

P:\2017\17141801\Drawings\07-Site\17141801-C001-Cover Sheet.dwg Aug 15, 2024 3:56pm Plot By: remith

STANDARD RESPONSIBILITY NOTES:

1.

I (WE) CERTIFY THAT:
- a.

ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT (AASCD) BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
- b.

ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. RESPONSIBLE PERSONNEL ON SITE:
- c.

IF APPLICABLE, THE APPROPRIATE ENCLOSURE WILL BE CONSTRUCTED AND MAINTAINED ON SEDIMENT BASIN(S) INCLUDED IN THIS PLAN. SUCH STRUCTURE(S) WILL BE IN COMPLIANCE WITH THE ANNE ARUNDEL COUNTY CODE.
2.

THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHT, AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORM WATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORM WATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THE PLAN.
3.

FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT AND/OR TEMPORARY STABILIZATION PER THE AASCD VEGETATIVE ESTABLISHMENT SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL CONTROL DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4.

THE GRADING AND SEDIMENT CONTROL APPROVAL ON THIS PLAN EXTENDS ONLY TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE.
5.

THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE DEVELOPER/CONSULTANT FROM COMPLYING WITH FEDERAL, STATE OR COUNTY REQUIREMENTS PERTAINING TO ENVIRONMENTAL ISSUES.
6.

THE DEVELOPER MUST REQUEST THAT THE SEDIMENT AND EROSION CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT, AND THE ORDINANCE.
7.

ALL MATERIAL SHALL BE TAKEN TO A SITE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
8.

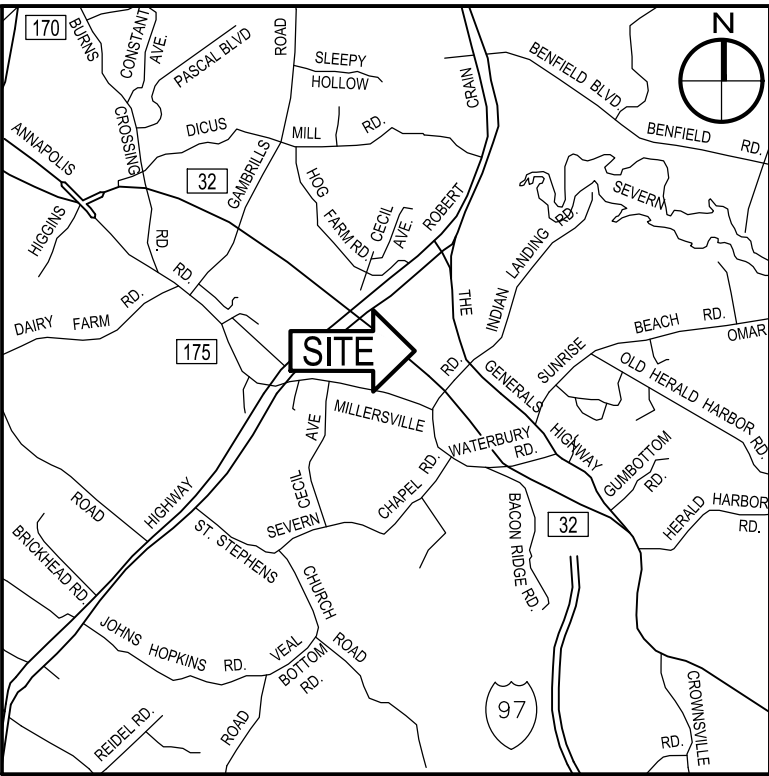
FIRST PHASE INSPECTION AND APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR SHALL BE REQUIRED UPON COMPLETION OF THE INSTALLATION OF EROSION AND SEDIMENT CONTROLS PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE SEDIMENT AND EROSION CONTROL INSPECTOR IS GIVEN. INSPECTION AND PERMITS MAY ALSO REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROL ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
9.

APPROVAL FROM THE INSPECTOR MUST BE REQUESTED ON FINAL STABILIZATION OF ALL SITES PRIOR TO REMOVAL OF SEDIMENT AND EROSION CONTROLS.
10.

EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED BY RESPONSIBLE PERSONNEL TO THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK.

ANNE ARUNDEL COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
MILLERSVILLE PARK
SITE DEVELOPMENT

CD REVIEW SUBMISSION - AUGUST 9th 2024
1580 MILLERSVILLE ROAD, MILLERSVILLE, MARYLAND 21108
PROJECT NO.: P567100, CONTRACT NO. P56702



VICINITY MAP
SCALE: 1" = 2,000'

SIGNATURE OF DEVELOPER/OWNER

DATE

PRINT NAME: David Braun

TITLE: Engineer Administrator

ADDRESS: ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

2662 RIVA ROAD

ANNAPOLIS, MARYLAND 21401

TELEPHONE NUMBER: (410) 222 - 7500

EMAIL ADDRESS: pwbrau78@aaacounty.org

CONSULTANT'S CERTIFICATION

THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASCD PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

MD P.E. LICENSE # 27734

MD LAND SURVEYOR LICENSE #

MD LANDSCAPE ARCHITECT #

NAME JESSE LINDSAY, P.E.

FIRM NAME TRANSYSTEMS

ADDRESS 300 E. JOPPA ROAD, SUITE 200

CITY TOWSON STATE MD ZIP CODE 21286

DATE

NOTE: THE CONSULTANT'S CERTIFICATION MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER IF THE SITE LIES WITHIN THE SEVERN RIVER WATERSHED.

GENERAL NOTES:

1.

THE PROPERTY DELINEATED HEREON IS SHOWN ON TAX MAP 30, GRID 23, PARCEL 147 AND IS LISTED IN THE NAME OF ANNE ARUNDEL COUNTY, MARYLAND AS RECORDED IN LIBER 20551 AT FOLIO 383 AMONG THE LAND RECORDS OF ANNE ARUNDEL COUNTY, MARYLAND.
2.

THE PROPERTY LIES WITHIN ZONE 'X' (AREA OF 0.2% ANNUAL CHANCE OF FLOOD) AS PLOTTED ON NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP, COMMUNITY PANEL MAP NO. 24003C0145E DATED OCTOBER 16, 2012 FOR ANNE ARUNDEL COUNTY, MARYLAND.
3.

NO TITLE REPORT FURNISHED. THIS SURVEY IS NOT A COMPREHENSIVE RECORD OF APPURTENANCES OR ENCUMBRANCES OF RECORD OR IN USE.
4.

THE BEARINGS SHOWN ON THIS SURVEY ARE IN THE MARYLAND COORDINATE SYSTEM NAD 83/91. THE VERTICAL DATUM IS NAVD 88.
5.

THIS FIELD RUN BOUNDARY AND TOPOGRAPHIC SURVEY WAS PERFORMED BY PENNONI ASSOCIATES, INC. ON OR ABOUT JULY 17, 2017.
6.

NO EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITION WAS OBSERVED AT THE TIME OF THE SURVEY.
7.

THE EXISTENCE OF VEGETATED OR TIDAL WETLANDS, WATERS OF THE U.S., AND/OR HAZARDOUS WASTES HAS BEEN NEITHER INVESTIGATED NOR CONFIRMED DURING THE PERFORMANCE OF THIS SURVEY.
8.

ADDITIONAL SPOT ELEVATIONS RESIDE IN THE ELECTRONIC VERSION OF THIS DRAWING BUT ARE NOT PLOTTED HEREON.
9.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE DESCRIPTION OF THE UNDERGROUND UTILITIES AS SHOWN HEREON WERE BASED SOLELY UPON FIELD OBSERVATIONS AND HAVE NOT BEEN COMPARED TO OR VERIFIED WITH RECORD UTILITY DRAWINGS OR FIELD TEST PITS. THE SIZE, TYPE AND LOCATION OF THE UTILITY LINES SHOULD BE VERIFIED BY THE USER OF THIS DRAWING.
10.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ACTUAL SITE CONDITIONS PRIOR TO THE START OF ANY WORK. THERE IS NO WARRANTY OR GUARANTEE ON THE COMPLETENESS OR CORRECTNESS OF THE EXISTING CONDITION INFORMATION. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO THE START OF ANY WORK.
11.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" AT 1-800-257-7777 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION WORK.
12.

THE WORDS "CERTIFY" OR "CERTIFICATION" AS USED HEREON ARE UNDERSTOOD TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY THE UNDERSIGNED SURVEYOR, BASED UPON HIS BEST KNOWLEDGE, INFORMATION, AND BELIEF, AS SUCH, IT DOES NOT CONSTITUTE A GUARANTEE NOR A WARRANTY, EXPRESSED OR IMPLIED.
13.

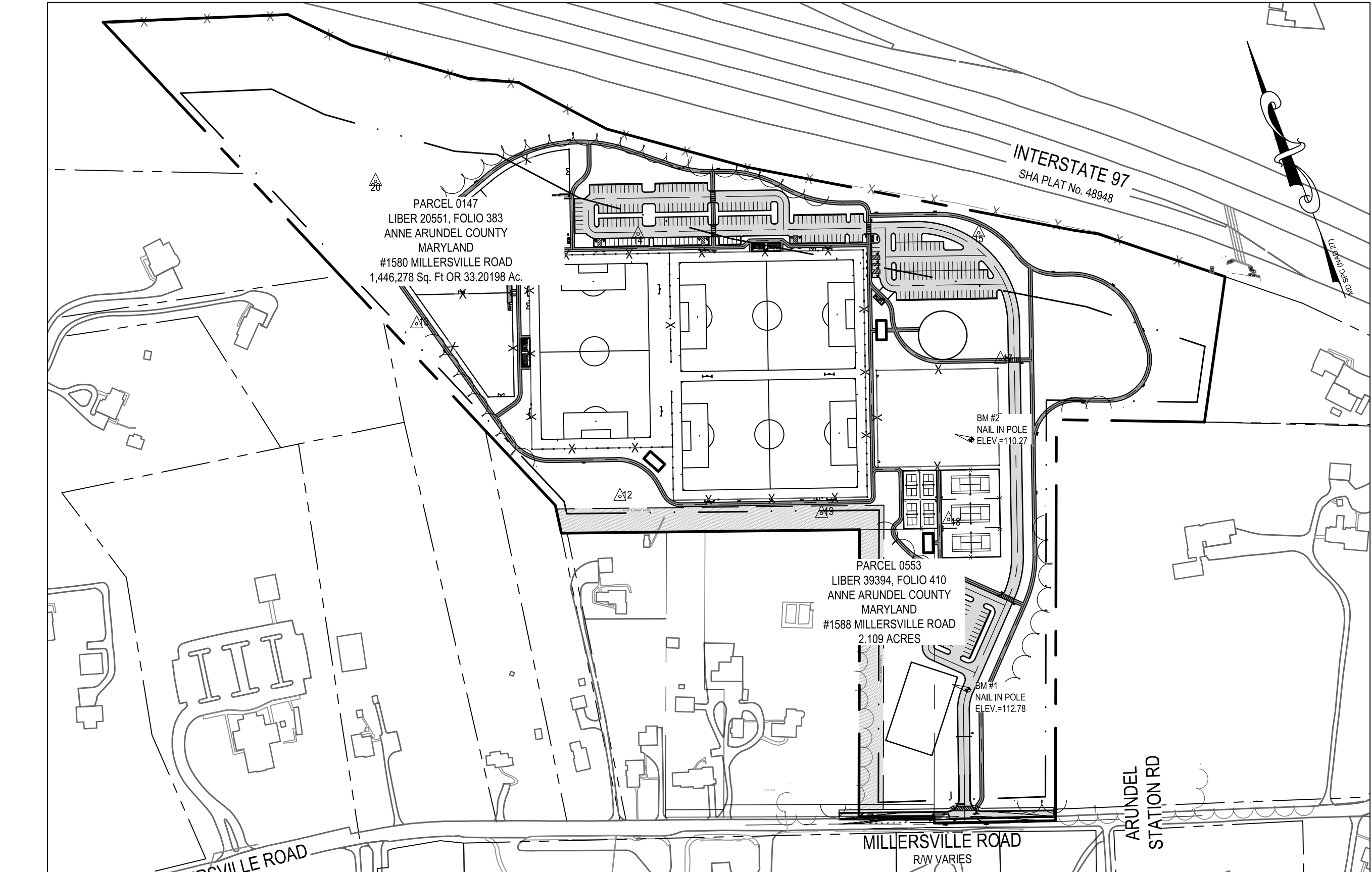
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14.

TRACK-TYPE VEHICLES ARE PROHIBITED FROM TRAVELING ON OR ACROSS PAVED SITE ROADWAYS.
15.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY REMOVAL OF ALL DUST AND MUD ON ALL THE ROADS DUE TO CONTRACTOR ARRIVING AND LEAVING THE JOB SITE AND AS DIRECTED BY THE ENGINEER OR ANNE ARUNDEL COUNTY INSPECTOR.
16.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR APPLYING AND OBTAINING ALL TRADE (ELECTRICAL, BUILDING AND PLUMBING) PERMITS.

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



LOCATION MAP
SCALE: 1" = 200'

SURVEY TRAVERSE CONTROL LISTING

PT#	NORTHING	EASTING	ELEV.	DESCRIPTION
12	506766.4929	1415114.9708	106.09	REBAR & CAP
13	507249.0065	1414850.7958	110.50	REBAR & CAP
14	507256.4102	1415343.3462	108.45	REBAR & CAP
15	507009.6916	1416000.4328	107.73	REBAR & CAP
16	506697.4365	1416398.6339	102.48	REBAR & CAP
17	506750.1887	1415948.7274	110.52	REBAR & CAP
18	506479.8047	1415730.6068	110.56	TRV GPS
19	506585.1880	1415490.6821	109.09	TRV GPS
20	507553.8405	1414876.9288	137.18	REBAR & CAP

BENCHMARK CONTROL LISTING

PT#	NORTHING	EASTING	ELEV.	DESCRIPTION
1	506638.2926	1415806.9341	110.27	NAIL IN POLE
2	506159.0594	1415615.8779	112.78	NAIL IN POLE

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3.
- EXISTING CONDITIONS AND DEMOLITION PLAN
4.
- EXISTING CONDITIONS AND DEMOLITION PLAN
5.
- EXISTING CONDITIONS AND DEMOLITION PLAN
6.
- SOIL BORING LOG
7.
- SOIL BORING LOG
8.
- SOIL BORING LOG
9.
- OVERALL SITE LAYOUT PLAN
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- SITE LAYOUT PLAN
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- SITE LAYOUT PLAN
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- MILLERSVILLE ROAD ENTRANCE PLAN
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- SITE DETAILS
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- OVERALL GRADING AND STORM DRAIN PLAN
21.
- GRADING AND STORM DRAIN PLAN

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- GRADING AND STORM DRAIN PLAN
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24.
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- STORM WATER MANAGEMENT DETAILS - MICRO-BIORETENTION
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ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

APPROVED DATE

APPROVED DATE

SCALE: AS SHOWN

DRAWN BY: R.S.S.

CHECKED BY: R.W.H.

SHEET NO. 01 OF 58

PROJECT NO.: P567100

CONTRACT NO.: P56702

CHIEF ENGINEER

PROJECT MANAGER

APPROVED DATE

APPROVED DATE

ASSISTANT CHIEF ENGINEER

CHIEF, RIGHT-OF-WAY

MILLERSVILLE PARK

COVER SHEET

I hereby certify that these documents were prepared or approved by me, and that I am a duly-licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512.4500 www.transystems.com

TRANSYSTEMS

P:\2017\17141801\Drawings\07-Site\17141801-C100-Overall Ex Cond Plan.dwg Aug 15, 2024 -- 4:06pm Plot By: remith



LEGEND	
DESCRIPTION	EXISTING
BUILDING	EX. BLDG
BITUMINOUS CONCRETE PAVING	EX. MACADAM
CONCRETE WALK	EX. CONC. WALK
GRAVEL PAVING	EX. GRAVEL
MILL AND OVERLAY	EX. MACADAM
ATHLETIC COURT SURFACE	
CONC. CURB	
WALL	
METAL FENCE	X
SIGN (ONE-POST)	
SPOT ELEVATION	× 316.5
MAJOR CONTOUR	--- 315 ---
MINOR CONTOUR	--- 316 ---
O/H ELECTRIC	--- OHE ---
U/G ELECTRIC	--- E ---
U/G STORM	--- D ---
U/G WATER	--- W ---
PROPERTY LINE	---
BLDG SETBACK LINE	---
SOIL BORING	⊙ B#
SURVEY LIMITS	--- 10' --- 5' ---
TREES	⊙
TREE LINE	---
DRAIN INLET	⊙
POWER POLE	⊙
STORM DRAIN MH	⊙
STREET LIGHT	⊙
TRAVERSE STATION	⊙ 900
WELL	⊙
WATER VALVE	⊙
SOIL LINE	---
STEEP SLOPES (15% OR GREATER)	---

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



TRANSYSTEMS

300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512.4500 www.transystems.com

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 100'	MILLERSVILLE PARK
_____		_____		DRAWN BY: R.S.S.	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: R.W.H.	OVERALL EXISTING CONDITIONS PLAN
APPROVED	DATE	APPROVED	DATE	SHEET NO. 02 OF 58	
_____		_____		PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	



- PARCEL 154
LIEED E100 EN IN 746
#155
- DEMOLITION**
- D-1 SAW CUT BITUMINOUS CONCRETE PAVING.
 - D-2 REMOVE AND DISPOSE OF BITUMINOUS CONCRETE PAVING.
 - D-3 REMOVE AND DISPOSE OF EXISTING DWELLING, BARN, DECKS AND SHED.
 - D-4 REMOVE AND DISPOSE OF GRAVEL PAVING.
 - D-5 REMOVE AND DISPOSE OF CONCRETE WALK.
 - D-7 REMOVE AND DISPOSE OF EXISTING HVAC EQUIPMENT, OIL TANK AND ASSOCIATED PIPING.
 - D-8 REMOVE EXISTING WOODED AREA TO THE EXTENT SHOWN.
 - D-9 REMOVE AND ABANDON EXISTING WELL PER COMAR REGULATIONS, WITH A LICENSED WELL DRILLER.
 - D-10 REMOVE AND DISPOSE OF EXISTING UTILITY POLES AND OVERHEAD POWER LINES.
 - D-11 MILL 1 1/2" OF EXISTING BITUMINOUS PAVING.
 - D-12 REMOVE EXISTING TREE.
 - D-13 REMOVE AND ABANDON EXISTING SEPTIC TANKS PER COMAR REGULATIONS.

CAUTION:
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1"=40'-0"

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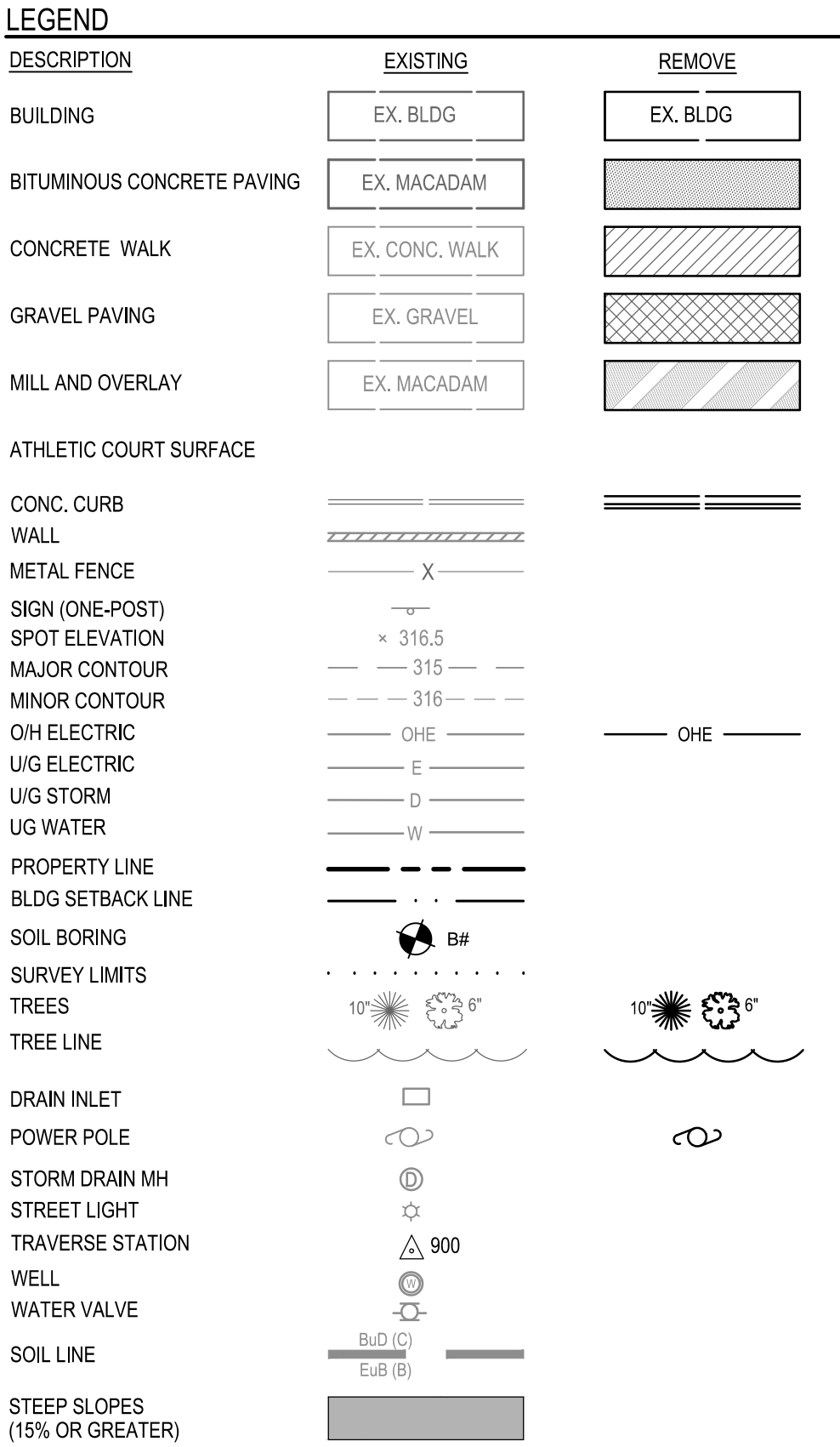
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License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED		DATE		APPROVED	
				DATE	
CHIEF ENGINEER		PROJECT MANAGER		SCALE: 1" = 40'	
APPROVED		DATE		DRAWN BY: R.S.S.	
				CHECKED BY: R.W.H.	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		SHEET NO. 03 OF 58	
				PROJECT NO.: P567100	
				CONTRACT NO.: P56702	
				MILLERSVILLE PARK	
				EXISTING CONDITIONS AND DEMOLITION PLAN	

MILLERSVILLE PARK

**EXISTING CONDITIONS AND
DEMOLITION PLAN**

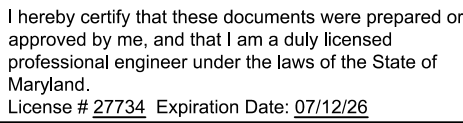


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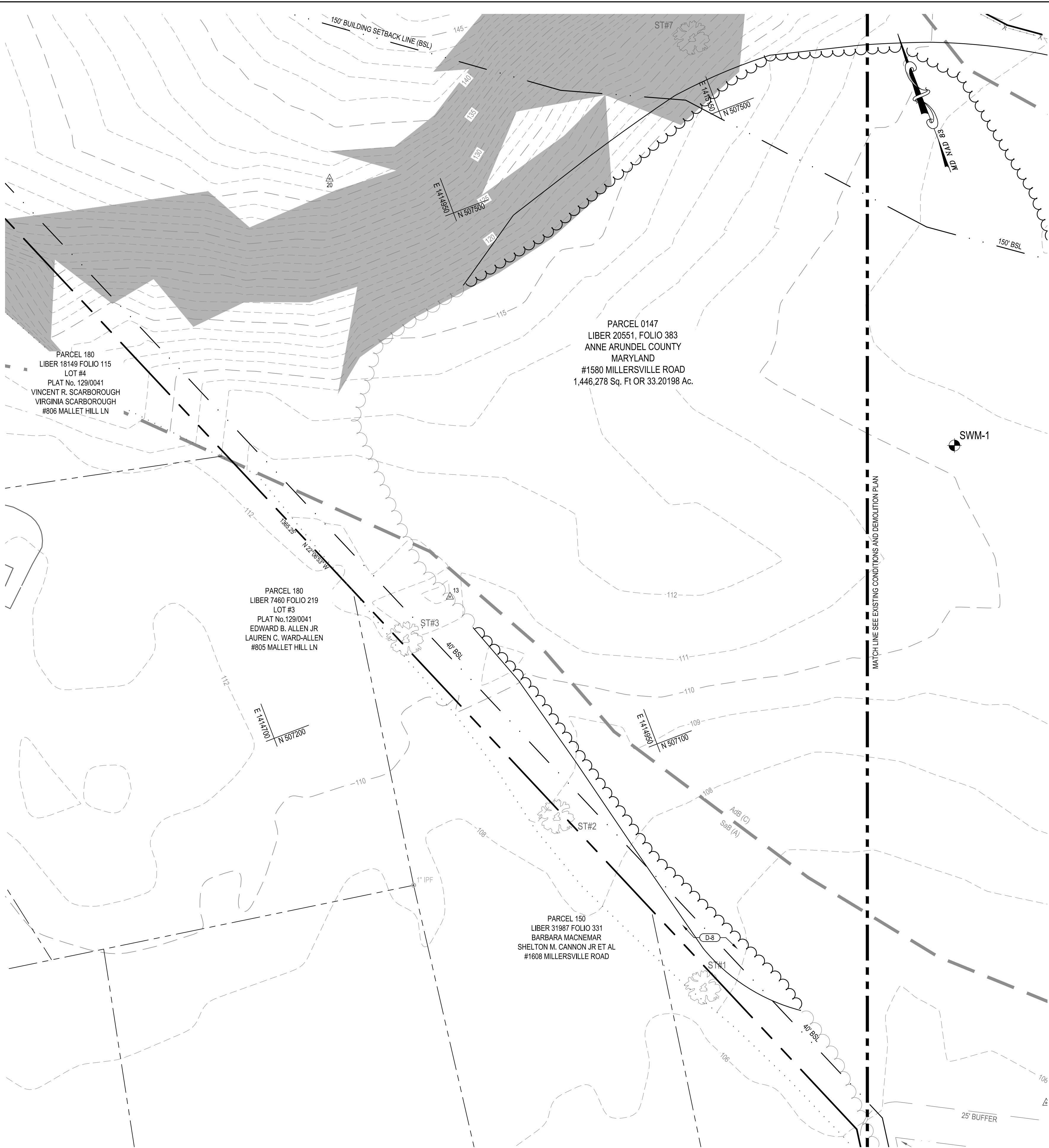
1"=40'-0"



40 0 20 40 80



ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 40'	MILLERSVILLE PARK
_____ CHIEF ENGINEER		_____ PROJECT MANAGER		DRAWN BY: R.S.S. CHECKED BY: R.W.H.	
APPROVED	DATE	APPROVED	DATE	SHEET NO. 04 OF 58	EXISTING CONDITIONS AND DEMOLITION PLAN
_____ ASSISTANT CHIEF ENGINEER		_____ CHIEF, RIGHT-OF-WAY		PROJECT NO.: P567100 CONTRACT NO.: P56702	



SPECIMEN TREE TABLE						
Point No.	Species	Common Name	Size	DBH (in.)	Condition	Condition Comments
ST-1	<i>Liriodendron tulipifera</i>	Tulip poplar	38	57	Fair	Approx. DBH, Heavily covered in greenbrier, limb damage
ST-2	<i>Liriodendron tulipifera</i>	Tulip poplar	33	49.5	Good	Approx. DBH, Heavily covered in greenbrier
ST-3	<i>Liriodendron tulipifera</i>	Tulip poplar	31.5	47.25	Good	
ST-4	<i>Quercus alba</i>	White oak	53	79.5	Good	
ST-5	<i>Liriodendron tulipifera</i>	Tulip poplar	35.5	53.25	Good	Splits just above BH
ST-6	<i>Liriodendron tulipifera</i>	Tulip poplar	31	46.5	Good	Lower trunk angled off slope
ST-7	<i>Acer rubrum</i>	Red maple	30.5	45.75	Good	Splits just above BH
ST-8	<i>Liriodendron tulipifera</i>	Tulip poplar	40	60	Good	
ST-9	<i>Liriodendron tulipifera</i>	Tulip poplar	31.5	47.25	Good	
ST-10	<i>Liriodendron tulipifera</i>	Tulip poplar	34.5	51.75	Good	
ST-11	<i>Liriodendron tulipifera</i>	Tulip poplar	31.5	47.25	Poor	Trunk rot
ST-12	<i>Acer rubrum</i>	Red maple	33	49.5	Good	
ST-13	<i>Quercus palustris</i>	Pin oak	31.5	47.25	Good	
ST-14	<i>Acer rubrum</i>	Red maple	34.5	51.75	Fair	Limb dieback noted
ST-15	<i>Liriodendron tulipifera</i>	Tulip poplar	73.5	110.25	Good	Splits just above BH
ST-16	<i>Quercus velutina</i>	Black oak	48	72	Good	
ST-17	<i>Acer saccharinum</i>	Silver maple	41.5	62.25	Fair	Some dieback noted
ST-18	<i>Liriodendron tulipifera</i>	Tulip poplar	36	54	Poor	Major trunk rot

LEGEND

DESCRIPTION

EXISTING

REMOVE

BUILDING

EX. BLDG

EX. BLDG

BITUMINOUS CONCRETE PAVING

EX. MACADAM

EX. MACADAM

CONCRETE WALK

EX. CONC. WALK

EX. CONC. WALK

GRAVEL PAVING

EX. GRAVEL

EX. GRAVEL

MILL AND OVERLAY

EX. MACADAM

EX. MACADAM

ATHLETIC COURT SURFACE

EX. BLDG

EX. BLDG

CONC. CURB

EX. BLDG

EX. BLDG

WALL

EX. BLDG

EX. BLDG

METAL FENCE

EX. BLDG

EX. BLDG

SIGN (ONE-POST)

EX. BLDG

EX. BLDG

SPOT ELEVATION

EX. BLDG

EX. BLDG

MAJOR CONTOUR

EX. BLDG

EX. BLDG

MINOR CONTOUR

EX. BLDG

EX. BLDG

O/H ELECTRIC

EX. BLDG

EX. BLDG

U/G ELECTRIC

EX. BLDG

EX. BLDG

U/G STORM

EX. BLDG

EX. BLDG

U/G WATER

EX. BLDG

EX. BLDG

PROPERTY LINE

EX. BLDG

EX. BLDG

BLDG SETBACK LINE

EX. BLDG

EX. BLDG

SOIL BORING

EX. BLDG

EX. BLDG

SURVEY LIMITS

EX. BLDG

EX. BLDG

TREES

EX. BLDG

EX. BLDG

TREE LINE

EX. BLDG

EX. BLDG

DRAIN INLET

EX. BLDG

EX. BLDG

POWER POLE

EX. BLDG

EX. BLDG

STORM DRAIN MH

EX. BLDG

EX. BLDG

STREET LIGHT

EX. BLDG

EX. BLDG

TRAVERSE STATION

EX. BLDG

EX. BLDG

WELL

EX. BLDG

EX. BLDG

WATER VALVE

EX. BLDG

EX. BLDG

SOIL LINE

EX. BLDG

EX. BLDG

STEEP SLOPES

EX. BLDG

EX. BLDG

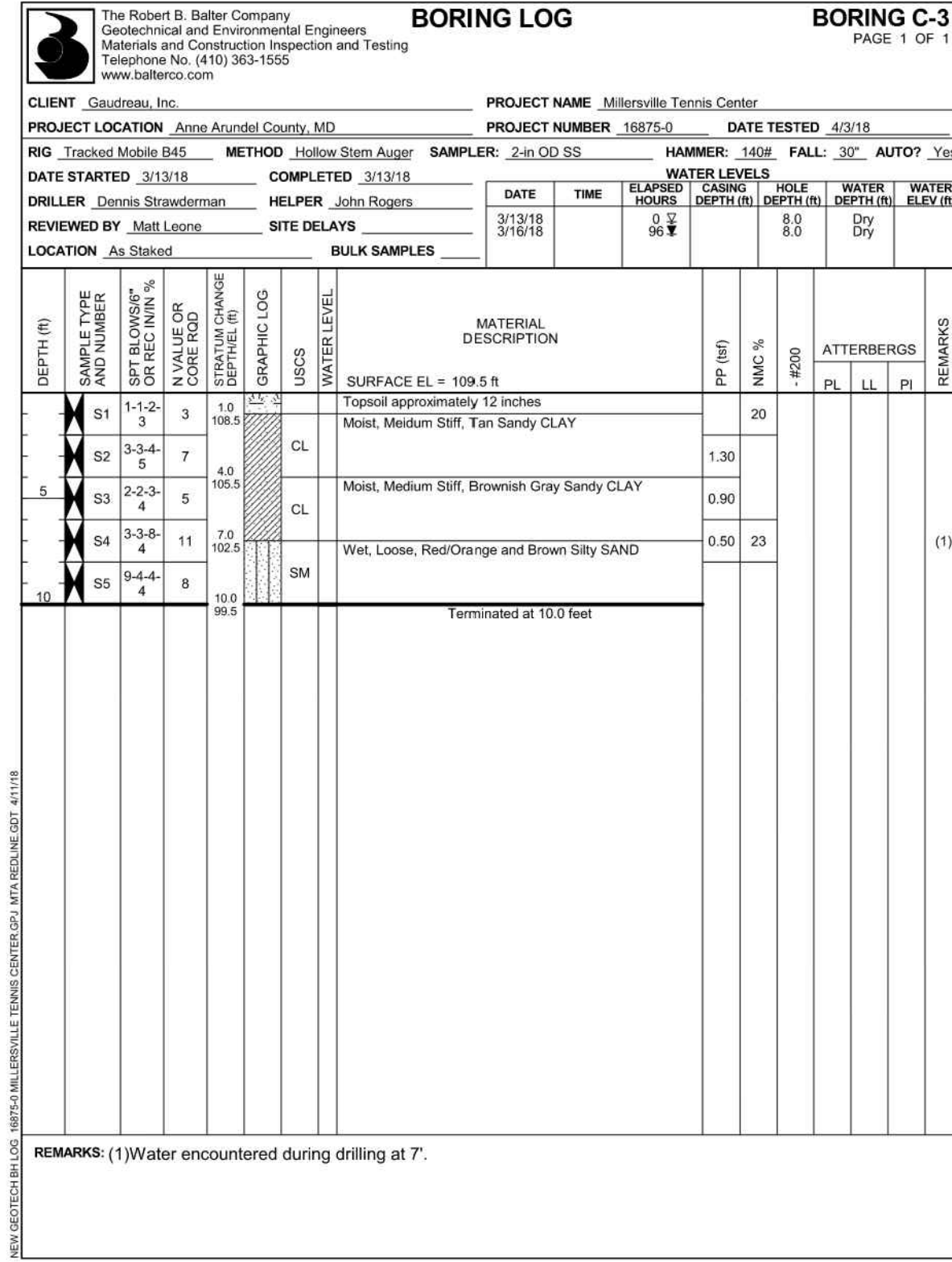
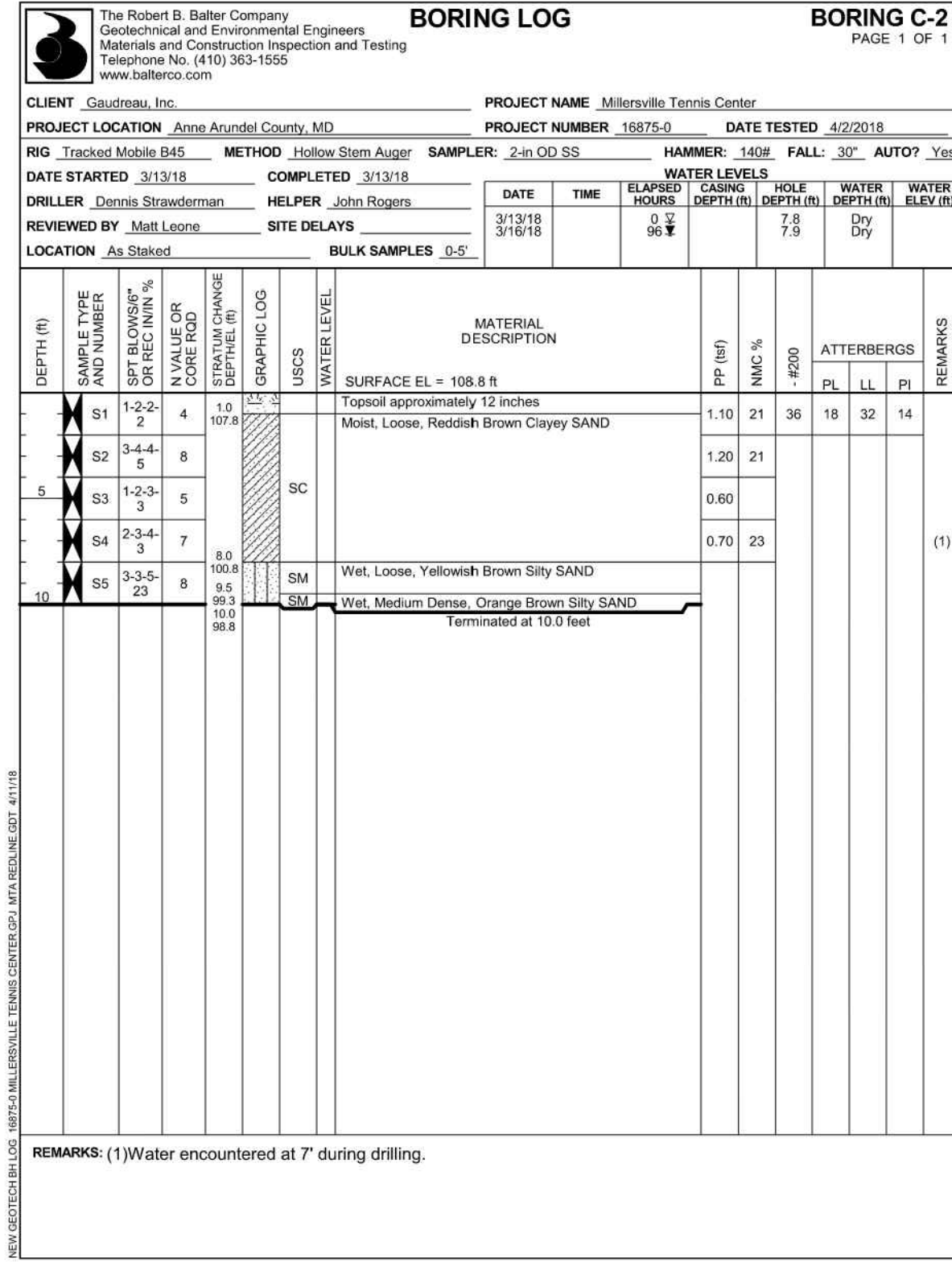
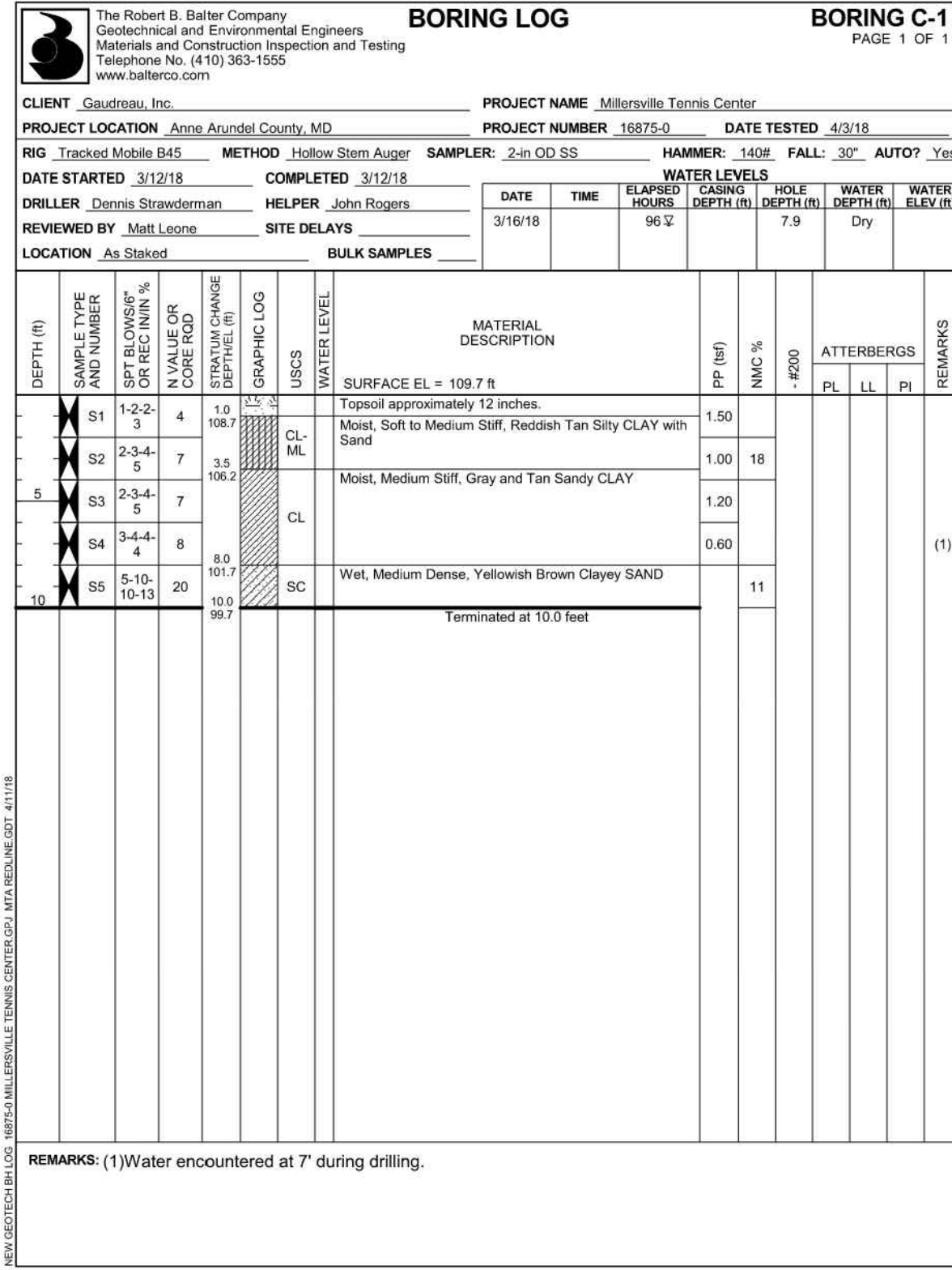
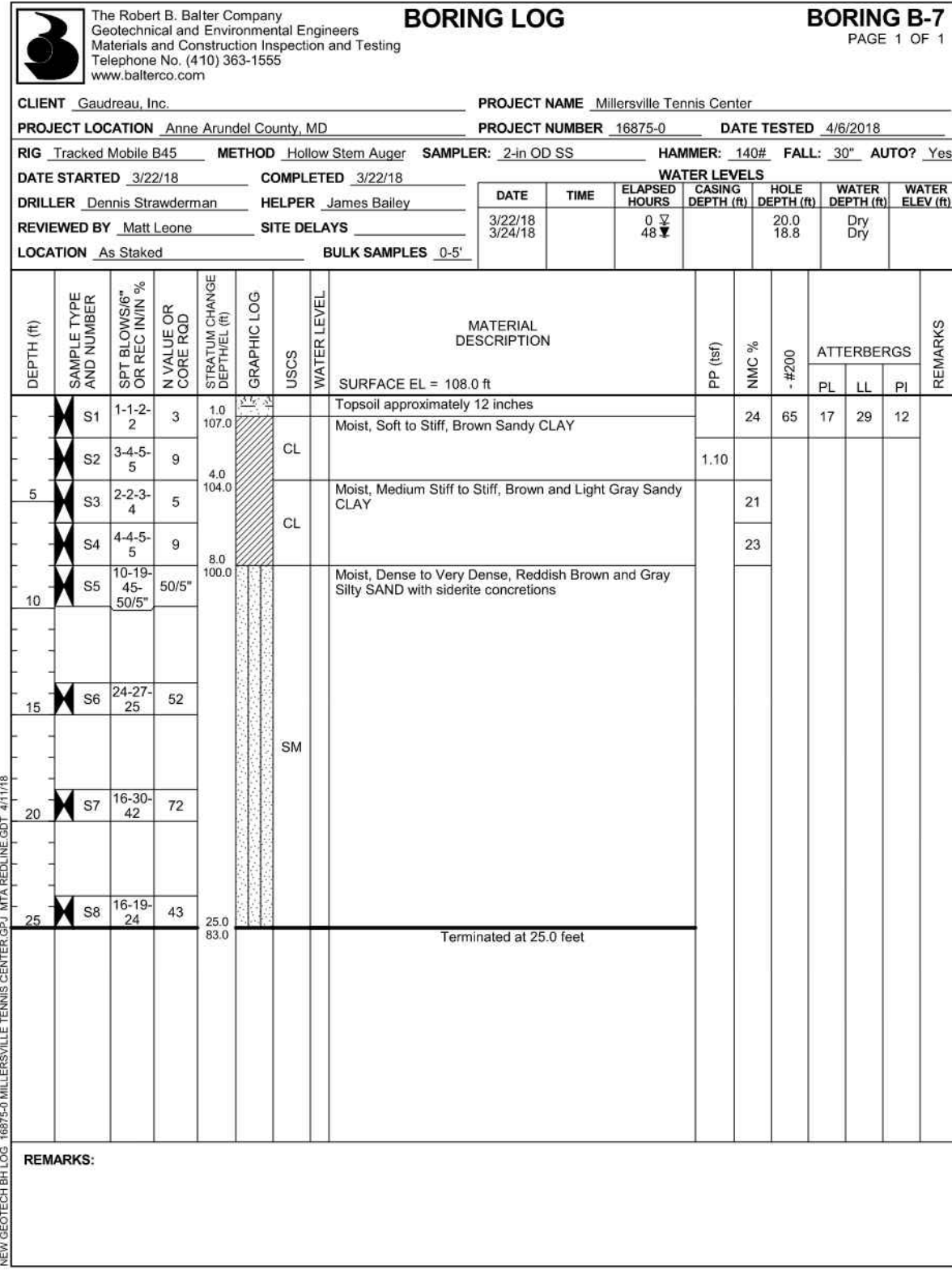
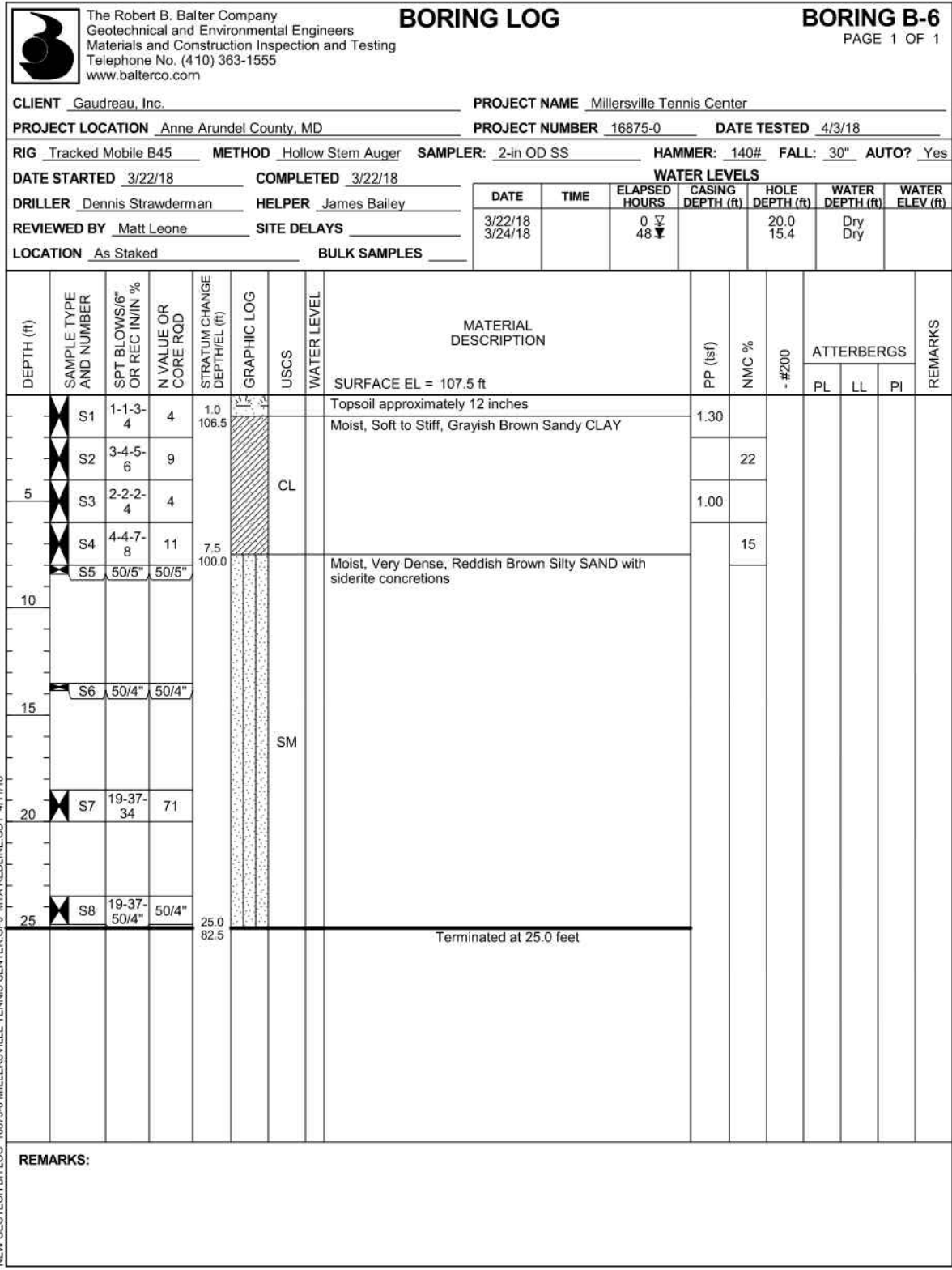
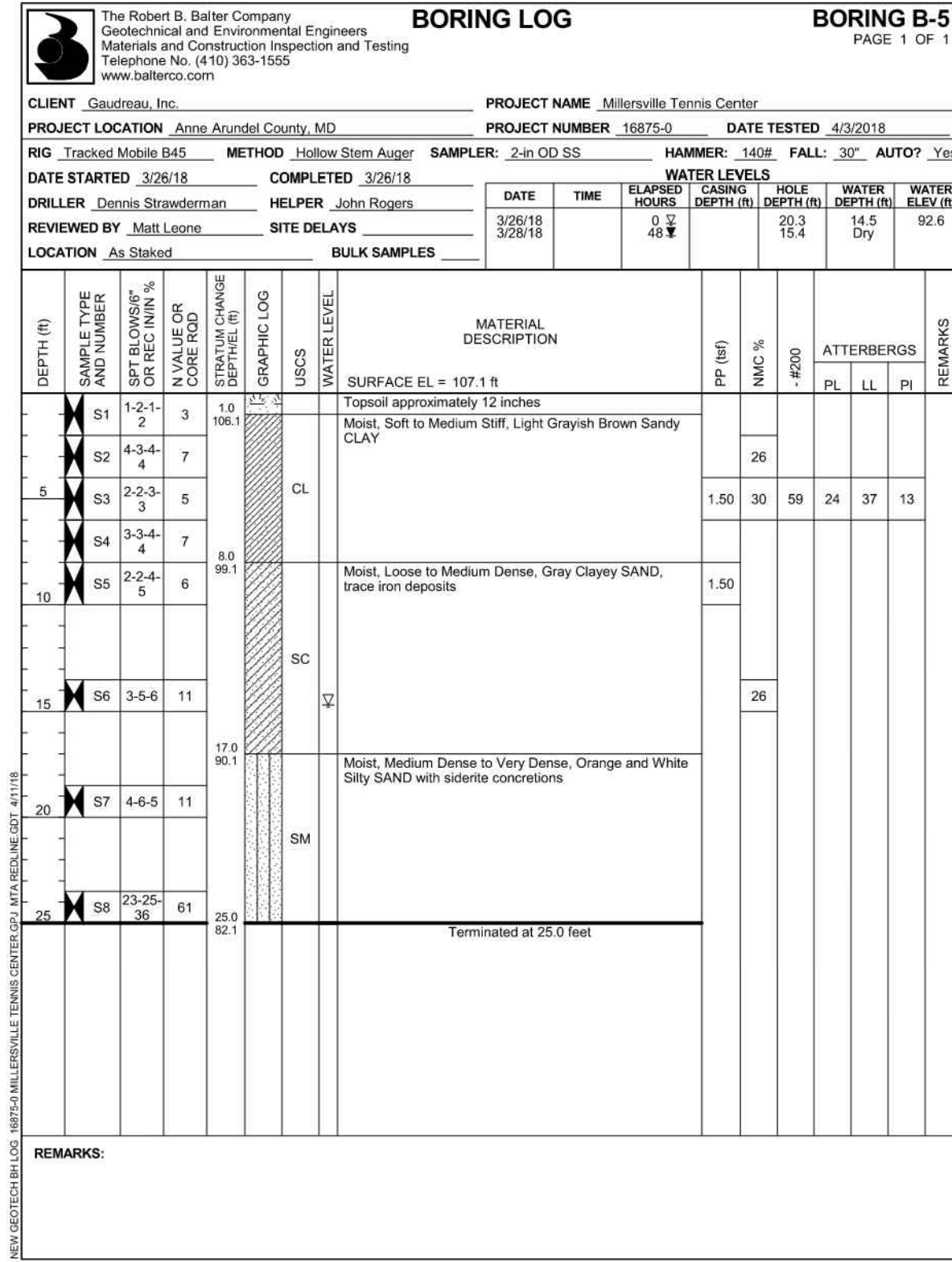
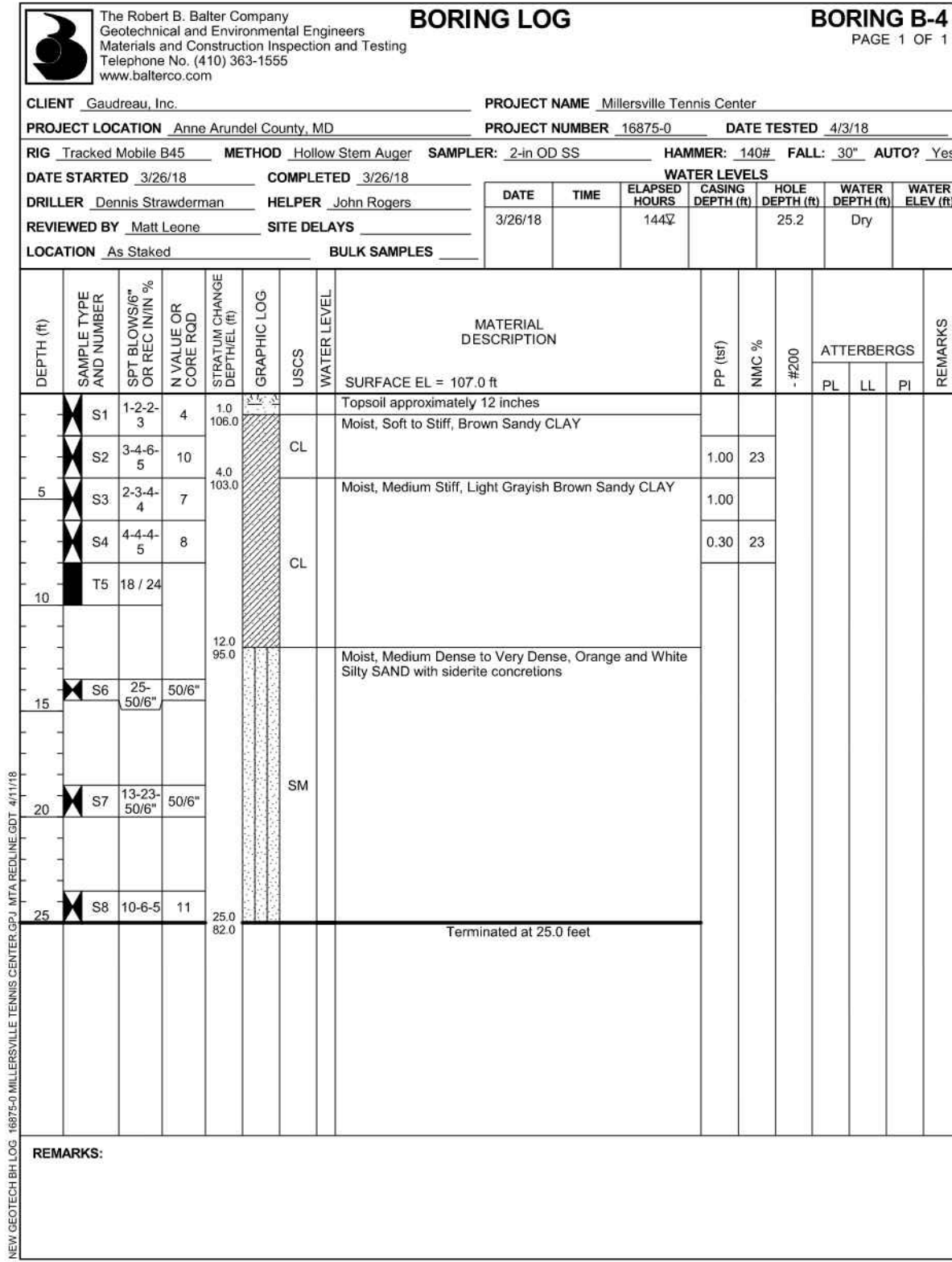
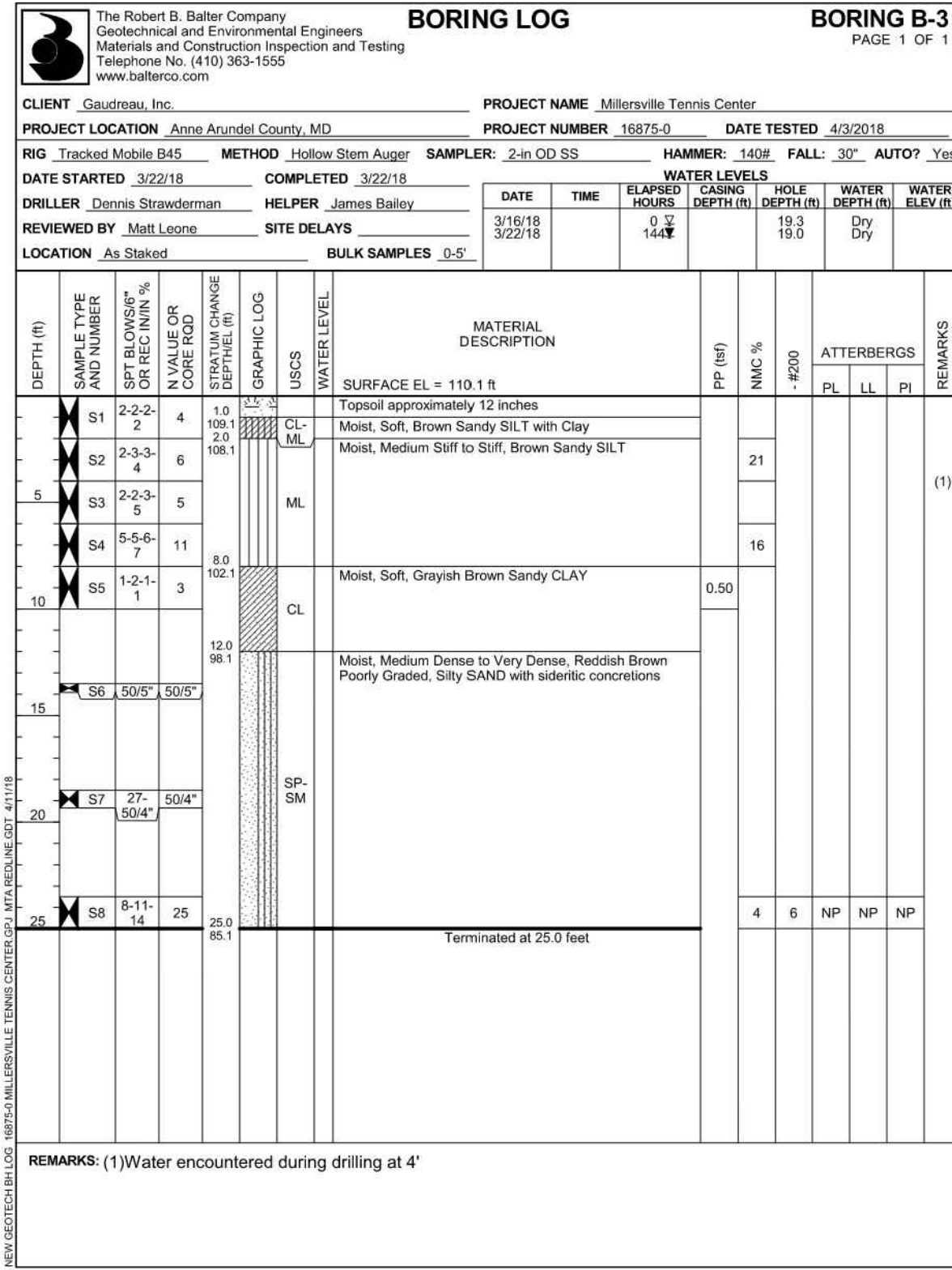
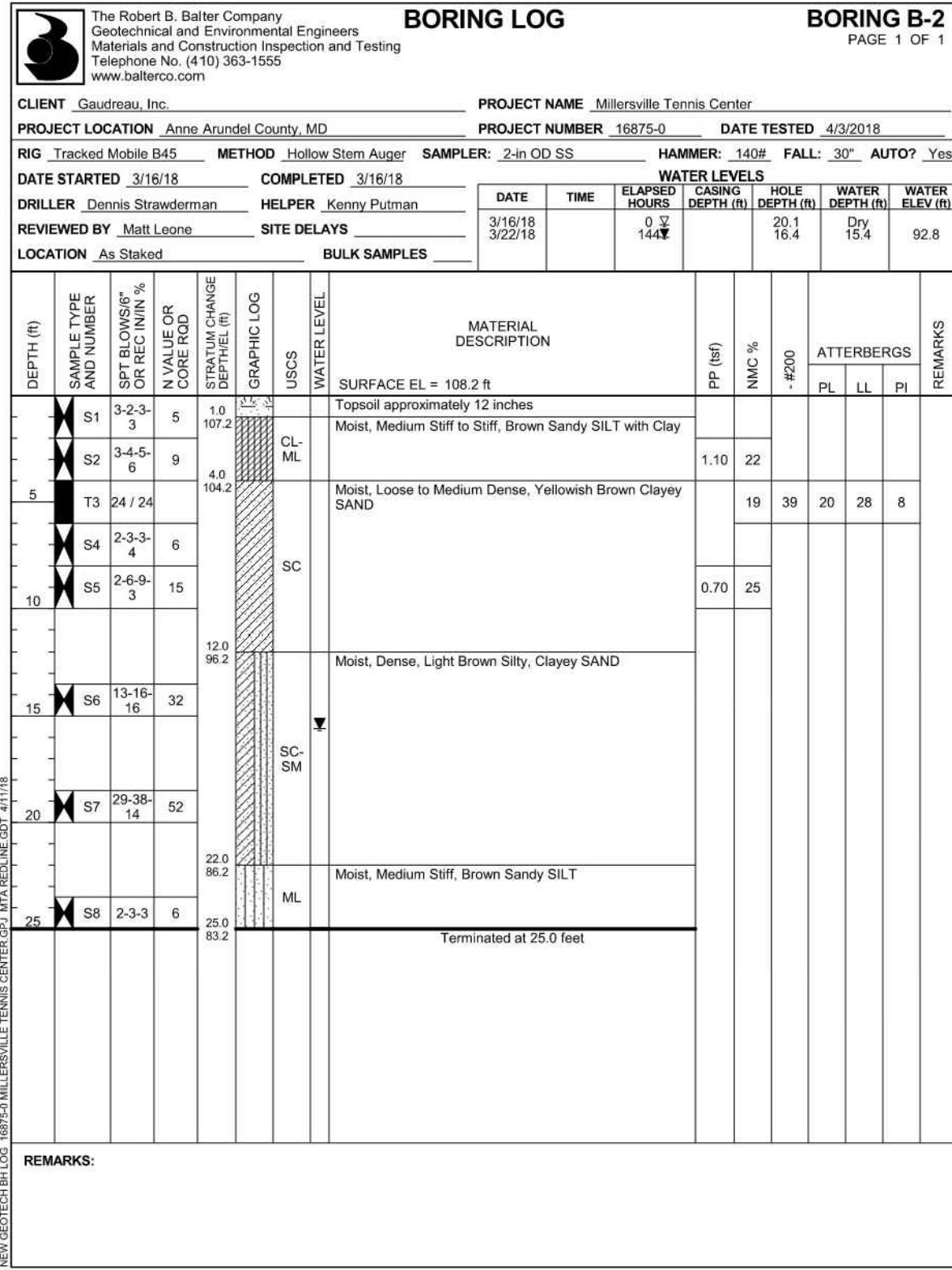
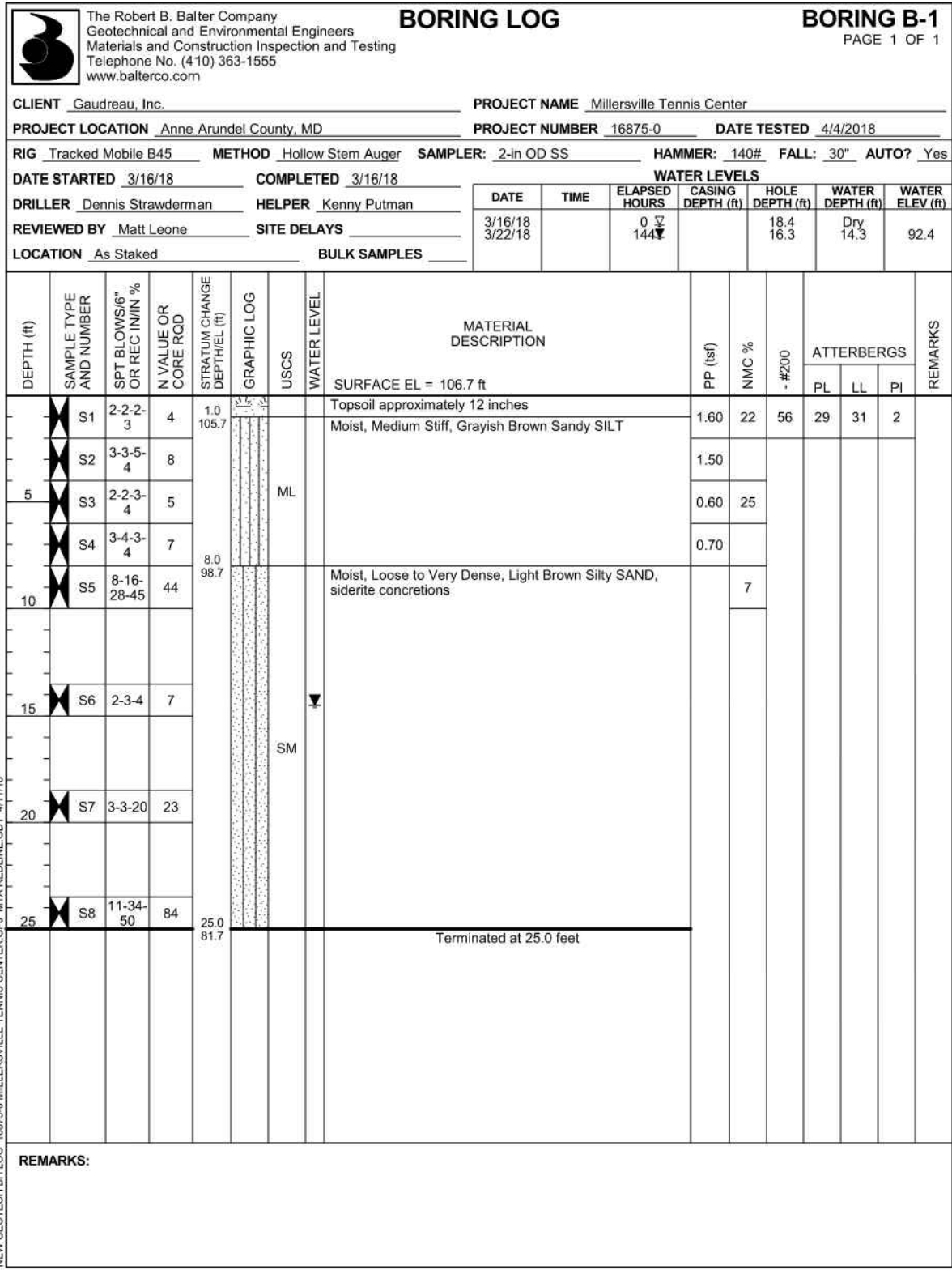
(15% OR GREATER)

EX. BLDG


EX. BLDG

DEMOLITION

- D-1 SAW CUT BITUMINOUS CONCRETE PAVING.
- D-2 REMOVE AND DISPOSE OF BITUMINOUS CONCRETE PAVING.
- D-3 REMOVE AND DISPOSE OF EXISTING DWELLING, BARN, DECKS AND SHED.
- D-4 REMOVE AND DISPOSE OF GRAVEL PAVING.
- D-5 REMOVE AND DISPOSE OF CONCRETE WALK.
- D-7 REMOVE AND DISPOSE OF EXISTING HVAC EQUIPMENT, OIL TANK AND ASSOCIATED PIPING.
- D-8 REMOVE EXISTING WOODED AREA TO THE EXTENT SHOWN.
- D-9 REMOVE AND ABANDON EXISTING WELL PER COMAR REGULATIONS, WITH A LICENSED WELL DRILLER.
- D-10 REMOVE AND DISPOSE OF EXISTING UTILITY POLES AND OVERHEAD POWER LINES.
- D-11 MILL 1 1/2" OF EXISTING BITUMINOUS PAVING.
- D-12 REMOVE EXISTING TREE.
- D-13 REMOVE AND ABANDON EXISTING SEPTIC TANKS PER COMAR REGULATIONS.



300 East Joppa Road Suite 200
Baltimore, MD 21286
410.512.4500 www.transystems.com



I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27724 Expiration Date: 07/12/26

REVISIONS				ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
NO.	DESCRIPTION	BY	DATE				
				APPROVED	DATE	APPROVED	DATE
						SCALE: AS SHOWN	MILLERSVILLE PARK
						DRAWN BY: R.S.S.	
						CHECKED BY: R.W.H.	
				APPROVED	DATE	APPROVED	DATE
						SHEET NO. 06 OF 58	BORING LOGS
						PROJECT NO.: P567100	
						CONTRACT NO.: P56702	
				ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	

BORING LOG BORING C-4

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/18

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/13/18 COMPLETED: 3/13/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/13/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	107.7	CL	Topsoil approximately 12 inches					
5	S2 2-4-4 5 8	6.0	102.7	CL	Moist, Medium Stiff, Grayish Brown Sandy CLAY	1.10	23			
7	S3 3-3-4 5 7	6.0	102.7	CL	Moist, Soft to Medium Stiff, Light Grayish Brown Sandy CLAY	1.30				
8	S4 3-3-4 7	6.0	102.7	CL	Moist, Medium Stiff, Grayish Tan CLAY some Sand	0.50	23			
10	S5 2-3-4 5 8	8.0	98.7	SM	Moist, Loose, Red/Orange Silty SAND					Terminated at 10.0 feet

REMARKS:

BORING LOG BORING C-5

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/2/2018

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/12/18 COMPLETED: 3/12/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/12/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 8.5 HOLE DEPTH (ft): 8.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	107.2	CL	Topsoil approximately 12 inches					
5	S2 2-4-4 5 8	4.0	104.2	CL	Moist, Soft to Medium Stiff, Light Grayish Brown Sandy CLAY	1.10				
7	S3 2-2-4 3 4	7.0	101.2	SM	Moist, Loose, Red/Orange Silty SAND					Terminated at 10.0 feet

REMARKS:

BORING LOG BORING C-6

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/18

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/12/18 COMPLETED: 3/12/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/12/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	108.8	CL	Topsoil approximately 12 inches					
5	S2 3-3-4 5 7	4.0	104.2	CL	Moist, Medium Stiff to Stiff, Light Grayish Brown Sandy CLAY	0.70				
7	S3 2-2-4 3 4	6.0	101.2	SM	Wet, Very Loose, Brownish Red Silty SAND	19				(1)

REMARKS: (1)Water encountered during drilling at 8'.

BORING LOG BORING C-7

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/18

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/12/18 COMPLETED: 3/12/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/12/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	108.7	CL	Topsoil approximately 12 inches					
5	S2 3-3-4 5 7	4.0	104.2	CL	Moist, Loose, Brown to Grayish Brown Clayey SAND	0.90	24	46	21	32 11
7	S3 2-2-4 3 4	6.0	101.2	SM	Wet, Very Loose, Reddish Tan and Gray Silty SAND	21				(1)

REMARKS: (1)Water encountered during drilling at 8'.

BORING LOG BORING C-8

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/18

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/12/18 COMPLETED: 3/12/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/12/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	108.7	CL	Topsoil approximately 12 inches					
5	S2 3-3-4 5 7	4.0	104.2	CL	Moist, Soft to Stiff, Light Brown to Grayish Brown Sandy CLAY	1.50	24			
7	S3 2-2-4 3 4	6.0	101.2	SM	Wet, Loose, Red Silty SAND	1.10	22			(1)

REMARKS: (1)Water encountered during drilling at 8'.

BORING LOG BORING P-1

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/2018

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/12/18 COMPLETED: 3/12/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/12/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	108.1	CL	Topsoil approximately 12 inches					
5	S2 2-2-4 3 4	6.0	101.1	CL	Moist, Soft to Medium Stiff, Light Grayish Brown Clayey SAND	2.00	27			
7	S3 2-2-4 3 4	6.0	101.1	CL	Wet, Medium Stiff to Stiff, Brownish Gray Sandy CLAY	1.00	24			(1)
10	S5 2-2-4 3 4	8.0	98.7	CL	Wet, Medium Stiff, Dark Gray CLAY little Sand					Terminated at 10.0 feet

REMARKS: (1)Water encountered during drilling at 6'.

BORING LOG BORING P-2

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/18

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/9/18 COMPLETED: 3/9/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/9/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	107.9	CL	Topsoil approximately 12 inches					
5	S2 2-2-4 3 4	6.0	101.1	CL	Moist, Medium Stiff, Brown Clayey SILT with Sand (Fill)	0.75				
7	S3 2-2-4 3 4	6.0	101.1	CL	Moist, Loose, Light Brown Clayey SAND	0.75	23			
10	S5 2-2-4 3 4	8.0	98.9	CL	Wet, Medium Stiff, Dark Gray CLAY little Sand	1.00				Terminated at 10.0 feet

REMARKS:

BORING LOG BORING P-3

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/2018

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/26/18 COMPLETED: 3/26/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/26/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	109.5	CL	Topsoil approximately 12 inches					
5	S2 2-2-4 3 4	6.0	101.1	CL	Moist, Soft, Brown Sandy SILT	0.60	31	49	19	35 16
7	S3 2-2-4 3 4	6.0	101.1	CL	Moist to Wet, Loose to Medium Dense, Gray and Tan Clayey SAND	1.00	28			
10	S5 2-2-4 3 4	8.0	98.9	CL	Wet, Very Loose, Reddish Yellow Silty SAND with white concretions (Sand)	0.30				

REMARKS:

BORING LOG BORING S-1

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/3/18

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/12/18 COMPLETED: 3/12/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/12/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	108.8	CL	Topsoil approximately 12 inches					
5	S2 3-3-4 5 7	4.0	104.2	CL	Moist, Soft to Stiff, Grayish Brown Sandy CLAY	1.00	24			
7	S3 2-2-4 3 4	6.0	101.2	SM	Wet, Medium Dense, Orange Brown Silty SAND	10				
10	S5 2-2-4 3 4	8.0	98.9	CL	Moist, Very Dense, Reddish Yellow Silty SAND with white concretions (Sand)	5	16			

REMARKS: (1)Water encountered during drilling at 6'.

BORING LOG BORING SWM-1

CLIENT: Gaudreau, Inc. PROJECT NAME: Millersville Tennis Center

PROJECT LOCATION: Anne Arundel County, MD PROJECT NUMBER: 16875-0 DATE TESTED: 4/6/2018

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS HAMMER: 140# FALL: 30" AUTO? Yes

DATE STARTED: 3/13/18 COMPLETED: 3/13/18

DRILLER: Dennis Strawderman HELPER: John Rogers

REVIEWED BY: Matt Leone SITE DELAYS: DATE: 3/13/18 TIME: 8:30 ELAPSED: 24 HOURS CASING DEPTH (ft): 7.5 HOLE DEPTH (ft): 7.5 WATER DEPTH (ft): Dry WATER ELEV (ft):

LOCATION: As Staked BULK SAMPLES:


DEPTH (ft)	SAMPLE TYPE AND NUMBER	N VALUE OR SPT BLOWN* OR REC NIN %	WATER LEVEL	USCS	MATERIAL DESCRIPTION	PP (pcf)	NMC (%)	FOOD	ATTEMBERGS	REMARKS
1	S1 1-1-2 2 3	1.0	108.9	CL	Topsoil approximately 12 inches					
5	S2 2-2-4 3 4	6.0	101.1	CL	Moist, Soft, Brown Silty CLAY with Sand	1.20	21			
7	S3 2-2-4 3 4	6.0	101.1	CL	Moist to Wet, Medium Stiff to Stiff, Grayish Brown Sandy CLAY	0.70				
10	S5 2-2-4 3 4	8.0	98.9	CL	Wet, Medium Dense, Orange Brown Silty SAND	0.60				

REMARKS: (1)Water encountered during drilling at 6'.

300 East Joppa Road Suite 200 Baltimore, MD 21286 410.512.4500 www.transystems.com				ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
TRANSYSTEMS				MILLERSVILLE PARK			
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License # 27734 Expiration Date: 07/12/26				BORING LOGS			

	The Robert B. Baizer Company Geotechnical and Environmental Engineers Materials and Construction Inspection and Testing Telephone No. (410) 363-3555 www.baizercorp.com		BORING LOG								BORING SWM-2 PAGE 1 OF 1									
	CLIENT <u>Gaustray, Inc.</u>		PROJECT NAME <u>Milleville Tennis Center</u>																	
	PROJECT LOCATION <u>Anne Arundel County, MD</u>		PROJECT NUMBER <u>16875-D</u>								DATE TESTED <u>4/6/2018</u>									
	RIG <u>Tracked Mobile B45</u>		METHOD <u>Hollow Stem Auger</u>		SAMPLER <u>2-in OD SS</u>		HAMMER <u>140#</u>		FALL: <u>30"</u>		AUTO? <u>Yes</u>									
	DATE STARTED <u>3/16/2018</u>		COMPLETED <u>3/16/18</u>		WATER LEVELS															
	DRILLER <u>Dennis Strawneman</u>		HELPER <u>Kenny Pulman</u>		DATE		ELAPSED HOURS		CASING DEPTH (in)		HOLE DEPTH (in)		WATER DEPTH (in)		WATER ELEV (ft)					
REVIEWED BY <u>Matt Leone</u>		SITE DELAYS		3/16/18		0.3		12.1		On		8.5		97.8						
LOCATION <u>As Shaded</u>		BULK SAMPLES																		
DEPTH (ft)	SAMPLE TYPE AND NUMBER	SPT BLOWSP ^a OR RES. IN N/A %	STATUS CHANGE (DATE / TIME) CORE LOG ID	GRAPHIC LOG	USCS	WATER LEVEL	MATERIAL DESCRIPTION	PP (bf)	NMC %	#600	ATTERBERGS	PL	LL	Pt	REMARKS					
	S1	1-2-3 4	10 100.3		CL		SURFACE EL = 106.3 ft Topsoil approximately 12 inches Moist, Medium Silty, Grayish Brown Sandy CLAY													
5	S2	3-4-4 4	8		CL			22												
	S3	1-2-3 4	5																	
10	S4	5-7, 11-12	18				Moist, Medium Dense to Very Dense, Drak Red and Brown Poorly-Graded SAND with Silt and Gravel, trace spherule concretions (Sand)	15												
	SS	40 504*			SP-SM			6	9											
15	S6	21-35, 35	65				Terminated at 15.0 feet													
			91.3																	
REMARKS:																				

[illegible]



The Robert B. Walter Company

Geotechnical and Environmental Engineers

Materials and Construction Inspection and Testing

Telephone No. (410) 363-1555

www.balterco.com

BORING LOG

PROJECT LOCATION: Millersville Tennis Center

PROJECT NUMBER: 16875-0

DATE TESTED:

CLIENT: Gaucha, Inc.

PROJECT LOCATION: Anne Arundel County, MD

PROJECT NUMBER: 16875-0

DATE TESTED:

RIG: Tracked Mobile B45

METHOD: Hollow Stem Auger

SAMPLER: 2-in OD SS

HAMMER: 140#

FALL: 30"

AUTO? Yes

DATE STARTED: 3/13/18

COMPLETED: 3/13/18

DRILLER: Dennis Strawdorman

HELPER: John Rogers

REVIEWED BY: Matt Leone

SITE DELAYS:

LOCATION: As Staked

BULK SAMPLES:

DEPTH (ft)	SAMPLE TYPE AND NUMBER	SPT BLOWN#	COR. REC. IN. %	COR. IN. %	STATUS CHANGE	GRAPHIC LOG	USCS	WATER LEVEL	MATERIAL DESCRIPTION	WATER LEVELS		HOLE DEPTHS (in)		WATER (in)		REMARKS
										ELAPSED HOURS	SAVING DEPTH (in)	12.3	12.3	Dry	Dry	
	S1 1-2-3	1								PP (ft)	NMC %					
	S2 3-4-3	4														
5	S3 2-2-2	4					CL			1.20	23					
	S4 4-9-4	7								0.90						
10	S5 13-16-18	32					SP-SM			10						
											8	8				
15	S6 22-12-4	16														

SURFACE EL. = 106.6 ft

Topsoil approximately 12 inches

Moist to Wet, Soft to Medium Stiff, Light Grayish Brown Sandy CLAY

Wet, Loose to Dense, Red/Orange and White Poorly Graded SAND with Silt (Sand)


Terminated at 15.0 feet

REMARKS: (1) Water encountered during drilling at 4'.

NEW SOUTH HAVEN LOG - 16875-0 MILLERSVILLE TENNIS CENTER (P. 1) MTD RESUME (OF 1) 11-18

		The Robert H. Butler Company Geotechnical and Environmental Engineers Materials and Construction Inspection and Testing Telephone No. (410) 363-1555 www.butlersoc.com								BORING SWM-5 PAGE 1 OF 1							
		CLIENT <u>Gladraau, Inc.</u>		PROJECT NAME <u>Milvaville Tennis Center</u>													
PROJECT LOCATION <u>Anne Arundel County, MD</u>		PROJECT NUMBER <u>16875-0</u>						DATE TESTED _____									
RIG <u>Tracked Mobile B45</u>		METHOD <u>Hollow Stem Auger</u>		SAMPLER <u>2-in OD SS</u>		HAMMER <u>140#</u>		FALL: <u>30"</u>		AUTOMATICITY _____							
DATE STARTED <u>3/12/18</u>		COMPLETED <u>3/12/18</u>		WATER LEVELS													
DRILLER <u>Dennis Strawderman</u>		HELPER <u>John Rogers</u>		DATE		TIME		ELAPSED TIME		CLOGGING		HOLE DEPTH (ft)		WATER DEPTH (ft)		WATER ELEV (ft)	
REVIEWED BY <u>Matt Loomis</u>		SITE DELAYS _____		3/12/18		3:16 PM		0:50		T		12.7		Dry			
LOCATION <u>As Shown</u>		BULK SAMPLES _____															
DEPTH (ft)	SAMPLE TYPE AND NUMBER	SPIT BLOWERS ^a OR REC IN IN %	STATUS CHANGE VALUE FOR CLOSURE	GRAPHIC LOG DEPTH (ft)	USCS	WATER LEVEL	MATERIAL DESCRIPTION		PP (blt)	NMC %	ATTERBERGS			REMARKS			
											e_{max}	PL	LL		PI		
	S1 1-2-3	4	10	18.2	CL		SURFACE EL = 109.2 ft										
	S2 3-4-3	4	7				Topsoil approximately 12 inches										
5	S3 2-2-4	1	6				Moist to Wet, Soft to Stiff, Grayish Brown Sandy CLAY		0.80	24							
	S4 4-5-4	5	9							1.00							
10	S5 1-2-6	13	8	9.9	SC		Wet, Loose, Orange and Red Clayey SAND					0.28					
	S6 2-2-6	13	9	99.7													
	S7 2-2-6	13	9	99.7	SP-SM		Moist, Very Dense, Yellowish Red Poorly-Graded SAND with Silt and selenite concretions (Sand)										
	S8 2-2-6	13	9	99.7			Terminated at 13.9 feet						0.5	8			

REMARKS:



The Robert B. Baller Company
 Geotechnical and Environmental Engineers
 Materials and Construction Inspection and Testing
 Telephone No. (410) 363-1555
 www.ballerco.com

BORING LOG
 BORING NO. 101111

SHRIMP SWM-6
 PAGE 1 OF 1

CLIENT: Gaudreau, Inc.

