

NON-TIDAL WETLANDS LINE TABLE		
L1	N30°48'00"E	15.64'
L2	N85°43'28"E	13.44'
L3	S40°04'38"E	7.51'
L4	S45°46'40"W	29.83'
L5	N09°44'44"W	9.44'

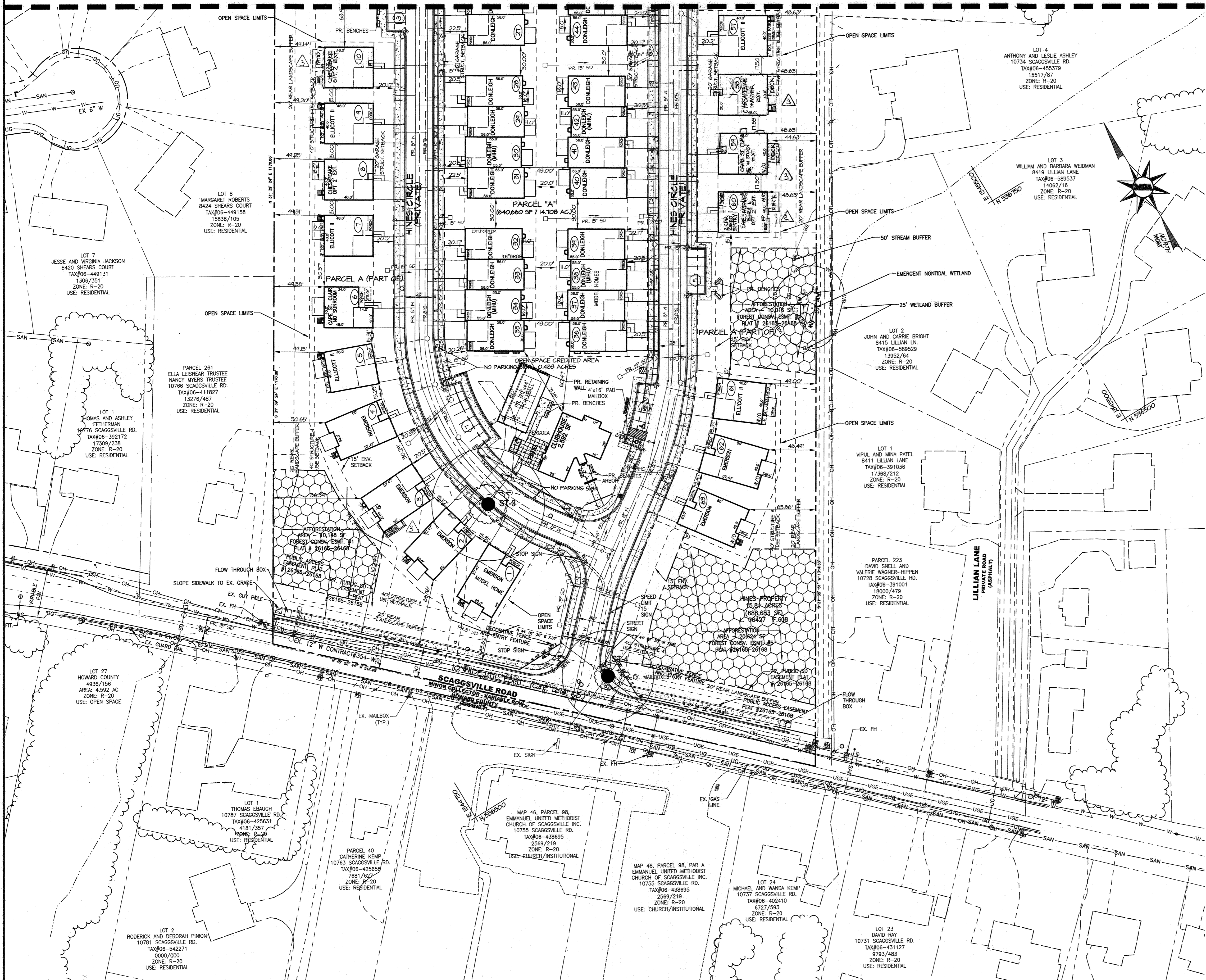
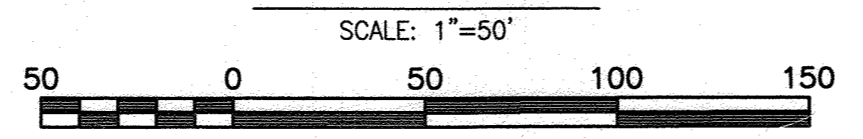
LEGEND

---	EX. PROPERTY LINE	---	PR. RIGHT OF WAY
---	EX. RIGHT-OF-WAY	---	PR. LOT LINE/PARCEL LINE
---	EX. ADJACENT PROPERTY LINE	---	PR. EASEMENT
---	EX. EASEMENT	---	PR. OPEN SPACE EASEMENT
---	EX. NON-TIDAL WETLAND	---	PR. BUILDING
---	EX. WETLAND BUFFER	---	PR. CURB & GUTTER
---	EX. NON-TIDAL WETLAND	---	PR. ROAD CENTER LINE
---	EX. BUILDING	---	PR. CONC SIDEWALK
---	EX. CURB	---	PR. HANDICAP RAMP
---	EX. PAVEMENT/EDGE OF GUTTER	---	PR. CONC SIDEWALK
---	EX. WALL	---	PR. UNIT NUMBER
---	EX. WALK	---	PR. CURB RADIUS
---	EX. CONCRETE	---	PR. STREET LIGHT (LED-100 COLONIAL)
---	EX. METAL FENCE	---	PR. STREET LIGHT (LED-150 COLONIAL)
---	EX. WOOD FENCE	---	PR. LED-150 CORNHORN FIXTURE MOUNTED ON A 30 FT BRONZE FIBERGLASS POLE USING A 6 FT ARM
---	EX. GUARDRAIL	---	PR. TREE LINE
---	EX. STREAM/POND	---	PR. DECORATIVE FENCE/ENTRY FEATURE
---	EX. TREE LINE	---	PR. MAILBOXES
---	EX. SPECIMEN TREE	---	PR. HANDICAP PARKING
---	EX. SHRUB	---	PR. PARKING SPACE COUNT
---	EX. STORM DRAIN	---	PR. REVERSE CURB & GUTTER
---	EX. SANITARY LINE	---	PR. STANDARD CURB & GUTTER
---	EX. WATERLINE	---	PR. DEPRESSED CURB & GUTTER
---	EX. GAS LINE	---	
---	EX. UNDERGROUND ELECTRIC	---	
---	EX. UNDERGROUND CABLE TELEVISION	---	
---	EX. OVERHEAD ELECTRIC	---	
---	EX. OVERHEAD TELEPHONE	---	
---	EX. FIRE HYDRANT	---	
---	EX. WATER VALVE	---	
---	EX. WATER METER	---	
---	EX. POWER POLE	---	
---	EX. LIGHT POLE	---	

SITE DESIGN NOTES

- ALL DRIVEWAY APRONS TO BE INSTALLED AND DESIGNED PER HOWARD COUNTY DETAIL R-6.01, 7" COMBINATION CURB AND GUTTER SIDEWALK SET BACK FROM CURB.
- "NO PARKING ANY TIME" SIGNS SHALL BE 12"x18" MOUNTED 7- FEET ABOVE GRADE. SIGNS SHALL BE IN ACCORDANCE WITH MUTCD TYPE R7-1.
- THE 20' LANDSCAPE BUFFER SHOWN ALONG THE PERIMETER IS REQUIRED AS PART OF THE APPROVAL OF THE AGE-RESTRICTED CONDITIONAL USE.
- DECKS AND PATIOS THAT ARE NOT ENCLOSED OR CONDITIONED SPACE, ARE PERMITTED TO ENCRoACH UP TO 10 FEET INTO THE PERIMETER 40' STRUCTURE AND USE SETBACK. HOWEVER, PATIOS, DECKS, AND RESIDENTIAL STRUCTURES MAY NOT ENCRoACH INTO THE OPEN SPACE LIMITS AT ALL.

LAYOUT PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 6.20.23
 CHIEF, DEVELOPMENT ENGINEERING DIVISION H&A DATE

[Signature] 6/20/23
 CHIEF, DIVISION OF LAND DEVELOPMENTAL DATE

[Signature] 6/20/23
 DIRECTOR DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:

WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2023 Morris & Ritchie Associates, Inc.

REV. 1, 2, 3

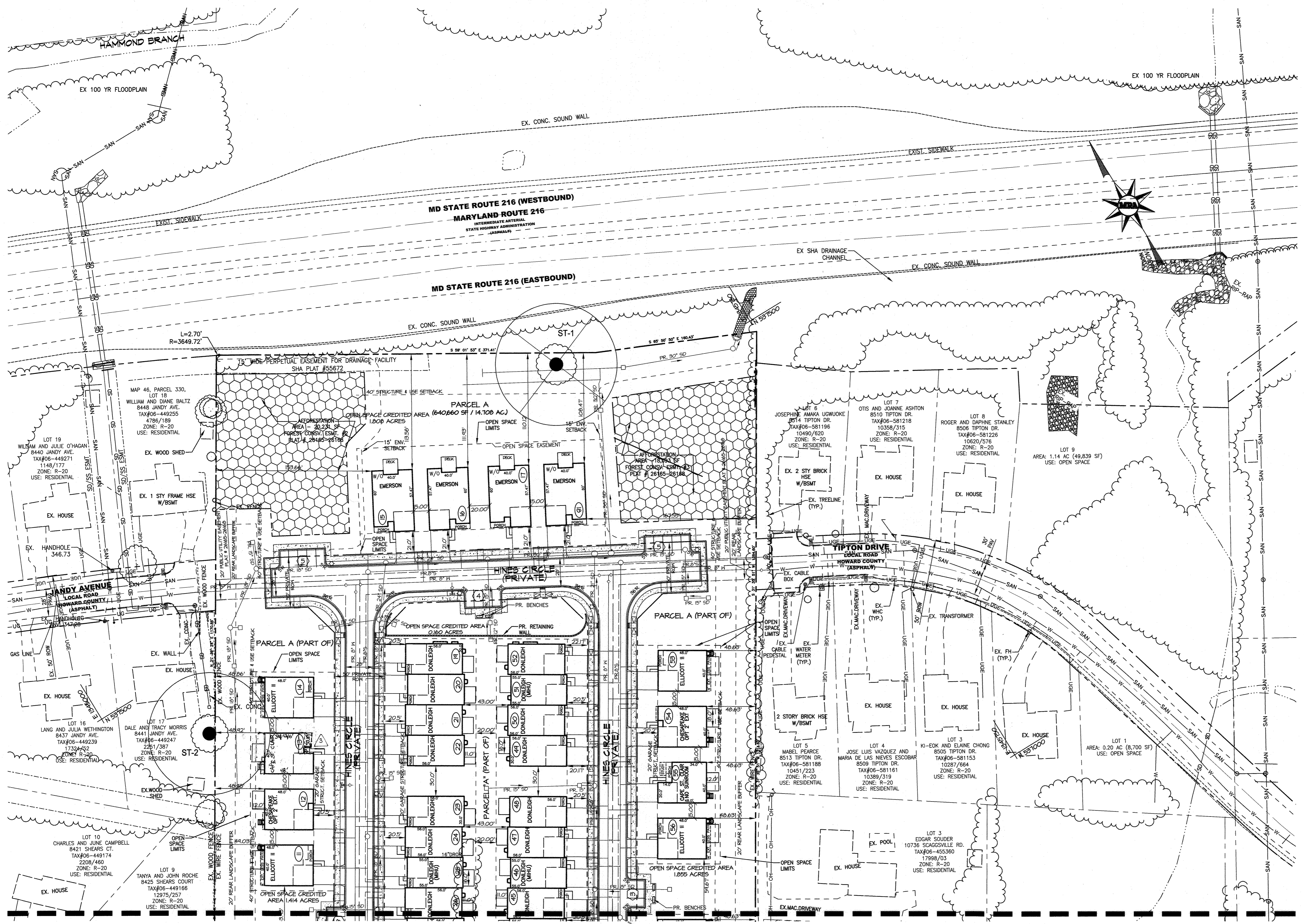
MD PROFESSIONAL ENGINEER
 BRUCE HARVEY
 LICENSE NO. 29203
 EXPIRATION DATE: 6/16/2025

ENCLAVE AT HINES FARM SITE DEVELOPMENT PLAN PARCEL A LAYOUT PLAN		
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20 6TH ELECTION DISTRICT HOWARD COUNTY, MD 20723	DATE	REVISIONS
	6-5-2023	REV 1 - MOVED UNITS CLOSER TO STREET, CHANGED PATIO SIZES, ADDED BRICK WATER TABLE TO TEMPLATE, REVISED DRIVEWAY SLOPES, LARGER PICKLEBALL COURT, MOVED AND ENLARGED WATER LINE TO CLUBHOUSE, RESUBMITTED R. 9, 12, 13, 54, 60, AND 63 CANNED WAIT-TYPE UNIT SPECIFICATIONS TO CHESAPEAKE UNIT TYPE.
	2-07-2024	REV 2 - ADD SIDE A/W, RESUBMIT R. 10, 28, AND 31 TO CHESAPEAKE UNIT TYPE.
	4-24-2024	REV 3 - ADD SIDE A/W, RESUBMIT R. 10, 28, AND 31 TO CHESAPEAKE UNIT TYPE.
JOB NO.: 19590x04	SCALE: 1" = 50'	DATE: 6-5-2023
DRAWN BY: MF	DESIGN BY: MF	REVIEW BY: MM
SHEET: 2 OF 49		

LEGEND

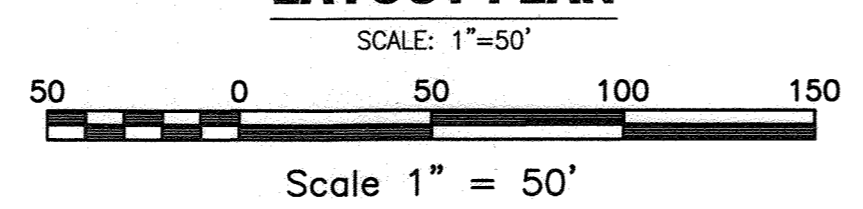
- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- NW - NW EX. NON-TIDAL WETLAND
- WB - WB EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- SD - SD EX. STORM DRAIN
- SAN - SAN EX. SANITARY LINE
- W - W EX. WATERLINE
- UG - UG EX. GAS LINE
- UGE - UGE EX. UNDERGROUND ELECTRIC
- CATV - CATV EX. UNDERGROUND CABLE TELEVISION
- OHE - OHE EX. OVERHEAD ELECTRIC
- OHT - OHT EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC. SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOUNTED ON 30 FT BRONZE FIBERGLASS POLE USING 3/4" DIA. BRONZE BUSHING
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FEATURE
- PR. MAILBOXES
- PR. HANDICAP PARKING
- PR. PARKING SPACE COUNT
- PR. REVERSE CURB & GUTTER
- PR. STANDARD CURB & GUTTER
- PR. DEPRESSED CURB & GUTTER
- PR. UNIT ADDRESS

- SITE DESIGN NOTES**
- ALL DRIVEWAY APRONS TO BE INSTALLED AND DESIGNED PER HOWARD COUNTY DETAIL R-6.01, 7" COMBINATION CURB AND GUTTER SIDEWALK SET BACK FROM CURB.
 - "NO PARKING ANY TIME" SIGNS SHALL BE 12"x18" MOUNTED 7-FEET ABOVE GRADE. SIGNS SHALL BE IN ACCORDANCE WITH MUTCD TYPE R7-1.
 - THE 20' LANDSCAPE BUFFER SHOWN ALONG THE PERIMETER IS REQUIRED AS PART OF THE APPROVAL OF THE AGE-RESTRICTED CONDITIONAL USE.
 - DECKS AND PATIOS THAT ARE NOT ENCLOSED OR CONDITIONED SPACE, ARE PERMITTED TO ENCRoACH UP TO 10 FEET INTO THE PERIMETER 40' STRUCTURE AND USE SETBACK. HOWEVER, PATIOS, DECKS, AND RESIDENTIAL STRUCTURES MAY NOT ENCRoACH INTO THE OPEN SPACE LIMITS AT ALL.



SEE MATCHLINE SHEET SDP-02

LAYOUT PLAN



PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26188.

APPLICANT / OWNER / DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 6.20.23
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 6/20/23
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 6/20/23
 DIRECTOR DATE



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2023 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A
 LAYOUT PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
6-5-2023	REV 1 - MOVED UNITS CLOSER TO STREET, CHANGED PATIO SIZES, ADDED BRICK WATER TABLE TO TEMPLATE, REVISED DRIVEWAY CLOSURES, LARGER PICKLEBALL COURT, MOVED AND ENLARGED WATER LINE TO CLUBHOUSE, RESTRICTIONS 8, 9, 12, 13, 54, 60, AND 63	19590x04
4-24-2024	REV 3 - ADD 5-06 A/W, REPAIR LOTS 10, 55, 60, 59 TO CHECKSHEET, LOT 13 TO CAPS ST. CLARK	SCALE: 1" = 50' DATE: 6-5-2023 DRAWN BY: MF DESIGN BY: MF REVIEW BY: MM SHEET: 3 OF 49

MD PROFESSIONAL CERTIFICATION

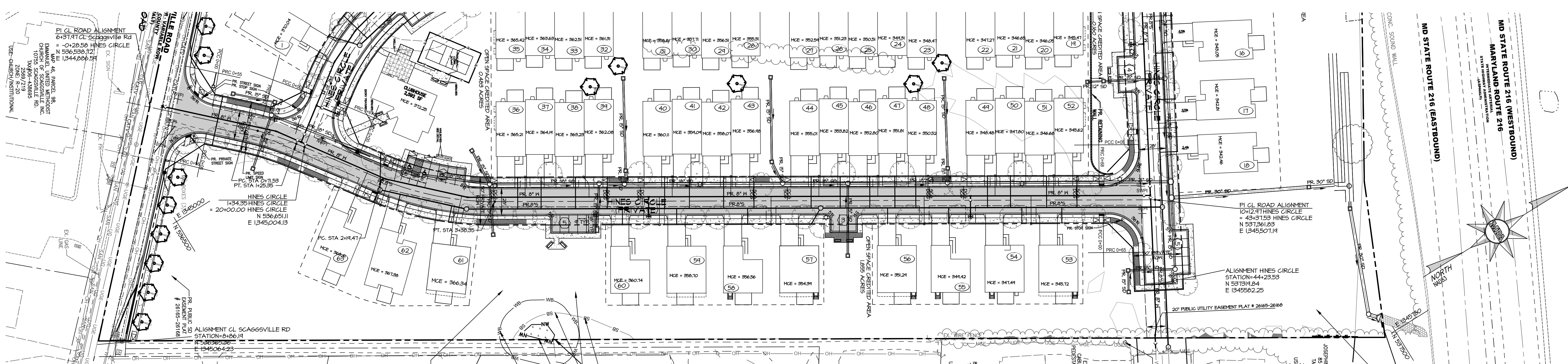
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203 EXPIRATION DATE: 6/16/2023

6-5-23

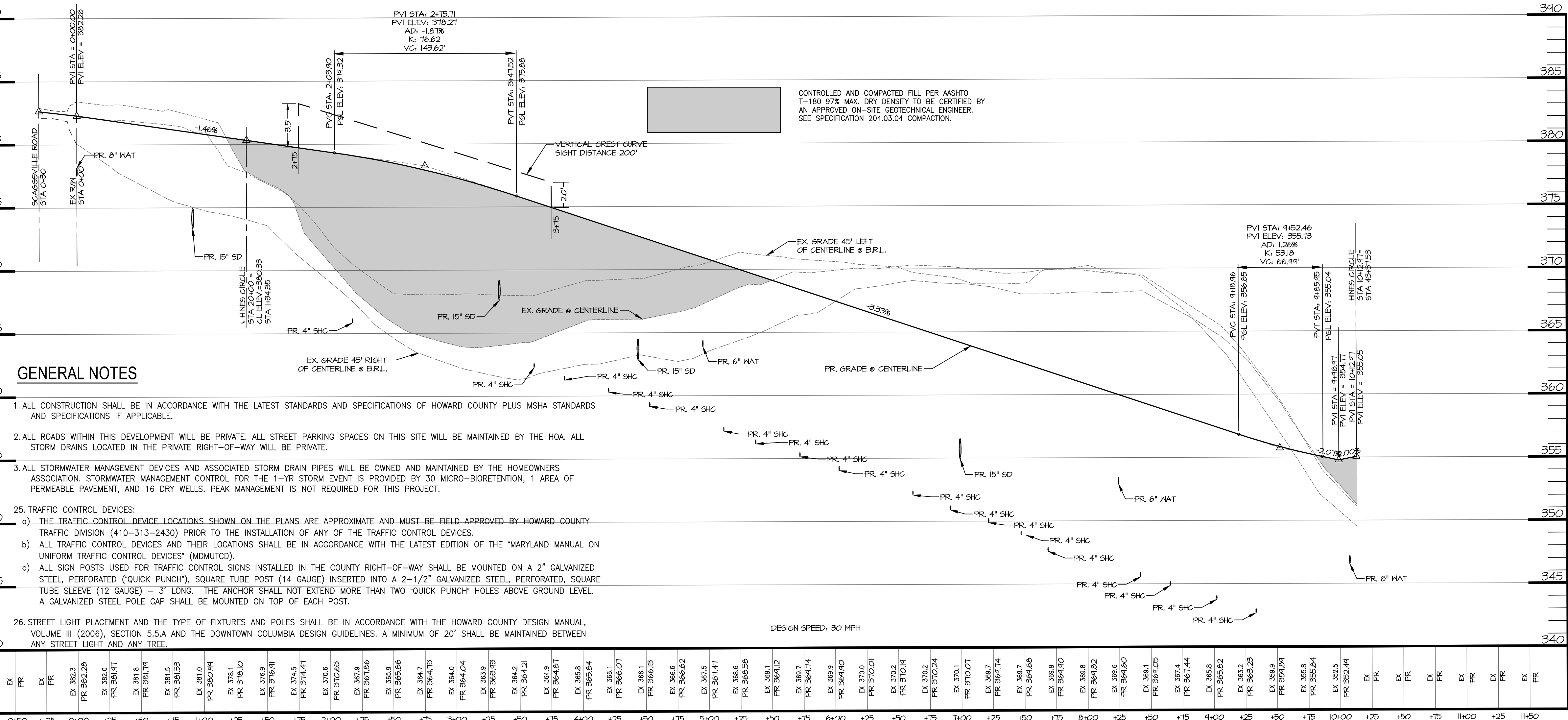
SHEET: SDP-03

SDP-21-038

P:\PROJ\19590 Hines Property Plans\19590-SDP-03-LAYOUT PLAN.dwg, 6/2/2023, 2:17:33 PM, M.Mitchell, 1:1, Copyright 2023 Morris & Ritchie Associates, Inc.



ROAD PLAN
SCALE: 1"=50'



GENERAL NOTES

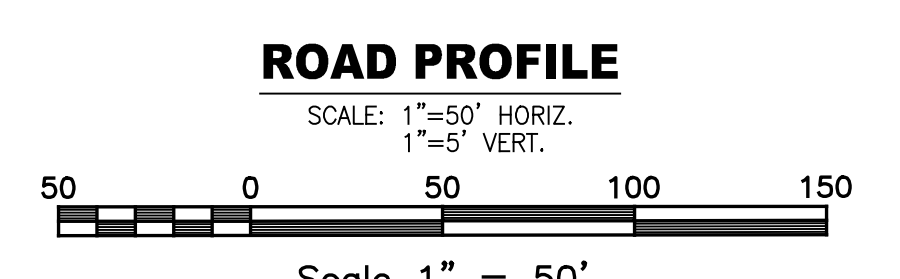
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- ALL ROADS WITHIN THIS DEVELOPMENT WILL BE PRIVATE. ALL STREET PARKING SPACES ON THIS SITE WILL BE MAINTAINED BY THE HOA. ALL STORM DRAINS LOCATED IN THE PRIVATE RIGHT-OF-WAY WILL BE PRIVATE.
- ALL STORMWATER MANAGEMENT DEVICES AND ASSOCIATED STORM DRAIN PIPES WILL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. STORMWATER MANAGEMENT CONTROL FOR THE 1-YR MICRO-BIOTRETENTION, 1 AREA OF PERMEABLE PAVEMENT, AND 16 DRY WELLS. PEAK MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT.
- TRAFFIC CONTROL DEVICES:
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD-APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MDMUTCD).
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ('QUICK PUNCH'), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO 'QUICK PUNCH' HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A AND THE DOWNTOWN COLUMBIA DESIGN GUIDELINES. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

LEGEND

EX. PROPERTY LINE	PR. RIGHT OF WAY
EX. RIGHT-OF-WAY	PR. LOT LINE/PARCEL LINE
EX. ADJACENT PROPERTY LINE	PR. EASEMENT
EX. EASEMENT	PR. OPEN SPACE EASEMENT
EX. NON-TIDAL WETLAND	PR. BUILDING
EX. WETLAND BUFFER	PR. CURB & GUTTER
EX. NON-TIDAL WETLAND	PR. ROAD CENTER LINE
EX. BUILDING	PR. CONC SIDEWALK
EX. CURB	PR. HANDICAP RAMP
EX. PAVEMENT/EDGE OF GUTTER	PR. UNIT NUMBER
EX. WALK	PR. CURB RADIUS
EX. WALL	PR. STREET LIGHT (LED-100 COLONIAL)
EX. CONCRETE	PR. STREET LIGHT (LED-150 COLONIAL)
EX. METAL FENCE	PR. LED-150 COBRAHEAD FIXTURE MOUNTED ON 30 FT BRONZE FIBERGLASS POLE USING
EX. GUARDRAIL	PR. TREE LINE
EX. STREAM/POND	PR. DECORATIVE FENCE/ENTRY FEATURE
EX. TREELINE	PR. MAILBOXES
EX. SPECIMEN TREE	PR. HANDICAP PARKING
EX. TREE	PR. PARKING SPACE COUNT
EX. SHRUB	PR. REVERSE CURB & GUTTER
EX. STORM DRAIN	PR. STANDARD CURB & GUTTER
EX. SANITARY LINE	PR. DEPRESSED CURB & GUTTER
EX. WATERLINE	PR. REINFORCED CONC SIDEWALK
EX. GAS LINE	PR. UNIT ADDRESS
EX. UNDERGROUND ELECTRIC	
EX. UNDERGROUND CABLE TELEVISION	
EX. OVERHEAD ELECTRIC	
EX. OVERHEAD TELEPHONE	
EX. FIRE HYDRANT	
EX. WATER VALVE	
EX. WATER METER	
EX. POWER POLE	
EX. LIGHT POLE	

CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C-1	53.82	300.00	10.28°	N 49° 09' 42" E	53.75
C-2	118.88	300.00	22.70°	N 42° 56' 58" E	118.10
C-3	246.65	210.00	67.30°	N 02° 03' 02" W	232.72



STREET LIGHT LOCATION CHART

STREET NAME	STATION	OFFSET	FIXTURE TYPE
HINES CIRCLE	0+27.25	17.00' LEFT	LED-150 COLONIAL STREET LIGHT
HINES CIRCLE	1+86.29	17.00' LEFT	LED-150 COLONIAL STREET LIGHT
HINES CIRCLE	3+38.35	17.00' LEFT	LED-100 COLONIAL STREET LIGHT
HINES CIRCLE	5+16.68	17.00' LEFT	LED-100 COLONIAL STREET LIGHT
HINES CIRCLE	6+66.20	17.00' LEFT	LED-100 COLONIAL STREET LIGHT
HINES CIRCLE	8+46.25	17.00' LEFT	LED-100 COLONIAL STREET LIGHT
HINES CIRCLE	9+76.94	21.00' LEFT	LED-100 COLONIAL STREET LIGHT

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chad Edmondson 10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION
DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT
Amy Goman 10/6/2022
DIRECTOR
DATE

ROAD DETAIL CHART

NAME	PAVING SECTION	CLASSIFICATION	DESIGN SPEED	STATIONS
HINES CIRCLE	P-3	LOCAL ROAD	30 MPH	0+00 - 10+12.47
HINES CIRCLE	P-3	LOCAL ROAD	30 MPH	0+00 - 9+54.91
HINES CIRCLE	P-3	LOCAL ROAD	30 MPH	0+00 - 4+81.53

VERTICAL SIGHT DISTANCE ANALYSIS*
REQUIRED 200'
PROVIDED 200'
* PER HOWARD COUNTY DESIGN MANUAL, DESIGN SPEED IS 30 MPH

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
HINES CIRCLE PLAN & PROFILE
STA. 0+00 TO STA. 10+12.87

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

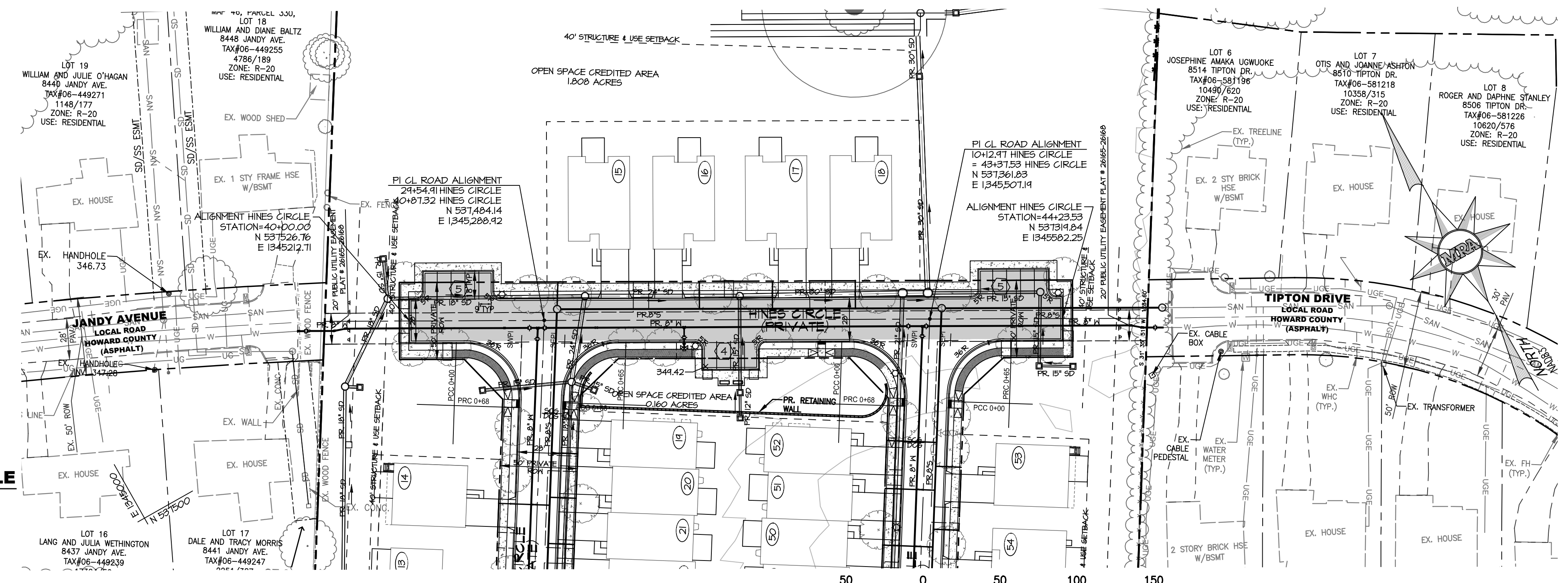
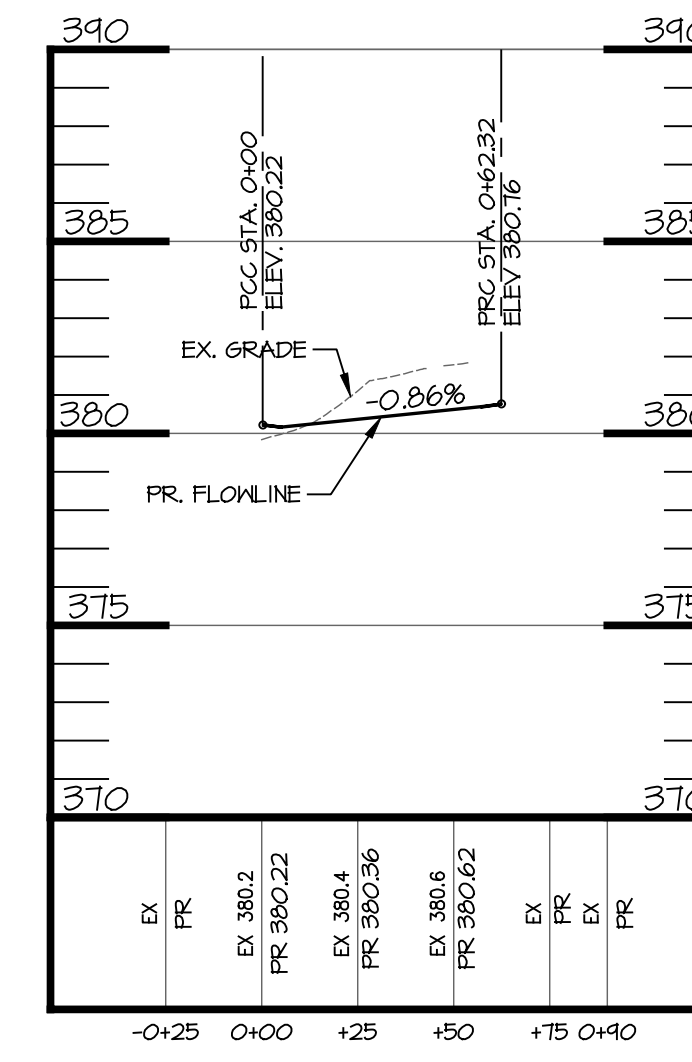
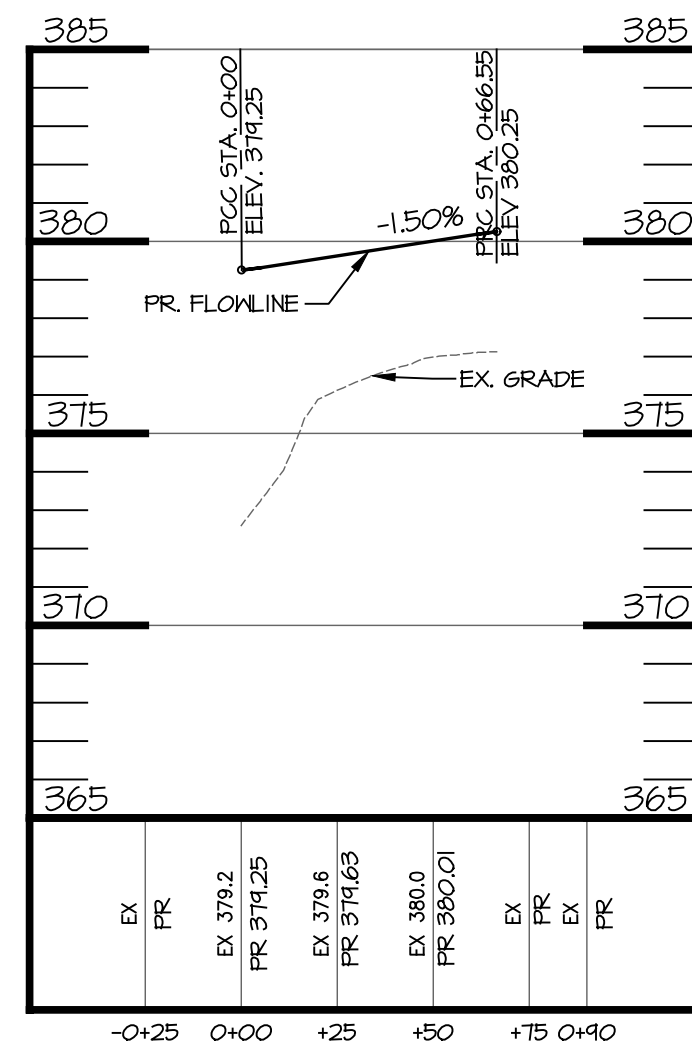
JOB NO.: 19590/04
SCALE: 1" = 50'
DATE: 4-26-2022
DRAWN BY: MF
DESIGN BY: MF
REVIEW BY: MM
SHEET: 4 OF 49

MD PROFESSIONAL CERTIFICATION:
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 NO. 29203 EXPIRATION DATE: 6/16/2023

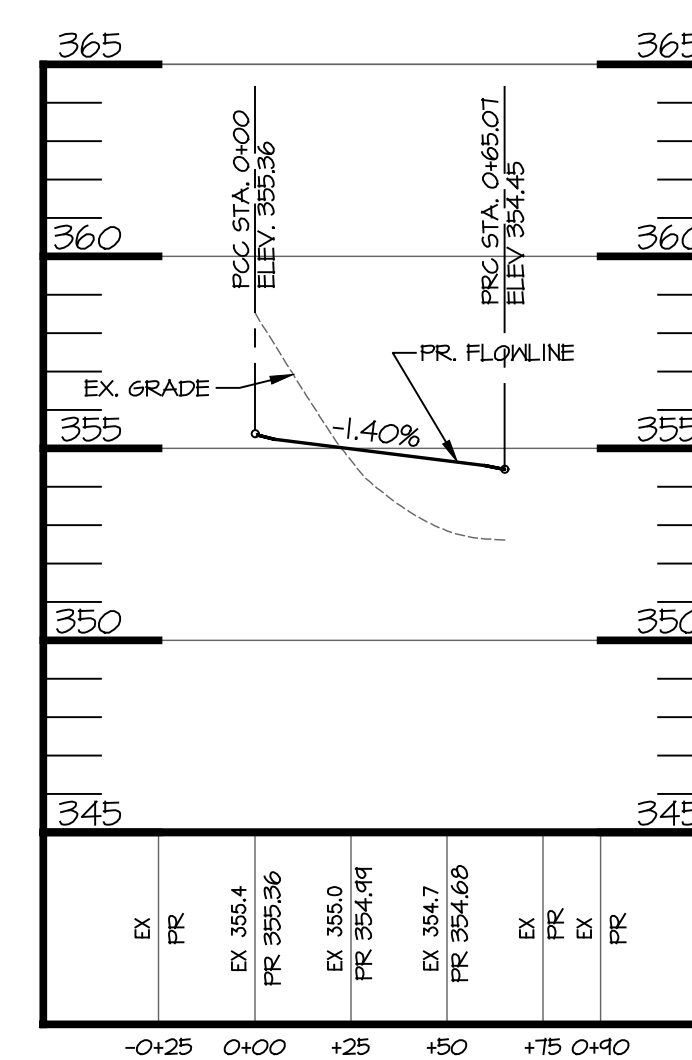
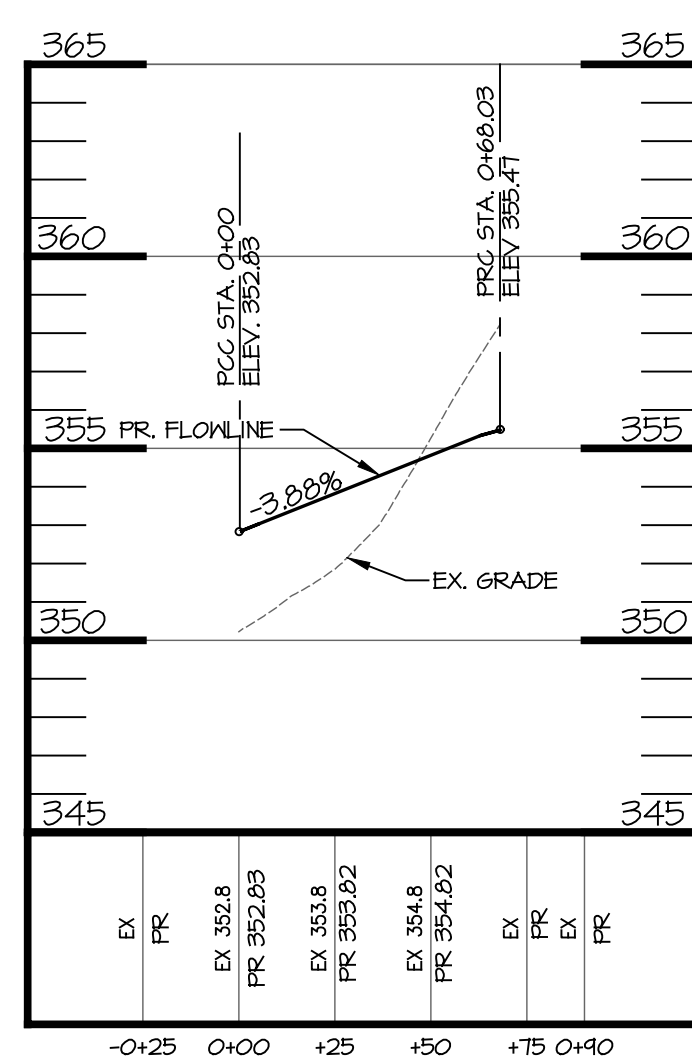
DATE REVISIONS

SHEET: SDP-04

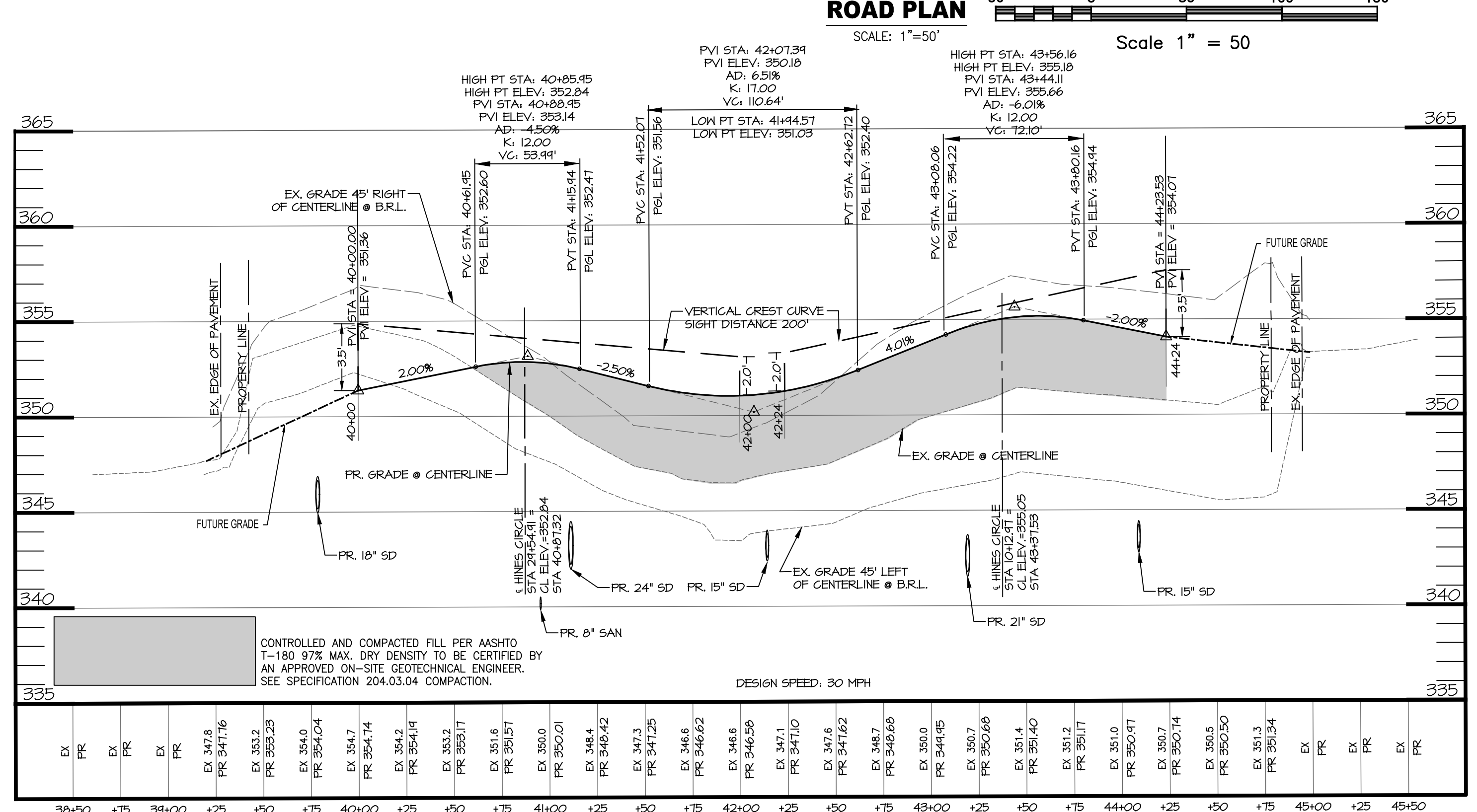
SDP-21-038



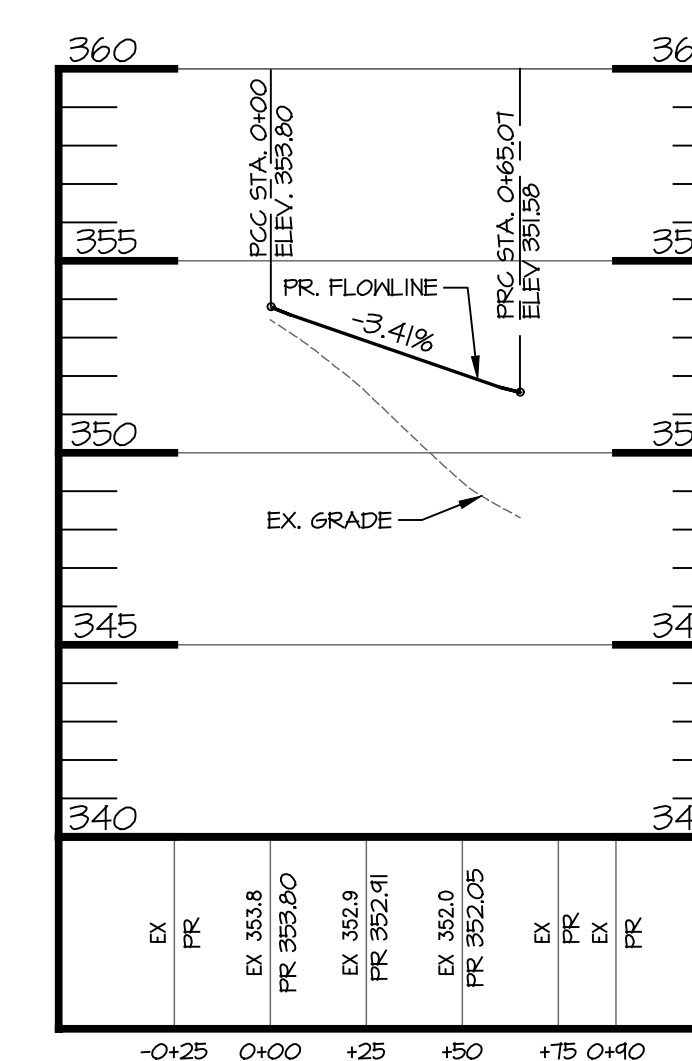
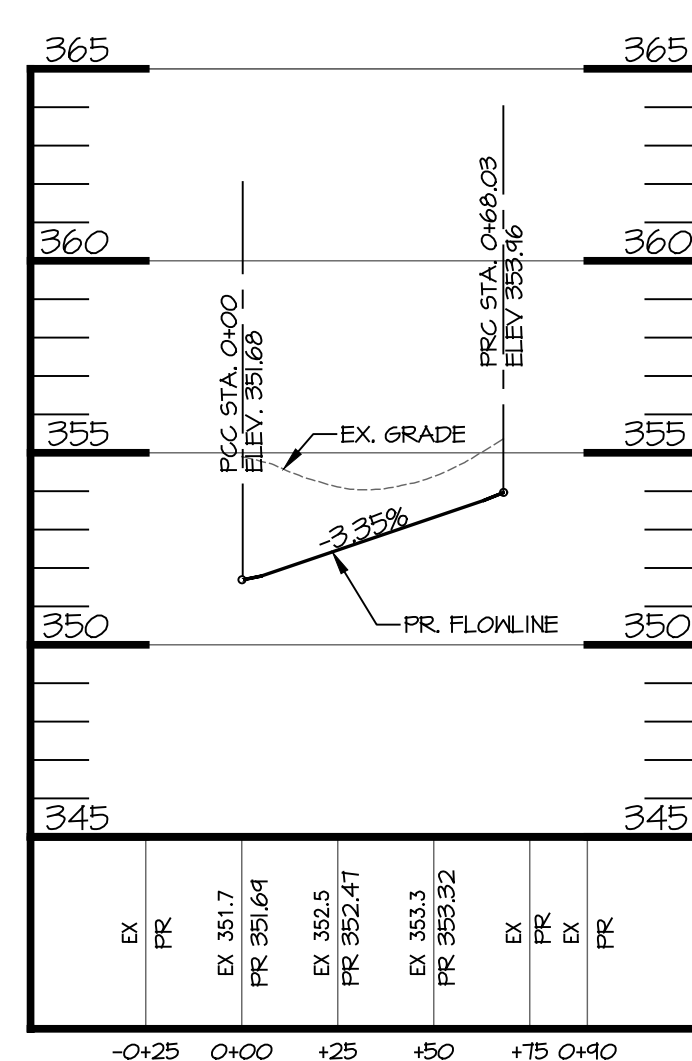
CL STA. 2+00-NORTHWEST FILLET PROFILE CL STA. 1+10-SOUTHWEST FILLET PROFILE



CL STA. 3+10-SOUTHWEST FILLET PROFILE CL STA. 4+20-SOUTHWEST FILLET PROFILE



ROAD PROFILE SCALE: 1"=50' HORIZ. 1"=5' VERT. Scale 1" = 50'



CL STA. 0+20-SOUTHWEST FILLET PROFILE CL STA. 1+75-SOUTHWEST FILLET PROFILE

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOU 30 FT BRONZE FIBERGLASS POLE USING
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FEATURE
- PR. MAILBOXES
- PR. HANDICAP PARKING
- PR. PARKING SPACE COUNT
- PR. REVERSE CURB & GUTTER
- PR. STANDARD CURB & GUTTER
- PR. DEPRESSED CURB & GUTTER

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

STREET NAME	STATION	OFFSET	FIXTURE TYPE
HINES CIRCLE	40+92.00	17.00' LT	LED-100 COLONIAL STREET LIGHT
HINES CIRCLE	42+17.34	17.00' LT	LED-100 COLONIAL STREET LIGHT
HINES CIRCLE	44+52.92	17.00' LT	LED-100 COLONIAL STREET LIGHT

THE STREET LIGHT LOCATIONS SHOWN ON THIS SHEET ARE APPROXIMATE. EXACT LOCATIONS OF THE POLES AND THE ORIENTATION OF THE FIXTURES WILL BE FIELD DETERMINED BY HOWARD COUNTY DPW-TRAFFIC.

ALL STREET LIGHTS SHALL HAVE THE FOLLOWING:
POLE TYPE: BLACK FIBERGLASS
POLE HEIGHT: MINIMUM 14'
FIXTURE: POST-TOP PREMIER

SHEET: SDP-06

APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
Chief, DEVELOPMENT ENGINEERING DIVISION	DATE 10/6/2022
Chief, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

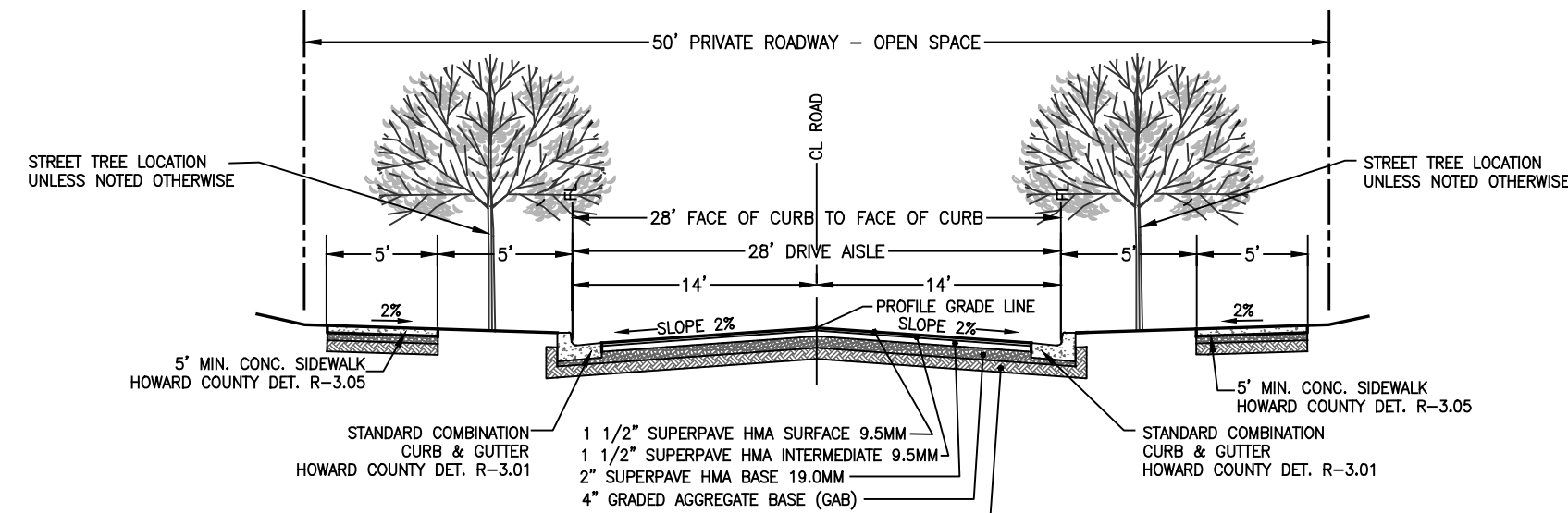
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
HINES CIRCLE PLAN & PROFILE
STA. 40+00 TO STA. 44+23.63

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 6 OF 49

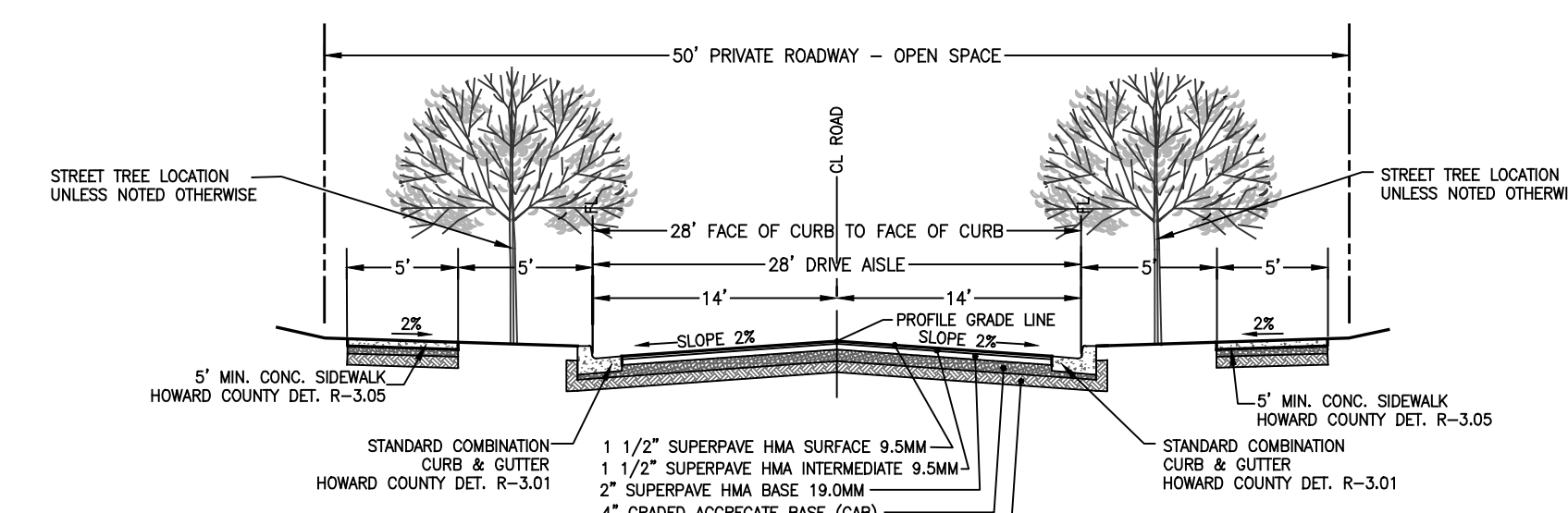
MD PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203 EXPIRATION DATE: 6/16/2023



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (EAST)
 STA. 0+00 TO STA. 2+35
 STA. 3+07 TO STA. 3+95
 STA. 4+42 TO STA. 6+80
 STA. 7+10 TO STA. 10+00

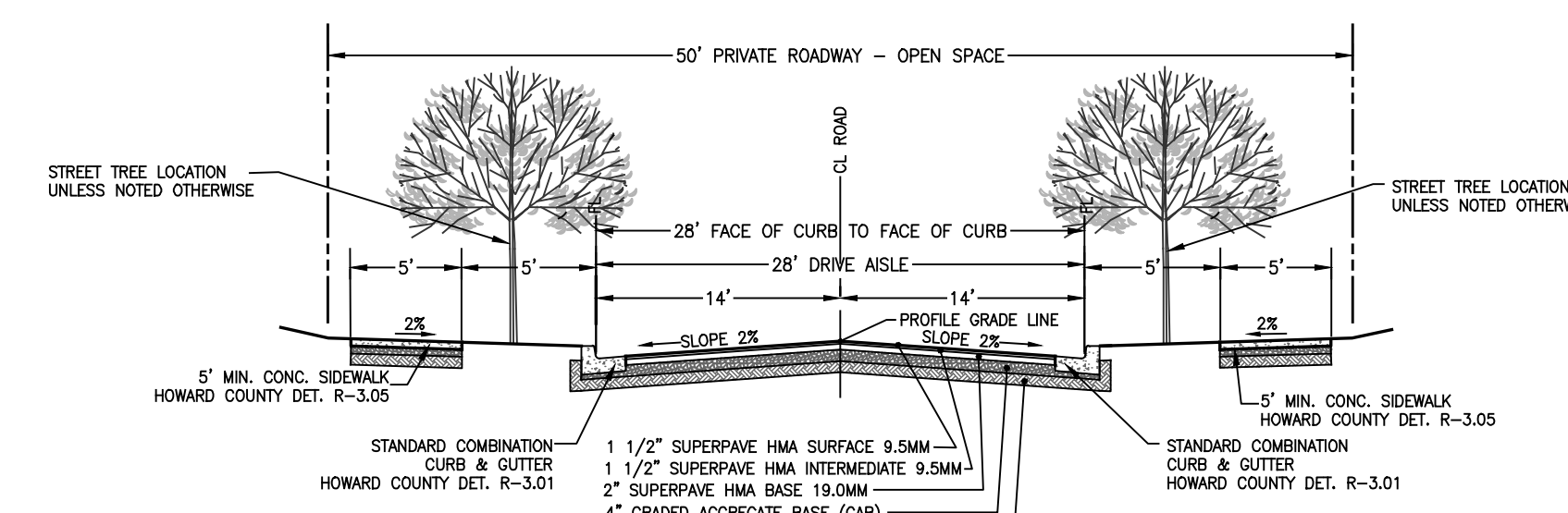
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (WEST)
 STA. 10+00 TO
 STA. 10+14 TO STA. 11+80
 STA. 12+50 TO STA. 16+05
 STA. 16+33 TO STA. 19+40

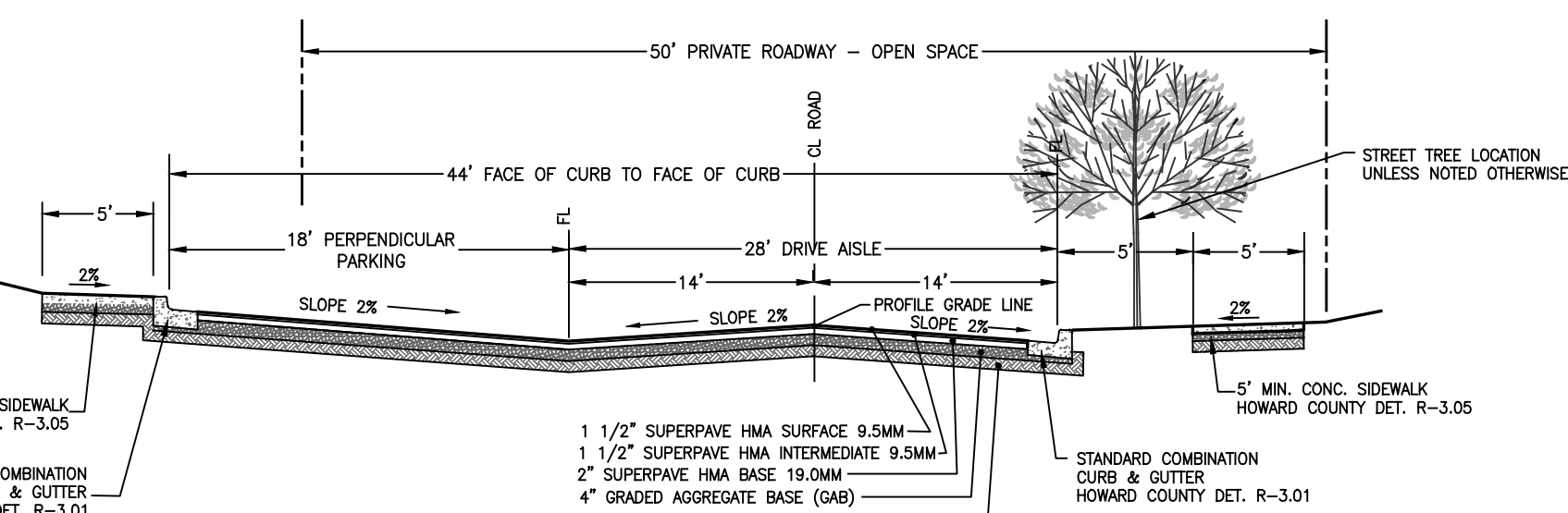
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (NORTH)
 STA. 20+85 TO STA. 22+25
 STA. 22+61 TO STA. 24+02

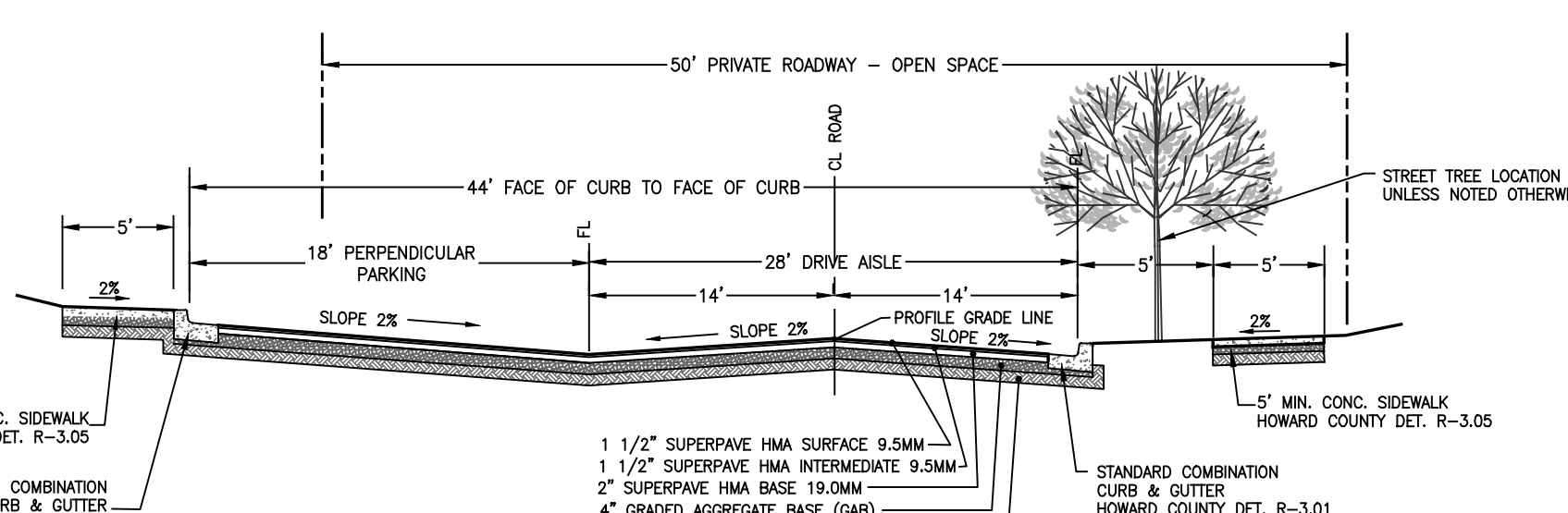
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (EAST)
 STA 2+35 TO 3+07
 STA 6+80 TO 7+10

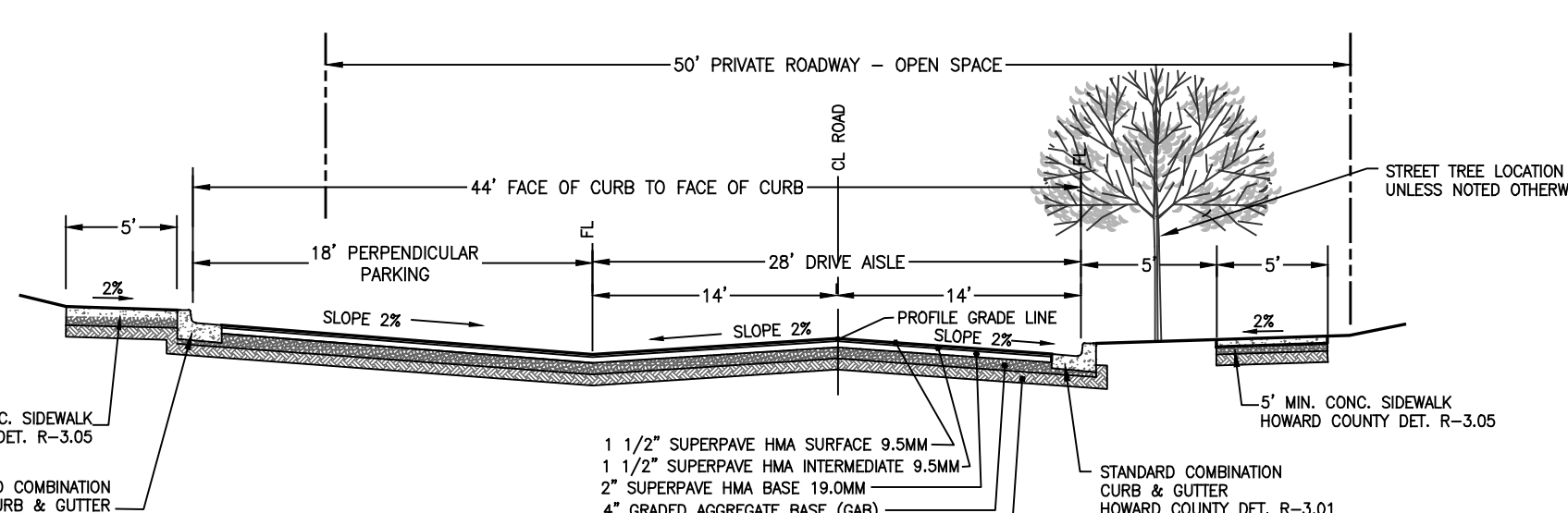
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (WEST)
 STA 11+80 TO 12+50
 STA 16+05 TO 16+33

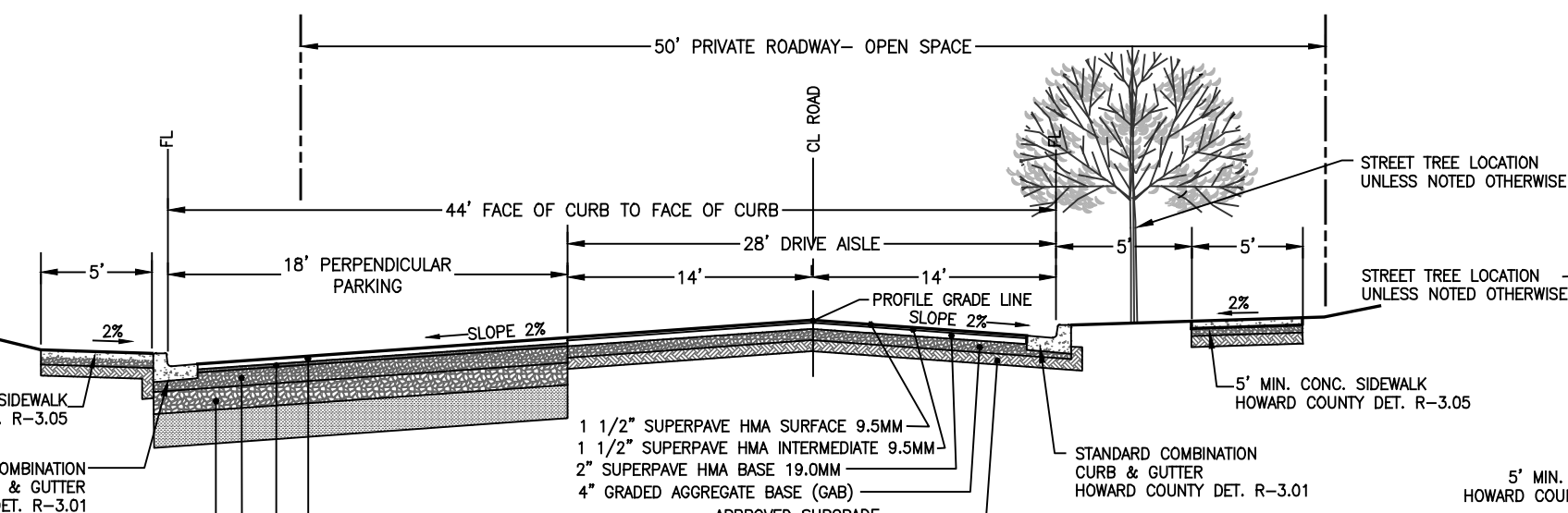
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (NORTH)
 STA 20+40 TO 20+85
 STA 24+02 TO 24+47

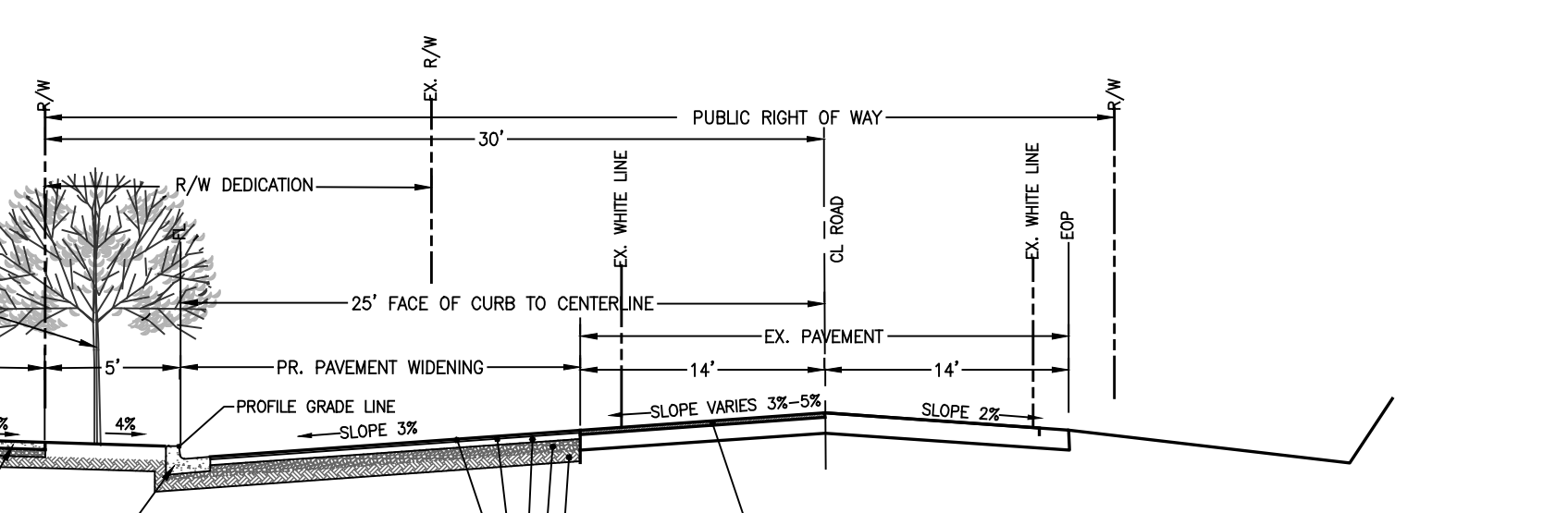
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION PROPOSED HINES CIRCLE (EAST)
 STA. 3+95 TO 4+42

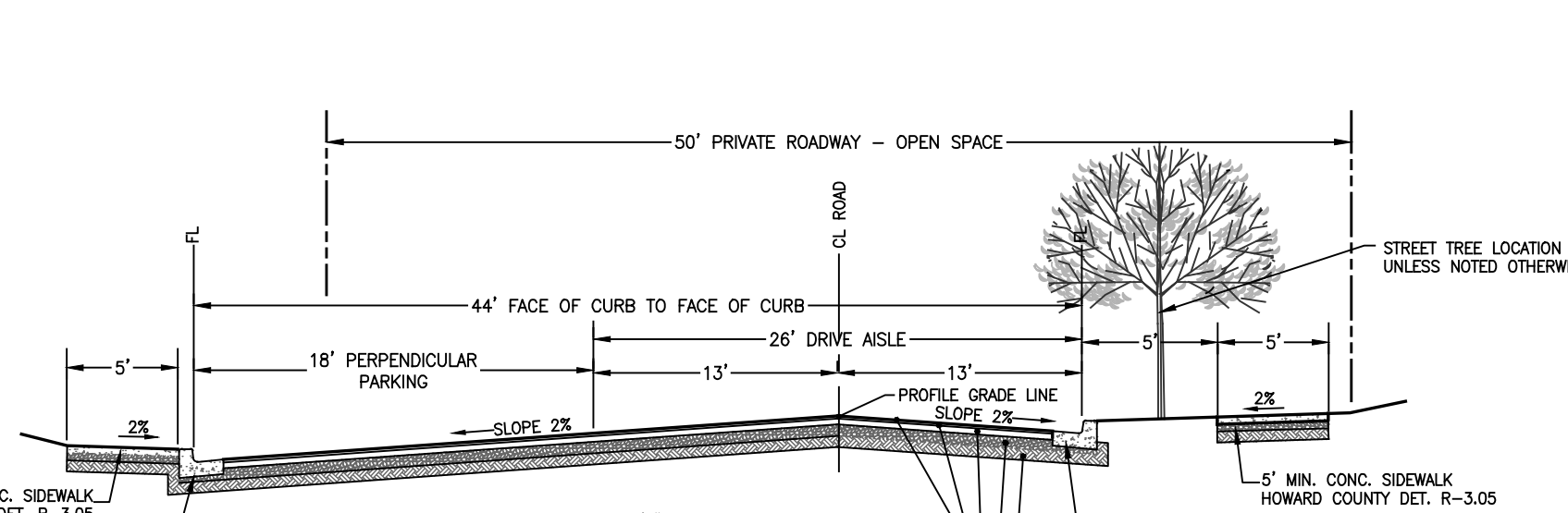
ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

TYPICAL SECTION SCAGGSVILLE ROAD
 STA. 3+33 TO 8+42

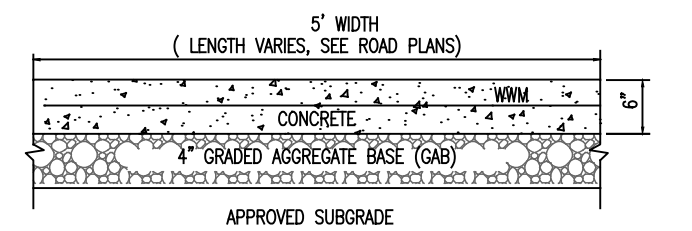
MINOR COLLECTOR
 PAVING SECTION P-3
 NOT TO SCALE



NOTES:
 1. PER HOWARD COUNTY DETAIL R-3.06, DEPRESSED CURB TO BE USED AT ALL INLET LOCATIONS, SEE PLAN VIEWS.
 2. PER HOWARD COUNTY DETAIL R-6.01, DEPRESSED CURB TO BE USED AT ALL DRIVEWAY LOCATIONS, SEE PLAN VIEWS.

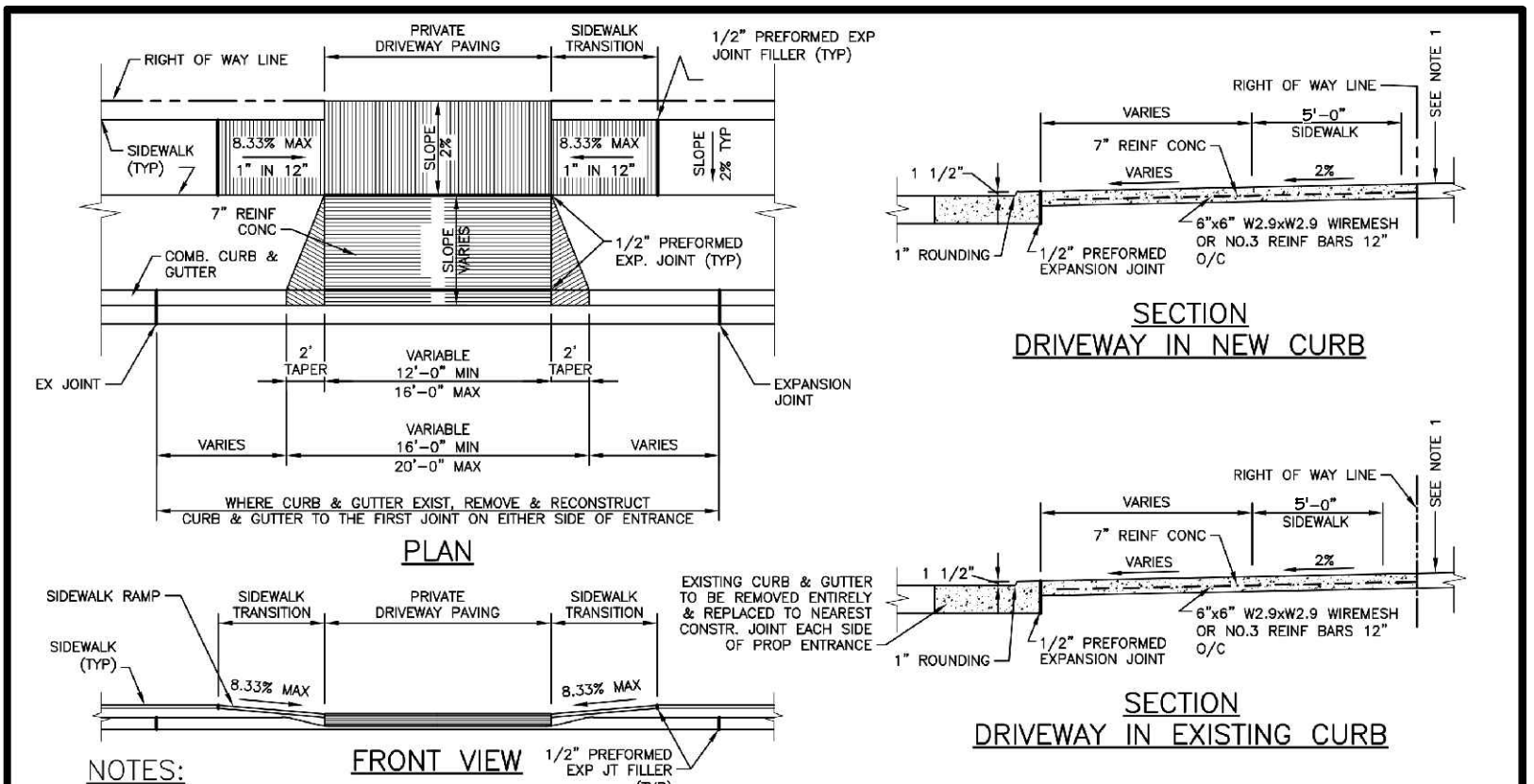
TYPICAL SECTION PROPOSED HINES CIRCLE (NORTH)
 STA. 22+25 TO 22+61

ACCESS STREET
 PAVING SECTION P-2
 NOT TO SCALE

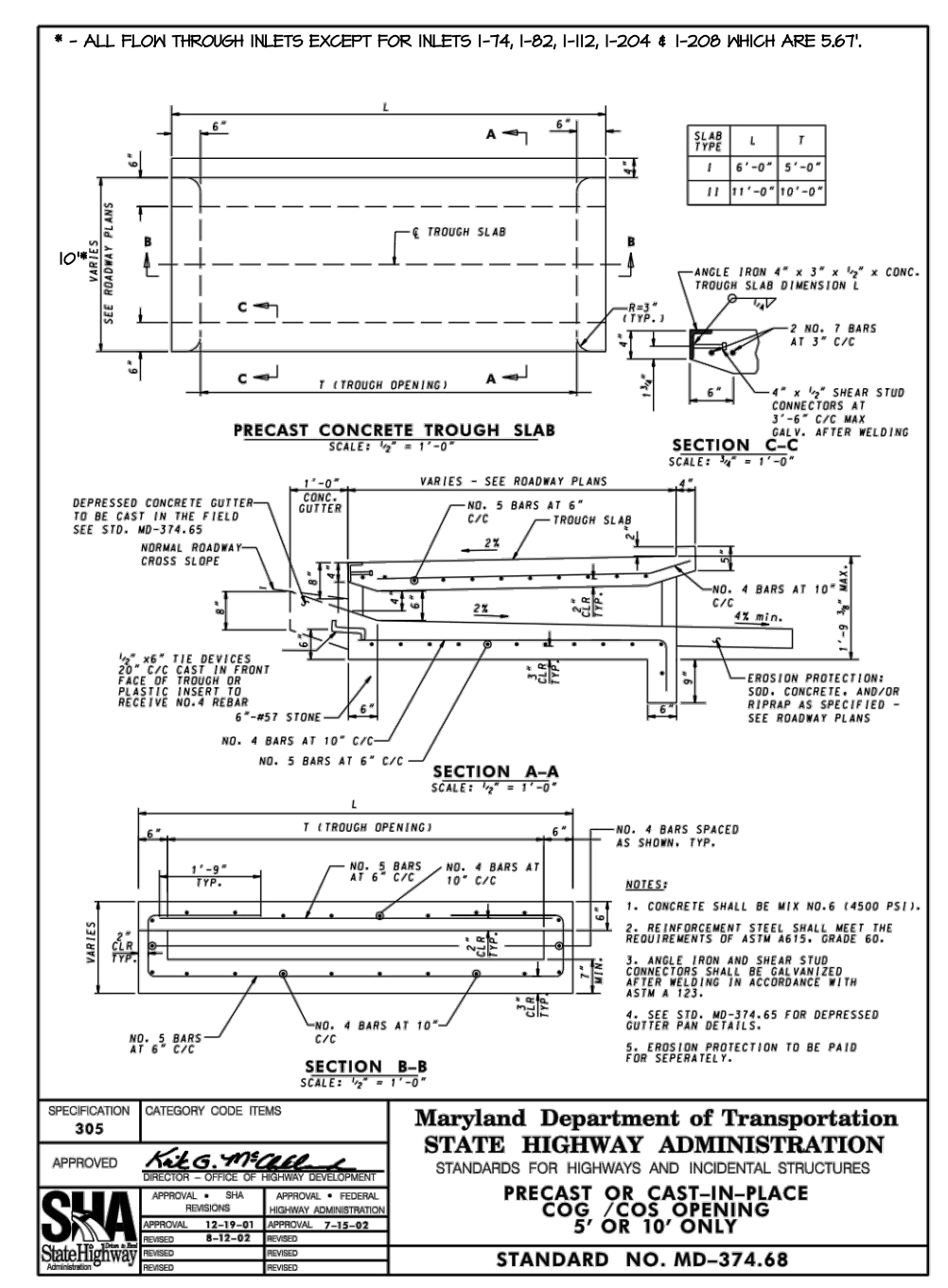


NOTES:
 1. CONCRETE TO BE MIX #3.
 2. MARK IN 5' SQUARES SO THAT NO PANEL IS SHORTER THAN 5' IN LENGTH.
 3. PRE-MOLDED EXPANSION JOINTS TO BE PROVIDED EVERY 15' MIN. OR EVERY 3RD SQUARE.
 4. PROVIDE PRE-MOLDED EXPANSION JOINTS BETWEEN BACK OF CURB AND SIDEWALKS.
 5. WELDED WIRE MESH REINFORCING TO BE 6\"/>

REINFORCED CONCRETE SIDEWALK DETAIL
 NOT TO SCALE



NOTES:
 1. PRIVATE DRIVEWAY (IF CONC. 1/2\"/>



Maryland Department of Transportation
 STATE HIGHWAY ADMINISTRATION
 STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
**PRECAST OR CAST-IN-PLACE
 CONCRETE OPENING
 5' OR 10' ONLY**
 STANDARD NO. MD-374.68

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 (Signature) 10/5/2022
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 (Signature) 10/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 (Signature) 10/6/2022
 DIRECTOR
 (Signature)

Howard County, Maryland
 Department of Public Works
 (Signature)
 RESIDENTIAL DRIVEWAY ENTRANCE
 7\"/>

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

MRA
 MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM
 Copyright 2022 Morris & Ritchie Associates, Inc.
ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A
 TYPICAL ROAD SECTIONS
 TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

SHEET: SDP-08

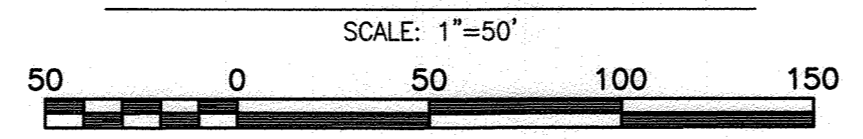
DATE	REVISIONS	JOB NO.: 19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 8 OF 49

MD PROFESSIONAL CERTIFICATION:
 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 NO. 29203 EXPIRATION DATE: 6/16/2023

SEE MATCHLINE SHEET SDP-10



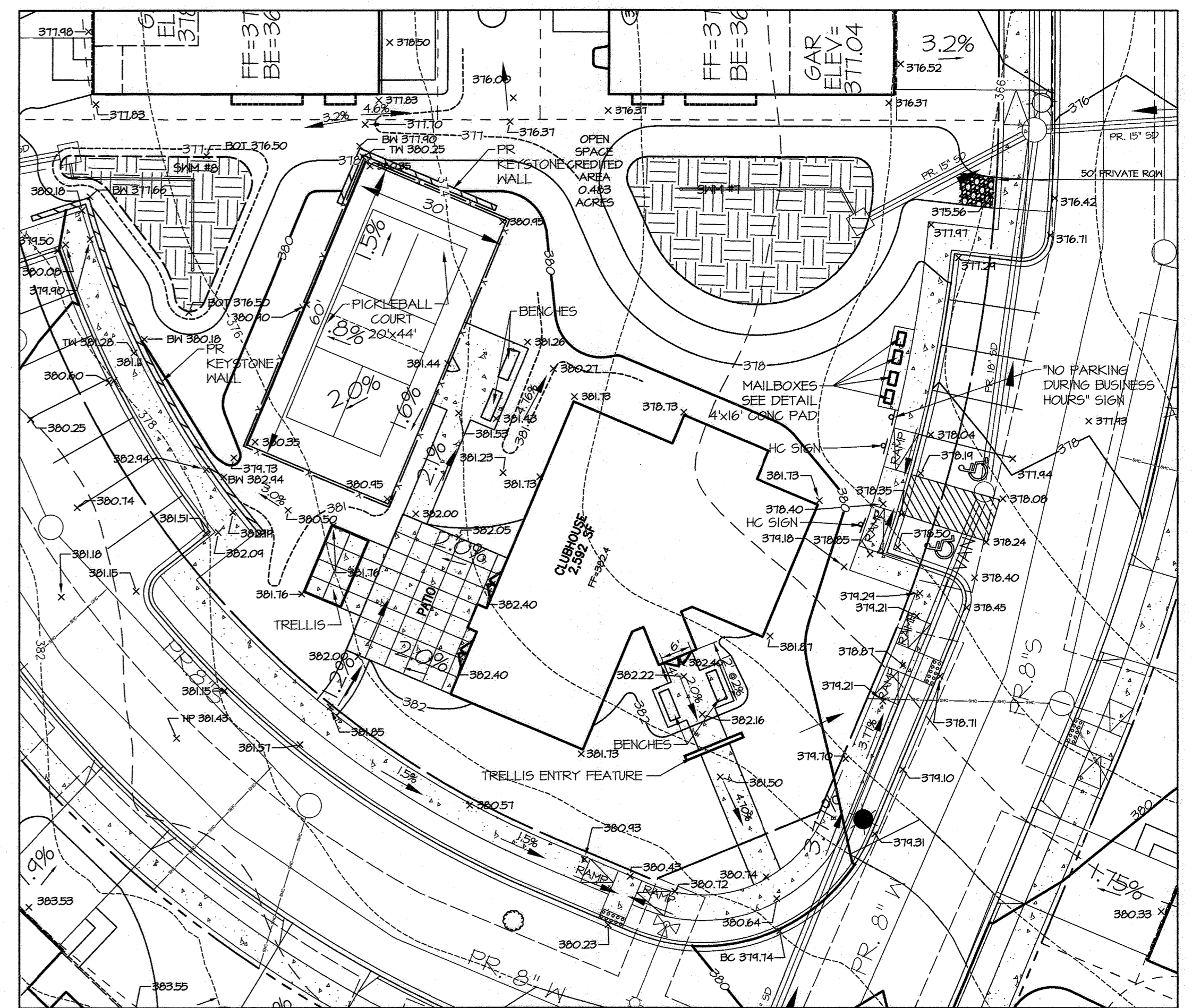
SOILS AND GRADING PLAN



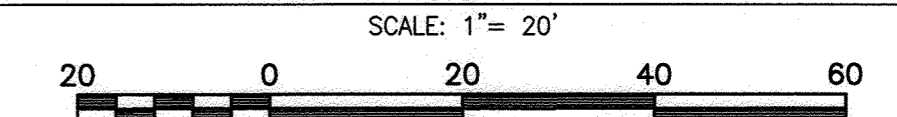
Scale 1" = 50'

SYMBOL	NAME/DESCRIPTION	SOIL TYPE	"K" VALUE
MoC	MANOR LOAM, 3-8% SLOPES	B	0.20-0.37
GhB	GLENELG-URBAN LAND COMPLEX, 0-8% SLOPES	B	0.24-0.37
GhC	GLENELG-URBAN LAND COMPLEX, 8-15% SLOPES	B	0.20-1.98
GgC	GLENELG LOAM, 8-15% SLOPES	B	0.57-1.98
GnB	GLENVILLE-BAILE SILT LOAM, 0-8% SLOPES	C	0.06-0.57
GmC	GLENVILLE SILT LOAM, 8-15% SLOPES	C	0.06-0.57

HOWARD COUNTY SOIL CONSERVATION DISTRICT MAP NUMBER 14-036



CLUBHOUSE ACCESSIBLE ROUTE AND GRADING DETAIL



Scale 1" = 20'

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREE LINE
- EX. SPECIMEN TREE
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATER LINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. CATV
- EX. OVERHEAD ELECTRIC
- EX. SOILS DELINEATION
- EX. SOILS CLASSIFICATION LABEL
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLC)
- PR. STREET LIGHT (LED-150 COLC)
- PR. LED-150 COBRAHEAD FIXTURE 30 FT BRONZE FIBERGLASS POLE
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FE
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- PR. .51' CONTOUR
- PR. 2' CONTOUR
- PR. 10' CONTOUR
- PR. LIMIT OF DISTURBANCE
- PR. SPOT ELEVATION
- PR. TREE PROTECTION FENCE

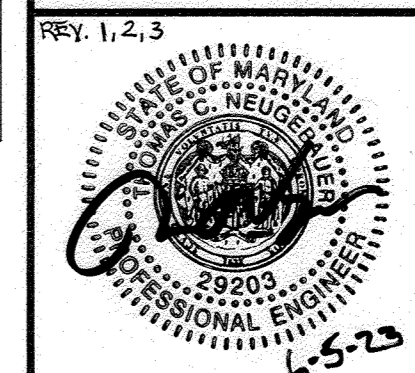
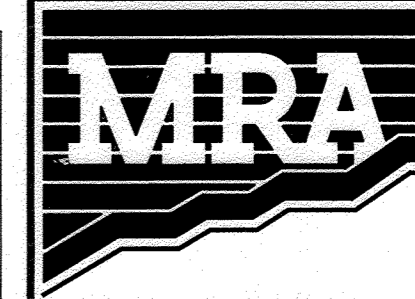
SHEET: SDP-09

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 6-20-23
 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 6/20/23
 DATE
 DIRECTOR
 6/20/23
 DATE

BIORETENTION FACILITY GRADING
 FOR DETAILED GRADING OF BIORETENTION FACILITIES, SEE SHEETS 24-26, STORMWATER MANAGEMENT PLANS AND SHEET 27.
 SWM-MICRO-BIO NOTES AND DETAILS SHEET.
 FOUNDATION SYSTEMS FOR PROPOSED DECKS ARE TO BE LOCATED OUTSIDE OF THE SWM BIORETENTION FACILITIES.

