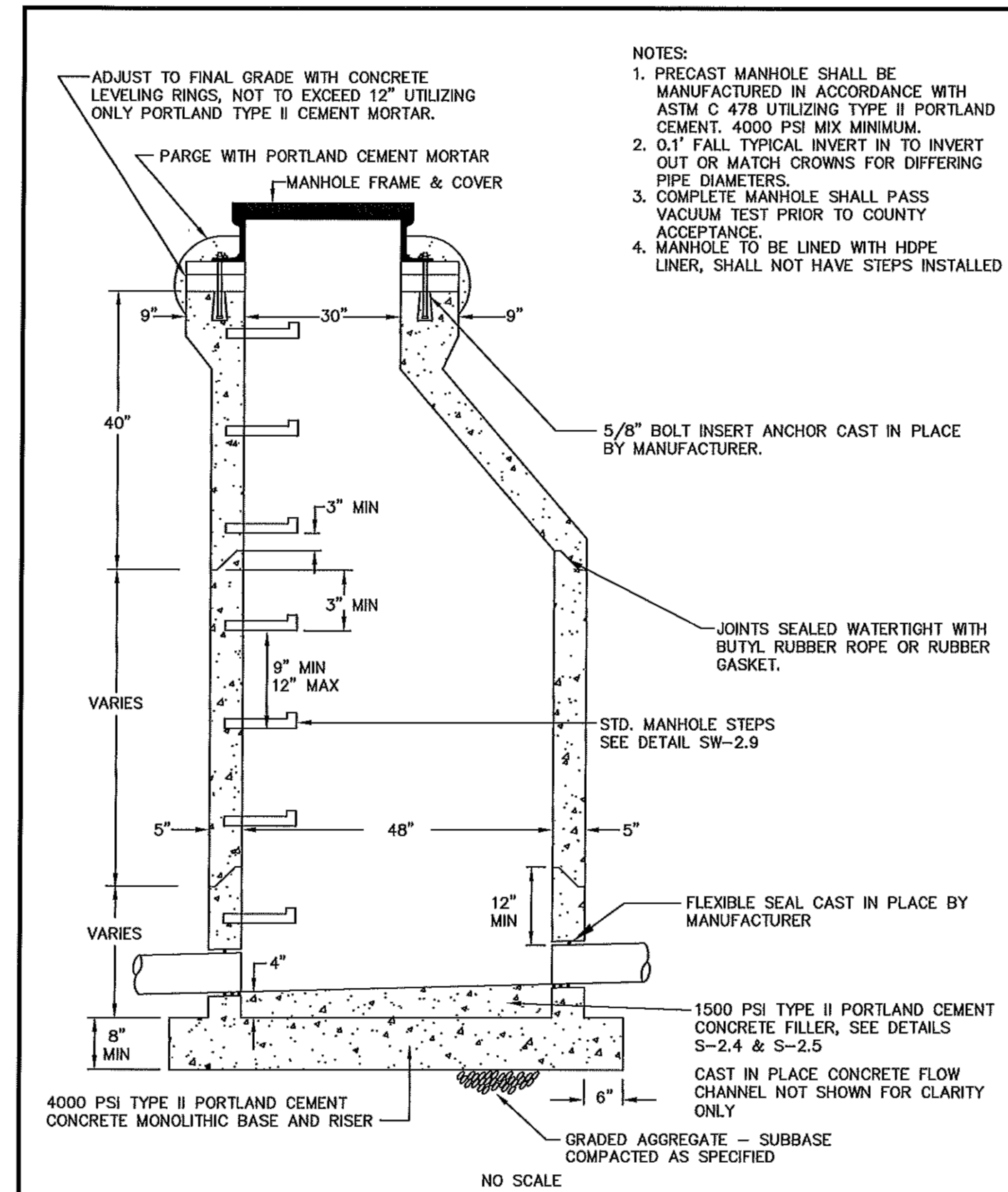


SEWER LINE PROFILE

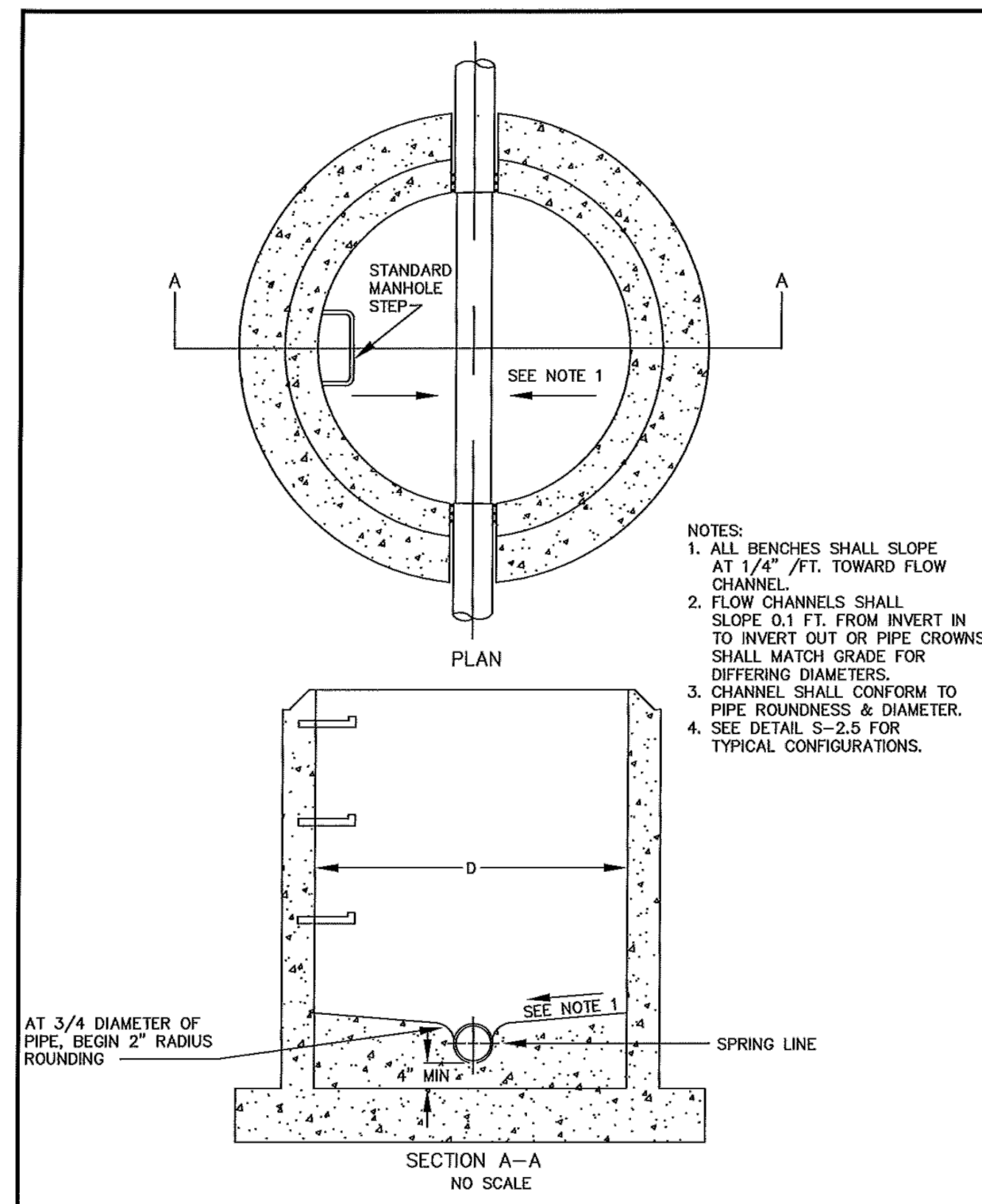
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1" = 5'(VERT)

SEWER STRUCTURE TABLE

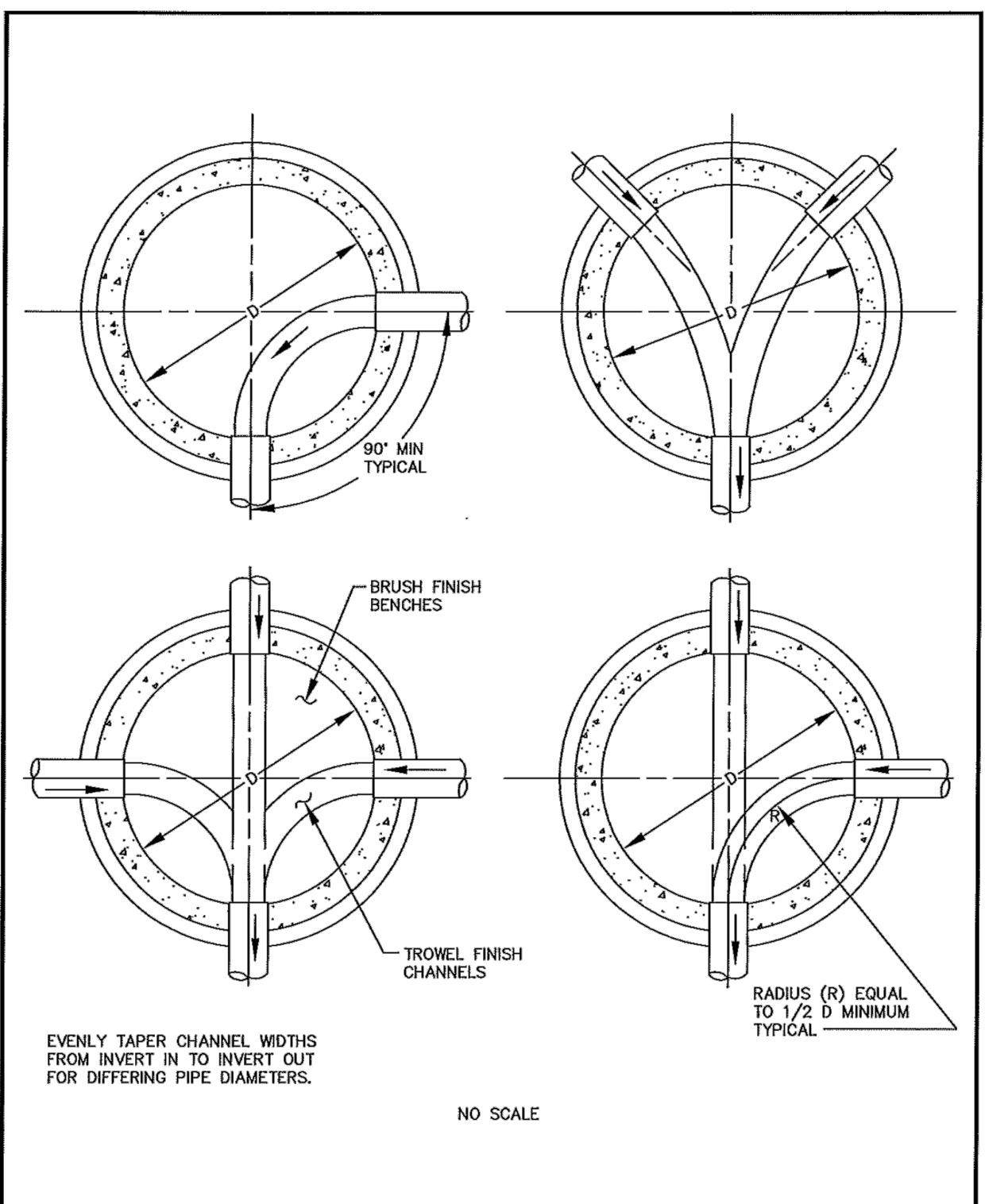
STRUCTURE NAME	TOP ELEVATION	INVERT IN	INVERT OUT	NORTHING	EASTING	DESCRIPTION
EX-160	485.56	473.90	-	693597.31	1106627.88	EX. MANHOLE AT PUMP STATION
SS-1	484.75	474.11	474.01	693576.02	1106625.00	48" STD. MANHOLE (S-2.1)
SS-2	485.25	475.15	475.05	693412.37	1106536.85	48" STD. MANHOLE (S-2.1)
SS-3	488.10	477.15	477.05	693452.42	1106274.45	48" STD. MANHOLE (S-2.1)
SS-4	489.50	479.00	478.90	693470.63	1106102.52	48" STD. MANHOLE (S-2.1)
SS-5	486.75	481.00	480.83	693345.24	1105980.36	48" STD. MANHOLE (S-2.1)



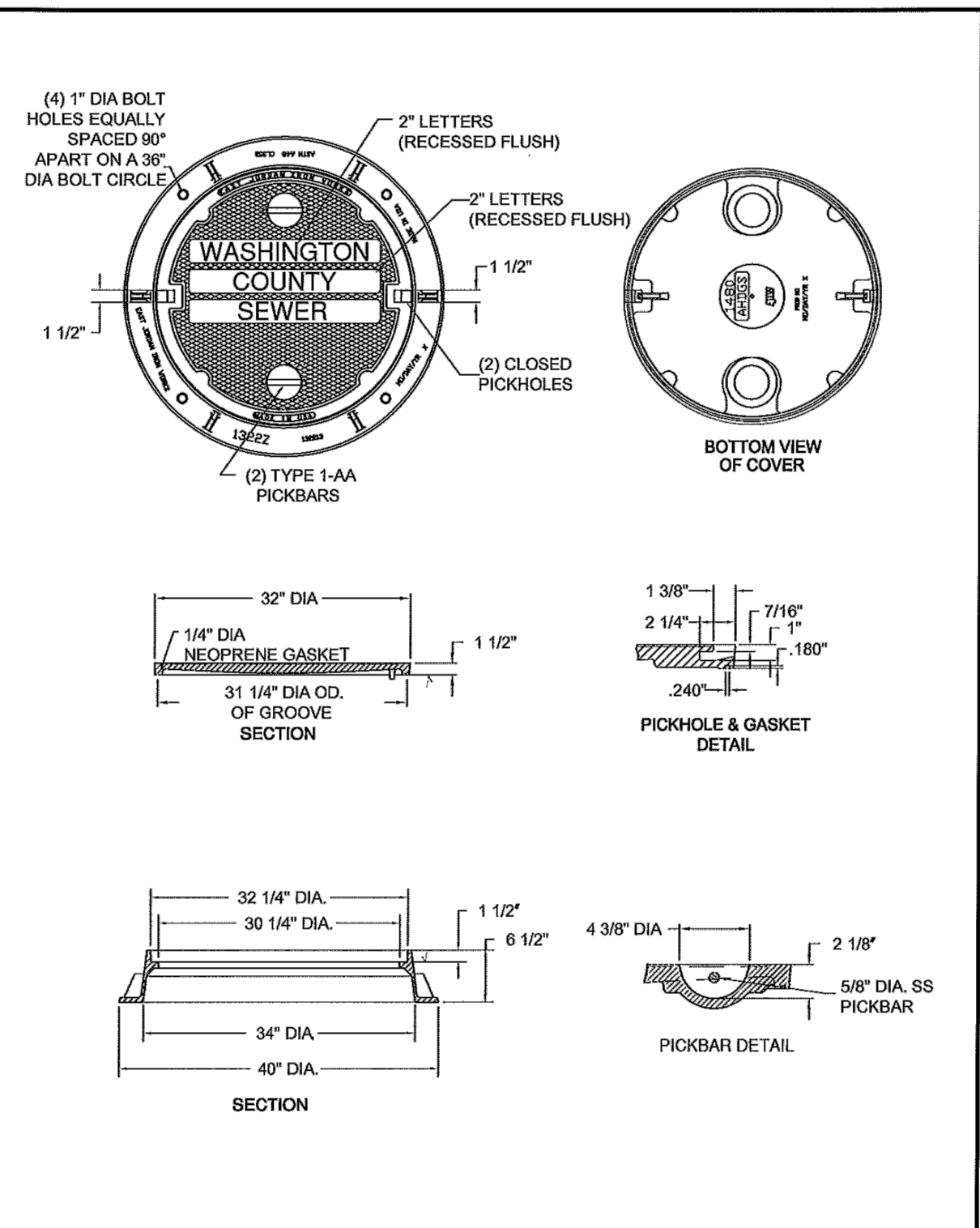
REVISION	Washington County, MD Div. of Environmental Management	Standard Through Manhole Precast Base	Detail S-2.1
REVISION	Approved: <i>David Lopez</i> Director of Environmental Management		
APPROVED			



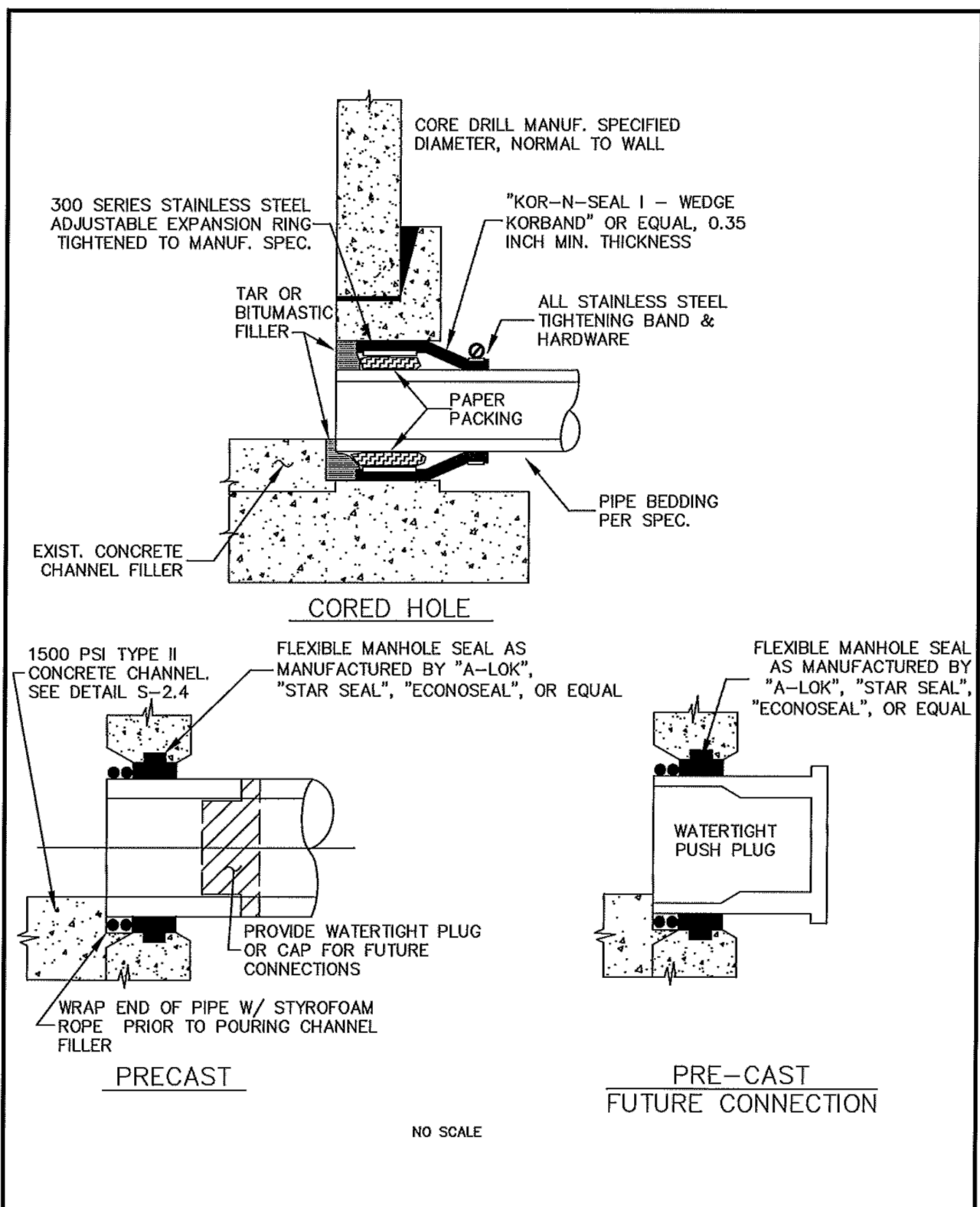
REVISION	Washington County, MD Div. of Environmental Management	Typical Bench and Flow Channel Section Precast Base	Detail S-2.4
REVISION	Approved: <i>David Lopez</i> Director of Environmental Management		
APPROVED			



REVISION	Washington County, MD Div. of Environmental Management	Plans of Flow Channels (Typical)	Detail S-2.5
REVISION	Approved: <i>David Lopez</i> Director of Environmental Management		
APPROVED			



REVISION	Washington County, MD Div. of Environmental Management	Standard Manhole Frame & Cover	Detail SW-2.6
REVISION	Approved: <i>David Lopez</i> Director of Environmental Management		
APPROVED			



REVISION	Washington County, MD Div. of Environmental Management	Manhole Pipe Connections	Detail SW-2.10
REVISION	Approved: <i>David Lopez</i> Director of Environmental Management		
APPROVED			

100% PLAN SET

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SEWER PROFILE

PLOT SCALE: 1:50
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT

3089
C-1.09

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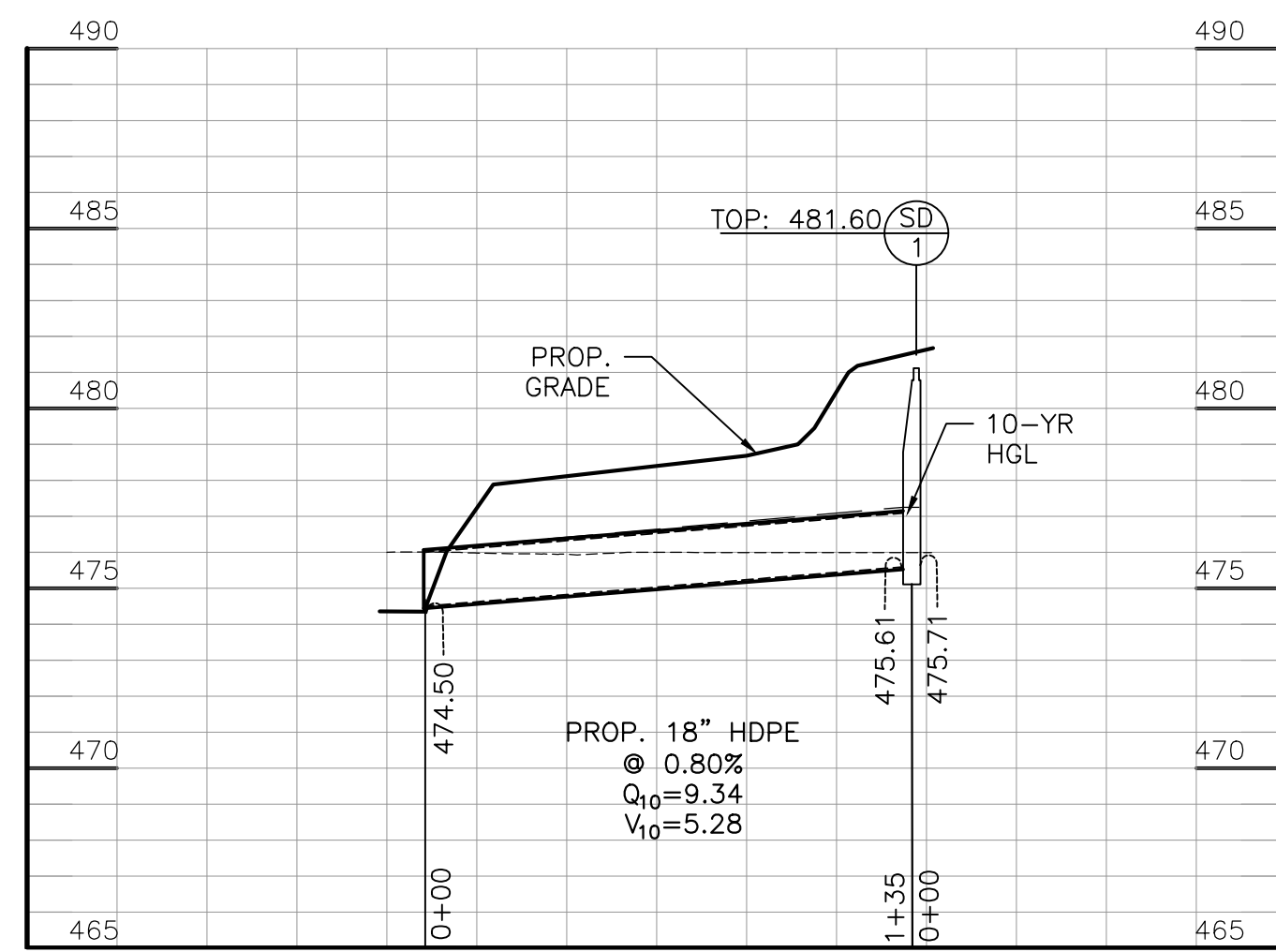




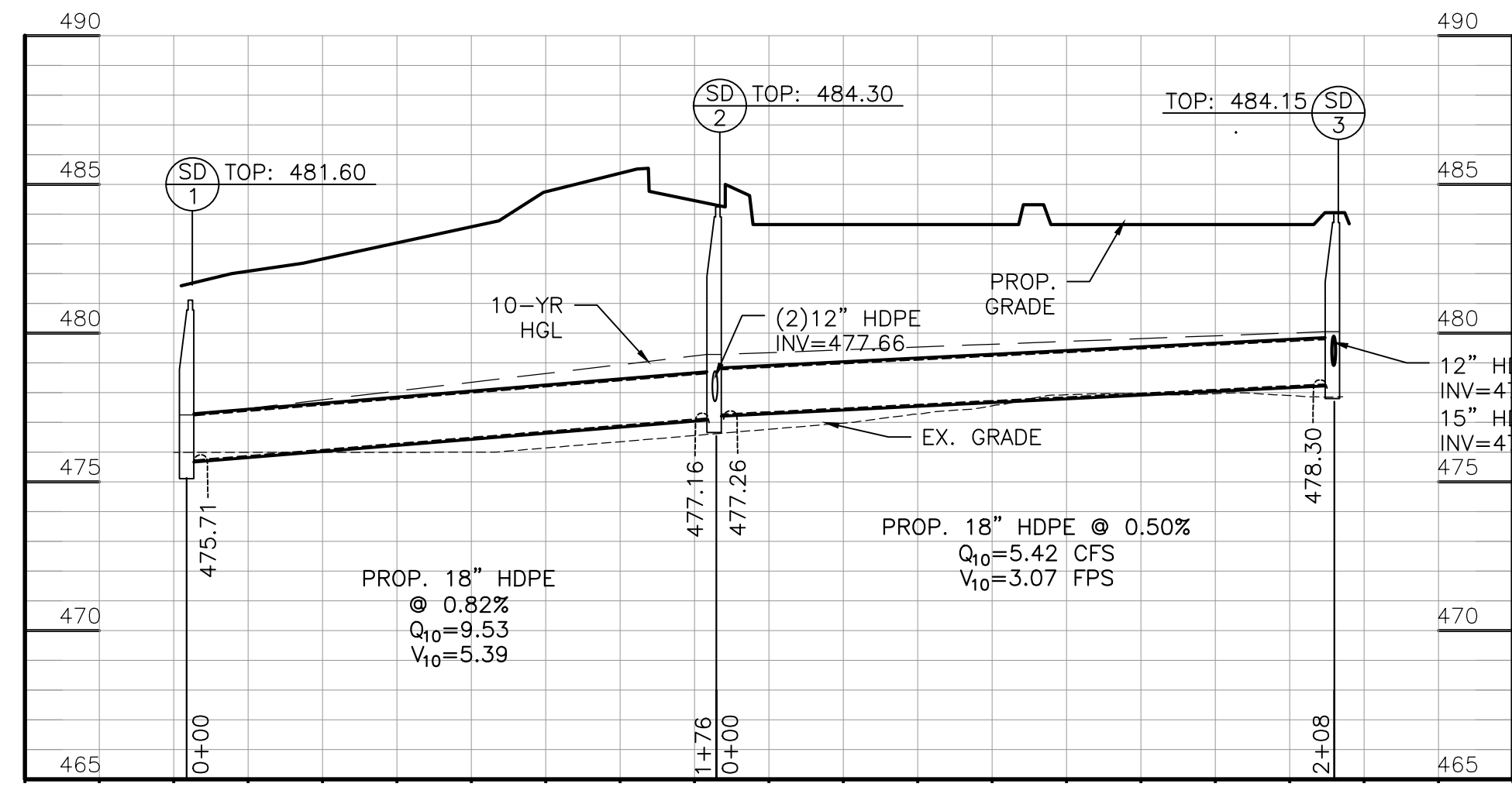
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REVISIONS

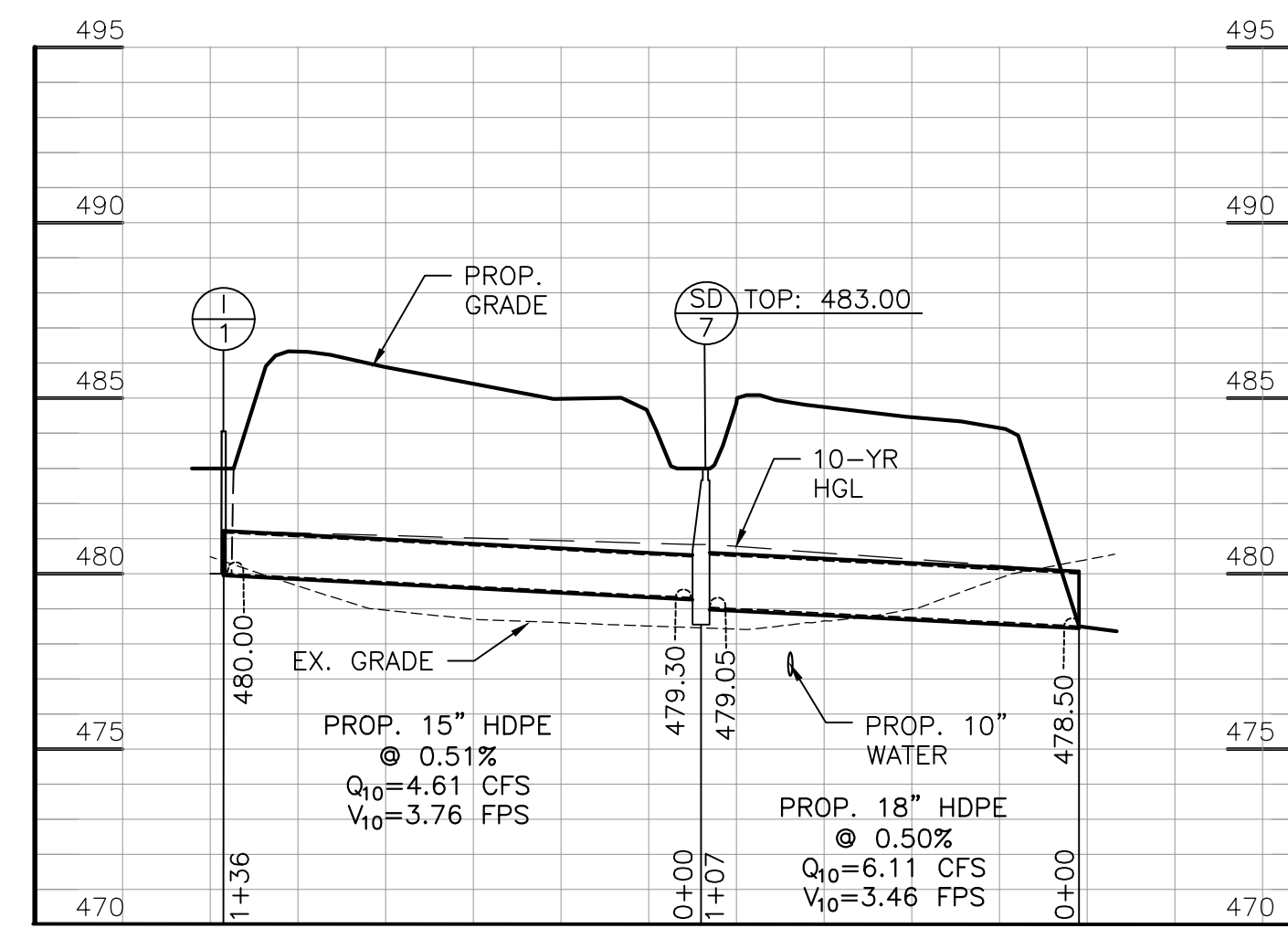
NO.	DATE	NAME	DESCRIPTION OF CHANGES



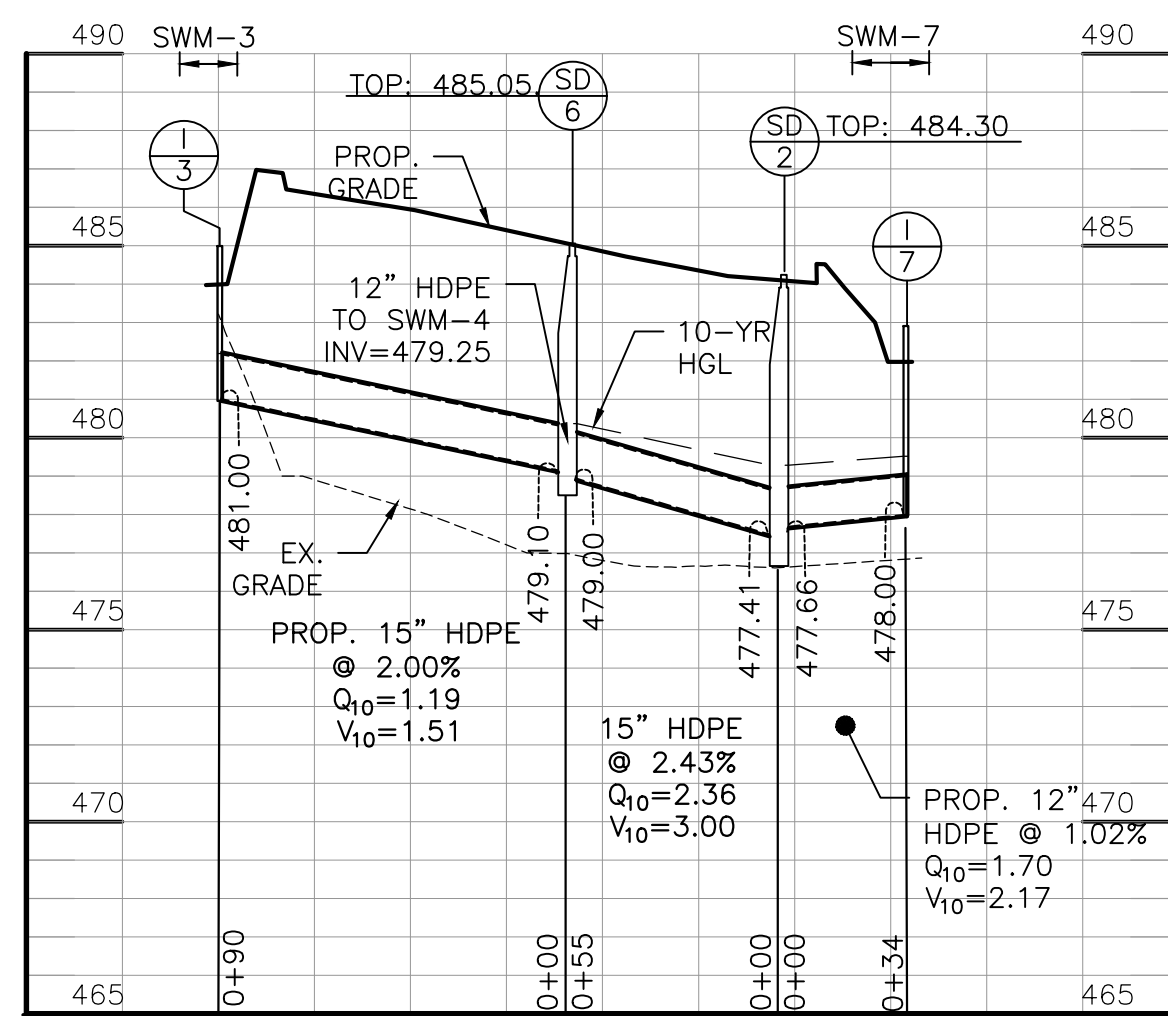
SD2 TO OUTFALL
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



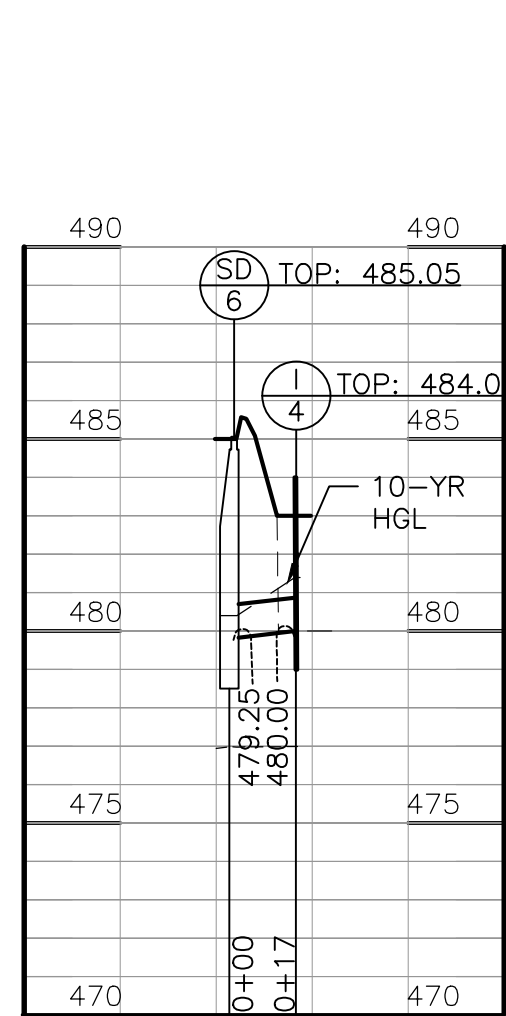
SD1 TO SD3
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



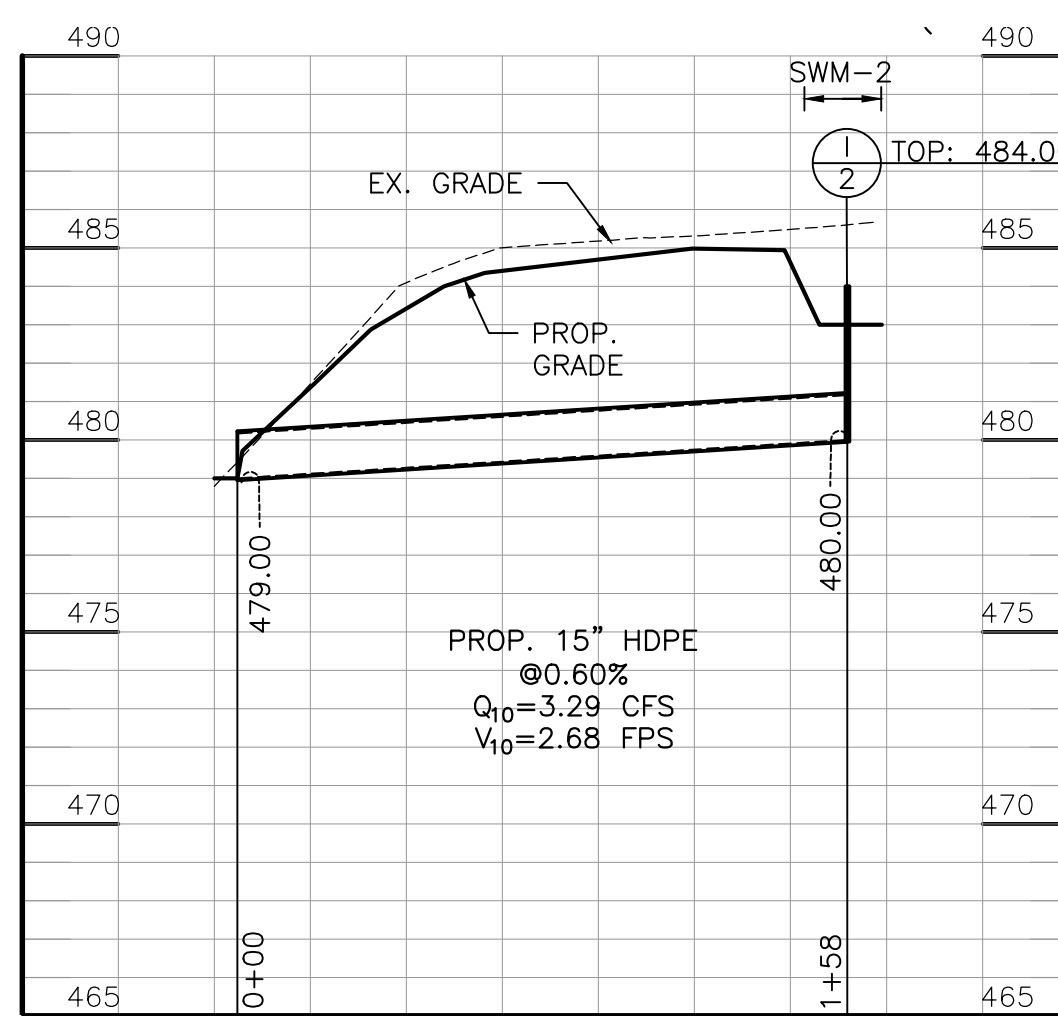
SWM1 TO OUTLET
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



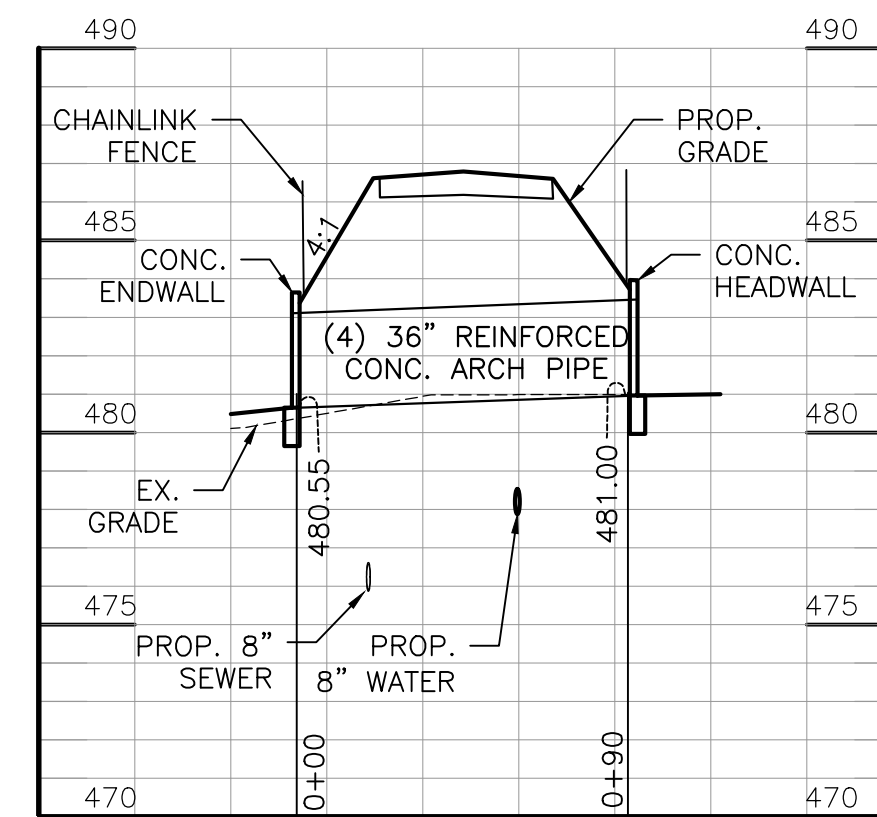
SWM3 TO SWM7
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



SWM4 TO SD6
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



SWM2 TO OUTFALL
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



ENTRANCE ROAD CULVERT
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)