PROJECT LOCATION: Anne Arundel County, MD

DATE STARTED: 3/9/18

DRILLER: Dennis Strawderman

REVIEWED BY: Matt Leone

PROJECT NUMBER: Miscerville Tennis Center

PROJECT NUMBER: 16875-0

DATE TESTED: 4/3/18

HAMMER: 140# FALL: 30" AUTO? Yes

WATER LEVELS

ELAPSED TIME: 3:12 HOURS

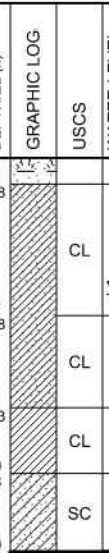
DATE: 3/9/18 TIME: 3:12/18

SITE DELAYS:

RIG: Tracked Mobile B45 METHOD: Hollow Stem Auger SAMPLER: 2-in OD SS


RIG TRACKED MOBILE B45 METHOD HOLLOW STEM AUGER SAMPLER 2-IN OD SS

BULK SAMPLES 1-6

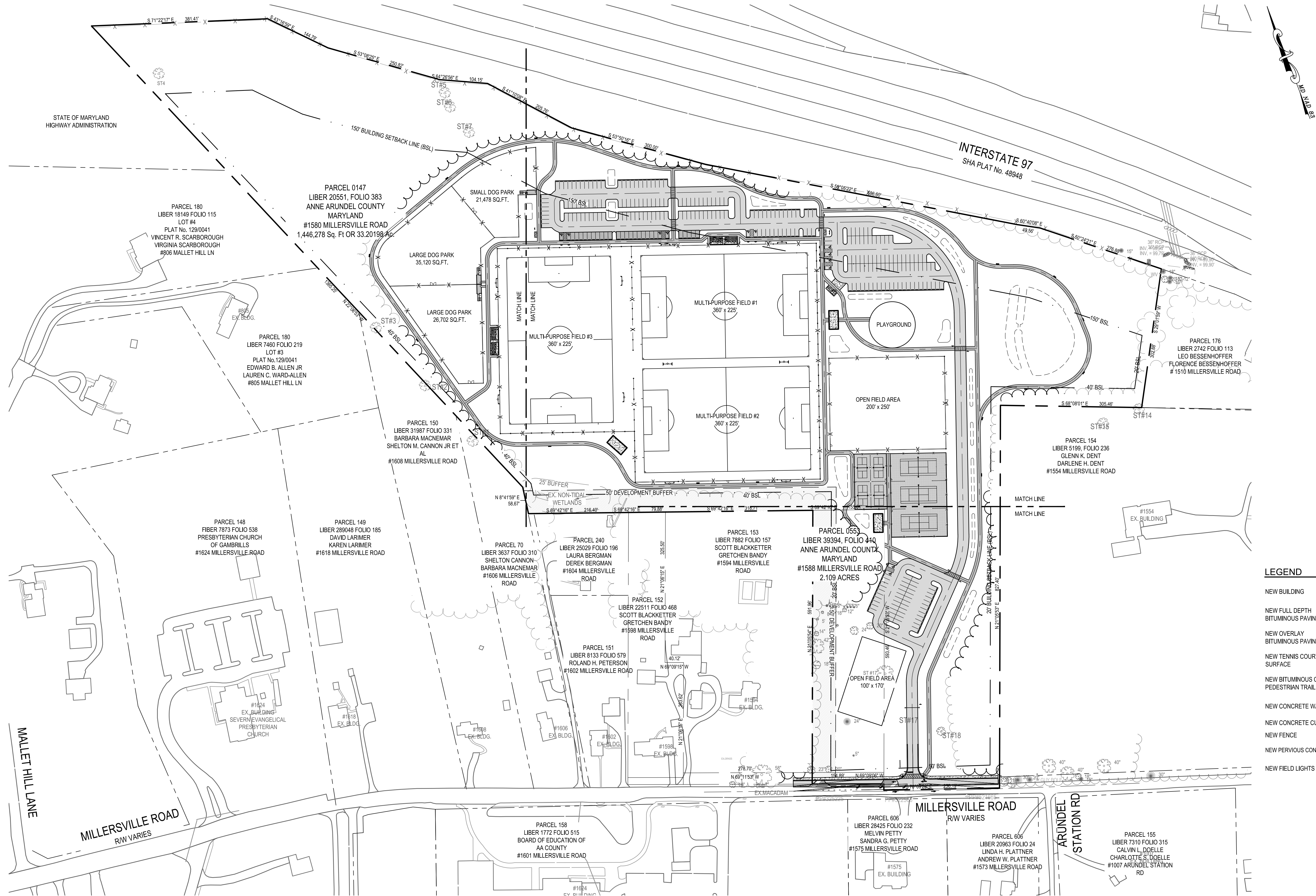
DEPTH (ft)	SAMPLE TYPE AND NUMBER	SPT BLOWNS* OR REC IN IN %	STATUS OR TESTING DEPTH (in)	WATER CHANGE DEPTH (in)	GRAPHIC LOG	USCS	WATER LEVEL	MATERIAL DESCRIPTION				PP (pcf)	NMC %	ATTERBERGS			REMARKS
								SURFACE EL = 109.8 ft						PL	LL	PI	
	S1 2-2-2-3	4	1.0	109.8		CL	Topsoil approximately 12 inches Moist, Medium Stiff, Yellowish Brown Sandy CLAY	1.40									
	S2 3-3-3-5	6							0.80	24							
5	S3 1-2-3-3	3	6.0	103.8					1.20								
	S4 3-5-5-6	10						CL	Moist, Medium Stiff to Stiff, Orange Brown Sandy CLAY	1.50	26						
10	S5 1-2-3-4	4	9.5	100.3						2.50							
			12.0	97.9		CL	Moist, Medium Stiff, Dark Gray CLAY										
			15.0	94.9		SC	Moist, Medium Dense, Orange Brown to White Clayey SAND										
15	S6 2-4-11	15	11.0	94.9			Terminated at 15.0 feet										

REMARKS:

NEW BOTTOM HULL LOG - MISSA VALLEY TENNIS CENTER (P.A.) MPT REGIME (DOT 411118)

<div style="text-align: center;">  <p>300 East Joppa Road Suite 200 Baltimore, MD 21286 410.512.4500 www.transystems.com</p> </div>		REVISIONS				ANNE ARUNDEL COUNTY					
						DEPARTMENT OF PUBLIC WORKS					
		NO.	DESCRIPTION	BY	DATE	APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
										DRAWN BY: R.S.S.	
										CHECKED BY: R.W.H.	
						CHIEF ENGINEER		PROJECT MANAGER		SHEET NO. 08 OF 58	BORING LOGS
						APPROVED	DATE	APPROVED	DATE	PROJECT NO.: P567100	
										CONTRACT NO.: P56702	
						ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY			

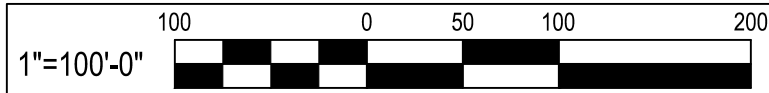
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LEGEND

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- NEW OVERLAY BITUMINOUS PAVING
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- NEW CONCRETE WALK / PAD
- NEW CONCRETE CURB AND GUTTER
- NEW FENCE
- NEW PERVIOUS CONCRETE PAVING
- NEW FIELD LIGHTS

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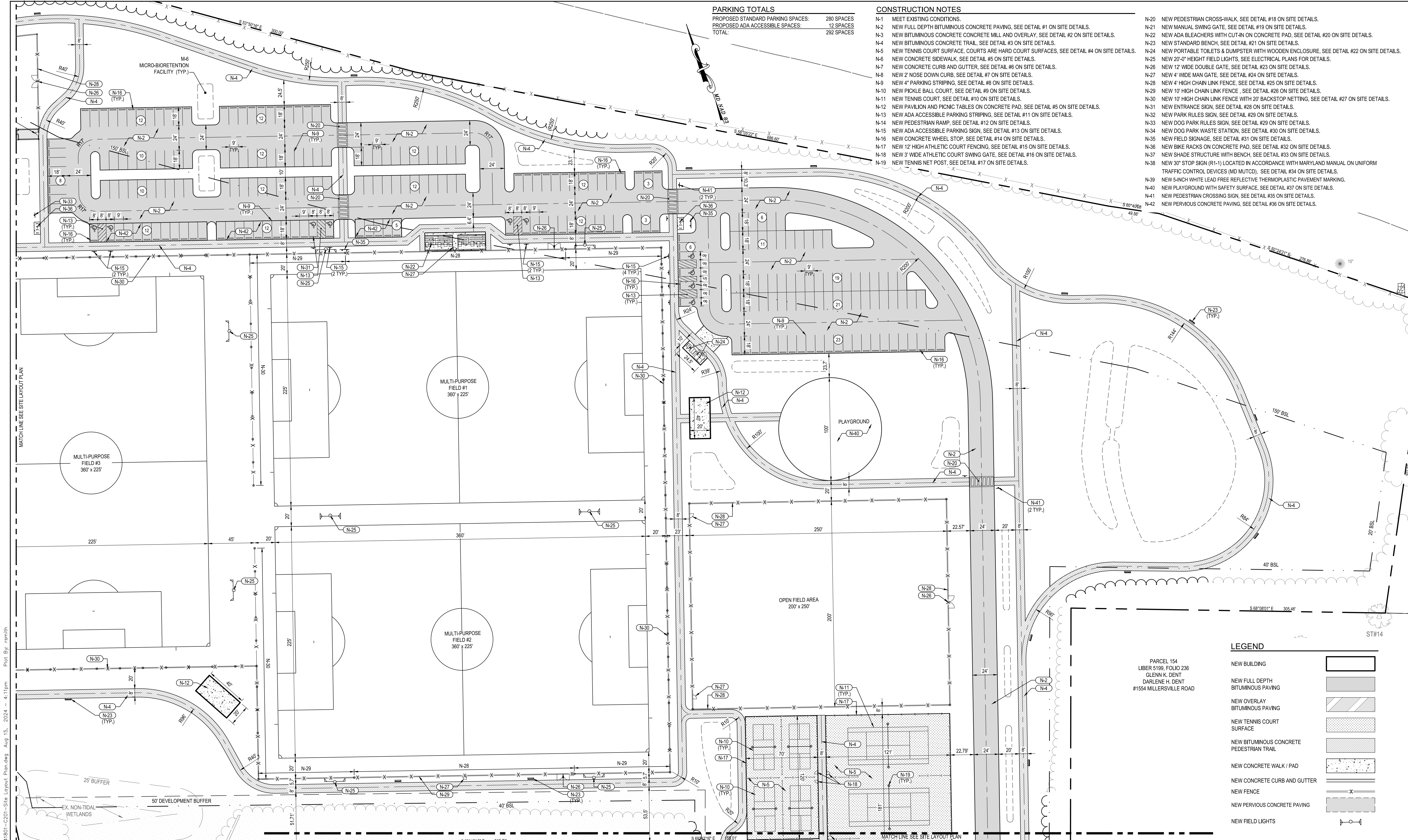
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APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 100'		DRAWN BY: R.S.S.	
		CHECKED BY: R.W.H.	
		SHEET NO. 09 OF 58	
		PROJECT NO.: P567100	
		CONTRACT NO.: P56702	

MILLERSVILLE PARK

OVERALL SITE LAYOUT PLAN



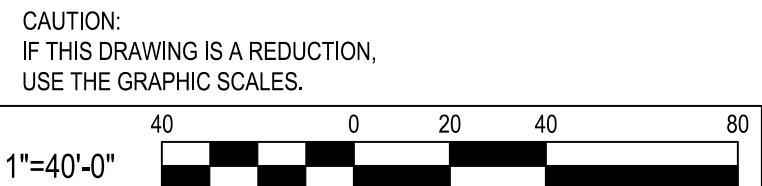
PARKING TOTALS	
PROPOSED STANDARD PARKING SPACES:	280 SPACES
PROPOSED ADA ACCESSIBLE SPACES:	12 SPACES
TOTAL:	292 SPACES

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PARCEL 154
LIBER 5199, FOLIO 236
GLENN K. DENT
DARLENE H. DENT
#1554 MILLERSVILLE ROAD



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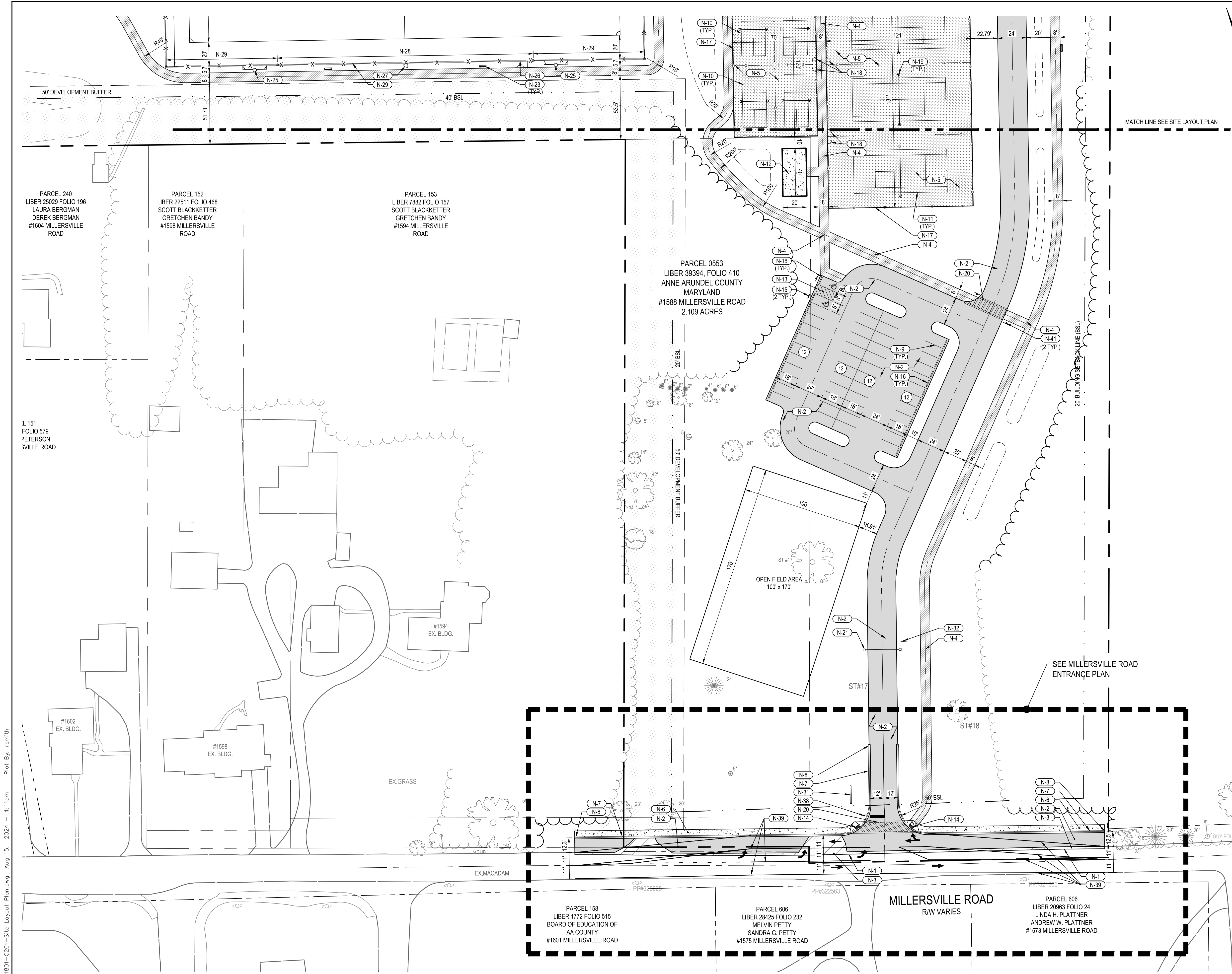
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		CHECKED BY: R.W.H.	
		SHEET NO. 10 OF 58	
		PROJECT NO.: P567100	
		CONTRACT NO.: P56702	

MILLERSVILLE PARK

SITE LAYOUT PLAN



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P:\2017\17141801\Drawings\07-Site\17141801-C201-Site Layout Plan.dwg Aug 15, 2024 4:11pm Plot By: rsmith

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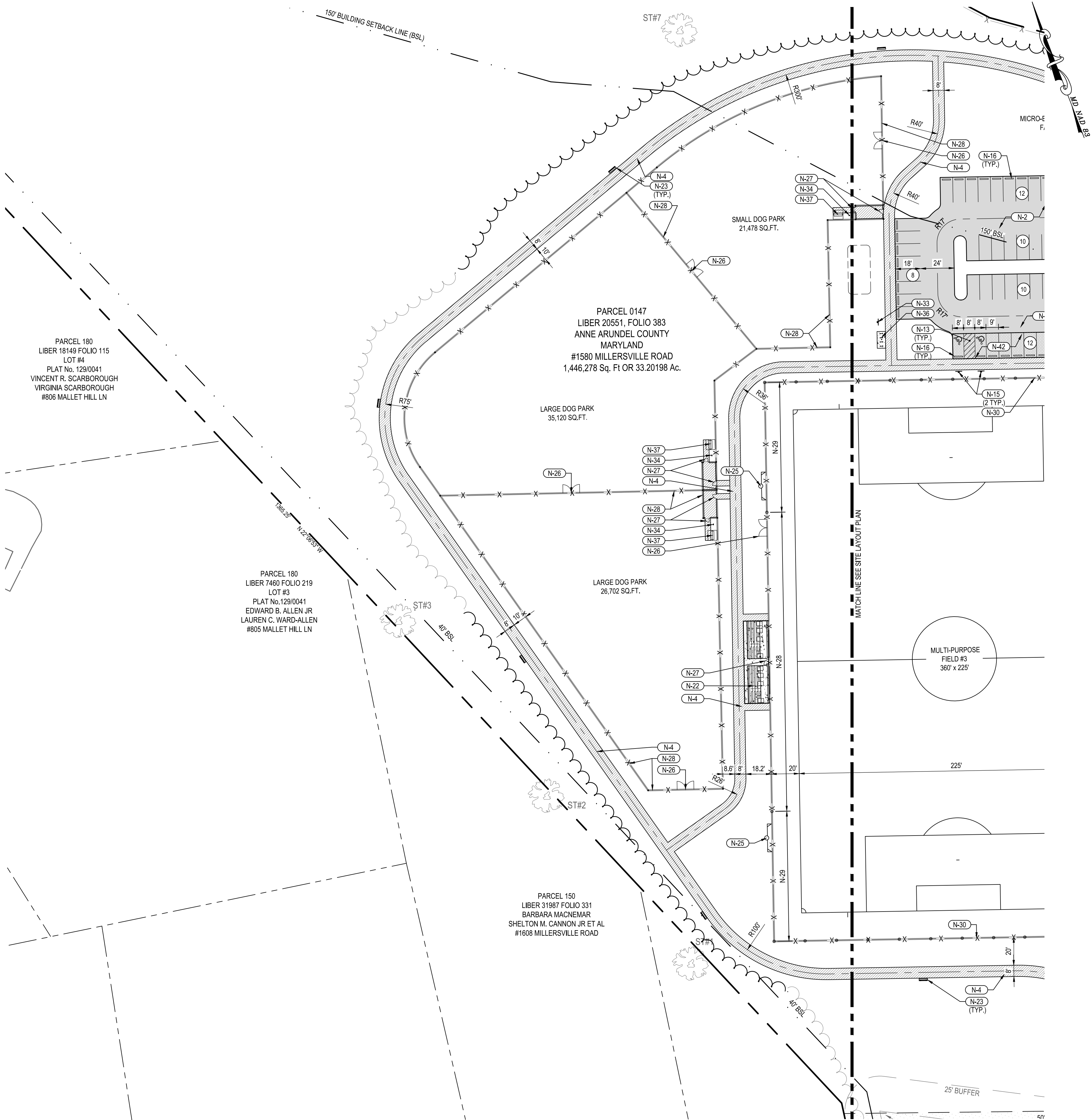
REVISIONS			
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CHIEF ENGINEER		PROJECT MANAGER	
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SCALE: 1" = 40'		DRAWN BY: R.S.S.	
		CHECKED BY: R.W.H.	
		SHEET NO. 11 OF 58	
		PROJECT NO.: P567100	
		CONTRACT NO.: P56702	

MILLERSVILLE PARK

SITE LAYOUT PLAN

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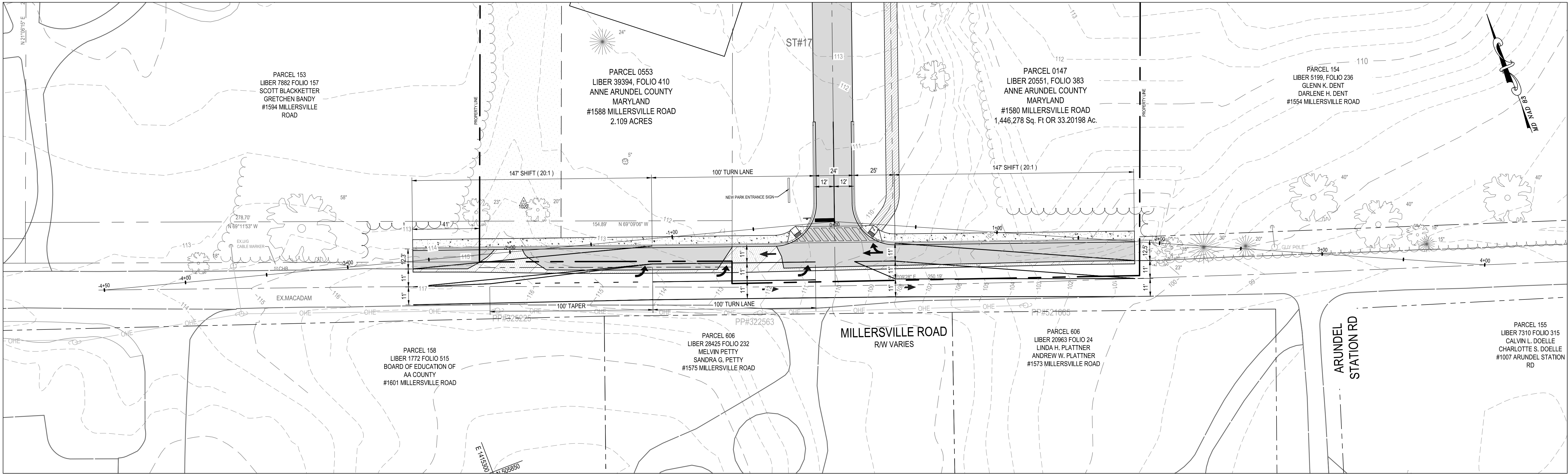
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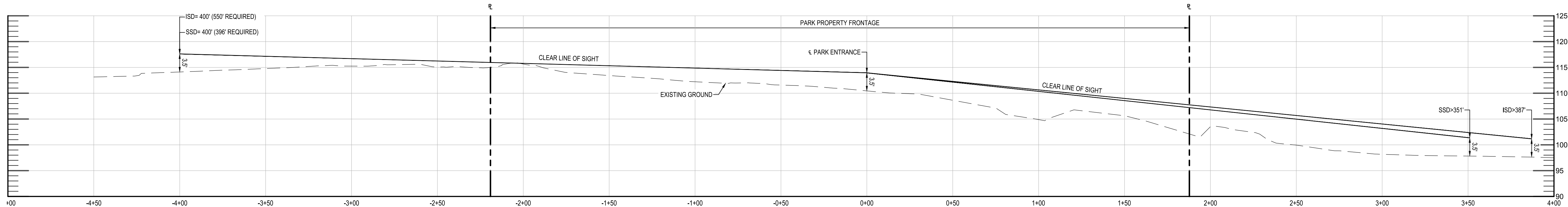
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APPROVED	DATE	APPROVED	DATE
_____		_____	
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
_____		_____	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 40'		DRAWN BY: R.S.S.	
		CHECKED BY: R.W.H.	
		SHEET NO. 12 OF 58	
		PROJECT NO.: P567100	
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MILLERSVILLE PARK			
SITE LAYOUT PLAN			

P:\2017\17141801\Drawings\07-Site\17141801-C204-Millersville Road Entrance Plan.dwg Aug 15, 2024 - 4:13pm Plot By: rsrnith



PLAN
SCALE: 1" = 30'



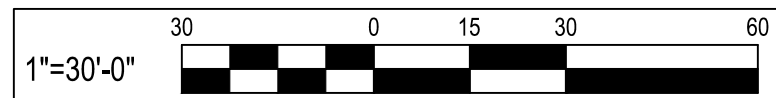
SIGHT DISTANCE PROFILE
SCALE: HORIZ. 1"=30' VERT. 1"=10'

MILLERSVILLE ROAD POSTED SPEED LIMIT: 35 MPH, DESIGN SPEED: 35 MPH, 85TH PERCENTILE SPEED: 45 MPH
THE HEIGHT OF EYE AND OBJECTS ARE 3.5 FT.
STOPPING SIGHT DISTANCE SPEED (MPH): 45, COMPUTED DISTANCE 360 (FT.), ADJUSTED FOR GRADES > 3%
+4% GRADE ADJUSTMENT: 0.9 (351 FT.), -4% GRADE ADJUSTMENT: 1.1 (396 FT.)

[RIGHT TURN] INTERSECTION SIGHT DISTANCE SPEED (MPH): 45, COMPUTED DISTANCE 430.0 (FT.),
ROUNDED 430 (FT.), +4% GRADE ADJUSTMENT: 0.9 (387 FT.)

[LEFT TURN] INTERSECTION SIGHT DISTANCE SPEED (MPH): 45, COMPUTED DISTANCE 496.1 (FT.),
ROUNDED 500 (FT.), -4% GRADE ADJUSTMENT: 1.1 (550 FT.)

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



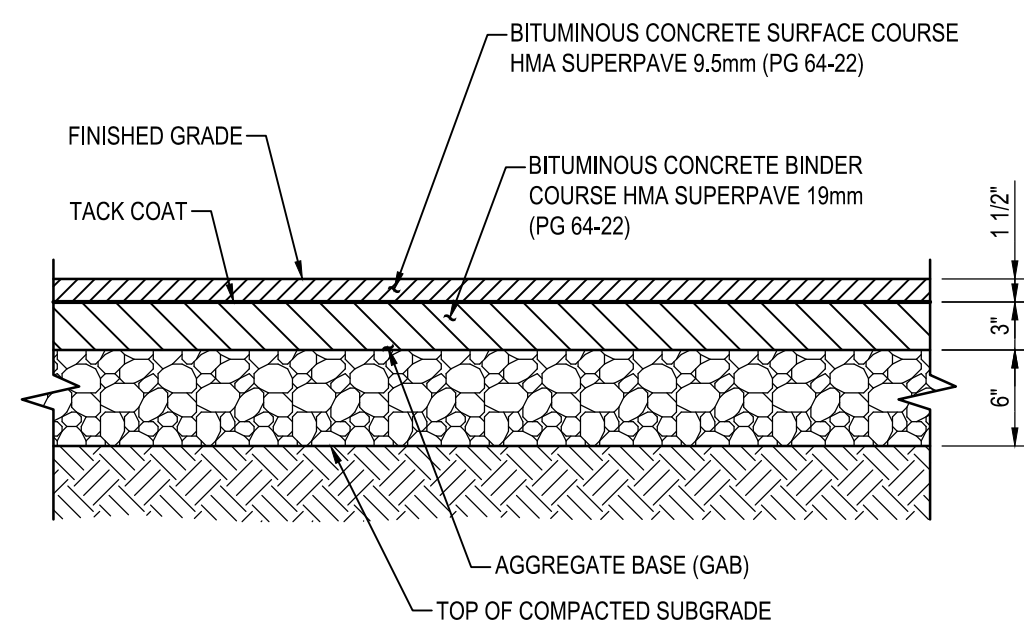
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professional engineer under the laws of the State of
Maryland
License # 27734 Expiration Date: 07/12/26

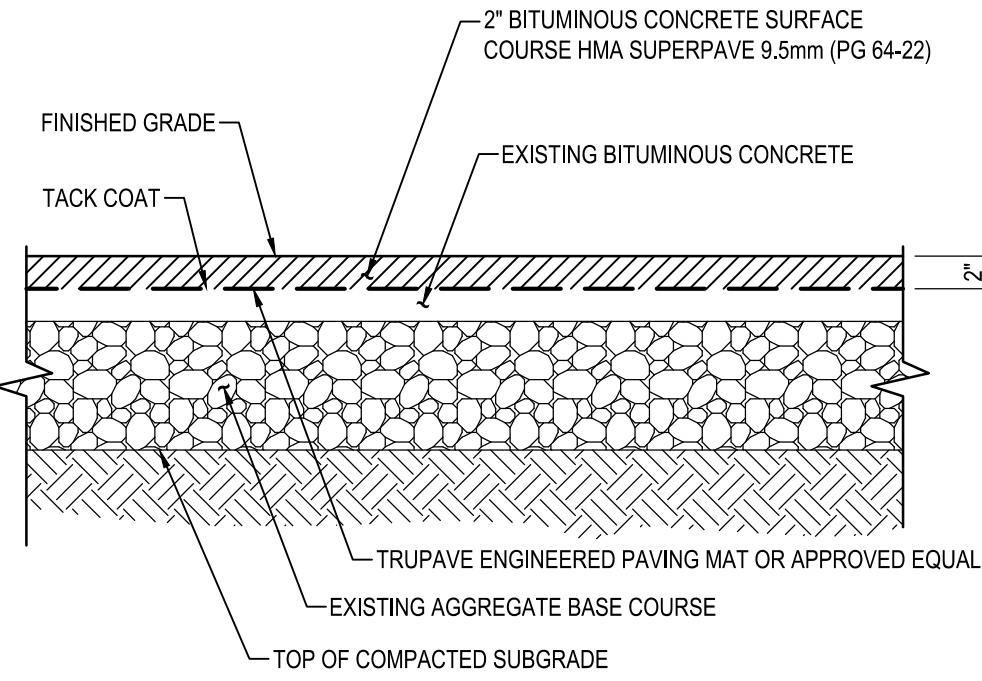
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 30'		DRAWN BY: R.S.S.	MILLERSVILLE PARK MILLERSVILLE ROAD ENTRANCE PLAN
CHECKED BY: R.W.H.		SHEET NO. 13 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	

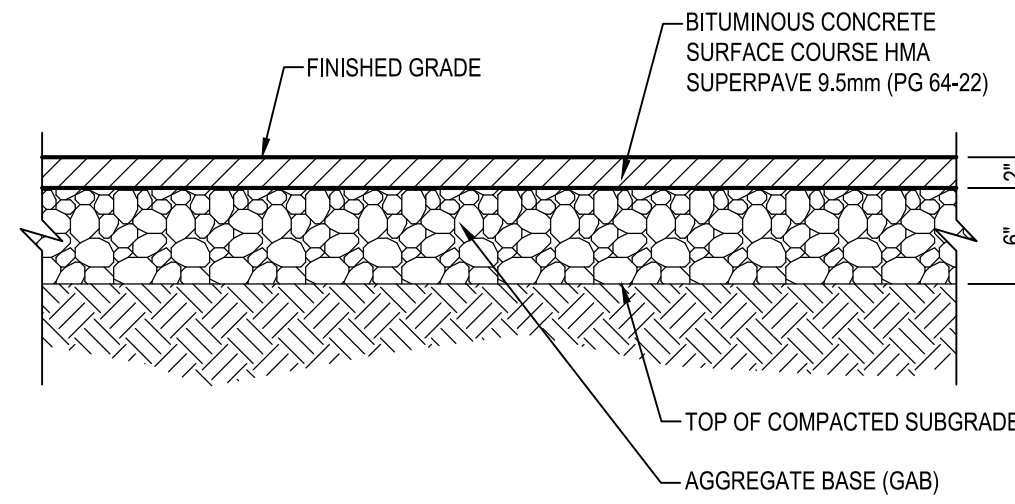


SECTION

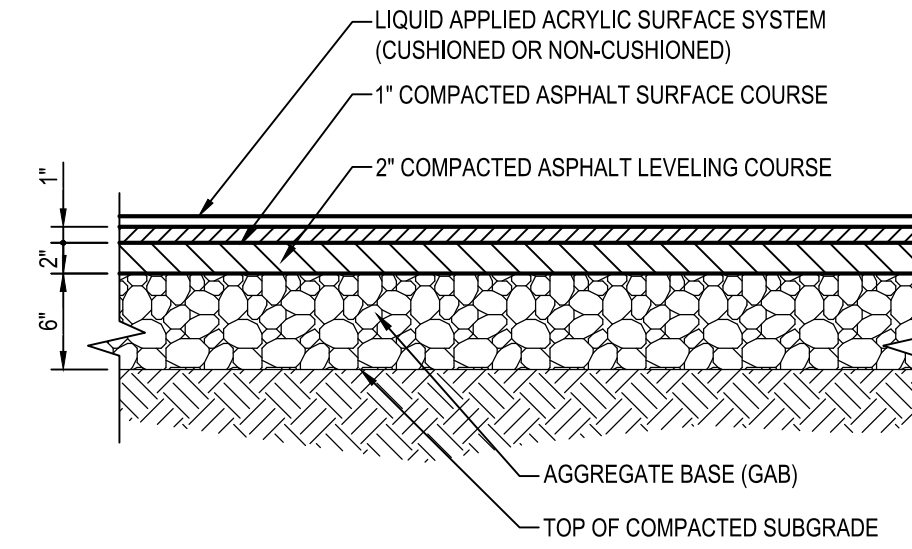
- NOTES:
1. MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.
 2. AT PERIMETERS OF OVERLAY PAVING AREAS: MEET NEW ROAD PAVING SECTION FINISHED GRADE FLUSH.
 3. MILL THE TOP 2 INCHES OF THE PARKING LOT AND ROADWAY SURFACE.
 4. EXAMINE THE MILLED SURFACE. CUT OUT ANY FAILED BASE COURSE AREA EXHIBITING ALLIGTOR OR PATCHWORK CRACKING, WHICH MAY HAVE BEEN HIDDEN BELOW THE SURFACE COURSE, TO EXPOSE THE UNDERLYING SOIL OR CRUSHED STONE BASE.
 5. CLEAN EXPOSED LINEAR CRACKS IN THE EXPOSED SURFACE, FILLING CRACKS THINNER THAN 1/4-INCH WIDTH WITH LIQUID ASPHALT AND FILLING CRACKS LARGER THAN 1/4-INCH WITH SAND/ASPHALT MIX.
 6. PLACE THE LIQUID ASPHALT TACK COAT AND APPROPRIATE PAVEMENT GRADE GEOTEXTILE FABRIC ACROSS THE ENTIRE OVERLAY AREA TO MEET MANUFACTURER'S REQUIREMENTS. PAVING FABRIC SHOULD BE INSTALLED BY AN APPROVED SPECIALTY CONTRACTOR.
 7. PLACE A 2-INCH THICK OVERLAY SECTION OF HOT-MIX ASPHALT (9.5MM SUPERPAVE, LEVEL 10) OVER THE ENTIRE OVERLAY AREA.



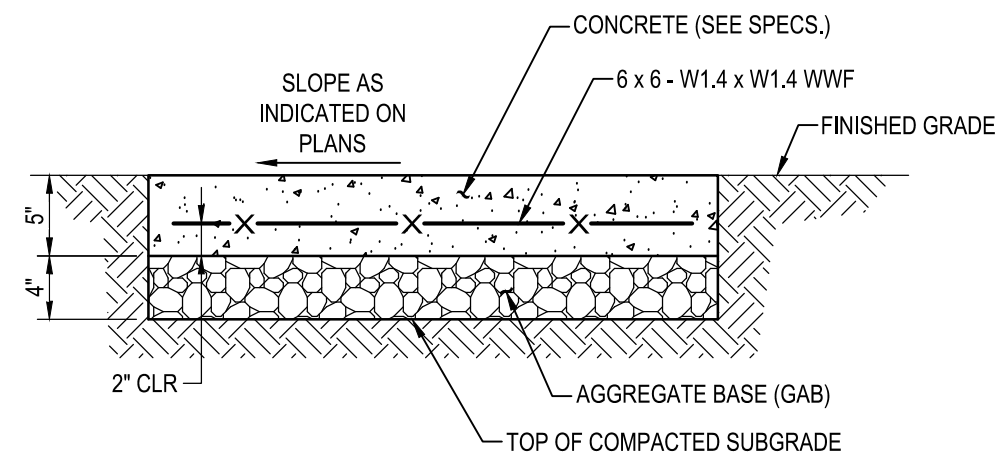
SECTION



SECTION



SECTION



SECTION

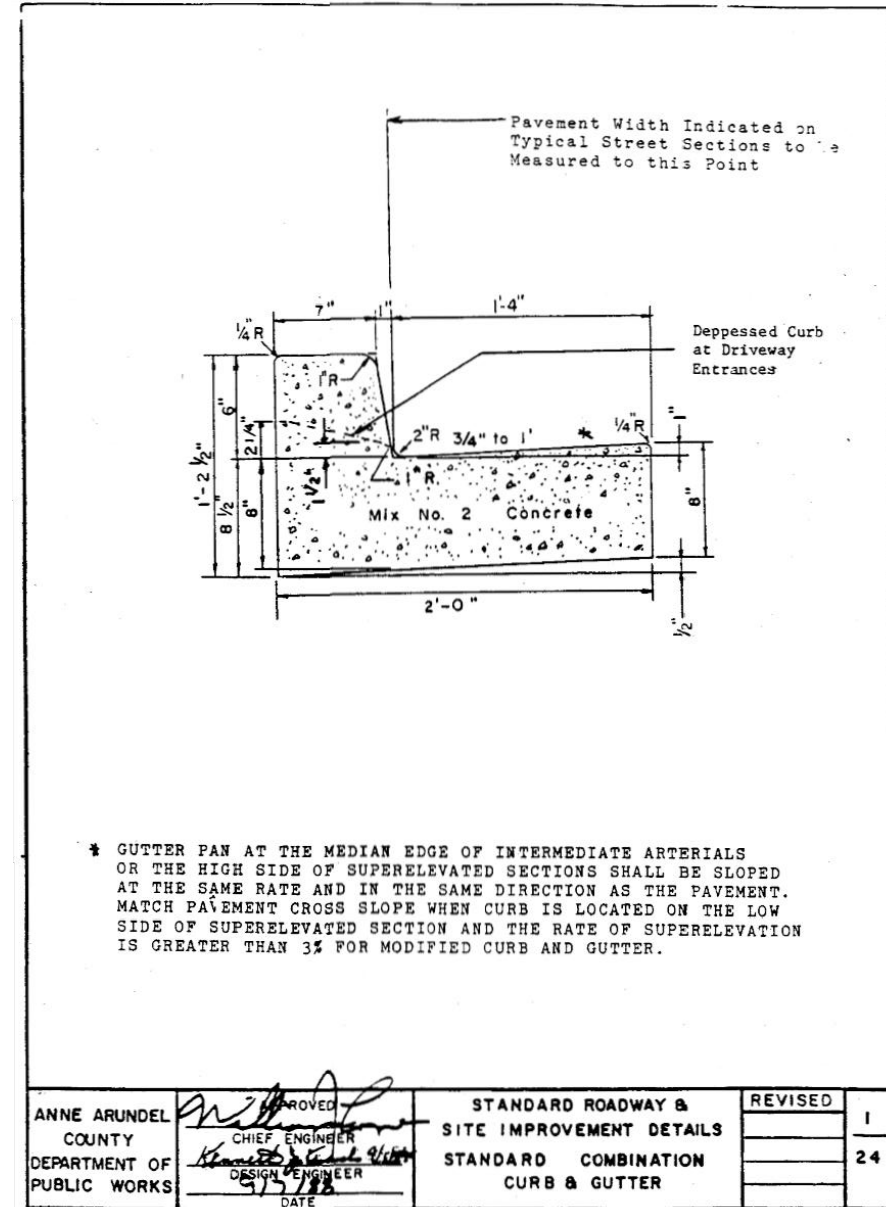
1 BITUMINOUS CONCRETE PAVING
SCALE: 1" = 1'-0"

2 MILL AND OVERLAY PAVEMENT SECTION
SCALE: 1" = 1'-0"

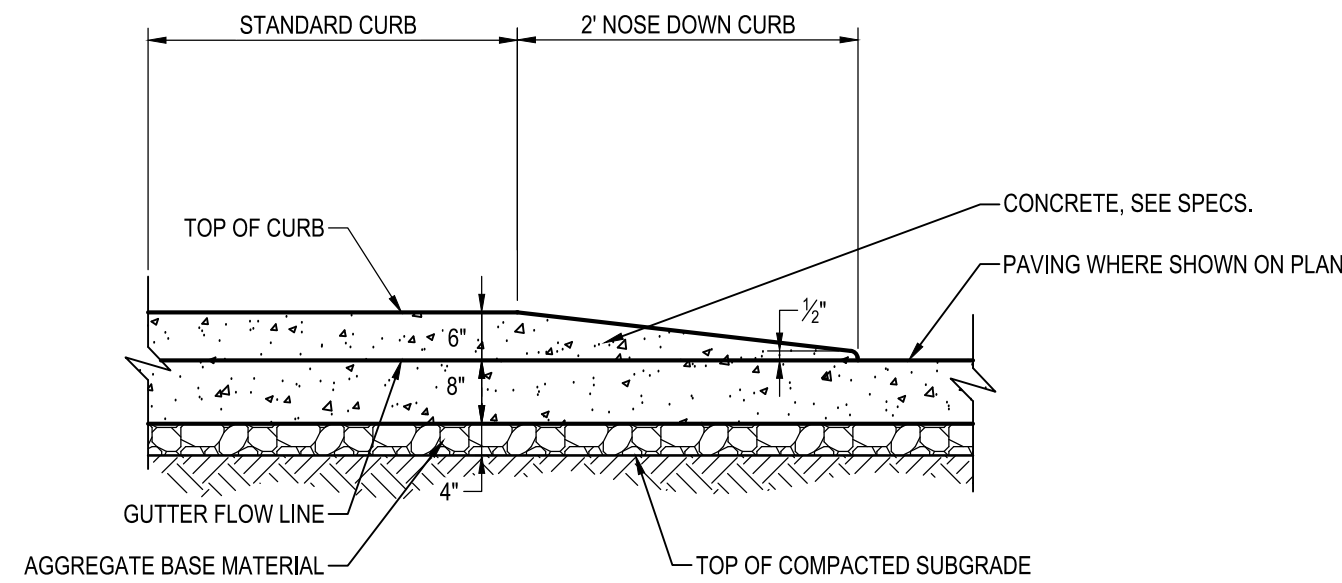
3 BITUMINOUS CONCRETE WALK
SCALE: 1" = 1'-0"

4 ATHLETIC COURT SURFACE
SCALE: 1" = 1'-0"

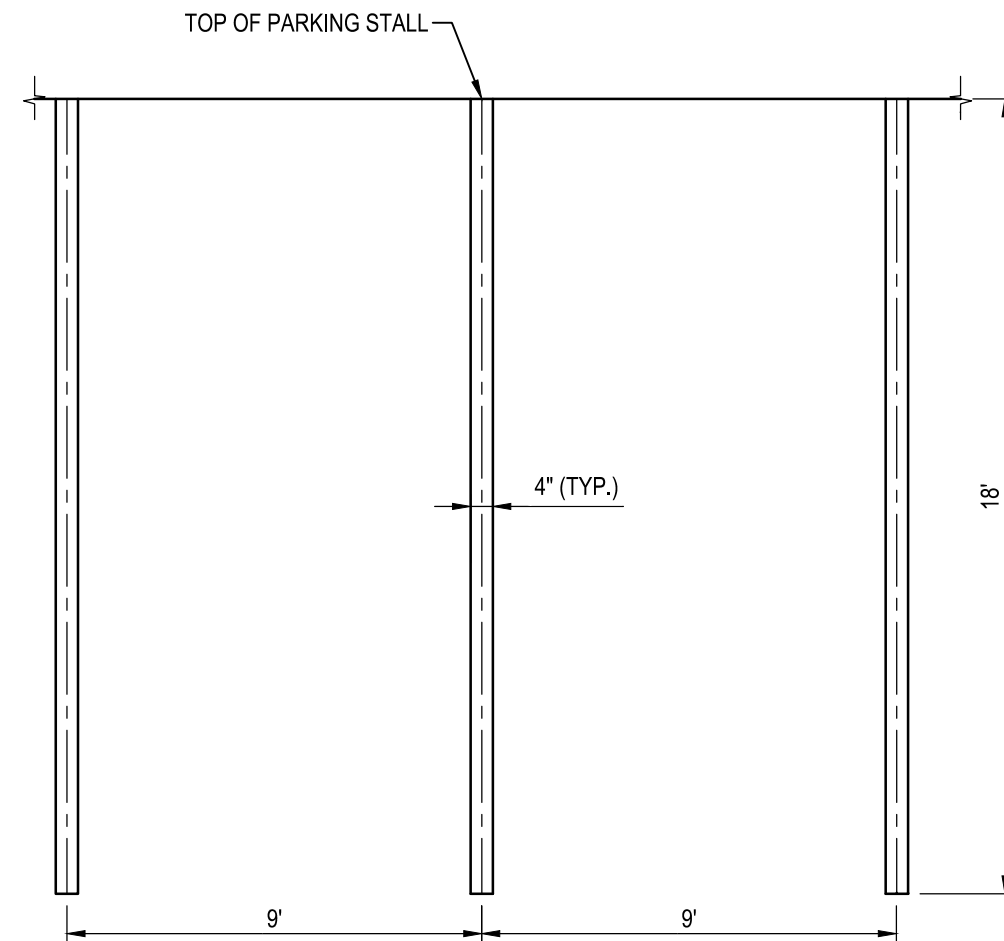
5 CONCRETE WALK / PAD
SCALE: 1" = 1'-0"



6 6" CURB AND GUTTER
NOT TO SCALE



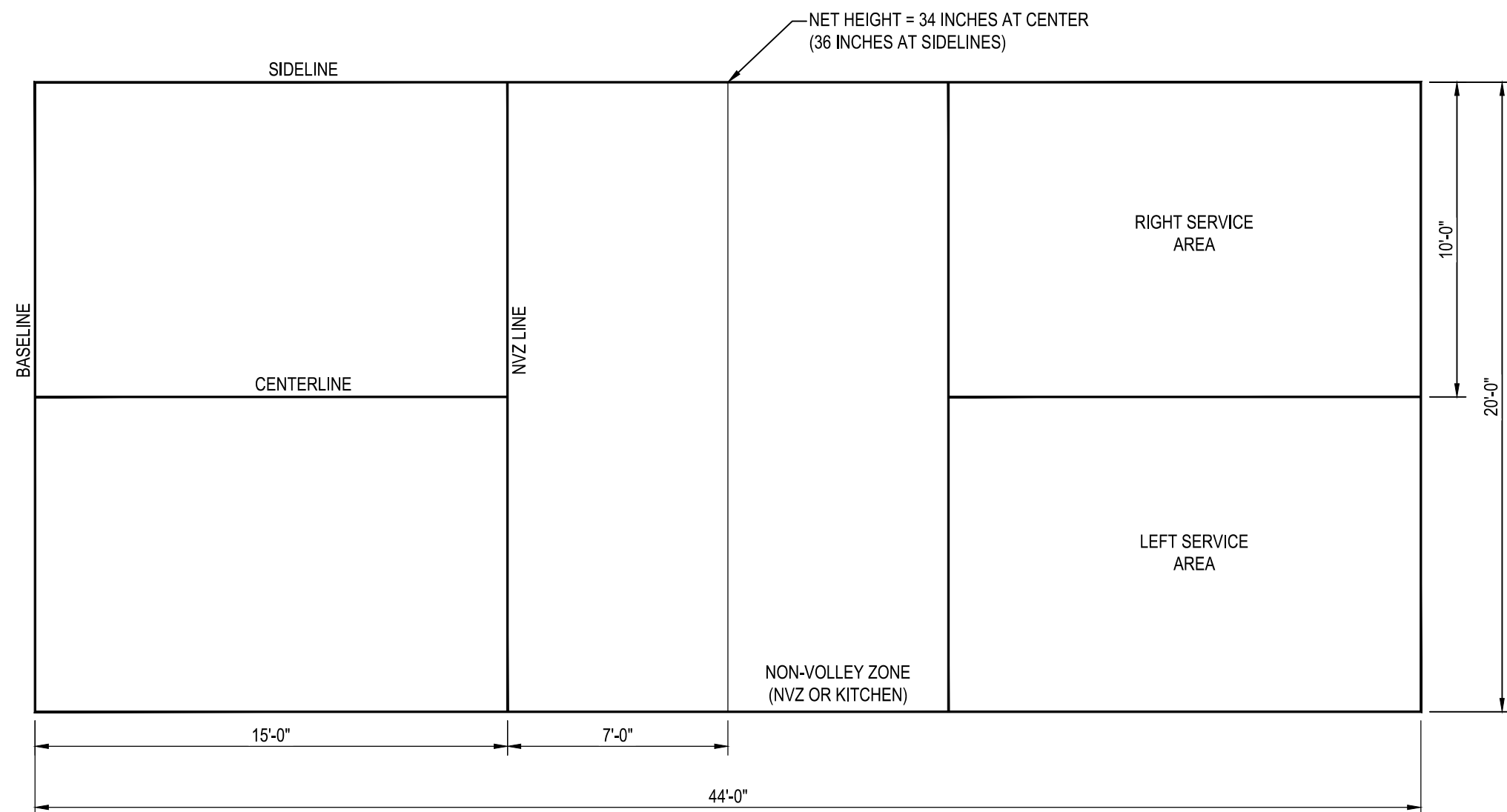
7 2'-0" NOSE DOWN CONCRETE CURB
SCALE: 1" = 1'-0"



- NOTES:
1. PAINT IS TO BE WHITE TRAFFIC PAINT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (TWO (2) COATS REQUIRED)
 2. DETAIL SHOWS TYPICAL SPACE DIMENSIONS. SEE PLAN FOR SPACE LOCATIONS.

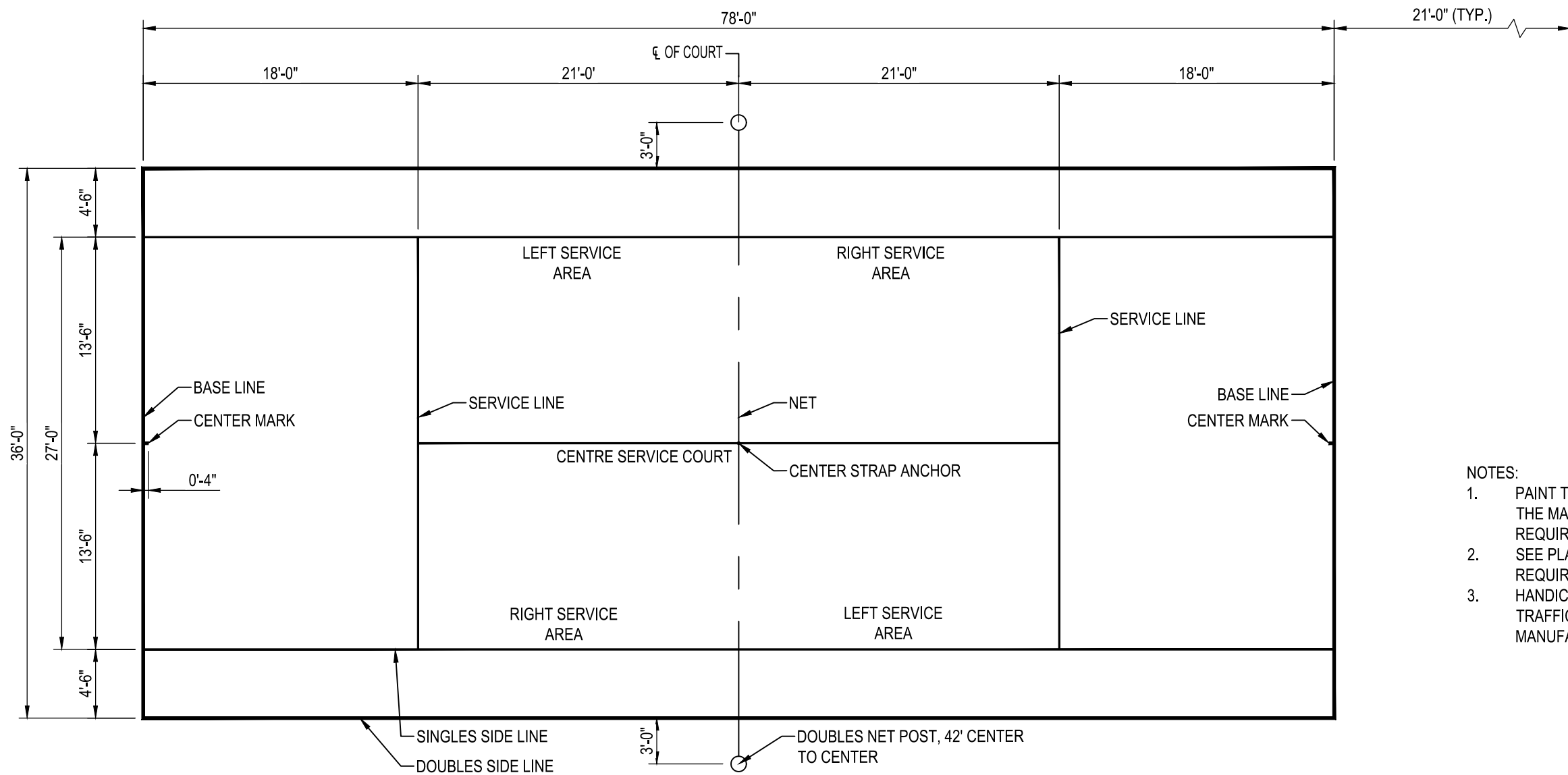
PLAN

8 4" PAVEMENT MARKING
NOT TO SCALE



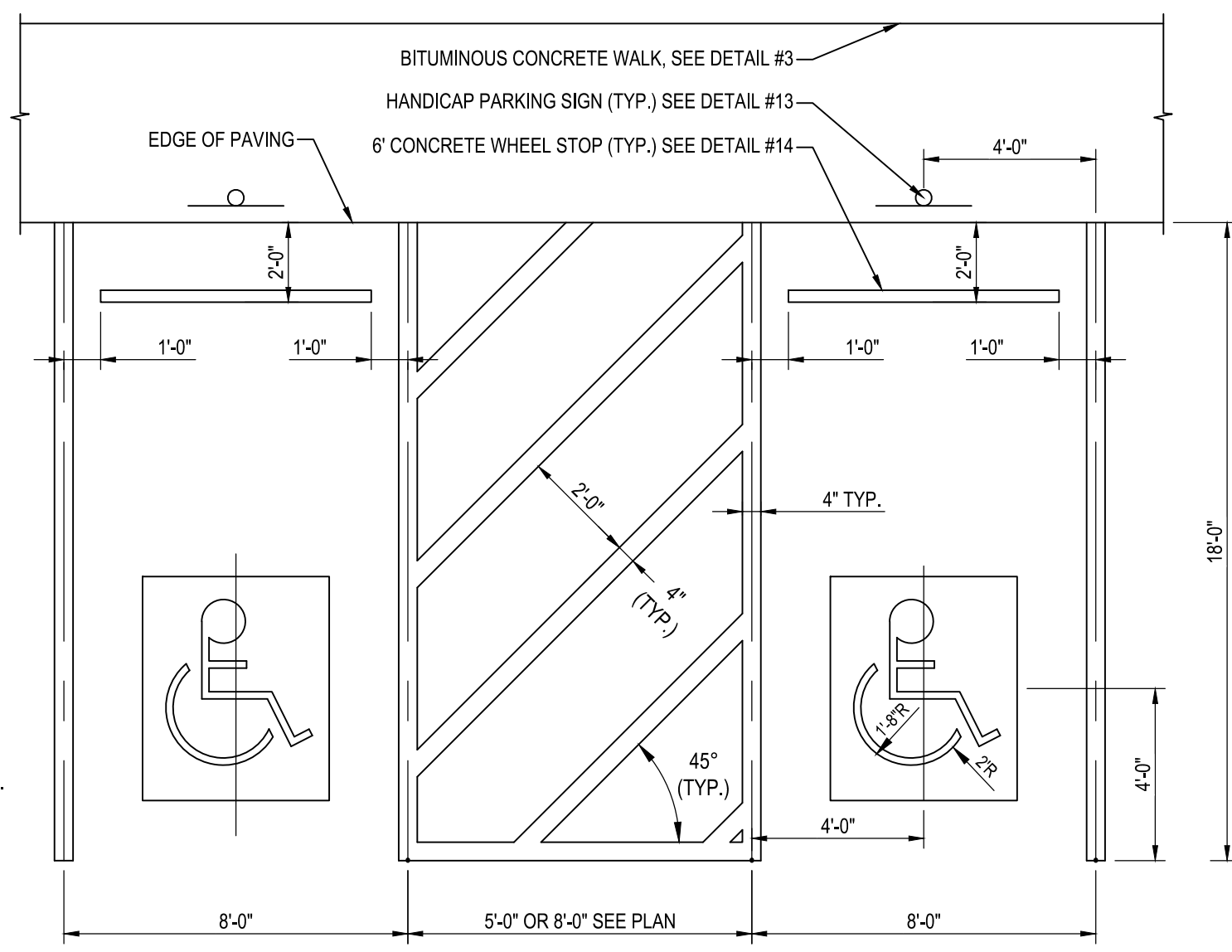
PLAN

9 PICKLEBALL COURT
NOT TO SCALE



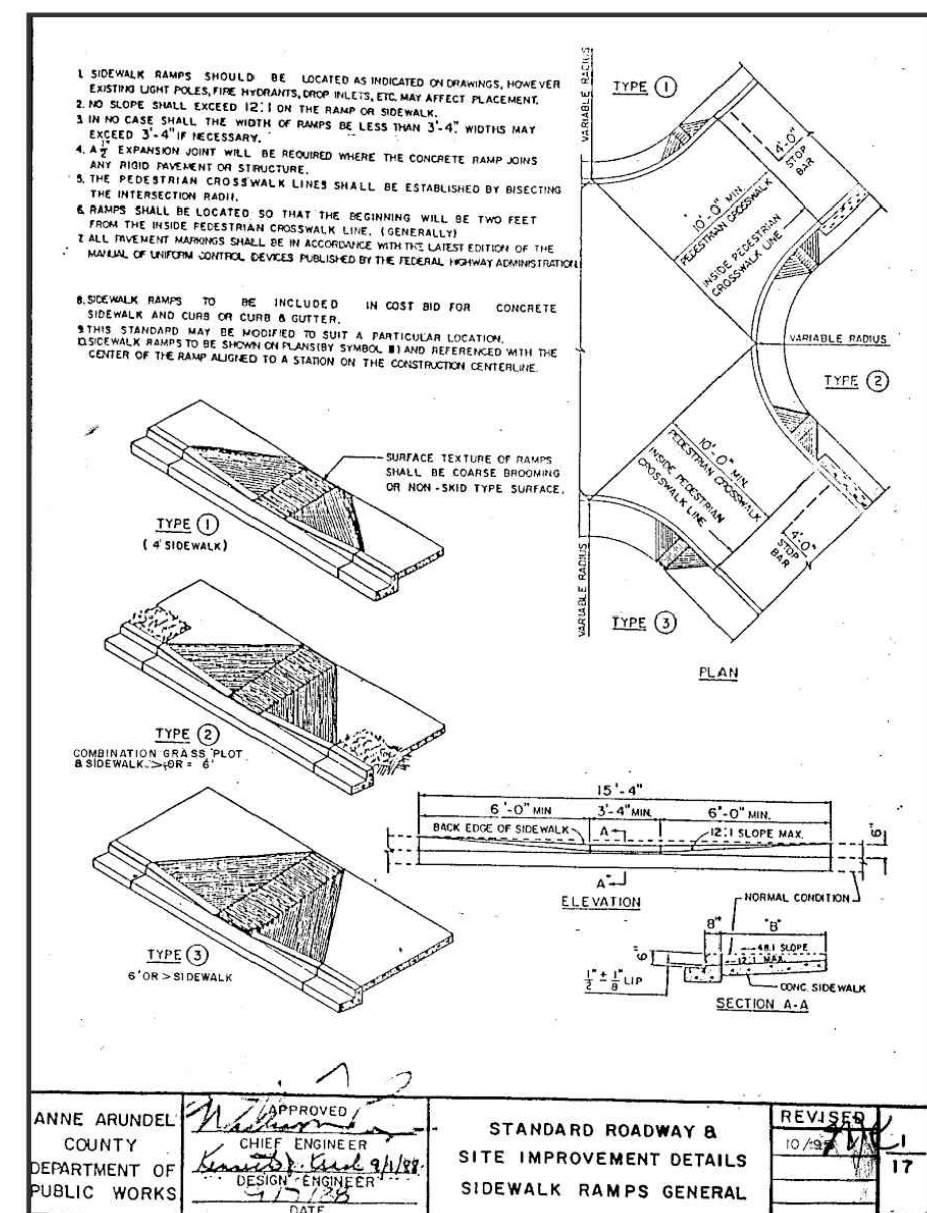
PLAN

10 TENNIS COURT (78' COURT)
NOT TO SCALE



PLAN

11 ADA ACCESSIBLE PARKING STRIPING
NOT TO SCALE



12 PEDESTRIAN RAMP
NOT TO SCALE

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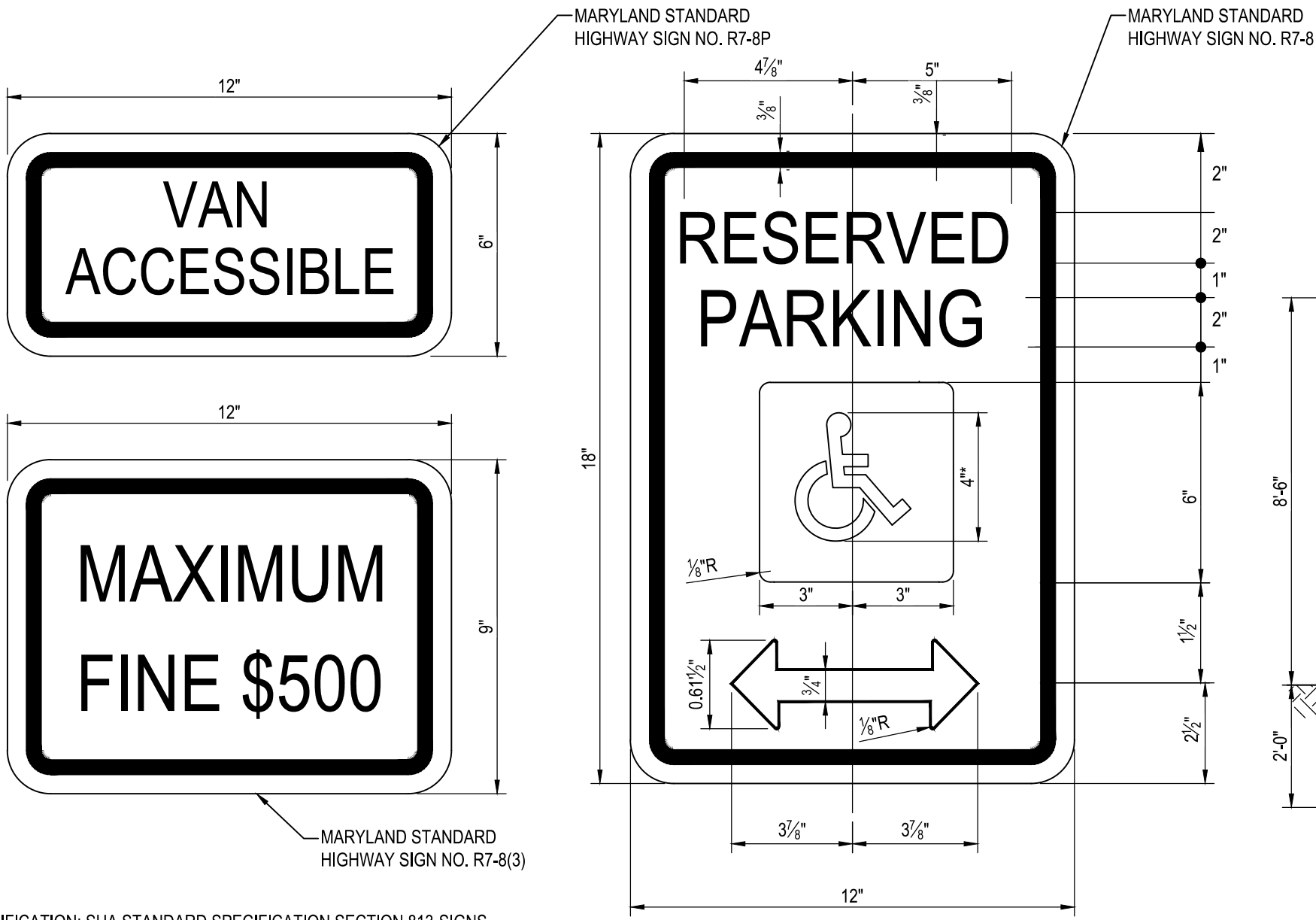
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License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
				DRAWN BY: R.S.S.	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: R.W.H.	
APPROVED	DATE	APPROVED	DATE	SHEET NO. 14 OF 58	SITE DETAILS
				PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	

MILLERSVILLE PARK

SITE DETAILS

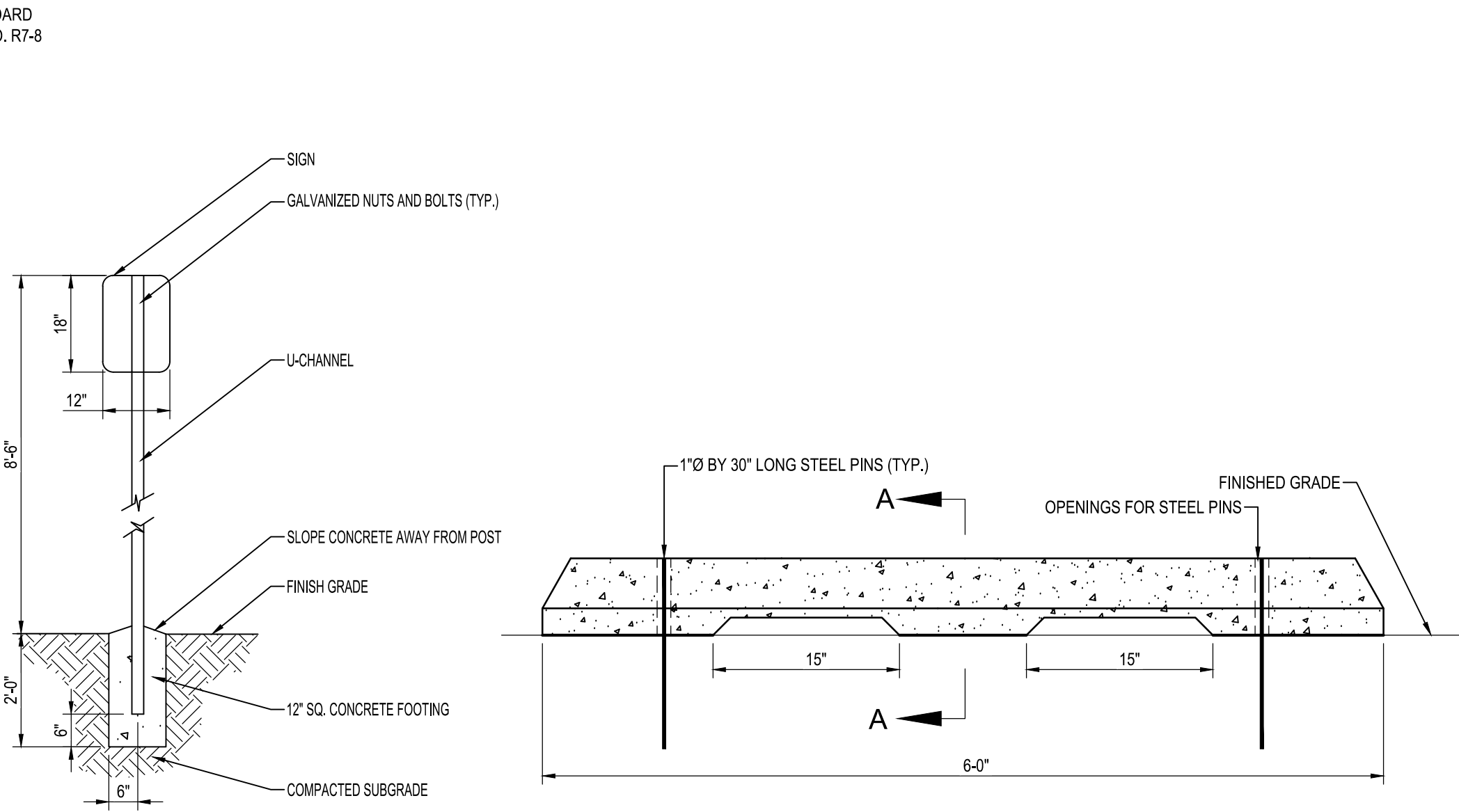


SPECIFICATION: SHA STANDARD SPECIFICATION SECTION 813-SIGNS.

* SEE PROPORTIONS FOR SYMBOL DESIGN (ALL DIMENSIONS FOR SIGN IN INCHES)

COLORS: LEGEND & BORDER-GREEN
WHITE SYMBOL ON BLUE BACKGROUND,
BACKGROUND-WHITE.

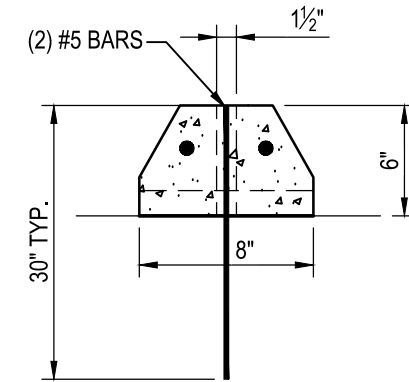
13 HANDICAP PARKING SIGN
NOT TO SCALE



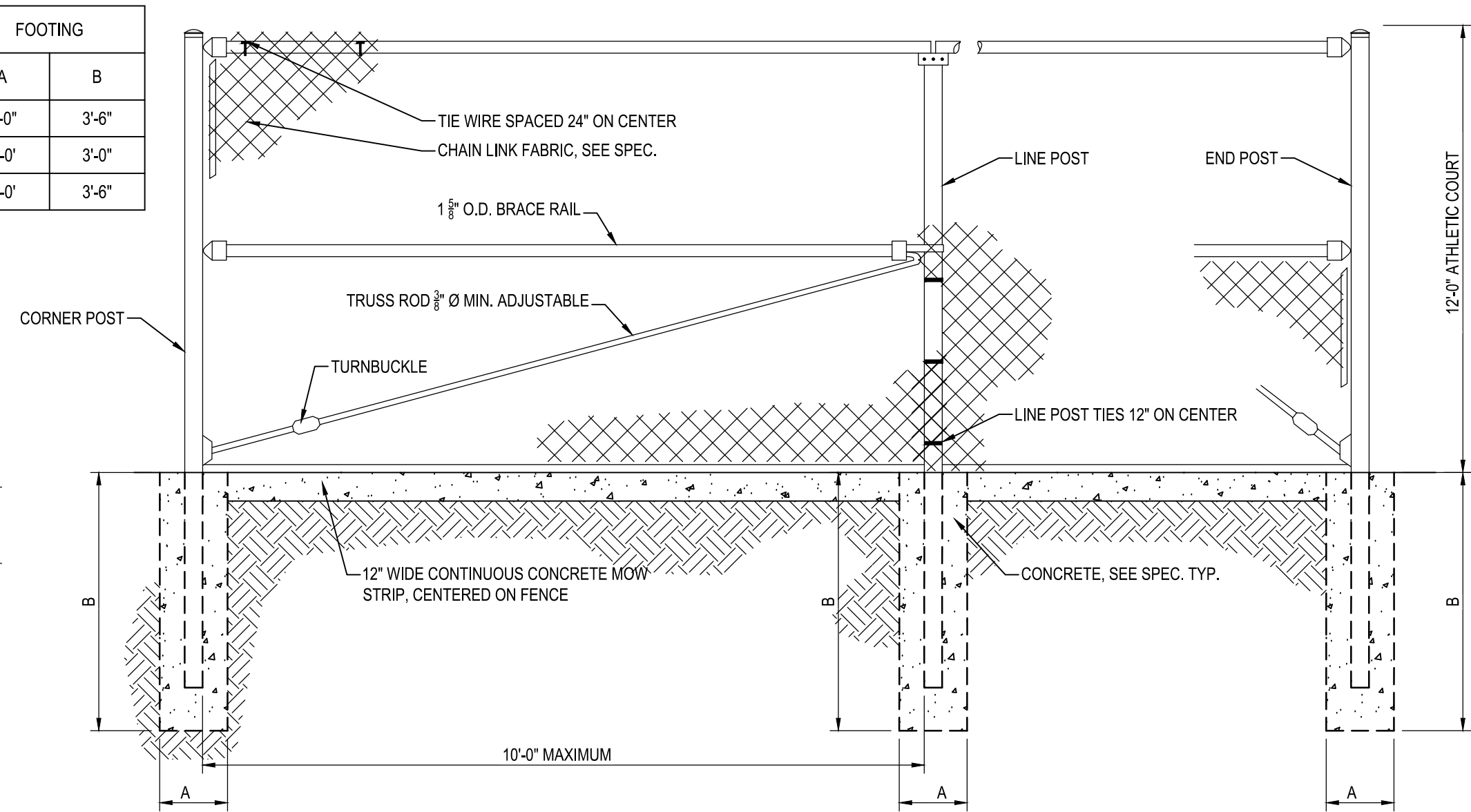
ELEVATION

14 CONCRETE WHEELSTOP
SCALE: 1" = 1'-0"

POST TYPE	POST DIA. O. D.	FOOTING	
		A	B
CORNER	4"	2'-0"	3'-6"
LINE	3"	1'-0"	3'-0"
END & GATE	4"	2'-0"	3'-6"

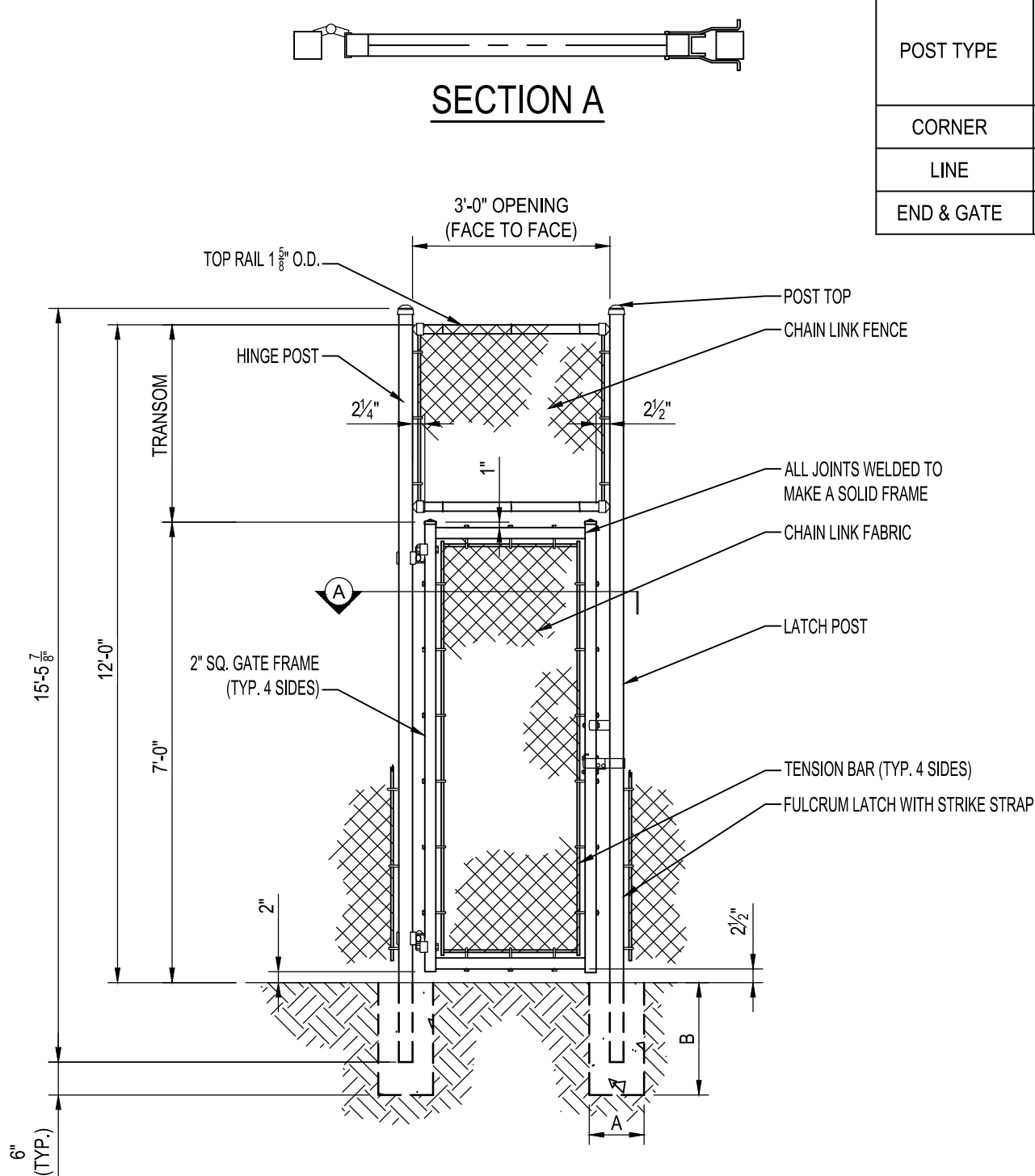


SECTION A-A



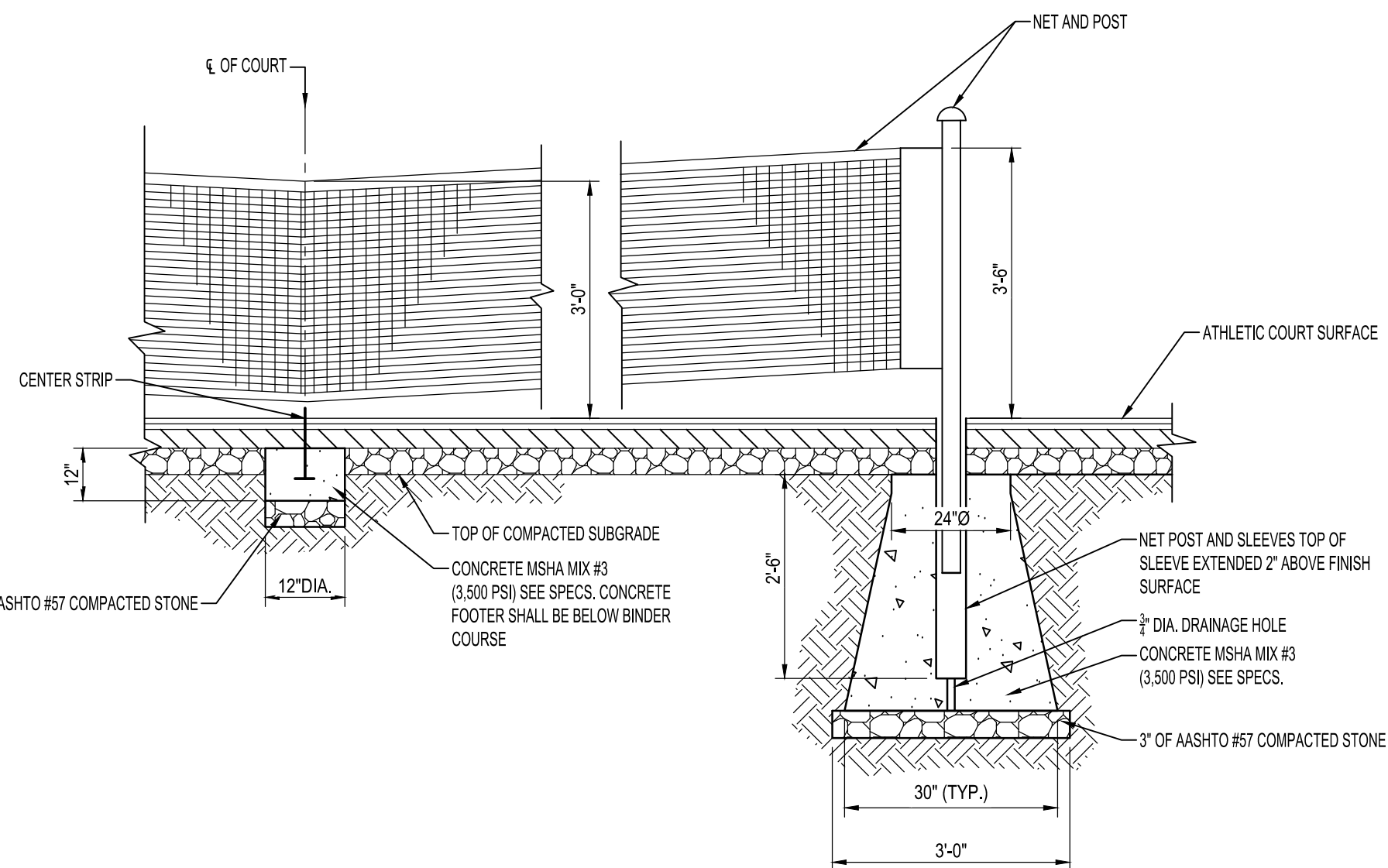
SECTION

15 ATHLETIC COURT FENCE
NOT TO SCALE



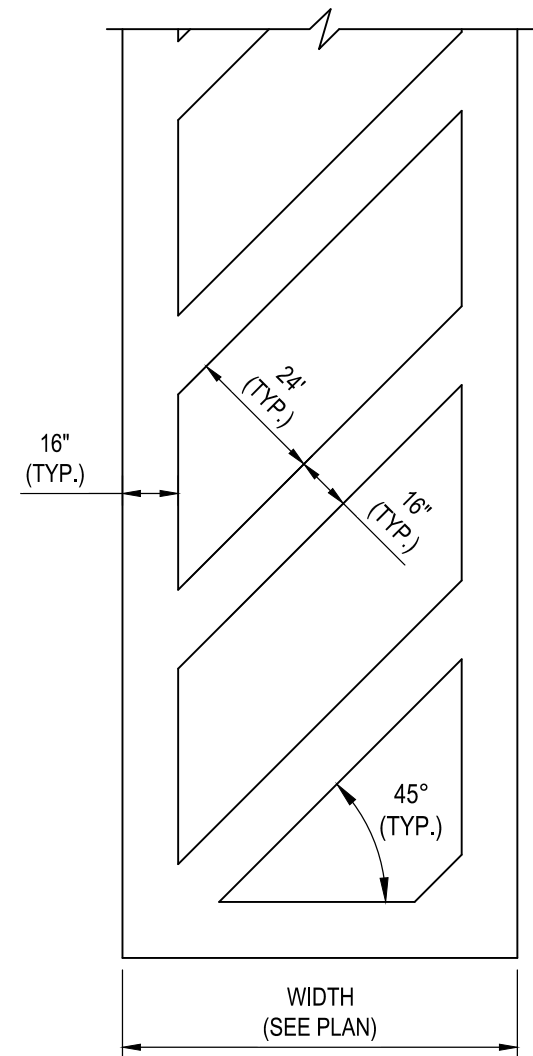
ELEVATION

16 ATHLETIC COURT SWING GATE
NOT TO SCALE



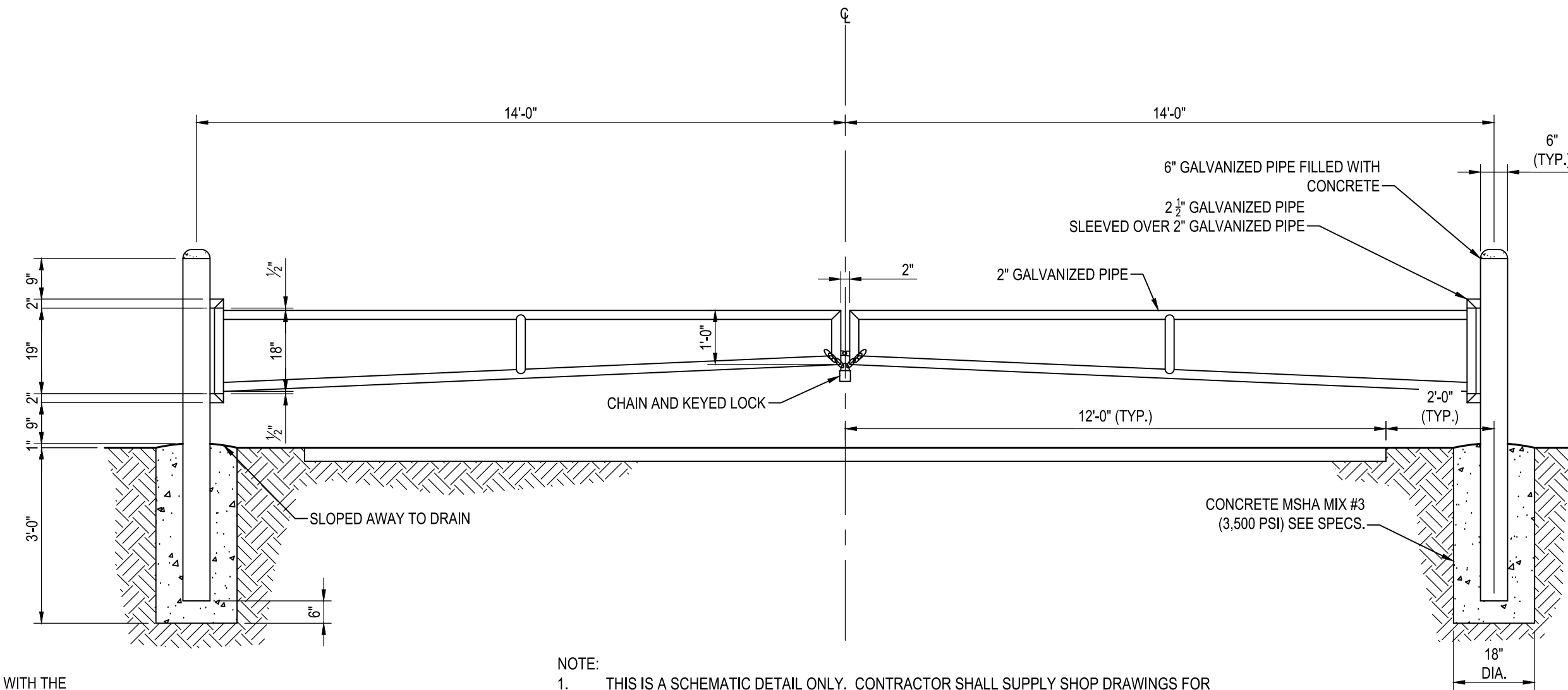
SECTION

17 TENNIS NET POST DETAIL
NOT TO SCALE



PLAN

18 PEDESTRIAN CROSSWALK
NOT TO SCALE



ELEVATION

19 MANUAL SWING GATE
NOT TO SCALE

- NOTES:
1. PAINT IS TO BE WHITE TRAFFIC PAINT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (TWO (2) COATS REQUIRED).
 2. DETAIL SHOWS TYPICAL SPACE DIMENSIONS. SEE PLAN FOR SPACE LOCATIONS.