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



MORRIS & RITCHE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRA@GTA.COM

Copyright 2023 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SOILS & GRADING PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
6-5-2023	REV 1 - MOVED UNITS CLOSER TO STREET, CHANGED PATIO SIZES, ADDED BRICK WATER TABLE TO TEMPLATE, REVISED DRIVEWAY SLOPES, LARGER PICKLEBALL COURT, MOVED AND ENLARGED WATER LINE TO CLUBHOUSE, RESURFACED 8, 9, 12, 13, 54, 60, AND 63 CHANGING UNITS TRAIL UNIT LOT #154A	19590x04
2-07-2024	REV 2 - ADDED SIGNAGE TO CHANGING UNITS TRAIL	SCALE: 1" = 50'
4-24-2024	REV 3 - ADD SIGNAGE TO RESURFACED UNITS AND CHANGING UNITS TRAIL UNIT LOT #154A TO CLARIFY SIGNAGE	DATE: 6-5-2023
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 9 OF 49

SDP-21-038

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- NW --- EX. NON-TIDAL WETLAND
- WB --- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- SD --- EX. STORM DRAIN
- SAN --- EX. SANITARY LINE
- W --- EX. WATERLINE
- UG --- EX. GAS LINE
- UGE --- EX. UNDERGROUND ELECTRIC
- CATV --- EX. UNDERGROUND CABLE TELEVISION
- OHE --- EX. OVERHEAD ELECTRIC
- OHT --- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC. SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOUNTED ON 30 FT BRONZE FIBERGLASS POLE USING
- PR. TREE LINE
- EX. SOILS DELINEATION
- EX. SOILS CLASSIFICATION LABEL
- PR. $\leq 1'$ CONTOUR
- PR. 2' CONTOUR
- PR. 10' CONTOUR
- PR. LIMIT OF DISTURBANCE
- PR. SPOT ELEVATION
- PR. TREE PROTECTION FENCE

SOILS LEGEND

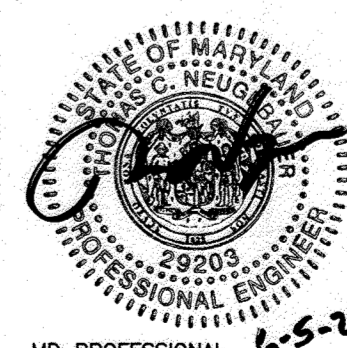
SYMBOL	NAME/DESCRIPTION	SOIL TYPE	K' VALUE
McC	MANOR LOAM, 3-8% SLOPES	B	0.20-0.37
GhB	GLENELG-URBAN LAND COMPLEX, 0-8% SLOPES	B	0.24-0.37
GhC	GLENELG-URBAN LAND COMPLEX, 8-15% SLOPES	B	0.20-1.98
GgC	GLENELG LOAM, 8-15% SLOPES	B	0.57-1.98
GhB	GLENVILLE-BAILE SILT LOAM, 0-8% SLOPES	C	0.06-0.57
GmC	GLENVILLE SILT LOAM, 8-15% SLOPES	C	0.06-0.57

HOWARD COUNTY SOIL CONSERVATION DISTRICT MAP NUMBER 14-036

BIORETENTION FACILITY GRADING
 FOR DETAILED GRADING OF BIORETENTION FACILITIES, SEE SHEETS 24-26, STORMWATER MANAGEMENT PLANS AND SHEET 27, SWM-MICRO-BIO NOTES AND DETAILS SHEET.
 FOUNDATION SYSTEMS FOR PROPOSED DECKS ARE TO BE LOCATED OUTSIDE OF THE SWM BIORETENTION FACILITIES.

SHEET: SDP-10

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRA@GTA.COM
 Copyright 2023 Morris & Ritchie Associates, Inc.

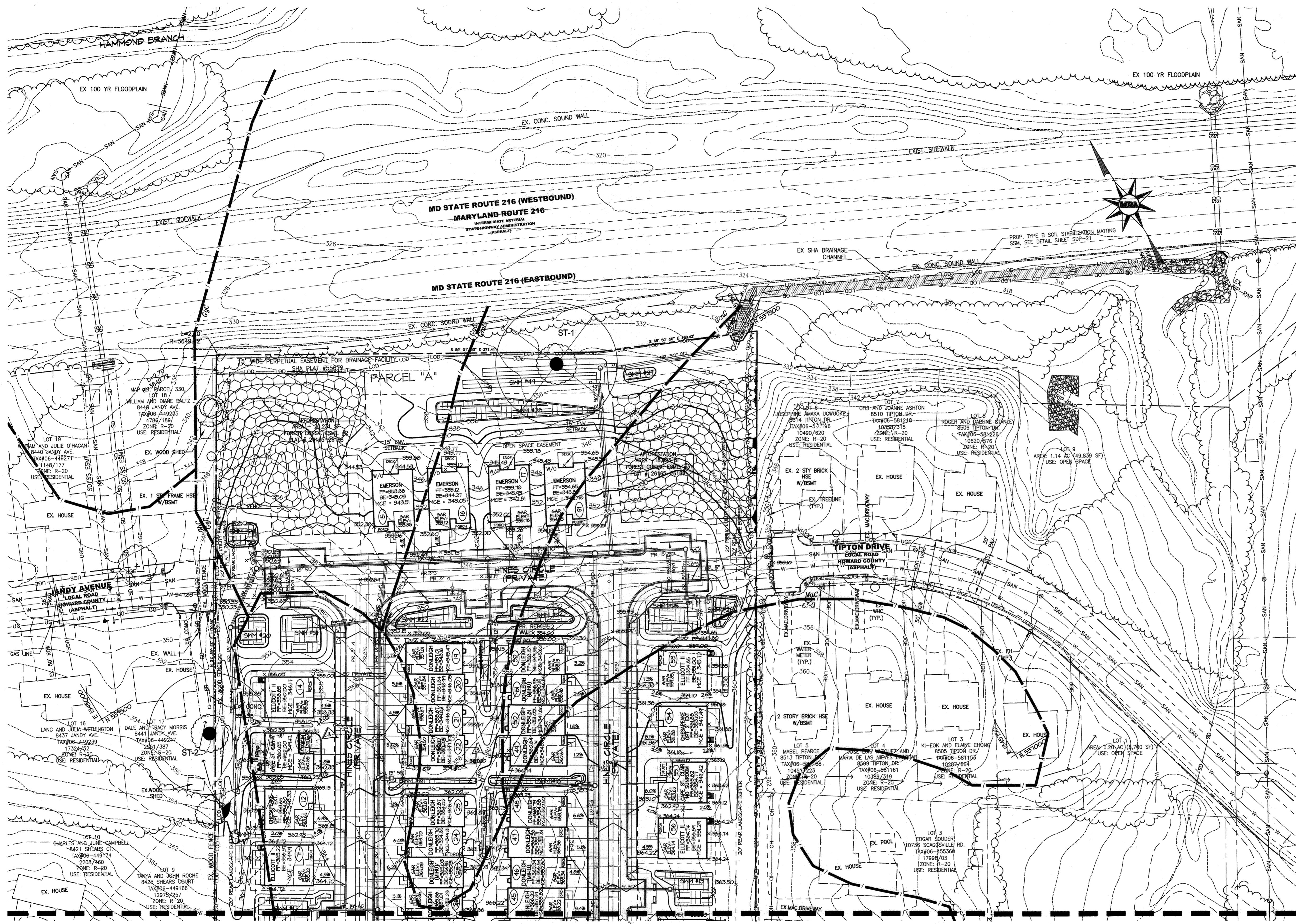
REV 4.2.3

 BRUCE HARVEY
 PROFESSIONAL ENGINEER
 LICENSE NO. 29203
 EXPIRATION DATE: 6/16/2023

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SOILS & GRADING PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

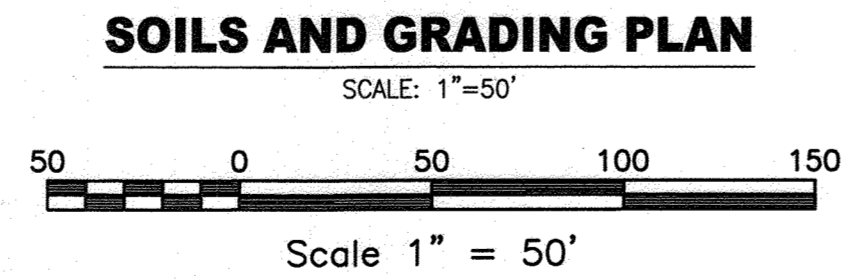
DATE	REVISIONS	JOB NO.:
6-5-2023	REV 1 - MOVED UNITS CLOSER TO STREET, CHANGED PATIO SIZES, ADDED BRICK WATER TABLE TO TEMPLATE, REVISED DRIVEWAY SLOPES, LARGER PICKLEBALL COURT, MOVED AND ENLARGED WATER LINE TO CLUBHOUSE, RESUBMITTED 8, 9, 12, 13, 54, 60, AND 63 REV 3-2023, SUBMITTED RESUBMITALS TO SFP, REV 5-13-2023, REVISED LOT 13 TO 12% SLOPE	19590x04
4-24-2024	REVISE PER UNITS 22 AND 27	SCALE: 1" = 50'

DATE: 6-5-2023
 DRAWN BY: MF
 DESIGN BY: MF
 REVIEW BY: MM
 SHEET: 10 OF 49
SDP-21-038



NOTE: SWALE SHALL DIVERT ALL RUNOFF FROM RUNNING ONTO THE ADJACENT LOT 17 (MORRIS PROPERTY).

SEE MATCHLINE SHEET SDP-09
SOILS AND GRADING PLAN



APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 6/20/23
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 6/20/23
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

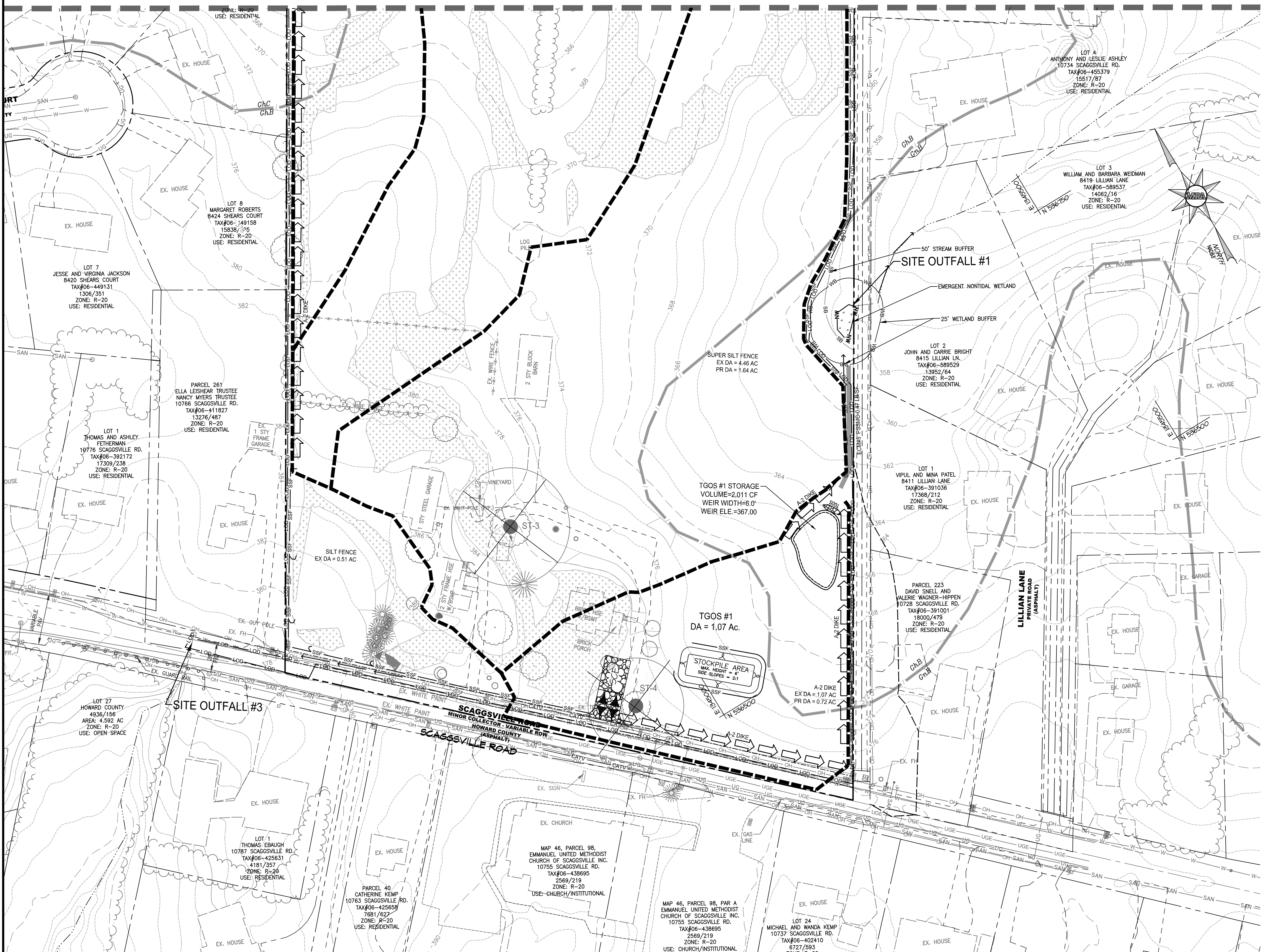
[Signature] 6/20/23
 DIRECTOR DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

P:\PROJ\19590\19590-SDP-10-SOILS & GRADING PLAN.dwg, 6/2/2023, 2:51:28 PM, mmitchell, 1:1, Copyright 2023 Morris & Ritchie Associates, Inc.

SEE MATCHLINE SHEET SDP-12



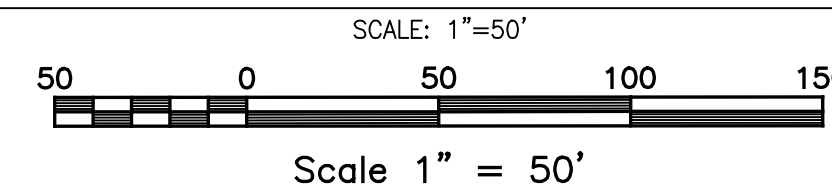
TGOS DATA

#	DA	STORAGE	WEIR CREST EL	CHANNEL BOTTOM
1	1.07 AC	2011 CF	367'	364'

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- NW-NW EX. NON-TIDAL WETLAND
- WB-WB EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- SD-SD EX. STORM DRAIN
- SAN-SAN EX. SANITARY LINE
- W-W EX. WATERLINE
- UG-UG EX. GAS LINE
- UGE-UGE EX. UNDERGROUND ELECTRIC
- CATV-UG EX. UNDERGROUND CABLE TELEVISION
- OHE-OHE EX. OVERHEAD ELECTRIC
- OHT-OHT EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- EX. SOILS DELINEATION
- Sha EX. SOILS CLASSIFICATION LABEL
- EX. ERODIBLE SOILS TO BE EXPOSED DURING GRADING
- EX. 1' CONTOUR
- EX. 2' CONTOUR
- EX. 10' CONTOUR
- EX. SPOT
- LOD-LOD PR. ESC DA
- TP-TP PR. LIMIT OF DISTURBANCE
- TP-TP PR. TREE PROTECTION FENCE
- SF-SF PR. SILT FENCE
- SSF-SSF PR. SUPER SILT FENCE
- DF-DF PR. DIVERSION FENCE
- PR. STABILIZED CONSTRUCTION ENTRANCE (SCE)
- PR. EARTH DIKE A
- PR. EARTH DIKE B
- PR. TEMPORARY GABION OUTLET STRUCTURE
- PR. GABION INFLOW PROTECTION
- PR. REMOVABLE PUMPING STATION
- PR. EROSION CONTROL MATTING

EROSION & SEDIMENT CONTROL PLAN



EROSION CONTROL MATTING CHART						
ECM#	WIDTH	SLOPE	Q10	V10	SHEAR	DESIGNATION
5	4'	3.8%	2.3cfs	2.5fps	0.47	PSSMC-0.47 LB/SF

HOWARD SOIL CONSERVATION DISTRICT
 THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

DocSigned by: *Alexander Bratchie* 10/5/2022
 65648D8A864C1

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chad Edmondson 10/5/2022
 703F734E41499

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 10/6/2022
 DocSigned by: *Amy Goman*
 88408D90470C4C4

DIRECTOR DATE

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Thomas C. Neugebauer
 SIGNATURE OF ENGINEER THOMAS C. NEUGEBAUER, P.E. 10-14-2021 DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Bruce A. Harvey
 SIGNATURE OF DEVELOPER BRUCE HARVEY, WILLIAMSBURG HOMES DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBC ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

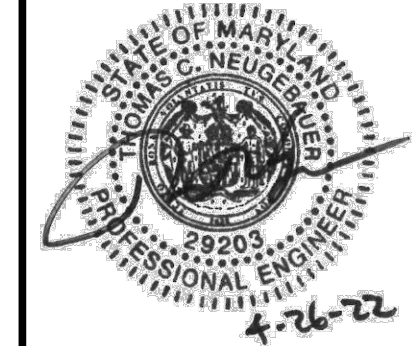
SHEET: SDP-11



MORRIS & RITCHE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.



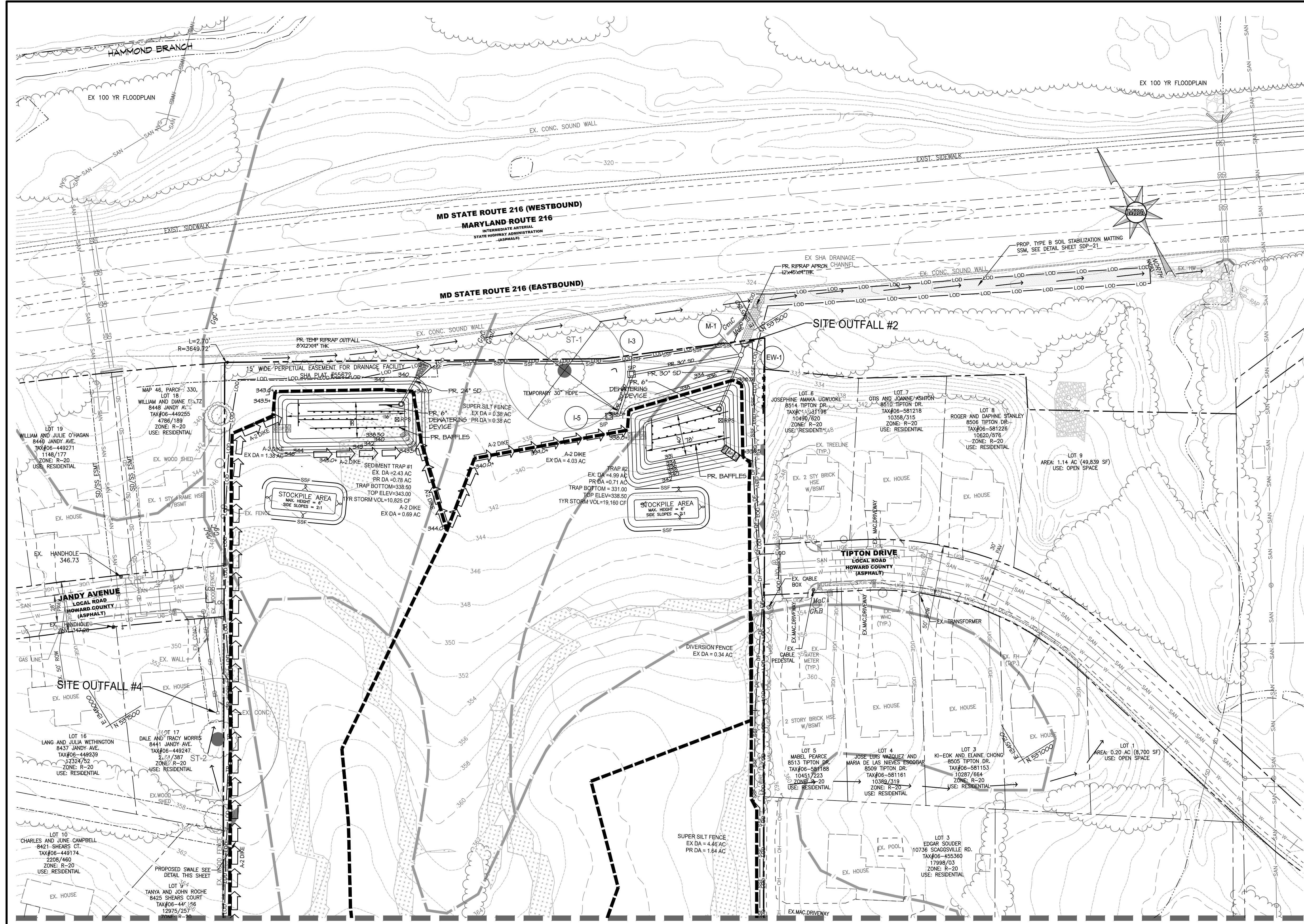
ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A

EROSION & SEDIMENT CONTROL PLAN-PHASE 1

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 11 OF 49

SDP-21-038



SEDIMENT TRAP DATA

Sediment Trap #1	
Trap Type	ST-1
Drainage Area	2.43 Acres ±
Storage Required	total 14,659 Ft ³
wet	4,374 Ft ³
dry	4,374 Ft ³
1yr Storm	10,285 Ft ³
Storage Provided	total 14,982 Ft ³
wet	4,697 Ft ³
dry	6,007 Ft ³
1yr Storm	10,228 Ft ³
Bottom Dimensions	116'x33'
Bottom Elevation	338.90
Side Slopes	2:1
Bottom Elevation	338.90
Weir Crest Elevation	341.50
Cleanout Elevation	339.00
Embankment Elev.	343.00
Wet Storage Elevation	339.90
Existing Ground	338.00
Elev. at Outlet	338.00
Storage Zones	338.50 - 339.50
Wet Storage	338.50 - 340.50
Dry Storage	338.50 - 341.50
1yr Storm Storage	338.50 - 341.50
Riser Diameter	33"
Barrel Diameter	24"
Trash Rack Diameter	64"
Trash Rack Height	21"
Outlet Protection - Length	12'
Outlet Protection - Width	8'
Outlet Protection - Depth	19"
Q _s	0.14 cfs

Sediment Trap #2	
Trap Type	ST-1
Drainage Area	4.99 Acres ±
Storage Required	total 20,153 Ft ³
wet	9,882 Ft ³
dry	9,882 Ft ³
1yr Storm	19,171 Ft ³
Storage Provided	total 28,153 Ft ³
wet	8,393 Ft ³
dry	8,393 Ft ³
1yr Storm	19,180 Ft ³
Bottom Dimensions	78'x40'
Bottom Elevation	331.00
Side Slopes	2:1
Bottom Elevation	331.00
Weir Crest Elevation	337.00
Cleanout Elevation	332.23
Embankment Elev.	338.50
Wet Storage Elevation	333.45
Existing Ground	324.50
Elev. at Outlet	324.50
Storage Zones	331.00 - 333.45
Wet Storage	333.45 - 335.30
Dry Storage	333.45 - 335.30
1yr Storm Storage	333.45 - 335.30
Riser Diameter	42"
Barrel Diameter	30"
Trash Rack Diameter	80"
Trash Rack Height	27"
Q _s	0.74 cfs

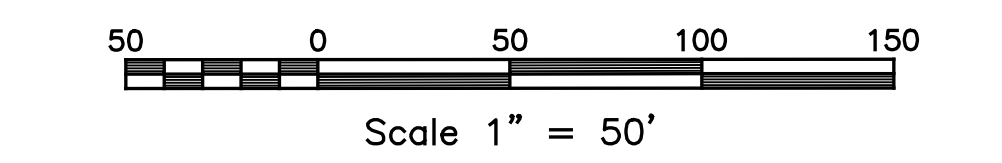
TEMPORARY 30" HDPE (N-12) STORM DRAIN
 INLET I-5 INVERT = 331.07
 SEAL OPENING FOR 30" SD FROM I-5 TO SHM #44
 INLET I-3 INVERT 325.40
 SEAL OPENING FOR 30" SD FROM SHM #41 TO I-3

LEGEND

- EX. PROPERTY LINE
- - - - EX. RIGHT-OF-WAY
- - - - EX. ADJACENT PROPERTY LINE
- - - - EX. EASEMENT
- - - - EX. NON-TIDAL WETLAND
- - - - EX. WETLAND BUFFER
- - - - EX. NON-TIDAL WETLAND
- - - - EX. BUILDING
- - - - EX. CURB
- - - - EX. PAVEMENT/EDGE OF GUTTER
- - - - EX. WALK
- - - - EX. WALL
- - - - EX. CONCRETE
- - - - EX. METAL FENCE
- - - - EX. WOOD FENCE
- - - - EX. GUARDRAIL
- - - - EX. STREAM/POND
- - - - EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- - - - EX. SANITARY LINE
- - - - EX. WATERLINE
- - - - EX. GAS LINE
- - - - EX. UNDERGROUND ELECTRIC
- - - - EX. UNDERGROUND CABLE TELEVISION
- - - - EX. OVERHEAD ELECTRIC
- - - - EX. OVERHEAD TELEPHONE
- - - - EX. FIRE HYDRANT
- - - - EX. WATER VALVE
- - - - EX. WATER METER
- - - - EX. POWER POLE
- - - - EX. LIGHT POLE
- - - - EX. SOILS DELINEATION
- - - - EX. SOILS CLASSIFICATION LABEL
- - - - EX. ERODIBLE SOILS TO BE EXPOSED DURING GRADING
- - - - EX. 1' CONTOUR
- - - - EX. 2' CONTOUR
- - - - EX. 10' CONTOUR
- - - - EX. SPOT
- - - - PR. ESC DA
- - - - PR. LIMIT OF DISTURBANCE
- - - - PR. TREE PROTECTION FENCE
- - - - PR. SILT FENCE
- - - - PR. SUPER SILT FENCE
- - - - PR. DIVERSION FENCE
- - - - PR. STABILIZED CONSTRUCTION ENTRANCE (SC)
- - - - PR. EARTH DIKE A
- - - - PR. EARTH DIKE B
- - - - PR. TEMPORARY GABION OUTLET STRUCTURE
- - - - PR. GABION INFLOW PROTECTION
- - - - PR. REMOVABLE PUMPING STATION
- - - - PR. EROSION CONTROL MATTING

EROSION & SEDIMENT CONTROL PLAN

SCALE: 1"=50'
 SEE MATCHLINE SHEET SDP-11



DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER: *Bruce A. Harvey*
 BRUCE A. HARVEY, WILLIAMSBURG HOMES DATE

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER: *Thomas C. Neugebauer, P.E.*
 THOMAS C. NEUGEBAUER, P.E. DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

HOWARD SOIL CONSERVATION DISTRICT	
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT	
DocuSigned by: <i>Alexander Bratovich</i>	10/5/2022
HOWARD SOIL CONSERVATION DISTRICT	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>Chad Edmondson</i>	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT <i>Amy Goman</i>	10/6/2022
DIRECTOR	DATE

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

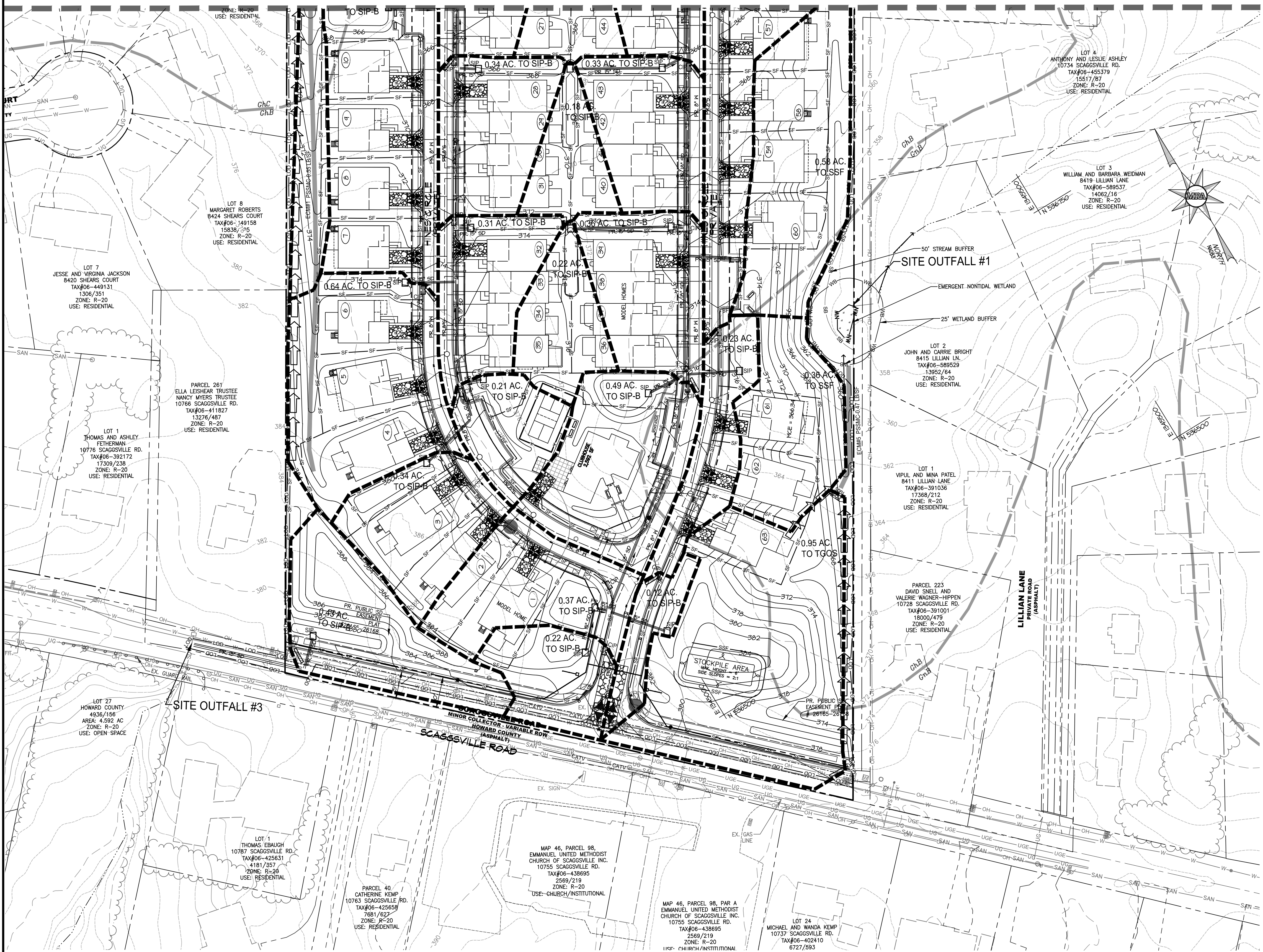
SHEET: SDP-12

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
 EROSION & SEDIMENT CONTROL PLAN-PHASE 1

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590x04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 12 OF 49

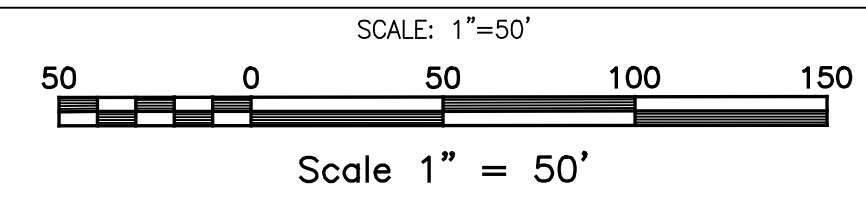
SEE MATCHLINE SHEET SDP-14



LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COL)
- PR. STREET LIGHT (LED-150 COL)
- PR. LED-150 COBRAHEAD FIXTURE
30 FT BRONZE FIBERGLASS POLE
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRANCE
- PR. S1' CONTOUR
- PR. 2' CONTOUR
- PR. 10' CONTOUR
- PR. LIMIT OF DISTURBANCE
- PR. SPOT ELEVATION
- PR. ESC DA
- PR. LIMIT OF DISTURBANCE
- PR. TREE PROTECTION FENCE
- PR. SILT FENCE
- PR. SUPER SILT FENCE
- PR. DIVERSION FENCE
- PR. STABILIZED CONSTRUCTION ENTRANCE (SCE)
- PR. EARTH DIKE A
- PR. EARTH DIKE B
- PR. TEMPORARY GABION OUTLET STRUCTURE
- PR. GABION INFLOW PROTECTION
- PR. REMOVABLE PUMPING STATION
- PR. EROSION CONTROL MATTING
- PR. TEMPORARY ASPHALT BERM

EROSION & SEDIMENT CONTROL PLAN



DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER THOMAS C. NEUGEBAUER, P.E. *Thomas C. Neugebauer* 10-14-2022 DATE

SIGNATURE OF DEVELOPER BRUCE HARVEY, WILLIAMSBURG HOMES DATE *Bruce A. Harvey*

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

HOWARD SOIL CONSERVATION DISTRICT
 THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

DocuSigned by: <i>Alexander Bratchis</i>	10/5/2022
HOWARD SOIL CONSERVATION DISTRICT	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edmondson</i>	10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION	DATE
<i>Amy Stoman</i>	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Amy Stoman</i>	10/6/2022
DIRECTOR	DATE

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

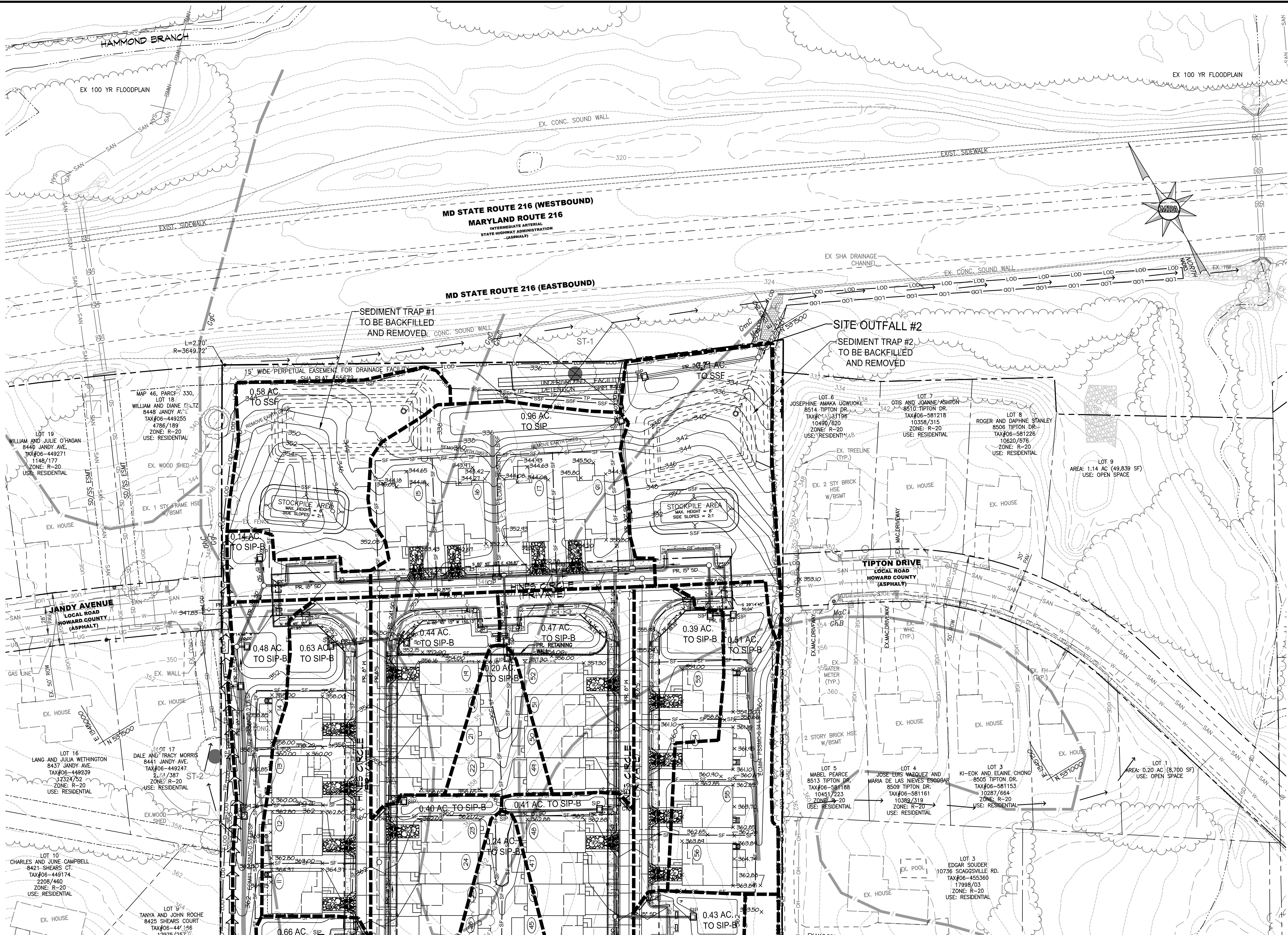
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
 EROSION & SEDIMENT CONTROL PLAN - PH 2

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:	SCALE:
		19590/04	1" = 50'
			4-26-2022
			DRAWN BY: MF
			DESIGN BY: MF
			REVIEW BY: MM
			SHEET: 13 OF 49

SDP-21-038

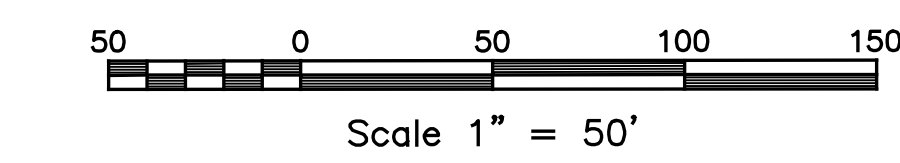


- ### LEGEND
- EX. PROPERTY LINE
 - EX. RIGHT-OF-WAY
 - EX. ADJACENT PROPERTY LINE
 - EX. EASEMENT
 - NW NW EX. NON-TIDAL WETLAND
 - WB WB EX. WETLAND BUFFER
 - EX. NON-TIDAL WETLAND
 - EX. BUILDING
 - EX. CURB
 - EX. PAVEMENT/EDGE OF GUTTER
 - EX. WALK
 - EX. WALL
 - EX. CONCRETE
 - EX. METAL FENCE
 - EX. WOOD FENCE
 - EX. GUARDRAIL
 - EX. STREAM/POND
 - EX. TREELINE
 - EX. SPECIMEN TREE
 - EX. TREE
 - EX. SHRUB
 - SD SD EX. STORM DRAIN
 - SAN SAN EX. SANITARY LINE
 - W W EX. WATERLINE
 - UG UG EX. GAS LINE
 - UGE UGE EX. UNDERGROUND ELECTRIC
 - CATV EX. UNDERGROUND CABLE TELEVISION
 - OHE OHE EX. OVERHEAD ELECTRIC
 - OHT OHT EX. OVERHEAD TELEPHONE
 - EX. FIRE HYDRANT
 - EX. WATER VALVE
 - EX. WATER METER
 - EX. POWER POLE
 - EX. LIGHT POLE
 - PR. RIGHT OF WAY
 - PR. LOT LINE/PARCEL LINE
 - PR. EASEMENT
 - PR. OPEN SPACE EASEMENT
 - PR. BUILDING
 - PR. CURB & GUTTER
 - PR. CONC. SIDEWALK
 - PR. HANDICAP RAMP
 - PR. UNIT NUMBER
 - R15' PR. CURB RADIUS
 - PR. STREET LIGHT (LED-100 COLONIAL)
 - PR. STREET LIGHT (LED-150 COLONIAL)
 - PR. LED-150 COBRAHEAD FIXTURE MOUNTED ON 30 FT BRONZE FIBERGLASS POLE USING 3/4" DIA. BUSHING
 - PR. TREE LINE
 - PR. DECORATIVE FENCE/ENTRY FEATURE
 - PR. 1" CONTOUR
 - PR. 2" CONTOUR
 - PR. 10' CONTOUR
 - PR. LIMIT OF DISTURBANCE
 - PR. SPOT ELEVATION
 - PR. ESC DA
 - PR. LIMIT OF DISTURBANCE
 - PR. TREE PROTECTION FENCE
 - PR. SILT FENCE
 - PR. SUPER SILT FENCE
 - PR. DIVERSION FENCE
 - PR. STABILIZED CONSTRUCTION ENTRANCE (SCE)
 - PR. EARTH DIKE A
 - PR. EARTH DIKE B
 - PR. TEMPORARY GABION OUTLET STRUCTURE
 - PR. GABION INFLOW PROTECTION
 - PR. REMOVABLE PUMPING STATION
 - PR. EROSION CONTROL MATTING
 - PR. TEMPORARY ASPHALT BERM

SEE MATCHLINE SHEET SDP-13

EROSION & SEDIMENT CONTROL PLAN

SCALE: 1"=50'



ECM#	WIDTH	SLOPE	Q10	V10	SHEAR	DESIGNATION
1	4'	4.4%	2.5cfs	2.7fps	0.55	PSSMC-0.55 LB/SF
2	4'	3.2%	0.7cfs	1.5fps	0.20	PSSMC-0.20 LB/SF
3	4'	8.0%	3.3cfs	3.8fps	1.00	PSSMC-1.00 LB/SF
4	4'	3.0%	1.5cfs	2.0fps	0.34	PSSMC-0.34 LB/SF
5	4'	3.8%	2.3cfs	2.5fps	0.47	PSSMC-0.47 LB/SF

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Bruce A. Harvey
 SIGNATURE OF DEVELOPER BRUCE HARVEY, WILLIAMSBURG HOMES DATE 10-14-2021

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Thomas C. Neugebauer, P.E.
 SIGNATURE OF ENGINEER THOMAS C. NEUGEBAUER, P.E. DATE 10-14-2021

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:

WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

HOWARD SOIL CONSERVATION DISTRICT	
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT	
DocuSigned by: <i>Alexander Bratchie</i> 0554105A8886C7C1	10/5/2022
HOWARD SOIL CONSERVATION DISTRICT	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edmondson</i> 0503734E244499	10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>Amy Goman</i> 58160509470C24C	10/6/2022
DIRECTOR	DATE

SHEET: SDP-14

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

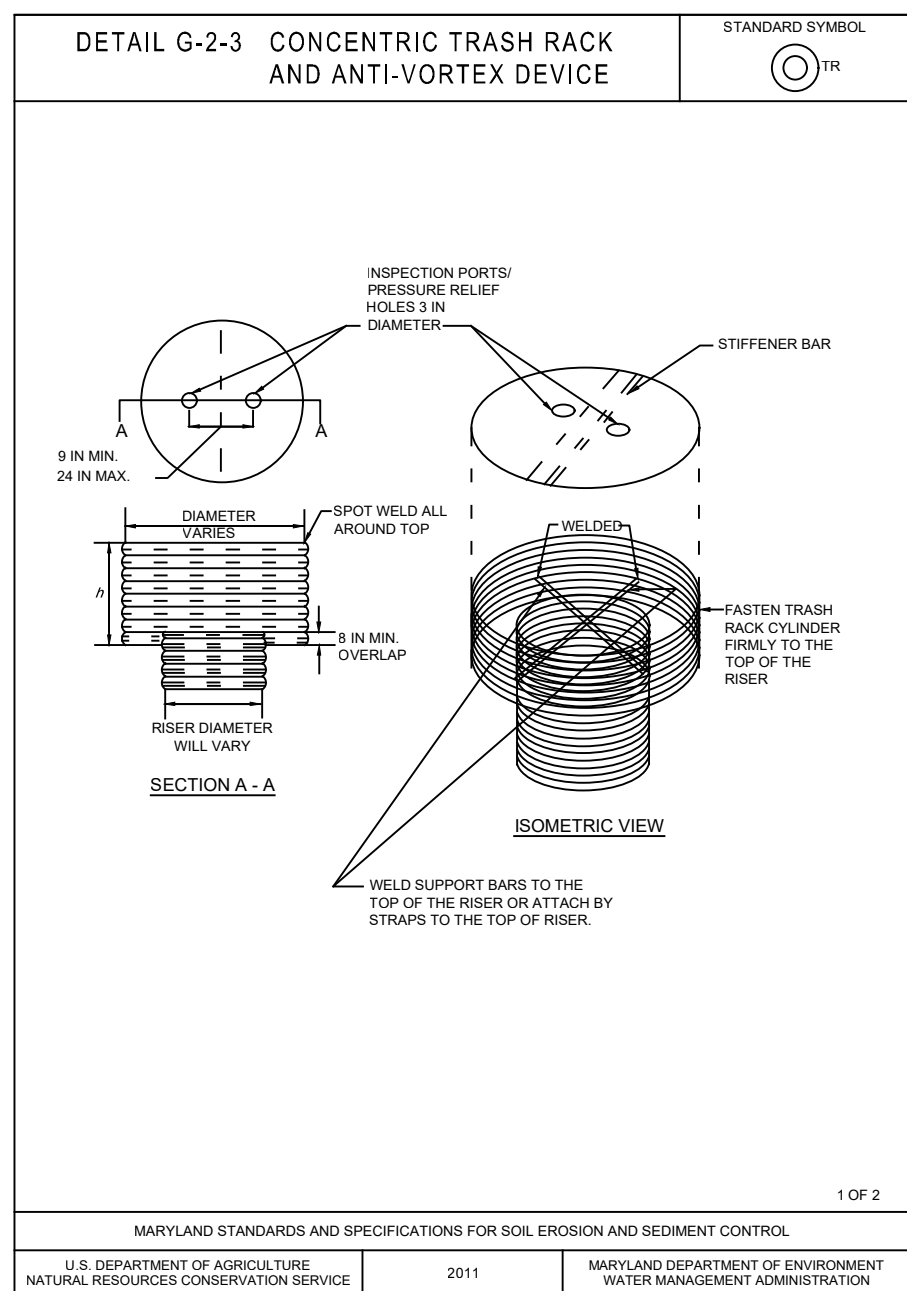
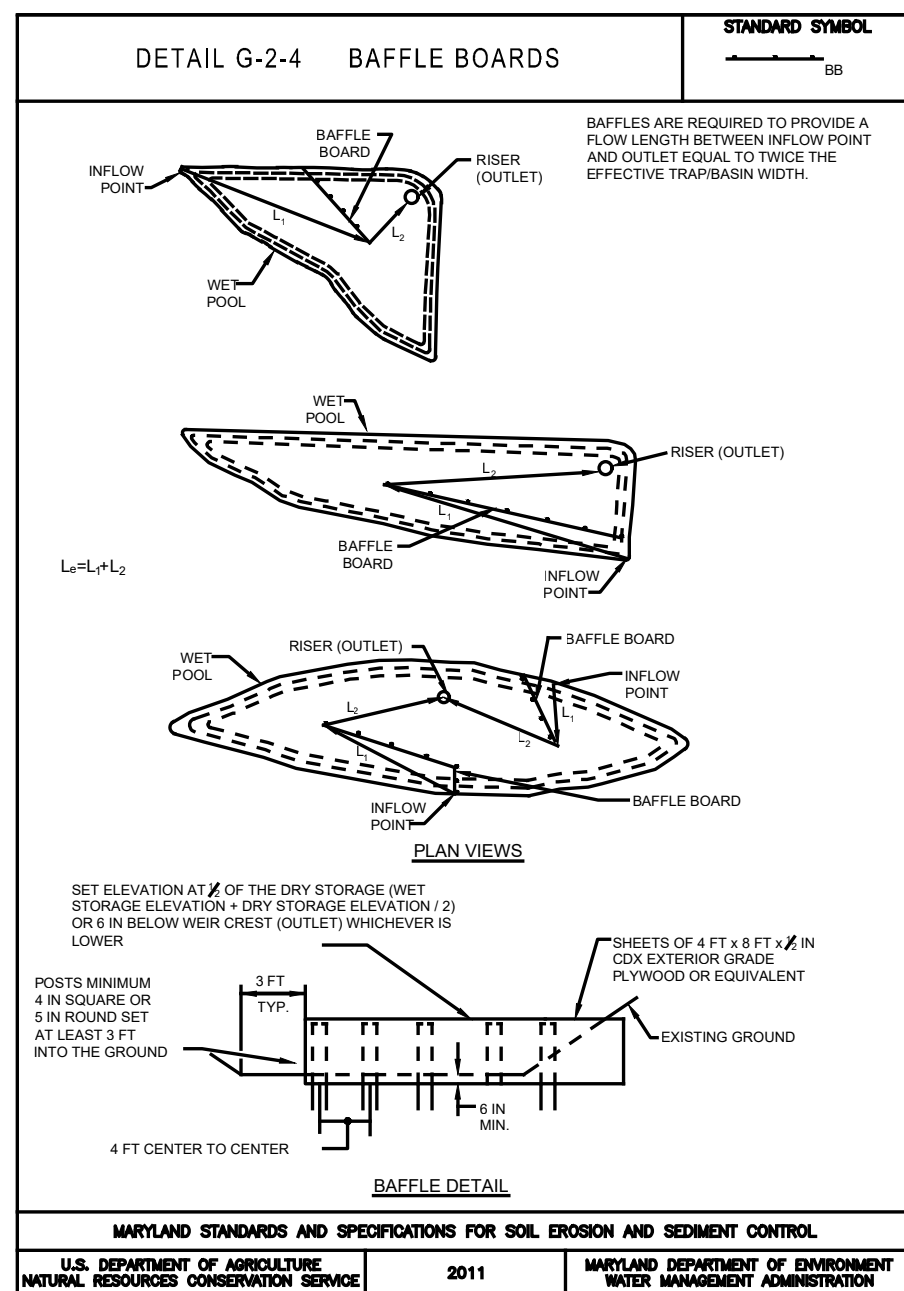
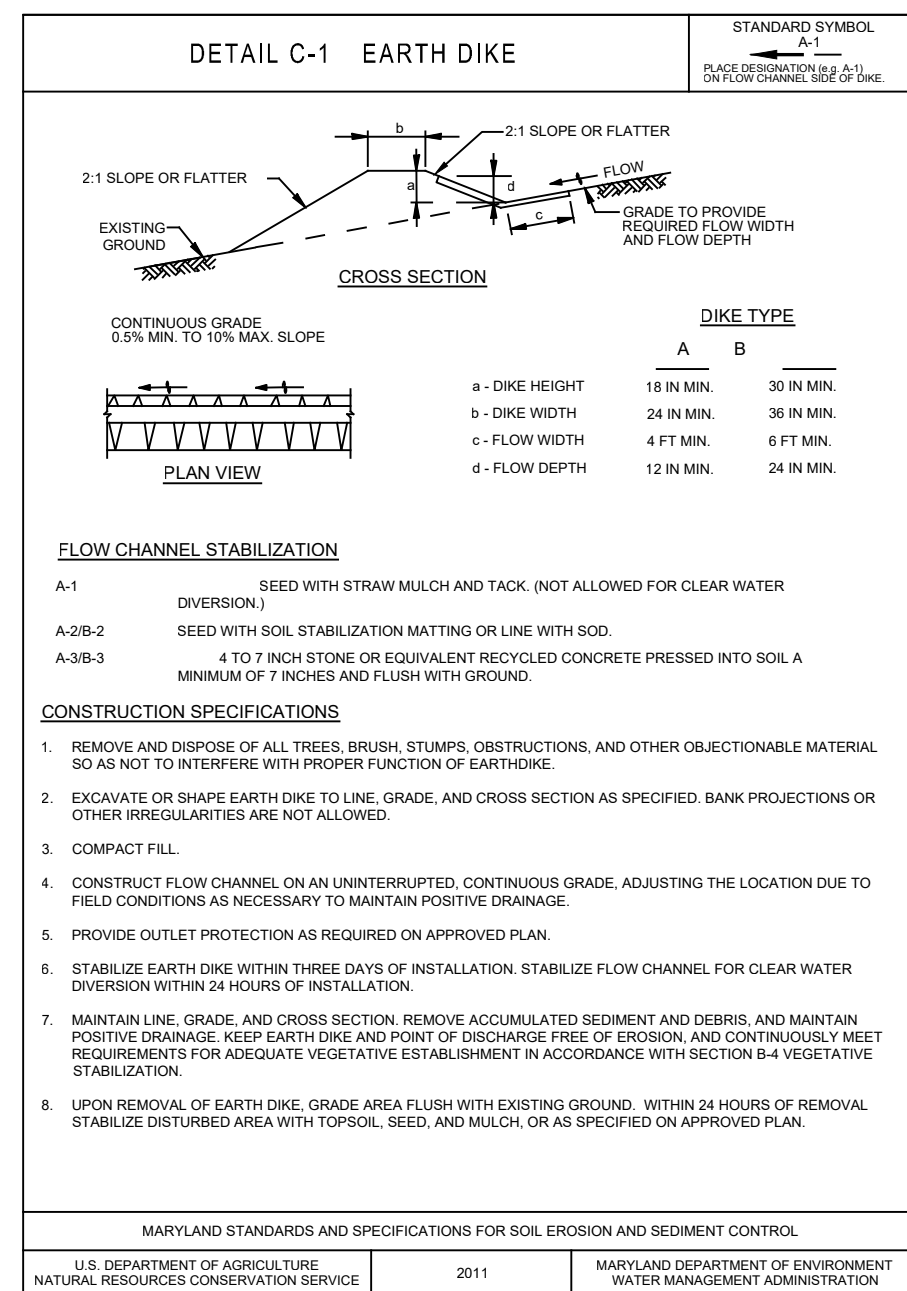
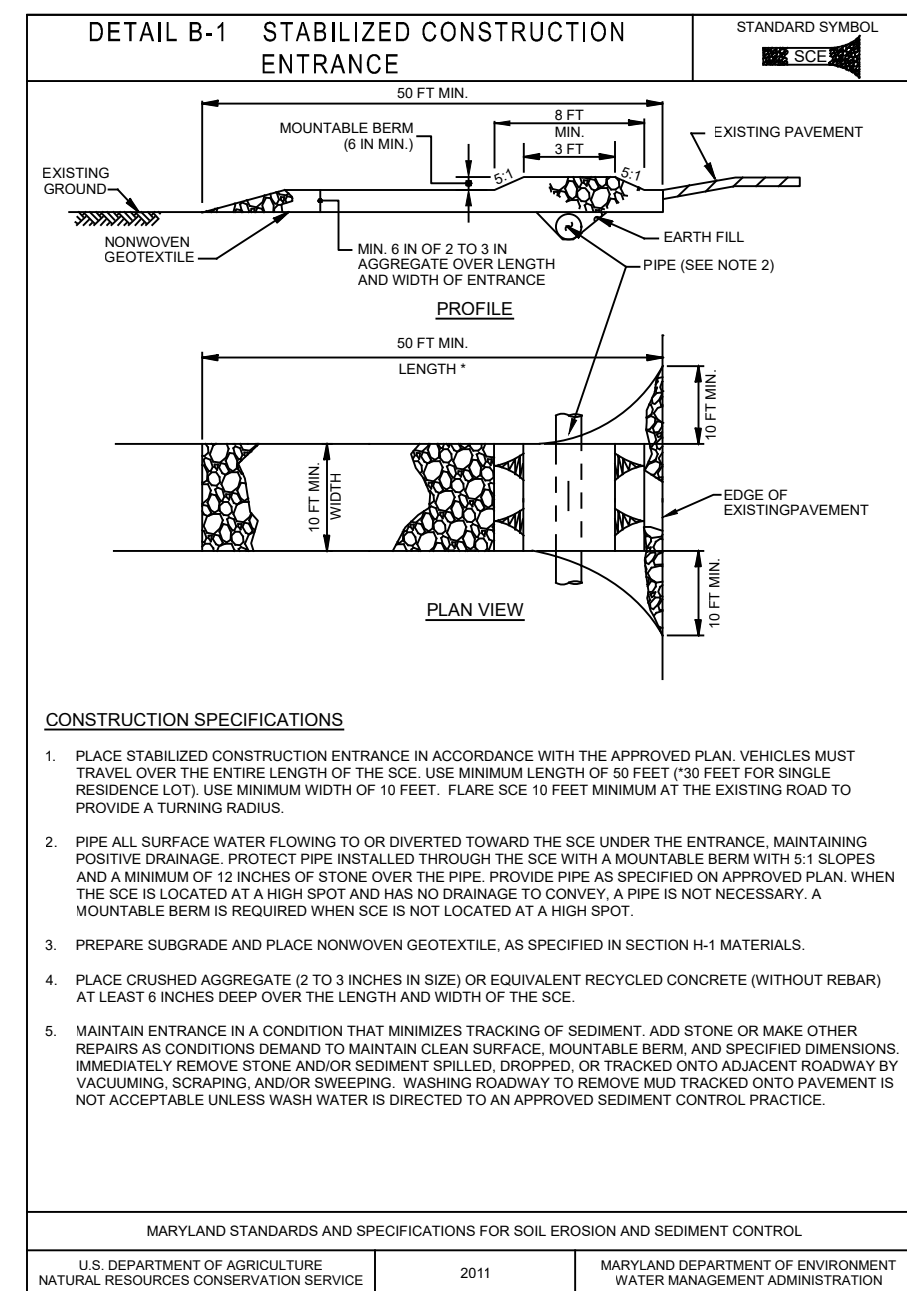
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
EROSION & SEDIMENT CONTROL PLAN-PH 2

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 14 OF 49

SDP-21-038

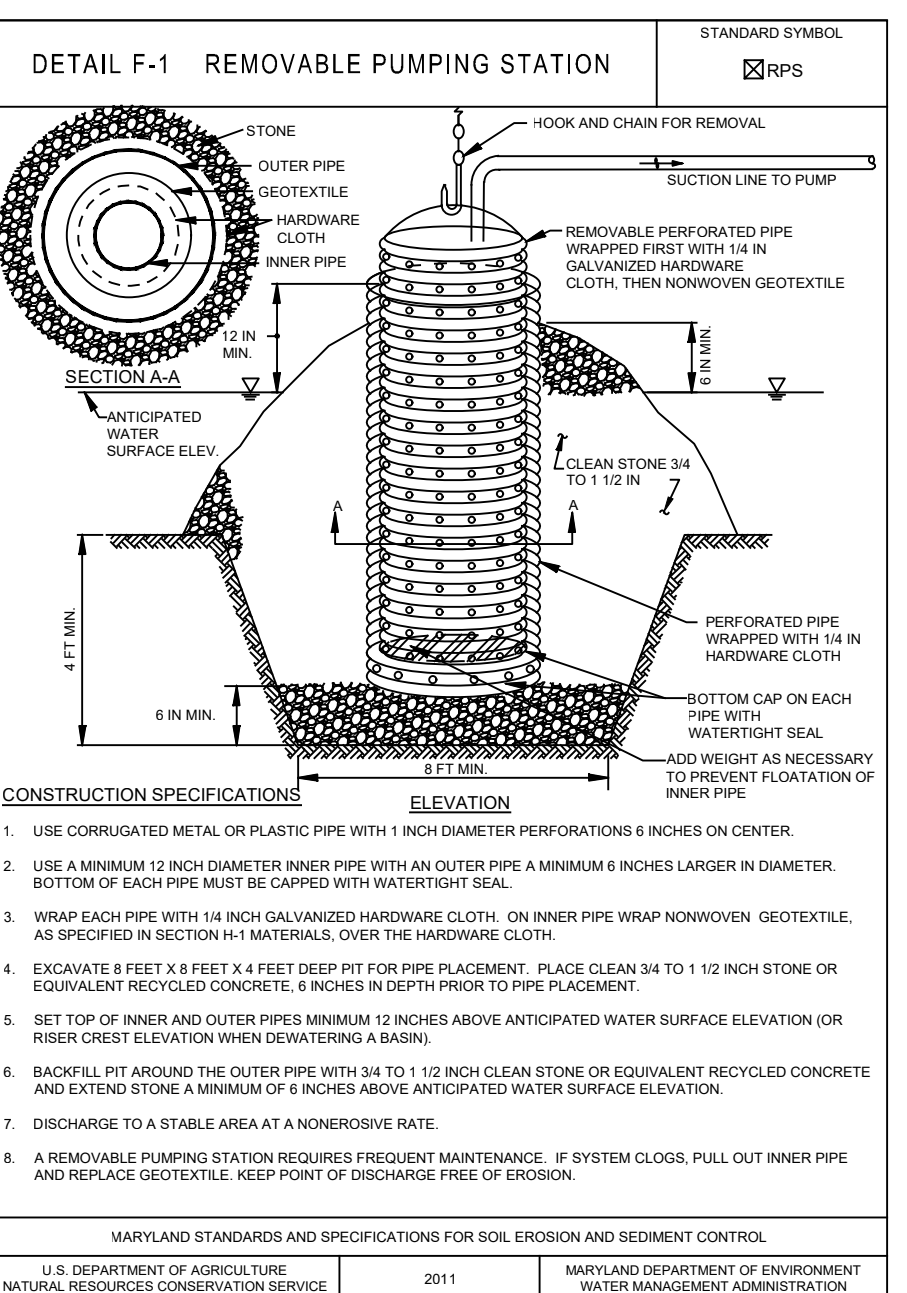
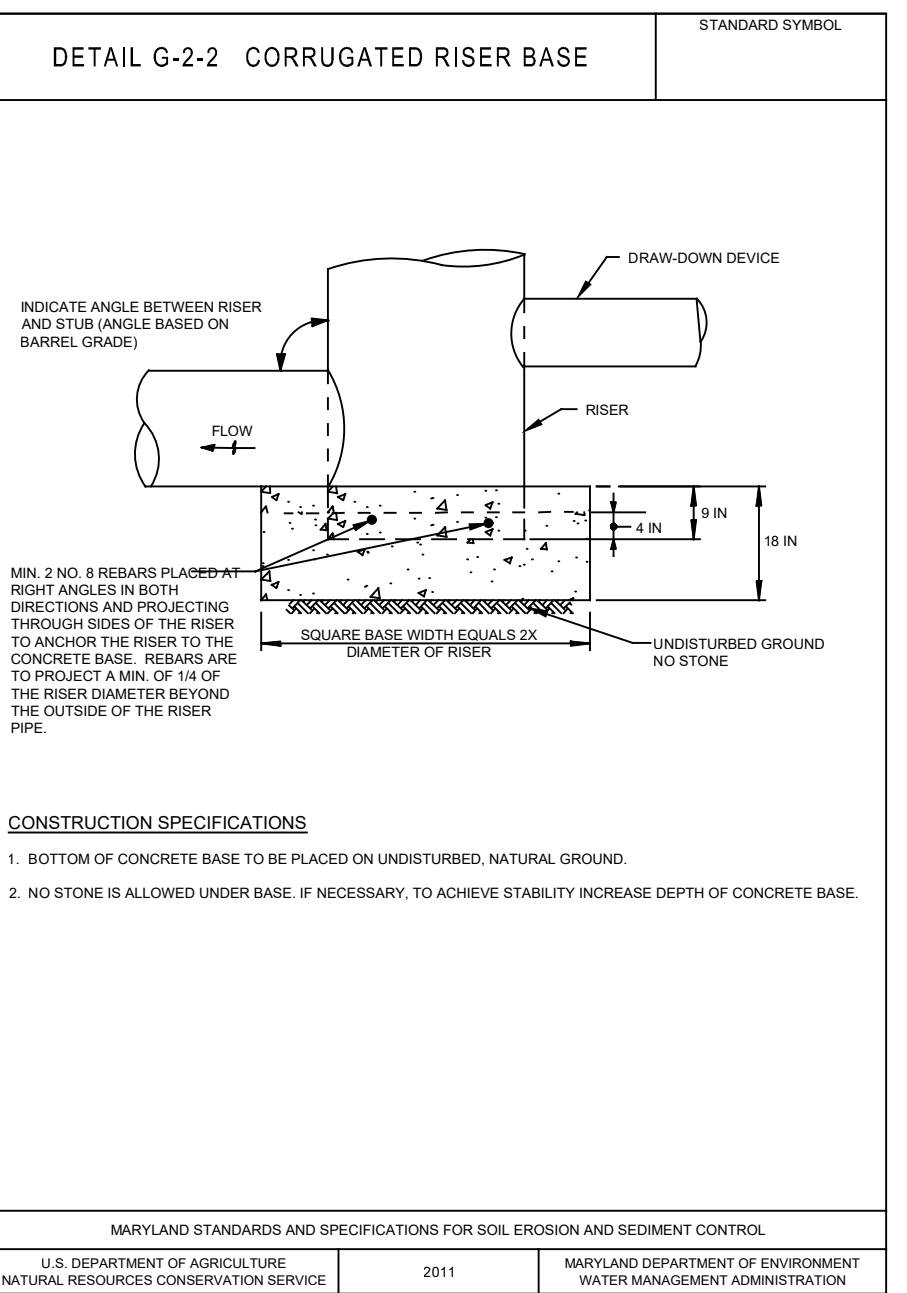
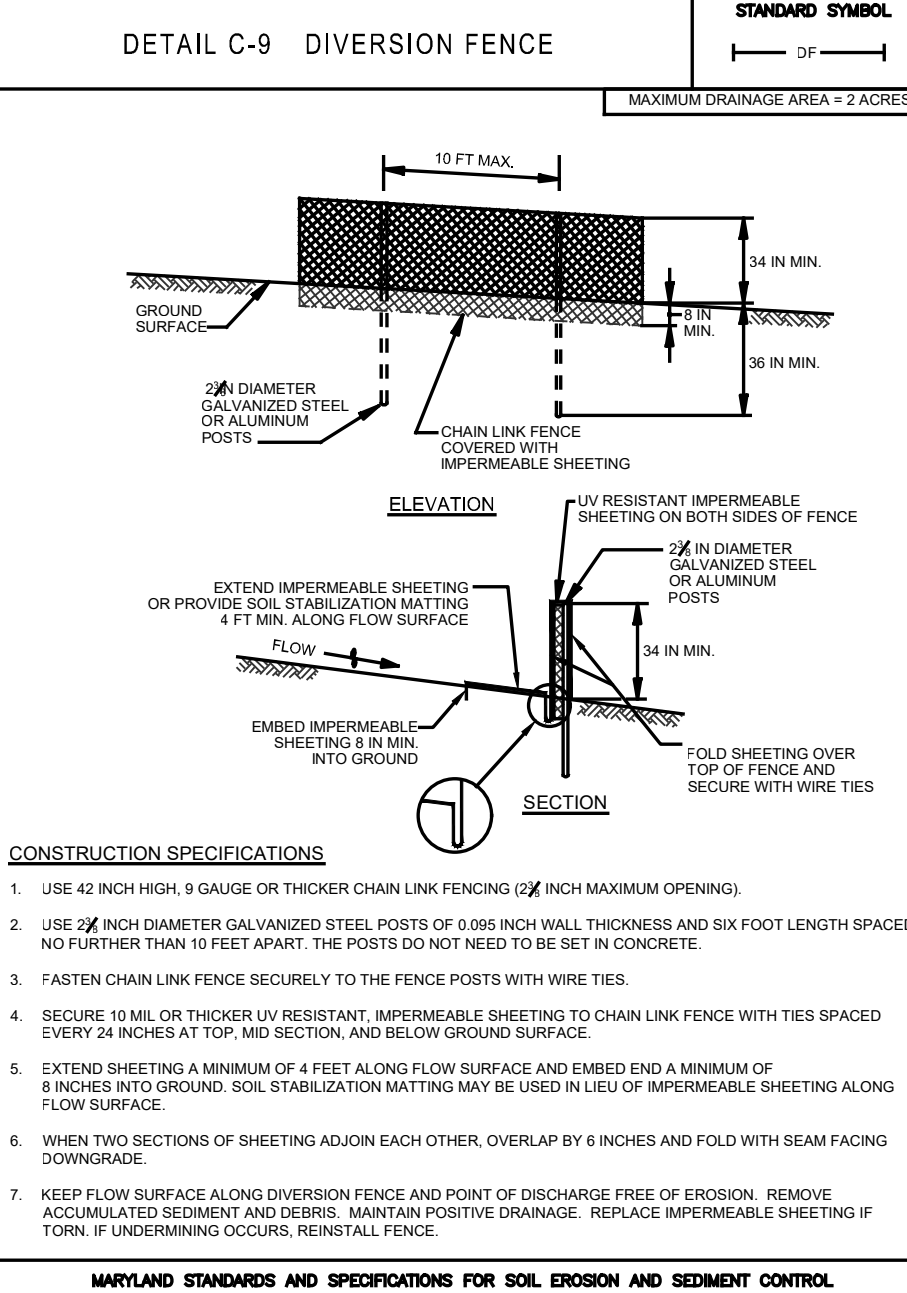
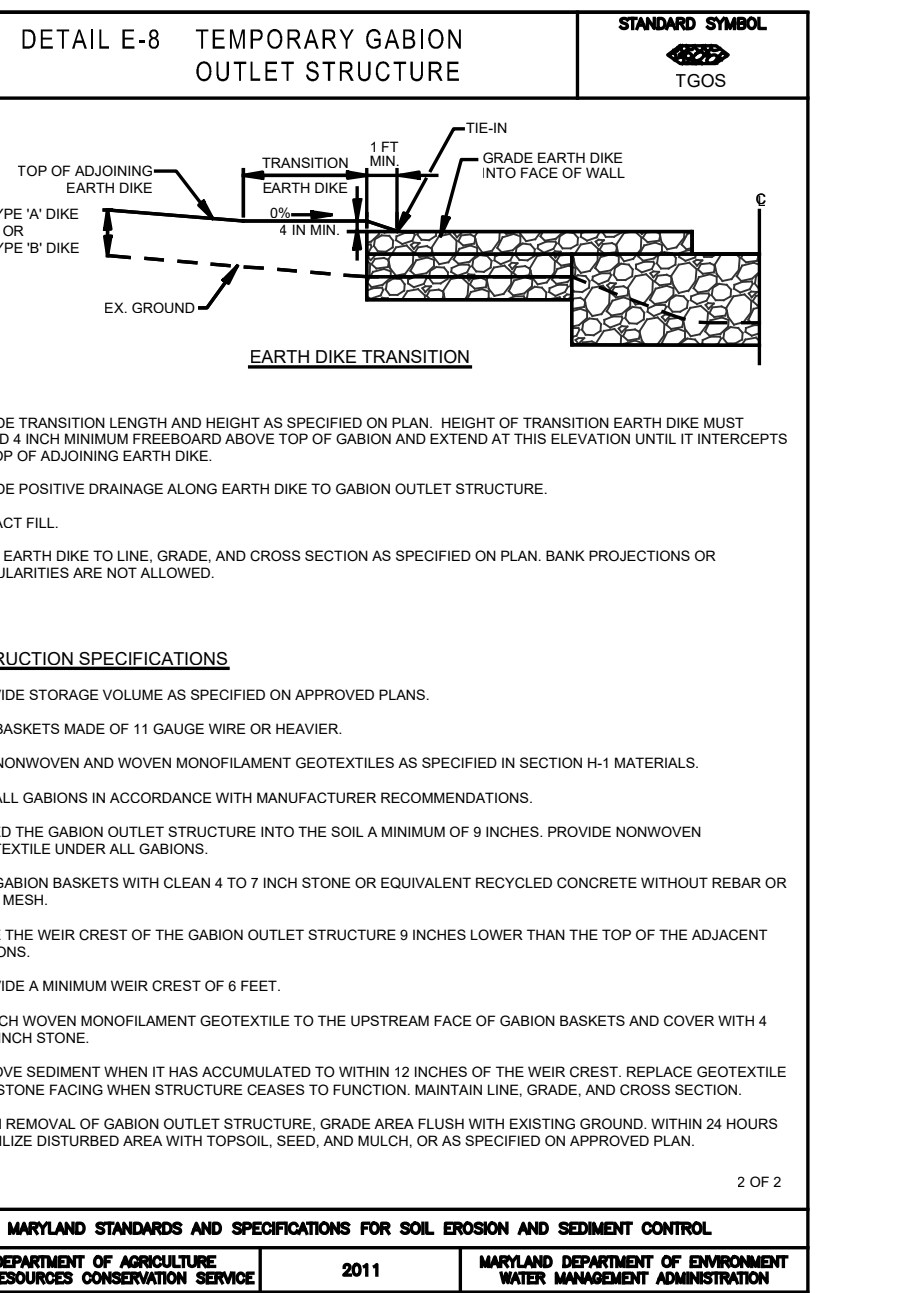
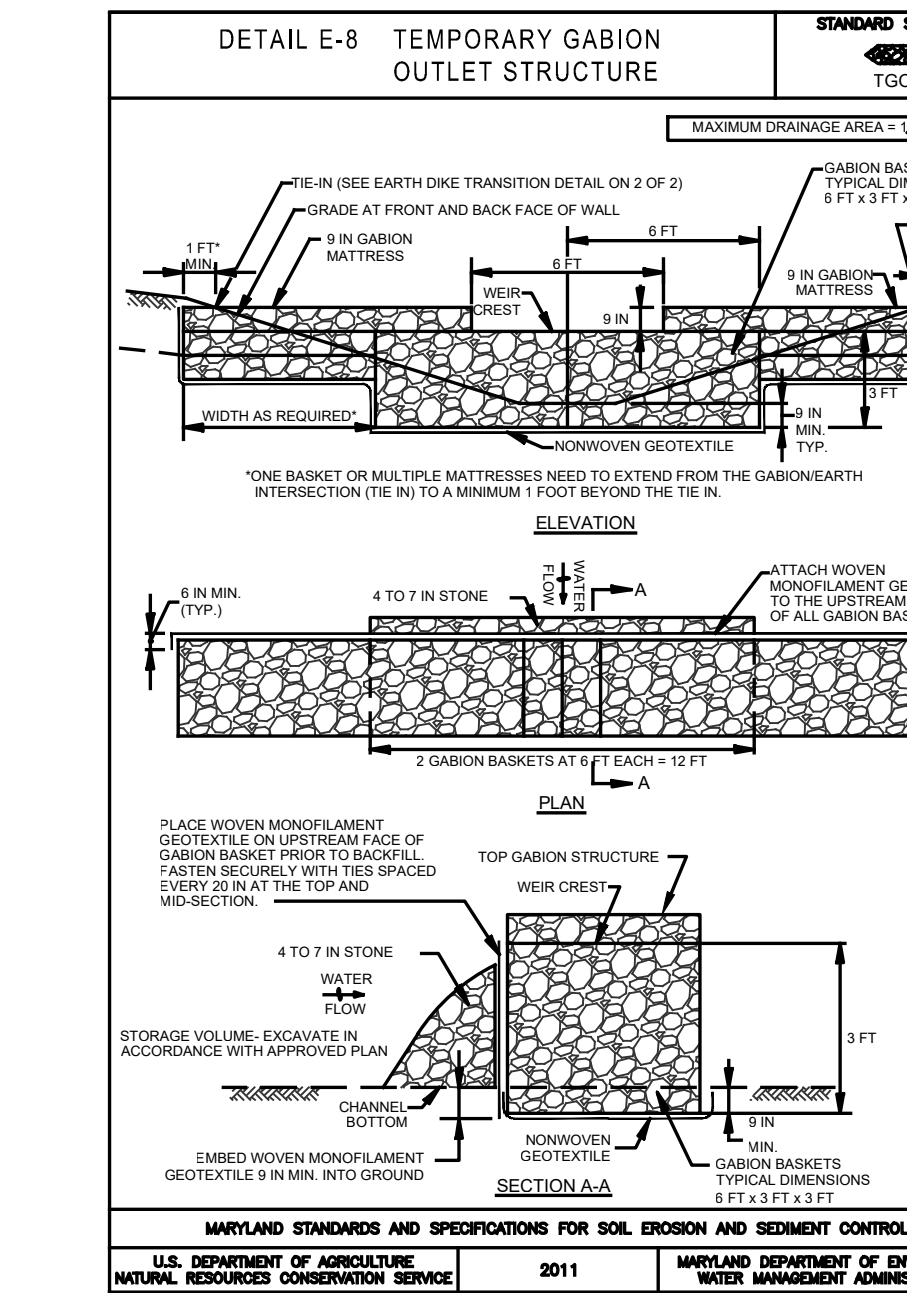
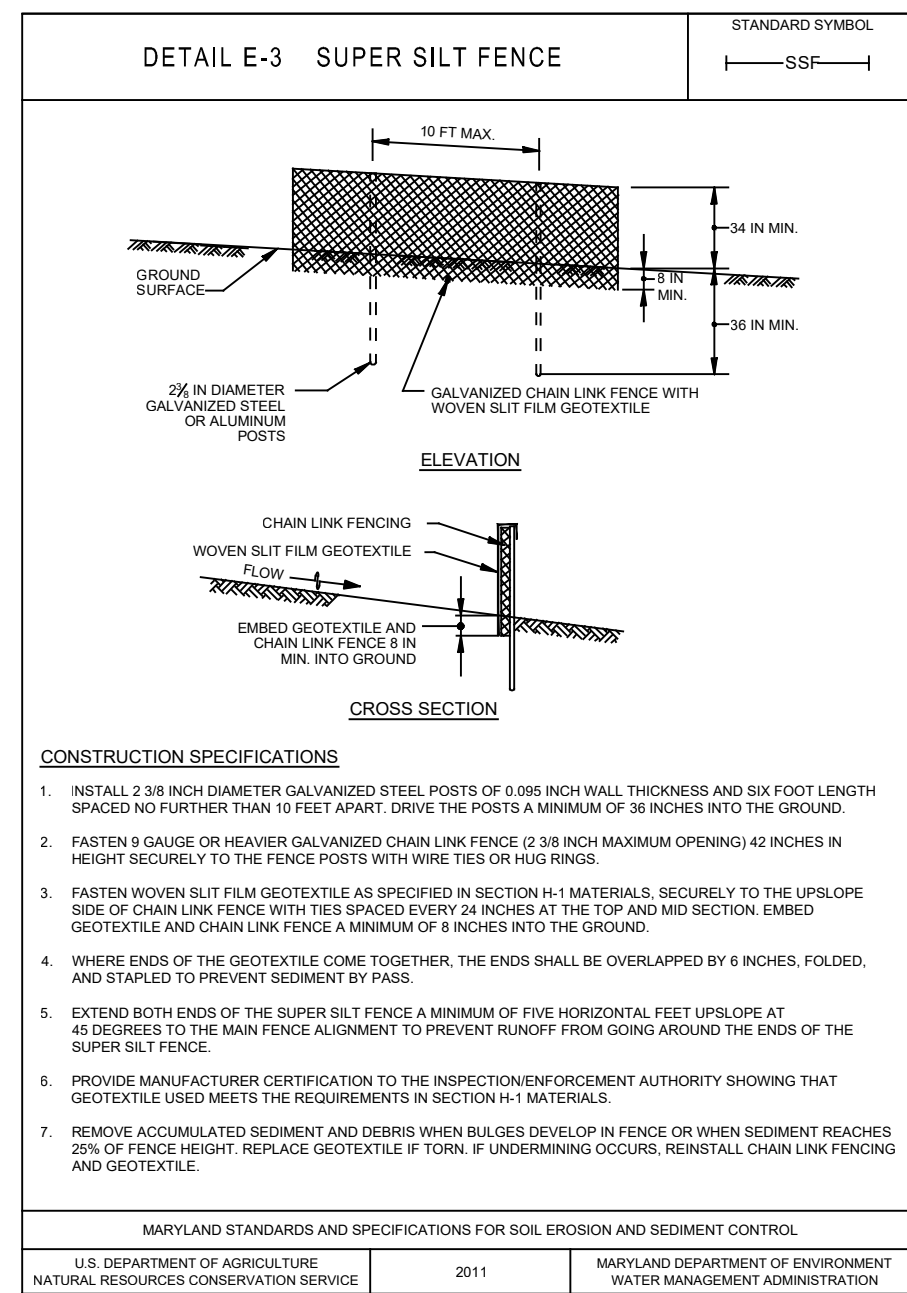
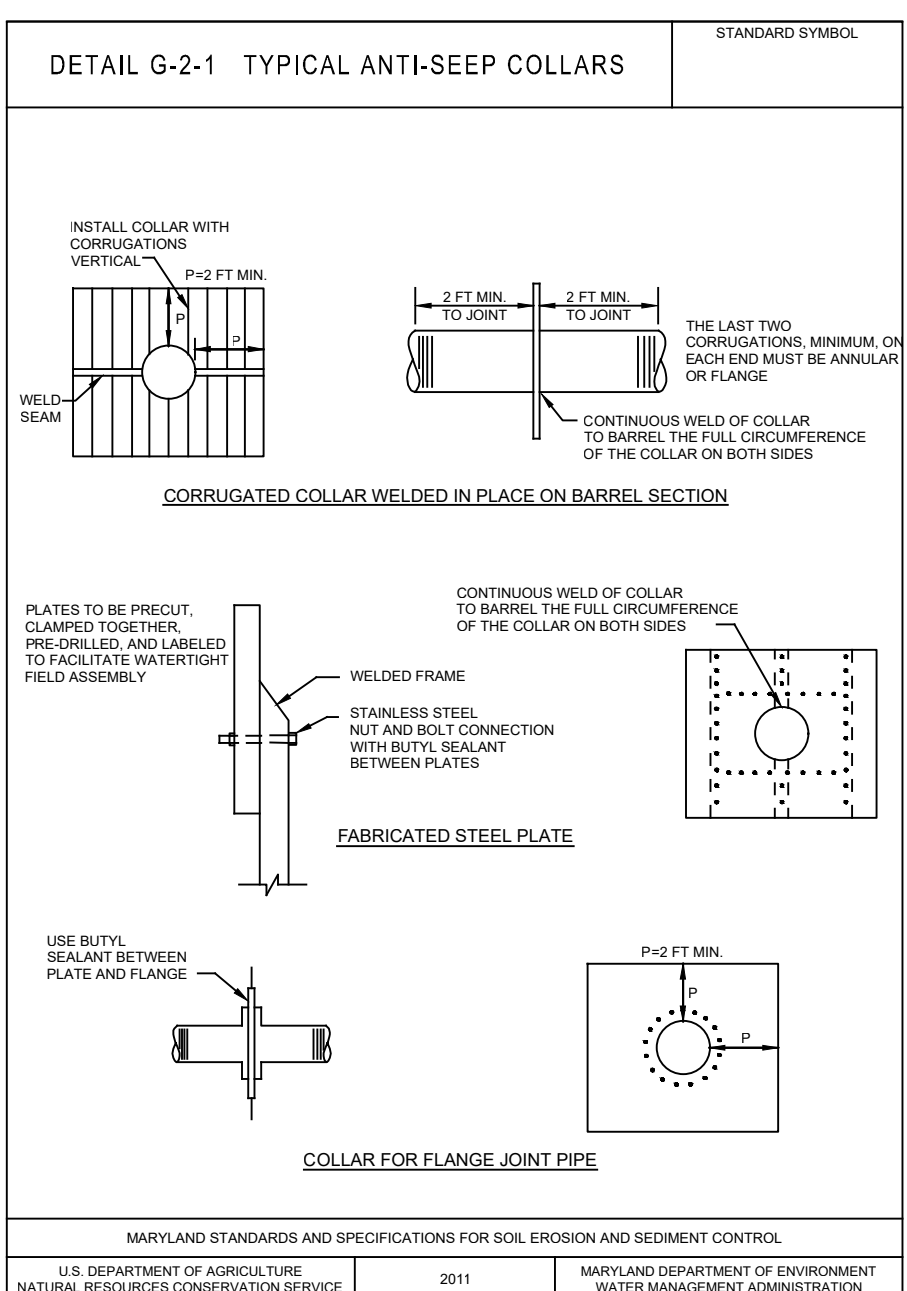


DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

RISER DIA. (IN)	DIAM. (IN)	THICKNESS (GAUGE)	R	S	MINIMUM RISE (IN)	MINIMUM TOP THICKNESS (GAUGE)	STIFFENER
12	18	16	14	#8 REBAR	16	N/A	
15	21	16	15	#8 REBAR	16	N/A	
18	27	16	16	#8 REBAR	16	N/A	
21	30	16	19	#8 REBAR	16	N/A	
24	36	16	21	#8 REBAR	14	N/A	
27	42	16	21	#8 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	1 1/4 IN PIPE OR 1 1/2 x 1 1/4 IN ANGLE	10	N/A	
54	78	12	33	1 1/4 IN PIPE OR 1 1/4 x 1 1/4 IN ANGLE	10	N/A	
60	90	12	37	1 1/2 IN PIPE OR 1 1/2 x 1 1/2 IN ANGLE	8	N/A	
66	96	10	41	2 IN PIPE OR 2 x 2 x 3/8 ANGLE	8	2 1/2 x 1/4 ANGLE	
72	102	10	44	2 IN PIPE OR 2 x 2 x 3/8 ANGLE	8	2 1/2 x 1/2 x 1/4 ANGLE	
78	114	10	47	2 1/2 IN PIPE OR 2 x 2 x 1/4 ANGLE	8	2 1/2 x 1/2 x 1/4 ANGLE	
84	120	10	50	2 1/2 IN PIPE OR 2 1/2 x 1/2 x 1/4 ANGLE	8	2 1/2 x 1/2 x 1/8 ANGLE	

CONSTRUCTION SPECIFICATIONS

- REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
- EXCAVATE OR SHAPE EARTH DUE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
- COMPACT FILL.
- CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
- PROTECT OUTLET PROTECTION AS REQUIRED ON SPECIFIED PLAN.
- STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B.4 VEGETATIVE STABILIZATION.
- UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL, STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.



DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Bruce A. Harvey
SIGNATURE OF DEVELOPER BRUCE HARVEY, WILLIAMSBURG HOMES DATE

HOWARD SOIL CONSERVATION DISTRICT

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

Approved by: *Alexander Bratovic* DATE 10/5/2022

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

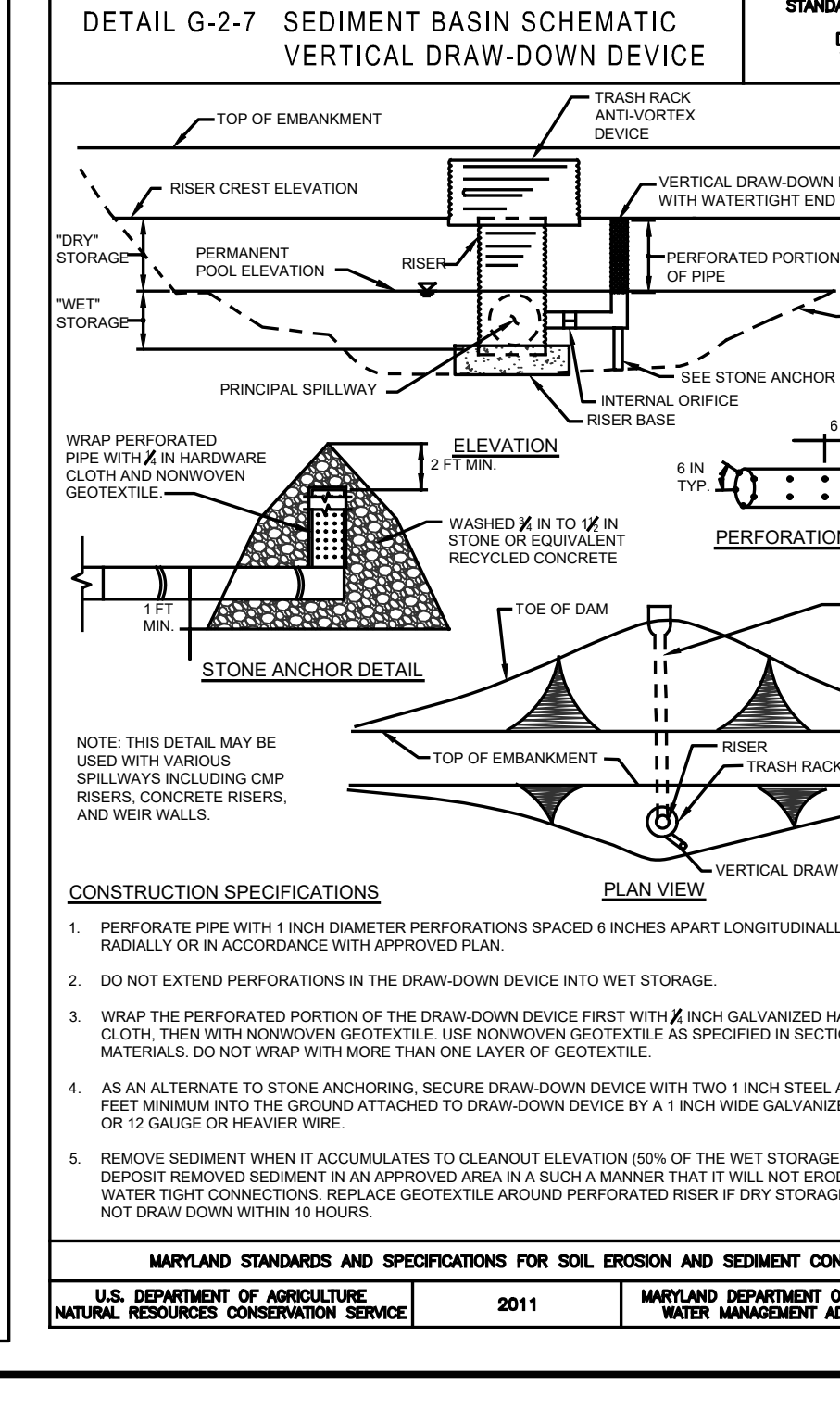
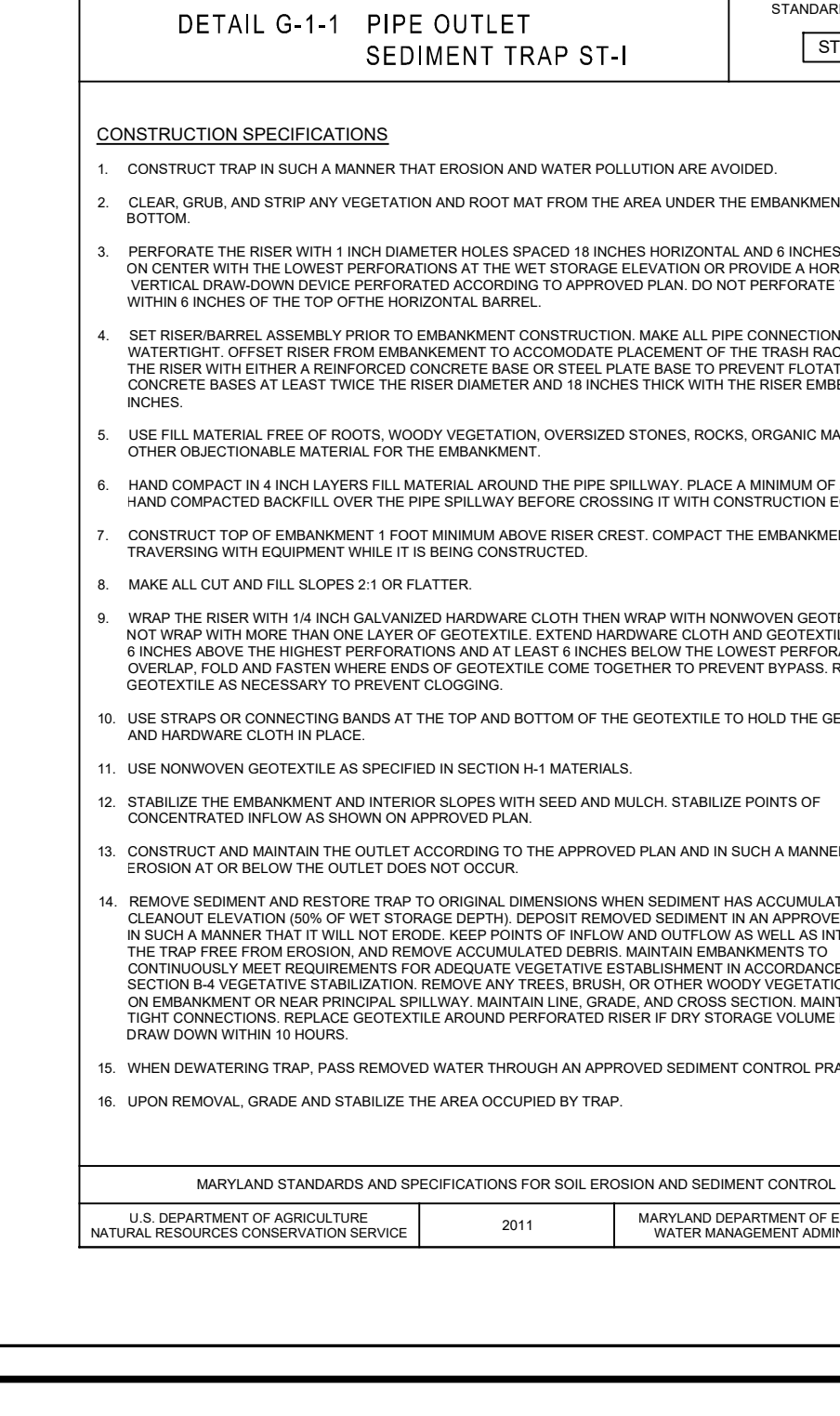
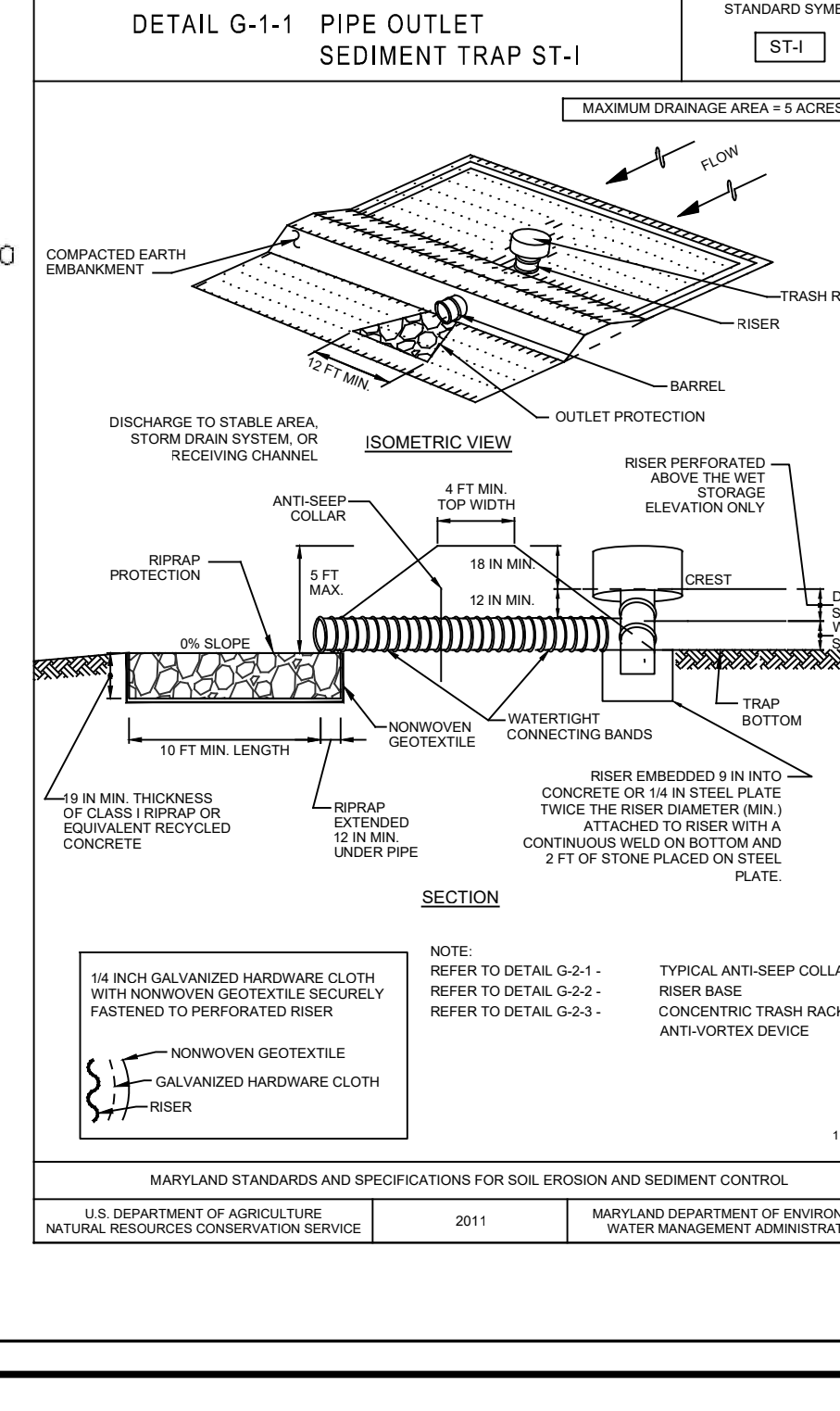
Approved by: *Chad Edmondson* DATE 10/5/2022

CHIEF, DEVELOPMENT/ENGINEERING DIVISION DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 10/6/2022

Approved by: *Amy Goman* DATE

DIRECTOR DATE



ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Thomas C. Neugebauer, P.E.
SIGNATURE OF ENGINEER THOMAS C. NEUGEBAUER, P.E. DATE 10-14-2021

HOWARD SOIL CONSERVATION DISTRICT

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

Approved by: *Chad Edmondson* DATE 10/5/2022

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Approved by: *Chad Edmondson* DATE 10/5/2022

CHIEF, DEVELOPMENT/ENGINEERING DIVISION DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 10/6/2022

Approved by: *Amy Goman* DATE

DIRECTOR DATE

MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

JOB NO.: 19590v04
SCALE: NO SCALE
DATE: 4-26-2022
DRAWN BY: ATS
DESIGN BY: ATS
REVIEW BY: TCN
SHEET: 15 OF 49

MD PROFESSIONAL CERTIFICATION:
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 NO. 29203 EXPIRATION DATE: 6/16/2023

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

B-4.1 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

1. General Use

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site conditions or purpose listed on Table B.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.

d. For areas receiving low maintenance, apply urea from fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (50 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 25 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivar/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 25 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivar 95 to 100 percent, Certified Kentucky Bluegrass Cultivar 0 to 5 percent. Seeding Rate: 3 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Tall Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf lawns. Mixture includes: Certified Kentucky Bluegrass Cultivar 30 to 40 percent and Certified Fescue seed 60 to 70 percent. Seeding Rate: 10 to 15 pounds per 1000 square feet.

Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy News #77, "Turfgrass Cultivar Recommendations for the Maryland".

Choose certified material. Certified material is the best guarantee of outdoor purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones: 5b, 6b)

Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zones: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones: 7a, 7b)

d. Till areas to receive seed by disk or other approved methods to a depth of 2 to 4 inches, level and site into the areas to prepare a proper seedbed. Remove stones and debris over 1/4 inches in diameter. The resulting seedbed must be such condition that future activities of grasses will pose no difficulty.

e. If soil moisture is deficient, apply new seedlings with adequate water for plant growth 0/6 to 1 inch every 3 to 4 days (depending on soil texture) until they are firmly established. This is especially true when seedlings were made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B.21

B.24

B.22

B.4 STANDARDS AND SPECIFICATIONS

FOR VEGETATIVE STABILIZATION

Definition

3. Soil Maintenance

a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water soil during the heat of the day to prevent wilting.

b. After the first week, soil watering is required as necessary to maintain adequate moisture content.

c. Do not move until the soil is firmly rooted. No more than 1/2 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilizers, soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Definition

Plating vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. There will also help protect groundwater supplies by accumulating those substances present within the root zone.

Soilment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season:

1. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, reestablish following the original recommendations for time, fertilizer, seedbed preparation, and seeding.

3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B.4-1 STANDARDS AND SPECIFICATIONS

FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.1), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B.4-3.1.A.1 and maintain until the next seeding season.

Temporary Seeding Summary

Hardness Zone (from Figure B.1): EB

Seed Mixture (from Table B.1): FOX-MILL

Fertilizer Rate (10-20-20): 436 lb/acre (10 lb/1000 sq ft)

Lime Rate: 2 ton/acre (90 lb/1000 sq ft)

Application Rate (lb/acre): 30

Seeding Dates: 5/16-7/31

Seeding Depth: 0.5"

B.22

B.21

B.18

Permanent Seeding Summary table with columns for No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depth, N, P2O5, K2O, and Lime Rate.

Temporary Seeding Summary table with columns for No., Species, Application Rate (lb/acre), Seeding Dates, Seeding Depth, Fertilizer Rate (10-20-20), and Lime Rate.

- Soil. To provide quick cover on disturbed areas (2-1 grade or flatter).
1. General Specifications
a. Class of turfgrass and must be Maryland State Certified. Seed labels must be made available to the job foreman and inspector.
b. Seed must be machine cut to a uniform soil thickness of 1/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grip on the upper 10 percent of the section.
d. Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the sods immediately prior to laying the sod.
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform ground and strength. Ensure that sod is not stretched or overlapped and that all joints are trenched tight in order to prevent weeds which would cause air drying of the roots.
c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact between and under the underlying soil surface.
d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any pieces of sod within eight hours.

HOWARD SOIL CONSERVATION DISTRICT
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

DocuSigned by: Alexander Bratichie
10/5/2022
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division
10/5/2022
10/6/2022

Chief, Division of Land Development
10/6/2022

Director
DATE

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 analysis.

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 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground so fine 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 disk 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.

B.4-3 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding

1. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.

b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.

c. Inoculant: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant ineffective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

2. Application

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

b. Drill or Chiselpacker Seeding: Mechanized seeders that apply and cover seed with soil.

i. Chiselpacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.

ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre) may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

iii. Mix seed and fertilizer on site and seed immediately and without interruption.

iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching

1. Mulch Materials (in order of preference)

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dirty. Note: Use only sterile straw mulch in areas where one species of grass is desired.

b. Wood Cellulose Fiber Mulch (WCFCM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

i. WCFCM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

ii. WCFCM, including dye, must contain no germination or growth inhibiting factors.

iii. WCFCM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

iv. WCFCM material must not contain elements or compounds at concentration levels that will be phytotoxic.

v. WCFCM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent maximum.

2. Application

a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

3. Anchoring

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:

i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.

ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petrosol, Terra Tex II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

SEQUENCE OF CONSTRUCTION

1. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO GRADING, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.

2. CONDUCT A PRE-CONSTRUCTION MEETING. NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION (410) 313-1860 AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET WITH THE SEDIMENT & EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS.

PHASE 1 - INITIAL OPERATIONS (SEE SHEETS 11 THRU 12)

1. WITH THE INSPECTOR'S APPROVAL, CLEAR MINIMUM AREA NECESSARY TO INSTALL SEDIMENT CONTROLS AND THE STAGING/LAYDOWN AREAS. MECHANICAL STABILIZATION WILL BE REQUIRED ON THE STAGING/LAYDOWN AREAS AND HEAVY USE AREAS, INCLUDING TRAVEL LANES.

2. CLEAR FOR AND INSTALL ALL SUPER SILT FENCE, SILT FENCE, AND TREE PROTECTION FENCE.

3. WITH INSPECTOR'S APPROVAL, CLEAR FOR AND INSTALL CONTRACTOR STAGING AREA, STABILIZED STAGING/LAYDOWN AREA WITH WOOD CHIPS OR GRAVEL.

4. ALL CLEARING DEBRIS SHALL BE HAULED TO AN APPROVED LANDFILL OR SITE.

5. CLEAR FOR AND INSTALL EARTH DIKES, SEDIMENT TRAPS AND OUTLET STRUCTURES. STABILIZE PER THE PLAN SPECIFICATIONS. INSTALL STORM DRAIN SYSTEM EN-1 TO 1-3, TEMPORARY STORM DRAIN 1-3 TO 1-5 AND OUTFALL. INSTALL T00S#1 AND E0M#5 AT THE SAME TIME AND STABILIZE SAME DAY.

6. UPON COMPLETION OF THE INSTALLATION OF THE SEDIMENT CONTROL DEVICES, BUT BEFORE PROCEEDING WITH OTHER EARTH DISTURBANCE OR GRADING, SEDIMENT CONTROL DEVICES SHALL BE APPROVED BY THE HOWARD COUNTY INSPECTOR. WITH INSPECTOR'S APPROVAL, CONTRACTOR TO CONTINUE TO PHASE 2.

PHASE 2 - MASS GRADING & UTILITIES (SEE SHEETS 13 THRU 14)

1. WITH THE INSPECTOR'S APPROVAL, CLEAR AND GRUB REMAINING AREAS.

2. ROUGH GRADE THE SITE WITHIN THE LIMIT OF DISTURBANCE. ALL DEBRIS TO AN APPROVED LANDFILL OR SITE. PROVIDE TEMPORARY STABILIZATION OF ALL NON-WORK AREAS.

3. INSTALL UTILITIES AND STORM DRAINS ON SITE. INSTALL SWM #49. PREVENT STORM WATER FROM ENTERING SWM#49 BY USING TEMPORARY 30" SD. INSTALL STORM DRAIN INLET PROTECTIONS IMMEDIATELY AS INLETS ARE INSTALLED. FULL MODEL HOME PERMITS FOR UNITS 1 AND 36-39.

4. GRADE TO BUILDING AND PAVING SUB-GRADE ELEVATION. GRADE SWM FACILITIES TO TOP OF FILTER ELEVATIONS AND STABILIZE. STABILIZE ALL BUILDING PADS AND COMMON AREAS. MAINTAIN OR INSTALL ADDITIONAL BUILDING PERIMETER CONTROL AS NEEDED.

5. WITH INSPECTOR'S APPROVAL, BEGIN CURB & GUTTER CONSTRUCTION AND BASE PAVING CONSTRUCTION FOR ALL ROADS. INSTALL TEMPORARY ASPHALT BERMS TO DIRECT RUNOFF TO CURBS, BACKFILL AND STABILIZE SEDIMENT TRAPS AND OUTLET (GROSS) STRUCTURES, REMOVE EARTH BERMS AND STABILIZE.

6. BEGIN HOUSE CONSTRUCTION. STABILIZE AROUND BUILDINGS ONCE FINAL GRADE IS ESTABLISHED. INSTALL SIDEWALKS AND DRIVEWAYS.

7. INSTALL SWM DEVICES AS CONTRIBUTING DRAINAGE ARE ARE STABILIZED. INSTALL LANDSCAPE PLANTINGS AND AFFORESTATION PLANTINGS. REMOVE TEMPORARY 30" SD AND OPEN STORM DRAIN FROM 1-5 TO SWM #49 AND FROM SWM #49 TO 1-3.

8. INSTALL FINAL SURFACE PAVING. WITH INSPECTOR'S APPROVAL, REMOVE REMAINING SEDIMENT CONTROL PRACTICES AND STABILIZE DISTURBED AREAS.

B.4-4 STANDARDS AND SPECIFICATIONS

FOR STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3.1 Land Grading.

3. Runoff from the stockpile area must drain to a suitable sediment control practice.

4. Access the stockpile area from the upgrade side.

5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary wall or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.

7. Stockpiles must be stabilized in accordance with the 37 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

B.43

DEVELOPER'S CERTIFICATE

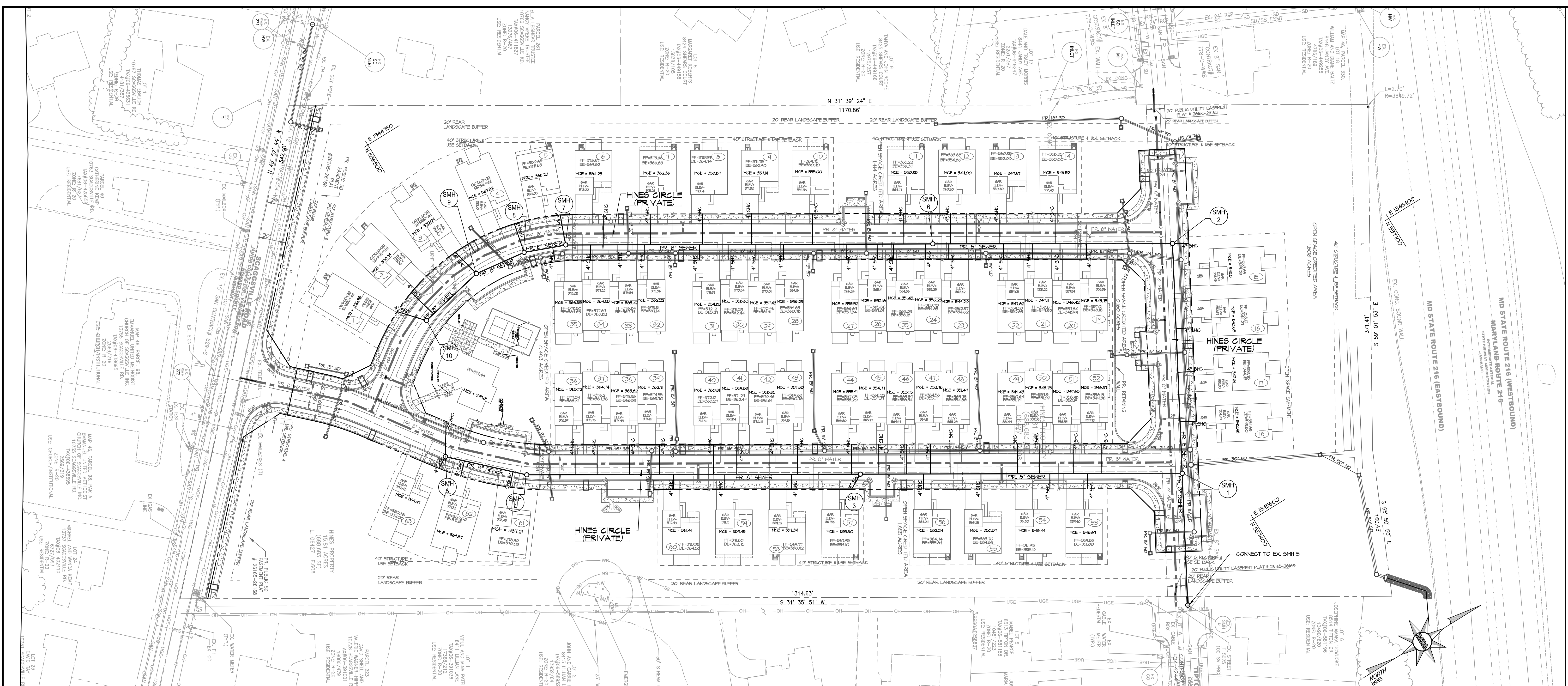
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Bruce A. Harvey
SIGNATURE OF DEVELOPER BRUCE HARVEY, WILLIAMSBURG HOMES DATE

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Signature of Engineer Thomas C. Neugebauer, P.E.
10-14-2021
SIGNATURE OF ENGINEER THOMAS C. NEUGEBAUER, P.E. DATE



GENERAL NOTES

- PART I**
- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON JANUARY 2018 BY MORRIS & RITCHE ASSOCIATES, INC.
 - HORIZONTAL AND VERTICAL SURVEY CONTROLS:
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 460B AND NO. 46FD. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE CONSISTED OF A STAMPED (BRASS OR ALUMINUM) DISK SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T.....410-252-1133
 BGE (CONTRACTOR SERVICES).....410-637-8713
 BGE (EMERGENCY).....410-685-0123
 BUREAU OF UTILITIES.....410-313-4900
 COLONIAL PIPELINE CO.....410-795-1390
 MISS UTILITY.....1-800-257-7777
 STATE HIGHWAY ADMINISTRATION.....410-531-5533
 VERIZON.....1-800-743-0033
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/5/2022
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 10/6/2022
 [Signature] DATE 10/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE 10/6/2022
 DIRECTOR DATE

- PART III - SEWER**
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED
 - ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED
 - FORCE MAINS SHALL BE D.I.P. ONLY
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY
 - MANHOLES DESIGNATED W.I. IN PLAN AND PROFILE SHALL HAVE WATER TIGHT FRAME AND COVER. STANDARD DETAIL G.5.52 WHERE WATER TIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1"-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THE CELLAR CANNOT BE SERVED

SANITARY SEWER STRUCTURE SCHEDULE

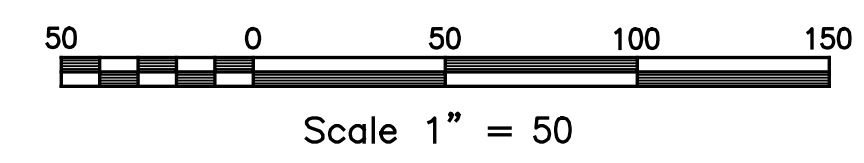
STR NO.	TOP ELEV	INV IN	INV OUT	TYPE	REMARKS	NORTHING	EASTING
EX SMH 5	352.10	337.52	337.42			537,294.14	1,345,642.18
SMH 1	354.99	339.44 338.34	338.24	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		537,364.19	1,345,517.38
SMH 2	352.66	339.68 339.58	339.75 339.58	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		537,486.36	1,345,299.68
SMH 3	364.95	351.37 351.63	351.29 351.63	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		537,066.85	1,345,334.57
SMH 4	376.86	363.28 363.22	363.22	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		536,758.56	1,345,144.93
SMH 5	378.82		366.65 365.47 365.65	TERMINAL MANHOLE, HOWARD CO. STD DETAIL S-1.31		536,693.81	1,345,081.69
SMH 6	361.69	345.92 345.66	345.66	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		537,264.91	1,345,163.45
SMH 7	377.23	361.94 362.19	361.81 362.19	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		536,925.45	1,344,955.09
SMH 8	379.08	363.61 363.84	363.51 363.84	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		536,882.88	1,344,938.24
SMH 9	380.84	365.64 366.11	365.51 366.11	48" PRECAST MANHOLE, HOWARD CO. STD DETAIL G-5.12		536,826.85	1,344,930.70
SMH 10	381.14	366.74 367.00	366.74 367.00	TERMINAL MANHOLE, HOWARD CO. STD DETAIL S-1.31		536,753.95	1,344,945.48

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

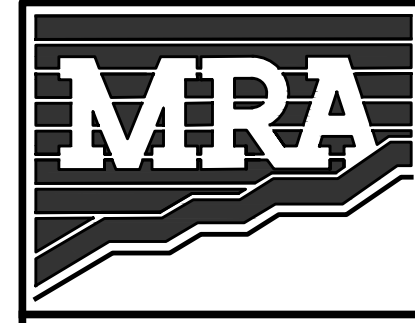
TYPE OF BUILDINGS: FEE SIMPLE SINGLE-FAMILY HOMES & TOWNHOUSES
 DRAINAGE AREA: HAMMOND BRANCH, LITTLE PATUXENT
 TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION FACILITY
 NUMBER OF UNITS: 63
 NUMBER OF NON-BUILDABLE LOTS: 3
 NUMBER OF S.H.C.: 63

APPLICANT / OWNER / DEVELOPER:
 WBC ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

PRIVATE SEWER PLAN



SHEET: SDP-18



MORRIS & RITCHE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

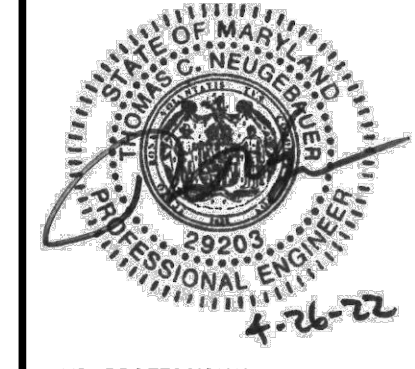
14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A

PRIVATE SEWER PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723



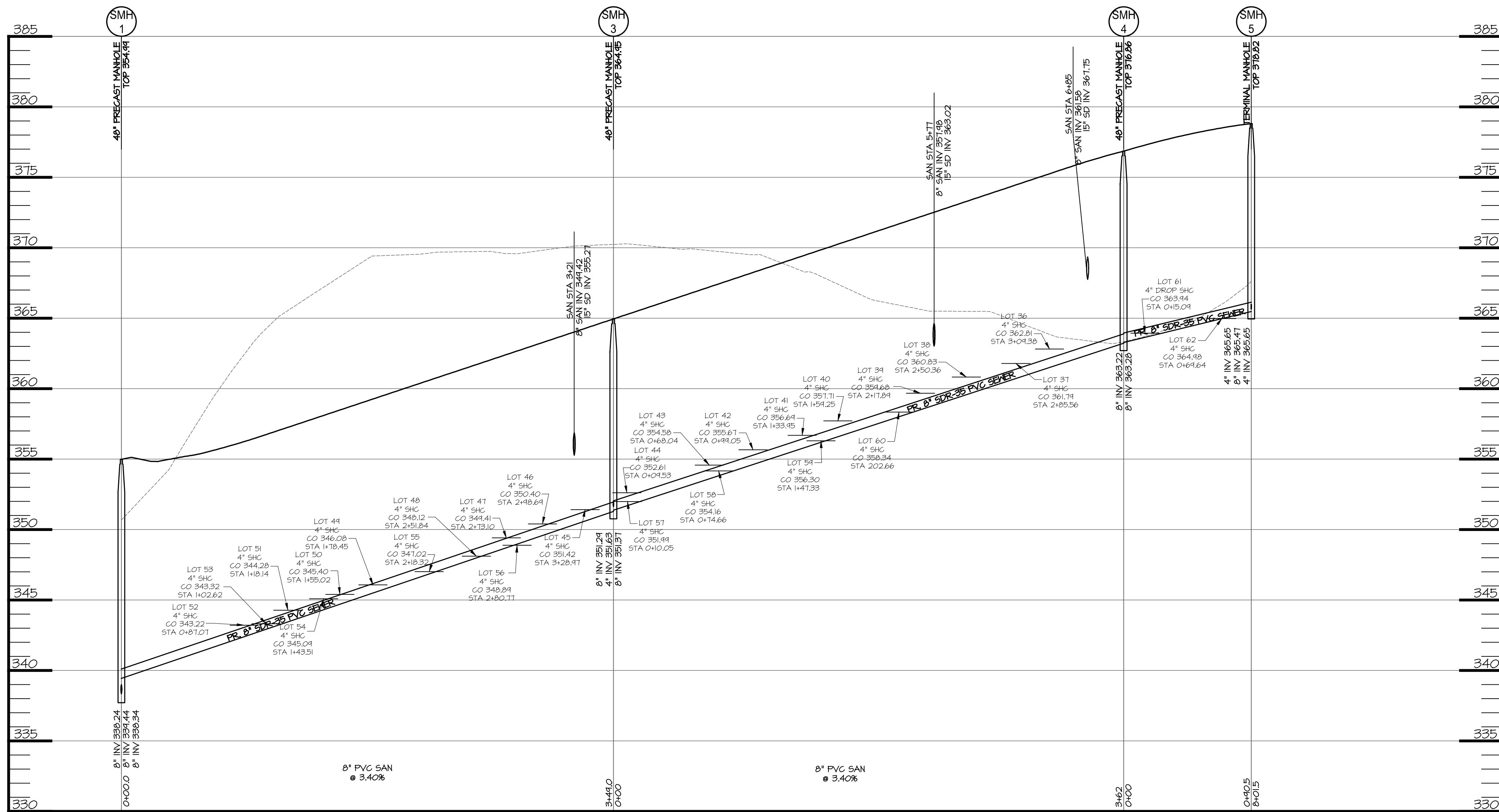
MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203 EXPIRATION DATE: 6/16/2023

DATE	REVISIONS	JOB NO.:
		19590x04
		SCALE: 1" = 100'
		DATE: 4-26-2022
		DRAWN BY: MM
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 18 OF 49

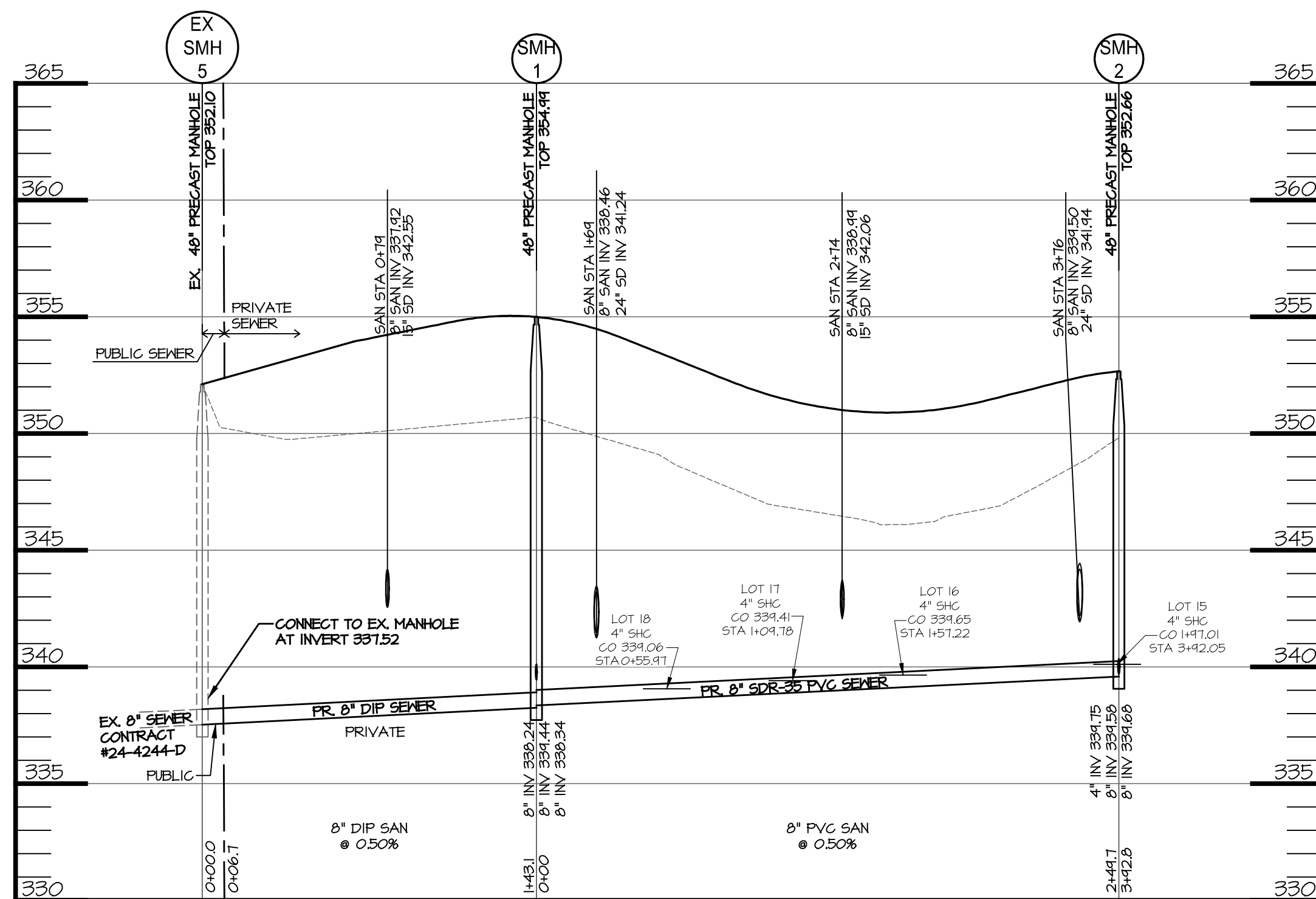
SDP-21-038

PRIVATE SEWER

Unit #	4" Invert @ main	Slope	Design 4" Cleanout Invert	Min. Cellar Elevation (M.C.E.)	Actual Lowest Floor Elevation	Drop Length
SMH 1 TO SMH 3						
52	342.53	2.00%	343.17	346.57	349.36	
53	342.91	2.00%	343.27	346.67	351.00	
51	343.59	2.00%	344.23	347.63	350.19	
54	344.68	2.00%	345.04	348.44	353.10	
50	344.71	2.00%	345.35	348.75	351.02	
49	345.39	2.00%	346.03	349.43	351.79	
55	346.61	2.00%	346.97	350.37	354.85	
48	347.43	2.00%	348.07	351.47	354.88	
56	348.48	2.00%	348.84	352.24	355.89	
47	348.72	2.00%	349.36	352.76	355.71	
46	349.71	2.00%	350.35	353.75	356.54	
45	350.73	2.00%	351.37	354.77	357.37	
SMH 3 TO SMH 4						
57	351.54	2.00%	351.90	355.30	359.10	
44	351.87	2.00%	352.51	355.91	358.20	
58	353.63	2.00%	353.99	357.39	360.92	
43	353.76	2.00%	354.40	357.80	360.78	
42	354.81	2.00%	355.45	358.85	361.61	
59	355.69	2.00%	356.05	359.45	362.75	
41	355.79	2.00%	356.43	359.83	362.44	
40	356.77	2.00%	357.41	360.81	363.27	
60	357.65	2.00%	358.01	361.41	364.50	
39	358.67	2.00%	359.31	362.71	365.70	
38	359.78	2.00%	360.42	363.82	366.53	
37	360.70	2.00%	361.34	364.74	367.36	
36	361.68	2.00%	362.32	365.72	368.19	
SMH 4 TO SMH 5						
61	363.45	2.00%	363.81	367.21	370.06	
62	364.71	2.00%	365.17	368.57	371.15	
63	366.21	2.00%	366.57	369.97	372.00	
CLUBHOUSE	366.21	5.00%	367.81	373.81	381.44	



SMH 1 TO SMH 5 PROFILE PRIVATE SEWER
SCALE: H: 1"=50'
V: 1"=5'



EX SMH 5 TO SMH 2 PROFILE PRIVATE SEWER
SCALE: H: 1"=50'
V: 1"=5'

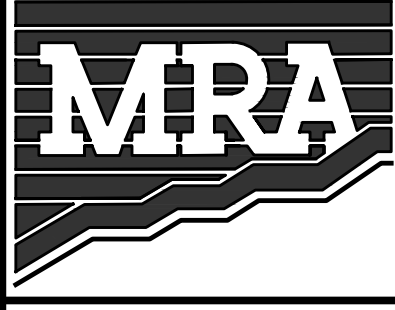
APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

SHEET: SDP-19




MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
PRIVATE SEWER PROFILES



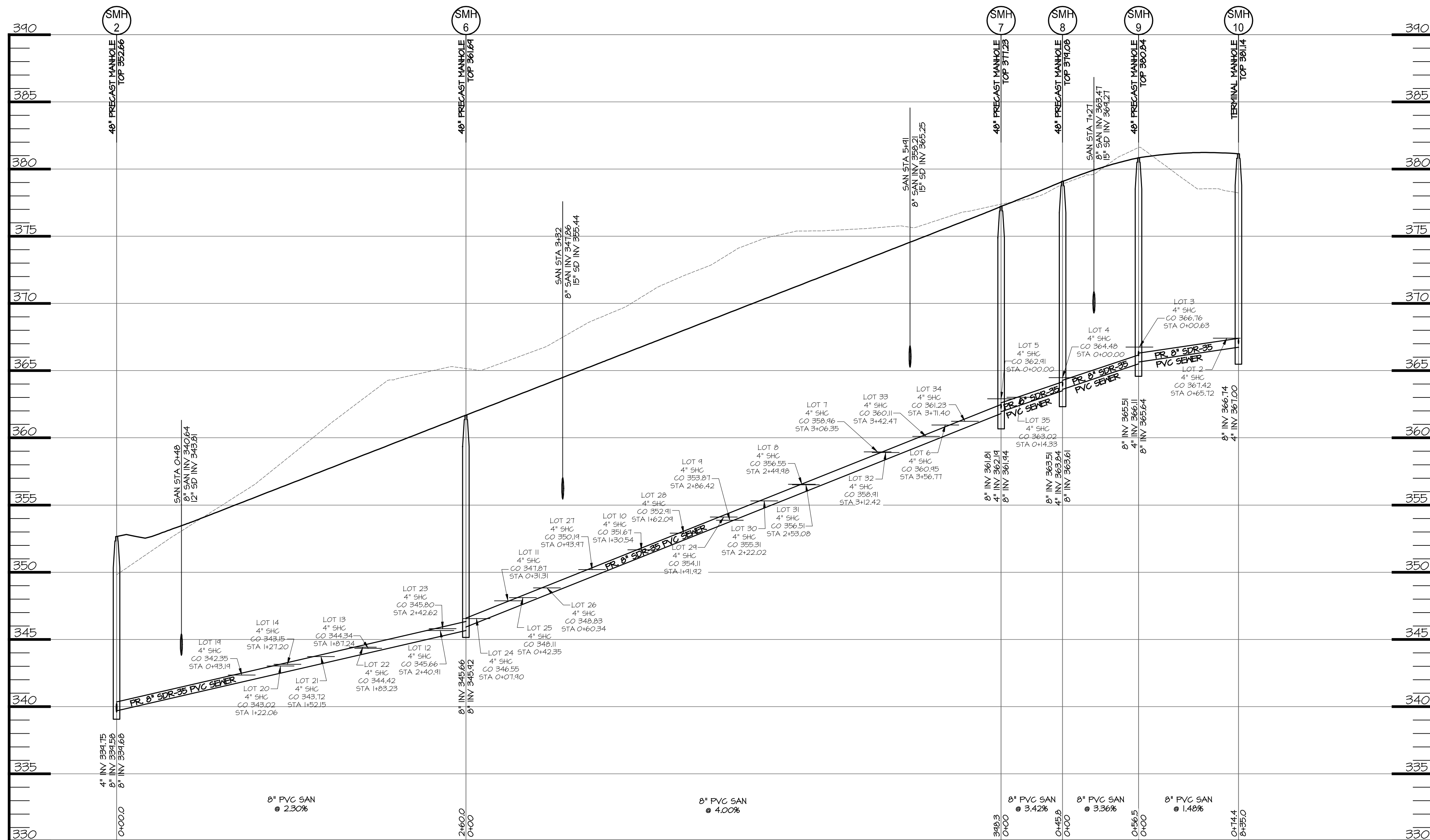
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 100'
		DATE: 4-26-2022
		DRAWN BY: MM
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 19 OF 49

SDP-21-038

PRIVATE SEWER

Unit #	4" Invert @ main	Slope	Design 4" Cleanout Invert	Min. Cellar Elevation (M.C.E.)	Actual Lowest Floor Elevation	Drop Length
SMH 1 TO SMH 2						
18	338.70	2.00%	339.06	342.46	345.80	
17	339.05	2.00%	339.41	342.81	344.93	
16	339.29	2.00%	339.65	343.05	344.27	
15	339.75	2.00%	340.11	343.51	345.03	
SMH 2 TO SMH 6						
19	341.99	2.00%	342.35	345.75	348.16	
14	342.48	2.00%	343.12	346.52	350.00	
20	342.66	2.00%	343.02	346.42	348.99	
21	343.35	2.00%	343.71	347.11	349.82	
13	343.63	2.00%	344.27	347.67	352.00	
22	344.06	2.00%	344.42	347.82	350.65	
12	344.96	2.00%	345.60	349.00	354.80	
23	345.44	2.00%	345.80	349.20	354.02	
SMH 6 TO SMH 7						
24	346.49	2.00%	346.85	350.25	354.85	
11	346.81	2.00%	347.45	350.85	356.37	
25	347.69	2.00%	348.05	351.45	356.18	
26	348.40	2.00%	348.76	352.16	357.01	
27	349.76	2.00%	350.12	353.52	357.84	
10	350.96	2.00%	351.60	355.00	360.90	
28	352.47	2.00%	352.83	356.23	360.78	
9	353.15	2.00%	353.79	357.19	362.90	
29	353.67	2.00%	354.03	357.43	361.61	
8	354.83	2.00%	355.47	358.87	364.74	
30	354.87	2.00%	355.23	358.63	362.44	
31	356.07	2.00%	356.43	359.83	363.27	
7	358.30	2.00%	358.96	362.36	366.83	
32	358.46	2.00%	358.82	362.22	367.14	
33	359.66	2.00%	360.02	363.42	367.99	
6	360.21	2.00%	360.85	364.25	369.82	
34	360.77	2.00%	361.13	364.53	368.82	
SMH 7 TO SMH 8						
5	362.11	2.00%	362.83	366.23	371.63	
35	362.59	2.00%	362.95	366.35	369.65	
SMH 8 TO SMH 9						
4	363.78	2.00%	364.42	367.82	372.70	
SMH 9 TO SMH 10						
3	366.05	2.00%	366.69	370.09	374.50	
2	366.70	2.00%	367.34	370.74	375.20	
1	366.92	2.00%	367.56	370.96	374.90	



SMH 2 TO SMH 10 PROFILE PRIVATE SEWER

SCALE: H: 1"=50'
V: 1"=5'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

10/5/2022
 DATE
 10/6/2022
 DATE
 10/6/2022
 DATE

PLAT NOTE: A PLAT OF EASEMENT WAS
 RECORDED FOR THE PUBLIC WATER AND
 FOREST CONSERVATION EASEMENTS ON
 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBC ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



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 NO. 29203
 EXPIRATION DATE: 6/16/2023

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

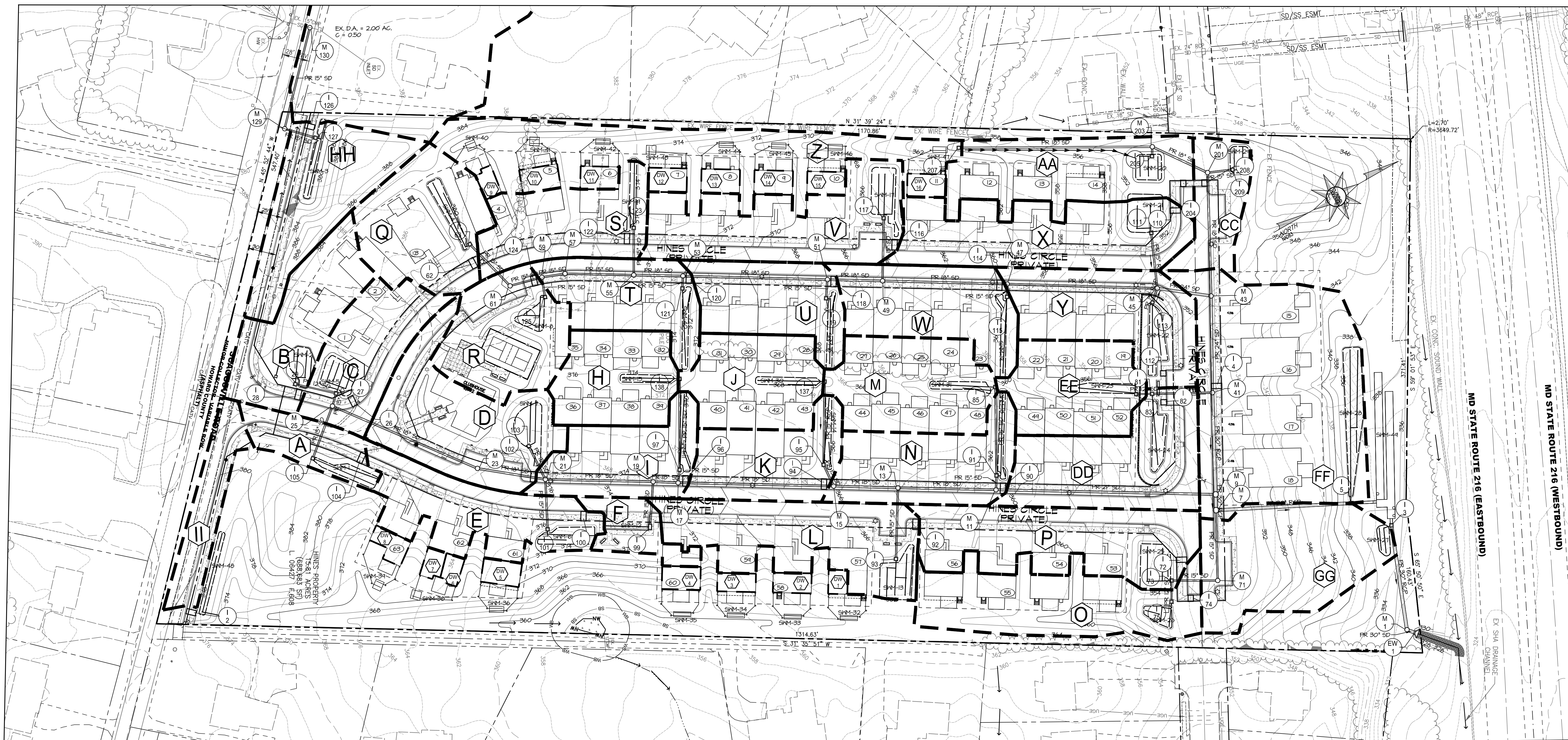
ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
PARCEL A
 PRIVATE SEWER PROFILE

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:	SCALE:
		19590/04	1" = 100'
			4-26-2022
			DRAWN BY: MM
			DESIGN BY: MF
			REVIEW BY: MM
			SHEET: 20 OF 49

SHEET: SDP-20

SDP-21-038



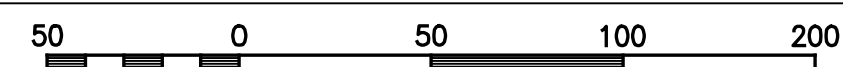
LEGEND

- LOD — LIMIT OF DISTURBANCE-PROJECT AREA
- 202 PR. 2' CONTOUR
- 200 PR. 10' CONTOUR
- PR. DRAINAGE DIVIDE
- PR. MICRO-BIORETENTION FACILITY (M-6)
- PR. PERMEABLE PAVEMENT (A-2)
- PR. DRYWELL (M-5)
- PR. DRAINAGE AREA
- PR. SWALE FLOW

SOILS LEGEND			
SYMBOL	NAME/DESCRIPTION	SOIL TYPE	K' VALUE
MgC	MANOR LOAM, 3-8% SLOPES	B	0.20-0.37
GhB	GLENELG-URBAN LAND COMPLEX, 0-8% SLOPES	B	0.24-0.37
GhC	GLENELG-URBAN LAND COMPLEX, 8-15% SLOPES	B	0.20-1.98
GgC	GLENELG LOAM, 8-15% SLOPES	B	0.57-1.98
GnB	GLENVILLE-BAILE SILT LOAM, 0-8% SLOPES	C	0.06-0.57
GmC	GLENVILLE SILT LOAM, 8-15% SLOPES	C	0.06-0.57

HOWARD COUNTY SOIL CONSERVATION DISTRICT MAP NUMBER 14-036

STORM DRAIN DRAINAGE AREA MAP



Scale 1" = 50'
SWM PRACTICE CHART

Label	Type	Label	Type
SWM #1	M-6: Micro-Bioretentation	SWM #26	M-6: Micro-Bioretentation
SWM #2	M-6: Micro-Bioretentation	SWM #27	M-6: Micro-Bioretentation
SWM #3	M-6: Micro-Bioretentation	SWM #28	M-6: Micro-Bioretentation
SWM #4	M-6: Micro-Bioretentation	SWM #29	M-6: Micro-Bioretentation
SWM #5	M-6: Micro-Bioretentation	SWM #30	M-6: Micro-Bioretentation
SWM #6	M-6: Micro-Bioretentation	SWM #31	M-6: Micro-Bioretentation
SWM #7	M-6: Micro-Bioretentation	SWM #32	M-5: Dry Well
SWM #8	M-6: Micro-Bioretentation	SWM #33	M-5: Dry Well
SWM #9	M-6: Micro-Bioretentation	SWM #34	M-5: Dry Well
SWM #10	M-6: Micro-Bioretentation	SWM #35	M-5: Dry Well
SWM #11	M-6: Micro-Bioretentation	SWM #36	M-5: Dry Well
SWM #12	Permeable Pavement	SWM #37	M-5: Dry Well
SWM #13	M-6: Micro-Bioretentation	SWM #38	M-5: Dry Well
SWM #14	M-6: Micro-Bioretentation	SWM #39	M-5: Dry Well
SWM #15	M-6: Micro-Bioretentation	SWM #40	M-5: Dry Well
SWM #16	M-6: Micro-Bioretentation	SWM #41	M-5: Dry Well
SWM #17	M-6: Micro-Bioretentation	SWM #42	M-5: Dry Well
SWM #18	M-6: Micro-Bioretentation	SWM #43	M-5: Dry Well
SWM #19	M-6: Micro-Bioretentation	SWM #44	M-5: Dry Well
SWM #20	M-6: Micro-Bioretentation	SWM #45	M-5: Dry Well
SWM #21	M-6: Micro-Bioretentation	SWM #46	M-5: Dry Well
SWM #22	M-6: Micro-Bioretentation	SWM #47	M-5: Dry Well
SWM #23	M-6: Micro-Bioretentation	SWM #48	M-6: Micro-Bioretentation
SWM #24	M-6: Micro-Bioretentation	SWM #49	U/G SWM
SWM #25	M-6: Micro-Bioretentation		

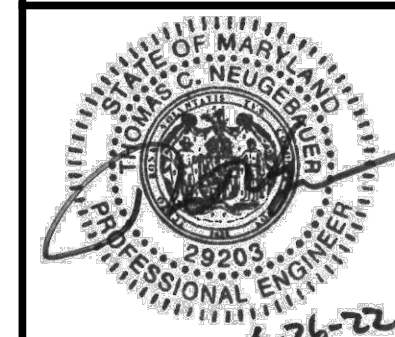
C- FACTORS

DRAINAGE AREA	AREA (acres)	C-FACTOR
A	0.30	0.75
B	0.33	0.55
C	0.29	0.7
D	0.44	0.68
E	0.35	0.74
F	0.11	0.68
H	0.27	0.68
I	0.28	0.76
J	0.29	0.66
K	0.27	0.77
L	0.44	0.72
M	0.35	0.61
N	0.33	0.79
O	0.44	0.53
P	0.45	0.74
Q	0.36	0.58
R	0.32	0.59
S	0.31	0.68
T	0.28	0.76
U	0.28	0.80
V	0.43	0.73
W	0.34	0.79
X	0.16	0.73
Y	0.38	0.76
Z	0.78	0.48
AA	0.38	0.49
CC	0.17	0.70
DD	0.41	0.76
EE	0.29	0.66
FF	0.91	0.6
GG	0.46	0.45
HH	0.36	0.5

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 10/5/2022
 CHIEF, DEVELOPMENT & ENGINEERING DIVISION
 DATE 10/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 10/6/2022
 DIRECTOR
 DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBC ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



MD PROFESSIONAL CERTIFICATION:
 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 NO. 29203 EXPIRATION DATE: 6/16/2023

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A

STORM DRAIN DRAINAGE AREA MAP

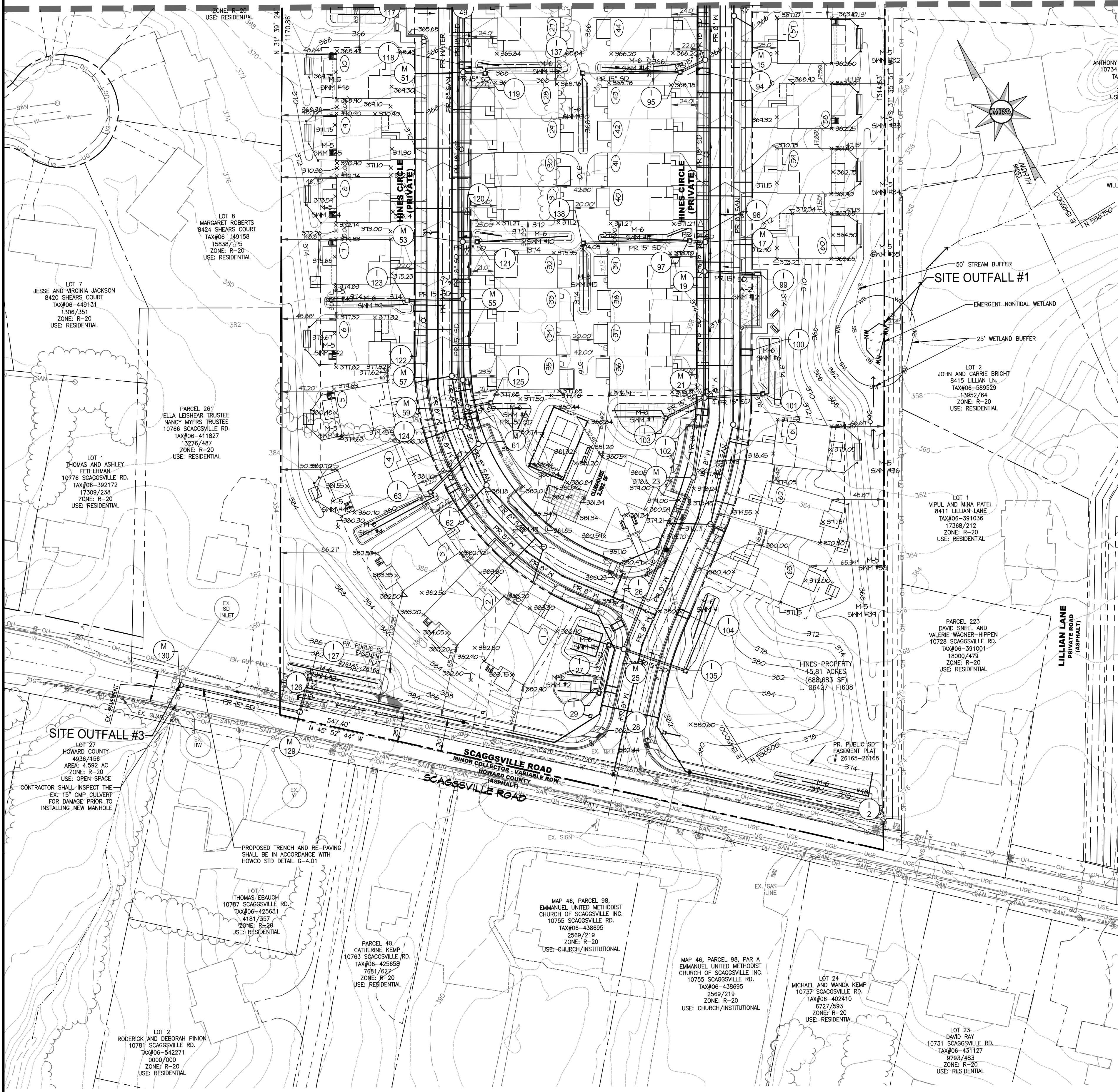
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:	SCALE:
		19590v04	1" = 100'
			DATE: 4-26-2022
			DRAWN BY: MM
			DESIGN BY: MF
			REVIEW BY: MM
			SHEET: 21 OF 49

SHEET: SDP-21

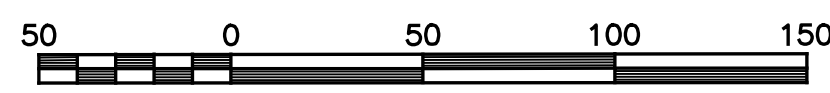
SDP-21-038

SEE MATCHLINE SHEET SDP-23



STORM DRAIN PLAN

SCALE: 1" = 50'



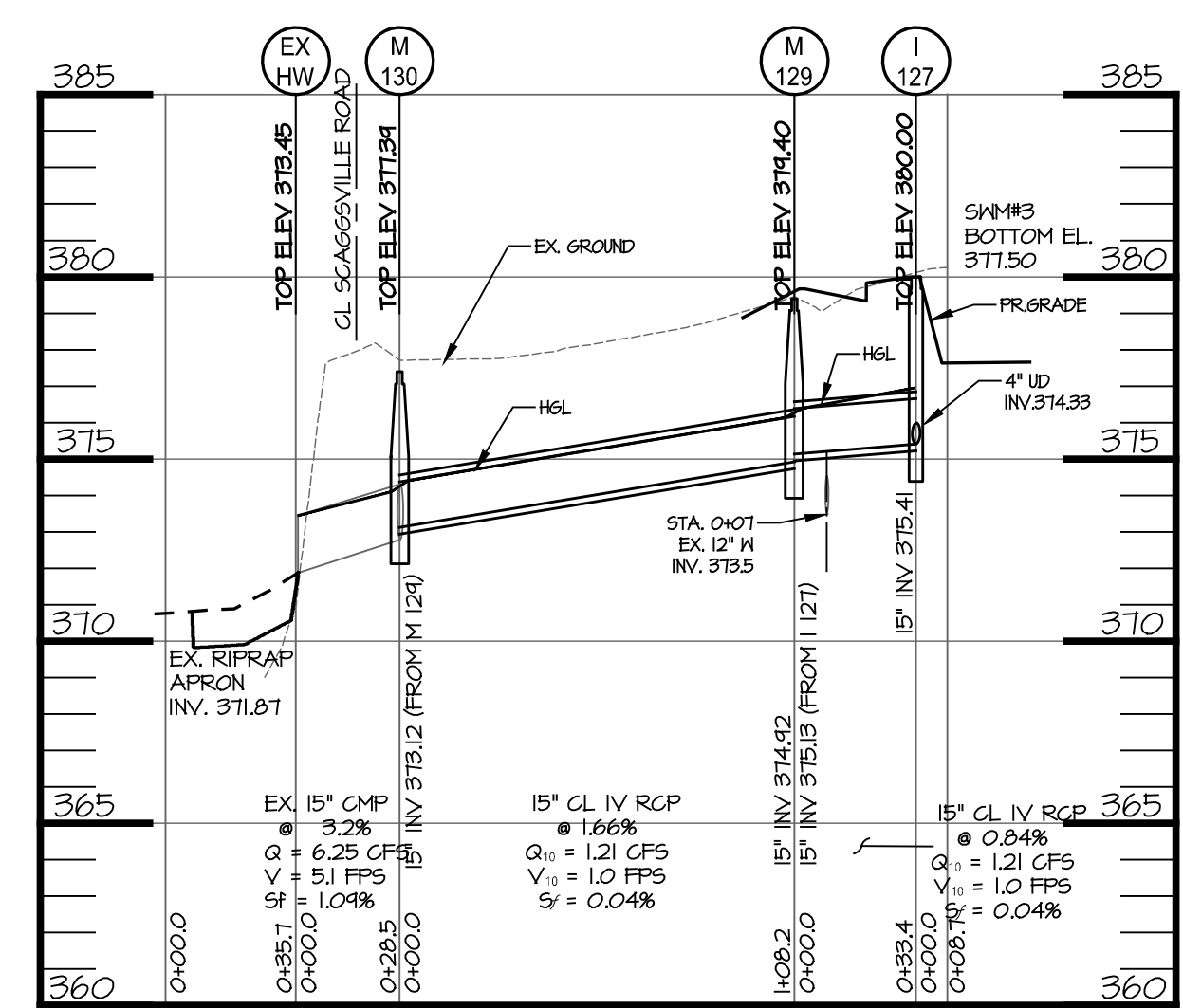
Scale 1" = 50'

STORM DRAIN STRUCTURE SCHEDULE

STR NO.	NORTHING	EASTING	TYPE	DESCRIPTION	INV. IN	INV. OUT	TOP	
I 2	536,405.22	1,345,069.49	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			376.87	
I 26	536,660.39	1,344,966.63	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			381.00	
I 27	536,649.65	1,344,949.10	HOWARD CO STD DET D-4.22	TYPE 'S' INLET	374.25	374.00	379.50	
I 28	536,613.34	1,344,932.22	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			381.78	
I 29	536,617.92	1,344,919.37	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		374.53	380.50	
I 62	536,840.46	1,344,904.88	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			383.86	
I 63	536,847.65	1,344,885.32	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		371.30	380.50	
I 94	537,039.97	1,345,284.80	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			371.40	
I 95	537,049.26	1,345,268.21	HOWARD CO STD DET D-4.22	TYPE 'S' INLET	358.33	358.23	366.00	
I 96	536,917.27	1,345,209.26	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			369.38	
I 97	536,917.52	1,345,197.30	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		363.32	371.00	
I 99	536,861.15	1,345,233.05	HOWARD CO STD DET D-4.01	TYPE A-5 INLET PRECAST		363.58	372.93	
I 100	536,807.58	1,345,188.52	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			364.64	
I 101	536,768.09	1,345,181.58	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		368.46	374.00	
I 102	536,763.16	1,345,126.32	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			366.83	
I 103	536,794.71	1,345,097.21	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			369.78	376.00
I 104	536,638.46	1,345,020.53	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			380.55	
I 105	536,594.76	1,344,995.12	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		373.94	379.00	
I 118	537,153.51	1,345,109.85	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			370.63	
I 119	537,138.66	1,345,120.28	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		359.65	366.00	
I 120	537,025.74	1,345,031.39	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			375.68	
I 121	537,015.01	1,345,036.23	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		366.08	372.00	
I 122	536,991.01	1,344,963.66	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			377.90	
I 123	537,003.13	1,344,956.43	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		365.83	373.50	
I 124	536,885.94	1,344,952.37	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			378.08	
I 125	536,887.28	1,344,972.03	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		371.21	380.00	
I 126	536,765.81	1,344,696.08	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			379.72	
I 127	536,764.95	1,344,709.13	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		375.41	380.00	
I 137	537,093.69	1,345,194.08	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		359.19	369.00	
I 138	536,965.07	1,345,115.80	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		364.78	374.00	
M 15	537,047.04	1,345,292.53	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	356.31	356.21	366.76	
M 17	536,909.36	1,345,208.16	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	361.56	361.46	372.13	
M 19	536,887.56	1,345,194.04	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	362.49	362.39	372.59	
M 21	536,792.19	1,345,135.68	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	366.17	367.42	376.70	
M 23	536,737.03	1,345,090.31	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	368.58	368.48	378.19	
M 25	536,639.67	1,344,958.44	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	373.35	373.68	381.36	
M 51	537,149.54	1,345,104.19	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	356.76	359.30	367.24	
M 53	537,021.85	1,345,025.33	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	362.26	365.70	373.09	
M 55	536,978.41	1,344,998.72	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	364.34	364.09	374.67	
M 57	536,917.40	1,344,961.50	HA CO PL D-43	PRECAST TYPE A MANHOLE	366.85	366.75	377.56	
M 59	536,894.80	1,344,952.64	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	367.81	370.59	378.96	
M 61	536,861.80	1,344,943.69	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	369.14	369.04	379.83	
M 129	536,742.01	1,344,684.82	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	375.13	374.92	379.40	
M 130	536,817.59	1,344,607.38	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	373.12		377.39	

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- ERODIBLE SOILS TO BE EXPOSED DURING GRADING OPERATIONS
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLI)
- PR. STREET LIGHT (LED-150 COLI)
- PR. LED-150 COBRAHEAD FIXTURE 30 FT BRONZE FIBERGLASS POLE
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FE
- PR. MAILBOXES
- PR. HANDICAP PARKING
- PR. PARKING SPACE COUNT
- PR. REVERSE CURB & GUTTER
- PR. STANDARD CURB & GUTTER
- PR. DEPRESSED CURB & GUTTER



M-130 to I-127 PROFILE

SCALE: H: 1"=50'

V: 1"=5'

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:

WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A
 STORM DRAIN PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

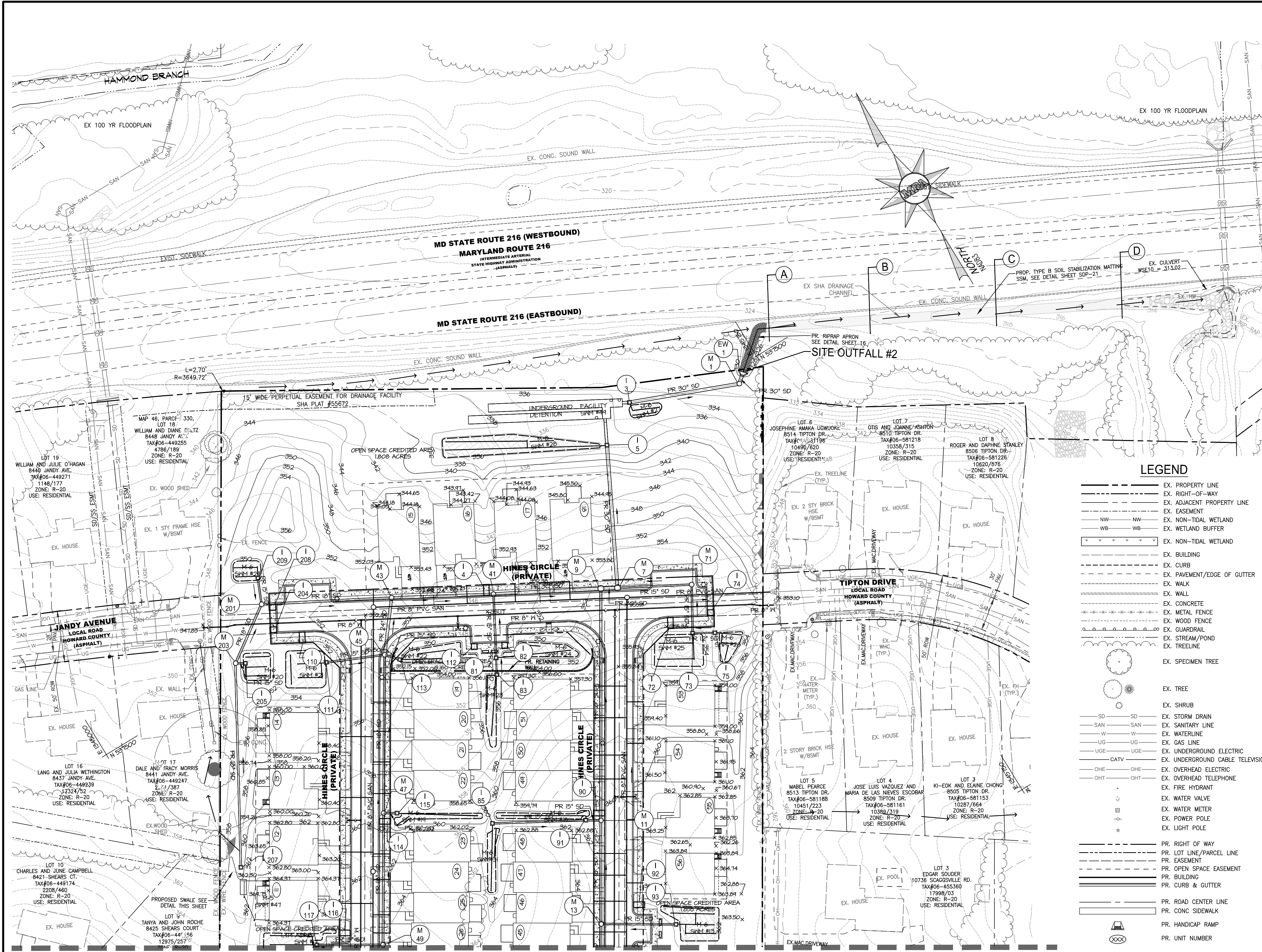
DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 22 OF 49

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	10/5/2022
Chief, Division of Land Development	10/6/2022
Director	10/6/2022

SHEET: SDP-22

SDP-21-038



STORM DRAIN STRUCTURE SCHEDULE									
STR NO.	NORTHING	EASTING	TYPE	DESCRIPTION	INV. IN	INV. OUT	TOP		
EW 1	537,491.73	1,345,728.52	HOWARD CO STD DET 5-5.11	TYPE 'A' HEADWALL	324.60		327.39		
I 3	537,526.51	1,345,619.78	HOWARD CO STD DET D-4.22	TYPE 'S' INLET		325.40	335.00		
I 4	537,441.97	1,345,403.10	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			346.56		
I 5	537,502.29	1,345,578.86	HOWARD CO STD DET D-4.22	TYPE 'S' INLET	331.17	331.07	336.50		
I 72	537,320.61	1,345,541.04	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			354.24		
I 73	537,300.49	1,345,554.03	HOWARD CO STD DET D-4.22	TYPE 'S' INLET	344.38	344.13	354.00		
I 74	537,308.71	1,345,579.45	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			354.28		
I 75	537,289.40	1,345,573.00	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			354.00		
I 81	537,380.85	1,345,376.57	HOWARD CO STD DET D-4.22	TYPE 'S' INLET	344.75	344.37	351.00		
I 82	537,386.77	1,345,389.90	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			0.00		
I 83	537,366.53	1,345,368.59	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			356.00		
I 85	537,243.90	1,345,288.45	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			362.00		
I 90	537,198.09	1,345,381.76	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			360.18		
I 91	537,198.62	1,345,368.38	HOWARD CO STD DET D-4.22	TYPE 'S' INLET	351.94	351.74	360.00		
I 92	537,100.96	1,345,369.02	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			370.82		
I 93	537,064.82	1,345,390.53	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			363.00		
I 110	537,497.72	1,345,224.73	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			356.33		
I 111	537,464.33	1,345,231.81	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			351.00		
I 112	537,401.81	1,345,364.04	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			349.07		
I 113	537,428.86	1,345,294.88	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			350.50		
I 114	537,300.29	1,345,200.14	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			364.10		
I 115	537,301.53	1,345,213.66	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			359.02		
I 116	537,227.48	1,345,108.98	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			368.83		
I 117	537,232.15	1,345,078.59	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			363.50		
I 204	537,518.56	1,345,204.68	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			351.57		
I 205	537,505.18	1,345,163.48	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			349.50		
I 207	537,336.37	1,345,054.83	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			359.97		
I 208	537,537.75	1,345,215.42	MD SHA STANDARD NO. MD 374.68	MD SHA COG/COS CURB OPENING			351.57		
I 209	537,570.28	1,345,217.74	HOWARD CO STD DET D-4.22	TYPE 'S' INLET			349.00		
M 1	537,485.74	1,345,721.46	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	324.75	324.65	331.40		
M 7	537,377.18	1,345,514.36	HOWARD CO STD DET G-5.13	PRECAST MANHOLE-STANDARD 5'-0"	340.15	340.05	355.35		
M 9	537,385.12	1,345,500.00	HOWARD CO STD DET G-5.13	PRECAST MANHOLE-STANDARD 5'-0"	340.51	341.06	354.99		
M 11	537,190.64	1,345,380.81	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	350.70	350.60	361.16		
M 13	537,103.75	1,345,327.79	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	354.06	353.96	364.12		
M 41	537,435.51	1,345,407.04	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	341.54	341.04	351.46		
M 43	537,484.94	1,345,319.69	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	342.14	342.04	352.84		
M 45	537,440.67	1,345,284.69	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	344.31	344.88	353.92		
M 47	537,308.40	1,345,202.35	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	349.58	352.72	359.98		
M 49	537,198.31	1,345,134.22	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	354.52	355.52	365.02		
M 71	537,341.86	1,345,578.23	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	342.36	342.22	354.18		
M 201	537,546.36	1,345,207.33	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	345.01	343.92	350.72		
M 203	537,510.30	1,345,155.18	HOWARD CO STD DET G-5.12	PRECAST MANHOLE-STANDARD 4'-0"	345.74	345.64	351.92		

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- NW - NW
- WB - WB
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- SD - SD
- SAN - SAN
- W - W
- UG - UG
- UGE - UGE
- CATV - CATV
- OHE - OHE
- OHT - OHT
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. STORM DRAIN
- PR. RIPRAP
- PR. SOIL STABILIZATION MATTING

SEE MATCHLINE SHEET SDP-22

STORM DRAIN PLAN

SCALE: 1"=50'

Scale 1" = 50'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	10/5/2022
Chief, Division of Land Development	10/6/2022
Director	10/6/2022

PLAN NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

SHEET: SDP-23

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

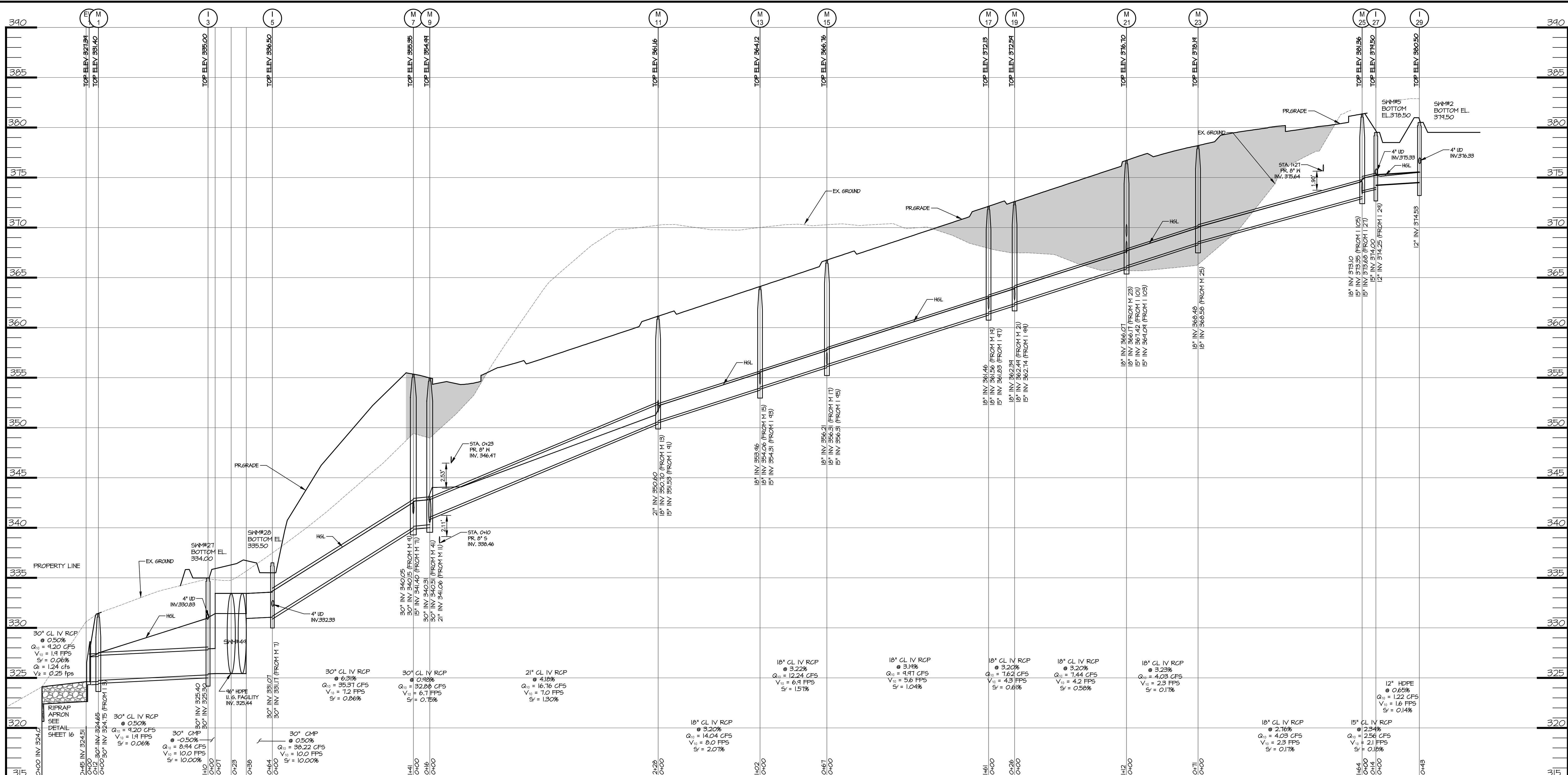
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A
 STORM DRAIN PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

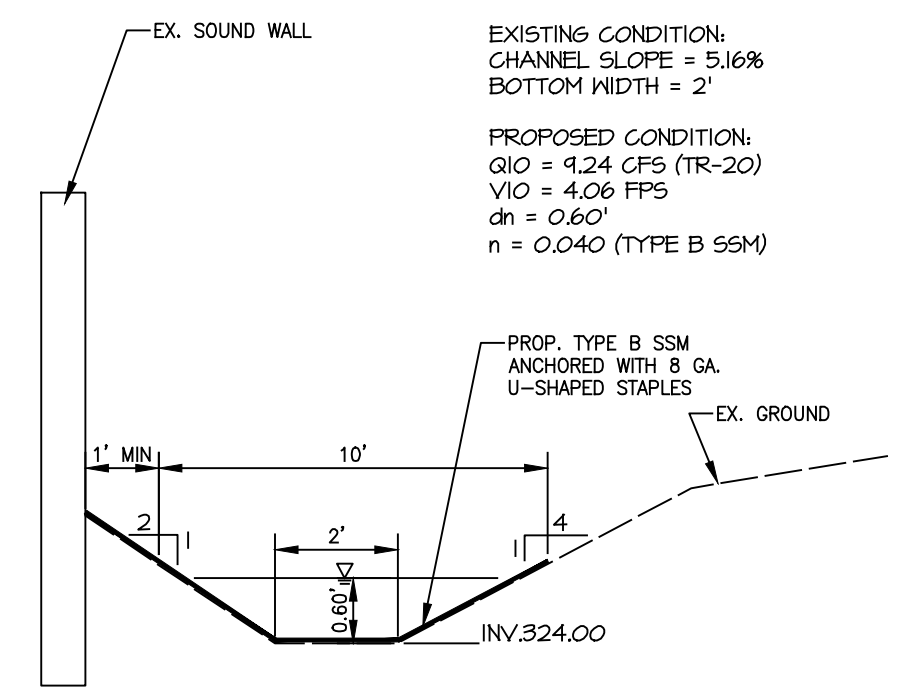
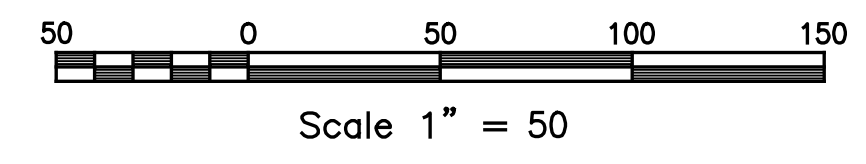
DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 23 OF 49

SDP-21-038

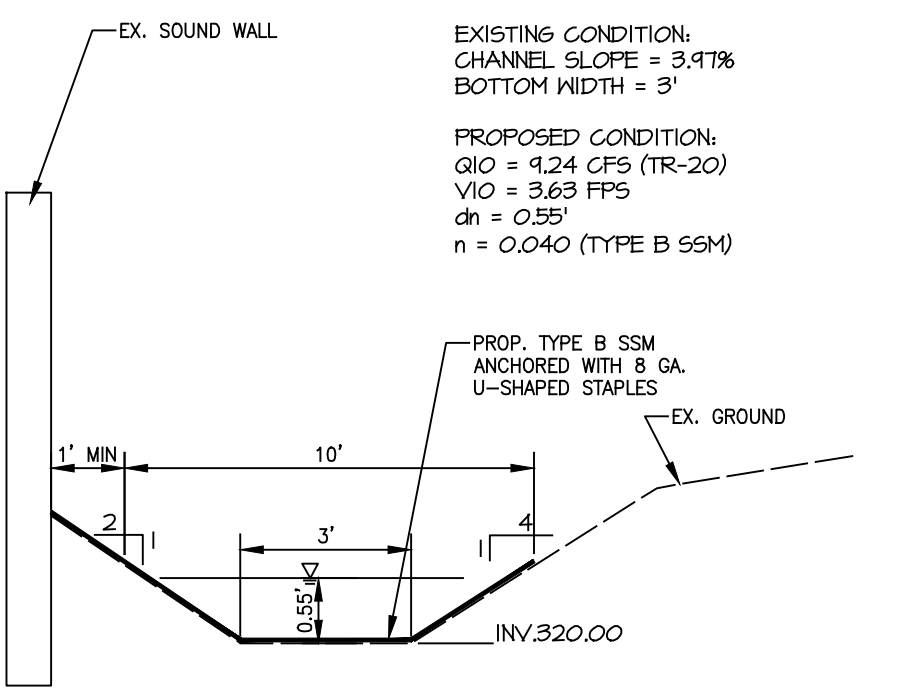


EW 1 TO I 29 PROFILE
SCALE: H: 1"=50'
V: 1"=5'

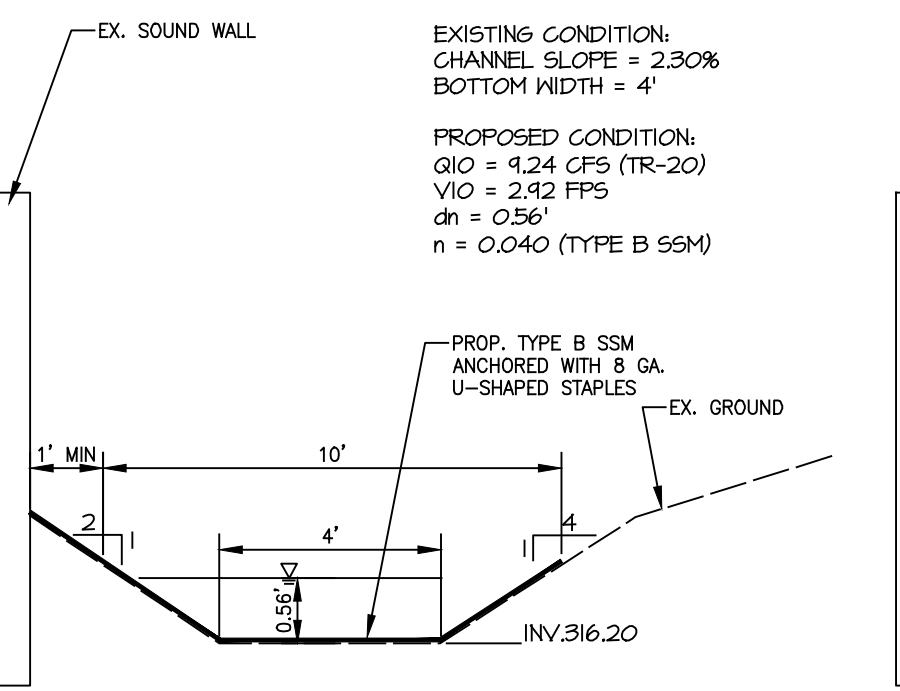
STORM DRAIN PROFILES
SCALE: 1"=50' HORIZ.
1"=50' VERT.