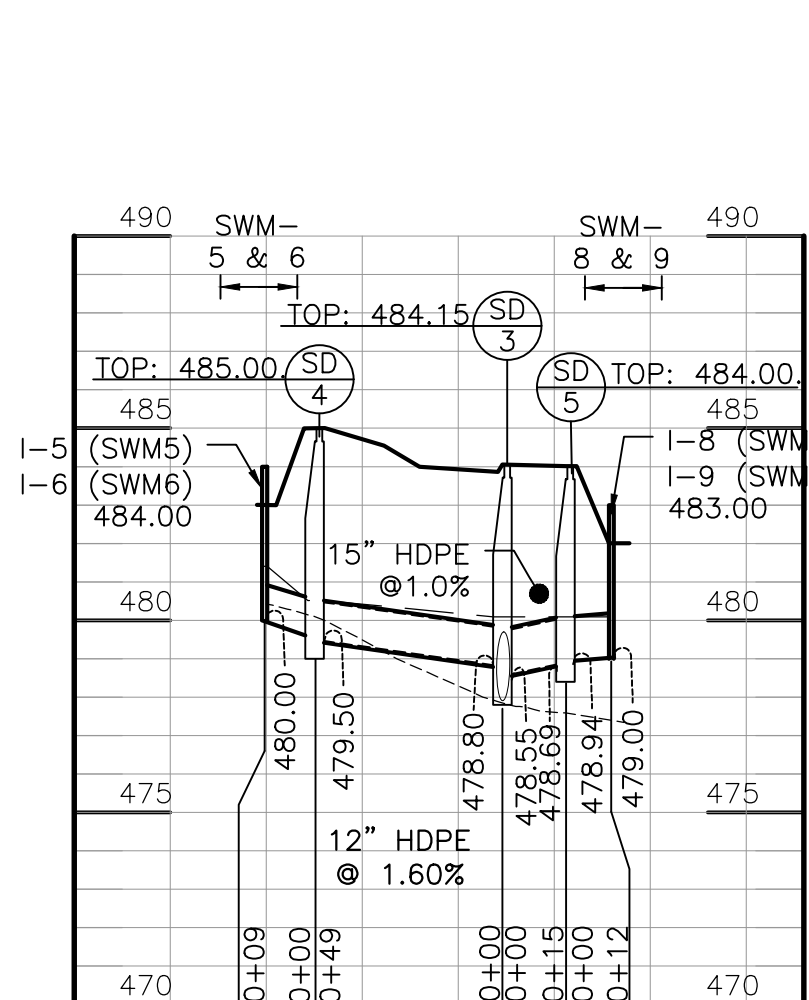
PIPE SUMMARY	
TYPE	LENGTH
4" PVC	1150'
6" PVC	648'
12" HDPE	125'
15" HDPE	503'
18" HDPE	621'

STORM DRAIN STRUCTURE TABLE

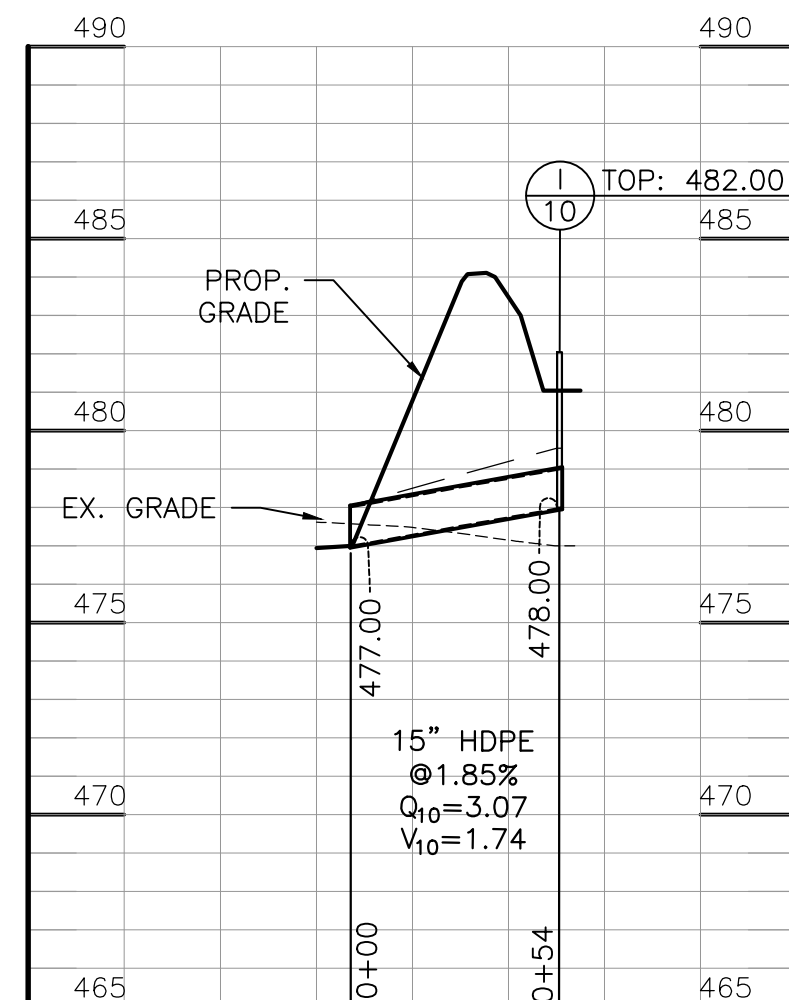
STRUCTURE NAME	TOP ELEVATION	INVERT IN	INVERT OUT	NORTHING	EASTING	DESCRIPTION
I-1	483.33	480.08	480.00	693302.54	1106060.55	12" NYLOPLAST INLET W/ DOME GRATE
I-2	484.00	480.08	480.00	693149.35	1105653.16	12" NYLOPLAST INLET W/ DOME GRATE
I-3	485.00	481.08	481.00	693069.02	1105798.27	12" NYLOPLAST INLET W/ DOME GRATE
I-4	484.00	479.08	479.00	693018.69	1105874.10	12" NYLOPLAST INLET W/ DOME GRATE
I-5	484.00	479.08	479.00	693147.56	1106000.00	12" NYLOPLAST INLET W/ DOME GRATE
I-6	484.00	479.08	479.00	693163.31	1106014.47	12" NYLOPLAST INLET W/ DOME GRATE
I-7	482.75	478.08	478.00	692960.43	1105934.75	12" NYLOPLAST INLET W/ DOME GRATE
I-8	482.83	479.08	479.00	693089.98	1106060.86	12" NYLOPLAST INLET W/ DOME GRATE
I-9	482.83	479.08	479.00	693103.73	1106074.40	12" NYLOPLAST INLET W/ DOME GRATE
I-10	482.00	478.08	478.00	692938.39	1106010.19	12" NYLOPLAST INLET W/ DOME GRATE
SD-1	481.60	475.71	475.61	692840.99	1105778.34	24" NYLOPLAST DRAIN BASIN W/ SOLID TOP
SD-2	484.30	477.66	477.16	692967.87	1105901.95	24" NYLOPLAST DRAIN BASIN W/ SOLID TOP
SD-3	484.15	478.80	478.30	693116.67	1106047.04	24" NYLOPLAST DRAIN BASIN W/ SOLID TOP
SD-4	485.00	479.60	479.50	693150.71	1106012.14	24" NYLOPLAST DRAIN BASIN W/ SOLID TOP
SD-5	484.00	478.94	478.69	693105.19	1106058.85	24" NYLOPLAST DRAIN BASIN W/ SOLID TOP
SD-6	485.05	479.10	479.00	693006.27	1105862.60	24" NYLOPLAST DRAIN BASIN W/ SOLID TOP
SD-7	483.00	479.30	479.05	693210.70	1106162.40	SINGLE GRATE YARD INLET

PIPE SCHEDULE

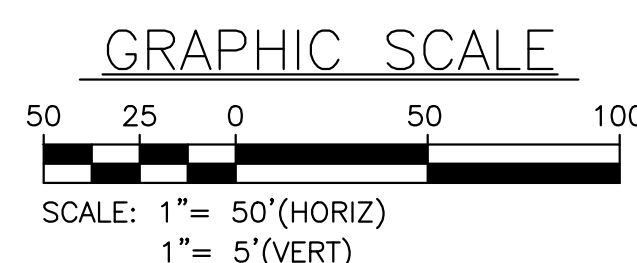
FROM	TO	TYPE	LENGTH
OUTLET	SD-1	18" HDPE	134.00
SD-1	SD-2	18" HDPE	174.00
SD-2	SD-3	18" HDPE	206.00
SD-3	SD-4	12" HDPE	51.00
SD-3	SD-5	15" HDPE	13.00
SD-4	I-5	12" HDPE	11.00
SD-4	I-6	12" HDPE	11.00
SD-5	I-8	12" HDPE	11.00
SD-5	I-9	12" HDPE	11.00
SD-2	SD-6	15" HDPE	52.00
SD-6	I-3	15" HDPE	90.00
SD-2	I-7	12" HDPE	30.00
OUTLET	I-2	15" HDPE	158.00
OUTLET	I-10	15" HDPE	54.00
SD-7	I-1	15" HDPE	136.00
OUTLET	SD-7	18" HDPE	107.00



SWM5, SWM6 TO SWM8, SWM9
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



SWM10 TO OUTLET
SCALE: 1" = 50'(HORIZ)
1" = 5'(VERT)



NOTE: STORM DRAIN PIPE FLOW AND HGL CALCULATIONS ARE BASED ON WORST CASE SCENARIO WHERE BIOTRETINION FACILITIES TO NOT INFILTRATE AND THE STORMWATER RUNS DIRECTLY INTO THE INLET PIPES. FLOWS WHEN THE FACILITIES RUN CORRECTLY WILL BE MUCH LOWER

NOTE: STORM DRAIN PIPE SHALL BE PLACED ON 95% COMPACTED FILL ACCORDING TO AASHTO T180A STANDARDS

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SWM OUTFALL PROFILES
PLOT SCALE: 1:50
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT
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C-1.10



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NO.	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

100% PLAN SET

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CONSTRUCTION DETAILS

PROJECT
3089

PLOT SCALE:
FILE NAME: KCI# 271703606
DATE: 7/25/19

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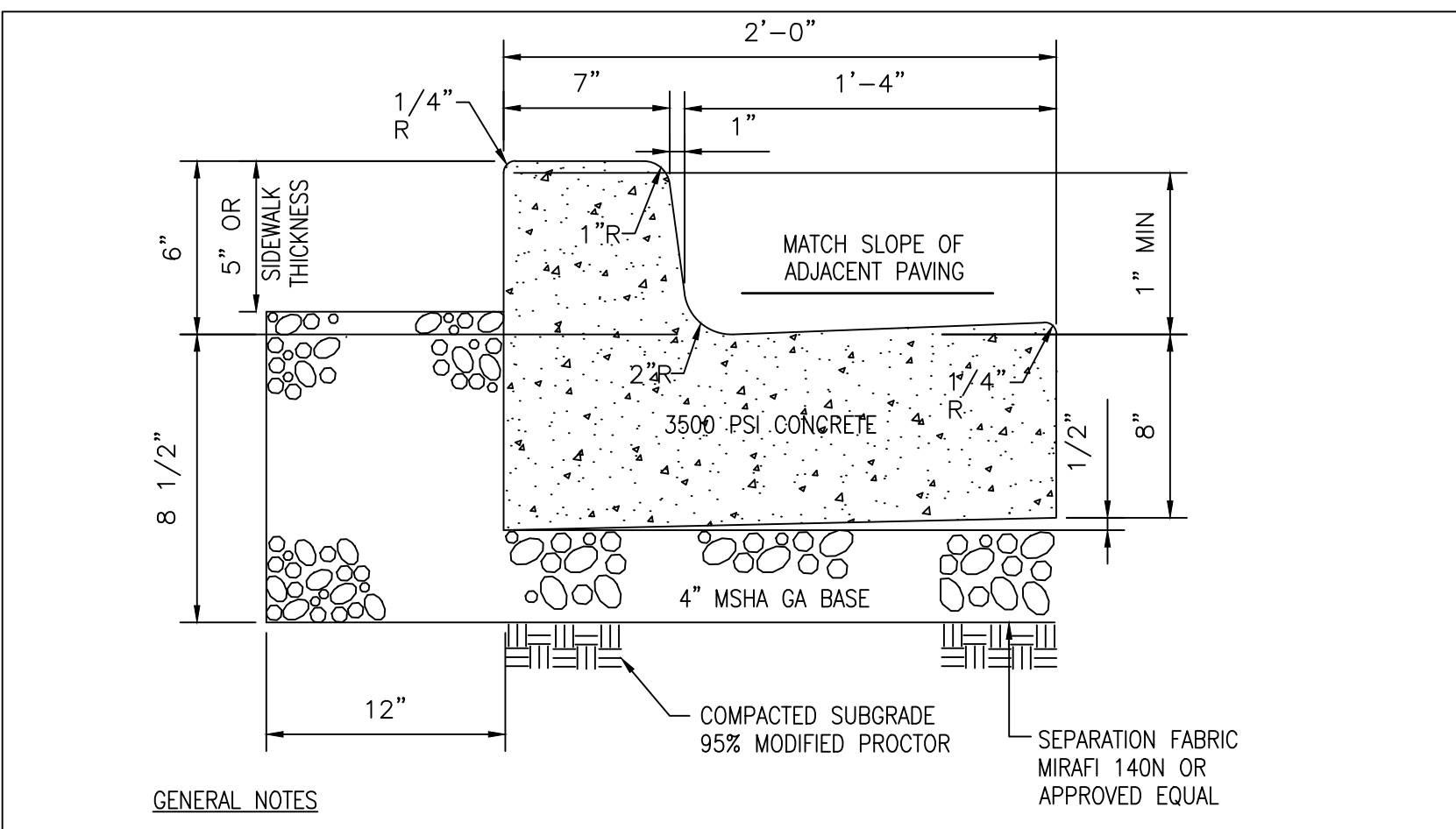
STANDARD NO. MD 374.73

STANDARD NO. MD 384.01

DATE: 07/31/19

DATE: 07/31/19

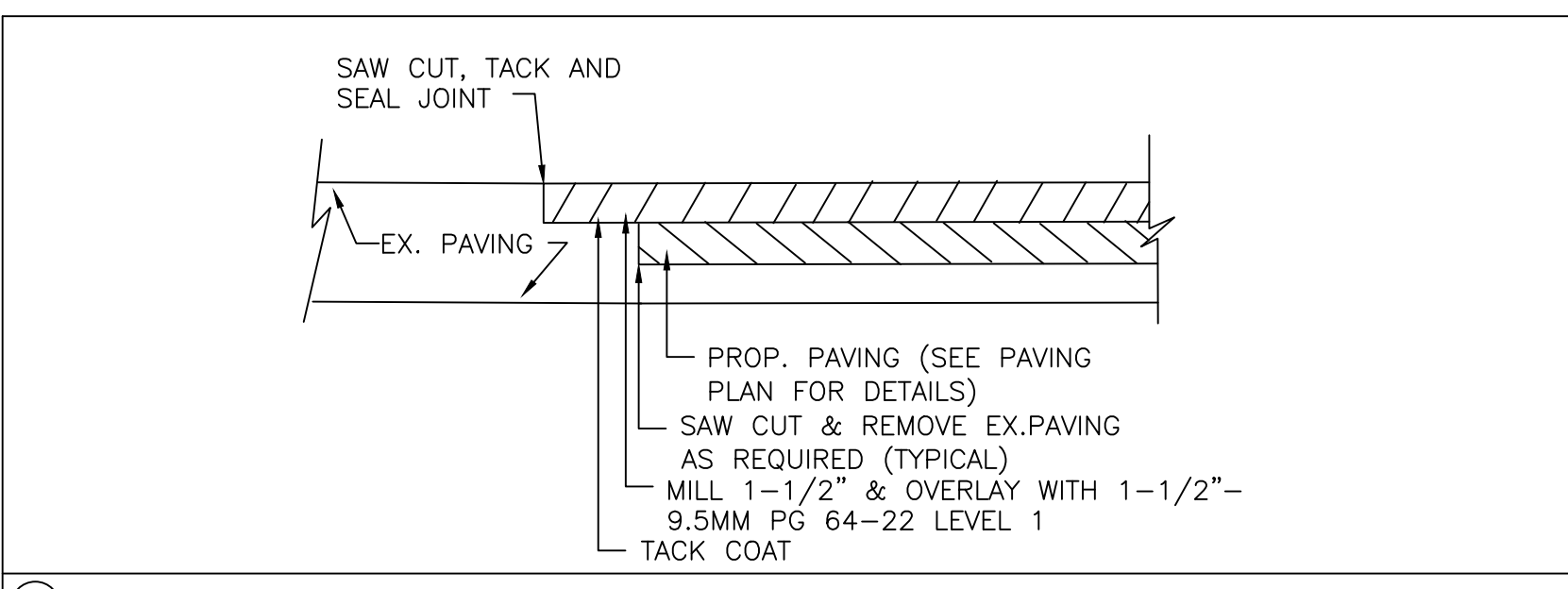
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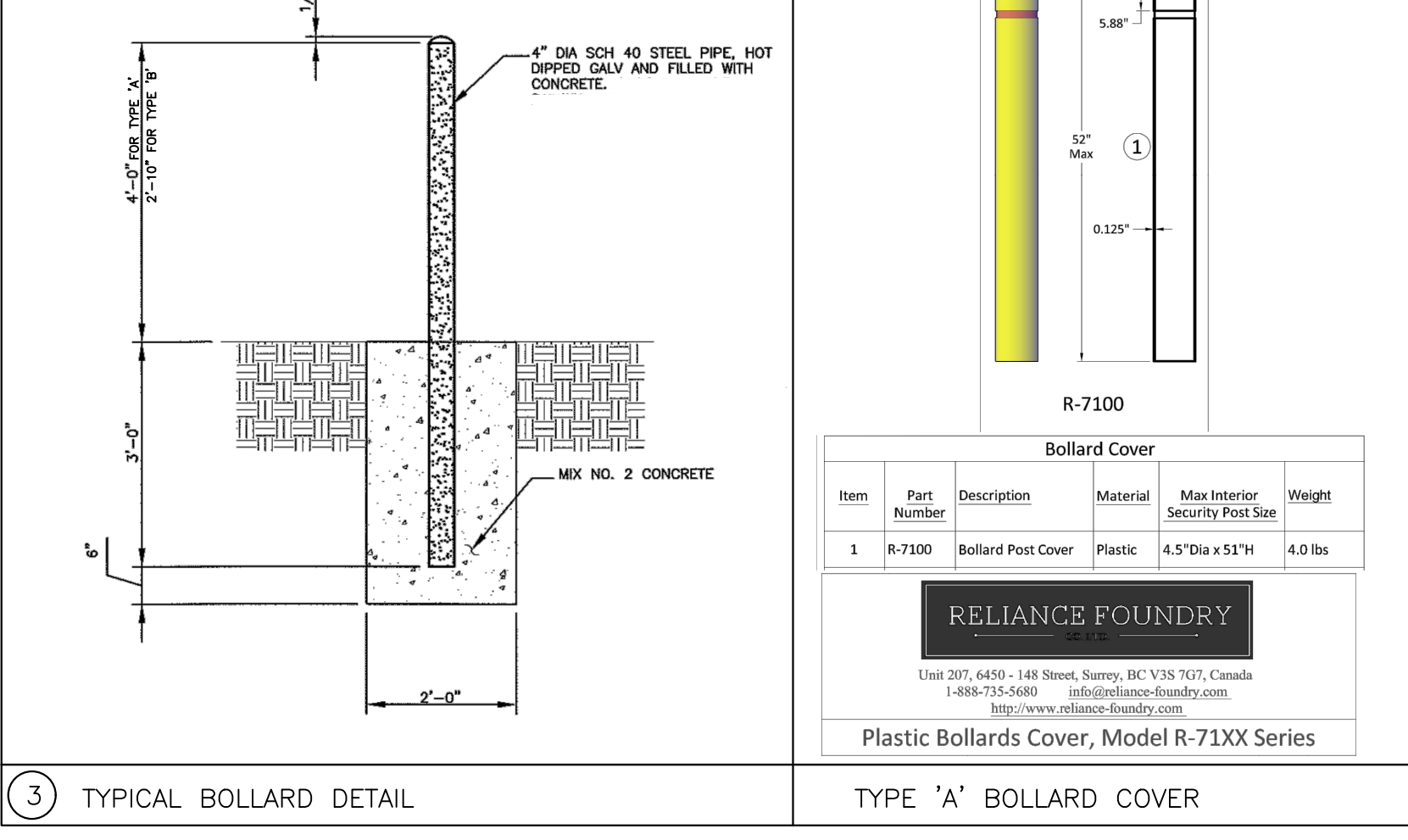
GENERAL NOTES

1. PROVIDE EXPANSION JOINTS EVERY 40' MAX.
2. PROVIDE CONTROL JOINTS EVERY 10'. JOINTS ARE TO ALIGN WITH THE PROPOSED SIDEWALK JOINTS.

1 CONCRETE CURB AND GUTTER DETAIL NOT TO SCALE



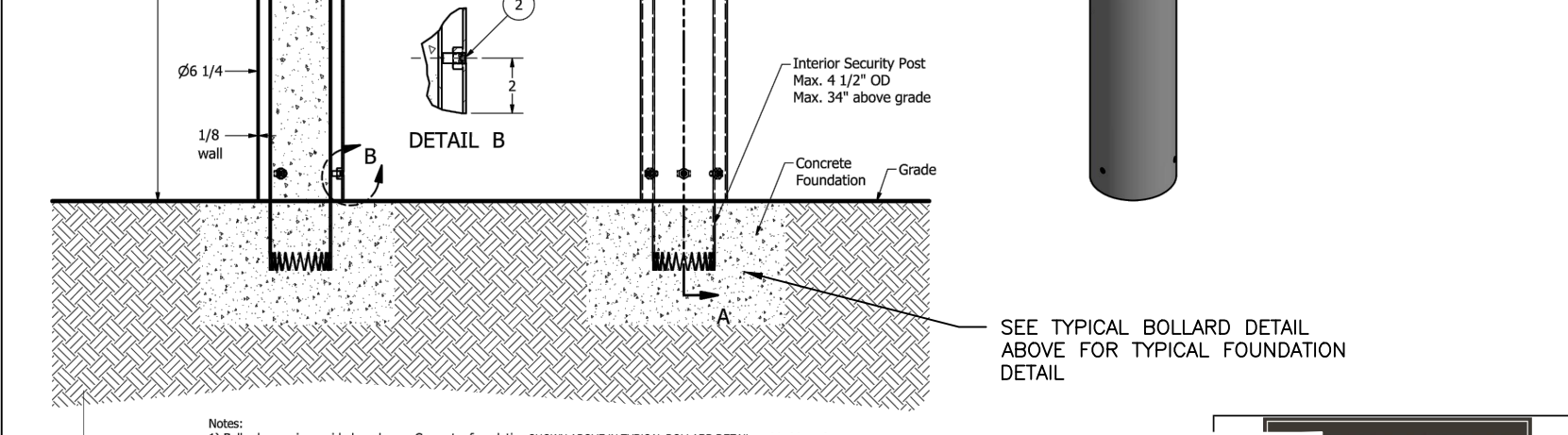
2 PAVEMENT TIE-IN DETAIL NOTE TO SCALE



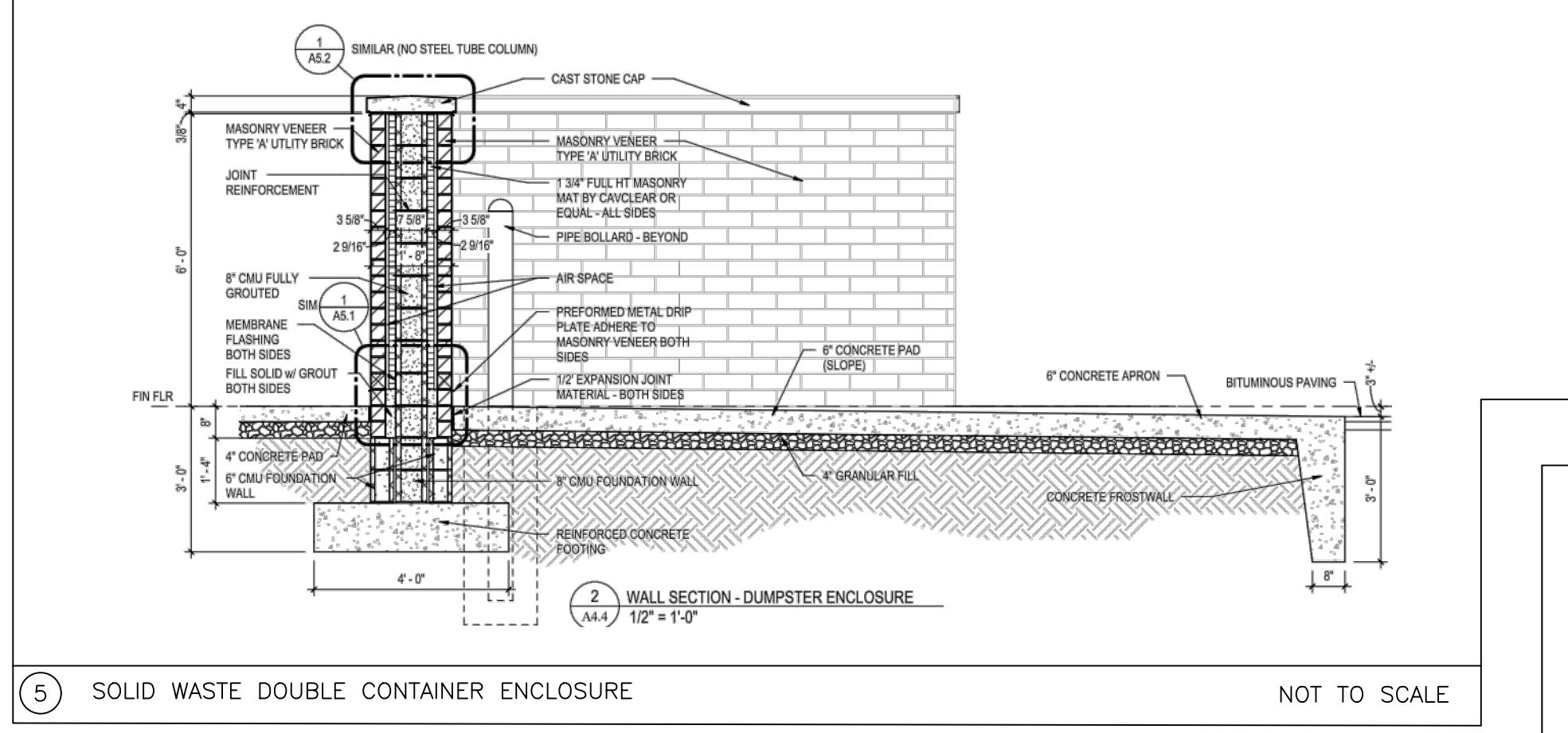
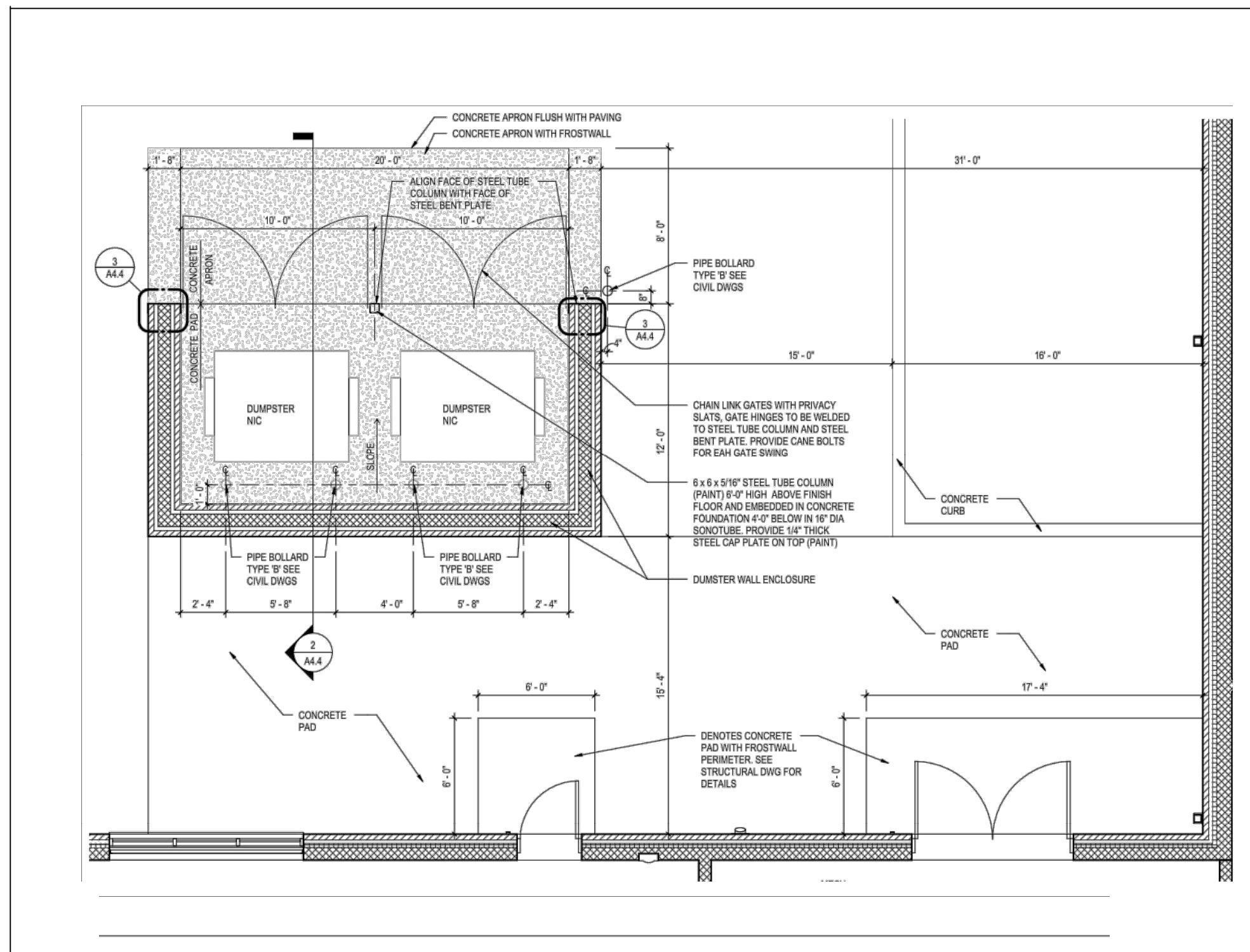
Bollard Cover

Item	Part Number	Description	Material	Max Interior Security Post Size	Weight
1	R-7100	Bollard Post Cover	Plastic	4.5" Dia x 5 1/2"	4.0 lbs

RELIANCE FOUNDRY
 Unit 207, 6450 - 148 Street, Surrey, BC V3S 7G7, Canada
 1-888-755-5888
 info@reliance-foundry.com
 www.reliance-foundry.com



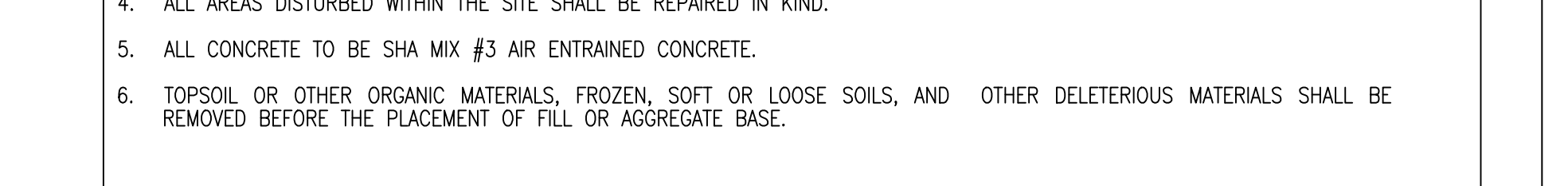
4 TYPE 'B' - STAINLESS STEEL BOLLARD COVER NOT TO SCALE



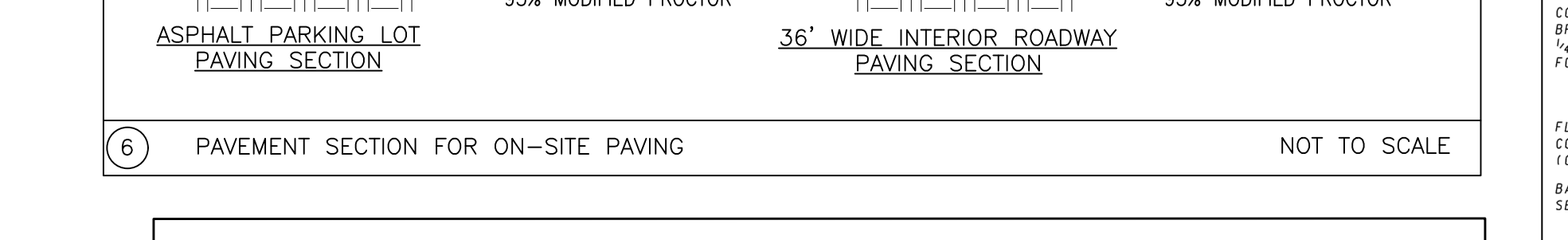
5 SOLID WASTE DOUBLE CONTAINER ENCLOSURE NOT TO SCALE

GENERAL PAVING NOTES

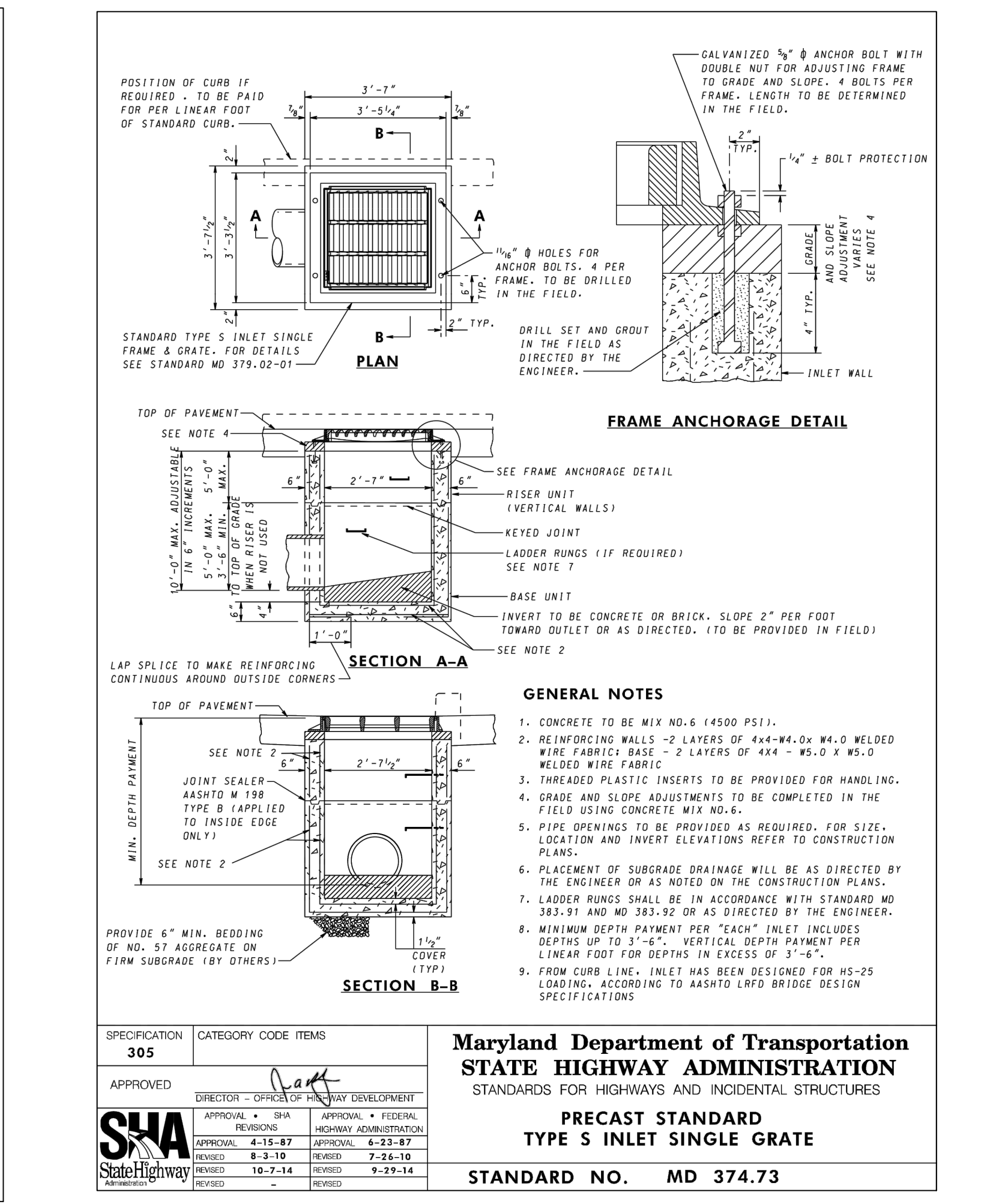
1. ALL ROADWAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE GENERAL SPECIFICATIONS FOR HIGHWAY AND STREET CONSTRUCTION, THE SHA.
2. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCES TO WATER AND SEWER LINES ARE LESS THAN SHOWN ON THIS PLAN OR TWELVE (12) INCHES, CONTACT THE DEPARTMENT OF PLANNING AND GROWTH MANAGEMENT BEFORE PROCEEDING WITH CONSTRUCTION.
3. ALL ELEVATIONS SHOWN ON THESE PLANS ARE REFERRED TO NAVD 88.
4. ALL AREAS DISTURBED WITHIN THE SITE SHALL BE REPAIRED IN KIND.
5. ALL CONCRETE TO BE SHA MIX #3 AIR ENTRAINED CONCRETE.
6. TOPSOIL OR OTHER ORGANIC MATERIALS, FROZEN, SOFT OR LOOSE SOILS, AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED BEFORE THE PLACEMENT OF FILL OR AGGREGATE BASE.