- NOTE:
1. THIS IS A SCHEMATIC DETAIL ONLY. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS FOR ENGINEER'S REVIEW PRIOR TO INSTALLATION.

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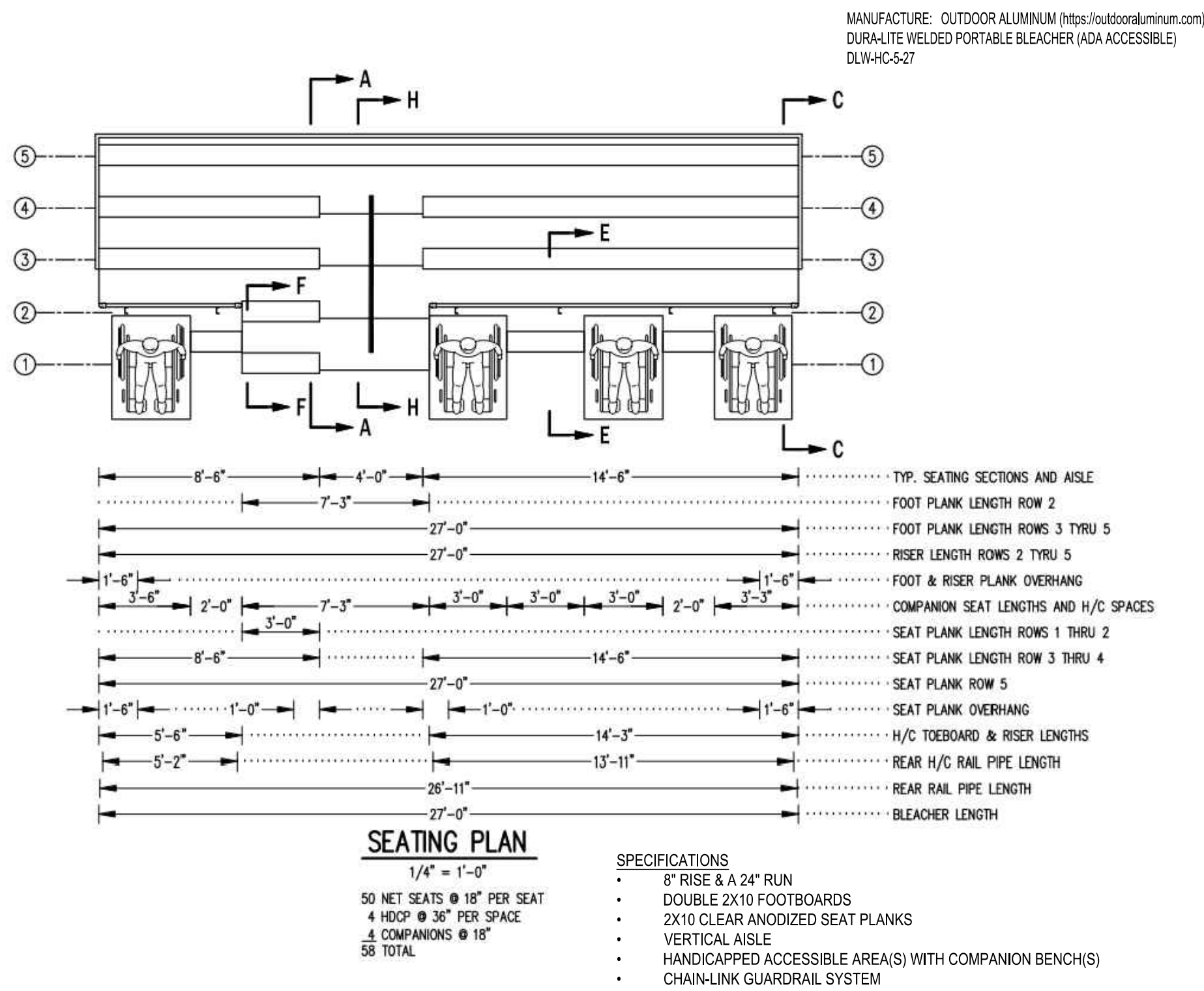
REVISIONS

NO.	DESCRIPTION	BY	DATE

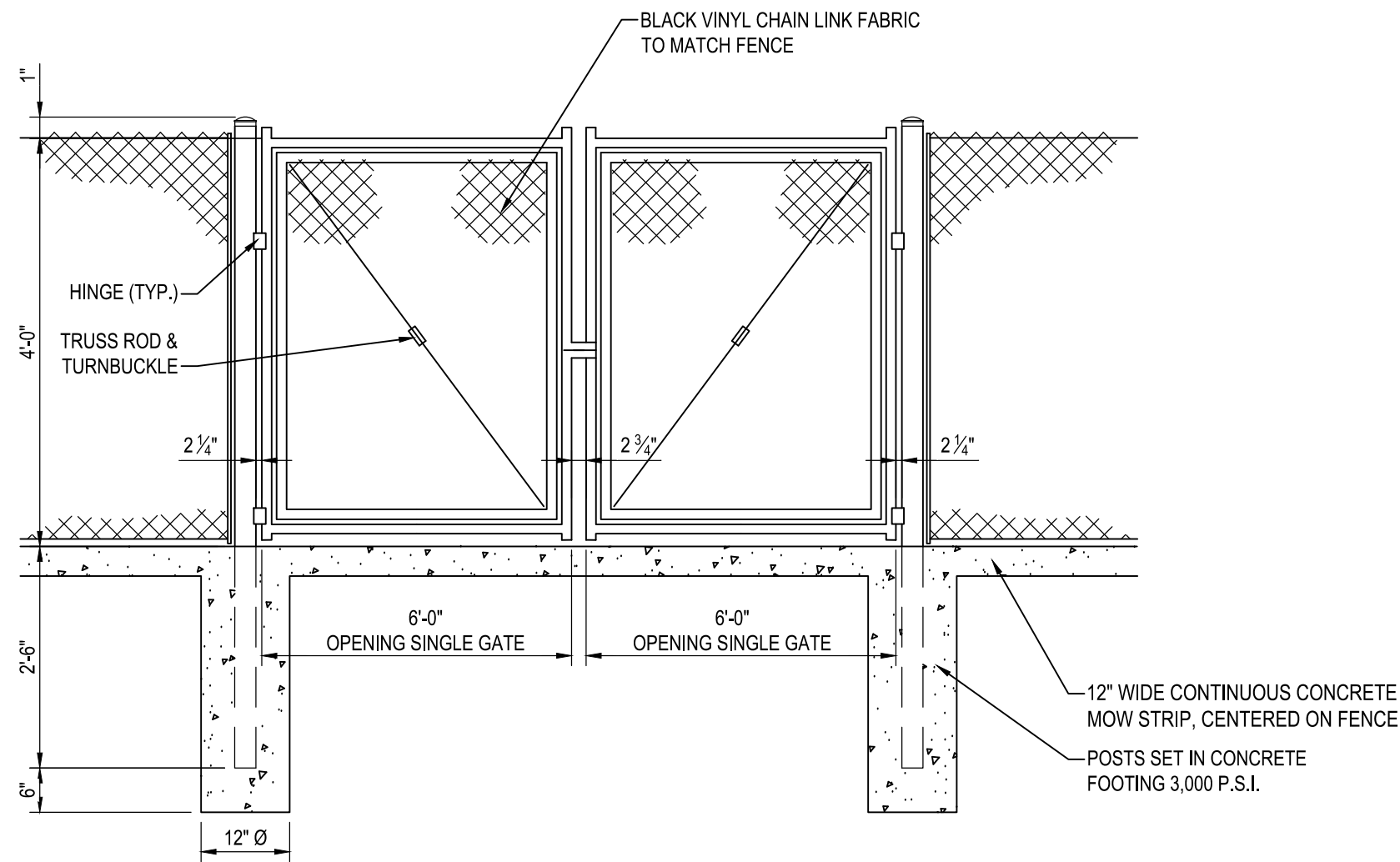
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DEPARTMENT OF PUBLIC WORKS

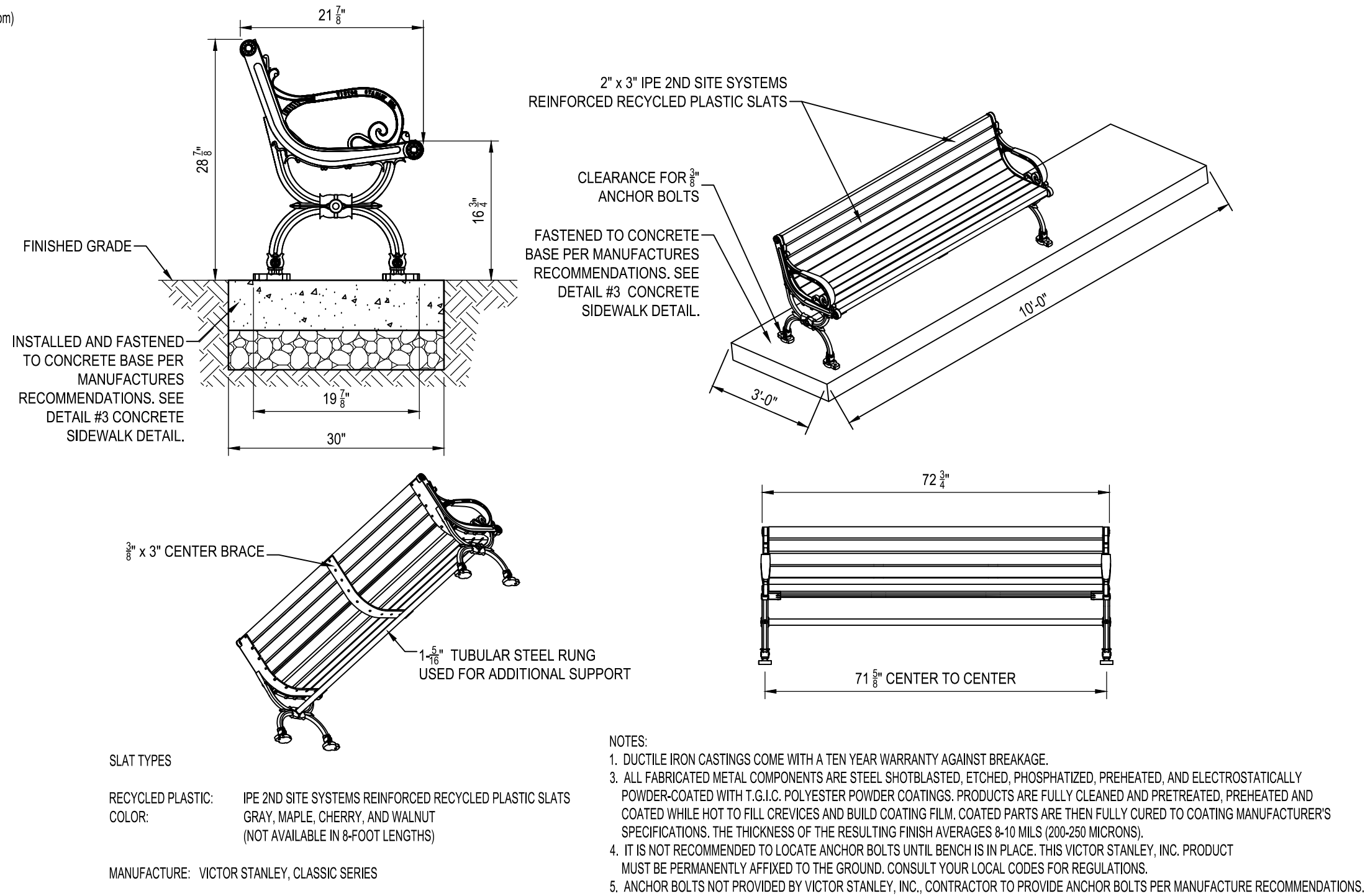
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.	
				CHECKED BY: R.W.H.	
				SHEET NO. 15 OF 58	
				PROJECT NO.: P567100	SITE DETAILS
				CONTRACT NO.: P56702	



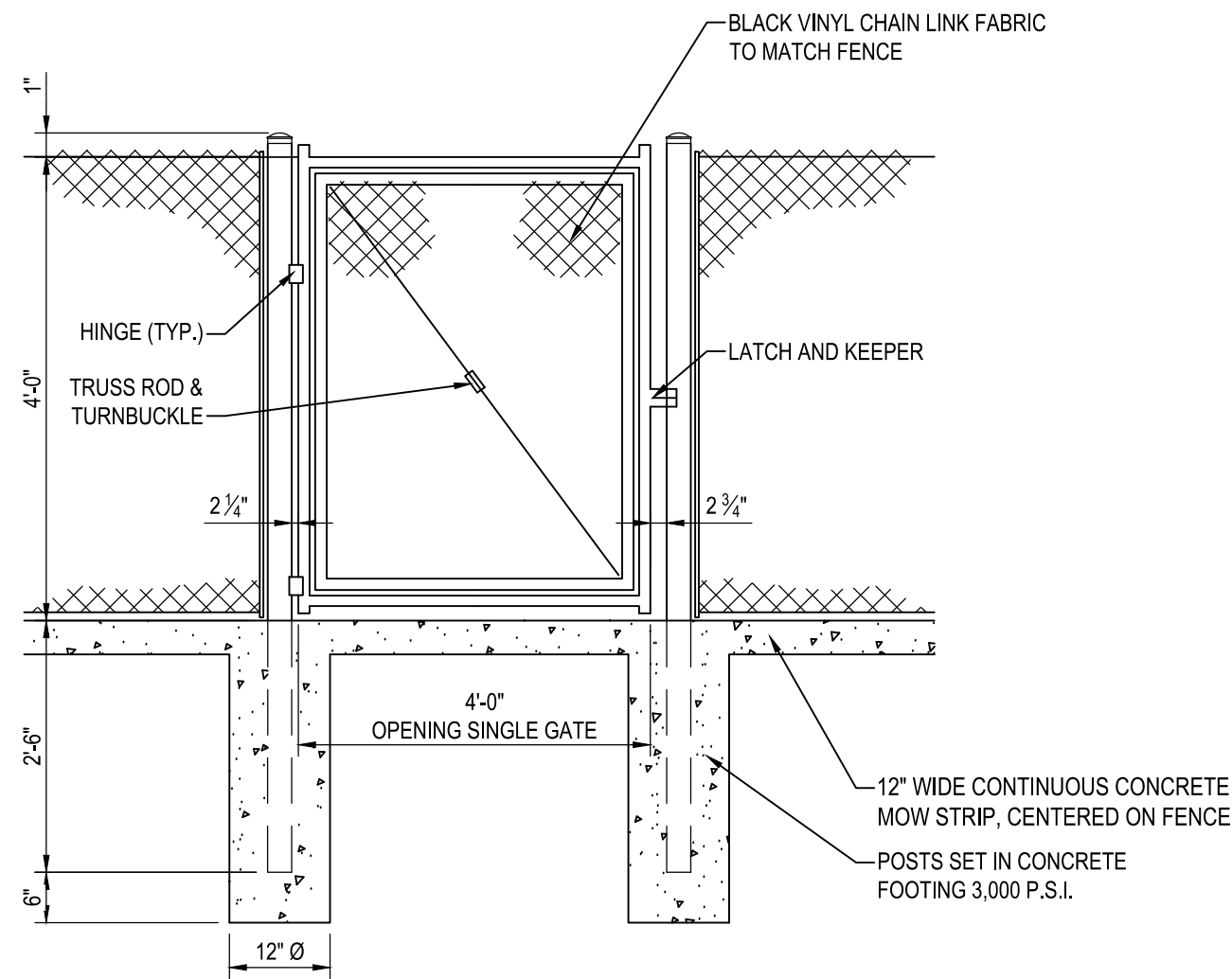
20 ADA BLEACHERS ON CONCRETE PAD
NOT TO SCALE



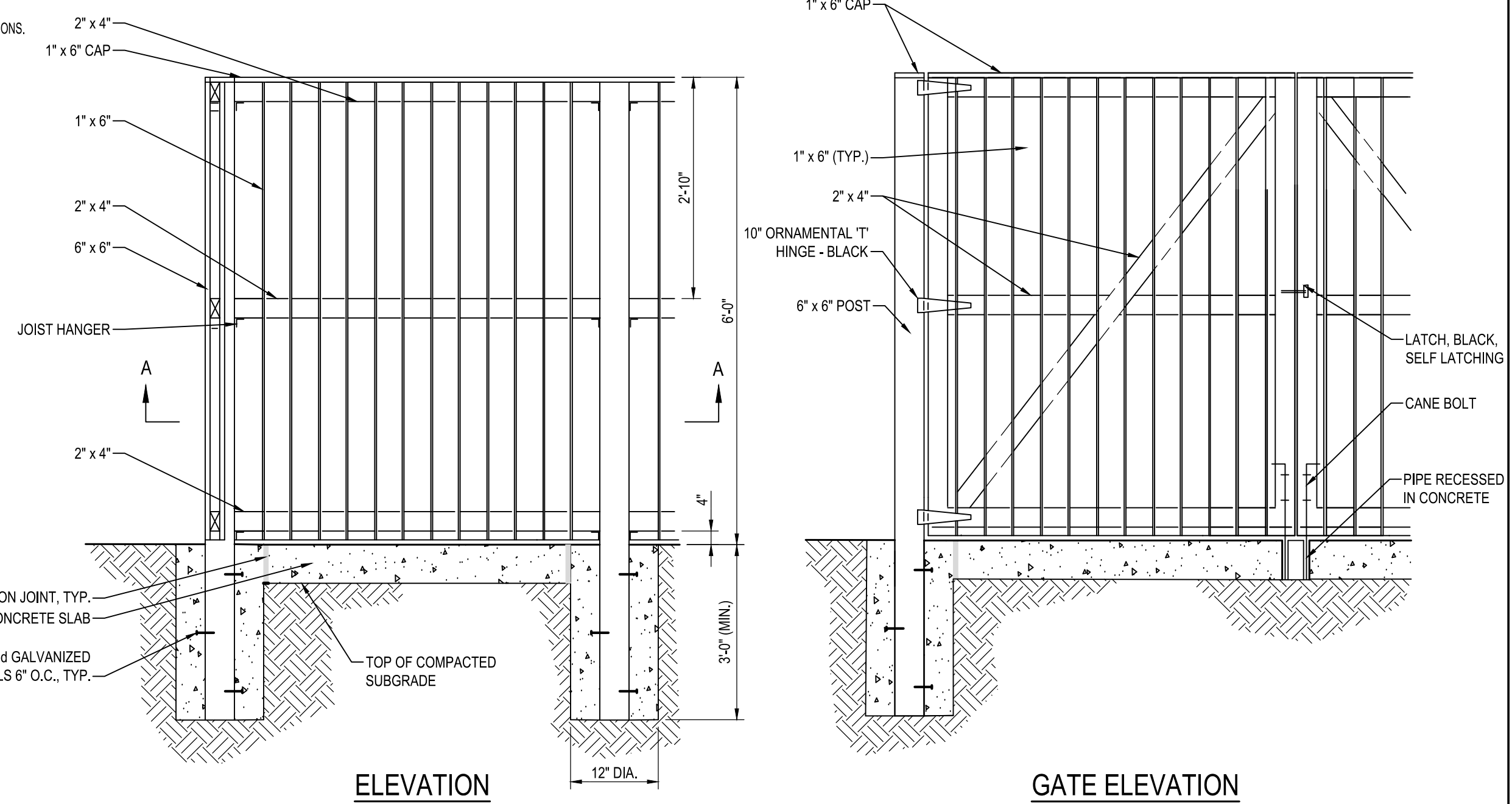
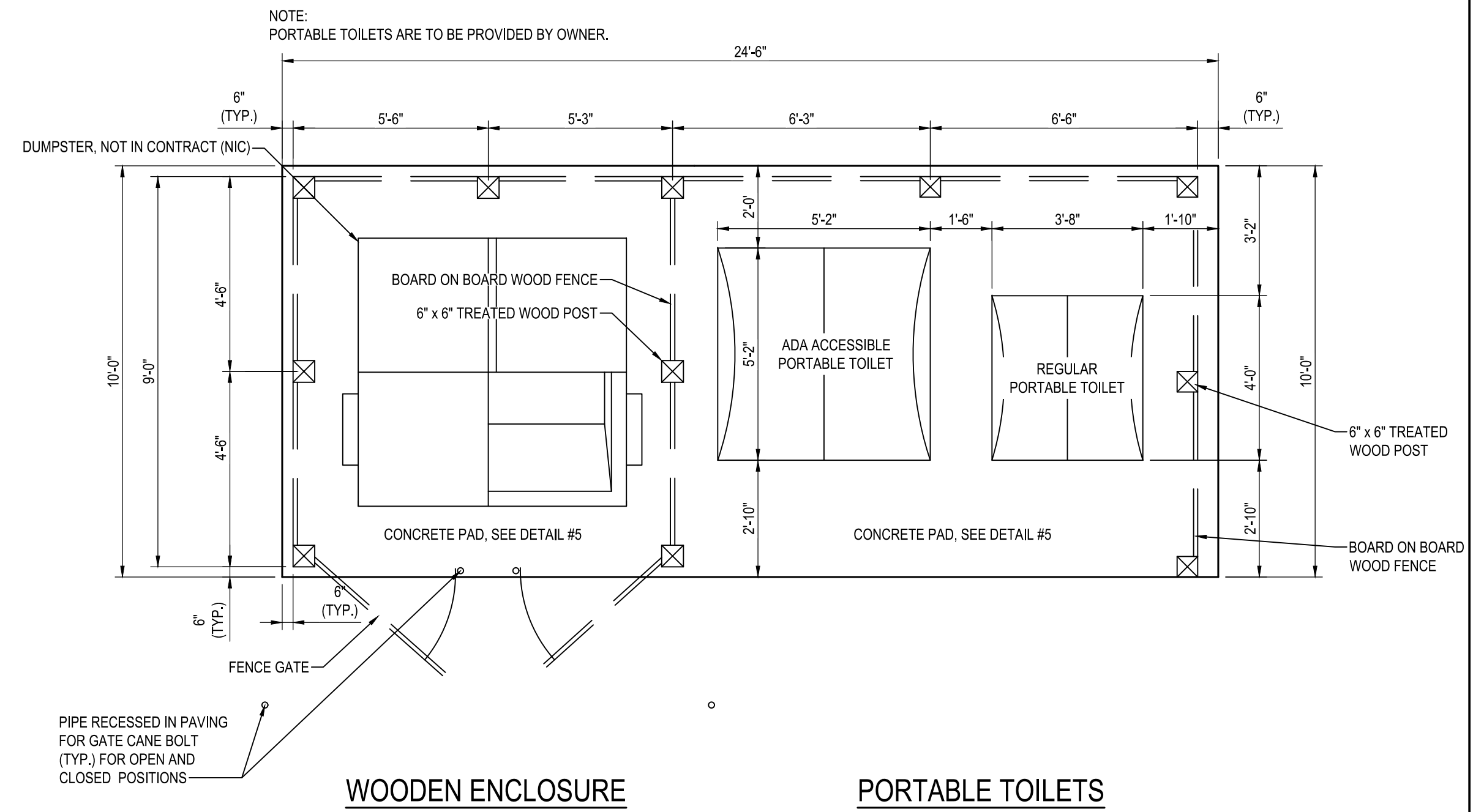
23 12'-0" WIDE DOUBLE GATE
SCALE: 1" = 1'-0"



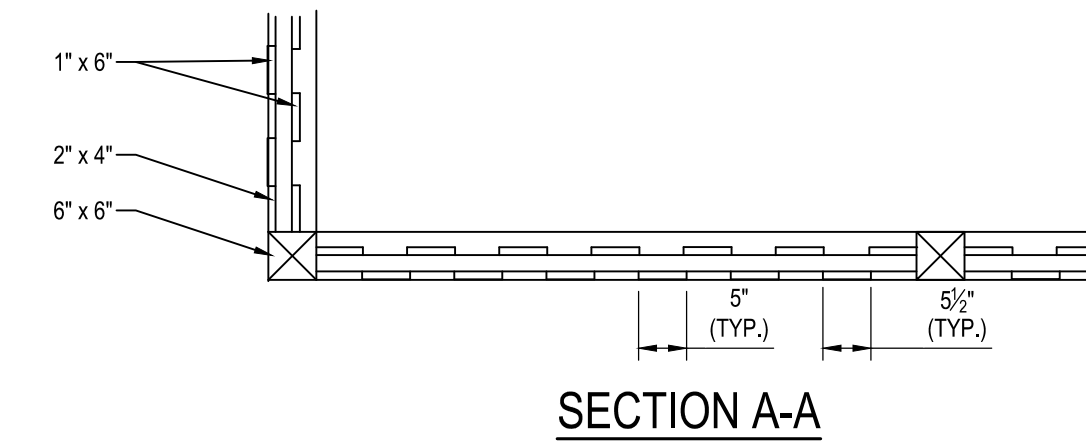
21 STANDARD BENCH ON CONCRETE PAD
NOT TO SCALE



24 4'-0" WIDE MAN GATE
SCALE: 1" = 1'-0"



- NOTES:
1. ALL 6" x 6" POSTS SHALL BE CCA TREATED SOUTHERN YELLOW PINE, AWPA C1, SMOOTH FINISH.
2. ALL WOOD OTHER THAN POSTS SHALL BE WESTERN RED CEDAR, NLGA 204B. ALL EXTERIOR FACE BOARDS SHALL HAVE A SMOOTH FINISH.
3. ALL HARDWARE SHALL BE GALVANIZED COATED.
4. ALL EXPOSED HARDWARE SHALL HAVE A BLACK FINISH.



22 PORTABLE TOILETS & DUMPSTER WITH WOODEN ENCLOSURE
NOT TO SCALE

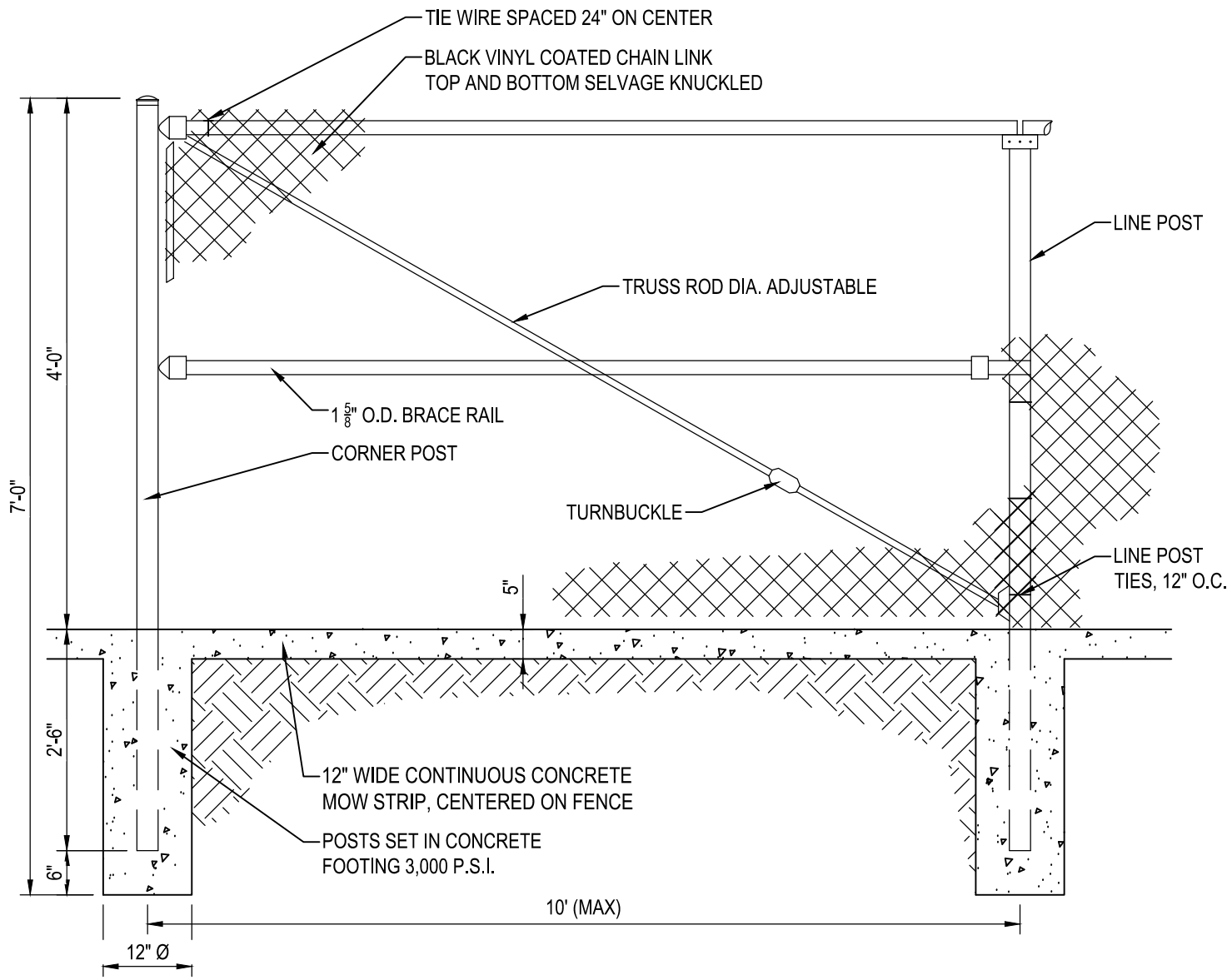
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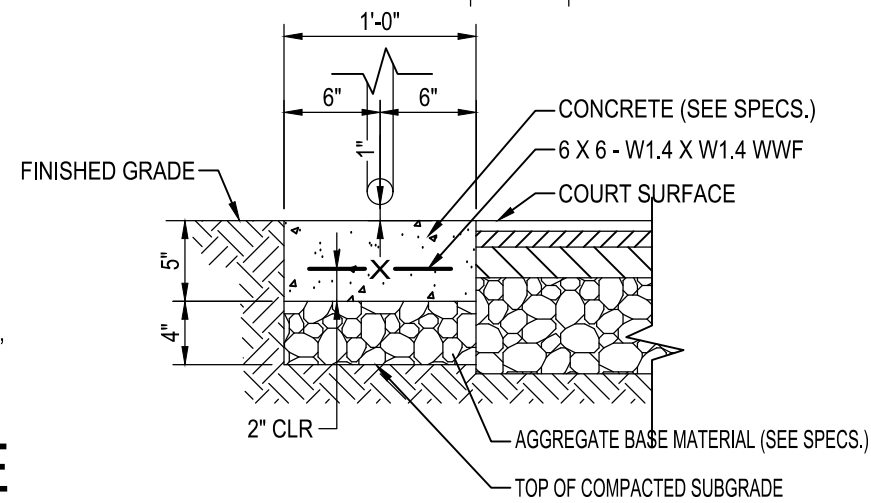
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED		DATE		APPROVED	
DATE		APPROVED		DATE	
SCALE: AS SHOWN		DRAWN BY: R.S.S.		MILLERSVILLE PARK	
CHECKED BY: R.W.H.		SHEET NO. 16 OF 58			
PROJECT NO.: P567100		CONTRACT NO.: P56702		SITE DETAILS	
CHIEF ENGINEER		PROJECT MANAGER			
APPROVED		DATE			
APPROVED		DATE		APPROVED	
DATE		APPROVED		DATE	
SHEET NO. 16 OF 58		PROJECT NO.: P567100		CONTRACT NO.: P56702	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY			

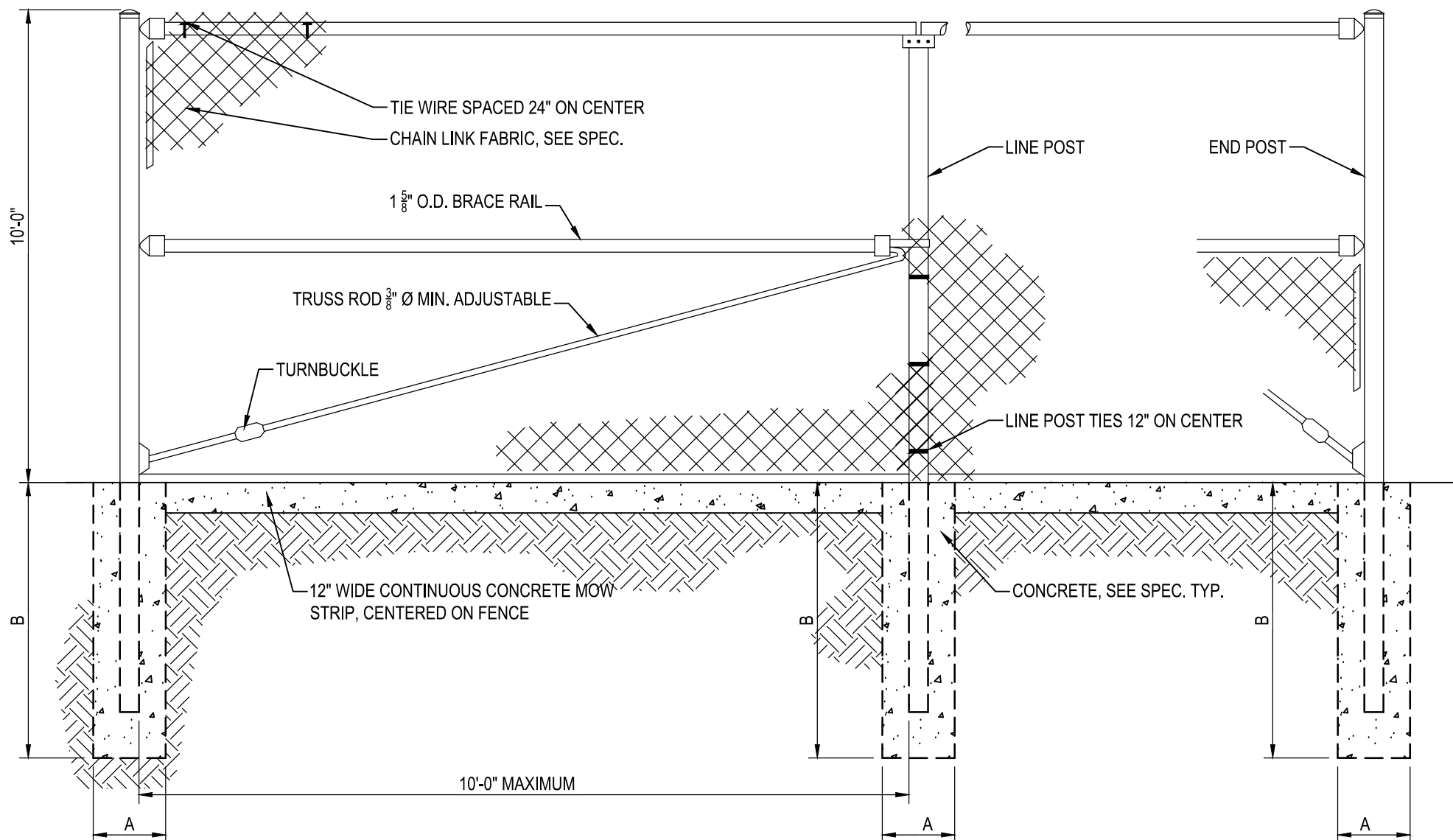


NOTE:
1. ALL FENCING COMPONENTS INCLUDING; FRAMES, GATES, POSTS, RAILS, TENSION WIRE, AND FABRIC SHALL BE POLYMER (VINYL) COATED, COLOR: BLACK.

25 4'-0" HIGH CHAIN LINK FENCE
NOT TO SCALE

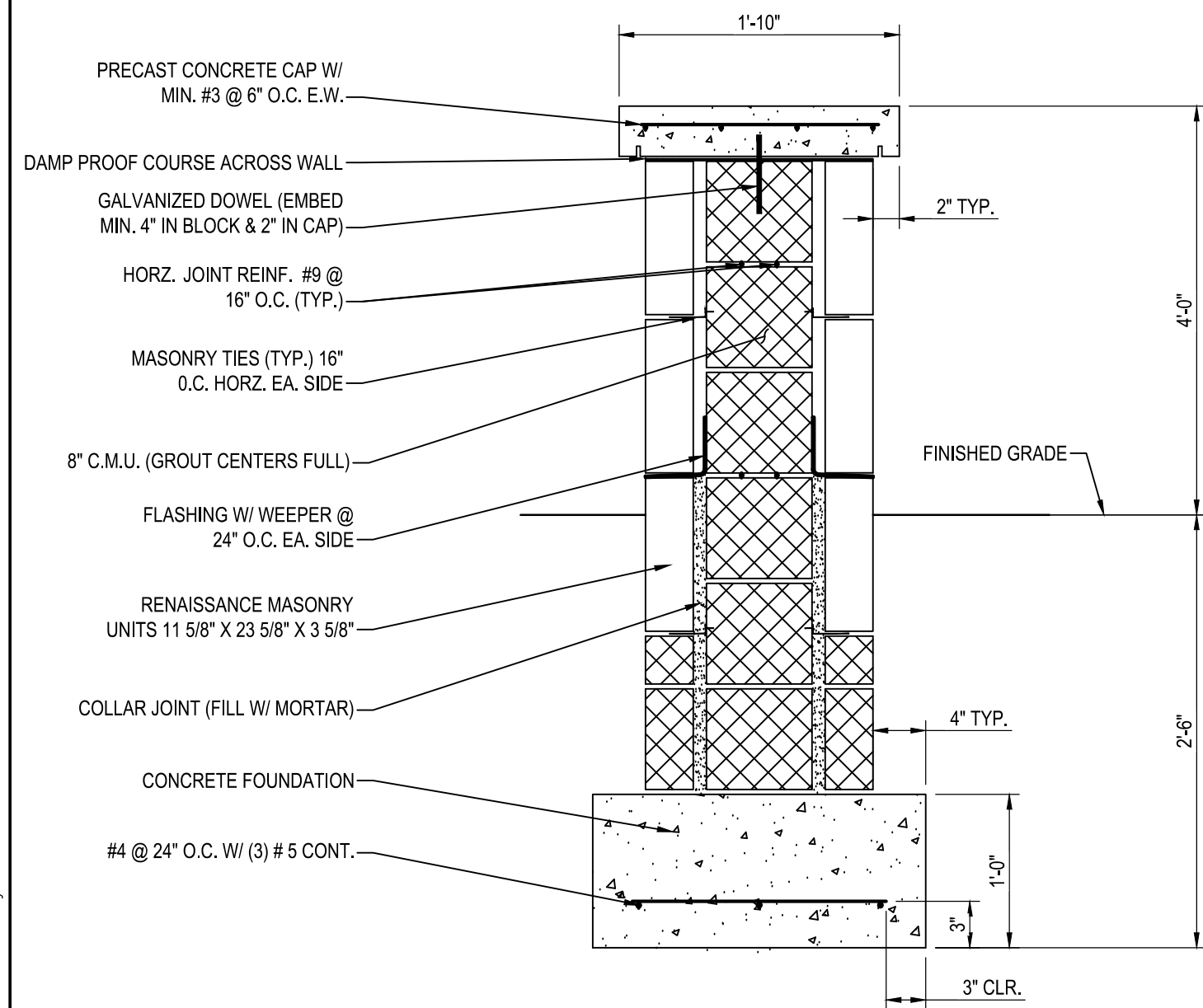


CONCRETE MOW STRIP



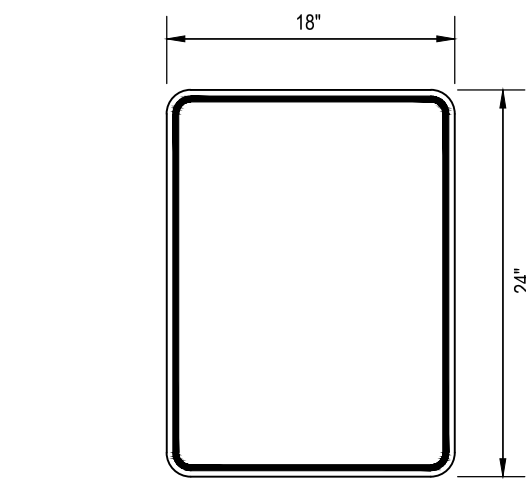
NOTE:
1. ALL FENCING COMPONENTS INCLUDING; FRAMES, GATES, POSTS, RAILS, TENSION WIRE, AND FABRIC SHALL BE POLYMER (VINYL) COATED, COLOR: BLACK.

26 10'-0" HIGH CHAIN LINK FENCE
NOT TO SCALE

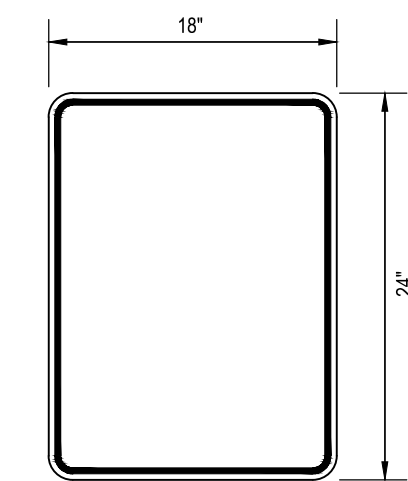


NOTES:
1. STONE MASONRY UNITS SHALL BE "RENAISSANCE" CALCIUM SILICATE STRUCTURAL MASONRY UNITS AS MANUFACTURED BY ARRISRAFT CORPORATION OR APPROVED ALTERNATE.
2. COLOR SHALL BE "STONE WHITE"
3. EXTURE SHALL BE SMOOTH FACE

28 ENTRANCE SIGN
NOT TO SCALE



PARK RULES SIGN

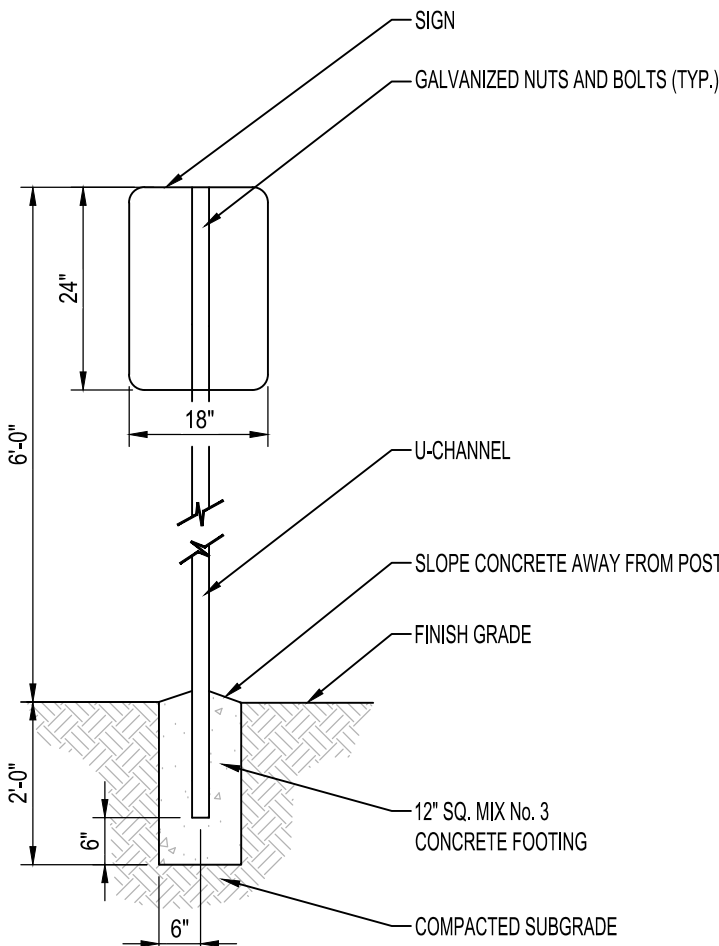


DOG PARK RULES SIGN

SPECIFICATION: SHA STANDARD SPECIFICATION SECTION 813-SIGNS.

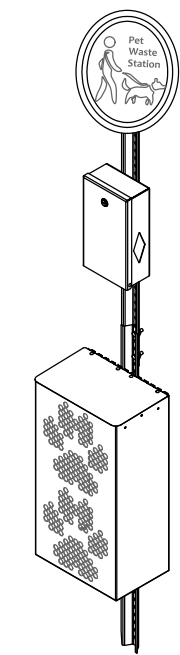
* SEE PROPORTIONS FOR SYMBOL DESIGN (ALL DIMENSIONS FOR SIGN IN INCHES)

29 PARK AND DOG PARK SIGN
NOT TO SCALE

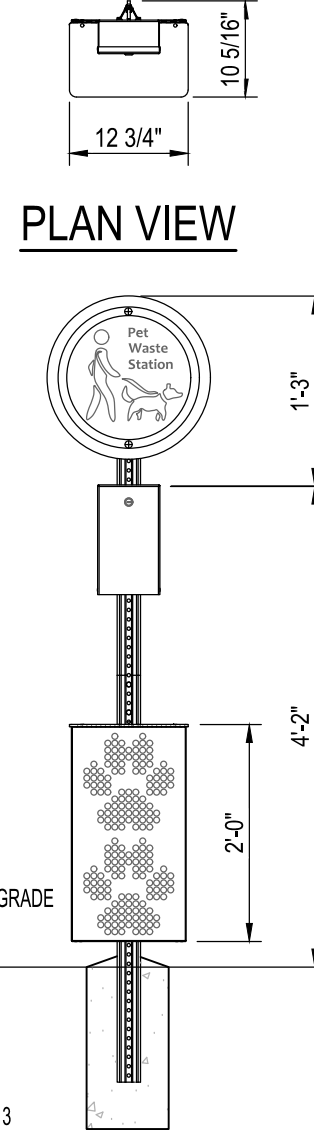


ELEVATION

POST TYPE	POST DIA. O. D.	FOOTING	
		A	B
CORNER	4"	2'-0"	3'-6"
LINE	3"	1'-0"	3'-0"
END & GATE	4"	2'-0"	3'-6"



ISOMETRIC

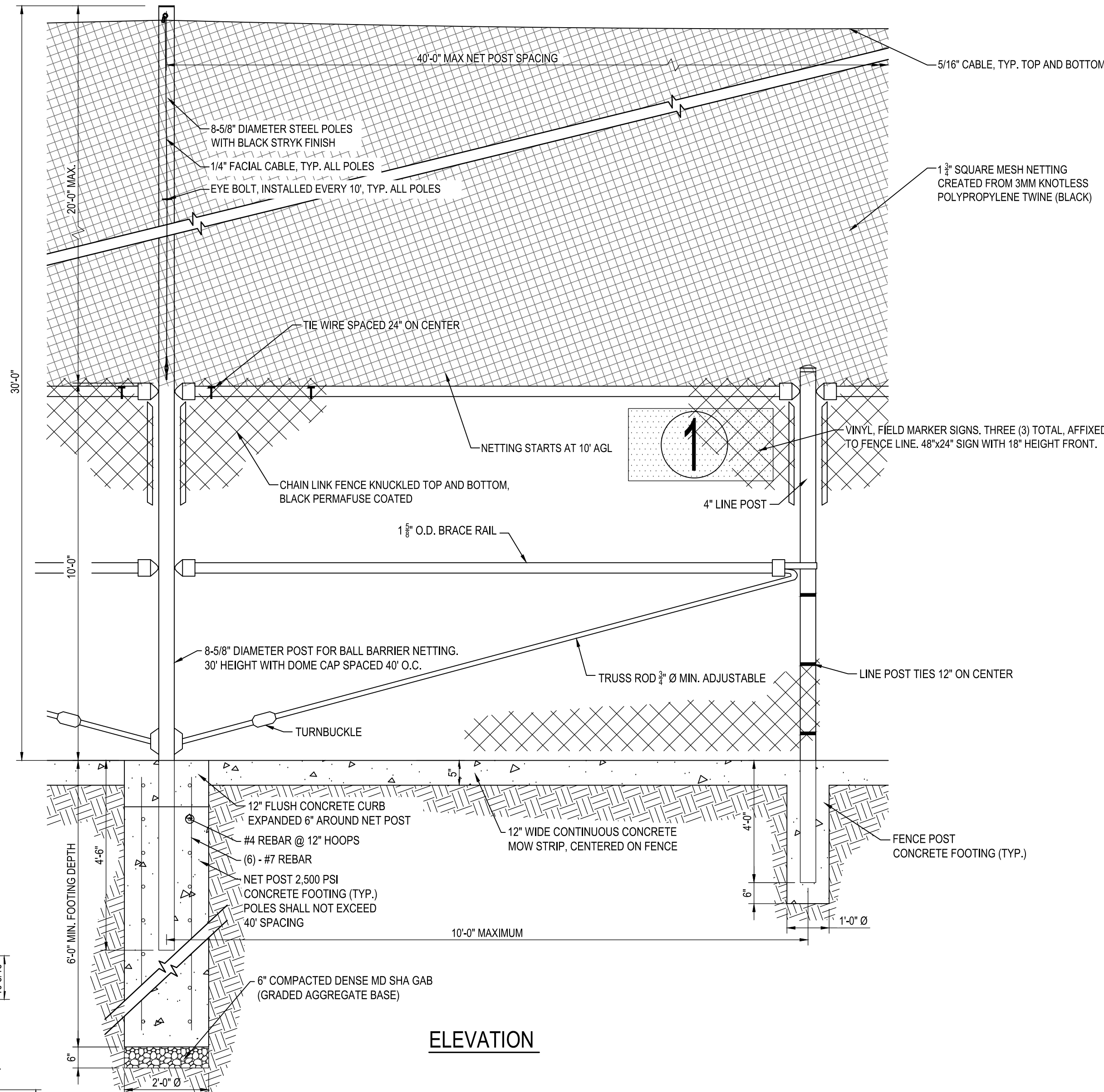


PLAN VIEW

SIDE ELEVATION

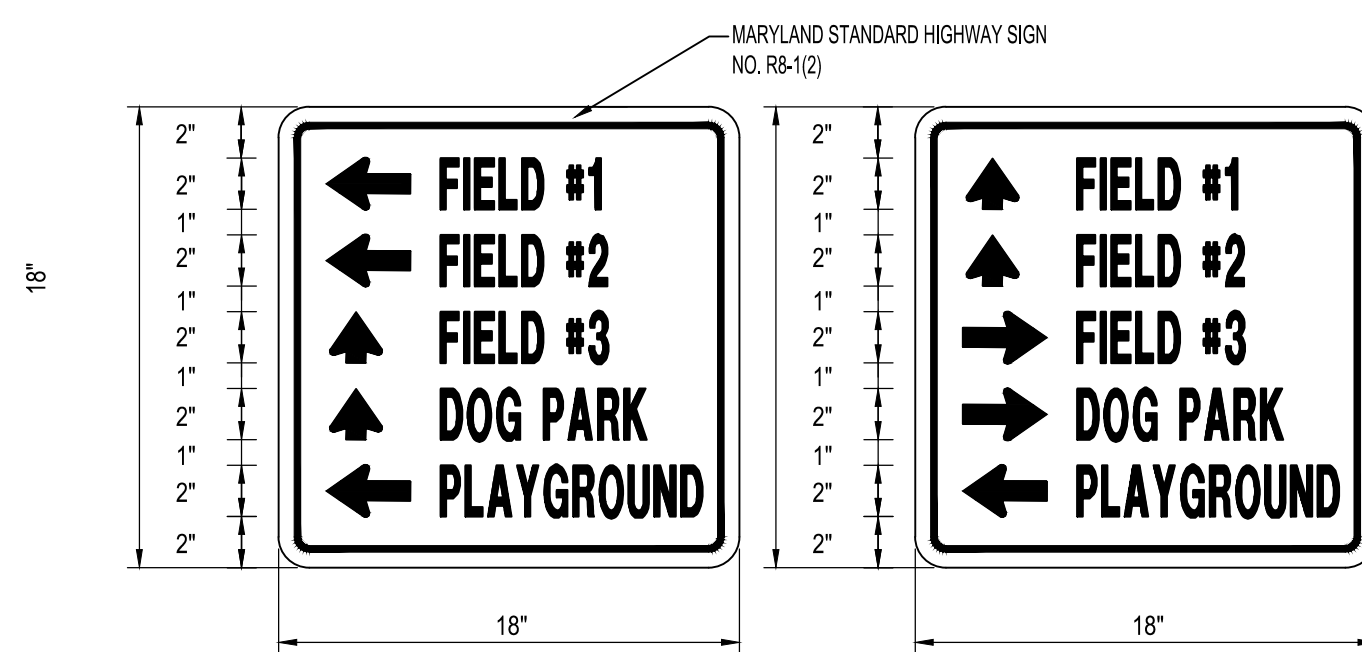
FRONT ELEVATION

30 PET WASTE STATION
NOT TO SCALE



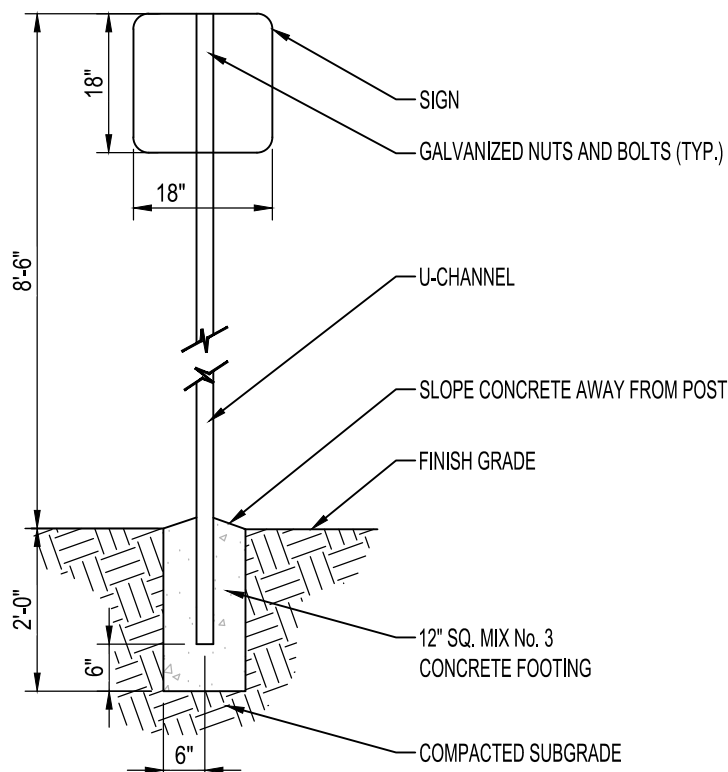
ELEVATION

27 10' HIGH CHAIN LINK FENCE WITH 20' BACKSTOP NETTING
NOT TO SCALE



DIRECTIONAL SIGN #A

DIRECTIONAL SIGN #B



ELEVATION

31 DIRECTIONAL FIELD SIGNAGE
NOT TO SCALE

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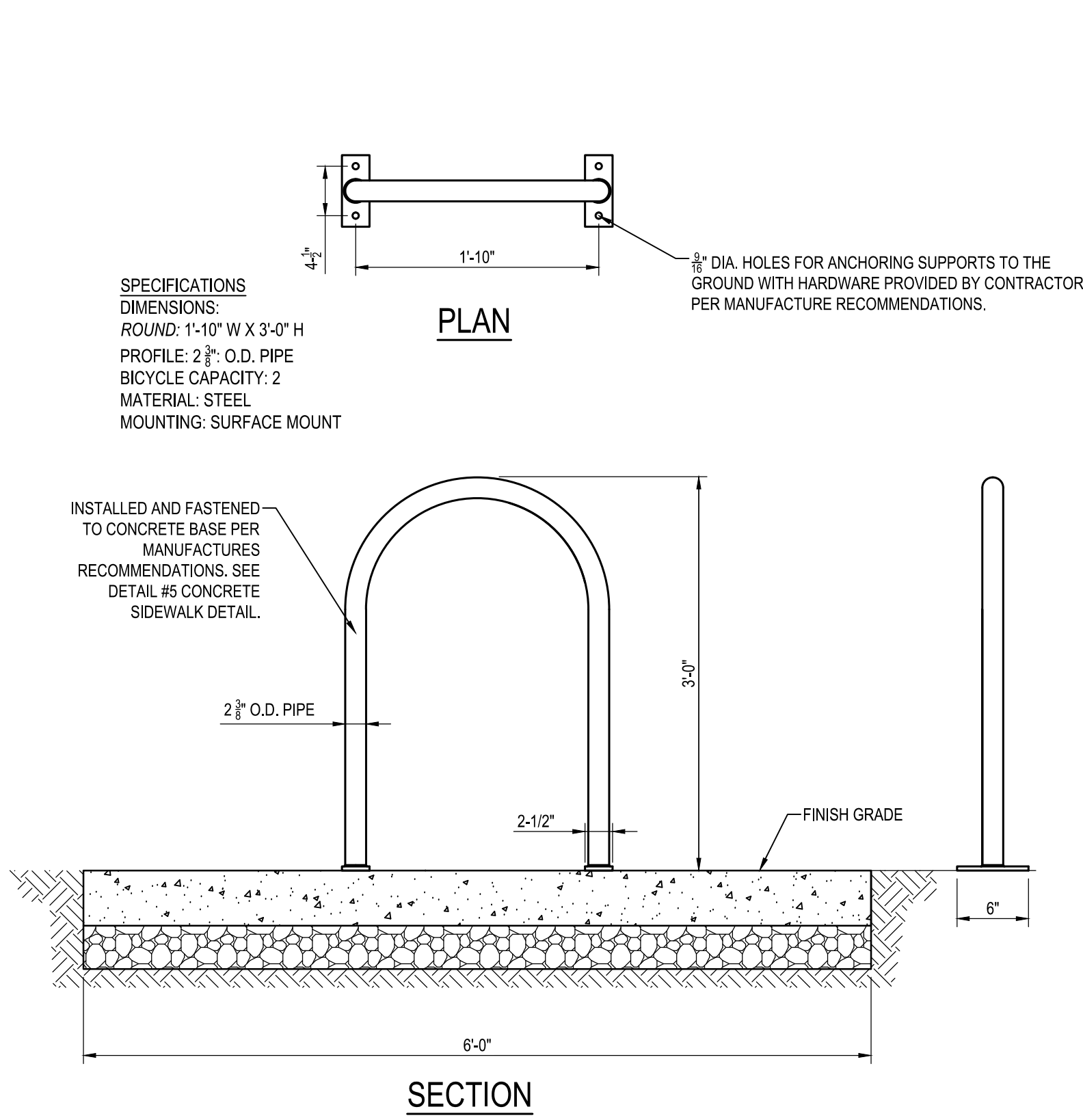
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License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

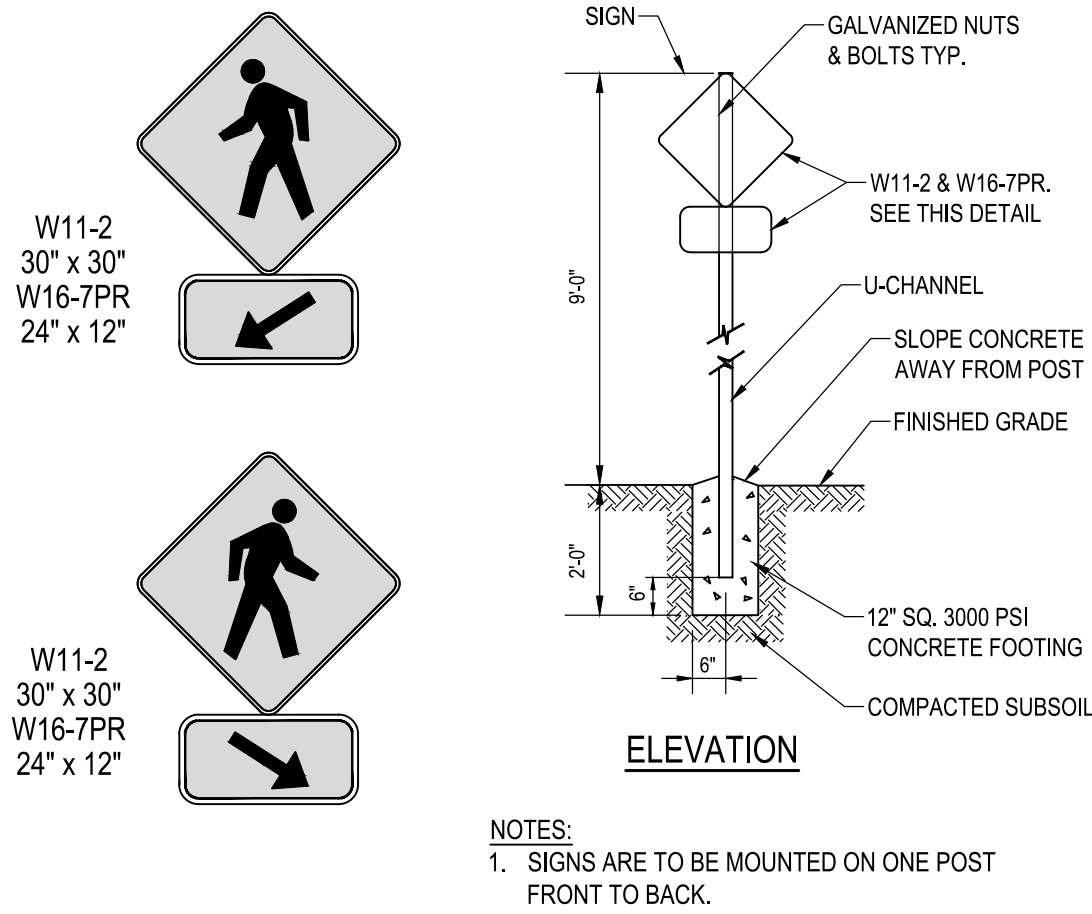
ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: AS SHOWN	DRAWN BY: R.S.S.		
	CHECKED BY: R.W.H.		
	SHEET NO. 17 OF 58		
	PROJECT NO.: P567100		
	CONTRACT NO.: P56702		

MILLERSVILLE PARK

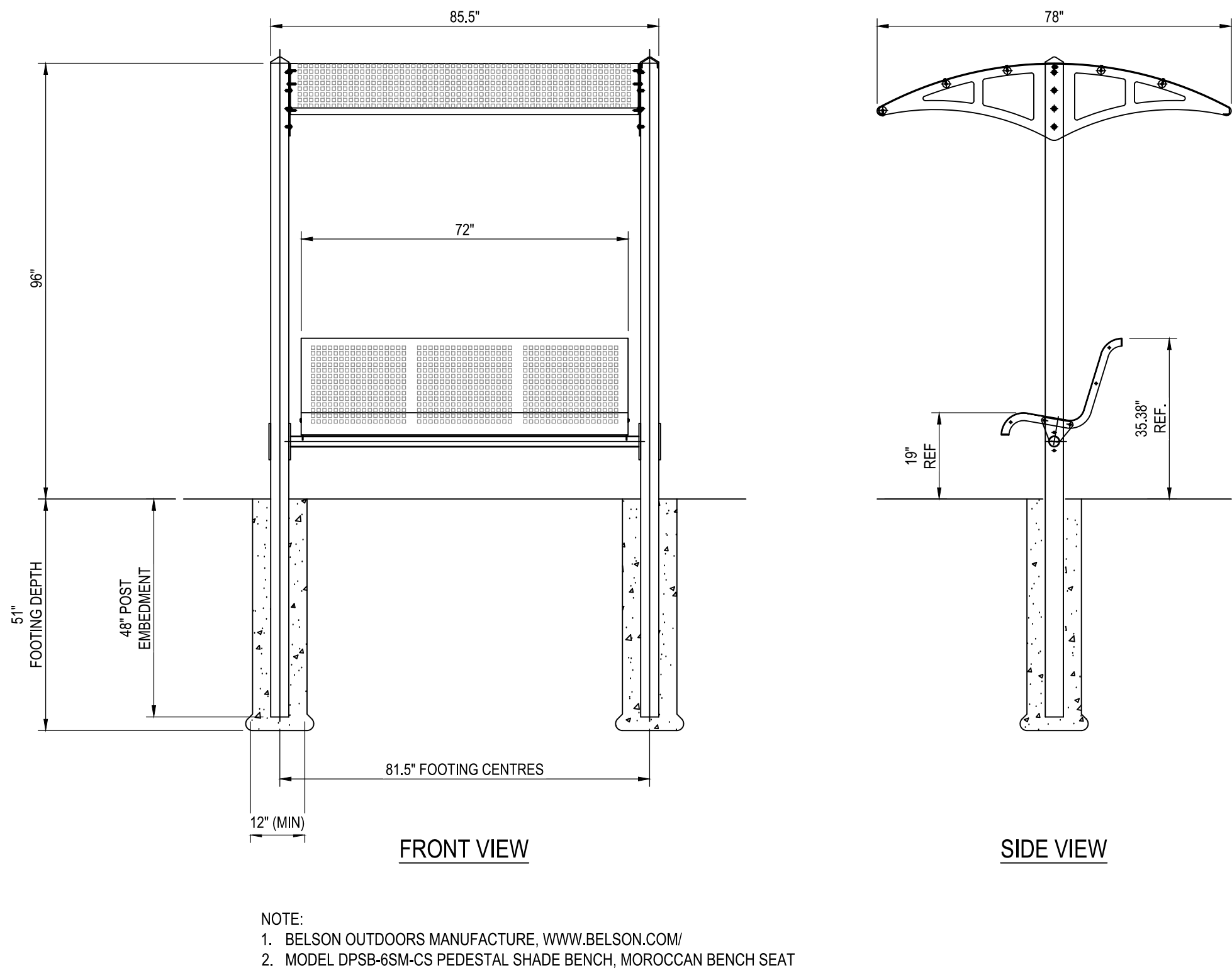
SITE DETAILS



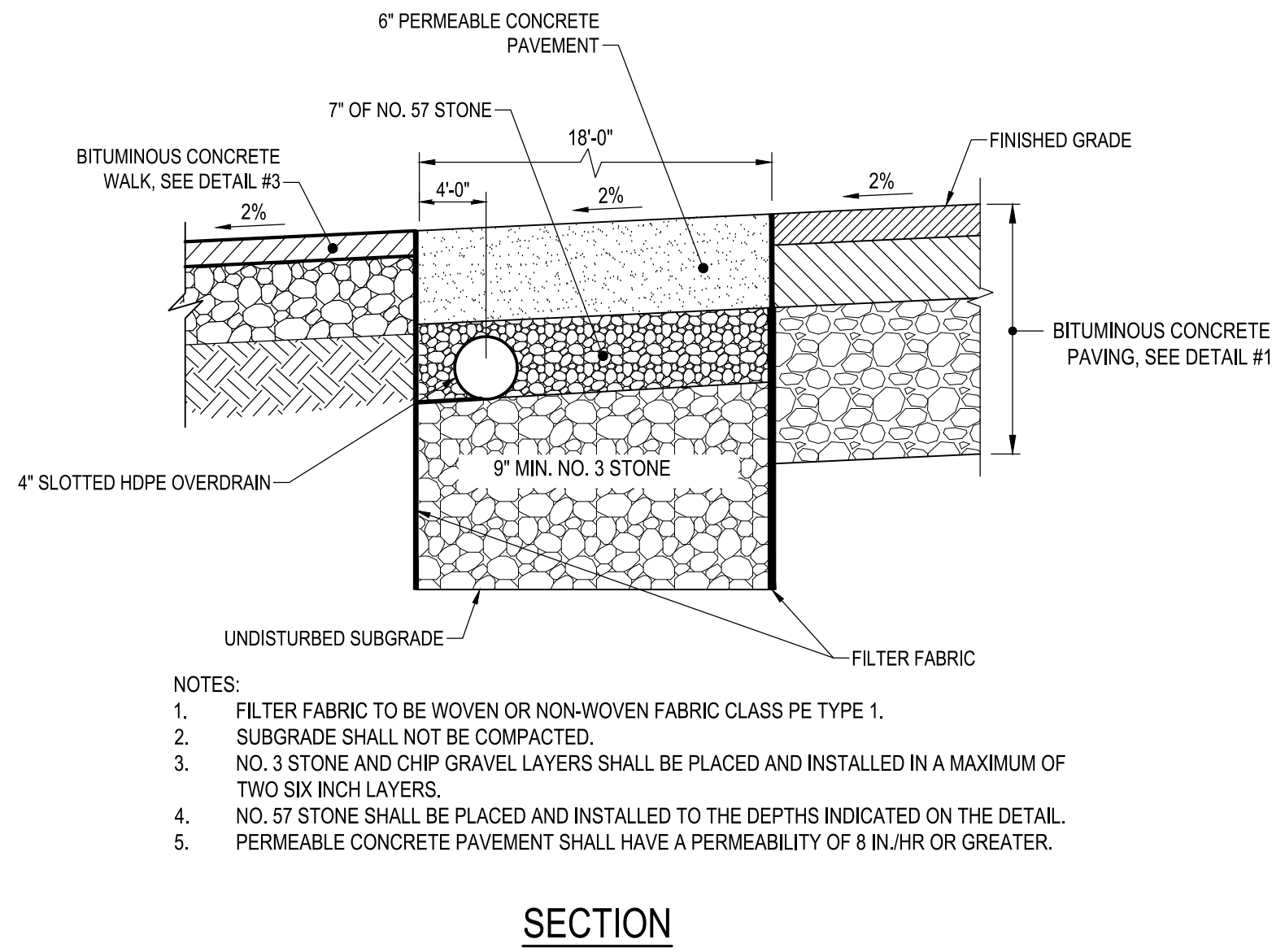
32 BIKE RACK ON CONCRETE PAD
SCALE: 1" = 1'-0"



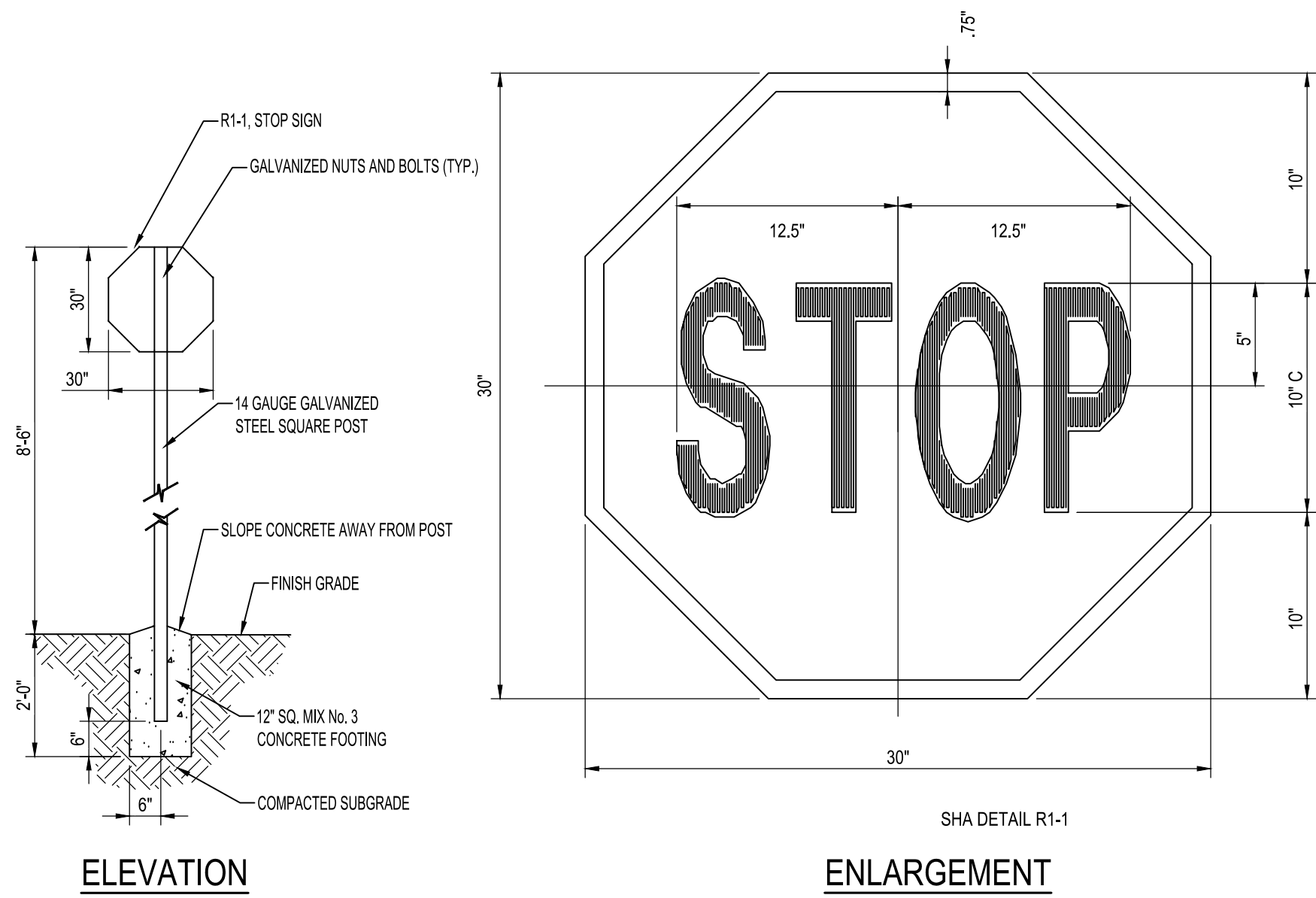
35 PEDESTRIAN CROSSING SIGN
NOT TO SCALE



33 SHADE STRUCTURE WITH BENCH
NOT TO SCALE



36 PERVIOUS CONCRETE PAVING
NOT TO SCALE



34 30" STOP SIGN (R1-1)
NOT TO SCALE

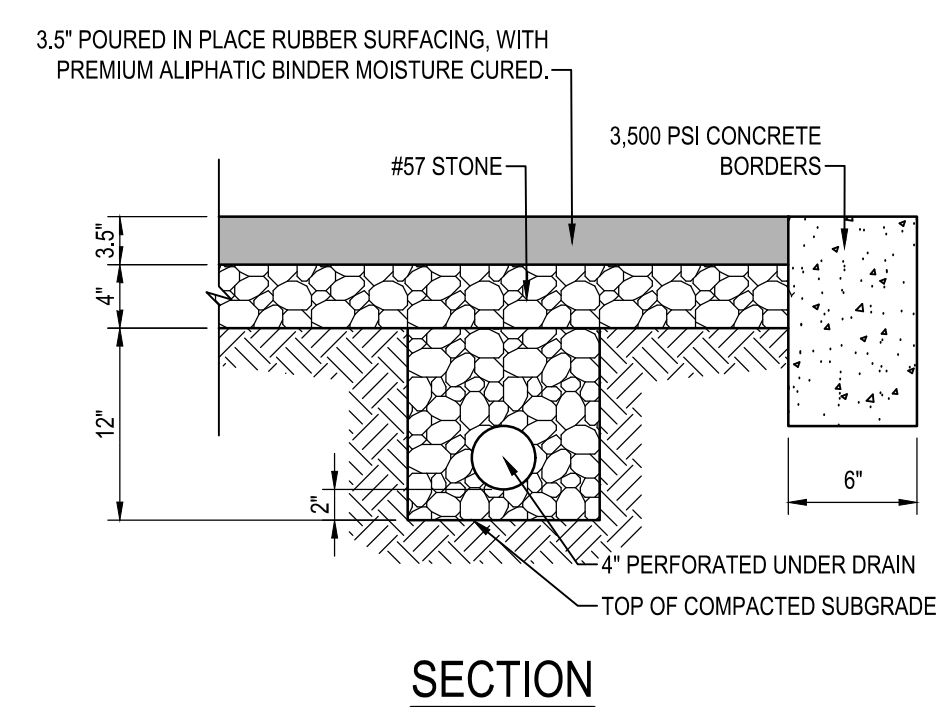
REVISIONS

NO.	DESCRIPTION	BY	DATE

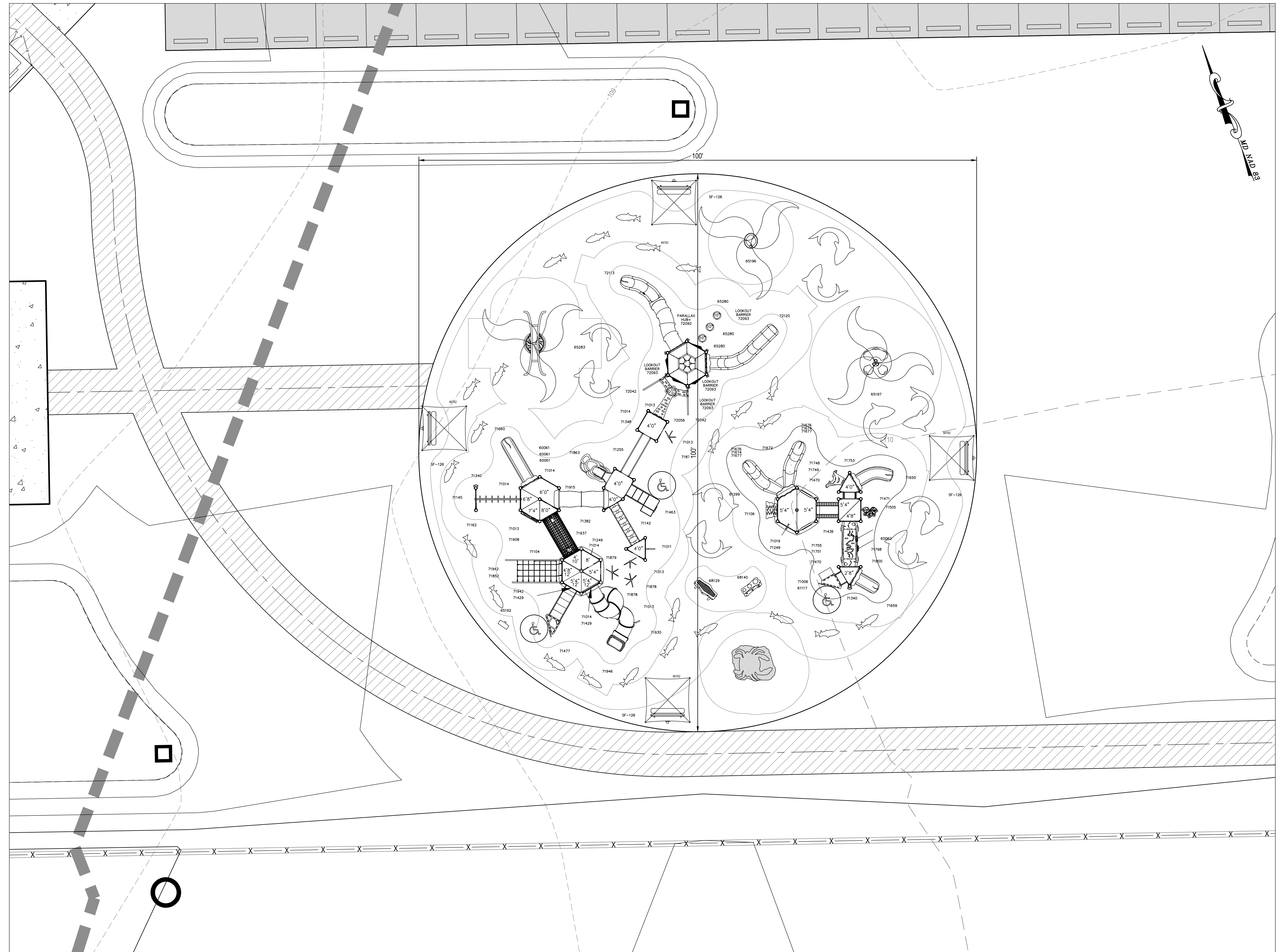
ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

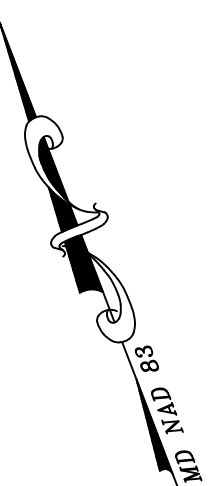
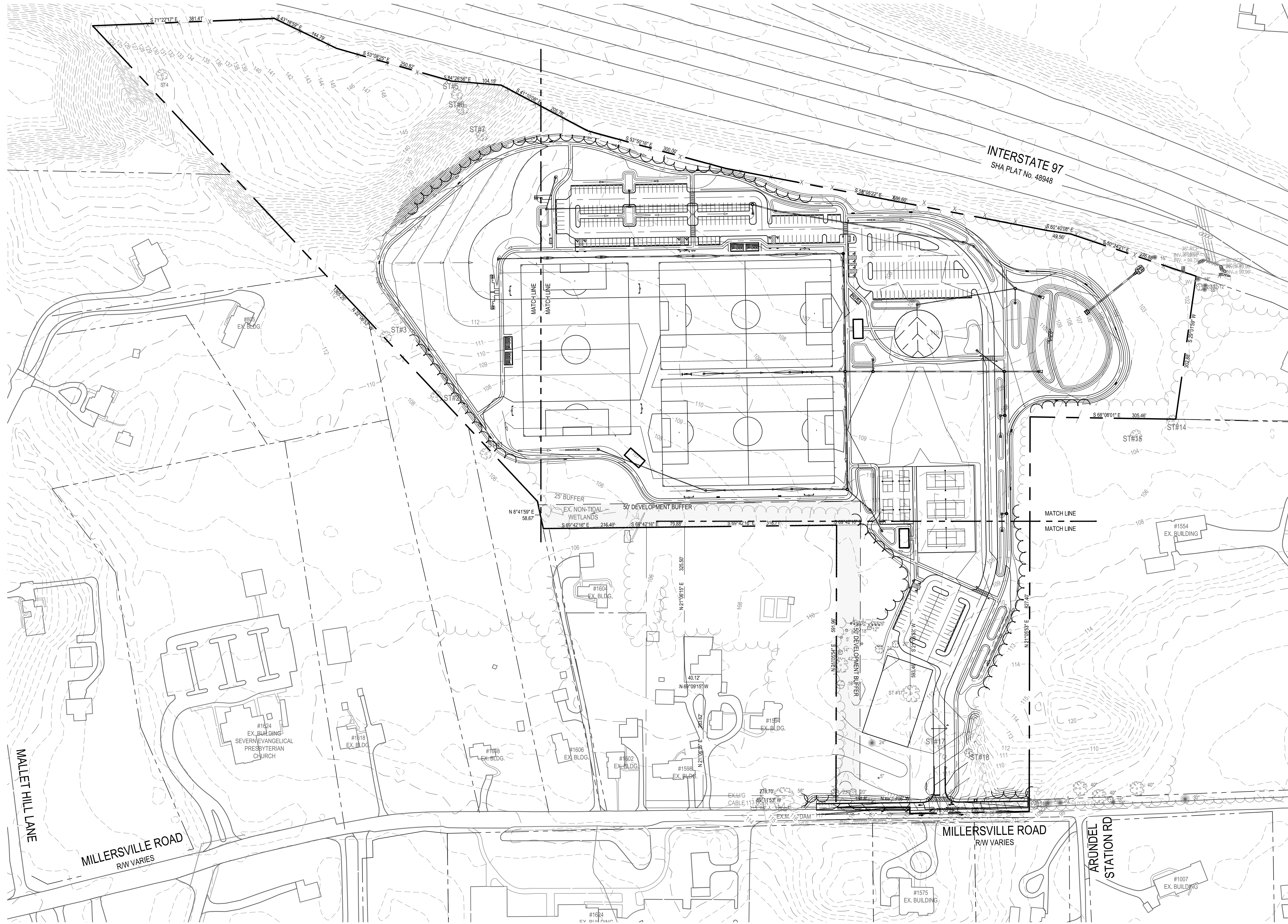
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.	
APPROVED	DATE	APPROVED	DATE	CHECKED BY: R.W.H.	SITE DETAILS
				SHEET NO. 18 OF 58	
				PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	



PLAYGROUND SAFETY SURFACE WITH UNDERDRAIN



REVISONS				ANNE ARUNDEL COUNTY					
NO.	DESCRIPTION	BY	DATE	DEPARTMENT OF PUBLIC WORKS					
				APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
								DRAWN BY: R.S.S.	
				CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: R.W.H.	SITE DETAILS
				APPROVED	DATE	APPROVED	DATE	SHEET NO. 19 OF 58	
								PROJECT NO.: P567100	
				ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	



CAUTION:
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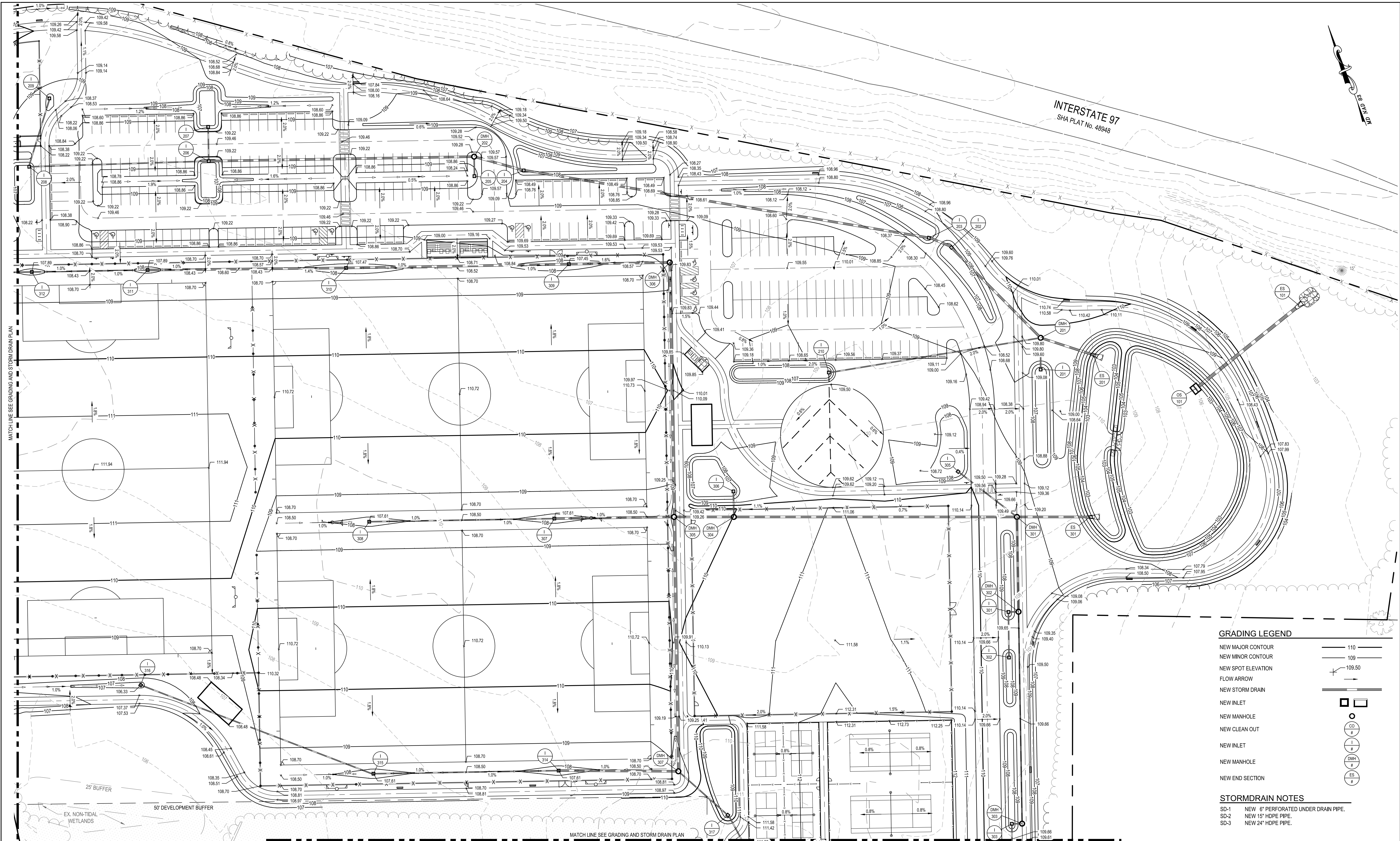
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License # 27734 Expiration Date: 07/12/26

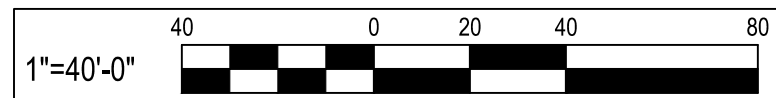
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 100'		DRAWN BY: R.S.S.	MILLERSVILLE PARK OVERALL GRADING AND STORM DRAIN PLAN
CHECKED BY: R.W.H.		SHEET NO. 20 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	

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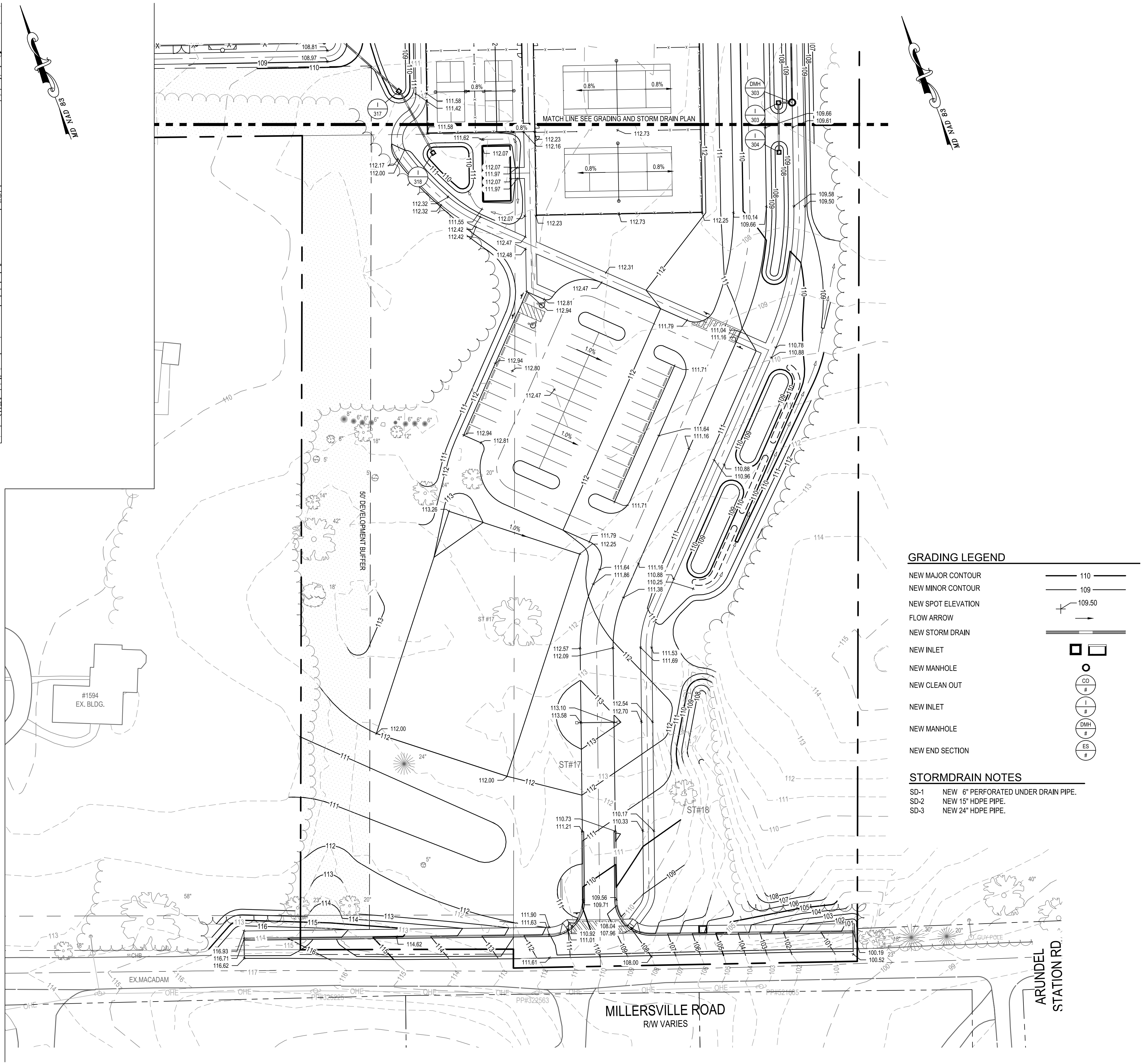
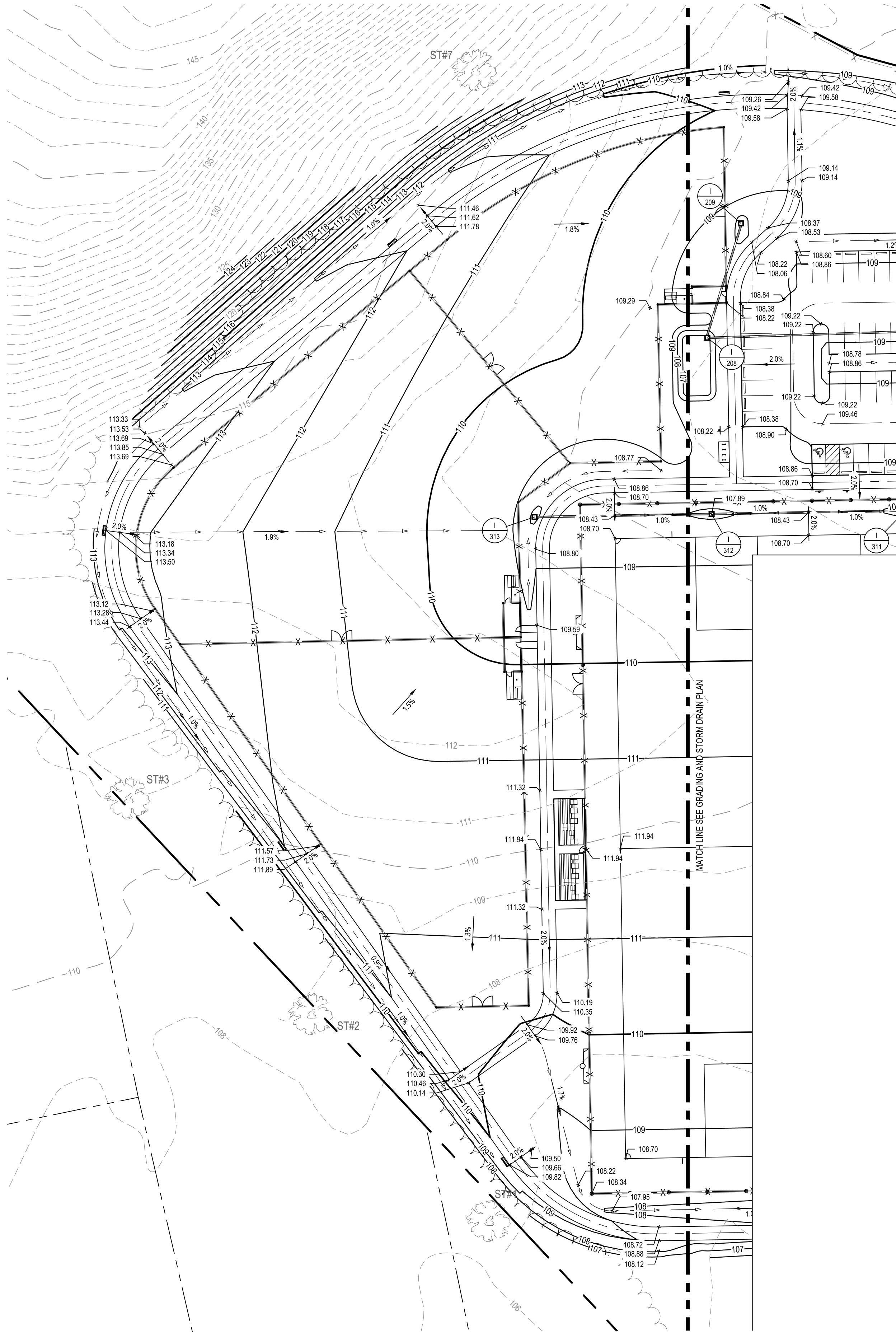
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REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED		DATE		APPROVED	
DATE		APPROVED		DATE	
SCALE: 1" = 40'		DRAWN BY: R.S.S.		MILLERSVILLE PARK	
CHIEF ENGINEER		PROJECT MANAGER			
APPROVED		DATE		APPROVED	
DATE		APPROVED		DATE	
SHEET NO. 21 OF 58		PROJECT NO.: P567100		GRADING AND STORM DRAIN PLAN	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY			
CONTRACT NO.: P56702					

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GRADING LEGEND

- NEW MAJOR CONTOUR
- NEW MINOR CONTOUR
- NEW SPOT ELEVATION
- FLOW ARROW
- NEW STORM DRAIN
- NEW INLET
- NEW MANHOLE
- NEW CLEAN OUT
- NEW INLET
- NEW MANHOLE
- NEW END SECTION

STORMDRAIN NOTES

- SD-1 NEW 6" PERFORATED UNDER DRAIN PIPE.
- SD-2 NEW 15" HDPE PIPE.
- SD-3 NEW 24" HDPE PIPE.