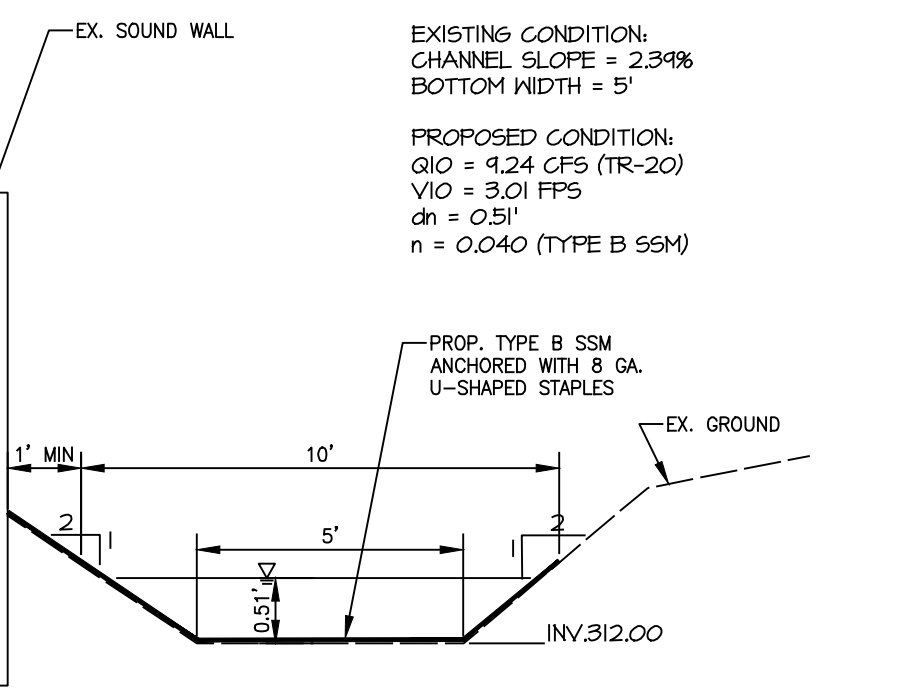
SECTION A



SECTION B



SECTION C



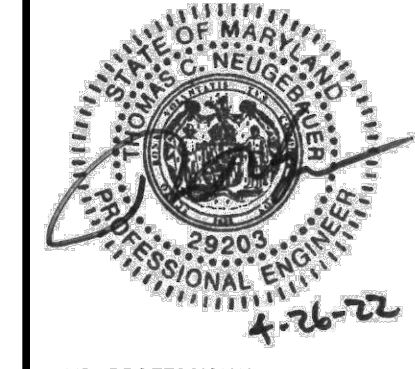
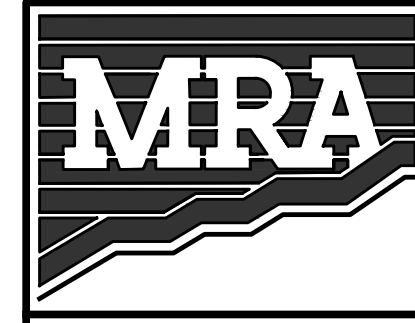
SECTION D

DOWNSTREAM SECTIONS
NOT-TO-SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	10/6/2022
DIRECTOR	

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MIRAGTA.COM

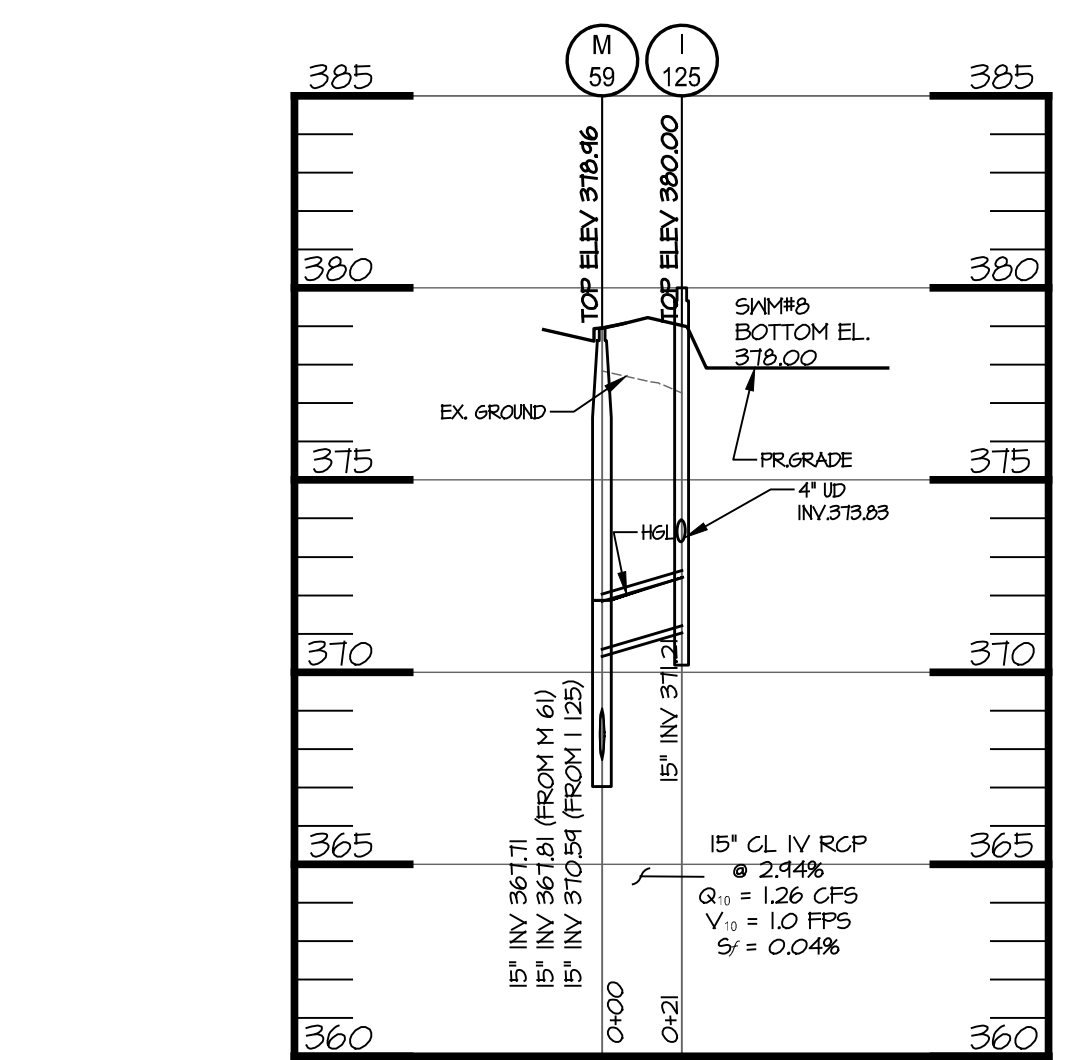
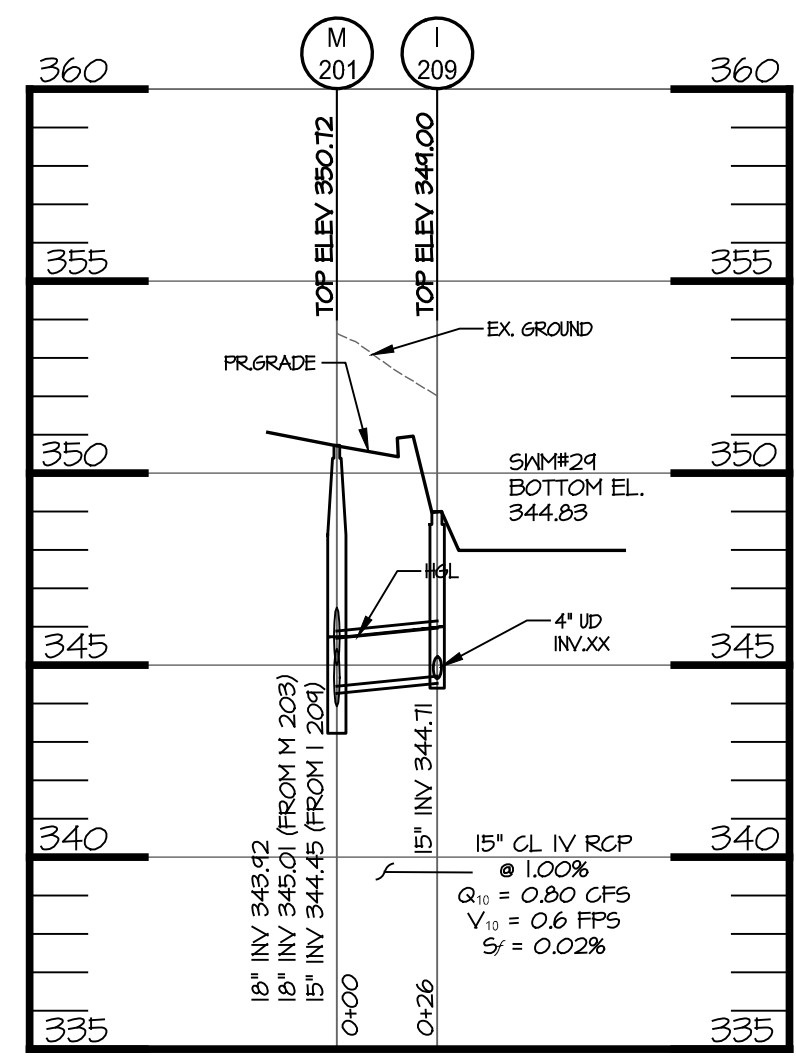
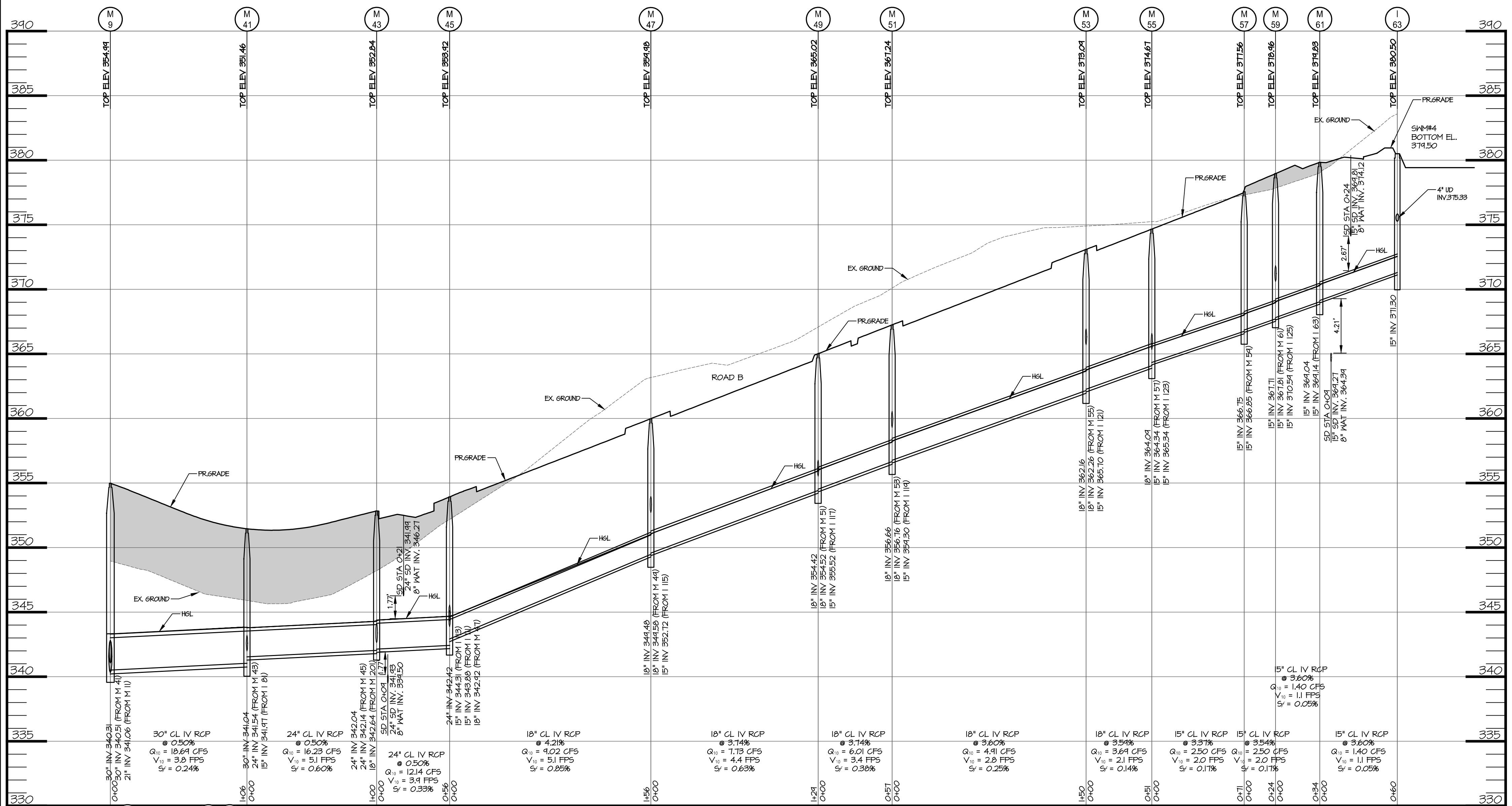
ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
STORM DRAIN PROFILES

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590x04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 24 OF 49

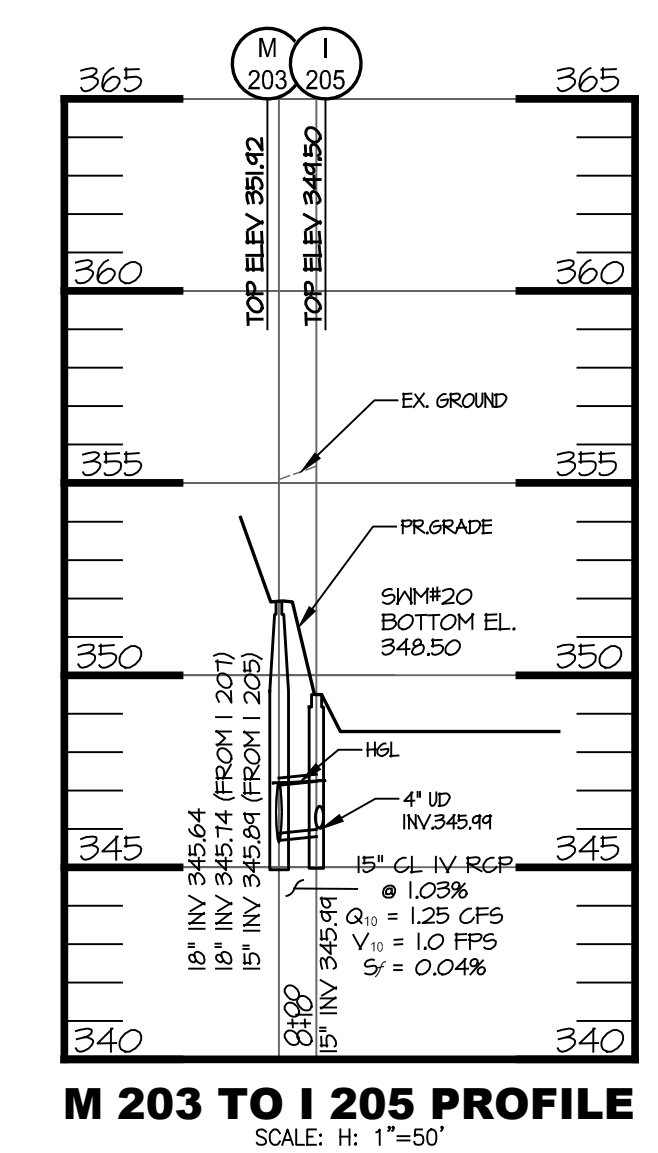
SHEET: SDP-24

SDP-21-038

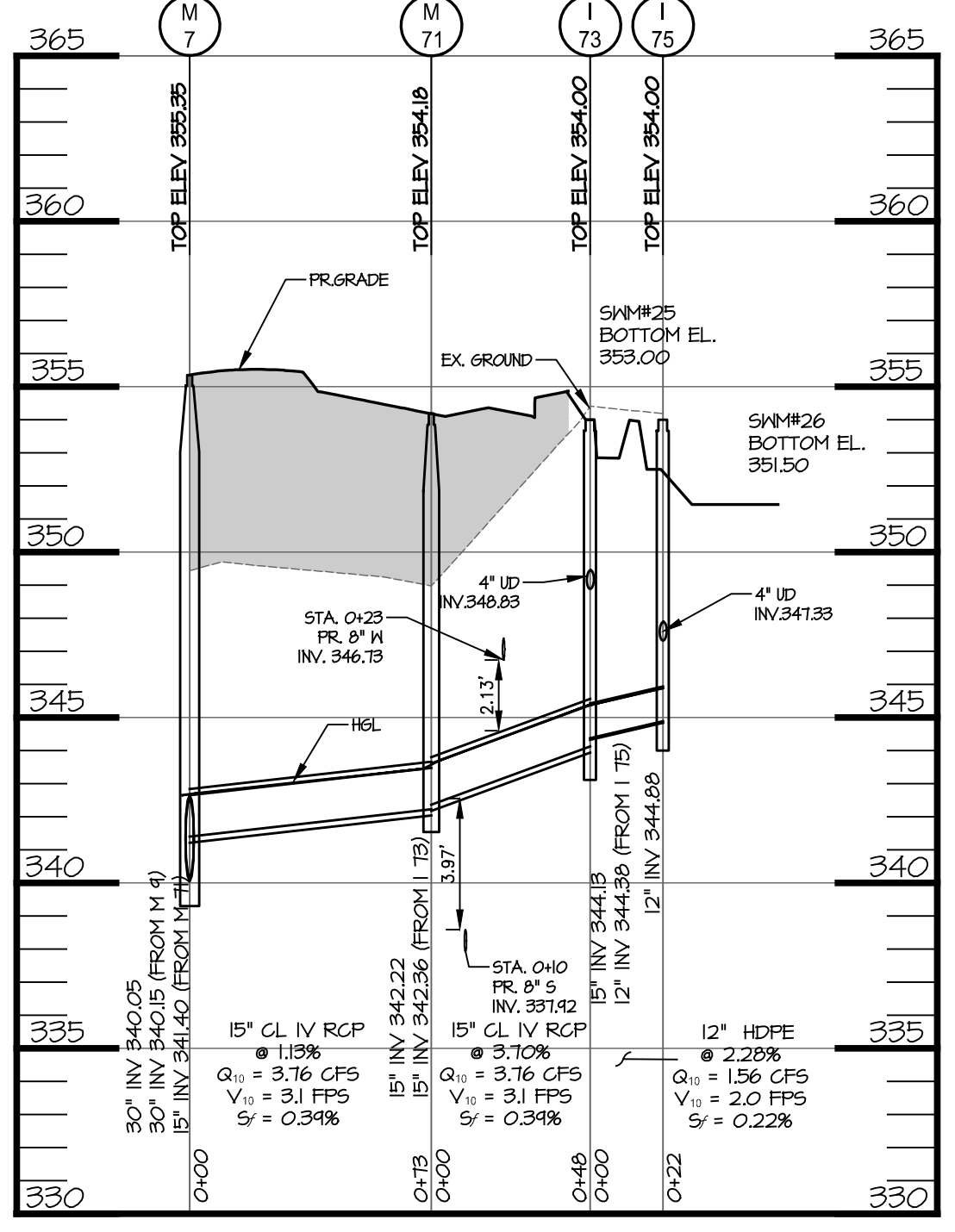


M 201 TO I 209 PROFILE
SCALE: H: 1"=50'
V: 1"=5'

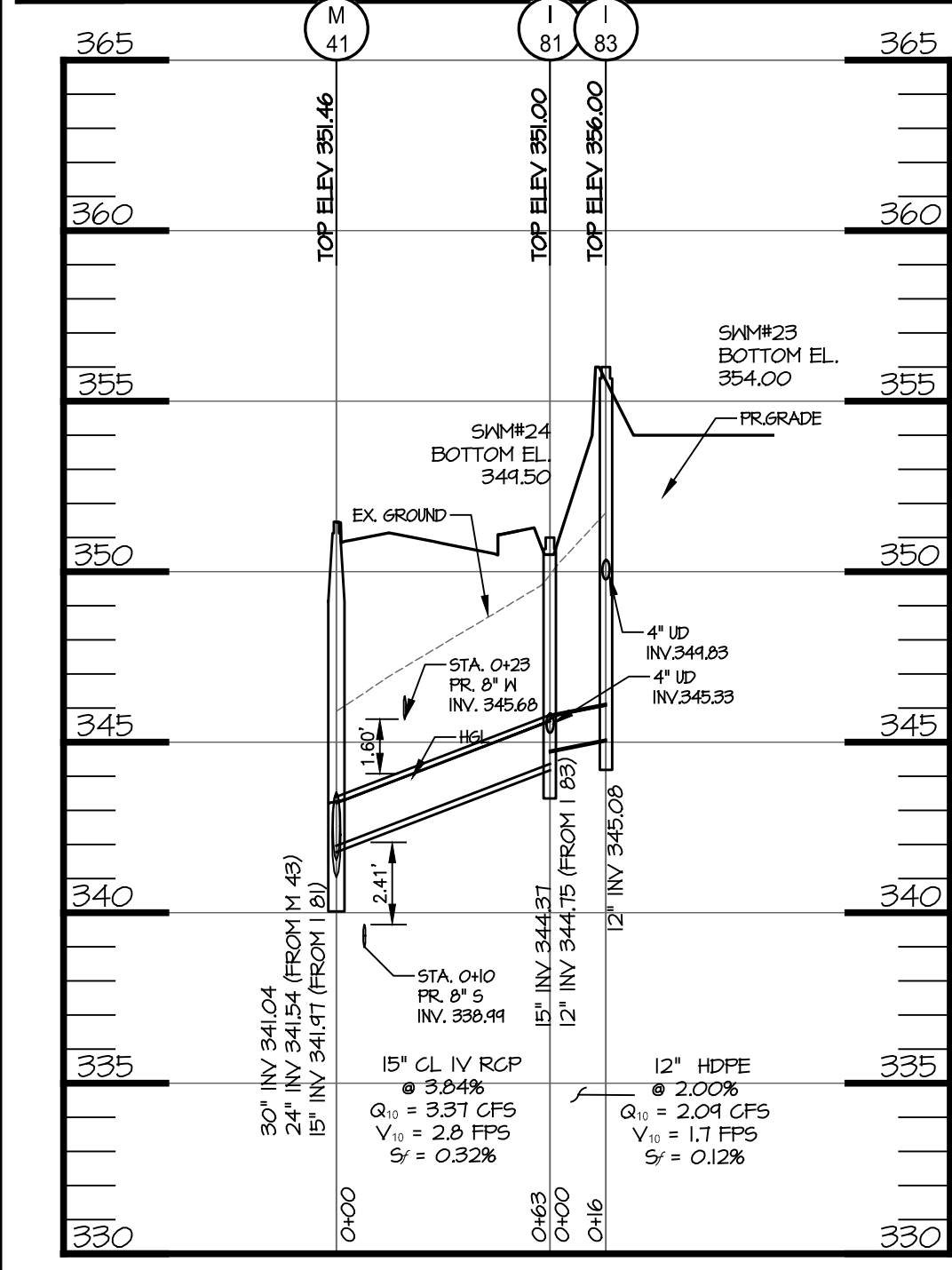
M 59 TO I 125 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



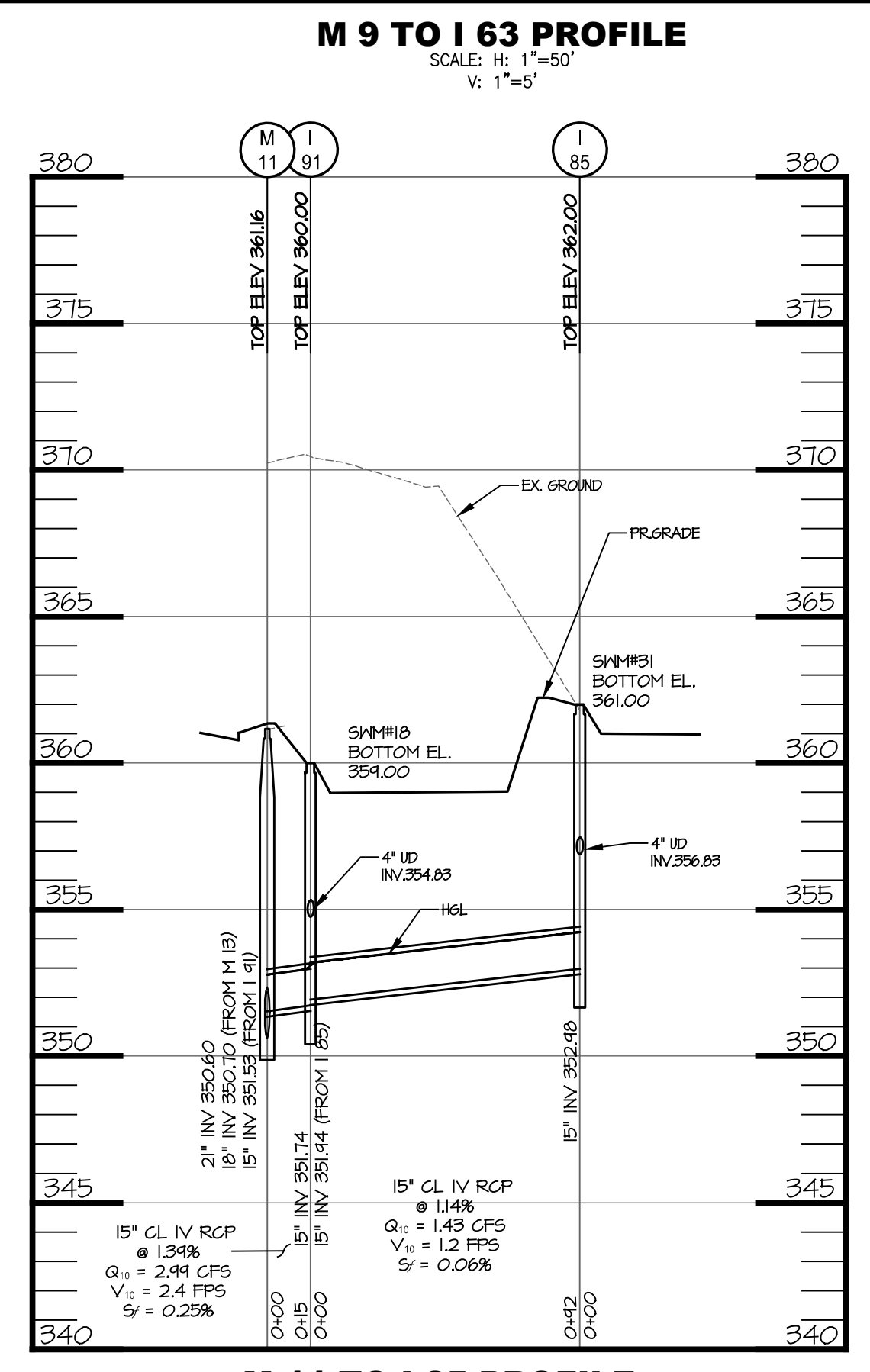
M 203 TO I 205 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



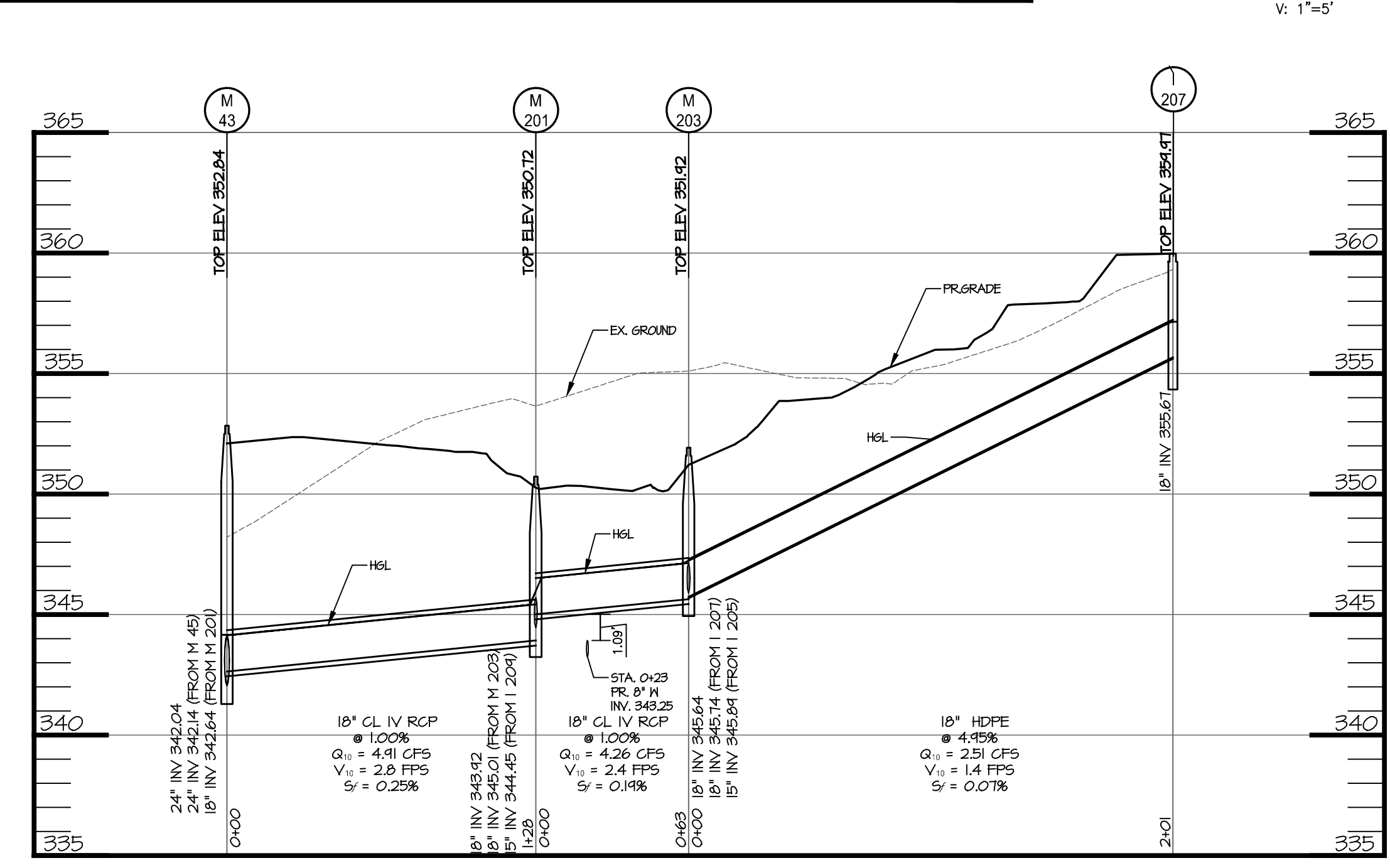
M 7 TO I 75 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



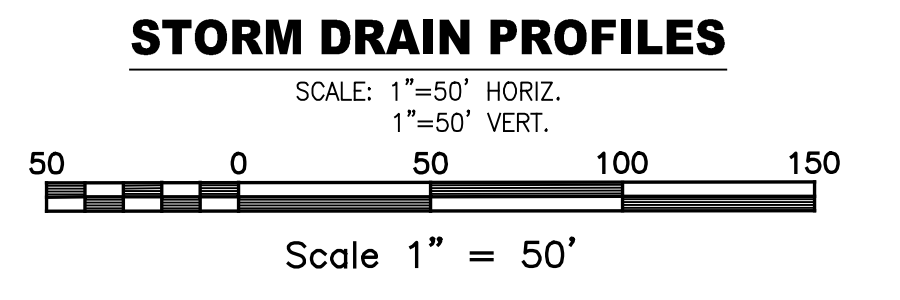
M 41 TO I 85 PROFILE
SCALE: H: 1"=50'



M 9 TO I 63 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



M 43 TO I 207 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



MRA
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
STORM DRAIN PROFILES

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		1959004
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 25 OF 49

MD PROFESSIONAL CERTIFICATION: 4-26-22

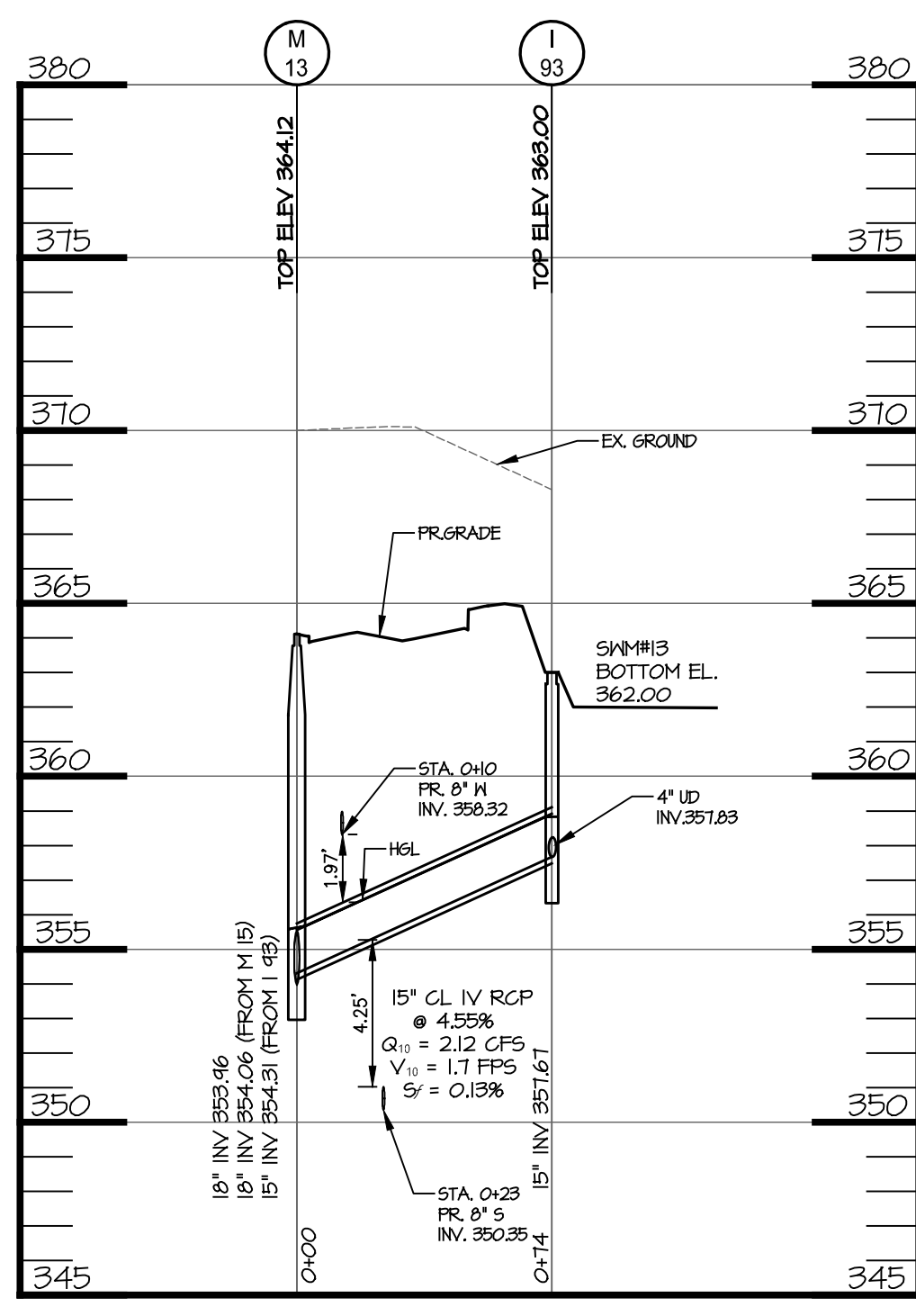
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203 EXPIRATION DATE: 6/16/2023

APPROVED: DEPARTMENT OF PLANNING AND ZONING

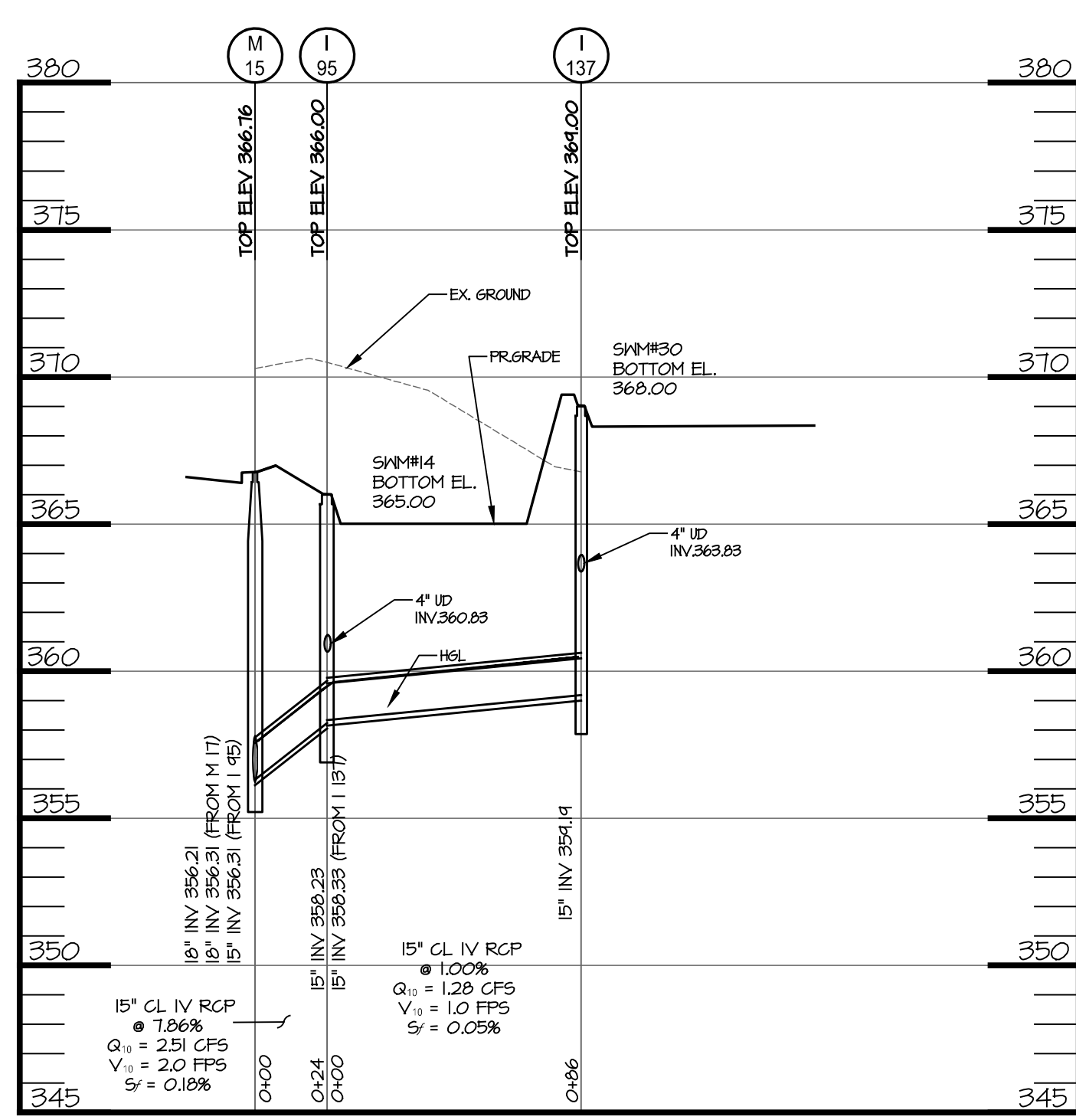
Chief, Development Engineering Division	10/5/2022
Chief, Division of Land Development	10/6/2022
Director	10/6/2022

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

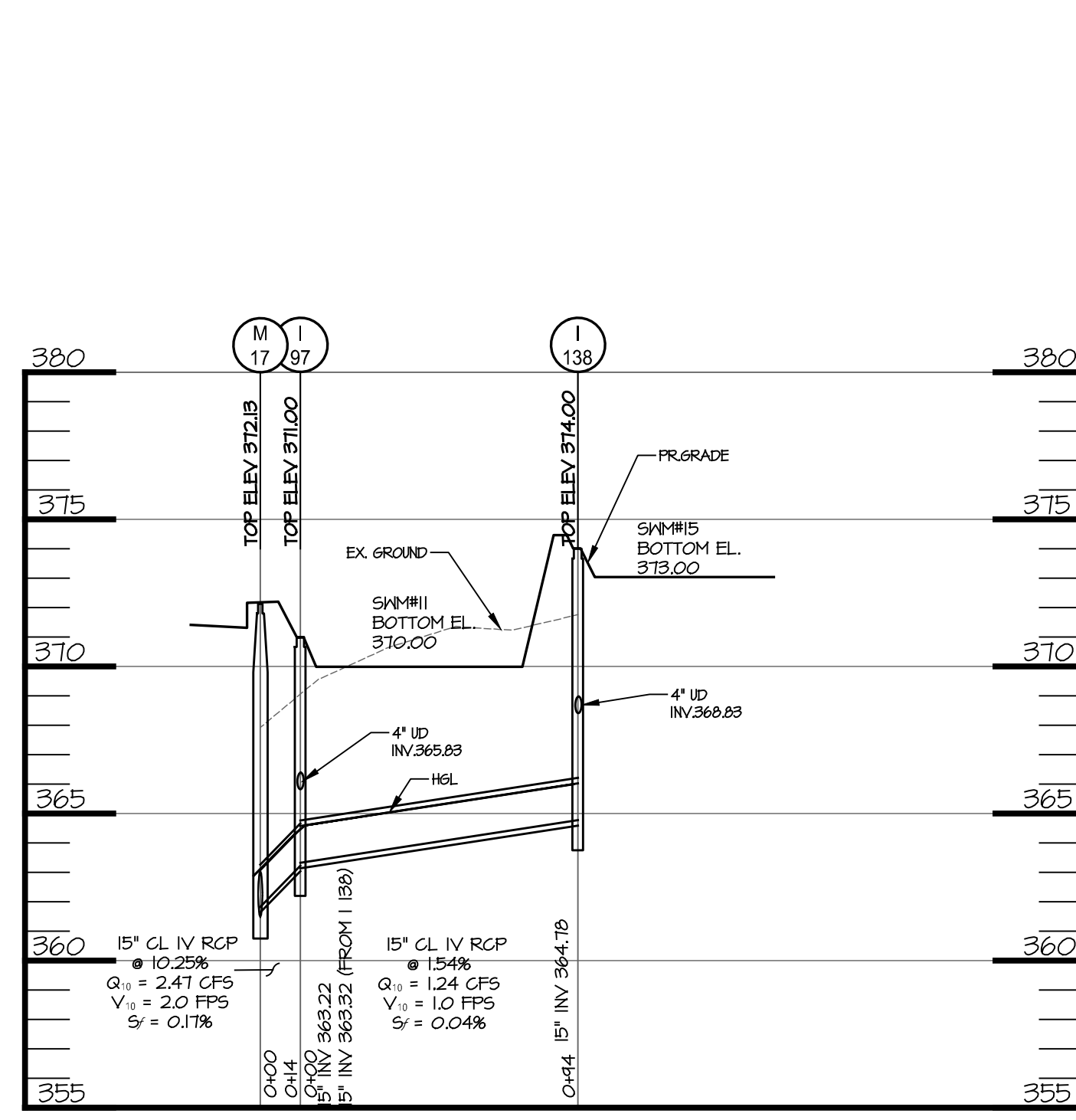
APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



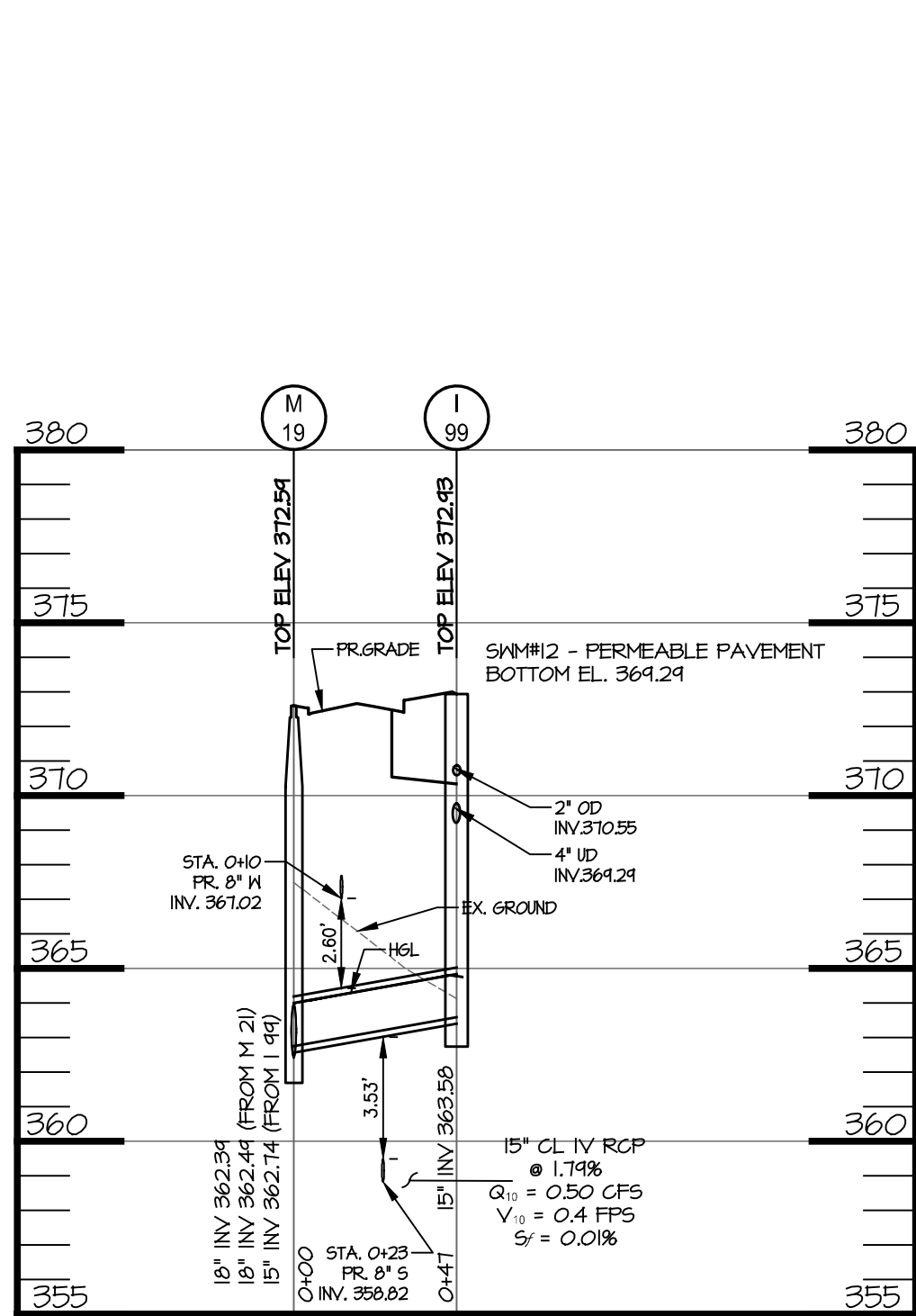
M 13 TO I 93 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



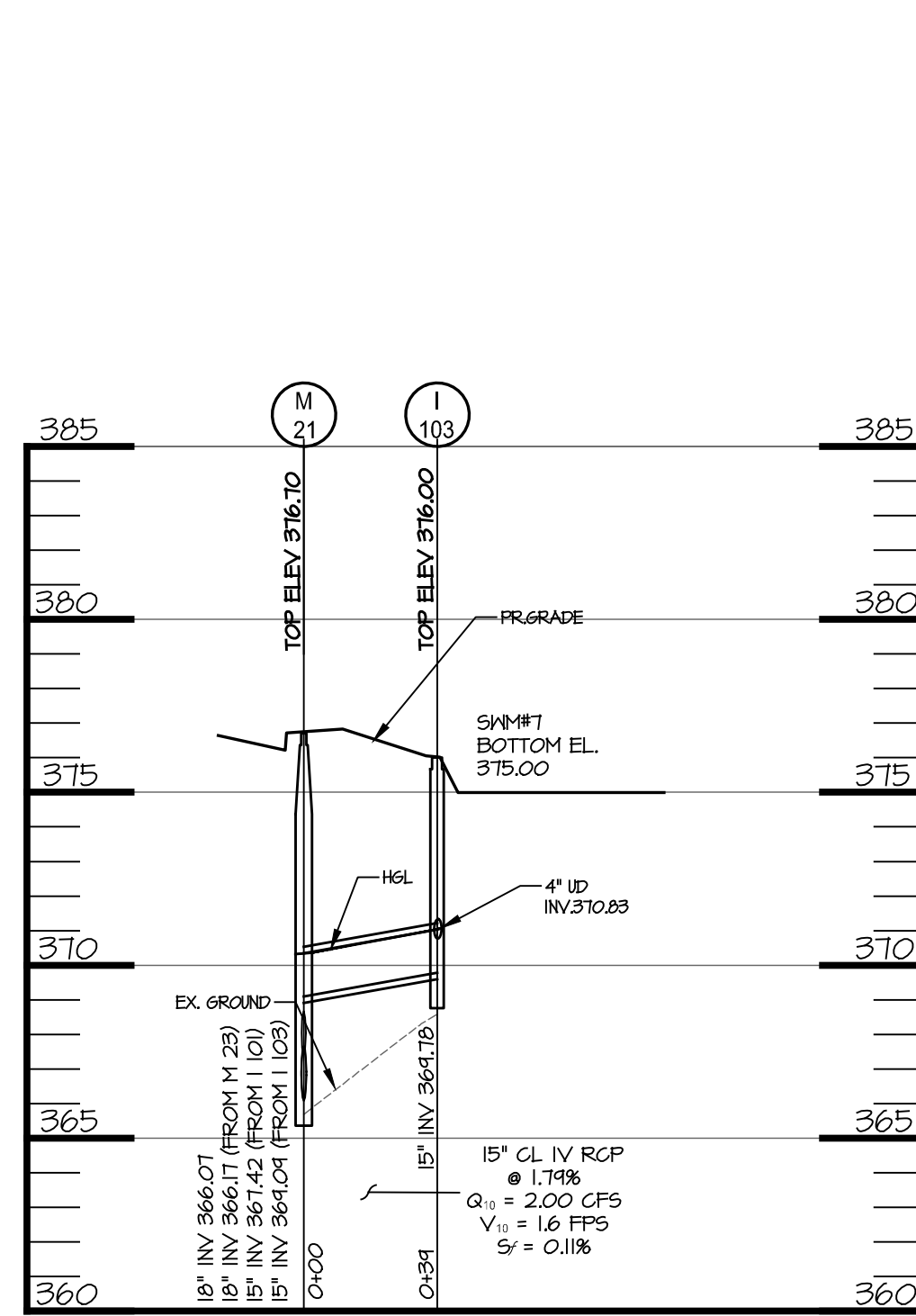
M 15 TO I 95 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



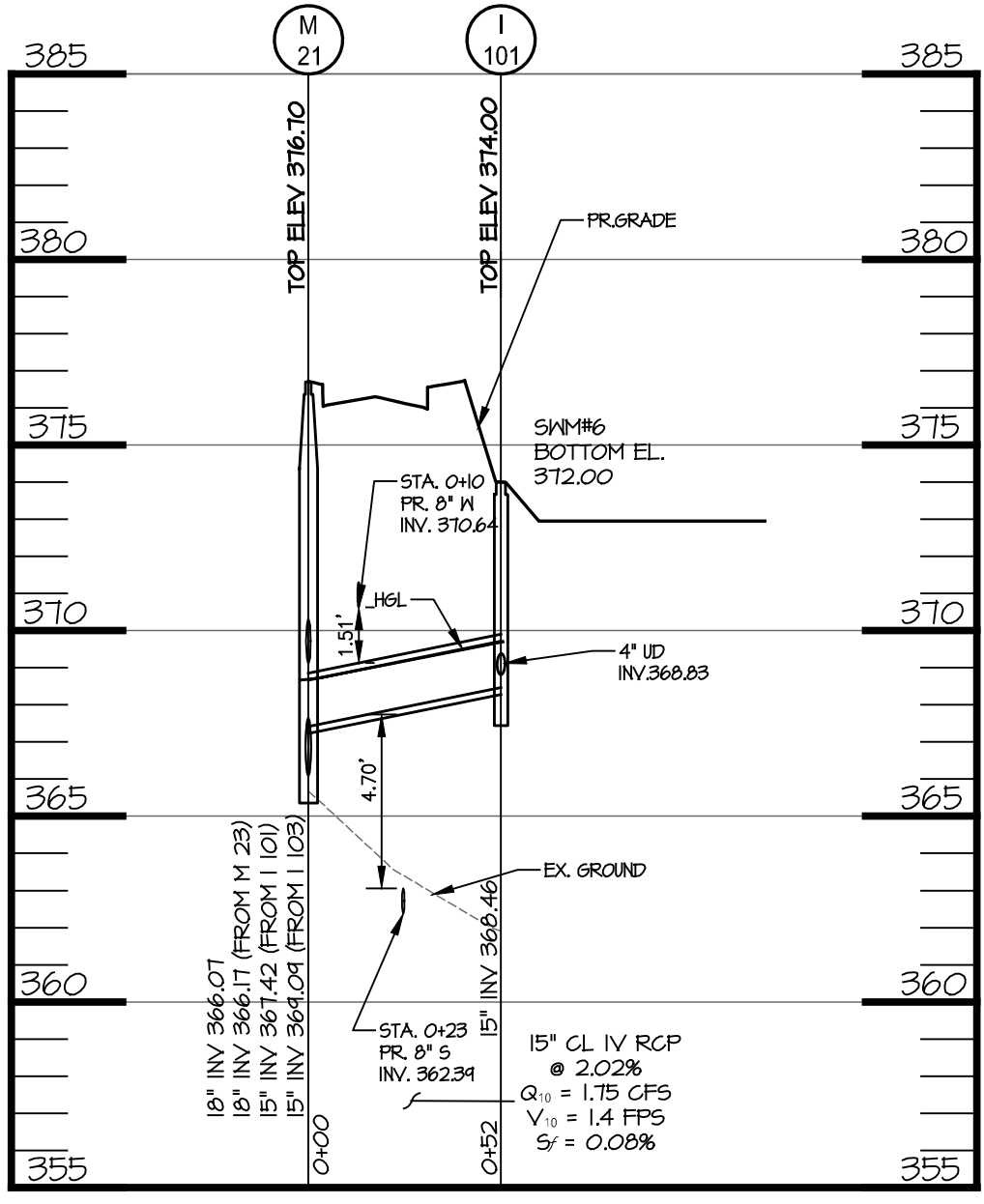
M 17 TO I 97 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



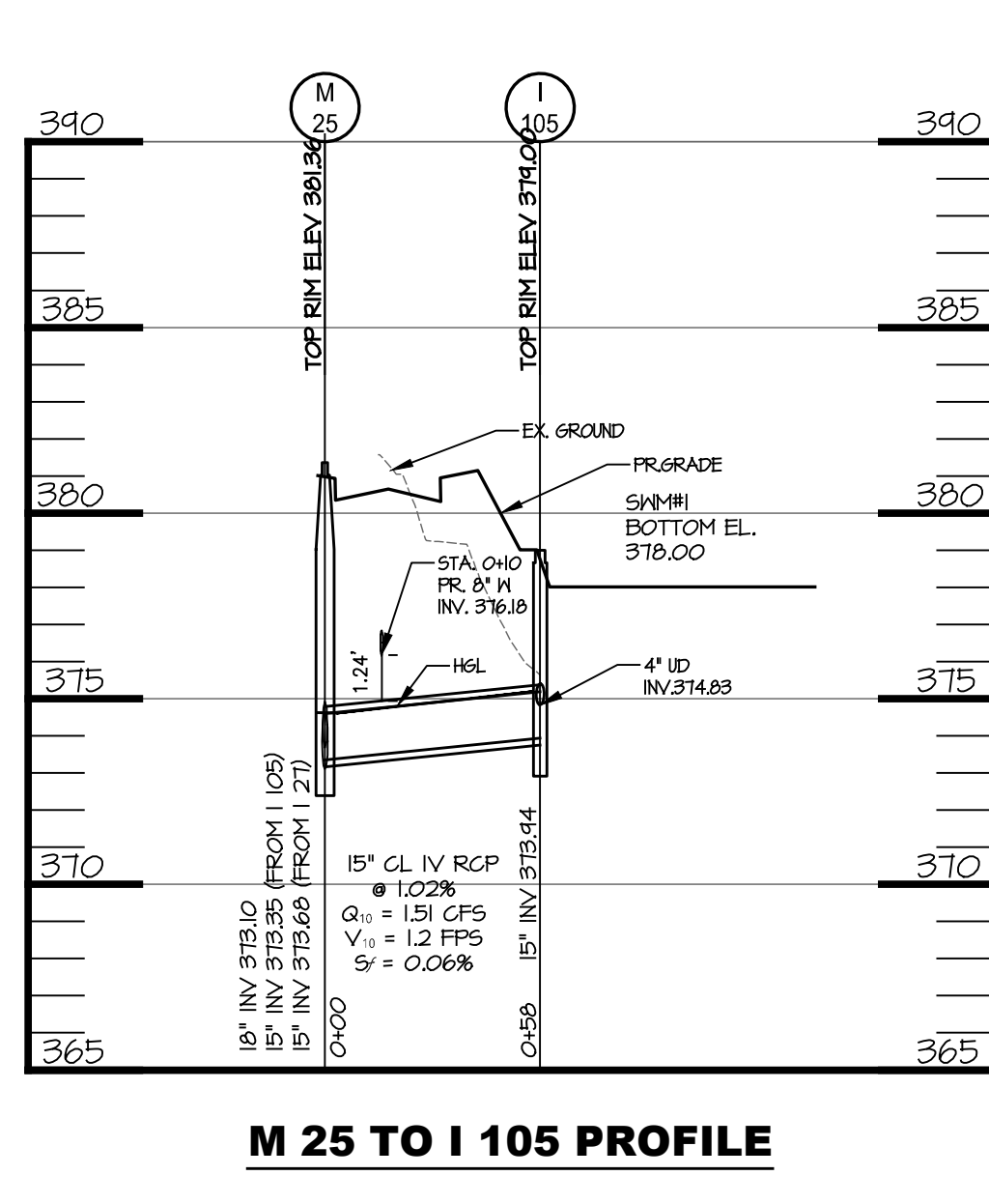
M 19 TO I 99 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



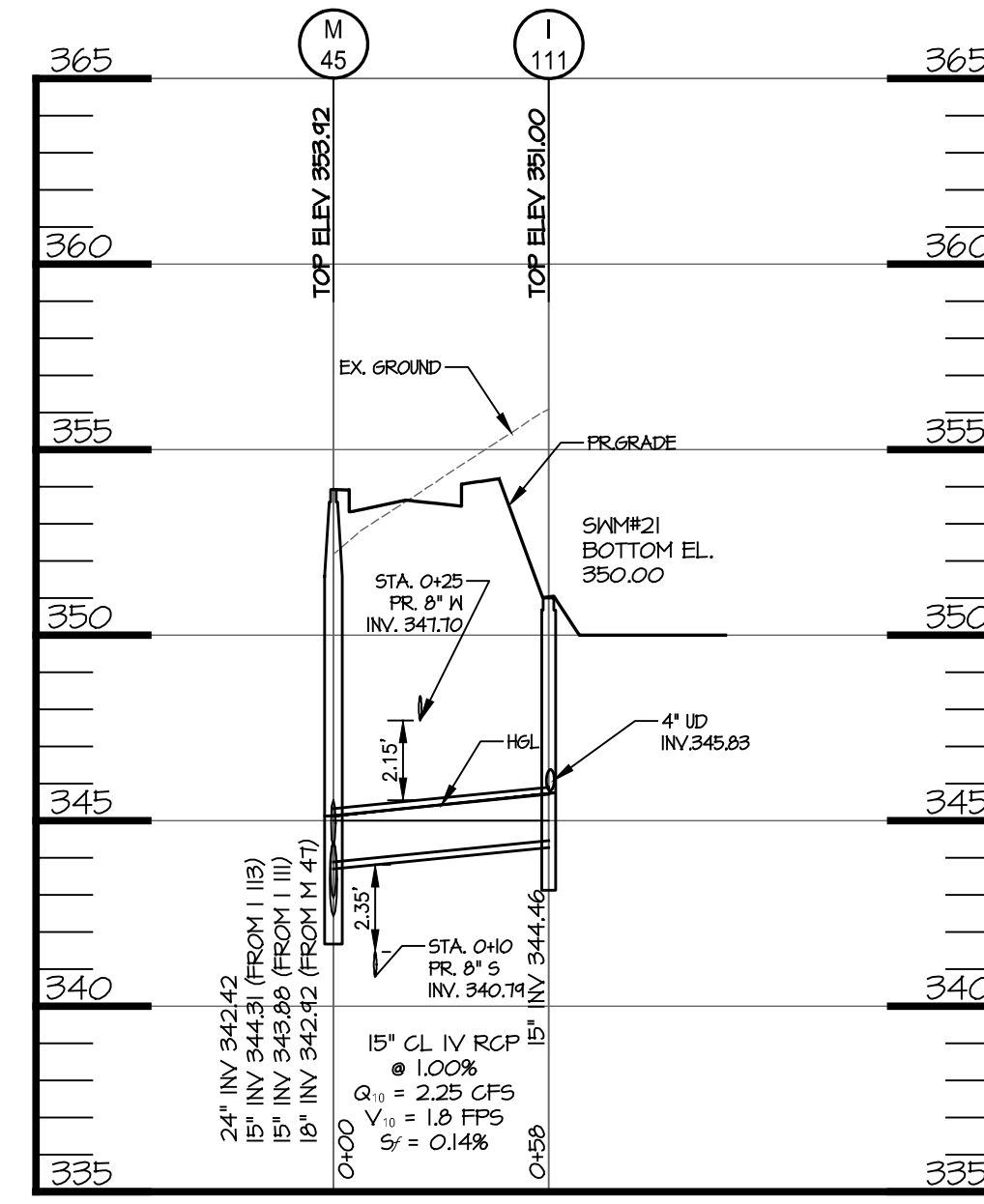
M 21 TO I 103 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



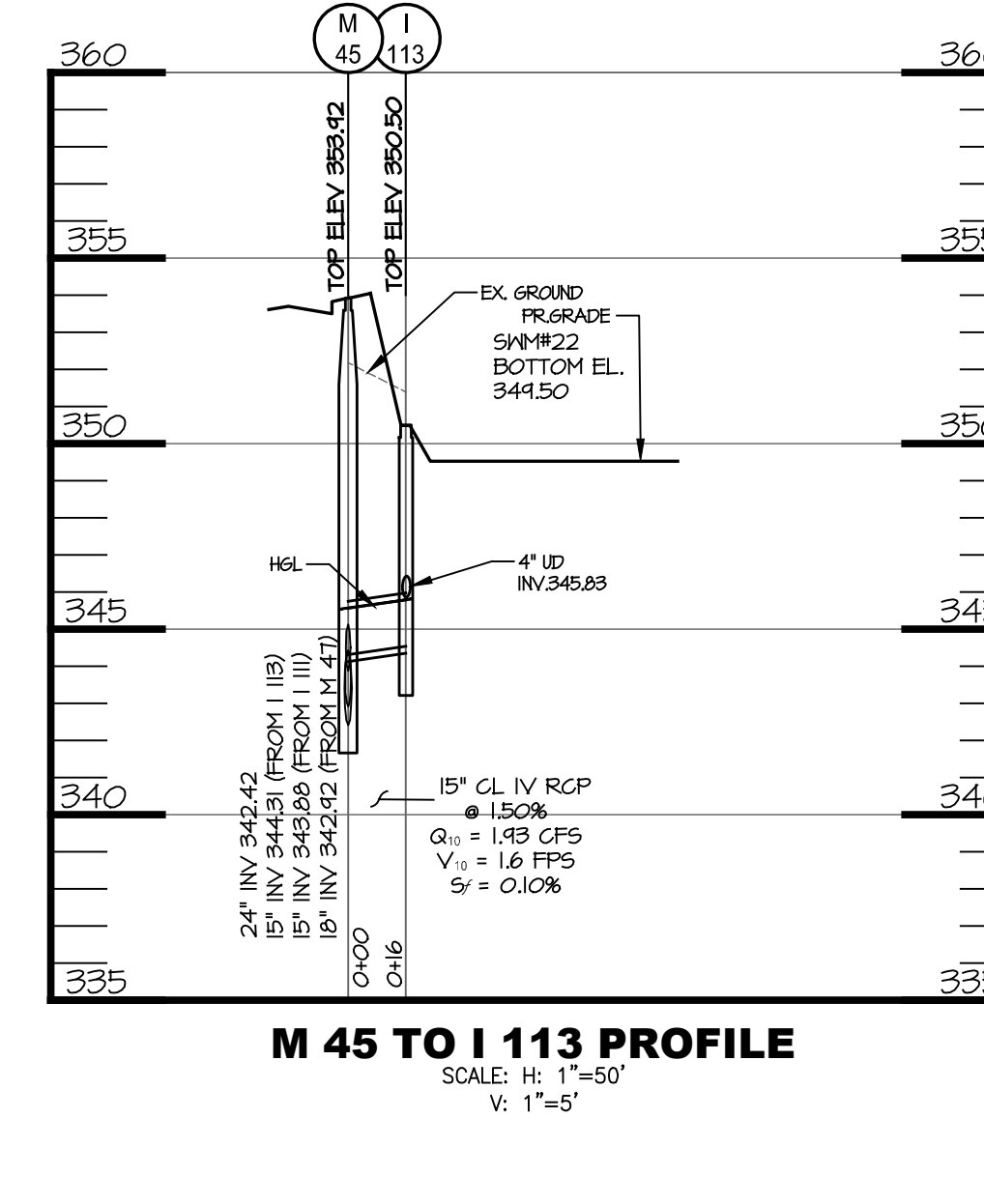
M 21 TO I 101 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



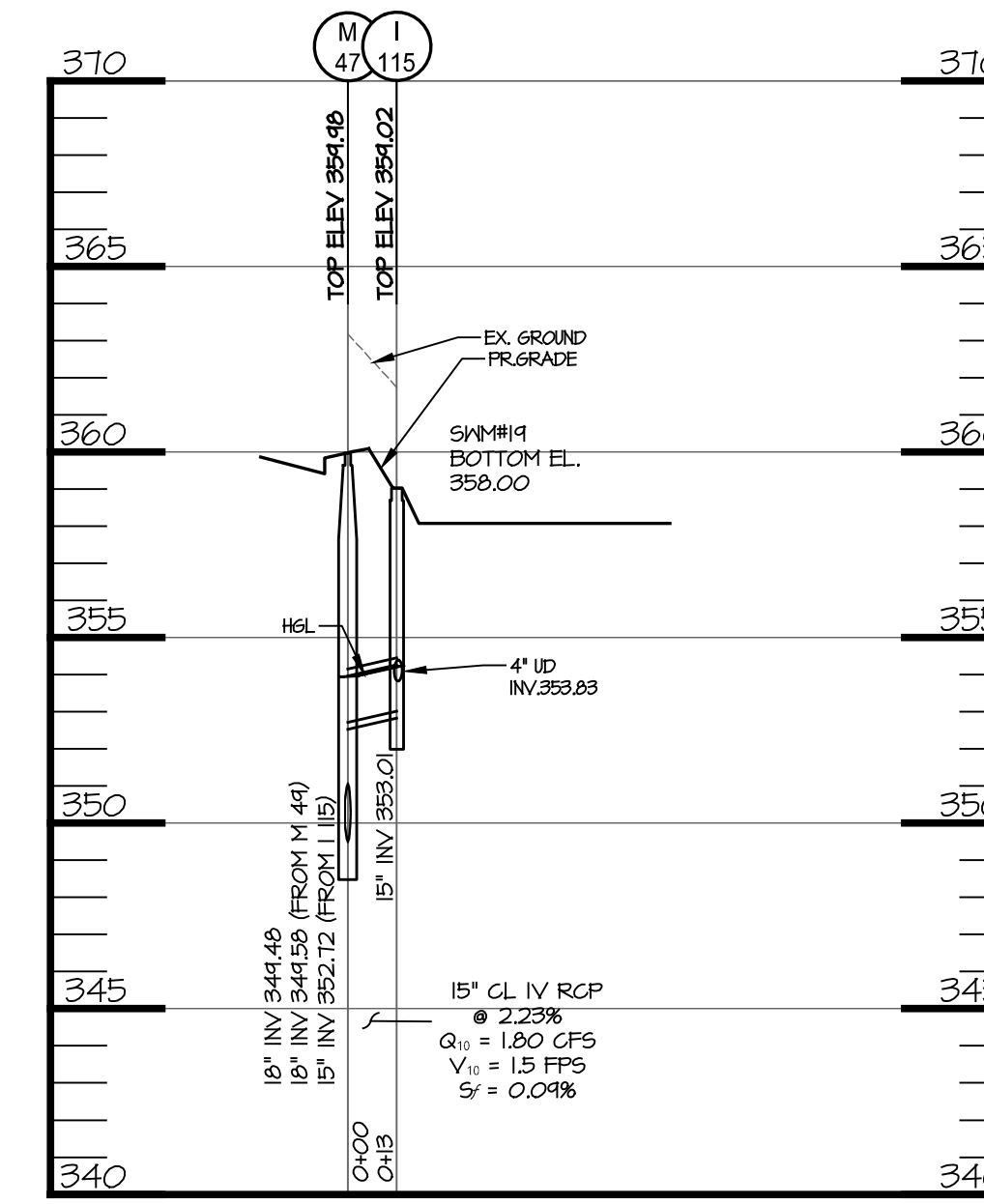
M 25 TO I 105 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



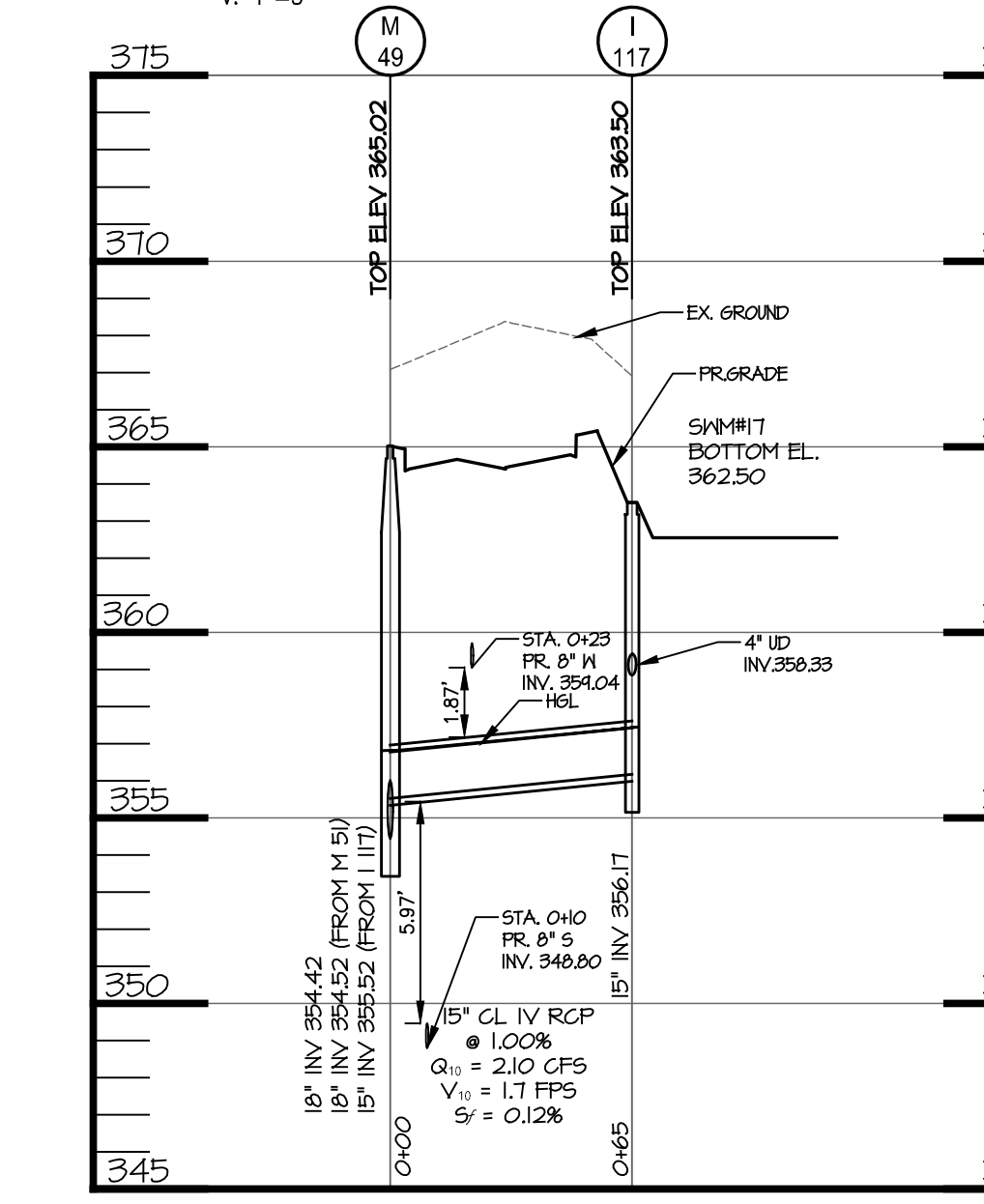
M 45 TO I 111 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



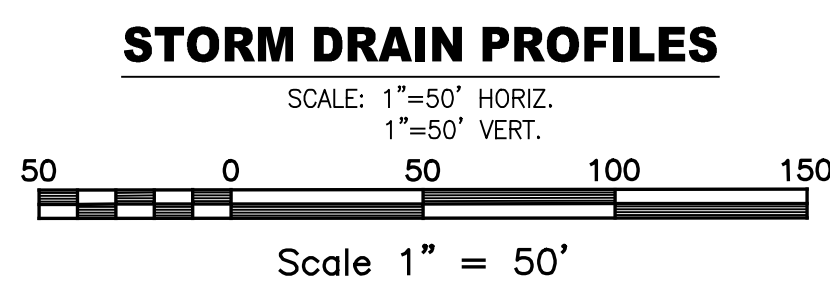
M 45 TO I 113 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



M 47 TO I 115 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



M 49 TO I 117 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

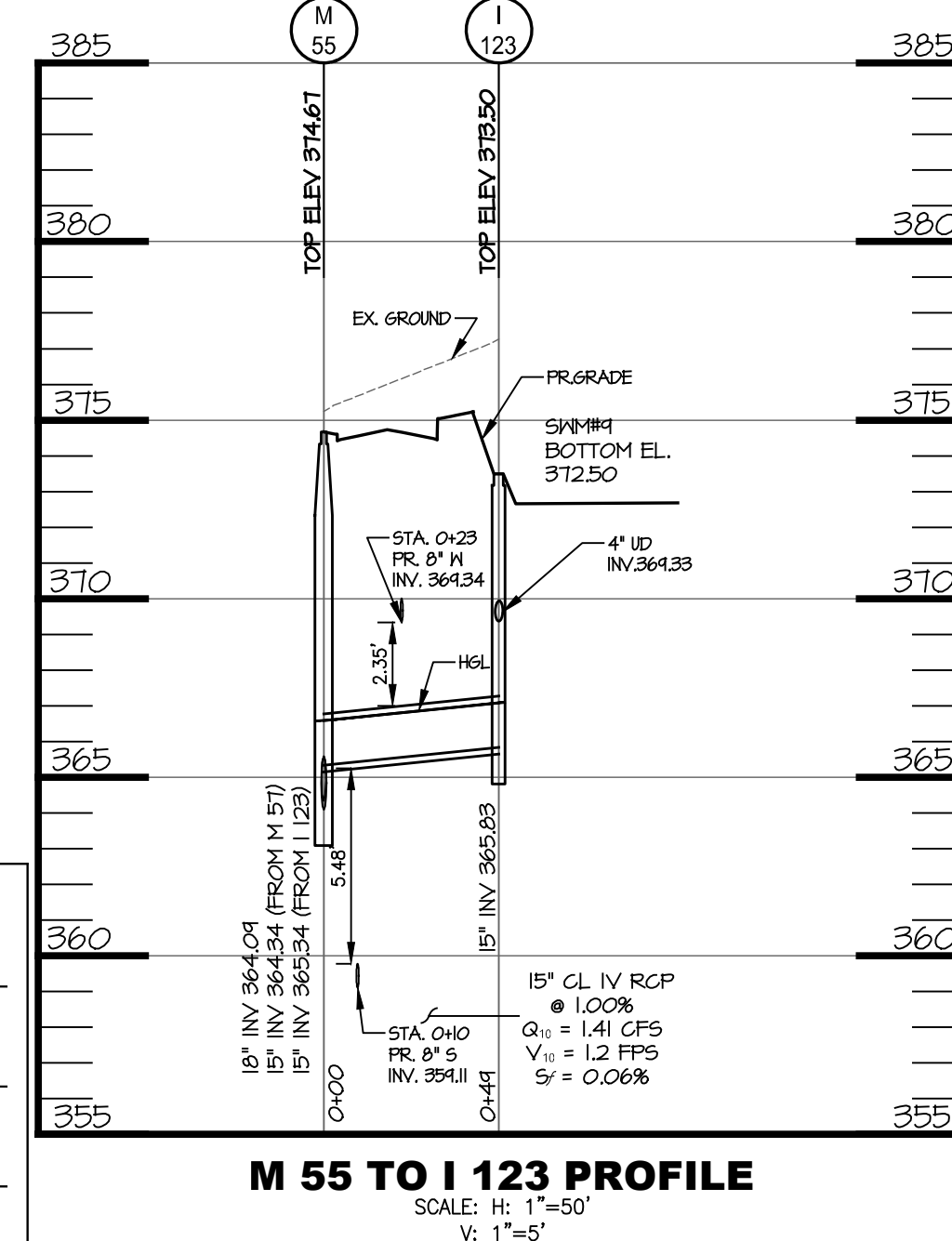
DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

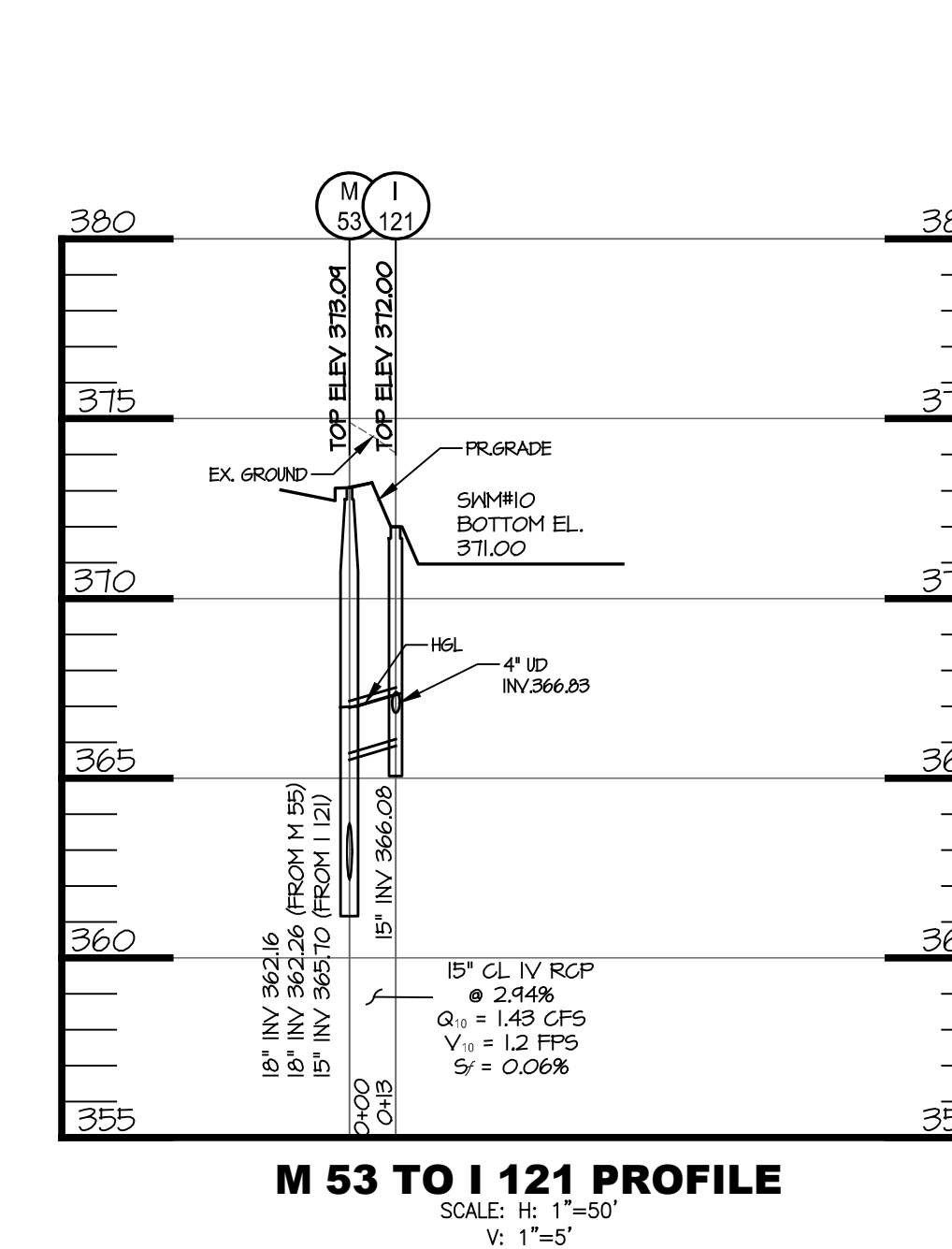
DATE 10/6/2022

DIRECTOR

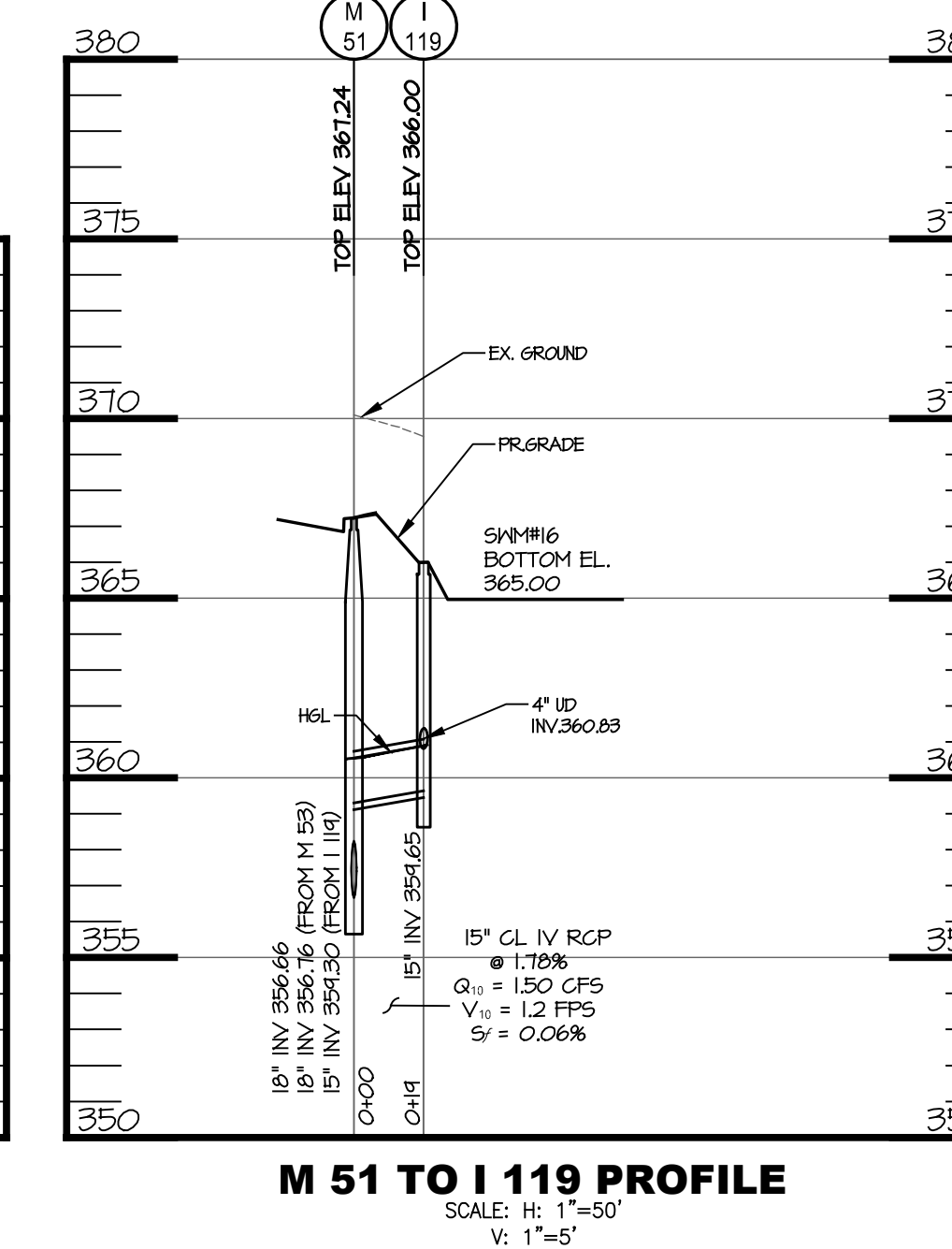
DATE



M 55 TO I 123 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



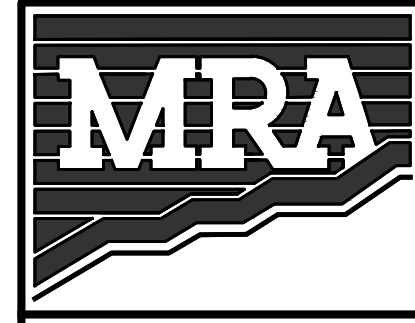
M 53 TO I 121 PROFILE
SCALE: H: 1"=50'
V: 1"=5'



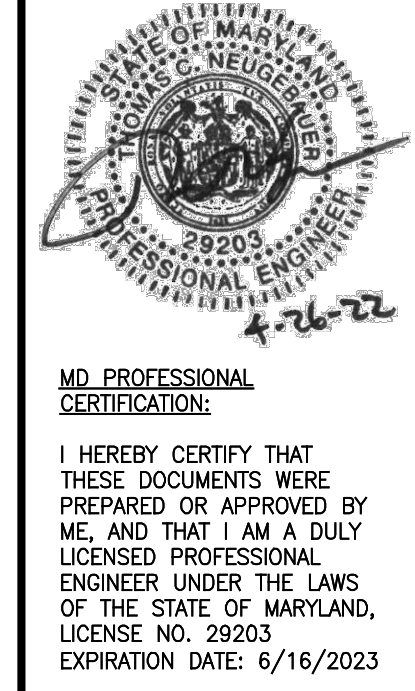
M 51 TO I 119 PROFILE
SCALE: H: 1"=50'
V: 1"=5'

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM
Copyright 2022 Morris & Ritchie Associates, Inc.