6 PAVEMENT SECTION FOR ON-SITE PAVING NOT TO SCALE



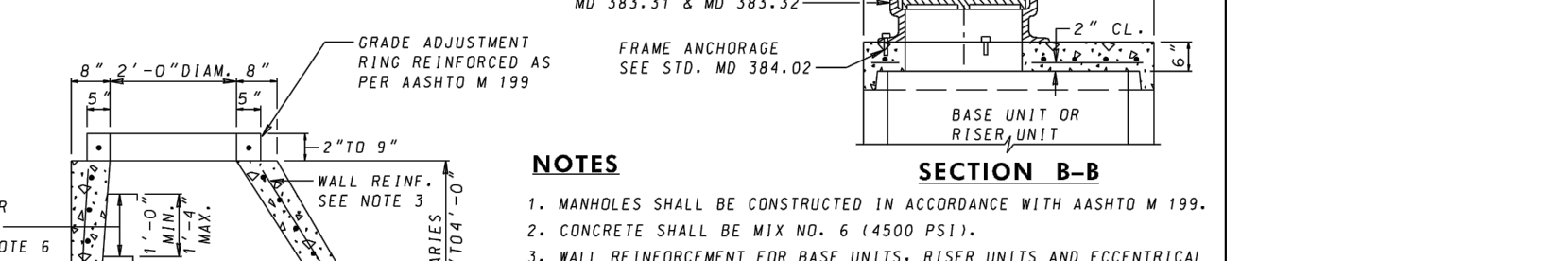
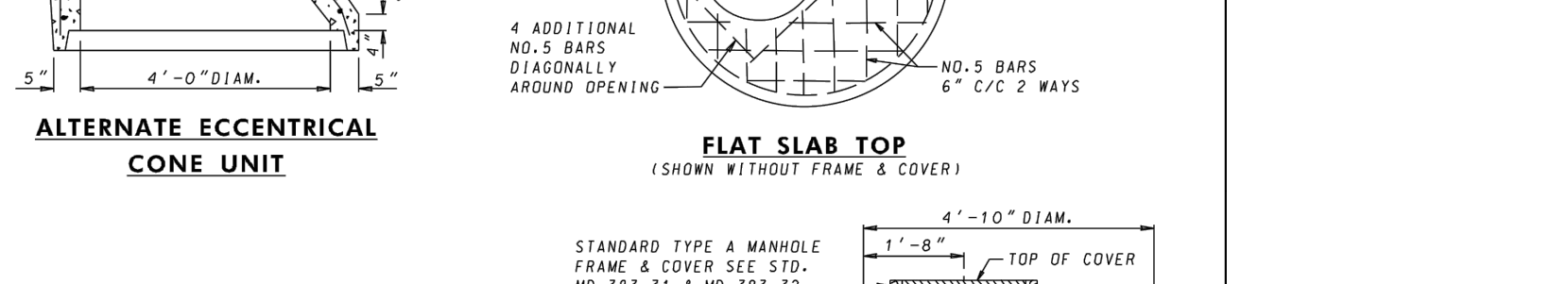
7 DEPRESSED CURB & GUTTER AT PEDESTRIAN RAMP (SECTION A-A TYPE 2) NOT TO SCALE



Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

PRECAST STANDARD TYPE S INLET SINGLE GRATE

STANDARD NO. MD 374.73



48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES

STANDARD NO. MD 384.01

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

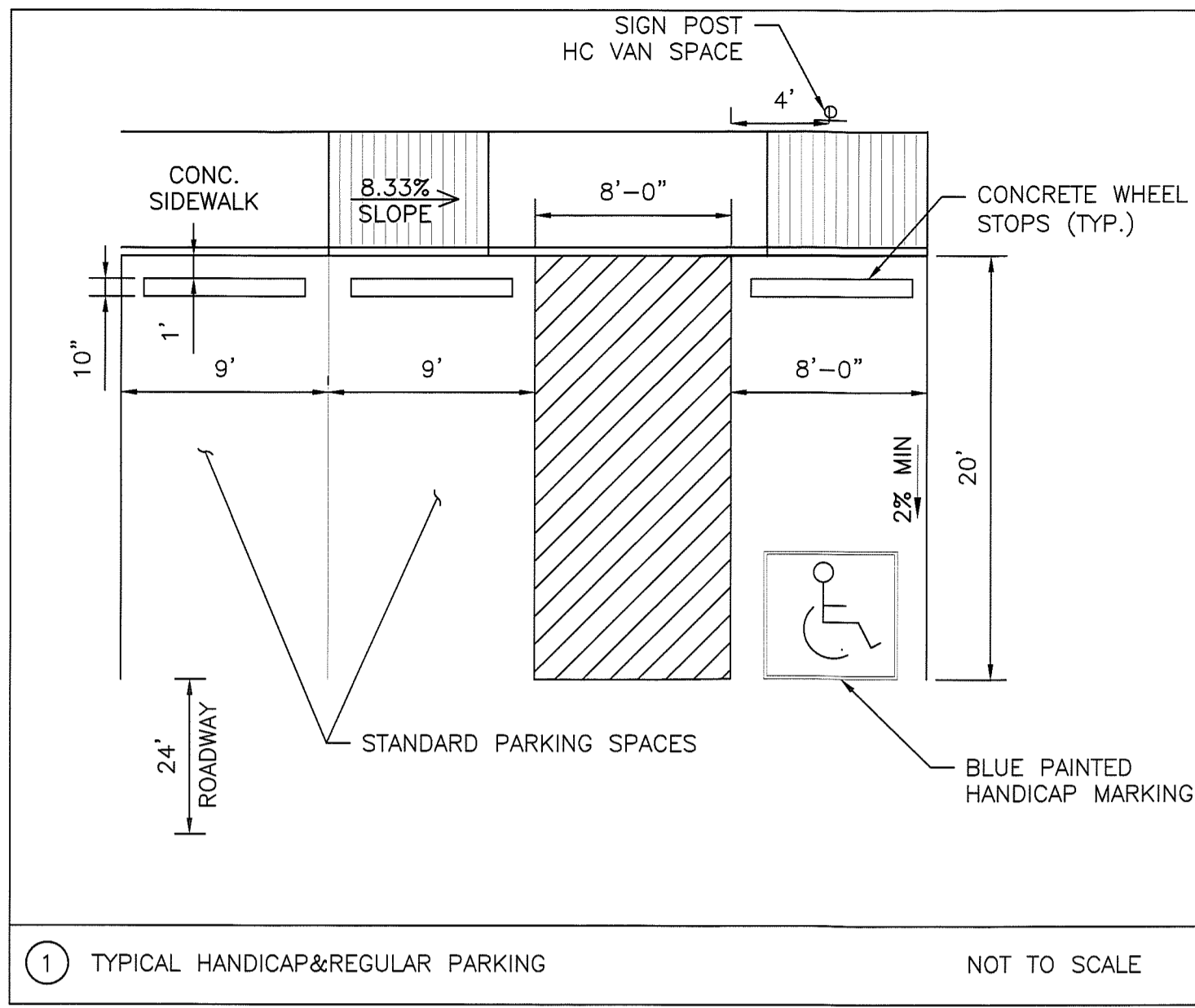
48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES

STANDARD NO. MD 384.01

DATE: 07/31/19

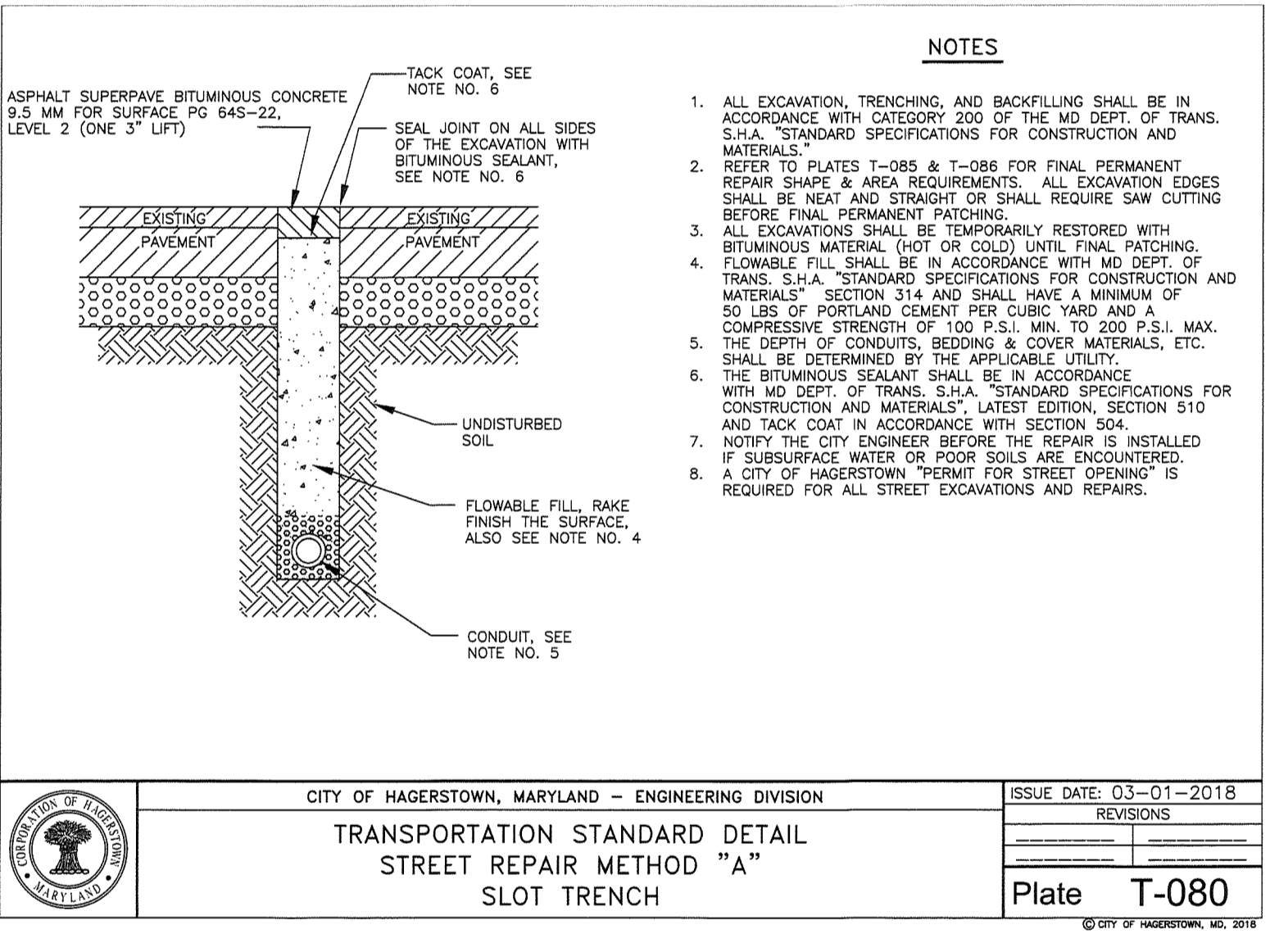
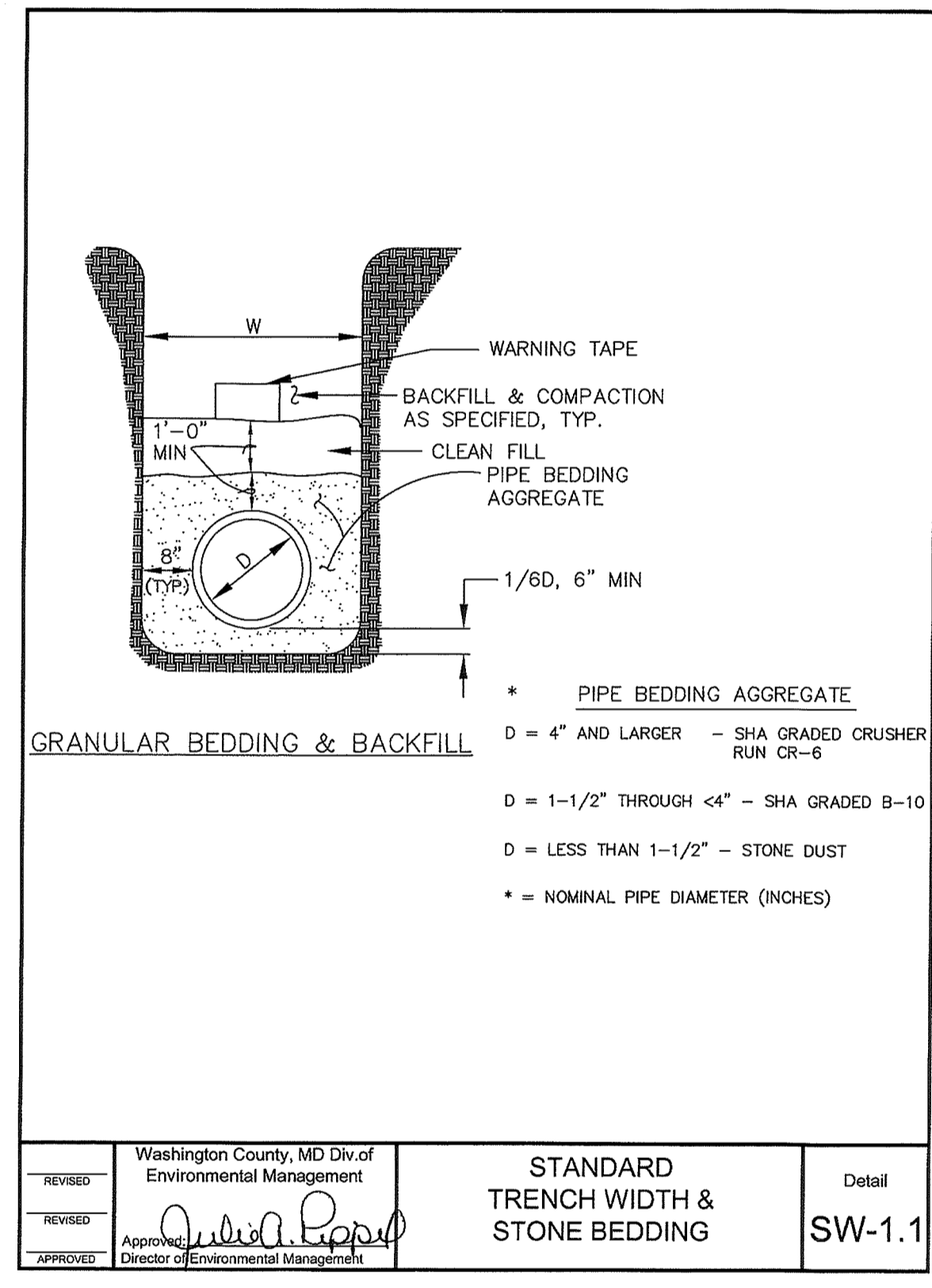
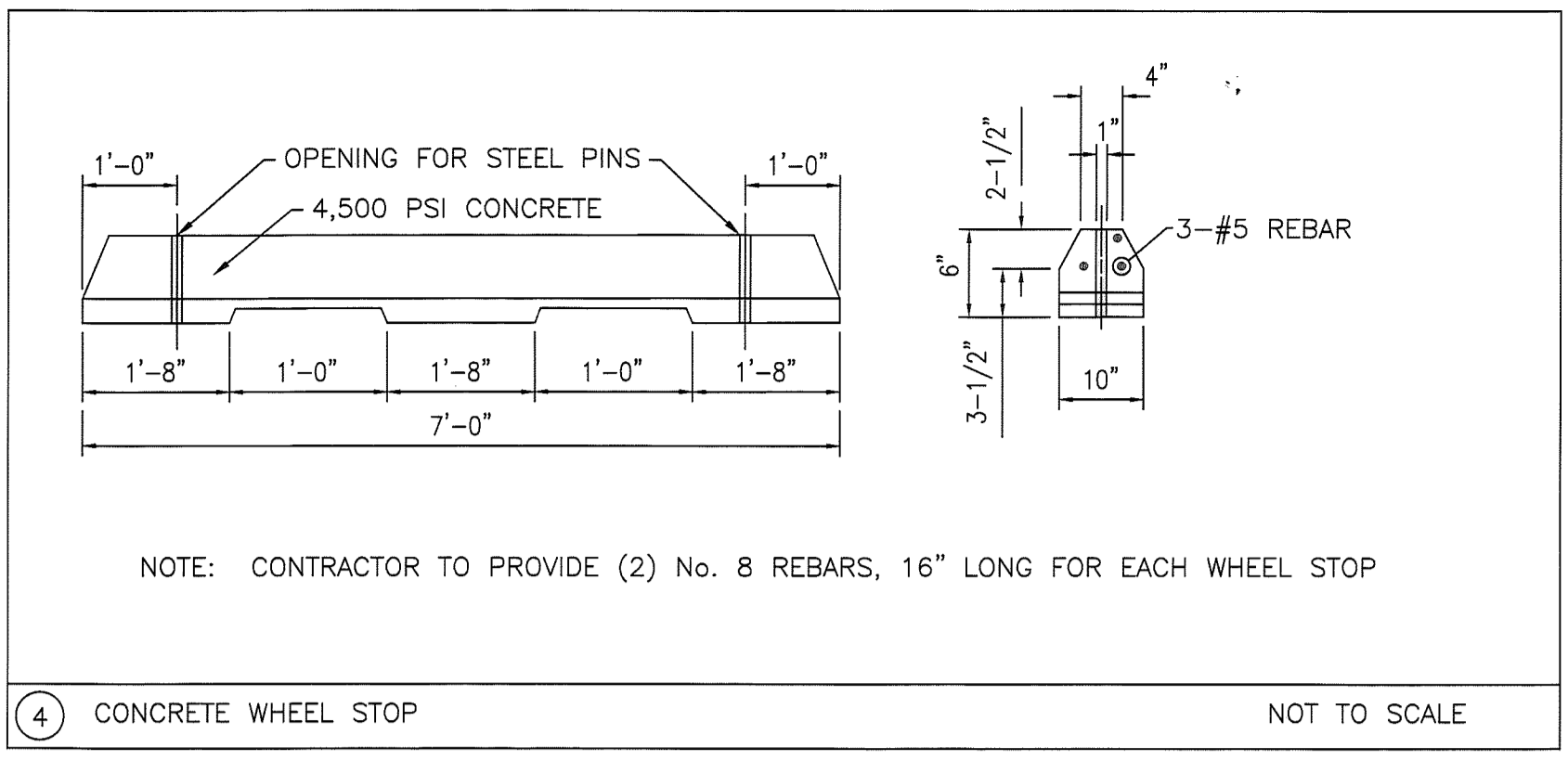
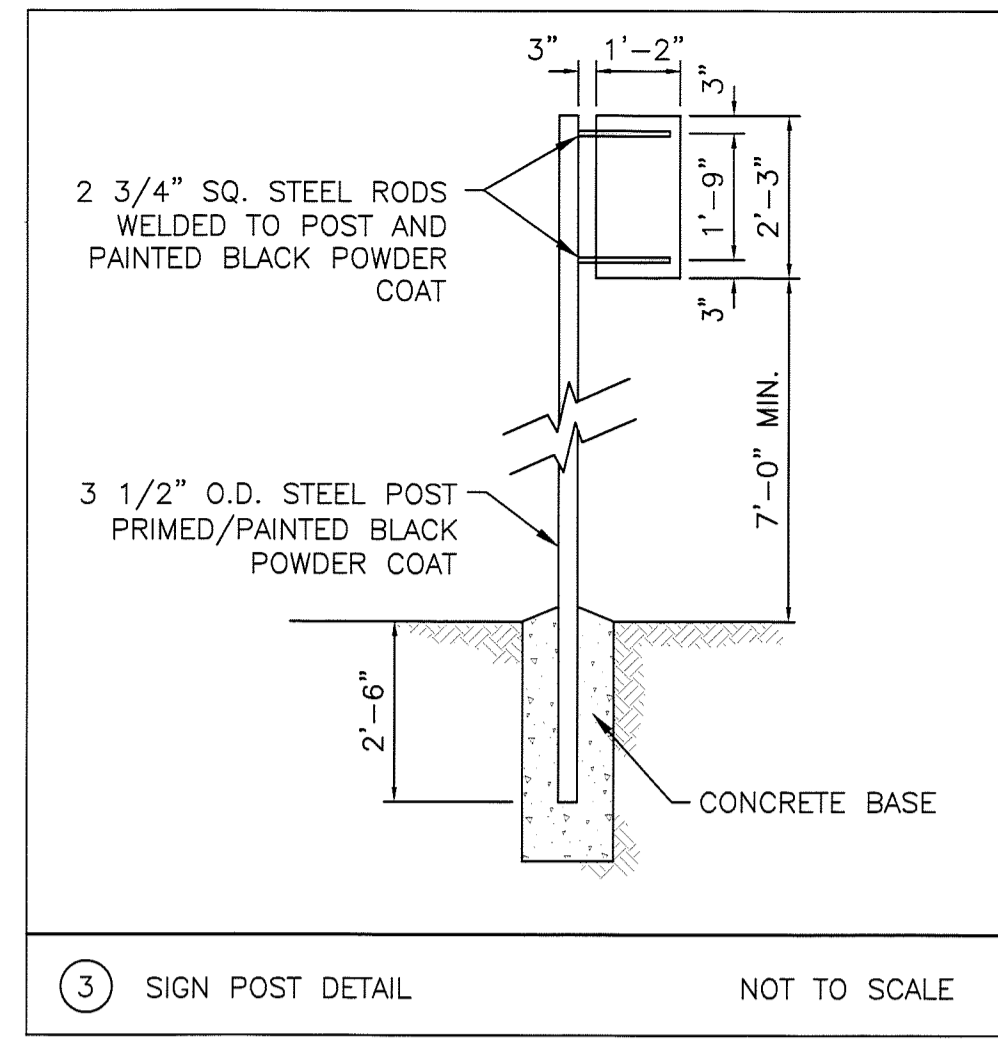
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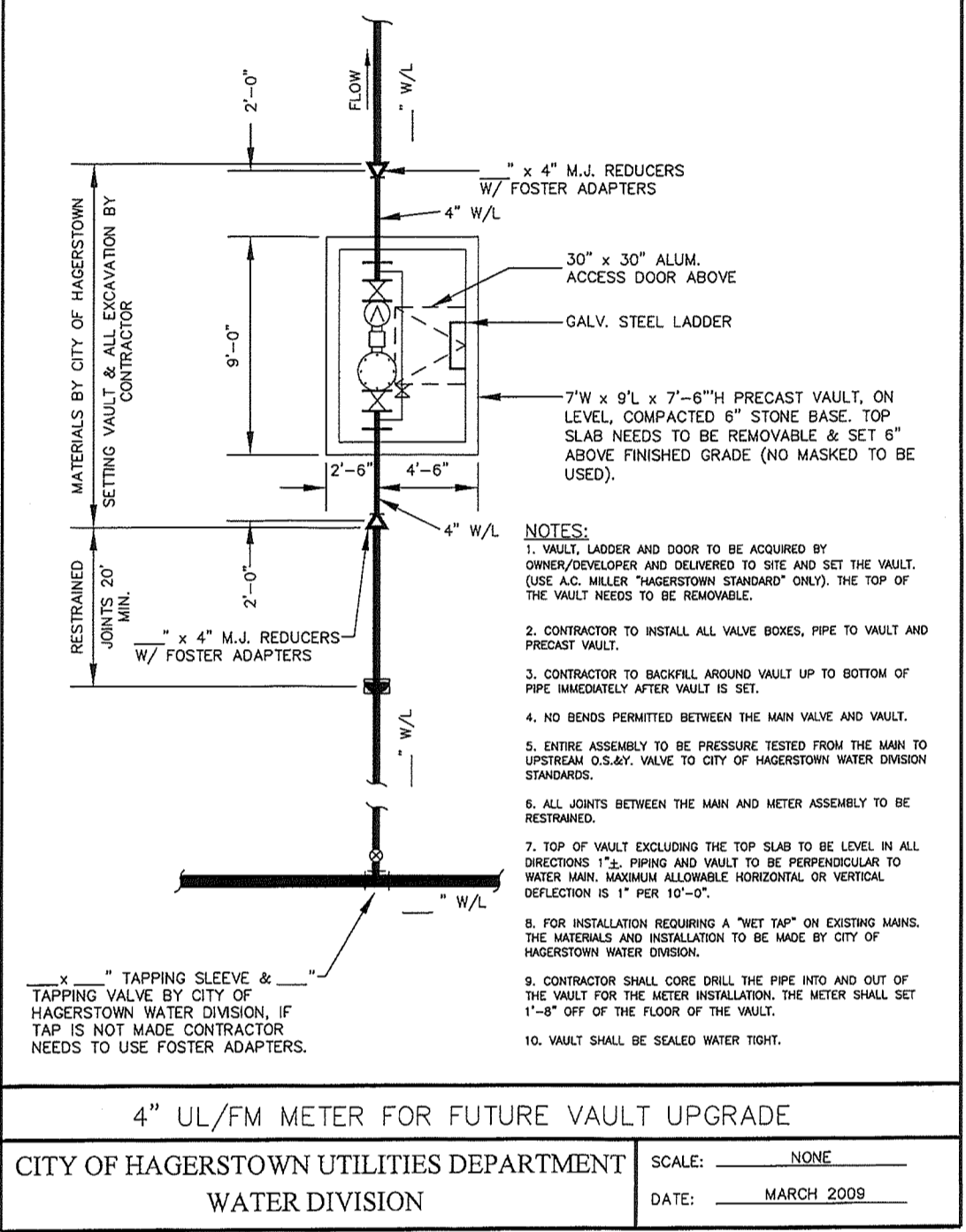


	HANDICAP WITH FINE	R7-8(3)	4
	VAN ACCESSIBLE WITH FINE	R7-8A	2
	STOP SIGN	R1-1	4
	NO PARKING IN ACCESS AISLE		3
	STREET SIGN		1
	RIGHT LANE MUST TURN RIGHT	R3-7R	1
	BEGIN RIGHT TURN LANE - YIELD TO BIKES	R4-4	1

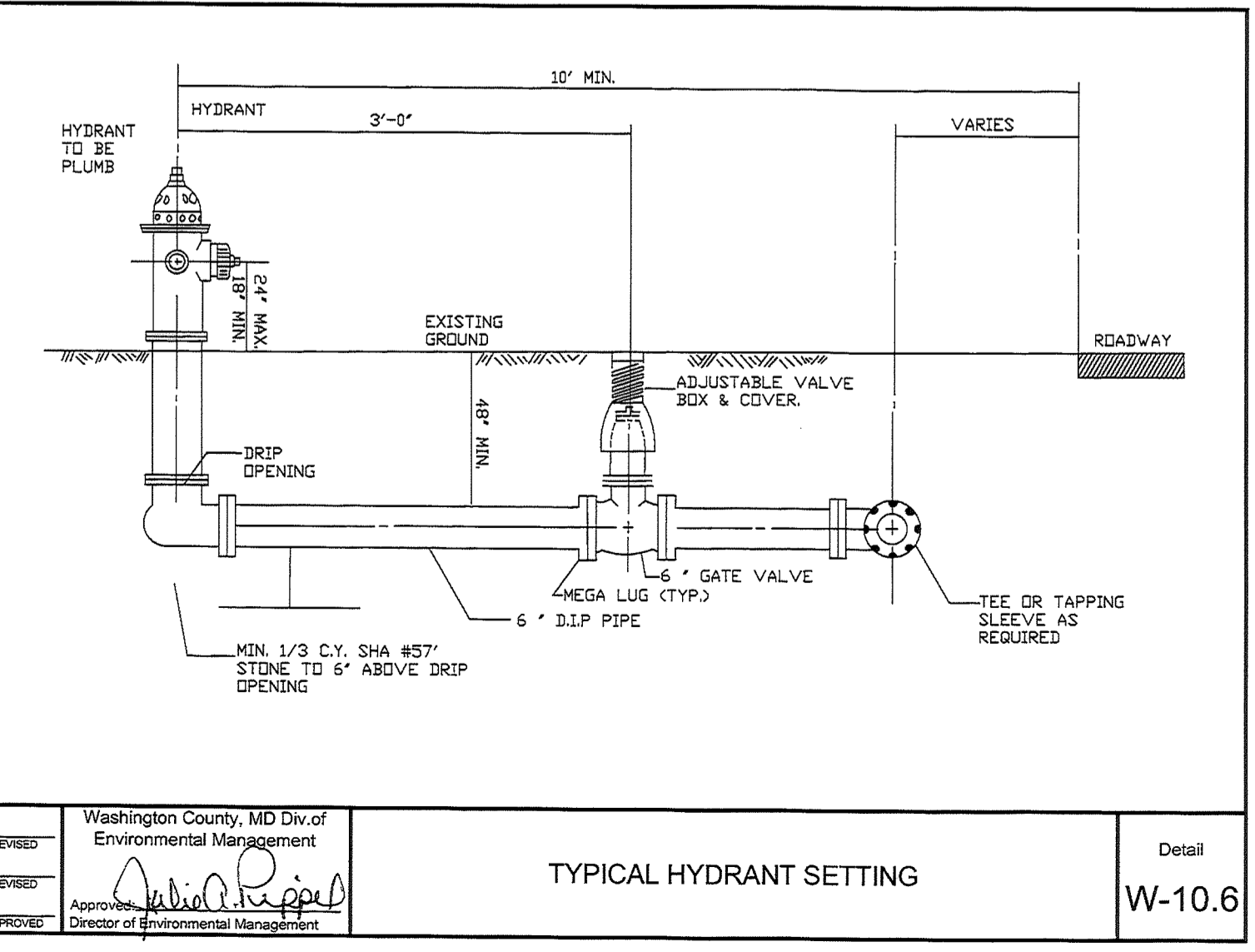
2 SIGN SCHEDULE NOT TO SCALE



CITY OF HAGERSTOWN, MARYLAND - ENGINEERING DIVISION	ISSUE DATE: 03-01-2018
TRANSPORTATION STANDARD DETAIL	REVISIONS
STREET REPAIR METHOD "A"	
SLOT TRENCH	Plate T-080



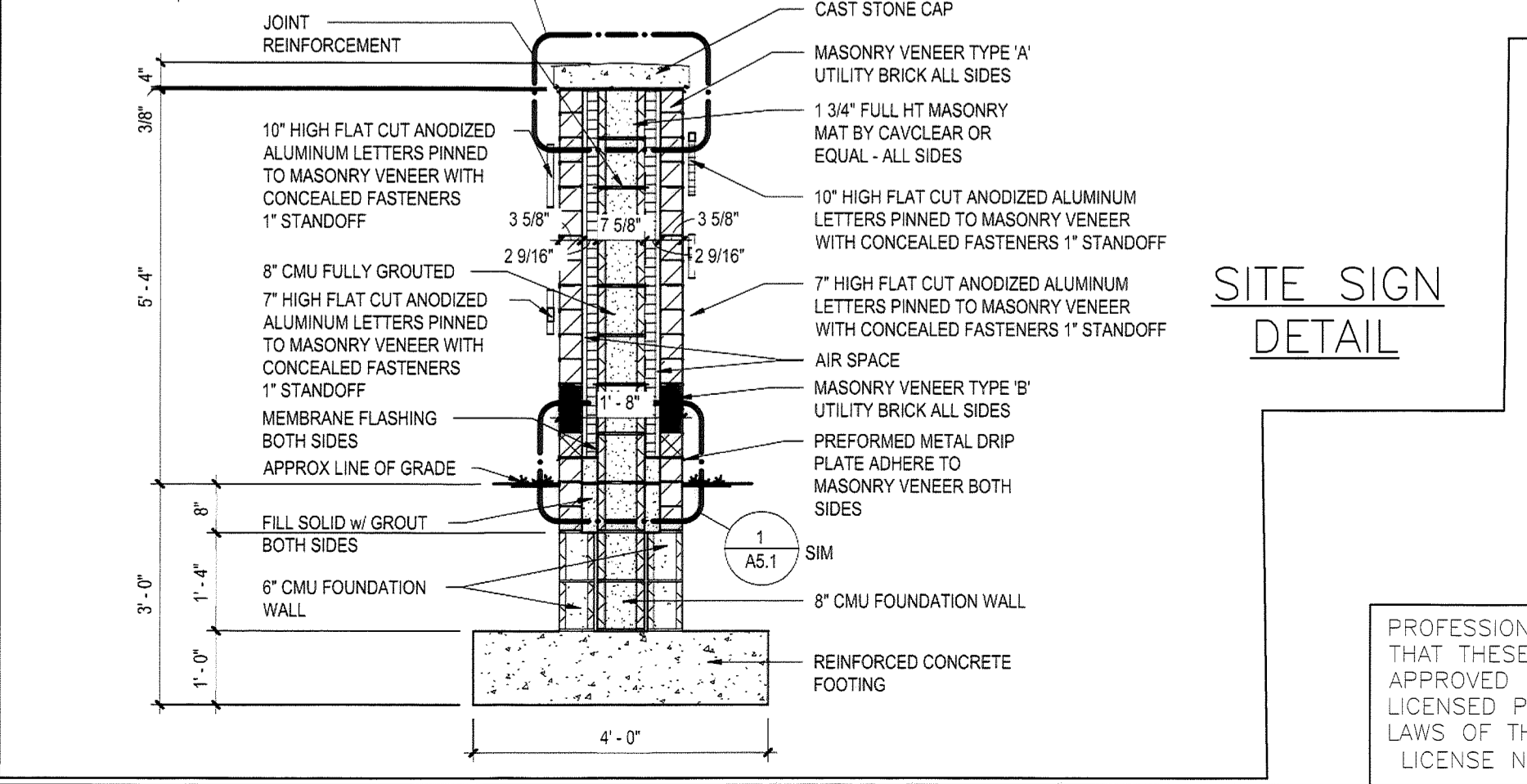
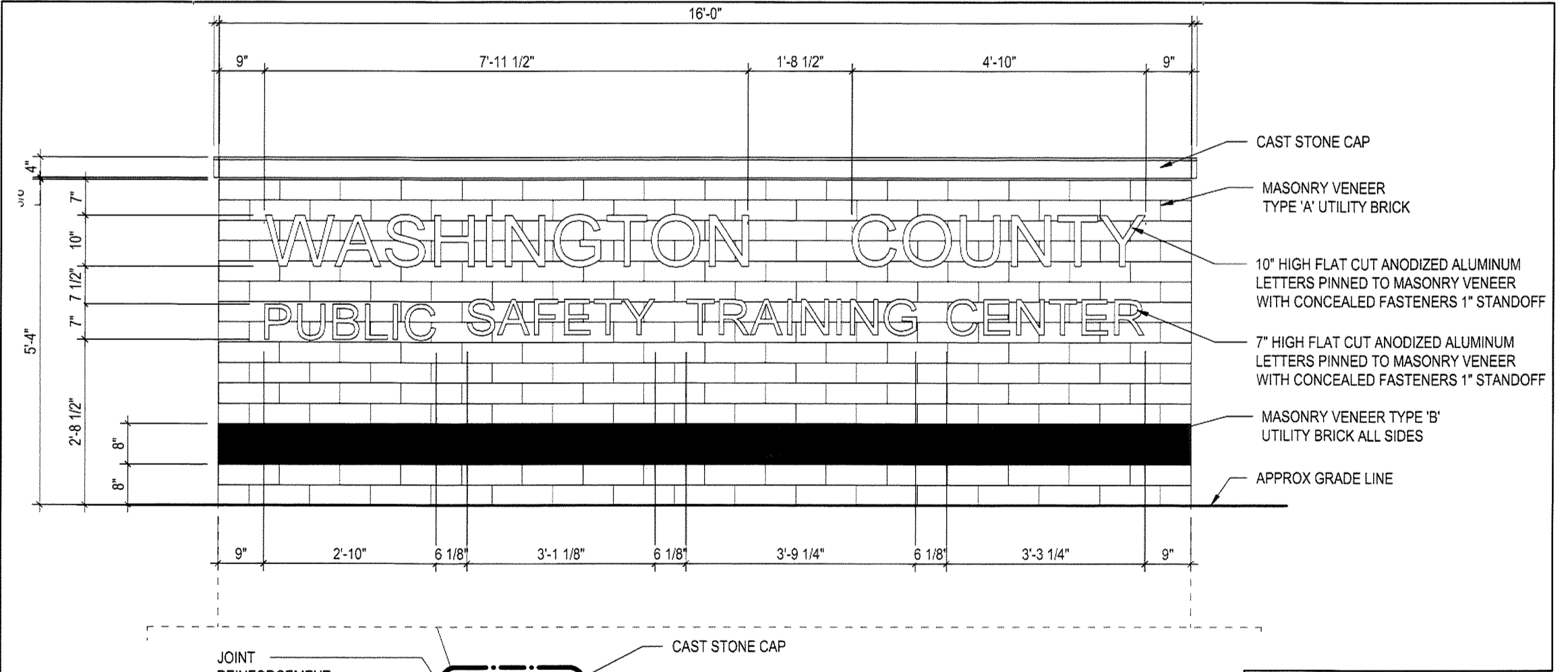
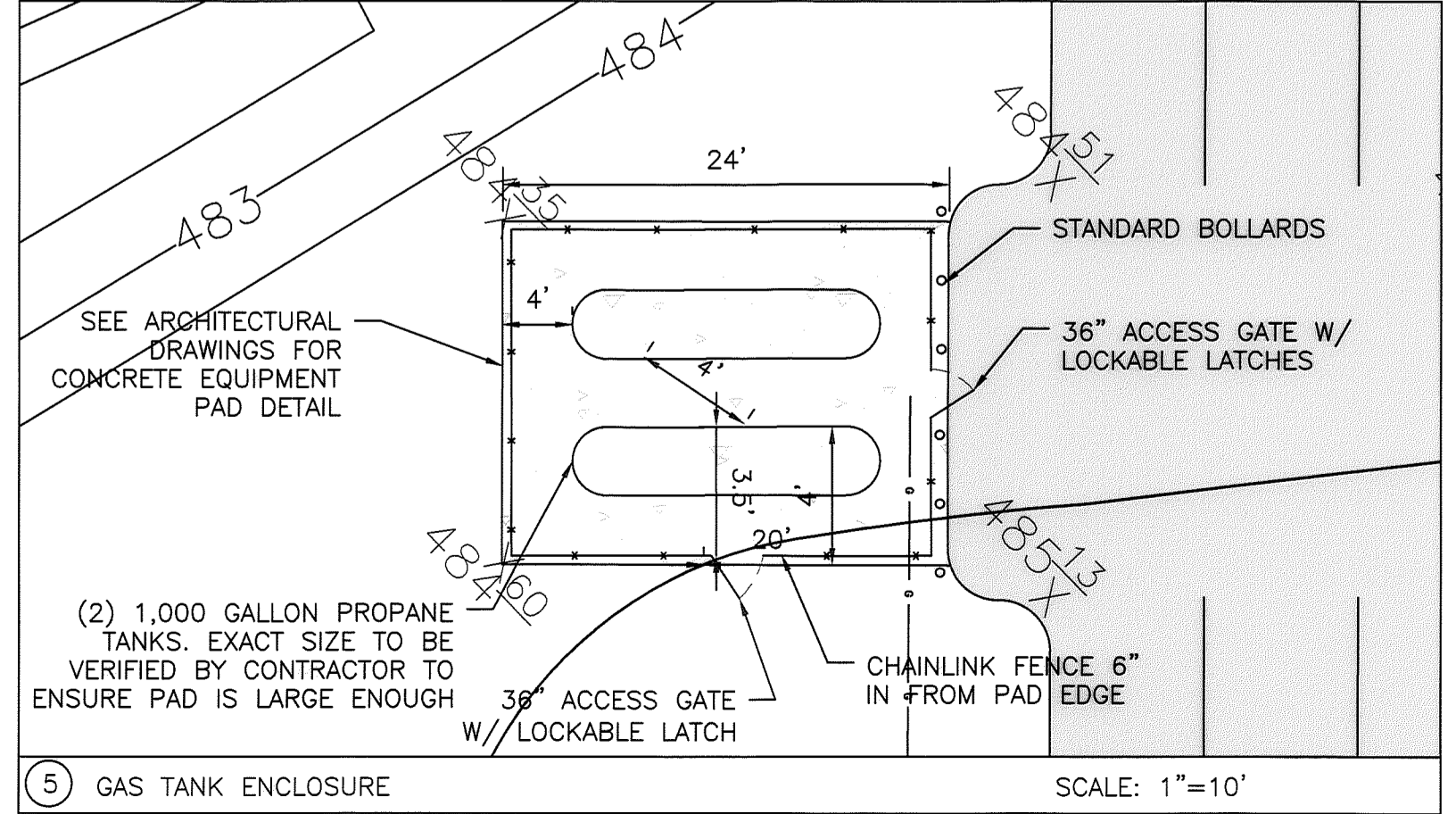
Item	Mount	# of Bends	Bike Capacity	Rack Length Common	Rack Length Wide Loop	Model
H3605	Surface Flange	3	5	38"	59"	
H3607	Ground	5	7	62"	97"	
H3609		7	9	86"	133"	
H3611		9	11	110"	173"	
H3613	Finish	11	13	134"	211"	
H3615		13	15	158"	249"	
H3617		15	17	182"	287"	



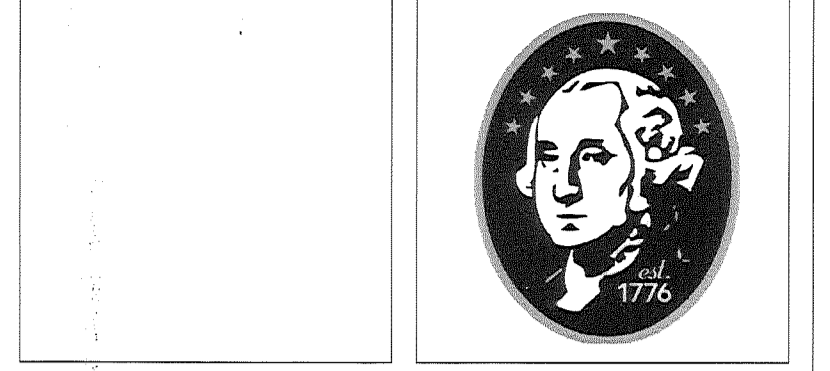
CITY OF HAGERSTOWN UTILITIES DEPARTMENT WATER DIVISION

THIS APPROVAL IS FOR THE DESIGN AND LAYOUT OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED TO THE STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION. THIS APPROVAL DOES NOT GUARANTEE AVAILABILITY OF WATER SERVICE. WATER SERVICE IS AVAILABLE SUBJECT TO CONFORMANCE WITH ALL POLICIES AND STANDARDS IN EFFECT AT THE TIME OF APPLICATION FOR SERVICE. PAYMENT OF FEES AND APPROVAL OF THE WATER SERVICE APPLICATION, THE WATER DIVISION DOES NOT GUARANTEE A SPECIFIC WATER PRESSURE OR FLOW AT ANY METER OR FIRE HYDRANT. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR.

Signature: [Signature] DATE: 8/2/19



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REVISIONS			
NO.	MM-DD-YR	NAME	DESCRIPTION OF CHANGES

100% PLAN SET

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PROPOSED NEW WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER WASHINGTON COUNTY PROJECT NO. 28-266 18350 PUBLIC SAFETY PLAGE HAGERSTOWN, MD 21740

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS 401 EAST WINDING HILL ROAD 717-458-0272 FAX 717-458-0047

OWNER WASHINGTON COUNTY BOARD OF COMMISSIONERS 100 W. WASHINGTON ST HAGERSTOWN, MD 21740 240-313-220

CIVIL KCI TECHNOLOGIES, INC. 11830 W. MARKET PLACE, SUITE F FULTON, MD 20759 410-792-8086 (P) 410-792-7419 (F)

CONSTRUCTION DETAILS	PROJECT 3089
PLOT SCALE: 1:30	FILE NAME: C-1.12
DATE: 07/20/2018	DATE: 07/20/2018



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NO.	DATE	DESCRIPTION OF CHANGES

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ARCHITECTS
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 717-458-0272 FAX 717-458-0047

PROPOSED NEW
 WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
 WASHINGTON COUNTY PROJECT NO. 28-266
 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740

100% PLAN SET

OWNER
 WASHINGTON COUNTY BOARD OF COMMISSIONERS
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CONSTRUCTION
 DETAILS

PROJECT
 3089

PLOT SCALE: 1:30
 FILENAME:
 DATE: 07/20/2018

C-1.13



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TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES NO. 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-81

NOTES:
 SHOULDER CLOSED SIGNS ARE REQUIRED IN PLACE OF SHOULDER WORK SIGNS WHEN THE SHOULDER IS CLOSED BY POSITIVE PROTECTION (TEMPORARY CONCRETE BARRIER OR SIMILAR DEVICE). REFER TO STANDARD NO. MD 104.06-18.
 WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF, REFER TO STANDARD NOS. MD 104.06-15 TO MD 104.06-19.
 THERE SHALL BE A MINIMUM OF SEVEN CHANNELIZING DEVICES IN THE SHOULDER TAPER.
 THE ENGINEER SHOULD CONSIDER ADDITIONAL ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS.

KEY:
 CHANNELIZING DEVICES
 SIGN SUPPORT FACE OF SIGN
 DIRECTION OF TRAFFIC
 WORK SITE

APPROVED: [Signature] DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK / 2-LANE, 2-WAY GREATER THAN 40 MPH
 STANDARD NO. MD 104.02-01

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES NO. 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-81

NOTES:
 REFER TO MD 104.01-27 FOR GUIDANCE ON PAVEMENT MARKINGS THROUGHOUT THE LANE SHIFT.
 THIS TYPICAL SHALL BE USED FOR ANY LANE SHIFT WHICH SATISFIES EITHER CONDITION 'A' OR 'B'.
 *CONDITION 'A': LANE SHIFT IS "ABRUPT" - SHIFT HAS A TAPER LENGTH LESS THAN THE VALUE SPECIFIED IN THE TAPER LENGTH CRITERIA TABLE REFER TO MD 104.01-80.
 *CONDITION 'B': PREVAILING SPEEDS CANNOT BE MAINTAINED THROUGHOUT THE SHIFT.
 FOR LANE SHIFTS WHICH DO NOT SATISFY ABOVE CONDITIONS:
 *DELETE "REVERSE CURVE" WARNING SIGNS, AND
 *REPLACE "LANE SHIFT" SIGNS WITH "ROAD WORK" SIGNS OR OTHER APPROPRIATE SIGNS AS SHOWN IN TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS.
 THERE SHALL BE A MINIMUM OF SEVEN CHANNELIZING DEVICES IN THE SHOULDER TAPER.
 THE ENGINEER SHOULD CONSIDER ADDITIONAL ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS.

KEY:
 CHANNELIZING DEVICES
 SIGN SUPPORT FACE OF SIGN
 DIRECTION OF TRAFFIC
 WORK SITE

APPROVED: [Signature] DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
LANE SHIFT RIGHT OR LEFT SIDE / 2-LANE, 2-WAY GREATER THAN 40 MPH / 1/2 MILE - 12 HRS. OR DAYTIME ONLY
 STANDARD NO. MD 104.02-03

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES NO. 104.00-01 - MD 104.00-18 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-81

NOTES:
 FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.
 THE ENGINEER SHOULD CONSIDER ADDITIONAL ADJACENT LANE CLOSURES WHEN THE POSSIBILITY OF UNPLANNED TRAVELWAY ENCROACHMENTS EXISTS.

KEY:
 CHANNELIZING DEVICES
 SIGN SUPPORT FACE OF SIGN
 DIRECTION OF TRAFFIC
 WORK SITE
 FLAGGER

APPROVED: [Signature] DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
FLAGGING OPERATION / 2-LANE, 2-WAY GREATER THAN 40 MPH
 STANDARD NO. MD 104.02-09

LONGITUDINAL UNDERDRAIN LOCATED AT SHOULDER EDGE FOR FLEXIBLE PAVEMENT

NOTES:
 1. LONGITUDINAL UNDERDRAIN SHALL BE PLACED ACCORDING TO THE PLANS OR AS DIRECTED BY THE ENGINEER.
 2. THE UNDERDRAIN TRENCH SHALL NOT BE CONSTRUCTED BEFORE PLACEMENT OF THE BASE (SUBBASE) COURSE.
 3. LONGITUDINAL UNDERDRAIN TRENCH SHALL BE WRAPPED IN CLASS 50 TYPE 1) GEOTEXTILE.
 4. AGGREGATE SHALL CONFORM TO NO. 57 AGGREGATE, 90% OF THE STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS.
 5. AGGREGATE SHALL BE TAMPED WITH A LIGHT VIBRATORY TAMPER PRIOR TO OVERLAPPING THE GEOTEXTILE FABRIC.
 6. CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR 6" PERFORATED CIRCULAR PIPE LONGITUDINAL UNDERDRAIN SHALL CONSTITUTE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO DO THE WORK.
 7. IF ANY EXISTING LONGITUDINAL UNDERDRAIN IS ENCOUNTERED DURING WIDENING EXCAVATION, THE UNDERDRAIN PIPE SHOULD BE REMOVED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY VOID CREATED BY THE REMOVAL OF THE UNDERDRAIN PIPE SHOULD BE BACKFILLED BY MATERIAL SUITABLE FOR EMBANKMENT CONSTRUCTION. IF NO LONGITUDINAL UNDERDRAIN IS FOUND, BUT EXISTING UNDERDRAIN OUTLETS MAY BE IMPACTED BY NEW WIDENING, OUTLETS SHALL BE CONNECTED TO THE NEW UNDERDRAIN OR OTHER DRAINAGE FACILITIES.
 8. OUTLET FOR UNDERDRAINS INTO OTHER DRAINAGE STRUCTURES WHEREVER POSSIBLE AT INTERVALS NOT TO EXCEED 250'. REFER TO STD. NOS. 387.11, 387.11-01, 387.21 AND 387.21-01.