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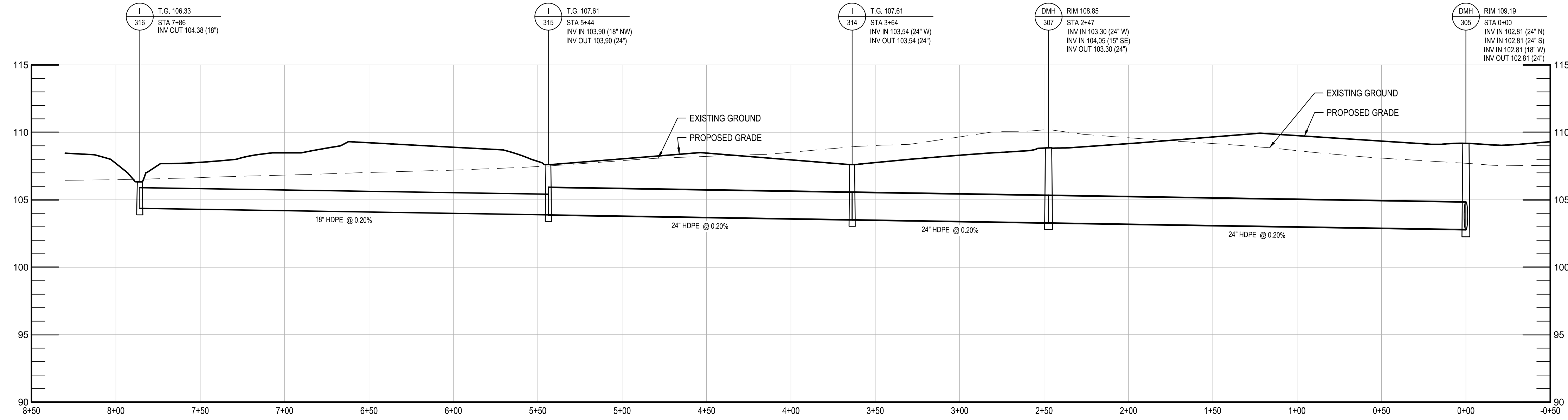
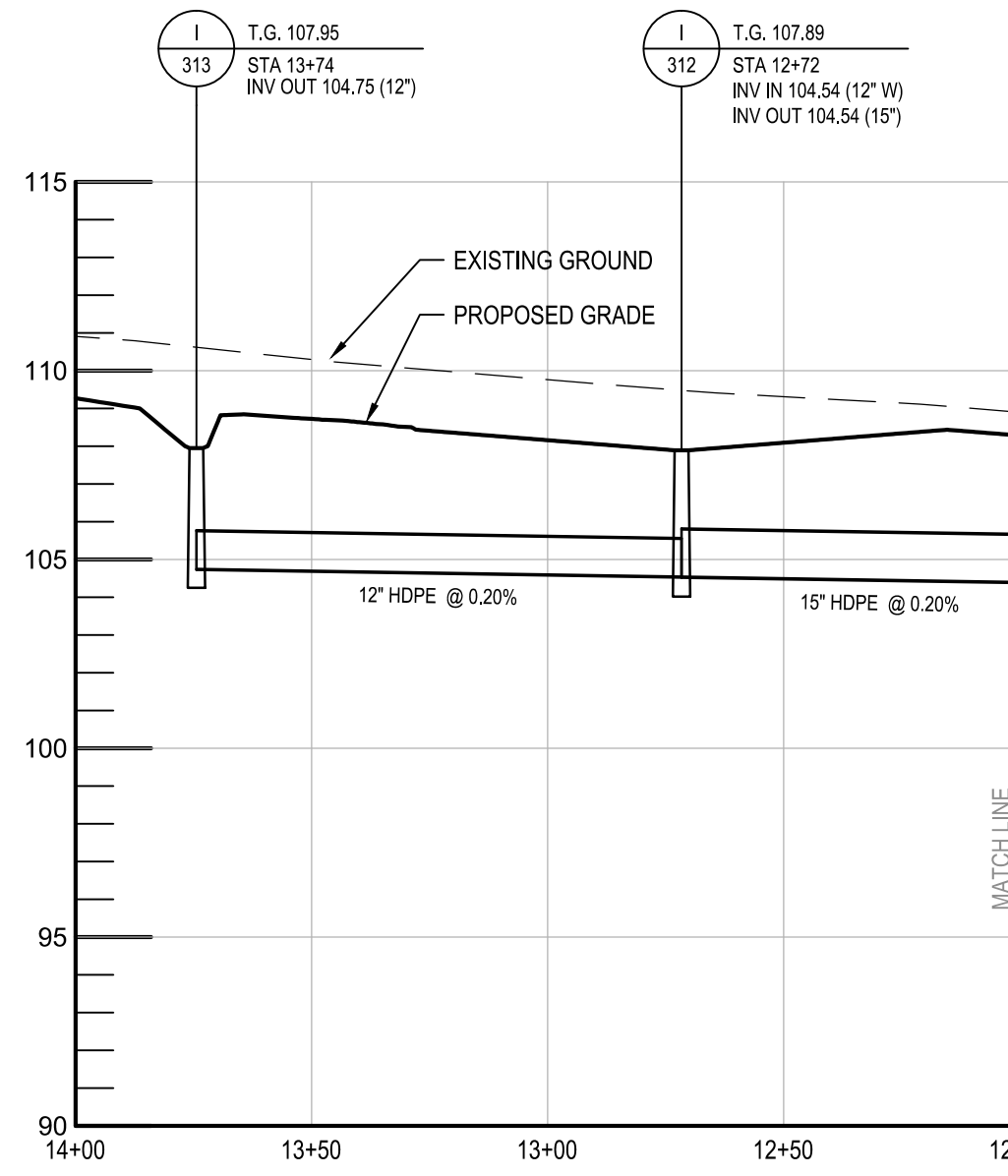
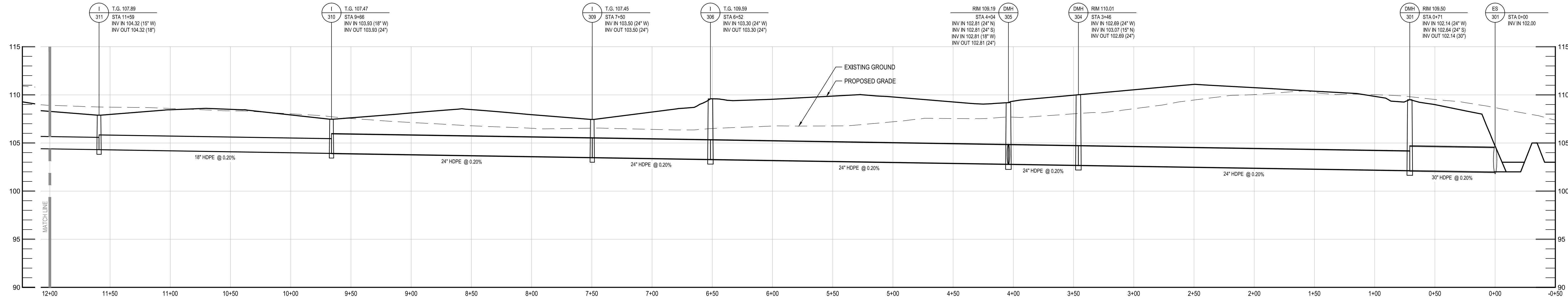
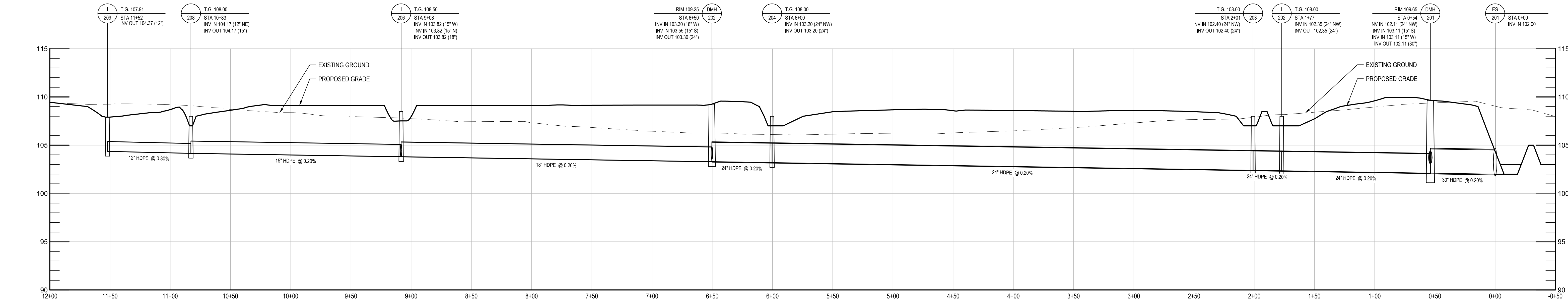


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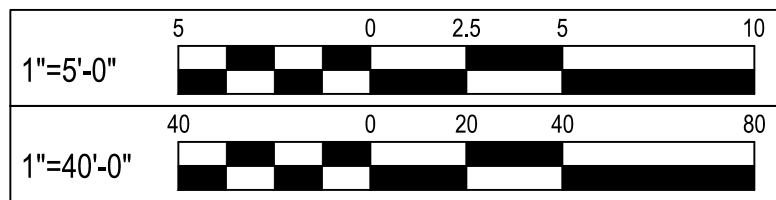
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REVISIONS				ANNE ARUNDEL COUNTY								
NO.	DESCRIPTION		BY	DATE	DEPARTMENT OF PUBLIC WORKS							
					APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 40'		MILLERSVILLE PARK	
									DRAWN BY:	R.S.S.		
					CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY:	R.W.H.	GRADING AND STORM DRAIN PLAN	
					APPROVED	DATE	APPROVED	DATE	SHEET NO.	22 OF 58		
									PROJECT NO.:	P567100		
					ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.:	P56702		

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REVISIONS			
NO.	DESCRIPTION	BY	DATE

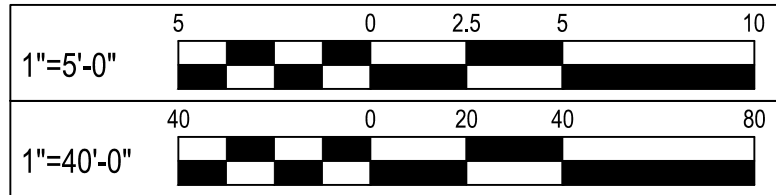
ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
				DRAWN BY: R.S.S.	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: R.W.H.	STORM DRAIN PROFILES
APPROVED	DATE	APPROVED	DATE	SHEET NO. 23 OF 58	
				PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	

MILLERSVILLE PARK

STORM DRAIN PROFILES

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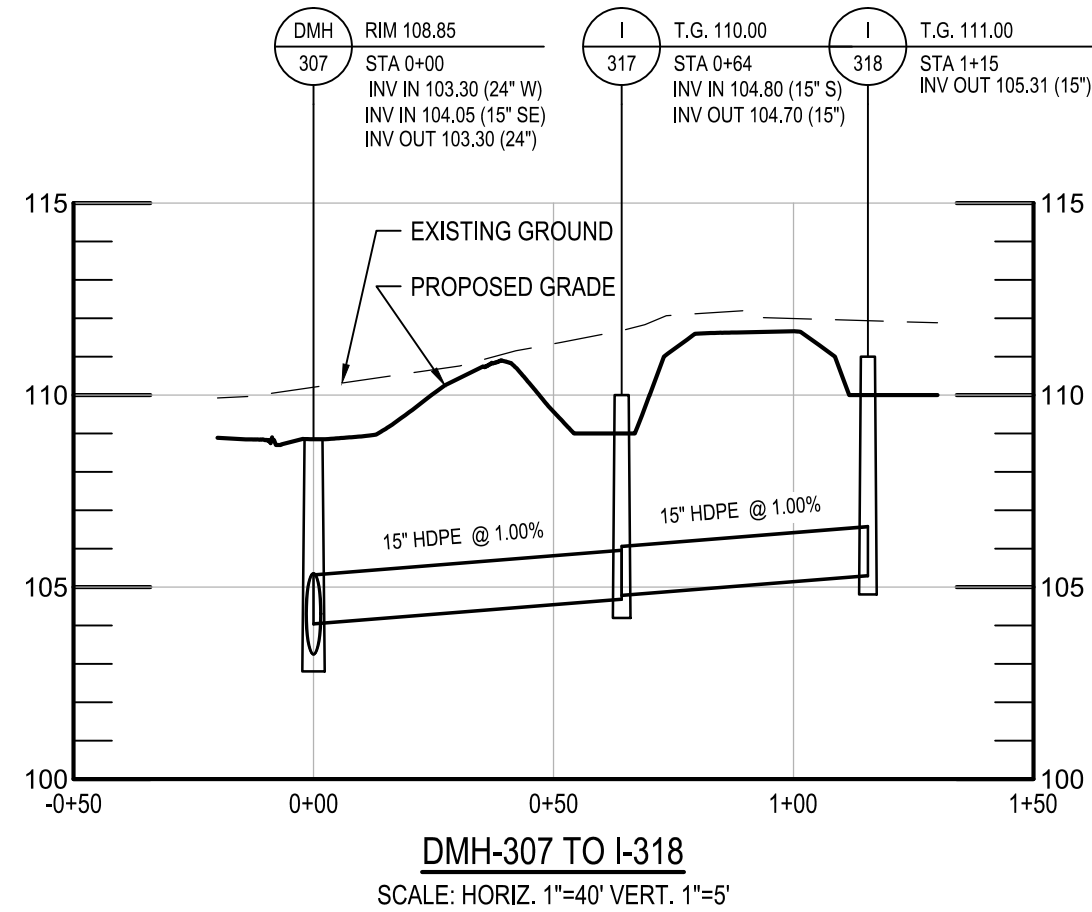
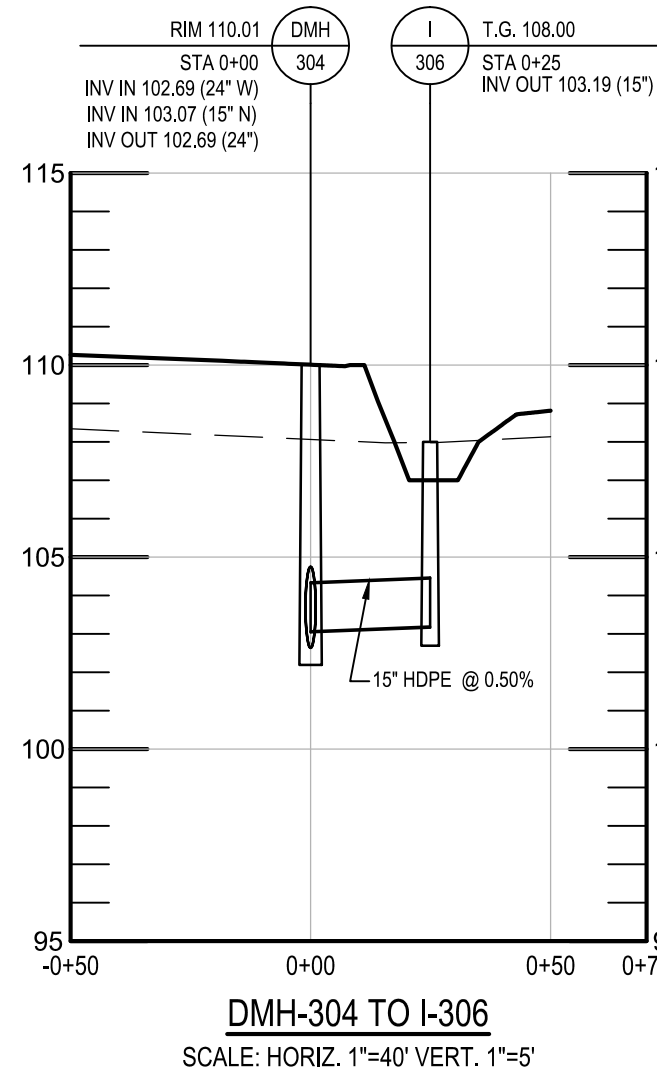
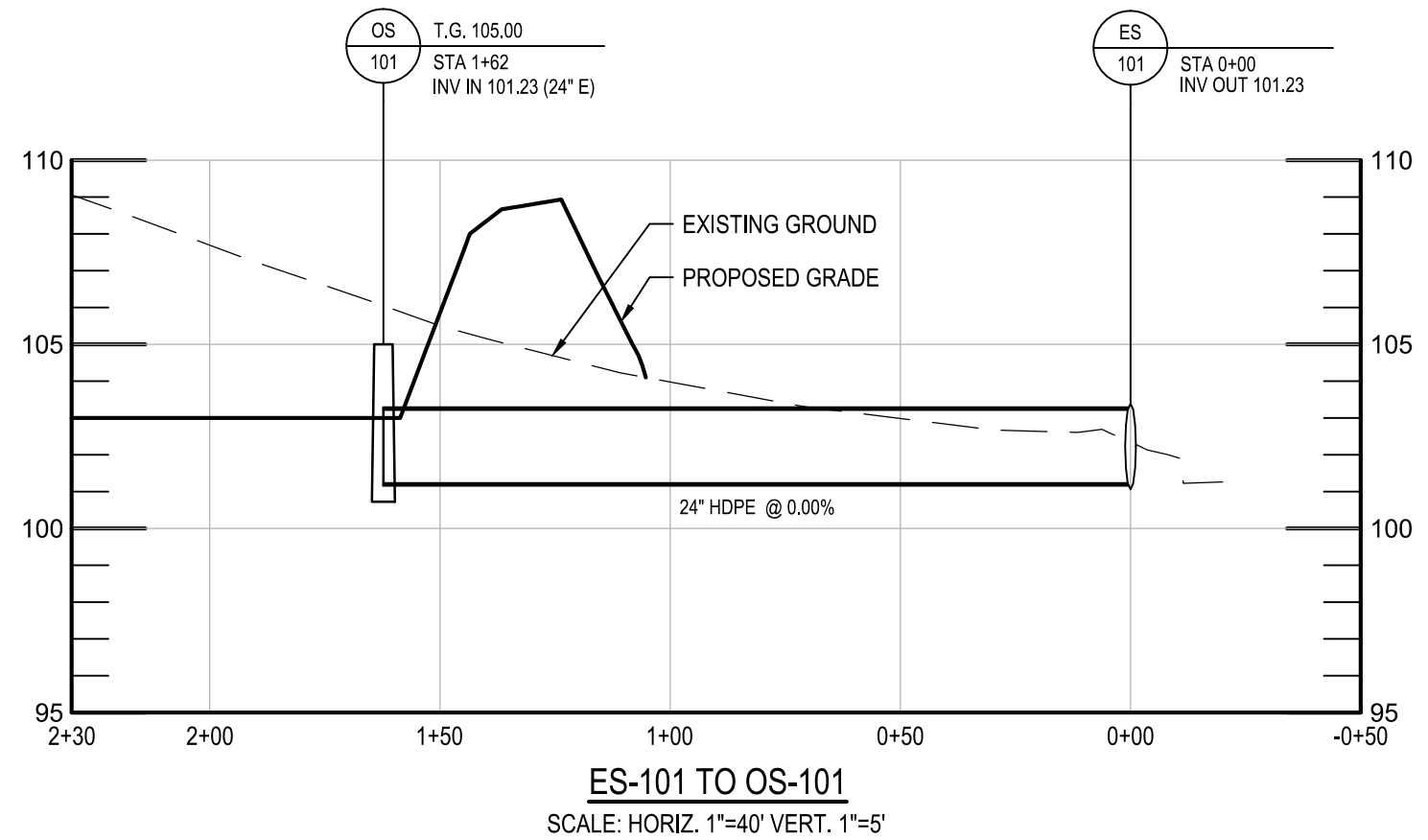
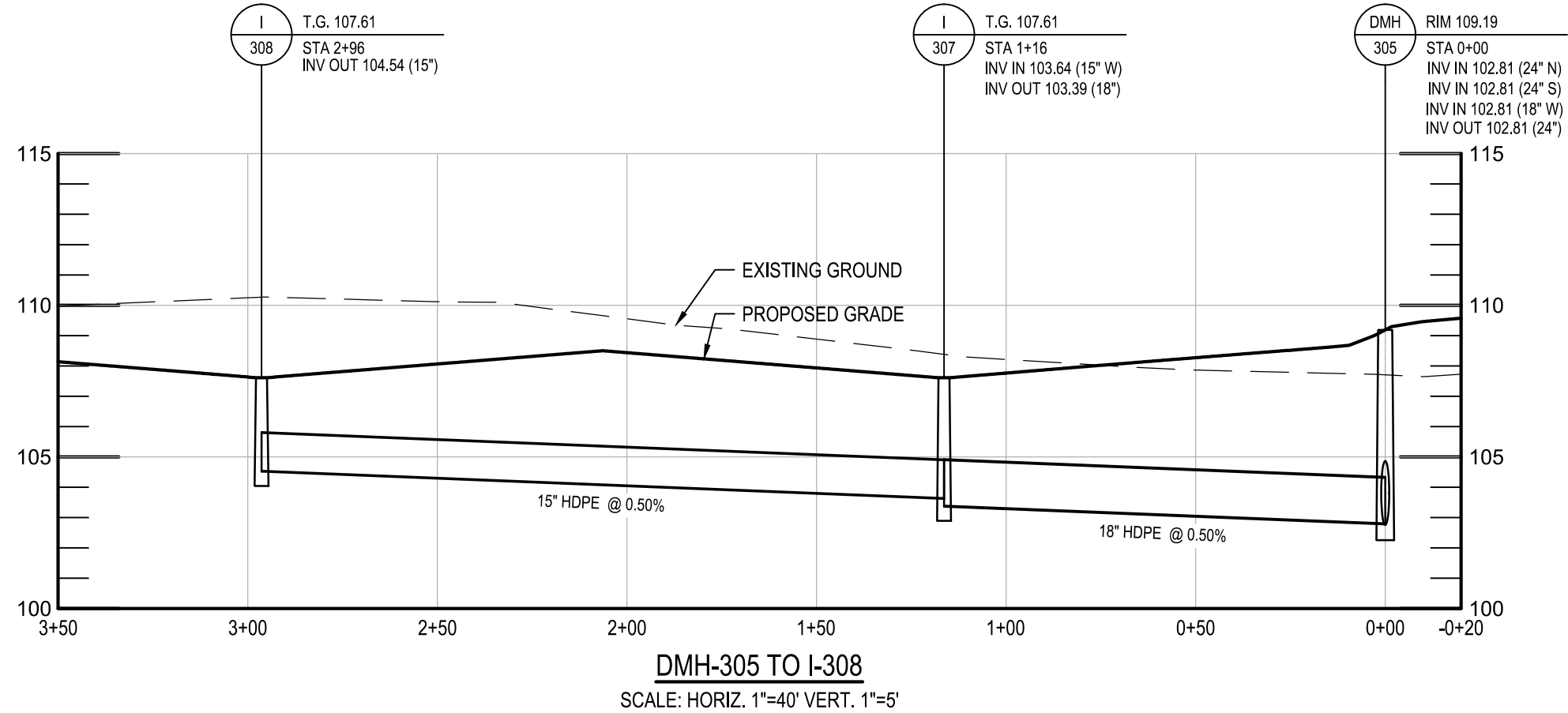
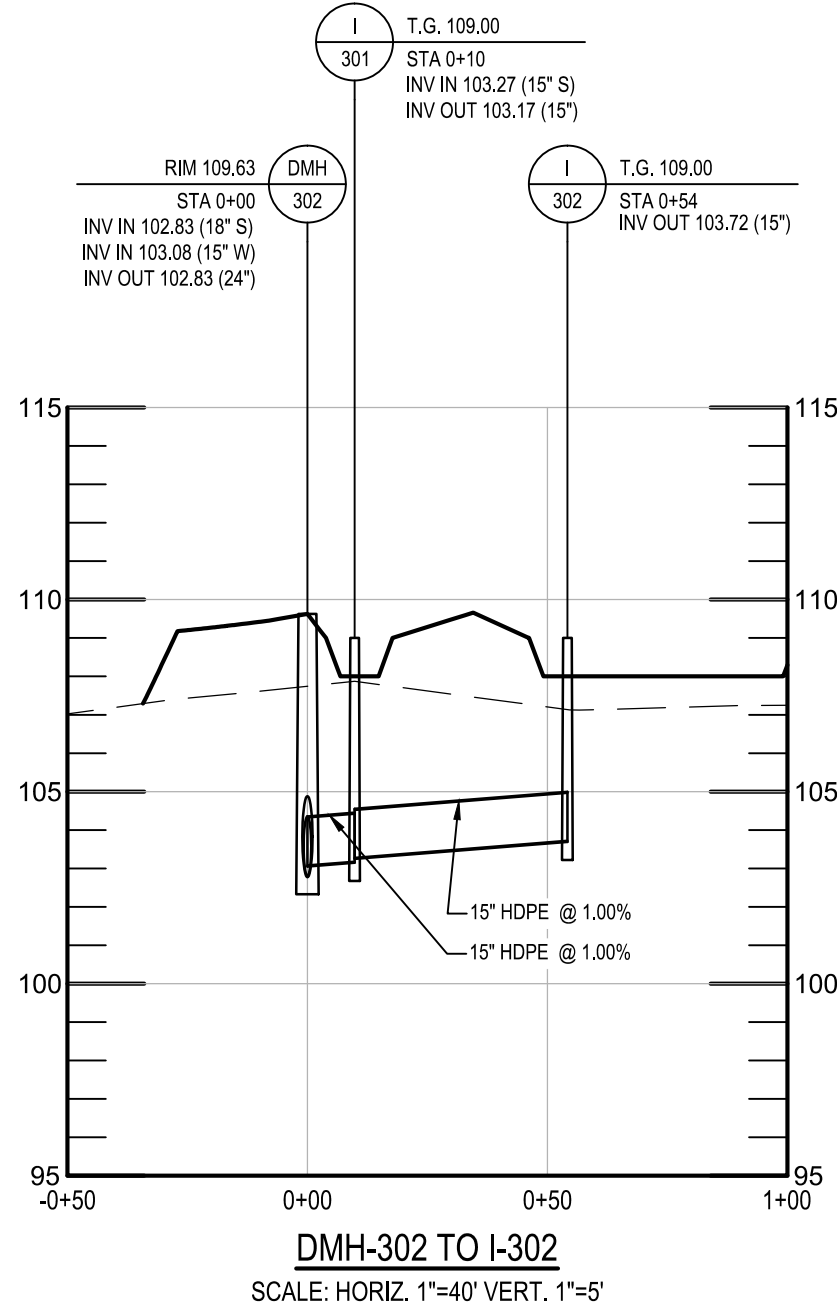
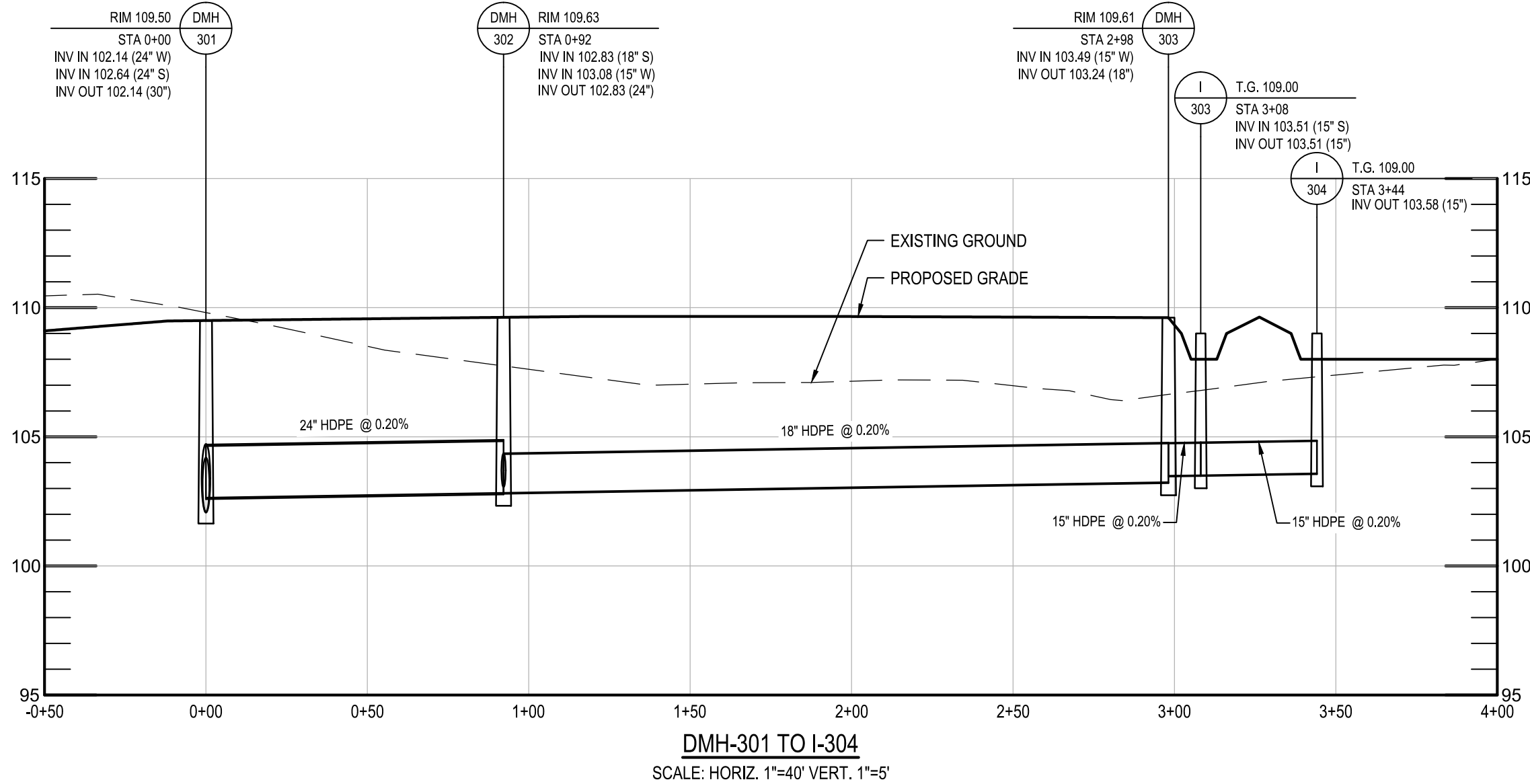
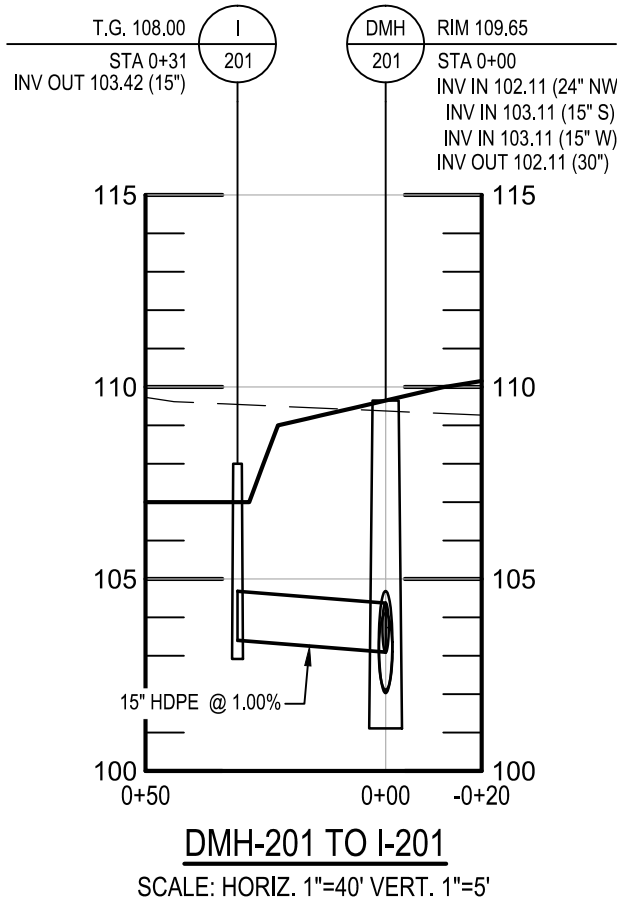
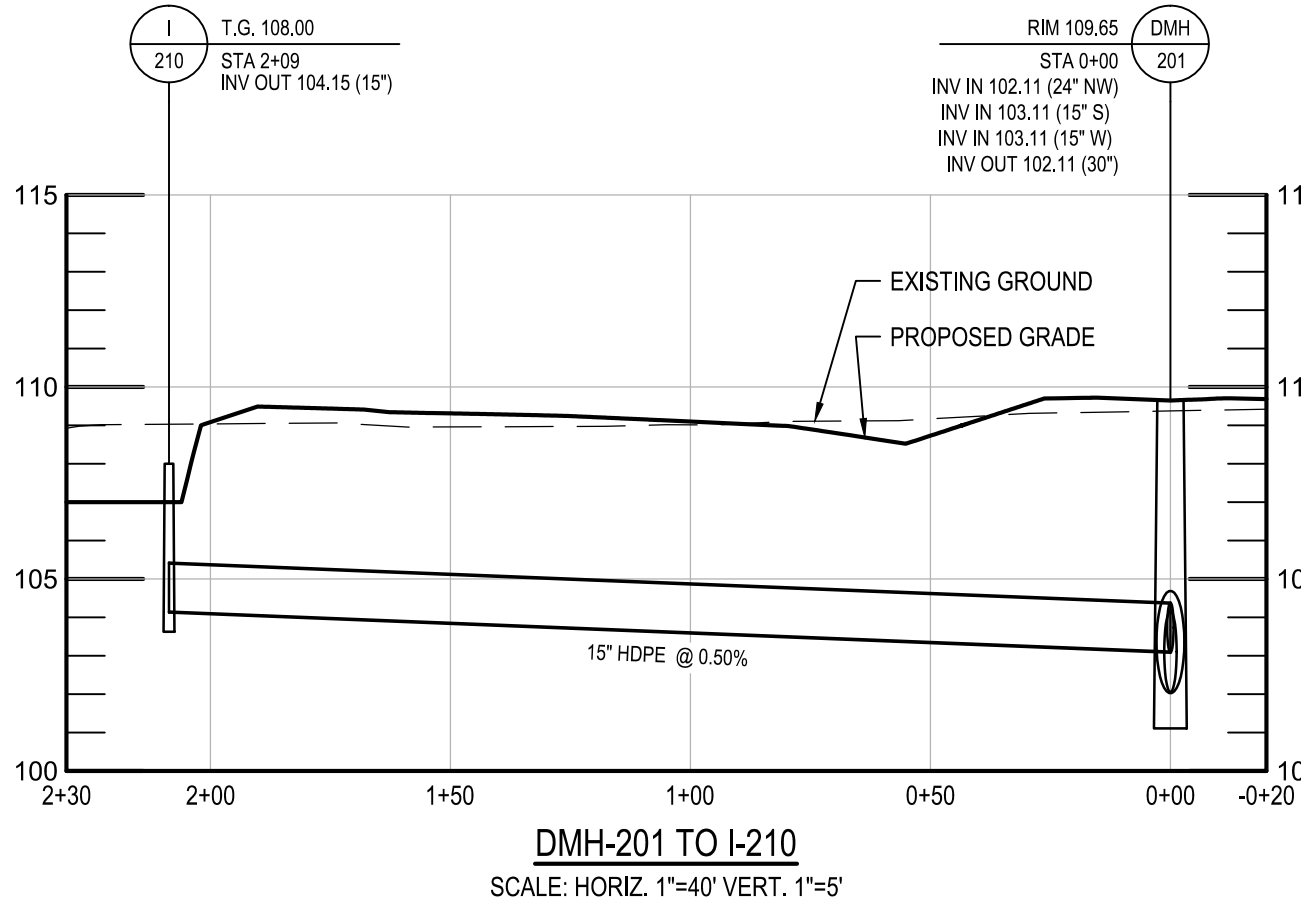
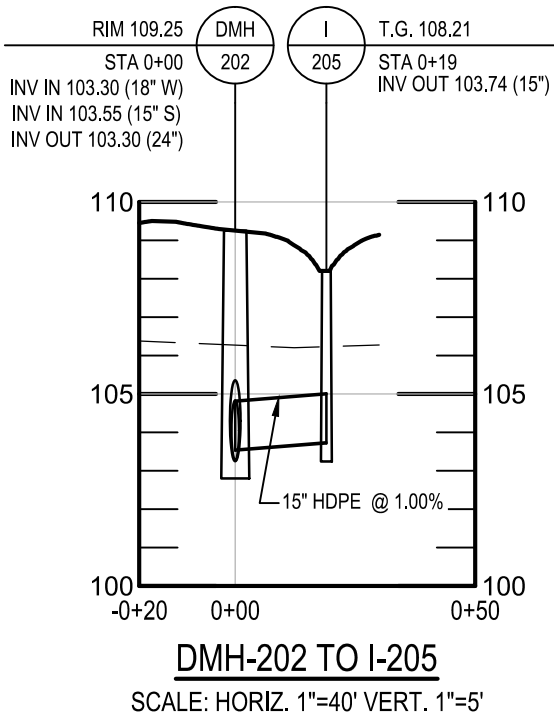
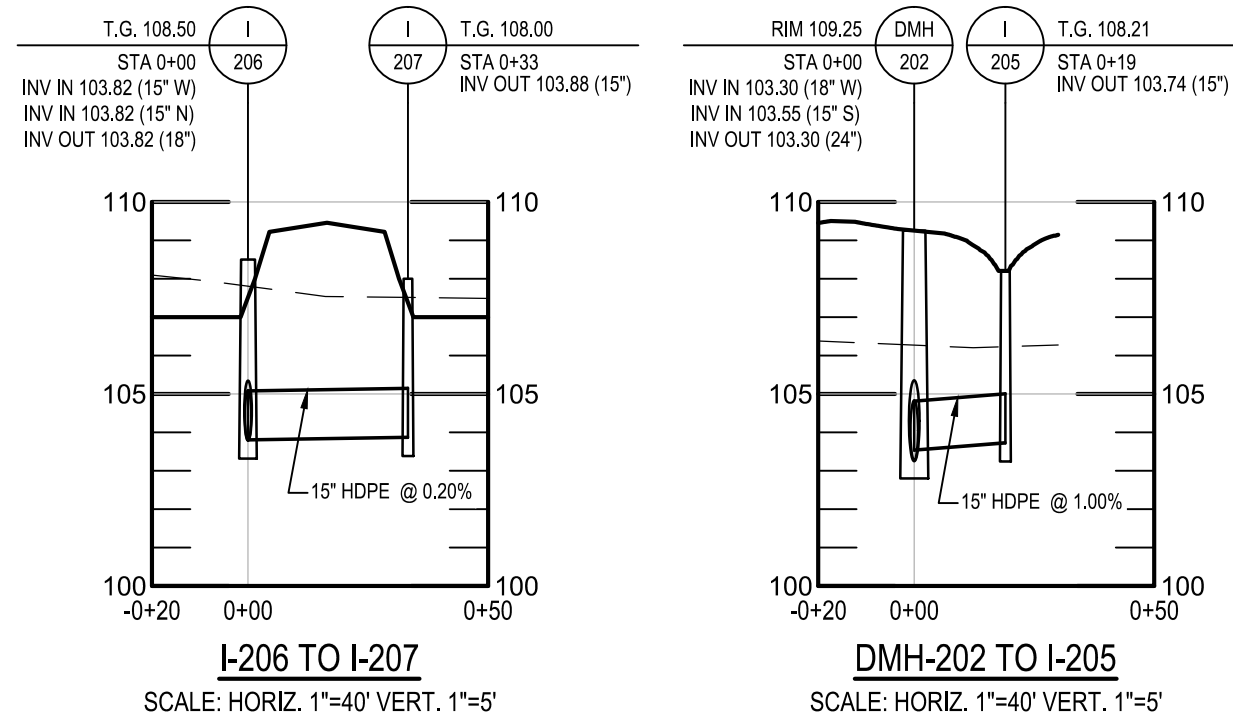
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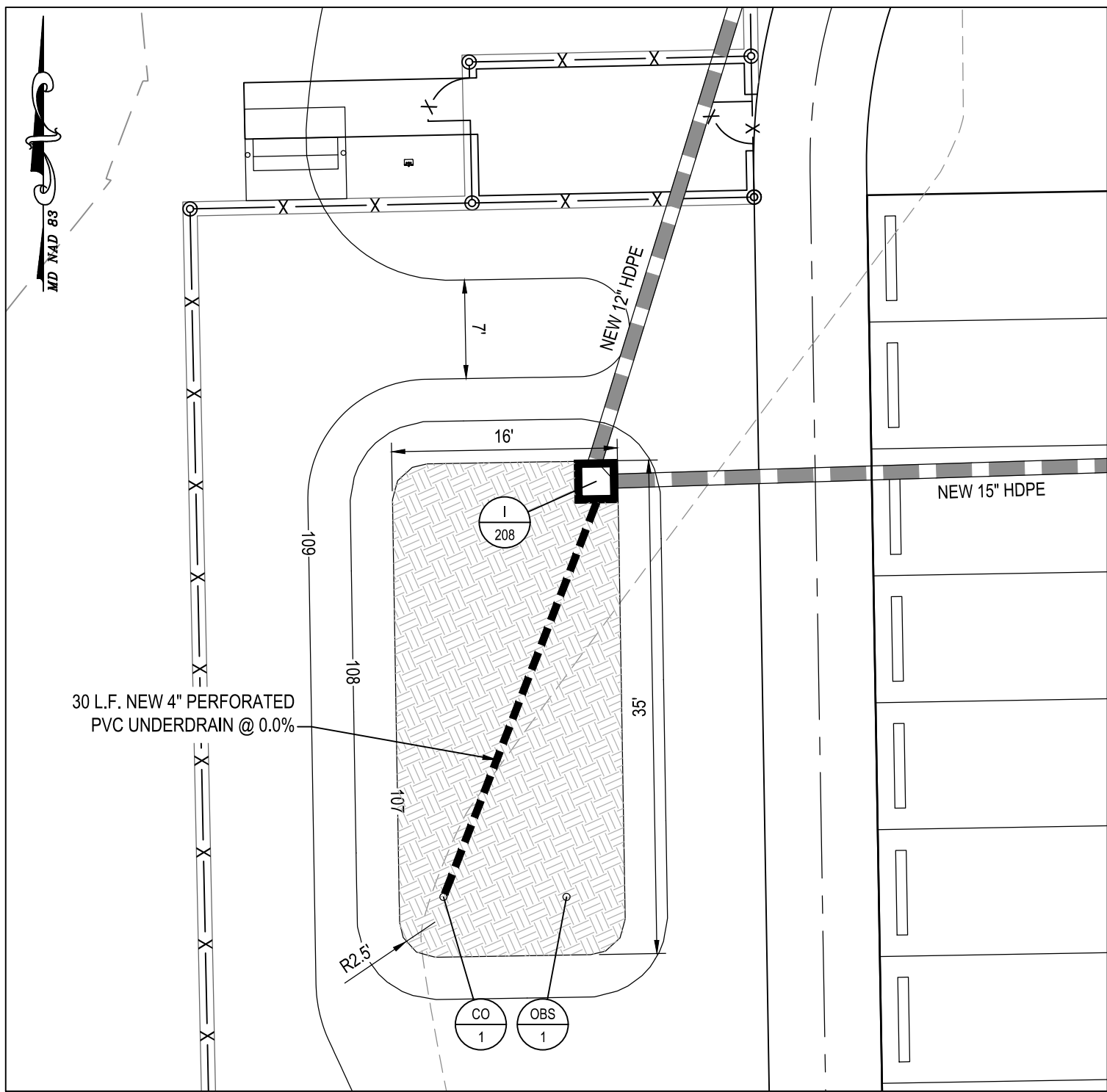
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED		DATE		APPROVED	
DATE		APPROVED		SCALE: AS SHOWN	
_____		_____		DRAWN BY: R.S.S.	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: R.W.H.	
APPROVED		DATE		SHEET NO. 24 OF 58	
_____		_____		PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	
				MILLERSVILLE PARK	
				STORM DRAIN PROFILES	

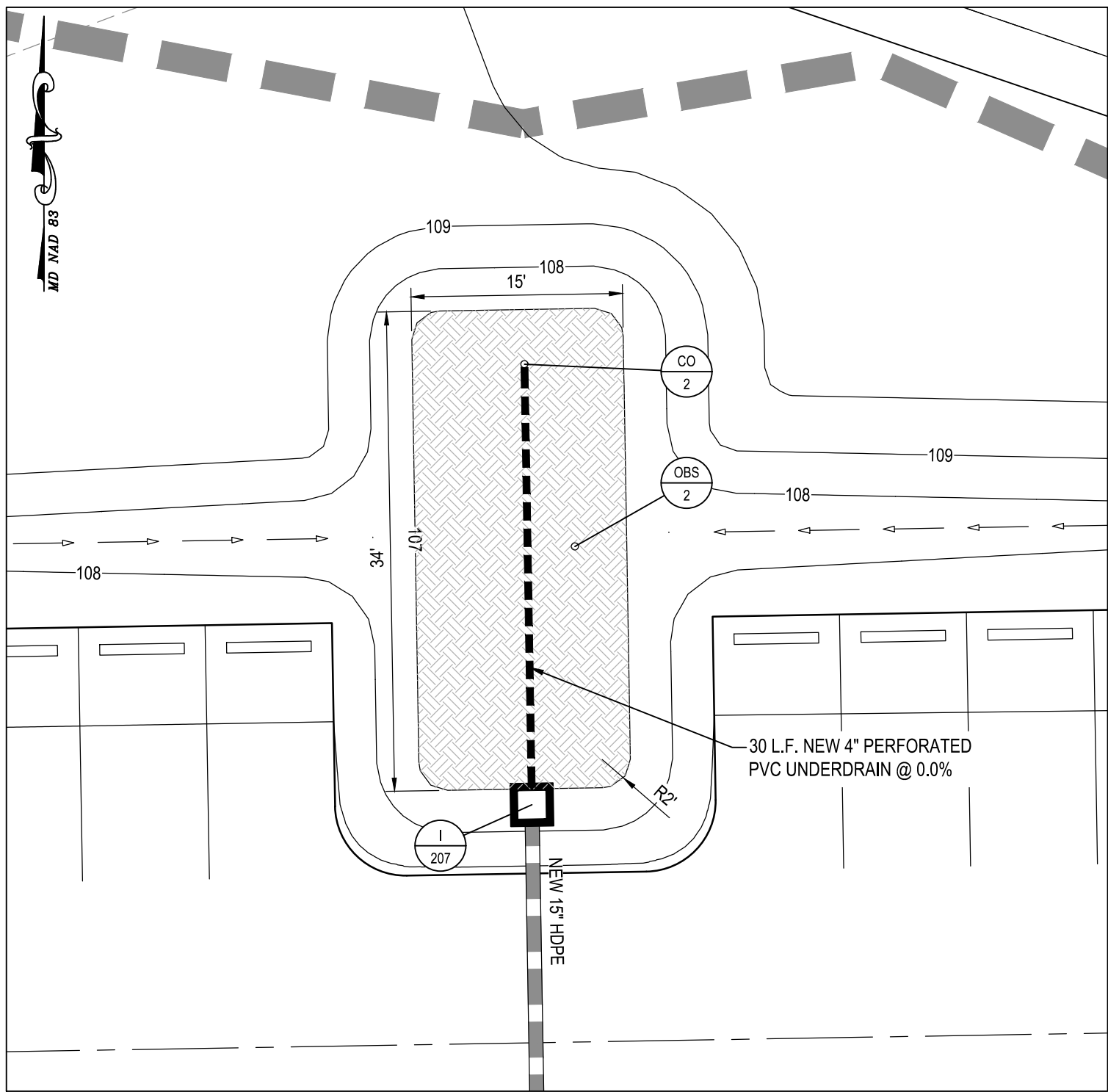
MILLERSVILLE PARK

STORM DRAIN PROFILES

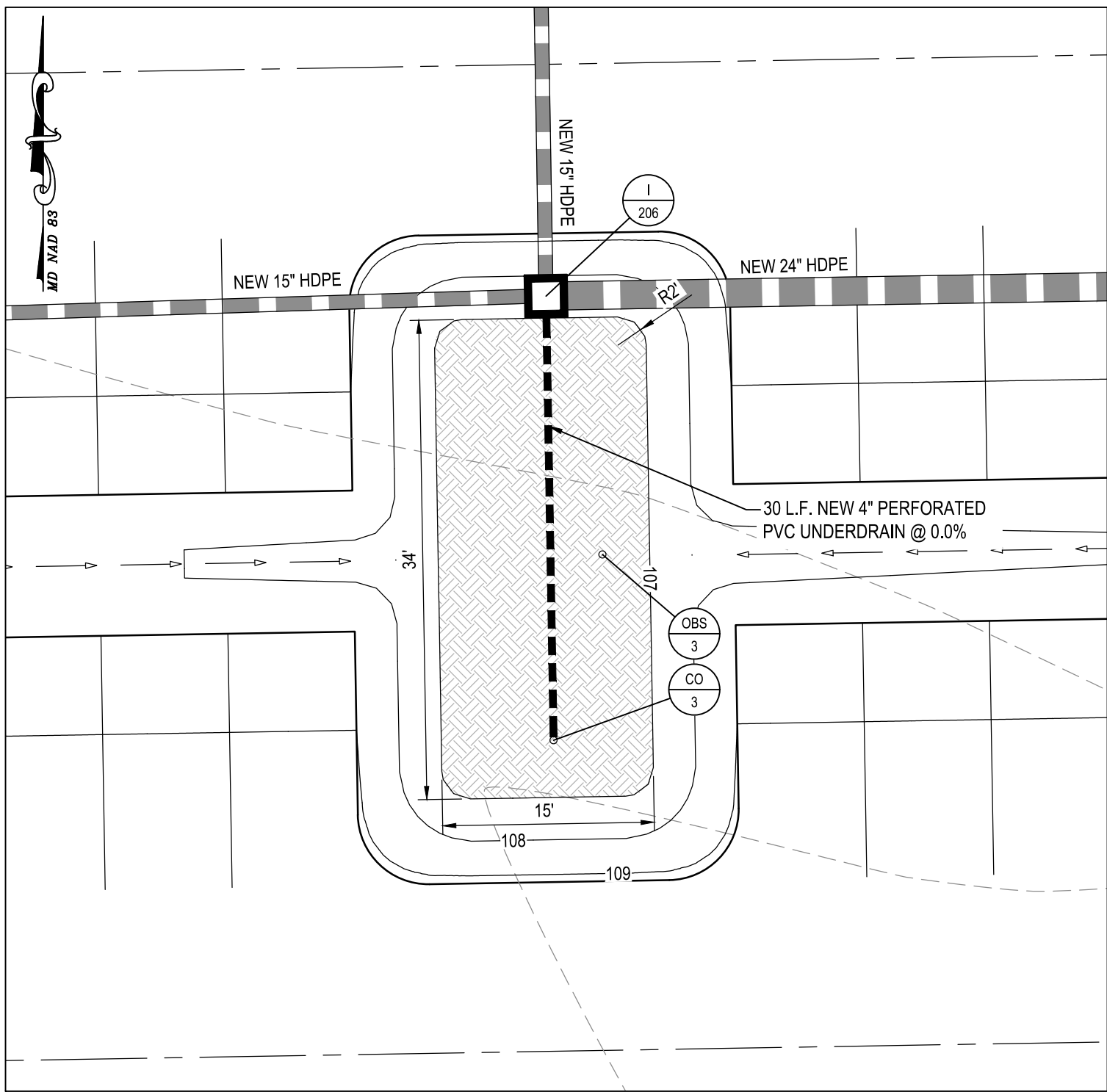




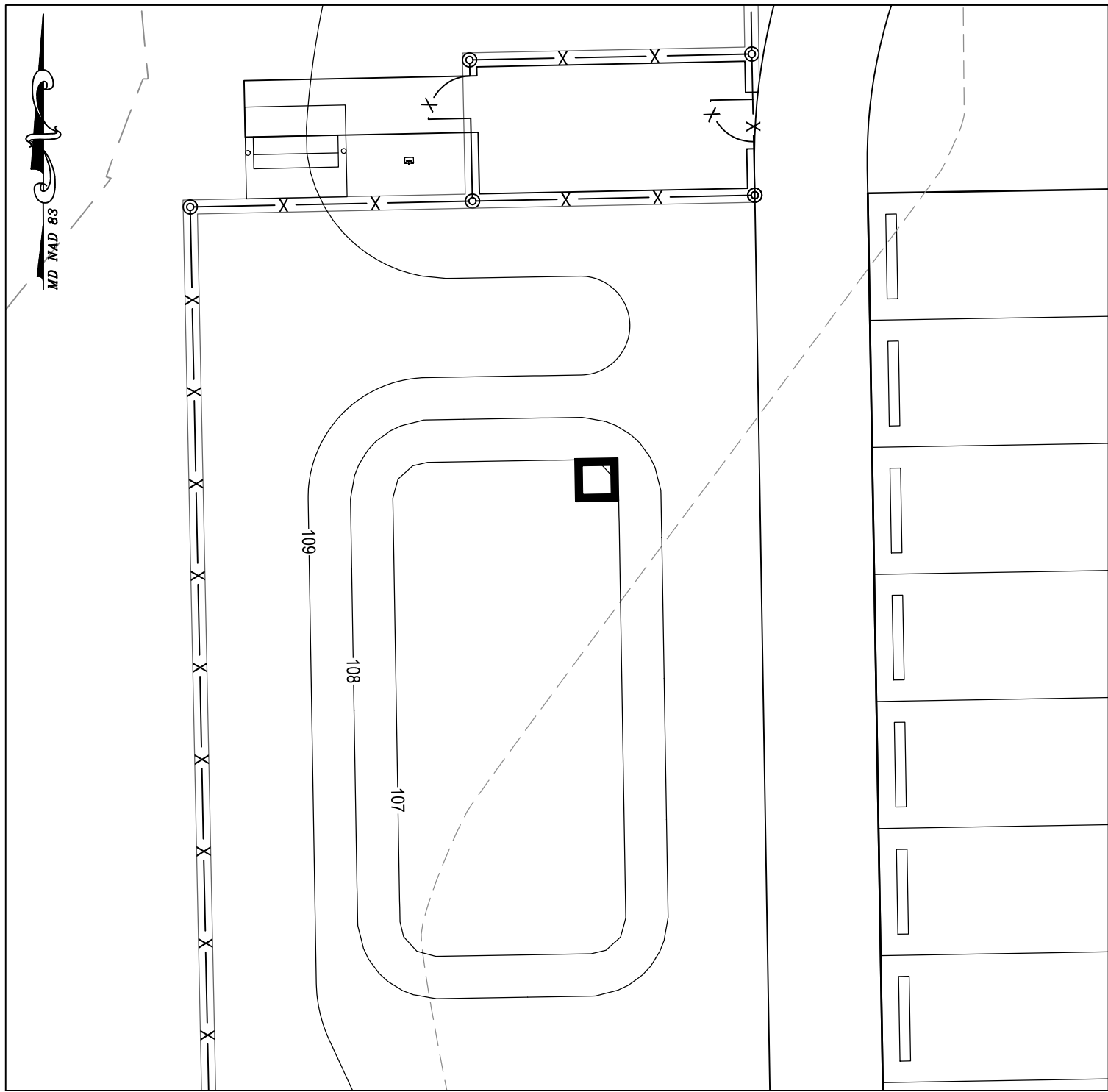
M-6 MICRO BIORETENTION FACILITY #1-1
SCALE: 1" = 10'



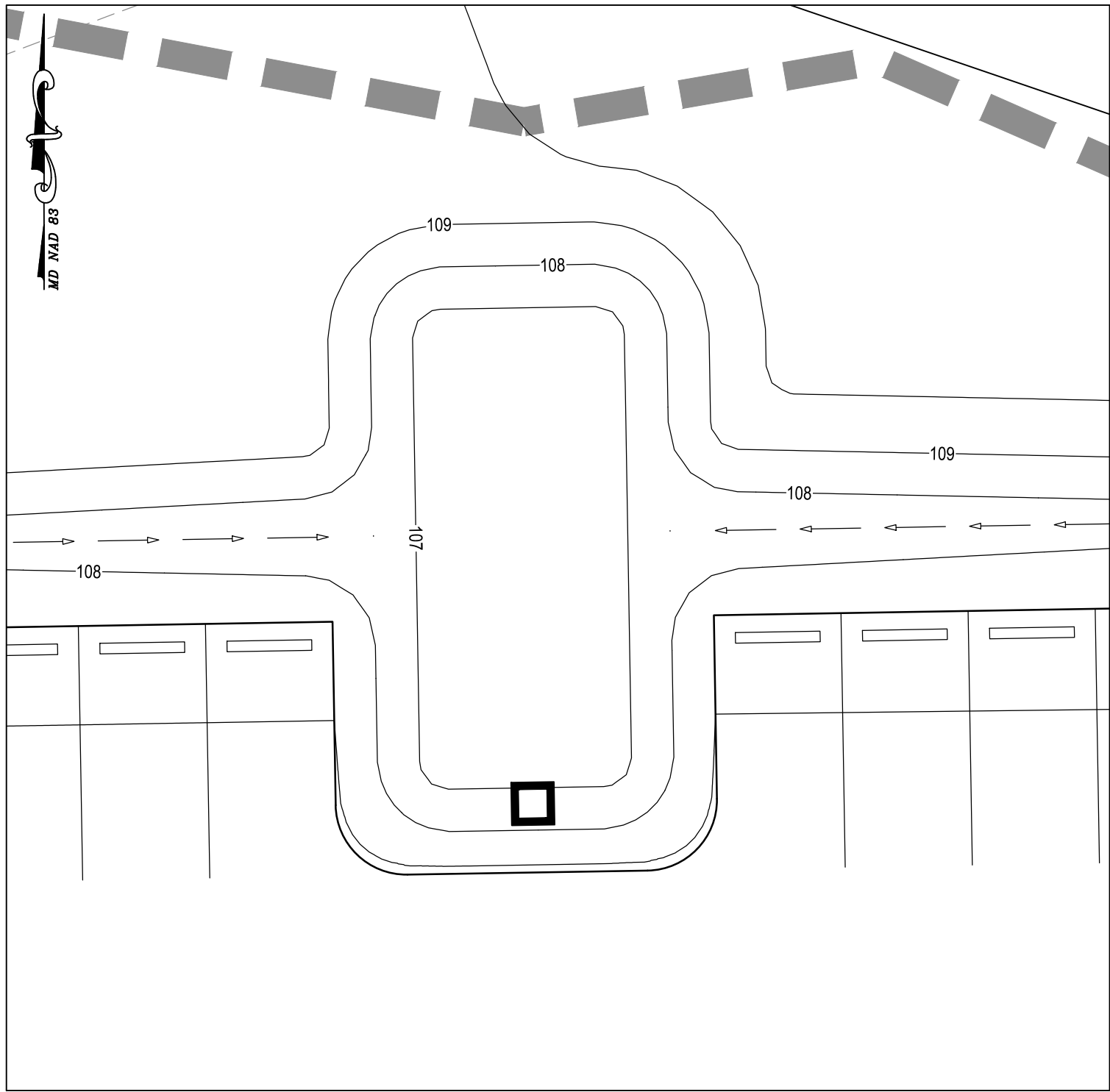
M-6 MICRO BIORETENTION FACILITY #1-2
SCALE: 1" = 10'



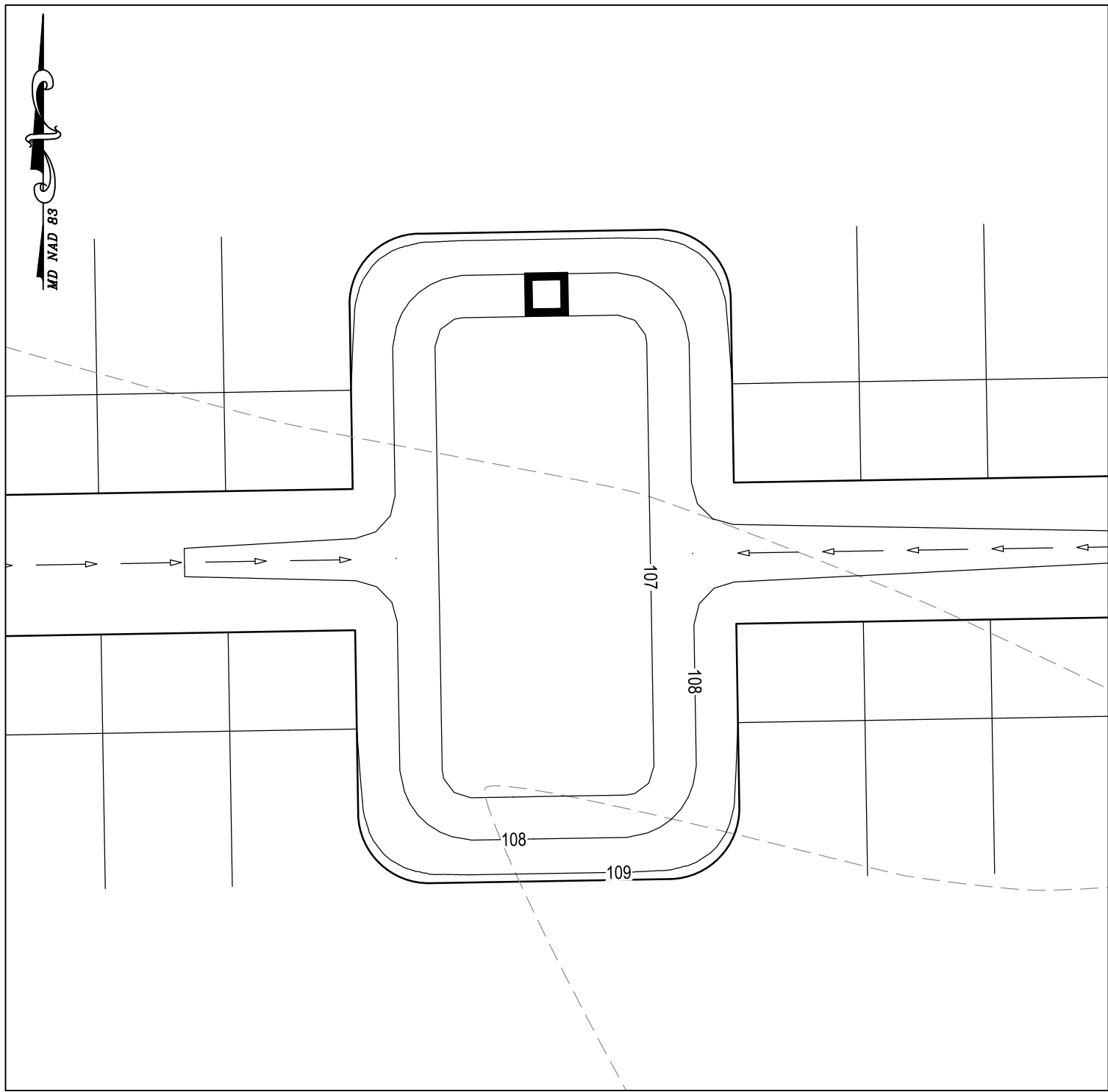
M-6 MICRO BIORETENTION FACILITY #1-3
SCALE: 1" = 10'



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



M-6 MICRO BIORETENTION FACILITY #1-2 (PLANTING PLAN)
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-3 (PLANTING PLAN)
SCALE: 1" = 10'

STORMWATER MANAGEMENT LEGEND

- AdB (C) --- MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
--- Sab (A) ---
--- PROPOSED STORM DRAIN
--- PROPOSED PERFORATED PIPE
--- FILTER BED AREA

PLANTING LEGEND

- + TREES
--- EVERGREEN
--- SHRUBS

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-1	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	35' x 16'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-208	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	12" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, T _b	109.00	
TOP OF EMBANKMENT WIDTH	7'	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #1 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-2	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	34' x 15'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-207	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, T _b	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #2 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-3	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	34' x 15'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-206	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, T _b	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #3 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

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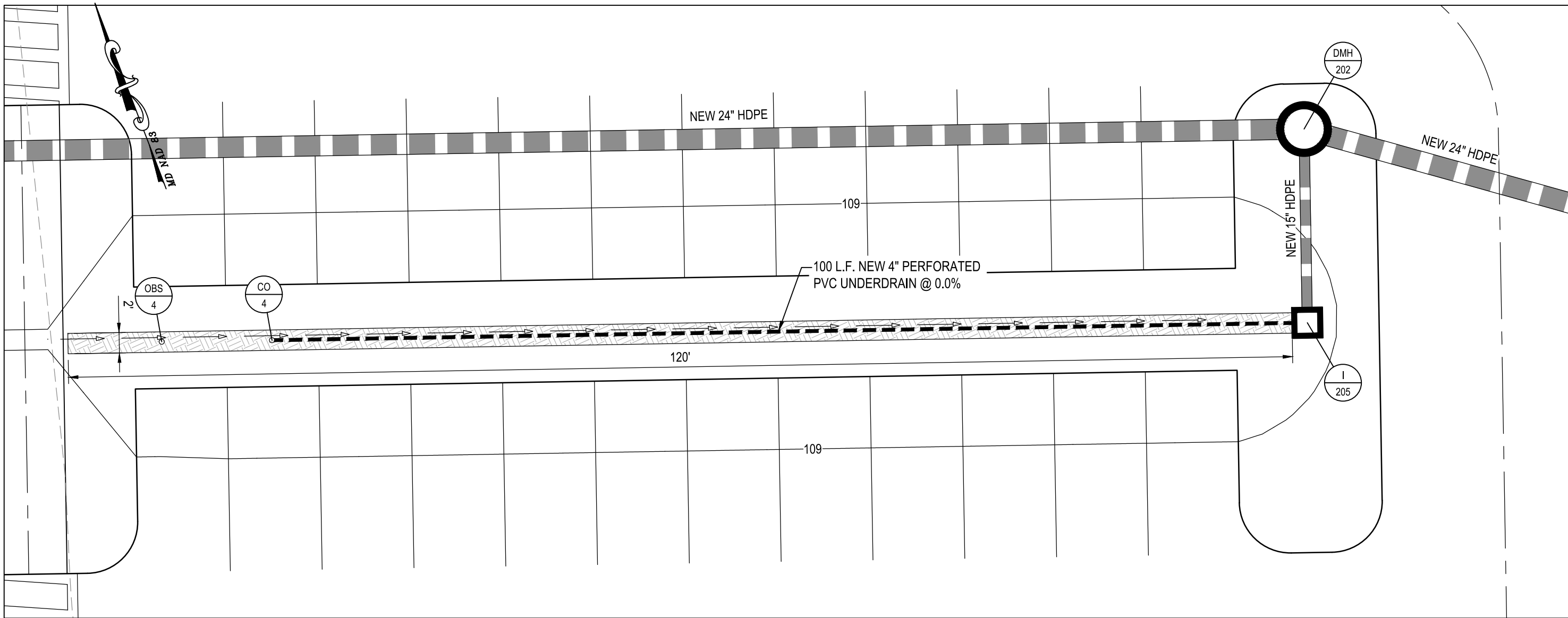
ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

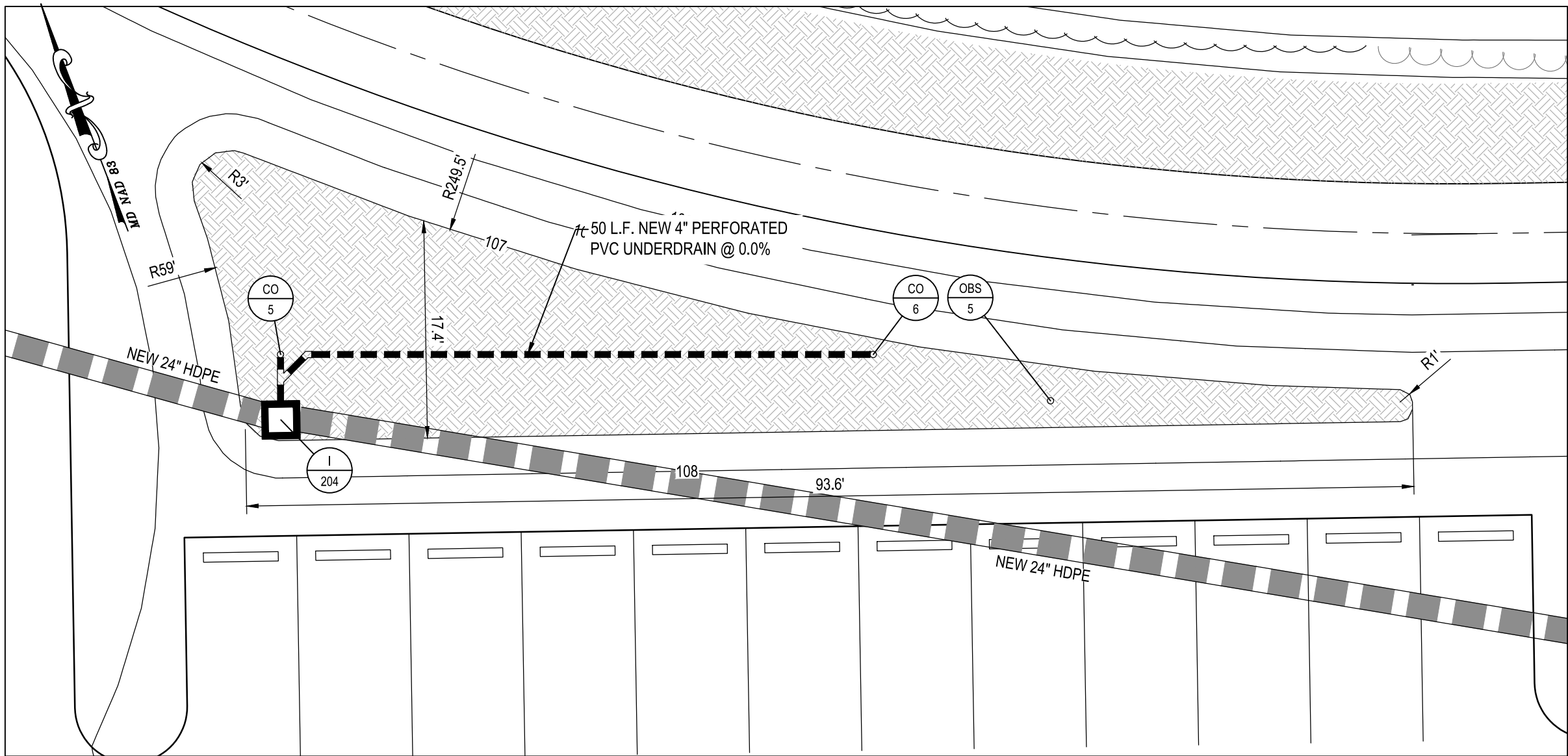
APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 10'
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.
APPROVED	DATE	APPROVED	DATE	CHECKED BY: R.W.H.
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		SHEET NO. 26 OF 58
				PROJECT NO.: P567100
				CONTRACT NO.: P56702