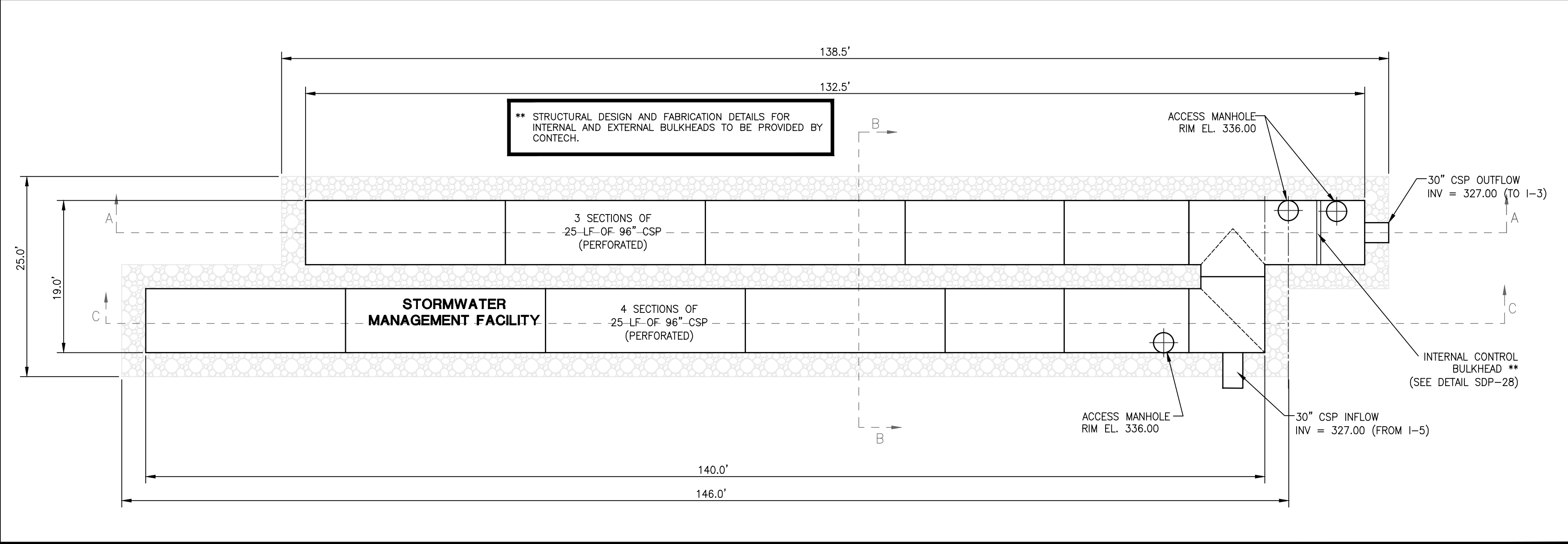
ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
STORM DRAIN PROFILES

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590x04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 26 OF 49

SDP-21-038

- 1. BUILDING CODES**
- A. ALL CONSTRUCTION SHALL CONFORM WITH THE PROVISIONS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND THE 1992 SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND THE 1992 ASHOTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, AND ITS SUPPLEMENTS.
- 2. DESIGN LOADS**
- A. THE MINIMUM DESIGN DEAD LOADING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND AS FOLLOWS:
6" TO 8" OF SOIL HEIGHT ABOVE TOP SLAB OF STRUCTURES
(= 750 TO 1000 PSF)
- B. THE MINIMUM DESIGN LIVE LOADING IS AS FOLLOWS:
HS20-44 TRUCK LOADING: 18,000 LBS CONCENTRATED LOAD (FOR MOMENT)
SURCHARGE: 26,000 LBS CONCENTRATED LOAD (FOR SHEAR)
100 PSF
- 3. CAST IN PLACE CONCRETE**
- A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)"; TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)"; AND TO "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES (ACI 308R-89)".
- B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
1. RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305).
2. RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
3. RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).
- C. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 5% +/- 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1" AND MAXIMUM SLUMP SHALL BE 4". ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 33.
- D. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A 615 GRADE 60. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS, UNLESS OTHERWISE INDICATED.
- E. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 315" DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL".
- F. PROVIDE WATER STOPS IN ALL CONSTRUCTION AND CONTROL JOINTS IN CONCRETE BELOW SUBGRADE.
- G. THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RESHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL SHORING AND RESHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.
- H. MINIMUM COVER FOR ALL REINFORCING SHALL BE 3 INCHES UNLESS OTHERWISE INDICATED.



STORMWATER MANAGEMENT FACILITY #49 - LAYOUT

SCALE : 1" = 10'

CONCRETE NOTES

MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. IN GENERAL, THE PRACTICES CONTAINED IN THE "MAINTENANCE AND REPAIR" CHAPTER OF THE "MARYLAND DAM SAFETY MANUAL", DNR-WRA 1988, SHOULD BE FOLLOWED AND CONDUCTED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER FAMILIAR WITH DAM CONSTRUCTION OPERATION. IN ADDITION, THE MD-378 DAM INSPECTION CHECKLIST MAY BE USED AS A GUIDE FOR MAINTENANCE.

AT A MINIMUM, THE STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED BI-ANNUALLY FOR THE

1. CONDITION OF FOUNDATION, INTERIOR WALLS, AND TOP SLAB OF PRETREATMENT CHAMBER.
2. CONDITION OF ACCESS MANHOLES AND DIVERSION STRUCTURE.
3. CONDITION OF CLEANOUTS, PIPE INLETS AND OUTLETS.
4. SEDIMENT LOAD IN PRETREATMENT CHAMBER.
5. SEDIMENT INTO PRETREATMENT CHAMBER THROUGH FOUNDATION OR INTERIOR WALLS.
6. ANY OTHER ITEMS WHICH COULD AFFECT THE FUNCTION OF THE SWM FACILITY.
7. EVIDENCE OF CLOSING OF ANY PIPE CONDUITS.
8. CRACKING OF CONCRETE CHAMBER FOUNDATION, INTERIOR WALLS, AND TOP SLAB.
9. WATER LEVEL WITHIN INFILTRATION TRENCH STORAGE AREA.

ANY NEEDED MAINTENANCE OR REPAIR OF PRETREATMENT CHAMBER FOUNDATION, INTERIOR WALLS, OR PIPE CONDUITS SHALL BE DONE UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER.

ANY NEEDED MAINTENANCE OR REPAIR OF INFILTRATION TRENCH STORAGE AREA OR PIPE CONDUITS SHALL BE DONE UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER.

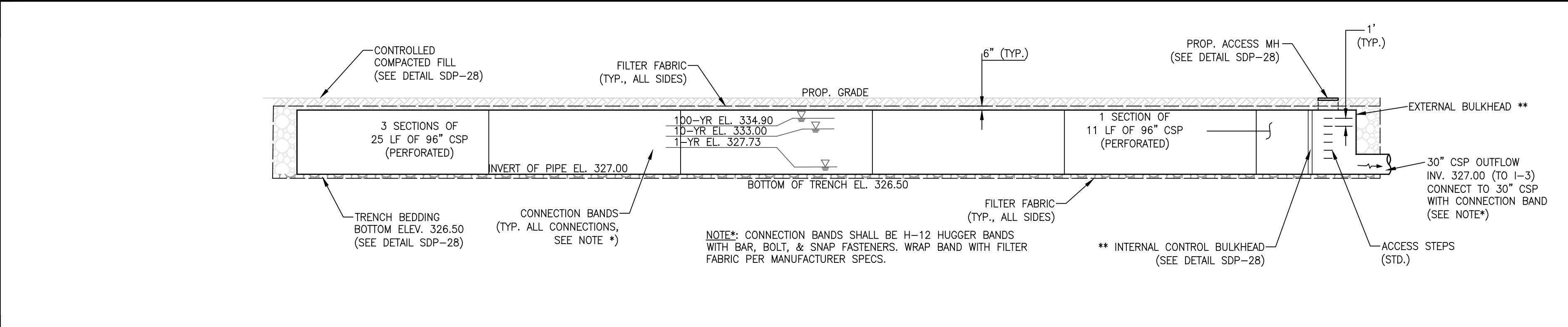
IN ADDITION TO BI-ANNUAL INSPECTIONS, INSPECTIONS SHALL BE DONE DURING WET SEASON, AND ALL DEBRIS, LITTER, OR SEDIMENT ACCUMULATED IN PRETREATMENT STORAGE AREA, INLET PIPES, AND DIVERSION STRUCTURE SHALL BE REMOVED.

MAINTENANCE & REPAIR SCHEDULE

1. THE UNDERGROUND SWM FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
2. THE UNDERGROUND SWM FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
3. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
4. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATOR AGENCIES NOTIFYING THEM OF THE SPILL, AND CLEANUP OPERATION.
5. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND SWM FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
6. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.
7. THE STORMWATER MANAGEMENT FACILITY OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR SAFETY OF THE FACILITY AND CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE OWNERS SHALL EMPLOY A QUALIFIED ENGINEER TO MAKE YEARLY INSPECTIONS OF THE UNDERGROUND SYSTEM AND RECOMMEND REPAIRS AS DEMAED NECESSARY.

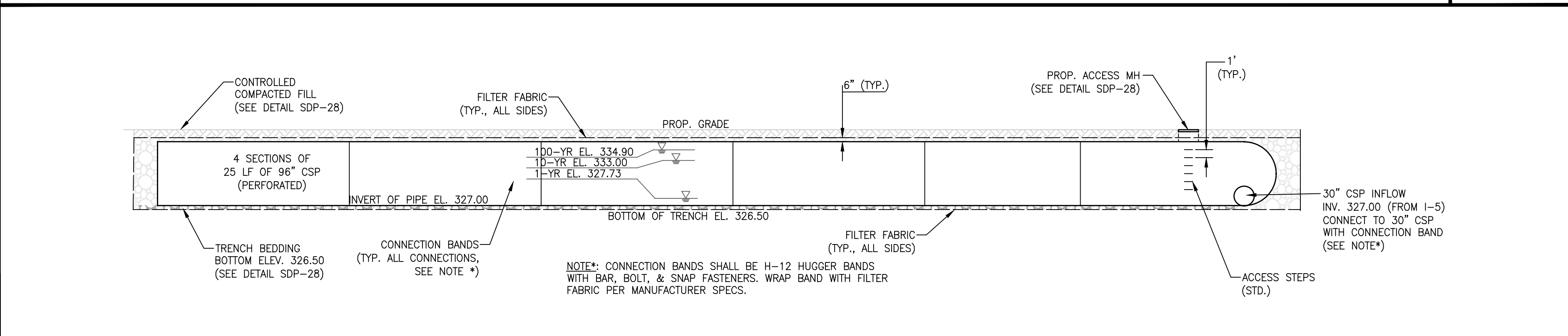
OPERATION & MAINTENANCE SCHEDULE FOR UNDERGROUND FACILITIES

- A. BEDDING**
1. THE BED SHALL BE PLACED TO UNIFORM GRADE AND LINE TO ENSURE GOOD VERTICAL ALIGNMENT AND TO AVOID EXCESSIVE STRESSES AT PIPE JOINTS. THE BEDDING SHALL BE FREE OF ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS, AND OTHER FOREIGN MATERIAL. THE BEDDING FOUNDATION MUST BE A STABLE, WELL GRADED GRANULAR MATERIAL. ANY MATERIAL THAT HAS INADEQUATE BEARING CAPACITY MUST BE REMOVED AND REPLACED WITH A COMPACTED SELECT FILL APPROVED BY THE GEOTECHNICAL ENGINEER.
- B. BACKFILL**
1. THE FILL MATERIAL SHALL BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATTER THAT COULD CAUSE HARD SPOTS IN BACKFILL OR THAT COULD DECOMPOSE AND CREATE VOIDS.
 2. BACKFILL MATERIAL SHALL BE A WELL GRADED GRANULAR MATERIAL.
 3. HIGHLY PLASTIC SILTS, HIGHLY PLASTIC CLAYS, ORGANIC SILTS, ORGANIC CLAYS, AND PEATS SHALL NOT BE USED AS BACKFILL MATERIAL.
 4. BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN SIX-INCH TO EIGHT-INCH LOOSE LAYERS TO ONE FOOT ABOVE THE TOP OF THE PIPE. EACH LAYER IS TO BE COMPACTED TO THE SPECIFIED DENSITY (MINIMUM 90%) BEFORE PLACING THE NEXT LAYER. REFERENCE ASTM A798.
- C. PIPE**
1. THE PIPE FABRICATOR SHALL PROVIDE SPECIFICATIONS OF ALL MATERIALS (BASED ON HS-20 LOADING).
 2. SHOP DRAWINGS ARE TO BE PROVIDED BY FABRICATOR. APPROVAL BY ENGINEER IS REQUIRED PRIOR TO CONSTRUCTION.
 3. CONTRACTOR IS REQUIRED TO COORDINATE APPROVAL OF SHOP DRAWINGS AND SPECIFICATIONS AND SHALL BE OBLIGATED FOR ANY COST THEREOF.



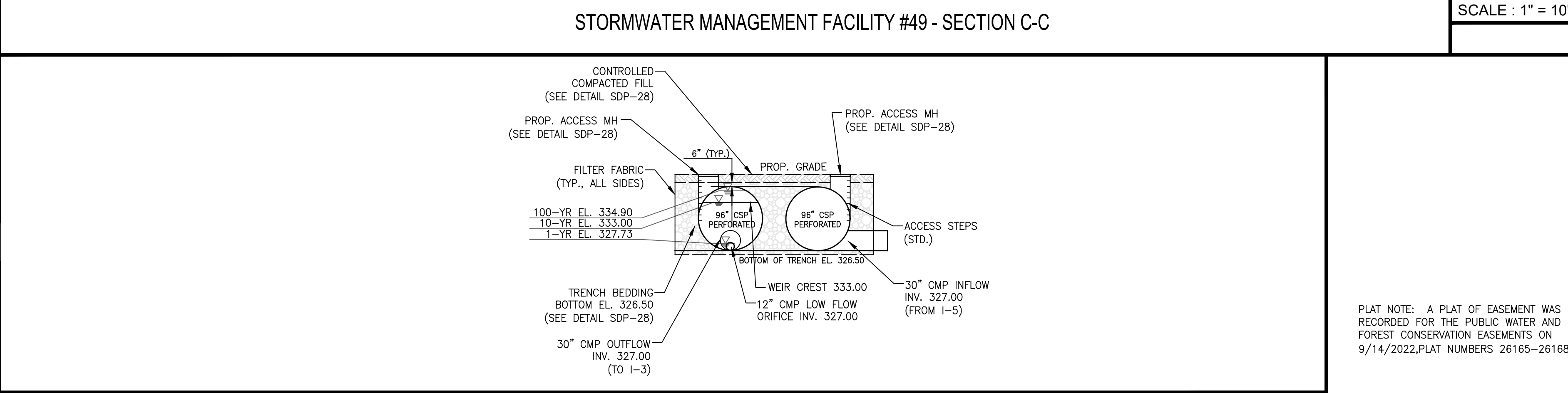
STORMWATER MANAGEMENT FACILITY #49 - SECTION A-A

SCALE : 1" = 10'



STORMWATER MANAGEMENT FACILITY #49 - SECTION C-C

SCALE : 1" = 10'



STORMWATER MANAGEMENT FACILITY #49 - SECTION B-B

SCALE : 1" = 10'

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edmondson</i>	10/5/2022
CHIEF, DEVELOPMENT & ENGINEERING DIVISION	DATE
	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Amy Stoneman</i>	10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

PIPE TABLES

STORM WATER MANAGEMENT FACILITY NO. 49 PIPE SUMMARY TABLE (PRIVATE)		
SIZE	TYPE	LENGTH
96"	CSP, 14 GA., AL. STEEL, TYP. 2	273 LF
30"	CSP, 16 GA., AL. STEEL, TYP. 2	3 LF
30"	CSP, 16 GA., AL. STEEL, TYP. 2	3 LF

STORM WATER MANAGEMENT FACILITY NO. 49 FITTING SUMMARY TABLE (PRIVATE)		
SIZE	TYPE	QUANTITY
96"	CSP ELBOW, 14 GA., AL. STEEL, TYPE 2	1
96"	CSP TEE, 12 GA., AL. STEEL, TYPE 2	1
96"	INTERNAL CONTROL BULKHEAD	1
96"	EXTERNAL BULKHEAD	3

**STORM WATER MANAGEMENT FACILITY NO. 49
SUMMARY DATA**

	VOLUME PROVIDED	WSE	DISCHARGE
1 YEAR	0.0542 AC-ft	327.73	1.24 cfs
10 YEAR	0.4322 AC-ft	333.00	8.94 cfs
100 YEAR	0.5312 AC-ft	334.90	66.76 cfs

SHEET: SDP-27



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM #49 PLAN & SECTIONS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: AS SHOWN
		DATE: 4-26-2022
		DRAWN BY: MM
		DESIGN BY: MF
		REVIEW BY: MMF
		SHEET: 27 OF 49

MD PROFESSIONAL CERTIFICATION:
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 NO. 29203 EXPIRATION DATE: 6/16/2023

SDP-21-038

CONSTRUCTION SPECIFICATIONS

I - GENERAL

1.0 STANDARDS AND DEFINITIONS

1.1 STANDARDS - ALL STANDARDS REFER TO LATEST EDITION UNLESS OTHERWISE NOTED.

- 1.1.1 ASTM D-698-70 (METHOD C) "STANDARD TEST METHODS FOR MOISTURE, DENSITY RELATIONS OF SOILS AND SOIL AGGREGATE MIXTURES USING 5.5-LB (2.5 kg.) RAMMER AND 12-INCH (305-mm) DROP"
- 1.1.2 ASTM D-2922 "STANDARD TEST METHOD FOR DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS (SHALLOW DEPTH)"
- 1.1.3 ASTM D-1556 "STANDARD TEST METHOD FOR DENSITY OF SOIL IN PLACE BY THE SAND-CONE METHOD"

1.2 DEFINITIONS

- 1.2.1 OWNER - IN THESE SPECIFICATIONS THE WORD "OWNER" SHALL MEAN ATLAS CONTAINER CORP.
- 1.2.2 ENGINEER - IN THESE SPECIFICATIONS THE WORD "ENGINEER" SHALL MEAN MORRIS & RITCHE ASSOC.
- 1.2.3 DESIGN ENGINEER - IN THESE SPECIFICATIONS THE WORD "DESIGN ENGINEER" SHALL MEAN CONTECH ENGINEERED SOLUTIONS, LLC.
- 1.2.4 CONTRACTOR - IN THESE SPECIFICATIONS THE WORD "CONTRACTOR" SHALL MEAN THE FIRM OR CORPORATION UNDERTAKING THE EXECUTION OF ANY WORK UNDER THE TERMS OF THESE SPECIFICATIONS.
- 1.2.5 APPROVED - IN THESE SPECIFICATIONS THE WORD "APPROVED" SHALL REFER TO THE APPROVAL OF THE ENGINEER OR HIS DESIGNATED REPRESENTATIVE.
- 1.2.6 AS DIRECTED - IN THESE SPECIFICATIONS THE WORDS "AS DIRECTED" SHALL REFER TO THE DIRECTIONS TO THE CONTRACTOR FROM THE OWNER OR HIS DESIGNATED REPRESENTATIVE.

2.0 GENERAL CONDITIONS

- 2.1 THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND EQUIPMENT AND PERFORM ALL WORK AND SERVICES EXCEPT THOSE SET OUT AND FURNISHED BY THE OWNER, NECESSARY TO COMPLETE IN A SATISFACTORY MANNER THE SITE PREPARATION, EXCAVATION, FILLING, COMPACTION, GRADING AS SHOWN ON THE PLANS AND AS DESCRIBED THEREIN.

THIS WORK SHALL CONSIST OF ALL MOBILIZATION, CLEARING AND GRADING, GRUBBING, STRIPPING, REMOVAL OF EXISTING MATERIAL UNLESS OTHERWISE STATED, PREPARATION OF THE LAND TO BE FILLED, FILLING OF THE LAND, SPREADING AND COMPACTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES, SLOPES, & SPECIFICATIONS.

THIS WORK IS TO BE ACCOMPLISHED UNDER THE OBSERVATION OF THE OWNER OR HIS DESIGNATED REPRESENTATIVE.
- 2.2 PRIOR TO BIDDING WORK, THE CONTRACTOR SHALL EXAMINE, INVESTIGATE, AND INSPECT THE CONSTRUCTION SITE AS TO THE NATURE AND LOCATION OF THE WORK, AND THE GENERAL AND LOCAL CONDITIONS AT THE CONSTRUCTION SITE, INCLUDING, WITHOUT LIMITATION, THE CHARACTER OF SURFACE OR SUBSURFACE CONDITIONS AND OBSTACLES TO BE ENCOUNTERED ON OR AROUND THE CONSTRUCTION SITE; AND SHALL MAKE SUCH ADDITIONAL INVESTIGATION AS HE MAY DEEM NECESSARY FOR THE PLANNING AND PROPER EXECUTION OF THE WORK.

IF CONDITIONS OTHER THAN THOSE INDICATED ARE DISCOVERED BY THE CONTRACTOR, THE OWNER SHOULD BE NOTIFIED IMMEDIATELY. THE MATERIAL WHICH THE CONTRACTOR BELIEVES TO BE A CHANGED CONDITION SHOULD NOT BE DISTURBED SO THAT THE OWNER CAN INVESTIGATE THE CONDITION.
- 2.3 THE CONSTRUCTION SHALL BE PERFORMED UNDER THE DIRECTION OF AN EXPERIENCED ENGINEER WHO IS FAMILIAR WITH THE DESIGN PLAN.

II - DETENTION SYSTEM DETAILS

1.0 - GENERAL

- 1.1 ALL CORRUGATED PIPE AND PIPE STUBS SHALL BE CORRUGATED ALUMINIZED STEEL TYPE-2 PIPE LOCK SEAM CONSTRUCTION, IN ACCORDANCE WITH ASTM A929 AND ASTM A760. ALL INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM A798.
- 1.2 THE 60 INCH DIAMETER 5"x1" CORRUGATED STEEL PIPE SHALL BE A MINIMUM OF 14 GAGE.
- 1.3 THE 30 INCH DIAMETER 2-2/3"x1/2" CORRUGATED STEEL PIPE SHALL BE A MINIMUM OF 16 GAGE THICKNESS.
- 1.4 ALL FITTINGS, ANGLES, CHANNELS, AND PLATES SHALL BE STRUCTURAL STEEL MEETING ASTM A36 STANDARDS, AND SHALL BE HOT DIP GALVANIZED.
- 1.5 THE CMP CONNECTION PIPE STUBS FOR THE LATERAL BRANCHES SHALL BE FULLY WELDED TO THE SADDLE PLATE BY THE MANUFACTURER AND BOLTED TO THE MAIN PIPE AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE STUB CONNECTIONS SHALL BE CONSTRUCTED WATER-TIGHT.
- 1.6 ALL ADJOINING PIPES, TEES, AND ELBOWS SHALL BE COUPLED USING CONTECH H-12 HUGGER BANDS.
- 1.7 EACH COUPLER BAND ARE SHALL BE COVERED WITH A MINIMUM 24" STRAP OF FILTER FABRIC AS SPECIFIED IN SECTION IV.

2.0 - MANHOLE ACCESS RISER

- 2.1 A 30-INCH CMP MANHOLE RISER (MINIMUM 16 GAGE) SHALL BE WELDED TO THE 60-INCH STRUCTURE IN THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS.
- 2.2 THE MANHOLE SHALL CONSIST OF A 30-INCH DIAMETER 2-2/3"x1/2" CORRUGATED METAL ROUND PIPE WITH A MINIMUM GAGE OF 16. THE STEPS CONSISTING OF 7/8-INCH DIAMETER BARS SHALL BE ATTACHED TO THE 30-INCH & 60-INCH STRUCTURES EITHER BY 5/8-INCH BOLTS OR BY WELDING ON A SPACING AS SHOWN ON THE CONSTRUCTION DRAWINGS.

3.0 - MANHOLE FITTINGS

- 3.1 THE FITTINGS FOR THE MANHOLE SHALL CONSIST OF 4"x3"x1/4" CURVED STRUCTURAL STEEL ANGLES ON EITHER SIDE OF THE MANHOLE.
- 3.2 THE LENGTH OF ANGLES SHALL BE OF A LENGTH TO FIT BETWEEN THE LONGITUDINAL CHANNELS.
- 3.3 THE ANGLES SHALL MEET ASTM A36, BE CURVED TO FIT THE STRUCTURE AND ATTACHED WITH A MINIMUM OF FOUR 3/4-INCH DIAMETER BOLTS EQUALLY SPACED IN THE CENTER OF EACH ANGLE.
- 3.4 LONGITUDINAL STRUCTURAL STEEL 6" X 8.2 LB/FT CHANNELS SHALL BE PLACED BETWEEN CIRCUMFERENTIAL ANGLES AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- 3.5 THE CHANNELS SHALL BE BOLTED TO THE CORRUGATIONS USING A MINIMUM OF FOUR 3/4-INCH DIAMETER BOLTS PER CHANNEL.
- 3.6 A CONCRETE FOOTING AND A PRECAST COVER SHALL BE PLACED AROUND THE RISER WITH THE DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS. THE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF Fc=4000 PSI AND THE REINFORCING STEEL SHALL BE GRADE 60 ASTM 615.
- 3.7 A STANDARD 30-INCH DIAMETER GRATE FRAME AND COVER FOR VEHICULAR TRAFFIC SHALL BE INSTALLED FOR THE ACCESS INTO EACH MANHOLE.

4.0 - SADDLE PLATES FOR CSP CONNECTIONS

- 4.1 THE SADDLE PLATES FOR THE LATERALS TO THE CORRUGATED STEEL PIPE CONNECTIONS SHALL BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

5.0 - BULKHEADS

- 5.1 THE BULKHEADS FOR THE 60-INCH DIAMETER STEEL PIPE SHALL BE A MINIMUM 12 GA (0.109 INCHES) OR 1/4" FLAT PLATE WITH REINFORCED STEEL CHANNELS 6"x2.2 LB/FT PLACED AT A MAXIMUM 24 INCHES ON CENTER FOR THE EXTERIOR BULKHEADS AND AT A MAXIMUM 30 INCHES FOR THE INTERIOR BULKHEAD.
- 5.2 THE CHANNEL REINFORCEMENT SHALL BE ATTACHED TO THE BULKHEAD USING 1/8" FILLET WELDS, 2 INCHES LONG ON EACH SIDE OF THE CHANNEL, SPACED AT 12" O.C. THE REINFORCEMENT SHALL BE ORIENTED SUCH THAT THE FLANGE OF THE CHANNEL IS WELDED TO THE BULKHEAD AND THE WEB IS PERPENDICULAR TO THE FLAT PLATE.
- 5.3 THE BULKHEAD SHALL BE ATTACHED TO THE 60-INCH PIPE PERIPHERY USING 1/8" INCH FILLET WELD ALL AROUND.
- 5.4 EACH EXTERIOR BULKHEAD SHALL BE WRAPPED IN FILTER FABRIC.
- 5.5 WHEN GALVANIZING MATERIALS ARE WELDED THEY GIVE OFF A TOXIC GAS. CONSEQUENTLY, APPROPRIATE BREATHING APPARATUS SHALL BE USED DURING THE WELDING PROCESS. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE ENVIRONMENTAL PROTECTION AND OCCUPATIONAL SAFETY AND HEALTH STANDARDS, RULES, REGULATIONS AND ORDERS.
- 5.6 AFTER THE WELDING PROCESS IS COMPLETED THE AREA OF THE WELD IN WHICH GALVANIZING MATERIAL WAS REMOVED SHALL BE REPAIRED WITH COLD PATCH GALVANIZING (ZINC-RICH CHROMATE PAINT) OR APPROPRIATE EPOXY OR VINYL COATING, OR AN APPROPRIATE MASTIC COATING TO ALLEVIATE CORROSION IN THE AREA WHERE GALVANIZING WAS REMOVED. ALL REASONABLE PRECAUTIONS SHALL BE TAKEN TO USE, STORE, AND DISPOSAL OF WASTE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS.
- 5.7 THE WELDS SHALL BE INSPECTED TO ENSURE THAT THE PROPER AMOUNT OF WELD IS PRESENT, AND THAT THE WELDS ARE PROPERLY DONE.

III - SELECT BACKFILL

1.0 GENERAL CONDITIONS

- 1.1 THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND EQUIPMENT AND PERFORM ALL WORK AND SERVICES EXCEPT THOSE SET OUT AND FURNISHED BY THE OWNER, NECESSARY TO COMPLETE IN A SATISFACTORY MANNER THE SITE PREPARATION, EXCAVATION, FILLING, COMPACTION, GRADING AS SHOWN ON THE PLANS AND AS DESCRIBED THEREIN.
- 1.2 THIS WORK SHALL CONSIST OF ALL MOBILIZATION, CLEARING AND GRADING, GRUBBING, STRIPPING, REMOVAL OF EXISTING MATERIAL UNLESS OTHERWISE STATED, PREPARATION OF THE LAND TO BE FILLED, FILLING OF THE LAND, SPREADING AND COMPACTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES, SLOPES, & SPECIFICATIONS.
- 1.3 THIS WORK IS TO BE ACCOMPLISHED UNDER THE OBSERVATION OF THE OWNER OR HIS DESIGNATED REPRESENTATIVE.

2.0 SUBSURFACE CONDITIONS

- 2.1 PRIOR TO BIDDING WORK, THE CONTRACTOR SHALL EXAMINE, INVESTIGATE, AND INSPECT THE CONSTRUCTION SITE AS TO THE NATURE AND LOCATION OF THE WORK, AND THE GENERAL AND LOCAL CONDITIONS AT THE CONSTRUCTION SITE, INCLUDING, WITHOUT LIMITATION, THE CHARACTER OF SURFACE OR SUBSURFACE CONDITIONS AND OBSTACLES TO BE ENCOUNTERED ON OR AROUND THE CONSTRUCTION SITE; AND SHALL MAKE SUCH ADDITIONAL INVESTIGATION AS HE MAY DEEM NECESSARY FOR THE PLANNING AND PROPER EXECUTION OF THE WORK.
- 2.2 IF CONDITIONS OTHER THAN THOSE INDICATED ARE DISCOVERED BY THE CONTRACTOR, THE OWNER SHOULD BE NOTIFIED IMMEDIATELY. THE MATERIAL WHICH THE CONTRACTOR BELIEVES TO BE A CHANGED CONDITION SHOULD NOT BE DISTURBED SO THAT THE OWNER CAN INVESTIGATE THE CONDITION.

3.0 FORMATION OF FILL AREAS

3.1 SELECT BACKFILL

- 3.1.1 SELECT BACKFILL SHALL BE PLACED TO THE WALLS OF THE EXCAVATION HORIZONTALLY OR A MINIMUM OF 8 FEET, AS MEASURED FROM THE SPRINGLINE OF THE STRUCTURE, AND TO A DISTANCES OF 3 FEET ABOVE THE CROWN OF THE STRUCTURE OR TO THE BOTTOM OF THE FLEXIBLE PAVEMENT AS SHOWN ON THE CONSTRUCTION DRAWINGS.

4.0 MINIMUM BACKFILL REQUIREMENTS FOR STRUCTURES

4.1 MATERIAL

A GRANULAR TYPE OF MATERIAL SHALL BE USED AROUND AND OVER THE STRUCTURE. THIS SELECT STRUCTURAL BACKFILL MATERIAL SHALL CONFORM TO AASHTO SPECIFICATION M-145: A-1, A-2-4, A-2-5, OR A-3 MEETING THE FOLLOWING CRITERIA:

TABLE #1-1
BACKFILL REQUIREMENTS

GROUP CLASSIFICATION	AASHTO M-145- TABLE 2 (MODIFIED)*				
	A-1	A-2 (MODIFIED)	A-3		
SIEVE ANALYSIS, % PASSING	A-1-a	A-1-b	A-2-4	A-2-5	A-3
NO. 10 (2.00 mm)	50 MAX.	---	---	---	---
NO. 40 (0.425 mm)	30 MAX.	50 MAX.	---	---	51 MIN.
NO. 100 (0.150 mm)	---	---	50 MAX.	50 MAX.	---
NO. 200 (0.075 mm)	15 MAX.	25 MAX.	20 MAX.	20 MAX.	10 MAX.
CHARACTERISTICS OF FRACTION PASSING NO. 40 (0.425 mm)					
LIQUID LIMIT	---	---	40 MAX.	41 MIN.	---
PLASTIC LIMIT	6 MAX.	---	10 MAX.	10 MAX.	NP
USUAL TYPES OF SIGNIFICANT CONSTITUENT MATERIALS	STONE FRAGMENTS, GRAVEL AND SAND			FINE SAND	

* MODIFIED TO BE MORE SELECT THAN M-145.

4.2 BACKFILL LIMITS

THE REQUIRED WIDTH OF THE STRUCTURAL BACKFILL SHALL BE TO THE WALLS OF THE EXCAVATION OR A MINIMUM OF 8 FEET OUTSIDE THE SPRINGLINE AND TO 3 FEET OVER THE TOP OF THE STRUCTURE, OR TO THE BOTTOM OF FLEXIBLE PAVEMENT.

4.3 BACKFILL PLACEMENT

BEFORE BACKFILLING, THE ERECTED STRUCTURE SHALL MEET THE TOLERANCE AND SYMMETRY REQUIREMENTS OF AASHTO AND CONTECH CONSTRUCTION PRODUCTS, INC.

APPROVED BACKFILL MATERIAL SHALL BE PLACED IN HORIZONTAL, UNIFORM LAYERS NOT EXCEEDING 8" IN THICKNESS, BEFORE COMPACTION, AND SHALL BE BROUGHT UP UNIFORMLY ON BOTH SIDES OF THE STRUCTURE. EACH LAYER OF BACKFILL SHALL BE COMPACTED TO A RELATIVE DENSITY OF NOT LESS THAN 90% OF THE MAXIMUM MODIFIED PROCTOR DRY UNIT WEIGHT, IN ACCORDANCE WITH AASHTO TEST METHOD NO. 1-180. FIELD DENSITY TESTS OF COMPACTED BACKFILL SHALL BE MADE AT REGULAR INTERVALS DURING BACKFILL.

CONTRACTORS SHOULD PLAN TO HAVE A D4 (APPROXIMATELY 20,000 LBS.) OR SIMILAR WEIGHT TRACKED DOZER TO PLACE AND GRADE BACKFILL IMMEDIATELY ALONGSIDE AND ABOVE THE STRUCTURE UNTIL MINIMUM COVER LEVEL IS REACHED. LIGHTWEIGHT VIBRATORY PLATE OR ROLLER TYPE COMPACTION EQUIPMENT MUST BE USED TO COMPACT THE BACKFILL IN THESE ZONES. USE OF HEAVY EQUIPMENT AND/OR RUBBER TRED EQUIPMENT SUCH AS SCRAPERS, GRADERS, AND FRONT END LOADERS ARE PROHIBITED INSIDE THE SELECT FILL ENVELOPE ZONE UNTIL APPROPRIATE MINIMUM COVER HEIGHT HAS BEEN OBTAINED.

5.0 SLOPE RATIO AND STORM WATER RUN-OFF

PROTECTED SLOPES SHALL NOT BE GREATER THAN 2.0 (HORIZONTAL TO ONE (1) (VERTICAL) IN BOTH CUT AND FILL, AND STORM WATER SHALL NOT BE DRAINED OVER THE SLOPES.

6.0 GRADING

THE CONTRACTOR SHALL FURNISH, OPERATE, AND MAINTAIN SUCH EQUIPMENT AS IS NECESSARY TO CONSTRUCT UNIFORM LAYERS, AND CONTROL SMOOTHNESS OF GRADE FOR MAXIMUM COMPACTION AND DRAINAGE.

7.0 COMPACTING

THE COMPACTION EQUIPMENT SHALL BE APPROVED EQUIPMENT OF SUCH DESIGN, WEIGHT, AND QUANTITY TO OBTAIN THE REQUIRED DENSITY IN ACCORDANCE WITH THESE SPECIFICATIONS, WITHOUT DISTORTING THE STRUCTURE.

8.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

9.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

10.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

11.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

12.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

13.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

14.0 TESTING AND INSPECTION SERVICES

TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

15.0 TESTING AND INSPECTION SERVICES

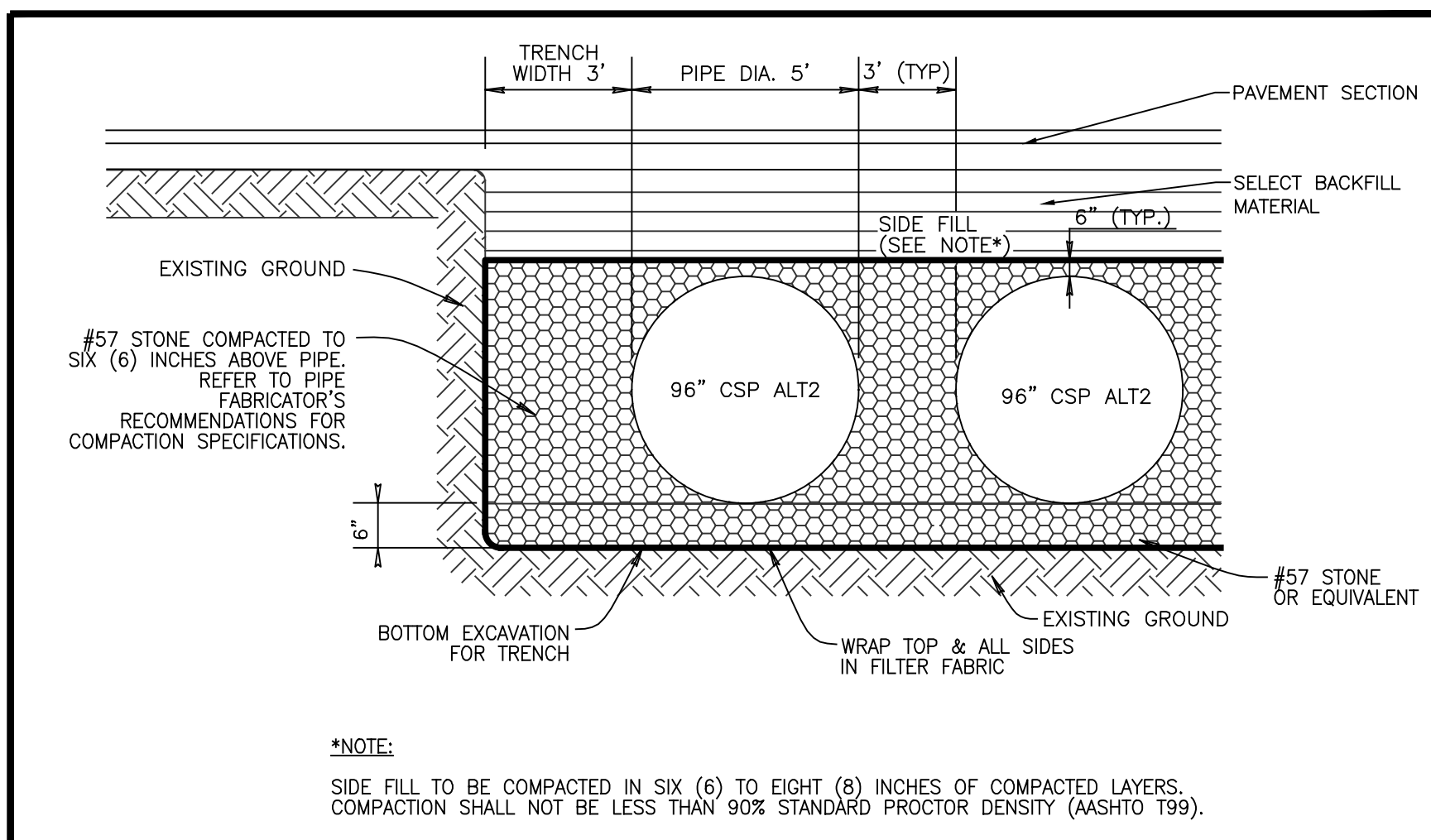
TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

16.0 TESTING AND INSPECTION SERVICES

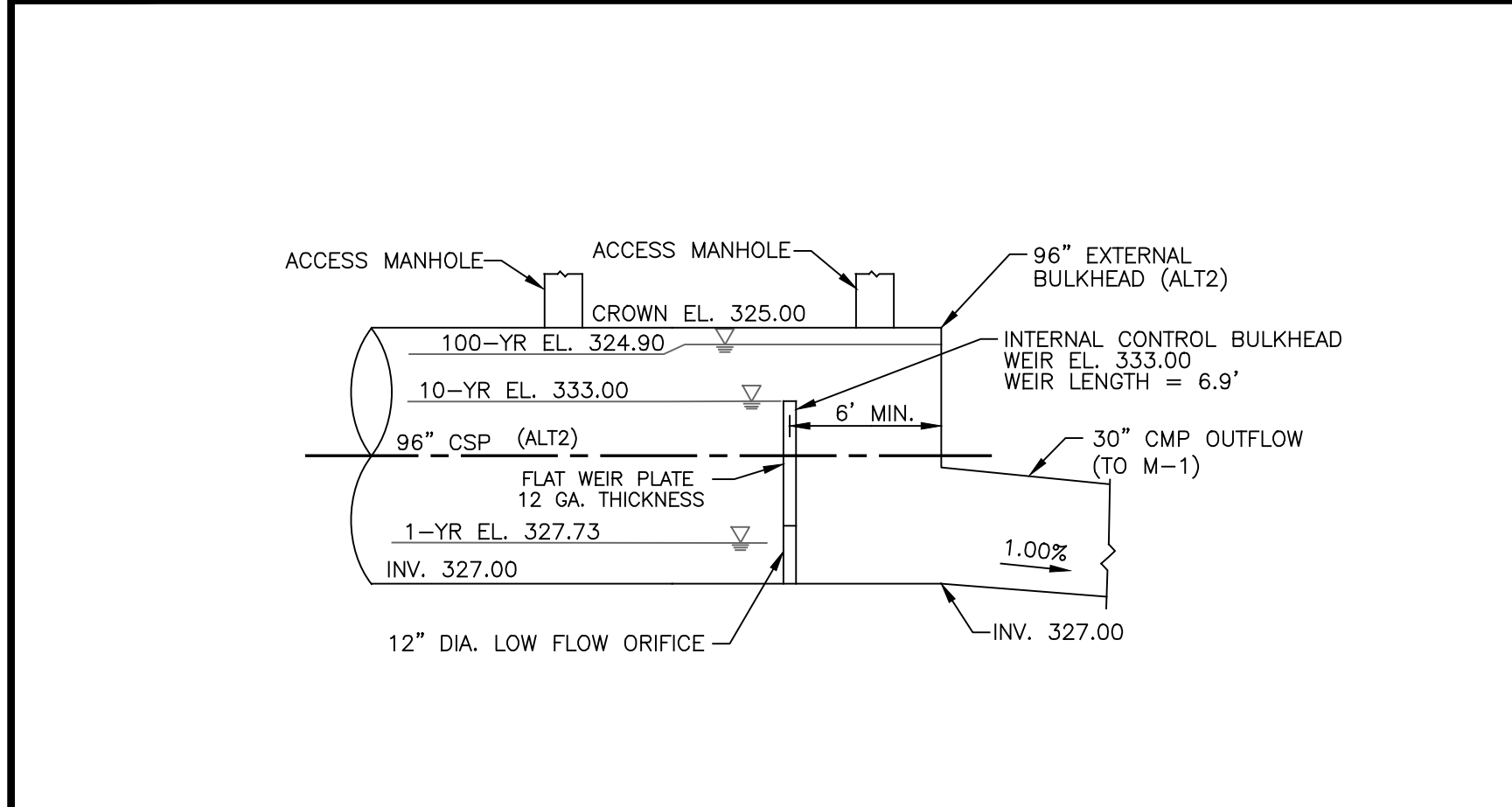
TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.

17.0 TESTING AND INSPECTION SERVICES

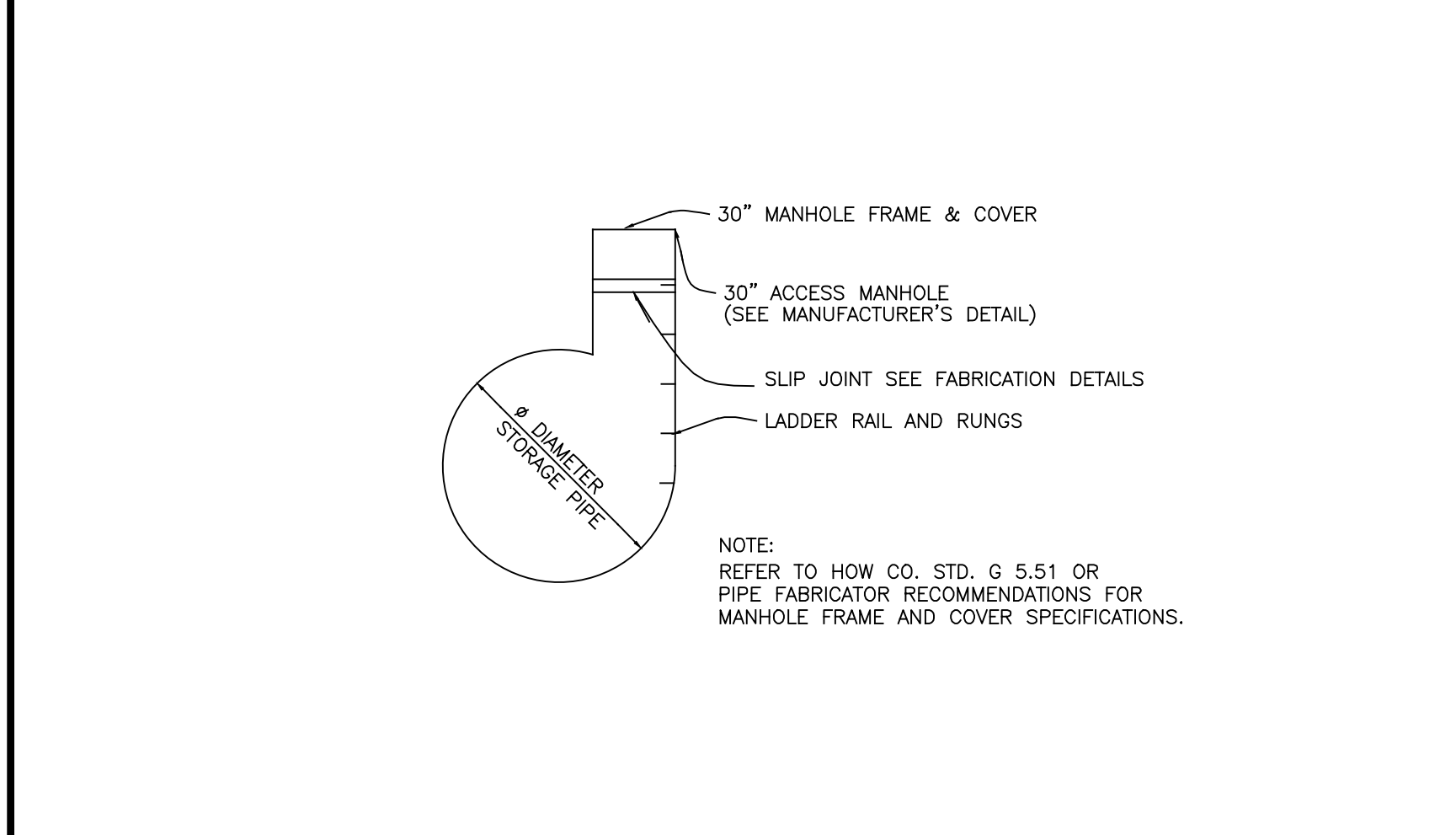
TESTING AND INSPECTION SERVICES WILL BE PROVIDED BY THE OWNER.



TRENCH DETAIL N.T.S.



INTERNAL CONTROL BULKHEAD DETAIL N.T.S.



ACCESS MANHOLE DETAIL N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
Chief, Development & Engineering Division	10/5/2022
Chief, Division of Land Development	10/6/2022
Director	10/6/2022

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

SHEET: SDP-28

MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

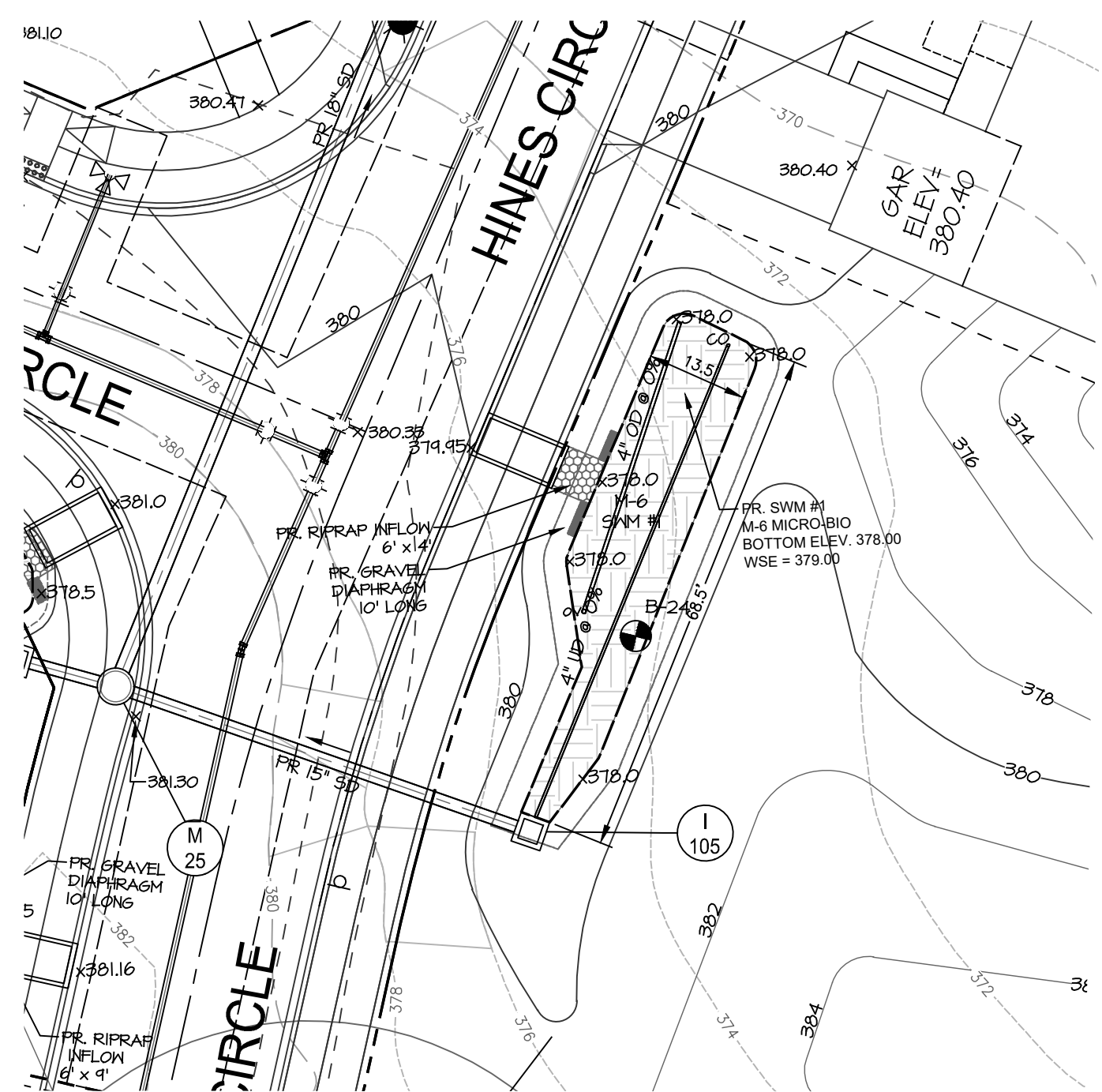
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM #49 DETAILS & SPECIFICATIONS

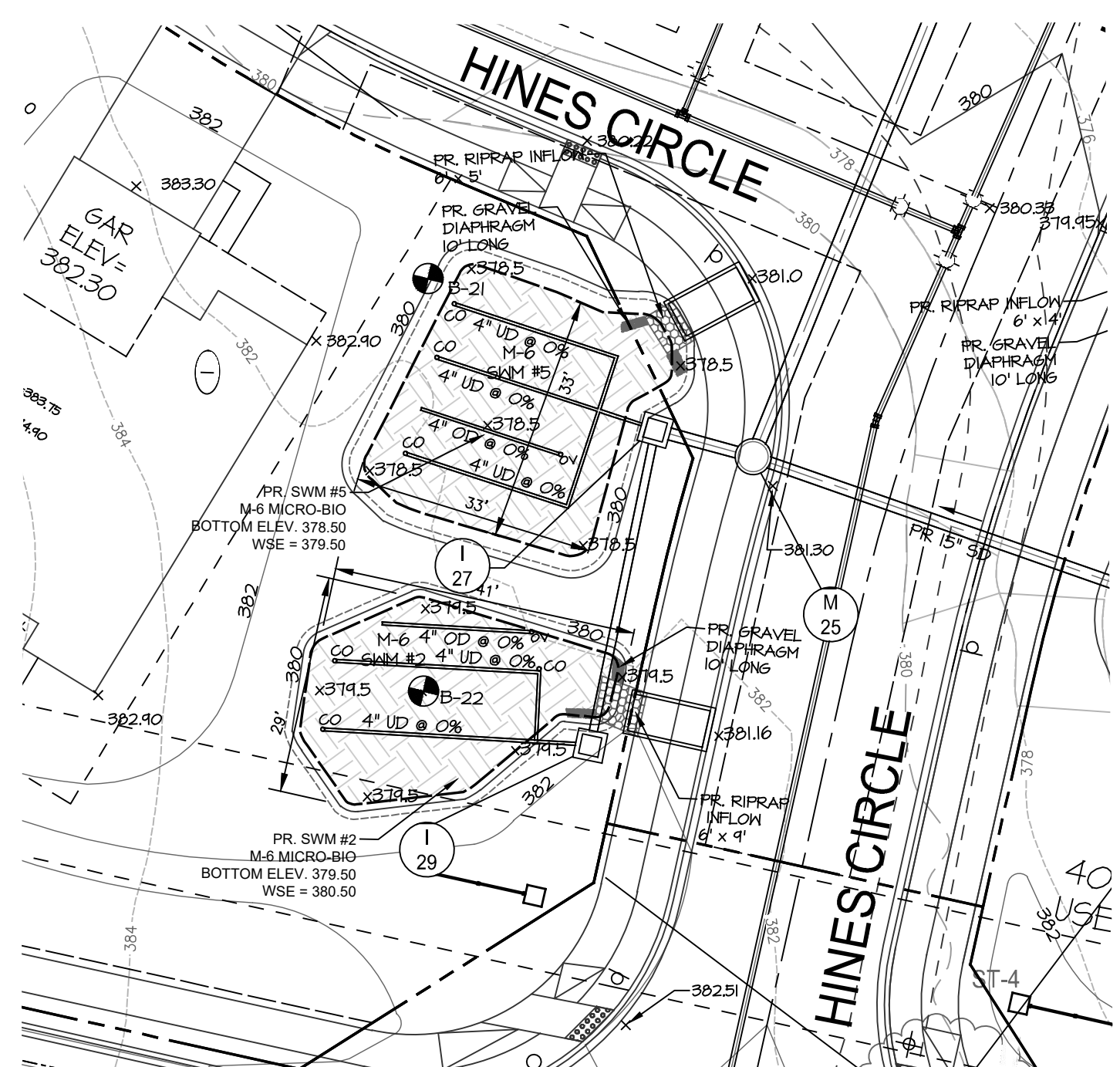
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: AS SHOWN
		DATE: 4-26-2022
		DRAWN BY: MM
		DESIGN BY: CD
		REVIEW BY: DJ
		SHEET: 28 OF 49

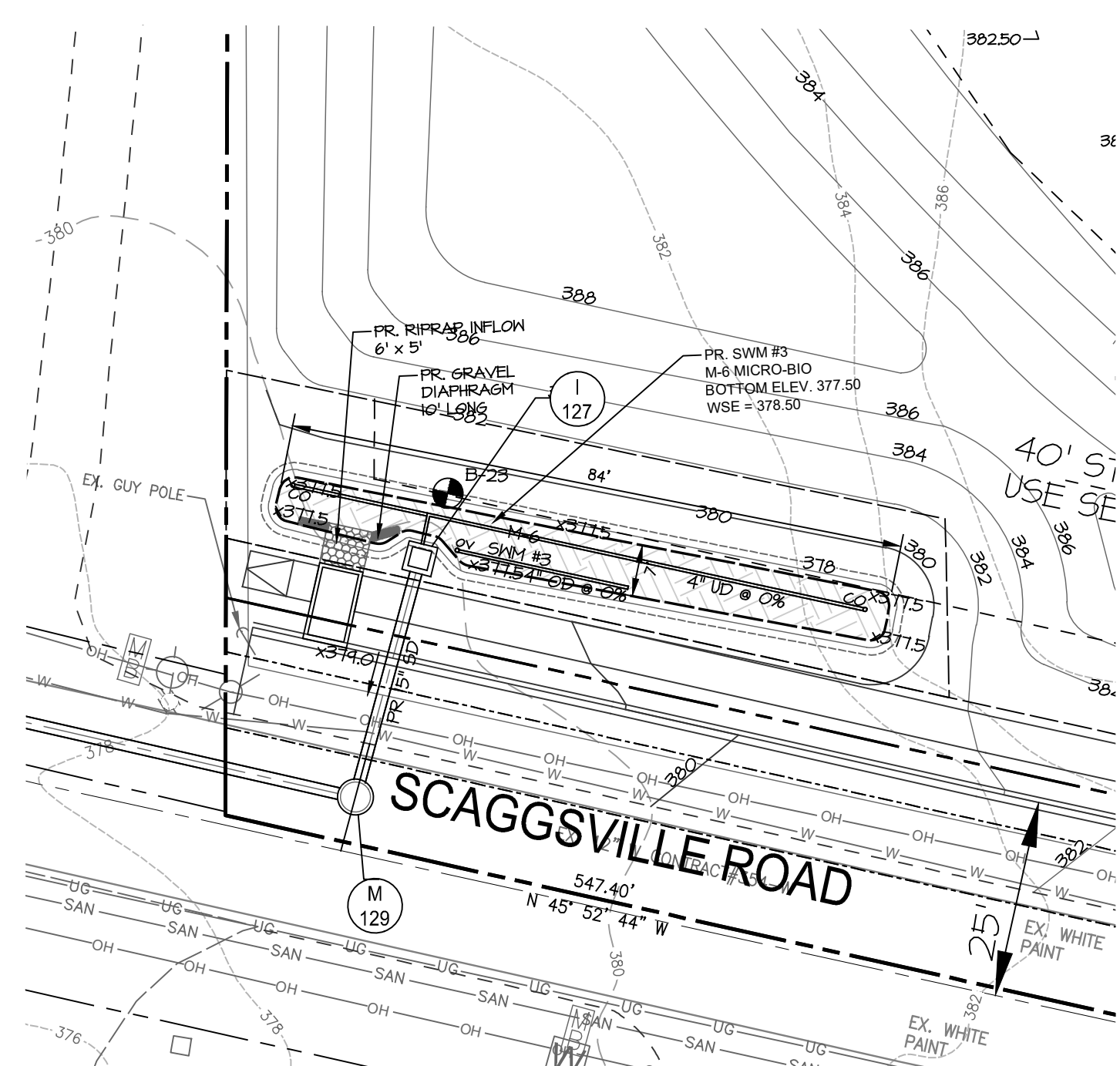
SDP-21-038



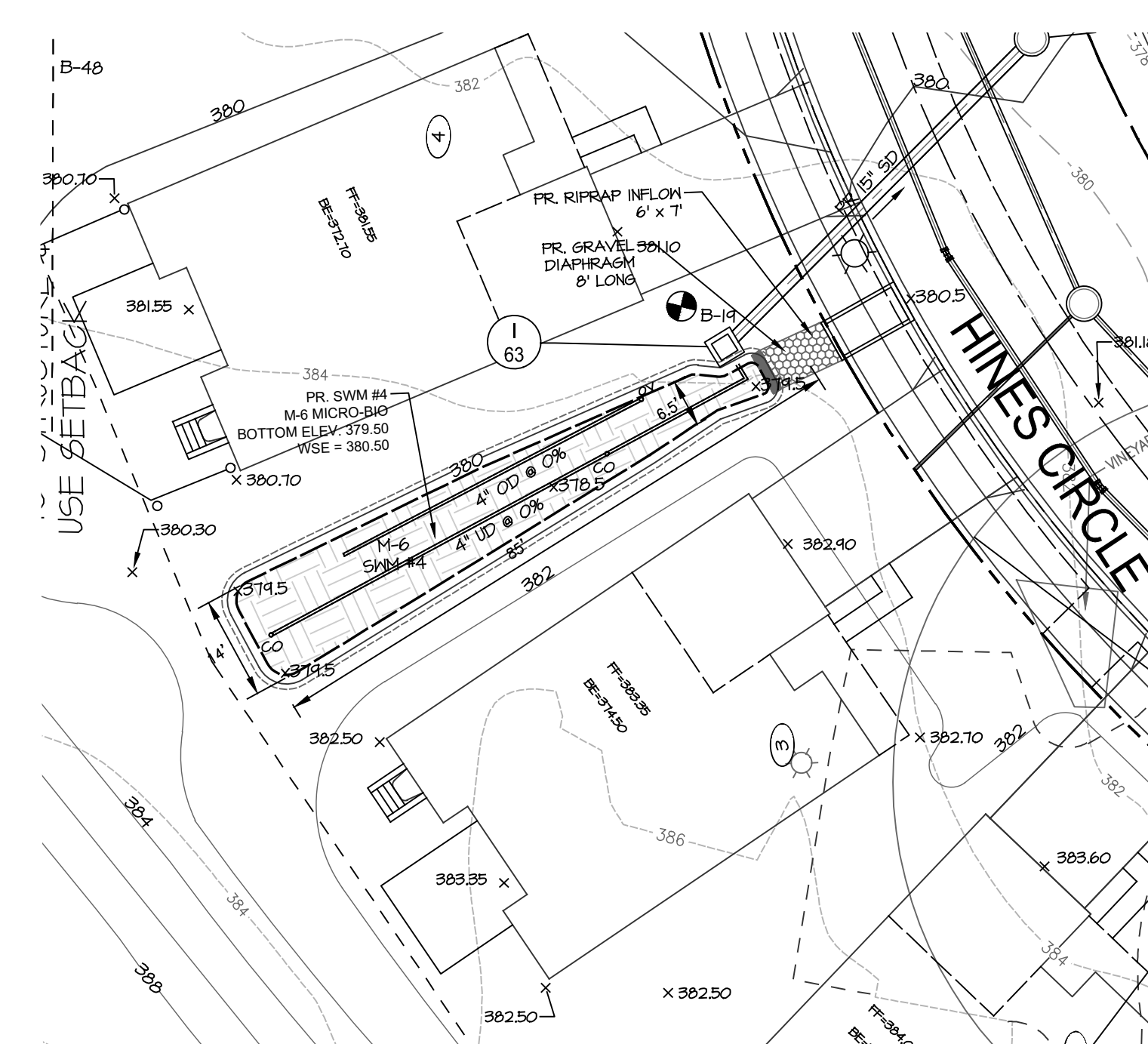
SWM #1
SCALE: 1"=20'



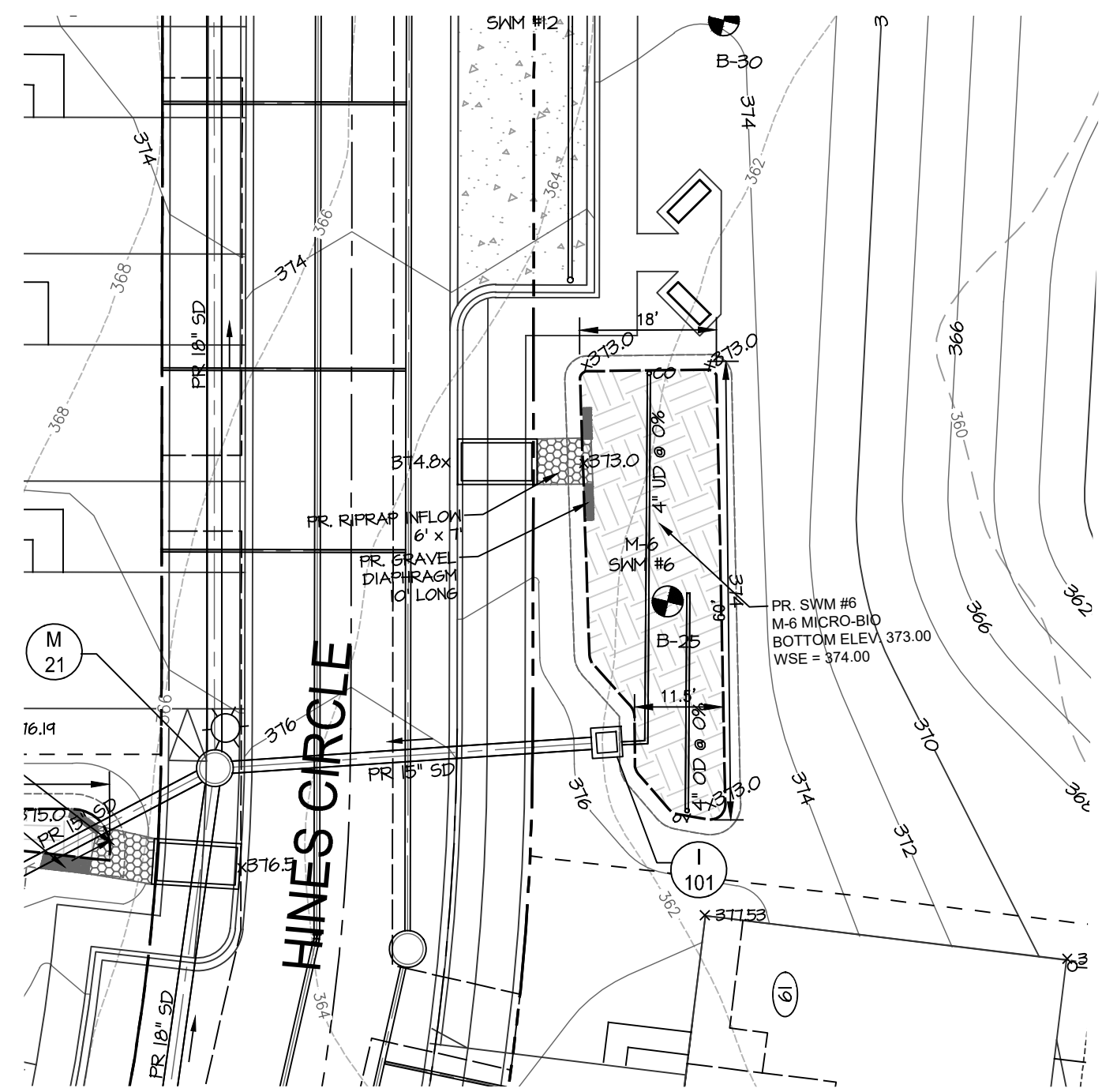
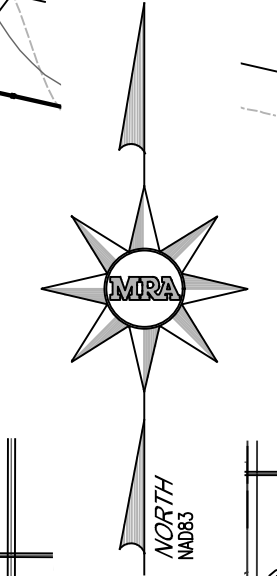
SWM #2 AND #5
SCALE: 1"=20'



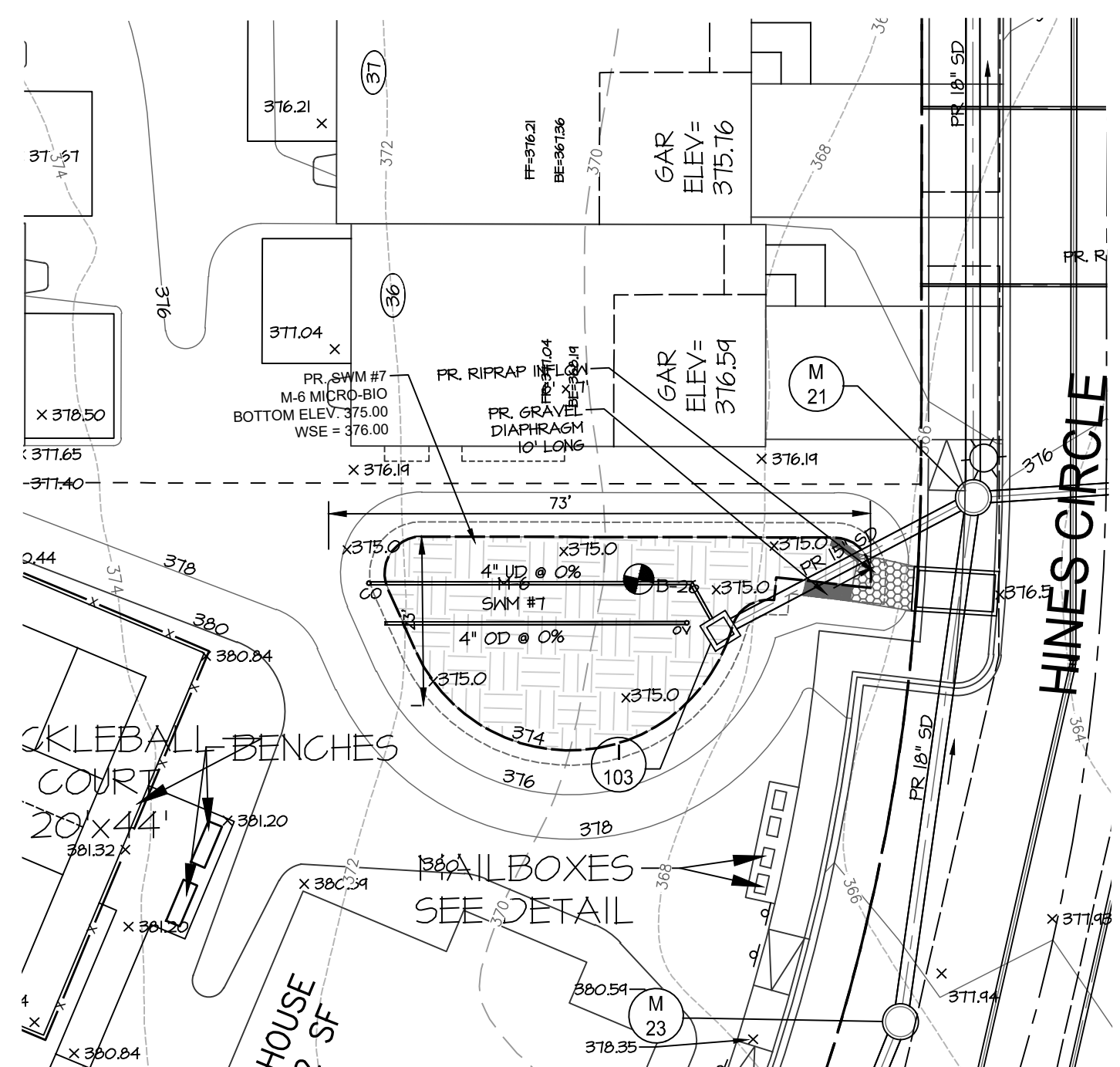
SWM #3
SCALE: 1"=20'



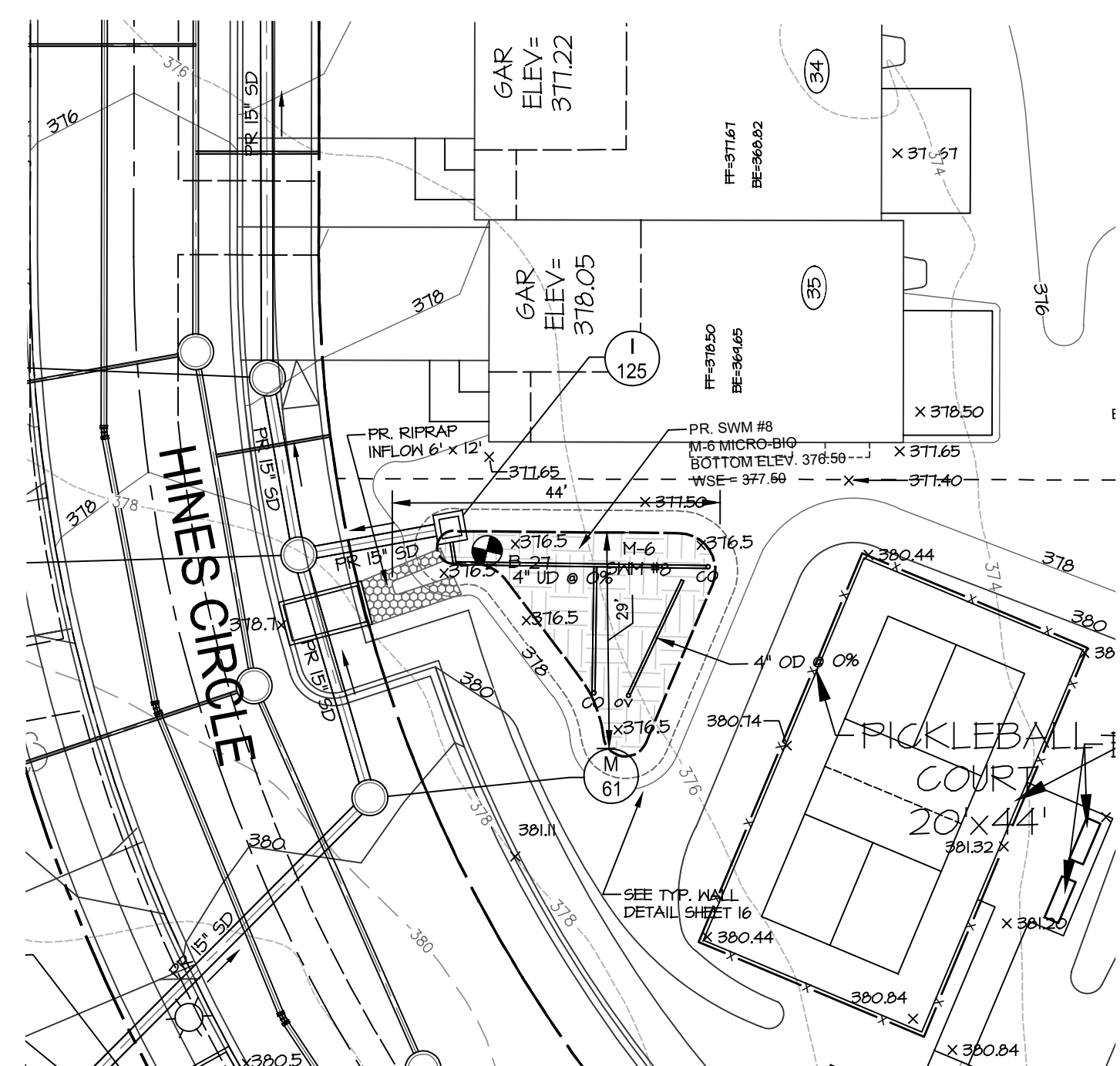
SWM #4
SCALE: 1"=20'



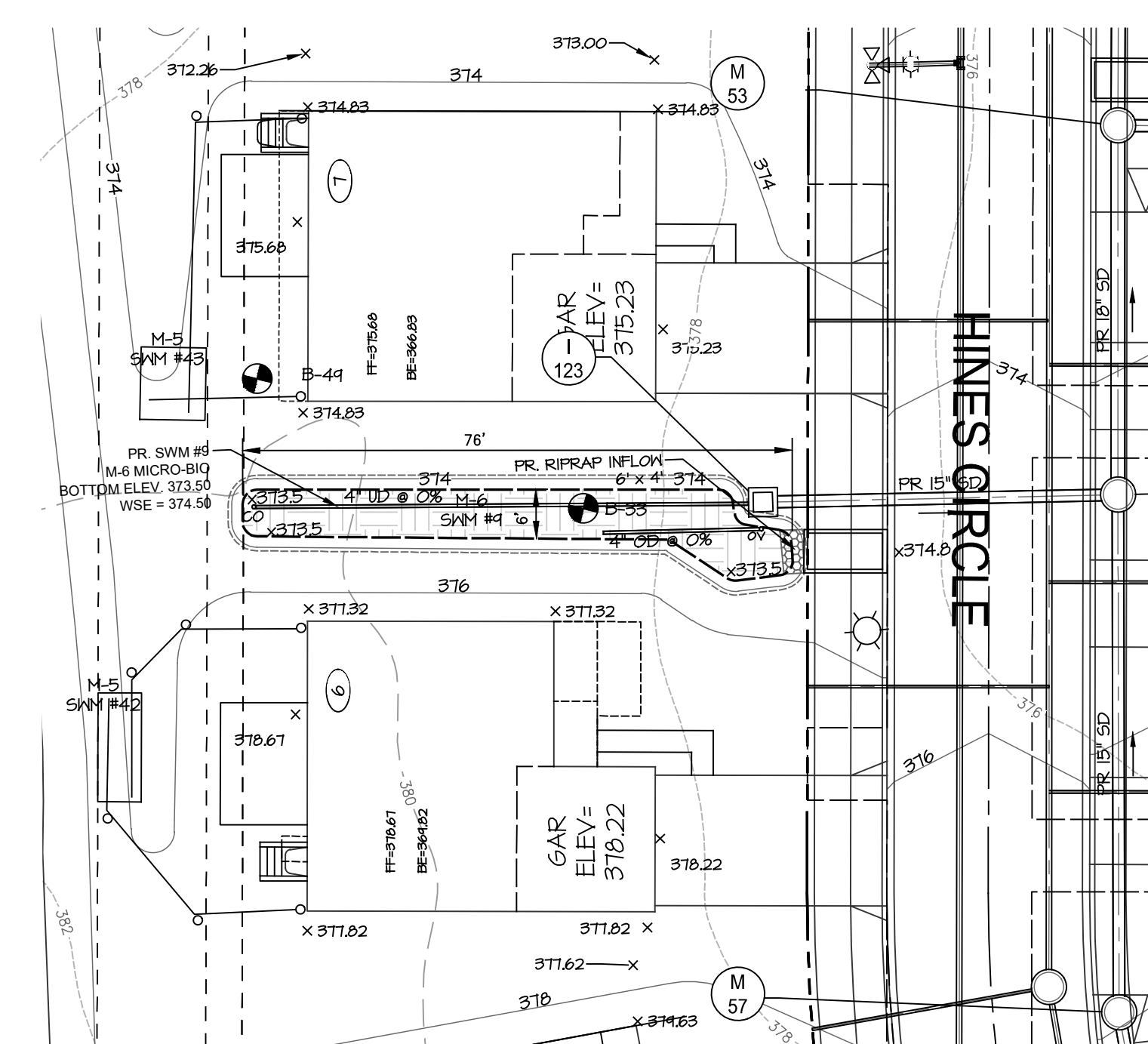
SWM #6
SCALE: 1"=20'



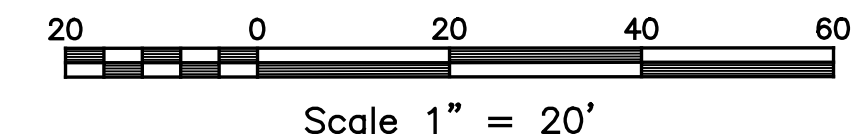
SWM #7
SCALE: 1"=20'



SWM #8
SCALE: 1"=20'



SWM #9
SCALE: 1"=20'



SHEET: SDP-29

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 10/5/2022
 CHIEF, DEVELOPMENT AND ENGINEERING DIVISION
 DATE 10/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 10/6/2022
 DIRECTOR
 DATE

LEGEND

PR. RIGHT OF WAY	203	EX. 1" CONTOUR
PR. LOT LINE/PARCEL LINE	202	EX. 2" CONTOUR
PR. EASEMENT	200	EX. 10' CONTOUR
PR. OPEN SPACE EASEMENT	X171.3	EX. SPOT
PR. BUILDING		EX. STEEP SLOPES 15%-25%
PR. CURB & GUTTER		
PR. ROAD CENTER LINE	200.50	PR. 1/2" CONTOUR
PR. CONC SIDEWALK	202	PR. 2" CONTOUR
PR. HANDICAP RAMP	200	PR. 10' CONTOUR
PR. UNIT NUMBER	LOD	PR. LIMIT OF DISTURBANCE
PR. CURB RADIUS	X215.00	PR. SPOT ELEVATION
PR. STREET LIGHT (LED-100 COLONIAL)		PR. MICRO-BORE TREATMENT FACILITY (M-6)
PR. STREET LIGHT (LED-150 COLONIAL)		PR. FACILITY PONDING ELEVATION
PR. LED-150 COBRAHEAD FIXTURE MOUNT 30 FT BRONZE FIBERGLASS POLE USING		PR. PERMEABLE PAVEMENT (A-2)
PR. TREE LINE		PR. DRYWELL (M-5)
PR. DECORATIVE FENCE/ENTRY FEATURE		PR. 4" CLEAN OUT
PR. MAILBOXES		PR. 4" OVERFLOW

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBC ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

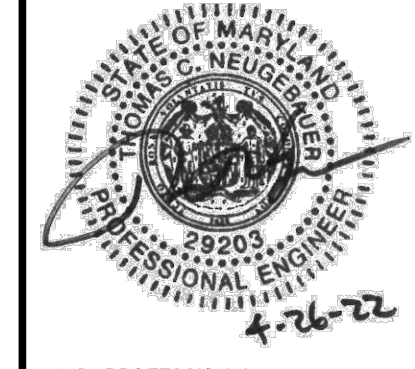
14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A

SWM PLANS FACILITIES #1-9

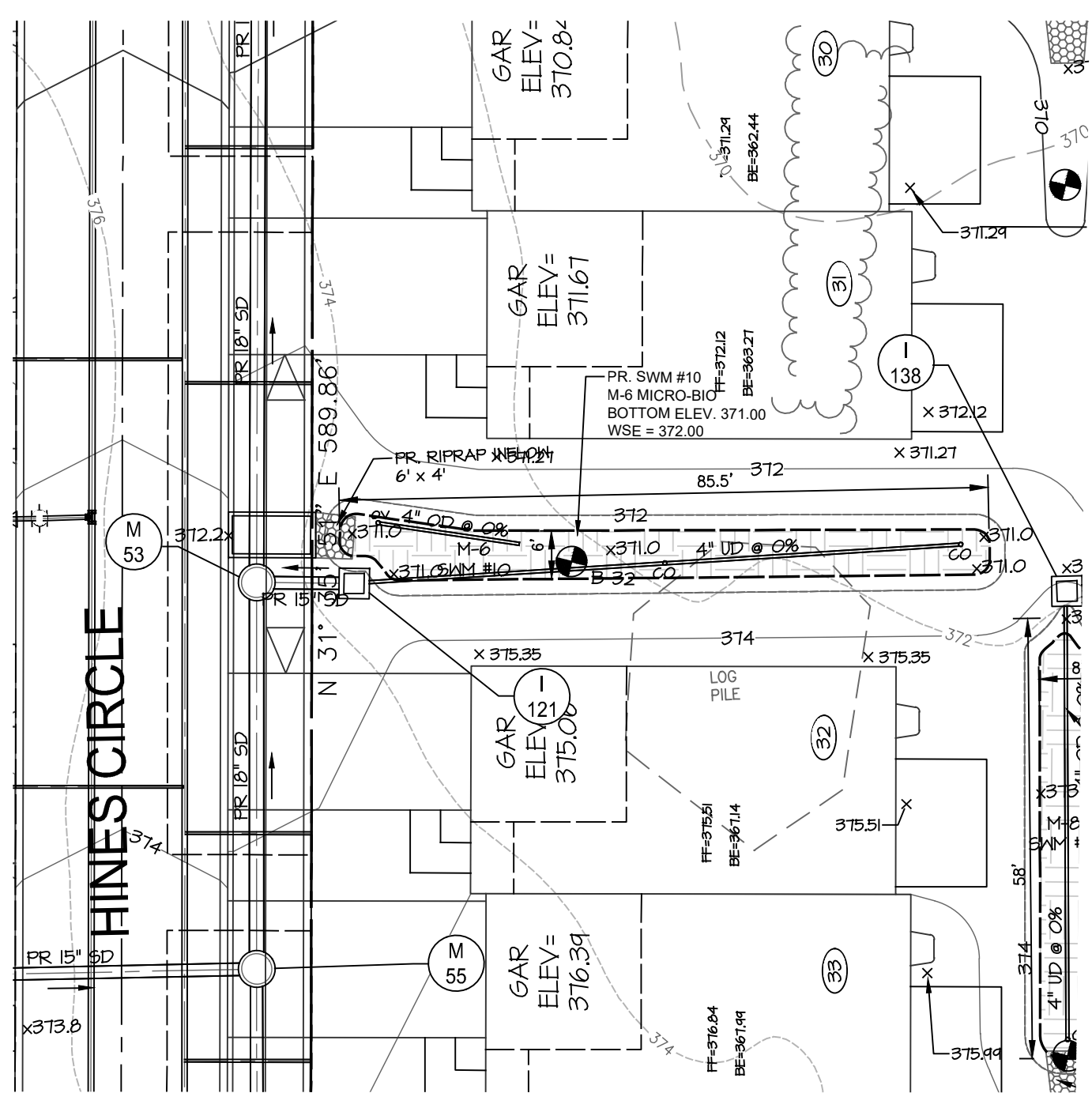
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723



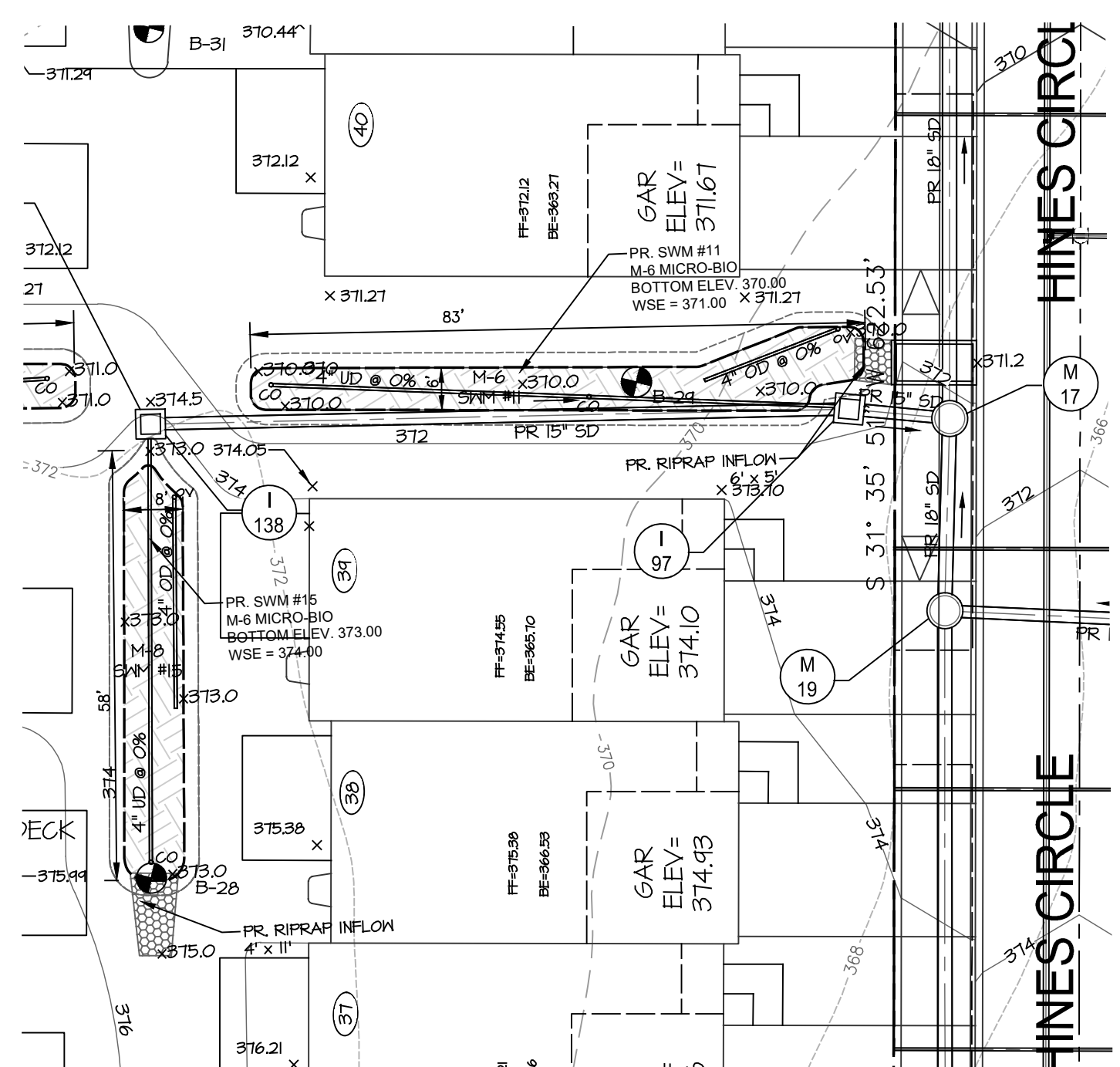
MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203 EXPIRATION DATE: 6/16/2023

DATE	REVISIONS	JOB NO.:
		19590v04
		SCALE: 1" = 20'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 29 OF 49