APPROVED: [Signature] DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration

Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
LONGITUDINAL UNDERDRAIN LOCATED AT SHOULDER EDGE FOR FLEXIBLE PAVEMENT
 STANDARD NO. MD 387.11

8" CONCRETE FILLED BOLLARD

NOT TO SCALE

NOTES:
 1) CONTRACTOR TO PAINT BOLLARDS ACCORDING TO THE OWNER/ARCHITECT SPEC.

APPROVED: [Signature] DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

SHA State Highway Administration

CITY OF HAGERSTOWN UTILITIES DEPARTMENT - WATER DIVISION
 (TYPE 'C') BOLLARD DETAIL FOR WATER METER VAULT PROTECTION
 ISSUE DATE: MAY 2019
 REVISIONS:
 Plate W-021

STANDARD SIDEWALK RAMP DETAIL

NOTES:
 1. THE LOCATION OF THE TYPE 2 SIDEWALK RAMP SHALL BE DETERMINED BY CURRENT A.D.A. REQUIREMENTS, EXISTING OBSTRUCTIONS, CROSSWALK LOCATION, THE SIDEWALK ALIGNMENT, AND SHALL BE APPROVED BY THE CITY ENGINEER BEFORE CONSTRUCTION BEGINS.
 2. THE EDGE OF THE CONCRETE RAMP APRONS SHALL START AT THE BEGINNING OF THE TRANSITION CURB AND EXTEND TO THE END OF THE 6" CONCRETE RAMP. APRONS SHALL BE 6" THICK CONCRETE REINFORCED THE SAME AS THE RAMP.
 3. ALL CONCRETE SHALL BE MD DEPT. OF TRANS. S.H.A. MIX NO. 3 WITH A 28 DAY COMPRESSIVE STRENGTH OF 3,500 P.S.I. WITH 5%-8% AIR AND 2"-5" SLUMP. DO NOT ADD WATER TO THE SURFACE FOR FINISHING. ALL EXPOSED SURFACES SHALL RECEIVE A LIGHT TRANSVERSE BROOM FINISH.
 4. REFER TO PLATE T-050 FOR STANDARD CONCRETE SIDEWALK, PLATE T-040 FOR STANDARD CONCRETE CURB & GUTTER, AND PLATE T-042 FOR CONCRETE REPLACEMENT CURB. THE DOT HATCHED AREA REPRESENTS A DETECTABLE WARNING SURFACE AT THE REQUIRED LOCATION AND ORIENTATION. REFER TO PLATE T-059 FOR THE DETECTABLE WARNING SURFACE SYSTEM SPECIFICATIONS, DETAILS, AND NOTES.
 5. IN ANY DIRECTION (DRAIN WATER TO STREET)

SECTION AA
 SEE NOTE NO. 4

STANDARD SIDEWALK RAMP DETAIL

NOTES:
 1. THE LOCATION OF THE TYPE 5 SIDEWALK RAMP SHALL BE DETERMINED BY CURRENT A.D.A. REQUIREMENTS, EXISTING OBSTRUCTIONS, CROSSWALK LOCATION, AND SHALL BE APPROVED BY THE CITY ENGINEER BEFORE CONSTRUCTION BEGINS.
 2. ALL CONCRETE SHALL BE MD DEPT. OF TRANS. S.H.A. MIX NO. 3 WITH A 28 DAY COMPRESSIVE STRENGTH OF 3,500 P.S.I. WITH 5%-8% AIR AND 2"-5" SLUMP. DO NOT ADD WATER TO THE SURFACE FOR FINISHING. ALL EXPOSED SURFACES SHALL RECEIVE A LIGHT TRANSVERSE BROOM FINISH.
 3. REFER TO PLATE T-050 FOR STANDARD CONCRETE SIDEWALK, PLATE T-040 FOR STANDARD CONCRETE CURB & GUTTER, AND PLATE T-042 FOR CONCRETE REPLACEMENT CURB. THE DOT HATCHED AREA REPRESENTS A DETECTABLE WARNING SURFACE AT THE REQUIRED LOCATION AND ORIENTATION. REFER TO PLATE T-059 FOR THE DETECTABLE WARNING SURFACE SYSTEM SPECIFICATIONS, DETAILS, AND NOTES.

SECTION AA
 SEE NOTE NO. 4

CITY OF HAGERSTOWN UTILITIES DEPARTMENT - WATER DIVISION
 (TYPE 'C') BOLLARD DETAIL FOR WATER METER VAULT PROTECTION
 ISSUE DATE: MAY 2019
 REVISIONS:
 Plate W-021

APPROVED: [Signature] PROFESSIONAL ENGINEER

CITY OF HAGERSTOWN UTILITIES DEPARTMENT WATER DIVISION
 THIS APPROVAL IS FOR THE DESIGN AND LAYOUT OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL WATER SYSTEM IMPROVEMENTS SHALL BE CONSTRUCTED TO THE STANDARDS IN EFFECT AT THE TIME OF CONSTRUCTION. THIS APPROVAL DOES NOT GUARANTEE AVAILABILITY OF WATER SERVICE, WATER SERVICE IS AVAILABLE SUBJECT TO CONFORMANCE WITH ALL POLICIES AND STANDARDS IN EFFECT AT THE TIME OF APPLICATION FOR SERVICE, PAYMENT OF FEES AND APPROVAL OF THE WATER SERVICE APPLICATION. THE WATER DIVISION DOES NOT GUARANTEE A SPECIFIC WATER PRESSURE OR FLOW AT ANY METER OR FIRE HYDRANT. THIS APPROVAL IS VALID FOR A PERIOD OF ONE YEAR.

APPROVED: [Signature] DATE: 8/2/19



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PROPOSED NEW
 WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
 WASHINGTON COUNTY PROJECT NO. 28-266
 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740

OWNER
 WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST
 HAGERSTOWN, MD 21740
 240-313-220

CIVIL
 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F
 FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

LANDSCAPING PLAN
 PLOT SCALE: 1:50
 FILENAME: KCI# 271703606
 DATE: 7/25/19

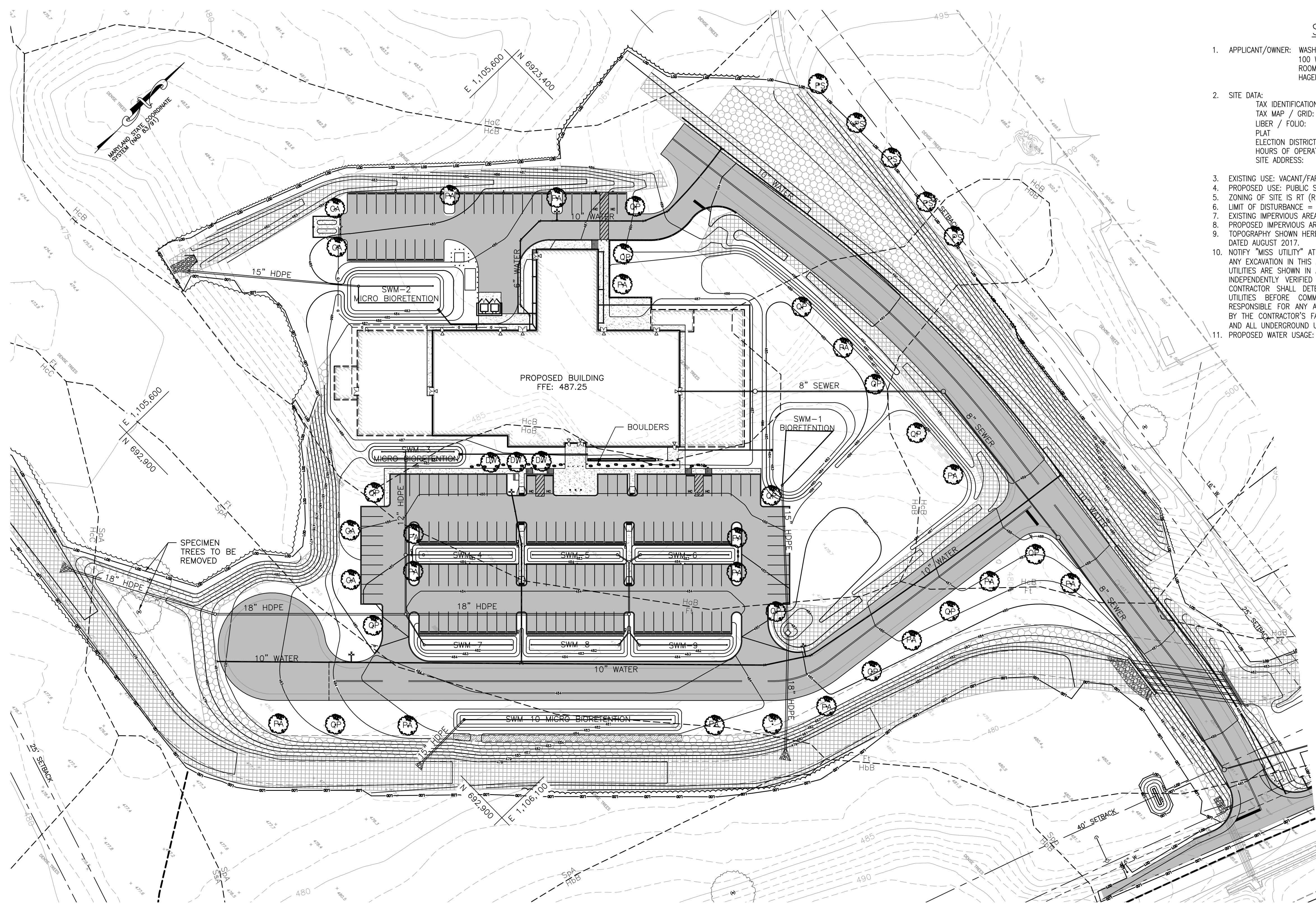
PROJECT
 3089
C-1.14

SITE NOTES

1. APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST.
 ROOM 1101
 HAGERSTOWN, MD 21740
2. SITE DATA:
 TAX IDENTIFICATION No.: 018579
 TAX MAP / GRID: 0062/0010
 LIBER / FOLIO: 05374/00077
 PLAT: M683
 ELECTION DISTRICT: 10
 HOURS OF OPERATION: 7AM-10PM M-F, 830AM-330PM SAT-SUN
 SITE ADDRESS: 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740
3. EXISTING USE: VACANT/FARM
4. PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
5. ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
6. LIMIT OF DISTURBANCE = 470,978 sq.ft or 10.81 Ac.
7. EXISTING IMPERVIOUS AREA = 0.00 sq.ft or 0.00 Ac.
8. PROPOSED IMPERVIOUS AREA = 4.30 Ac.
9. TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
10. NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
11. PROPOSED WATER USAGE: 1500 GPD OR 7.5 EDU'S

LEGEND

- PROPERTY LINE
- - - - - EX. CONTOUR
- - - - - EX. EDGE OF ROAD
- - - - - EX. FENCE LINE
- - - - - EX. SIDEWALK
- - - - - EX. BUILDING
- ▬ STORM DRAIN PIPE
- ▬ EX. GAS
- ▬ EX. WATER
- ▬ EX. TREE LINE
- ▬ EX. SEWER
- MnB
- MnE
- PROPOSED TREE
- EX. SPECIMEN TREE
- ▬ PERMANENT SOIL STABILIZATION MATTING
- ▬ TEMP. SOIL STABILIZATION MATTING



LANDSCAPING PLAN
 SCALE: 1"=50'

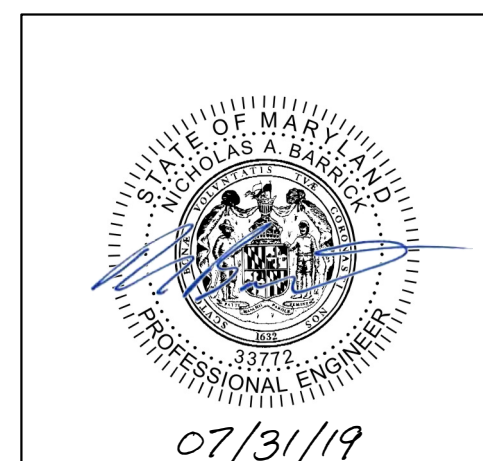
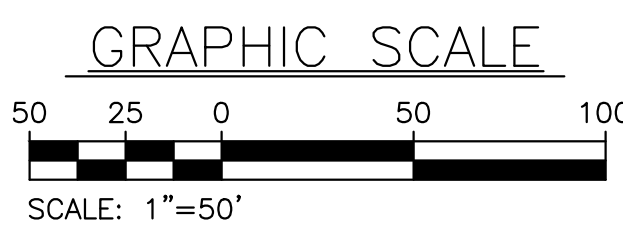
PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
TREES					
PA	16	PLATANUS X ACERIFOLIA 'COLUMBIA' / COLUMBIA PLANETREE	2" CAL.	B&B	FULL CROWN
QP	14	QUERCUS PHELLIOS / WILLOW OAK	2" CAL.	B&B	FULL CROWN
GA	4	THUJA STANDISHII x PPLICATA / GREEN GIANT ARBORVITAE	6' HGT.	B&B	SHEAR TO GROUND
PS	5	PINUS STROBUS/ EASTERN WHITE PINE	6' HGT.	B&B	SHEAR TO GROUND
DW	3	CORNUS FLORIDA/ DOGWOOD	6' HGT.	B&B	SHEAR TO GROUND

NOTE: SEE SHEET C-2.03 TO 2.08 FOR PLANTINGS WITHIN STORMWATER FACILITIES

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	PERCENT SLOPE (%)	Kf VALUE	HYDRAULIC SOILS GROUP	HYDRIC (Y/N)
Ft	FUNKSTOWN SILT LOAM	-	0.37	C	NO
HdB	HAGERSTOWN SILT LOAM	3-8	0.37	B	NO
HdC	HAGERSTOWN SILT LOAM	8-15	0.37	B	NO
HdB	HAGERSTOWN SILTY CLAY LOAM	3-8	0.32	B	NO
HbC	HAGERSTOWN SILTY CLAY LOAM	8-15	0.32	B	NO
HcB	HAGERSTOWN-ROCK OUTCROP COMPLEX	3-8	0.32	B	NO
HcC	HAGERSTOWN-ROCK OUTCROP COMPLEX	8-15	0.32	B	NO
SpA	SWANPOND SILT LOAM	0-3	0.43	D	NO
SsA	SWANPOND-FUNKSTOWN SILT LOAMS	0-3	0.43	D	NO



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021



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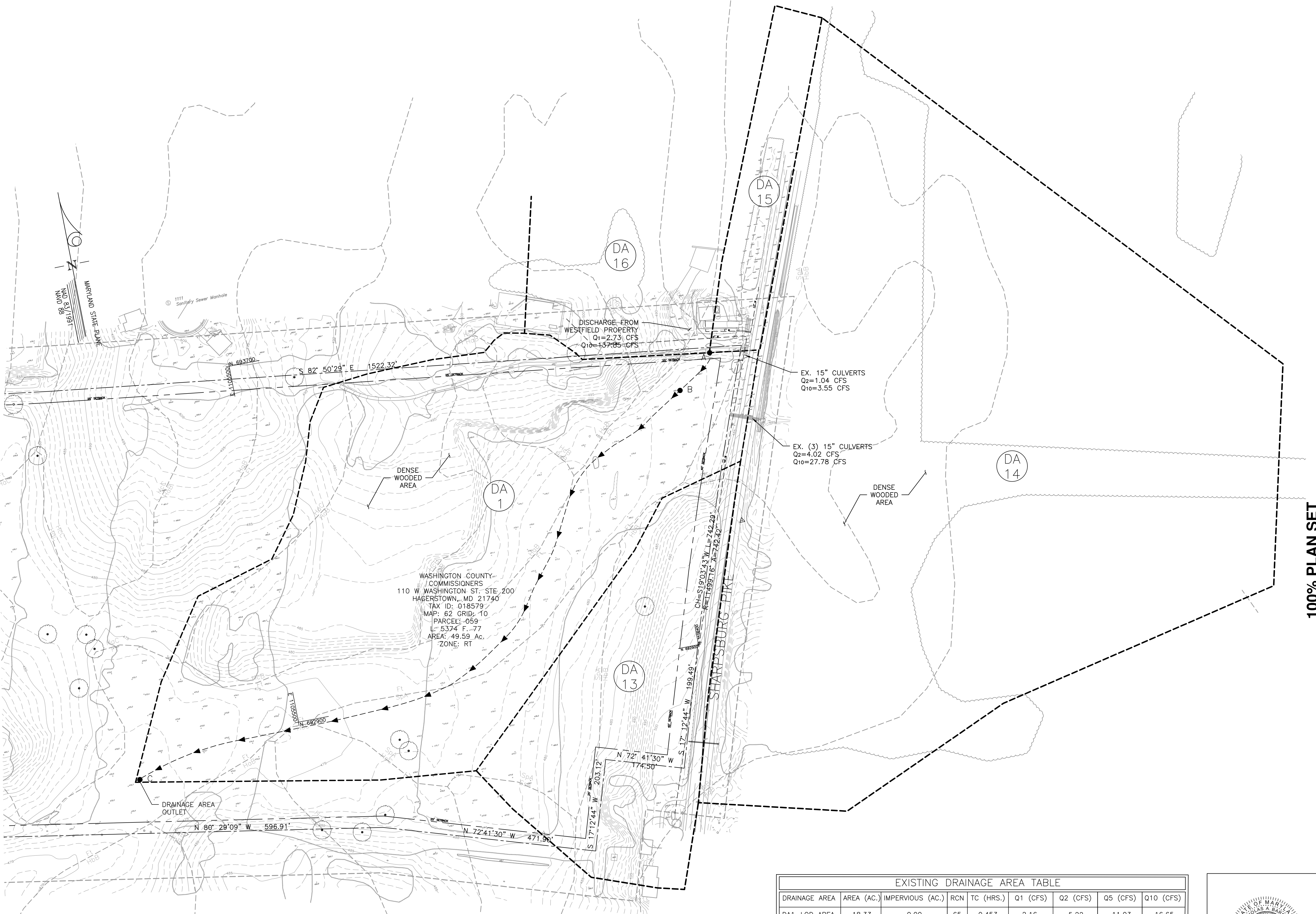
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EX. DRAINAGE AREA MAP
 PLOT SCALE: 1:50
 FILENAME: KCI# 271703606
 DATE: 7/25/19

PROJECT
 3089
C-2.01



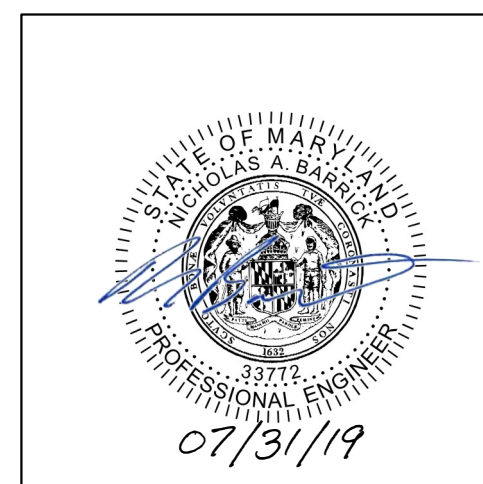
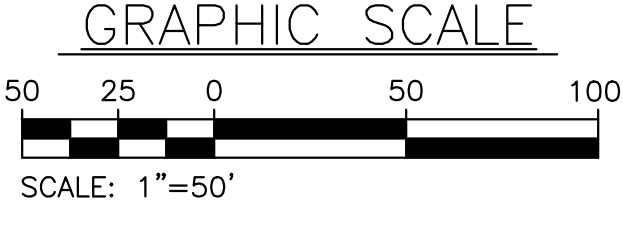
LEGEND

- PROPERTY LINE
- EX. CONTOUR
- EDGE OF ROAD
- TIME OF CONCENTRATION LINE DRAINAGE
- AREA DELINEATION
- EXISTING BUILDING
- EXISTING TREE LINE
- EXISTING CONTOUR

EXISTING CONDITIONS DRAINAGE AREA PLAN
 SCALE: 1"=50'

EXISTING DRAINAGE AREA TABLE

DRAINAGE AREA	AREA (AC.)	IMPERVIOUS (AC.)	RCN	TC (HRS.)	Q1 (CFS)	Q2 (CFS)	Q5 (CFS)	Q10 (CFS)
DA1-L0D AREA	18.33	0.00	65	0.453	2.16	5.22	11.03	16.65
DA13-OFFSITE	5.62	0.00	57	0.157	0.15	1.02	2.47	7.13
DA14-OFFSITE	31.72	0.86	59	0.865	1.01	3.07	6.48	18.14
DA15-OFFSITE	1.79	0.31	66	0.229	0.53	1.04	1.71	3.55
DA16-WESTFIELD	-	-	-	-	2.73	-	-	137.85



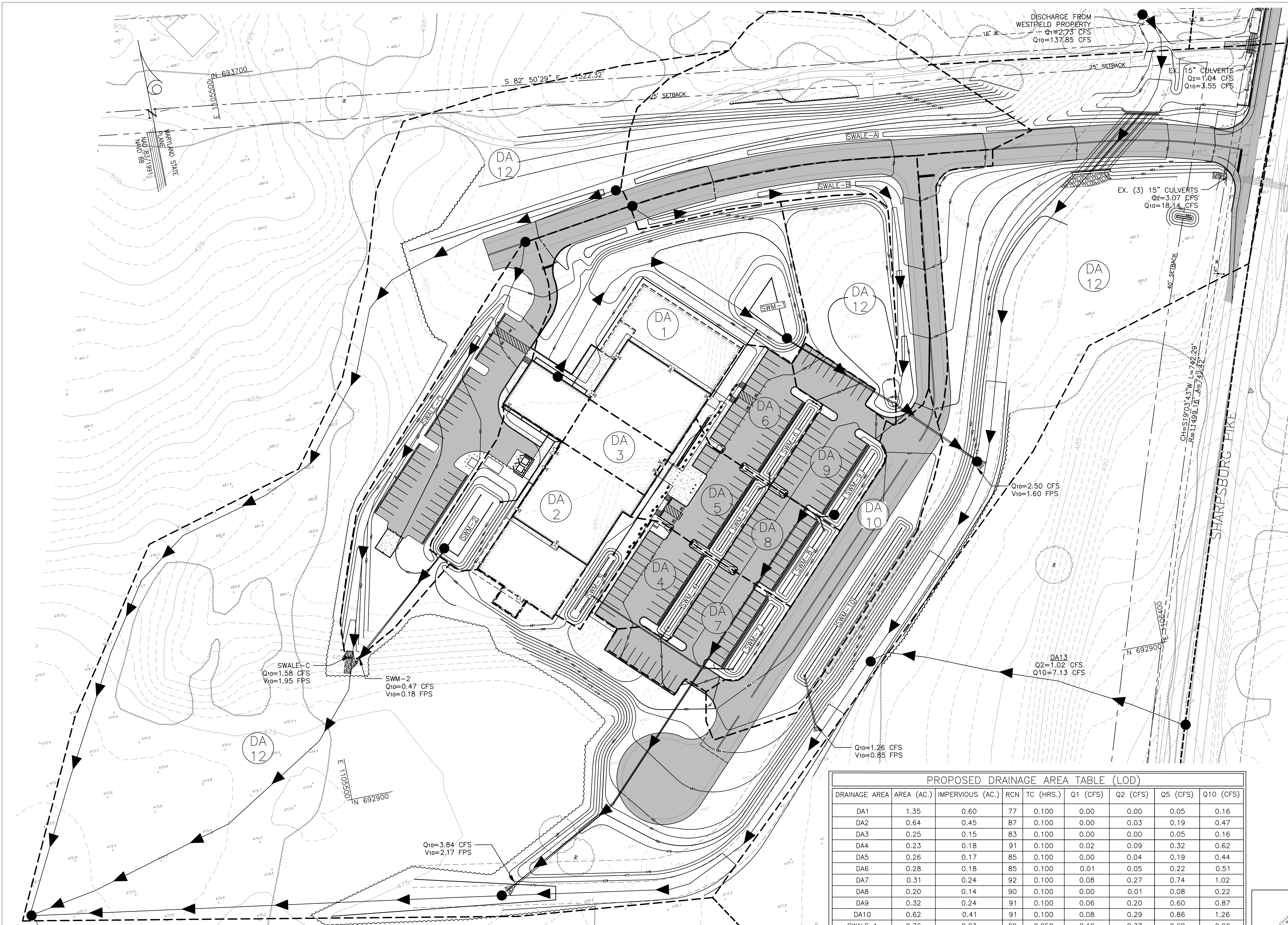
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021



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NO.	DATE	NAME	DESCRIPTION OF CHANGES



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 WASHINGTON COUNTY PROJECT NO. 28-266
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 HAGERSTOWN, MD 21740

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 100 W. WASHINGTON ST HAGERSTOWN, MD 21740
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 11830 W. MARKET PLACE, SUITE F FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

SWM DRAINAGE AREA MAPS
 PLOT SCALE: 1:50
 FILENAME: KCI# 271703606
 DATE: 7/25/19

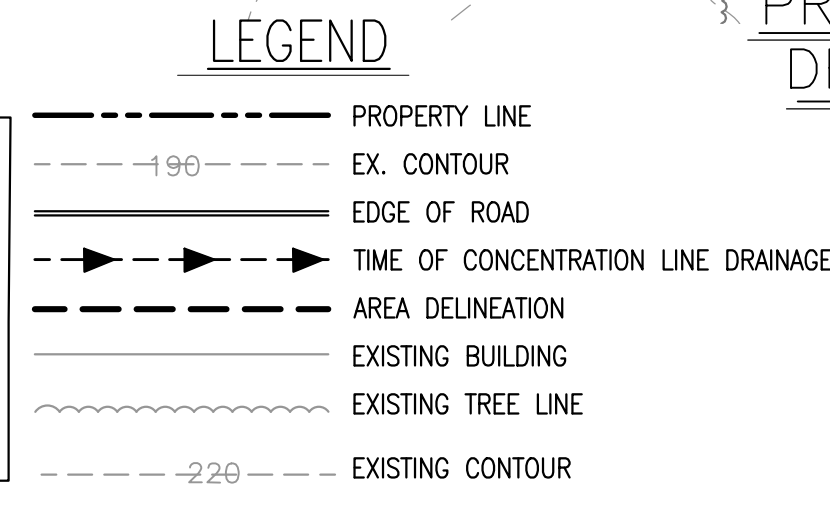
PROJECT
 3089
C-2.02

PROPOSED DRAINAGE AREA TABLE (LOD)

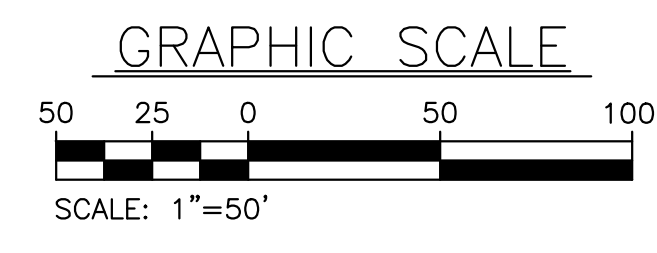
DRAINAGE AREA	AREA (AC.)	IMPERVIOUS (AC.)	RCN	TC (HRS.)	Q1 (CFS)	Q2 (CFS)	Q5 (CFS)	Q10 (CFS)
DA1	1.35	0.60	77	0.100	0.00	0.00	0.05	0.16
DA2	0.64	0.45	87	0.100	0.00	0.03	0.19	0.47
DA3	0.25	0.15	83	0.100	0.00	0.00	0.05	0.16
DA4	0.23	0.18	91	0.100	0.02	0.09	0.32	0.62
DA5	0.26	0.17	85	0.100	0.00	0.04	0.19	0.44
DA6	0.28	0.18	85	0.100	0.01	0.05	0.22	0.51
DA7	0.31	0.24	92	0.100	0.08	0.27	0.74	1.02
DA8	0.20	0.14	90	0.100	0.00	0.01	0.08	0.22
DA9	0.32	0.24	91	0.100	0.06	0.20	0.60	0.87
DA10	0.62	0.41	91	0.100	0.08	0.29	0.86	1.26
SWALE A	0.76	0.23	69	0.250	0.19	0.37	0.68	0.96
SWALE B	0.46	0.26	74	0.250	0.30	0.50	0.80	1.08
SWALE C	0.75	0.40	82	0.250	0.61	0.87	1.26	1.58
DA12	11.97	0.64	67	0.579	1.49	2.84	5.15	7.34
OUTFALL TOTAL					2.04	4.38	8.92	13.39

OFFSITE DRAINAGE AREA TABLE

DRAINAGE AREA	AREA (AC.)	IMPERVIOUS (AC.)	RCN	TC (HRS.)	Q1 (CFS)	Q2 (CFS)	Q5 (CFS)	Q10 (CFS)
DA13-OFFSITE	5.62	0.00	57	0.157	0.15	1.02	2.47	7.13
DA14-OFFSITE	31.72	0.86	59	0.865	1.01	3.07	6.48	18.14
DA15-OFFSITE	1.79	0.31	66	0.229	0.53	1.04	1.71	3.55
DA16-WESTFIELD	-	-	-	-	2.73	-	-	137.85



PROPOSED CONDITIONS DRAINAGE AREA PLAN
 SCALE: 1"=50'



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07/31/19



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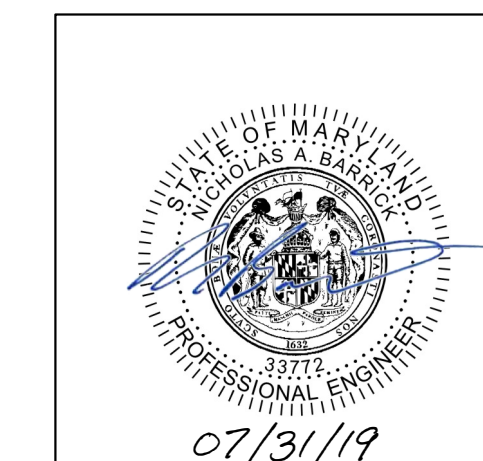
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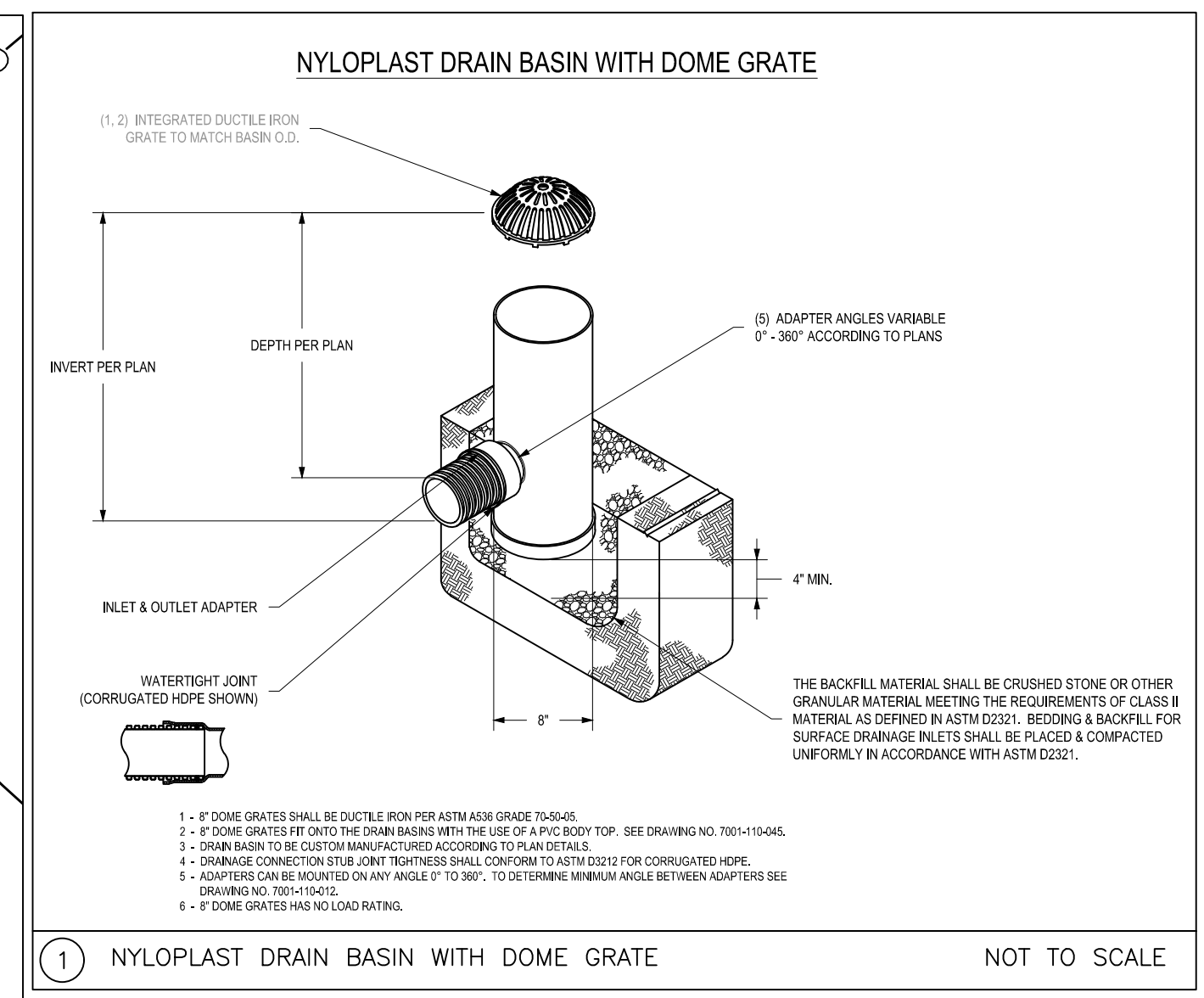
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410-792-8086 (P)
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SWM FACILITY SECTION
PLOT SCALE: 1:10
FILENAME: KCI# 271703606
DATE: 7/25/19

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3089
C-2.03



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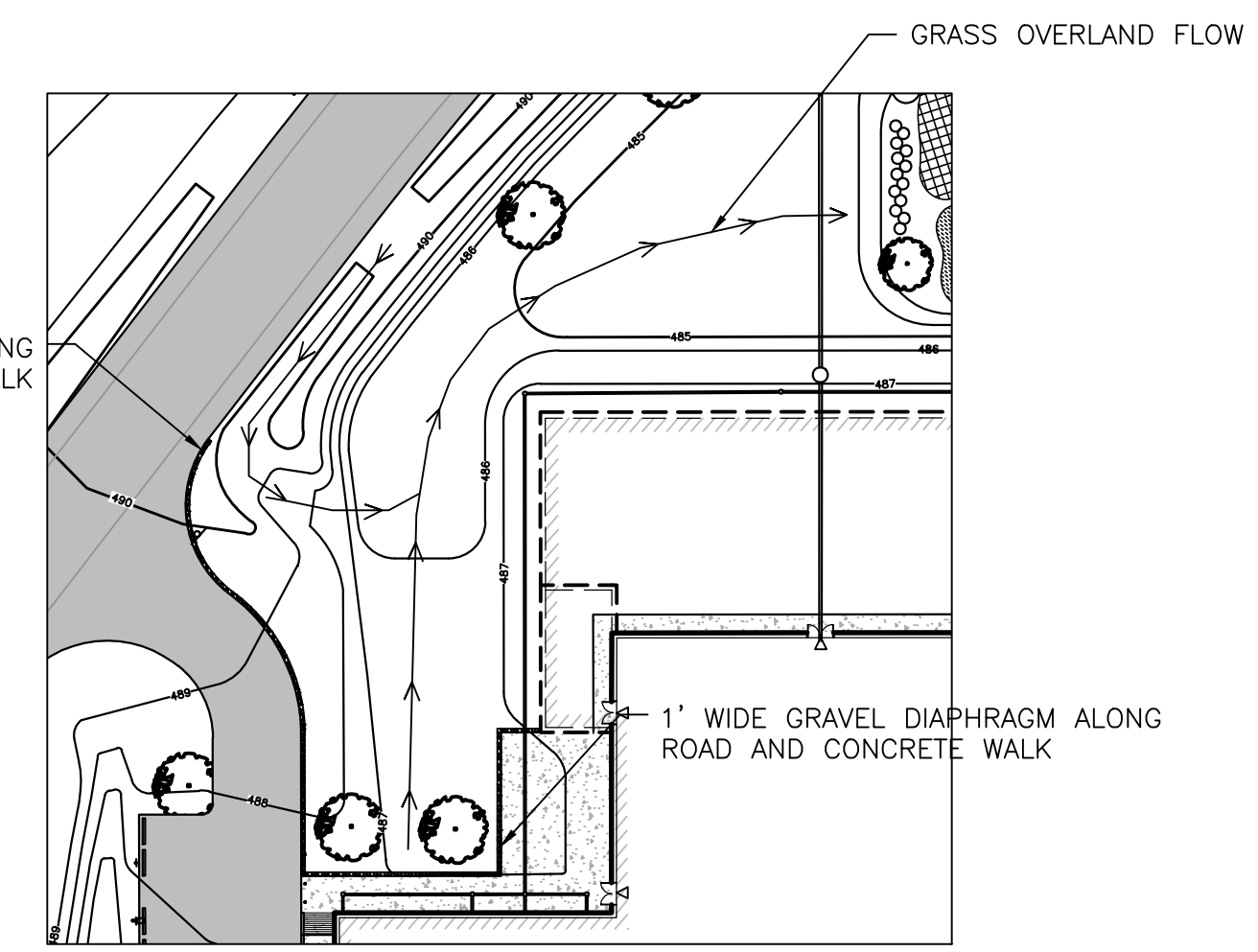
1 NYLOPLAST DRAIN BASIN WITH DOME GRATE NOT TO SCALE

NOTICE OF REQUIRED STORMWATER MANAGEMENT INSPECTIONS SAND FILTERS, BIORETENTION AND RAIN GARDEN FACILITIES

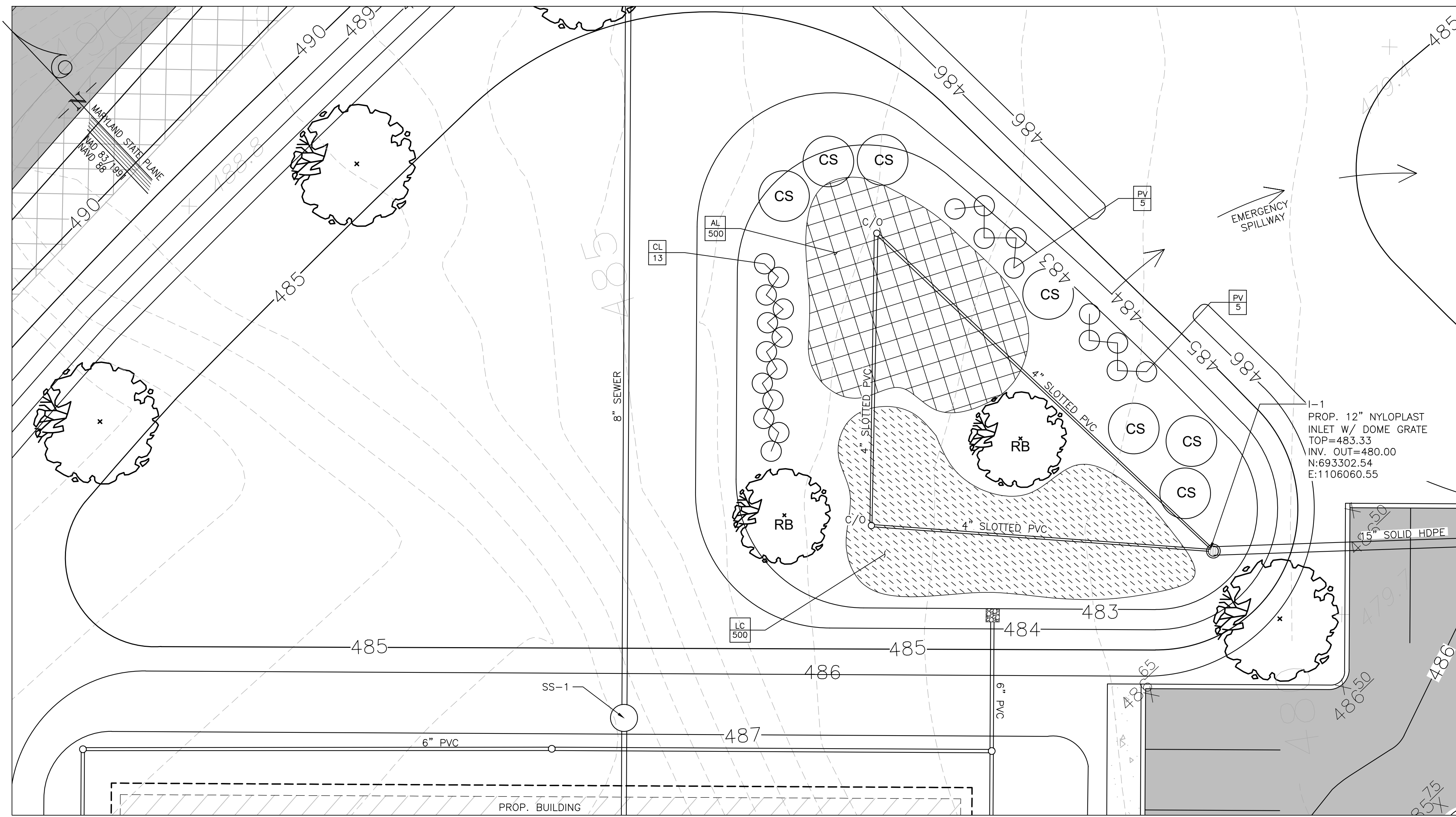
THE FOLLOWING INSPECTIONS ARE REQUIRED TO BE PERFORMED BY THE QUALIFIED PROFESSIONAL FOR THE CONSTRUCTION OF ANY SAND FILTER, BIORETENTION OR RAIN GARDEN FACILITY. ADDITIONAL INSPECTIONS MAY BE NEEDED BASED ON PROFESSIONAL ENGINEERING JUDGEMENT. EACH INSPECTION IS REQUIRED AT THE START OF EACH STAGE.

1. EXCAVATION OF FACILITY- PRIOR TO EXCAVATION, VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. VERIFY ALL FLAGGING REQUIRED IN THE AREA FOR SENSITIVE AREA PROTECTION. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. ENSURE ROUGHENING OF SIDE WALLS IF SHEARED AND SEALED BY HEAVY EQUIPMENT. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
2. PLACEMENT OF FILTER CLOTH (TRENCHES)- ENSURE FILTER FABRIC IS OVERLAPPING SIX (6) INCHES BETWEEN STRIPS OF CLOTH. ENSURE TREE ROOTS OR OTHER OBSTACLES ARE REMOVED FROM FACILITY WALLS OR SIDES AND BASE TO PREVENT TEARING. VERIFY THAT UPHILL FABRIC ROLL OVERLAPPS TWO (2) FEET OVER DOWNHILL ROLL.
3. PLACEMENT OF SAND FILTER LAYER OR GRAVEL DIAPHRAGM- VERIFY DEPTH AND WIDTH OF SSAND AND/OR DIAPHRAGM LATER. VERIFY FILL MATERIAL.
4. PLACEMENT OF FILTERING MEDIA- VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY SAND AND/OR FILTER MEDIA LAYER MATERIAL AND THICKNESS. VERIFY FILTER FABRIC OR PEA GRAVEL USED BETWEEN SAND LAYERS. VERIFY TOP FILTER MEDIA LAYER.
5. PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS- LOCATION, SIZE AND MATERIAL OF UNDER DRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" GRAVEL COVER.
6. STABILIZATION AND LANDSCAPING- VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY EMBANKMENT TOP SOILED AND SEEDED. VERIFY LOCATION, SIZE, TYPE AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. VERIFY INSTALLATION LOCATION, SIZE, MATERIAL TYPE OF FENCING OR OTHER SAFETY BARRIERS.