MILLERSVILLE PARK

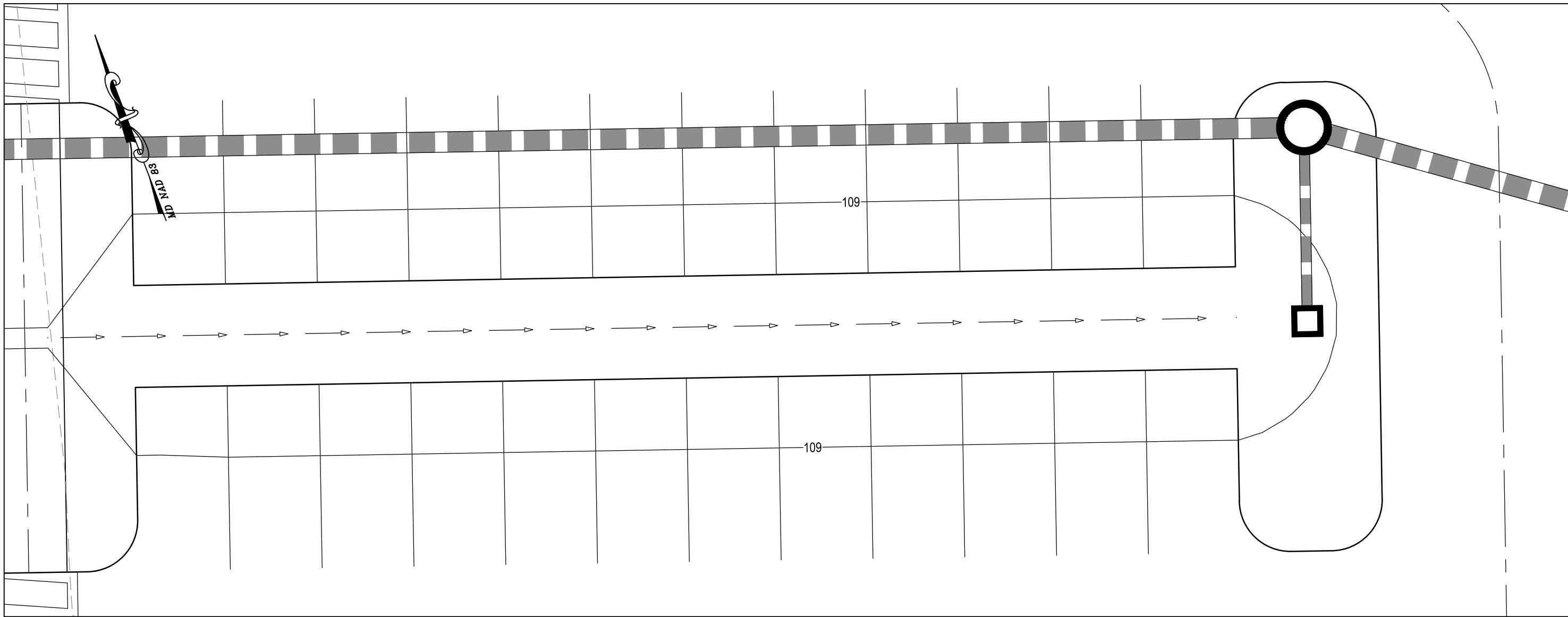
STORM WATER
MANAGEMENT PART PLAN



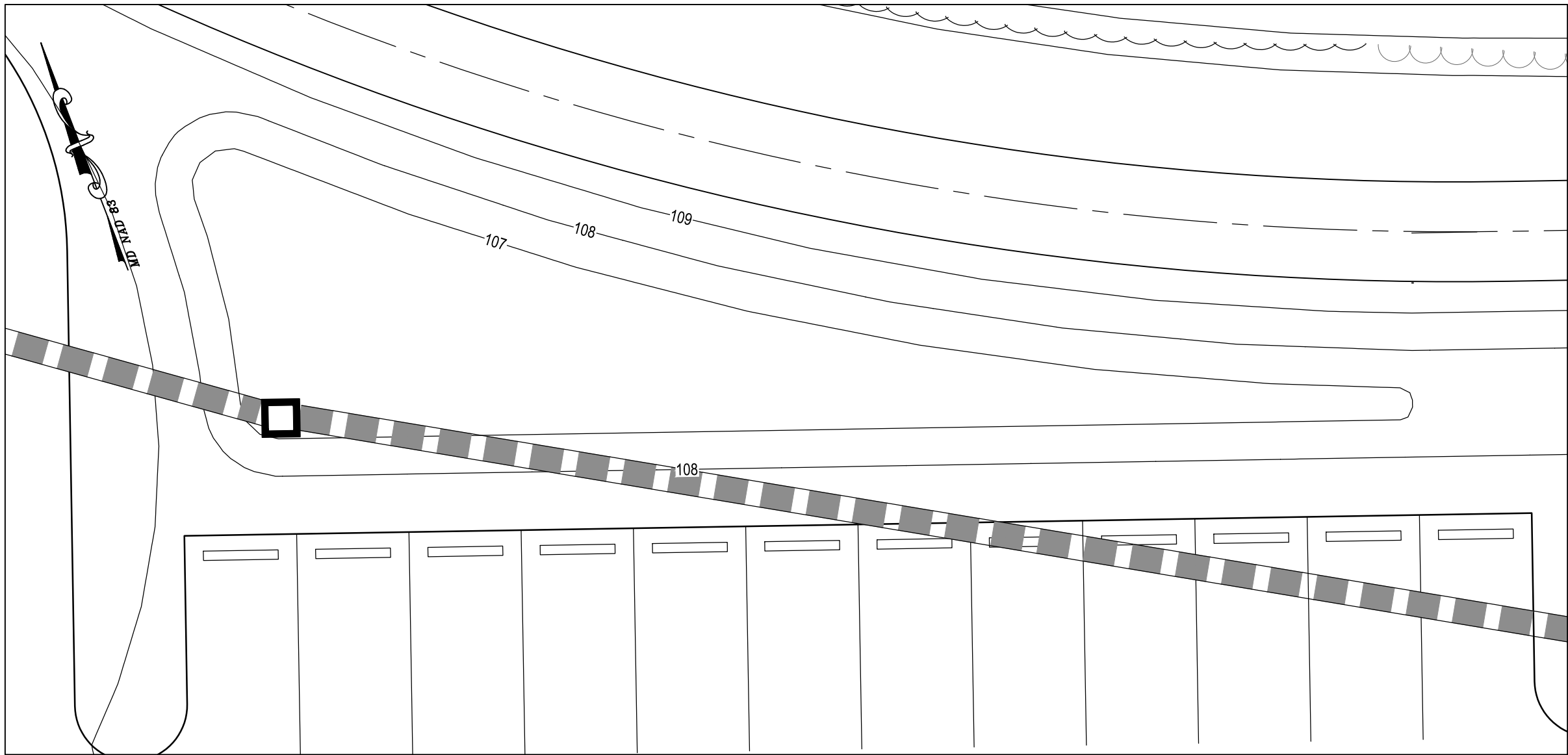
M-8 BIOSWALE #1-4
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-5
SCALE: 1" = 10'



M-4 BIOSWALE #1-4 (PLANTING PLAN)
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-5 (PLANTING PLAN)
SCALE: 1" = 10'

STORMWATER MANAGEMENT LEGEND

AgB
(C)

SaB
(A)

MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING

PROPOSED STORM DRAIN

PROPOSED PERFORATED PIPE

FILTER BED AREA

PLANTING LEGEND

TREES

EVERGREEN

SHRUBS

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-8, BIOSWALE	BMP ID: BIOSWALE (M-8) FACILITY #1-4	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	120' x 2'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)		
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-205	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4"	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #4 (2.83')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-5	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	93.6' x 11.4'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-204	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	24" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Td	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #5 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

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License # 27734 Expiration Date: 07/12/26

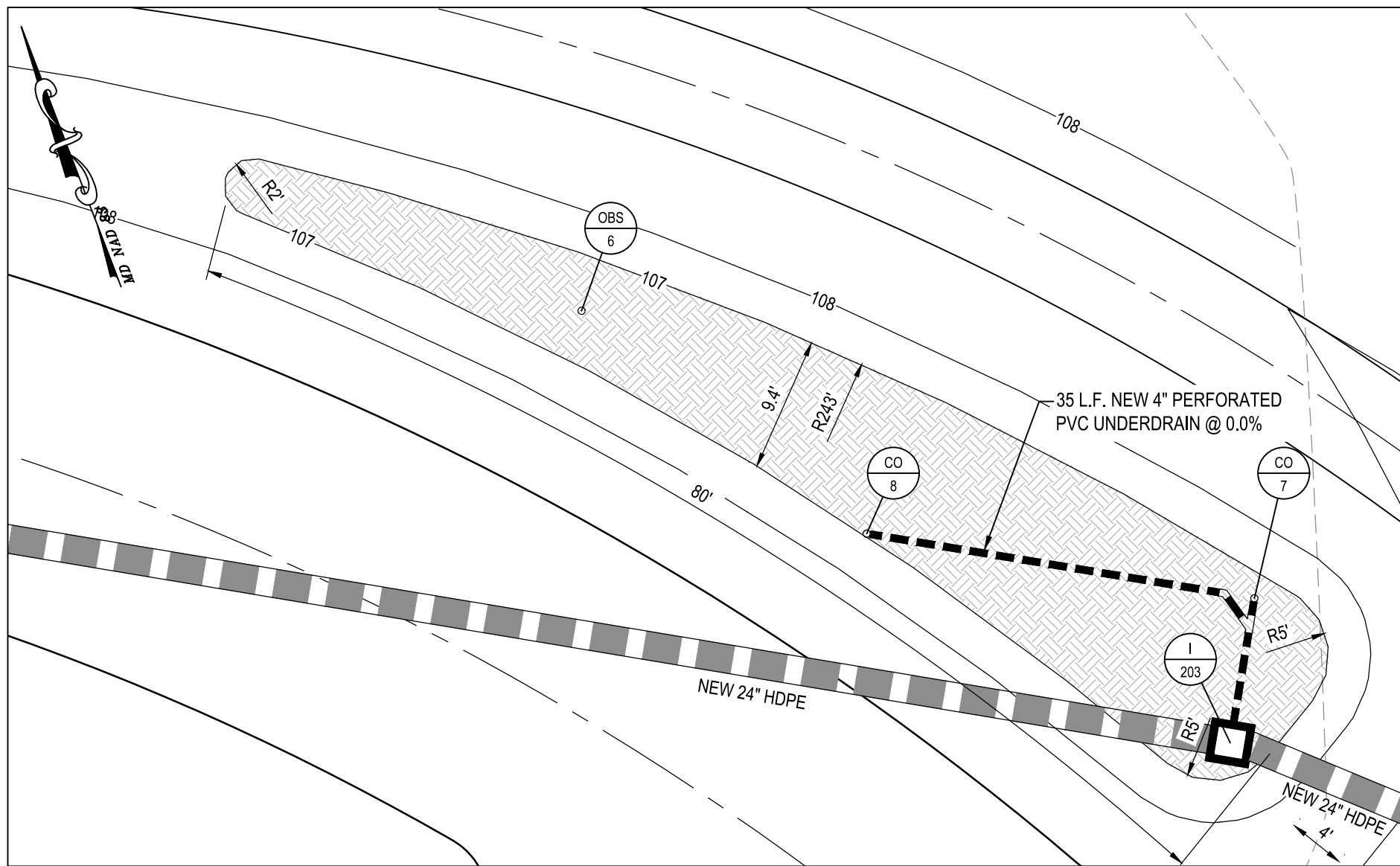
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	

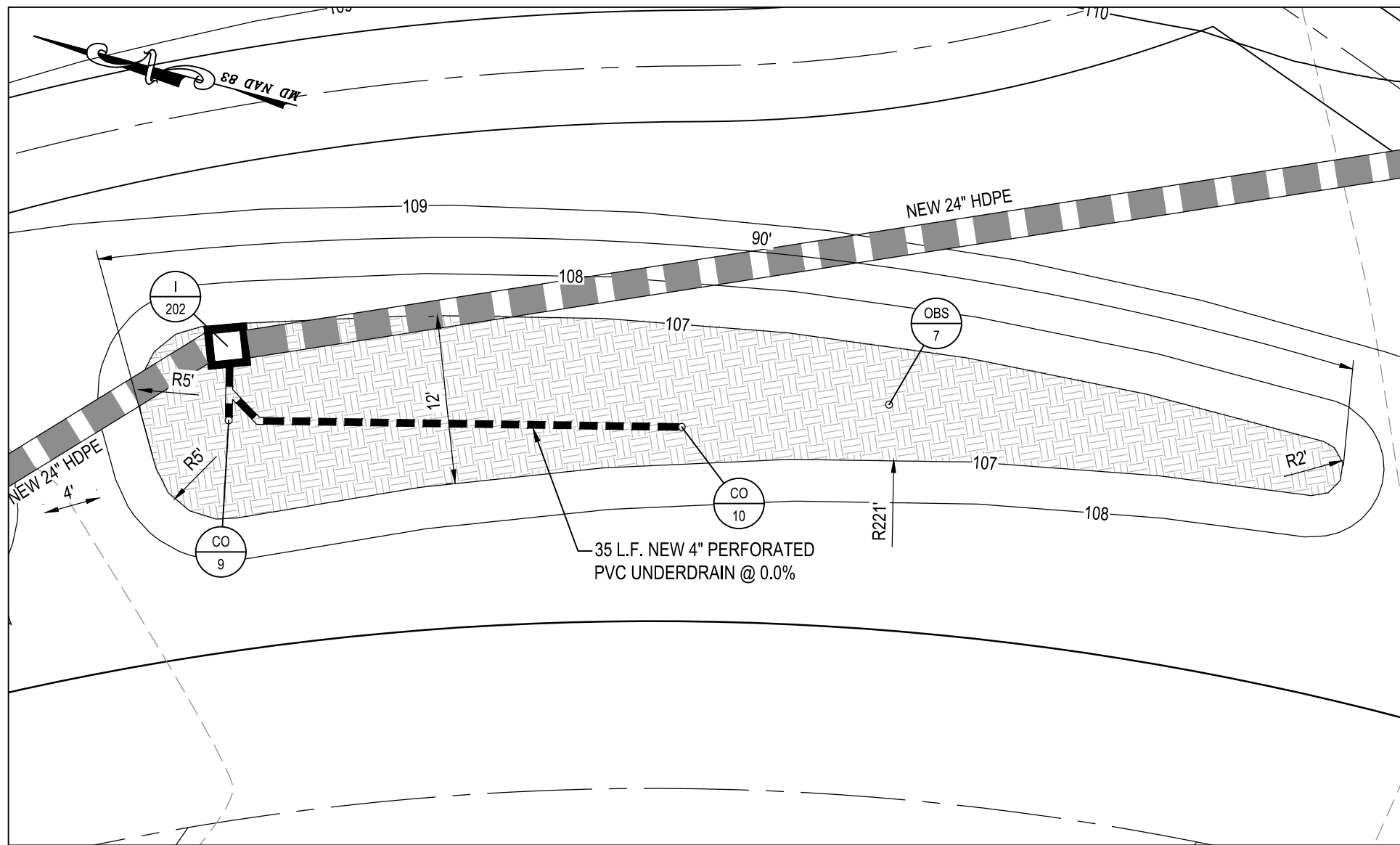
SCALE: 1" = 10'	MILLERSVILLE PARK
DRAWN BY: R.S.S.	
CHECKED BY: R.W.H.	
SHEET NO. 27 OF 58	
PROJECT NO.: P567100	STORM WATER MANAGEMENT PART PLAN
CONTRACT NO.: P56702	

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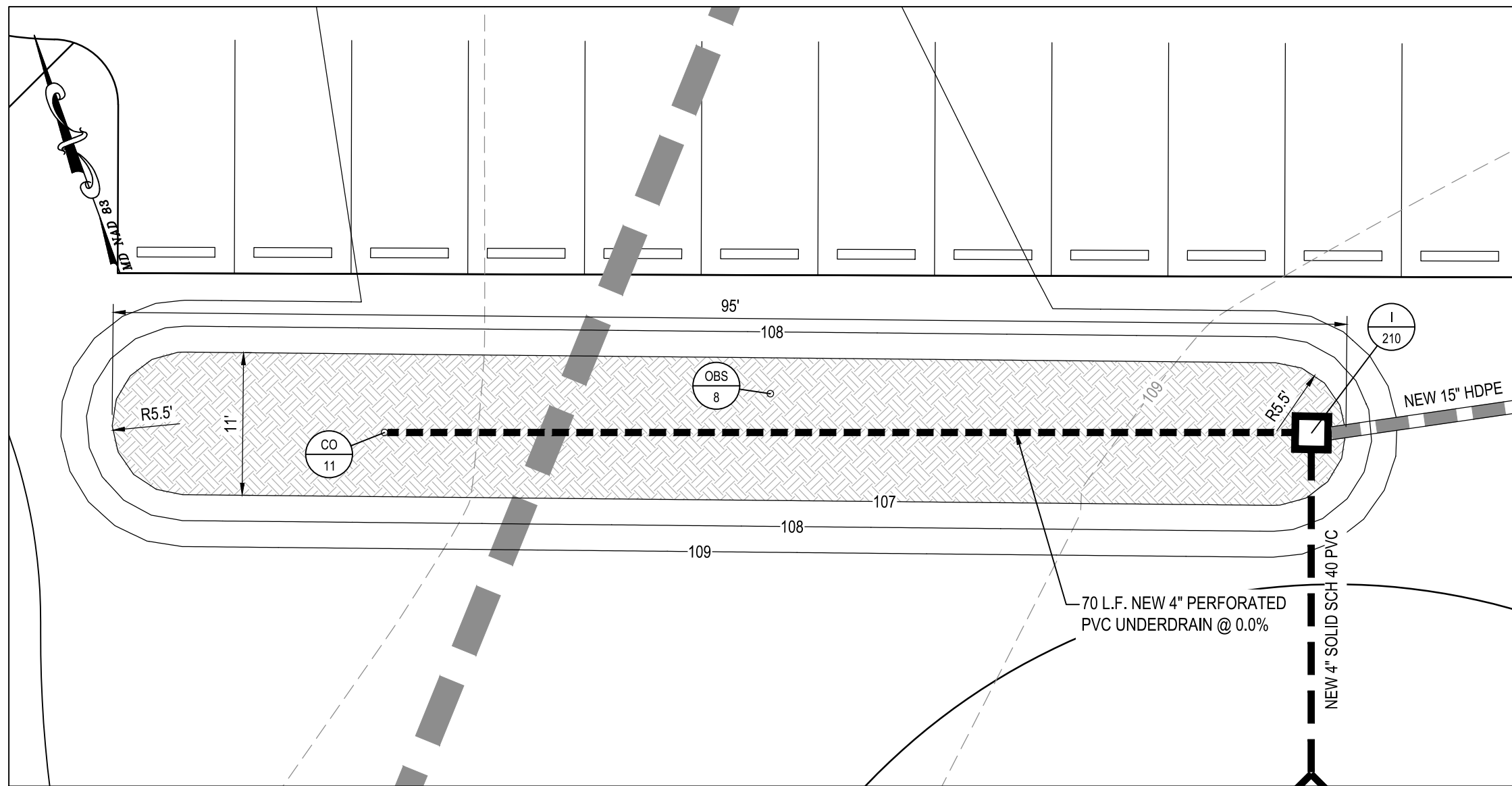
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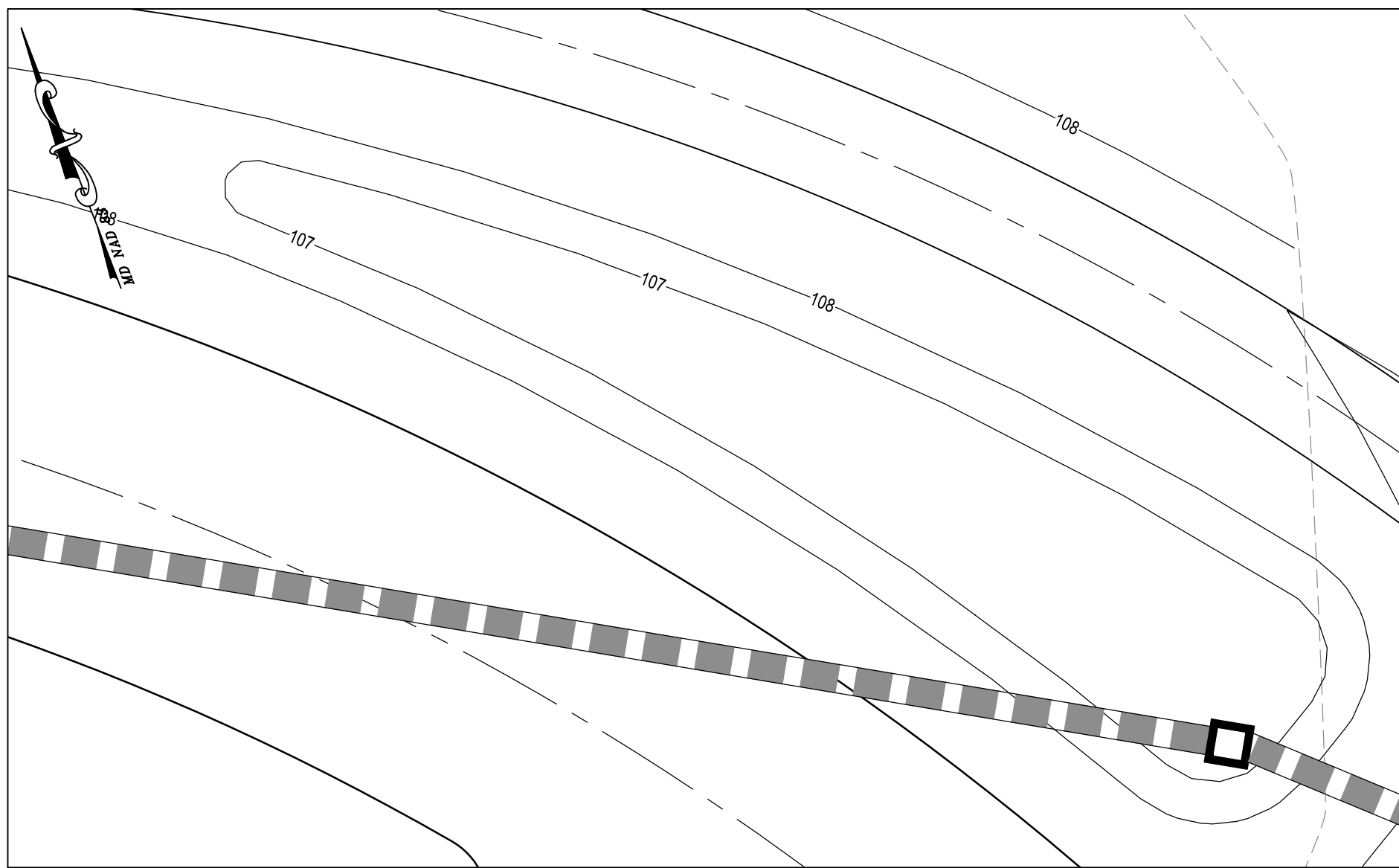
M-6 MICRO BIORETENTION FACILITY #1-6
SCALE: 1" = 10'



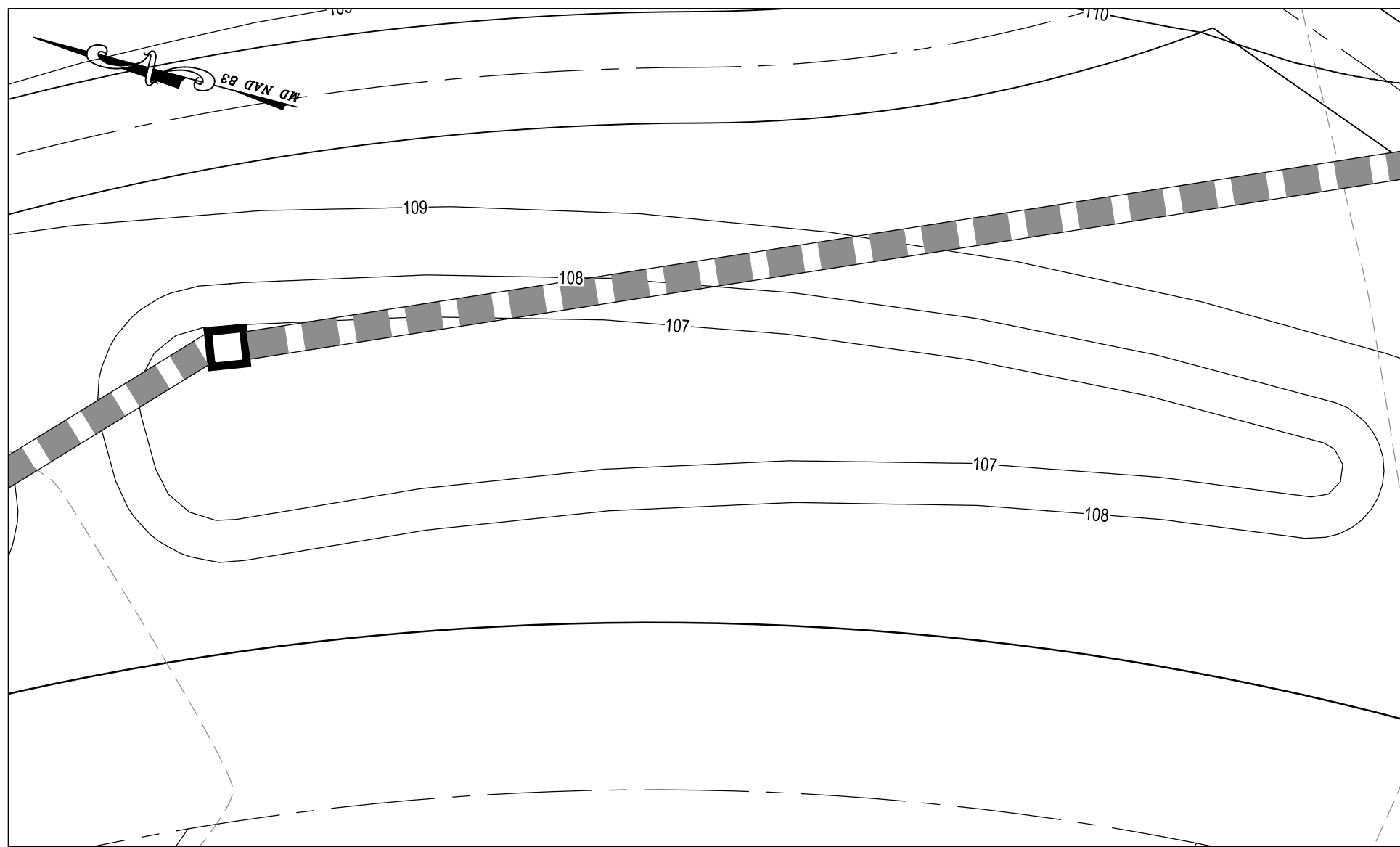
M-6 MICRO BIORETENTION FACILITY #1-7
SCALE: 1" = 10'



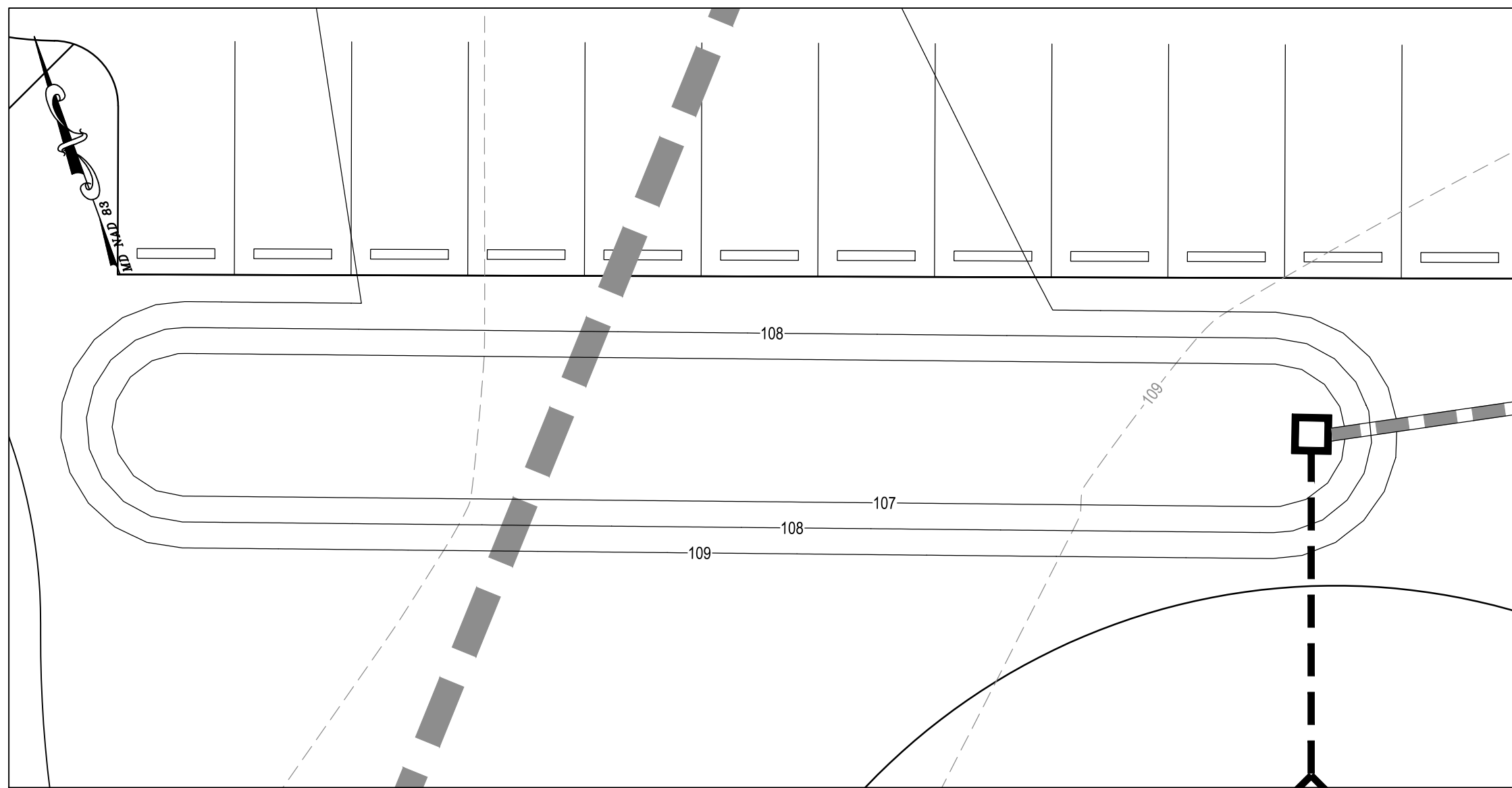
M-6 MICRO BIORETENTION FACILITY #1-8
SCALE: 1" = 10'



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



M-6 MICRO BIORETENTION FACILITY #1-7 (PLANTING PLAN)
SCALE: 1" = 10'

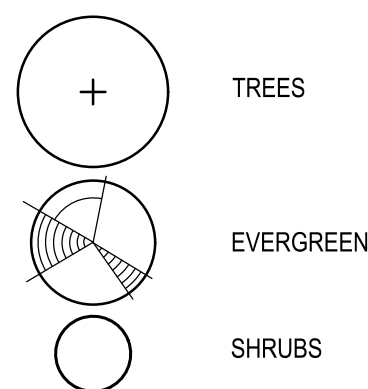


M-6 MICRO BIORETENTION FACILITY #1-8 (PLANTING PLAN)
SCALE: 1" = 10'

STORMWATER MANAGEMENT LEGEND

	MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
	PROPOSED STORM DRAIN
	PROPOSED PERFORATED PIPE
	FILTER BED AREA

PLANTING LEGEND



TREES

EVERGREEN

SHRUBS

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-6	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	80' x 9.4'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-203	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	24" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Tb	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #6 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-7	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	90' x 12'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-202	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	24" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Tb	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #7 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-8	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	95' x 11'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-210	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Tb	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #8 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

300 East Joppa Road Suite 200
Baltimore, MD 21286
410.512.4500 www.transystems.com

TRANSYSTEMS

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

REVISIONS

NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY

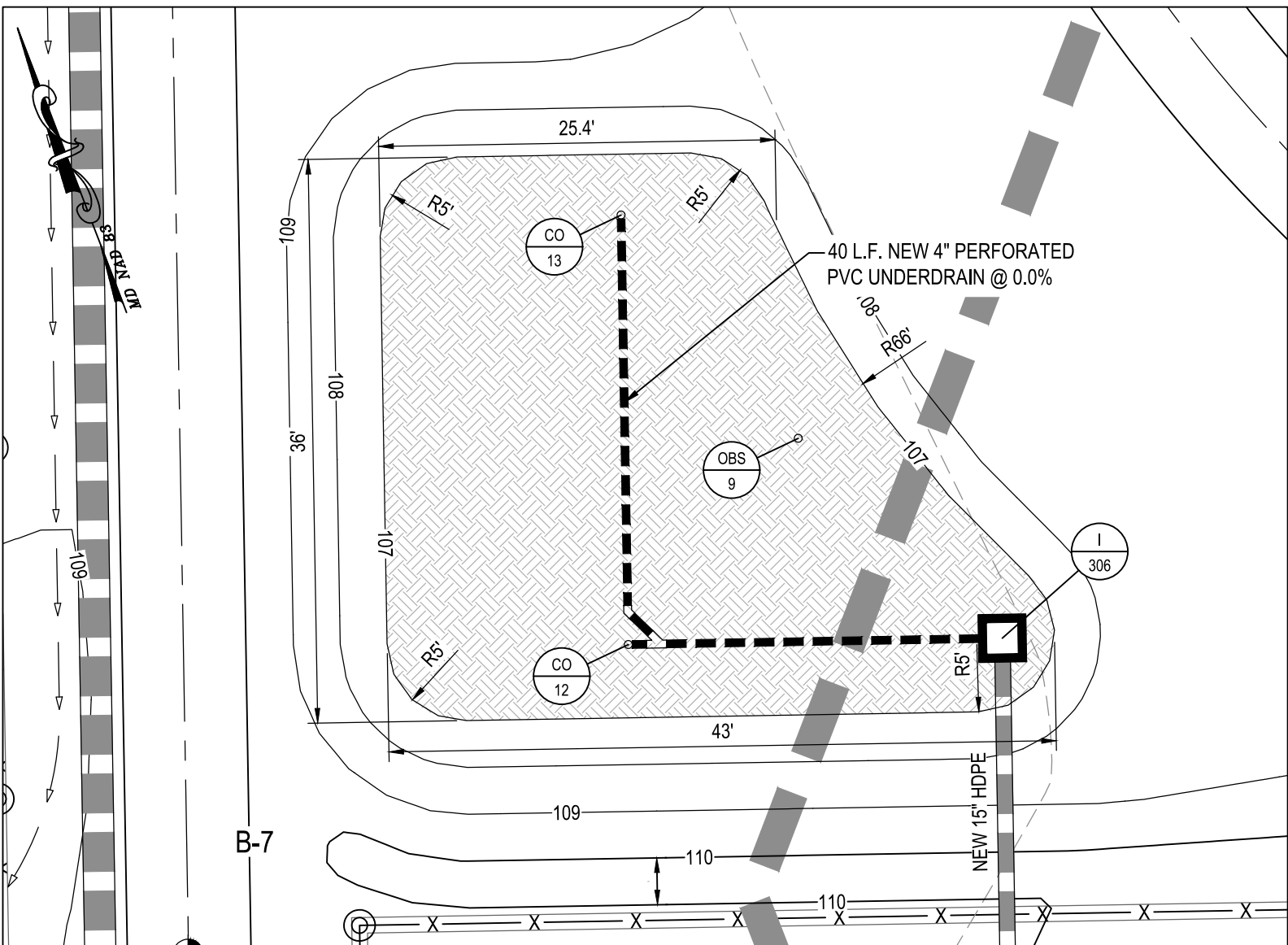
DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 10'
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.
APPROVED	DATE	APPROVED	DATE	CHECKED BY: R.W.H.
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		SHEET NO. 28 OF 58
				PROJECT NO.: P567100
				CONTRACT NO.: P56702

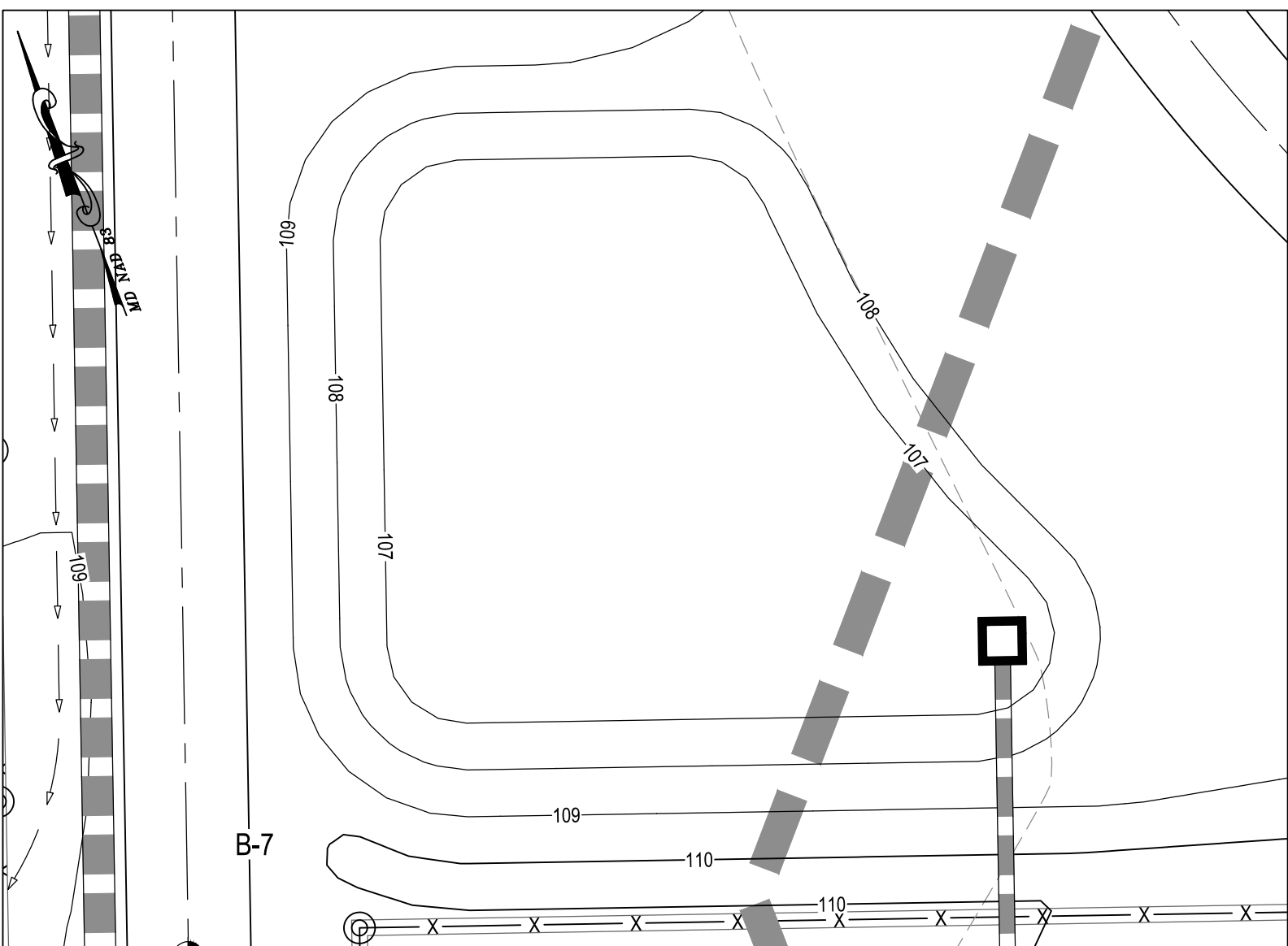
MILLERSVILLE PARK

STORM WATER
MANAGEMENT PART PLAN

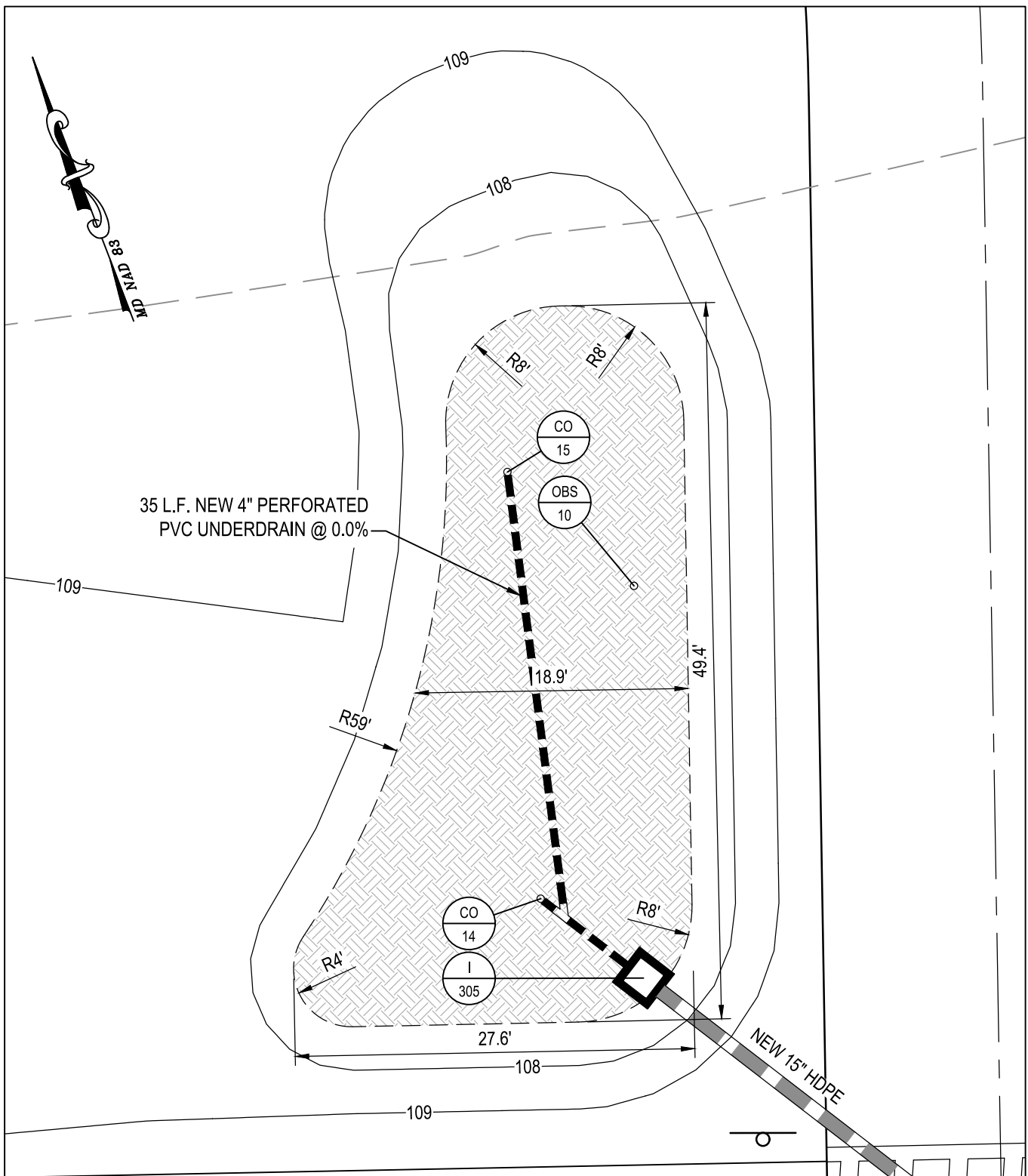
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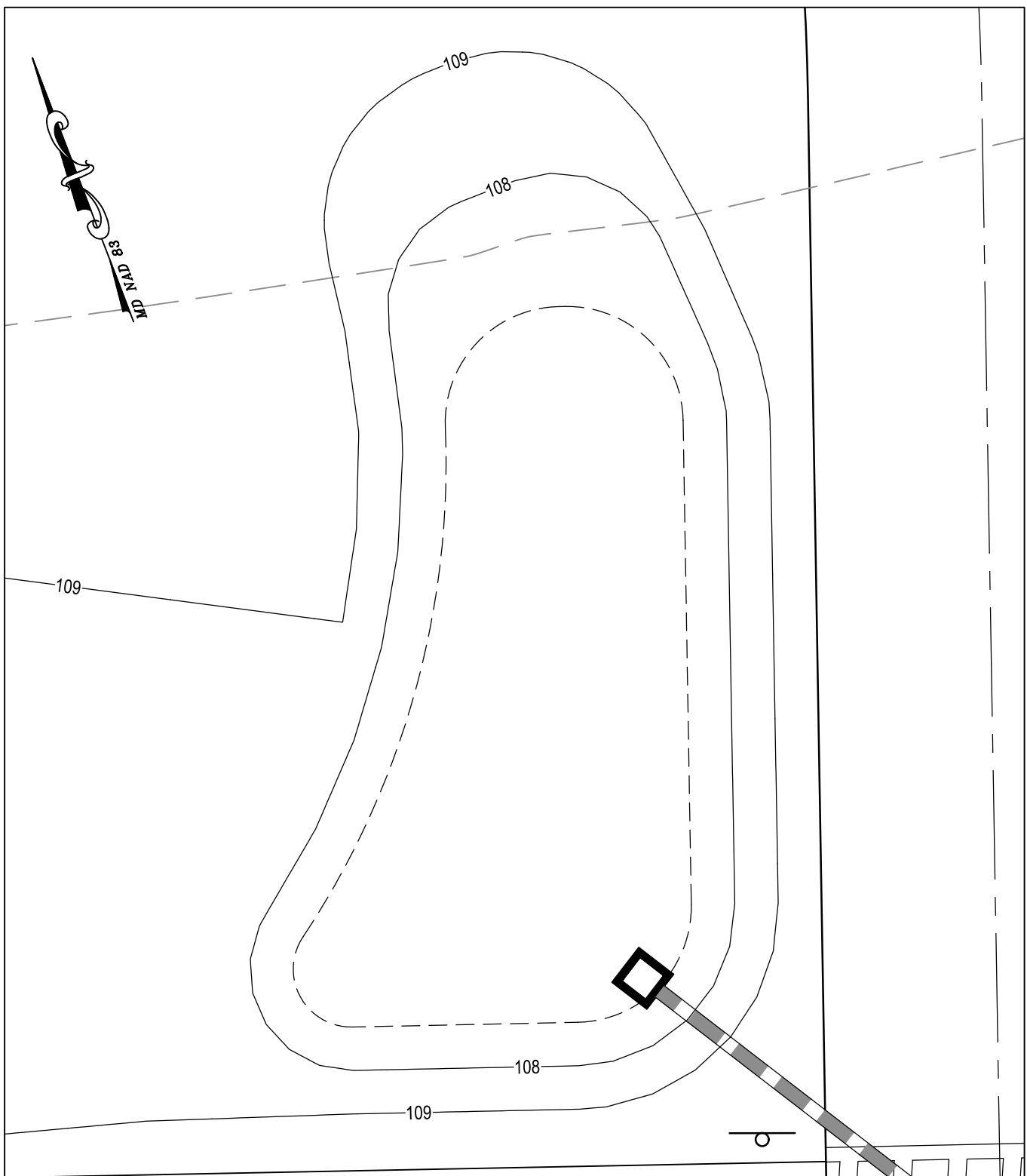
M-6 MICRO BIORETENTION FACILITY #1-9
SCALE: 1" = 10'



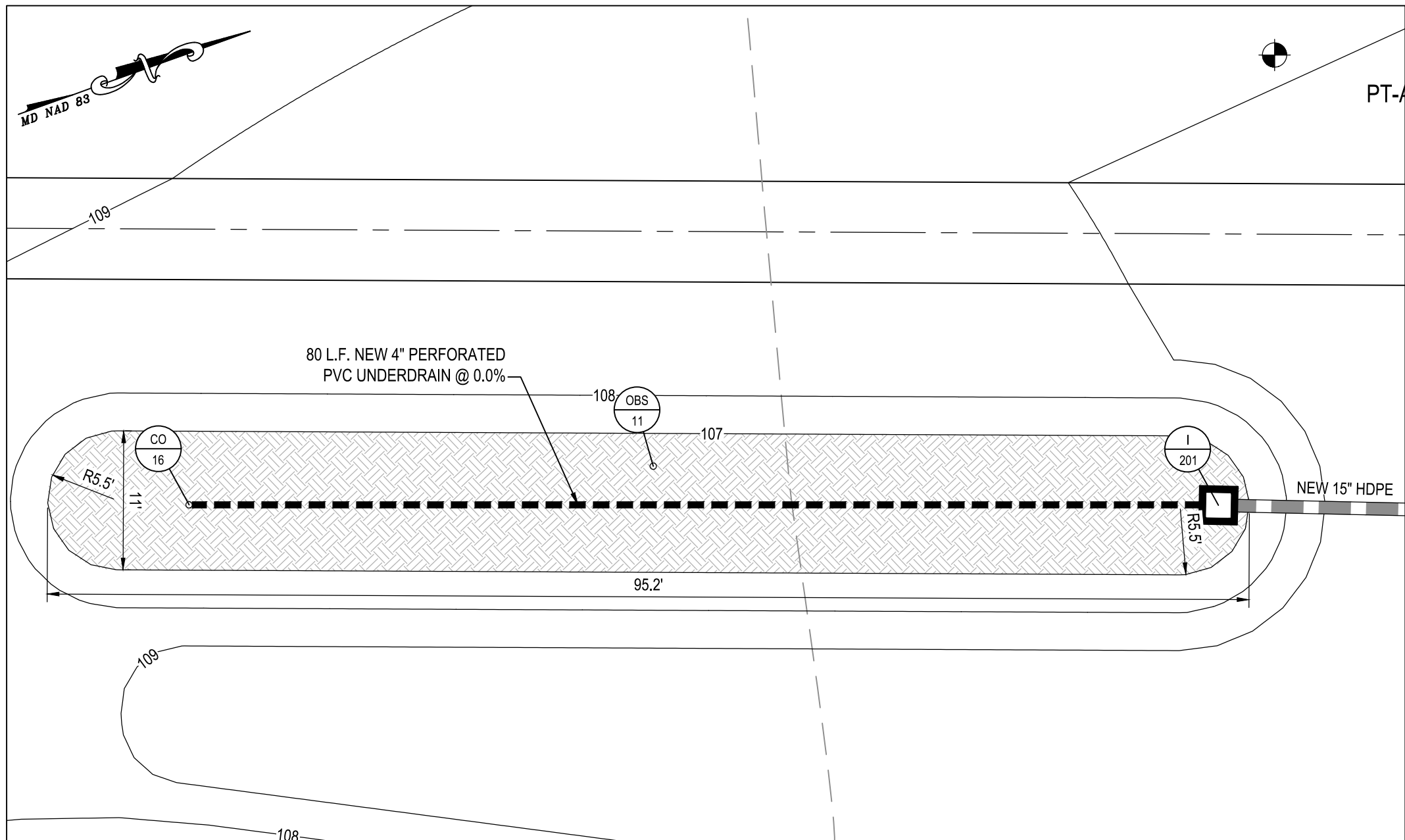
M-6 MICRO BIORETENTION FACILITY #1-9 (PLANTING PLAN)
SCALE: 1" = 10'



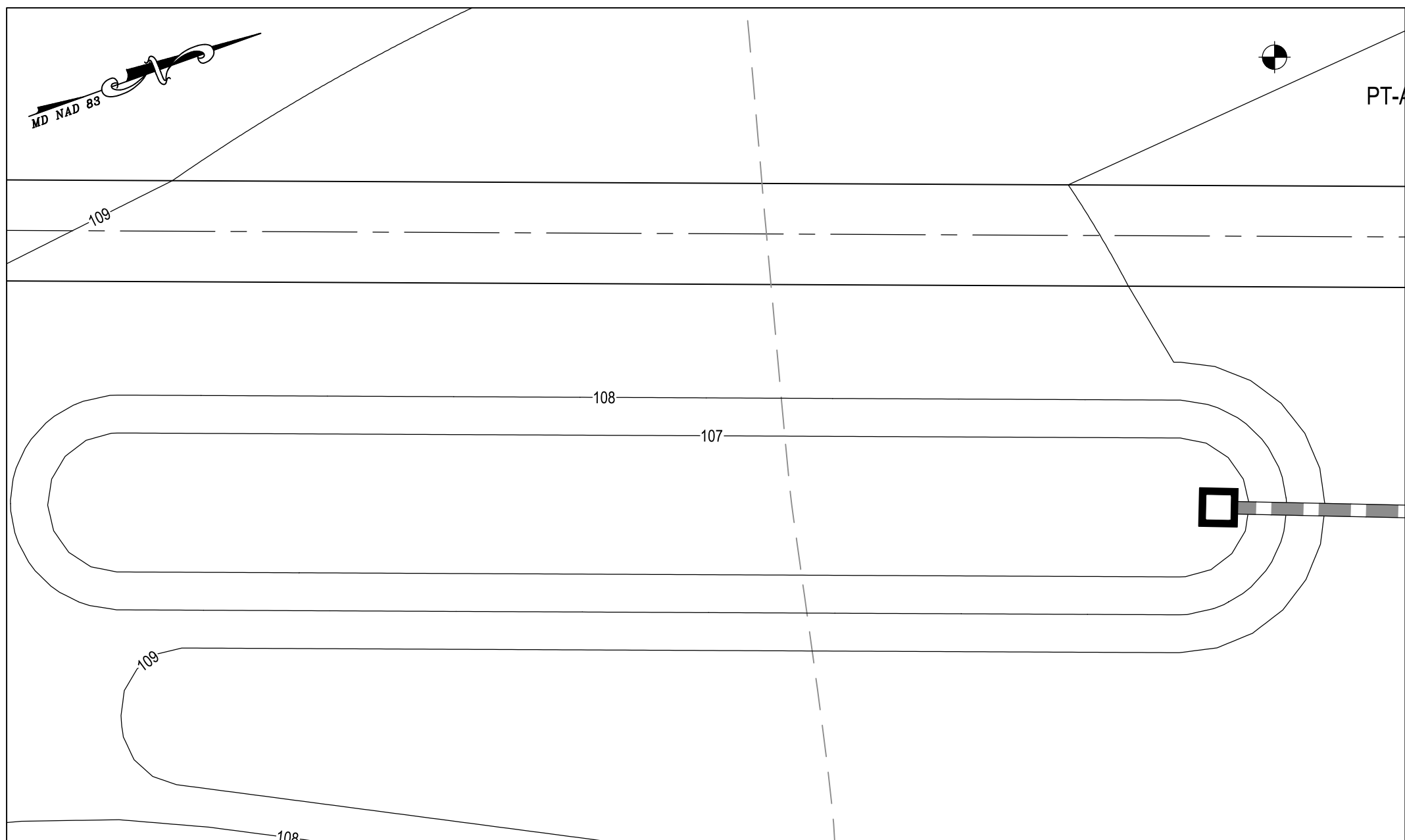
M-6 MICRO BIORETENTION FACILITY #1-10
SCALE: 1" = 10'



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



M-6 MICRO BIORETENTION FACILITY #1-11
SCALE: 1" = 10'

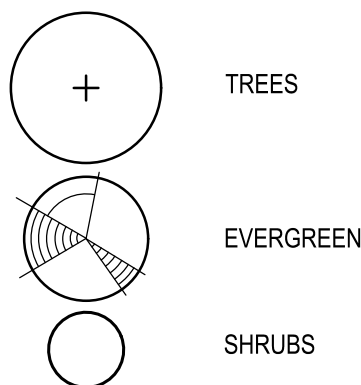


M-6 MICRO BIORETENTION FACILITY #1-11 (PLANTING PLAN)
SCALE: 1" = 10'

STORMWATER MANAGEMENT LEGEND

	MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
	PROPOSED STORM DRAIN
	PROPOSED PERFORATED PIPE
	FILTER BED AREA

PLANTING LEGEND



TREES

EVERGREEN

SHRUBS

300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512.4500 www.transystems.com

TRANSYSTEMS

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-9	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	43' x 36'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-306	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Td	109.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #9 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-10	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	49.4' x 27.6'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-305	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Td	109.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #10 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-11	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	95.2' x 11'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	107.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-201	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 103.50	
TOP OF EMBANKMENT ELEVATION, Td	108.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #11 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

ANNE ARUNDEL COUNTY

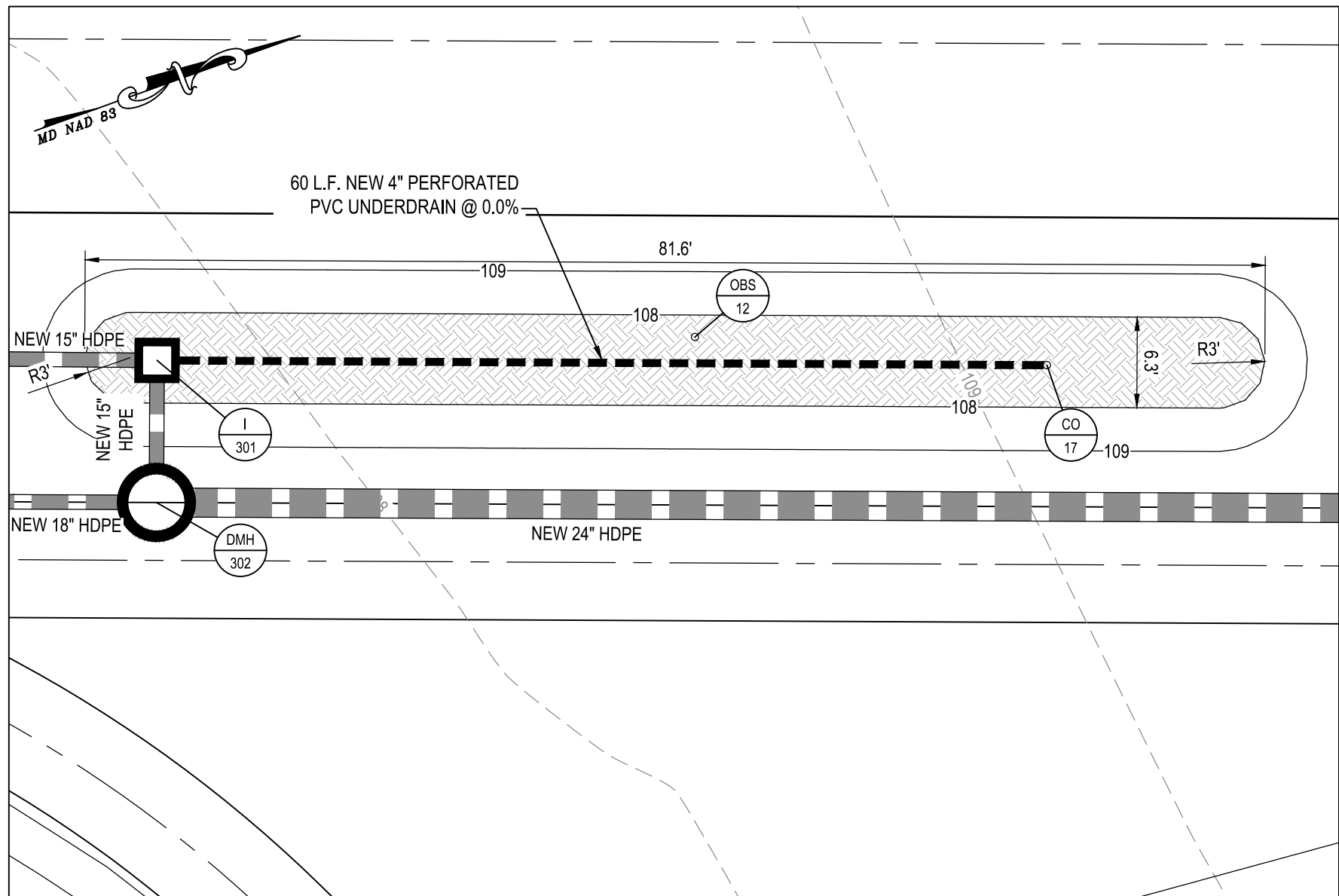
DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 10'
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.
APPROVED	DATE	APPROVED	DATE	CHECKED BY: R.W.H.
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		SHEET NO. 29 OF 58
				PROJECT NO.: P567100
				CONTRACT NO.: P56702

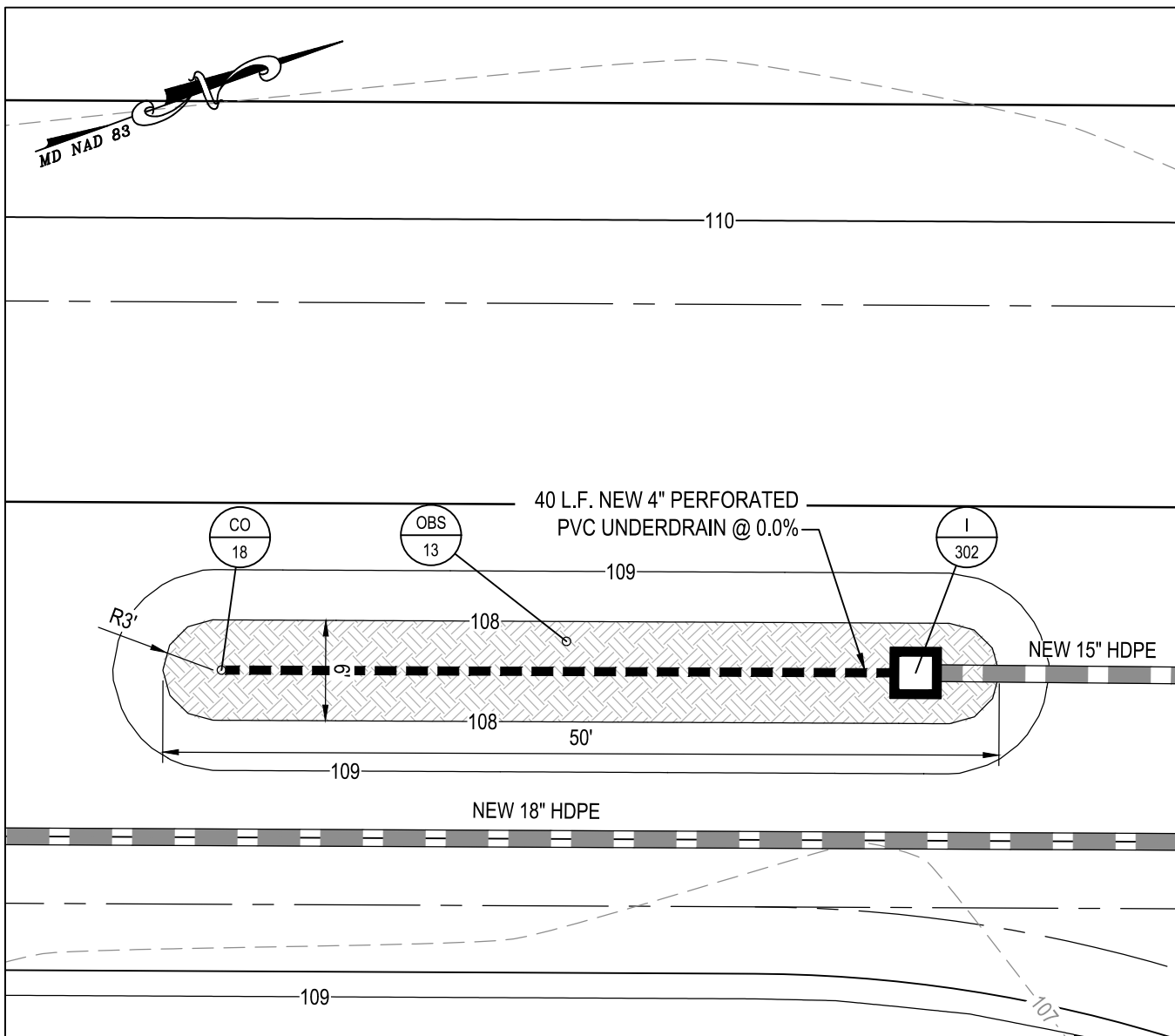
MILLERSVILLE PARK

STORM WATER
MANAGEMENT PART PLAN

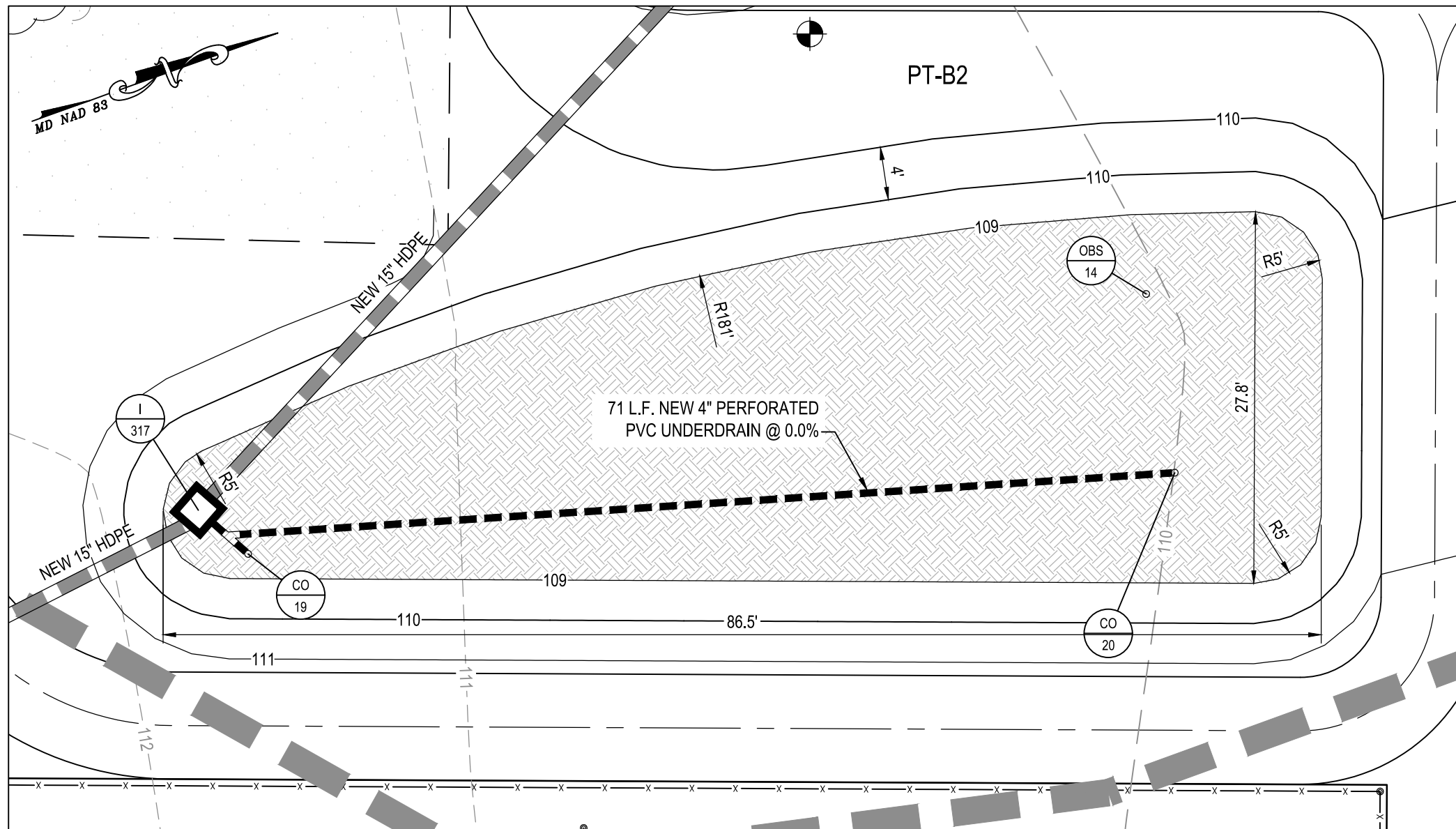
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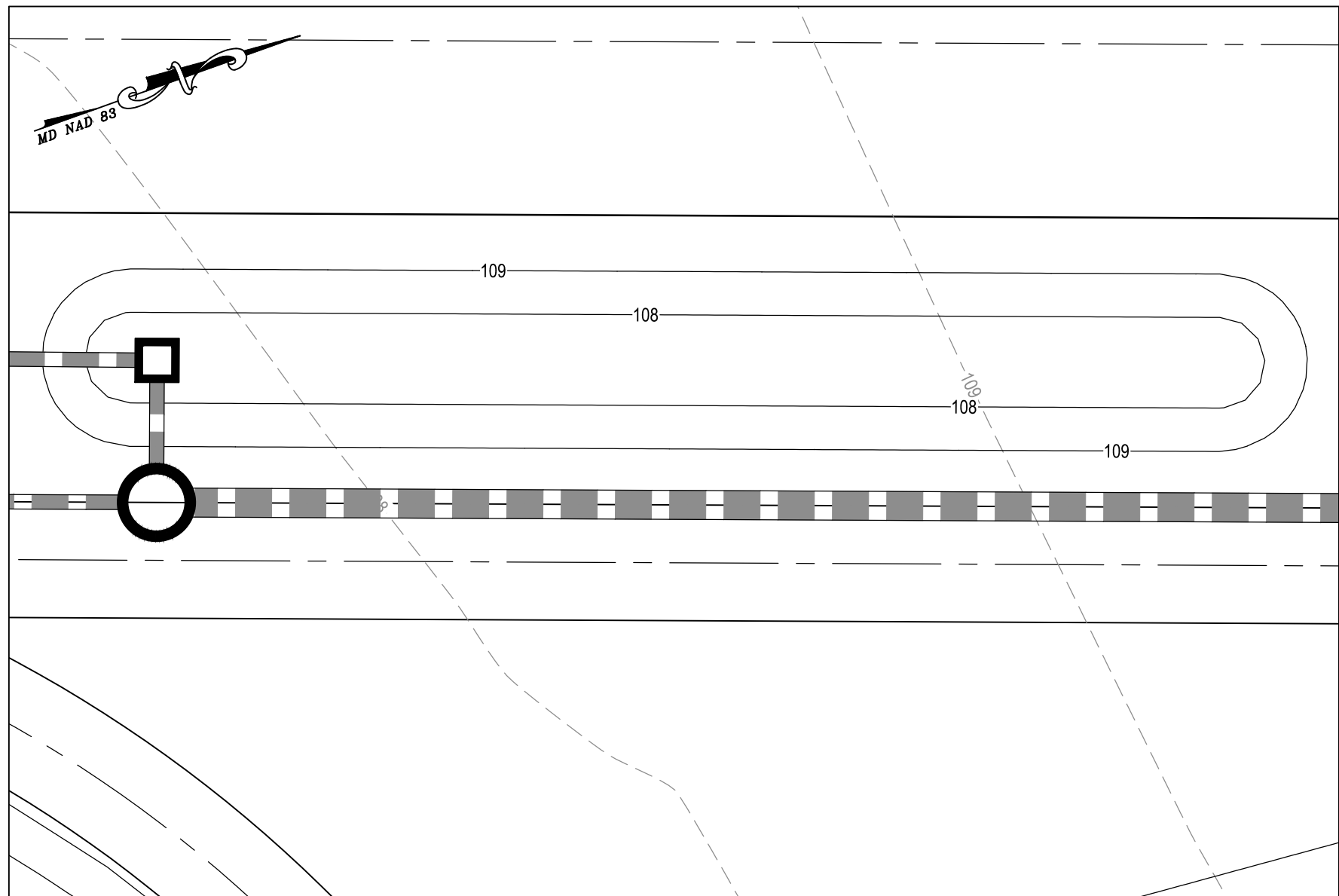
M-6 MICRO BIORETENTION FACILITY #1-12
SCALE: 1" = 10'



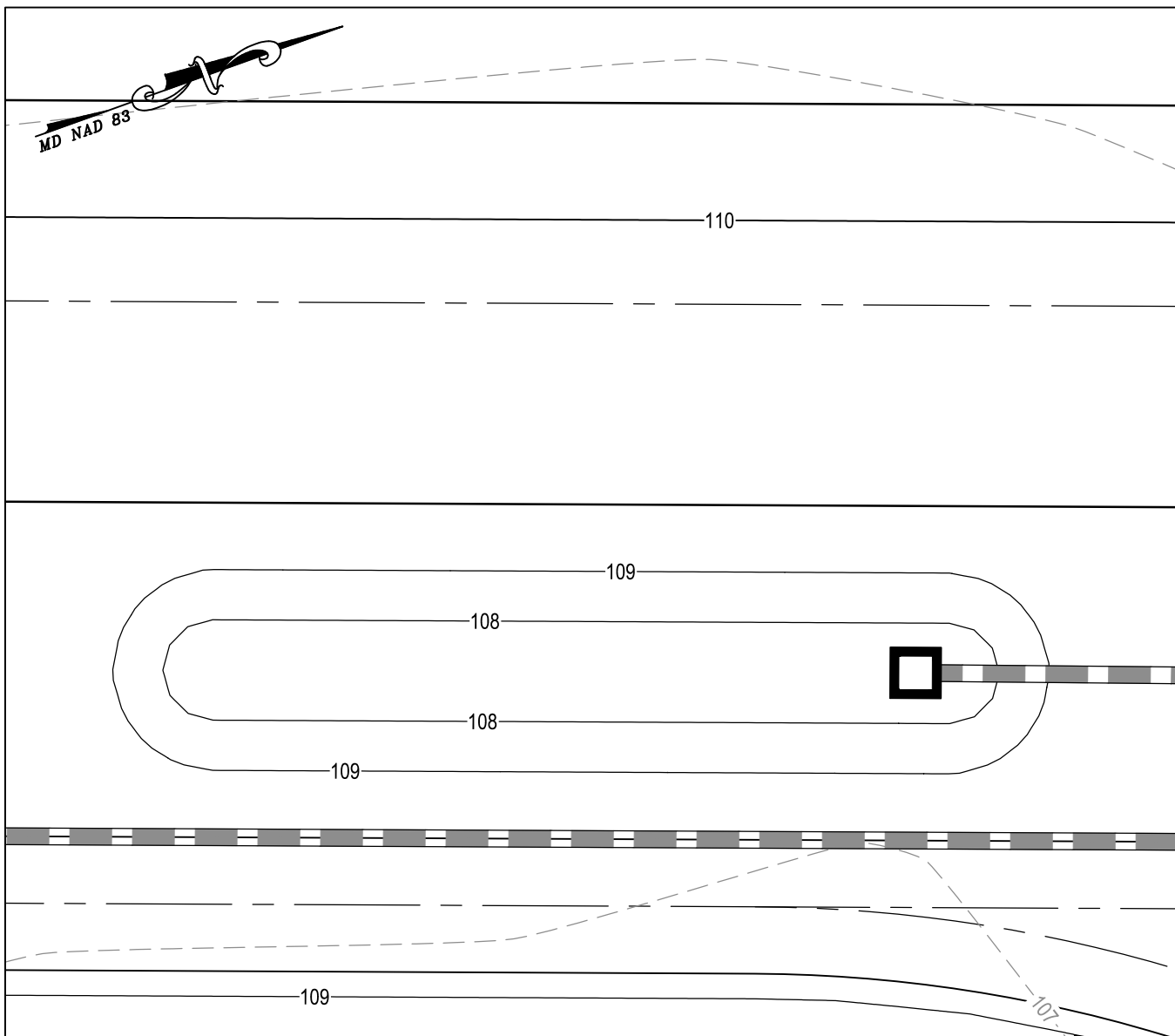
M-6 MICRO BIORETENTION FACILITY #1-13
SCALE: 1" = 10'



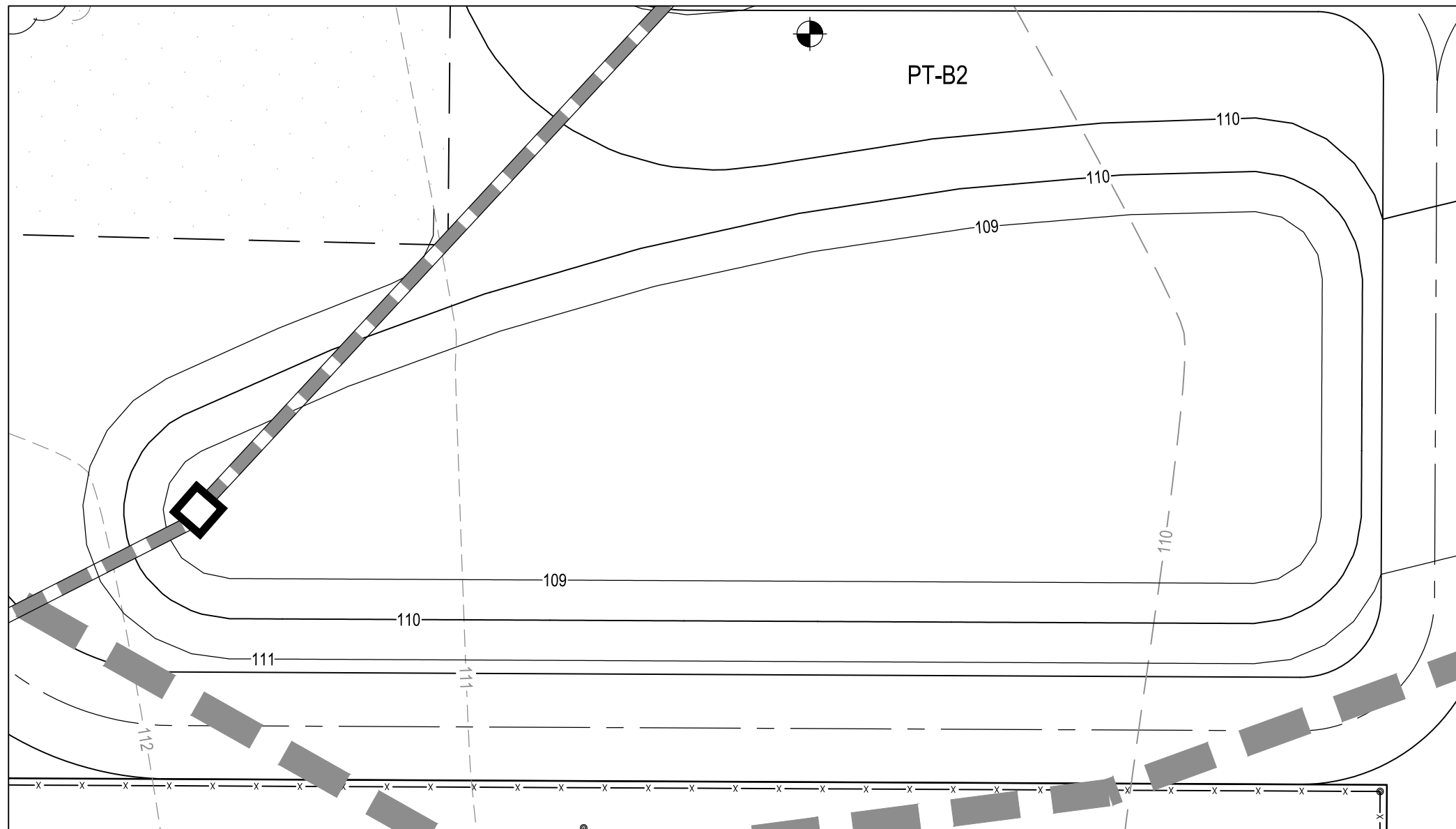
M-6 MICRO BIORETENTION FACILITY #1-14
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-12 (PLANTING PLAN)
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-13 (PLANTING PLAN)
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-14 (PLANTING PLAN)
SCALE: 1" = 10'

STORMWATER MANAGEMENT LEGEND

	MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
	PROPOSED STORM DRAIN
	PROPOSED PERFORATED PIPE
	FILTER BED AREA

PLANTING LEGEND

	TREES
	EVERGREEN
	SHRUBS

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-12	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	81.6' x 6.3'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	108.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-102	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 104.50	
TOP OF EMBANKMENT ELEVATION, T _b	109.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #12 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-13	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	50' x 6'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	108.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-302	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 104.50	
TOP OF EMBANKMENT ELEVATION, T _b	109.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #13 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

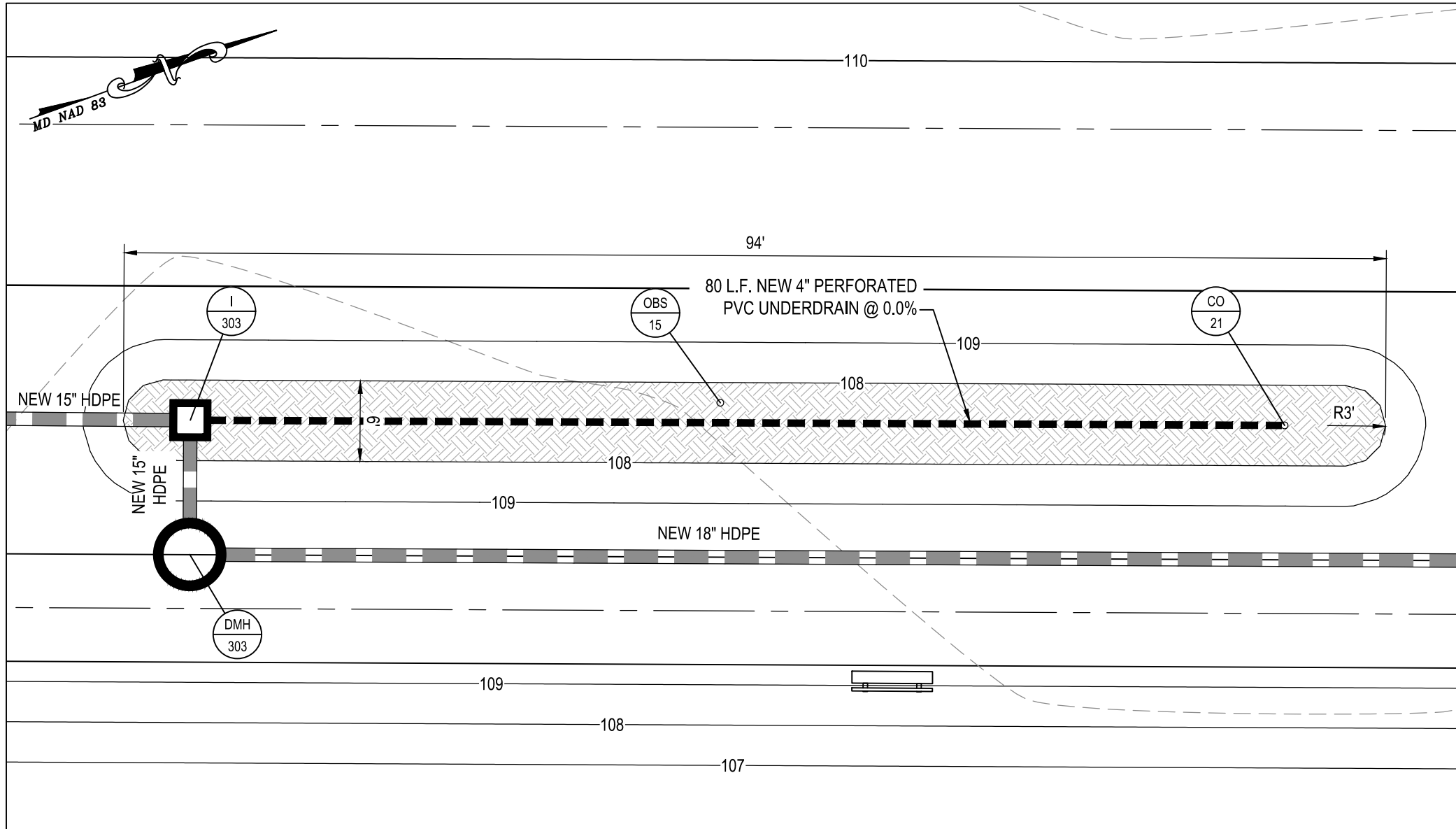
PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-14	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	86.5' x 27.8'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	109.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-317	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 105.50	
TOP OF EMBANKMENT ELEVATION, T _b	110.00	
TOP OF EMBANKMENT WIDTH	4'	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #14 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		



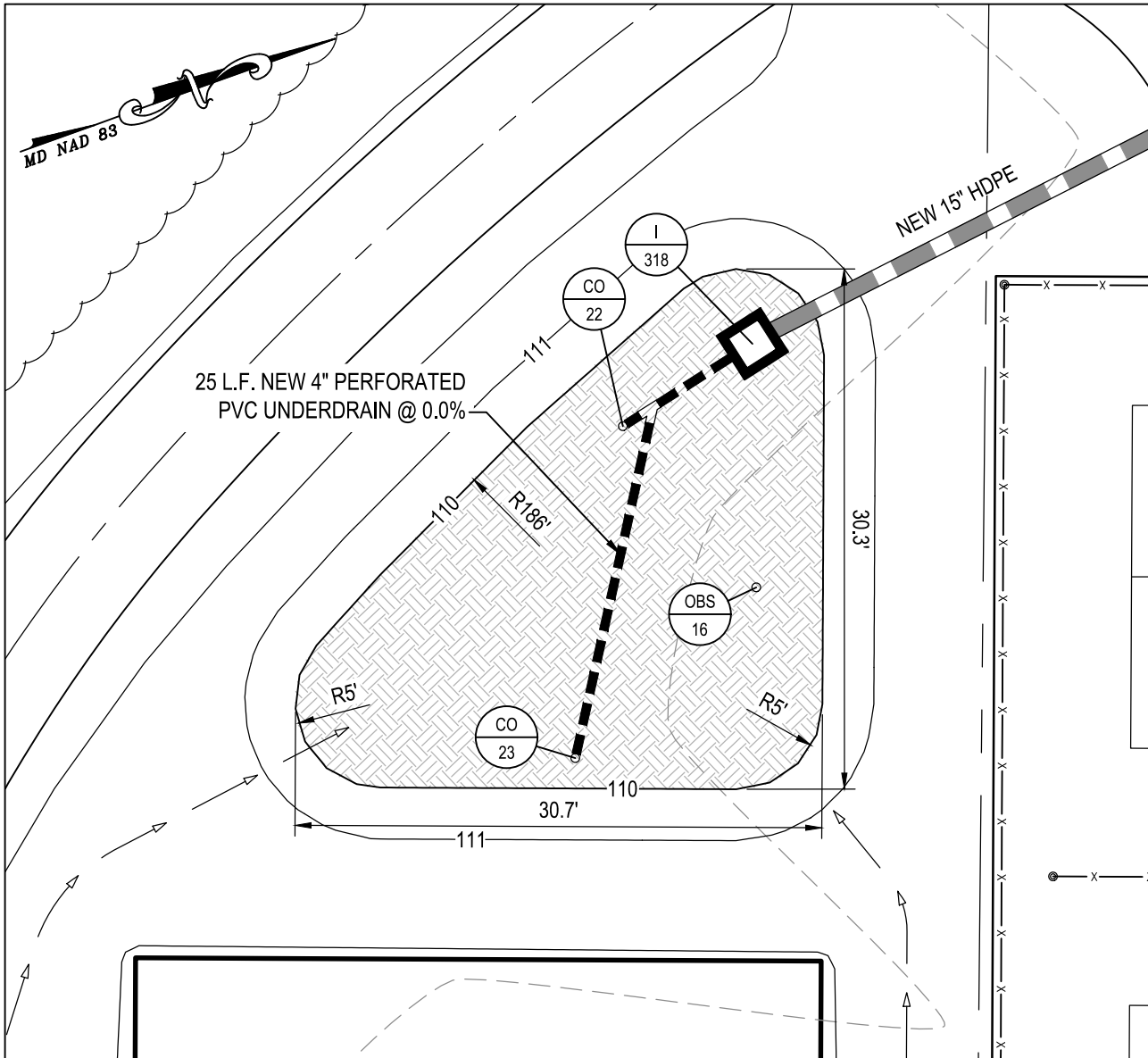
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