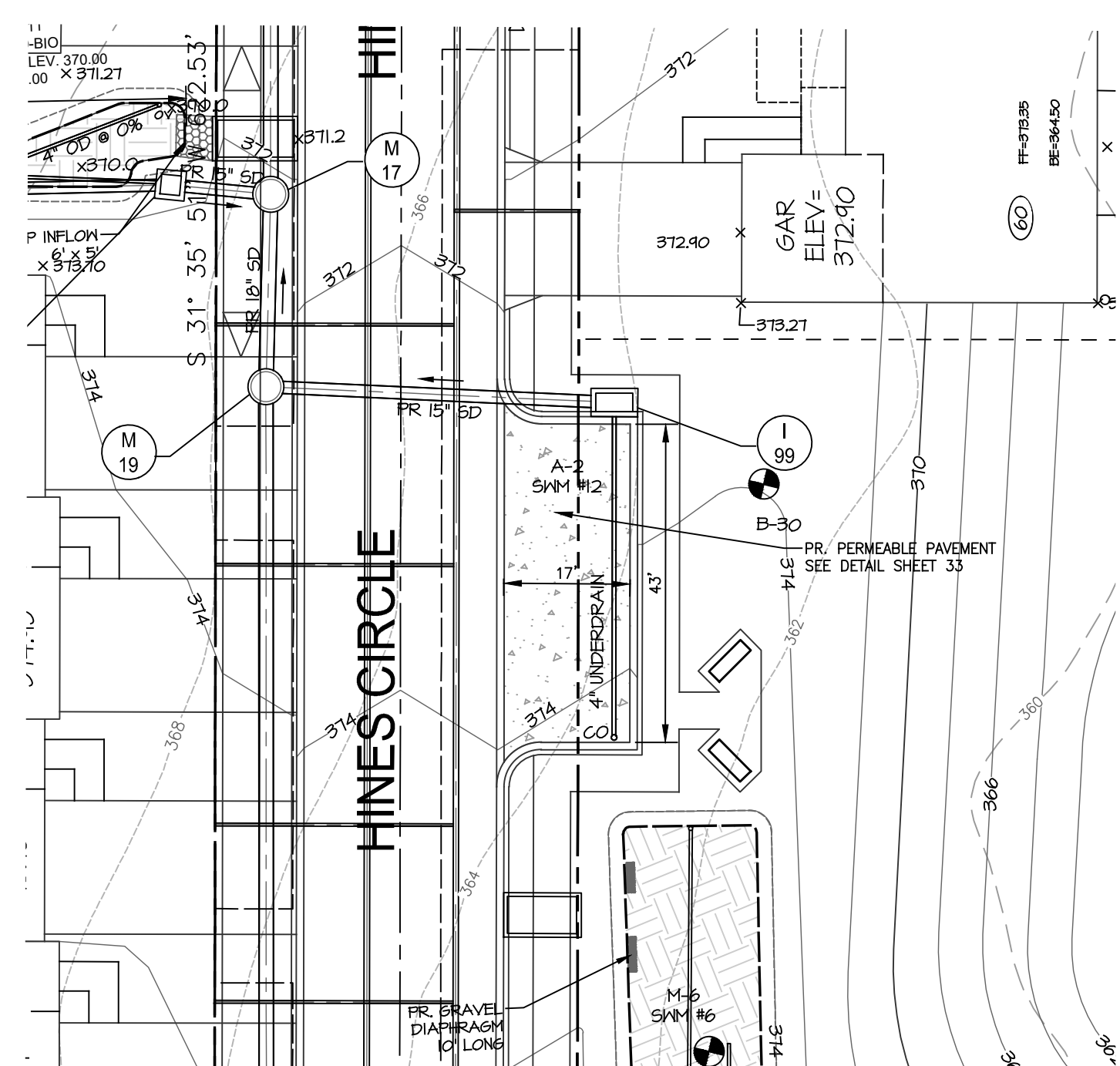
SDP-21-038



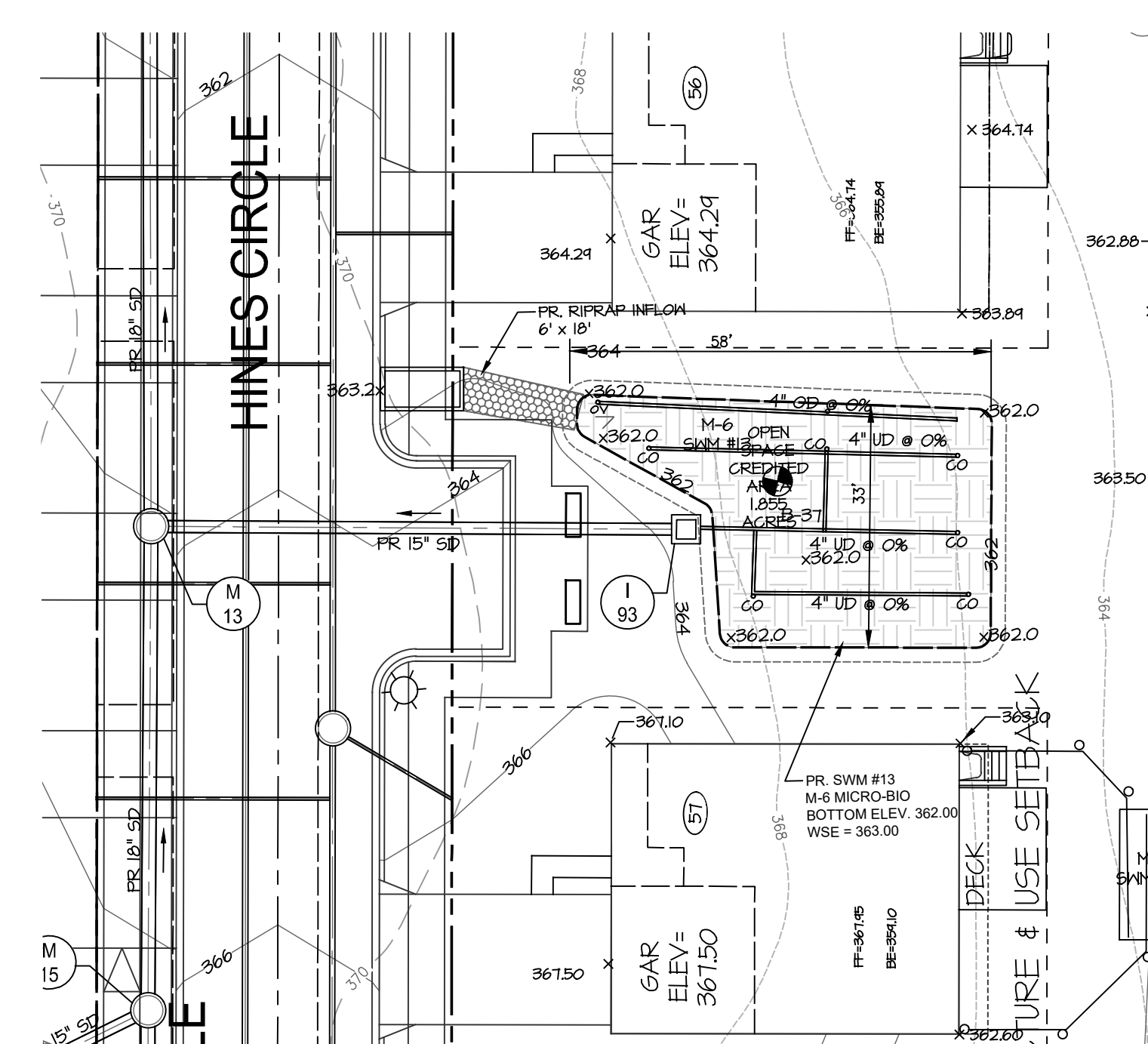
SWM #10
SCALE: 1"=20'



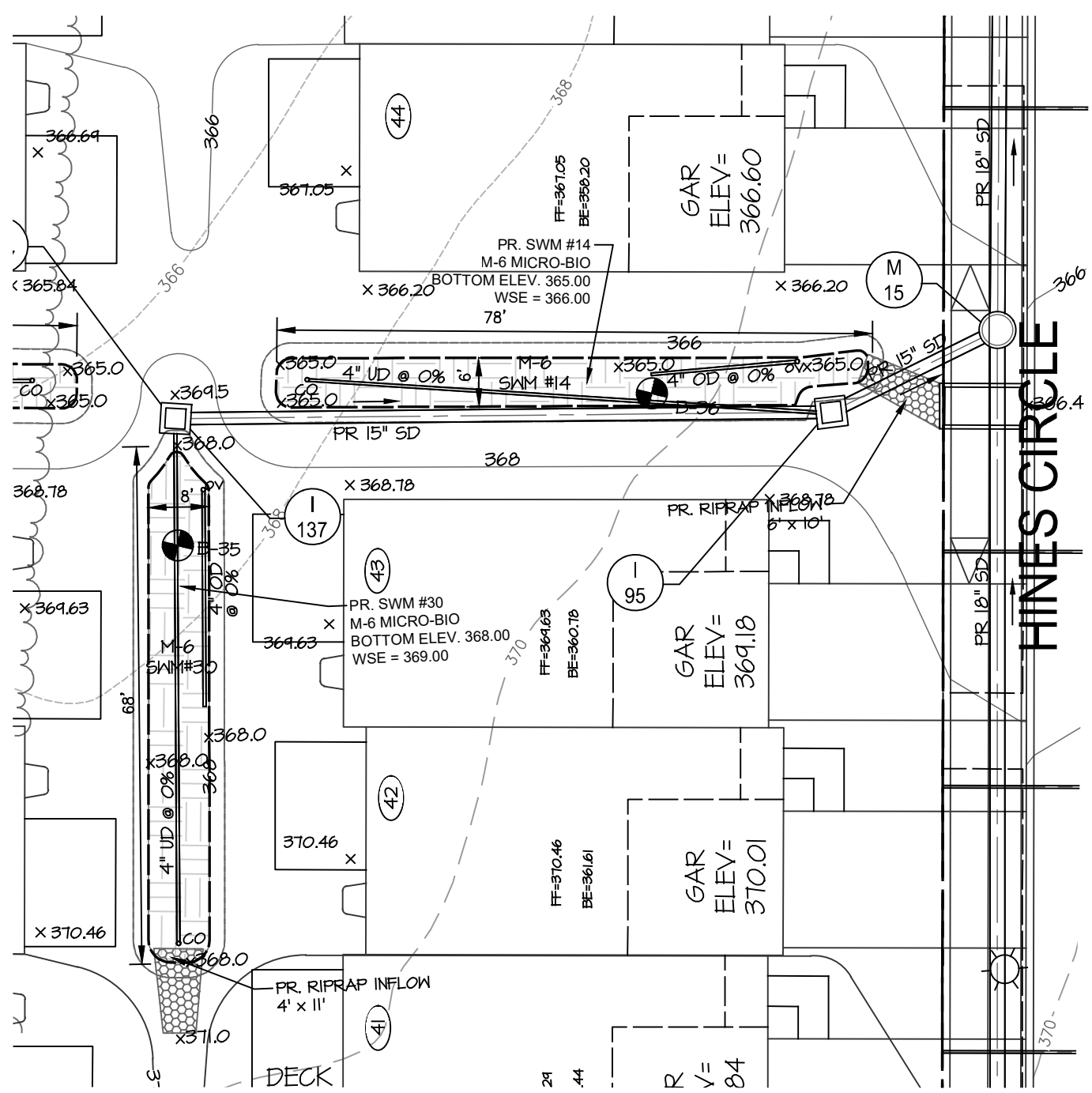
SWM #11 and #15
SCALE: 1"=20'



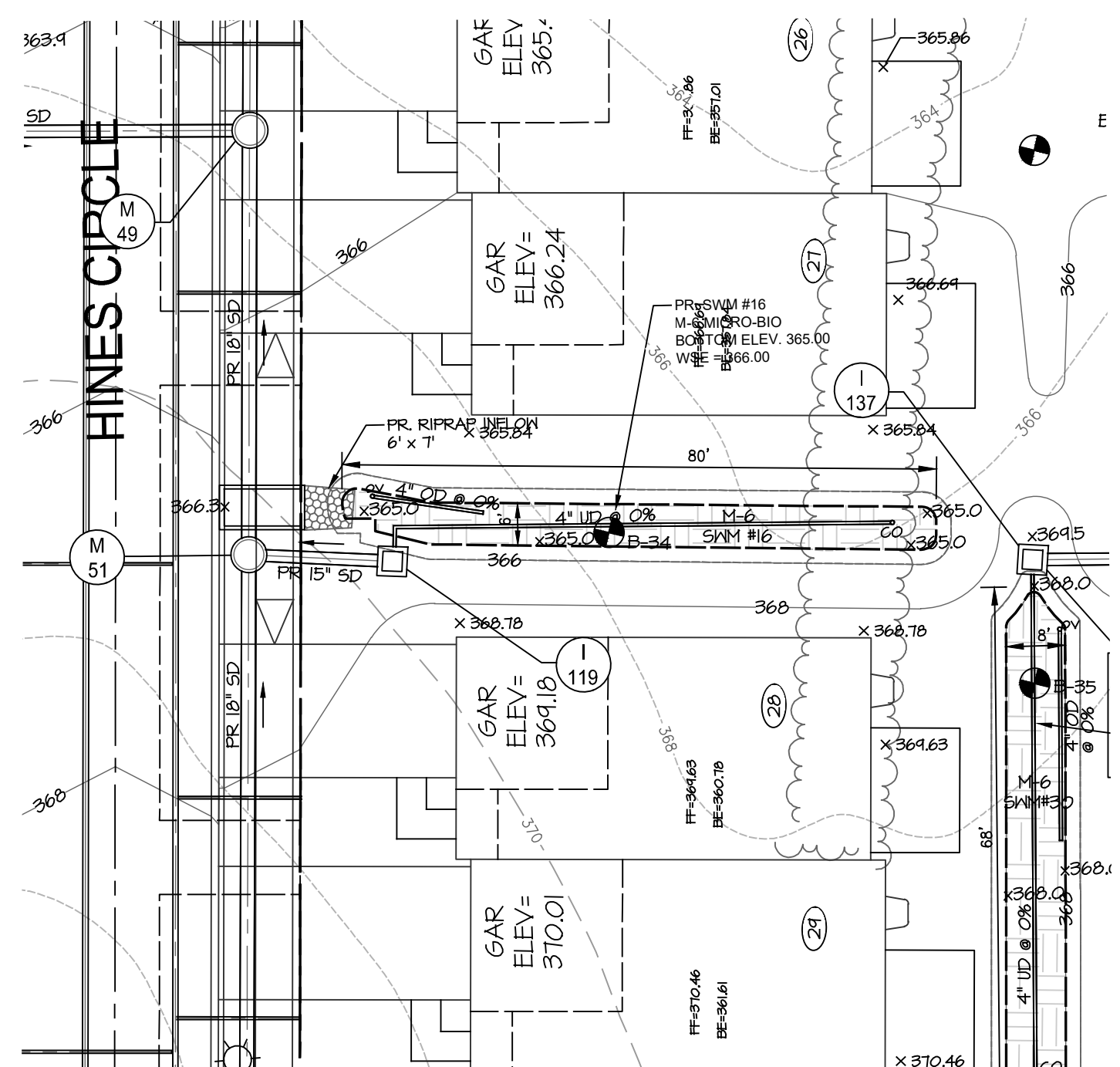
SWM #12
SCALE: 1"=20'



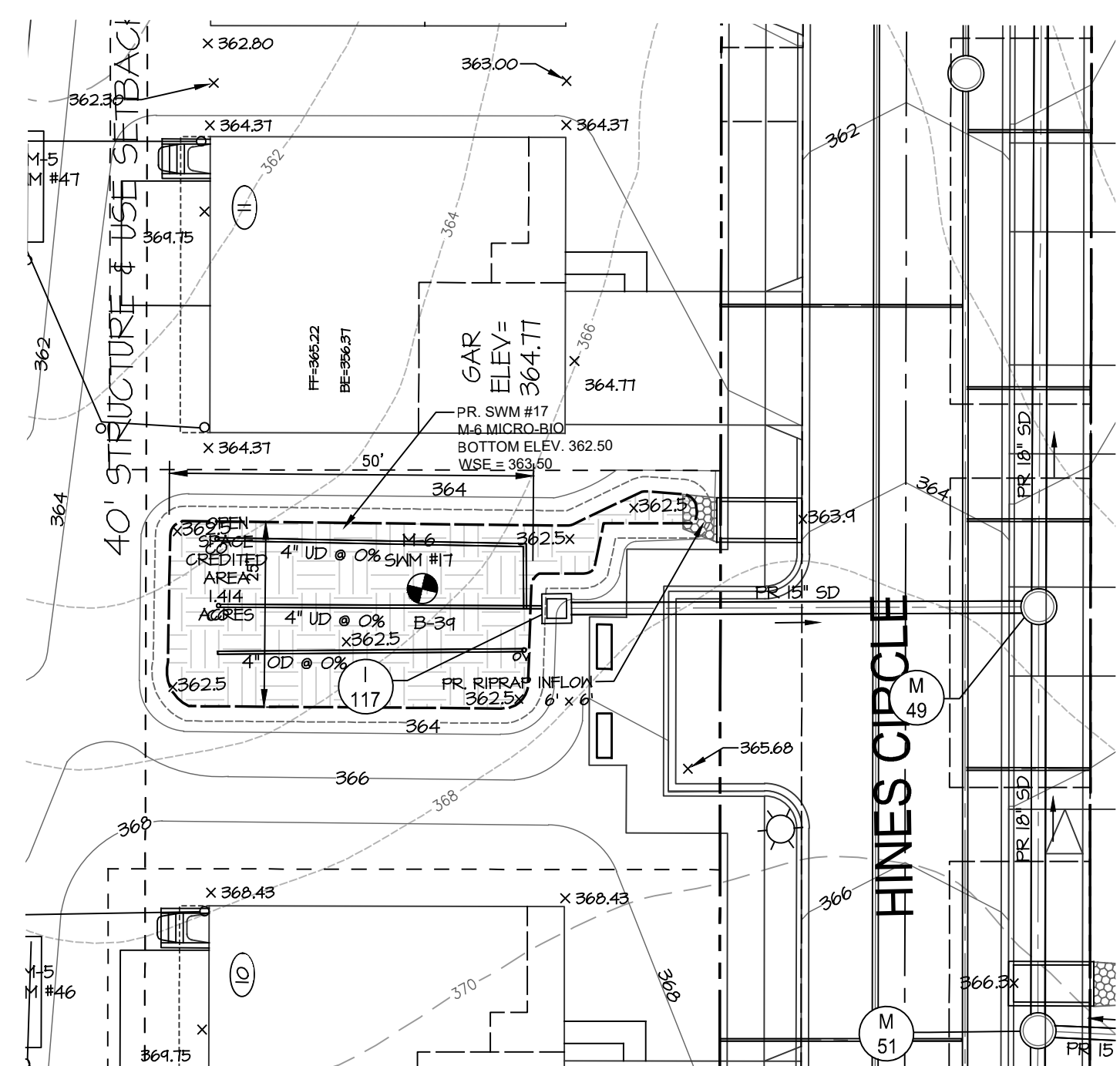
SWM #13
SCALE: 1"=20'



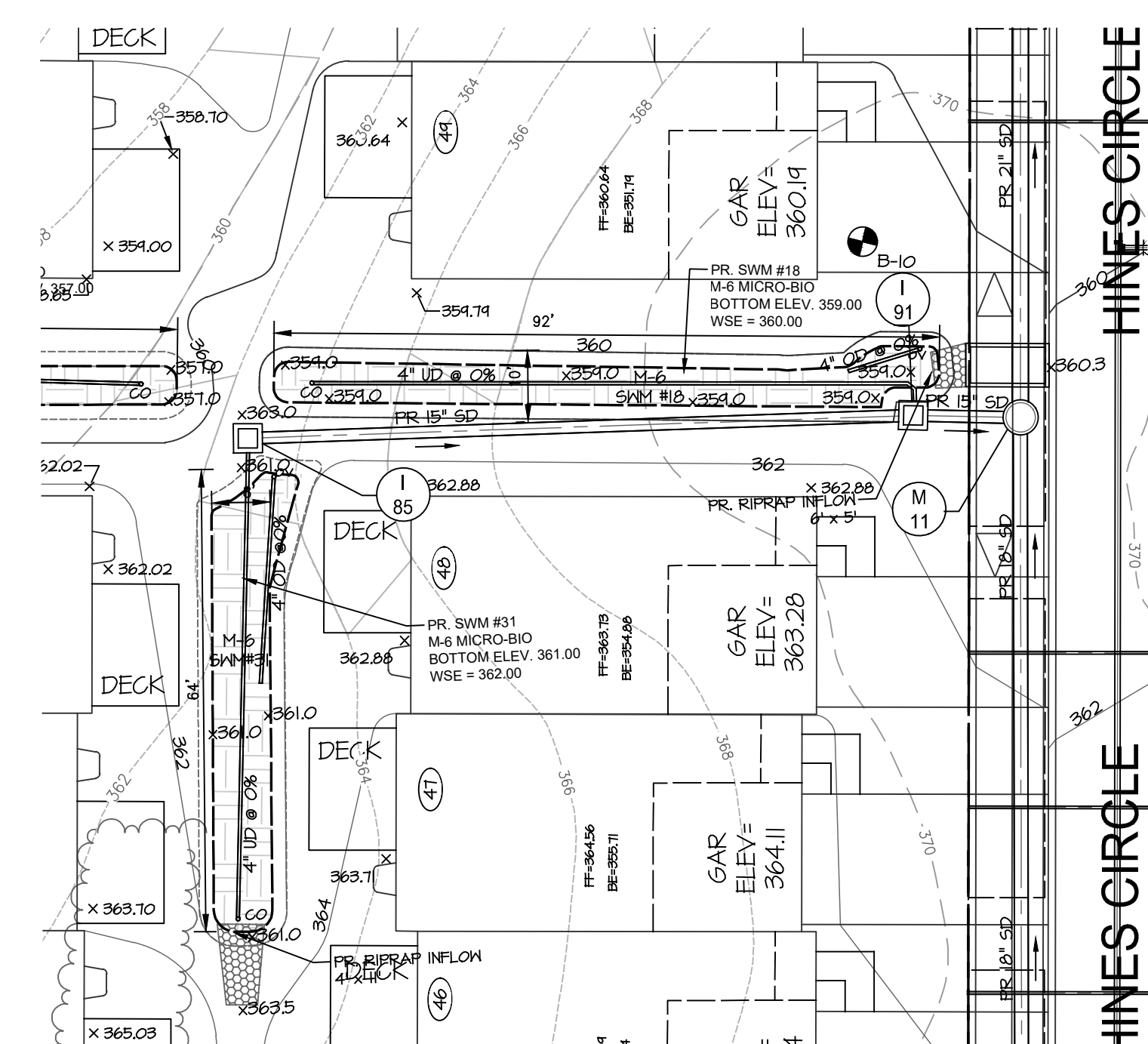
SWM #14 AND #30
SCALE: 1"=20'



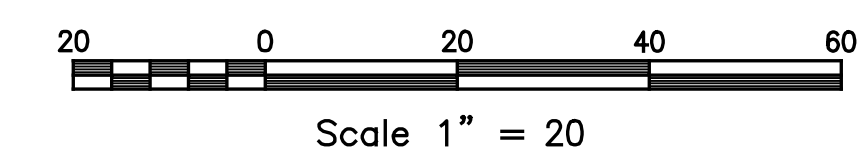
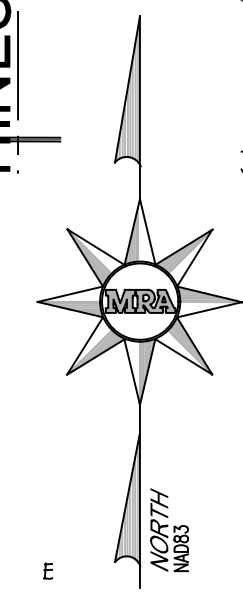
SWM #16
SCALE: 1"=20'



SWM #17
SCALE: 1"=20'



SWM #18 AND #31
SCALE: 1"=20'



SHEET: SDP-30

LEGEND

- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOUNT 30 FT BRONZE FIBERGLASS POLE USING
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FEATURE
- PR. MAILBOXES
- EX. 1' CONTOUR
- EX. 2' CONTOUR
- EX. 10' CONTOUR
- EX. SPOT
- EX. STEEP SLOPES 15%-25%
- EX. STEEP SLOPES +25%
- PR. 1/2" CONTOUR
- PR. 2' CONTOUR
- PR. 10' CONTOUR
- PR. LIMIT OF DISTURBANCE
- PR. SPOT ELEVATION
- PR. MICRO-BIORETENTION FACILITY (M-6)
- PR. FACILITY PONDING ELEVATION
- PR. PERMEABLE PAVEMENT (A-2)
- PR. DRYWELL (M-5)
- PR. 4" CLEAN OUT
- PR. 4" OVERFLOW

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edmondson</i>	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Chad Edmondson</i>	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Amy Stoman</i>	10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM PLANS FACILITIES #10 - #18

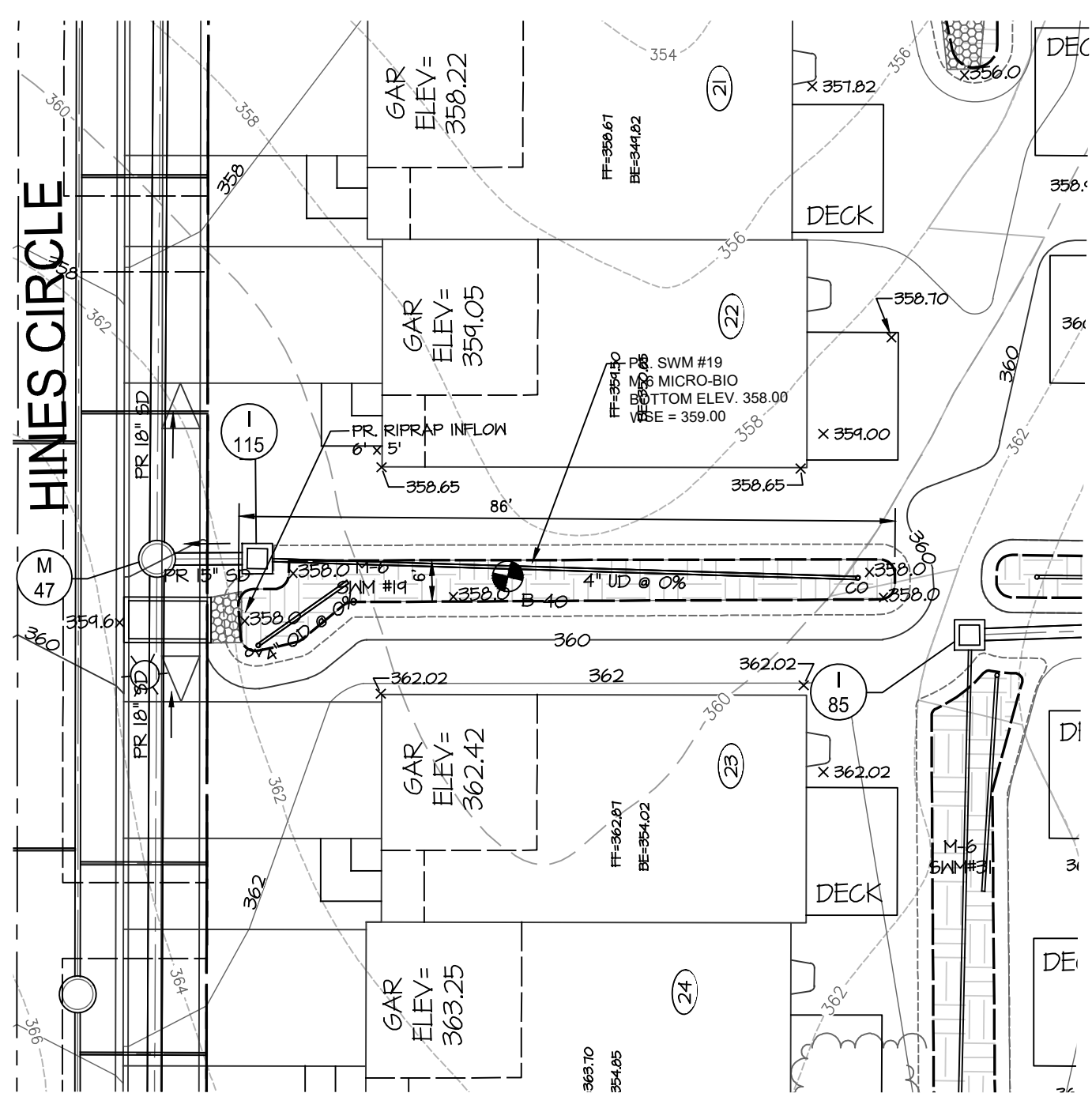
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: 1" = 20'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 30 OF 49

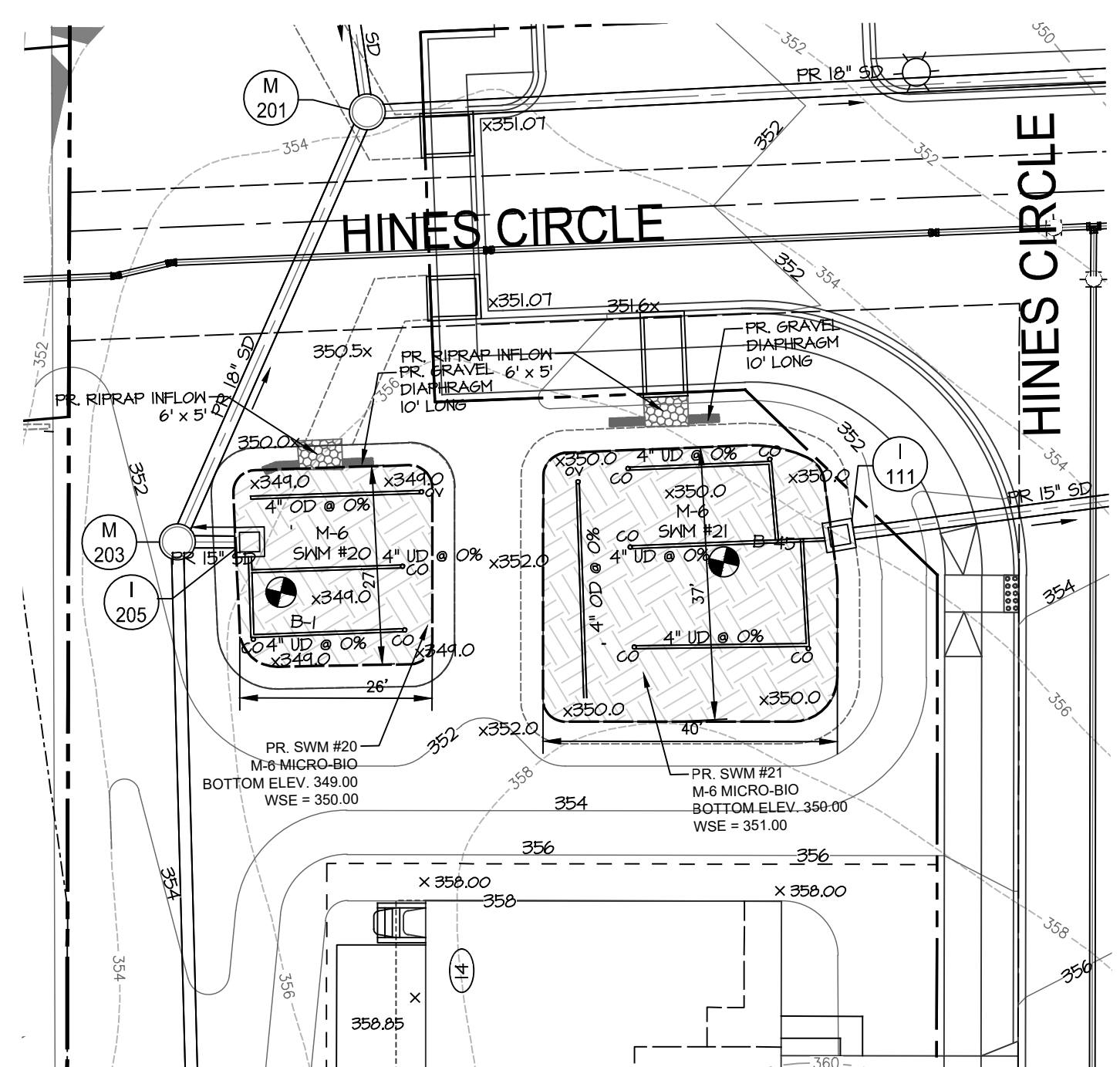
MD PROFESSIONAL CERTIFICATION:

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 NO. 29203 EXPIRATION DATE: 6/16/2023

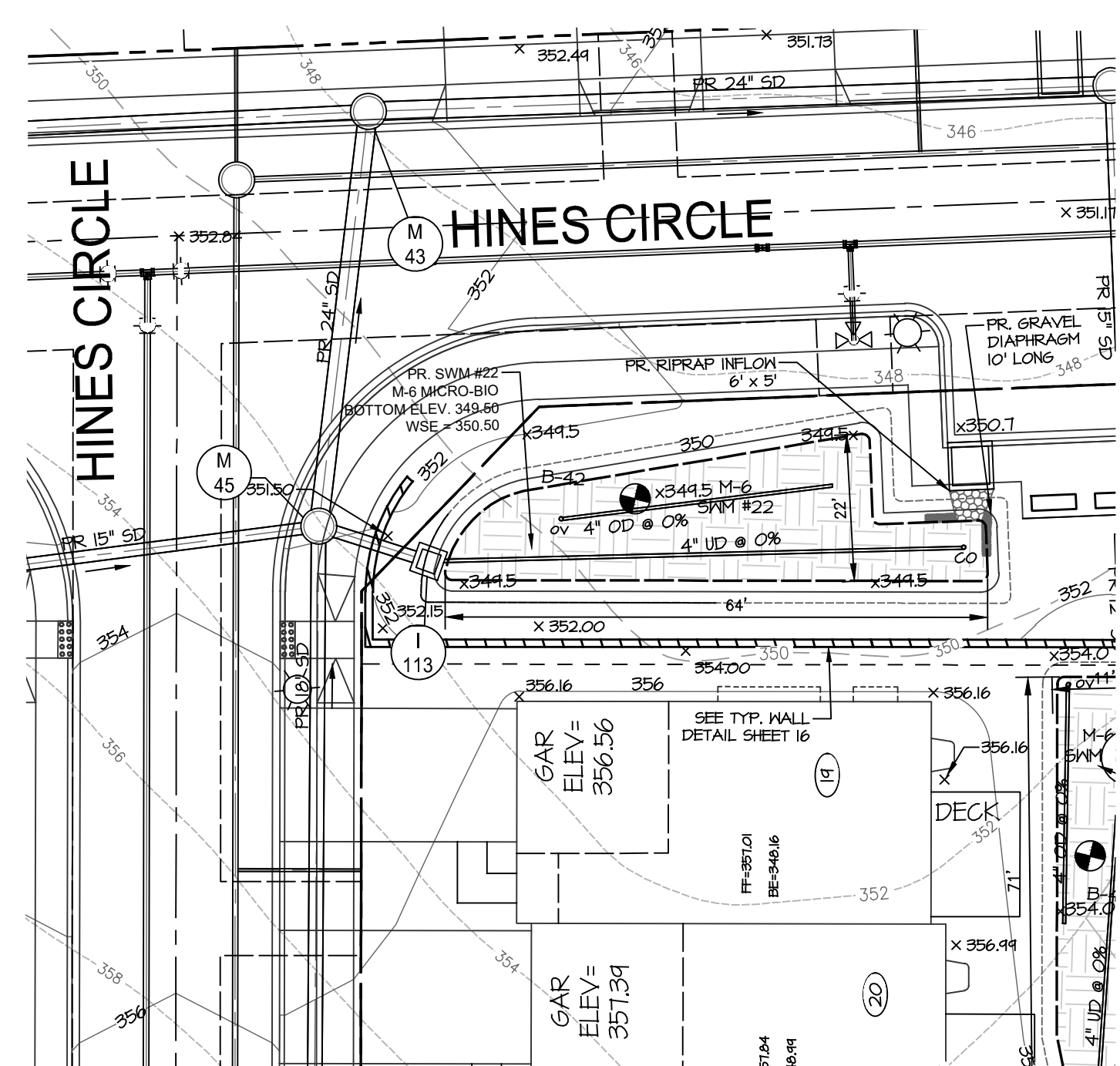
SDP-21-038



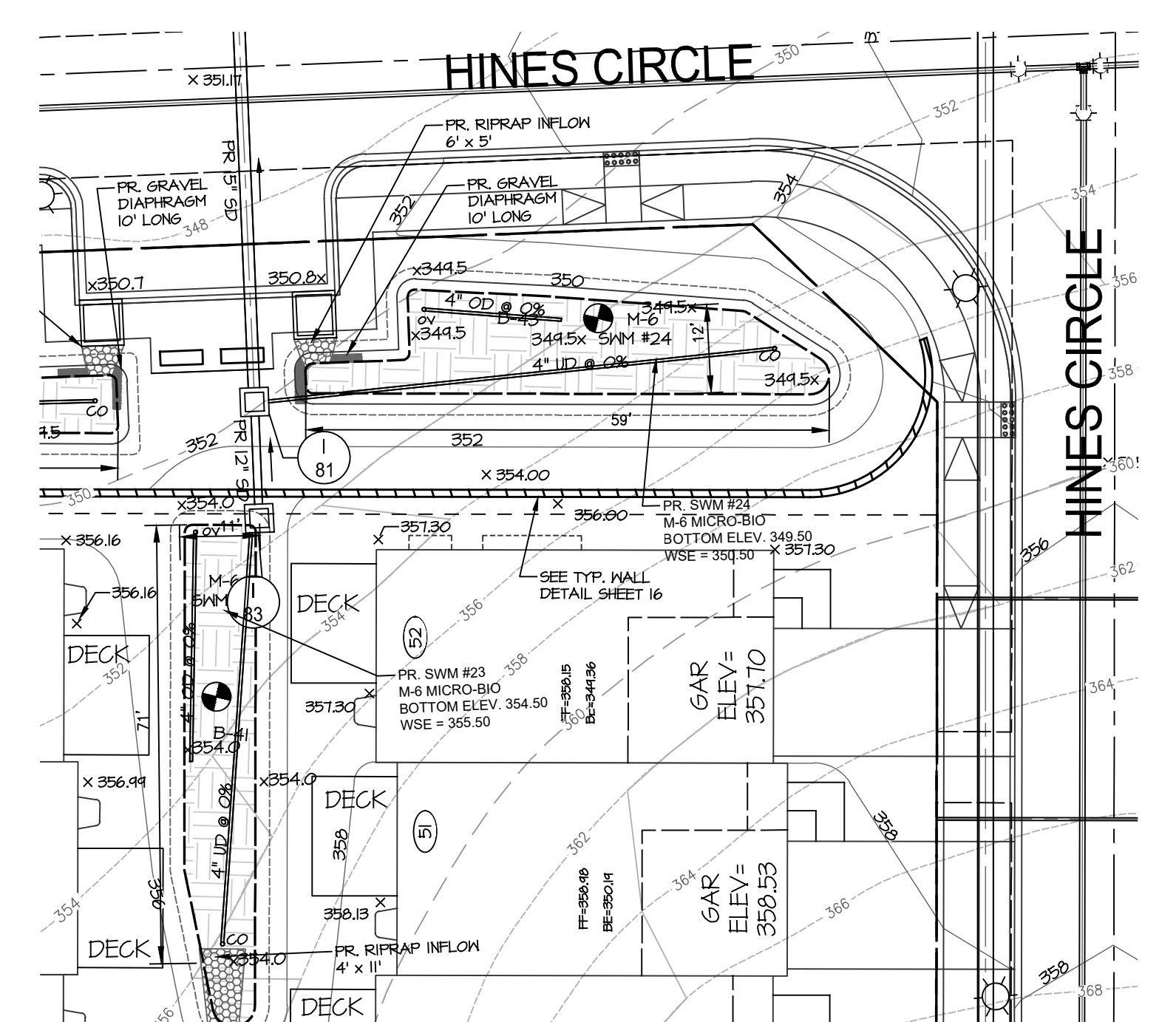
SWM #19
SCALE: 1"=20'



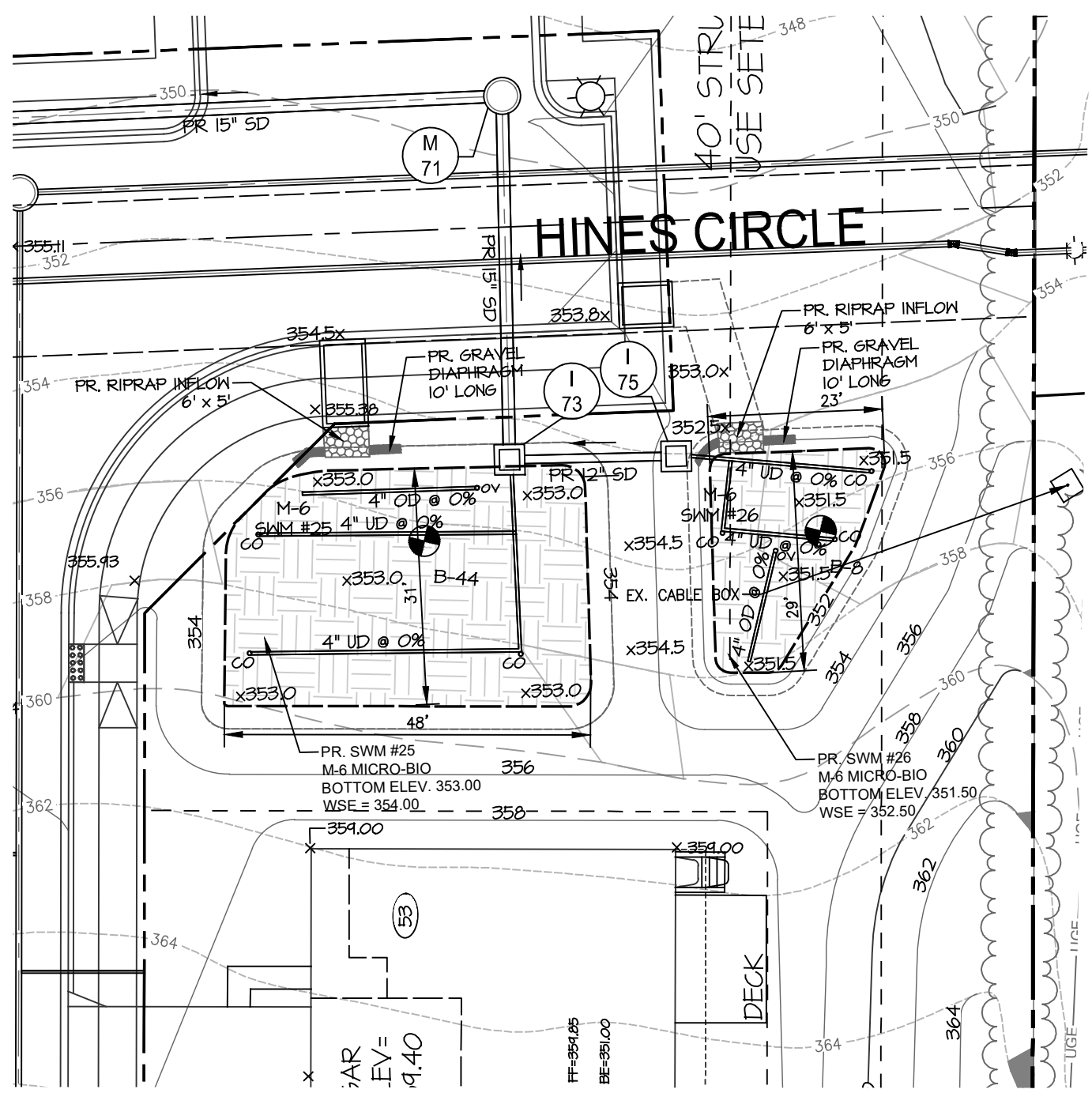
SWM #20 AND #21
SCALE: 1"=20'



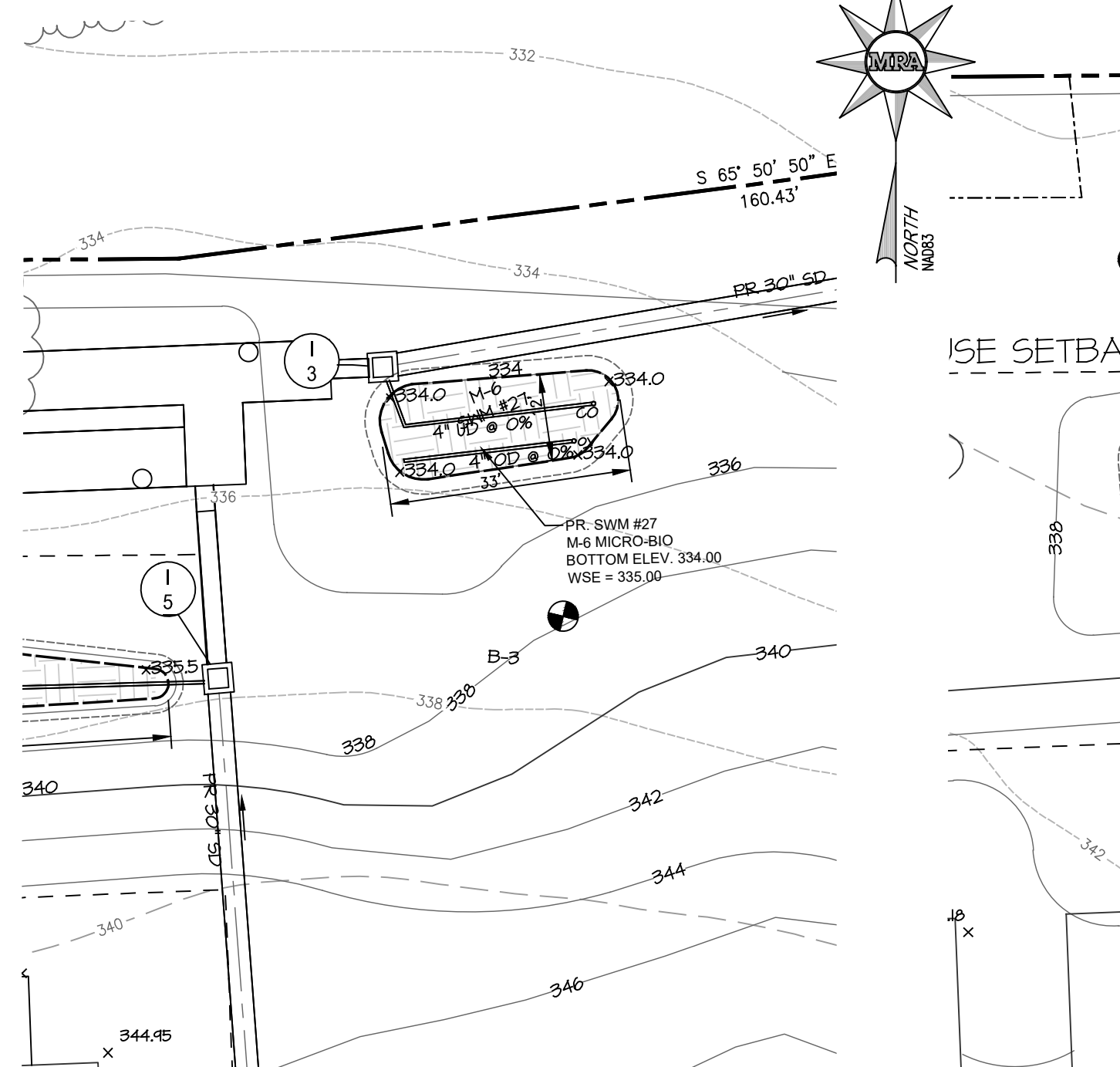
SWM #22
SCALE: 1"=20'



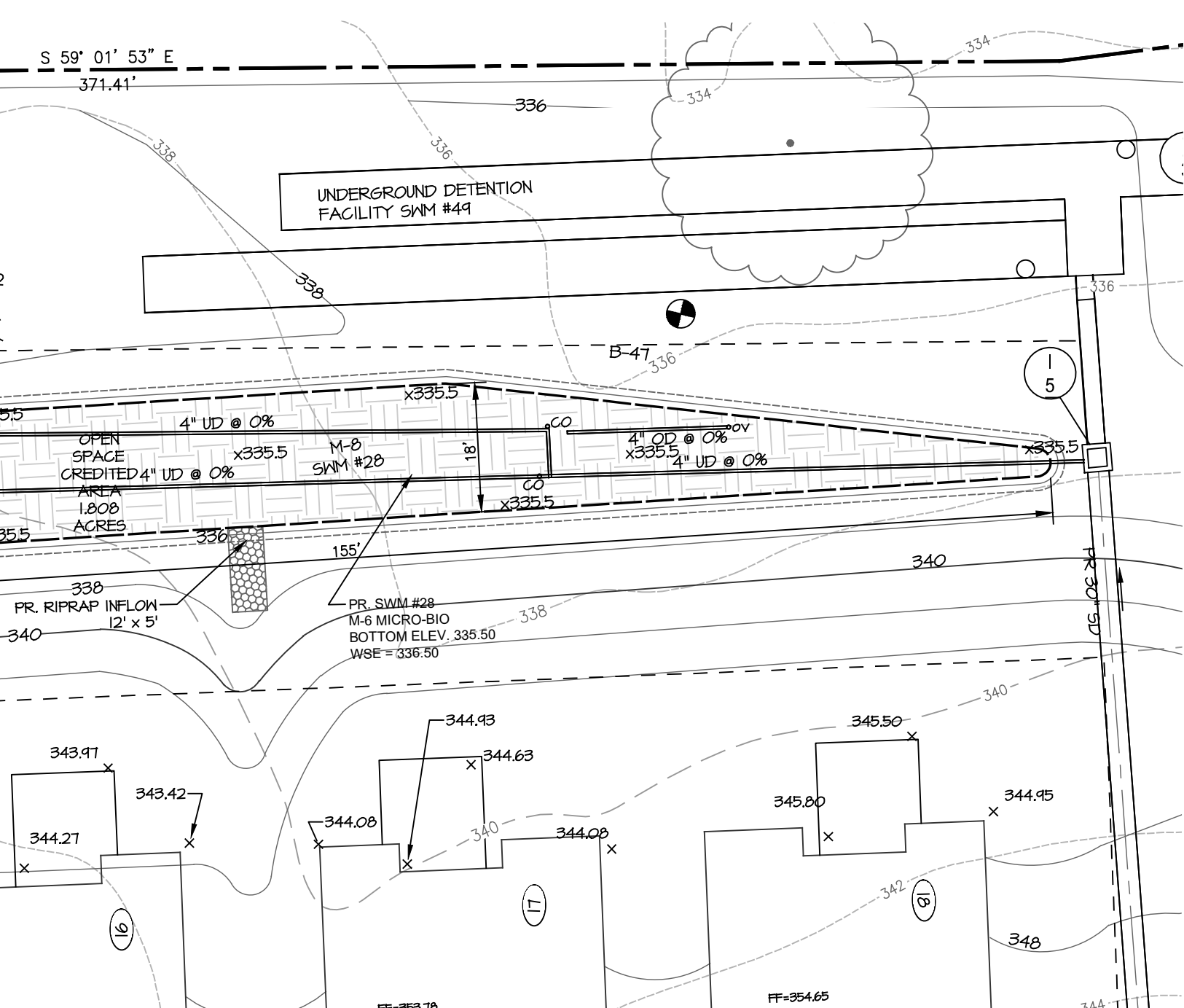
SWM #23 AND #24
SCALE: 1"=20'



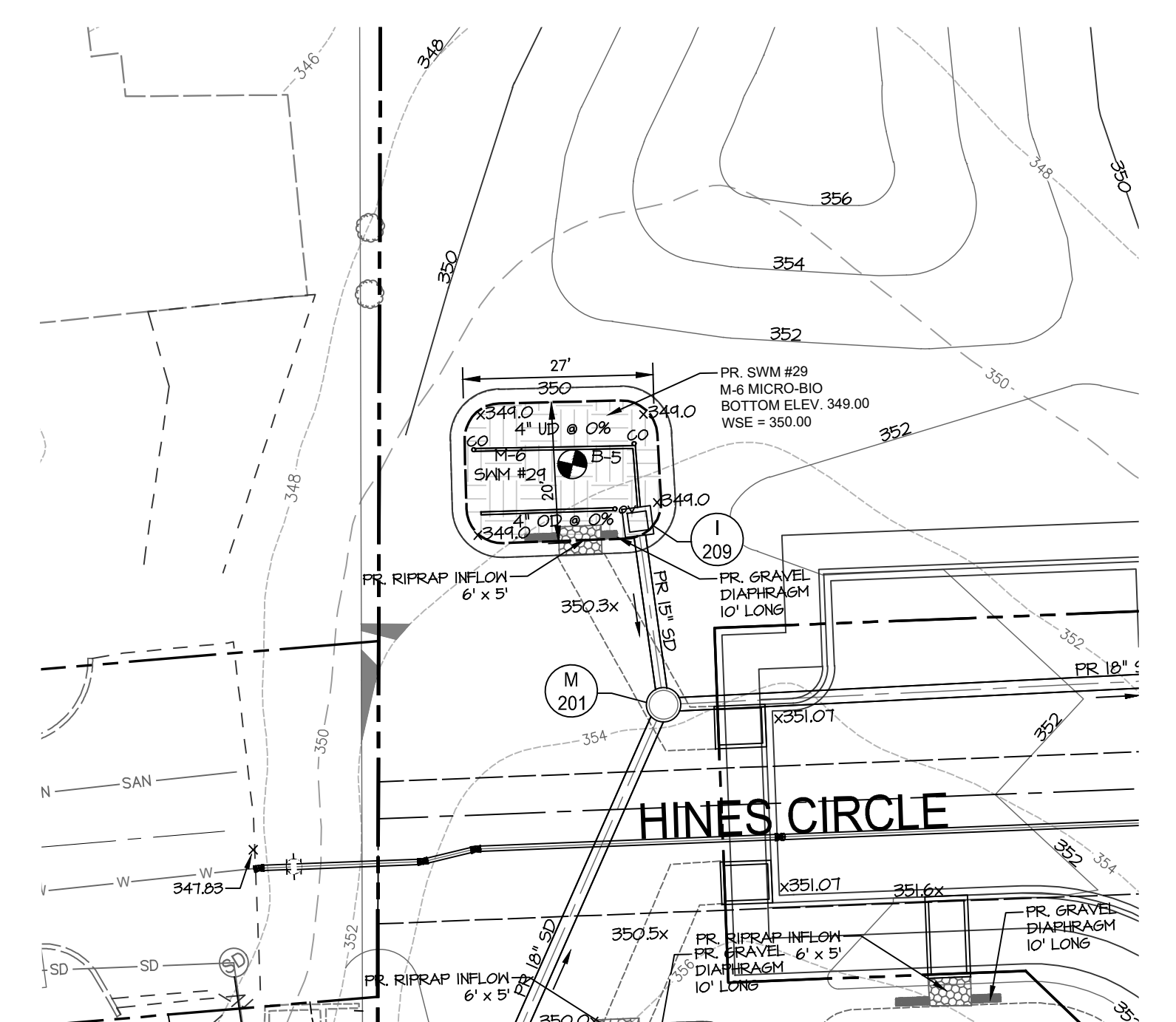
SWM #25 AND #26
SCALE: 1"=20'



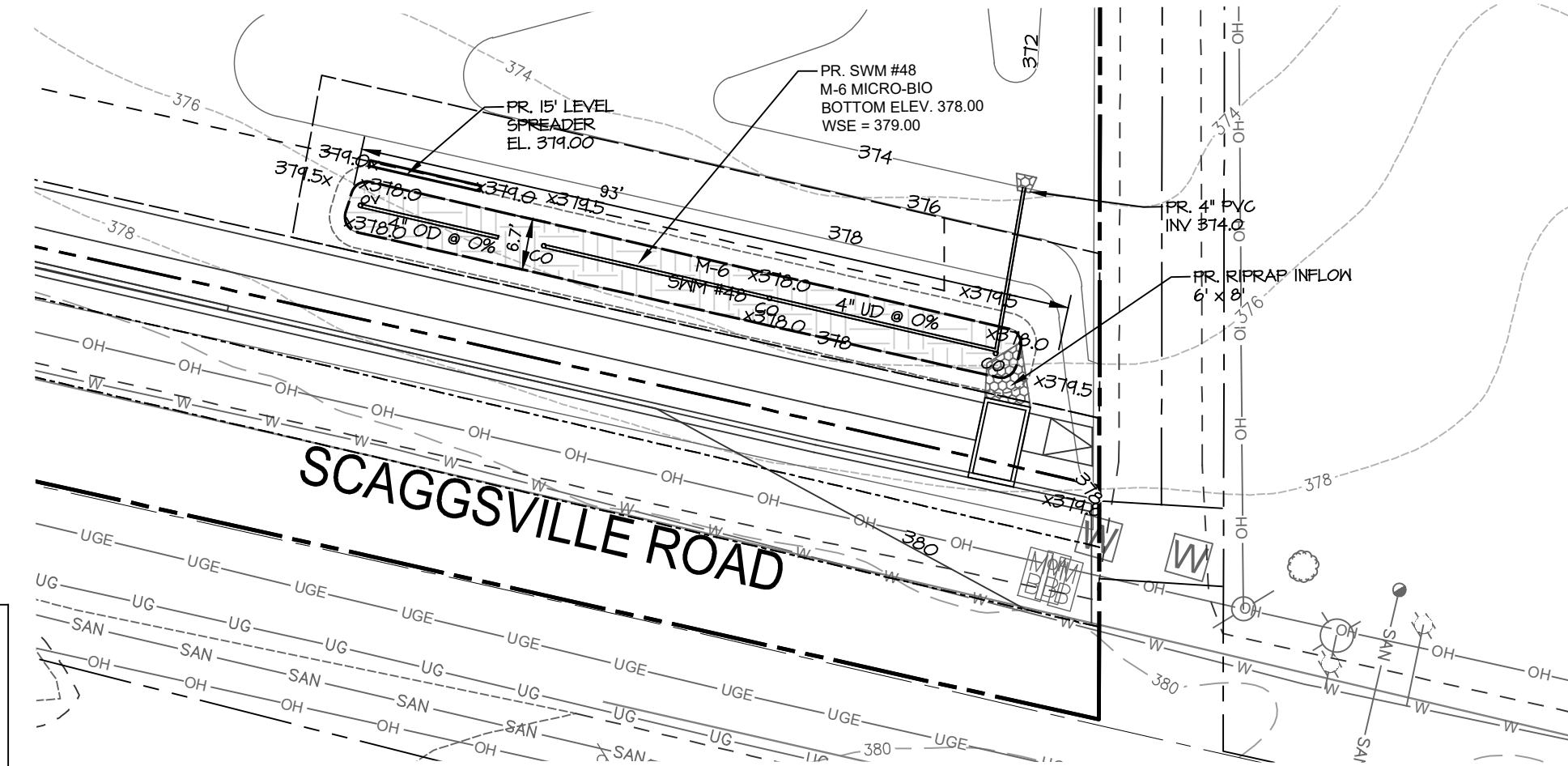
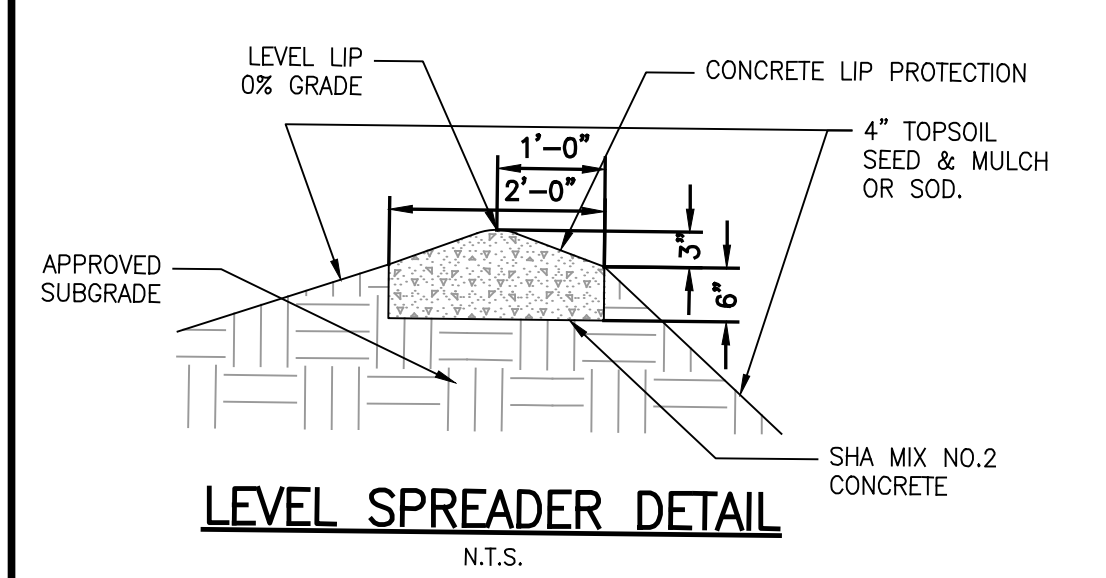
SWM #27
SCALE: 1"=20'



SWM #28
SCALE: 1"=20'



SWM #29
SCALE: 1"=20'

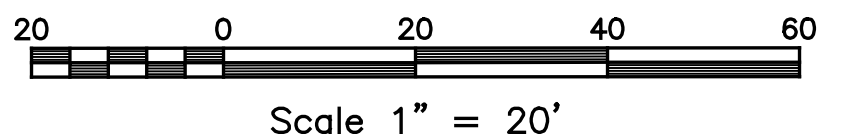


SWM #48
SCALE: 1"=20'

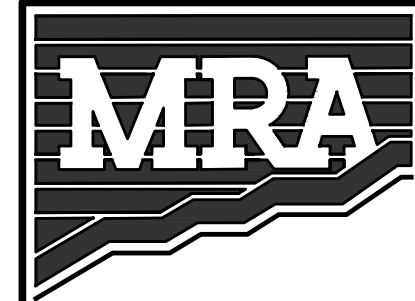
- LEGEND**
- PR. RIGHT OF WAY
 - PR. LOT LINE/PARCEL LINE
 - PR. EASEMENT
 - PR. OPEN SPACE EASEMENT
 - PR. BUILDING
 - PR. CURB & GUTTER
 - PR. ROAD CENTER LINE
 - PR. CONC SIDEWALK
 - PR. HANDICAP RAMP
 - PR. UNIT NUMBER
 - PR. CURB RADIUS
 - PR. STREET LIGHT (LED-100 COLONIAL)
 - PR. STREET LIGHT (LED-150 COLONIAL)
 - PR. LED-150 COBRAHEAD FIXTURE MOUN 30 FT BRONZE FIBERGLASS POLE USING 7
 - PR. TREE LINE
 - PR. DECORATIVE FENCE/ENTRY FEATURE
 - PR. MAILBOXES
 - PR. MICRO-BIOTRETENTION FACILITY (M-6)
 - PR. FACILITY PONDING ELEVATION
 - PR. PERMEABLE PAVEMENT (A-2)
 - PR. DRYWELL (M-5)
 - PR. 4" CLEAN OUT
 - PR. 4" OVERFLOW
 - EX. 1' CONTOUR
 - EX. 2' CONTOUR
 - EX. 10' CONTOUR
 - EX. SPOT
 - EX. STEEP SLOPES 15%-25%
 - EX. STEEP SLOPES +25%
 - PR. 5' CONTOUR
 - PR. 2' CONTOUR
 - PR. 10' CONTOUR
 - PR. LIMIT OF DISTURBANCE
 - PR. SPOT ELEVATION

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



SHEET: SDP-31



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A

SWM PLANS FACILITIES #19 - #29

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

DATE	REVISIONS	JOB NO.: 19590/04
		SCALE: 1" = 20'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 31 OF 49

SDP-21-038

CONSTRUCTION SPECIFICATIONS FOR MICRO-BIORETENTION

1. MATERIAL SPECIFICATIONS

THE ALLOWABLE MATERIALS TO BE USED IN MICRO-BIORETENTION AND BIOSWALE AREAS ARE DETAILED IN TABLE B.4.1. (SEE THIS SHEET)

2. FILTER MEDIA OR PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION AND BIOSWALE PRACTICES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

- SOIL CONTENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
- ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
- CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
- pH RANGE - SHOULD BE BETWEEN 5.5-7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE pH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR pH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

REPLACEMENT OF FILTER MEDIA IS REQUIRED IF WATER PONDS FOR MORE THAN 24 HOURS.

3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF MICRO-BIORETENTION AND BIOSWALE PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TIRE TIRE TYPES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVATED AT THE BASE OF THE MICRO-BIORETENTION AND BIOSWALE FACILITIES BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE MICRO-BIORETENTION AND BIOSWALE FACILITIES, PLACE SOIL IN LIFTS OF 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE MICRO-BIORETENTION OR BIOSWALE BASINS. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS. GRADE MICRO-BIORETENTION AND BIOSWALE MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION AND BIOSWALE AREAS CAN BE FOUND ON THE LANDSCAPE PLANS FOUND HEREIN.

5. PLANT INSTALLATION

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING AREAS TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE MICRO-BIORETENTION AND BIOSWALE AREAS DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8th OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE MICRO-BIORETENTION AND BIOSWALE STRUCTURES IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS

UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- PIPE - SHOULD BE 4"-6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO-M-78) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (E.G., PVC OR HDPE).
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
- GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
- A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
- A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

7. MISCELLANEOUS

THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

MICRO-BIORETENTION SCHEDULE

FACILITY NUMBER	TOP OF EMBANKMENT ELEV 'A'	ESDv PONDING ELEV 'B'	FACILITY SURFACE ELEV 'C'	PLANTING MEDIA TOP ELEV 'D'	PLANTING MEDIA BOTTOM ELEV 'E'	BRIDGING LAYER BOTTOM ELEV 'F'	UNDERDRAIN INVERT ELEV 'G'	STONE BOTTOM ELEV 'H'	FILTER BED AREA PROVIDED (SF)
SWM #1	379.80	379.00	378.00	377.75	375.75	375.42	374.83	374.00	715
SWM #2	381.20	380.50	379.50	375.25	377.25	376.92	376.33	375.50	800
SWM #3	379.50	378.50	377.50	377.25	375.25	374.92	374.33	373.50	549
SWM #4	381.00	380.50	379.50	379.25	377.25	376.92	376.33	375.50	797
SWM #5	380.20	379.50	378.50	378.25	376.25	375.92	375.33	374.50	1033
SWM #6	375.00	374.00	373.00	372.75	370.75	370.42	369.83	369.00	944
SWM #7	377.00	376.00	375.00	374.75	372.25	372.42	371.83	371.00	1224
SWM #8	378.00	377.50	376.50	376.25	374.25	373.92	373.33	372.50	570
SWM #9	375.50	374.50	373.50	373.25	371.25	370.92	370.33	369.50	531
SWM #10	373.00	372.00	371.00	370.75	368.75	368.42	367.83	367.00	537
SWM #11	372.00	371.00	370.00	369.75	367.75	367.42	366.83	366.00	530
SWM #13	364.00	363.00	362.00	361.75	359.75	359.42	358.83	358.00	1466
SWM #14	367.00	366.00	365.00	364.75	362.75	362.42	361.83	361.00	477
SWM #15	375.00	374.00	373.00	372.75	370.75	370.42	369.83	369.00	430
SWM #16	367.00	366.00	365.00	364.75	362.75	362.42	361.83	361.00	450
SWM #17	364.50	363.50	362.50	362.25	360.25	359.92	359.33	358.50	1318
SWM #18	361.00	360.00	359.00	358.75	356.75	356.42	355.83	355.00	498
SWM #19	360.00	359.00	358.00	357.75	355.75	355.42	354.83	354.00	503
SWM #20	351.00	350.00	349.00	348.75	346.75	346.42	345.83	345.00	694
SWM #21	352.00	351.00	350.00	349.75	347.75	347.42	346.83	346.00	1424
SWM #22	350.75	350.50	349.50	349.25	347.25	346.92	346.33	345.50	971
SWM #23	356.00	355.50	354.50	354.25	352.25	351.92	351.33	350.50	653
SWM #24	350.75	350.50	349.50	349.25	347.25	346.92	346.33	345.50	774
SWM #25	354.50	354.00	353.00	352.75	350.75	350.42	349.83	349.00	1456
SWM #26	353.00	352.50	351.50	351.25	349.25	348.92	348.33	347.50	488
SWM #27	336.00	335.00	334.00	333.75	331.75	331.42	330.83	330.00	360
SWM #28	337.50	336.50	335.50	335.25	333.25	332.92	332.33	331.50	2243
SWM #29	351.00	350.00	349.00	348.75	346.75	346.42	345.83	345.00	514
SWM #30	370.00	369.00	368.00	367.75	365.75	365.42	364.83	364.00	518
SWM #31	363.00	362.00	361.00	360.75	359.75	359.42	358.83	357.00	515
SWM #48	379.50	379.00	378.00	377.75	375.75	375.42	374.83	374.00	575

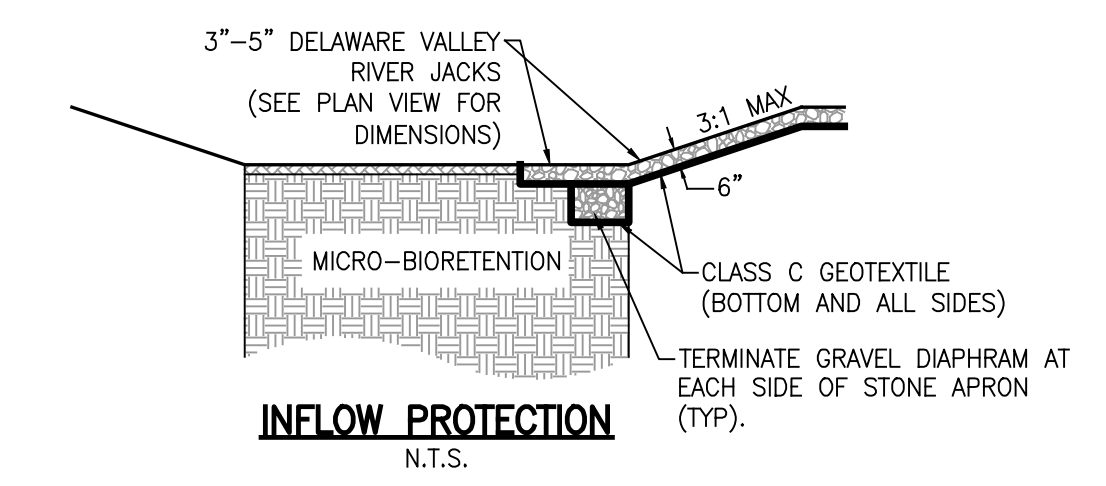
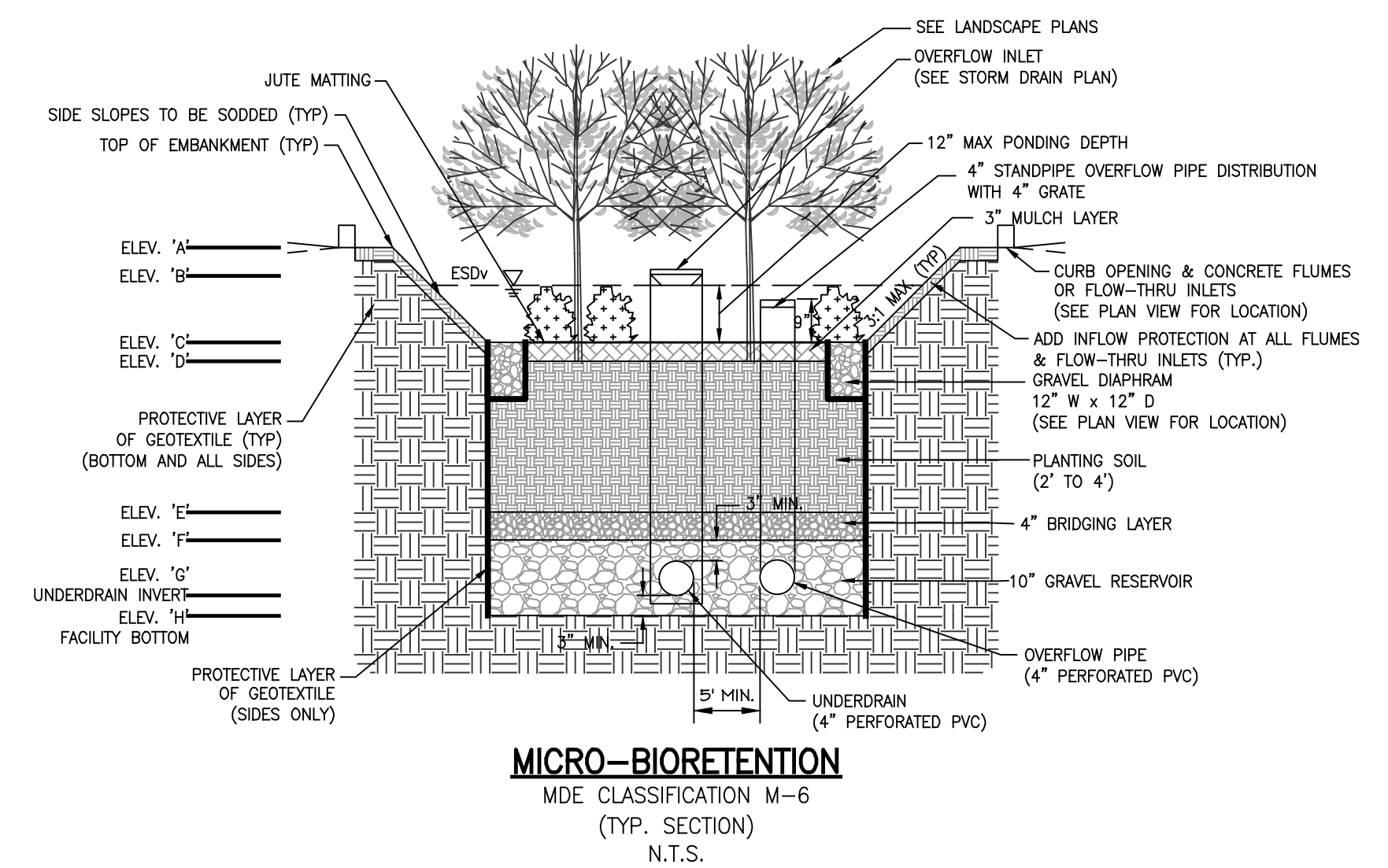


TABLE B.4.1 MATERIAL SPECIFICATIONS FOR MICRO-BIORETENTION

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE-SPECIFIC
PLANTING SOIL [2' TO 4' DEEP]	LOAMY SAND (60-65%) & COMPOST (35-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOILS TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM D 2974)		
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
GRAVEL DIAPHRAGM	ASTM-D-448 (PEA GRAVEL)	NO. 8 OR NO. 9 (1/8" TO 3/8")	
BRIDGING LAYER	ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
INFLOW PROTECTION	DELAWARE VALLEY RIVER JACKS (RIVER ROCK)	STONE: 3" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
GRAVEL (UNDERDRAINS AND INFILTRATION BERMS)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING, OBSERVATION WELLS, AND CLEAN OUTS	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE; 3/8" PER. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL ABOVE AND BENEATH PIPES.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MIX NO. 3; F'c = 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR ENTRAINED; REINFORCING TO MEET ASTM-615-60	N/A	ON SITE TESTING OF POURED-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 350.9/89; VERTICAL LOADING [H-10 OR H-20]; ALLOWABLE HORIZONTAL LOADING (BASE AND SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
SAND	AASHTO-M-6 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.
JUTE MATTING (OR EQUIVALENT)	6-9 MONTHS BEFORE BIODEGRADATION	4' WIDE ROLLS	MANUFACTURER: GRANITE ENVIRONMENTAL

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

INSPECTION REQUIREMENTS FOR MICRO-BIORETENTION FACILITIES

REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:

1. DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEMS.
2. DURING PLACEMENT OF FILTER MEDIA.
3. DURING CONSTRUCTION OF APPURTENANT CONVEYANCE.
4. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

MAINTENANCE CRITERIA FOR MICRO-BIORETENTION FACILITIES

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF MICRO-BIORETENTION AND BIOSWALE PRACTICES:

1. PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE, OR OTHER LEGAL MEASURES PREVENTING ITS NEGLIGENCE, ADVERSE ALTERATION, AND REMOVAL.
2. THE TOP FEW INCHES OF FILTER MEDIA SHOULD BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN TWENTY-FOUR (24) HOURS. SILTS AND SEDIMENT SHOULD BE REMOVED FROM THE SURFACE OF THE FILTER BED WHEN ACCUMULATION EXCEEDS ONE (1) INCH.
3. WHERE PRACTICES ARE USED TO TREAT AREAS WITH HIGHER CONCENTRATIONS OF HEAVY METALS (E.G., PARKING LOTS, ROADS, ETC.), MULCH SHOULD BE REPLACED ANNUALLY. OTHERWISE, THE TOP TWO (2) TO THREE (3) INCHES SHOULD BE REPLACED AS NECESSARY.
4. OCCASIONAL PRUNING AND REPLACEMENT OF DEAD VEGETATION IS NECESSARY. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 10/5/2022
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Amy Stonan 10/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT

Amy Stonan 10/6/2022
 DIRECTOR

SHEET: SDP-32

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A
SWM MICROBIO NOTES AND DETAILS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590x04
		SCALE: AS SHOWN
		DATE: 4-26-2022
		DRAWN BY: MM
		DESIGN BY: MM
		REVIEW BY: MM
		SHEET: 32 OF 49

SDP-21-038

CONSTRUCTION SPECIFICATIONS FOR PERMEABLE PAVEMENT

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS AND SPECIFICATIONS:
 - MARYLAND STATE HIGHWAY ADMINISTRATION (SHA), STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
 - ANNE ARUNDEL COUNTY, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
 - AMERICAN CONCRETE INSTITUTE - ACI 330R-08 GUIDE FOR THE DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS.
 - ACI-522-1-08 FOR PERVIOUS CONCRETE PAVEMENT SPECIFICATION.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND MATERIAL CERTIFICATIONS TO THE ENGINEER PRIOR TO BEGINNING THE WORK. THE SYSTEM SHOULD BE DESIGNED FOR PARKED PASSENGER VEHICLES.
- JOINT SPACING FOR CONCRETE CURB AND COMBINATION CURB AND GUTTER SHALL MATCH PAVEMENT JOINTS.
- ALL POROUS CONCRETE PAVEMENT SHALL BE MARYLAND STATE HIGHWAY ADMINISTRATION MIX NO. 1, M87 AGGREGATE, 10% SAND MAXIMUM BY VOLUME, 20% VOID TARGET AND WITH GRADE CONCRETE ADMIXTURE V-MAR, VSC 500. POROUS CONCRETE SHALL PROVIDE POROSITY OF 40%, AND A PERMEABILITY K-FACTOR OF >= 8-INCHES PER HOUR. MIX DESIGN SHALL BE SUBMITTED FOR REVIEW.
- STONE AGGREGATE SHALL CONFORM TO AASHTO AND MSHA REQUIREMENTS:
 - BEDDING COURSE AASHTO M-43 NO. 8
 - OPEN GRADED BASE AASHTO M-43 NO. 57
 - SUB-BASE AASHTO M-43 NO. 2
- UNDERDRAINS AND OVERDRAINS SHALL CONFORM TO ASTM F 758 PS 28 OR AASHTO M-78. 4-INCH DIAMETER PVC SCHEDULE 40, SLOTTED OR PERFORATED WITH 3/8" DIAMETER HOLES LOCATED 6-INCHES ON CENTER WITH A MINIMUM OF 4 HOLES PER ROW. A RIGID NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
- PERMEABLE PAVEMENT SYSTEMS SHALL NOT BE INSTALLED UNTIL ALL CONTRIBUTING AREAS HAVE BEEN PERMANENTLY STABILIZED.

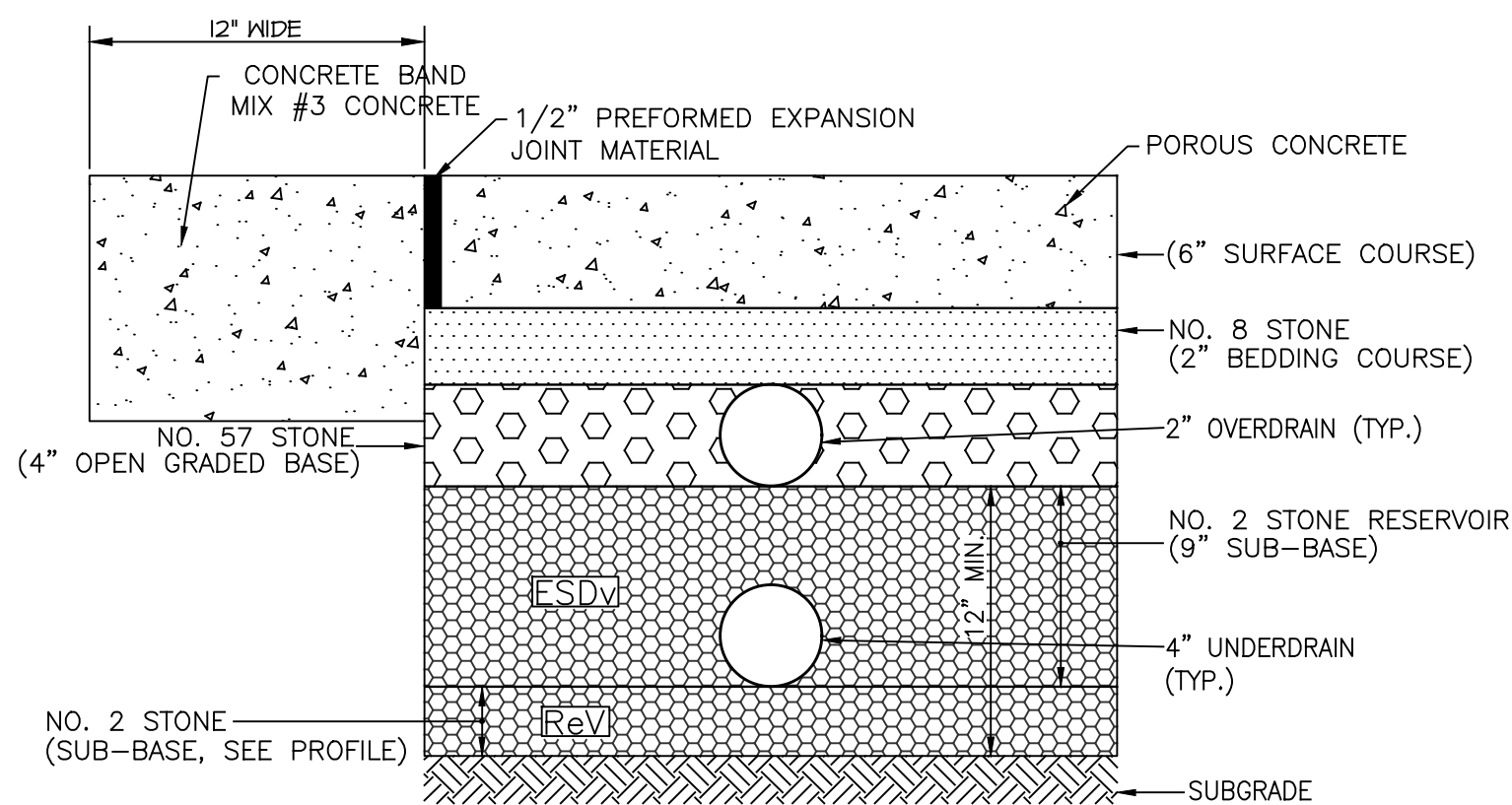
INSPECTION REQUIREMENTS FOR PERMEABLE PAVEMENT

- REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:
- DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEMS.
 - DURING PLACEMENT OF PERMEABLE PAVEMENT.
 - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

OPERATION AND MAINTENANCE SCHEDULE FOR PERMEABLE PAVEMENT (A-2)

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF PERMEABLE PAVEMENT:

- THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
- THE OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE.
- THE OWNER SHALL USE DEICERS IN MODERATION. DEICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT. NO CHLORIDES SHALL BE USED.
- THE OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH RUBBER BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOWMELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.



POROUS CONCRETE PAVEMENT SYSTEM NOTES:

CONTRACTOR TO SUPPLY SHOP DRAWINGS TO THE ENGINEER THAT MEET THE FOLLOWING REQUIREMENTS FOR REVIEW:

- POROSITY (n) = 40%
- INSTALL 4" UNDERDRAIN & OVERDRAIN - SCH-40 PVC, 3/8" PERFORATIONS @ 6" O.C., 4 HOLES PER ROW
- PERMEABILITY (k) >= 8 IN/HR
- DEPTH OF TOP LAYER WILL BE DETERMINED BY THE TYPE OF SYSTEM USED
- SYSTEM SHOULD BE DESIGNED FOR PARKED PASSENGER VEHICLES
- IF PERMEABLE PAVER IS CHOSEN, CONTRACTOR TO PROVIDE EDGE TREATMENT DETAILS

SWM #12 - PERMEABLE PAVEMENT SECTION

MDE CLASSIFICATION A-2
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING	DATE
<i>Chad Edmondson</i>	10/5/2022
CHIEF, DEVELOPMENT & ENGINEERING DIVISION	DATE
<i>[Signature]</i>	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Amy Stonan</i>	10/6/2022
DIRECTOR	DATE
<i>[Signature]</i>	

CONSTRUCTION SPECIFICATIONS FOR DRYWELLS

- MATERIAL SPECIFICATIONS
- THE ALLOWABLE MATERIALS TO BE USED IN DRYWELLS ARE DETAILED IN TABLE B.4.1. (SEE THIS SHEET)
- COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BOTTOM OF THE DRYWELL PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BOTTOM OF THE DRYWELL FACILITIES BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

WHEN BACKFILLING THE DRYWELL FACILITIES, PLACE STONE IN LIFTS OF 12" to 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE DRYWELL. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER TO SUPPLY SOILS. GRADE DRYWELL MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

PIPE DRAINS AND OBSERVATION WELLS

PIPE DRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- PIPE - SHOULD BE 4"-6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO M-78) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G. PVC).
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW.
- GRAVEL - THE GRAVEL LAYER (NO. 2 STONE PREFERRED) SHALL BE AT LEAST 12" THICK ABOVE THE PIPE DRAIN.
- A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE DRYWELL.

MISCELLANEOUS

DRYWELLS MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

TABLE B.4.1 MATERIAL SPECIFICATIONS FOR DRYWELLS

MATERIAL	SPECIFICATION	SIZE	NOTES
GEOTEXTILE	MSHA CLASS "SE"	N/A	PE TYPE 1 NONWOVEN
SAND	AASHTO M-6 OR ASTM C-33	0.02" TO 0.04"	DIABASE, GRAYSTONE#10, DOLOMITIC SAND OR ROCK DUST ARE NOT ACCEPTABLE.
STONE	ASTM D-448	1.5" TO 3" DIA.	CLEAN STONE
PIPING AND OBSERVATION WELLS	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE; 3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW;

INSPECTION REQUIREMENTS FOR DRYWELLS

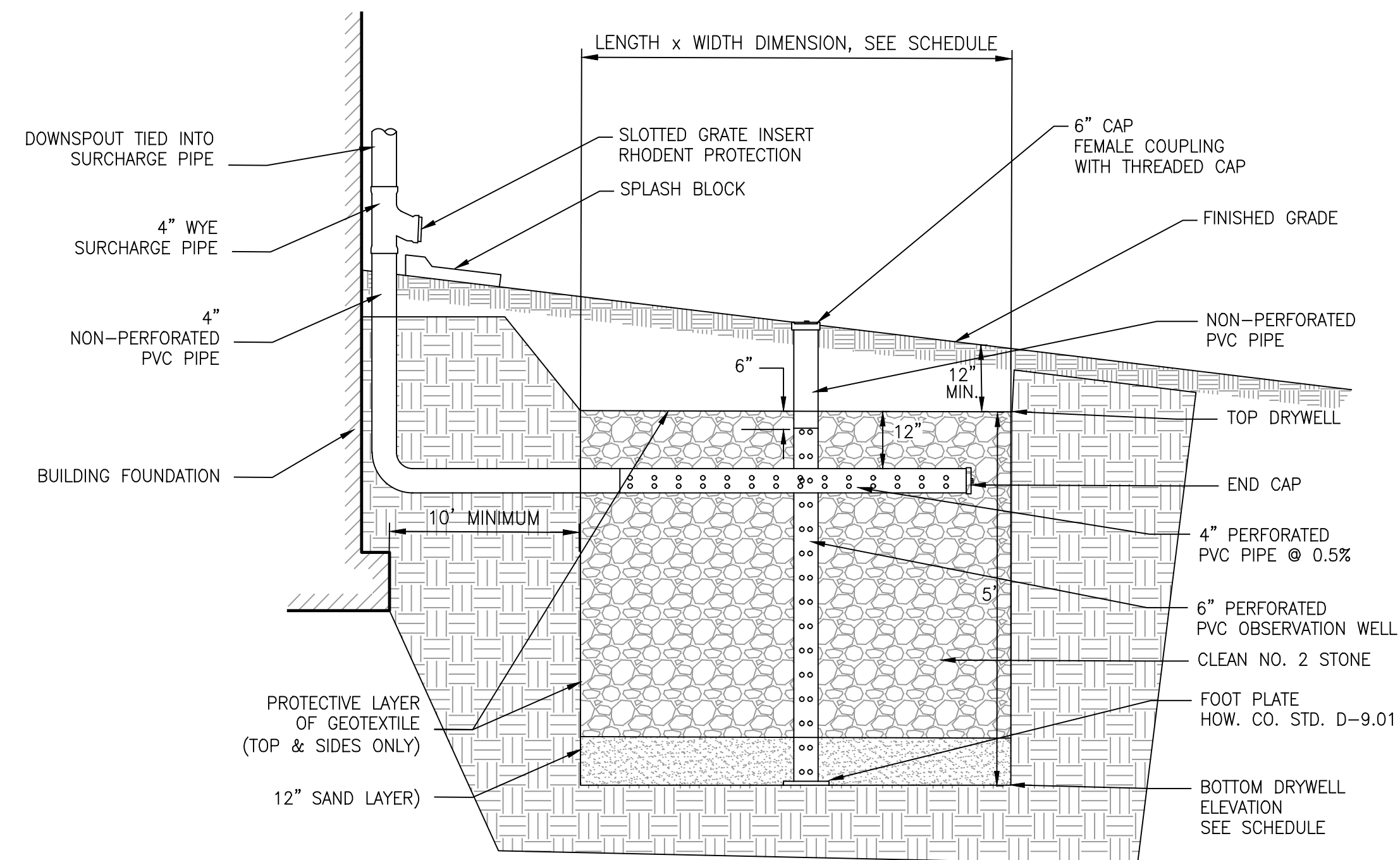
REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION:

- DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF PIPE DRAIN SYSTEMS.
- DURING PLACEMENT OF STONE BACKFILL AND FILTER CLOTH.
- UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

MAINTENANCE CRITERIA FOR DRYWELLS

THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF DRYWELL PRACTICES:

- THE PROPOSED SWM FACILITIES ARE PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE, OR OTHER LEGAL MEASURES PREVENTING ITS NEGLECT, ADVERSE ALTERATION, AND REMOVAL.
- THE DOWNSPOUT AND SURCHARGE PIPES SHALL BE INSPECTED ANNUALLY FOR ANY CLOGGING OR DAMAGE.
- THE OBSERVATION WELL SHALL BE INSPECTED AFTER EACH HEAVY RAINFALL EVENT OR AT LEAST SEMI-ANNUALLY TO DETERMINE IF THE DRYWELL IS DEWATERING WITHIN A 48-HOUR PERIOD.