THE QUALIFIED PROFESSIONAL MAY REQUEST THE PRESENCE OF A COUNTY CONSTRUCTION STANDARDS INSPECTOR AT LEAST 24 HOURS IN ADVANCE BY CALLING 240-313-2400.



PRETREATMENT AREAS SCALE: 1" = 50'



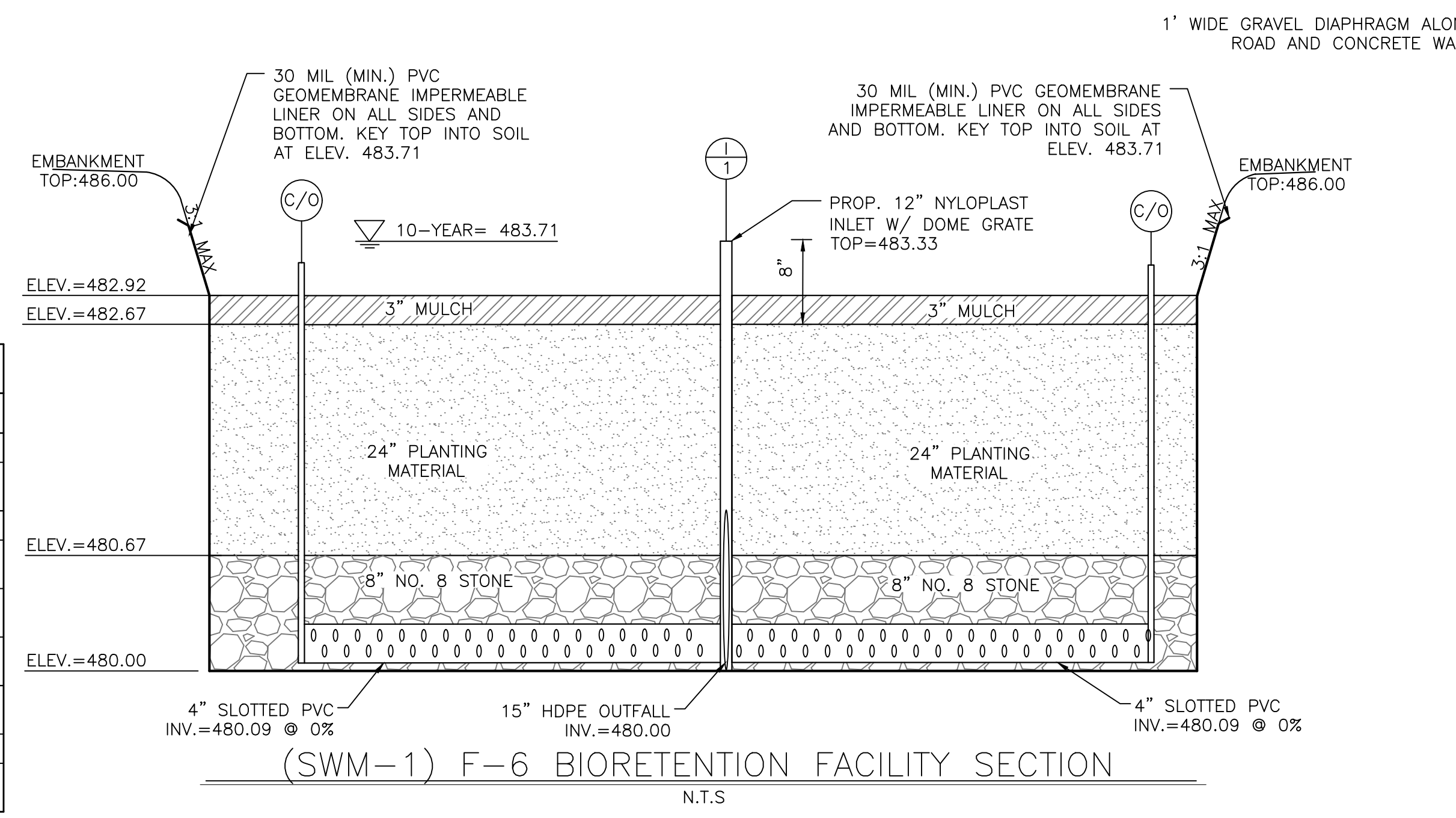
(SWM-1) F-6 BIORETENTION FACILITY PLAN SCALE: 1" = 10'

DESIGN SUMMARY

1. FACILITY NUMBER: SWM-1
2. FACILITY TYPE: F-6 BIORETENTION FACILITY
3. DRAINAGE AREA: 58,850 SQ. FT
4. BOTTOM ELEVATION: 482.67
5. TOP OF BANK ELEVATION: 486.00
6. STORAGE VOLUME PROVIDED: 5,850 CU. FT
7. WATER SURFACE ELEVATION:
 - 10-YEAR: 483.71
8. DISCHARGE:
 - 10-YEAR: 0.16 cfs
9. OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
10. CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
11. 30 MIL. GEOTEXTILE FABRIC LINER ADDED ON SIDES AND BOTTOM OF FACILITY.
12. MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
13. THIS FACILITY IS EXEMPT FROM MD378 GUIDELINES IN THAT THE IMPOUNDED DESIGN HIGHWATER DEPTH IS LESS THAN 3 FEET AT THE EMBANKMENT
14. IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	7	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	500	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	13	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	500	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	10	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
RB	2	BETULA NIGRA/ RIVER BIRCH	6" HT.	B&B	



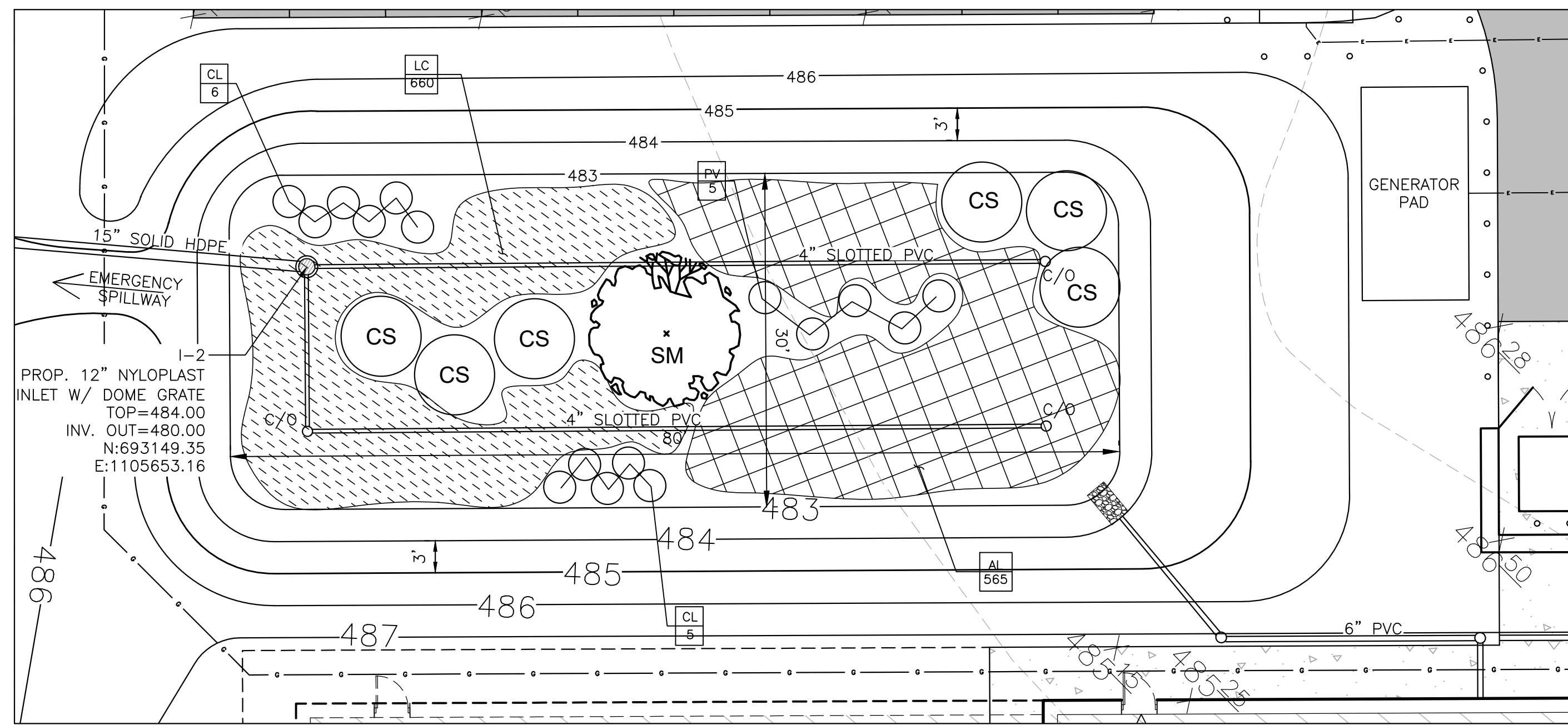
(SWM-1) F-6 BIORETENTION FACILITY SECTION N.T.S.



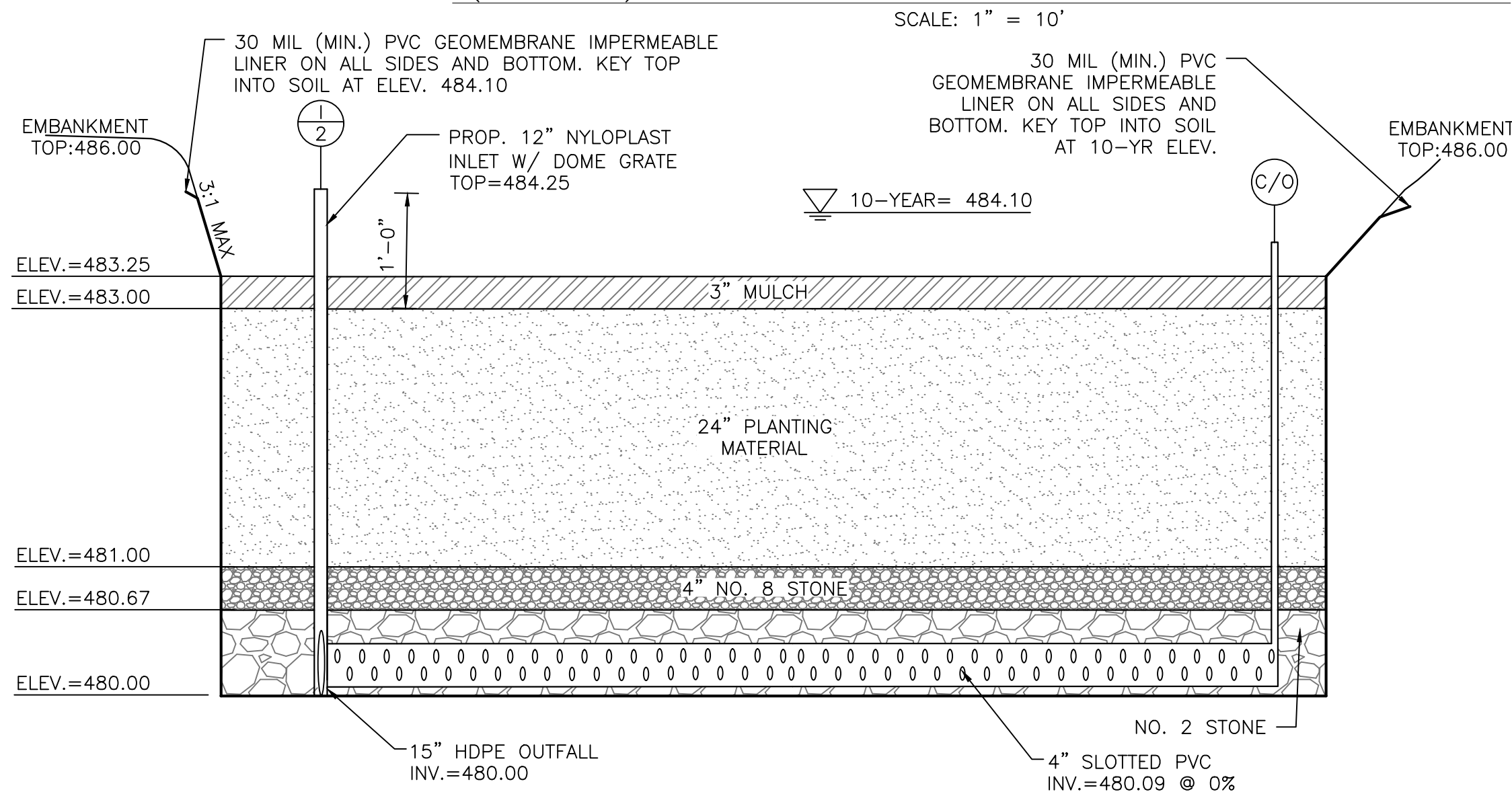
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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES



(SWM-2) M-6 MICRO-BIORETENTION FACILITY PLAN



(SWM-2) M-6 MICRO-BIORETENTION FACILITY SECTION

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	6	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	565	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	11	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	505	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	5	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
SM	1	MAGNOLIA VIRGINIANA / SWEETBAY MAGNOLIA	1 1/2" CAL.	CONT.	

PLANT SCHEDULE SWM-2

DESIGN SUMMARY

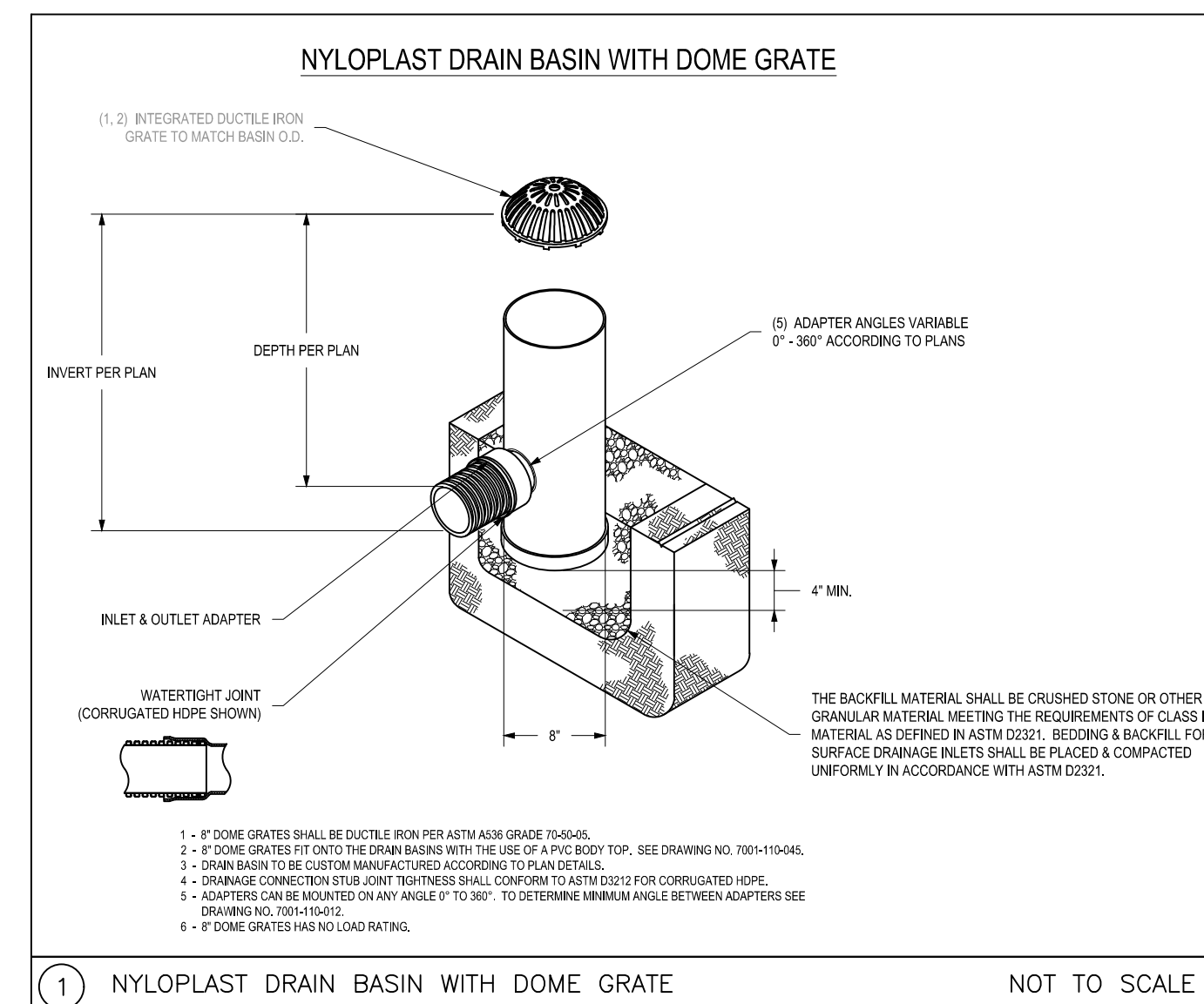
- FACILITY NUMBER: SWM-2
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 27,800 SQ. FT
- BOTTOM ELEVATION: 483.00
- TOP OF BANK ELEVATION: 486.00
- STORAGE VOLUME PROVIDED: 4,365 CU. FT
- WATER SURFACE ELEVATION: 10-YEAR: 484.10
- DISCHARGE: 10-YEAR: 0.47 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL. (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

NOTICE OF REQUIRED STORMWATER MANAGEMENT INSPECTIONS SAND FILTERS, BIORETENTION AND RAIN GARDEN FACILITIES

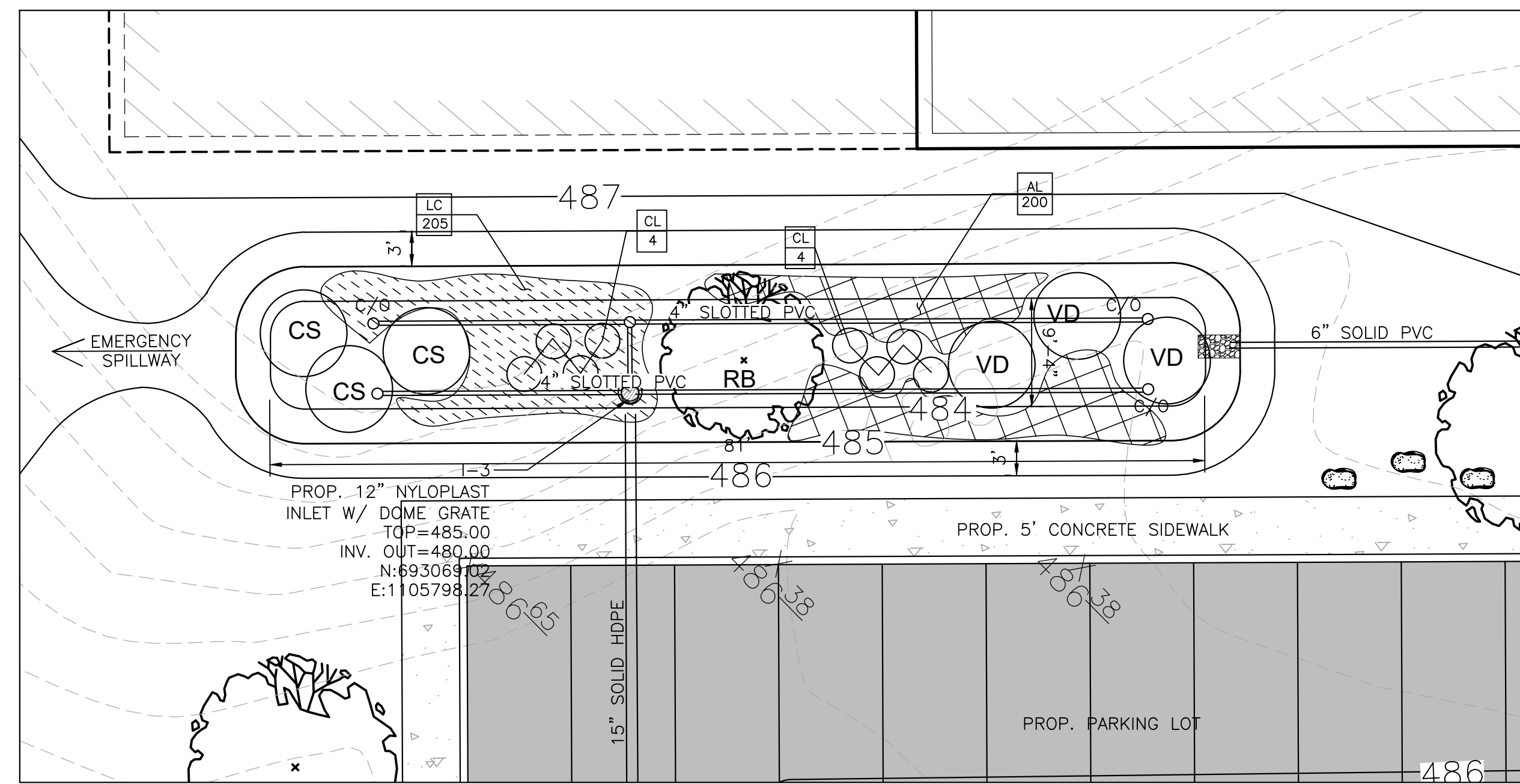
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- EXCAVATION OF FACILITY- PRIOR TO EXCAVATION, VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. VERIFY ALL FLAGGING REQUIRED IN THE AREA FOR SENSITIVE AREA PROTECTION. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. ENSURE ROUGHENING OF SIDE WALLS IF SHEARED AND SEALED BY HEAVY EQUIPMENT. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
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- PLACEMENT OF FILTERING MEDIA- VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY SAND AND/OR FILTER MEDIA LAYER MATERIAL AND THICKNESS. VERIFY FILTER FABRIC OR PEA GRAVEL USED BETWEEN SAND LAYERS. VERIFY TOP FILTER MEDIA LAYER.
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- STABILIZATION AND LANDSCAPING- VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY EMBANKMENT TOP SOILED AND SEEDED. VERIFY LOCATION, SIZE, TYPE AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8" INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. VERIFY INSTALLATION LOCATION, SIZE, MATERIAL TYPE OF FENCING OR OTHER SAFETY BARRIERS.

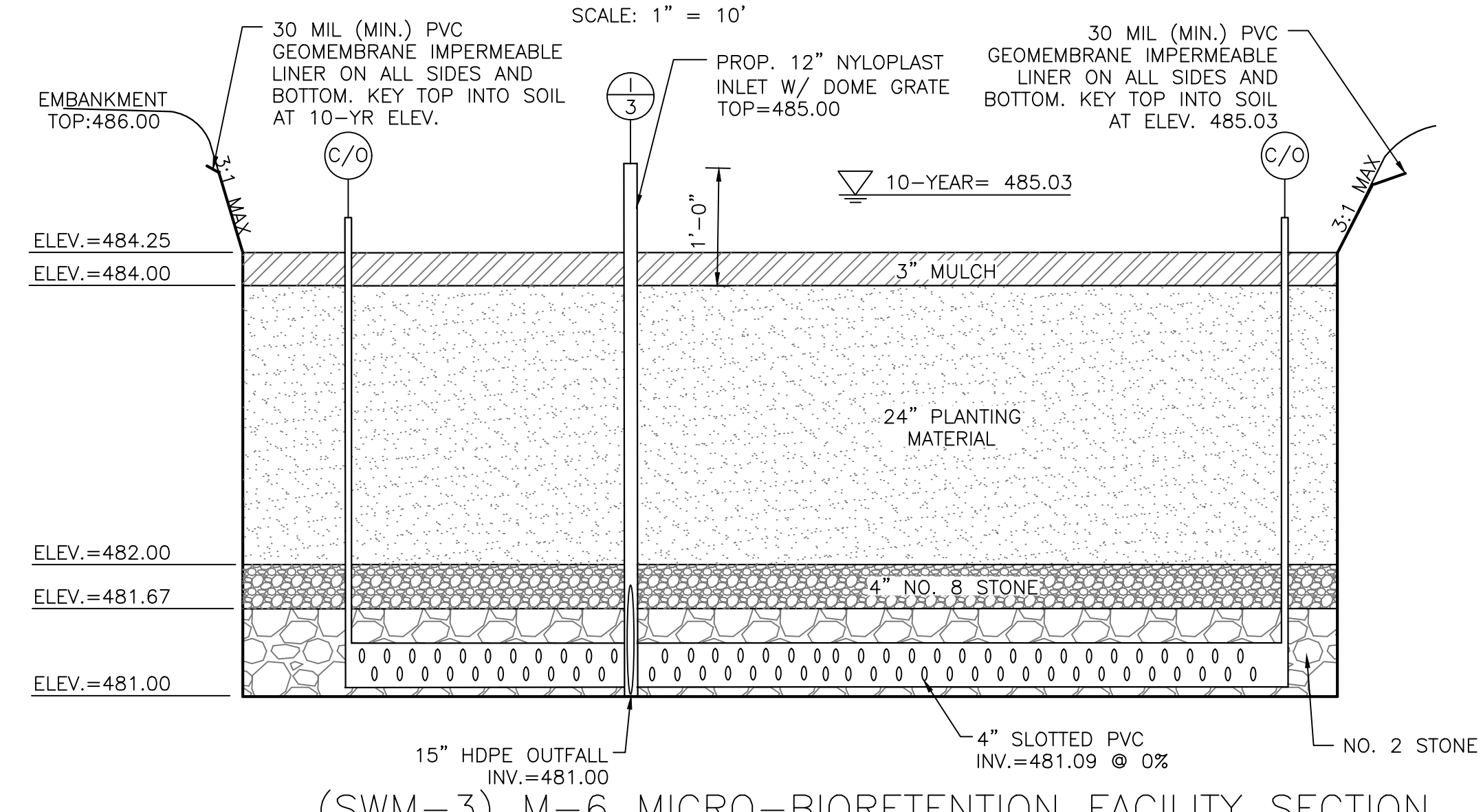
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NYLOPLAST DRAIN BASIN WITH DOME GRATE NOT TO SCALE



(SWM-3) M-6 MICRO-BIORETENTION FACILITY PLAN



(SWM-3) M-6 MICRO-BIORETENTION FACILITY SECTION

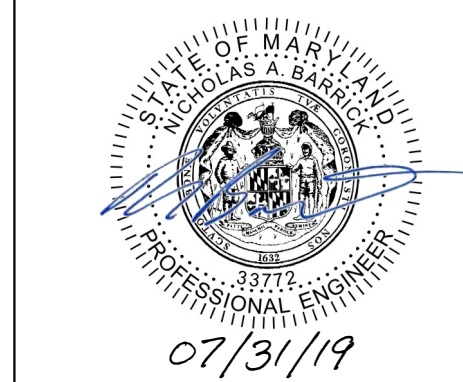
KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	3	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
VD	3	VIBURNUM DENTATUM 'BLUE MUFFIN' / ARROWWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	200	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	8	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	205	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
TREES					
RB	1	BETULA NIGRA / RIVER BIRCH	6" HT.	B&B	

PLANT SCHEDULE SWM-3

DESIGN SUMMARY

- FACILITY NUMBER: SWM-3
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 11,000 SQ. FT
- BOTTOM ELEVATION: 484.00
- TOP OF BANK ELEVATION: 486.00
- STORAGE VOLUME PROVIDED: 1,451 CU. FT
- WATER SURFACE ELEVATION: 10-YEAR: 485.03
- DISCHARGE: 10-YEAR: 0.16 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL. (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

GRAPHIC SCALE



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021

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 240-313-220

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 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F
 FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

SWM FACILITY SECTION

PROJECT
 3089

PLOT SCALE: 1:10
 FILENAME: KCI# 271703606
 DATE: 7/25/19

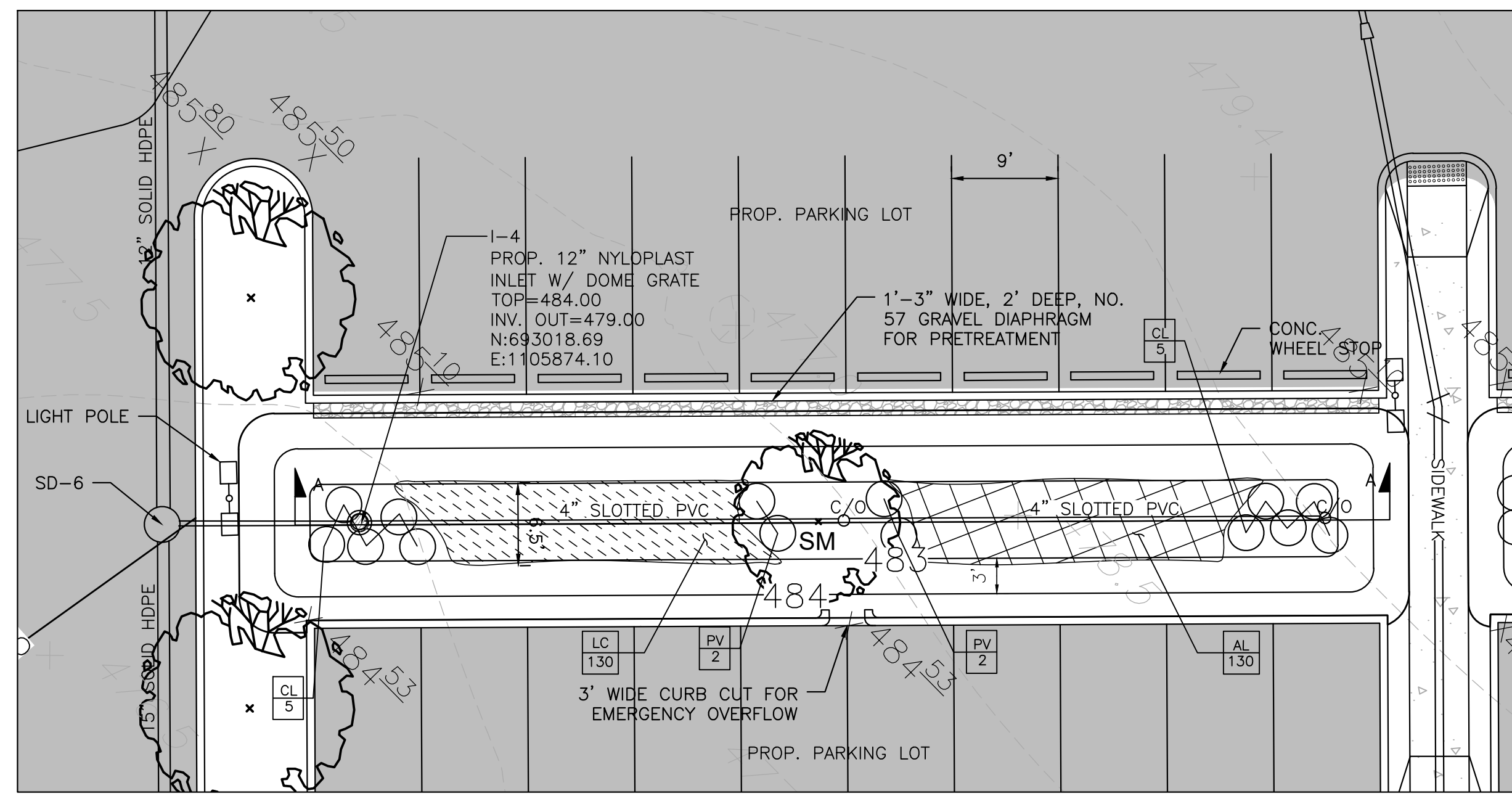
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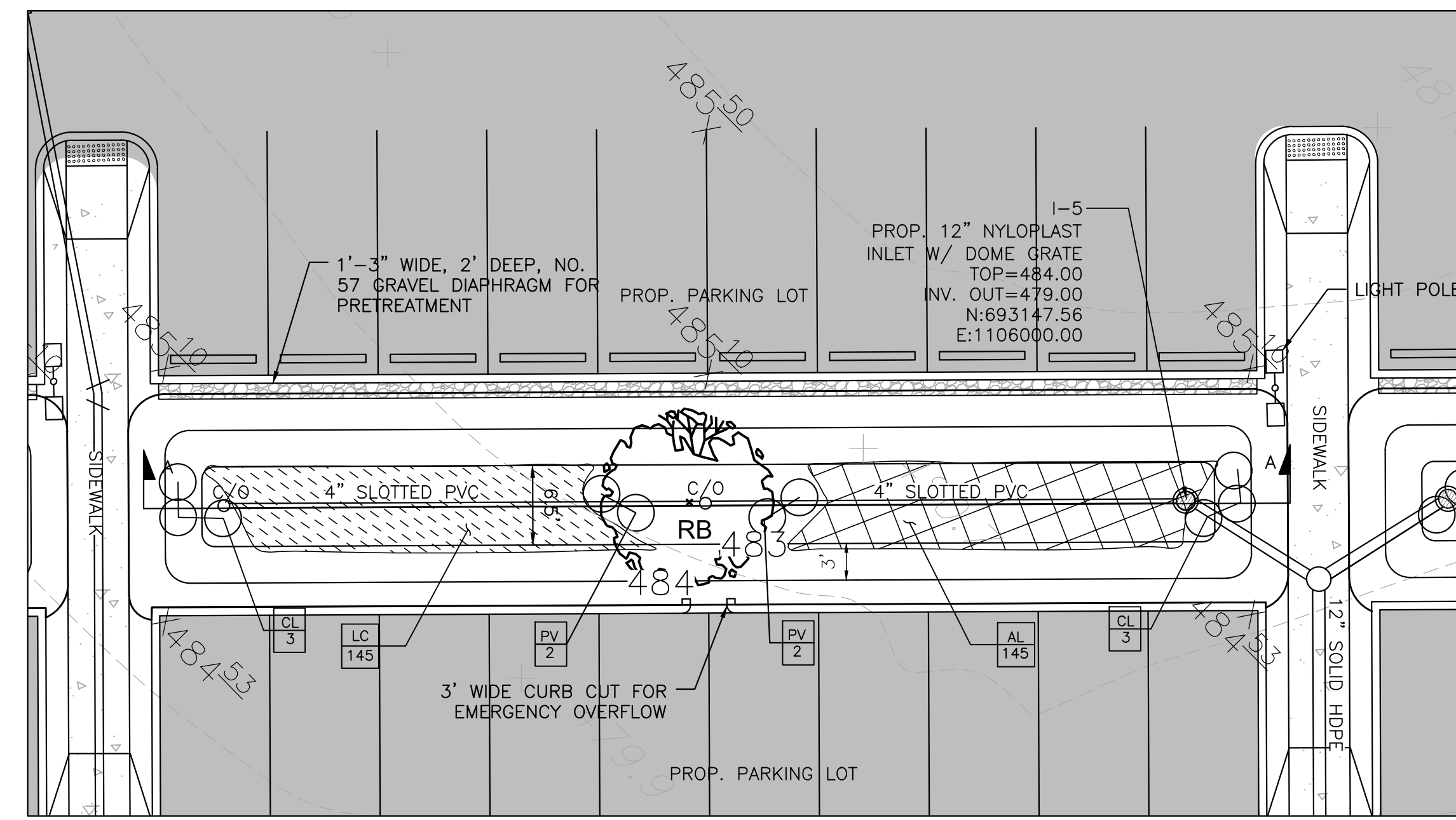
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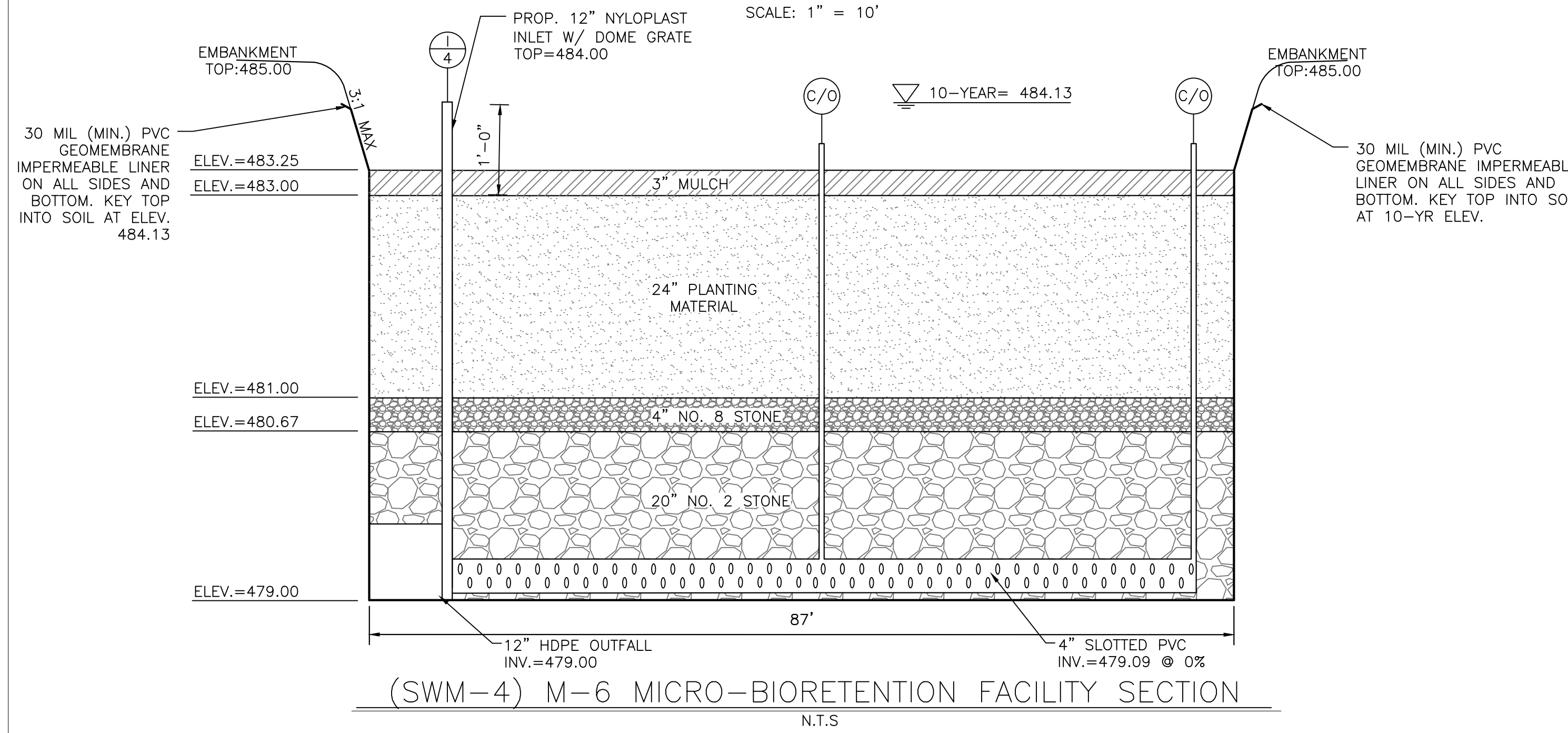
NO.	DATE	NAME	DESCRIPTION OF CHANGES



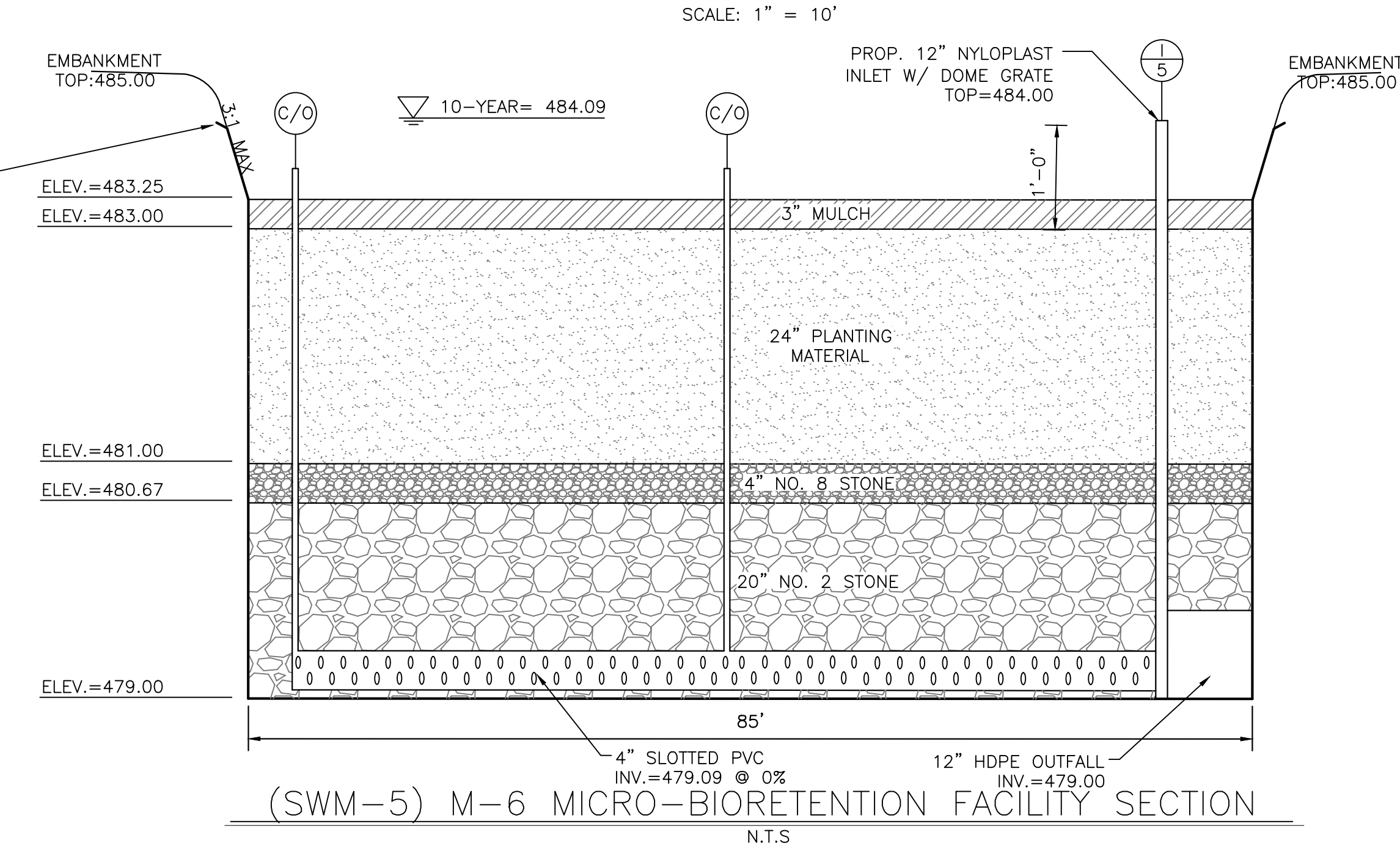
(SWM-4) M-6 MICRO-BIORETENTION FACILITY PLAN



(SWM-5) M-6 MICRO-BIORETENTION FACILITY PLAN



(SWM-4) M-6 MICRO-BIORETENTION FACILITY SECTION



(SWM-5) M-6 MICRO-BIORETENTION FACILITY SECTION

PLANT SCHEDULE SWM-4

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
PERENNIALS / ORNAMENTAL GRASSES					
AL	130	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	10	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	130	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	4	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
SM	1	MAGNOLIA VIRGINIANA / SWEETBAY MAGNOLIA	1 1/2" CAL	CONT.	