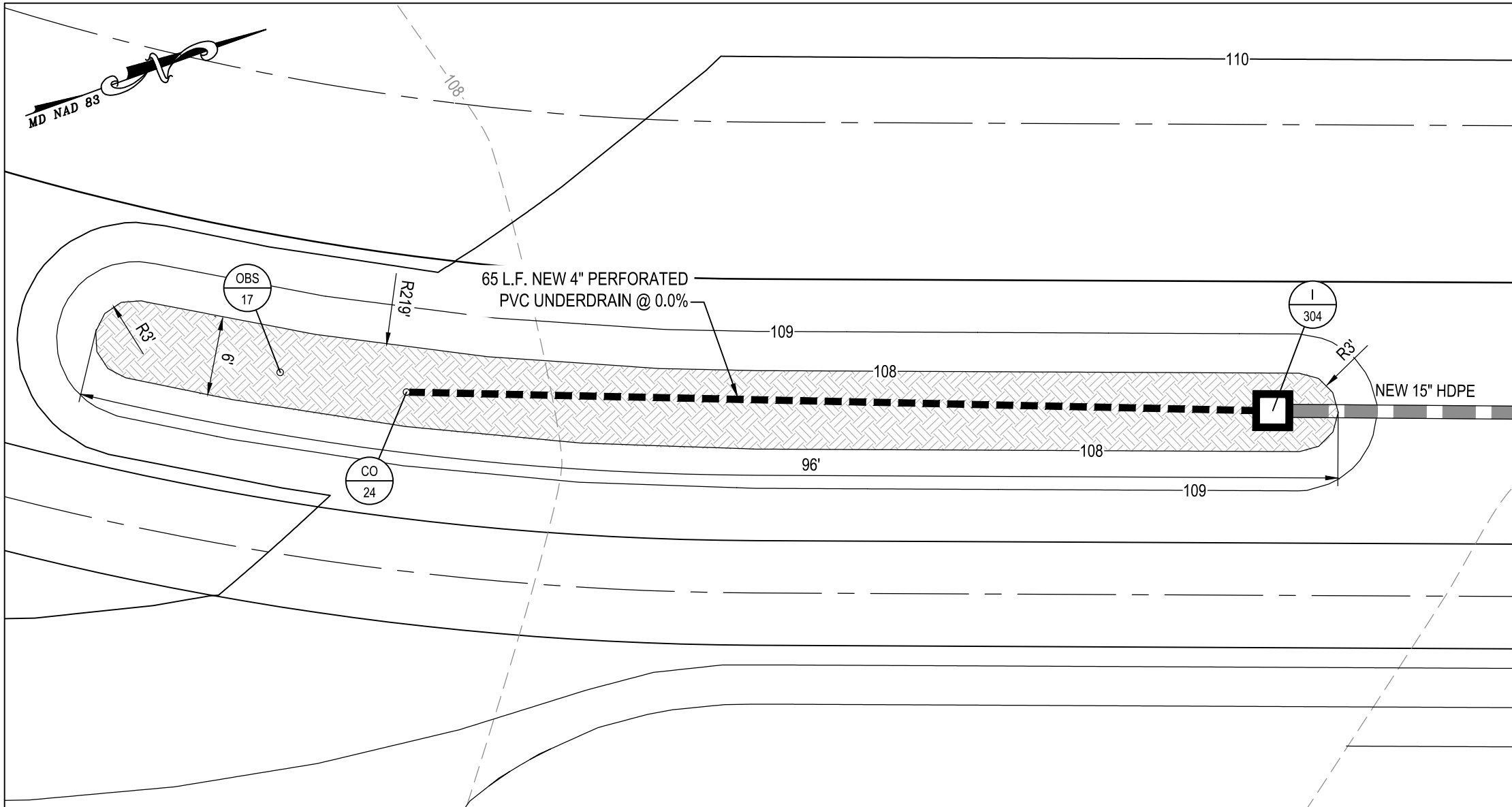
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 10'		DRAWN BY: R.S.S.	MILLERSVILLE PARK STORM WATER MANAGEMENT PART PLAN
CHECKED BY: R.W.H.		SHEET NO. 30 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	



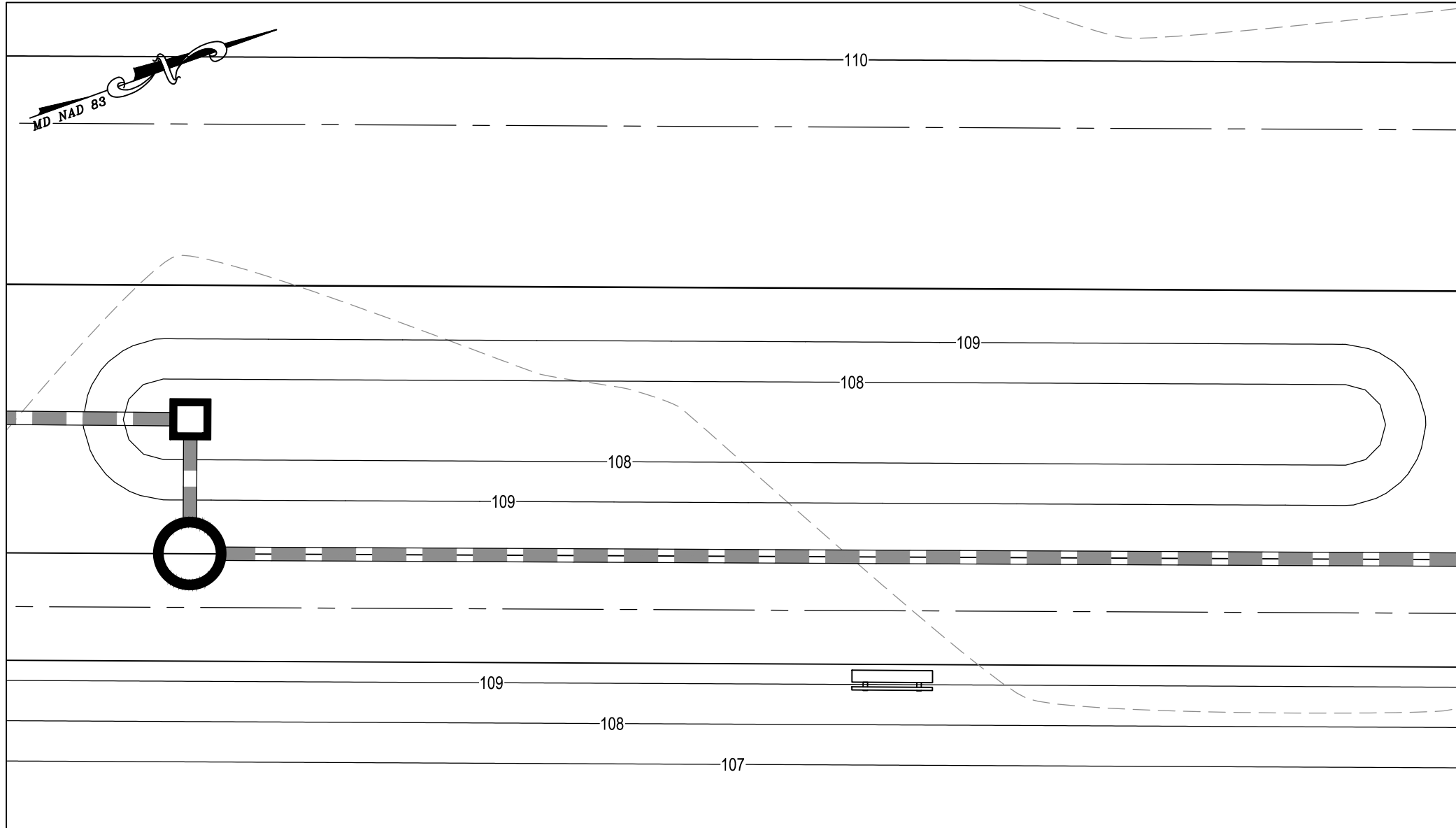
M-6 MICRO BIORETENTION FACILITY #1-15
SCALE: 1" = 10'



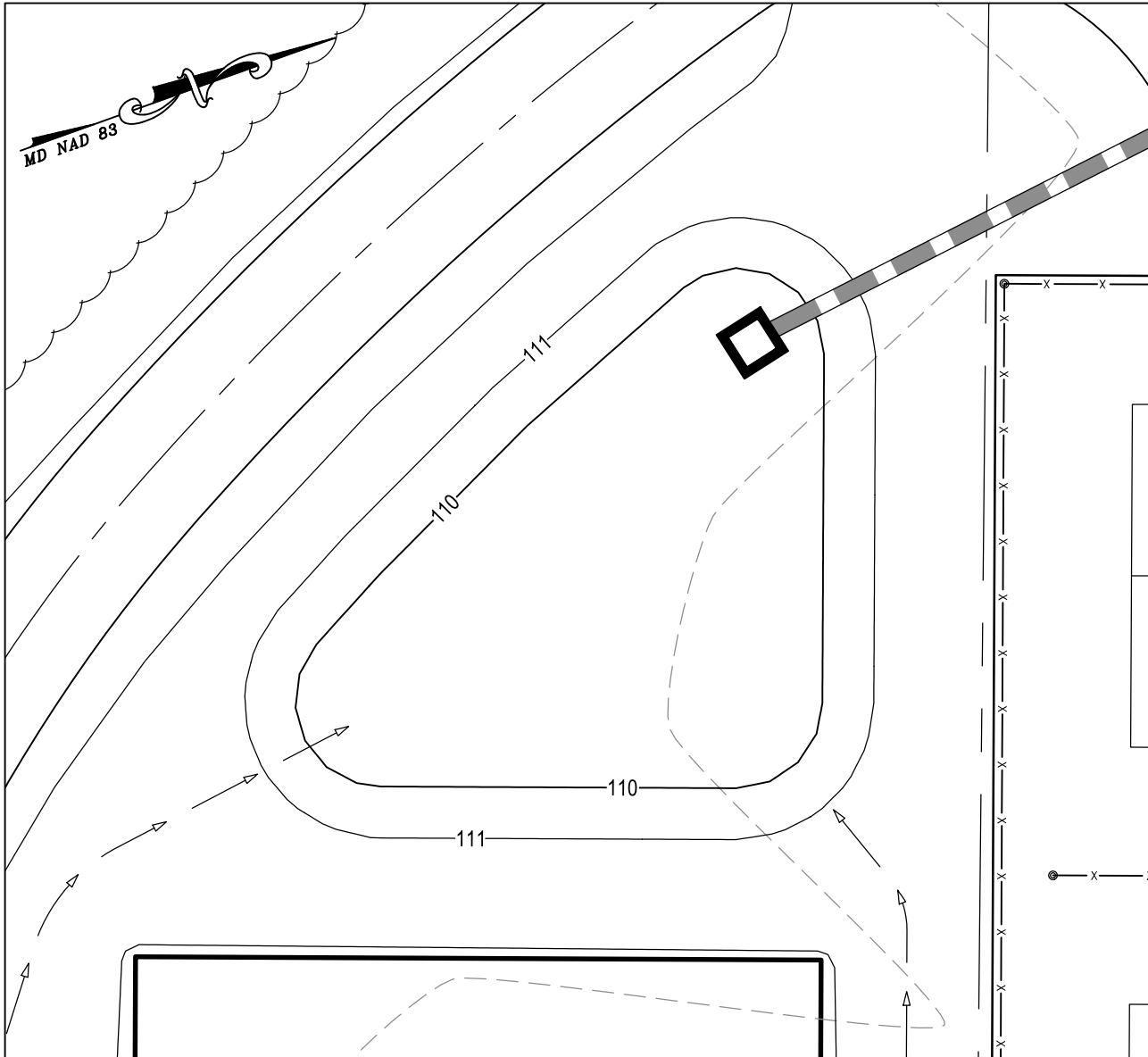
M-6 MICRO BIORETENTION FACILITY #1-16
SCALE: 1" = 10'



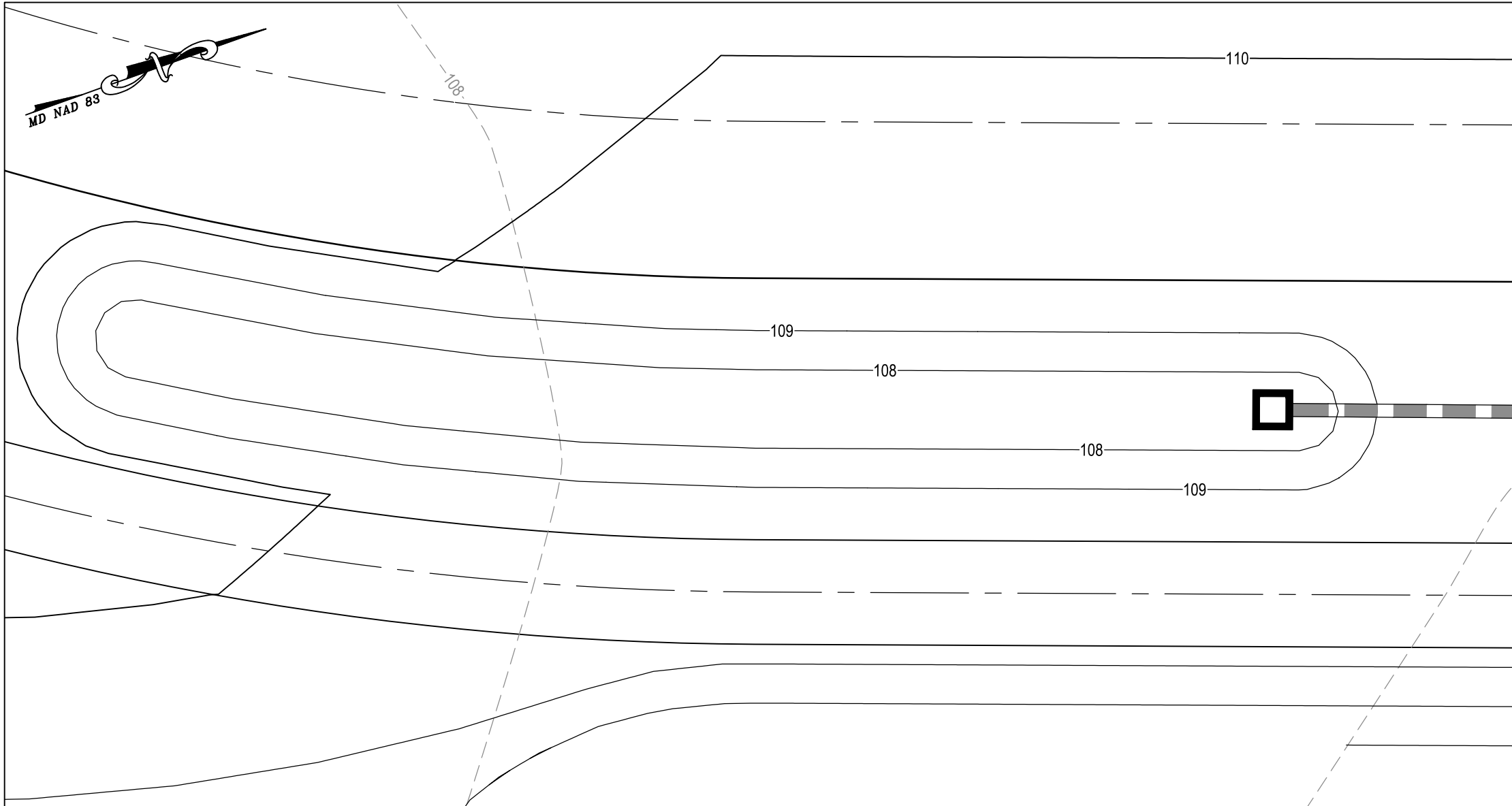
M-6 MICRO BIORETENTION FACILITY #1-17
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #1-15 (PLANTING PLAN)
SCALE: 1" = 10'

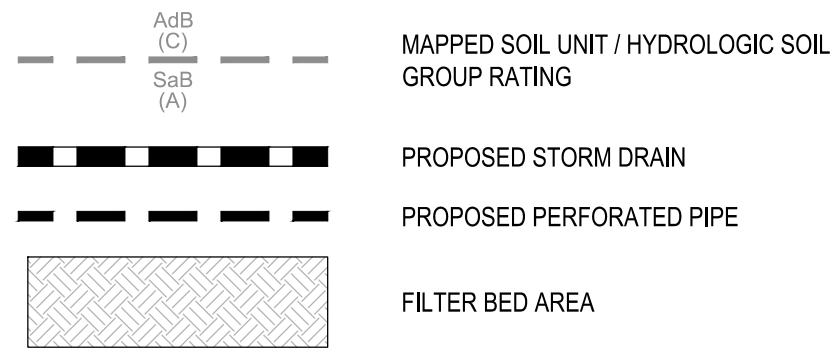


M-6 MICRO BIORETENTION FACILITY #1-16 (PLANTING PLAN)
SCALE: 1" = 10'

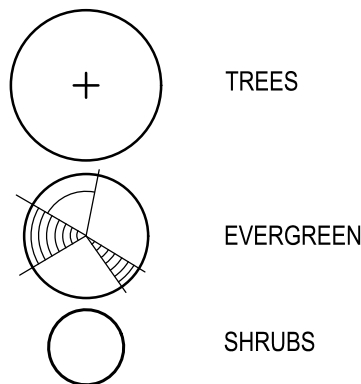


M-6 MICRO BIORETENTION FACILITY #1-17 (PLANTING PLAN)
SCALE: 1" = 10'

STORMWATER MANAGEMENT LEGEND



PLANTING LEGEND



PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-15	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	94' x 6'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	108.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-303	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 104.50	
TOP OF EMBANKMENT ELEVATION, Tb	109.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #15 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-16	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	30.7' x 30.3'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	110.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-318	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 106.50	
TOP OF EMBANKMENT ELEVATION, Tb	111.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #16 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

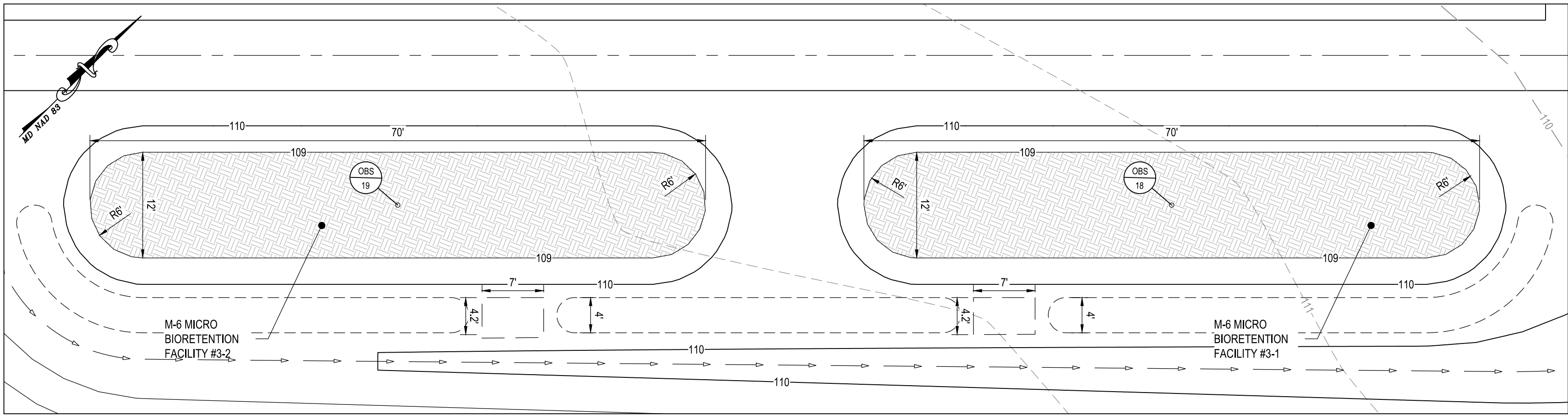
PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #1-17	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	96' x 6'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	108.00	
10-YEAR FREEBOARD (FT)		
OVERFLOW INLET / TOP ELEVATION	I-304	
OUTLET PIPE DIAMETER / TYPE (HDPE, RCP, CMP)	15" / HDPE	
OUTLET PIPE INVERT		
UNDER DRAIN DIAMETER	4" / 104.50	
TOP OF EMBANKMENT ELEVATION, Tb	109.00	
TOP OF EMBANKMENT WIDTH	N/A	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	24"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #17 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

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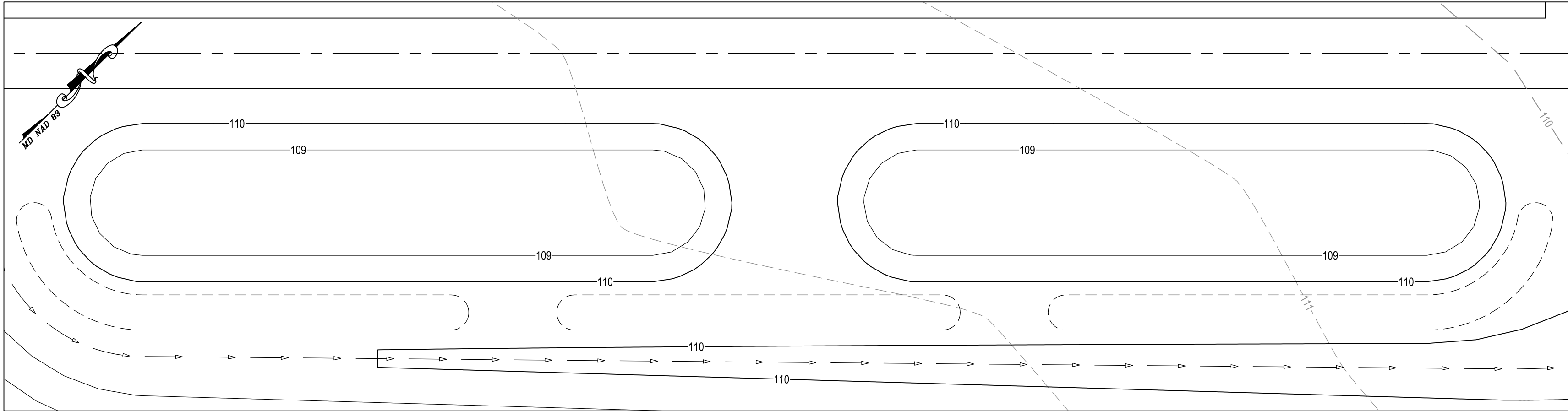
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

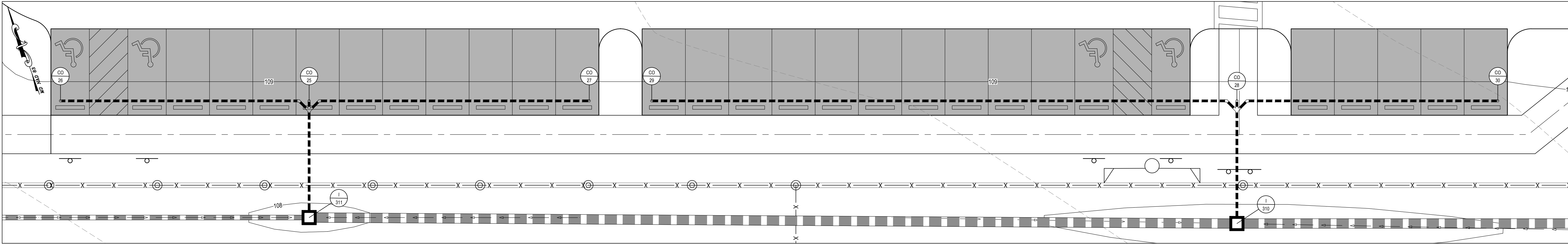
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 10'		DRAWN BY: R.S.S.	MILLERSVILLE PARK STORM WATER MANAGEMENT PART PLAN
CHECKED BY: R.W.H.		SHEET NO. 31 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	



M-6 MICRO BIORETENTION FACILITY #3-1 AND #3-2
SCALE: 1" = 10'



M-6 MICRO BIORETENTION FACILITY #3-1 AND #3-2 (PLANTING PLAN)
SCALE: 1" = 10'



PERVIOUS CONCRETE PAVING
SCALE: 1" = 10'

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #3-1	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	70' x 12'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	109.00	
UNDER DRAIN DIAMETER	N/A	
ESD STORAGE ELEVATION	100.8	
10-YEAR FREEBOARD (FT)		
OVERFLOW WEIR ELEVATION	109.5	
WEIR DIMENSIONS (L x W)	7' x 4.2'	
TOP OF EMBANKMENT ELEVATION, Td	110.50	
TOP OF EMBANKMENT WIDTH	4'	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	12"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #18 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR MICRO-BIORETENTION		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: M-6, MICRO-BIORETENTION	BMP ID: MICRO-BIORETENTION (M-6) FACILITY #3-2	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS (L x W)	70' x 12'	
LEFT SIDE SLOPE	3:1	
RIGHT SIDE SLOPE	3:1	
FILTER BED SURFACE ELEVATION (TOP OF MULCH)	109.00	
UNDER DRAIN DIAMETER	N/A	
ESD STORAGE ELEVATION	100.8	
10-YEAR FREEBOARD (FT)		
OVERFLOW WEIR ELEVATION	109.5	
WEIR DIMENSIONS (L x W)	7' x 4.2'	
TOP OF EMBANKMENT ELEVATION, Td	110.50	
TOP OF EMBANKMENT WIDTH	4'	
THICKNESS OF MULCH	3"	
THICKNESS OF FILTER MEDIA SHA BSM	12"	
THICKNESS OF COARSE SAND	4"	
THICKNESS OF PEA GRAVEL	4"	
THICKNESS OF UNDERDRAIN GRAVEL	12"	
PLACEMENT OF GEOTEXTILE	SIDES ONLY	
PLANTINGS	SEE THIS SHEET	
OBSERVATION WELL WITH DEPTH TO FILTER BOTTOM INDICATED ON CAP	OBS #19 (3.5')	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

STORMWATER MANAGEMENT LEGEND

	MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
	PROPOSED STORM DRAIN
	PROPOSED PERFORATED PIPE
	FILTER BED AREA

PLANTING LEGEND

	TREES
	EVERGREEN
	SHRUBS

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR DRY POND		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: A-2 PERMEABLE PAVEMENT	BMP ID: PERMEABLE PAVEMENT (A-2) FACILITY #1	
FEATURE	DESIGN	*AS-BUILT
MIN. DEPTH OF NO. 2 STONE	9"	
MIN. DEPTH OF NO. 57 STONE	7"	
BOTTOM ELEVATION		
PAVER AND / OR RECHARGE AREA	2052 SF	
PERVIOUS CONCRETE THICKNESS	6"	
OVERDRAIN PIPE SIZE / INVERT	4"	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR DRY POND		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: A-2 PERMEABLE PAVEMENT	BMP ID: PERMEABLE PAVEMENT (A-2) FACILITY #2	
FEATURE	DESIGN	*AS-BUILT
MIN. DEPTH OF NO. 2 STONE	9"	
MIN. DEPTH OF NO. 57 STONE	7"	
BOTTOM ELEVATION		
PAVER AND / OR RECHARGE AREA	2052 SF	
PERVIOUS CONCRETE THICKNESS	6"	
OVERDRAIN PIPE SIZE / INVERT	4"	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR DRY POND		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: A-2 PERMEABLE PAVEMENT	BMP ID: PERMEABLE PAVEMENT (A-2) FACILITY #3	
FEATURE	DESIGN	*AS-BUILT
MIN. DEPTH OF NO. 2 STONE	9"	
MIN. DEPTH OF NO. 57 STONE	7"	
BOTTOM ELEVATION		
PAVER AND / OR RECHARGE AREA	810 SF	
PERVIOUS CONCRETE THICKNESS	6"	
OVERDRAIN PIPE SIZE / INVERT	4"	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

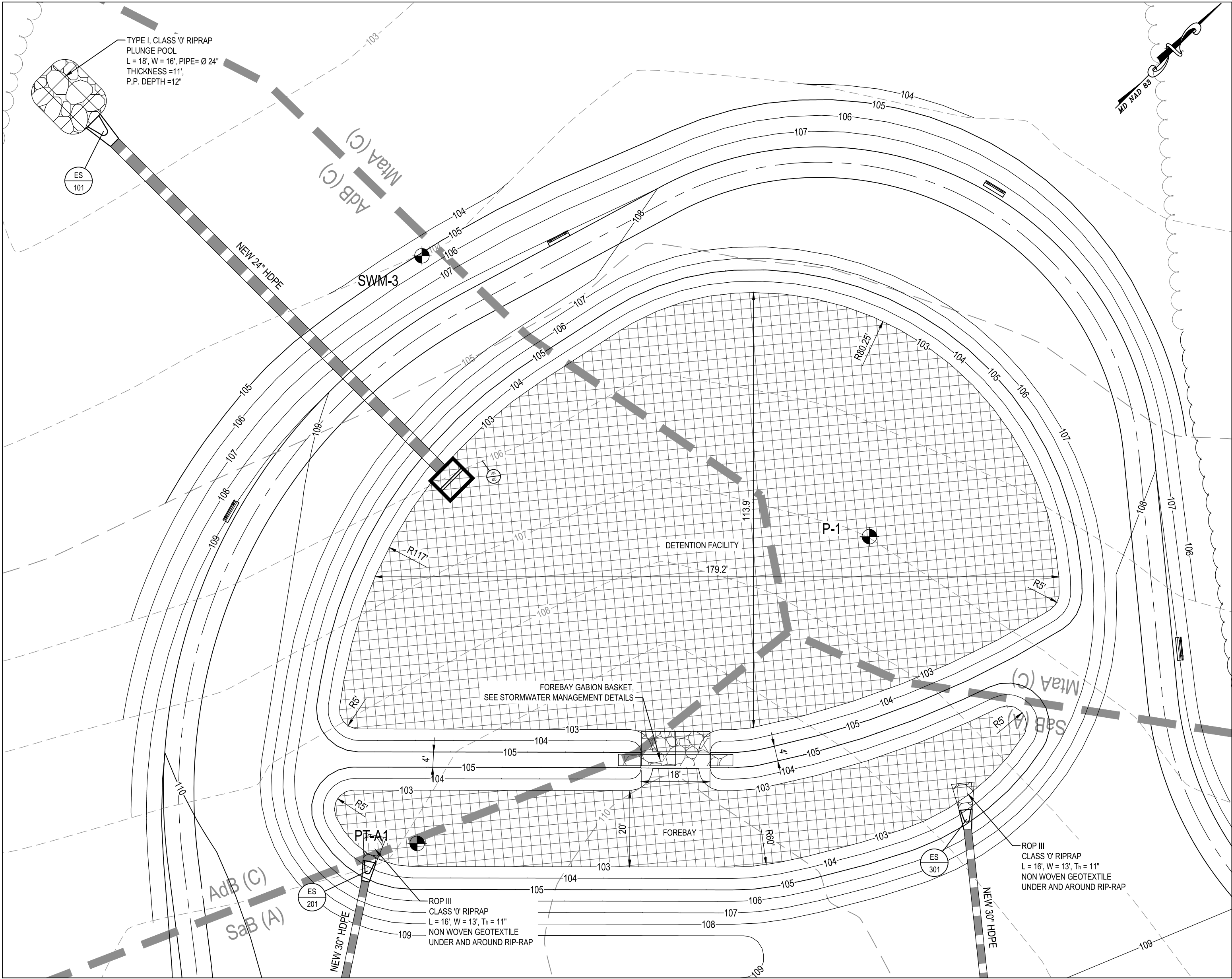
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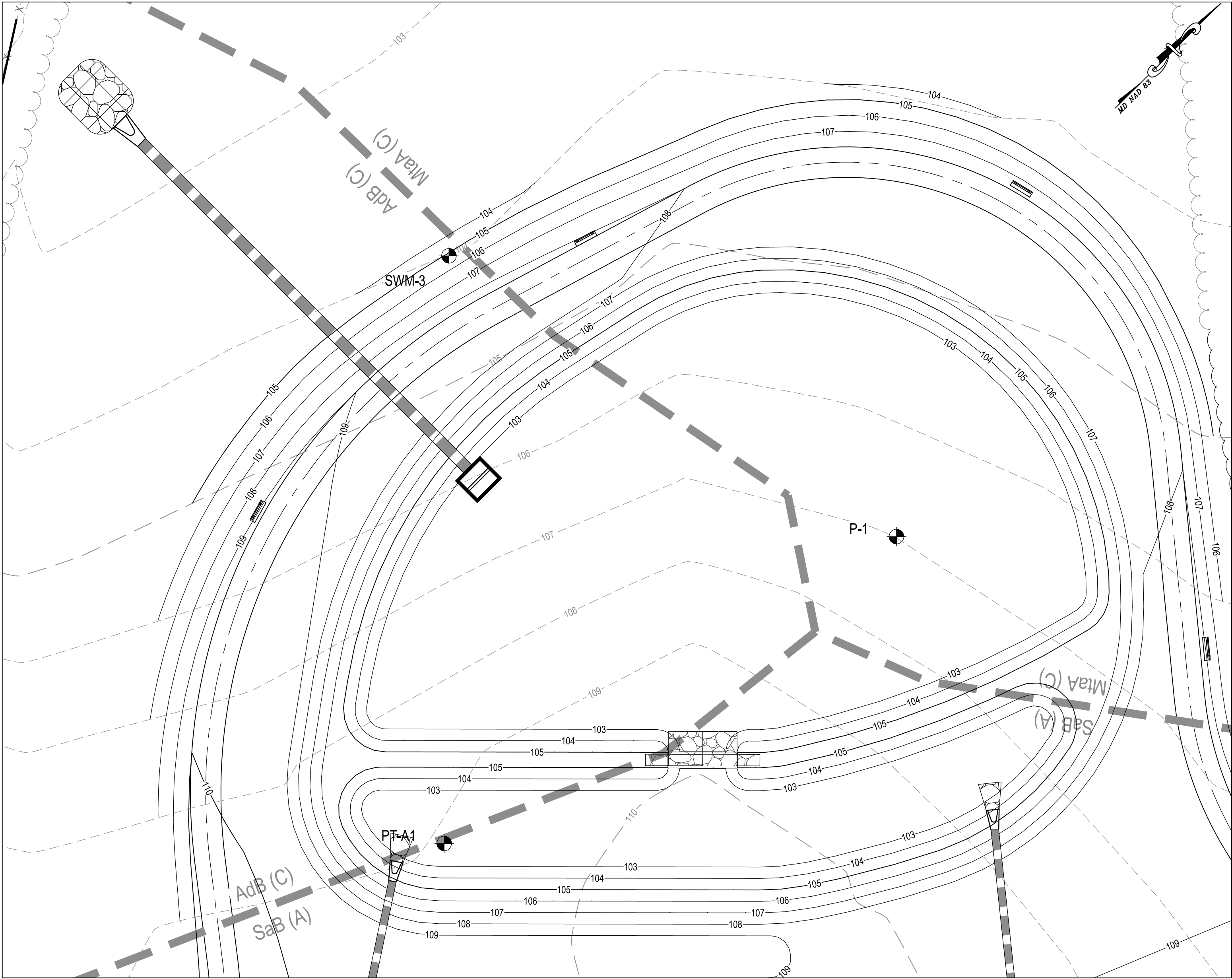
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 10'		DRAWN BY: R.S.S.	MILLERSVILLE PARK STORM WATER MANAGEMENT PART PLAN
CHECKED BY: R.W.H.		SHEET NO. 32 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	



DRY DETENTION FACILITY
SCALE: 1" = 20'



DRY DETENTION FACILITY (PLANTING PLAN)
SCALE: 1" = 20'

STORMWATER MANAGEMENT LEGEND	
	MAPPED SOIL UNIT / HYDROLOGIC SOIL GROUP RATING
	PROPOSED STORM DRAIN
	PROPOSED PERFORATED PIPE
	FILTER BED AREA

PLANTING LEGEND	
	TREES
	EVERGREEN
	SHRUBS

PROJECT NAME: MILLERSVILLE PARK		
DESIGN / AS - BUILT DATA FOR DRY POND		
* TO BE COMPLETED BY THE CERTIFYING ENGINEER		
TYPE OF FACILITY: DETENTION FACILITY	BMP ID: DETENTION FACILITY #1	
FEATURE	DESIGN	*AS-BUILT
FOREBAY ELEVATION: TOP/BOTTOM	103/104	
FOREBAY VOLUME	4753 SQ. FT	
FOREBAY WEIR WIDTH/ELEVATION	18' / 104.00	
POND BOTTOM ELEVATION	103.00	
10 YR STORAGE ELEVATION	103.81	
10 YR STORAGE VOLUME	AC-FT	
100 YR STORAGE ELEVATION	104.67	
100 YR STORAGE VOLUME	AC-FT	
10 YR DISCHARGE (CFS)	FS	
100 YR DISCHARGE (CFS)	CFS	
OVERFLOW RISER / TOP ELEVATION	103.81	
OUTLET PIPE DIAMETER / TYPE (HDEP,RCP,CMP)	24" HDPE	
OUTLET PIPE INVERT		
WEIR WIDTH	9"	
WEIR ELEVATION		
LOW FLOW ORIFICE: DIAM / ELEV	4"	
EMBANKMENT WIDTH	4'	
SIDE SLOPES: US/DS	3:1 / 3:1	
100 Yr. Freeboard Provided	FT	
DATE AS-BUILT ACCEPTED BY ANNE ARUNDEL COUNTY:		

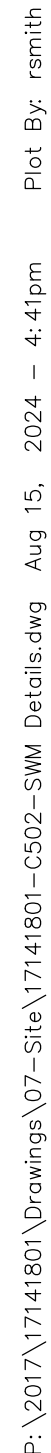
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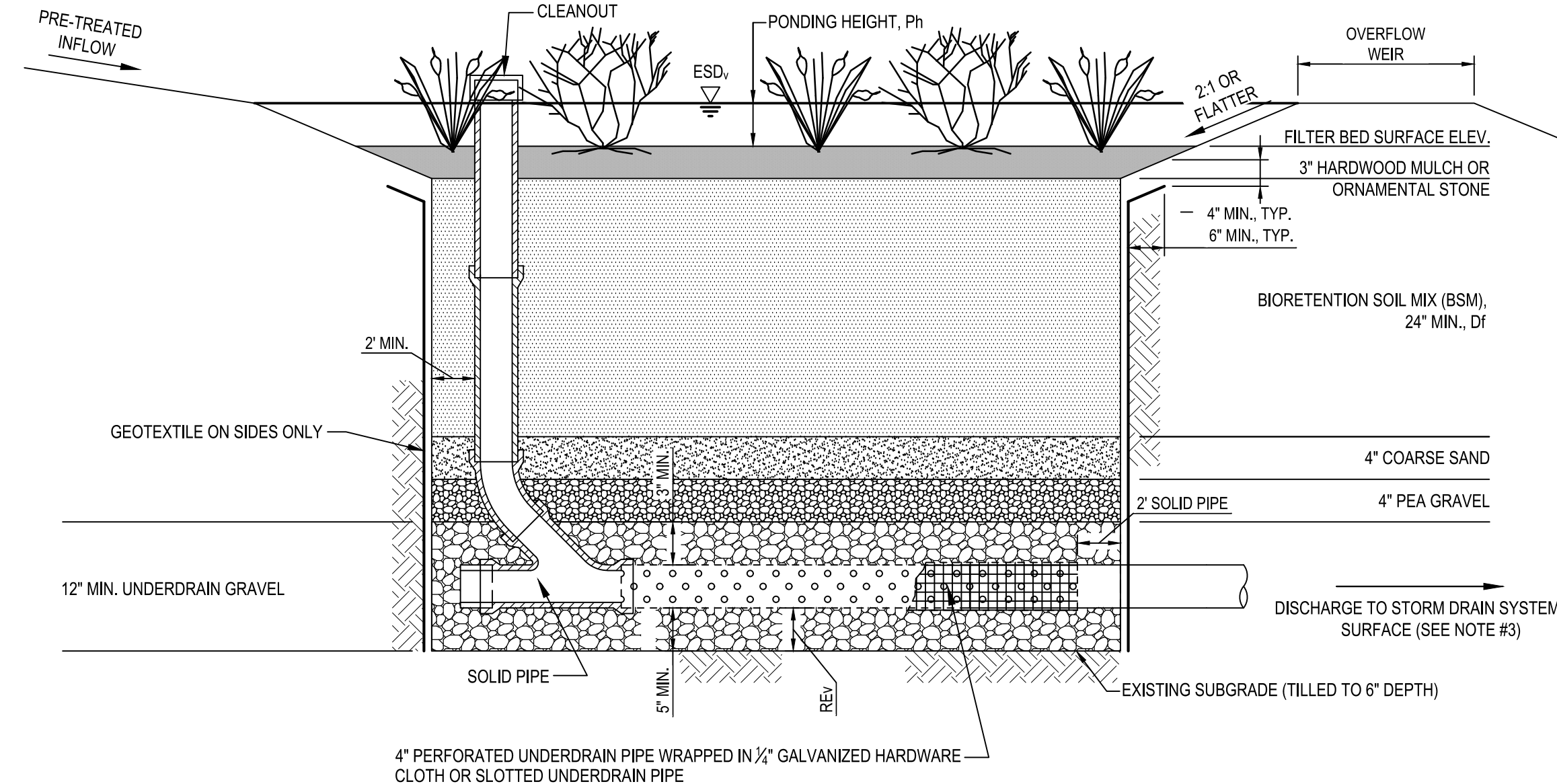
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License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 10'		DRAWN BY: R.S.S.	MILLERSVILLE PARK STORM WATER MANAGEMENT PART PLAN
CHECKED BY: R.W.H.		SHEET NO. 33 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	

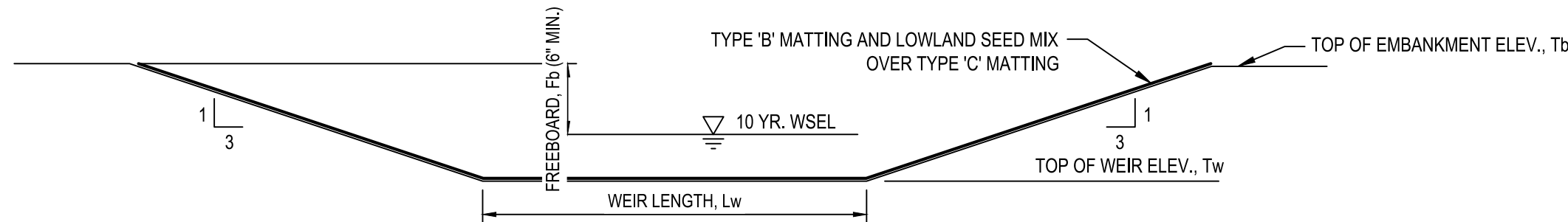


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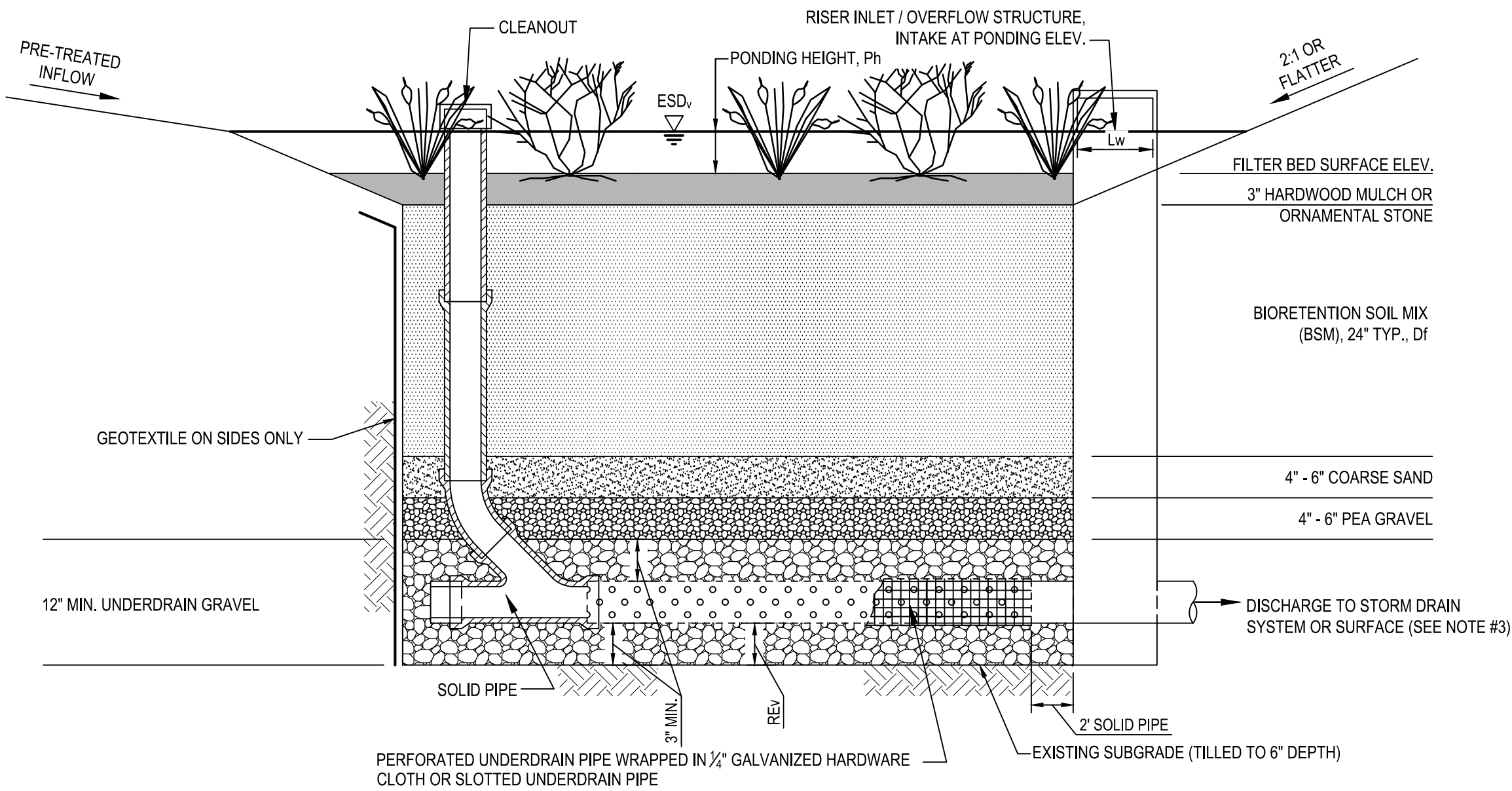


- NOTES:
1. A MINIMUM OF ONE OBSERVATION WELL MUST BE PROVIDED FOR EVERY 1000SF OF FILTER SURFACE AREA.
 2. DO NOT INSTALL GEOTEXTILE ALONG THE TOP, BOTTOM, OR ANY HORIZONTAL LAYER.
 3. UNDERDRAIN MUST HAVE A STABLE, NON-EROSIVE DISCHARGE.
 4. UNDERDRAIN PIPE IS OPTIONAL IN HYDRAULIC SOIL GROUP A OR B, SEE PLAN.

SECTION FOR BIORETENTION WITH WEIR SPILLWAY
NOT TO SCALE

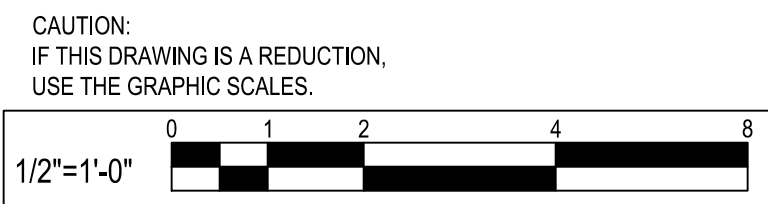


OVERFLOW WEIR
NOT TO SCALE



- NOTES:
1. A MINIMUM OF ONE OBSERVATION WELL MUST BE PROVIDED FOR EVERY 1000SF OF FILTER SURFACE AREA.
 2. DO NOT INSTALL GEOTEXTILE ALONG THE TOP, BOTTOM, OR ANY HORIZONTAL LAYER.
 3. DISCHARGE MUST BE TO A STABLE, NON-EROSIVE OUTFALL.
 4. UNDERDRAIN PIPE IS OPTIONAL IN HYDRAULIC SOIL GROUP A OR B, SEE PLAN.

SECTION FOR BIORETENTION WITH RISER
NOT TO SCALE



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License # 27734 Expiration Date: 07/12/26

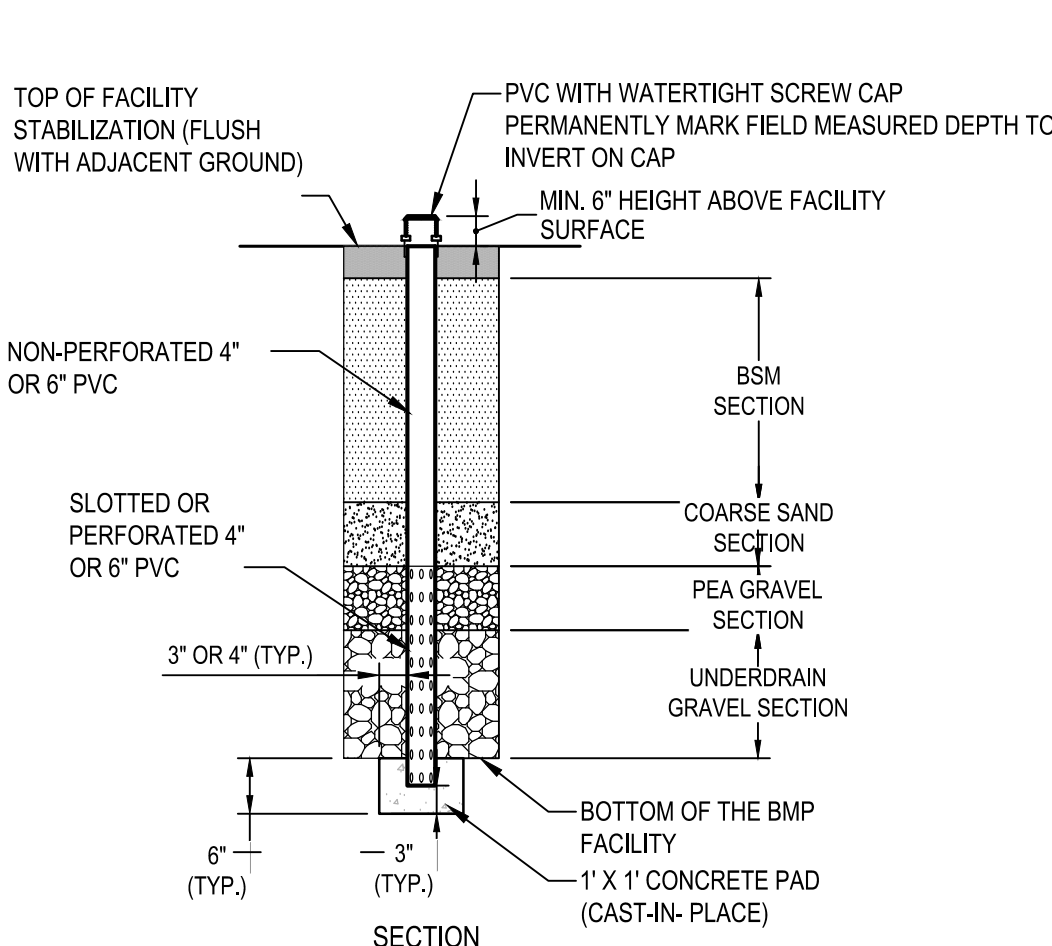
MAINTENANCE SCHEDULE:

AFTER CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE WORK, INSPECTION AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF ANNE ARUNDEL COUNTY.

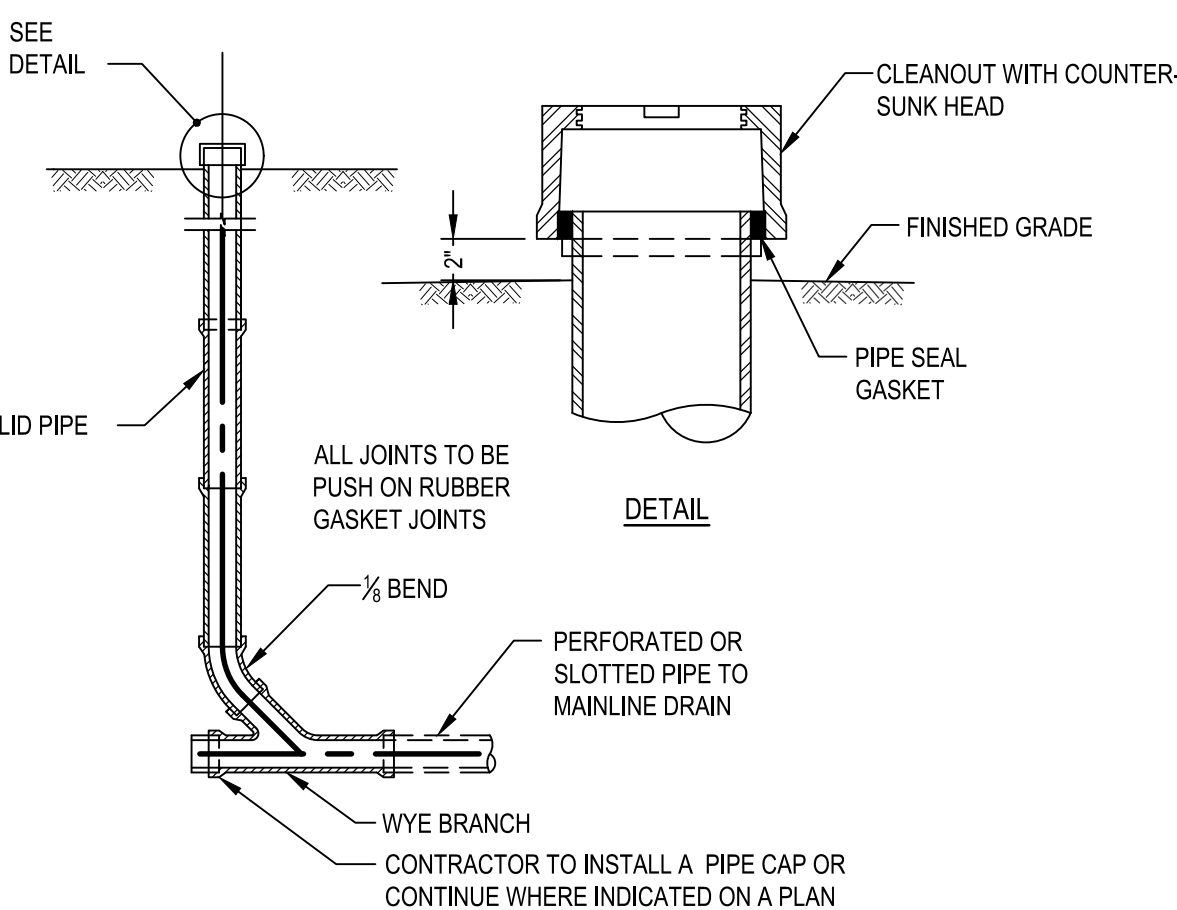
STORMWATER MAINTENANCE SCHEDULE BIORETENTION

INSPECTION ITEM	FREQUENCY OF INSPECTION	INSPECTION REQUIREMENTS	REMEDIAL ACTION
BIORETENTION BASIN	SEASONALLY AND AFTER A MAJOR STORM		
DEWATERING	SEASONALLY AND AFTER A MAJOR STORM	FACILITY MUST DEWATER WITHIN 48 HOURS OF RAINFALL. NOTICEABLE ODORS, STAINED WATER ON THE FILTER SURFACE OR AT THE OUTLET, OR THE PRESENCE OF ALGAE OR AQUATIC VEGETATION ARE INDICATORS OF ANAEROBIC CONDITIONS, AND INADEQUATE DEWATERING OF THE FACILITY.	THE TOP THREE INCHES OF SOIL SHOULD BE REMOVED AND REPLACED WITH SOIL MATERIAL AS PER PLAN SPECIFICATIONS. FOLLOW UP INSPECTIONS MUST CONFIRM ADEQUATE DEWATERING. IF THE FACILITY DOES NOT FUNCTION AS INTENDED AFTER THE ABOVE ACTION, OR DRAWDOWN EXCEEDS 72 HOURS, ALL THE MEDIA AND UNDERDRAIN SYSTEM NEED TO BE REMOVED AND REPLACED.
MULCH LAYER	SEASONALLY AND AFTER A MAJOR STORM	CHECK MULCH FOR ADEQUATE COVER, SEDIMENT ACCUMULATION, OR DISCOLORATION.	REMOVE AND REPLACE OLD MULCH AND EXCESS SEDIMENTS. PROVIDE ADEQUATE MULCH COVER ACCORDING TO APPROVED DESIGN.
ORNAMENTAL STONE	SEASONALLY AND AFTER A MAJOR STORM	CHECK STONE FOR ADEQUATE COVER, SEDIMENT ACCUMULATION, OR DISCOLORATION.	REMOVE AND REPLACE OLD STONE AND EXCESS SEDIMENTS. PROVIDE ADEQUATE STONE COVER ACCORDING TO APPROVED DESIGN.
VEGETATIVE SURFACES	MONTHLY		
PLANT COMPOSITION AND HEALTH	MONTHLY	COMPARE PLANT COMPOSITION WITH APPROVED PLANS. CHECK FOR INVASIVE SPECIES OR WEEDS. CHECK FOR DEAD OR DYING VEGETATION.	REMOVE AND REPLACE PLANTS IN ACCORDANCE WITH PLAN SPECIFICATIONS.
VEGETATIVE COVER AND EROSION	MONTHLY	CHECK FOR EVIDENCE OF EROSION, RUNOFF CHANNELIZING, OR BARE SPOTS.	RE-SEED OR RE-PLANT IN ACCORDANCE WITH APPROVED LANDSCAPING PLANS. RE-GRADING MAY BE REQUIRED WHEN CONCENTRATED FLOW CAUSES RILLS OR GULLYING THROUGH THE FACILITY.
DEBRIS AND TRASH CLEANOUT	MONTHLY	CHECK THAT THE FACILITY IS CLEAN OF TRASH AND DEBRIS. INLETS, OUTLETS, AND CONTRIBUTING AREAS AROUND THE FACILITY MUST BE CHECKED.	TRASH AND DEBRIS MUST BE DISPOSED OF IN AN ACCEPTABLE MANNER ACCORDING TO CURRENT REGULATIONS.
STRUCTURAL COMPONENTS	ANNUALLY	CHECK FOR EVIDENCE OF STRUCTURAL DETERIORATION, SPALLING, OR CRACKING. INLET AND OUTLET STRUCTURES MUST BE IN GOOD CONDITION.	REPAIR TO GOOD CONDITION ACCORDING TO APPROVED PLANS.
OUTLETS	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EVIDENCE OF EROSION, RILLS, OR GULLYING. RIPRAP OUTLET MUST BE MAINTAINED IN GOOD FUNCTIONAL CONDITION.	STABILIZE ALL ERODED AREAS AND GRADE TO PROVIDE STABLE CONVEYANCE. REPAIR ACCORDING TO APPROVED PLAN.
PRETREATMENT	SEASONALLY AND AFTER A MAJOR STORM		
SEDIMENT ACCUMULATION	SEASONALLY AND AFTER A MAJOR STORM	CHECK GRAVEL DIAPHRAGM OR FOREBAY FOR SEDIMENT ACCUMULATION.	WHEN SEDIMENT STARTS ACCUMULATING IN ORNAMENTAL STONE, SEDIMENT MUST BE REMOVED AND THE PRETREATMENT RESTORED ACCORDING TO THE APPROVED DESIGN.
GRASS CHANNEL CONVEYANCE SYSTEMS	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EROSION, FLOW BLOCKAGES, AND STABLE CONVEYANCE.	STABILIZE AND GRADE ACCORDING TO APPROVED PLAN.
OVERALL FUNCTION OF THE FACILITY	ANNUALLY	CHECK THAT ANY FLOW SPLITTERS ARE FUNCTIONING AS DESIGNED AND THAT BYPASS IS OPERATING AS DESIGNED.	REPAIRS MUST BE IN ACCORDANCE WITH APPROVED PLANS.

* IF FIELD CONDITIONS REQUIRE A MODIFICATION TO THE ORIGINAL APPROVAL IN ORDER TO ACHIEVE THE INTENDED DESIGN FUNCTION, CONTACT MDE'S SEDIMENT AND STORMWATER MANAGEMENT PLAN REVIEW DIVISION AT 410-937-3563 FOR REVIEW AND APPROVAL OF PROPOSED MODIFICATIONS.



OBSERVATION WELL
NOT TO SCALE



CLEANOUT - DETAILS
NOT TO SCALE

SPECIFICATIONS:

1. SEE CHART BELOW.
2. THE CONTRACTOR SHALL SUBMIT SOIL TEST RESULTS (1 PER 30 CY BSM) TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. PERFORM SOIL TESTS REQUIRED FOR BOTH IMPORTED SOIL AND RE-USED / AMENDED TOP SOIL. SOIL TEST AND RESULTS SHALL INCLUDE AT A MINIMUM: PHOSPHORUS, ORGANIC MATTER, SOLUBLE SALTS, NUTRIENTS, AND TEXTURAL ANALYSIS.
3. MINIMIZE COMPACTION OF SUBGRADE SOILS IN BIORETENTION AREAS. CONTRACTOR SHALL TILL THE SUBGRADE SOILS TO A DEPTH OF 6\"/>
4. PLANT MATERIAL SHALL BE REPRESENTATIVE OF SPECIES AND CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-2004.

MATERIALS SPECIFICATIONS FOR BIORETENTION

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLAN SHEET	N/A	PLANTINGS ARE SITE SPECIFIC
BSM	SHA BIORETENTION SOIL MIX (BSM) SECTION 920.01.05 ORGANIC CONTENT MIN. 5% BY DRY WEIGHT (ASTM D 2974)	N/A	MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2008 INCLUDING AND ADDENDA THERETO. COPY TO BE KEPT ON-SITE
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM. NO PINE OR WOOD CHIPS
PEA GRAVEL	ASTM-D-448	NO.8 OR NO.9 (1/8" TO 3/8")	
ORNAMENTAL STONE	WASHED COBBLES	STONE: 1" TO 3"	
GEOTEXTILE		N/A	NONWOVEN GEOTEXTILE TABLE H-1 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
UNDERDRAIN GRAVEL	AASHTO M-43	NO.57, 6, OR 67 (3/8" TO 3/4")	
IMPERMEABLE LINER (IF REQUIRED)	ASTM-D-4833 (THICKNESS) ASTM-D-412 (TENSILE STRENGTH 1,100LB., ELONGATION 200%) ASTM-D-624 (TEAR RESISTANCE- 150LB./IN.) ASTM-D-471 (WATER ABSORPTION: +8 TO -2% MASS	30-MIL THICKNESS	LAYER TO BE ULTRA-VIOLET RESISTANT. A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE.
UNDERDRAIN PIPING	F 758, TYPE PS 28 AASHTO M-278 AASHTO M-252	4" TO 6"	SLOTTED OR PERFORATED PIPE. SLOTTED PIPE SHALL HAVE A MINIMUM OPEN AREA OF 1.5 SQ.IN. / LINEAR FOOT WITH A MAXIMUM SLOT LENGTH OF 2" AND MAXIMUM SLOT WIDTH OF 1/8 INCH. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4 INCH GALVANIZED HARDWARE CLOTH.
CAST-IN-PLACE CONCRETE (IF REQUIRED)	MSHA MIX, NO.3; F'c=3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-A615-60	N/A	ON-SITE TESTING OF CAST-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND - DESIGN TO INCLUDE MEETING ACI CODE 350.8R99; VERTICAL LOADING (H-10 OR H-20); ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
COARSE SAND	AASHTO-M6 OR ASTM-C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND
STABILIZATION MATTING	SHA SECTION 920.05		TYPE A, B, C OR D AS NOTED ON PLAN / SECTION / DETAILS MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2008 INCLUDING AND ADDENDA THERETO. COPY TO BE KEPT ON-SITE. SEE SHEET C-500 FOR DESCRIPTION

INSPECTION:

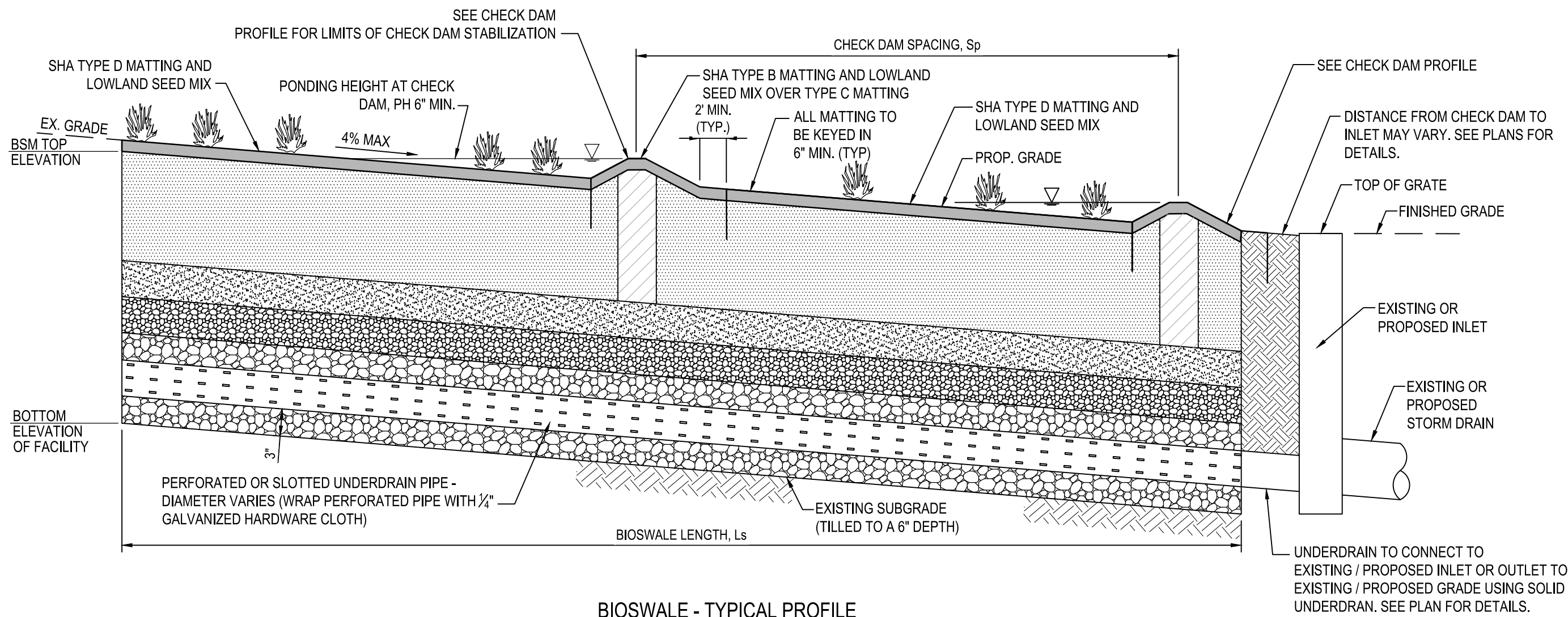
- REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER 48 HOURS PRIOR TO REQUIRED INSPECTION.
- DURING EXCAVATION TO SUBGRADE.
 - DURING PLACEMENT OF GEOTEXTILE.
 - DURING PLACEMENT AND BACKFILL OF UNDERDRAIN PIPE AND GRAVEL.
 - DURING PLACEMENT OF BACKFILL AND BSM SOIL.
 - DURING PLACEMENT OF MULCH.
 - DURING PLACEMENT OF PLANTS.

REVISIONS				ANNE ARUNDEL COUNTY			
NO.	DESCRIPTION	BY	DATE	DEPARTMENT OF PUBLIC WORKS			
				APPROVED	DATE	APPROVED	DATE
				CHIEF ENGINEER		PROJECT MANAGER	
				APPROVED	DATE	APPROVED	DATE
				ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
						SCALE: AS SHOWN	
						DRAWN BY: R.S.S.	
						CHECKED BY: R.W.H.	
						SHEET NO. 35 OF 58	
						PROJECT NO.: P567100	
						CONTRACT NO.: P56702	

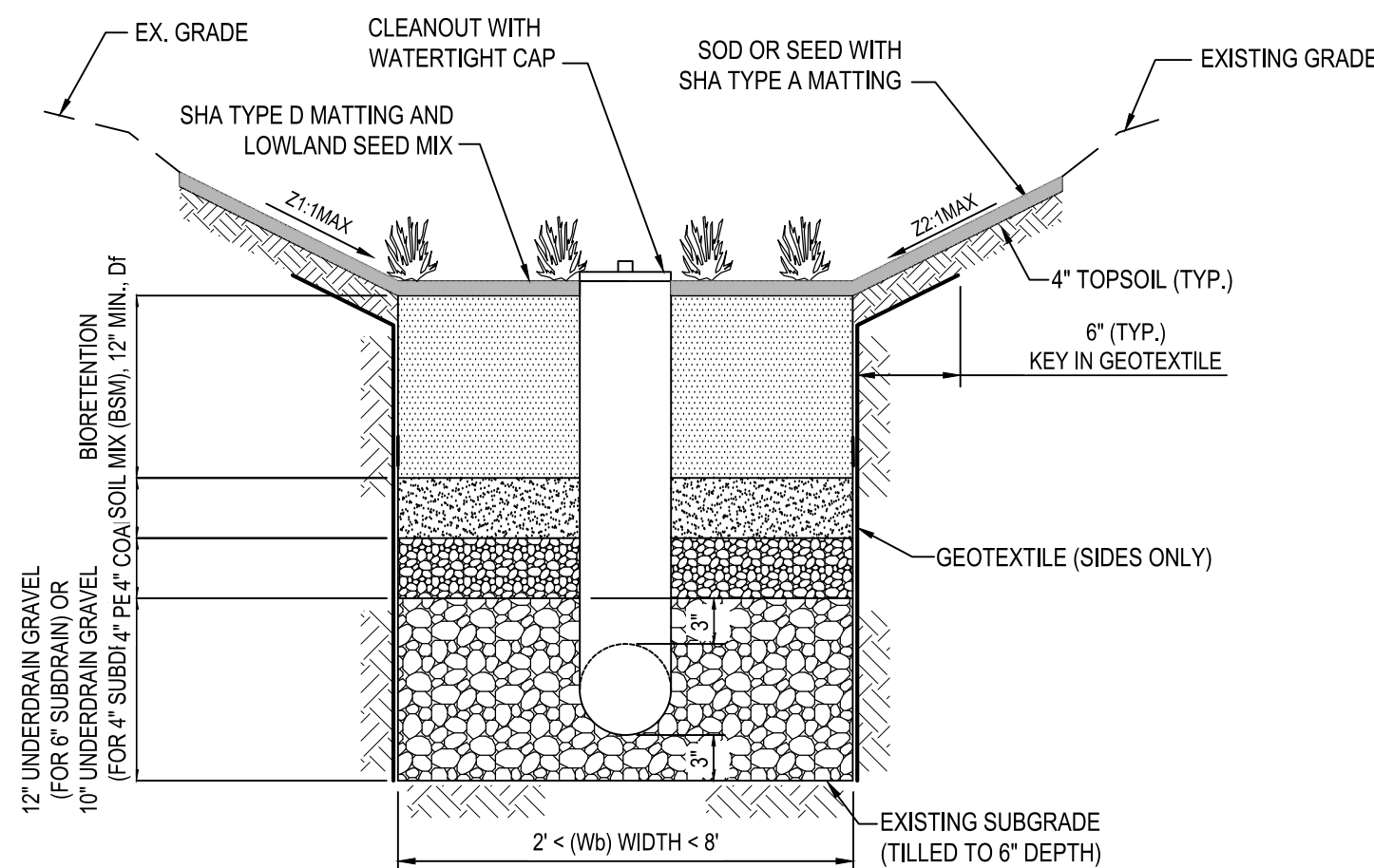
MILLERSVILLE PARK

STORM WATER MANAGEMENT DETAILS
BIORETENTION

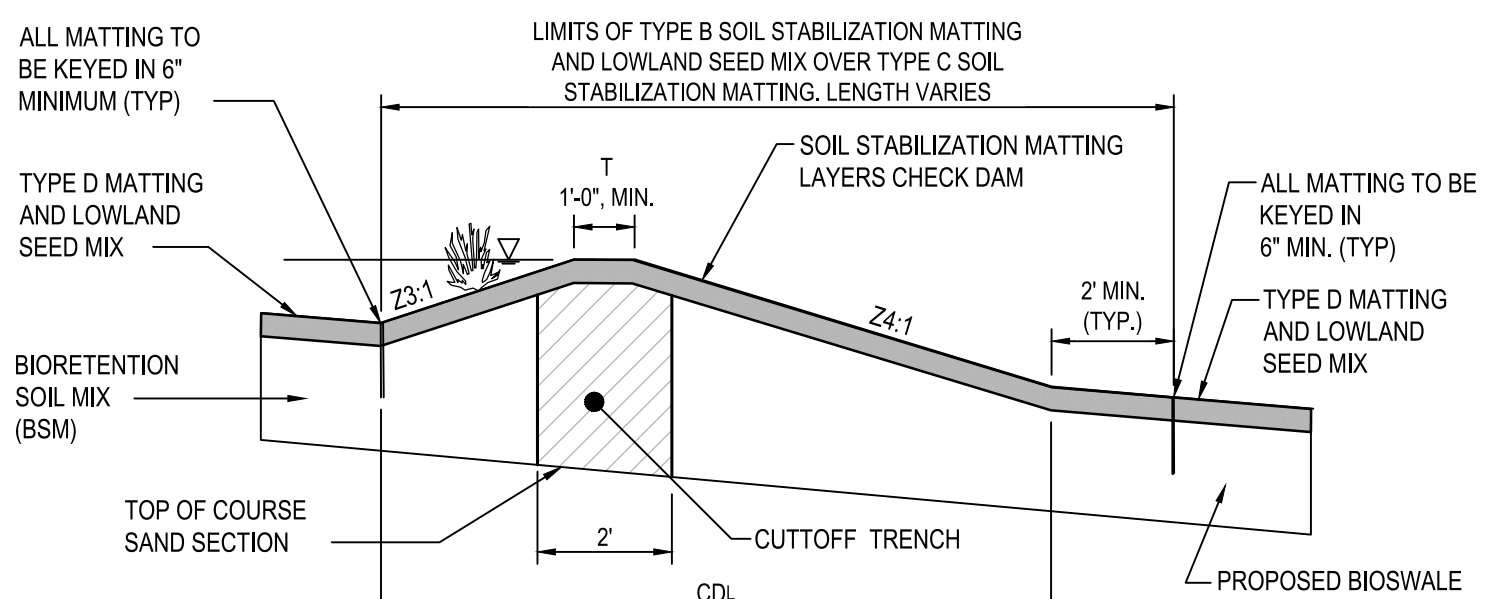
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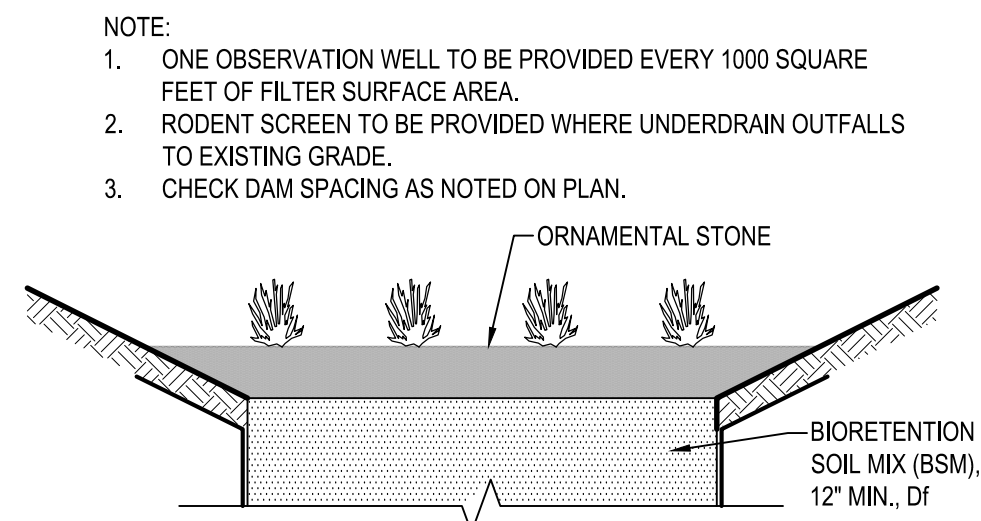
BIOSWALE - TYPICAL PROFILE
NOT TO SCALE



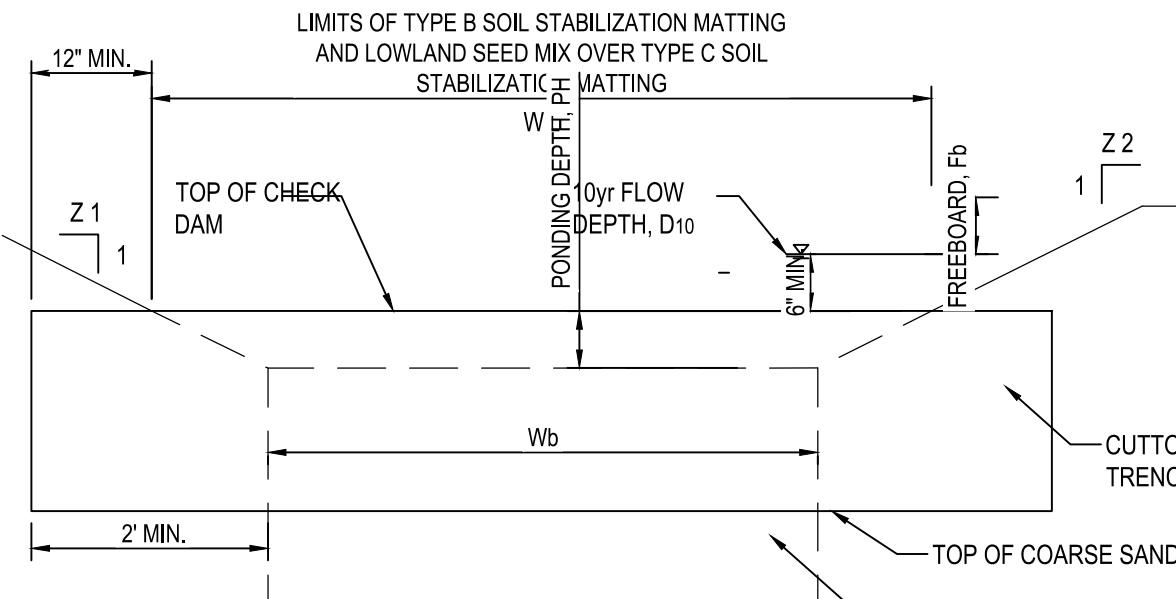
BIOSWALE - TYPICAL SECTION
NOT TO SCALE



EARTH CHECK DAM PROFILE
NOT TO SCALE



ALTERNATIVE SURFACE TREATMENT
NOT TO SCALE



EARTH DAM CROSS SECTION
NOT TO SCALE

SPECIFICATIONS:

1. SEE CHART RIGHT.
2. THE CONTRACTOR SHALL SUBMIT SOIL TEST RESULTS (1 PER 30 CY BSM) TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. PERFORM SOIL TESTS REQUIRED FOR BOTH IMPORTED SOIL AND RE-USED / AMENDED TOP SOIL. SOIL TEST AND RESULTS SHALL INCLUDE AT A MINIMUM: PHOSPHORUS, ORGANIC MATTER, SOLUBLE SALTS, AND TEXTURAL ANALYSIS.
3. MINIMIZE COMPACTION OF SUBGRADE SOILS IN SWALES. CONTRACTOR SHALL TILL THE SUBGRADE SOILS TO A DEPTH OF 6" BELOW THE BOTTOM OF EACH FACILITY. WHEN BACKFILLING THE SWALE, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE SWALE. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE SWALE TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
4. PLANT MATERIAL SHALL BE REPRESENTATIVE OF SPECIES AND CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-2004.

MAINTENANCE SCHEDULE:

AFTER CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE WORK, INSPECTION AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE UNITED STATES NAVY.

STORMWATER MAINTENANCE SCHEDULE BIOSWALES

INSPECTION ITEM	FREQUENCY OF INSPECTION	INSPECTION REQUIREMENTS	REMEDIAL ACTION
SWALE SURFACE	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EROSION, FLOW BLOCKAGES, AND STABLE CONVEYANCE.	STABILIZE AND GRADE ACCORDING TO APPROVED PLAN.
DEWATERING	SEASONALLY AND AFTER A MAJOR STORM	FACILITY MUST DEWATER WITHIN 48 HOURS OF RAINFALL. NOTICEABLE ODORS, STAINED WATER ON THE FILTER SURFACE OR AT THE OUTLET, OR THE PRESENCE OF ALGAE OR AQUATIC VEGETATION ARE INDICATORS OF ANAEROBIC CONDITIONS, AND INADEQUATE DEWATERING OF THE FACILITY.	THE TOP THREE INCHES OF SOIL SHOULD BE REMOVED OUT TO RESTORE WET Pools AS PER PLAN SPECIFICATIONS. FOLLOW UP INSPECTIONS MUST CONFIRM ADEQUATE DEWATERING. IF THE FACILITY DOES NOT FUNCTION AS INTENDED AFTER THE ABOVE ACTION, OR DRAWDOWN EXCEEDS 72 HOURS, ALL THE MEDIA AND UNDERDRAIN SYSTEM NEED TO BE REMOVED AND REPLACED.
VEGETATION	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR HEALTHY VEGETATION AND GOOD COVER. CHECK FOR EVIDENCE OF EROSION, BARE SPOTS OR DEAD OR DYING VEGETATION.	REMOVE UNWANTED VEGETATION AND RE-SEED OR RE-PLANT ACCORDING TO APPROVED PLAN.
SEDIMENT ACCUMULATION	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EXCESSIVE SEDIMENT IN THE SWALE CAUSING DISRUPTION TO FLOW.	CLEAN OUT SEDIMENTS AND RESTORE ELEVATIONS TO APPROVED PLAN DESIGN.
PONDING AREA	SEASONALLY AND AFTER A MAJOR STORM	CHECK THAT WATER PONDING DEPTH IS IN ACCORDANCE WITH THE APPROVED DESIGN.	SEDIMENTS MAY NEED TO BE CLEANED OUT TO RESTORE WET POOL VOLUME. IF THE FACILITY IS NOT FUNCTIONING AS DESIGNED, CONTACT MDE FOR REVIEW AND APPROVAL OF FIELD MODIFICATIONS.
CHECK DAMS OR ENERGY DISSIPATORS	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EVIDENCE OF FLOW CUTTING AROUND THE STRUCTURE, AND EVIDENCE OF EROSION AT THE DOWNSTREAM TOE.	REPAIR AND RE-GRADE AS REQUIRED TO COMPLY WITH APPROVED PLANS.
DEBRIS AND TRASH CLEANOUT	MONTHLY	CHECK THAT THE FACILITY IS CLEAN OF TRASH AND DEBRIS. INLETS, OUTLETS, AND CONTRIBUTING AREAS AROUND THE FACILITY MUST BE CHECKED.	TRASH AND DEBRIS MUST BE DISPOSED OF IN AN ACCEPTABLE MANNER ACCORDING TO CURRENT REGULATIONS.
STRUCTURAL COMPONENTS	ANNUALLY	CHECK FOR EVIDENCE OF STRUCTURAL DETERIORATION, SPALLING OR CRACKING, OUTLET STRUCTURE IN GOOD CONDITION.	REPAIR TO GOOD CONDITION ACCORDING TO SPECIFICATIONS ON THE APPROVED PLANS.
OUTLETS	SEASONALLY AND AFTER A MAJOR STORM	CHECK FOR EVIDENCE OF EROSION, RILLS, OR GULLYING. CHECK THAT RIPRAP OUTLET IS MAINTAINED IN GOOD FUNCTIONAL CONDITION.	STABILIZE ALL ERODED AREAS AND GRADE TO PROVIDE STABLE CONVEYANCE. REPAIR IN ACCORDANCE WITH APPROVED PLAN.
OVERALL FUNCTION OF THE FACILITY	ANNUALLY	CHECK THAT FLOW CONVEYANCE IS OPERATING AS DESIGNED.	REPAIRS MUST BE IN ACCORDANCE WITH APPROVED PLANS.

* IF FIELD CONDITIONS REQUIRE A MODIFICATION TO THE ORIGINAL APPROVAL IN ORDER TO ACHIEVE THE INTENDED DESIGN FUNCTION, CONTACT MDE'S SEDIMENT AND STORMWATER MANAGEMENT PLAN REVIEW DIVISION AT 410-537-3563 FOR REVIEW AND APPROVAL OF PROPOSED MODIFICATIONS

MATERIALS SPECIFICATIONS FOR BIOSWALES

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLAN SHEET	N/A	PLANTINGS ARE SITE SPECIFIC
BSM	SHA BIORETENTION SOIL MIX (BSM) SECTION 920.01.05 ORGANIC CONTENT MIN. 5% BY DRY WEIGHT (ASTM D 2974)	N/A	MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2008 INCLUDING AND ADDENDA THERETO. COPY TO BE KEPT ON-SITE.
PEA GRAVEL	ASTM-D-448	NO.8 OR NO.9 (1/8" TO 3/8")	
ORNAMENTAL STONE	WASHED COBBLES	STONE: 1" TO 3"	
GEOTEXTILE		N/A	NONWOVEN GEOTEXTILE TABLE H-1 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
UNDERDRAIN GRAVEL	ASHTO M-43	NO.57, 6, OR 67 (3/8" TO 3/4")	
IMPERMEABLE LINER (IF REQUIRED)	ASTM-D-7176	30-MIL THICKNESS	LAYER TO BE ULTRA-VIOLET RESISTANT. A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE.
UNDERDRAIN PIPING	F 758, TYPE PS 28 ASHTO M-276 ASHTO M-252	4" TO 6"	SLOTTED OR PERFORATED PIPE: SLOTTED PIPE SHALL HAVE A MINIMUM OPEN AREA OF 1.5 SQ. IN. / LINEAR FOOT WITH A MAXIMUM SLOT LENGTH OF 2" AND MAXIMUM SLOT WIDTH OF 1/8 INCH. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4 INCH GALVANIZED HARDWARE CLOTH.
CAST-IN-PLACE CONCRETE (IF REQUIRED)	MSHA MIX, NO.3, F _c =3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED, REINFORCING TO MEET ASTM-A15-80	N/A	ON-SITE TESTING OF CAST-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 301-R89; VERTICAL LOADING (H-10 OR H-20); ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
COARSE SAND	ASHTO-M6 OR ASTM-C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (ASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND
CUTOFF TRENCH	UNIFIED SOIL CLASSIFICATION (ASTM D 2487)	GC SC CH CL	COMPACT TO 95% STANDARD PROCTOR
STABILIZATION MATTING	SHA SECTION 920.05		TYPE A, B, C OR D AS NOTED ON PLAN / SECTION / DETAILS MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2008 INCLUDING AND ADDENDA THERETO. COPY TO BE KEPT ON-SITE. SEE SHEET C-500 FOR DESCRIPTIONS.