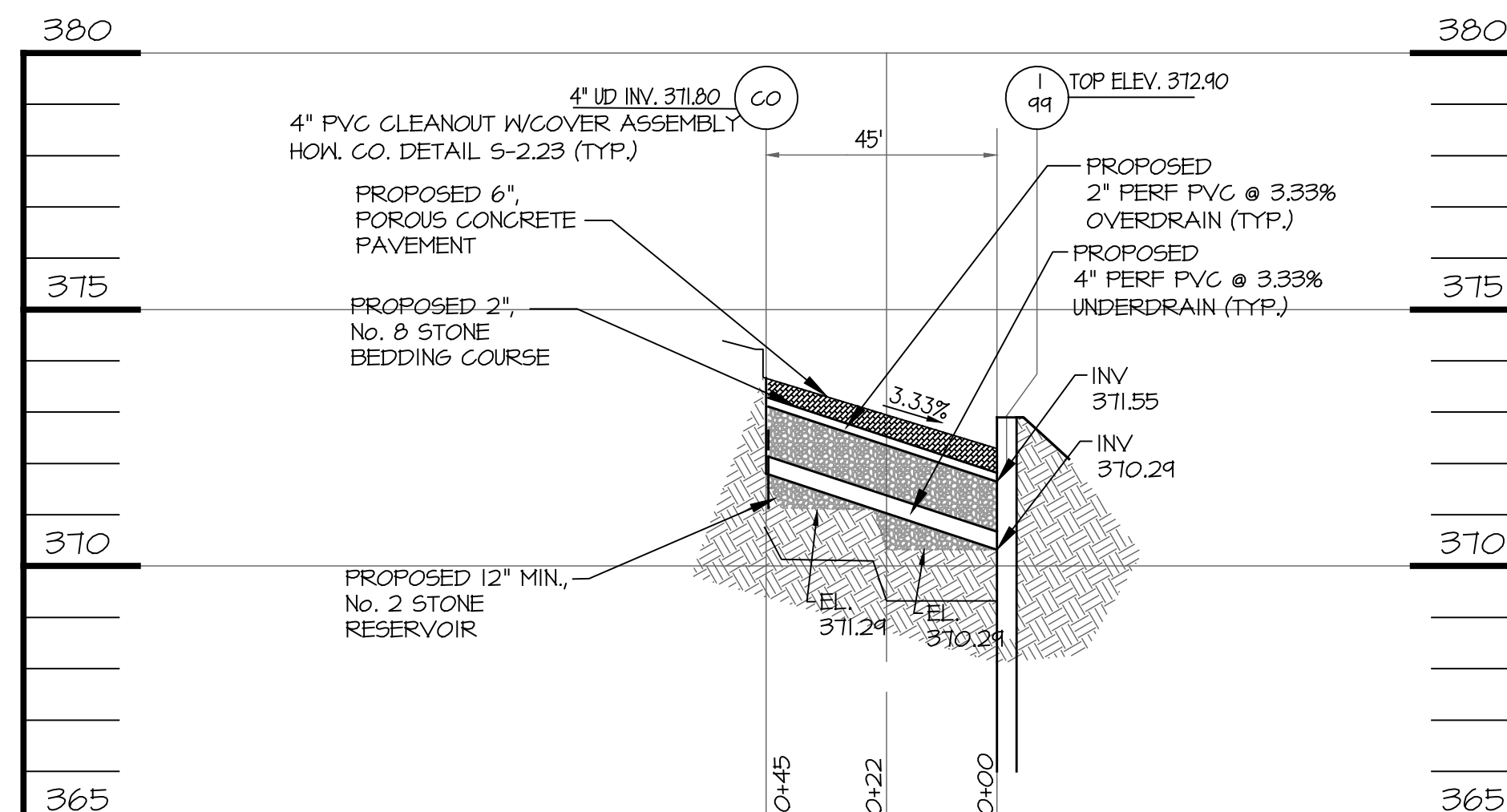
DRYWELL DETAIL

MDE CLASSIFICATION M-5
(TYPICAL SECTION)
N.T.S.

REFER TO HOW. CO. STD. D-9.01 FOR ADDITIONAL DETAILS AND REQUIREMENTS

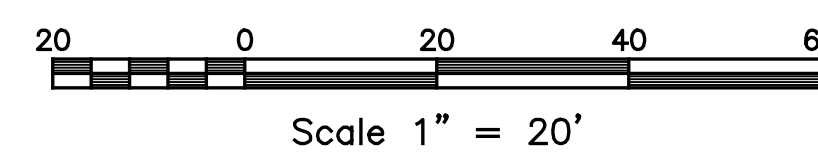
DRYWELL SCHEDULE

UNIT NUMBER	SWM NUMBER	DRYWELL LENGTH (FT.)	DRYWELL WIDTH (FT.)	DRYWELL DEPTH (FT.)	BOTTOM ELEVATION	FILTER BED AREA PROVIDED (SF)	ESD _v PROVIDED (CF)
4	40	10	9	5	375.00	90	180
5	41	10	9	5	373.00	90	180
6	42	15	6	5	371.00	90	180
7	43	10	9	5	369.00	90	180
8	44	15	6	5	367.00	90	180
9	45	15	6	5	364.00	90	180
10	46	15	6	5	362.00	90	180
11	47	15	6	5	355.00	90	180
57	32	15	6	5	356.00	90	180
58	33	15	6	5	355.00	90	180
59	34	15	6	5	353.00	90	180
60	35	15	6	5	354.00	90	180
61	36	15	6	5	360.00	90	180
62	38	10	9	5	362.00	90	180
63	39	10	9	5	363.00	90	180



POROUS PAVING PROFILE (SWM#12)

HOR. 1" = 30'
VERT. 1" = 3'



PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM SITE DEVELOPMENT PLAN PARCEL A

SWM PAVEMENT AND DRYWELLS DETAILS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		1959004
		SCALE: AS SHOWN
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 33 OF 49

SDP-21-038

LOG OF BORING NO. B-1 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 1/30/2018
DATE COMPLETED: 1/30/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 1/30/2018
CAVED (ft): 12.1 - 11.9

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 356.3
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
1	0.0	12	4-5.6	11	SM	Brown, moist, stiff, Sandy SILT, trace Mica.	Topsoil: 3 in.
2	2.5	14	4-6.5	11	SM	Brown, moist, medium dense, Silty SAND with Mica.	
3	5.0	12	8-8-11	19	SM	Brown and Tan, moist, medium dense, Silty SAND with Mica, trace Quartz Fragments.	
4	8.5	14	7-9-12	21	SM	BOTTOM SWM #20 EL. 345.00	
5	13.5	16	11-9-4	13	SM	Boring terminated at 15 feet.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-1
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-2 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 1/30/2018
DATE COMPLETED: 1/30/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 1/30/2018
CAVED (ft): PIPE

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 338.5
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
1	0.0	10	WOM-2-3	5	SM	Brown, moist, medium stiff, Sandy SILT with Mica.	Topsoil: 4 in.
2	2.5	17	5-6-7	13	SM	Brown, moist, medium dense, Silty SAND with Mica.	
3	5.0	11	9-7-10	17	SM	BOTTOM SWM #28 EL. 331.50	
4	8.5	5	8-8-10	18	SM	Brown, moist, stiff, Sandy SILT with Mica.	
5	13.5	12	15-15-21	36	SM	Boring terminated at 10 feet. BOTTOM SWM #49 EL. 327.00	
6	15.5	12	15-16-18	34	SM	Boring terminated at 15 feet. Stabilized Infiltration Rate: 1.49 inches per hour.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-2
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-3 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 1/30/2018
DATE COMPLETED: 1/30/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 1/30/2018
CAVED (ft): 10.6 - 10.5

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 337.1
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
1	0.0	12	2-3-8	9	SM	Brown to Greenish Brown, moist, loose to dense, Silty SAND with Mica.	Topsoil: 3 in.
2	2.5	16	6-5-8	11	SM	Brown, moist, medium dense, Silty SAND with Mica.	
3	5.0	12	6-8-9	17	SM	BOTTOM SWM #27 EL. 330.00	
4	8.5	14	15-15-21	36	SM	Boring terminated at 15 feet.	
5	13.5	12	15-16-18	34	SM	Boring terminated at 15 feet.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-3
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-5 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 1/30/2018
DATE COMPLETED: 1/30/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 1/30/2018
CAVED (ft): 11.5 - 10.9

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 351.6
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
1	0.0	12	3-5-6	11	SM	Brown, moist, stiff, Sandy SILT with Mica.	Topsoil: 3 in.
2	2.5	12	8-9-9	18	SM	Greenish Brown to Brown, moist, medium dense, Silty SAND with Mica.	
3	5.0	14	6-5-9	14	SM	BOTTOM SWM #29 EL. 345.00	
4	8.5	12	6-8-10	18	SM	Boring terminated at 15 feet.	
5	13.5	14	10-10-11	21	SM	Boring terminated at 15 feet.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-5
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-8 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 1/30/2018
DATE COMPLETED: 1/30/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 1/30/2018
CAVED (ft): 9.7 - 10.5

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 355.7
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	10	3-8-10	15	SM	Light Brown to Tan, moist, medium dense, Silty SAND, trace Mica and Quartz Fragments.	Topsoil: 3 in.
S-2	2.5	10	10-8-7	15	SM		
S-3	5.0	12	6-6-6	12	SM		
S-4	8.5	14	29-29-34	63	HW	Tan, dry to moist, very dense, Highly Weathered ROCK.	
S-5	13.5	2	50-2	50-2	HW	BOTTOM SWM #26 EL. 347.50	
						Boring terminated at 15 feet.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-8
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-10 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 1/29/2018
DATE COMPLETED: 1/29/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 1/29/2018
CAVED (ft): 15.5 - 15.5

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 370.5
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	12	3-4-10	14	SM	Light Brown to Tan, moist, medium dense, Silty SAND, trace Mica.	Topsoil: 3 in.
S-2	2.5	12	14-9-12	21	SM	Tan, moist to dry, medium dense to dense, Poorly Graded SAND with Silt, Mica and Quartz Fragments.	
S-3	5.0	14	15-12-12	24	SM		
S-4	8.5	6	15-13-21	34	SM		
S-5	13.5	4	50-4	50-4	HW	Light Gray, dry, very dense, Highly Weathered ROCK.	
S-6	18.5	0	50-4	50-4	HW	Tan, dry, very dense, Partially Weathered ROCK.	
S-7	23.5	2	50-3	50-3	HW	Tan, dry, very dense, Highly Weathered ROCK.	
						Boring terminated at 25 feet.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-10
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-19 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 2/1/2018
DATE COMPLETED: 2/1/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 2/1/2018
CAVED (ft): 15.8 - 14.8

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 382.9
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
1	0.0	12	6-6-8	14	SM	Brown to Greenish Brown, moist, medium dense to dense, Silty SAND with Mica, trace Quartz Fragments.	Topsoil: 2.5 in.
2	2.5	10	10-15-16	31	SM		
3	5.0	10	14-15-16	31	SM	BOTTOM SWM #4 EL. 375.50	
4	8.5	14	14-11-13	24	SM		
5	13.5	12	18-28-48	76	HW	Greenish Brown, moist, very dense, Highly Weathered ROCK.	
6	18.5	4	50-4	50-4	HW	Greenish Gray, moist, very dense, Highly Weathered ROCK with Mica.	
7	23.5	3	50-3	50-3	HW	Boring terminated at 25 feet. Infiltration test at 13 feet. Stabilized Infiltration Rate: 1.19 inches per hour.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-19
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-21 Sheet 1 of 1

PROJECT: HINES PROPERTY
PROJECT NO: 171944X1
PROJECT LOCATION: LAUREL, MARYLAND

DATE STARTED: 2/1/2018
DATE COMPLETED: 2/1/2018
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: G. Palmer
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon / Automatic Hammer

WATER LEVEL (ft): DRY
DATE: 2/1/2018
CAVED (ft): PIPE

WATER ENCOUNTERED DURING DRILLING (ft): DRY
GROUND SURFACE ELEVATION: 381.5
DATUM: Survey
EQUIPMENT: CME-45
LOGGED BY: VMH
CHECKED BY: APM

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
1	0.0	16	3-5-8	14	SM	Brown, moist, stiff to very stiff, Sandy SILT with Mica.	Topsoil: 2.5 in.
2	2.5	16	16-6-8	14	SM		
3	5.0	4	20-16-12	28	SM	BOTTOM SWM #5 EL. 374.50	
4	8.5	14	10-12-13	25	SM	Greenish Gray, moist, medium dense to dense, Silty SAND with Mica.	
5	13.5	14	18-17-15	32	SM		
6	18.5	4	50-4	50-4	HW	Greenish Gray, moist, very dense, Highly Weathered ROCK with Mica.	
						Boring terminated at 20 feet. Infiltration test at 13 feet. Stabilized Infiltration Rate: 1.19 inches per hour.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-21
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-22 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO: 171944X1
PROJECT LOCATION: Howard County, Maryland

DATE STARTED: 10/16/2020
DATE COMPLETED: 10/16/2020
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER LEVEL (ft): Dry
DATE: 10/16/2020
CAVED (ft): Pipe

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 380.9
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: CDM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	18	2-2-2	4	SM	Reddish Brown, moist, very loose, Silty SAND trace Mica.	Topsoil: 7 in.
S-2	2.5	16	4-7-11	18	SM	Same, Brown to Greenish Brown, medium dense	
S-3	5.0	16	10-8-8	16	SM	BOTTOM SWM #2 EL. 373.50	
S-4	8.5	18	5-5-14	19	SM	Same, Micaceous	
						Boring terminated at 10 feet. Infiltration test at 7 feet. Stabilized Infiltration Rate: >10.0 inches per hour.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-22
14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-23 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO: 171944X1
PROJECT LOCATION: Howard County, Maryland

DATE STARTED: 10/16/2020
DATE COMPLETED: 10/16/2020
DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER LEVEL (ft): Dry
DATE: 10/16/2020
CAVED (ft): Pipe

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 380.8
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: CDM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (%)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	16	2-2-2	4	SM	Reddish Brown, moist, very loose, Silty SAND, trace Mica.	Topsoil: 5 in.
S-2	2.5	18	3-4-5	9	SM	Same, loose	
S-3	5.0	16	3-5-5	10	SM	Same, to Greenish Brown, Micaceous	
S-4	8.5	16	15-23-30	83	HW	Brown to Greenish Brown, dry to moist, very dense, Micaceous Highly Weathered ROCK.	
						Boring terminated at 10 feet. Infiltration test at 7.5 feet. Stabilized Infiltration Rate: 4.03 inches per hour.	

NOTES:
GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-23
14280 Park Center Drive, Suite A Laurel, MD 20707

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

SHEET: SDP-34

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM BORINGS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590v04

1. 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 NO. 29203 EXPIRATION DATE: 6/16/2023

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

DATE: 10/6/2022

SCALE: 1" = 20'

DRAWN BY: MF
DESIGN BY: MF
REVIEW BY: MM
SHEET: 34 OF 49

SDP-21-038

LOG OF BORING NO. B-24

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-5 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-24. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-25

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-25. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-26

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-26. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-27

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-27. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-28

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-28. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-29

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-29. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-30

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-30. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-32

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-32. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-33

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-5 and notes on boring termination and infiltration tests.

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-33. 14280 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-34

Table with columns: SAMPLE NUMBER, SAMPLE DEPTH (ft), SAMPLE RECOVERY (%), BLOWING INCHES, ELEVATION (ft), DEPTH (ft), USCS, GRAIN SIZE SYMBOL, DESCRIPTION, REMARKS. Includes data for samples S-1 to S-4 and notes on boring termination and infiltration tests.

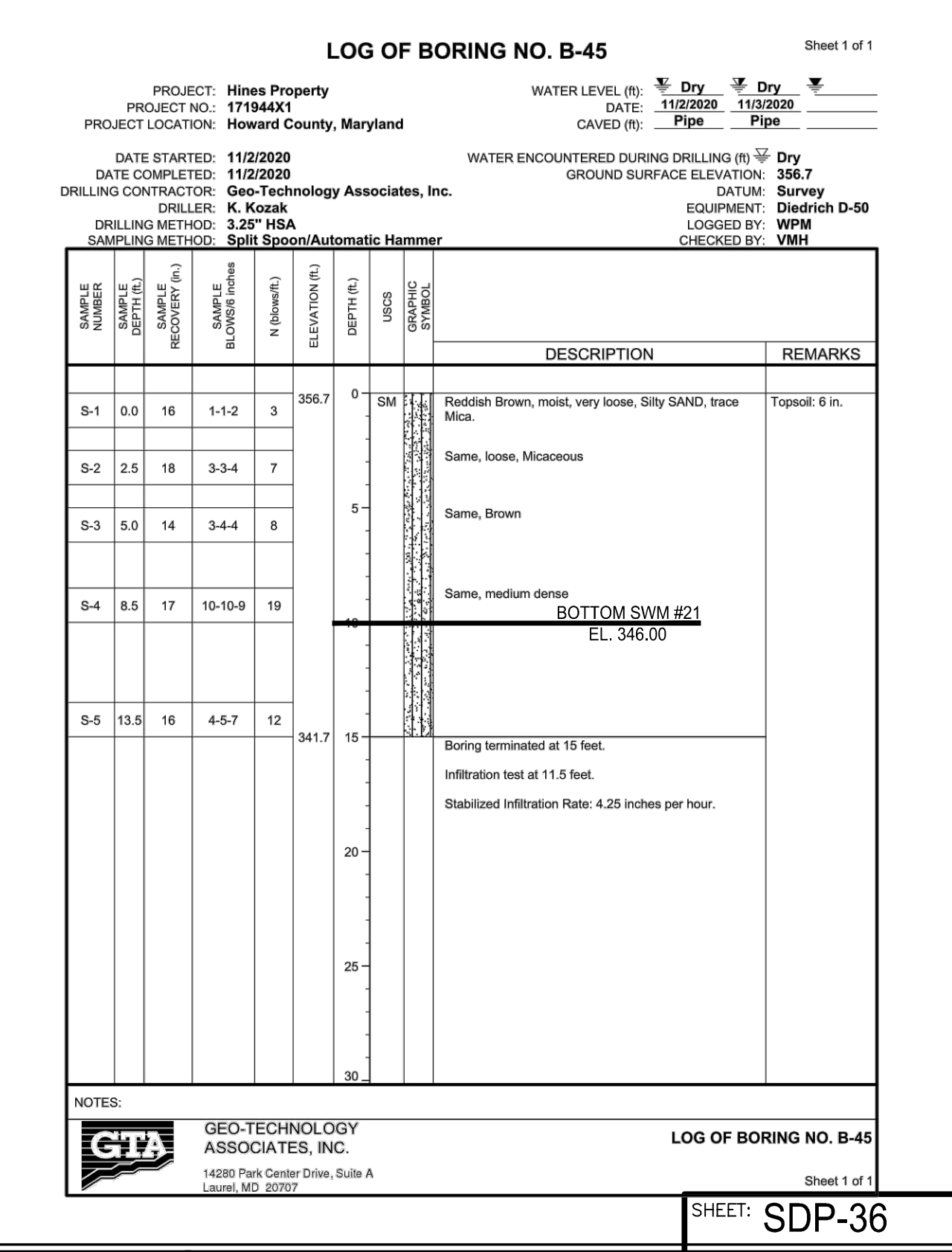
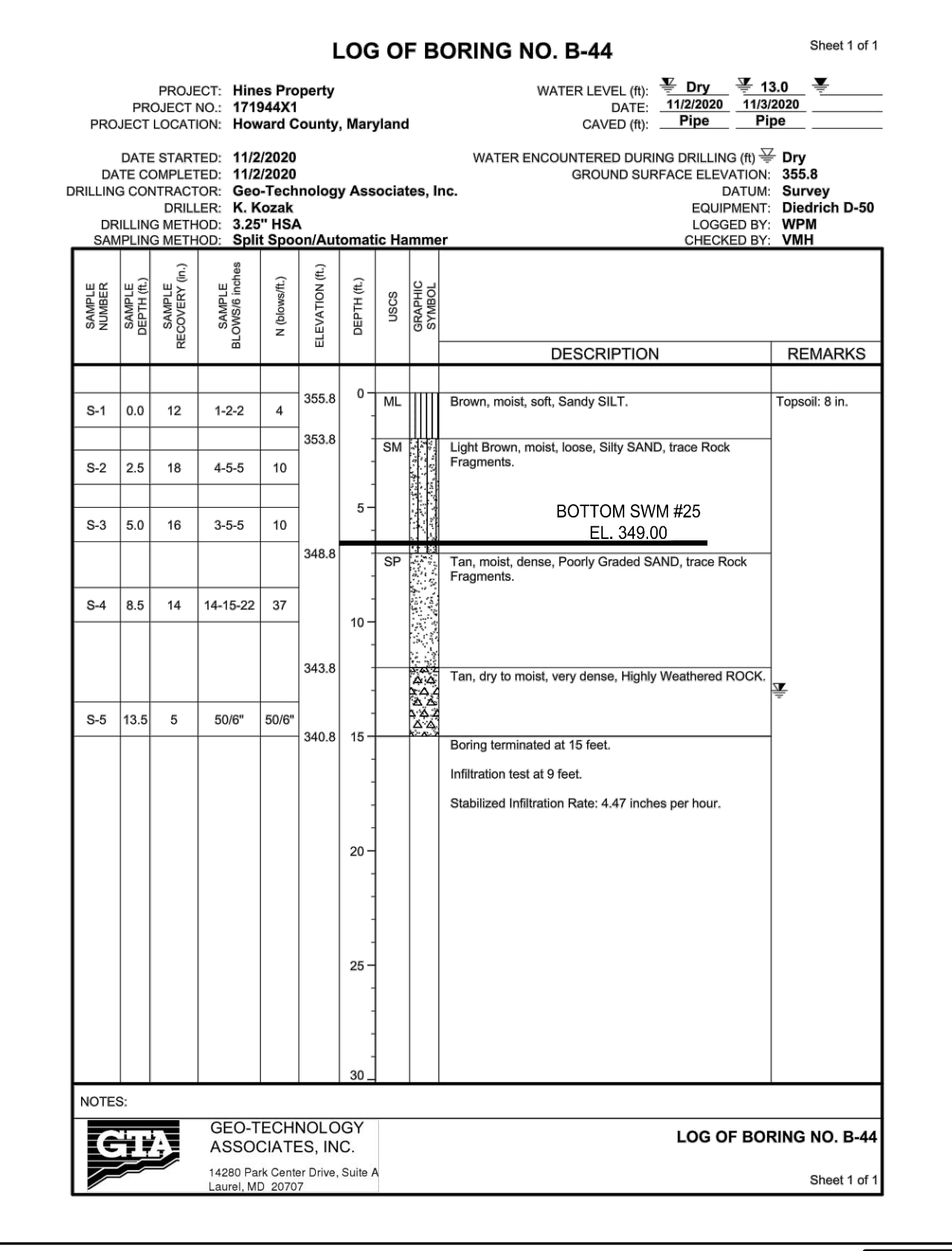
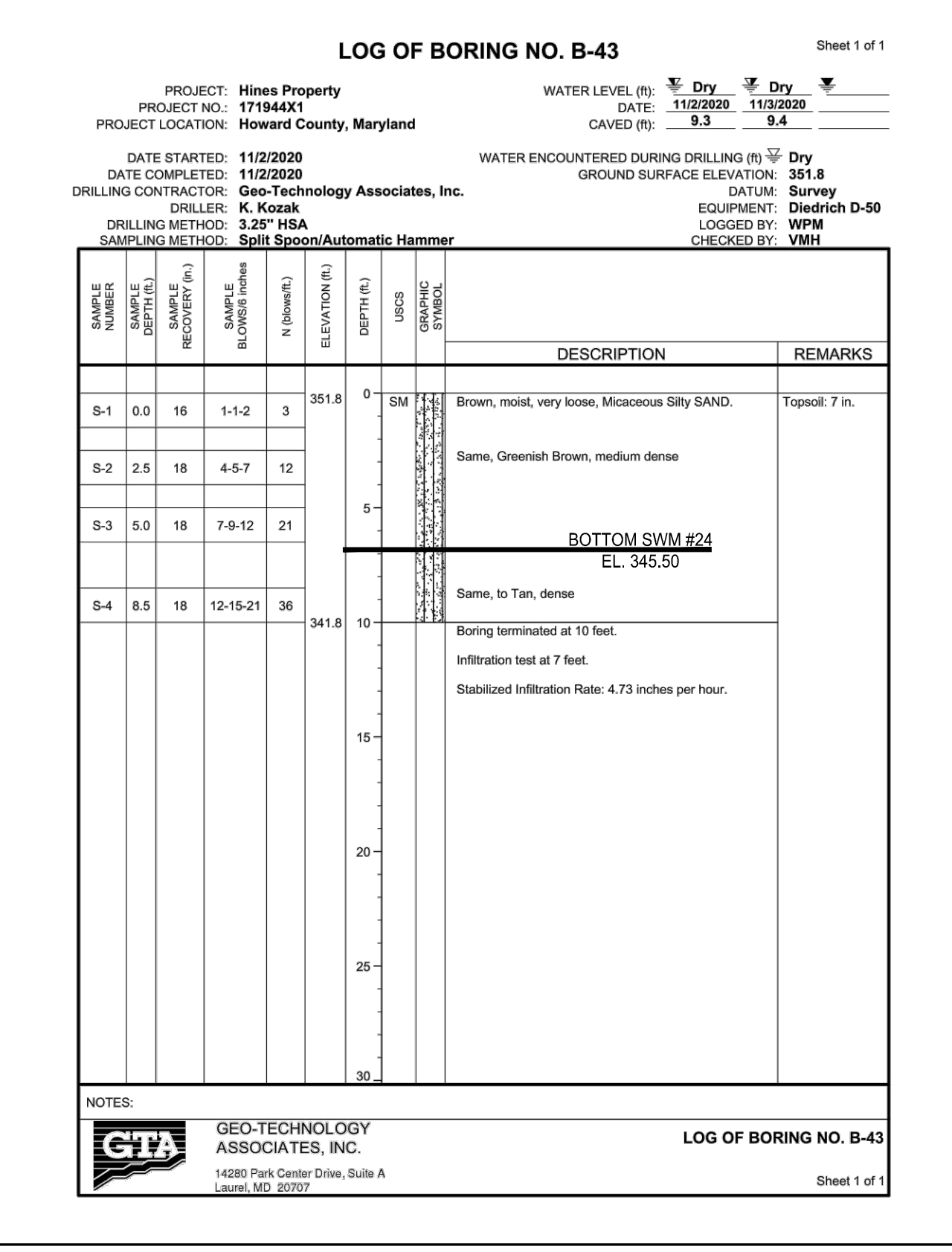
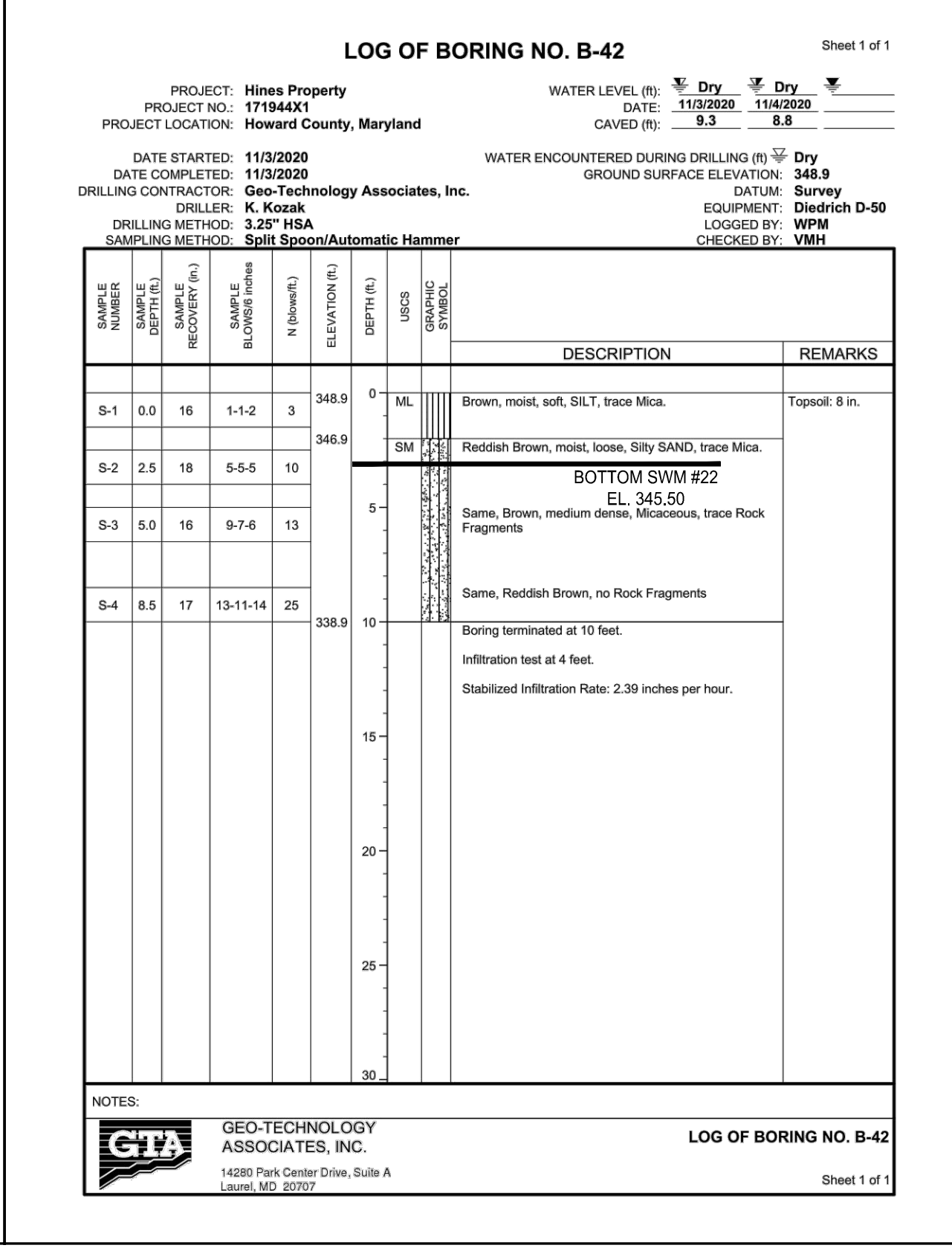
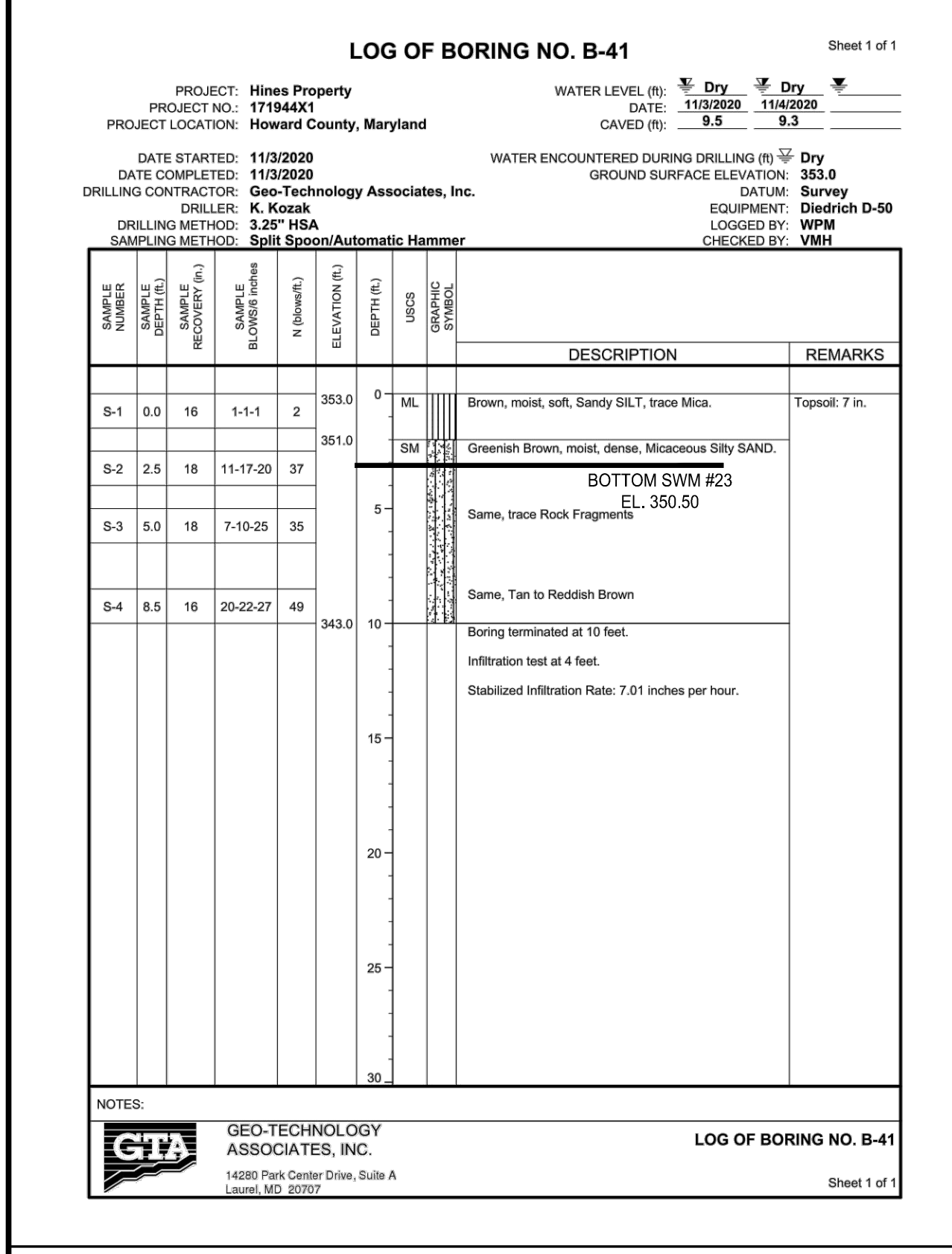
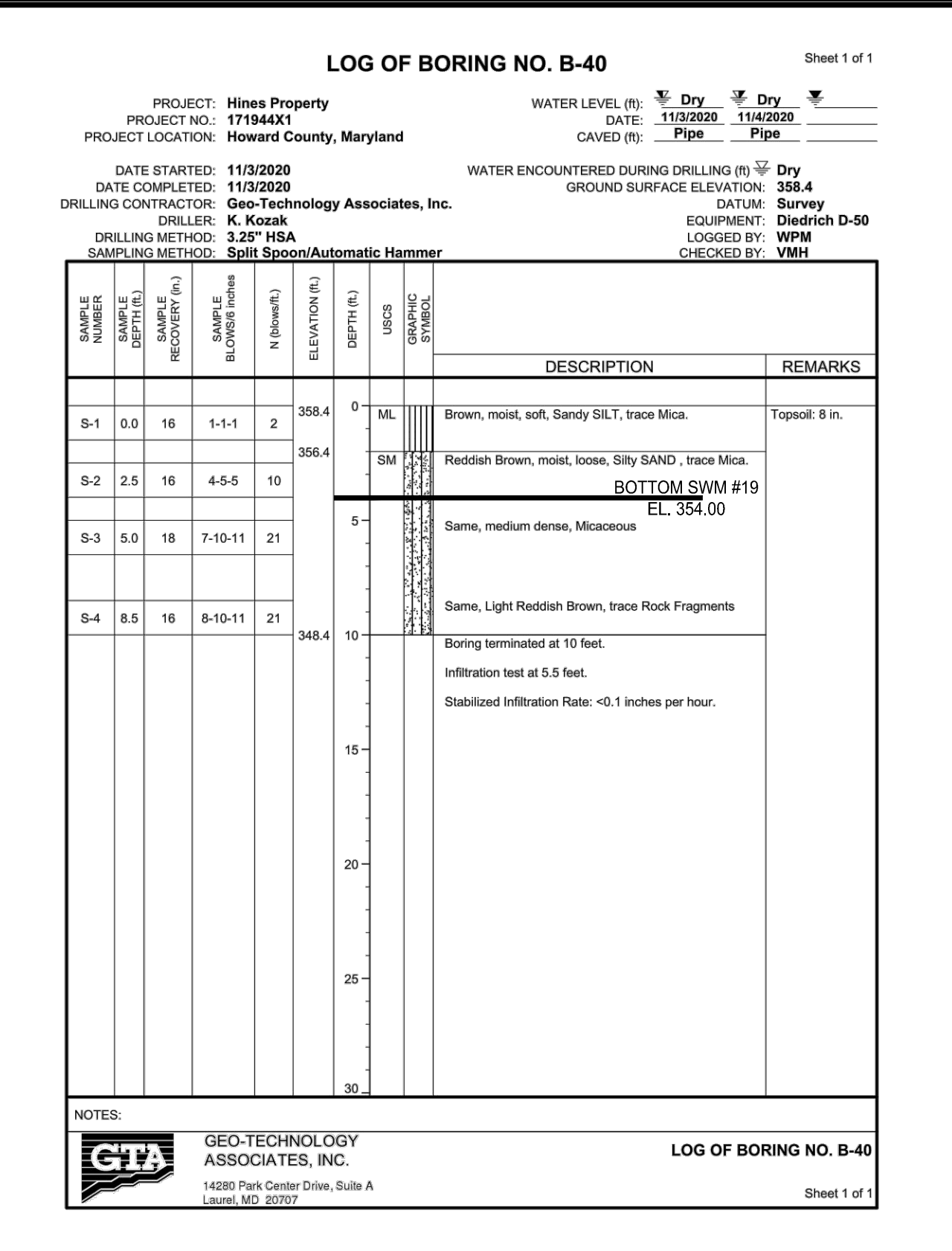
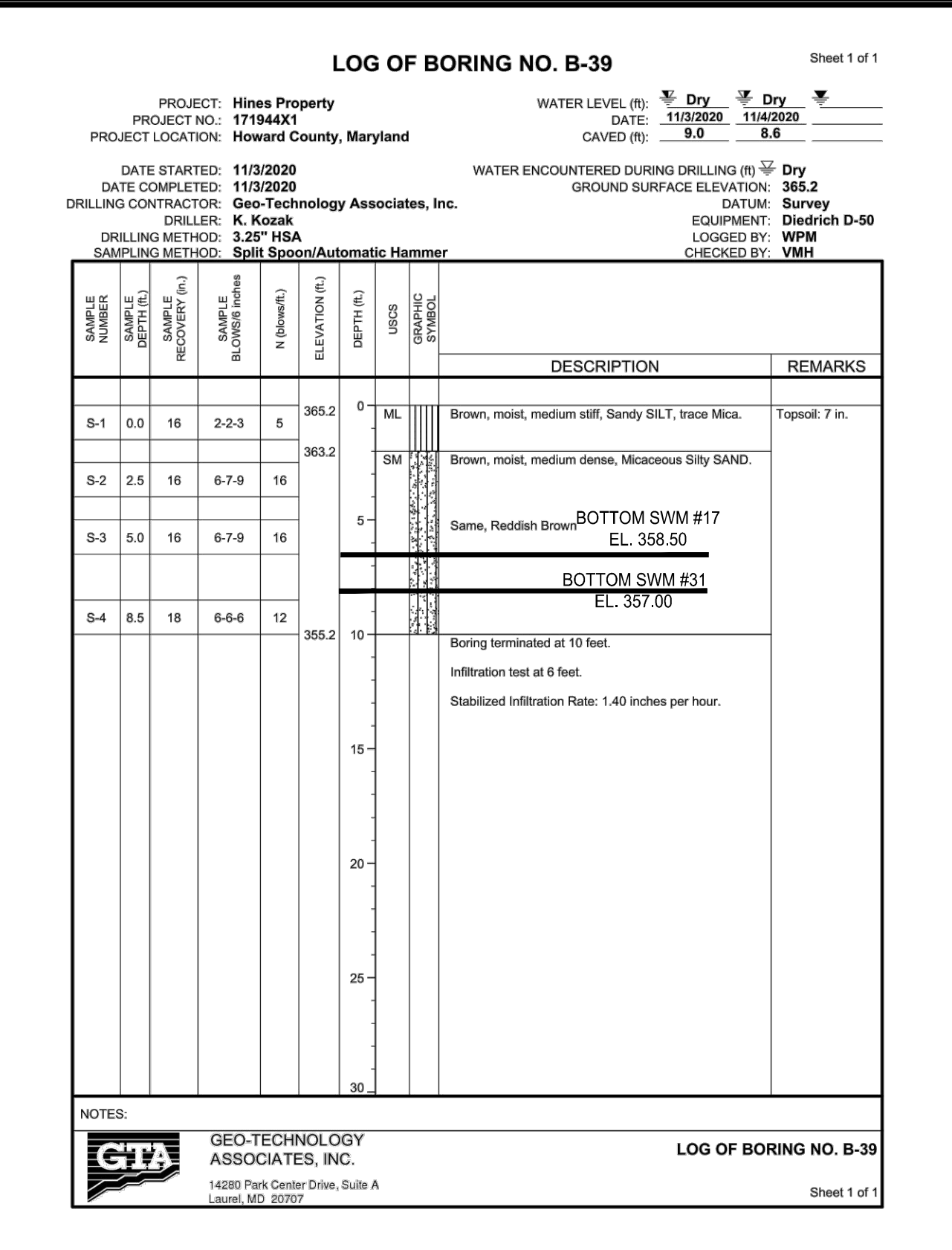
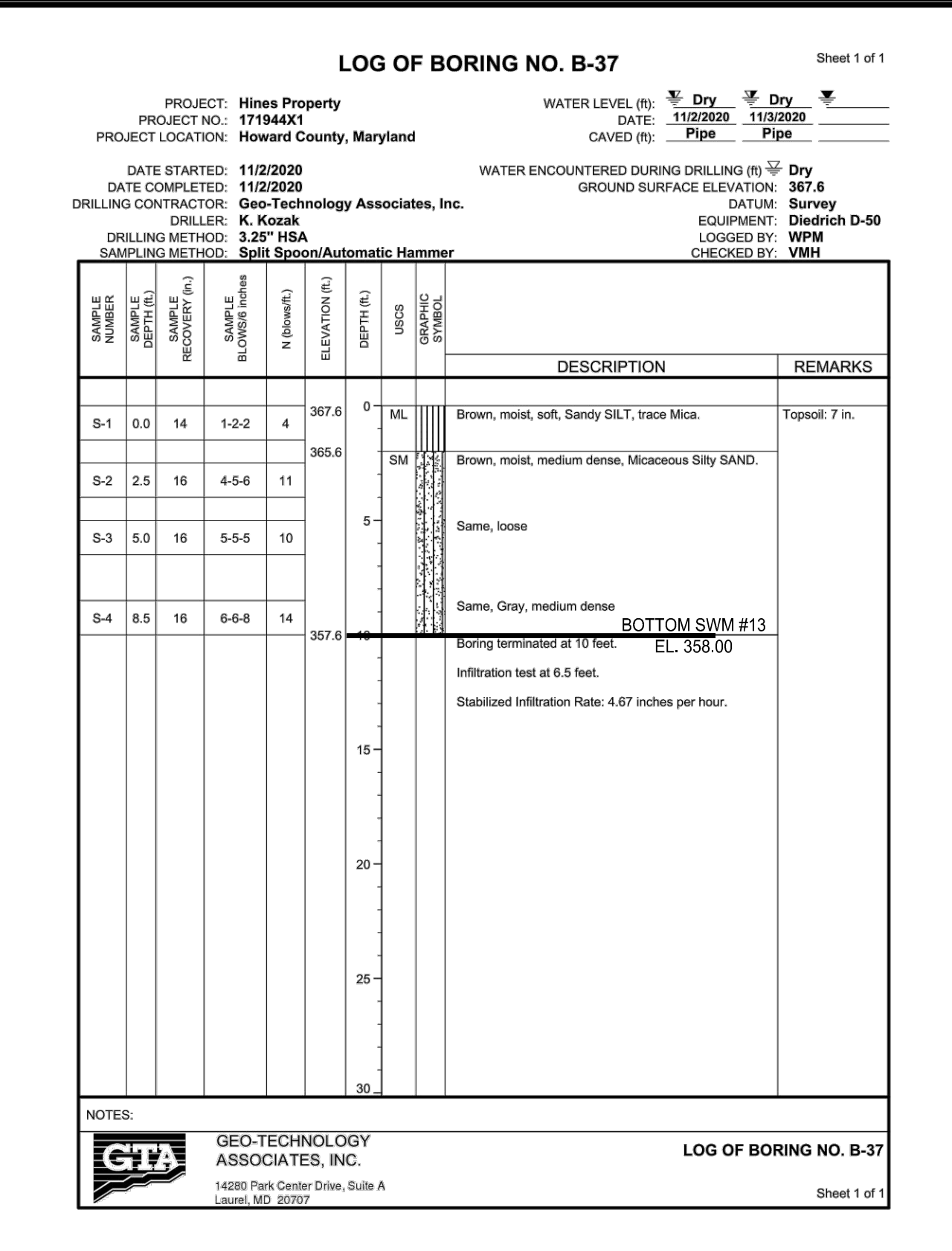
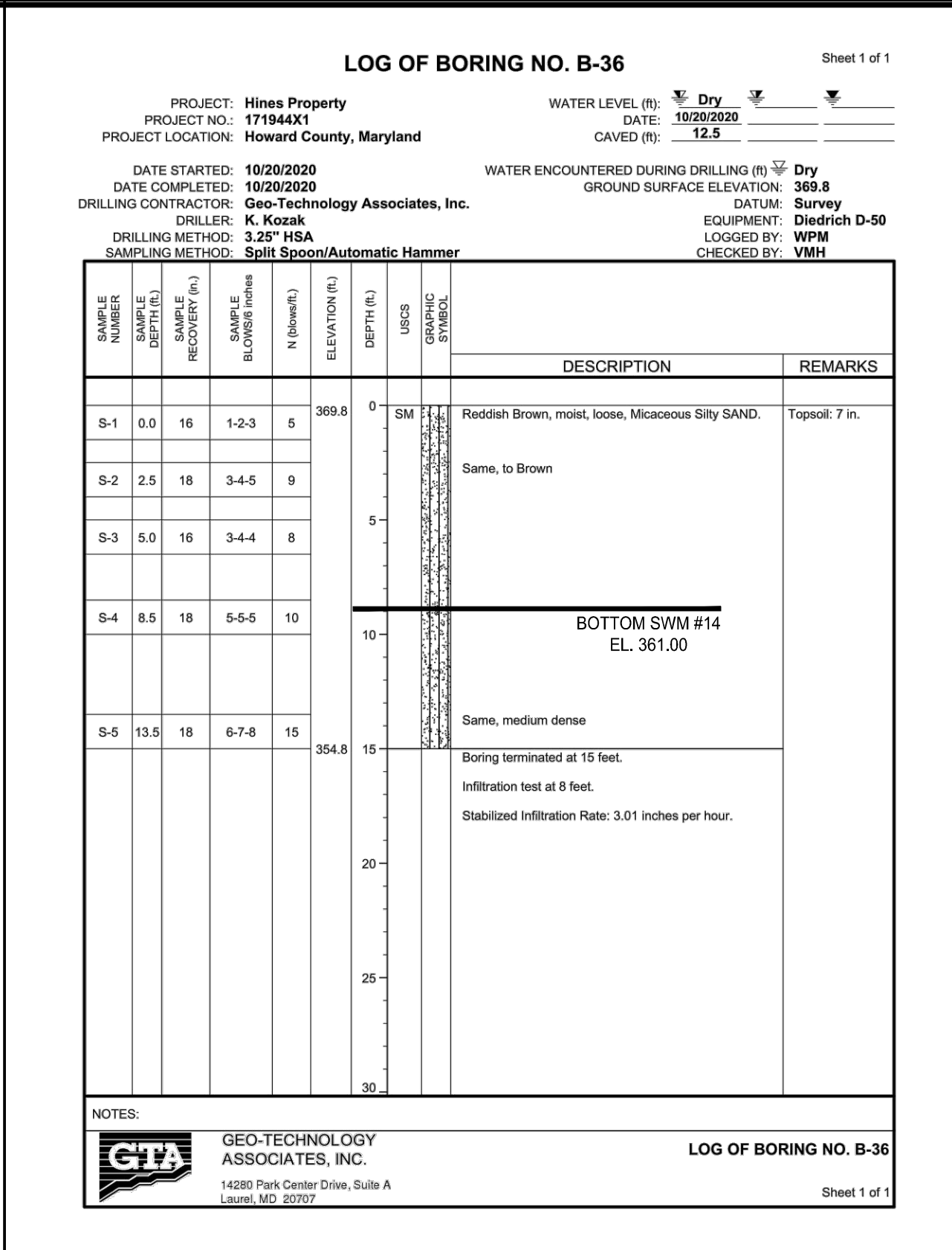
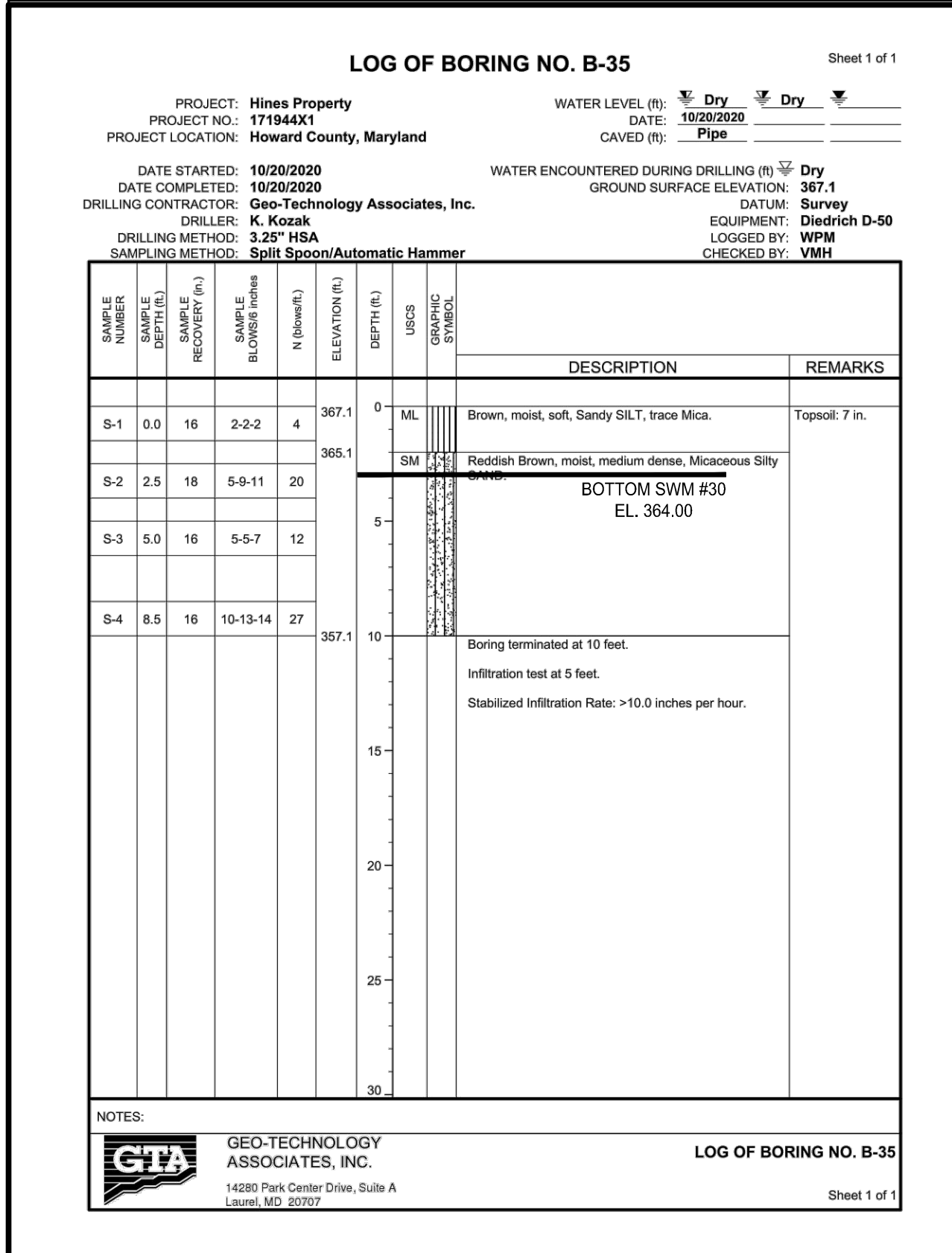
NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-34. 14280 Park Center Drive, Suite A Laurel, MD 20707

APPROVED: DEPARTMENT OF PLANNING AND ZONING. Chief, Development and Engineering Division. Chief, Division of Land Development. Director.

PLAT NOTE: A PLAT OF EASEMENT WAS PREPARED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER: WBG ESM, LLC. ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044 CONTACT: BRUCE HARVEY PHONE: 410-997-8800

MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS. 14280 PARK CENTER DRIVE LAUREL, MD 20707. ENCLAVE AT HINES FARM SITE DEVELOPMENT PLAN PARCEL A SWM BORINGS. SHEET: SDP-35



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

Amy Goman 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT

Amy Goman 10/6/2022
DIRECTOR

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

Amy Goman 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT

Amy Goman 10/6/2022
DIRECTOR

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

Amy Goman 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT

Amy Goman 10/6/2022
DIRECTOR

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

Amy Goman 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT

Amy Goman 10/6/2022
DIRECTOR

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM BORINGS

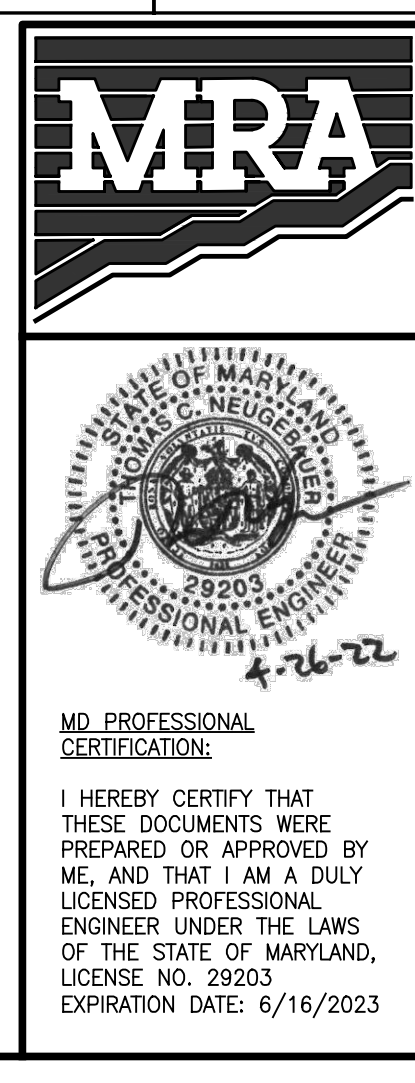
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: AS SHOWN
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 36 OF 49

SDP-21-038

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MD PROFESSIONAL CERTIFICATION:
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 NO. 29203 EXPIRATION DATE: 6/16/2023

LOG OF BORING NO. B-47 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): Dry 18.7
DATE: 10/19/2020
CAVED (ft): Pipe

DATE STARTED: 11/2/2020
DATE COMPLETED: 11/2/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 335.2
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	2-2.2	4	SM	Brown, moist, very loose, Silty SAND, trace Rock Fragments	Topsoil: 7 in.
S-2	2.5	1.8	3-3.6	9	ML	Brown, moist, stiff, Silty SAND, trace Mica BOTTOM SWM #28	
S-3	5.0	1.4	6-6.4	10	SM	Tan to Greenish Brown, loose, Micaceous Silty SAND.	
S-4	8.5	1.6	5-6.6	11	SM	Same, Brown, medium dense BOTTOM SWM #49 EL. 327.00	
Boring terminated at 10 feet. Infiltration test at 5 feet. Stabilized Infiltration Rate: <0.1 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-47
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-48 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): Dry 18.7
DATE: 10/19/2020
CAVED (ft): Pipe

DATE STARTED: 10/19/2020
DATE COMPLETED: 10/19/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 362.8
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	3-4.4	8	SM	Reddish Brown, moist, loose, Silty SAND, trace Mica.	Topsoil: 5 in.
S-2	2.5	1.6	5-7.7	14	SM	Same, medium dense, Micaceous	
S-3	5.0	1.8	4-5.6	10	SM	Same, loose	
S-4	8.5	1.8	11-9.9	18	SM	Same, Brown, medium dense BOTTOM SWM #40 EL. 374.00 BOTTOM SWM #41 EL. 372.00	
S-5	13.5	1.4	7-8-10	18	SM	Same, to Light Brown	
S-6	18.5	1.8	6-7-10	17	SM	Same, to Greenish Brown	
Boring terminated at 20 feet. Infiltration test at 15 feet. Stabilized Infiltration Rate: 3.97 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-48
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-49 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): Dry 18.7
DATE: 11/4/2020
CAVED (ft): Pipe

DATE STARTED: 11/4/2020
DATE COMPLETED: 11/4/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 379.3
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	1-2-2	4	ML	Brown, moist, soft, SILT, trace Mica.	Topsoil: 7 in.
S-2	2.5	1.8	6-8-8	16	SM	Reddish Brown, moist, medium dense, Micaceous Silty SAND, trace Rock Fragments	
S-3	5.0	1.8	5-6-6	14	SM	Same, loose	
S-4	8.5	1.8	5-6-6	11	SM	Same, Gray BOTTOM SWM #42 EL. 370.00 BOTTOM SWM #43 EL. 368.00	
S-5	13.5	1.4	7-12-12	24	SM	Same, Gray to Reddish Brown, no Rock Fragments	
S-6	18.5	1.8	9-7-9	18	SM	Same, Gray	
Boring terminated at 20 feet. Infiltration test at 15.5 feet. Stabilized Infiltration Rate: 2.94 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-49
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-50 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): Dry 16.8
DATE: 11/4/2020
CAVED (ft): Pipe

DATE STARTED: 11/4/2020
DATE COMPLETED: 11/4/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 377.9
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.4	1-1-2	3	ML	Brown, moist, soft, Silty SILT, trace Mica.	Topsoil: 7 in.
S-2	2.5	1.8	4-5-6	11	SM	Reddish Brown, moist, medium dense, Micaceous Silty SAND.	
S-3	5.0	1.6	4-5-5	10	SM	Same, loose	
S-4	8.5	1.8	7-6-7	12	SM	Same, Light Brown, medium dense BOTTOM SWM #44 EL. 366.00	
S-5	13.5	1.4	5-6-6	12	SM	Same, Light Gray	
S-6	18.5	1.8	9-9-13	22	SM	Same, Gray	
Boring terminated at 20 feet. Infiltration test at 15 feet. Stabilized Infiltration Rate: 1.65 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-50
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-51 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): Dry 16.8
DATE: 11/4/2020
CAVED (ft): Pipe

DATE STARTED: 11/4/2020
DATE COMPLETED: 11/4/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 372.8
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.4	1-1-2	3	ML	Brown, moist, soft, Silty SILT, trace Mica.	Topsoil: 7 in.
S-2	2.5	1.8	3-3-4	7	SM	Brown, moist, loose, Micaceous Silty SAND, trace Rock Fragments	
S-3	5.0	1.8	4-4-5	9	SM	Same, no Rock Fragments	
S-4	8.5	1.8	6-6-6	12	SM	Same, medium dense BOTTOM SWM #45 EL. 363.00 BOTTOM SWM #46 EL. 361.00	
S-5	13.5	1.8	9-10-10	20	SM	Same, Gray	
S-6	18.5	1.8	4-5-5	10	SM	Same, loose	
Boring terminated at 20 feet. Infiltration test at 13 feet. Stabilized Infiltration Rate: 2.53 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-51
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-52 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): 11.3
DATE: 10/19/2020
CAVED (ft): 14.4

DATE STARTED: 10/19/2020
DATE COMPLETED: 10/19/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 366.7
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	1-2-2	4	SM	Reddish Brown, moist, very loose, Micaceous Silty SAND, trace Rock Fragments	Topsoil: 6 in.
S-2	2.5	1.6	3-4-4	8	SM	Same, Brown, medium dense, Micaceous BOTTOM SWM #39 EL. 363.00 BOTTOM SWM #38 EL. 362.00	
S-3	5.0	1.6	4-4-5	9	SM	Same, trace Rock Fragments	
S-4	8.5	1.8	12-19-19	38	SM	Same, dense, no Rock Fragments	
S-5	13.5	6	50' 50'	50'	SM	Greenish Gray, dry to moist, very dense, Highly Weathered ROCK.	
Boring terminated at 15 feet. Infiltration test at 9 feet. Stabilized Infiltration Rate: 0.47 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-52
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-53 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): 5.9
DATE: 10/19/2020
CAVED (ft): 6.8

DATE STARTED: 10/19/2020
DATE COMPLETED: 10/19/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): 7.5
GROUND SURFACE ELEVATION: 363.3
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	1-2-2	4	SM	Reddish Brown, moist, very loose, Micaceous Silty SAND.	Topsoil: 7 in.
S-2	2.5	1.8	4-4-4	8	SM	Same, Brown to Greenish Brown, loose BOTTOM SWM #38 EL. 362.00	
S-3	5.0	1.6	5-5-5	10	SM	Same, Dark Gray to Light Brown	
S-4	8.5	1.8	8-9-11	20	SM	Same, medium dense	
Boring terminated at 10 feet.							

NOTES: Infiltration test not performed due to water at requested test elevation. GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-53
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-54 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): 5.5
DATE: 10/19/2020
CAVED (ft): 6.8

DATE STARTED: 10/19/2020
DATE COMPLETED: 10/19/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): 7.5
GROUND SURFACE ELEVATION: 361.0
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	2-2-2	4	SM	Reddish Brown, moist, very loose, Silty SAND, trace SAND. BOTTOM SWM #36 EL. 360.00	Topsoil: 7 in.
S-2	2.5	1.8	2-2-2	4	SM	Same, Brown, Micaceous EL. 360.00	
S-3	5.0	1.8	2-2-3	5	SM	Same, loose	
S-4	8.5	1.6	2-2-3	5	SM	Boring terminated at 10 feet.	

NOTES: Infiltration test not performed due to water at requested test elevation. GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-54
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-55 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): 10.9
DATE: 10/19/2020
CAVED (ft): 10.9

DATE STARTED: 10/19/2020
DATE COMPLETED: 10/19/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: 3.25" HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): 6.5
GROUND SURFACE ELEVATION: 369.3
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	1-1-2	3	SM	Brown, moist, very loose, Silty SAND, trace Mica.	Topsoil: 7 in.
S-2	2.5	1.8	3-4-5	9	ML	Light Brown, moist, stiff, Silty SILT, trace Mica.	
S-3	5.0	1.8	2-3-4	7	SM	Reddish Brown, moist, loose, Silty SAND, trace Mica. BOTTOM SWM #35 EL. 354.00 BOTTOM SWM #34 EL. 353.00	
S-4	8.5	1.6	5-7-7	13	SM	Same, Brown, medium dense, Micaceous	
S-5	13.5	1.8	3-4-5	9	SM	Same, loose	
Boring terminated at 15 feet.							

NOTES: Infiltration test not performed due to water at requested test elevation. GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-55
14200 Park Center Drive, Suite A Laurel, MD 20707

LOG OF BORING NO. B-56 Sheet 1 of 1

PROJECT: Hines Property
PROJECT NO.: 171944X1
PROJECT LOCATION: Howard County, Maryland

WATER LEVEL (ft): Dry
DATE: 11/2/2020
CAVED (ft): 4.5

DATE STARTED: 11/2/2020
DATE COMPLETED: 11/2/2020

DRILLING CONTRACTOR: Geo-Technology Associates, Inc.
DRILLER: K. Kozak
DRILLING METHOD: HSA
SAMPLING METHOD: Split Spoon/Automatic Hammer

WATER ENCOUNTERED DURING DRILLING (ft): Dry
GROUND SURFACE ELEVATION: 365.0
DATUM: Survey
EQUIPMENT: Diedrich D-50
LOGGED BY: WPM
CHECKED BY: VMH

SAMPLE NUMBER	SAMPLE DEPTH (ft)	SAMPLE RECOVERY (ft)	REMARKS	DEPTH (ft)	USCS	DESCRIPTION	REMARKS
S-1	0.0	1.6	1-1-2	3	SM	Brown, moist, very loose, Micaceous Silty SAND.	Topsoil: 6 in.
S-2	2.5	1.8	3-4-4	8	SM	Same, Reddish Brown, loose	
S-3	5.0	1.8	4-4-4	8	SM	Same, Brown	
S-4	8.5	1.8	9-7-8	15	SM	Same, medium dense BOTTOM SWM #32 EL. 356.00 BOTTOM SWM #33 EL. 355.00	
S-5	13.5	4	14-18-18	36	SM	Same, dense	
S-6	18.5	1.8	19-30-50'	50'	SM	Tan to Brown, dry to moist, very dense, Highly Weathered ROCK.	
Boring terminated at 20 feet. Infiltration test at 13 feet. Stabilized Infiltration Rate: 2.59 inches per hour.							

NOTES: GEO-TECHNOLOGY ASSOCIATES, INC. LOG OF BORING NO. B-56
14200 Park Center Drive, Suite A Laurel, MD 20707

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE 10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 10/6/2022

DIRECTOR

DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

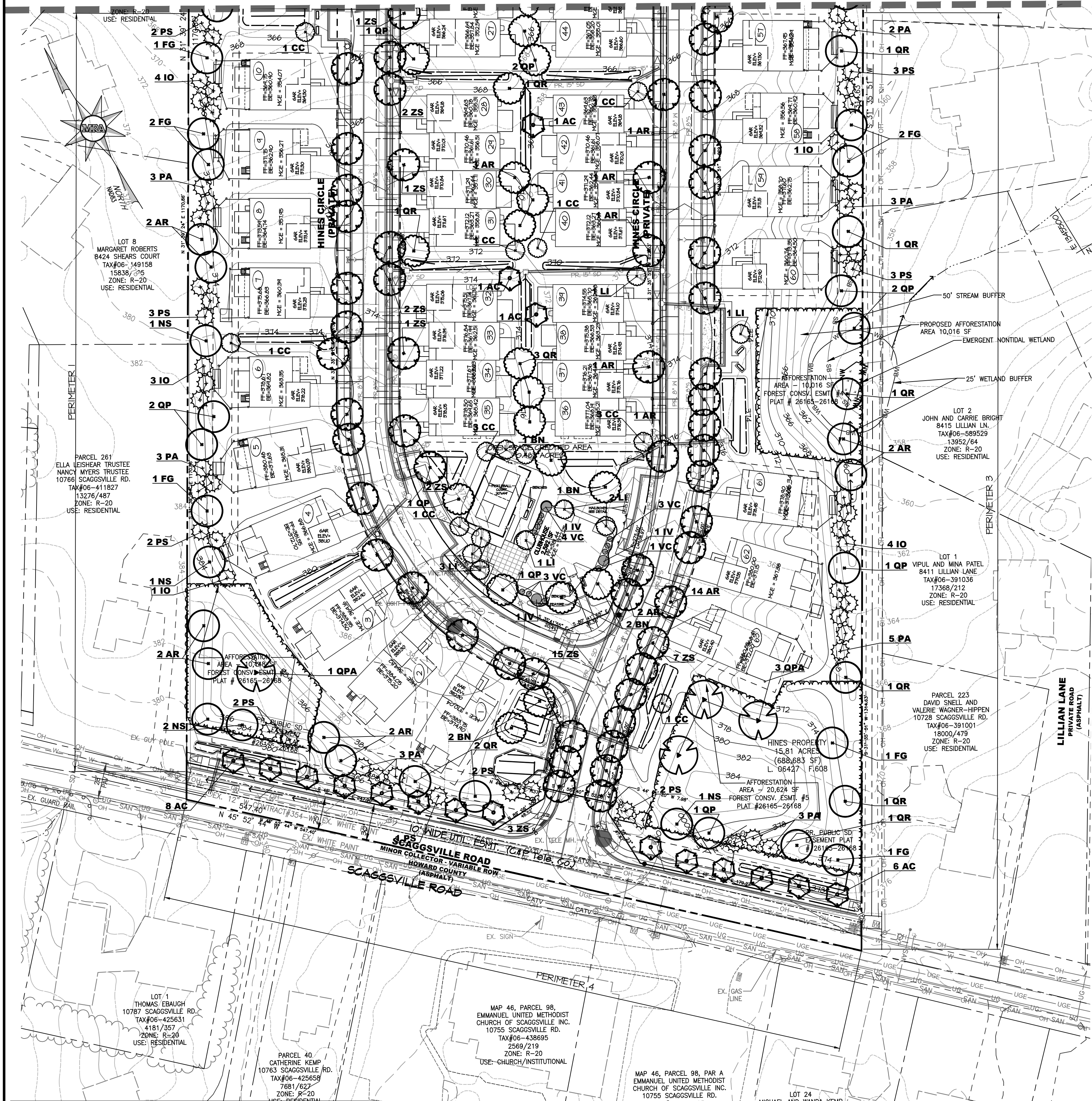
ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM BORINGS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

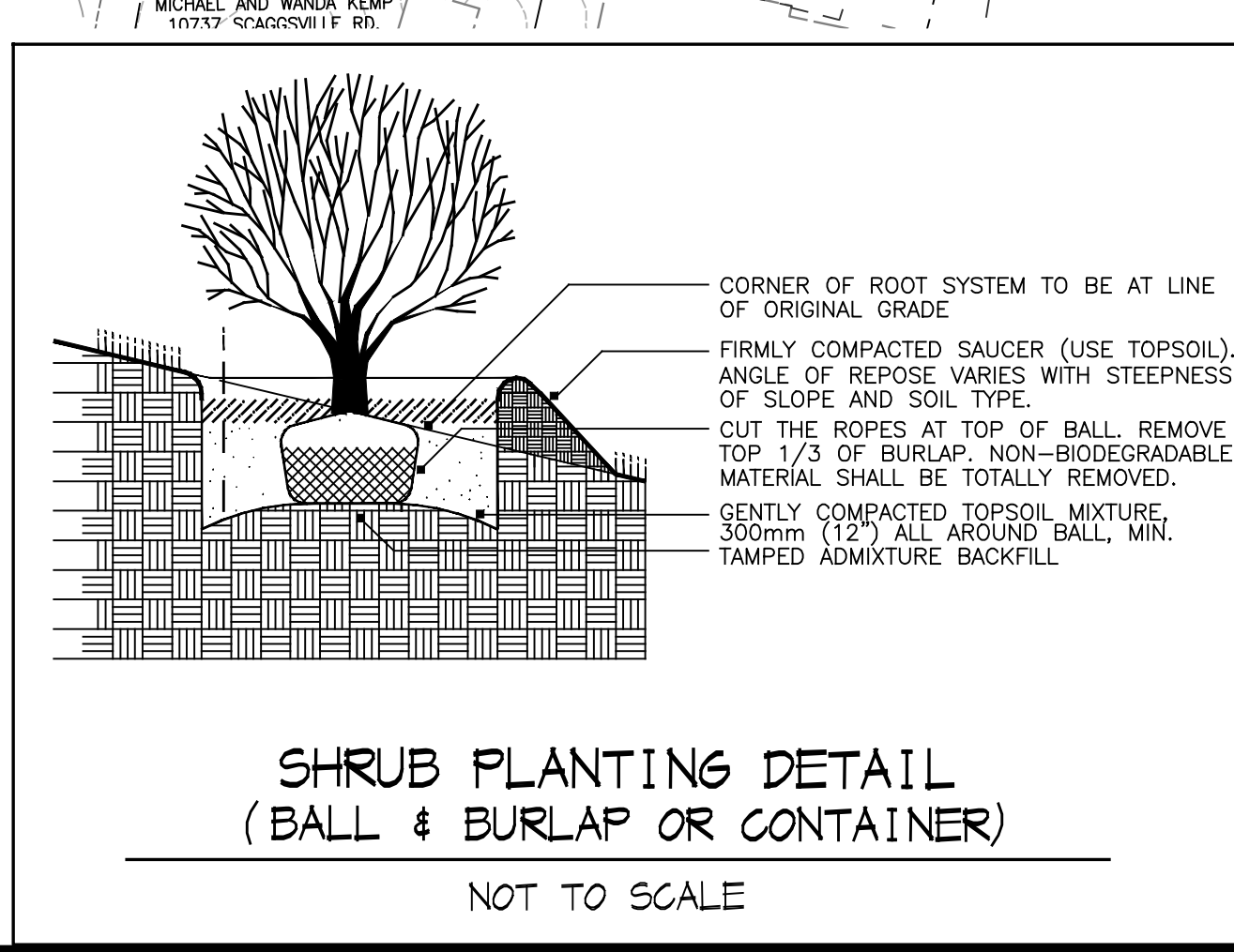
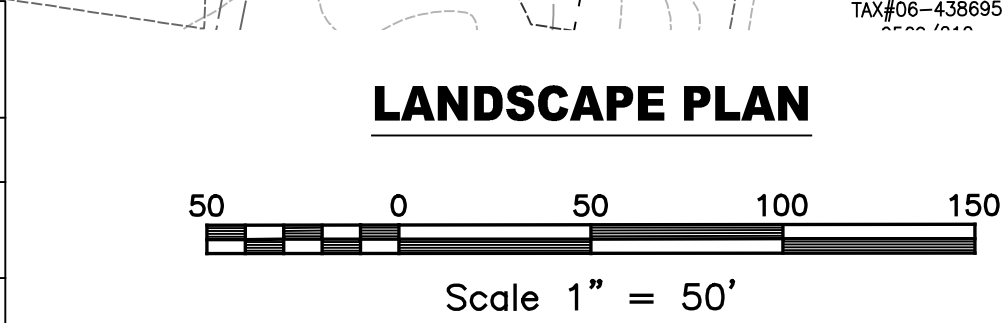
DATE	REVISIONS	JOB NO.:
		19590/04
		SCALE: AS SHOWN
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 37 OF 49

SDP-21-038

SEE MATCHLINE SHEET SDP-39



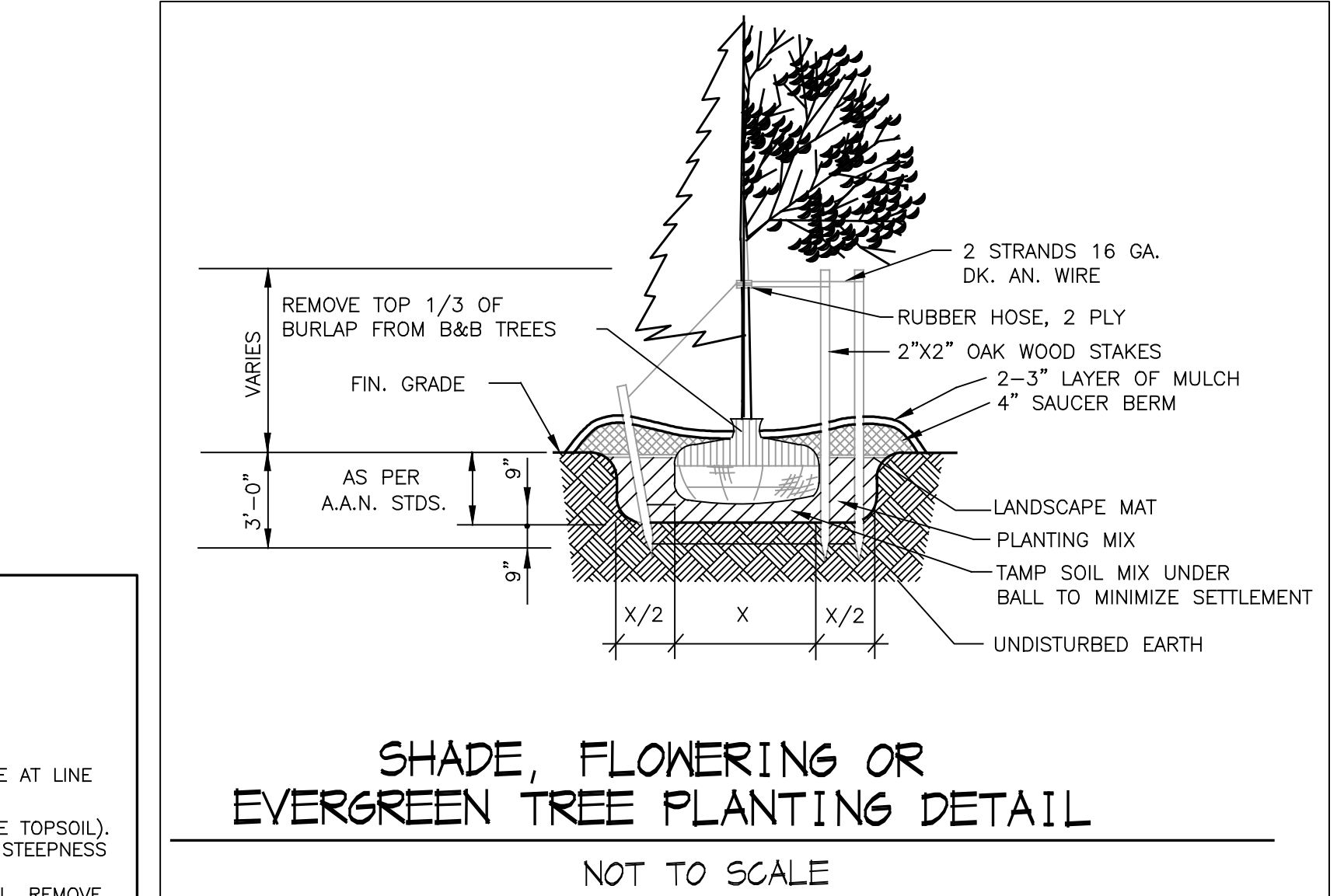
SCHEDULE A RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING SINGLE FAMILY ATTACHED	
NUMBER OF DWELLING UNITS	34 SFD ATTACHED
NUMBER OF TREES REQUIRED (1/2 DU SFA, 1/3 DU APTS)	34 TREES REQUIRED
NUMBER OF TREES PROVIDED* SHADE TREES/MINOR SHADE TREES (AC) EVERGREEN/ORNAMENTAL TREES (2:1 SUBSTITUTION)	24 SHADE TREES 18 ORNAMENTAL = 9 SHADE EQUIV. 33 TOTAL PROVIDED (INCL. EQUIV)
*NOTE: ALL "SCHEDULE A" LANDSCAPING IS PROVIDED WITHIN THE TOWNHOUSE BLOCK AREA. ANY ADDITIONAL LANDSCAPING PROVIDED AROUND THE CLUBHOUSE OR IN THE SINGLE FAMILY AREA THAT IS NOT COUNTED TOWARD BUFFER OR STREET TREE REQUIREMENTS IS SUPPLEMENTAL PLANTING.	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
Chief, Development Engineering Division	DATE
Chief, Division of Land Development	DATE
Director	DATE



STREET TREES	LENGTH(CENTERLINE W/O INTERSECTION 30' PC/PT AND DOUBLED)	TOTAL CL	REQUIRED	PROVIDED
HINES CIRCLE	MADE UP OF 1,659 LF = 42 TREES (829.57' CENTERLINE), 1,710 LF = 43 TREES (854.87' CENTERLINE), AND 579 LF = 15 TREES (289.53' CL)	3,948 LF	100 TREES	94 TREES*

*PER AN EMAIL FROM ANTHONY CATALDO CHIEF DIVISION OF LAND DEVELOPMENT RECEIVED 10-8-2021, WE WERE TO ELIMINATE STREET TREES PLANTED ALONG THE SOUTHWEST SIDE OF THE COMMUNITY CENTER AND ALONG HINES CIRCLE TO MEET DWM REQUIREMENTS.

NOTES: REGULATIONS FOR STREET TREES IS PLANTED A MAXIMUM OF 40 FEET APART AND 30' FROM INTERSECTIONS, 5' FROM INLET, 10' FROM DRIVEWAY, -DUE TO SPACE LIMITATIONS, FRONT-LOADED TOWNHOUSES DRIVEWAYS, AND STORM DRAIN AND SANITARY SEWER HOUSE CONNECTIONS, STREET TREES ARE CLUSTERED AS CLOSE AS 20' ON CENTER AND LOCATED AS CLOSE AS 4' FROM DRIVEWAY APRONS.



SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 1 - WEST SIDE) RESIDENTIAL USE TO RESIDENTIAL USE	
CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1,140'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREE	19 (1:60)
EVERGREEN TREES	0
SHRUBS	0
NUMBER OF PLANTS PROVIDED	
SHADE TREE	19
EVERGREEN TREES (2:1 SUBSTITUTION)	37
OTHER TREES (2:1 SUBSTITUTION)	NONE
SHRUBS (10:1 SUBSTITUTION)	NONE
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 3 - EAST SIDE) RESIDENTIAL USE TO RESIDENTIAL USE	
CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1285'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREE	22 (1:60)
EVERGREEN TREES	0
SHRUBS	0
NUMBER OF PLANTS PROVIDED	
SHADE TREE	22
EVERGREEN TREES (2:1 SUBSTITUTION)	35
OTHER TREES (2:1 SUBSTITUTION)	NONE
SHRUBS (10:1 SUBSTITUTION)	NONE
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 2 - NORTH SIDE) RESIDENTIAL REAR TO PUBLIC STREET (MD ROUTE 216)	
CATEGORY	ADJACENT TO ROADWAY
LANDSCAPE TYPE	B BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	531.84'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED (TYPE B)	
SHADE TREE	11 (1:50)
EVERGREEN TREES	13 (1:40)
SHRUBS	0
NUMBER OF PLANTS PROVIDED (TYPE A)	
SHADE TREE	11
EVERGREEN TREES (2:1 SUBSTITUTION)	13
OTHER TREES (2:1 SUBSTITUTION)	0
SHRUBS (10:1 SUBSTITUTION)	0
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 4 - SOUTH SIDE) RESIDENTIAL REAR TO PUBLIC STREET (SCAGGSVILLE ROAD)	
CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	B BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER (MINUS ROAD DEDICATION)	497'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREE	10 (1:50)
EVERGREEN TREES	13 (1:40)
SHRUBS	0
NUMBER OF PLANTS PROVIDED	
SHADE TREE	10
EVERGREEN TREES	13
OTHER TREES (2:1 SUBSTITUTION)	NONE
SHRUBS (10:1 SUBSTITUTION)	NONE
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- ERODIBLE SOILS TO BE EXPOSED DURING GRADING OPERATIONS
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOUNT 30 FT BRONZE FIBERGLASS POLE USING A
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FEATURE
- PR. MAILBOXES
- PR. HANDICAP PARKING
- PR. PARKING SPACE COUNT
- PR. REVERSE CURB & GUTTER
- PR. STANDARD CURB & GUTTER
- PR. DEPRESSION CURB & GUTTER
- PR. UNIT ADDRESS
- PR. CURB TRANSITION (MODIFIED CURB TO STANDARD CURB)
- PR. PRIVATE RIGHT OF WAY
- PR. RETAINING WALL

LANDSCAPE LEGEND

- PR. STREET TREE SHADE TREE
- PR. STREET TREE/MINOR SHADE TREE (SCAGGSVILLE UNDER UTIL. LINE AND TOWNHOUSE SCHEDULE A PLANTINGS)
- PR. BUFFER SHADE TREE
- PR. BUFFER EVERGREEN TREE
- PR. BUFFER MINOR DECIDUOUS/ORNAMENTAL TREE
- PR. INTERNAL SHADE TREE
- PR. INTERNAL MINOR DECIDUOUS/ORNAMENTAL TREE
- PR. FOUNDATION/SWM SHRUB
- PR. GRASSES/PERENNIALS
- PR. SPECIMEN TREE REPLACEMENT PLANTING 3" DBH (DIAMETER BREAST HEIGHT) PIN OAK PER FOREST CONSERVATION PLAN

LANDSCAPE BUFFER

THE 20' REAR LANDSCAPE BUFFER ALONG THE PERIMETER IS REQUIRED AS PART OF THE APPROVAL OF THE AGE-RESTRICTED CONDITIONAL USE.

LANDSCAPE FINANCIAL SURETY

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$85,740.00 IS PART OF THE BUILDERS DPW DEVELOPER'S AGREEMENT FOR 218 SHADE TREES, 98 EVERGREEN TREES, 35 ORNAMENTAL TREES, AND 13 SHRUBS.