DESIGN SUMMARY

- FACILITY NUMBER: SWM-4
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 9,910 SQ. FT
- BOTTOM ELEVATION: 483.00
- TOP OF BANK ELEVATION: 485.00
- STORAGE VOLUME PROVIDED: 1,469 CU. FT
- WATER SURFACE ELEVATION: 10-YEAR: 484.13
- DISCHARGE: 10-YEAR: 0.62 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL. (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

NOTICE OF REQUIRED STORMWATER MANAGEMENT INSPECTIONS SAND FILTERS, BIORETENTION AND RAIN GARDEN FACILITIES

THE FOLLOWING INSPECTIONS ARE REQUIRED TO BE PERFORMED BY THE QUALIFIED PROFESSIONAL FOR THE CONSTRUCTION OF ANY SAND FILTER, BIORETENTION OR RAIN GARDEN FACILITY. ADDITIONAL INSPECTIONS MAY BE NEEDED BASED ON PROFESSIONAL ENGINEERING JUDGEMENT. EACH INSPECTION IS REQUIRED AT THE START OF EACH STAGE.

- EXCAVATION OF FACILITY- PRIOR TO EXCAVATION, VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. VERIFY ALL FLAGGING REQUIRED IN THE AREA FOR SENSITIVE AREA PROTECTION. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. ENSURE ROUGHENING OF SIDE WALLS IF SHEARED AND SEALED BY HEAVY EQUIPMENT. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
- PLACEMENT OF FILTER CLOTH (TRENCHES)- ENSURE FILTER FABRIC IS OVERLAPPING SIX (6) INCHES BETWEEN STRIPS OF CLOTH. ENSURE TREE ROOTS OR OTHER OBSTACLES ARE REMOVED FROM FACILITY WALLS OR SIDES AND BASE TO PREVENT TEARING. VERIFY THAT UPHILL FABRIC ROLL OVERLAPPS TWO (2) FEET OVER DOWNHILL ROLL.
- PLACEMENT OF SAND FILTER LAYER OR GRAVEL DIAPHRAGM- VERIFY DEPTH AND WIDTH OF SAND AND/OR DIAPHRAGM LATER. VERIFY FILL MATERIAL.
- PLACEMENT OF FILTERING MEDIA- VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY SAND AND/OR FILTER MEDIA LAYER MATERIAL AND THICKNESS. VERIFY FILTER FABRIC OR PEA GRAVEL USED BETWEEN SAND LAYERS. VERIFY TOP FILTER MEDIA LAYER.
- PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS- LOCATION, SIZE AND MATERIAL OF UNDER DRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" GRAVEL COVER.
- STABILIZATION AND LANDSCAPING- VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY EMBANKMENT TOP SOILED AND SEED. VERIFY LOCATION, SIZE, TYPE AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. VERIFY INSTALLATION LOCATION, SIZE, MATERIAL TYPE OF FENCING OR OTHER SAFETY BARRIERS.

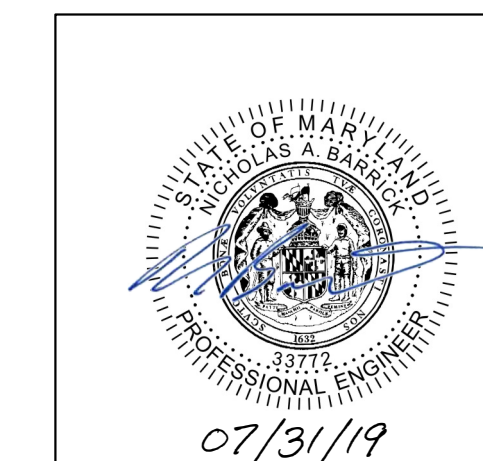
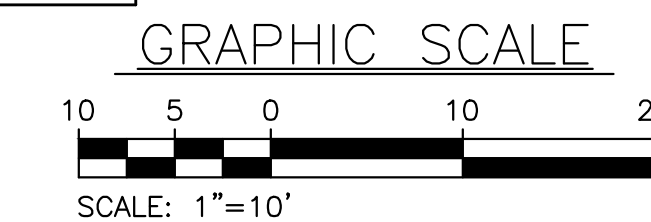
THE QUALIFIED PROFESSIONAL MAY REQUEST THE PRESENCE OF A COUNTY CONSTRUCTION STANDARDS INSPECTOR AT LEAST 24 HOURS IN ADVANCE BY CALLING 240-313-2400.

PLANT SCHEDULE SWM-5

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
PERENNIALS / ORNAMENTAL GRASSES					
AL	145	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	6	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	145	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	4	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
RB	1	BETULA NIGRA / RIVER BIRCH	6" HT.	B&B	

DESIGN SUMMARY

- FACILITY NUMBER: SWM-5
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 11,150 SQ. FT
- BOTTOM ELEVATION: 483.00
- TOP OF BANK ELEVATION: 485.00
- STORAGE VOLUME PROVIDED: 1,469 CU. FT
- WATER SURFACE ELEVATION: 10-YEAR: 484.09
- DISCHARGE: 10-YEAR: 0.44 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL. (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021

100% PLAN SET

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS
 401 EAST WINDING HILL ROAD
 717-458-0272 FAX 717-458-0047
 www.cra-architects.com

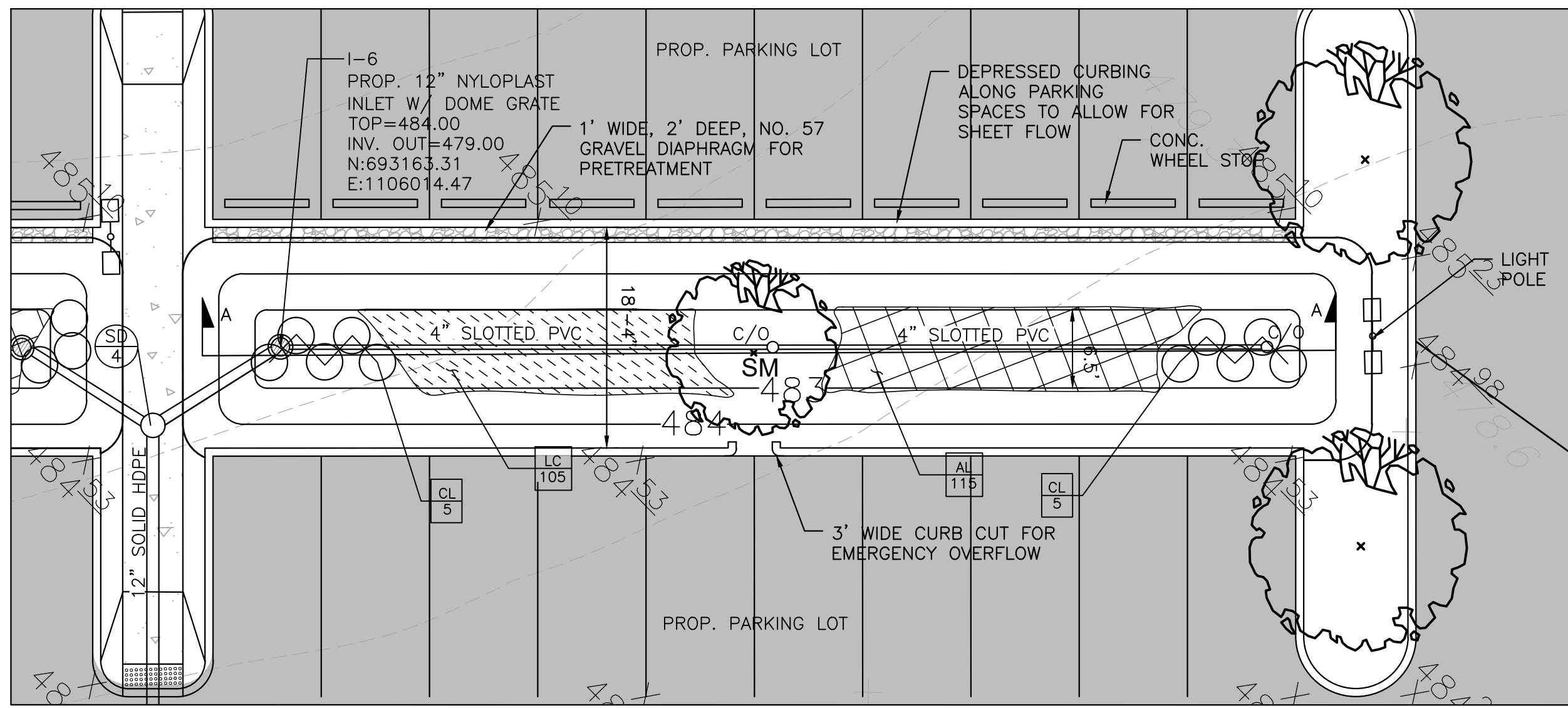
OWNER
 WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST
 HAGERSTOWN, MD 21740
 240-313-220

CIVIL
 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F
 FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

SWM FACILITY SECTION
 PLOT SCALE: 1:10
 FILENAME: KCI# 271703606
 DATE: 7/25/19

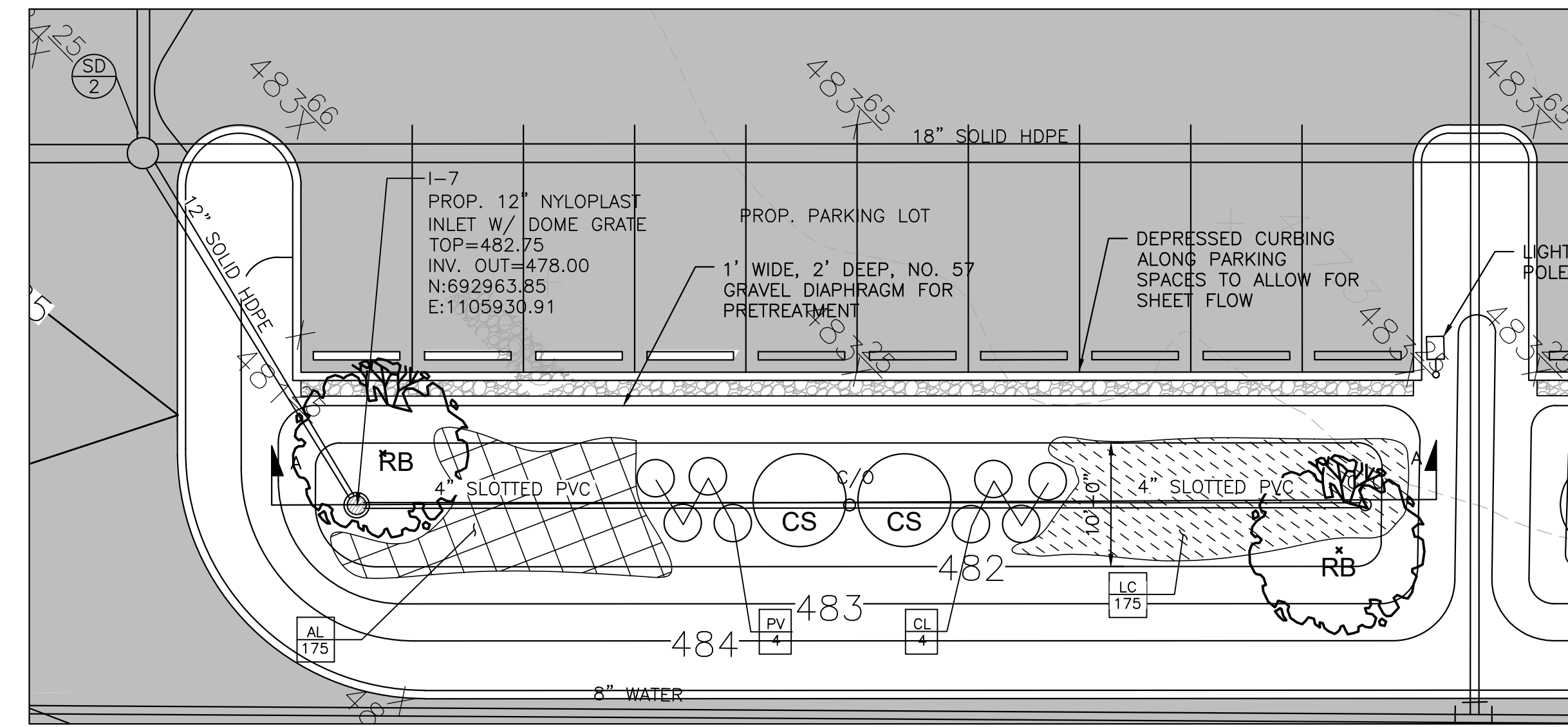
PROJECT
 3089
C-2.05

PROPOSED NEW
 WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
 WASHINGTON COUNTY PROJECT NO. 28-266
 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740



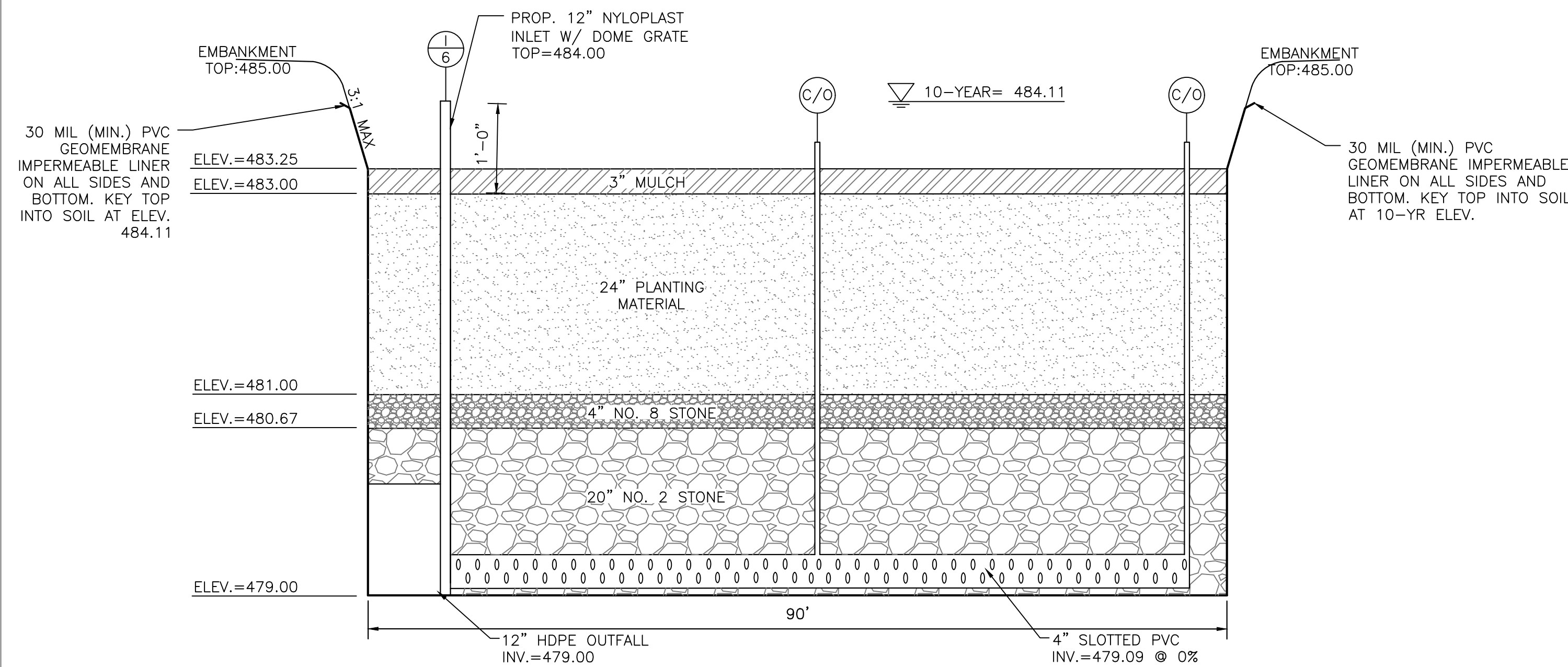
(SWM-6) M-6 MICRO-BIORETENTION FACILITY PLAN

SCALE: 1" = 10'



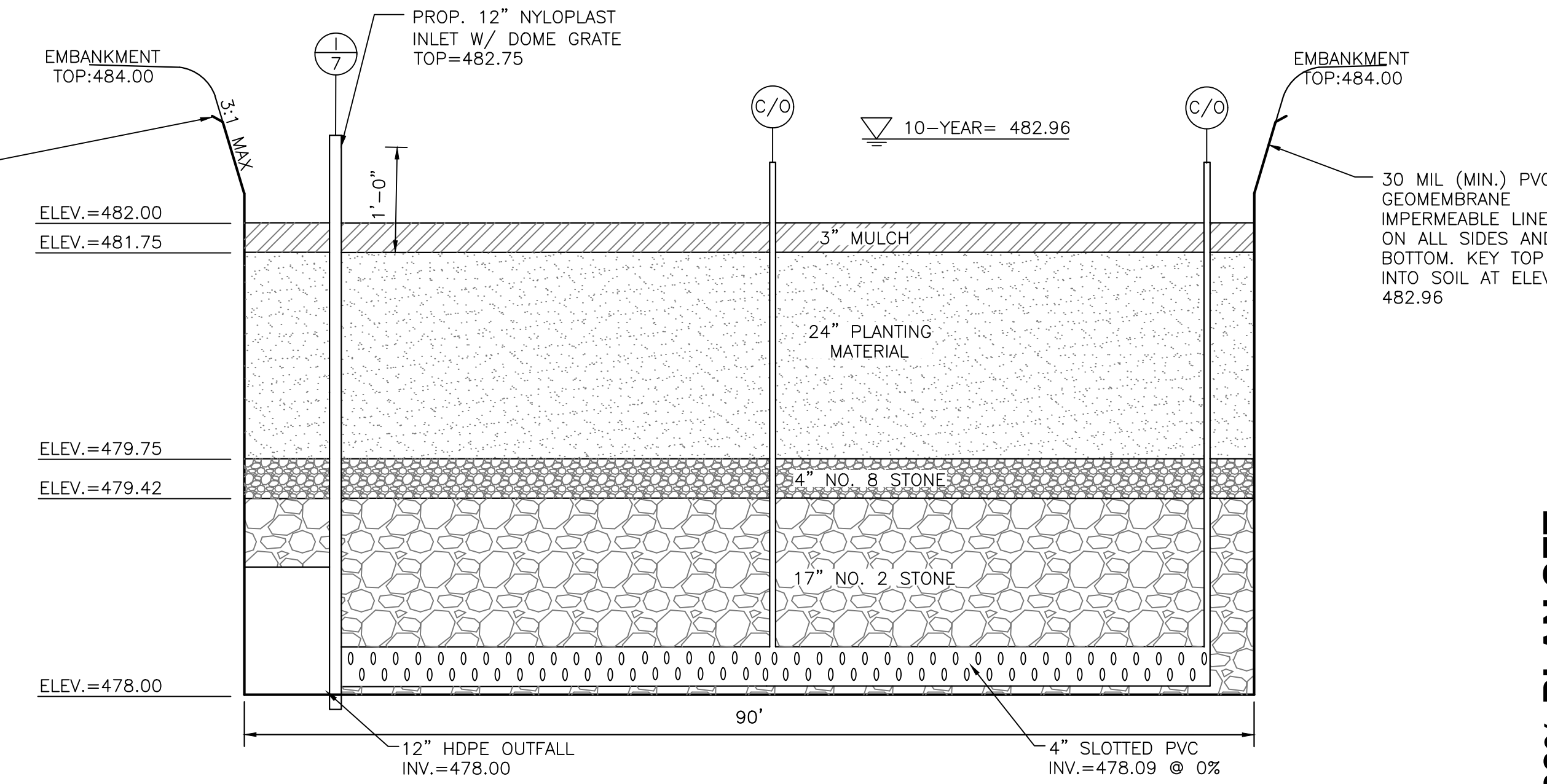
(SWM-7) M-6 MICRO-BIORETENTION FACILITY PLAN

SCALE: 1" = 10'



(SWM-6) M-6 MICRO-BIORETENTION FACILITY SECTION

N.T.S.



(SWM-7) M-6 MICRO-BIORETENTION FACILITY SECTION

N.T.S.

PLANT SCHEDULE SWM-6					
KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
PERENNIALS / ORNAMENTAL GRASSES					
AL	135	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	10	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	135	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
TREES					
SM	1	MAGNOLIA VIRGINIANA / SWEETBAY MAGNOLIA	1 3/4" CAL.	CONT.	

DESIGN SUMMARY

- FACILITY NUMBER: SWM-6
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 12,065 SQ. FT
- BOTTOM ELEVATION: 483.25
- TOP OF BANK ELEVATION: 485.00
- STORAGE VOLUME PROVIDED: 1,638 CU. FT
- WATER SURFACE ELEVATION: 10-YEAR: 484.11
- DISCHARGE: 10-YEAR: 0.51 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

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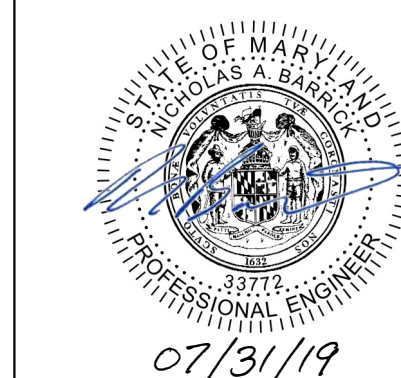
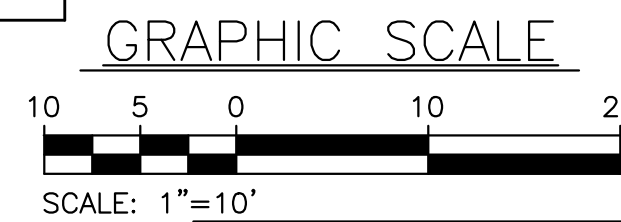
- EXCAVATION OF FACILITY- PRIOR TO EXCAVATION, VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. VERIFY ALL FLAGGING REQUIRED IN THE AREA FOR SENSITIVE AREA PROTECTION. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. ENSURE ROUGHENING OF SIDE WALLS IF SHEARED AND SEALED BY HEAVY EQUIPMENT. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
- PLACEMENT OF FILTER CLOTH (TRENCHES)- ENSURE FILTER FABRIC IS OVERLAPPING SIX (6) INCHES BETWEEN STRIPS OF CLOTH. ENSURE TREE ROOTS OR OTHER OBSTACLES ARE REMOVED FROM FACILITY WALLS OR SIDES AND BASE TO PREVENT TEARING. VERIFY THAT UPHILL FABRIC ROLL OVERLAPPS TWO (2) FEET OVER DOWNHILL ROLL.
- PLACEMENT OF SAND FILTER LAYER OR GRAVEL DIAPHRAGM- VERIFY DEPTH AND WIDTH OF SAND AND/OR DIAPHRAGM LATER. VERIFY FILL MATERIAL.
- PLACEMENT OF FILTERING MEDIA- VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY SAND AND/OR FILTER MEDIA LAYER MATERIAL AND THICKNESS. VERIFY FILTER FABRIC OR PEA GRAVEL USED BETWEEN SAND LAYERS. VERIFY TOP FILTER MEDIA LAYER.
- PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS- LOCATION, SIZE AND MATERIAL OF UNDER DRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" GRAVEL COVER.
- STABILIZATION AND LANDSCAPING- VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY EMBANKMENT TOP SOILED AND SEEDED. VERIFY LOCATION, SIZE, TYPE AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. VERIFY INSTALLATION LOCATION, SIZE, MATERIAL TYPE OF FENCING OR OTHER SAFETY BARRIERS.

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PLANT SCHEDULE SWM-7					
KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	2	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	175	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	4	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	175	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	4	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
RB	2	BETULA NIGRA / RIVER BIRCH	6" HT.	B&B	

DESIGN SUMMARY

- FACILITY NUMBER: SWM-7
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 13,700 SQ. FT
- BOTTOM ELEVATION: 482.00
- TOP OF BANK ELEVATION: 484.00
- STORAGE VOLUME PROVIDED: 2,125 CU. FT EACH
- WATER SURFACE ELEVATION: 10-YEAR: 482.96
- DISCHARGE: 10-YEAR: 1.02 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021

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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

100% PLAN SET

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 401 EAST WINDING HILL ROAD
 717-458-0272 FAX 717-458-0047
 www.cra-architects.com

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OWNER
 WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST
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 240-313-220

CIVIL
 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F
 FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

SWM FACILITY SECTION
 PLOT SCALE: 1:10
 FILENAME: KCI# 271703606
 DATE: 7/25/19

PROJECT
 3089
C-2.06

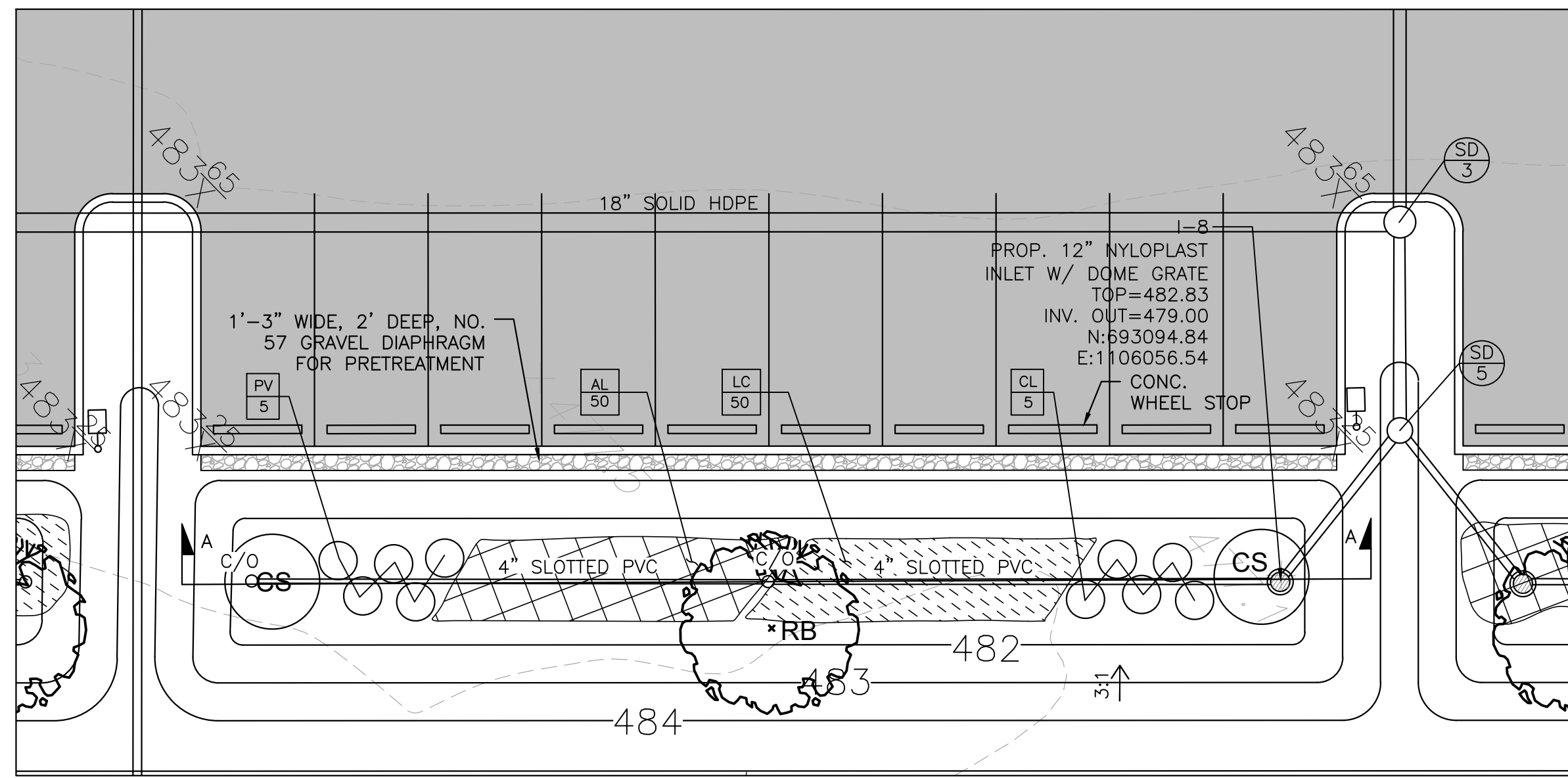




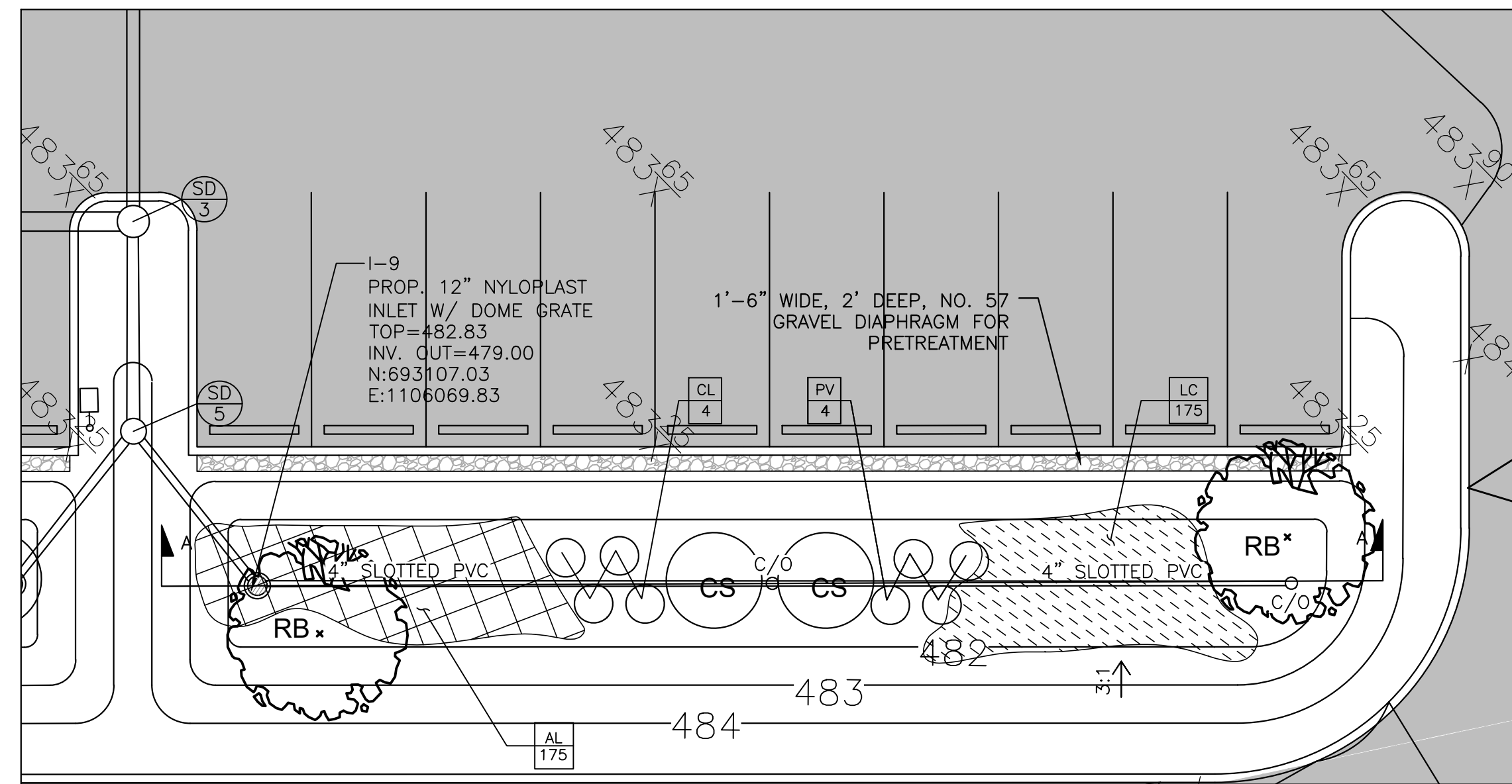
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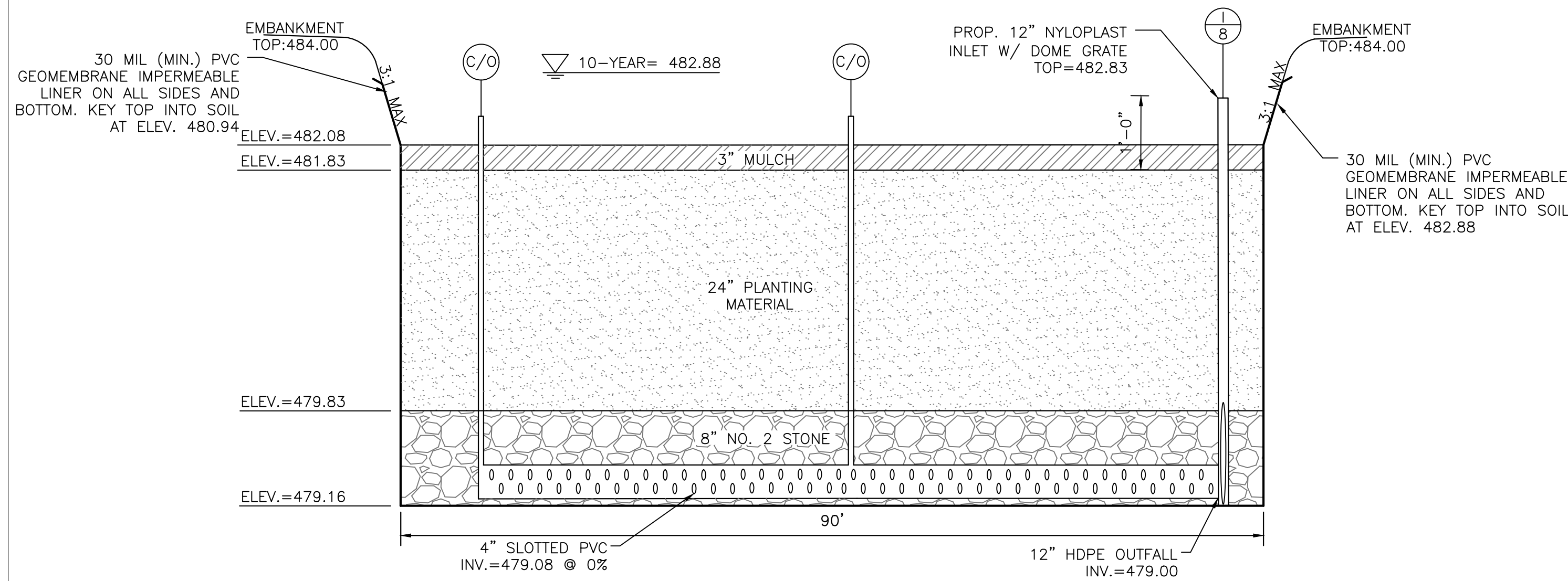
NO.	DATE	NAME	DESCRIPTION OF CHANGES



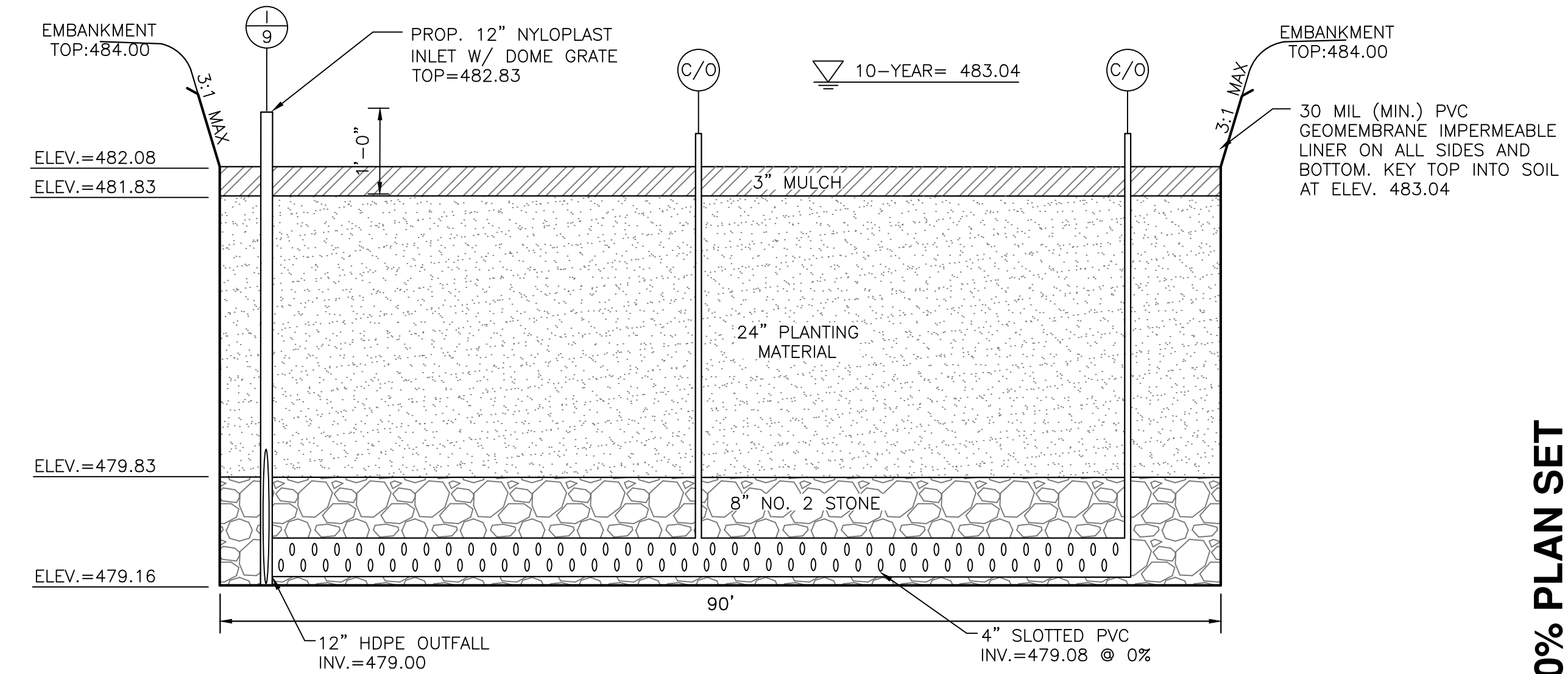
(SWM-8) M-6 MICRO-BIORETENTION FACILITY PLAN
SCALE: 1" = 10'



(SWM-9) M-6 MICRO-BIORETENTION FACILITY PLAN
SCALE: 1" = 10'



(SWM-8) M-6 MICRO-BIORETENTION FACILITY SECTION
N.T.S.



(SWM-9) M-6 MICRO-BIORETENTION FACILITY SECTION
N.T.S.

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	2	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	50	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	5	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	50	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	5	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
RB	1	BETULA NIGRA / RIVER BIRCH	6' HT.	B&B	

DESIGN SUMMARY

- FACILITY NUMBER: SWM-8
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 8,900 SQ. FT
- BOTTOM ELEVATION: 481.83
- TOP OF BANK ELEVATION: 483.25
- STORAGE VOLUME PROVIDED: 1,361 CU. FT EACH
- WATER SURFACE ELEVATION:
10-YEAR: 482.88
- DISCHARGE:
10-YEAR: 0.22 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

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- EXCAVATION OF FACILITY- PRIOR TO EXCAVATION, VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. VERIFY ALL FLAGGING REQUIRED IN THE AREA FOR SENSITIVE AREA PROTECTION. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. ENSURE ROUGHENING OF SIDE WALLS IF SHEARED AND SEALED BY HEAVY EQUIPMENT. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
- PLACEMENT OF FILTER CLOTH (TRENCHES)- ENSURE FILTER FABRIC IS OVERLAPPING SIX (6) INCHES BETWEEN STRIPS OF CLOTH. ENSURE TREE ROOTS OR OTHER OBSTACLES ARE REMOVED FROM FACILITY WALLS OR SIDES AND BASE TO PREVENT TEARING. VERIFY THAT UPHILL FABRIC ROLL OVERLAPPS TWO (2) FEET OVER DOWNHILL ROLL.
- PLACEMENT OF SAND FILTER LAYER OR GRAVEL DIAPHRAGM- VERIFY DEPTH AND WIDTH OF SAND AND/OR DIAPHRAGM LATER. VERIFY FILL MATERIAL.
- PLACEMENT OF FILTERING MEDIA- VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY SAND AND/OR FILTER MEDIA LAYER MATERIAL AND THICKNESS. VERIFY FILTER FABRIC OR PEA GRAVEL USED BETWEEN SAND LAYERS. VERIFY TOP FILTER MEDIA LAYER.
- PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS- LOCATION, SIZE AND MATERIAL OF UNDER DRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" GRAVEL COVER.
- STABILIZATION AND LANDSCAPING- VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY EMBANKMENT TOP SOILED AND SEEDED. VERIFY LOCATION, SIZE, TYPE AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. VERIFY INSTALLATION LOCATION, SIZE, MATERIAL TYPE OF FENCING OR OTHER SAFETY BARRIERS.