INSPECTION:

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION: CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER 48 HOURS PRIOR TO REQUIRED INSPECTION.
• DURING EXCAVATION TO SUBGRADE.
• DURING PLACEMENT AND BACKFILL OF UNDERDRAINS.
• DURING PLACEMENT OF CHECK DAMS OR WEIRS.
• DURING PLACEMENT OF BACKFILL AND BSM SOIL.

ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.	
APPROVED	DATE	APPROVED	DATE	CHECKED BY: R.W.H.	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		SHEET NO. 36 OF 58	STORM WATER MANAGEMENT DETAILS
				PROJECT NO.: P567100	BIOSWALE
				CONTRACT NO.: P56702	

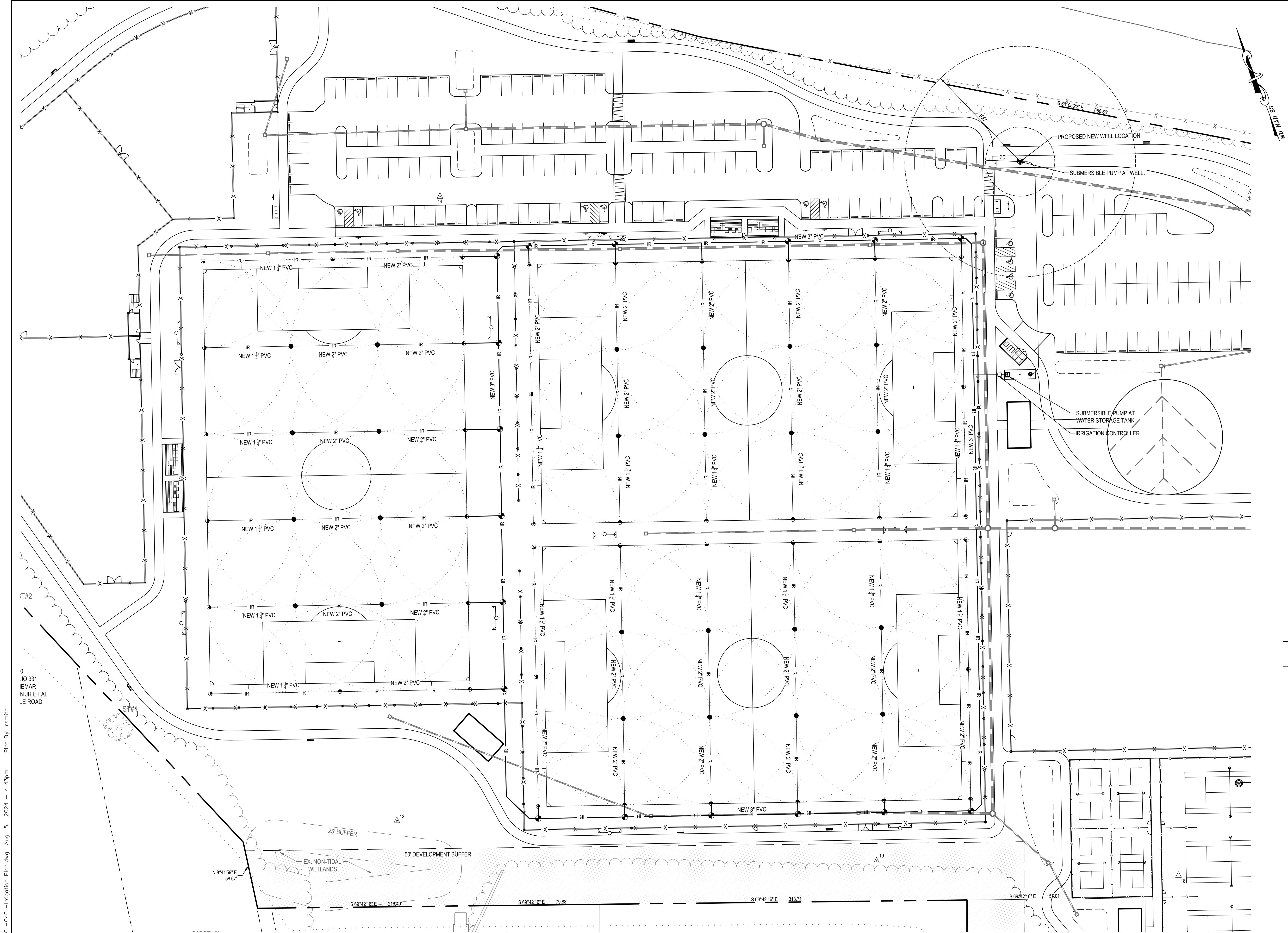
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Baltimore, MD 21286
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IRRIGATION NOTES:

- SEE IRRIGATION DETAILS.
- TRENCHES FOR IRRIGATION INSTALLATION SHALL BE HAND DUG ADJACENT TO STORMWATER STRUCTURES AND OTHER UTILITIES. CONFLICTS AND DISCREPANCIES SHALL BE REPORTED TO THE PROJECT ENGINEER IMMEDIATELY.
- IRRIGATION MAIN LINES TO HAVE A MINIMUM OF 36" OF COVER, SECONDARY LINE TO HAVE 18" OF COVER FROM FINISH GRADE, ARE FROM TOP OF PIPE TO ASSIST CONTRACTOR IN PLACEMENT.
- ALL IRRIGATION PIPE PLACED IN ROAD TO BE SLEEVED WITH SCH. 80 PVC PIPE FOUR INCHES IN DIAMETER GREATER THAN PIPE TO BE SLEEVED.
- HIGH VOLTAGE AND LOW VOLTAGE NOT TO BE LOCATED IN THE SAME SLEEVE. ALL WIRING FOR IRRIGATION SYSTEM TO BE SLEEVED.

GENERAL NOTES:

- DESIGN IS BASED UPON A MINIMUM FLOW OF 81 GPM AND A MINIMUM PRESSURE OF 85 PSI DOWNSTREAM OF BACKFLOW PREVENTION DEVICE. IF SUFFICIENT PRESSURE IS NOT AVAILABLE AT POINT-OF-CONNECTION INSTALL A BOOSTER PUMP. CONTACT A RAIN BIRD REPRESENTATIVE FOR THE APPROPRIATE PUMP FOR THE SITE.
- ADDITIONAL LATERALS OUTSIDE PLAY FIELD AREA MAY BE INSTALLED PROVIDED HYDRAULIC CAPABILITY OF SUPPLY IS NOT EXCEEDED.
- SPRINKLER LOCATIONS ARE TO SCALE. PIPE LOCATIONS ARE DIAGRAMMATIC.
- PROVIDE #56K-1 KEY (1" MALE OUTLET) AND SH-2 SWIVEL HOSE ELL FOR EACH QUICK COUPLING VALVE.

IRRIGATION LEGEND:

	QUANTITY
BACKFLOW PREVENTION DEVICE	1
MAIN SHUT-OFF VALVE	1
RAIN BIRD PGA OR PEB REMOTE CONTROL VALVE (SIZED AS SHOWN)	5
RAIN BIRD SLRC QUICK COUPLING VALVE	2
RAIN BIRD 8005 W/24 NOZZLE PRESSURE = 70 PSI RADIUS = 75 FEET FLOW = 27 GPM	22
RAIN BIRD ESP-LX MODULAR OR ESP-MC IRRIGATION CONTROLLER W/8 STATIONS	1
MAINLINE PIPE: CLASS 200 PVC (3")	
LATERAL PIPE: CLASS 200 PVC (AS SHOWN)	

TO 331
EMAR
N IR ET AL
E ROAD

Plot By: ramith

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REVISIONS

NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	

SCALE: 1" = 40'

DRAWN BY: R.S.S.

CHECKED BY: R.W.H.

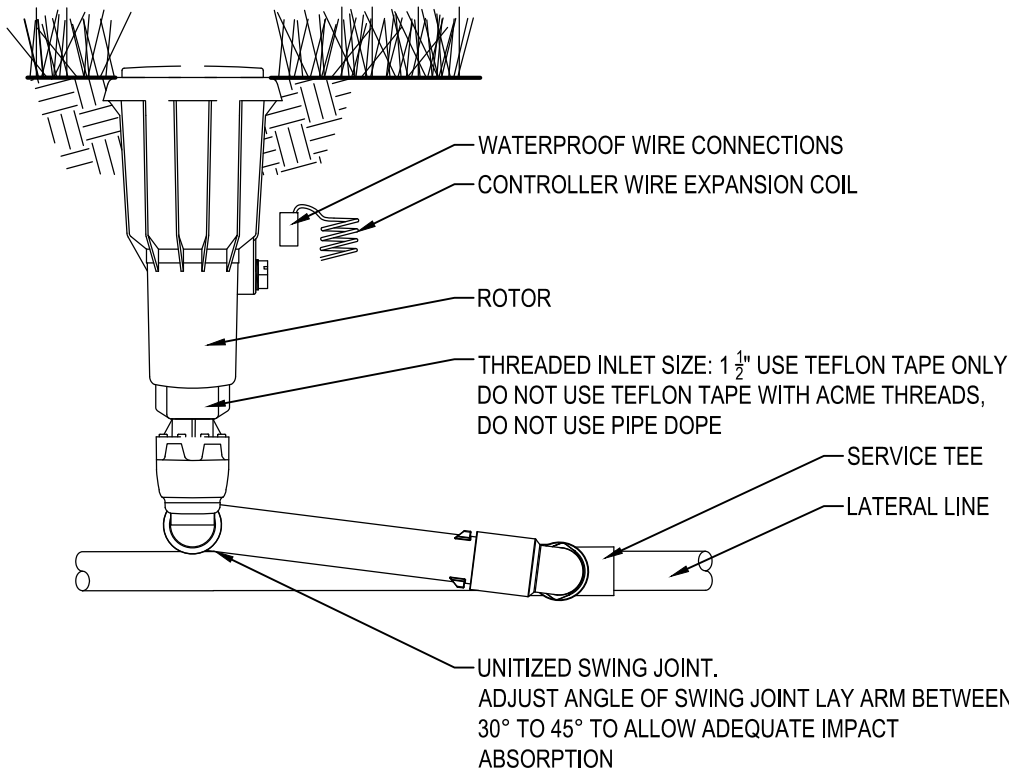
SHEET NO. 37 OF 58

PROJECT NO.: P567100

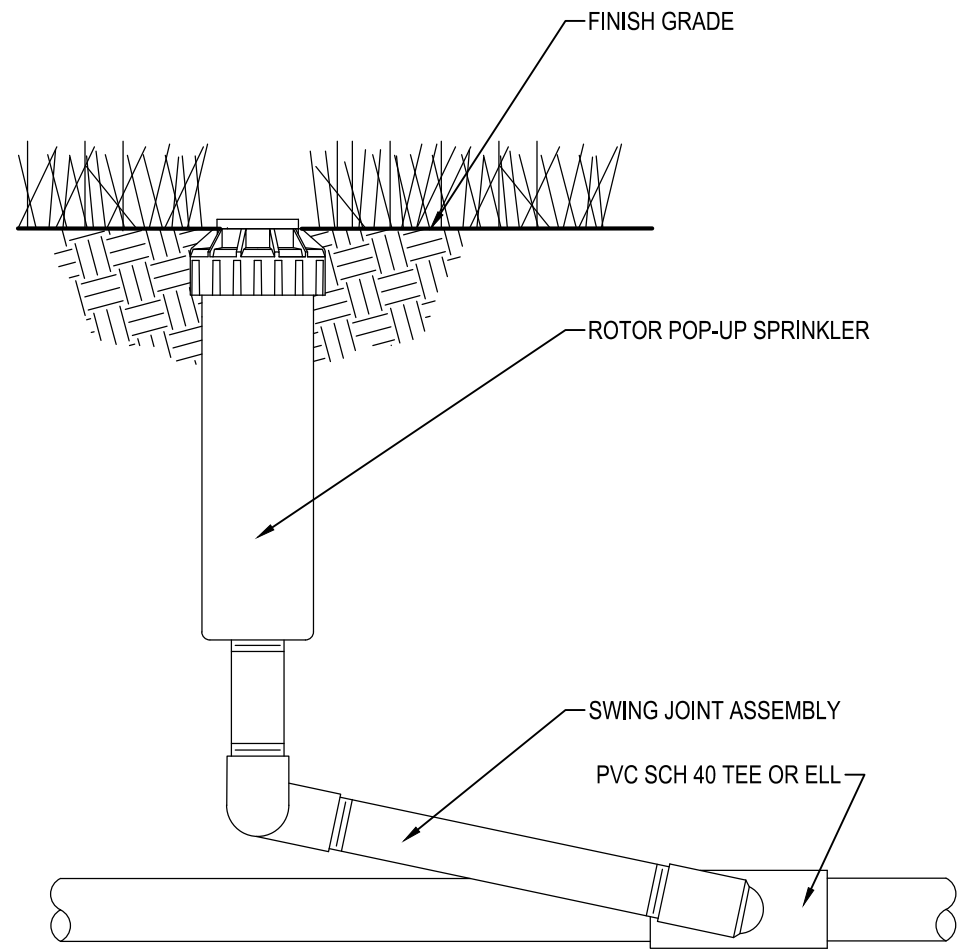
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MILLERSVILLE PARK

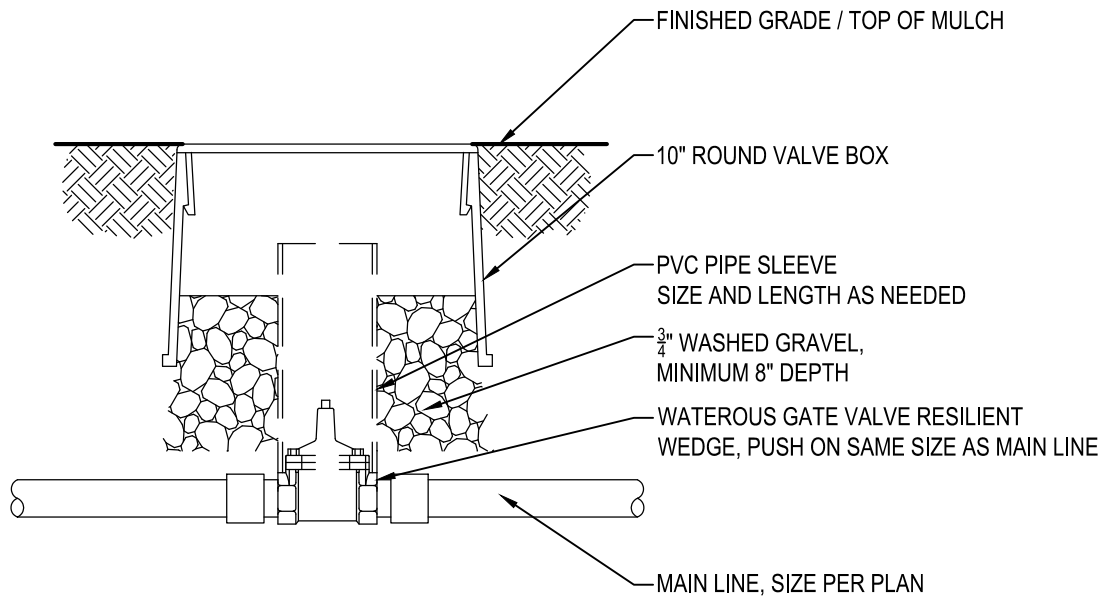
IRRIGATION PLAN



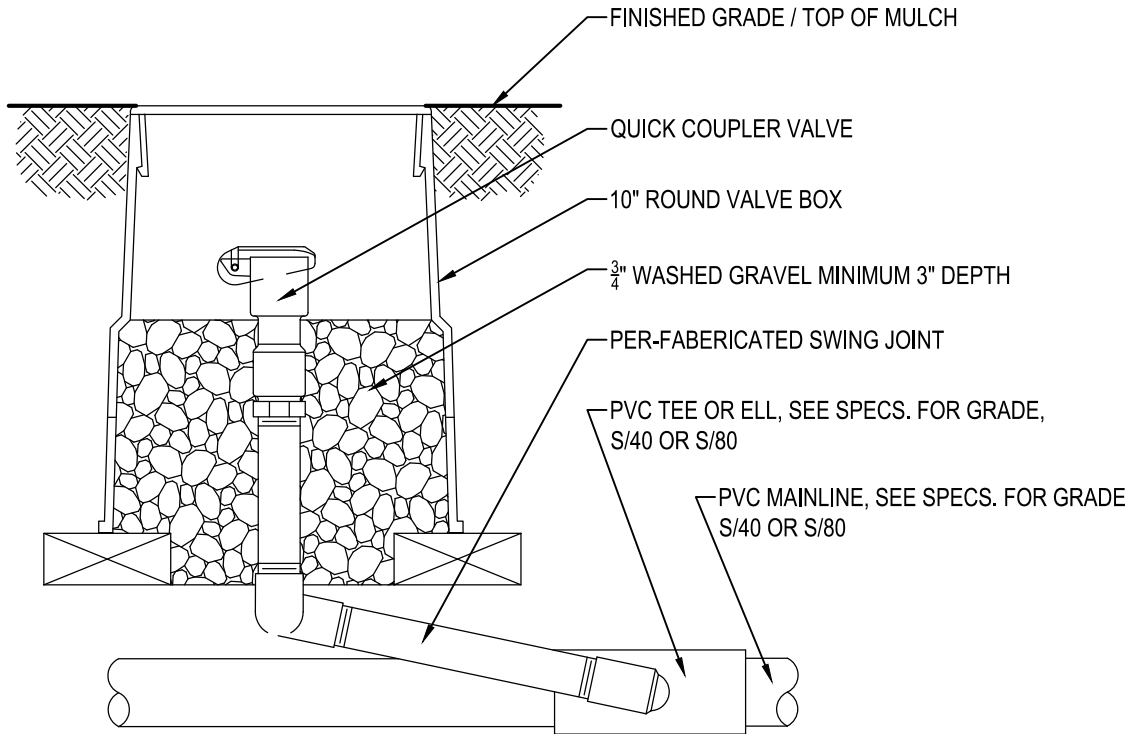
1 VALVE IN HEAD SPRINKLER
NOT TO SCALE



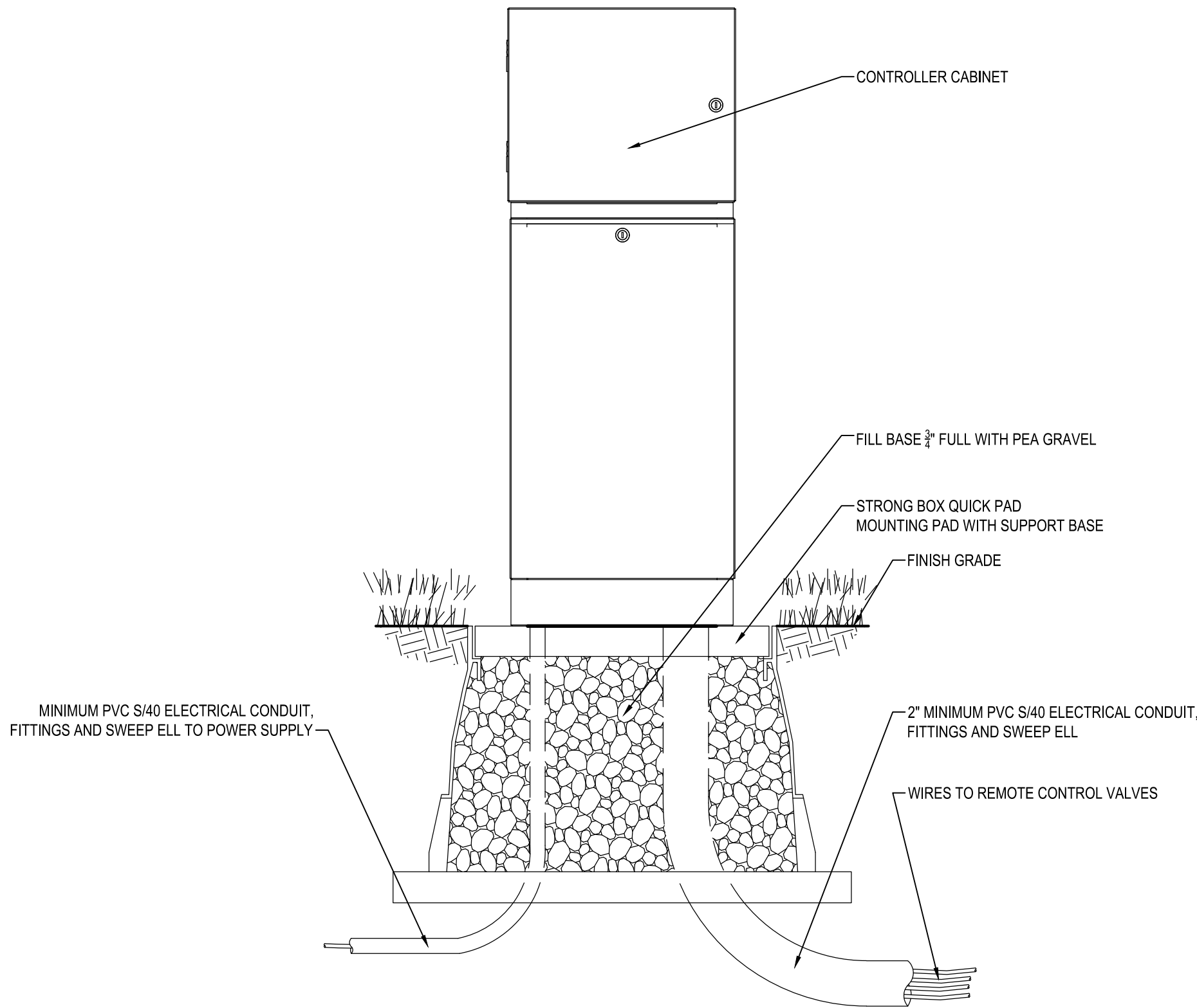
4 ROTOR SPRINKLER
NOT TO SCALE



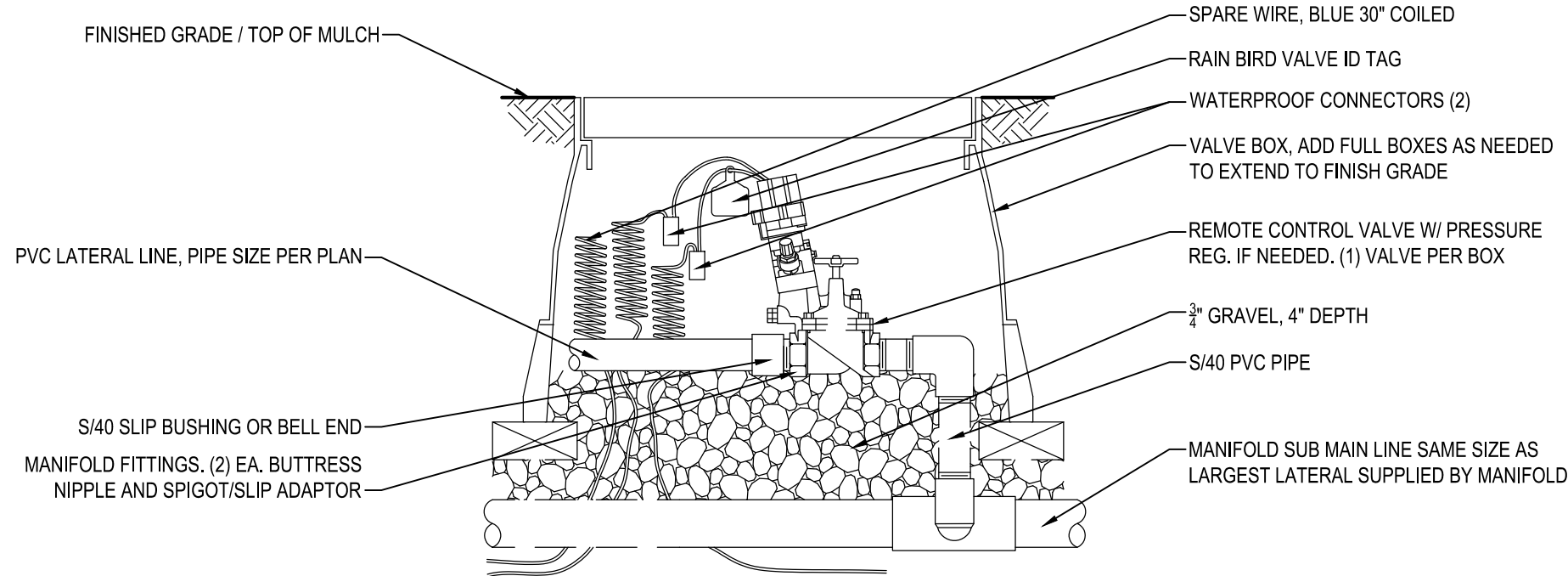
7 ISOLATION / GATE VALVE
NOT TO SCALE



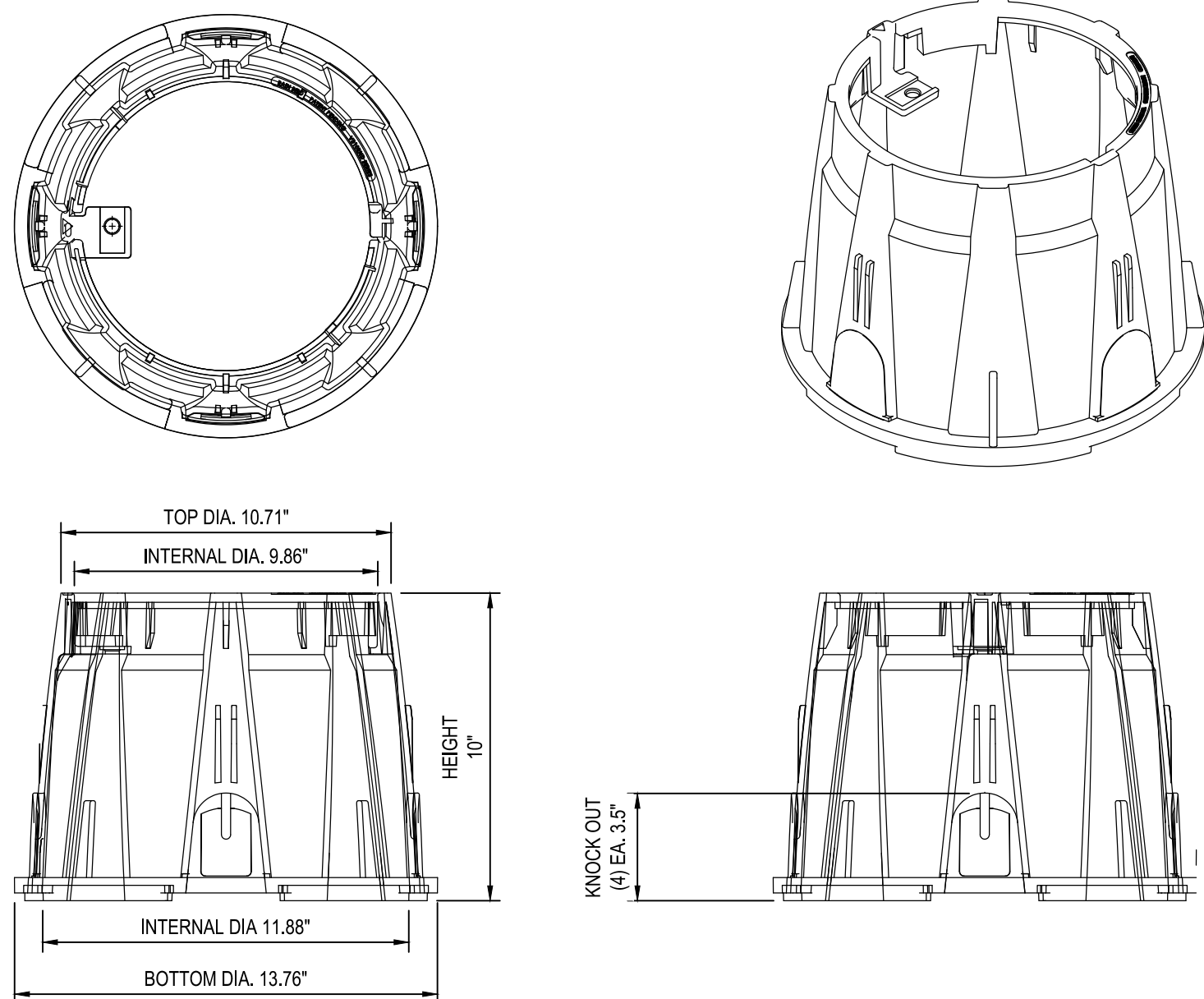
2 QUICK COUPLING VALVE
NOT TO SCALE



5 PEDESTAL MOUNT CONTROLLER
NOT TO SCALE



3 REMOTE CONTROL VALVE
NOT TO SCALE



6 10" VALVE BOX
NOT TO SCALE

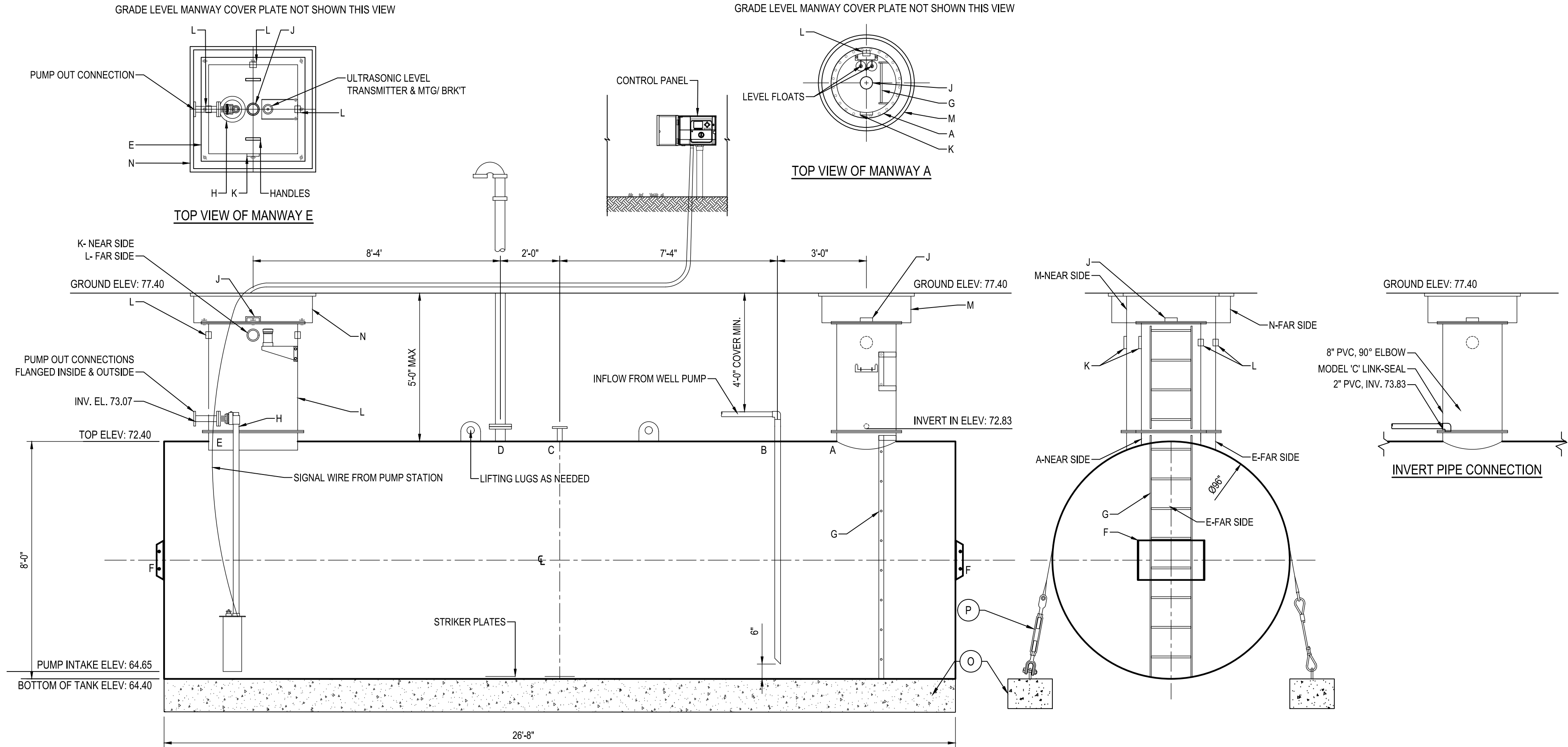
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REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
				DRAWN BY: R.S.S.	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: R.W.H.	IRRIGATION DETAILS
APPROVED	DATE	APPROVED	DATE	SHEET NO. 38 OF 58	
				PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	



HighDRO® WATER STORAGE TANK
10,000 GAL 96"Ø SINGLE-WALL UNDERGROUND HORIZONTAL
FOR POTABLE WATER WITH PUMP OUT

NOTES:

- 1) THE HIGHGUARD TANK IS NOT APPROVED FOR THE STORAGE OF HEATED PRODUCTS.
- 2) 15,000 VOLT SPARK TEST PROVIDED AT FACTORY.
- 3) SHOP TO INSTALL 1/4"x12"x12" STRIKER PLATES, ROLLED AND SEAL WELD TO THE TANK.

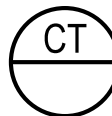
CISTERN DUPLEX PUMP STATION

MODEL: GOULDS MODEL 35GS30
DISCHARGE DIA.: 2 INCH
MOTOR: 3 HP
VOLTS: 230 V, 60 HZ
PHASE: 3-WIRE SINGLE PHASE
DESIGN POINT: 38 GPM @ 98 PSI

DESIGN DATA	
CAPACITY -	10,000 GALLONS
TYPE -	SINGLE WALL, HIGHGUARD UNDERGROUND
NO. REQ. -	-
OPERATING PRESSURE -	ATMOSPHERIC
TANK MATERIAL -	MILD CARBON STEEL
THICKNESS - HEADS- 1/4"	
THICKNESS - SHELL- 1/4"	
*GA THK. BASED ON 80" MAX. BURIAL DEPTH	
CONSTRUCTION -	FLAT FLANGED HEADS, LAP WELD INSIDE & OUTSIDE
TANK TEST -	5 PSIG
INT. FINISH -	SP10 BLAST HighDRO®-LINER PLUS FOR NSF 61 APPLICATIONS
EXT. FINISH -	SP8 BLAST, 75 MILS POLYURETHANE
LABEL -	UL-1746 PART IV, HIGHGUARD

NOTE: AT LEAST ONE 2" VENT PIPE MUST BE INSTALLED IN EACH MANWAY RISER

LEGEND	
A	24"Ø TIGHT BOLT MANWAY w/ 1/2" THK. EPDM GASKET & MANWAY EXTENSION
B	150# RF&SO FLANGE WITH SCH 40 DROP TO WITHIN 6" OF TANK BOTTOM (FILL CONNECTION)
C	2" 150# RF&SO FLANGE
D	150# RF&SO FLANGE w/ GOOSENECK VENT (VENT CONNECTION)
E	36" x 36" SQ. MANWAY w/ 1/2" THK. EPDM GASKET & MANWAY EXTENSION W/ ALUMINUM COVER PLATE AND HANDLES
F	HTM SPIN BRKT - MFG USE ONLY - NOT TO BE USED FOR FIELD INSTALLATION
G	16" WIDE INTERNAL LADDER W/ 3/4" RUNGS ON 12" SPACING.
H	PUMPS
J	4" FNPT FITTING (GAUGE)
K	4" FNPT FITTING (VENT)
L	2" FULL COUPLING (ELECTRICAL CONNECTION)
M	GRADE LEVEL MANWAY - 36"Ø H-20 W/ LOCKABLE COVER PLATE
N	GRADE LEVEL MANWAY - 48" x 48" H-20 W/ LOCKABLE COVER PLATE
O	(6) CDA-15 CONCRETE DEADMAN, 4.5" x 4.5"
P	(6) POLYESTER HOLD-DOWN STRAPS



10,000 GAL. HIGHDRO POTABLE WATER TANK

SCALE: 3/8" = 1'-0"

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License # 27734 Expiration Date: 07/12/26

REVISIONS

NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: R.S.S.	
APPROVED	DATE	APPROVED	DATE	CHECKED BY: R.W.H.	IRRIGATION DETAILS
				SHEET NO. 39 OF 58	
				PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	

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STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN DAYS (7) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.*

MAINTENANCE OF SEDIMENT CONTROL

CONTRACTOR SHALL WITHOUT EXTRA COST TO THE PROJECT, REPAIR AND MAINTAIN EXISTING SEDIMENT CONTROL DEVICES UNTIL ALL AREAS WITHIN LIMITS OF CONSTRUCTION ARE STABILIZED. ALL SEDIMENT CONTROL MEASURES REFERRED TO ON THESE PLANS SHALL BE IN ACCORDANCE WITH THE PUBLICATION ENTITLED "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL".

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

NOTE FOR SAME DAY STABILIZATION

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY.

STABILIZATION SHALL BE AS FOLLOWS:

- FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
- FOR AREAS TO BE VEGETATIVELY STABILIZED:
 - PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES.
 - PERMANENT SEED AND MULCH FOR OTHER AREAS.

ANY AREAS WHICH CANNOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

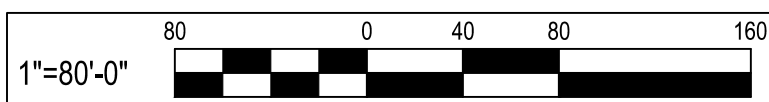
UTILITY NOTE

- CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE) OF THE TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

MAINTENANCE NOTE:

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



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License # 27734 Expiration Date: 07/12/26

REVISIONS

NO.	DESCRIPTION	BY	DATE

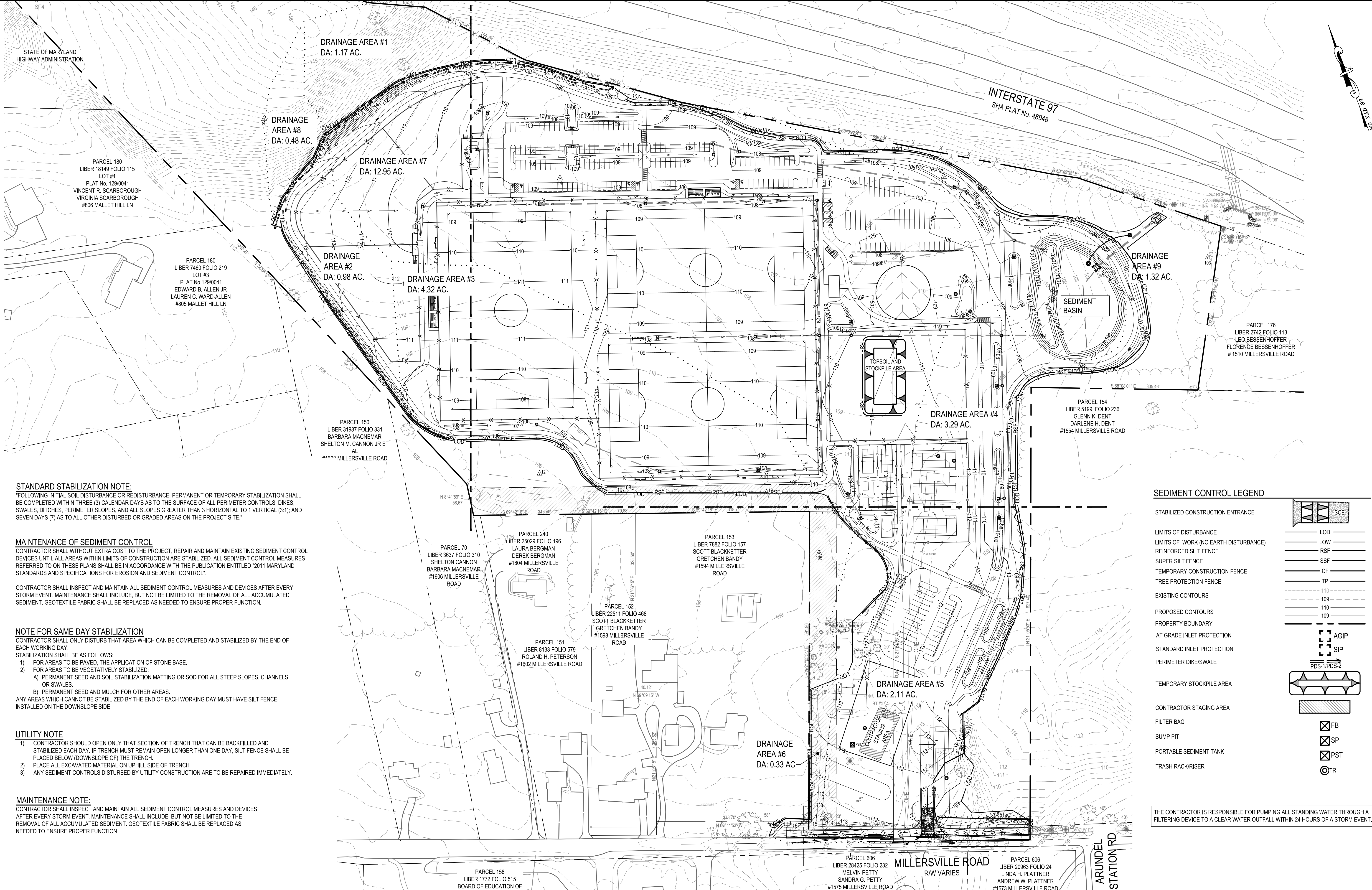
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	

SCALE: 1" = 80'
DRAWN BY: R.S.S.
CHECKED BY: R.W.H.
SHEET NO. 40 OF 58
PROJECT NO.: P567100
CONTRACT NO.: P56702

MILLERSVILLE PARK

OVERALL EROSION AND SEDIMENT CONTROL PLAN



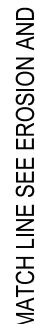
THE CONTRACTOR IS RESPONSIBLE FOR PUMPING ALL STANDING WATER THROUGH A FILTERING DEVICE TO A CLEAR WATER OUTFALL WITHIN 24 HOURS OF A STORM EVENT.

CAUTION:
IF THIS DRAWING IS A REDUCTION,
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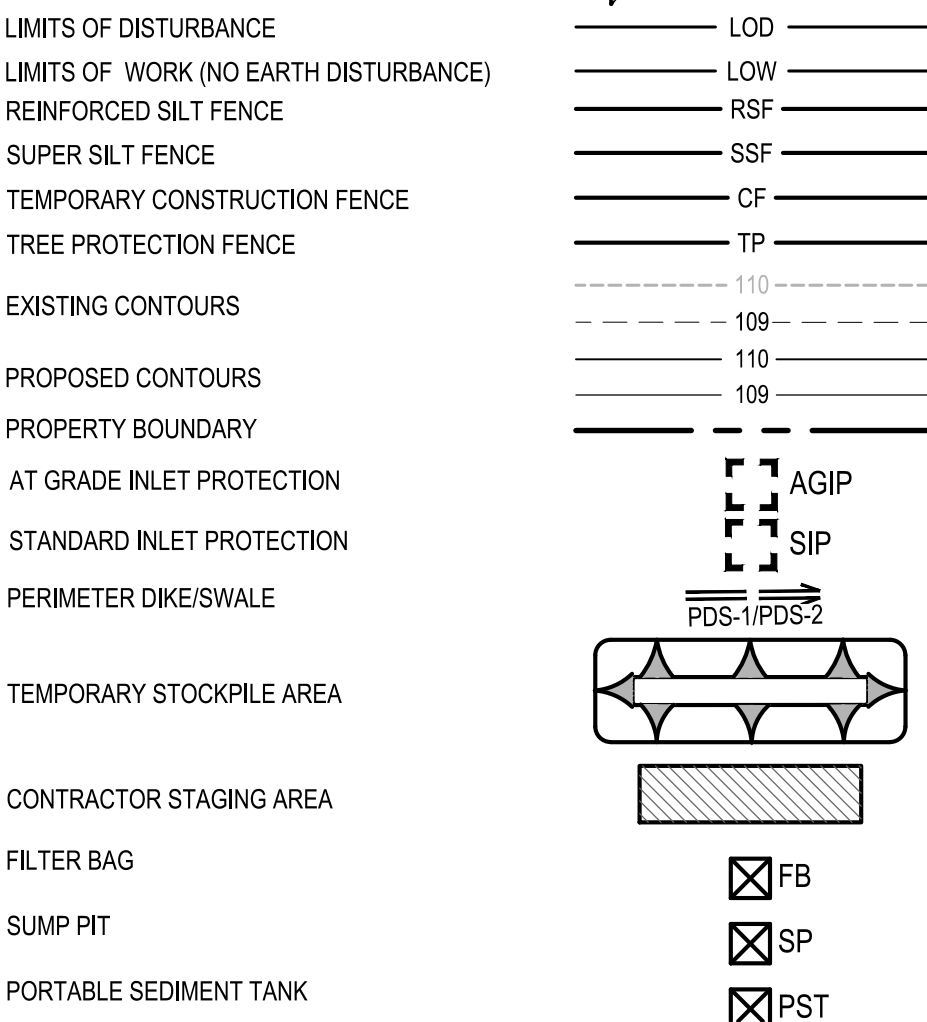
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License # 27734 Expiration Date: 07/12/26



- PRE-CONSTRUCTION MEETING: NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS. (410-222-7780). RECREATION AND PARKS CONTACT ERICA JACKSON (410-222-2866) AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR FOR REVIEW OF APPROVED PLANS.
- THE PERMITTEE OR CONTRACTOR SHALL NOT COMMENCE WITH CLEARING OR ANY EARTH DISTURBANCE ACTIVITIES ON THE SITE DURING OR BEFORE PREDICTED WET WEATHER EVENTS. ONCE SITE WORK BEGINS, CLEARING AND GRUBBING ACTIVITIES SHALL BE FOR THE INSTALLATION AND STABILIZATION OF THE PERIMETER EROSION CONTROL MEASURES ONLY.
- CONTRACTOR SHALL LOCATE AND PROCURE ALL STAGING AND STOCKPILING AREAS WHICH SHALL BE APPROVED BY THE PROJECT INSPECTOR.
- PRESENT FINALIZED SCHEDULE OF WORK AND MAINTENANCE OF TRAFFIC OPERATIONS TO THE ENGINEER AND ANNE ARUNDEL COUNTY INSPECTIONS AND PERMITS DIVISION.
- CLEAR AND GRUB THE AREAS FOR INSTALLATION OF SEDIMENT AND EROSION PERIMETER CONTROLS, INCLUDING STABILIZED CONSTRUCTION ENTRANCE, REINFORCED SILT FENCE, TREE PROTECTION FENCE, SEDIMENT BASIN, SUMP PITS, FILTER LOGS AND FILTER BAGS.
- BUILD STAGING AND STOCKPILE AREAS. OBTAIN APPROVAL FROM THE COUNTY SEDIMENT AND EROSION CONTROL INSPECTOR.
- INSTALL REMAINING SEDIMENT CONTROL DEVICES AS REQUIRED PER THE PLANS. CONTACT THE INSPECTOR FOR APPROVAL OF THE SEDIMENT CONTROL INSTALLATION. INSPECTION AND PERMITS WILL BE REQUIRED THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF THE SEDIMENT CONTROLS BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
- COMPLETE SEDIMENT BASIN GRADING AS SHOWN ON PLAN.
- BEGIN PAVEMENT REMOVAL, AND MASS GRADING OF PROPOSED GRASS PAVING FIELDS.
- PERFORM THE FOLLOWING SEQUENCE FOR EACH DAY OF UTILITY CONSTRUCTION OPERATIONS:
 - A. CONTRACTOR TO ONLY DISTURB THE AREA THAT WILL BE STABILIZED THE SAME DAY.
 - B. INSTALL REINFORCED SILT FENCE DOWNGRADE OF AREA TO BE WORKED ON A DAILY BASIS.
 - C. CLEAR AND GRUB AREA WHERE UTILITIES WILL BE INSTALLED. REMOVE AND SALVAGE TOPSOIL.
 - D. EXCAVATE AND INSTALL UTILITIES AND APPURTENANCES. PLACE BACKFILL AND COMPACT.
 - E. INSTALL TEMPORARY PAVING OR, PLACE TOPSOIL, FINE GRADE, SEED AND APPLY MULCH IN UNPAVED DISTURBED AREAS.
 - F. STREETS ARE TO BE SWEPT FREE OF DIRT AND DEBRIS.
 - G. DIRECT ALL WATER PUMPED DURING TRENCH DEWATERING OPERATIONS TO AN APPROVED PORTABLE SEDIMENT TANK. CLEAN OUT TANKING WHEN ONE-THIRD (1/3) FILLED WITH SILT. HAUL SEDIMENT TO AN APPROVED SITE.
- FINALIZE INSTALLATION OF UTILITIES.
- COMPLETE MASS GRADING AND BEGIN PARKING LOT, ROAD AND SIDEWALK PAVING.
- ONCE UPSTREAM AREAS ARE 95% STABILIZED, INSTALL SWM SYSTEMS AND DEVICES AND/OR PLANTINGS. SEDIMENT IS TO BE PREVENTED FROM ENTERING SWM SYSTEMS DURING CONSTRUCTION; INFLOW PIPES TO BE CONNECTED AFTER CONTRIBUTING AREAS ARE ALSO STABILIZED. THE ENGINEER MUST CERTIFY SWM INSTALLATION. UPON COMPLETION OF PAVING AND CURB AND GUTTER INSTALLATION AND DURING A NOAA 3-DAY DRY FORECASTED PERIOD, INSTALL EACH OF THE PROPOSED MICRO-BIORETENTIONS AND BIOSWALES.
- DEWATER SEDIMENT BASIN USING AASCO APPROVED DEVICE. CONVERT BASIN INTO PERMANENT DETENTION POND.
- STABILIZE ANY REMAINING DISTURBED AREAS AS REQUIRED.
- REMOVE ANY REMAINING SEDIMENT CONTROLS AFTER PRIOR APPROVAL FROM ANNE ARUNDEL COUNTY INSPECTIONS AND PERMITS DIVISION. FINE GRADE AND STABILIZE AREA FORMERLY OCCUPIED BY PERIMETER CONTROLS.

STABILIZED CONSTRUCTION ENTRANCE



REVISIONS				ANNE ARUNDEL COUNTY			
NO.	DESCRIPTION	BY	DATE	DEPARTMENT OF PUBLIC WORKS			
				APPROVED	DATE	SCALE: 1" = 40'	MILLERSVILLE PARK
						DRAWN BY: R.S.S.	
				CHIEF ENGINEER	PROJECT MANAGER	CHECKED BY: R.W.H.	EROSION AND SEDIMENT CONTROL PLAN
				APPROVED	DATE	SHEET NO. 42 OF 58	
						PROJECT NO.: P567100	
				ASSISTANT CHIEF ENGINEER	CHIEF, RIGHT-OF-WAY	CONTRACT NO.: P56702	

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VEGETATIVE ESTABLISHMENT

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

1. PERMANENT SEEDING

- A. SOIL TESTS: LIME AND FERTILIZER WILL BE APPLIED PER SOIL TESTS RESULTS FOR SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF ROUGH GRADING. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.

1. OCCURRENCE OF ACID SULFATE SOILS (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED IF NEEDED. SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6 WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.

THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGATATIVE ESTABLISHMENT ARE:

- a. SOIL pH SHALL BE BETWEEN 6.0 AND 7.0.
b. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (ppm)
c. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVEGRASS OR SERICEA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
d. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
e. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
f. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOILING AND SOIL AMENDMENTS FORM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR AMENDMENTS MADE AS RECOMMENDED BY A CERTIFIED AGRONOMIST.

- B. SEEDBED PREPARATION: AREA TO BE SEEDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3-5 INCHES. THE TOP LAYER SHALL BE LOOSENED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. FOR SITES LESS THAN 5 ACRES, APPLY 100 POUNDS OF DOLOMITIC LIMESTONE AND 21 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3-5 INCHES ON SLOPES FLATTER THAN 3:1.

- C. SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF TALL FESCUE BETWEEN FEBRUARY 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 31. APPLY SEED UNIFORMLY ON A MOIST FIRM SEEDBED WITH A CYCLONE SEEDER, CULTIPACKER, SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY). MAXIMUM SEED DEPTH SHOULD BE ½ INCH IN CLAYEY SOILS AND ¼ INCH IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE WHERE NECESSARY TO SUPPORT ADEQUATE GROWTH UNTIL VEGETATION IS FIRMLY ESTABLISHED. IF OTHER SEED MIXES ARE TO BE USED, SELECT FROM TABLE B3 AND B5 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOILS EROSION AND SEDIMENT CONTROL.

- D. MULCHING: MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. DURING THE TIME PERIODS WHEN SEEDING IS NOT PERMITTED, MULCH SHALL BE APPLIED IMMEDIATELY AFTER GRADING. MULCH SHALL BE UNROTTED, UNCHOPPED, SMALL GRAIN STRAW APPLIED AT A RATE OF 2 TONS PER ACRE OR 90 POUNDS PER 1,000 SQUARE FEET (2 BALES). IF A MULCH ANCHORING TOOL IS USED, APPLY 2.5 TONS PER ACRE. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF SEEDS AND SHALL BE FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY, MECHANICALLY OR UNIFORMLY BY HAND, TO A DEPTH OF 1-2 INCHES.

- E. SECURING STRAW MULCH: STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED.

1. USE A MULCH ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH; HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.

2. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. LIQUID BINDERS MAY BE USED AND APPLIED HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND OR CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.

4. LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

F. TEMPORARY SEEDING

LIME: 100 LBS. DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET
FERTILIZER: 15 LBS. OF 10-10-10 PER 1,000 SQUARE FEET
LIME: PERENNIAL RYE - 0.92 POUNDS PER 1,000 SQUARE FEET
(FEBRUARY 1 THROUGH APRIL 30 OR AUGUST 15 THROUGH NOVEMBER 1).
MILLET - 0.92 LBS. PER 1,000 SQUARE FEET (MAY 1 - AUGUST 15)
LIME: SAME AS PARAGRAPHS 1D AND 1E ABOVE.

NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS, EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL FILL IN ROADWAYS AND PARKING AREAS IS TO BE CLASSIFIED TYPE 2 AS PER ANNE ARUNDEL COUNTY CODE - ARTICLE 21, SECTION 2-308, AND COMPACTED TO 90% DENSITY. COMPACTION TO BE DETERMINED BY ASTM D-1557-66T (MODIFIED PROCTOR). ANY FILL WITHIN BUILDING AREA TO BE COMPACTED TO A MINIMUM OF 95% DENSITY PER ASTM D-1557-66T (MODIFIED PROCTOR). FILLS FOR POND EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED TO 90% DENSITY PER ASTM D-1557-66T (MODIFIED PROCTOR) SO AS TO BE STABLE AND PREVENT EROSION AND SLIPPAGE.

PERMANENT SOD:

INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. PERMANENT SOD IS

TO BE TALL FESCUE, MARYLAND APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ABUTTING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1 ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE APPLIED ON FROZEN GROUND. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO INSURE ESTABLISHED SOD.

MINING OPERATIONS:

SEDIMENT CONTROL PLANS FOR MINING OPERATIONS MUST INCLUDE THE FOLLOWING SEEDING DATES AND MIXTURES:

FOR SEEDING DATES OF FEBRUARY 1 THROUGH APRIL 30 AND AUGUST 15 THROUGH OCTOBER 31 USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND SERICEA LESPEDEZA AT THE RATE OF 0.5 POUNDS+ PER 1,000 SQUARE FEET.

FOR SEEDING DATES OF MAY 1 THROUGH AUGUST 14 USE SEED MIXTURE OF TALL FESCUE AT THE RATE OF 2 POUNDS PER 1,000 SQUARE FEET AND WEEPING LOVEGRASS AT THE RATE OF 0.1 POUND PER 1,000 SQUARE FEET.

TOPSOIL SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS FROM THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION
A. 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.
B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
I. SOIL PH BETWEEN 6.0 AND 7.0.
II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
III. 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.
IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
C. 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.
D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
E. 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.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
2. 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.
3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B. 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.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
A. 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 1½ INCHES IN DIAMETER.
B. 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.
C. 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.
6. TOPSOIL APPLICATION
A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
B. 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 IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
C. 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.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. 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.
2. 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.
3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 90 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.
4. 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.
5. 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.

SITE ANALYSIS

- | | | |
|----|---|----------------|
| 1. | TOTAL AREA OF PARCEL: | 33.20 ACRES |
| 2. | TOTAL DISTURBED AREA: | 25.25 ACRES |
| 3. | TOTAL AREA TO BE STABILIZED: | 25.25 ACRES |
| | a. TOTAL IMPERVIOUS AREA: | 5.72 ACRES |
| | b. TOTAL TO BE VEGETATIVELY STABILIZED: | 19.13 ACRES |
| 4. | PROPOSED NEW IMPERVIOUS AREA: | 5.32 ACRES |
| 5. | ESTIMATED CUT: | 25,319 CU.YDS. |
| 6. | ESTIMATED FILL: | 23,955 CU.YDS. |

NOTE:
THE EARTHWORK QUANTITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES ONLY. WBCM MAKES NO GUARANTEES OF ACCURACY OF QUANTITIES OR BALANCE OF SITE. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL EARTHWORK QUANTITIES ENCOUNTERED DURING CONSTRUCTION.

- NOTES:
1. EROSION CONTROL MATTING SHALL BE INSTALLED ON ALL SLOPE AREAS 3:1 OR GREATER.
 2. FILL SOILS MAY BE AVAILABLE FROM ON-SITE SOIL BORROW AREA (CELL 9) PROVIDED THE SOILS MEET THE PROJECT SPECIFICATIONS.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SOILS (TOP SOIL AND FILL SOIL) MEETING THE PROJECT SPECIFICATIONS FROM ON-SITE AND OFF-SITE SOURCES.

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND

b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE

NOTE TO CONTRACTOR: SEDIMENT AND EROSION CONTROL SHALL BE STRICTLY ENFORCED.

REVISIONS				ANNE ARUNDEL COUNTY			
NO.	DESCRIPTION	BY	DATE	DEPARTMENT OF PUBLIC WORKS			
				APPROVED	DATE	APPROVED	DATE
						SCALE: AS SHOWN	
				CHIEF ENGINEER		DRAWN BY: R.S.S.	
						CHECKED BY: R.W.H.	
				APPROVED	DATE	APPROVED	DATE
						SHEET NO. 43 OF 58	
						PROJECT NO.: P567100	
				ASSISTANT CHIEF ENGINEER		CONTRACT NO.: P56702	
						CHIEF, RIGHT-OF-WAY	

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License # 27734 Expiration Date: 07/12/26

EROSION AND SEDIMENT CONTROL NOTES

H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS							
TABLE H-1: GEOTEXTILE FABRICS							
PROPERTY	TEST METHOD	WOVEN SILT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE					
		MD	CD	MD	CD	MD	CD
GRAB TENSILE STRENGTH	ASTM D-4632	200 LB	200 LB	370 LB	250 LB	200 LB	200 LB
GRAB TENSILE ELONGATION	ASTM D-4632	15%	10%	15%	15%	50%	50%
TRAPEZOIDAL TEAR STRENGTH	ASTM D-4533	75 LB	75 LB	100 LB	60 LB	80 LB	80 LB
PUNCTURE STRENGTH	ASTM D-6241	450 LB		900 LB		450 LB	
APPARENT OPENING SIZE ¹	ASTM D-4751	U.S. SIEVE 30 (0.59 MM)		U.S. SIEVE 70 (0.21 MM)		U.S. SIEVE 70 (0.21 MM)	
PERMITTIVITY	ASTM D-4491	0.05 SEC ⁻¹		0.28 SEC ⁻¹		1.1 SEC ⁻¹	
ULTRAVIOLET RESISTANCE RETAINED AT 500 HOURS	ASTM D-4355	70% STRENGTH		70% STRENGTH		70% STRENGTH	

¹ ALL NUMERIC VALUES EXCEPT APPARENT SIZE (AOS) REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV). MARV IS CALCULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS. MD IS MACHINE DIRECTION. CD IS CROSS DIRECTION.

VALUES FOR AOS REPRESENT THE AVERAGE MAXIMUM OPENING.

² GEOTEXTILES MUST BE EVALUATED BY THE NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPPE) AND CONFORM TO THE VALUES IN TABLE H-1.

THE GEOTEXTILE MUST BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS AND MUST BE ROT AND MILDWEAR RESISTANT. THE GEOTEXTILE MUST BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS AND COMPOSED OF A MINIMUM OF 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS, AND FORMED INTO A STABLE NETWORK SO THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.

WHEN MORE THAN ONE SECTION OF GEOTEXTILE IS NECESSARY, OVERLAP THE SECTIONS BY AT LEAST ONE FOOT. THE GEOTEXTILE MUST BE PULLED TAUT OVER THE APPLIED SURFACE. EQUIPMENT MUST NOT RUN OVER EXPOSED FABRIC. WHEN PLACING RIPRAP ON GEOTEXTILE, DO NOT EXCEED A ONE FOOT DROP HEIGHT.

DETAIL B-4-6-D	PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION	STANDARD SYMBOL PSSMS - * lb/ft ² (* INCLUDE SHEAR STRESS)
CONSTRUCTION SPECIFICATIONS: <ol style="list-style-type: none">USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.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-INAJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF .242 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 AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 5 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, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDED 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 AND SEDIMENT CONTROL PLAN.UNROLL MATTING DOWN SLOPE. 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 SOL/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		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-C	PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION	STANDARD SYMBOL PSSMC - * lb/ft ² (* INCLUDE SHEAR STRESS)
CONSTRUCTION SPECIFICATIONS: <ol style="list-style-type: none">USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.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-INAJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF .242 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 AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 5 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, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDED 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 AND 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 NEXT 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 SOL/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 E-7	TEMPORARY STONE OUTLET STRUCTURE	STANDARD SYMBOL TSOS
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

DETAIL E-7	TEMPORARY STONE OUTLET STRUCTURE	STANDARD SYMBOL TSOS
CONSTRUCTION SPECIFICATIONS: <ol style="list-style-type: none">PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE.PERFORATE BAFFLE BOARD WITH 3 ROWS OF 1 INCH DIAMETER HOLES 6 INCHES ON CENTER. EMBED A MINIMUM OF 4 INCHES INTO GROUND, AND EXTEND BAFFLE BOARD MINIMUM OF 12 INCHES INTO EARTH DIKE.USE CLEAN 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE WOVEN MONOFILAMENT GEOTEXTILE ON UPSTREAM FACE AND COVER WITH A MINIMUM OF 6 INCHES OF ADDITIONAL STONE.USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H-1 MATERIALS.SET WEIR CREST OF STONE 6 INCHES LOWER THAN THE TOP OF EARTH DIKE. USE MINIMUM LENGTH OF 6 FEET FOR WEIR CREST.REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO DRAIN. MAINTAIN LINE, GRADE, AND CROSS SECTION.UPON REMOVAL OF STONE OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.		
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

DETAIL G-2-4	BAFFLE BOARDS	STANDARD SYMBOL BB
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

DETAIL G-2-2	CORRUGATED RISER BASE	STANDARD SYMBOL
CONSTRUCTION SPECIFICATIONS: <ol style="list-style-type: none">BOTTOM OF CONCRETE BASE TO BE PLACED ON UNDISTURBED, NATURAL GROUND.NO STONE IS ALLOWED UNDER BASE. IF NECESSARY, TO ACHIEVE STABILITY INCREASE DEPTH OF CONCRETE BASE.		
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

DETAIL G-2-3	CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE	STANDARD SYMBOL TR
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

DETAIL G-2-3		CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE		STANDARD 	
TRASH RACK CYLINDER				MINIMUM TOP	
RISER DIAM. (N)	DIAM. (N)	THICKNESS (GAUGE)	h (IN)	MINIMUM SIZE SUPPORT BAR	THICKNESS (GAUGE) STIFFENER
12	18	16	14	#6 REBAR	16 N/A
15	21	16	15	#6 REBAR	16 N/A
18	27	16	16	#6 REBAR	16 N/A
21	30	16	19	#6 REBAR	16 N/A
24	36	16	21	#6 REBAR	14 N/A
27	42	16	21	#6 REBAR	14 N/A
33	48	14/16	21	#6 REBAR	14 N/A
36	54	14	25	#8 REBAR	12 N/A
42	60	14	27	#8 REBAR	12 N/A
48	72	12	29	1½ IN PIPE OR 1½ x 1½ x ¼ ANGLE	10 N/A
54	78	12	33	1½ IN PIPE OR 1½ x 1½ x ¼ ANGLE	10 N/A
60	90	12	37	1½ IN PIPE OR 1½ x 1½ x ¼ ANGLE	8 N/A
66	96	10	41	2 IN PIPE OR 2 x 2 x ¾ ANGLE	8 2 x 2 x ¾ ANGLE
72	102	10	44	2 IN PIPE OR 2 x 2 x ¾ ANGLE	8 2½ x 2½ ANGLE
78	114	10	47	2½ IN PIPE OR 2 x 2 x ¾ ANGLE	8 2½ x 2½ ANGLE
84	120	10	50	2½ IN PIPE OR 2½ x 2½ x ¾ ANGLE	8 2½ x 2½ ANGLE

NOTE: THE ABOVE TRASH RACK AND ANTI-VORTEX DEVICE INFORMATION IS FOR CORRUGATED PIPE ONLY. CONCRETE RISERS MUST MEET THE REQUIREMENTS OF MD 378.

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

DETAIL G-2-6	SEDIMENT BASIN SCHEMATIC HORIZONTAL DRAW-DOWN DEVICE	STANDARD SYMBOL HDDO
CONSTRUCTION SPECIFICATIONS: <ol style="list-style-type: none">PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIALY OR IN ACCORDANCE WITH APPROVED PLAN.WRAP THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE FIRST WITH 1/2 INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW-DOWN DEVICE WITH TWO 1 INCH STEEL ANGLES SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW-DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR 12 GAUGE OR HEAVIER WIRE.REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (SOO OF THE NET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.		
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

NO UNDISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE

NOTE TO CONTRACTOR: SEDIMENT AND EROSION CONTROL SHALL BE STRICTLY ENFORCED.

ANNE ARUNDEL COUNTY									
DEPARTMENT OF PUBLIC WORKS									
REVISIONS									
NO.	DESCRIPTION	BY	DATE	APPROVED	DATE	APPROVED	DATE	SCALE:	AS SHOWN
								DRAWN BY:	R.S.S.
				CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY:	R.W.H.
				APPROVED	DATE	APPROVED	DATE	SHEET NO.	45 OF 58
				ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		PROJECT NO.:	P567100
								CONTRACT NO.:	P56702
				MILLERSVILLE PARK					
				EROSION AND SEDIMENT CONTROL DETAILS					

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License # 27734 Expiration Date: 07/12/26

P:\2017\17141801\Drawings\07-Site\17141801-C701-Landscape Plan.dwg Aug 15, 2024 - 4:56pm Plot By: rsmith

PLANTING UNITS REQUIREMENTS			
Key	Condition	Required Planting Units	Proposed Planting Units
A Interior Parking Lot	Condition B Parking Lot	10% of Interior to be landscaped 1 PU / 250 SF	Major Trees - Minor Trees - Shrub - PUs = 98.3
		68681 x 10% = 6868 SF to be landscaped 38.7 Pus	
B Site Perimeter Buffer Existing Residential or Public Open Space / Area	Condition B Max. Screening, Restrict Ped. Movement	15 FT width buffer 1 PU / 15 LF	Major Trees - Minor Trees - Evergreens - Shrubs - Pus = 162
		2990 LF x 15 LF = 44318 SF to be landscaped 199 Pus	
C Site Perimeter Buffer Freeways & Expressways	Condition A Heavy Screen	50 FT width buffer 1 PU / 10 LF	Major Trees - Minor Trees - Evergreens - Shrubs - Pus = 39
		966 LF x 50 LF = 48,300 SF to be landscaped 96.6 Pus	
D ROAD R/W	Condition A ROAD R/W	ROAD R/W	Major Trees - Minor Trees - Evergreens - Shrubs - Pus = 7.0
	South P/L on Millersville Road	1 per 15 LF	
E OPEN SPACE INTERIOR AREAS	Condition A	1 PER 1500 SF	(1 Major Tree 3 Shrubs) = PU (2 Minor Trees 5 Shrubs) = PU (3 Evergreens) = 1.0PU (3 LG shrubs) = 11.0 PU PU = 163
	INTERIOR PLANTINGS		
		72407 SF/1500 = 88.6 PU'S	
		Total Required = 449.9 PU	Total Provided = 469.3 PU

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



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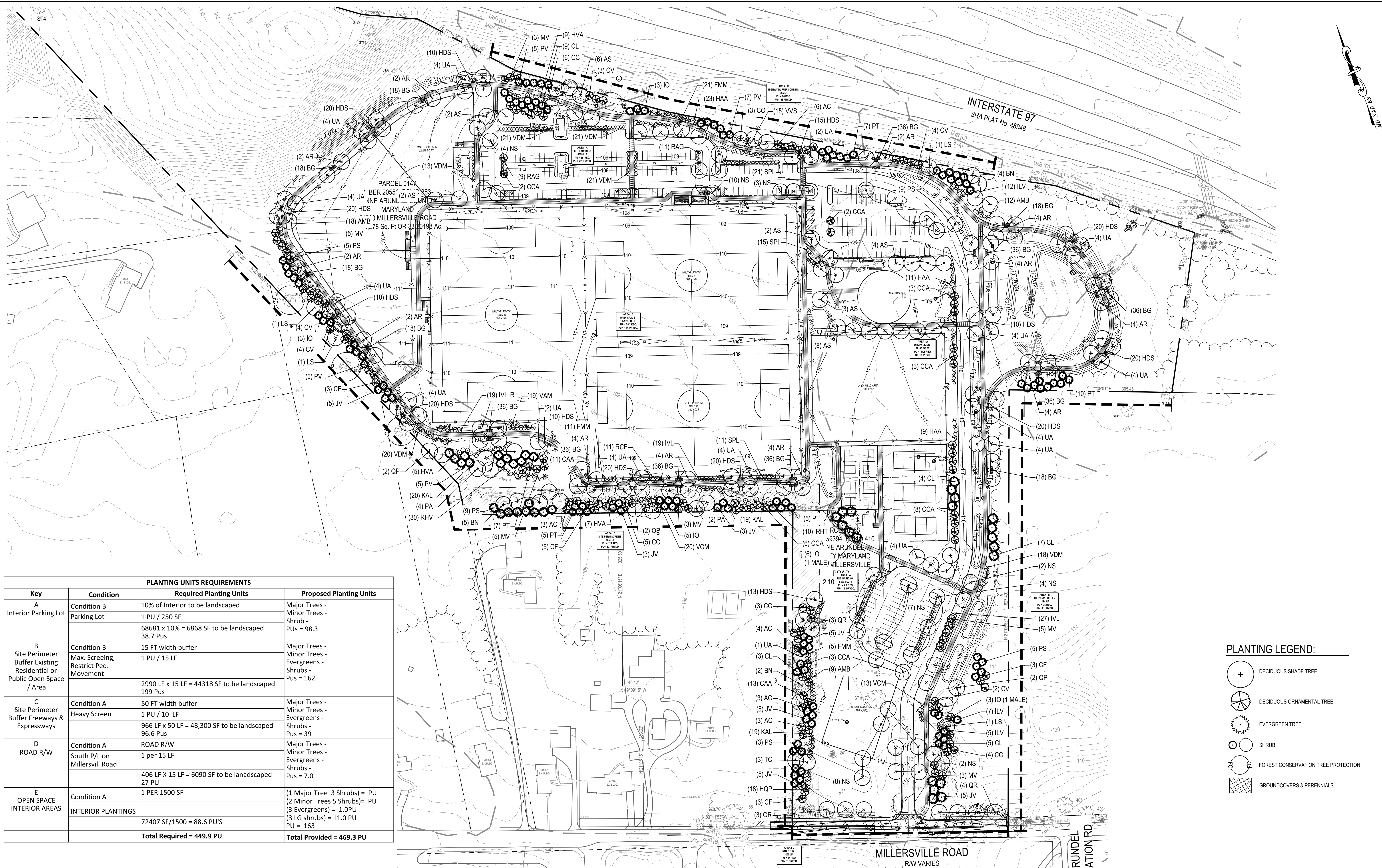
I hereby certify that these documents were prepared or
approved by me, and that I am a duly licensed
professional engineer under the laws of the State of
Maryland
License # 27734 Expiration Date: 07/12/26

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 80'		DRAWN BY: R.S.S.	
		CHECKED BY: R.W.H.	
		SHEET NO. 46 OF 58	
		PROJECT NO.: P567100	
		CONTRACT NO.: P56702	

MILLERSVILLE PARK

LANDSCAPE PLAN

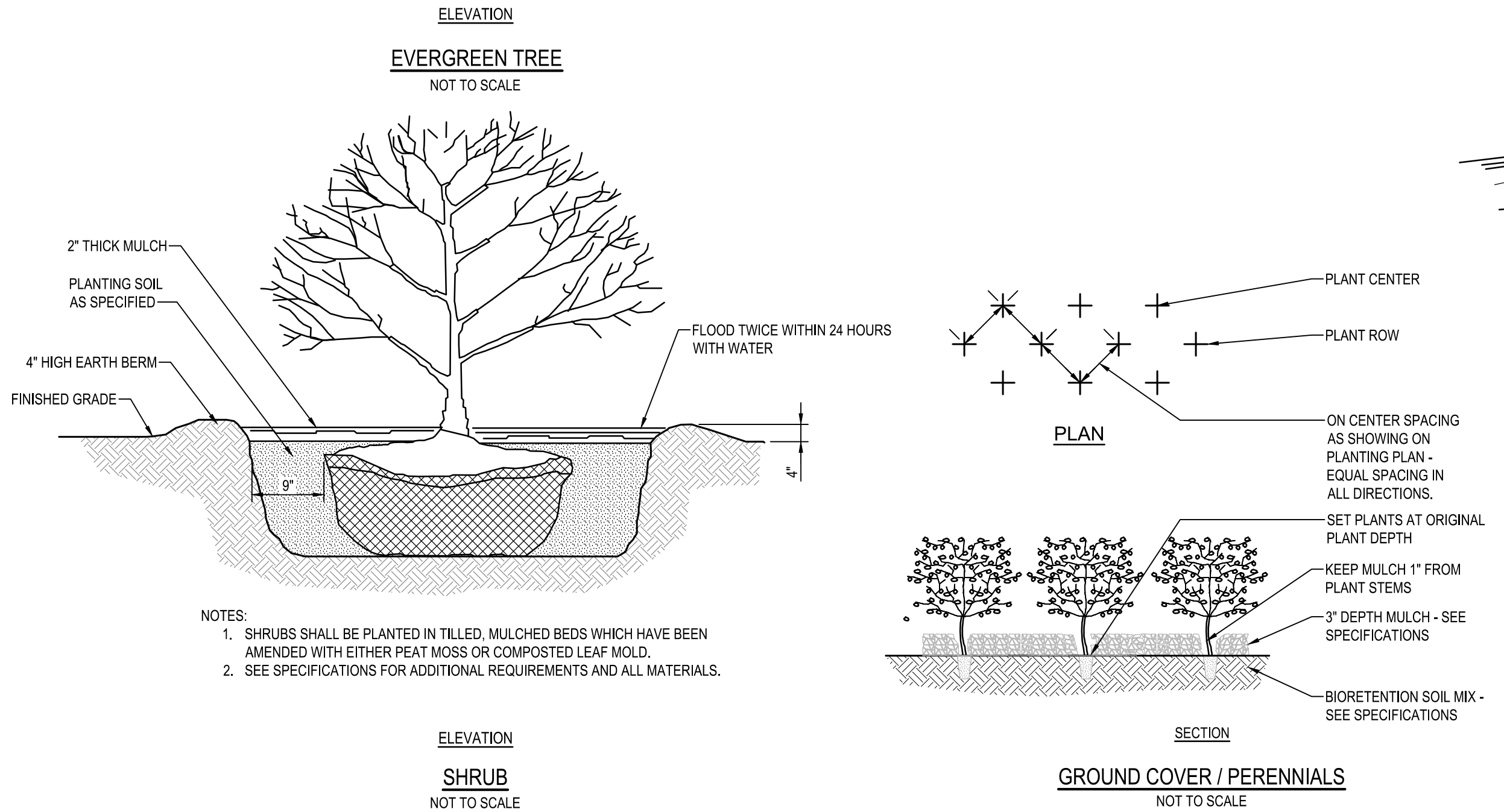
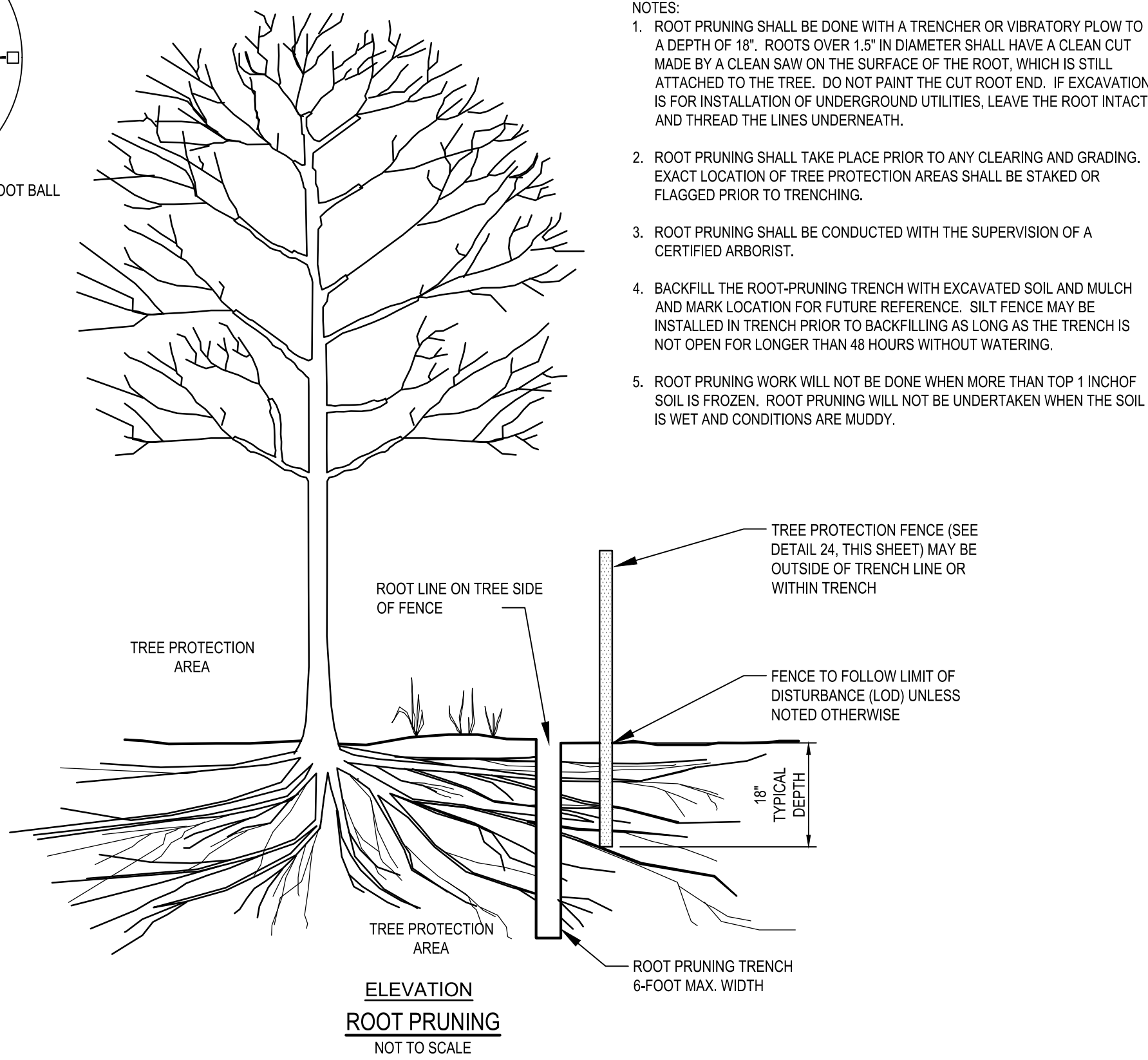
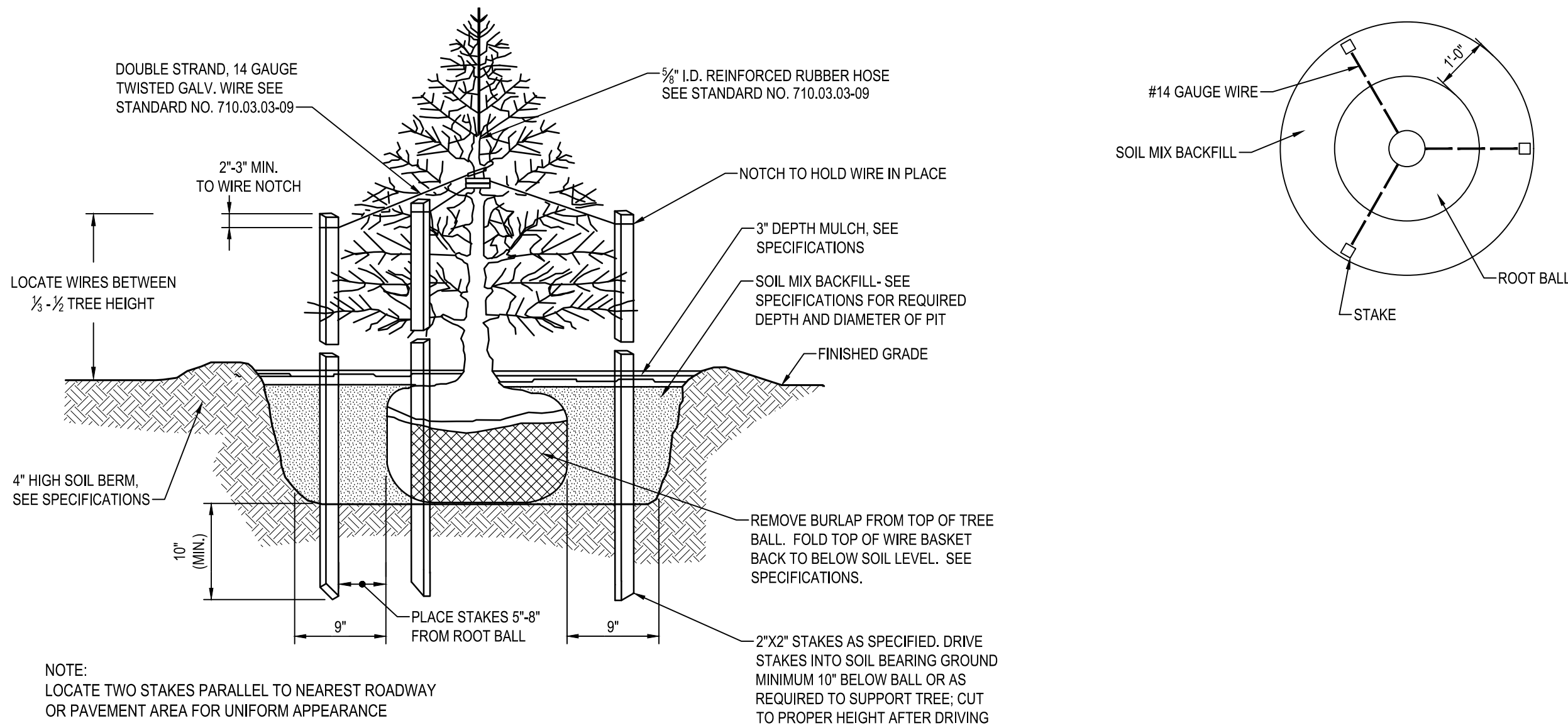


PLANTING LEGEND:

- DECIDUOUS SHADE TREE
- DECIDUOUS ORNAMENTAL TREE
- EVERGREEN TREE
- SHRUB
- FOREST CONSERVATION TREE PROTECTION
- GROUNDCOVERS & PERENNIALS

PROPOSED PLANT SCHEDULE

PLANT SCHEDULE						
Key	Botanical Name	Common Name	Size (Min.)	Root	Remarks	Quantity
Major Deciduous Trees						
AR	Acer Rubrum 'Red Sunset'	Red Maple	2.5" Cal.	B&B	As Shown	42
AS	Acer saccharum 'Legacy'	Sugar Maple	2.5" Cal.	B&B	As Shown	24
BN	Betula nigra	River Birch	2.5" Cal.	B&B	As Shown	11
CO	Celtis occidentalis	Hackberry	2.5" Cal.	B&B	As Shown	3
LS	Liquidambar styraciflua	Sweet Gum	2.5" Cal.	B&B	As Shown	4
NS	Nyssa sylvatica	Black Gum	2.5" Cal.	B&B	As Shown	36
PA	Platanus acerifolia 'Exclamation'	London Plantree	2.5" Cal.	B&B	As Shown	7
TC	Tilia cordata 'Greenspire'	Littleleaf Linden	2.5" Cal.	B&B	As Shown	3
QR	Quercus rubra	Northern Red Oak	2.5" Cal.	B&B	As Shown	10
QP	Quercus palustris	Pin Oak	2.5" Cal.	B&B	As Shown	4
QPw	Quercus phellos	Willow Oak	2.5" Cal.	B&B	As Shown	3
UA	Ulmus americana 'Valley Forge'	American Elm	2.5" Cal.	B&B	As Shown	55
Total						202
Minor Deciduous Trees						
AC	Amelanchier canadensis	Serviceberry	2" Cal.	B&B	As Shown	19
CCA	Carpinus caroliniana	American Hornbeam	2" Cal.	B&B	As Shown	29
CC	Cercis canadensis	Eastern Redbud	2" Cal.	B&B	As Shown	18
CV	Chionanthus virginicus	White Fringetree	2" Cal.	B&B	As Shown	11
CF	Cornus florida 'Cherokee Princess'	Dogwood	2" Cal.	B&B	As Shown	14
MV	Magnolia virginia 'Green Shadow'	Sweetbay Magnolia	2" Cal.	B&B	As Shown	21
Total						112
Evergreen Trees						
CL	Cupressocyparis x leylandii	Leyland Cypress	8-10' HT., 1.5" Cal.	B&B	As Shown	24
IO	Ilex opaca 'Jersey Princess'	American Holly	8-10' HT., 1.5" Cal.	B&B	As Shown	17
IOM	Ilex opaca - male	Male American Holly	8-10' HT., 1.5" Cal.	B&B	A.S. 1 per 7	3
JV	Juniperus virginiana	Eastern Red Cedar	8-10' HT., 1.5" Cal.	B&B	As Shown	26
PS	Pinus strobus	Eastern White Pine	8-10' HT., 1.5" Cal.	B&B	As Shown	31
PT	Pinus taeda	Loblolly Pine	8-10' HT., 1.5" Cal.	B&B	As Shown	27
PV	Pinus virginiana	Virginia Pine	8-10' HT., 1.5" Cal.	B&B	As Shown	25
Total						153
Shrubs						
AMB	Aronia melanocarpa	Black Chokeberry	24 - 36" Hgt. & Sprd., #5	Cont.	60" O.C.	39
CAA	Clethra alnifolia	Sweet pepperbush	24 - 36" Hgt. & Sprd., #5	Cont.	36"-48" O.C.	47
FMM	Fothergilla major 'Mt Airy'	Dwarf Fothergilla	24 - 36" Hgt. & Sprd., #7	Cont.	36"-48" O.C.	37
HVA	Hammamelis virginiana 'Jelena'	Witch hazel	24 - 36" Hgt. & Sprd., #7	Cont.	48"-60" O.C.	14
HAA	Hydrangea arborescens 'Annabelle'	Hydrangea	24 - 36" Hgt. & Sprd., #5	Cont.	48"-60" O.C.	43
HQP	Hydrangea quercifolia 'Pee Wee'	Oakleaf Hydrangea	24 - 36" Hgt. & Sprd., #5	Cont.	48"-60" O.C.	24
HDS	Hypericum densiflorum	St. Johns wort	24 - 36" Hgt. & Sprd., #5	Cont.	36 O.C.	230
IGA	Ilex glabra 'Shamrock'	Inkberry	26 - 36" Hgt. & Sprd., #7	Cont.	48" O.C.	34
ILV	Ilex verticillata 'Winter Red'	Winterberry	26 - 36" Hgt. & Sprd., #7	Cont.	60" O.C.	22
IVS	Ilex verticillata 'Southern Gentleman	Winterberry (1 MALE PER 7 FEMALE)	26 - 36" Hgt. & Sprd., #7	Cont.	60" O.C	3
IVL	Itea virginica 'Little Henry'	Dwarf Virginia Sweetspire	24 - 36" Hgt. & Sprd., #5	Cont.	36" O.C.	46
KAL	Kalmia angustifolia	Lambkill Kalmia	24 - 36" Hgt. & Sprd., #5	Cont.	36"-48" O.C.	58
MP	Myrica pensylvanica	Bayberry	24 - 36" Hgt. & Sprd., #5	Cont.	60" O.C	18
RHN	Rhododendron atlanticum	Coast Azalea	28 - 36" Hgt. & Sprd., #5	Cont.	36"-60" O.C.	15
RCF	Rhododendron calendulaceum	Flame Azalea	28 - 36" Hgt. & Sprd., #5	Cont.	36"-60" O.C.	26
RHV	Rhododendron viscosum	Swamp Azalea	28 - 36" Hgt. & Sprd., #5	Cont.	36"-60" O.C.	30
RAG	Rhus aromatica 'Gro-Low'	Fragrant Sumac	24 - 36" Hgt. & Sprd., #5	Cont.	48"-60" O.C.	37
RHT	Rhus typhina	Staghorn Sumac	30 - 36" Hgt. & Sprd., #5	Cont.	72" O.C.	10
SPL	Spirea latifolia	American Meadow-sweet	30 - 36" Hgt. & Sprd., #3	Cont.	36" O.C.	68
VCM	Vaccinium corymbosum	Highbush Blueberry	30 - 36" Hgt. & Sprd., #5	Cont.	36"-60" O.C.	33
VVS	Vaccinium vacillans	Low Blueberry	30 - 36" Hgt. & Sprd., #5	Cont.	36"-60" O.C.	22
YAM	Viburnum acerifolium	Maple-leaved Viburnum	30 - 36" Hgt. & Sprd., #7	Cont.	36"-60" O.C.	74
YDM	Viburnum dentatum	Southern Arrowwood	30 - 36" Hgt. & Sprd., #7	Cont.	36"-60" O.C.	51
VRM	Viburnum recognitum	Smooth Arrowwood	30 - 36" Hgt. & Sprd., #7	Cont.	36"-60" O.C.	14
Total						995
Perennials / Grasses						
BA	Baptisia australis	False indigo	12"-18" Hgt. & Sprd, #1	Cont.	24" O.C.	230
BG	Bouteloua gracilis 'Blonde Ambition'	Blue Grama	12"-18" Hgt. & Sprd, #1	Cont.	18" O.C.	230
Total						460



MINIMUM LANDSCAPE MAINTENANCE REQUIREMENTS:

- LAWN AREAS SHALL BE MOWED TO A HEIGHT OF 2 TO 3 INCHES AND NOT ALLOWED TO REACH A HEIGHT OF 4 INCHES BEFORE MOWING.
- ALL CURBS AND WALKS SHALL BE EDGED AS NEEDED.
- ALL LAWN AREAS ADJACENT TO BUILDING FACES OR STRUCTURES SHALL BE TRIMMED.
- A SLOW RELEASE NITROGEN BALANCED FERTILIZER WITH A 2-1-1 RATIO SHALL BE APPLIED AT A RATE OF 2 POUNDS OF NITROGEN PER 1000 SQUARE FEET IN SEPTEMBER, OCTOBER, AND FEBRUARY.
- LIME SHALL BE APPLIED AT THE RATE DETERMINED BY A SOILS REPORT.
- IT IS RECOMMENDED THAT LAWN AREAS BE TREATED IN MID-MARCH TO EARLY APRIL WITH PER-EMERGENT HERBICIDE (BETASAN) OR EQUAL APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE.
- A POST-EMERGENT HERBICIDE (TRIMEC) OR EQUAL IS RECOMMENDED TO BE SPRAYED ON LAWN AREAS IN THE LATE SPRING OR THE EARLY FALL. FOLLOW MANUFACTURER'S RATES AND RECOMMENDATIONS.
- INSECTICIDES AND FUNGICIDES ARE RECOMMENDED FOR INSECT AND DISEASE CONTROL.
- RESEED BARE AREAS OF LAWN AS NECESSARY. YEARLY AERATION IS RECOMMENDED.
- ALL TRASH, LITTER, AND DEBRIS SHALL BE REMOVED FROM LAWN AREAS, PARKING LOTS, AND SHRUB BEDS AS NEEDED.
- MULCH ALL SHRUB AND GROUND COVER BEDS YEARLY WITH 3 INCHES OF HARD WOOD BARK.
- PERMIT SHRUBS AND TREES TO GROW AND ENLARGE TO THEIR DESIGN SIZE. CONSULT PROJECT LANDSCAPE ARCHITECT FOR DETAILS.
- PRUNE TREES IN ACCORDANCE WITH LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METRO-POLITAN AREAS.