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KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	2	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	175	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	4	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	175	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	4	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
RB	2	BETULA NIGRA / RIVER BIRCH	6' HT.	B&B	

DESIGN SUMMARY

- FACILITY NUMBER: SWM-9
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 13,800 SQ. FT
- BOTTOM ELEVATION: 481.83
- TOP OF BANK ELEVATION: 483.25
- STORAGE VOLUME PROVIDED: 1,757 CU. FT EACH
- WATER SURFACE ELEVATION:
10-YEAR: 483.04
- DISCHARGE:
10-YEAR: 0.87 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021



100% PLAN SET

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS

401 EAST WINDING HILL ROAD
717-458-0272 FAX 717-458-0047

www.cra-architects.com

OWNER
WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST
HAGERSTOWN, MD 21740
240-313-220

CIVIL
KCI TECHNOLOGIES, INC.
11830 W. MARKET PLACE, SUITE F
FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

SWM FACILITY SECTION

PROJECT
3089

PLOT SCALE: 1:10
FILENAME: KCI# 271703606
DATE: 7/25/19

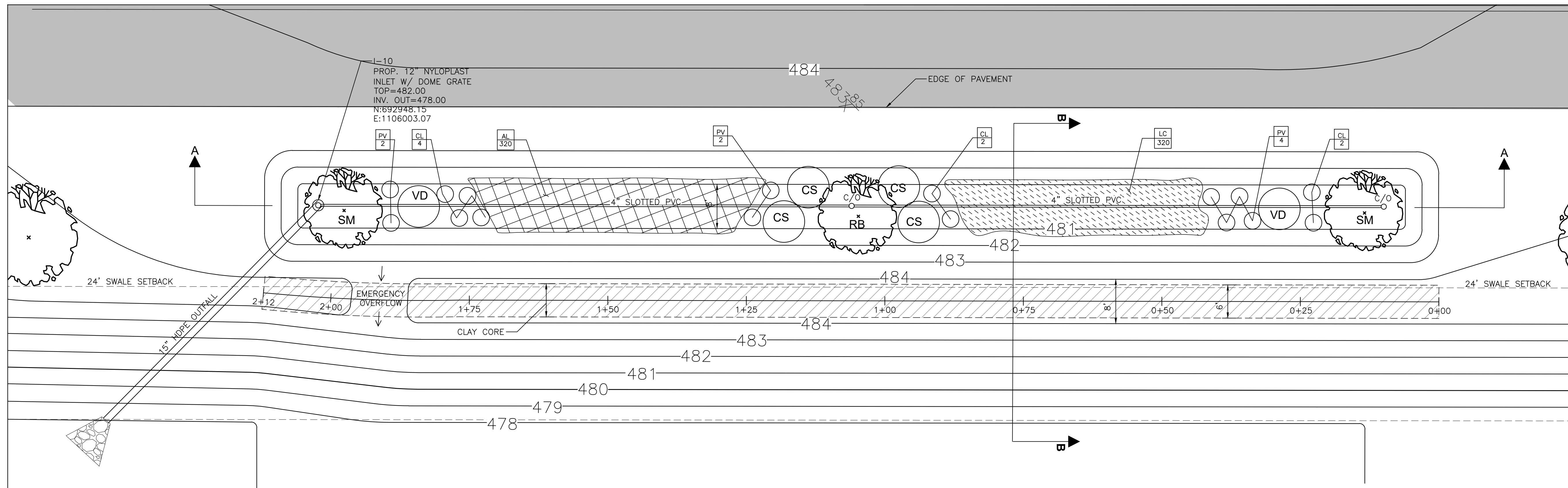
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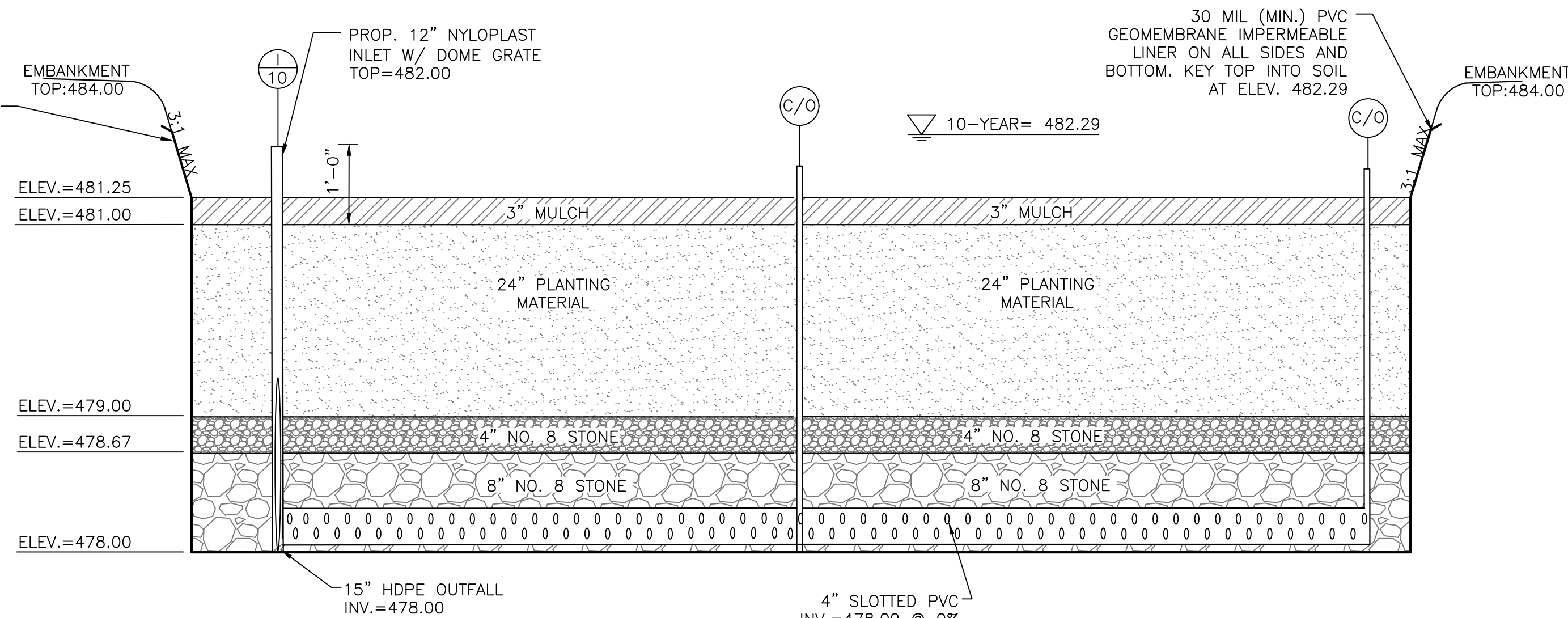
ALL REPORTS, PLANS SPECIFICATIONS AND COMPUTER FILES RELATING TO THIS PROJECT ARE THE PROPERTY OF CRABTREE, ROHRBAUGH & ASSOCIATES. CRABTREE, ROHRBAUGH & ASSOCIATES RESERVE ALL COMMON LAW, STATUTE AND OTHER RESERVED RIGHTS INCLUDING THE COPYRIGHT THEREIN. REPRODUCTION OF THE MATERIAL HEREIN OR SUBSTANTIAL USE WITHOUT WRITTEN PERMISSION OF CRABTREE, ROHRBAUGH & ASSOCIATES VIOLATES THE COPYRIGHT LAWS OF THE UNITED STATES AND WILL BE SUBJECT TO LEGAL PROSECUTION. © CRABTREE, ROHRBAUGH & ASSOCIATES, INC. 2019

REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES



(SWM-10) M-6 MICRO-BIORETENTION FACILITY PLAN
SCALE: 1" = 10'



(SWM-10) M-6 MICRO-BIORETENTION FACILITY SECTION A-A
N.T.S.

PLANT SCHEDULE SWM-10

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	COND.	COMMENTS
SHRUBS					
CS	4	CORNUS SERICEA / REDOSIER DOGWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
VD	2	VIBURNUM DENTATUM 'BLUE MUFFIN' / ARROWWOOD	18" HT.	CONT.	PLANT AT 5' O.C.
PERENNIALS / ORNAMENTAL GRASSES					
AL	320	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	2" HT.	PLUG	PLANT AT 18" O.C.
CL	9	CHASMANTHIUM LATIFOLIUM / NORTHERN SEA OATS	1 GAL.	CONT.	PLANT AT 3' O.C.
LC	320	LOBELIA CARDINALIS / CARDINAL FLOWER	2" HT.	PLUG	PLANT AT 18" O.C.
PV	4	PANICUM VIRGATUM 'HEAVY METAL' / SWITCHGRASS	1 GAL.	CONT.	PLANT AT 3' O.C.
TREES					
SM	2	MAGNOLIA VIRGINIANA / SWEETBAY MAGNOLIA	1 1/2" CAL.	CONT.	
RB	1	BETULA NIGRA / RIVER BIRCH	6" HT.	B&B	

DESIGN SUMMARY

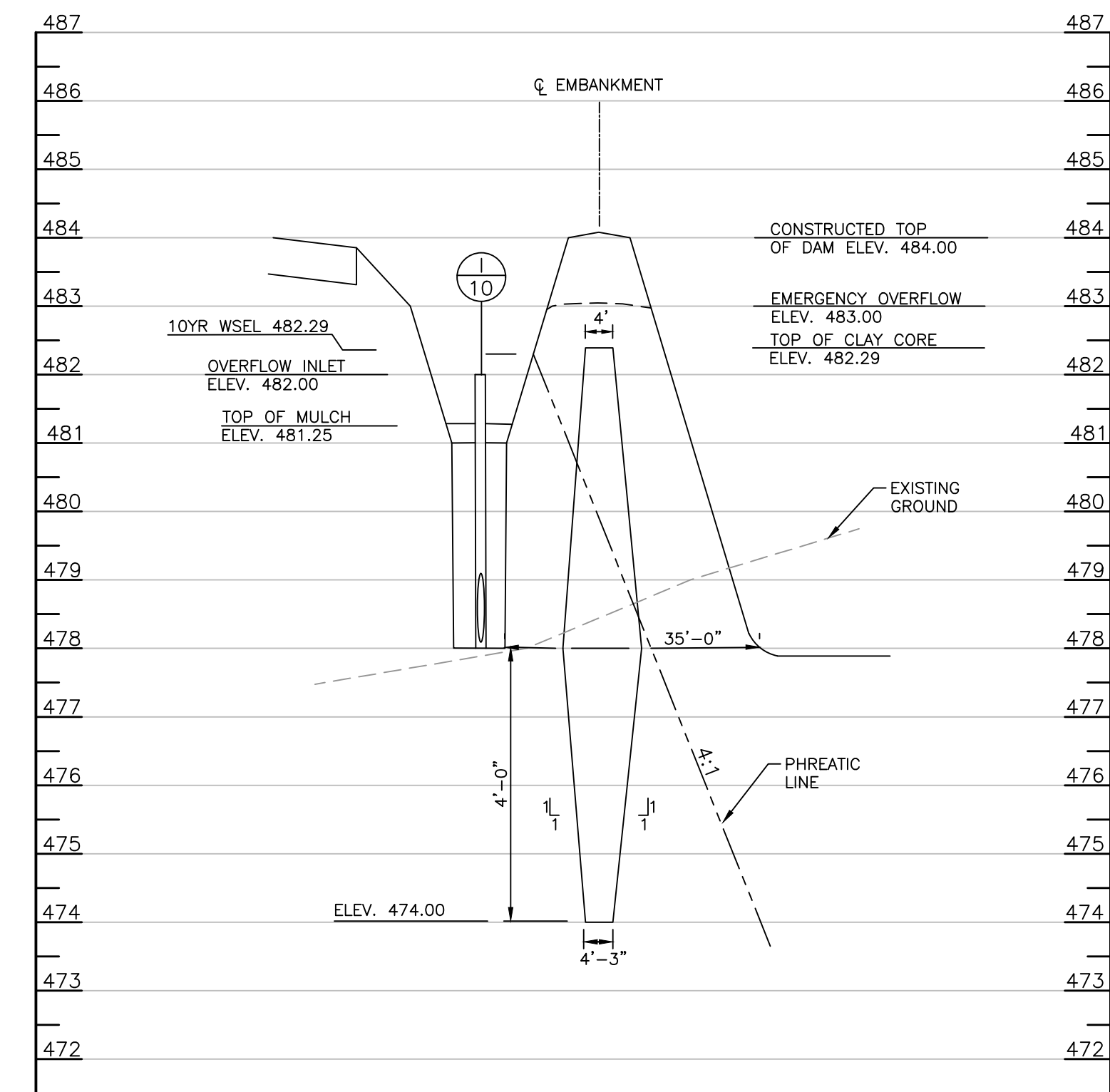
- FACILITY NUMBER: SWM-10
- FACILITY TYPE: M-6 MICRO-BIORETENTION FACILITY
- DRAINAGE AREA: 27,200 SQ. FT
- BOTTOM ELEVATION: 481.00
- TOP OF BANK ELEVATION: 484.00
- STORAGE VOLUME PROVIDED: 3,520 CU. FT EACH
- WATER SURFACE ELEVATION: 10-YEAR: 482.29
- DISCHARGE: 10-YEAR: 1.26 cfs
- OVERFLOW INLET SIZE & TYPE: 12" NYLOPLAST INLET WITH DOME GRATE
- CLEANOUT 6" ABOVE GRADE WITH WATERTIGHT SCREW LID.
- 30 MIL (MIN.) PVC GEOMEMBRANE IMPERMEABLE LINER ON ALL SIDES AND BOTTOM. KEY TOP INTO SOIL.
- MAINTENANCE RESPONSIBILITY: THIS IS A PRIVATE FACILITY TO BE OWNED & MAINTAINED BY THE OWNER.
- IF ROCK IS ENCOUNTERED, UNDERCUT POND 18" AND BACKFILL WITH CL TYPE SOIL.

NOTICE OF REQUIRED STORMWATER MANAGEMENT INSPECTIONS SAND FILTERS, BIORETENTION AND RAIN GARDEN FACILITIES

THE FOLLOWING INSPECTIONS ARE REQUIRED TO BE PERFORMED BY THE QUALIFIED PROFESSIONAL FOR THE CONSTRUCTION OF ANY SAND FILTER, BIORETENTION OR RAIN GARDEN FACILITY. ADDITIONAL INSPECTIONS MAY BE NEEDED BASED ON PROFESSIONAL ENGINEERING JUDGEMENT. EACH INSPECTION IS REQUIRED AT THE START OF EACH STAGE.

- EXCAVATION OF FACILITY- PRIOR TO EXCAVATION, VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. VERIFY ALL FLAGGING REQUIRED IN THE AREA FOR SENSITIVE AREA PROTECTION. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. ENSURE ROUGHENING OF SIDE WALLS IF SHEARED AND SEALED BY HEAVY EQUIPMENT. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
- PLACEMENT OF FILTER CLOTH (TRENCHES)- ENSURE FILTER FABRIC IS OVERLAPPING SIX (6) INCHES BETWEEN STRIPS OF CLOTH. ENSURE TREE ROOTS OR OTHER OBSTACLES ARE REMOVED FROM FACILITY WALLS OR SIDES AND BASE TO PREVENT TEARING. VERIFY THAT UPHILL FABRIC ROLL OVERLAPPS TWO (2) FEET OVER DOWNHILL ROLL.
- PLACEMENT OF SAND FILTER LAYER OR GRAVEL DIAPHRAGM- VERIFY DEPTH AND WIDTH OF SSAND AND/OR DIAPHRAGM LATER. VERIFY FILL MATERIAL.
- PLACEMENT OF FILTERING MEDIA- VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY SAND AND/OR FILTER MEDIA LAYER MATERIAL AND THICKNESS. VERIFY FILTER FABRIC OR PEA GRAVEL USED BETWEEN SAND LAYERS. VERIFY TOP FILTER MEDIA LAYER.
- PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS- LOCATION, SIZE AND MATERIAL OF UNDER DRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" GRAVEL COVER.
- STABILIZATION AND LANDSCAPING- VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY EMBANKMENT TOP SOILED AND SEEDED. VERIFY LOCATION, SIZE, TYPE AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. VERIFY INSTALLATION LOCATION, SIZE, MATERIAL TYPE OF FENCING OR OTHER SAFETY BARRIERS.

THE QUALIFIED PROFESSIONAL MAY REQUEST THE PRESENCE OF A COUNTY CONSTRUCTION STANDARDS INSPECTOR AT LEAST 24 HOURS IN ADVANCE BY CALLING 240-313-2400.



SWM 10 EMBANKMENT SECTION (B-B)
SCALE: HOR: 1"=20'
VERT: 1"=2'

100% PLAN SET

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS

401 EAST WINDING HILL ROAD
717-458-0272 FAX 717-458-0047
www.cra-architects.com

OWNER
WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST
HAGERSTOWN, MD 21740
240-313-220

CIVIL
KCI TECHNOLOGIES, INC.
11830 W. MARKET PLACE, SUITE F
FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

SWM FACILITY SECTION

PLOT SCALE: 1:10
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT
3089

C-2.08

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021



SITE NOTES

1. APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST.
SUITE 200
HAGERSTOWN, MD 21740
2. SITE DATA:
TAX IDENTIFICATION No.: 018579
TAX MAP / GRID: 0062/0010
PLAT / FOLIO: 05374/00077
M683
ELECTION DISTRICT: 10
SITE ADDRESS: 9238 SHARPSBURG PIKE
HAGERSTOWN, MD 21740
3. EXISTING USE: VACANT/FARM
4. PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
5. ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
6. LIMIT OF DISTURBANCE = 470,978 sq.ft or 10.81 Ac.
7. EXISTING IMPERVIOUS AREA = 0.00 sq.ft or 0.00 Ac.
8. PROPOSED IMPERVIOUS AREA = 4.30 Ac.
9. TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
10. NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
11. PROPOSED WATER USAGE: 1000 GPD OR 5 EDU'S

REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

100% PLAN SET

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS

www.cra-architects.com

PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

401 EAST WINDING HILL ROAD
717-458-0272 FAX 717-458-0047

OWNER
WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST
HAGERSTOWN, MD 21740
240-313-220

CIVIL
KCI TECHNOLOGIES, INC.
11830 W. MARKET PLACE, SUITE F
FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

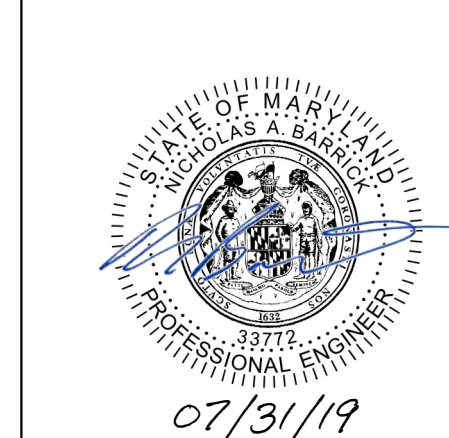
OVERALL SEDIMENT & EROSION CONTROL PLAN
PLOT SCALE: 1:50
FILENAME: KCI# 271703606
DATE: 7/25/19

PROJECT
3089
C-3.00

LEGEND

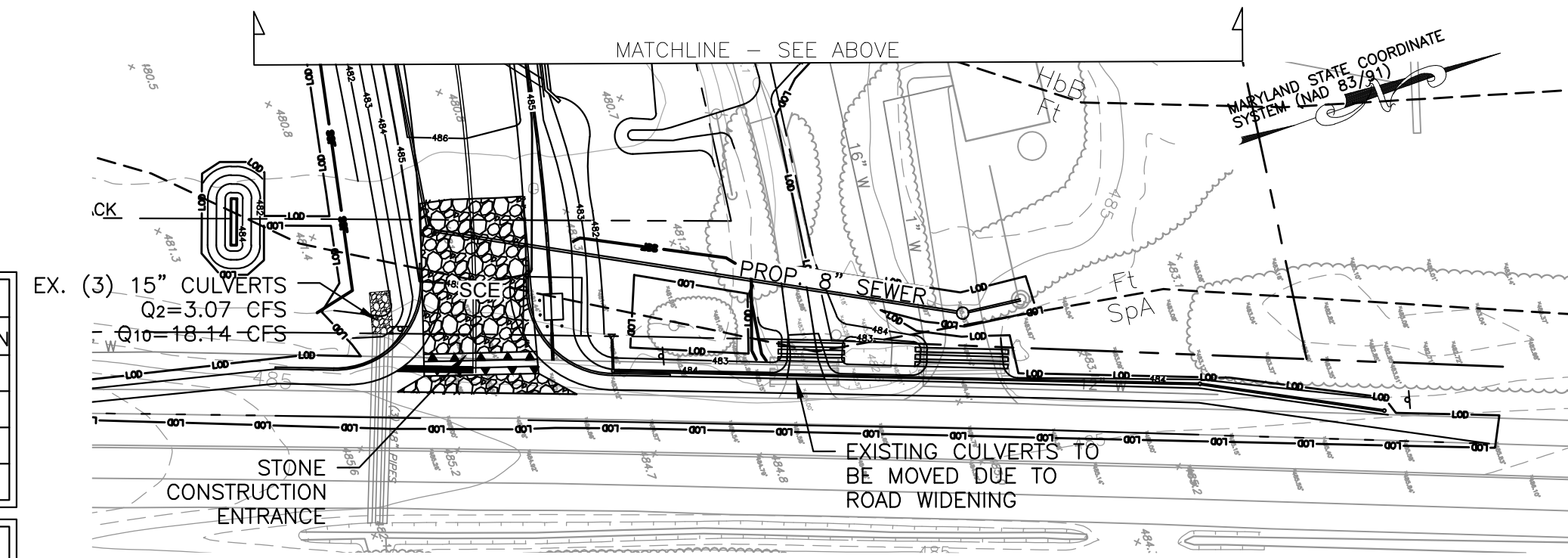
- PROPERTY LINE
- 220 --- EX. CONTOUR
- 485 --- PROP. CONTOUR
- PROP. EDGE OF ROAD
- PROP. SIDEWALK
- PROP. BUILDING
- PROP. STORM DRAIN PIPE
- PROP. WATER
- PROP. SEWER
- EX. TREE LINE
- EX. SOILS LINE
- LIMIT OF DISTURBANCE
- SILT FENCE
- SUPER SILT FENCE
- DIVERSION FENCE
- PERMANENT STABILIZATION MATTING
- TEMP. STABILIZATION MATTING
- SPECIMEN TREE
- SOIL BORINGS

PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33772 EXP. DATE: 06/16/2021



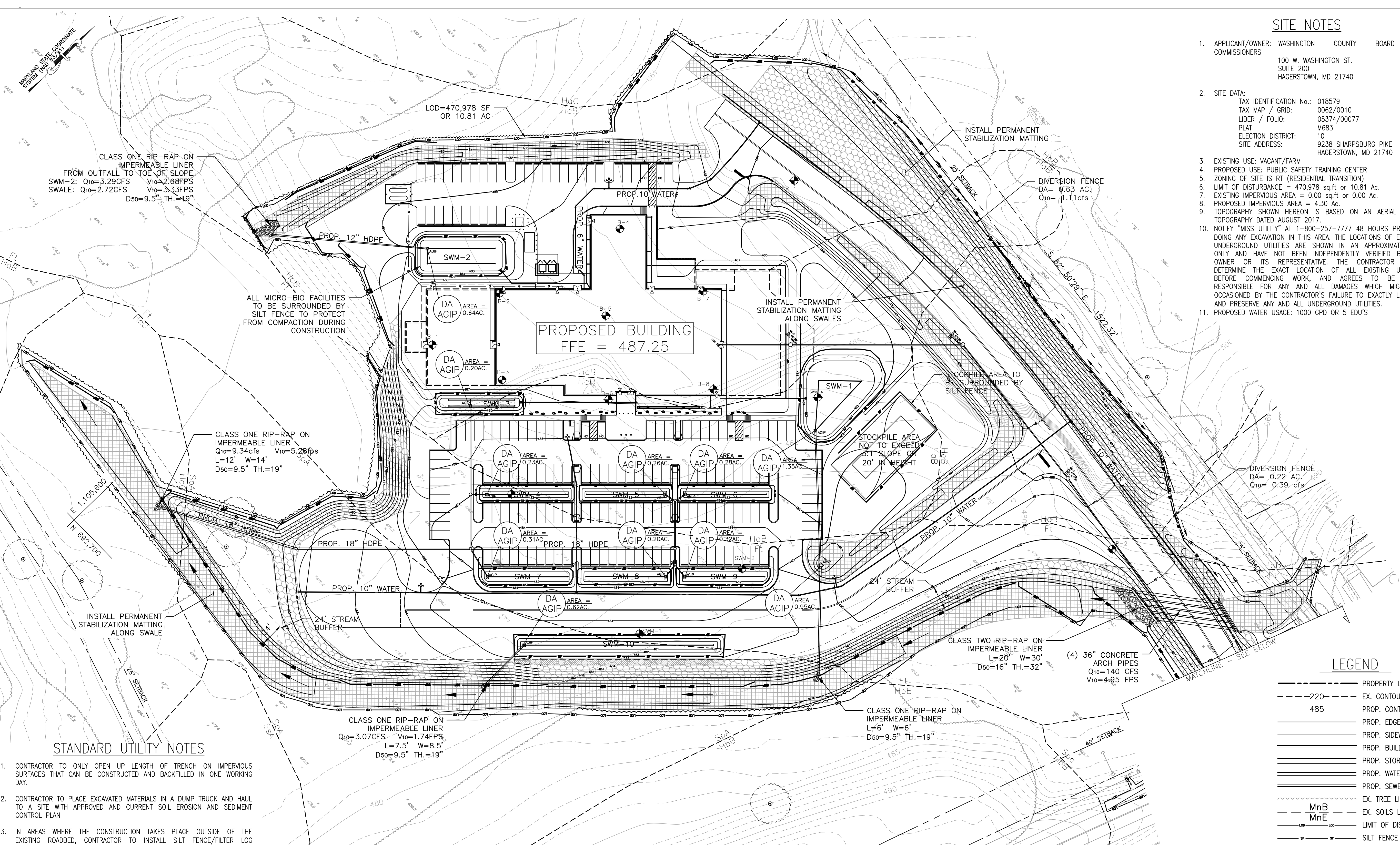
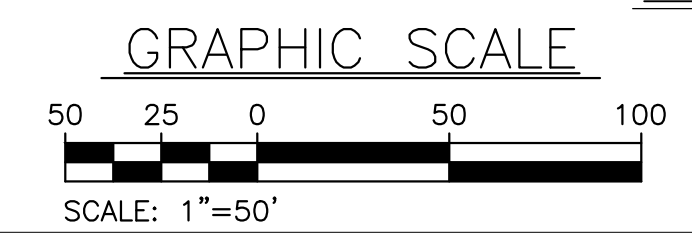
SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1"=50'



SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1"=50'



STANDARD UTILITY NOTES

1. CONTRACTOR TO ONLY OPEN UP LENGTH OF TRENCH ON IMPERVIOUS SURFACES THAT CAN BE CONSTRUCTED AND BACKFILLED IN ONE WORKING DAY.
2. CONTRACTOR TO PLACE EXCAVATED MATERIALS IN A DUMP TRUCK AND HAUL TO A SITE WITH APPROVED AND CURRENT SOIL EROSION AND SEDIMENT CONTROL PLAN
3. IN AREAS WHERE THE CONSTRUCTION TAKES PLACE OUTSIDE OF THE EXISTING ROADBED, CONTRACTOR TO INSTALL SILT FENCE/FILTER LOG PRACTICES ALONG THE DOWNHILL SIDE OF THE TRENCH (AS APPLICABLE) BEFORE BEGINNING CONSTRUCTION AND PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE.
4. IF DEWATERING OF THE TRENCH IS REQUIRED, CONTRACTOR TO PUMP WATER TO A FILTER BAG TO DEWATER.
5. CONTRACTOR TO SWEEP STREETS OF ANY DEBRIS OR SEDIMENTS CAUSED BY CONSTRUCTION OPERATIONS AND DISPOSE OF AT AN APPROVED LOCATION.
6. CONTRACTOR TO STABILIZE ALL DISTURBED AREAS WITH SEED & MULCH OR APPROPRIATE STREET REPAIR.

SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	PERCENT SLOPE (%)	Kf VALUE	HYDRAULIC HYDRIC SOILS GROUP (Y/N)
Ft	FUNKSTOWN SILT LOAM	—	0.37	C NO
HaB	HAGERSTOWN SILT LOAM	3-8	0.37	B NO
HaC	HAGERSTOWN SILT LOAM	8-15	0.37	B NO
HbB	HAGERSTOWN SILTY CLAY LOAM	3-8	0.32	B NO
HbC	HAGERSTOWN SILTY CLAY LOAM	8-15	0.32	B NO
HcB	HAGERSTOWN-ROCK OUTCROP COMPLEX	3-8	0.32	B NO
HcC	HAGERSTOWN-ROCK OUTCROP COMPLEX	8-15	0.32	B NO
SpA	SWANPOND SILT LOAM	0-3	0.43	D NO
SsA	SWANPOND-FUNKSTOWN SILT LOAMS	0-3	0.43	D NO

BUILDING BORINGS

BORING	NORTHING	EASTING	ELEVATION
B-1	693084.72	1105726.74	485.25'
B-2	693170.06	1105736.79	486.00'
B-3	693110.51	1105801.61	485.18'
B-4	693303.35	1105775.16	488.42'
B-5	693232.02	1105828.38	486.94'
B-6	693173.90	1105891.42	482.42'
B-7	693319.64	1105879.74	488.93'
B-8	693257.53	1105958.30	486.78'

SWM BORINGS

BORING	NORTHING	EASTING	ELEVATION
SWM-1	693030.63	1105726.74	477.70'
SWM-2	693151.20	1106109.20	477.90'
SWM-3	693036.25	1105891.37	477.63'
SWM-4	693327.66	1106038.14	481.65'

PAVEMENT BORINGS

BORING	NORTHING	EASTING	ELEVATION
P-1	693464.56	1105863.78	494.30'
P-2	693434.23	1106357.57	481.50'
P-3	693226.88	1105656.07	486.50'

SOIL SYMBOL	SOIL DESCRIPTION	PERCENT SLOPE (%)	Kf VALUE	HYDRAULIC SOILS GROUP	HYDRIC SOILS GROUP (Y/N)
Ft	FUNKSTOWN SILT LOAM	-	0.37	C	NO
HaB	HAGERSTOWN SILT LOAM	3-8	0.37	B	NO
HaC	HAGERSTOWN SILT LOAM	8-15	0.37	B	NO
HbB	HAGERSTOWN SILTY CLAY LOAM	3-8	0.32	B	NO
HbC	HAGERSTOWN SILTY CLAY LOAM	8-15	0.32	B	NO
HcB	HAGERSTOWN-ROCK OUTCROP COMPLEX	3-8	0.32	B	NO
HcC	HAGERSTOWN-ROCK OUTCROP COMPLEX	8-15	0.32	B	NO
SpA	SWANPOND SILT LOAM	0-3	0.43	D	NO
SsA	SWANPOND-FUNKSTOWN SILT LOAMS	0-3	0.43	D	NO

BUILDING BORINGS			
BORING	NORTHING	EASTING	ELEVATION
B-1	693084.72	1105726.74	485.25'
B-2	693170.06	1105736.79	486.00'
B-3	693110.51	1105801.61	485.18'
B-4	693303.35	1105775.16	488.42'
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B-7	693319.64	1105879.74	488.93'
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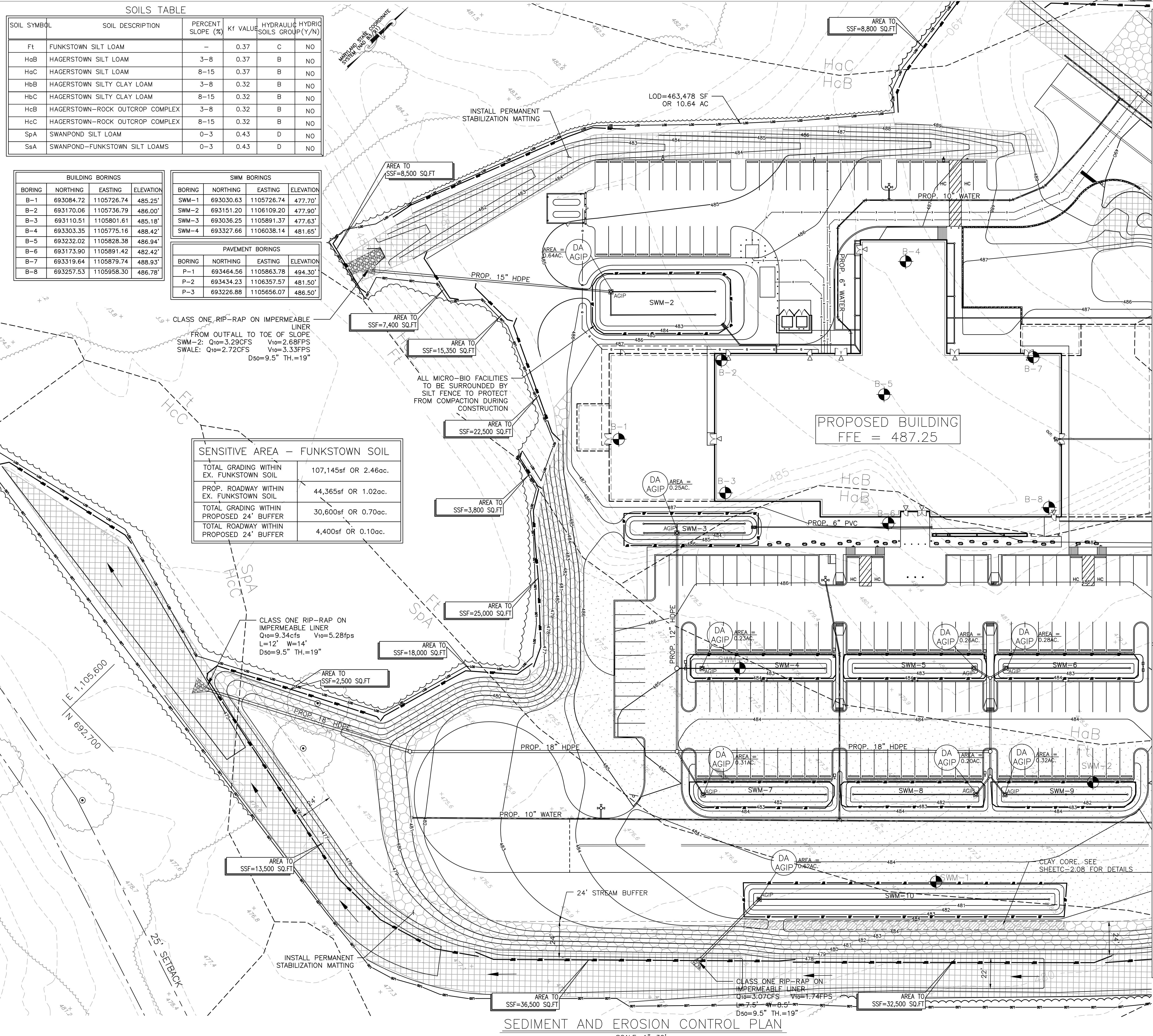
SWM BORINGS			
BORING	NORTHING	EASTING	ELEVATION
SWM-1	693030.63	1105726.74	477.70'
SWM-2	693151.20	1106109.20	477.90'
SWM-3	693036.25	1105891.37	477.63'
SWM-4	693327.66	1106038.14	481.65'

PAVEMENT BORINGS			
BORING	NORTHING	EASTING	ELEVATION
P-1	693464.56	1105863.78	494.30'
P-2	693434.23	1106357.57	481.50'
P-3	693226.88	1105656.07	486.50'

CLASS ONE RIP-RAP ON IMPERMEABLE LINER FROM OUTFALL TO TOE OF SLOPE
 SWM-2: $Q_{10}=3.29CFS$ $V_{10}=2.68FPS$
 SWALE: $Q_{10}=2.72CFS$ $V_{10}=3.33FPS$
 $D_{50}=9.5"$ $TH=19"$

SENSITIVE AREA - FUNKSTOWN SOIL	
TOTAL GRADING WITHIN EX. FUNKSTOWN SOIL	107,145sf OR 2.46ac.
PROP. ROADWAY WITHIN EX. FUNKSTOWN SOIL	44,365sf OR 1.02ac.
TOTAL GRADING WITHIN PROPOSED 24' BUFFER	30,600sf OR 0.70ac.
TOTAL ROADWAY WITHIN PROPOSED 24' BUFFER	4,400sf OR 0.10ac.

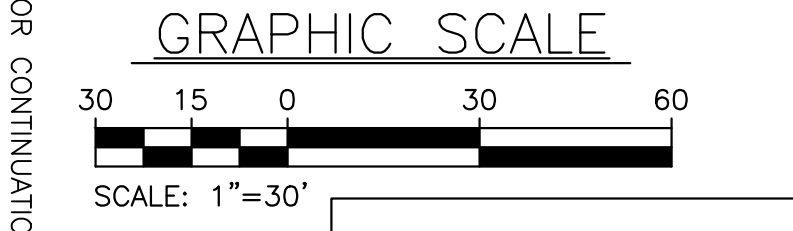
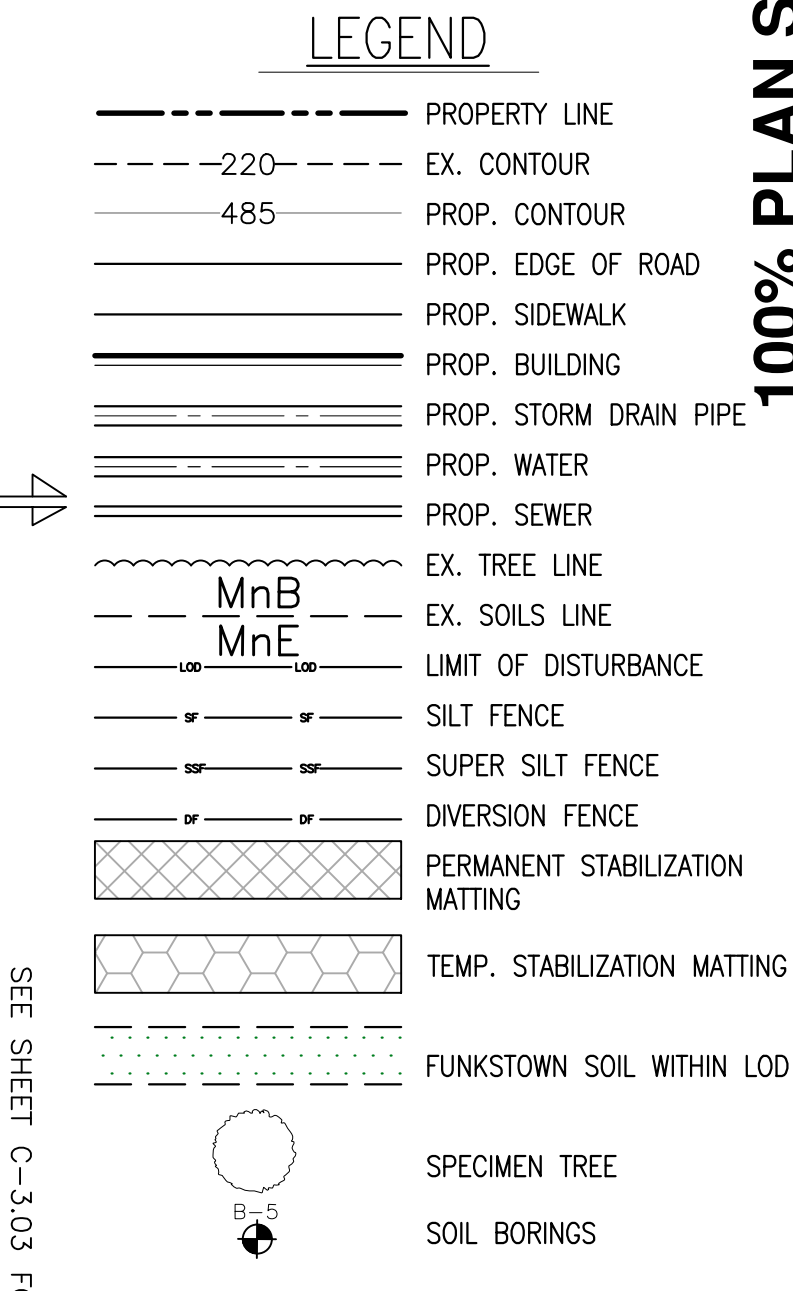
CLASS ONE RIP-RAP ON IMPERMEABLE LINER
 $Q_{10}=9.34cfs$ $V_{10}=5.28fps$
 $L=12'$ $W=14'$
 $D_{50}=9.5"$ $TH=19"$



SEE SHEET C-3.02 FOR CONTINUATION

SEE SHEET C-3.03 FOR CONTINUATION

- ### SITE NOTES
- APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST. SUITE 200 HAGERSTOWN, MD 21740
 - SITE DATA:
TAX IDENTIFICATION No.: 018579
TAX MAP / GRID: 0062/0010
LIBER / FOLIO: 05374/00077
M&B3
ELECTION DISTRICT: 10
SITE ADDRESS: 18350 PUBLIC SAFETY PL HAGERSTOWN, MD 21740
 - EXISTING USE: VACANT/FARM
 - PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
 - ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
 - LIMIT OF DISTURBANCE = 470,978 sq.ft or 10.81 Ac.
 - EXISTING IMPERVIOUS AREA = 0.00 sq.ft or 0.00 Ac.
 - PROPOSED IMPERVIOUS AREA = 4.30 Ac.
 - TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
 - NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
 - PROPOSED WATER USAGE: 1000 GPD OR 5 EDU'S



REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS
 401 EAST WINDING HILL ROAD
 717-458-0272 FAX 717-458-0047

www.cra-architects.com

PROPOSED NEW
 WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
 WASHINGTON COUNTY PROJECT NO. 28-266
 18350 PUBLIC SAFETY PLACE
 HAGERSTOWN, MD 21740

OWNER
 WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST HAGERSTOWN, MD 21740
 240-313-220

CIVIL
 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F FULTON, MD 20759
 410-792-8086 (P)
 410-792-7419 (F)

07/31/19

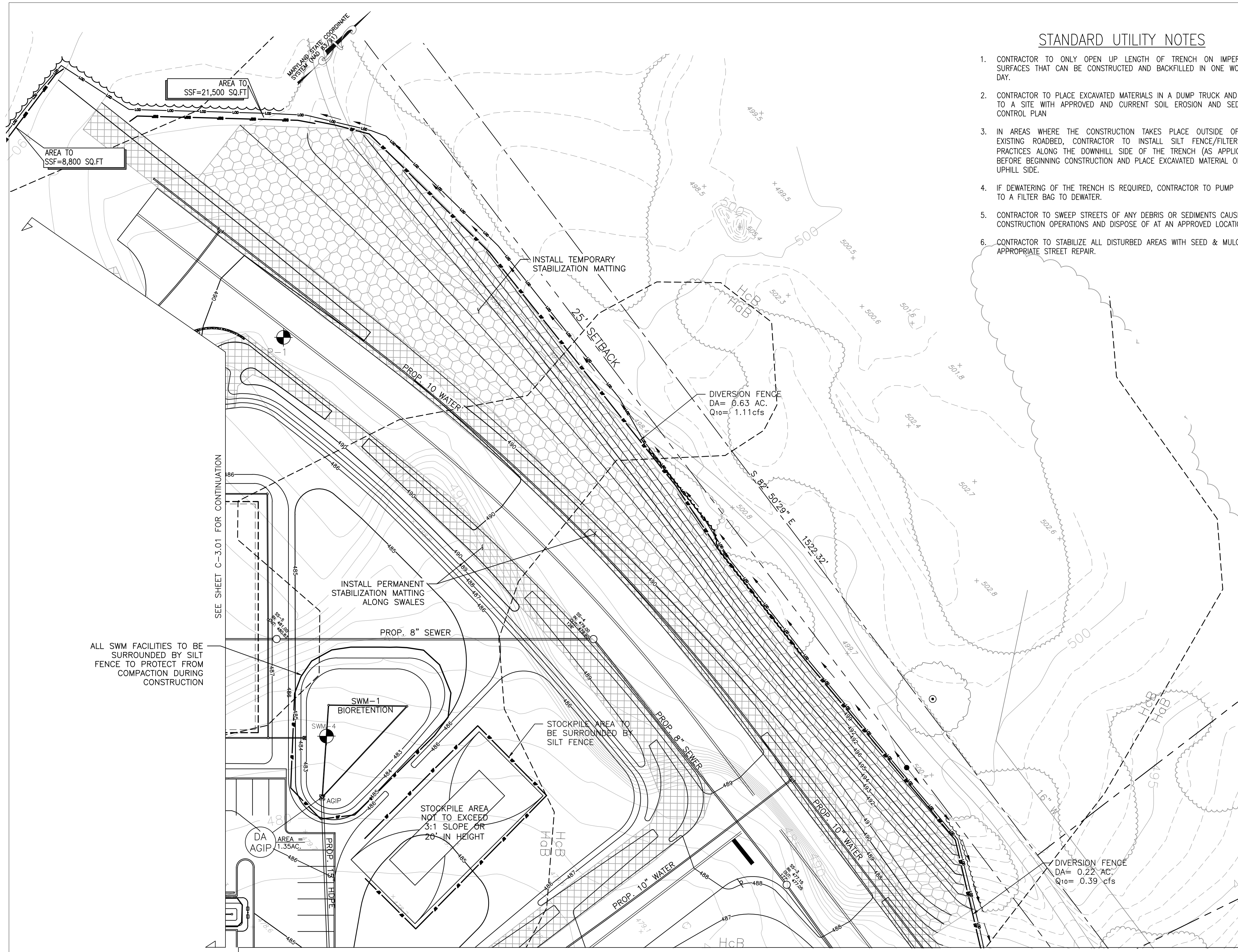
SEDIMENT & EROSION CONTROL PLAN

PLOT SCALE: 1:30
 FILENAME: KCI# 271703606
 DATE: 7/25/19

PROJECT
 3089
C-3.01



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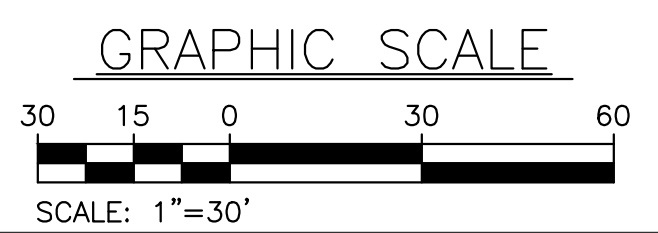
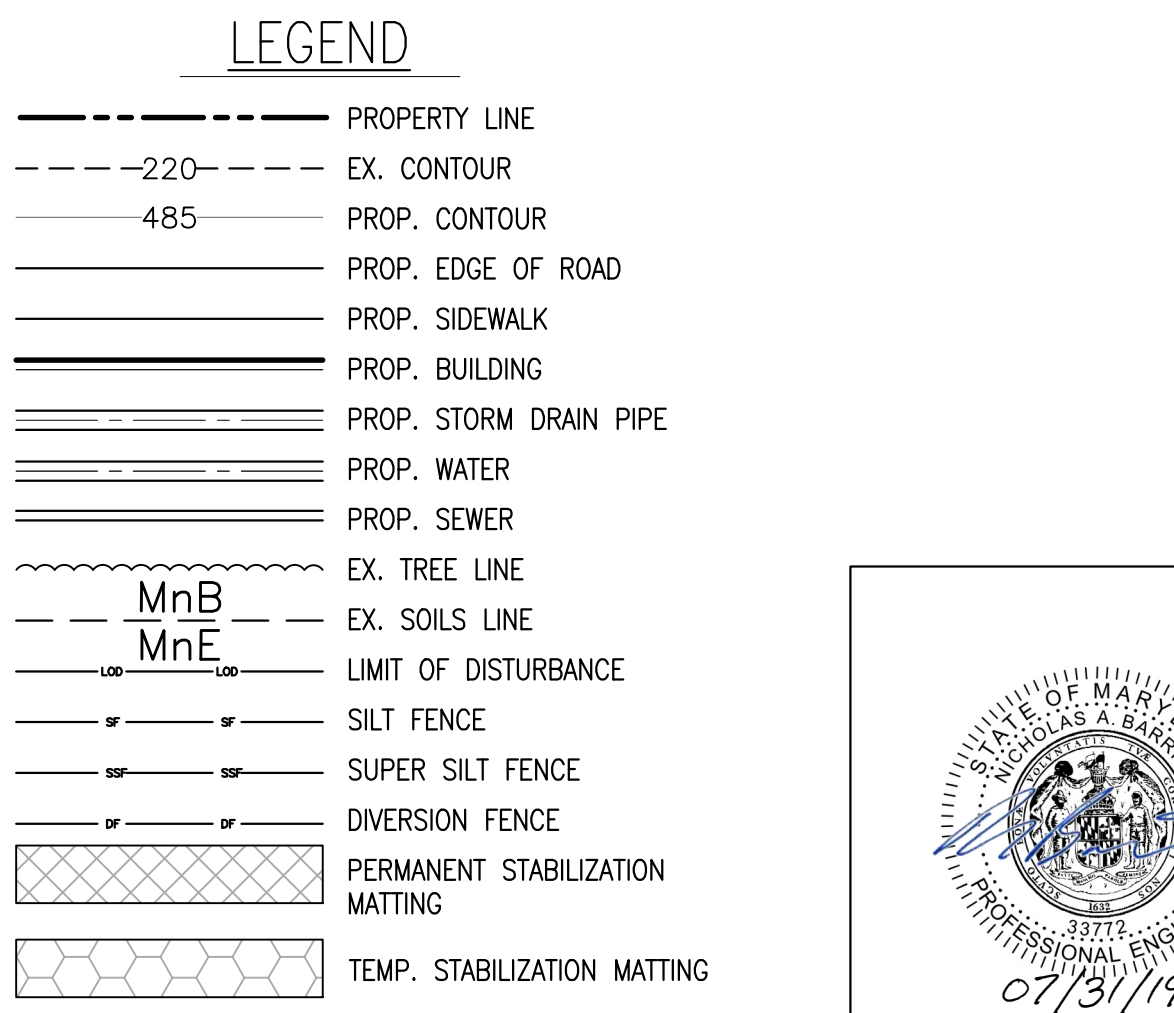
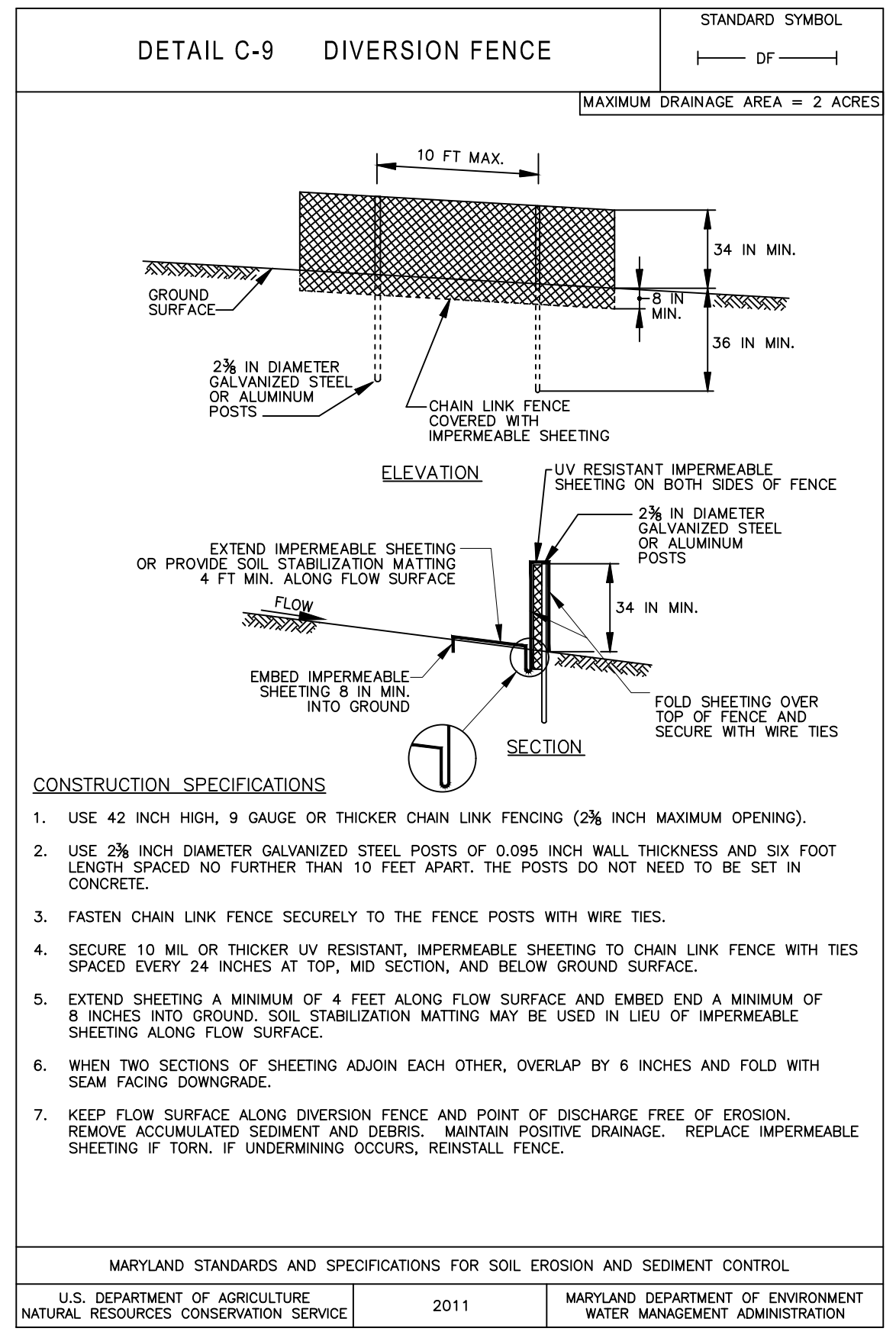
SEDIMENT AND EROSION CONTROL PLAN
SCALE: 1"=30'

STANDARD UTILITY NOTES

- CONTRACTOR TO ONLY OPEN UP LENGTH OF TRENCH ON IMPERVIOUS SURFACES THAT CAN BE CONSTRUCTED AND BACKFILLED IN ONE WORKING DAY.
- CONTRACTOR TO PLACE EXCAVATED MATERIALS IN A DUMP TRUCK AND HAUL TO A SITE WITH APPROVED AND CURRENT SOIL EROSION AND SEDIMENT CONTROL PLAN
- IN AREAS WHERE THE CONSTRUCTION TAKES PLACE OUTSIDE OF THE EXISTING ROADBED, CONTRACTOR TO INSTALL SILT FENCE/FILTER LOG PRACTICES ALONG THE DOWNHILL SIDE OF THE TRENCH (AS APPLICABLE) BEFORE BEGINNING CONSTRUCTION AND PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE.
- IF DEWATERING OF THE TRENCH IS REQUIRED, CONTRACTOR TO PUMP WATER TO A FILTER BAG TO DEWATER.
- CONTRACTOR TO SWEEP STREETS OF ANY DEBRIS OR SEDIMENTS CAUSED BY CONSTRUCTION OPERATIONS AND DISPOSE OF AT AN APPROVED LOCATION.
- CONTRACTOR TO STABILIZE ALL DISTURBED AREAS WITH SEED & MULCH OR APPROPRIATE STREET REPAIR.

SITE NOTES

- APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST.
SUITE 200
HAGERSTOWN, MD 21740
- SITE DATA:
TAX IDENTIFICATION No.: 018579
TAX MAP / GRID: 0062/0010
LIBER / FOLIO: 05374/00077
PLAT: M683
ELECTION DISTRICT: 10
SITE ADDRESS: 18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740
- EXISTING USE: VACANT/FARM
- PROPOSED USE: PUBLIC SAFETY TRAINING CENTER
- ZONING OF SITE IS RT (RESIDENTIAL TRANSITION)
- LIMIT OF DISTURBANCE = 470,978 sq.ft or 10.81 Ac.
- EXISTING IMPERVIOUS AREA = 0.00 sq.ft or 0.00 Ac.
- PROPOSED IMPERVIOUS AREA = 4.30 Ac.
- TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL FLOWN TOPOGRAPHY DATED AUGUST 2017.
- NOTIFY "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- PROPOSED WATER USAGE: 1000 GPD OR 5 EDU'S



SOILS TABLE

SOIL SYMBOL	SOIL DESCRIPTION	PERCENT SLOPE (%)	Kf VALUE	HYDRAULIC SOILS GROUP	HYDRIC (Y/N)
Ft	FUNKSTOWN SILT LOAM	-	0.37	C	NO
HoB	HAGERSTOWN SILT LOAM	3-8	0.37	B	NO
HoC	HAGERSTOWN SILT LOAM	8-15	0.37	B	NO
HbB	HAGERSTOWN SILTY CLAY LOAM	3-8	0.32	B	NO
HbC	HAGERSTOWN SILTY CLAY LOAM	8-15	0.32	B	NO
HcB	HAGERSTOWN-ROCK OUTCROP COMPLEX	3-8	0.32	B	NO
HcC	HAGERSTOWN-ROCK OUTCROP COMPLEX	8-15	0.32	B	NO
SpA	SWANPOND SILT LOAM	0-3	0.43	D	NO
SsA	SWANPOND-FUNKSTOWN SILT LOAMS	0-3	0.43	D	NO

BUILDING BORINGS			
BORING	NORTHING	EASTING	ELEVATION
B-1	693084.72	1105726.74	485.25'
B-2	693170.06	1105736.79	486.00'
B-3	693110.51	1105801.61	485.18'
B-4	693303.35	1105775.16	488.42'
B-5	693232.02	1105828.38	486.94'
B-6	693173.90	1105891.42	482.42'
B-7	693319.64	1105879.74	488.93'
B-8	693257.53	1105958.30	486.78'

SWM BORINGS			
BORING	NORTHING	EASTING	ELEVATION
SWM-1	693030.63	1105726.74	477.70'
SWM-2	693151.20	1106109.20	477.90'
SWM-3	693036.25	1105891.37	477.63'
SWM-4	693327.66	1106038.14	481.65'

PAVEMENT BORINGS			
BORING	NORTHING	EASTING	ELEVATION
P-1	693464.56	1105863.78	494.30'
P-2	693434.23	1106357.57	481.50'
P-3	693226.88	1105656.07	486.50'



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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

100% PLAN SET

CRABTREE ROHRBAUGH & ASSOCIATES - ARCHITECTS
401 EAST WINDING HILL ROAD
717-458-0272 FAX 717-458-0047
www.cra-architects.com

PROPOSED NEW
WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER
WASHINGTON COUNTY PROJECT NO. 28-266
18350 PUBLIC SAFETY PLACE
HAGERSTOWN, MD 21740

OWNER
WASHINGTON COUNTY BOARD OF COMMISSIONERS
100 W. WASHINGTON ST
HAGERSTOWN, MD 21740
240-313-220

CIVIL
KCI TECHNOLOGIES, INC.
11830 W. MARKET PLACE, SUITE F
FULTON, MD 20759
410-792-8086 (P)
410-792-7419 (F)

PROJECT
3089
C-3.02

SEDIMENT & EROSION CONTROL PLAN
PLOT SCALE: 1:30
FILENAME: KCI# 271703606
DATE: 7/25/19

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33772 EXP. DATE: 06/16/2021



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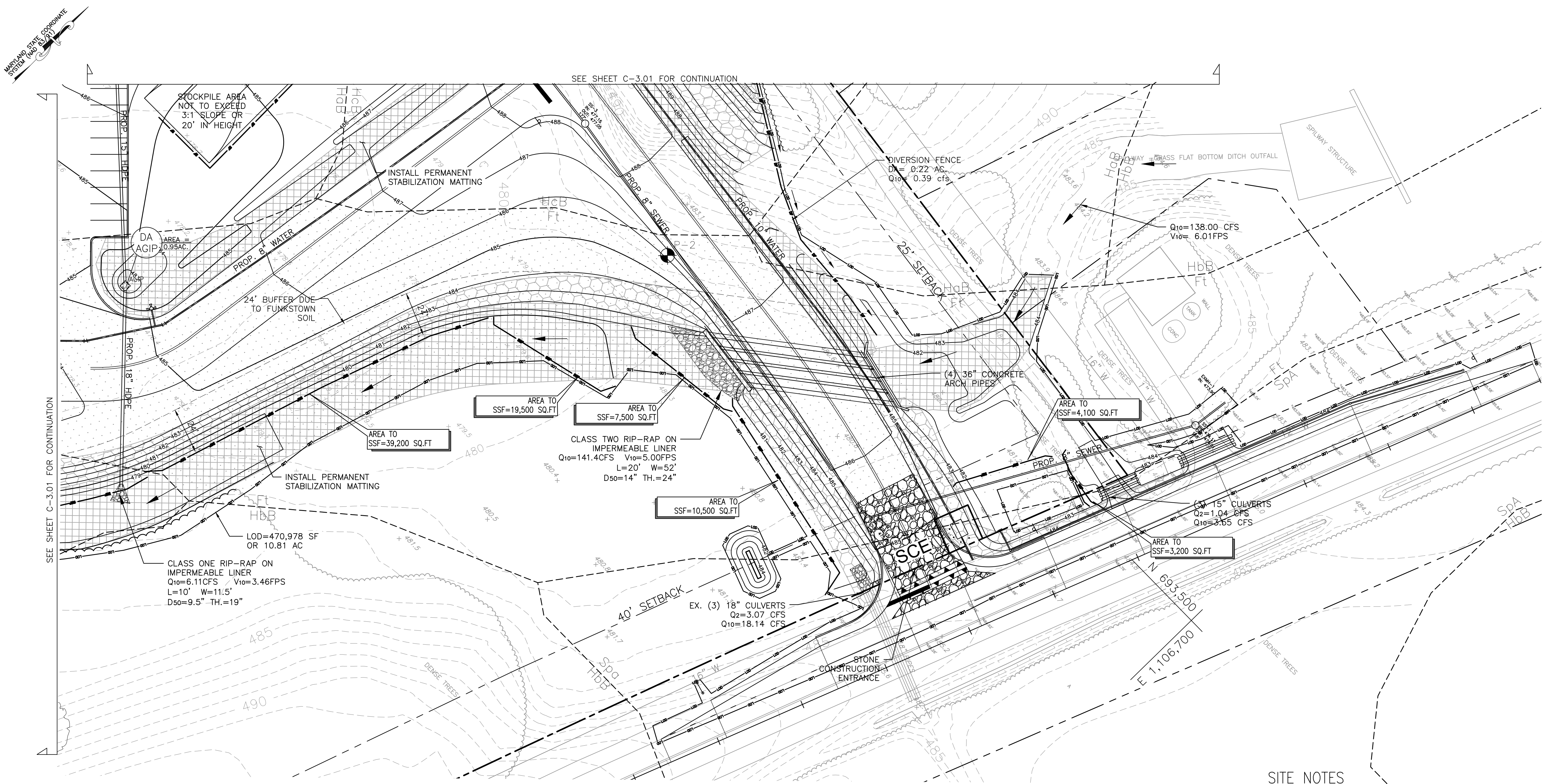
CIVIL
 KCI TECHNOLOGIES, INC.
 11830 W. MARKET PLACE, SUITE F
 FULTON, MD 21759
 410-792-8086 (P)
 410-792-7419 (F)

PROJECT
 3089
C-3.03

SEDIMENT & EROSION CONTROL PLAN

PLOT SCALE: 1:30
 FILENAME: KCI# 271703606
 DATE: 7/25/19

100% PLAN SET



SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1"=30'

SITE NOTES

- APPLICANT/OWNER: WASHINGTON COUNTY BOARD OF COMMISSIONERS
 100 W. WASHINGTON ST.
 SUITE 1101
 HAGERSTOWN, MD 21740
- SITE DATA:
 TAX IDENTIFICATION No.: 018579
 TAX MAP / GRID: 0062/0010
 LIBER / FOLIO: 05374/00077
 PLAT: M683
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- PROPOSED WATER USAGE: 1000 GPD OR 5 EDU'S

LEGEND

- PROPERTY LINE
- - - - - EX. CONTOUR
- 485 --- PROP. CONTOUR
- PROP. EDGE OF ROAD
- PROP. SIDEWALK
- PROP. BUILDING
- PROP. STORM DRAIN PIPE
- PROP. WATER
- PROP. SEWER
- EX. TREE LINE
- MnB --- EX. SOILS LINE
- MnE --- LIMIT OF DISTURBANCE
- SILT FENCE
- SUPER SILT FENCE
- DIVERSION FENCE
- PERMANENT STABILIZATION MATTING
- TEMP. STABILIZATION MATTING
- FUNKSTOWN SOIL WITHIN LOD
- SPECIMEN TREE
- SOIL BORINGS

SENSITIVE AREA - FUNKSTOWN SOIL

TOTAL GRADING WITHIN EX. FUNKSTOWN SOIL	107,145sf OR 2.46ac.
PROP. ROADWAY WITHIN EX. FUNKSTOWN SOIL	44,365sf OR 1.02ac.
TOTAL GRADING WITHIN PROPOSED 24' BUFFER	30,600sf OR 0.70ac.
TOTAL ROADWAY WITHIN PROPOSED 24' BUFFER	4,400sf OR 0.10ac.

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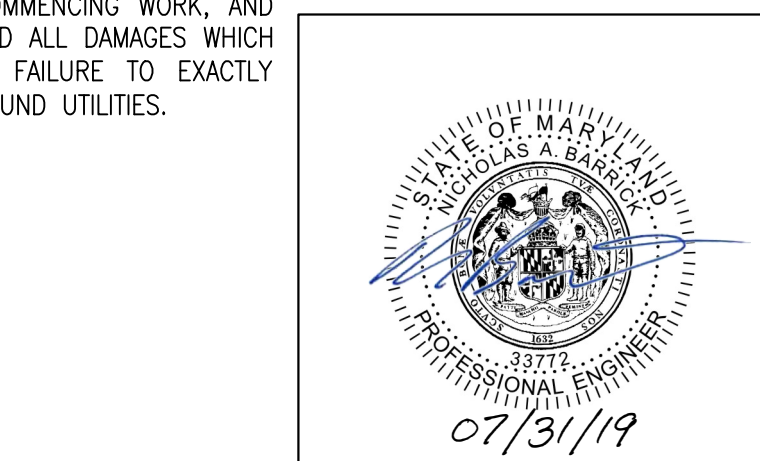
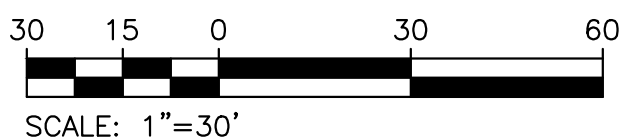
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GRAPHIC SCALE



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021

STANDARDS AND SPECIFICATIONS FOR LAND GRADING

DESIGN CRITERIA

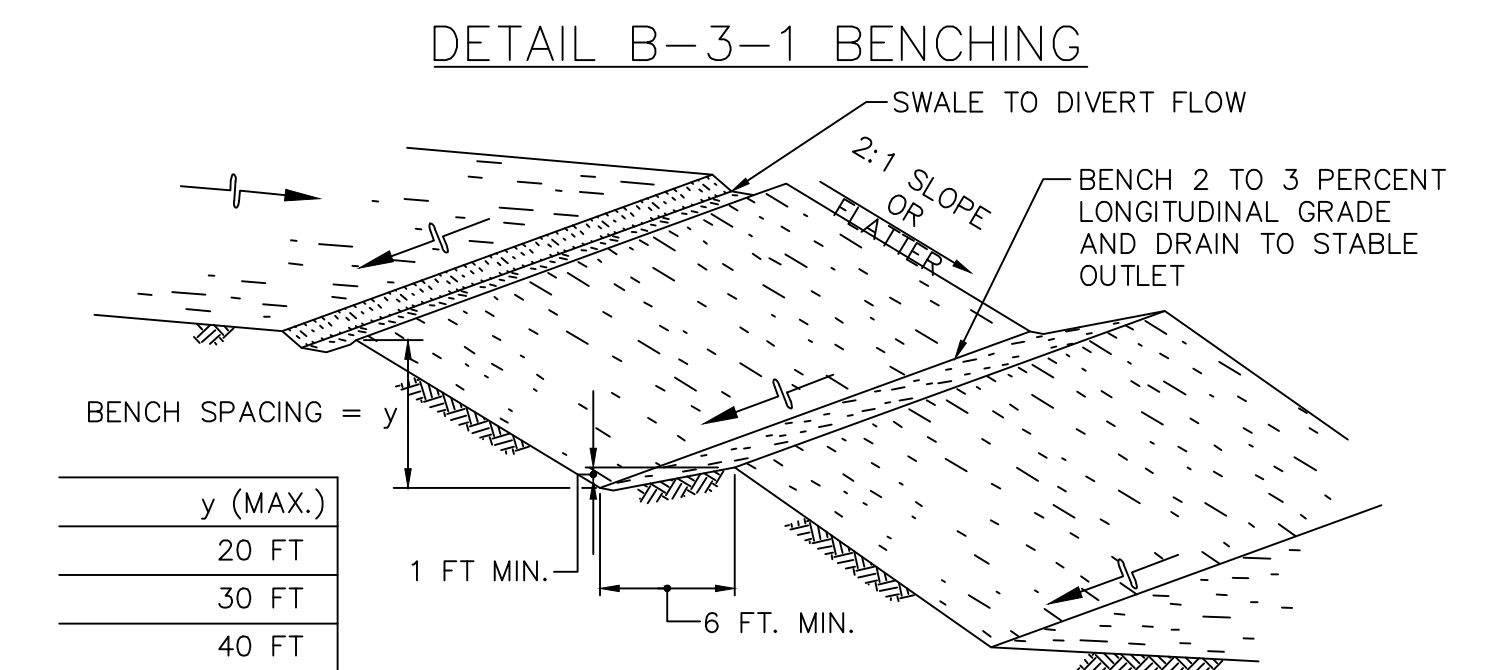
THE GRADING PLAN SHOULD BE BASED ON THE INCORPORATION OF BUILDING DESIGNS AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADE MODIFICATIONS. INFORMATION SUBMITTED MUST PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE LIMITATIONS THAT MUST BE IMPOSED ON THE GRADING OPERATION RELATED TO SLOPE STABILITY, ADJACENT PROPERTIES, DRAINAGE PATTERNS, MEASURES FOR WATER REMOVAL, AND VEGETATIVE TREATMENT, ETC.

MANY JURISDICTIONS HAVE REGULATIONS AND DESIGN PROCEDURES ALREADY ESTABLISHED FOR LAND GRADING THAT MUST BE FOLLOWED. THE PLAN MUST SHOW EXISTING AND PROPOSED CONTOURS FOR THE AREA(S) TO BE GRADED INCLUDING PRACTICES FOR EROSION CONTROL, SLOPE STABILIZATION, AND SAFE CONVEYANCE OF RUNOFF (E.G., WATERWAYS, LINED CHANNELS, REVERSE BENCHES, GRADE STABILIZATION STRUCTURES). THE GRADING/CONSTRUCTION PLANS ARE TO INCLUDE THE PHASING OF THESE PRACTICES AND CONSIDERATION OF THE FOLLOWING:

- PROVISIONS TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.
- CUT AND FILL SLOPES, STABILIZED WITH GRASSES, NO STEEPER THAN 2:1. (WHERE THE SLOPE IS TO BE MOWED, THE SLOPE SHOULD BE NO STEEPER THAN 3:1, BUT 4:1 IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOWING STEEP SLOPES.) SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL DESIGN AND STABILIZATION CONSIDERATIONS TO BE SHOWN ON THE PLANS.
- BENCHING PER DETAIL B-3-1 WHENEVER THE VERTICAL INTERVAL (HEIGHT) OF ANY 2:1 SLOPE EXCEEDS 20 FEET; FOR 3:1 SLOPES, WHEN IT EXCEEDS 30 FEET; AND FOR 4:1 SLOPES, WHEN IT EXCEEDS 40 FEET. LOCATE BENCHES TO DIVIDE THE SLOPE FACE AS EQUALLY AS POSSIBLE AND TO CONVEY THE WATER TO A STABLE OUTLET. SOILS, SEEPS, ROCK OUTCROPPINGS, ETC. ARE TO BE TAKEN INTO CONSIDERATION WHEN DESIGNING BENCHES.
 - PROVIDE BENCHES WITH A MINIMUM WIDTH OF SIX FEET FOR EASE OF MAINTENANCE.
 - DESIGN BENCHES WITH A REVERSE SLOPE OF 6:1 OR FLATTER TO THE TOE OF THE UPPER SLOPE AND WITH A MINIMUM OF ONE FOOT IN DEPTH. GRADE THE LONGITUDINAL SLOPE OF THE BENCH BETWEEN 2 PERCENT AND 3 PERCENT, UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.
 - THE MAXIMUM ALLOWABLE FLOW LENGTH WITHIN A BENCH IS 800 FEET UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.
- DIVERSION OF SURFACE WATER FROM THE FACE OF ALL CUT AND FILL SLOPES USING EARTH DIKES OR SWALES. CONVEY SURFACE WATER DOWN SLOPE USING A DESIGNED STRUCTURE, AND:
 - PROTECT THE FACE OF ALL GRADED SLOPES FROM SURFACE RUNOFF UNTIL THEY ARE STABILIZED.
 - DO NOT SUBJECT THE SLOPE'S FACE TO ANY CONCENTRATED FLOW OF SURFACE WATER SUCH AS FROM NATURAL DRAINAGE WAYS, GRADED SWALES, DOWNSPOUTS, ETC.
 - PROTECT THE FACE OF THE SLOPE BY SPECIAL EROSION CONTROL MATERIALS TO INCLUDE, BUT NOT BE LIMITED TO, APPROVED VEGETATIVE STABILIZATION PRACTICES, RIPRAP OR OTHER APPROVED STABILIZATION METHODS.
- SERRATED SLOPE AS SHOWN IN DETAIL B-3-2. THE STEEPEST ALLOWABLE SLOPE FOR RIPAPABLE ROCK IS 1.5:1. FOR NON ROCK SURFACES, THE SLOPES ARE TO BE 2:1 OR FLATTER. THESE STEPS WILL WEATHER AND ACT TO HOLD MOISTURE, LIME, FERTILIZER AND SEED THUS PRODUCING A MUCH QUICKER AND LONGER LIVED VEGETATIVE COVER AND BETTER SLOPE STABILIZATION.
- SUBSURFACE DRAINAGE PROVISIONS. PROVIDE SUBSURFACE DRAINAGE WHERE NECESSARY TO INTERCEPT SEEPAGE THAT WOULD OTHERWISE ADVERSELY AFFECT SLOPE STABILITY OR CREATE EXCESSIVELY WET SITE CONDITIONS.
- PROXIMITY TO ADJACENT PROPERTY. SLOPES MUST NOT BE CREATED CLOSE TO PROPERTY LINES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED DAMAGES.
- QUALITY OF FILL MATERIAL. FILL MATERIAL MUST BE FREE OF BRUSH, RUBBISH, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIAL. DO NOT PLACE FROZEN MATERIALS IN THE FILL NOR PLACE THE FILL MATERIAL ON A FROZEN FOUNDATION.
- STABILIZATION. STABILIZE ALL DISTURBED AREAS STRUCTURALLY OR VEGETATIVELY IN COMPLIANCE WITH SECTION B-4 STANDARDS AND SPECIFICATIONS FOR STABILIZATION PRACTICES.

MAINTENANCE

THE LINE, GRADE, AND CROSS SECTION OF BENCHING AND SERRATED SLOPES MUST BE MAINTAINED. BENCHES AND SERRATED SLOPES MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.



CONSTRUCTION SPECIFICATIONS

- USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
- PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
- COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED MEASURES.
- MAINTAIN LINE, GRADE, AND CROSS SECTION OF BENCHING. STABILIZE IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION CRITERIA OR AS SPECIFIED ON II-E APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF EROSION CONTROL MATTING MAY BE NECESSARY IN BENCH/SWALE INVERTS. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.

- PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

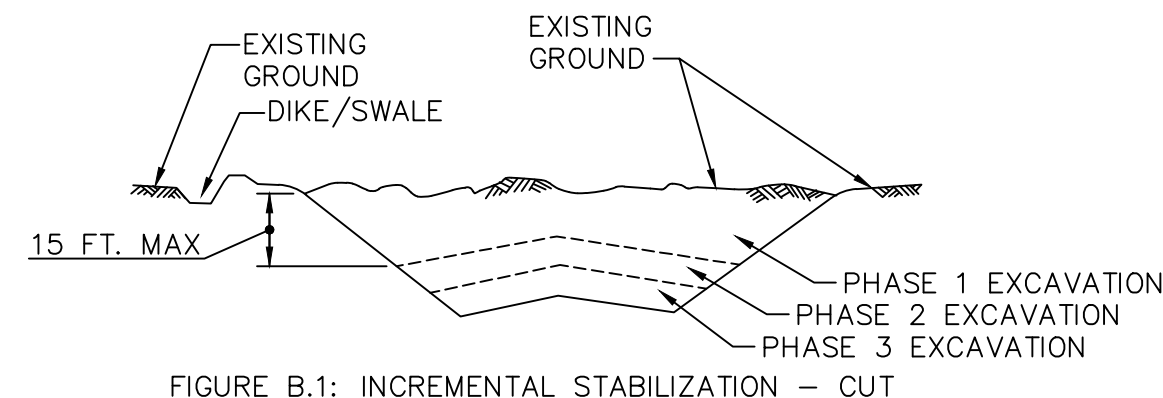


FIGURE B.1: INCREMENTAL STABILIZATION - CUT

- INCREMENTAL STABILIZATION - FILL SLOPES
 - CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
 - STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
 - 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.
 - CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
 - CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
 - 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.
 - PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
 - PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
 - PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

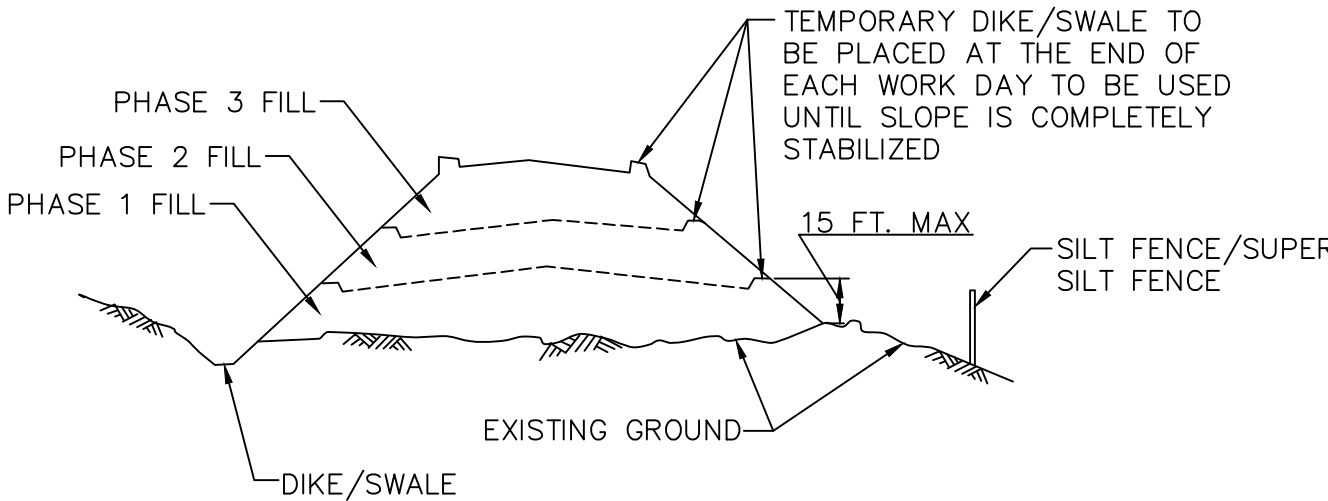


FIGURE B.2: INCREMENTAL STABILIZATION - FILL

STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- SOIL PREPARATION
 - TEMPORARY STABILIZATION
 - SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - PERMANENT STABILIZATION
 - A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - SOIL PH BETWEEN 6.0 AND 7.0.
 - SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE, AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
 - APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
 - MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

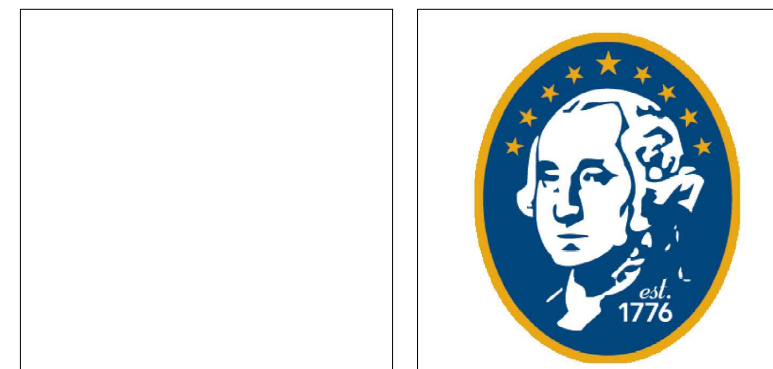
2. TOPSOILING

- TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
- TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
- TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
 - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
- TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
 - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.
 - TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
- TOPSOIL APPLICATION
 - EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 - UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING/AND SEEDBED PREPARATION.
- SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
 - 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. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
 - FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
 - LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
 - LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

SEQUENCE OF CONSTRUCTION

- NOTIFY WDCD AT 301-797-6821 (EXT. 3) AT LEAST (5) DAYS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING. NOTIFY THE WASHINGTON COUNTY ENGINEERING DEPARTMENT (240-313-2460) AT LEAST (5) DAYS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRE CONSTRUCTION MEETING.
- NOTIFY NOTIFY MISS UTILITY (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO STARTING WORK AT THE SITE.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE (SCE).
- PRIOR TO ANY CLEARING AND GRUBBING, THE LIMITS OF CLEARING MUST BE CLEARLY MARKED IN THE FIELD.
- INSTALL ALL PERIMETER SUPER SILT FENCE, SILT FENCE, AND DIVERSION FENCING.
- TEMPORARY SEED AND MULCH ALL TOPSOIL STOCKPILES IN ACCORDANCE WITH THE SOIL EROSION, SEDIMENT CONTROL, & SEEDING NOTES AND SUMMARIES.
- UPON THE INSTALLATION OF THE SEDIMENT CONTROL MEASURES, BEGIN GRADING FOR ENTRANCE ROAD AND INSTALL CULVERT PIPES. ONCE CULVERT PIPES ARE INSTALLED, GRADE BYPASS SWALE SO THAT RUNOFF IS DIRECTED AROUND THE SITE. DURING THE GRADING OF THE BYPASS SWALE, INSTALL CLAY CORE ALONG THE LOCATION OF SWM-10 SINCE THE FACILITY IS IN A FILL CONDITION. GRADING DONE WITHIN THE SWALE CHANNEL IS TO BE LINED WITH PERMANENT STABILIZATION MATTING.
- ONCE THE BYPASS SWALE IS STABILIZED, GRADING FOR THE NEW BUILDING, PARKING AND ENTRANCE ROADS IS TO BE COMPLETED. ALL SLOPES GREATER THAN 4:1 ARE TO BE STABILIZED WITH TEMPORARY STABILIZATION MATTING. ALL GRADING DONE WITHIN A SWALE NEEDS PERMANENT STABILIZATION MATTING. STORMWATER FACILITIES ARE TO BE SURROUNDED BY SILT FENCE AND PROTECTED FROM COMPACTION DURING CONSTRUCTION.
- CONSTRUCT PROPOSED UTILITIES FROM MD-65 ONTO THE SITE. EXCAVATING ONLY WHAT IS REQUIRED FOR INSTALLATION EACH DAY. BACKFILL TRENCH ONCE PIPE HAS BEEN INSTALLED AND INSPECTED. USE STEEL PLATES AS NECESSARY WITH PROPER TRAFFIC CONTROLS. NO STOCKPILING ALLOWED WITHIN RIGHT-OF-WAY.
- PERFORM PERMANENT SEEDING AND MULCHING IN ACCORDANCE WITH THE SOIL EROSION, SEDIMENT CONTROL, & SEEDING NOTES AND SUMMARIES.
- NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821, EXT 3 AND THE WASHINGTON COUNTY ENGINEERING DEPARTMENT AT 240-313-2460 AT LEAST (5) DAYS PRIOR TO THE CONSTRUCTION OF WATER QUALITY PRACTICES TO SCHEDULE AN INTERIM INSPECTION.
- ONCE ALL DISTURBED AREAS ARE STABILIZED, CONSTRUCT THE 9 MICRO-BIORETENTION FACILITIES AND THE ONE BIORETENTION FACILITY.
- NOTIFY THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT AT 301-797-6821, EXT 3 AND THE WASHINGTON COUNTY ENGINEERING DEPARTMENT AT 240-313-2460 AT LEAST (5) DAYS PRIOR TO THE REMOVAL OF ANY SOIL EROSION AND SEDIMENT CONTROL FEATURES TO SCHEDULE A FINAL SITE CLOSEOUT REVIEW MEETING. VEGETATION MUST MEET THE 95% OVERALL STABILIZATION REQUIREMENT PER THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL PRIOR TO SCHEDULING MEETING.
- APPLY FINAL SURFACE PAVING TO ALL PAVED AREAS. INSTALL ALL FEATURES PER THE SITE PLAN.

STABILIZE AREAS OF SOIL EROSION AND SEDIMENT CONTROL REMOVAL.



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REVISIONS

NO.	DATE	NAME	DESCRIPTION OF CHANGES

100% PLAN SET

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WASHINGTON COUNTY PROJECT NO. 28-266
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HAGERSTOWN, MD 21740

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WASHINGTON COUNTY BOARD OF COMMISSIONERS
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SEC NOTES AND DETAILS

PLOT SCALE:
FILENAME: KCI# 271703606
DATE: 7/25/19

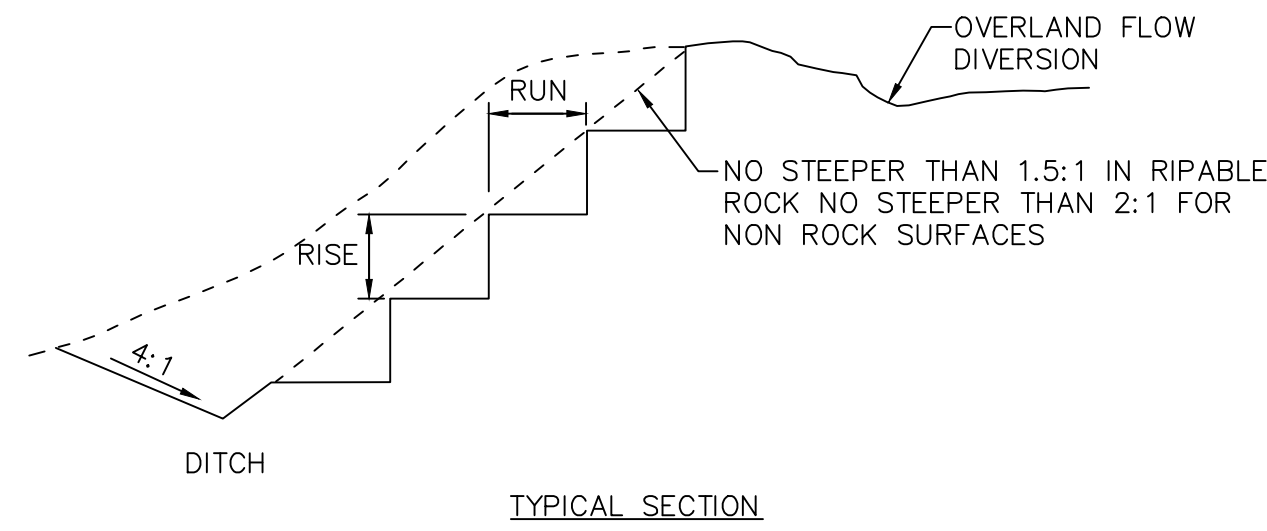
PROJECT
3089

C-3.05



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 33772 EXP. DATE: 06/16/2021

DETAIL B-3-2 SERRATED SLOPES



CONSTRUCTION SPECIFICATIONS

- DIVERT OVERLAND FLOW FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRY TO A SUITABLE OUTLET.
- MAKE SERRATIONS AS THE EXCAVATION PROGRESSES.
- CONSTRUCT EACH STEP OR SERRATION ON THE CONTOUR. RISE & RUN DIMENSIONS WILL VARY DEPENDING ON THE FINAL SLOPE RATIO. FOR RIPABLE ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND THREE FOOT HORIZONTAL (RUN) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 1.5:1. FOR NON ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND FOUR FOOT HORIZONTAL (RUNS) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 2:1.
- KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
- HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
- MAINTAIN LINE, GRADE, AND CROSS SECTION OF SERRATED SLOPES. TEMPORARILY OR PERMANENTLY STABILIZE ALL GRADED, NON ROCK SURFACES IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENTS OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION, MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

PURPOSE

TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES

ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY

STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS. PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPARATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE. SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

- ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUND COVER.
- IF AN AREA HAS LESS THAN 40 PERCENT GROUND COVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
- IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUND COVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
- MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

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

- INCREMENTAL STABILIZATION - CUT SLOPES
 - EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
 - CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
 - CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
 - PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
 - PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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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DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

CONSTRUCTION SPECIFICATIONS

- USE NOMINAL 2 INCH x 4 INCH LUMBER
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH), EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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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DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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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DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: ATG

CONSTRUCTION SPECIFICATIONS

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
- PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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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DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: PSSMC

CONSTRUCTION SPECIFICATIONS

- LANDLOK 435 TURF REINFORCEMENT MAT OR APPROVED EQUAL (8 LB/FT² SHEAR STRENGTH, 12 FT/SEC VELOCITY, 225X175 LBS/FT TENSILE STRENGTH, 50% ELONGATION, 80% RESILIENCY)
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST HAVE A MINIMUM 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEPT AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS

CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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100% PLAN SET

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SEC NOTES AND DETAILS

PROJECT
3089

PLOT SCALE:
FILENAME: KCI# 271303606
DATE: 7/25/19

C-3.06

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33772 EXP. DATE: 06/16/2021