GENERAL NOTES:

- ALL PLANT MATERIAL SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK, ANSI Z60.1-2004" LATEST EDITION PREPARED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, 230 SOUTHERN BUILDING, WASHINGTON, DC, 20005.
- CONTRACTOR MUST VERIFY THE CORRECT LOCATION OF ANY EXISTING UTILITIES WHICH ARE UNDERGROUND. PRIOR TO PLANT INSTALLATION, THE CONTRACTOR SHALL CALL MISS UTILITY (1-800-257-7777) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND REQUIREMENTS FOR CONSTRUCTION.
- ALL PLANT BEDS SHALL BE MULCHED WITH A MINIMUM OF 2" AND A MAXIMUM OF 3" LAYER OF MULCH WITHIN TWO DAYS AFTER PLANTING. THIS SHALL BE SHREDDED HARDWOOD BARK, AND SHALL COVER ENTIRELY THE PLANTING BED.
- ALL PLANTS SHALL BE GUARANTEED TO REMAIN ALIVE AND HEALTHY FOR A PERIOD OF TWO FULL YEARS AFTER INITIAL ACCEPTANCE. ANY REPLACEMENT PLANTS, REQUIREMENTS, ETC. AND METHOD OF PLACING SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED HEREIN AND ON THE DRAWINGS.
- EXISTING SOIL IN BED AREAS SHALL BE AMENDED TO A DEPTH OF 12". SOIL MIX IN ALL BEDS SHALL BE 2/3 EXISTING SOIL, AND 1/3 ORGANIC MATERIAL SUCH AS LEAFGRO.
- PLANT MATERIAL AVAILABILITY MAY VARY AT THE TIME OF CONSTRUCTION. ANY SUBSTITUTIONS ARE TO BE OF EQUIVALENT TYPE AND SIZE (OR LARGER), AND MUST BE APPROVED BY LANDSCAPE ARCHITECT BEFORE INSTALLATION.
- WHERE THE CONDITION EXISTS THAT BALLED AND BURLAPPED TREES ARE DELIVERED IN WIRE BASKETS, THE WIRE BASKETS SHALL BE CUT DOWN THE SIDE OF EACH MESH AND PEELED AWAY FROM THE ROOTBALL OR REMOVED IN ENTIRETY. NO PORTION OF THE WIRE BASKET SHALL REMAIN INTACT AROUND THE SIDES OF THE ROOTBALL OR EXTEND ABOVE FINISHED GRADE.
- ANY DAMAGE TO THE EXISTING UTILITIES, BUILDINGS, PAVING, CURB, WALLS, AND VEGETATION (NOT SO DESIGNATED FOR REMOVAL ON THESE PLANS) SHALL BE REPAIRED TO PREVIOUS CONDITION OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION ARE TO BE SEEDED UNLESS NOTED OTHERWISE.
- ADJUST TREE LOCATIONS IN THE FIELD IF LOCATIONS SHOWN CONFLICT WITH EXISTING VEGETATION NOT PICKED UP IN SURVEY.
- SEED DISTURBED AREAS.

<div><div>300 East Joppa Road Suite 200 Baltimore, MD 21286 410.512.4500 www.transystems.com</div><div>TRANSYSTEMS</div></div>	<div>I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License # 27734 Expiration Date: 07/12/26</div>	REVISIONS				ANNE ARUNDEL COUNTY							
						DEPARTMENT OF PUBLIC WORKS							
		NO.	DESCRIPTION	BY	DATE	APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	MILLERSVILLE PARK		
										DRAWN BY: R.S.S.			
										CHECKED BY: R.W.H.	LANDSCAPE NOTES AND DETAILS		
										SHEET NO. 47 OF 58			
										PROJECT NO.: P567100			
										CONTRACT NO.: P56702			
			</										

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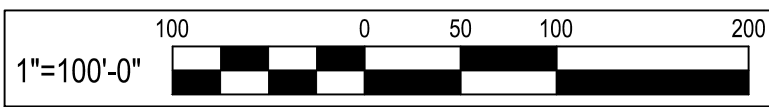
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FOREST CONSERVATION WORKSHEET:

Variables	Unique Tract 1
Site Information	
A. Growth Management Area	Outside Priority Funding Area
B. Land Use Type	Institutional
C. Total Unique Tract Area	35.4
D. Universal Deductions (Critical Area or 100-Yr Floodplain)	0.0
E. Impervious Surface Deductions for Targeted Growth and Priority Funding Areas	0.0
F. Existing Forest Cover within Net Unique Tract Area	10.4
G. Proposed Forest Clearing within Net Unique Tract Area	2.4
H. Net Unique Tract Area = (C)-(D)-(E)	35.4
I. Is Total Net Tract Area less than or equal to 5 Acres?	No
Key for lookup table	Outside Priority Funding AreaInstitutionalNo
I. Conservation Threshold	20%
J. Afforestation Threshold	15%
Forest Conservation	
K. Conservation Threshold Area = (H) X (I)	7.1
L. Area of Forest Above Conservation Threshold = (F) - (K)	3.3
M. Breakeven Point (Amount of forest that must be retained so that no mitigation is required.)	8.2
If the Area of Forest Above Conservation Threshold (L) is greater than 0, then M = ((0.3333) X (L)) + (K). If the Area of Forest Above Conservation Threshold is equal to 0, then M = (F).	
N. Forest Clearing Permitted without Mitigation = (F) - (M)	2.2
O. Proposed Forest Retention = (F) - (G)	8.0
P. Reforestation for Retention Above the Threshold	1.2
If Proposed Forest Clearing (G) is > Area of Forest Above Conservation Threshold (L), then (P) = (L) X (0.5). If not, then (P) = (G) X (0.5).	
Q. Credit for Retention Above the Threshold	0.9
If Proposed Forest Clearing (G) is > Area of Forest Above Conservation Threshold (L), then (R) = 0. If not, then (R) = (L) - (G).	
R. Reforestation for Retention Below the Threshold	0.0
If Proposed Forest Clearing (G) < Area of Forest Above Conservation Threshold (L), then (R) = 0. If not, then (R) = ((G) - (L)) X 2	
S. Total Reforestation Required = (P) + (R) - (Q)	0.3
T. Afforestation Threshold Area = (H) X (J)	5.3
U. Total Afforestation Required	0.0
If Existing Forest Cover (F) < Afforestation Threshold Area (T), then (U) = (T) - (F). If not, then (U) = 0.	
V. Total Mitigation Required By Tract = (S) + (U)	0.3

CAUTION:
IF THIS DRAWING IS A REDUCTION,
USE THE GRAPHIC SCALES.



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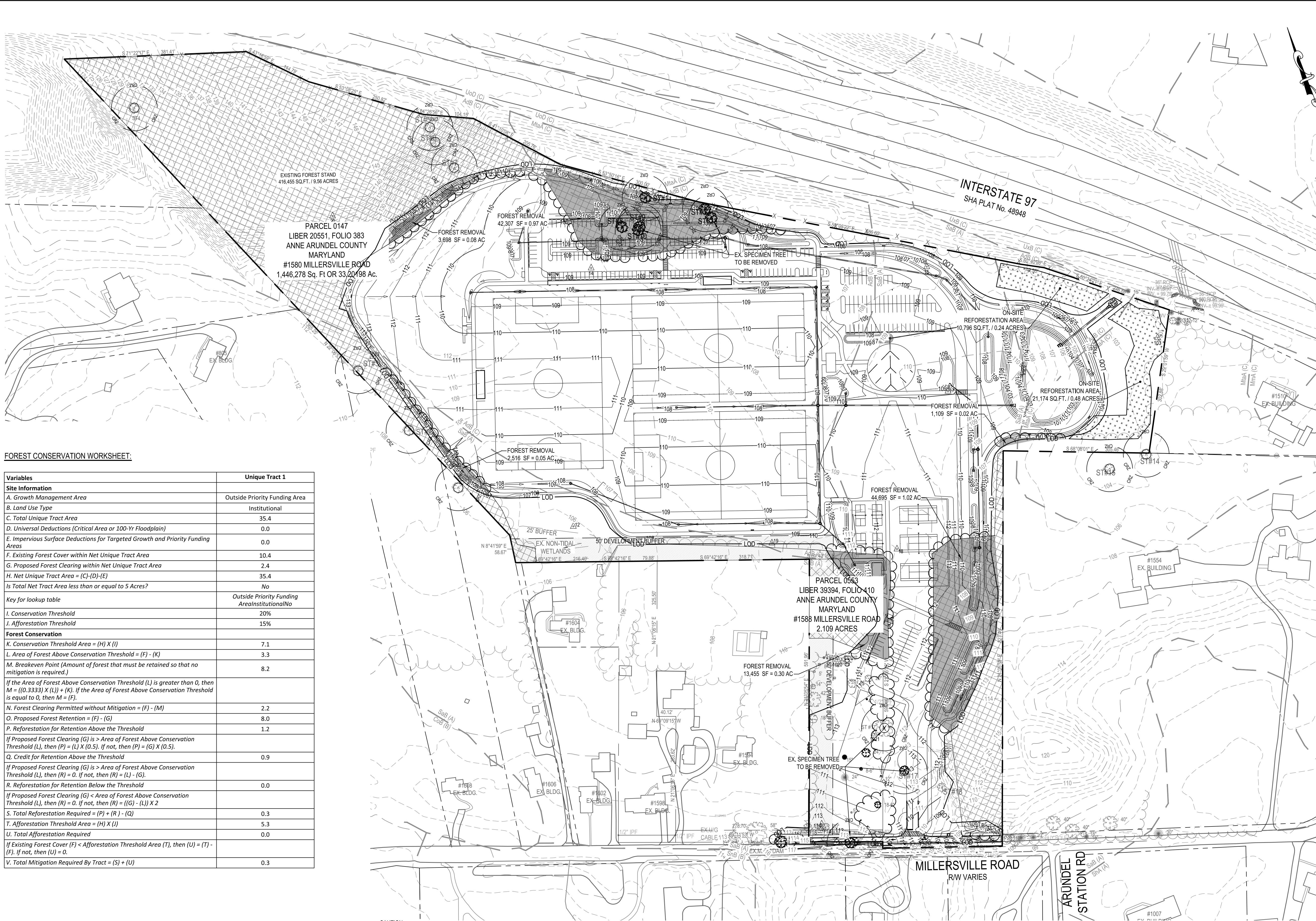
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REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: 1" = 100'		DRAWN BY: R.S.S.	MILLERSVILLE PARK
		CHECKED BY: R.W.H.	
SHEET NO. 49 OF 58		PROJECT NO.: P567100	
CONTRACT NO.: P56702			

FOREST CONSERVATION PLAN



NEW FIELD LIGHTS
LEGEND

- EXISTING FOREST ON PROJECT PROPERTY
- FOREST TO BE REMOVED
- REFORESTATION PLANTING AREA
- SPECIMEN TREES
- CRITICAL ROOT ZONE (CRZ)
- SPECIMEN TREE TO BE REMOVED

FOREST CONSERVATION NOTES:

- PROPERTY ADDRESS: 1580 MILLERSVILLE ROAD MILLERSVILLE, MARYLAND 21108
PROPERTY AREA IS COMPRISED OF THE FOLLOWING PARCEL:
a. MAP 0030, GRID 0023, PARCEL 0553, DEED REF: LIBER 4003, FOLIO 0667
b. MAP 0030, GRID 0023, PARCEL 0147, DEED REF: LIBER 20551, FOLIO 0383
- OWNER: ANNE ARUNDEL COUNTY
MAILING ADDRESS:
2660 RIVA ROAD, 3RD FLOOR
ANNAPOLIS, MARYLAND 21401
- AREA: 35.36 ACRES
- ZONING: R-L-D RESIDENTIAL LOW DENSITY
- THIS PROJECT WILL REMOVE 125673 SF OR 2.88 ACRES OF EXISTING FOREST FROM WITHIN THE NET TRACT AREA. REFORESTATION PLANTING REQUIREMENTS PER THE FOREST CONSERVATION WORKSHEET ARE 58563 SF OR 1.30 ACRES. 1.0 ACRES ARE PLANTED ON-SITE, 0.30 ACRES TO BE PLANTED OFF-SITE AT A LOCATION TO BE DETERMINED.
- PLANTING REQUIREMENTS ARE PROPOSED TO BE MET THROUGH ON-SITE AND OFF-SITE PLANTING OF 1.3 ACRES. TOTAL TREES TO BE PLANTED BASED ON 350 TREES PER ACRE FOR 1 GALLON CONTAINER STOCK.







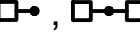






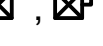

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SIGNATURE: _____
DATE: _____

VICINITY MAP
SCALE: 1" = 2,000'

LOAD SUMMARY		
LOAD	CONNECTED KW	DEMAND KW
PARKING LOT #1	0.384	0.384
PARKING LOT #2	0.384	0.384
PARKING LOT #3	0.960	0.960
ROADWAY	0.960	0.960
MULTI-PURPOSE FIELD #1	44.44	44.44
MULTI-PURPOSE FIELD #2	44.44	44.44
MULTI-PURPOSE FIELD #3	43.68	43.68
LIGHTING SUB-TOTAL	135.25 KW	135.25 KW
30KVA TRANSFORMER	30 KW	30 KW
TOTAL	165.25 KW	165.25 KW

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	GFI RECEPTACLE - 20A., 125V. - MOUNTING HEIGHT 18" UNLESS NOTED OTHERWISE. PROVIDE WITH IN-USE WEATHERPROOF COVER
	PANELBOARD - TYPE AS NOTED - MOUNTING HEIGHT 6'-6" TO TOP
	UNDERGROUND/CONCEALED WIRING AS NOTED
	HOMERUN TO PANEL - NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS AND NUMBER OF CROSSLINES INDICATES NUMBER OF #12 PHASE & NEUTRAL CONDUCTORS - WHERE NO CROSSLINES APPEAR 2#12 CONDUCTORS ARE IMPLIED. GROUND WIRE IS NOT SHOWN BUT REQUIRED. PROVIDE #12 GROUND WIRE UNLESS OTHERWISE INDICATED.
	DISCONNECT SWITCH - FUSED, NON-FUSED - TYPE AND RATING AS INDICATED
	TRANSFORMER - DRY TYPE - RATING AS INDICATED
	SITE LIGHTING FIXTURE - POLE MOUNTED - TYPE AS INDICATED
	SPORTS FIELD LIGHTING FIXTURE - POLE MOUNTED - TYPE AS INDICATED
	DUCTBANK - NUMBER OF DUCTS AS INDICATED
	MEDIUM VOLTAGE HANDHOLE - 3'W x 6'L x 3.5'H
	LOW VOLTAGE HANDHOLE (600V AND BELOW)
	AERIAL POWER TRANSMISSION POLE
	BGE METER
	MAGNETIC STARTER, COMBINATION TYPE STARTER - TYPE AND RATING AS INDICATED
	MOTOR - HORSEPOWER AS NOTED

ABBREVIATIONS

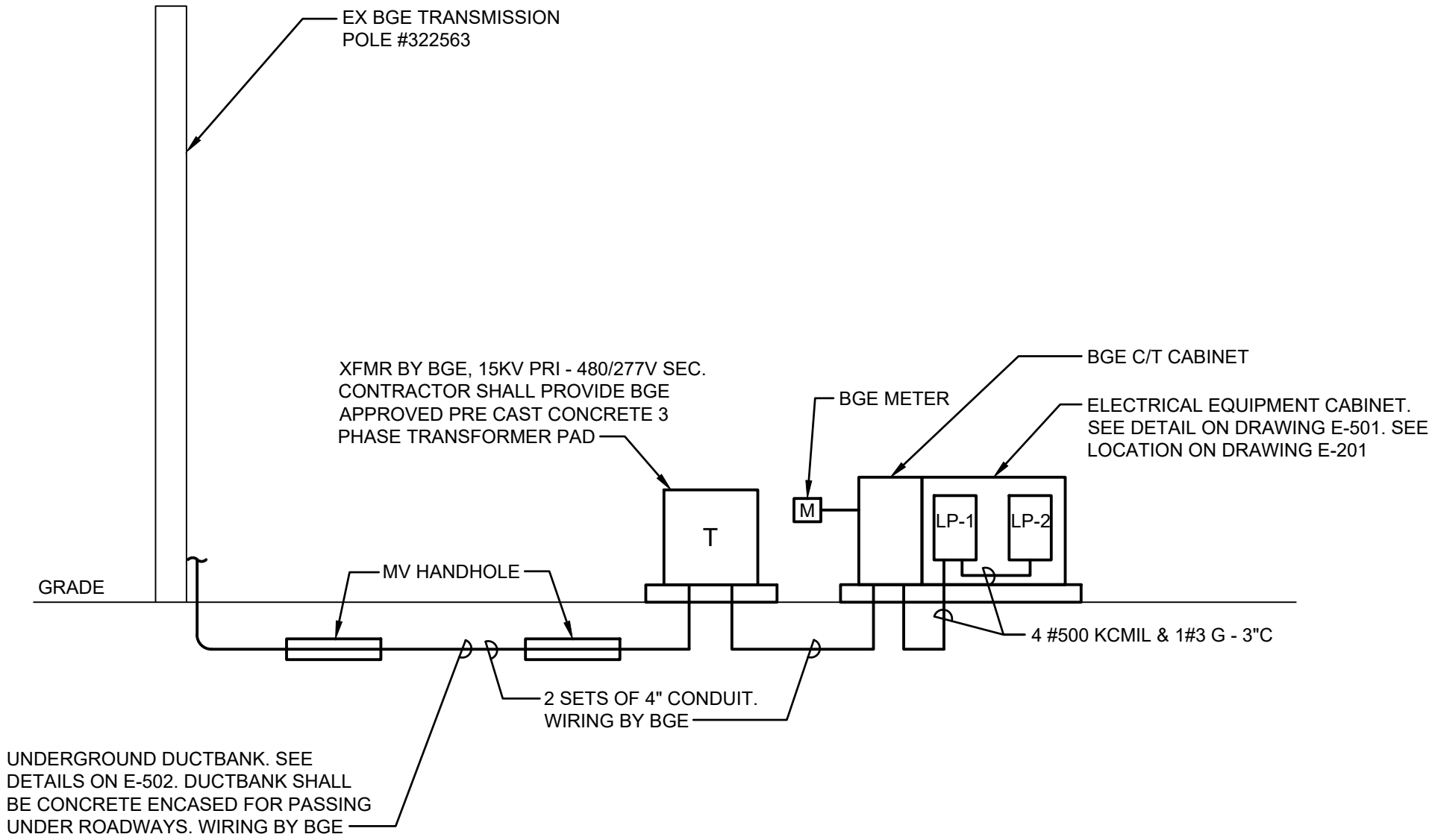
A	AMPERE
AC	ALTERNATING CURRENT
AFG	ABOVE FINISHED GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
BGE	BALTIMORE GAS & ELECTRIC
C	CONDUIT
CB	CIRCUIT BREAKER
C/T	CURRENT TRANSFORMER
CU	COPPER
D	DEEP
DIA, Ø	DIAMETER
DISC	DISCONNECT
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
EX	EXISTING
F	FUSED OR FUSIBLE
FLA	FULL LOAD AMPERES
G	GROUND
GFI	GROUND FAULT INTERRUPTER
HOA	HAND-OFF-AUTOMATIC
ID	INNER DIAMETER
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KV	KILO-VOLTS
KVA	KILO-VOLTS-AMPERES
KW	KILOWATTS
LTG	LIGHTING
M.H.	MOUNTING HEIGHT
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MV	MEDIUM VOLTAGE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NO, #	NUMBER
N.O.	NORMALLY OPEN
P	POLE (1P., 2P., 3P.)
PF	POWER FACTOR
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
SEC	SECONDARY
SPD	SURGE PROTECTIVE DEVICE
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
V	VOLTS
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL NOTES: (APPLY TO ALL ELECTRICAL DRAWINGS)

- ALL WIRE SIZES SHOWN ARE FOR COPPER CONDUCTORS.
- AMPACITY FOR CONDUCTORS 100 AMPS AND LESS SHALL BE BASED ON THE 60 DEGREE C AMPACITY RATING AS DEFINED BY THE NATIONAL ELECTRICAL CODE. CONDUCTORS FOR AMPACITIES GREATER THAN 100 AMPS SHALL BE BASED ON THE 75 DEGREE C RATING AS DEFINED BY THE NATIONAL ELECTRICAL CODE.
- ELECTRICAL EQUIPMENT SUITABLE FOR EXTERIOR USE SHALL BE NEMA 3R RATED UNLESS OTHERWISE INDICATED.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES IN FORCE AT THE TIME OF CONSTRUCTION.
- ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL EQUIPMENT INSTALLATION WITH OTHER TRADES.
- FEEDER TAPS TO PARALLEL CONDUCTORS SHALL TAP ALL PARALLEL CONDUCTORS.
- FOR PARALLEL CONDUCTORS, DO NOT RUN ALL OF THE SAME PHASES IN A SINGLE CONDUIT. EACH PARALLELED CONDUIT SHALL CONSIST OF ALL THREE PHASE WIRES, NEUTRAL AND GROUND, AS APPLICABLE.
- THE CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING WORK PRIOR TO FABRICATION AND INSTALLATION OF NEW MATERIAL.
- THE CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL USE GROUND PENETRATING RADAR TO EXAMINE FOR UTILITIES AND STRUCTURAL MEMBERS. IF ANY OBSTRUCTIONS ARE FOUND, THE CONTRACTOR SHALL MOVE TO ANOTHER LOCATION FREE OF OBSTRUCTIONS.
- THE CONTRACTOR SHALL EXERCISE CARE WHEN WORKING NEAR AREAS THAT ARE EXISTING TO REMAIN. IF THE CONTRACTOR DAMAGES ANY OF THOSE AREAS DURING THE COURSE OF CONSTRUCTION, REPAIR IN-KIND WITHOUT CHARGE TO THE OWNER.
- A SEPARATE GROUND AND NEUTRAL WIRE SHALL BE RUN WITH EACH FEEDER AND BRANCH CIRCUIT. GROUND WIRE SHALL BE SIZED AS REQUIRED BY THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE INDICATED.
- PROVIDE AN UNGROUNDED CONDUCTOR (NEUTRAL) TO ALL LIGHTING CONTROL SWITCH LOCATIONS. TERMINATE WIRE FOR FUTURE USE IF NOT USED FOR THE CURRENT PROJECT.
- COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.

SUPPLEMENTAL GROUNDS FOR NEW FIELD LIGHTING POLES NOTE:

- PROVIDE 10'-0" LONG x 3/4" DIAMETER GROUND ROD FOR EACH POLE TO AUGMENT THE GROUND CONDUCTOR EXTENDED WITH THE BRANCH CIRCUITS. PROVIDE EXOTHERMIC WELD CONNECTIONS AT ALL GROUND RODS AND ALL SPLICING OF GROUND CONDUCTORS.



ONE-LINE DIAGRAM
NOT TO SCALE

95% SUBMISSION - NOT FOR CONSTRUCTION

E-001



EBL ENGINEERS, LLC

Mechanical - Electrical - Fire Protection

8005 Harford Road, Baltimore, Maryland 21234-5701

Tel: (410) 668-8000 E-mail: ebl@eblengineers.com

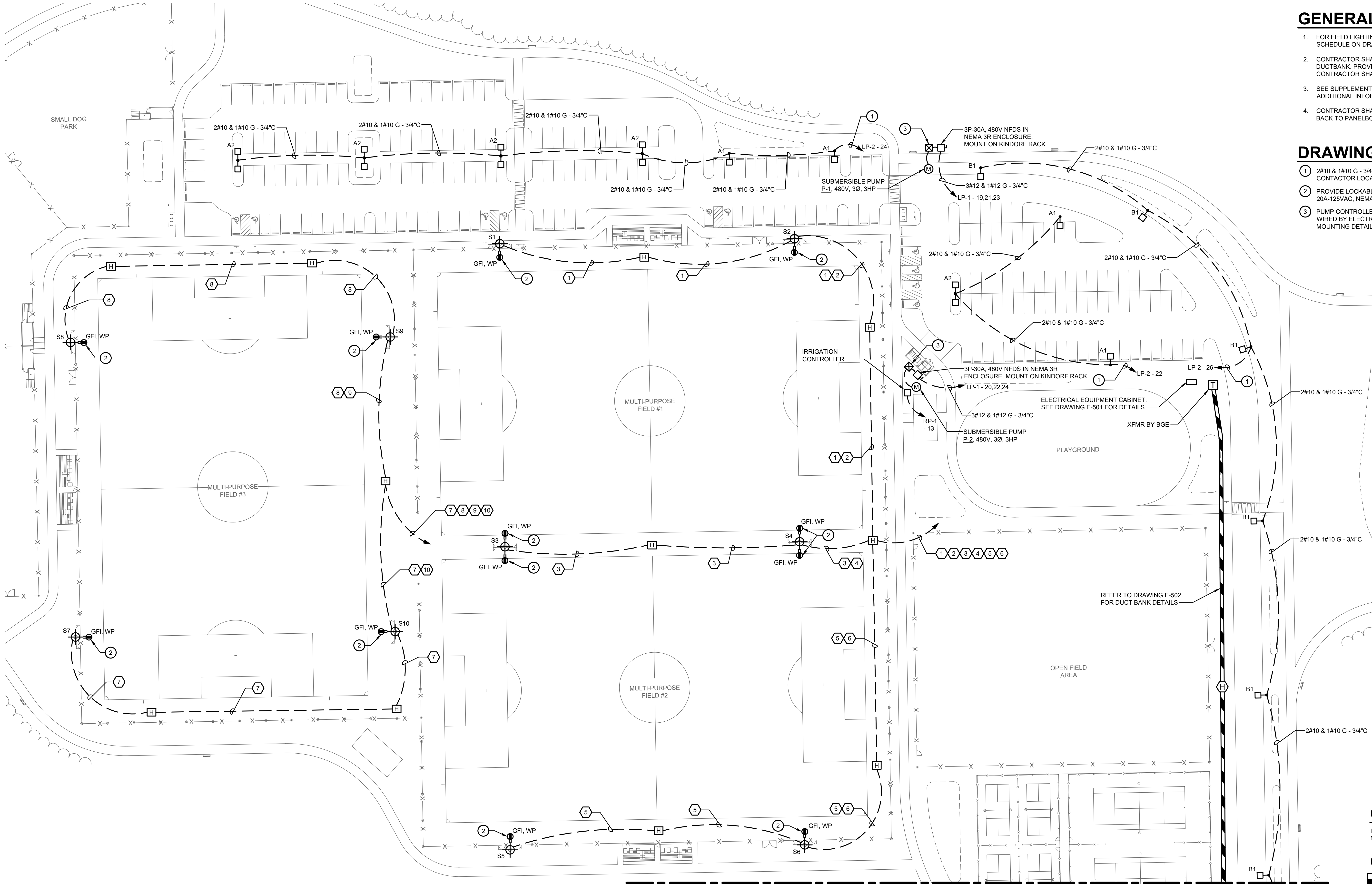
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License # 32051 Expiration Date: 06/20/25

REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE:	AS INDICATED	DRAWN BY:	TJM
CHECKED BY:	RN	SHEET NO.	51 OF 58
PROJECT NO.:	P567100	CONTRACT NO.:	P56702
MILLERSVILLE PARK			
ELECTRICAL LEGEND, NOTES, ABBREVIATIONS AND ONE-LINE DIAGRAM			



GENERAL NOTES: (APPLY TO THIS DRAWING ONLY)

1. FOR FIELD LIGHTING AND RECEPTACLE FEEDER SIZES, SEE FEEDER SCHEDULE ON DRAWING E-601.
2. CONTRACTOR SHALL PROVIDE TRENCHING, BACKFILL AND CONDUITS IN DUCTBANK. PROVIDE CABLE PULLING ROPE IN EACH DUCT FOR BGE USE. CONTRACTOR SHALL COMPLY WITH BGE STANDARDS.
3. SEE SUPPLEMENTAL MUSCO SUPPORTING DOCUMENTATION FOR ADDITIONAL INFORMATION ON FIELD LIGHTING.
4. CONTRACTOR SHALL INSTALL ADDITIONAL HANDHOLES FROM HOMERUN BACK TO PANELBOARD AS REQUIRED.

DRAWING NOTES: (APPLY TO THIS DRAWING ONLY)

- ① 2#10 & 1#10 G - 3/4" C. ROUTE BRANCH CIRCUIT THROUGH LIGHTING CONTACTOR LOCATED IN ELECTRICAL EQUIPMENT CABINET.
- ② PROVIDE LOCKABLE, WEATHERPROOF, GROUND FAULT INTERRUPTING, 20A-125VAC, NEMA 5-20R RECEPTACLE MOUNTED 7'-0".
- ③ PUMP CONTROLLER PROVIDED BY CIVIL CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. MOUNT ON KINDORF RACK. SEE MOUNTING DETAIL ON DRAWING E-502.

CAUTION:

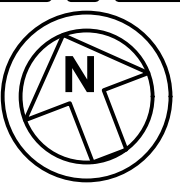
IF THIS PLAN IS A REDUCTION, GRAPHIC SCALES MUST BE USED.

GRAPHIC SCALE



SITE PLAN - ELECTRICAL WORK

SCALE: 1" = 40'-0"



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E-201



EBL ENGINEERS, LLC

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REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE: AS INDICATED		DRAWN BY: TJM	
CHECKED BY: RN		SHEET NO. 52 OF 58	
PROJECT NO.: P567100		CONTRACT NO.: P56702	

MILLERSVILLE PARK

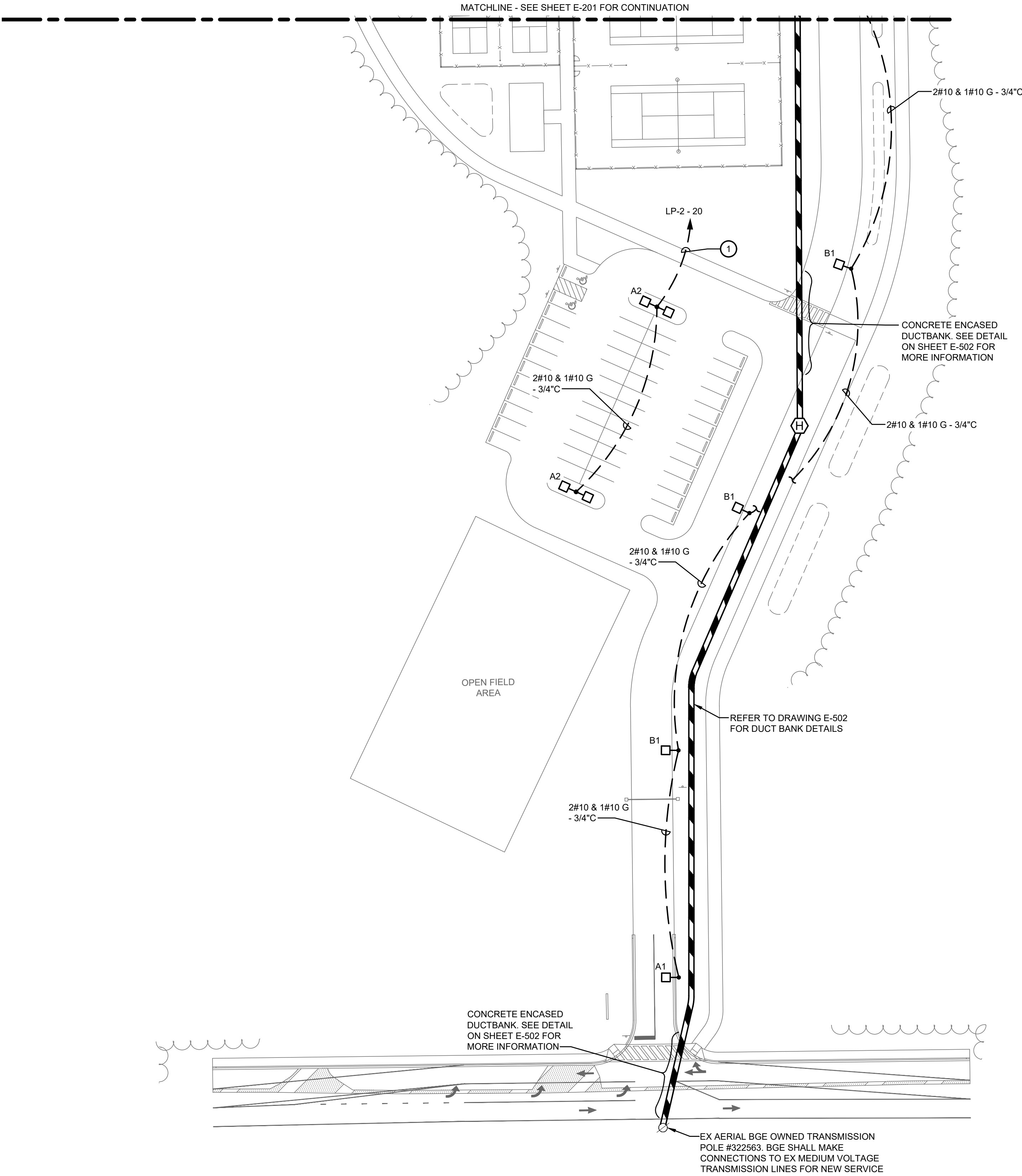
ELECTRICAL SITE PART PLAN

GENERAL NOTES: (APPLY TO THIS DRAWING ONLY)

1. CONTRACTOR SHALL PROVIDE TRENCHING, BACKFILL AND CONDUITS IN DUCTBANK. PROVIDE CABLE PULLING ROPE IN EACH DUCT FOR BGE USE. CONTRACTOR SHALL COMPLY WITH BGE STANDARDS.
2. CONTRACTOR SHALL INSTALL ADDITIONAL HANDHOLES FROM HOMERUN BACK TO PANELBOARD AS REQUIRED.

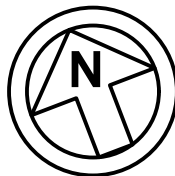
DRAWING NOTES: (APPLY TO THIS DRAWING ONLY)

- ① 2#10 & 1#10 G - 3/4"C. ROUTE BRANCH CIRCUIT THROUGH LIGHTING CONTACTOR LOCATED IN ELECTRICAL EQUIPMENT CABINET.
- ② PROVIDE LOCKABLE, WEATHERPROOF, GROUND FAULT INTERRUPTING, 20A-125VAC, NEMA 5-20R RECEPTACLE MOUNTED 7'-0".



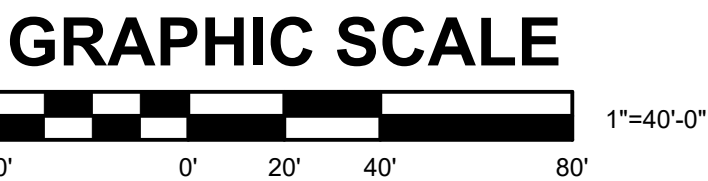
SITE PLAN - ELECTRICAL WORK

SCALE: 1" = 40'-0"



CAUTION:

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E-202



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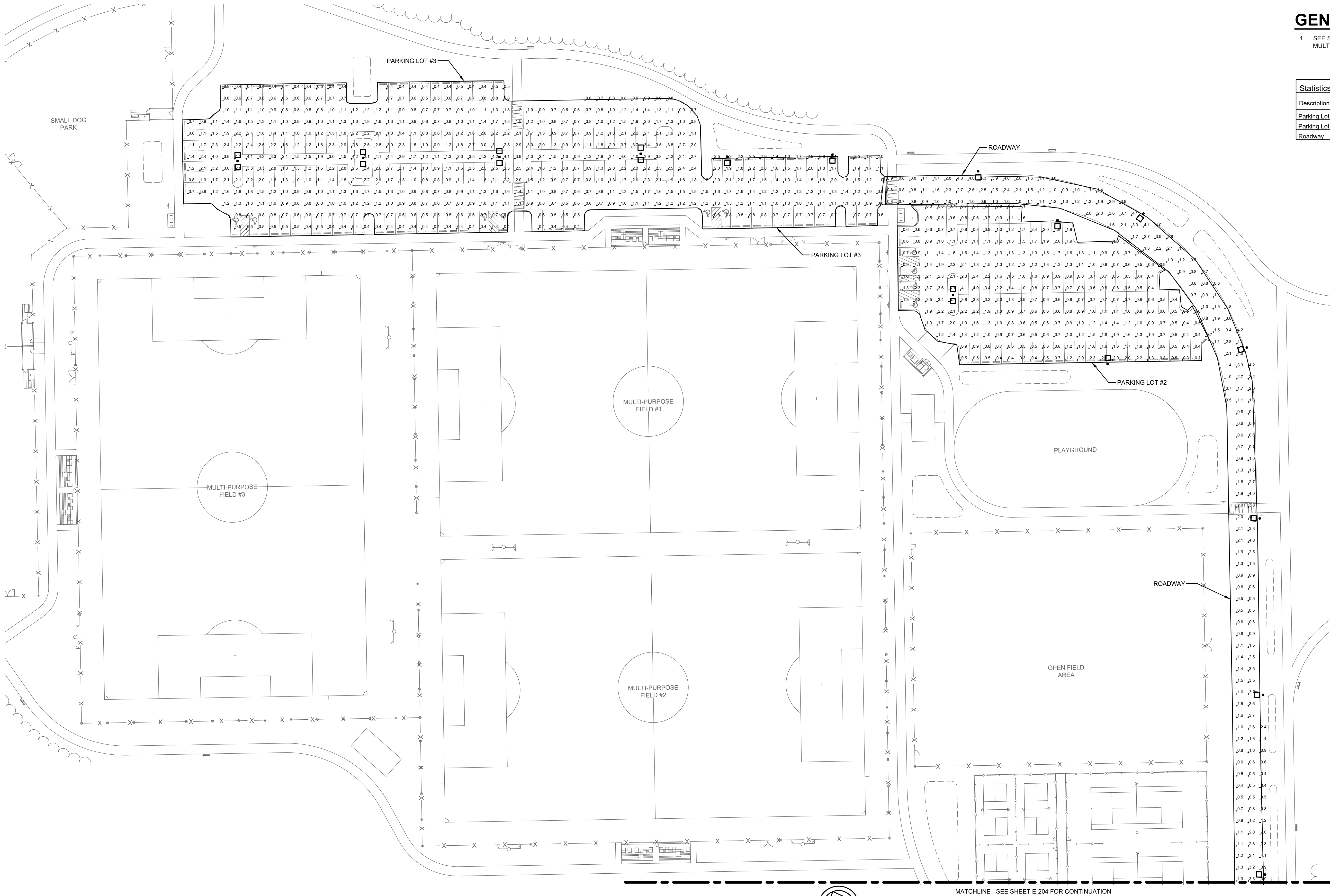
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED		DATE		APPROVED	
DATE		APPROVED		SCALE: AS INDICATED	
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: TJM	
APPROVED		DATE		CHECKED BY: RN	
DATE		APPROVED		SHEET NO. 53 OF 58	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		PROJECT NO.: P567100	
				CONTRACT NO.: P56702	
				MILLERSVILLE PARK	
				ELECTRICAL SITE PART PLAN	

GENERAL NOTES: (APPLY TO THIS DRAWING ONLY)

1. SEE SUPPLEMENTAL MUSCO SUPPORTING DOCUMENTATION FOR MULTI-PURPOSE FIELD LIGHTING CALCULATIONS.

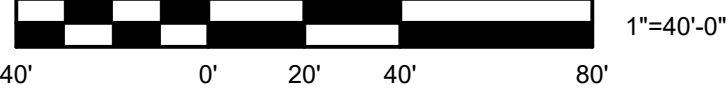
Statistics					
Description	Avg	Max	Min	Max/Min	Avg/Min
Parking Lot 2	1.2 fc	4.1 fc	0.3 fc	13.7:1	4.0:1
Parking Lot 3	1.4 fc	4.5 fc	0.3 fc	15.0:1	4.7:1
Roadway	1.7 fc	4.4 fc	0.4 fc	11.0:1	4.3:1



CAUTION:

IF THIS PLAN IS A REDUCTION, GRAPHIC SCALES MUST BE USED.

GRAPHIC SCALE



SITE PLAN - LIGHTING CALCULATIONS

SCALE: 1" = 40'-0"

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E-203



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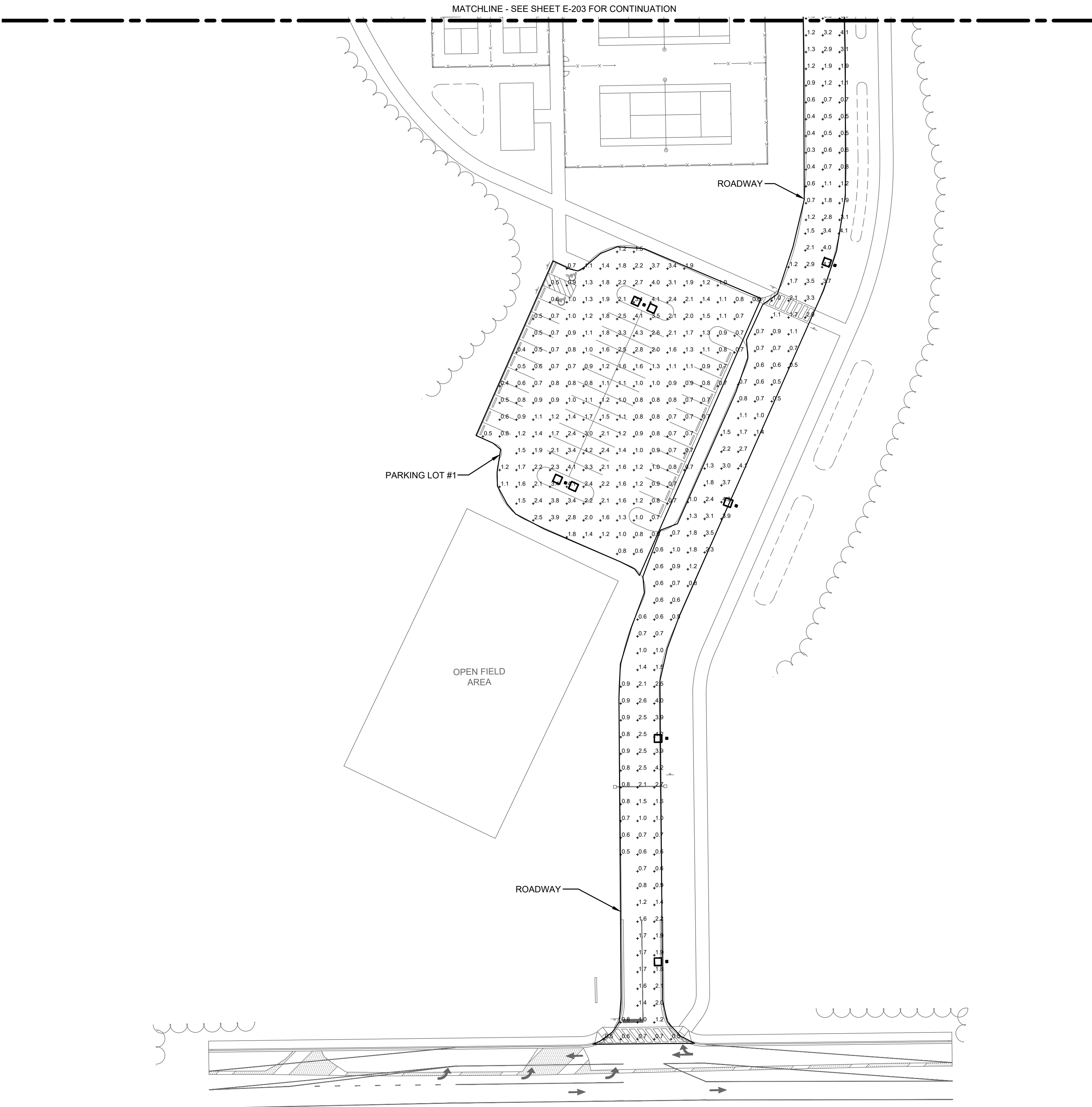
ANNE ARUNDEL COUNTY

DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE:	AS INDICATED
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY:	TJM
APPROVED	DATE	APPROVED	DATE	CHECKED BY:	RN
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		SHEET NO.	54 OF 58
				PROJECT NO.:	P567100
				CONTRACT NO.:	P56702

MILLERSVILLE PARK

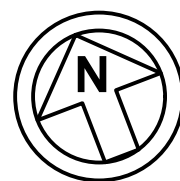
ELECTRICAL LIGHTING CALCULATIONS



Statistics					
Description	Avg	Max	Min	Max/Min	Avg/Min
Parking Lot 1	1.5 fc	4.3 fc	0.4 fc	10.8:1	3.8:1
Roadway	1.7 fc	4.4 fc	0.4 fc	11.0:1	4.3:1

SITE PLAN - LIGHTING CALCULATIONS

SCALE: 1" = 40'-0"



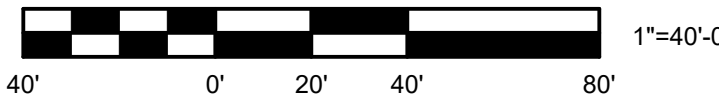
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E-204

CAUTION:

IF THIS PLAN IS A REDUCTION, GRAPHIC SCALES
MUST BE USED.

GRAPHIC SCALE



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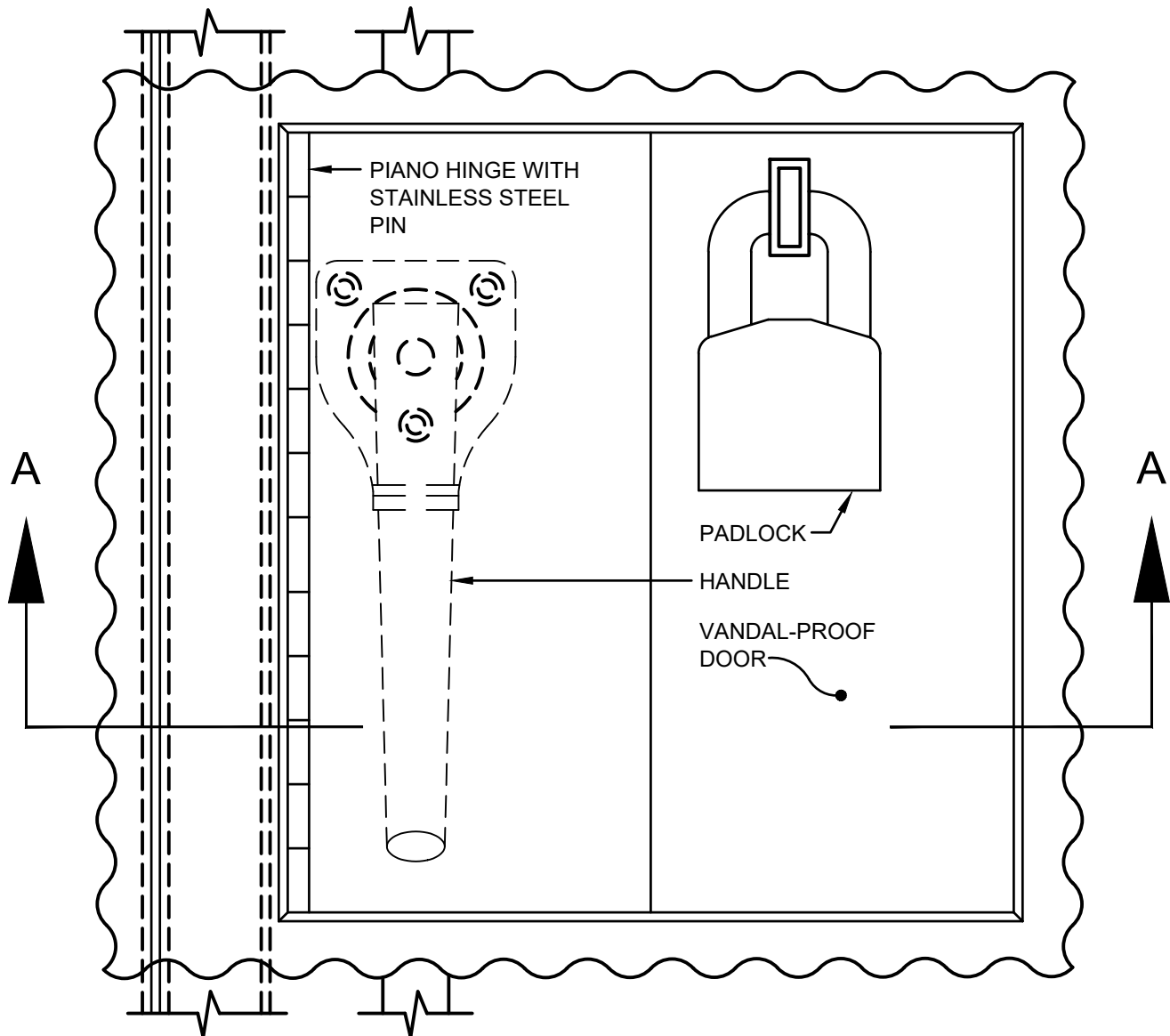
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License # 32051 Expiration Date: 06/20/25

REVISIONS			
NO.	DESCRIPTION	BY	DATE

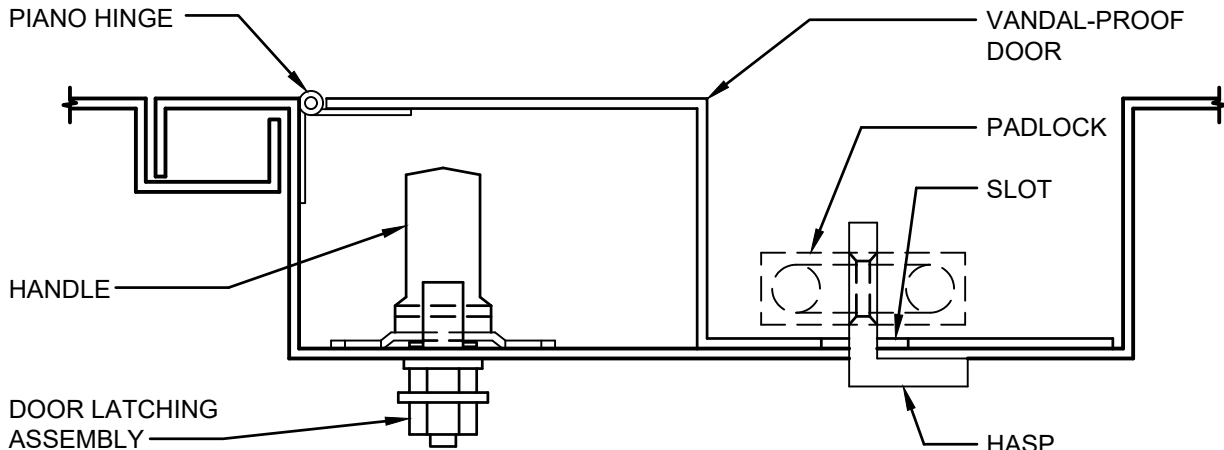
ANNE ARUNDEL COUNTY					
DEPARTMENT OF PUBLIC WORKS					
APPROVED		DATE		APPROVED	
DATE		APPROVED		SCALE: AS INDICATED	
_____		_____		DRAWN BY: TJM	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: RN	
APPROVED		DATE		SHEET NO. 55 OF 58	
_____		_____		PROJECT NO.: P567100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	
				MILLERSVILLE PARK	
				ELECTRICAL LIGHTING CALCULATIONS	

DRAWING NOTES: (APPLY TO THIS DRAWING ONLY)

- 1
- SEE PANEL SCHEDULE ON DRAWING E-601.
- 2
- 30 KVA DRY TYPE TRANSFORMER. 480V-3Ø-3W PRIMARY TO 208Y/120V-3Ø-4W SECONDARY.
- 3
- #6 COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" CONDUIT. CONNECT TO GROUNDING LUG IN WIRE TROUGH.
- 4
- 6P-30A-600V LIGHTING CONTACTOR FOR PARKING & ROADWAY LIGHTING.
- 5
- #1/0 BARE COPPER BONDING JUMPER. MAKE CONNECTION TO REBAR WITH EXOTHERMIC WELD.
- 6
- GROUNDING LUG.
- 7
- #1/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN A 1" CONDUIT.
- 8
- EXOTHERMIC WELD.
- 9
- #1/0 BARE COPPER UFER GROUNDING CONDUCTOR. MINIMUM 20" LONG ENCASED IN CONCRETE SLAB.
- 10
- 3/4" x 10'-0" LONG COPPER-CLAD STEEL GROUND ROD. TOP OF ROD MINIMUM 1'-0" BELOW GRADE.
- 11
- BOND NEUTRAL & GROUND IN THIS PANELBOARD.
- 12
- 3#4 & 1#8 G IN 1-1/4" C.
- 13
- 4#1 & 1#8 G IN 1-1/2" C.



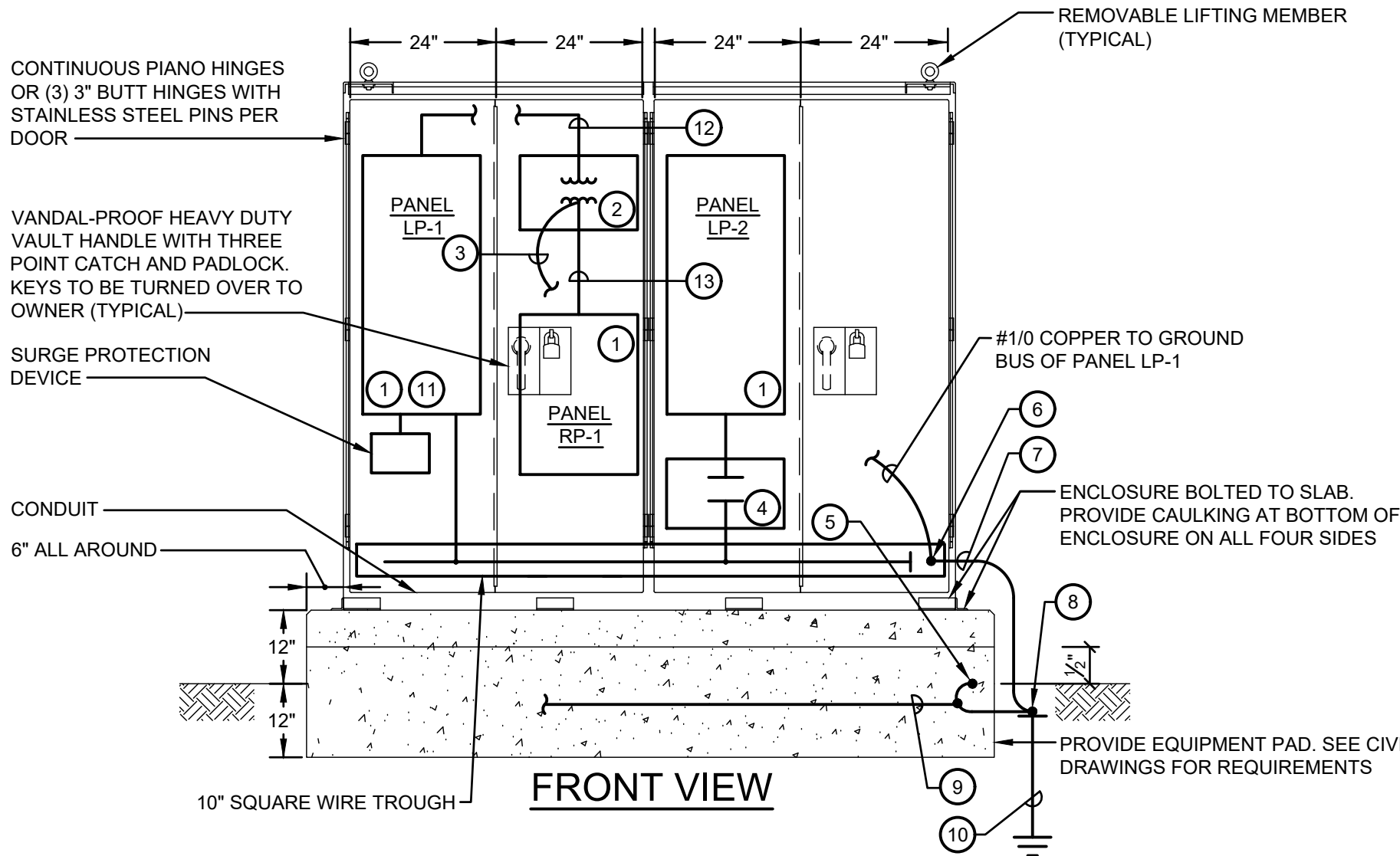
FRONT VIEW



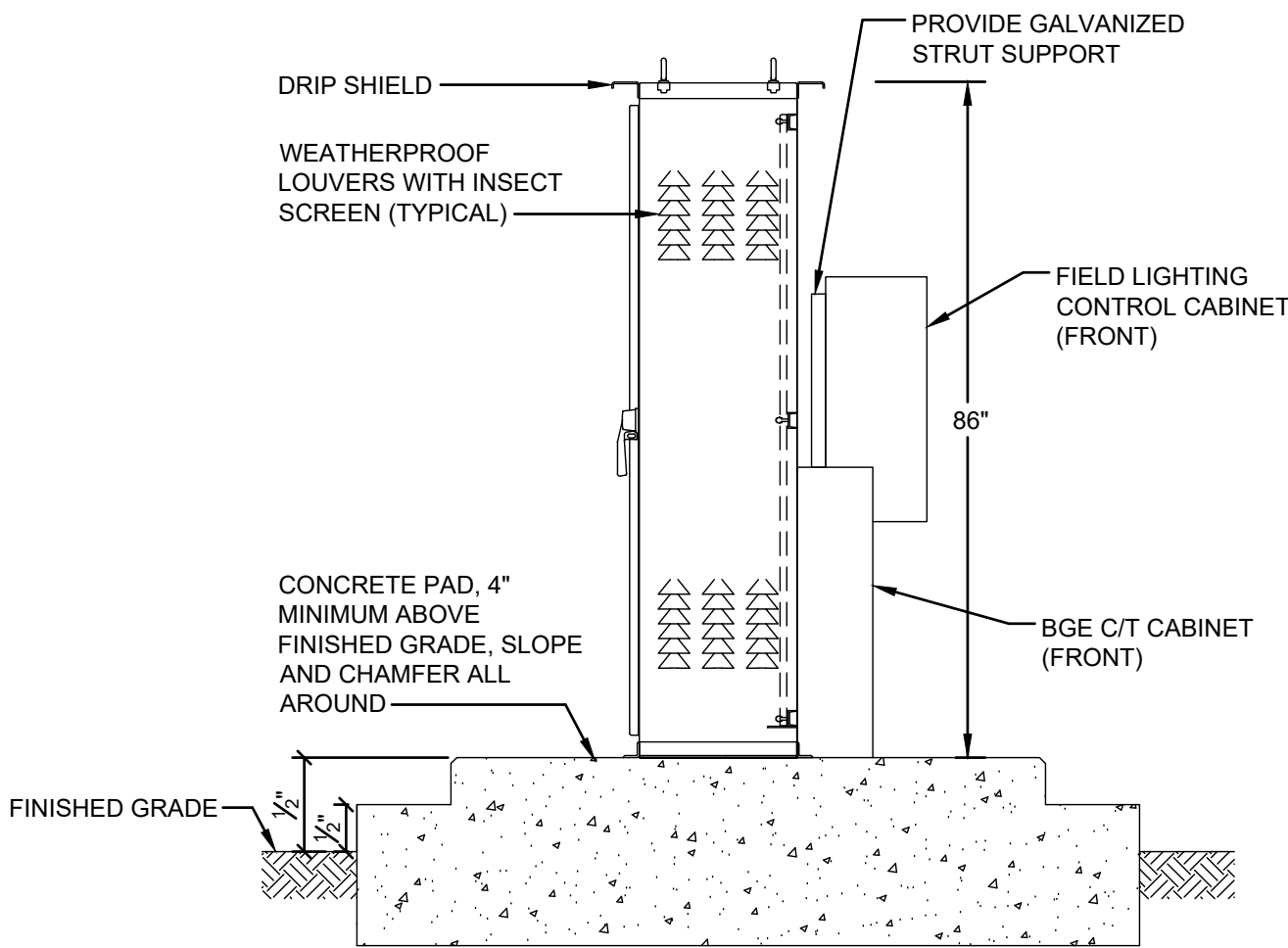
SECTION 'A-A'

VANDAL-PROOF DOOR HANDLE DETAIL (TYPICAL)

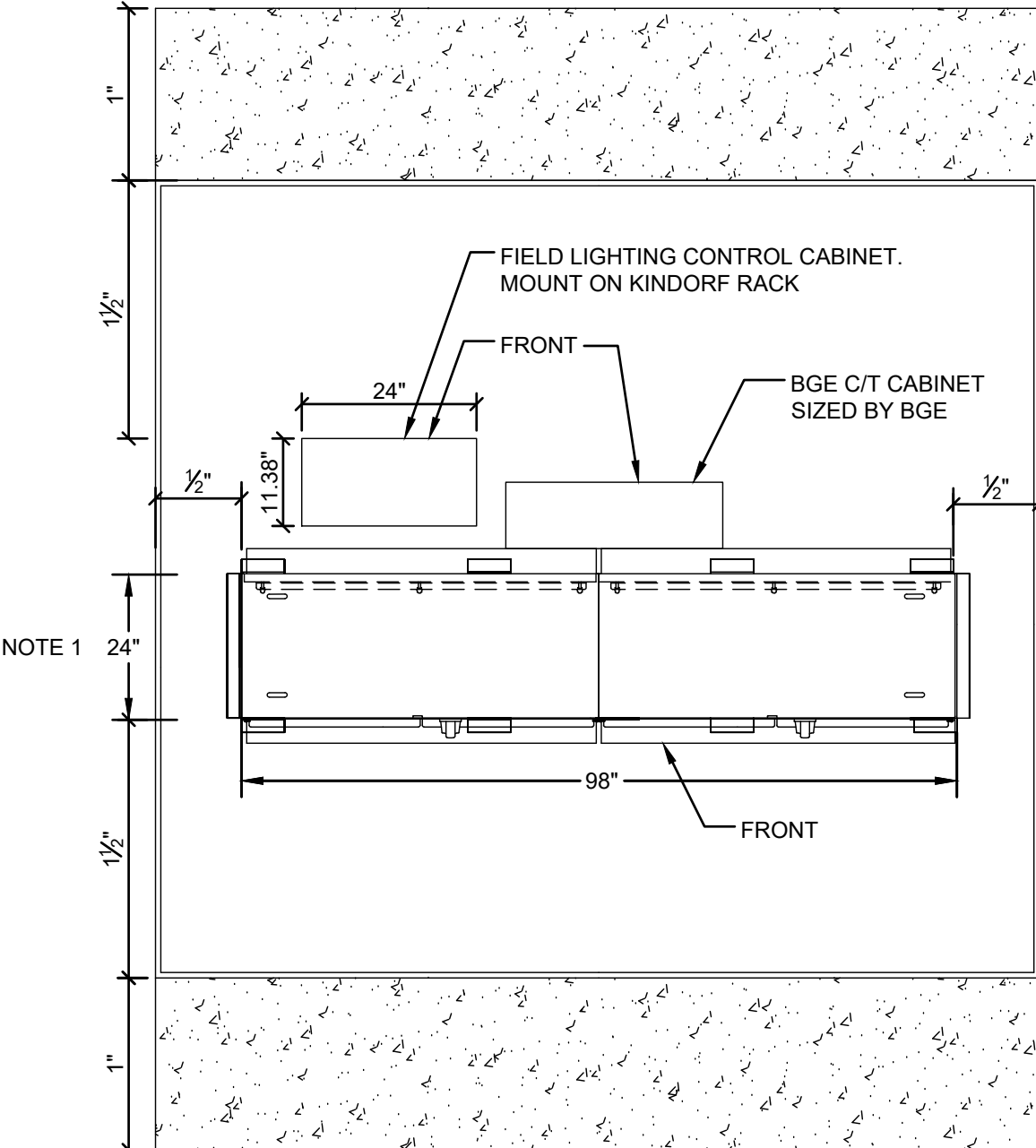
NO SCALE



FRONT VIEW



SIDE VIEW



TOP VIEW

LIGHTING CONTROL CABINET INTERIOR VIEW GENERAL NOTES:

1.
- LAYOUT IS APPROXIMATE AND MAY BE MODIFIED AS DESIRED TO SUIT EQUIPMENT FURNISHED.
2.
- PROVIDE EXHAUST FAN, HEATER, THERMOSTAT, GROUND ROD, LIGHTNING ARRESTER, GFI RECEPTACLE, LIGHT AND SWITCH. THESE ITEMS ARE NOT SHOWN FOR CLARITY, BUT SHALL BE PROVIDED AS PER MANUFACTURERS RECOMMENDATIONS OR AS SPECIFIED ON DRAWINGS.

NEW ELECTRICAL EQUIPMENT CABINET DETAILS

NO SCALE

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E-501



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ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY	
SCALE:	AS INDICATED	MILLERSVILLE PARK	
DRAWN BY:	TJM	ELECTRICAL DETAILS	
CHECKED BY:	RN		
SHEET NO.	56 OF 58		
PROJECT NO.:	P567100		
CONTRACT NO.:	P56702		

1. SEE SUPPLEMENTARY MUSCO SUPPORTING DOCUMENTATION FOR MULTI-PURPOSE FIELD POLE LIGHTING DETAILS.



NO SCALE



NO SCALE



NO SCALE



NO SCALE



NO SCALE

NOTE:

- NOTE 1. SEE DRAWINGS E-201 FOR LOCATIONS OF HANDBOXES. DIMENSIONS INDICATED ARE MINIMUM. SIZE HANDBOXES BASED ON NUMBER AND SIZES OF CONDUITS REQUIRED PER LOCATION.
2. PROVIDE STANDARD HANDBOX FOR USE IN GRASS AREAS AS DETAILED ABOVE.
3. PROVIDE SPORTSFIELD SPECIALTIES COMBOX SERIES HANDBOX FOR USE IN SYNTHETIC TURF AREAS.

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E-502



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REVISIONS				ANNE ARUNDEL COUNTY					
NO.	DESCRIPTION	BY	DATE	DEPARTMENT OF PUBLIC WORKS					
				APPROVED	DATE	APPROVED	DATE	SCALE: AS INDICATED	MILLERSVILLE PARK
								DRAWN BY: TJM	
				CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: RN	ELECTRICAL DETAILS
				APPROVED	DATE	APPROVED	DATE	SHEET NO. 57 OF 58	
								PROJECT NO.: P567100	
				ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT-OF-WAY		CONTRACT NO.: P56702	

LIGHTING FIXTURE SCHEDULE							
TYPE	MOUNTING	VOLTS	LAMPS NUMBER & TYPE	NOMINAL LUMENS	NOMINAL FIXTURE WATTS	MANUFACTURER & CAT.# (OR APPROVED EQUAL)	DESCRIPTION
A1	POLE	277	LED	13,100	96	COOPER PRV-C25-D-UNV-T4-SA-AP	SINGLE LED PARKING LOT FIXTURE W/ UNIVERSAL VOLTAGE, TYPE IV OPTICS. PROVIDE WITH 20'-0" HIGH STRAIGHT ROUND STEEL POLE LITHONIA CATALOG NUMBER RSS-20-4B-DM19. FINISH POLE TO MATCH LIGHTING FIXTURE.
A2	POLE	277	LED	26,200	192	COOPER PRV-C25-D-UNV-T4-SA-AP	DOUBLE LED PARKING LOT FIXTURE W/ UNIVERSAL VOLTAGE, TYPE IV OPTICS. PROVIDE WITH 20'-0" HIGH STRAIGHT ROUND STEEL POLE LITHONIA CATALOG NUMBER RSS-20-4B-DM28. FINISH POLE TO MATCH LIGHTING FIXTURE.
B1	POLE	277	LED	13,100	96	COOPER PRV-C25-D-UNV-T2-SA-AP	SINGLE LED PARKING LOT FIXTURE W/ UNIVERSAL VOLTAGE, TYPE II OPTICS. PROVIDE WITH 20'-0" HIGH STRAIGHT ROUND STEEL POLE LITHONIA CATALOG NUMBER RSS-20-4B-DM19. FINISH POLE TO MATCH LIGHTING FIXTURE.
S1-S10	POLE	480, 3Φ	LED	SEE DESCRIPTION	SEE DESCRIPTION	MUSCO TLC-LED	POLE MOUNTED SPORTS LIGHTING FIXTURE. SEE MUSCO SUPPLEMENTAL SUPPORTING DOCUMENTATION FOR MORE INFORMATION.

FEEDER SCHEDULE					
MULTI-PURPOSE FIELD LIGHTING & RECEPTACLES					
DESIGN ◯	POLE	LOAD	NUMBER OF CIRCUITS	WIRE SIZES	CONDUIT SIZE
1	S1	LIGHTS FIELD 1	1	3 #6 & 1 #6 G	1"
1		RECEPTS FIELD 1	1	2 #8 & 1 #8 G	
2	S2	LIGHTS FIELD 1	1	3 #6 & 1 #6 G	1"
2		RECEPTS FIELD 1	1	2 #8 & 1 #8 G	
3	S3	LIGHTS FIELD 1	1	3 #6 & 1 #6 G	1"
3		RECEPTS FIELD 1	1	2 #8 & 1 #8 G	
3		LIGHTS FIELD 2	1	3 #6 & 1 #6 G	1"
3		RECEPTS FIELD 2	1	2 #8 & 1 #8 G	
4	S4	LIGHTS FIELD 1	1	3 #8 & 1 #8 G	1"
4		RECEPTS FIELD 1	1	2 #8 & 1 #8 G	
4		LIGHTS FIELD 2	1	3 #8 & 1 #8 G	1"
4		RECEPTS FIELD 2	1	2 #8 & 1 #8 G	
5	S5	LIGHTS FIELD 2	1	3 #6 & 1 #6 G	1"
5		RECEPTS FIELD 2	1	2 #8 & 1 #8 G	
6	S6	LIGHTS FIELD 2	1	3 #6 & 1 #6 G	1"
6		RECEPTS FIELD 2	1	2 #8 & 1 #8 G	
7	S7	LIGHTS FIELD 3	1	3 #4 & 1 #4 G	1-1/4"
7		RECEPTS FIELD 3	1	2 #6 & 1 #6 G	
8	S8	LIGHTS FIELD 3	1	3 #4 & 1 #4 G	1-1/4"
8		RECEPTS FIELD 3	1	2 #6 & 1 #6 G	
9	S9	LIGHTS FIELD 3	1	3 #6 & 1 #6 G	1"
9		RECEPTS FIELD 3	1	2 #8 & 1 #8 G	
10	S10	LIGHTS FIELD 3	1	3 #6 & 1 #6 G	1"
10		RECEPTS FIELD 3	1	2 #8 & 1 #8 G	
NOTE: WIRE SIZES ARE CALCULATED FOR VOLTAGE DROP BASED ON COPPER CONDUCTORS.					

PANEL SCHEDULE 'LP-1'																	
480/277 VOLTS - 3 PHASE - 4 WIRE - SURFACE MOUNTED																	
CIR	FOR	BREAKER		AMPERES/PHASE						CIR	FOR	BREAKER					
		POLE	TRIP	A	B	C						POLE	TRIP				
1	S1 LIGHTS - FIELD 1	3	30	16.7	16.8	-	-	-	-	2	S2 LIGHTS - FIELD 1	3	30				
3				-	-	16.7	16.8	-	-	4							
5				-	-	-	-	16.7	16.8	6							
7				-	-	-	-	-	-	8							
9	S3 LIGHTS - FIELD 1	3	30	17.2	17.2	-	-	-	-	10	S3 LIGHTS - FIELD 2	3	30				
11				-	-	17.2	17.2	-	-	12							
13				-	-	-	-	17.2	17.2	14							
15				-	-	17.2	17.2	-	-	16							
17	S4 LIGHTS - FIELD 1	3	30	-	-	-	-	17.2	17.2	18	S4 LIGHTS - FIELD 2	3	30				
19				-	-	-	-	-	-	20							
21				-	-	4.8	4.8	-	-	22							
23				-	-	-	-	4.8	4.8	24							
25	PUMP P-1	3	15	36.1	0.0	-	-	-	-	26	PUMP P-2	3	15				
27				-	-	36.1	0.0	-	-	28							
29				-	-	-	-	36.1	0.0	30							
31				-	-	-	-	-	-	32							
33	SPACE	1	-	0.0	0.0	-	-	-	-	34	SPACE	1	20				
35	SPACE	1	-	-	-	0.0	0.0	-	-	36	SPACE	1	20				
37	SURGE PROTECTION DEVICE	3	20	0.0	0.0	-	-	-	-	38	SPACE	1	-				
39				-	-	0.0	0.0	-	-	40	SPACE	1	-				
41				-	-	-	-	0.0	0.0	42	SPACE	1	-				
				92.0	56.0	92.0	56.0	92.0	56.0								
TOTALS				A=	148.0	B=	148.0	C=	148.0								
MAIN BREAKER 400 AMPERE W/ FEED THRU LUGS																	
MINIMUM AIC RATING = 30,000 AMPERES SYMMETRICAL																	
SERVICE ENTRANCE RATED																	
											CONNECTED LOAD 123 KVA						

PANEL SCHEDULE 'LP-2'													
480/277 VOLTS - 3 PHASE - 4 WIRE - SURFACE MOUNTED													
CIR	FOR	BREAKER		AMPERES/PHASE						CIR	FOR	BREAKER	
		POLE	TRIP	A	B	C						POLE	TRIP
1	S5 LIGHTS - FIELD 2	3	30	16.2	17.4	-	-	-	-	2	S6 LIGHTS - FIELD 2	3	30
3				-	-	16.2	17.4	-	-	4			
5				-	-	-	-	16.2	17.4	6			
7				-	-	-	-	-	-	8			
9	S7 LIGHTS - FIELD 3	3	30	-	-	17.3	17.3	-	-	10	S8 LIGHTS - FIELD 3	3	30
11				-	-	-	-	17.3	17.3	12			
13				-	-	17.3	17.3	-	-	14			
15				-	-	-	-	-	-	16			
17	S9 LIGHTS - FIELD 3	3	30	-	-	-	-	17.3	17.3	18	S10 LIGHTS - FIELD 3	3	30
19				0.0	1.4	-	-	-	-	20			
21				-	-	0.0	1.4	-	-	22			
23				-	-	-	-	0.0	3.5	24			
25	SPARE	1	20	0.0	3.5	-	-	-	-	26	ROADWAY LIGHTS	1	20
27	SPARE	1	20	-	-	0.0	0.0	-	-	28	SPARE	1	20
29	SPARE	1	20	-	-	-	-	0.0	0.0	30	SPARE	1	20
31	SPARE	1	20	0.0	0.0	-	-	-	-	32	SPARE	1	20
33	SPARE	1	20	-	-	0.0	0.0	-	-	34	SPARE	1	20
35	SPACE	1	-	-	-	-	-	0.0	0.0	36	SPACE	1	-
37	SPACE	1	-	0.0	0.0	-	-	-	-	38	SPACE	1	-
39	SPACE	1	-	-	-	0.0	0.0	-	-	40	SPACE	1	-
41	SPACE	1	-	-	-	-	-	0.0	0.0	42	SPACE	1	-
				50.8	56.9	50.8	53.4	50.8	55.5				
TOTALS				A=	107.7	B=	104.2	C=	106.3				
MAIN LUGS ONLY - 400 AMPERE MINIMUM AIC RATING = 30,000 AMPERES SYMMETRICAL													
											CONNECTED LOAD 88 KVA		

PANEL SCHEDULE 'RP-1'													
208/120 VOLTS - 3 PHASE - 4 WIRE - SURFACE MOUNTED													
CIR	FOR	BREAKER		AMPERES/PHASE						CIR	FOR	BREAKER	
		POLE	TRIP	A	B	C						POLE	TRIP
1	S1 RECEPTACLE	1	20	1.5	1.5	-	-	-	-	2	S5 RECEPTACLE	1	20
3	S2 RECEPTACLE	1	20	-	-	1.5	1.5	-	-	4	S6 RECEPTACLE	1	20
5	S3 RECEPTACLE	1	20	-	-	-	-	1.5	1.5	6	S7 RECEPTACLE	1	20
7	S3 RECEPTACLE	1	20	1.5	1.5	-	-	-	-	8	S8 RECEPTACLE	1	20
9	S4 RECEPTACLE	1	20	-	-	1.5	1.5	-	-	10	S9 RECEPTACLE	1	20
11	S4 RECEPTACLE	1	20	-	-	-	-	1.5	1.5	12	S10 RECEPTACLE	1	20
13	IRRIGATION CONTROLLER	1	20	1.9	0.0	-	-	-	-	14	SPARE	1	20
15	FIELD LIGHTING CONTROLLER	1	20	-	-	3.5	0.0	-	-	16	SPARE	1	20
17	SPARE	1	20	-	-	-	-	0.0	0.0	18	SPARE	1	20
19	SPARE	1	20	0.0	0.0	-	-	-	-	20	SPARE	1	20
21	SPARE	1	20	-	-	0.0	0.0	-	-	22	SPARE	1	20
23	SPACE	1	-	-	-	-	-	0.0	0.0	24	SPACE	1	-
25	SPACE	1	-	0.0	0.0	-	-	-	-	26	SPACE	1	-
27	SPACE	1	-	-	-	0.0	0.0	-	-	28	SPACE	1	-
29	SPACE	1	-	-	-	-	-	0.0	0.0	30	SPACE	1	-
				4.9	3.0	6.5	3.0	3.0	3.0				
TOTALS				A=	7.9	B=	9.5	C=	6.0				
MAIN BREAKER 100 AMPERE MINIMUM AIC RATING = 18,000 AMPERES SYMMETRICAL													
											CONNECTED LOAD 2.8 KVA		

95% SUBMISSION - NOT FOR CONSTRUCTION

E-601



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