SHEET: SDP-38

MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MIRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM

SITE DEVELOPMENT PLAN
PARCEL A
LANDSCAPE PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		1959004
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 38 OF 49

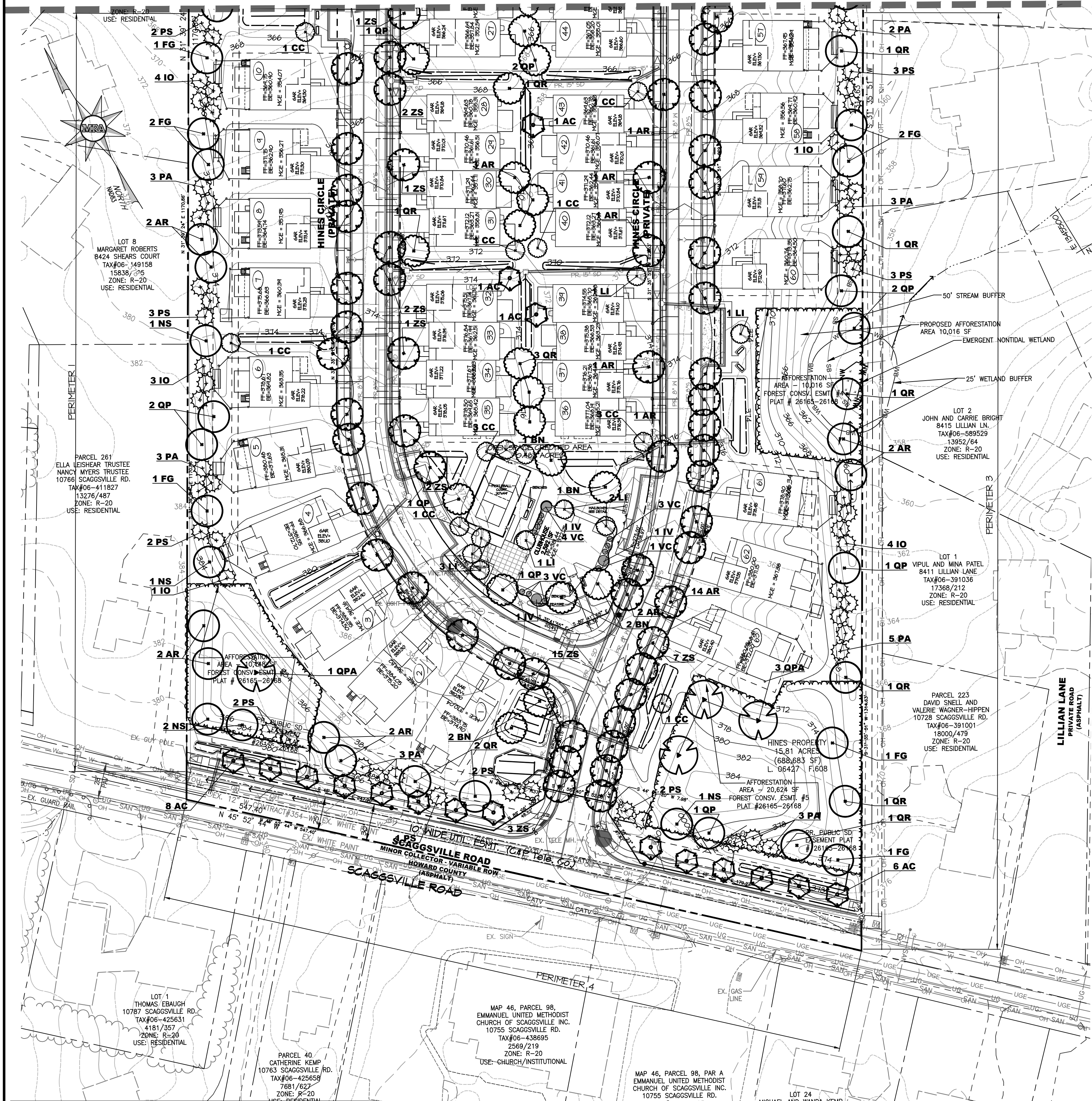
APPLICANT / OWNER / DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

MD PROFESSIONAL CERTIFICATION:
MICHAEL A. MITCHELL, RLA
LICENSE NO. 3111
EXPIRATION DATE: 11/21/23

SEE MATCHLINE SHEET SDP-39



SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 1 - WEST SIDE) RESIDENTIAL USE TO RESIDENTIAL USE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1,140'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREE	19 (1:60)
EVERGREEN TREES	0
SHRUBS	0
NUMBER OF PLANTS PROVIDED	
SHADE TREE	19
EVERGREEN TREES (2:1 SUBSTITUTION)	37
OTHER TREES (2:1 SUBSTITUTION)	NONE
SHRUBS (10:1 SUBSTITUTION)	NONE
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 2 - NORTH SIDE) RESIDENTIAL REAR TO PUBLIC STREET (MD ROUTE 216)

CATEGORY	ADJACENT TO ROADWAY
LANDSCAPE TYPE	B BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	531.84'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED (TYPE B)	
SHADE TREE	11 (1:50)
EVERGREEN TREES	13 (1:40)
SHRUBS	0
NUMBER OF PLANTS PROVIDED (TYPE A)	
SHADE TREE	11
EVERGREEN TREES (2:1 SUBSTITUTION)	13
OTHER TREES (2:1 SUBSTITUTION)	0
SHRUBS (10:1 SUBSTITUTION)	0
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 3 - EAST SIDE) RESIDENTIAL USE TO RESIDENTIAL USE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	A BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	1285'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREE	22 (1:60)
EVERGREEN TREES	0
SHRUBS	0
NUMBER OF PLANTS PROVIDED	
SHADE TREE	22
EVERGREEN TREES (2:1 SUBSTITUTION)	35
OTHER TREES (2:1 SUBSTITUTION)	NONE
SHRUBS (10:1 SUBSTITUTION)	NONE
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

SCHEDULE A PERIMETER LANDSCAPE EDGE (PERIMETER 4 - SOUTH SIDE) RESIDENTIAL REAR TO PUBLIC STREET (SCAGGSVILLE ROAD)

CATEGORY	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE	B BUFFER
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER (MINUS ROAD DEDICATION)	497'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO
NUMBER OF PLANTS REQUIRED	
SHADE TREE	10 (1:50)
EVERGREEN TREES	13 (1:40)
SHRUBS	0
NUMBER OF PLANTS PROVIDED	
SHADE TREE	10
EVERGREEN TREES	13
OTHER TREES (2:1 SUBSTITUTION)	NONE
SHRUBS (10:1 SUBSTITUTION)	NONE
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- ERODIBLE SOILS TO BE EXPOSED DURING GRADING OPERATIONS
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOUNT 30 FT BRONZE FIBERGLASS POLE USING A
- PR. TREE LINE
- PR. DECORATIVE FENCE/ENTRY FEATURE
- PR. MAILBOXES
- PR. HANDICAP PARKING
- PR. PARKING SPACE COUNT
- PR. REVERSE CURB & GUTTER
- PR. STANDARD CURB & GUTTER
- PR. DEPRESSION CURB & GUTTER
- PR. UNIT ADDRESS
- PR. CURB TRANSITION (MODIFIED CURB TO STANDARD CURB)
- PR. PRIVATE RIGHT OF WAY
- PR. RETAINING WALL

STREET TREES

LENGTH(CENTERLINE W/O INTERSECTION 30' PC/PT AND DOUBLED)	TOTAL CL	REQUIRED	PROVIDED
HINES CIRCLE MADE UP OF 1,659 LF = 42 TREES (829.57' CENTERLINE), 1,710 LF = 43 TREES (854.87' CENTERLINE), AND 579 LF = 15 TREES (289.53' CL)	3,948 LF	100 TREES	94 TREES*

*PER AN EMAIL FROM ANTHONY CATALDO CHIEF DIVISION OF LAND DEVELOPMENT RECEIVED 10-8-2021, WE WERE TO ELIMINATE STREET TREES PLANTED ALONG THE SOUTHWEST SIDE OF THE COMMUNITY CENTER AND ALONG HINES CIRCLE TO MEET DWM REQUIREMENTS.

NOTES: REGULATIONS FOR STREET TREES IS PLANTED A MAXIMUM OF 40 FEET APART AND 30' FROM INTERSECTIONS, 5' FROM INLET, 10' FROM DRIVEWAY, -DUE TO SPACE LIMITATIONS, FRONT-LOADED TOWNHOUSES' DRIVEWAYS, AND STORM DRAIN AND SANITARY SEWER HOUSE CONNECTIONS, STREET TREES ARE CLUSTERED AS CLOSE AS 20' ON CENTER AND LOCATED AS CLOSE AS 4' FROM DRIVEWAY APRONS.

LANDSCAPE LEGEND

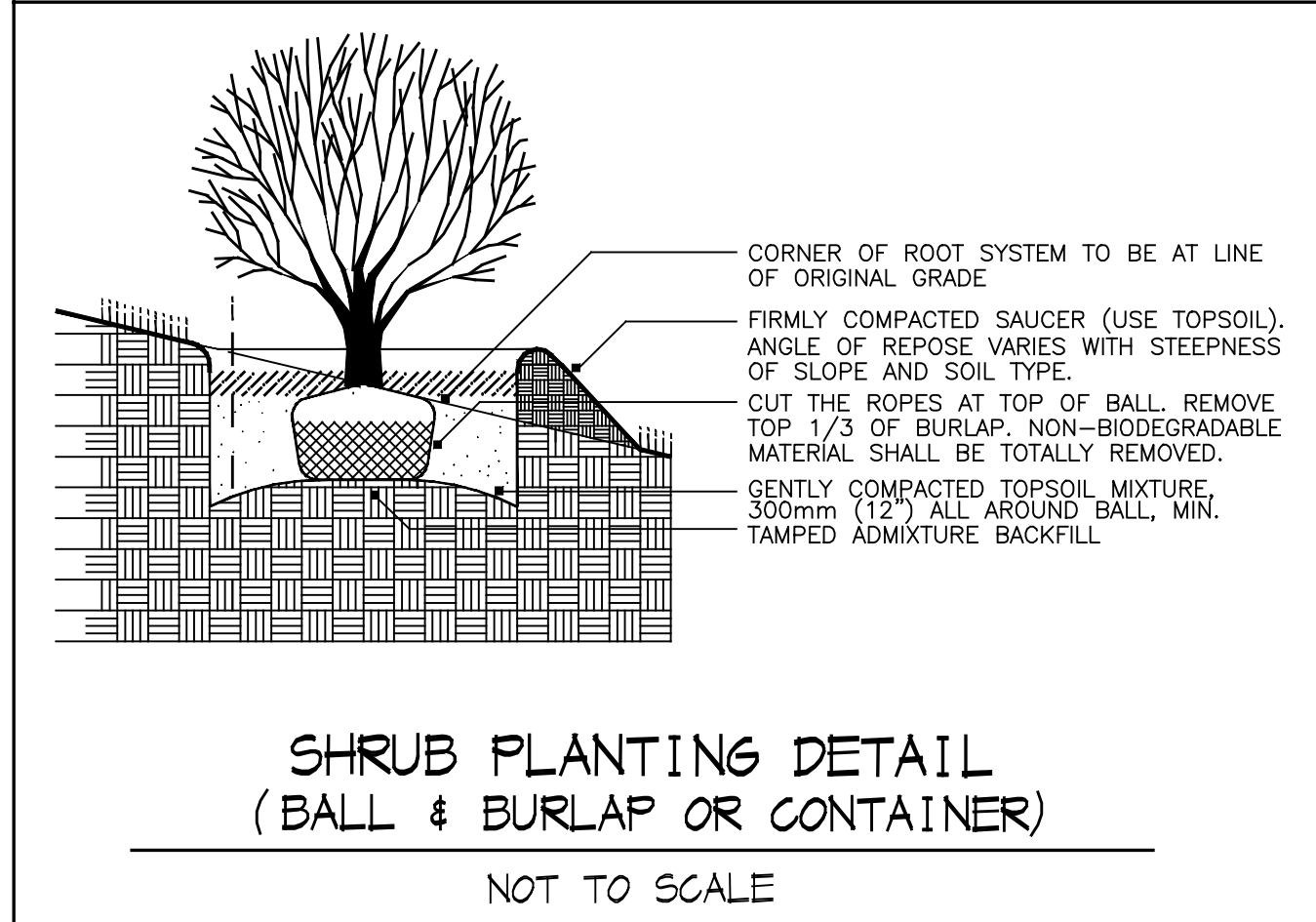
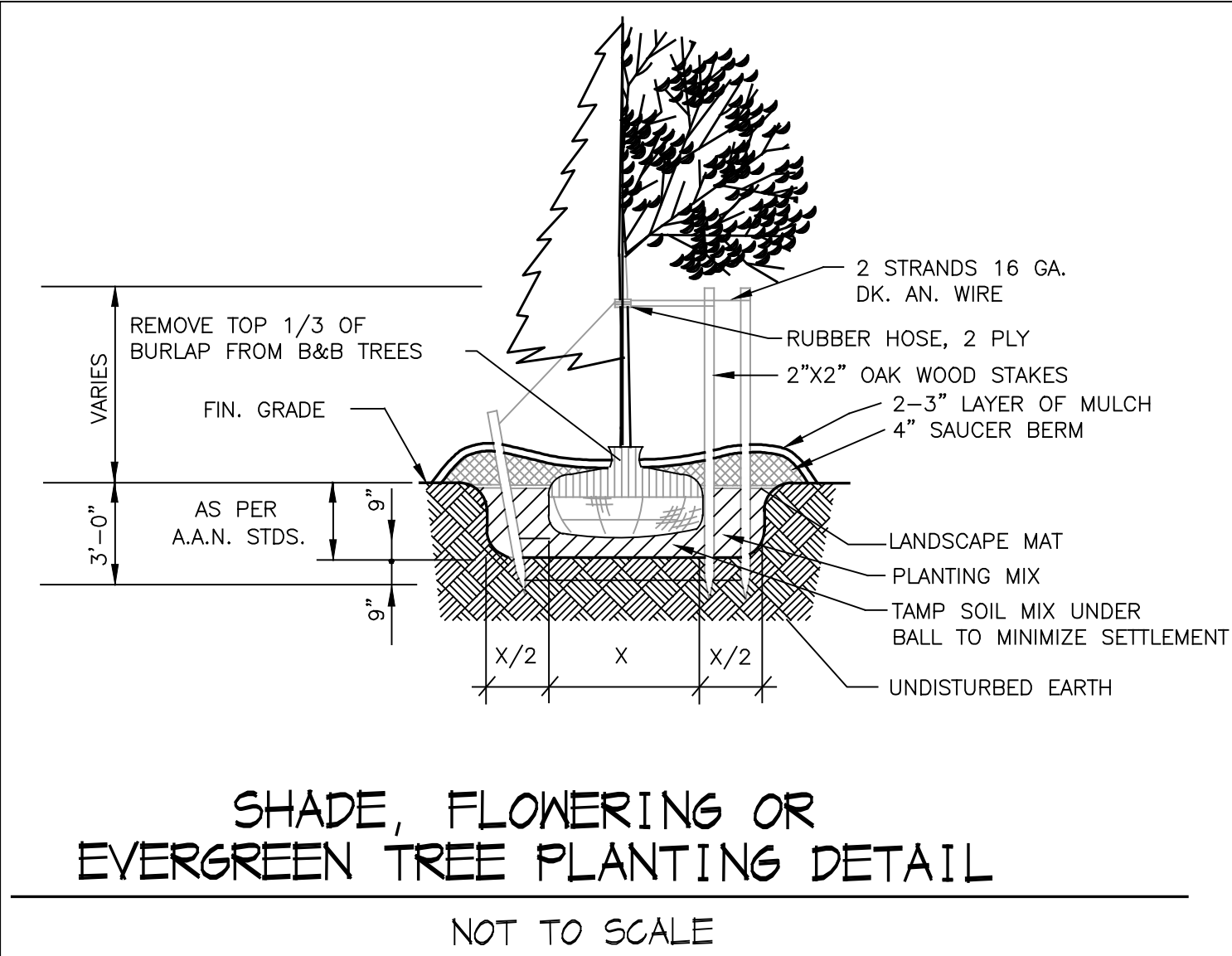
- PR. STREET TREE SHADE TREE
- PR. STREET TREE/SHRUB SHADE TREE (SCAGGSVILLE UNDER UTIL. LINE AND TOWNHOUSE SCHEDULE A PLANTINGS)
- PR. BUFFER SHADE TREE
- PR. BUFFER EVERGREEN TREE
- PR. BUFFER MINOR DECIDUOUS/ORNAMENTAL TREE
- PR. INTERNAL SHADE TREE
- PR. INTERNAL MINOR DECIDUOUS/ORNAMENTAL TREE
- PR. FOUNDATION/SWM SHRUB
- PR. GRASSES/PERENNIALS
- PR. SPECIMEN TREE REPLACEMENT PLANTING 3" DBH (DIAMETER BREAST HEIGHT) PIN OAK PER FOREST CONSERVATION PLAN

LANDSCAPE BUFFER

THE 20' REAR LANDSCAPE BUFFER ALONG THE PERIMETER IS REQUIRED AS PART OF THE APPROVAL OF THE AGE-RESTRICTED CONDITIONAL USE.

LANDSCAPE FINANCIAL SURETY

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$85,740.00 IS PART OF THE BUILDERS DPW DEVELOPER'S AGREEMENT FOR 218 SHADE TREES, 98 EVERGREEN TREES, 35 ORNAMENTAL TREES, AND 13 SHRUBS.



SCHEDULE A RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING SINGLE FAMILY ATTACHED

NUMBER OF DWELLING UNITS	34 SFD ATTACHED
NUMBER OF TREES REQUIRED (1/2 DU SFA, 1/3 DU APTS)	34 TREES REQUIRED
NUMBER OF TREES PROVIDED* SHADE TREES/MINOR SHADE TREES (AC) EVERGREEN/ORNAMENTAL TREES (2:1 SUBSTITUTION)	24 SHADE TREES 18 ORNAMENTAL = 9 SHADE EQUIV. 33 TOTAL PROVIDED (INCL EQUIV)

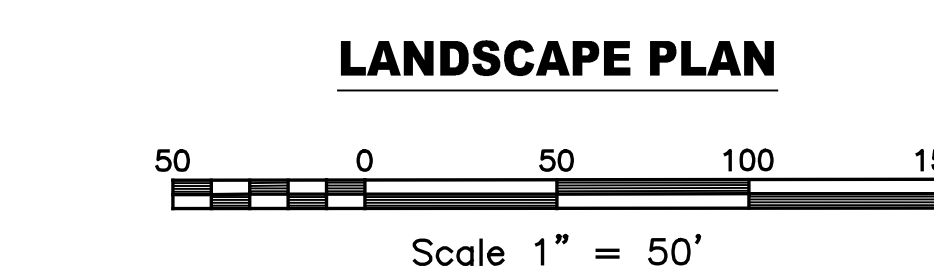
*NOTE: ALL "SCHEDULE A" LANDSCAPING IS PROVIDED WITHIN THE TOWNHOUSE BLOCK AREA. ANY ADDITIONAL LANDSCAPING PROVIDED AROUND THE CLUBHOUSE OR IN THE SINGLE FAMILY AREA THAT IS NOT COUNTED TOWARD BUFFER OR STREET TREE REQUIREMENTS IS SUPPLEMENTAL PLANTING.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: Chad Edmondson, 10/5/2022

Chief, Division of Land Development: Amy Goman, 10/6/2022

Director: [Signature], 10/6/2022



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MIRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
LANDSCAPE PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

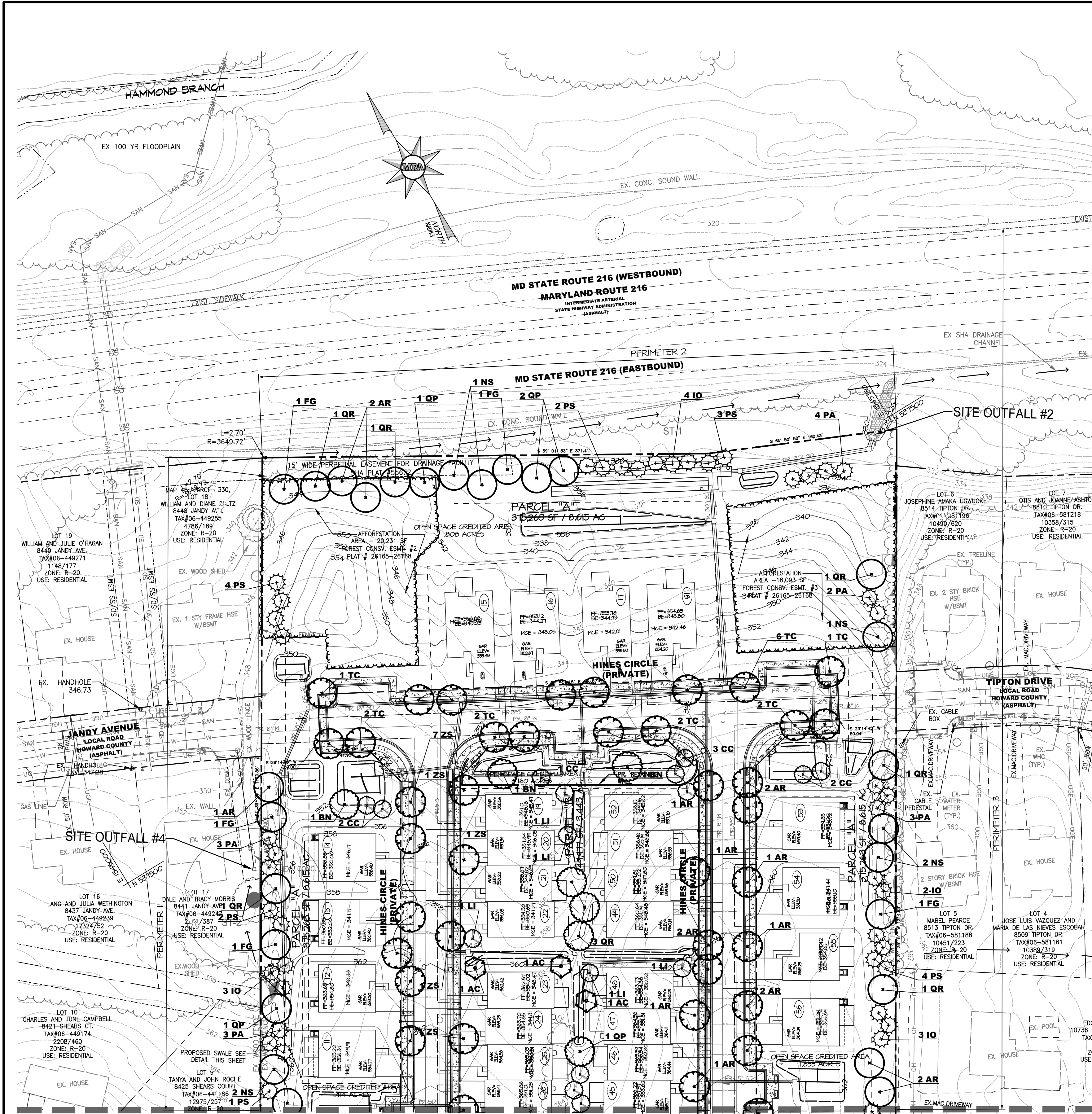
DATE	REVISIONS	JOB NO.:
		19590u04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 38 OF 49

APPLICANT / OWNER / DEVELOPER:
WBC ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

MD PROFESSIONAL CERTIFICATION:
MICHAEL A. MITCHELL, RLA
LICENSE NO. 3111
EXPIRATION DATE: 11/21/23

SDP-21-038



LANDSCAPE NOTES

- CONTRACTOR SHALL CONTACT 'MISS UTILITY' & SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT PRIOR TO INSTALLATION.
- TREES SHALL BE LOCATED A MINIMUM OF 5' FROM SEWER/WATER CONNECTIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC AND PRIVATE UTILITIES, WATER AND SEWER LINES.
- CONTRACTOR SHALL SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE.
- ALL TREE PITS ARE TO BE COMPLETELY EXCAVATED IN ACCORDANCE WITH THE PLANTING DETAILS.
- CONTRACTOR MUST CONTACT THE OWNER AT LEAST TEN WORKING DAYS IN ADVANCE TO SCHEDULE ACCEPTANCE (INSPECTION). CONTRACTOR MUST REPLACE ALL DEAD & UNACCEPTABLE PLANTINGS DURING THE FOLLOWING RECOMMENDED PLANTING SEASON.
- TREES SHALL BE PLANTED DURING ACCEPTABLE PLANTING SEASONS - BETWEEN MARCH 15 AND MAY 15 AND BETWEEN AUGUST 15 AND NOVEMBER 15 OR AS APPROVED BY OWNERS' REPRESENTATIVE.
- QUANTITIES SHOWN ON THE PLANT LIST ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY AND ARE NOT GUARANTEED TO BE ACCURATE. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN IN THE PLANT LIST, THE QUANTITIES SHOWN ON THE PLAN SHALL APPLY.

LEGEND

- EX. PROPERTY LINE
- EX. RIGHT-OF-WAY
- EX. ADJACENT PROPERTY LINE
- EX. EASEMENT
- EX. NON-TIDAL WETLAND
- EX. WETLAND BUFFER
- EX. NON-TIDAL WETLAND
- EX. BUILDING
- EX. CURB
- EX. PAVEMENT/EDGE OF GUTTER
- EX. WALK
- EX. WALL
- EX. CONCRETE
- EX. METAL FENCE
- EX. WOOD FENCE
- EX. GUARDRAIL
- EX. STREAM/POND
- EX. TREELINE
- EX. SPECIMEN TREE
- EX. SHRUB
- EX. STORM DRAIN
- EX. SANITARY LINE
- EX. WATERLINE
- EX. GAS LINE
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND CABLE TELEVISION
- EX. OVERHEAD ELECTRIC
- EX. OVERHEAD TELEPHONE
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER METER
- EX. POWER POLE
- EX. LIGHT POLE
- ERODIBLE SOILS TO BE EXPOSED DURING GRADING OPERATIONS
- PR. RIGHT OF WAY
- PR. LOT LINE/PARCEL LINE
- PR. EASEMENT
- PR. OPEN SPACE EASEMENT
- PR. BUILDING
- PR. CURB & GUTTER
- PR. ROAD CENTER LINE
- PR. CONC SIDEWALK
- PR. HANDICAP RAMP
- PR. UNIT NUMBER
- PR. CURB RADIUS
- PR. STREET LIGHT (LED-100 COLONIAL)
- PR. STREET LIGHT (LED-150 COLONIAL)
- PR. LED-150 COBRAHEAD FIXTURE MOUNT 30 FT BRONZE FIBERGLASS POLE USING A TREE LINE
- PR. DECORATIVE FENCE/ENTRY FEATURE
- PR. MAILBOXES
- PR. HANDICAP PARKING

PLANT QUALITY ASSURANCE:

- ALL PLANT MATERIAL AND ROOT BALLS SHALL CONFORM TO THE STANDARDS OF NURSERY STOCK AND THE AMERICAN ASSOCIATION OF NURSERYMEN, CURRENT EDITION.
- TREES SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED, DENSELY FOLIATED BRANCHES, AND VIGOROUS, FIBROUS ROOT SYSTEMS.
- TREES SHALL BE FRESHLY DUG AND NURSERY GROWN. THEY SHALL HAVE BEEN GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT OR PROPERLY ACCLIMATED TO CONDITIONS OF THE LOCALITY OF THE PROJECT.
- ALL PLANT MATERIAL SHALL BE FREE FROM DEFECTS AND INJURIES AND CERTIFIED BY APPROPRIATE FEDERAL AND STATE AUTHORITIES TO BE FREE OF DISEASE AND INSECT.
- ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN HEALTHY GROWING CONDITIONS.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) FULL YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION AGAINST DEFECTS, UNSATISFACTORY GROWTH, DISEASE OR DEATH. UNSATISFACTORY, UNHEALTHY, DYING OR DEAD PLANT MATERIAL (IN THE OPINION OF THE LANDSCAPE ARCHITECT) SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES.
- IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO ADEQUATELY AND PROPERLY MAINTAIN THE LANDSCAPED AREAS, WHICH SHALL INCLUDE WATERING, CLEANING OF WEEDS AND DEBRIS, PRUNING AND TRIMMING, REPLACEMENT OF DEAD OR DISEASED PLANTINGS AND FERTILIZING TO MAINTAIN HEALTHY GROWTH.

WOODLAND CONSERVATION NOTE

PROPOSED AFFORESTATION AREAS (TOTALING 1.8 ACRES OR 75% OF TOTAL OBLIGATION REQUIRED ON SITE) SHOWN FOR INFORMATIONAL PURPOSES, SEE FOREST CONSERVATION PLAN FOR PLANTING AND DETAILS. AFFORESTATION AREAS SHOWN AS SUPPLEMENTAL TO REQUIRED LANDSCAPE BUFFERS.

THE REMAINING 0.50 AC./21,780 SF FOREST CONSERVATION BALANCE REQUIRED FOR SDP-21-038 SHALL BE ADDRESSED WITH A 2:1 OFFSITE PURCHASE, PER SECTION 3.4.3 RETENTION MITIGATION BANKS AND OFF-SITE RETENTION OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL DATED FEBRUARY 3, 2022. ONE ACRE HAS BEEN SET ASIDE THROUGH A REDLINE OF F-17-077, THE ESTATES AT SHOOLEY MILL RETENTION BANK.

LANDSCAPE PLANT LIST (FOR WETLAND PLANTING SEE SEPARATE DETAILS)

KEY	BOTANICAL NAME COMMON NAME	SIZE	ROOT	SPACING / NOTES	QUANTITY
SHADE TREES					
AC	<i>Acer campestre</i> Hedge Maple	1-1/2" - 2" cal.	B & B	30' on center min. for Street Tree use under BGE line and TH constrained planting areas	21
AR	<i>Acer rubrum 'October Glory'</i> October Glory Red Maple	2-1/2"-3" Cal.	B & B	As shown, 20' on center min. Street Tree and General Use	49
BN	<i>Betula nigra</i> River Birch	10' to 12' Height	B & B	As shown	9
FG	<i>Fagus grandifolia</i> American Beech	2-1/2"-3" Cal.	B & B	As shown	13
NS	<i>Nyssa sylvatica</i> Black Gum	2-1/2"-3" Cal.	B & B	As shown	12
QP	<i>Quercus phellos</i> Willow Oak	2-1/2"-3" Cal.	B & B	As shown	16
QR	<i>Quercus rubra</i> Red Oak	2-1/2"-3" Cal.	B & B	As shown	22
TC	<i>Tilia cordata 'Greenspire'</i> Greenspire Littleleaf Linden	2-1/2"-3" Cal.	B & B	As shown Street Tree	16
ZS	<i>Zelkova serrata</i> Japanese Zelkova	2-1/2"-3" Cal.	B & B	As shown, 20' on center min. Street Tree use only	45
	TOTAL SHADE TREES				203
ORNAMENTAL TREES					
CC	<i>Cercis canadensis</i> Eastern Redbud	1-1/2"-2" Cal.	B & B	As shown	19
LI	<i>Lagerstroemia indica 'Natchez'</i> Natchez Crape Myrtle	6'-8" Tall	B & B	As shown	16
	TOTAL ORNAMENTAL TREES				35
EVERGREEN TREES					
IO	<i>Ilex opaca</i> American Holly	6'-8" Tall	B & B	Space as shown, plant a mix of male and female trees	25
PA	<i>Prinos alba</i> Norway Spruce	6'-8" Tall	B & B	As shown	37
PS	<i>Pinus strobus</i> White Pine	6'-8" Tall	B & B	As shown	36
	TOTAL EVERGREEN TREES				98
SHRUBS					
IV	<i>Ilex verticillata</i> Common Winterberry	3'-4" Tall	Container	As shown	3
VC	<i>Viburnum carlesii</i> Koreanopis Viburnum	2-1/2"-3" Tall	Container	As shown	11
	TOTAL SHRUBS				14

KEY	BOTANICAL NAME COMMON NAME	SIZE	ROOT	SPACING / NOTES	QUANTITY
QPA	<i>Quercus palustris</i> Pin Oak	3" Caliper (at breast height)	B & B	As shown	4

PLANT NOTE: A PLANT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

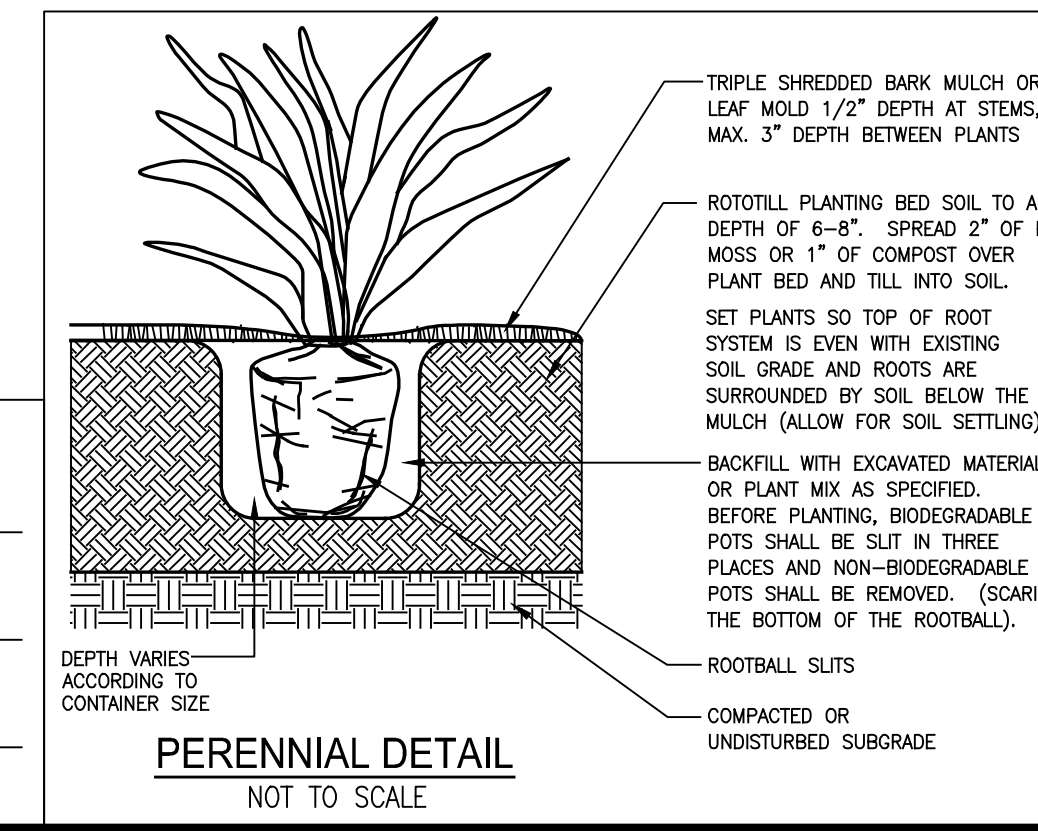
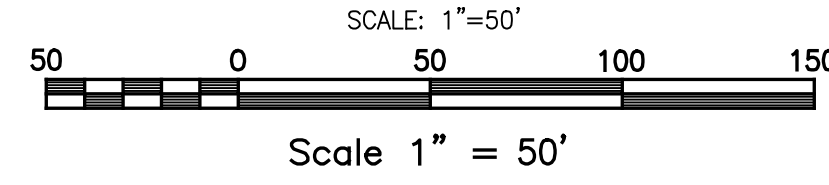
NOTES:
-FOR ALL OTHER PROPOSED SITE LANDSCAPING AND PLANTING DETAILS, SEE LANDSCAPE PLAN.
-THIS TABLE IS A DUPLICATE TO SUMMARIZE PLANTING PROPOSED TO MEET FOREST CONSERVATION PLAN REQUIREMENTS FOR SPECIMEN TREE REPLACEMENT.
-NO CHANGE TO PIN OAK SPECIES IS PERMITTED WITHOUT PRIOR APPROVAL FROM DPZ.

APPLICANT / OWNER / DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

SEE MATCHLINE SHEET SDP-38

STORM DRAIN PLAN



PERENNIAL DETAIL
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

LANDSCAPE LEGEND

- PR. STREET TREE SHADE TREE
- PR. STREET TREE/ MINOR SHADE TREE (SCAGGSVILLE UNDER UTIL. LINE AND TOWNHOUSE SCHEDULE A PLANTINGS)
- PR. BUFFER SHADE TREE
- PR. BUFFER EVERGREEN TREE
- PR. BUFFER MINOR DECIDUOUS/ORNAMENTAL TREE
- PR. INTERNAL SHADE TREE
- PR. INTERNAL MINOR DECIDUOUS/ORNAMENTAL TREE
- PR. FOUNDATION/SWM SHRUB
- PR. GRASSES/PERENNIALS
- PR. SPECIMEN TREE REPLACEMENT PLANTING 3" DBH (DIAMETER BREAST HEIGHT) PIN OAK PER FOREST CONSERVATION PLAN

LANDSCAPE BUFFER
THE 20' REAR LANDSCAPE BUFFER SHOWN ALONG THE PERIMETER IS REQUIRED AS PART OF THE APPROVAL OF THE AGE-RESTRICTED CONDITIONAL USE.

LANDSCAPE FINANCIAL SURETY
FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$85,740.00 IS PART OF THE BUILDERS DPW DEVELOPER'S AGREEMENT FOR 21B SHADE TREES, 98 EVERGREEN TREES, 35 ORNAMENTAL TREES, AND 13 SHRUBS.

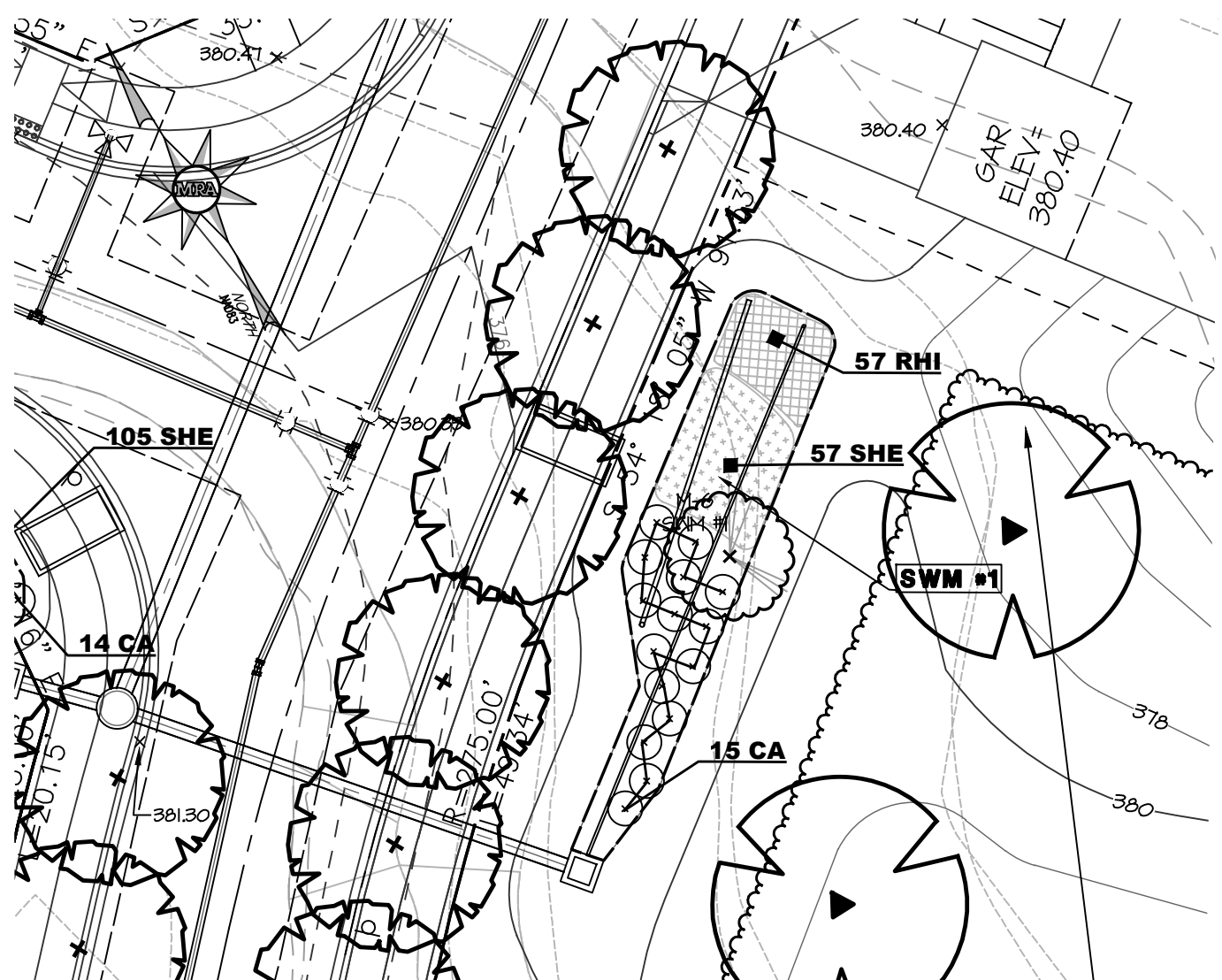
SHEET: SDP-39

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

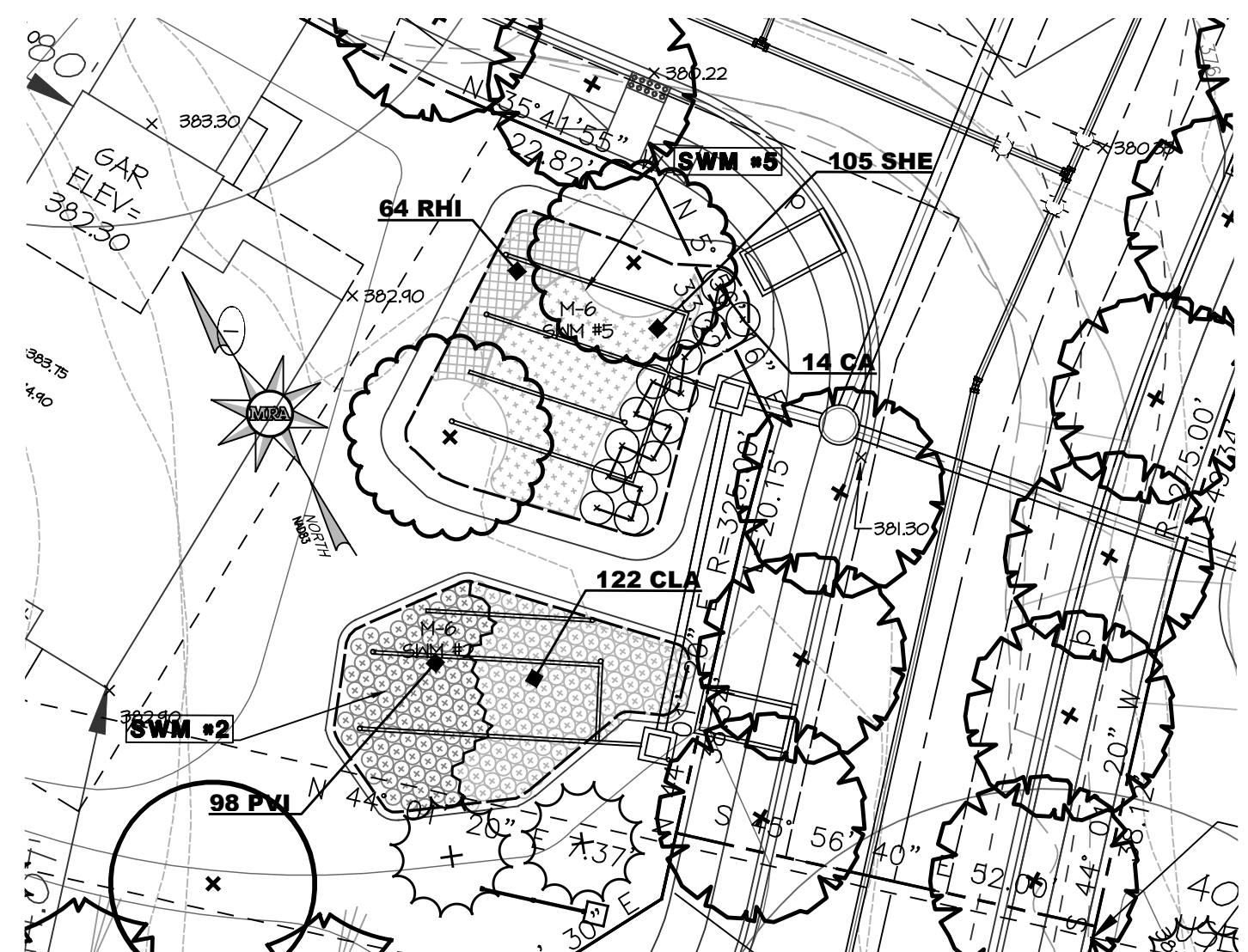
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM		
SITE DEVELOPMENT PLAN		
PARCEL A		
LANDSCAPE PLAN		
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20 6TH ELECTION DISTRICT HOWARD COUNTY, MD 20723		
DATE	REVISIONS	JOB NO.: 19590/04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 39 OF 49
		SDP-21-038



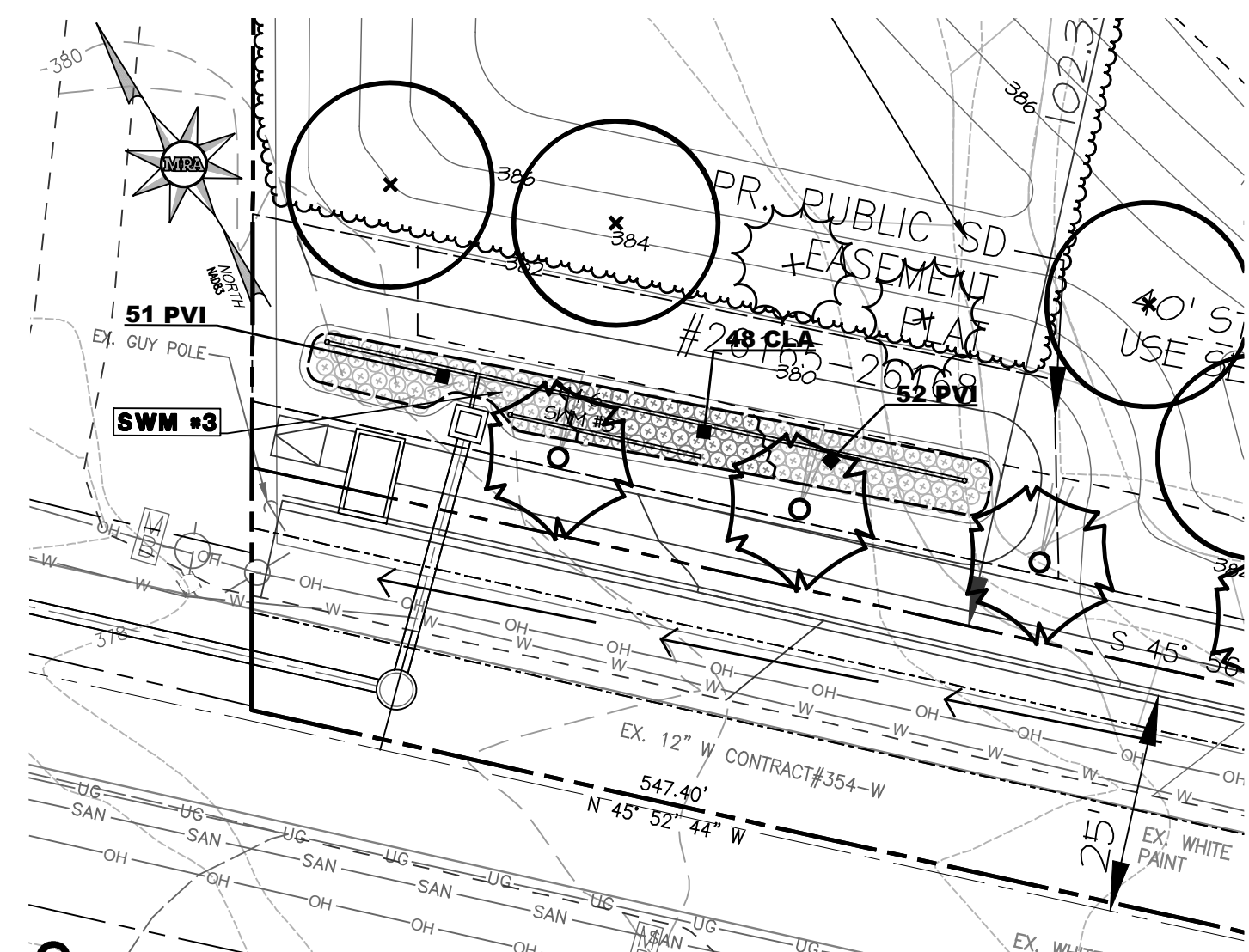
SWM #1
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 1 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	15
GRASSES / PERENNIALS						
RHI	<i>Rutbeckia hirta</i>	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	57
SHE	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	57
TOTAL GRASSES / PERENNIALS						114
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



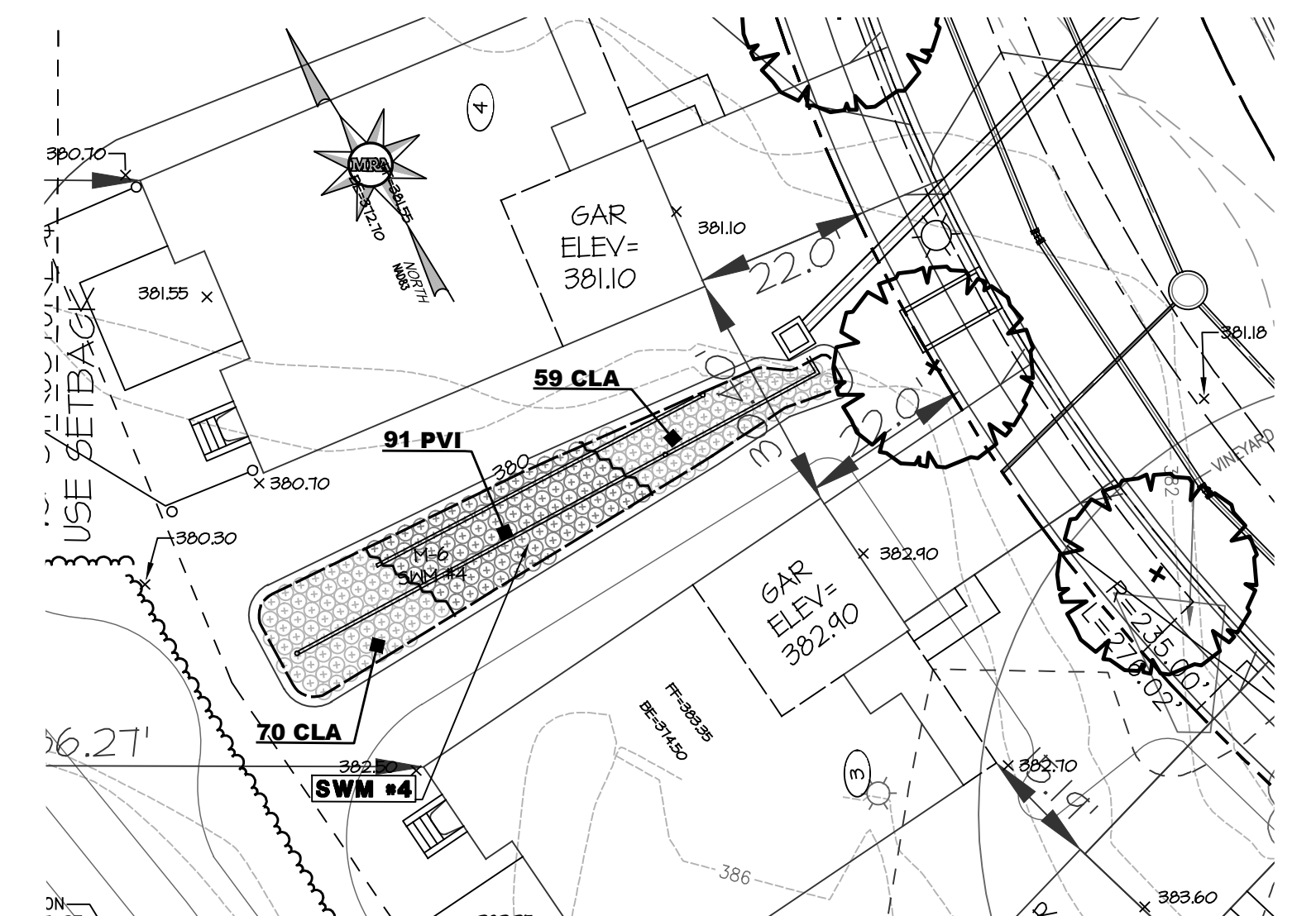
SWM #2 AND SWM #5
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 2 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	14
GRASSES / PERENNIALS						
RHI	<i>Rutbeckia hirta</i>	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	64
SHE	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	105
TOTAL GRASSES / PERENNIALS SWM 2						169
LANDSCAPE PLANT LIST - SWM 5 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	14
GRASSES / PERENNIALS						
RHI	<i>Rutbeckia hirta</i>	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	64
SHE	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	105
TOTAL GRASSES / PERENNIALS SWM 5						169
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



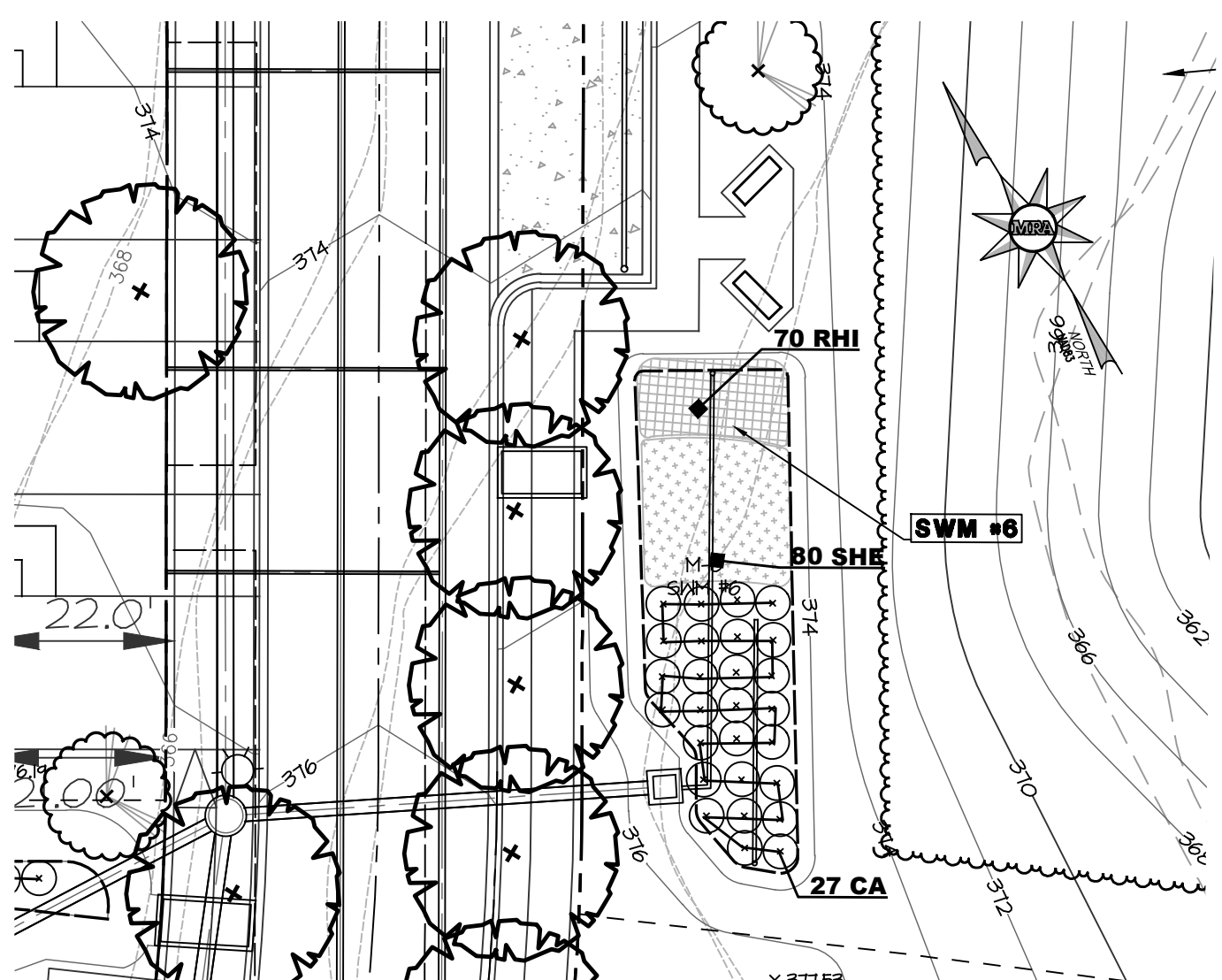
SWM #3
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 3 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	14
GRASSES / PERENNIALS						
CLA	<i>Chasmanthum latifolium</i>	Northern Sea Oats	1 QT.	CONT.	24" O.C.	48
PVI	<i>Panicum virgatum</i> 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	103
TOTAL						151
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



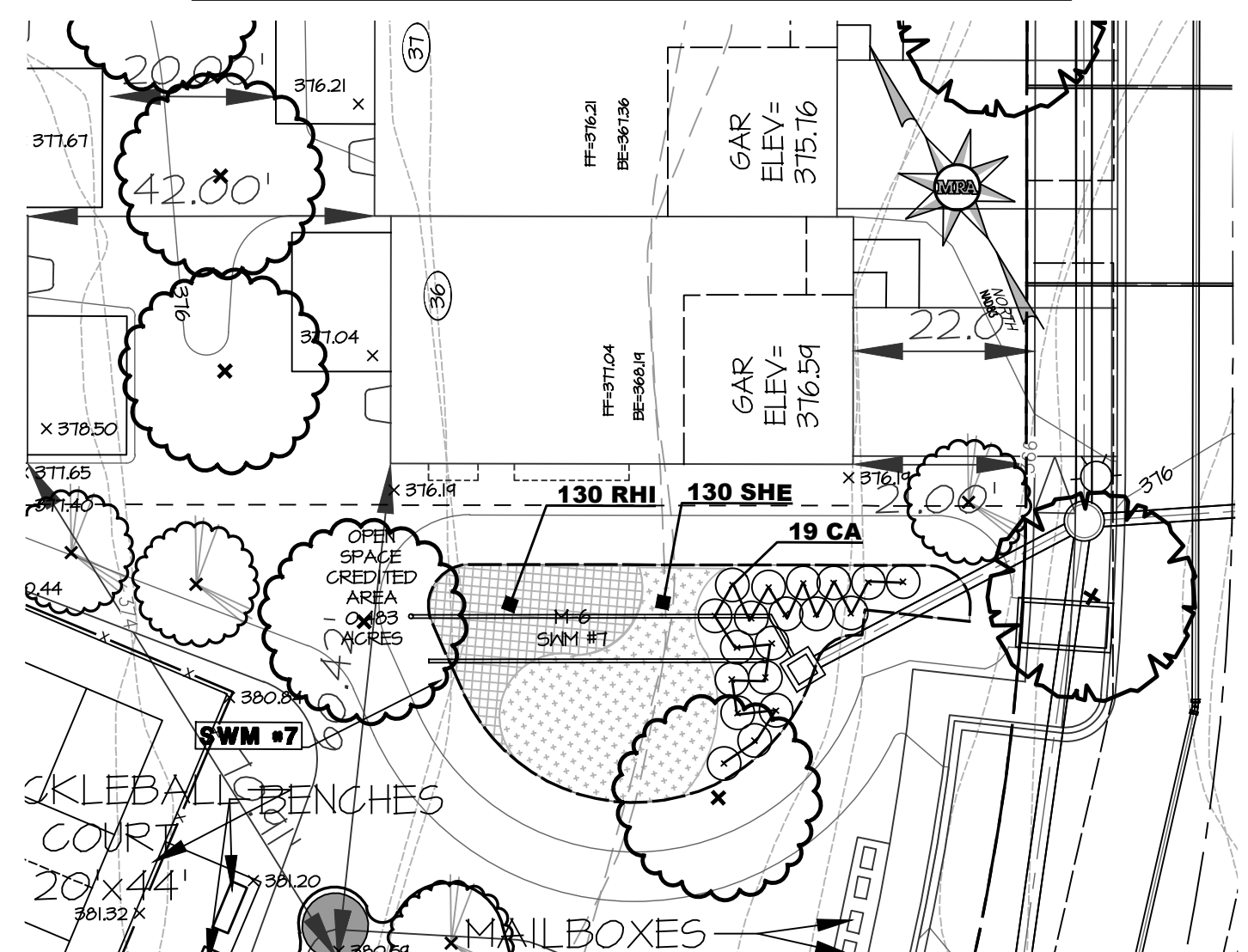
SWM #4
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 4 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	14
GRASSES / PERENNIALS						
CLA	<i>Chasmanthum latifolium</i>	Northern Sea Oats	1 QT.	CONT.	24" O.C.	129
PVI	<i>Panicum virgatum</i> 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	91
TOTAL						220
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



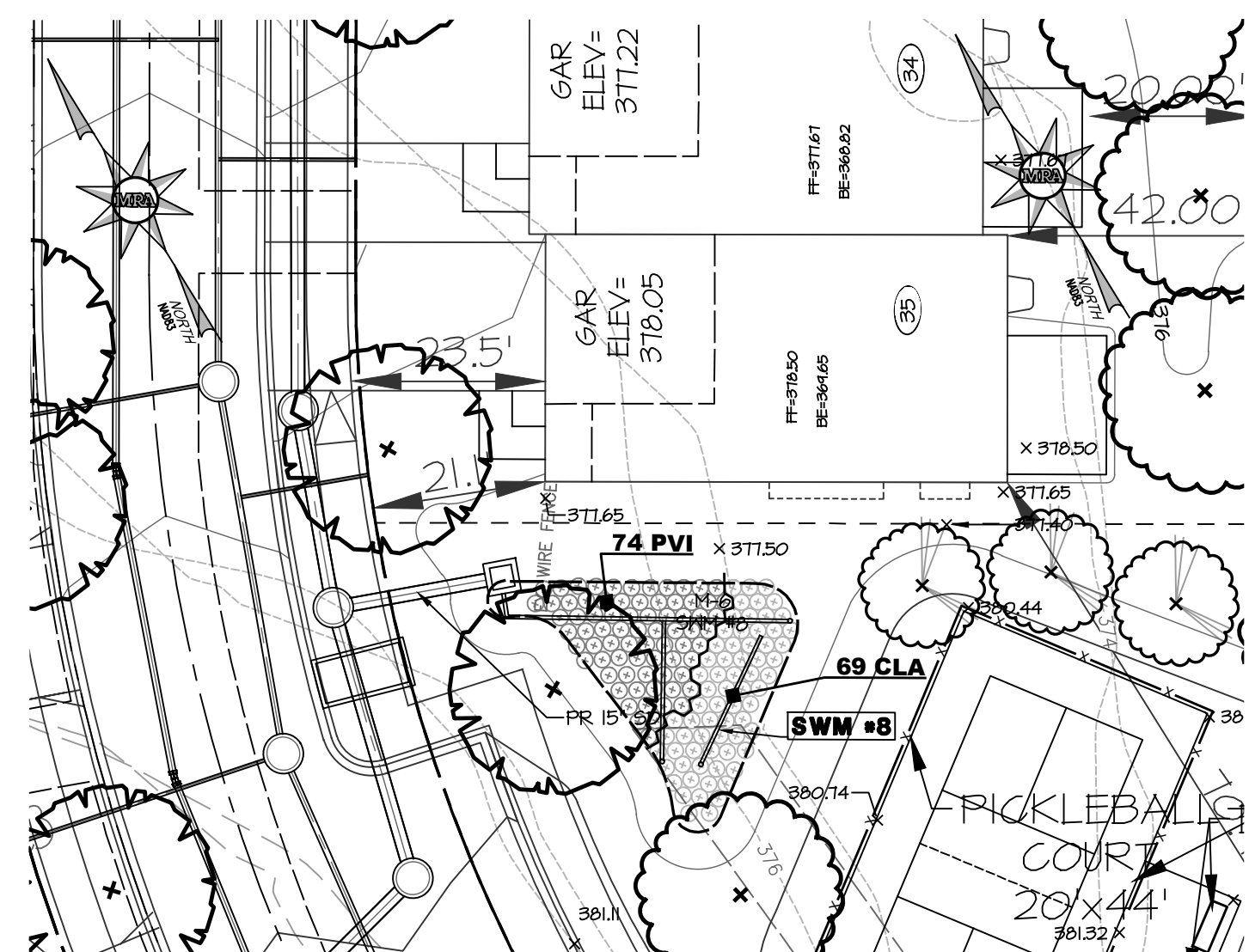
SWM #6
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 6 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	27
GRASSES / PERENNIALS						
RHI	<i>Rutbeckia hirta</i>	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	70
SHE	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	80
TOTAL GRASSES / PERENNIALS						150
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



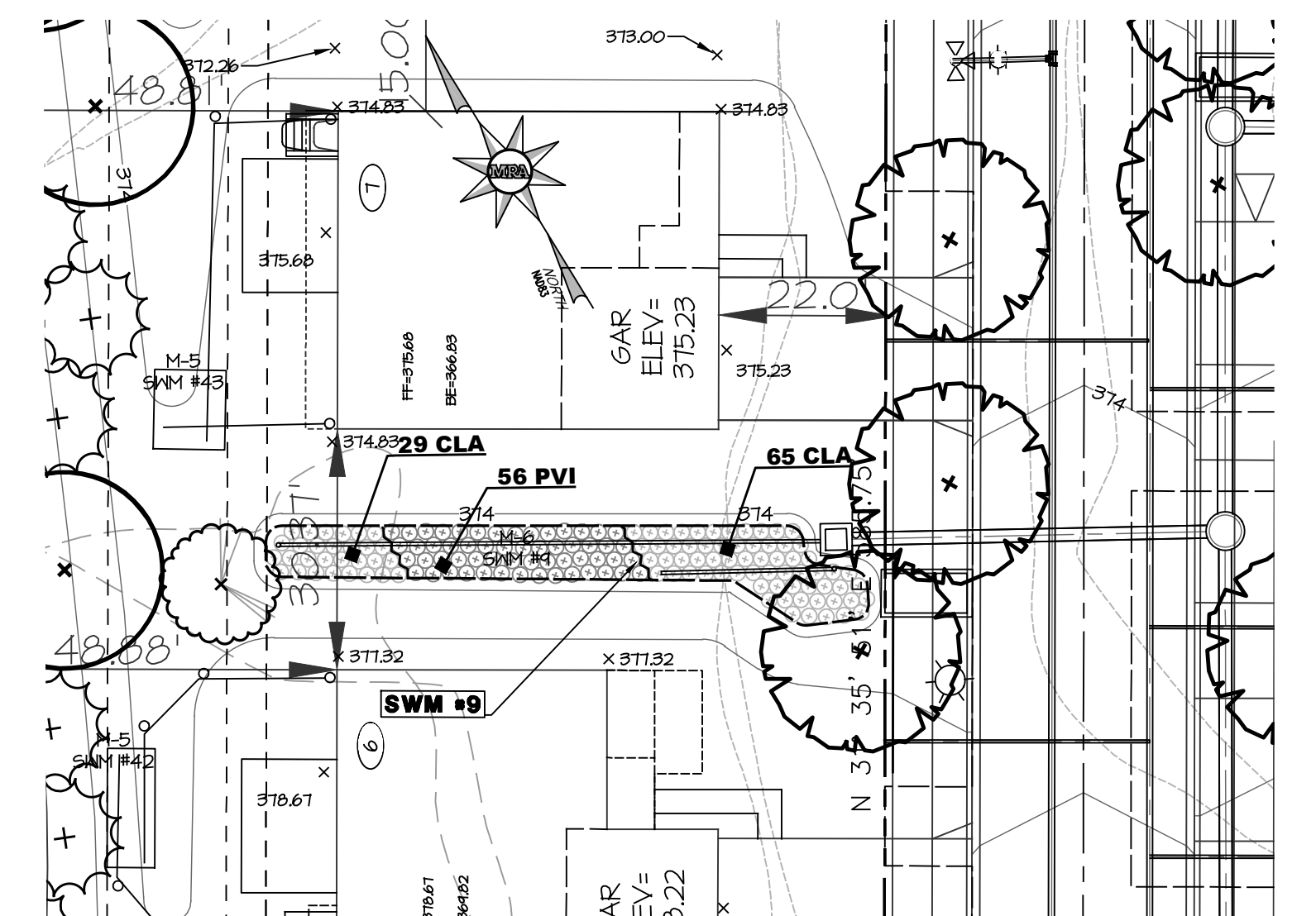
SWM #7
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 7 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	19
GRASSES / PERENNIALS						
RHI	<i>Rutbeckia hirta</i>	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	130
SHE	<i>Sporobolus heterolepis</i>	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	130
TOTAL GRASSES / PERENNIALS						260
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



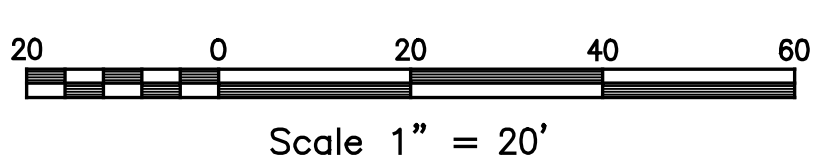
SWM #8
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 8 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	19
GRASSES / PERENNIALS						
CLA	<i>Chasmanthum latifolium</i>	Northern Sea Oats	1 QT.	CONT.	24" O.C.	69
PVI	<i>Panicum virgatum</i> 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	74
TOTAL						143
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						

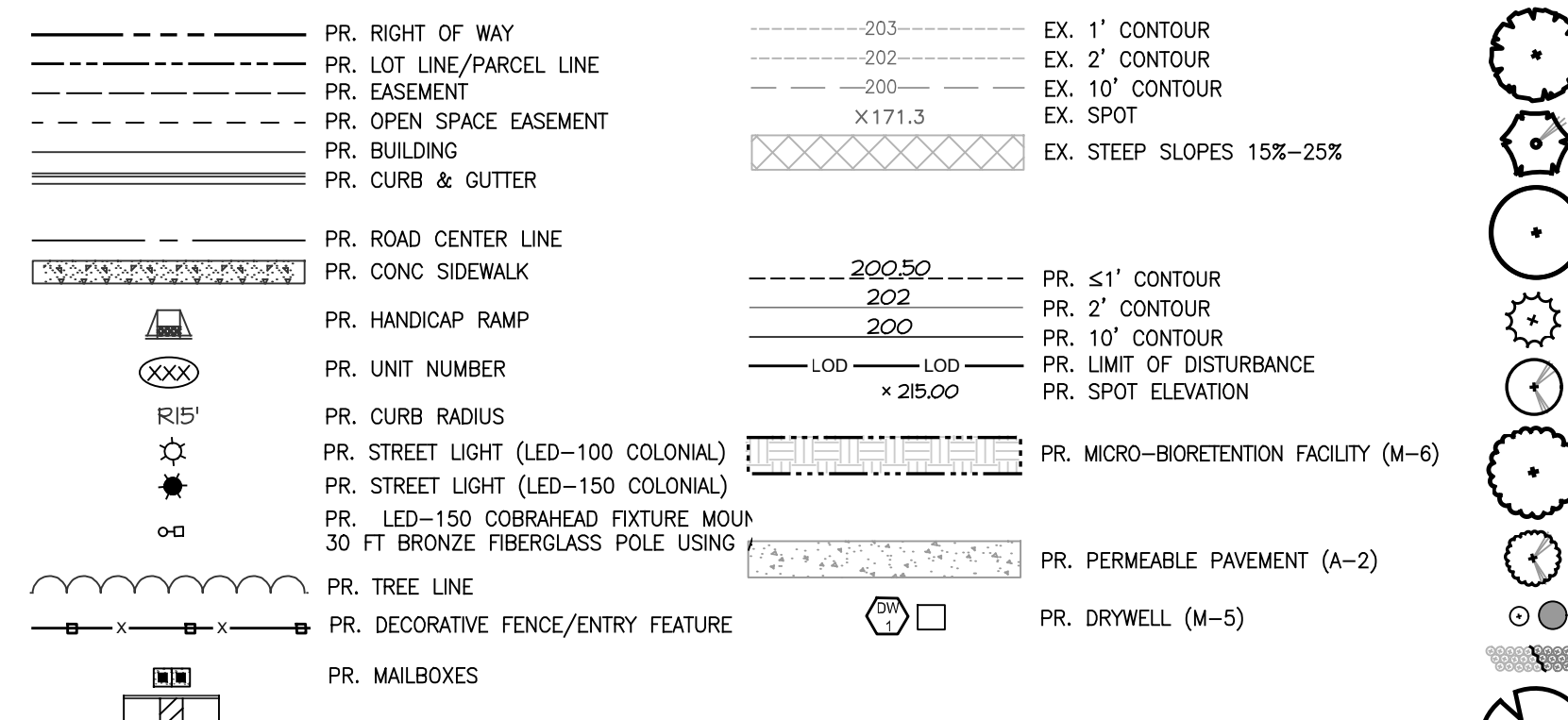


SWM #9
SCALE: 1"=20'

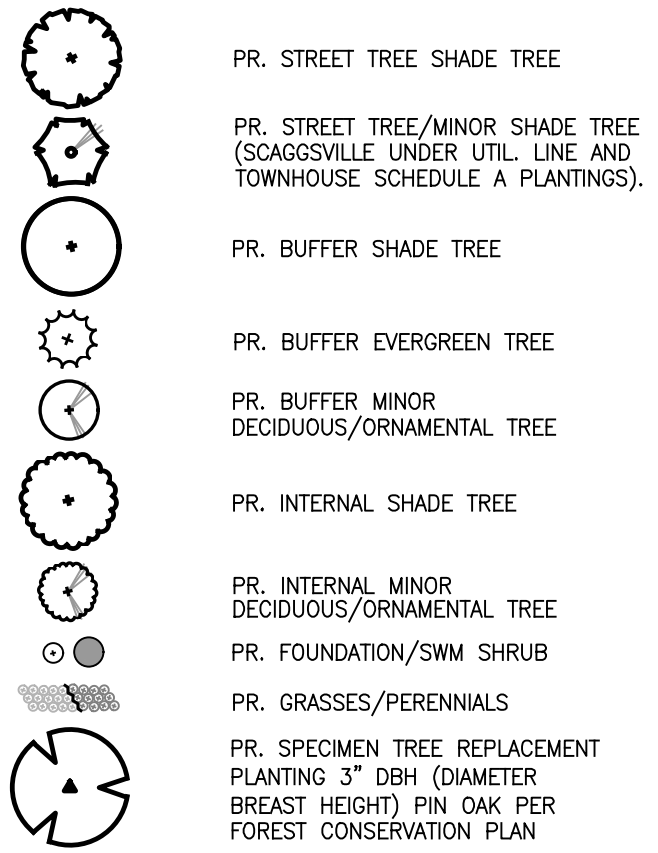
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
LANDSCAPE PLANT LIST - SWM 9 MICRO-BIO						
SHRUBS						
CA	<i>Clethra alnifolia</i>	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	27
GRASSES / PERENNIALS						
CLA	<i>Chasmanthum latifolium</i>	Northern Sea Oats	1 QT.	CONT.	24" O.C.	94
PVI	<i>Panicum virgatum</i> 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	56
TOTAL						150
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS						



Scale 1" = 20'



LANDSCAPE LEGEND



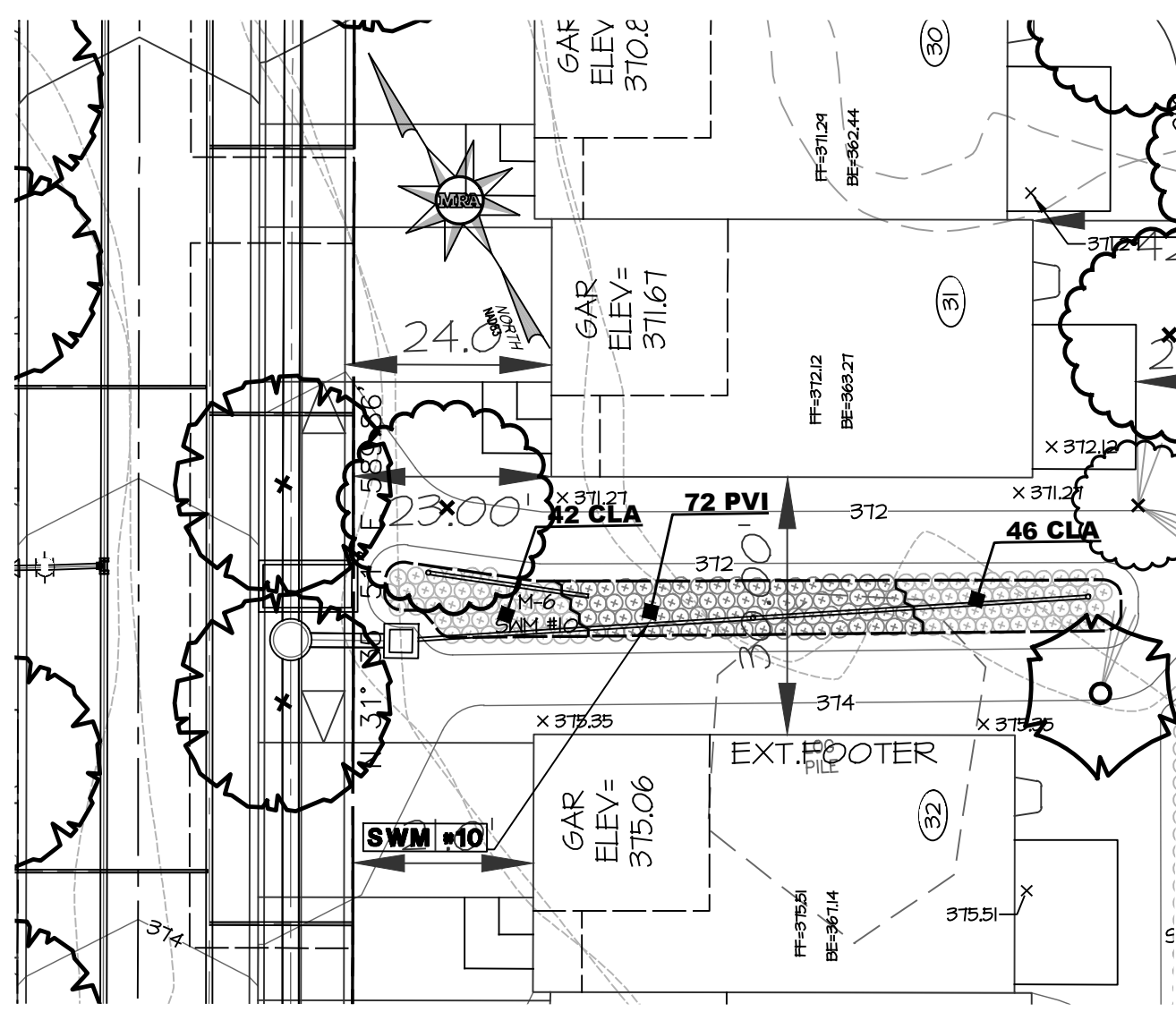
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 10/5/2022
 CHIEF, DEVELOPMENT & ENGINEERING DIVISION
 DATE 10/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 10/6/2022
 DIRECTOR
 DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
 WBG ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD
 SUITE 200
 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM
 Copyright 2022 Morris & Ritchie Associates, Inc.
ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
PARCEL A
 SWM PLANTING PLANS - SWM #1-#9
 TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723
 JOB NO.: 19590/04
 SCALE: 1" = 20'
 DATE: 4-26-2022
 DRAWN BY: MF
 DESIGN BY: MF
 REVIEW BY: MM
 SHEET: 40 OF 49
SDP-21-038

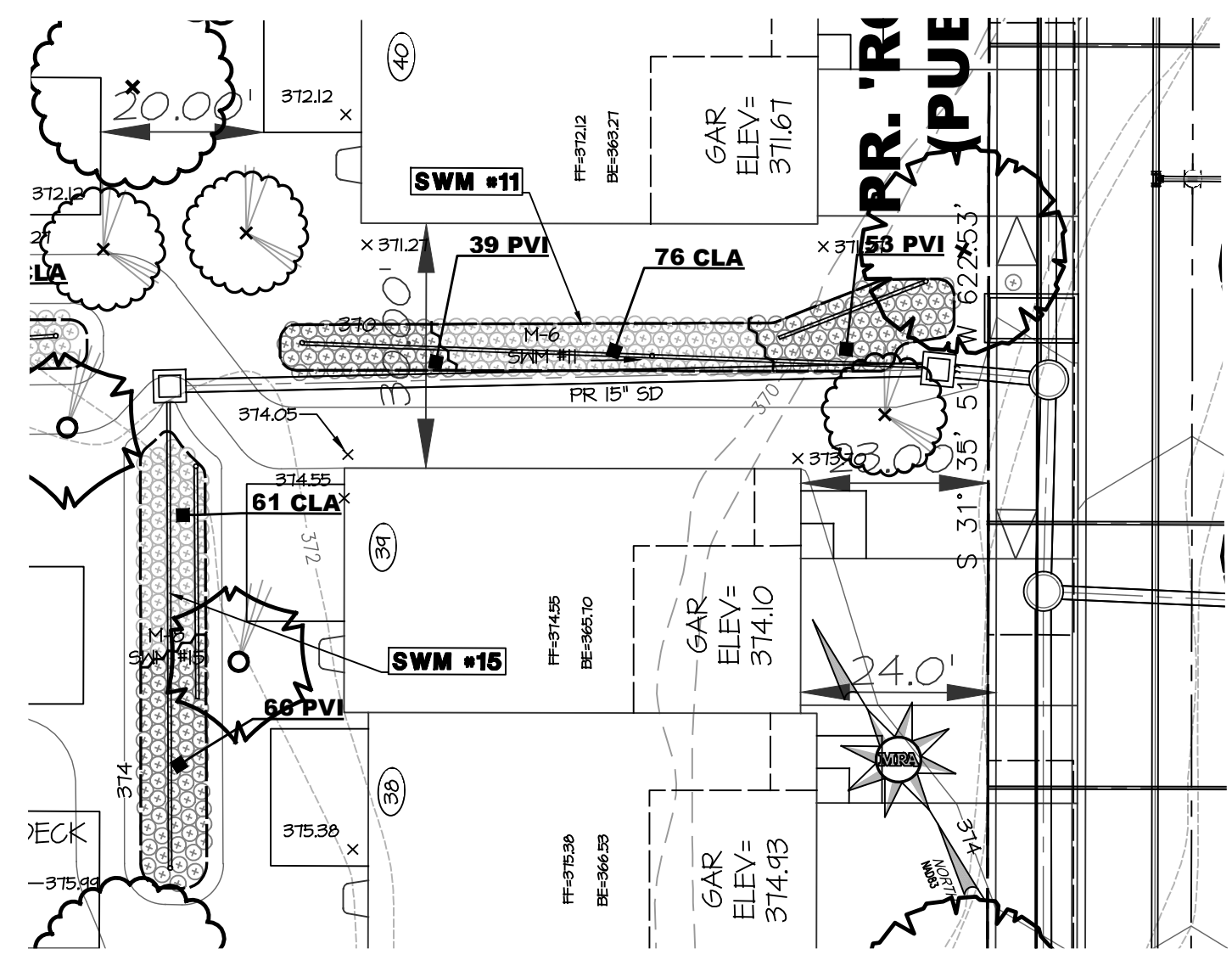
SHEET: SDP-40



SWM #10
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	88
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	72
TOTAL						248

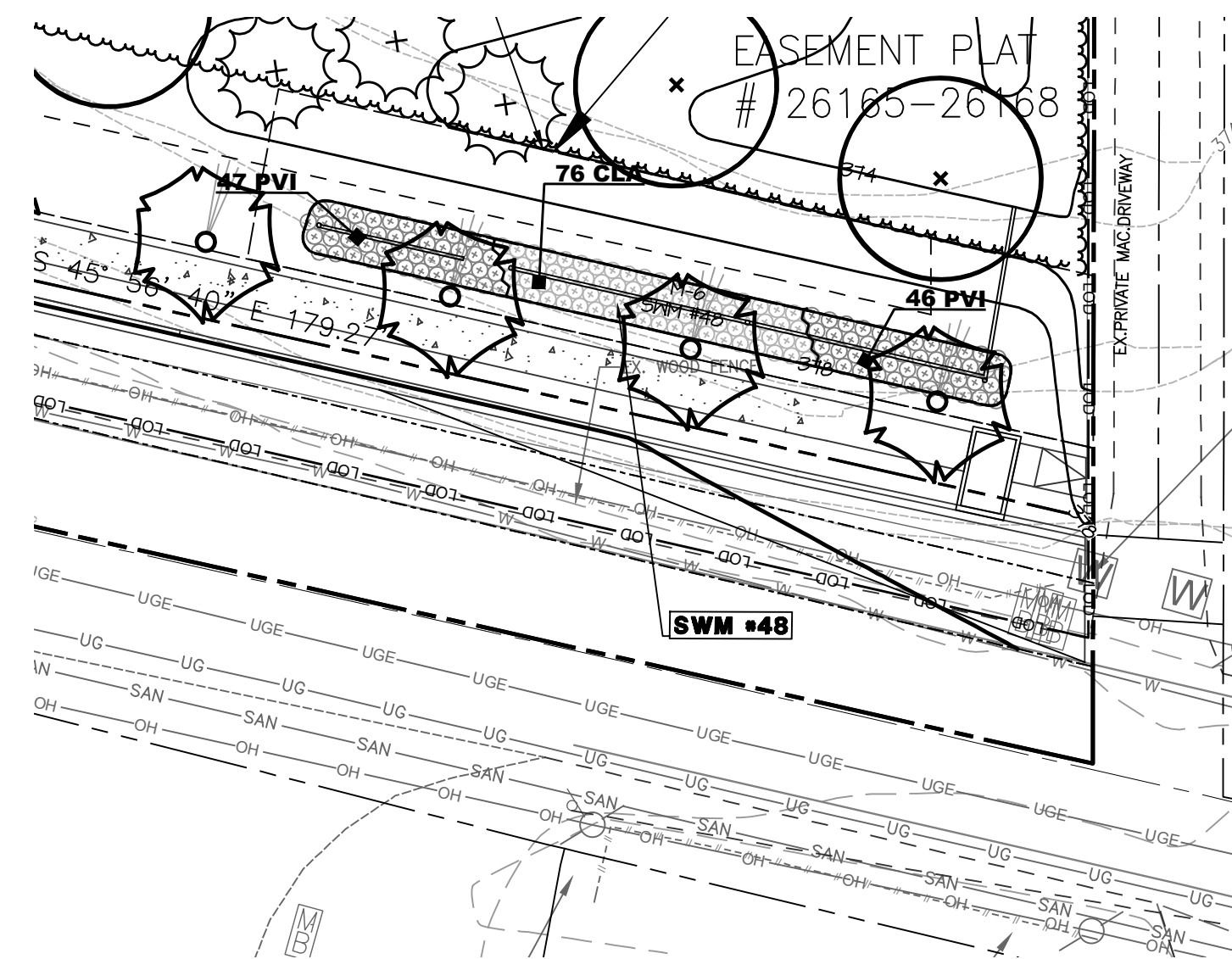
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #11 and #15
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	76
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	92
TOTAL GRASSES / PERENNIALS SWM 11						168
LANDSCAPE PLANT LIST - SWM 15 MICRO-BIO						
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	61
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	66
TOTAL GRASSES / PERENNIALS SWM 15						127

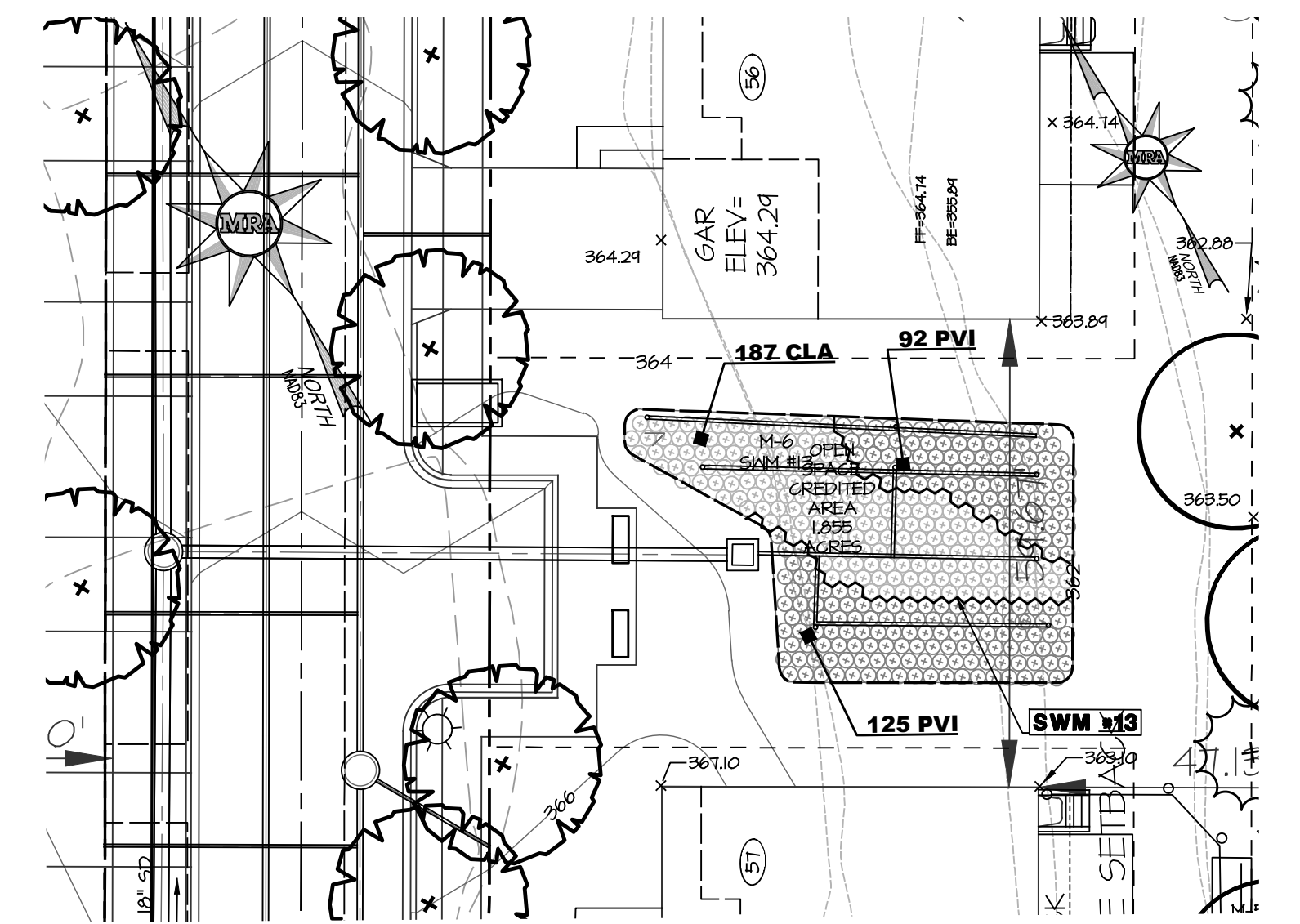
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #48
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	76
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	93
TOTAL						169

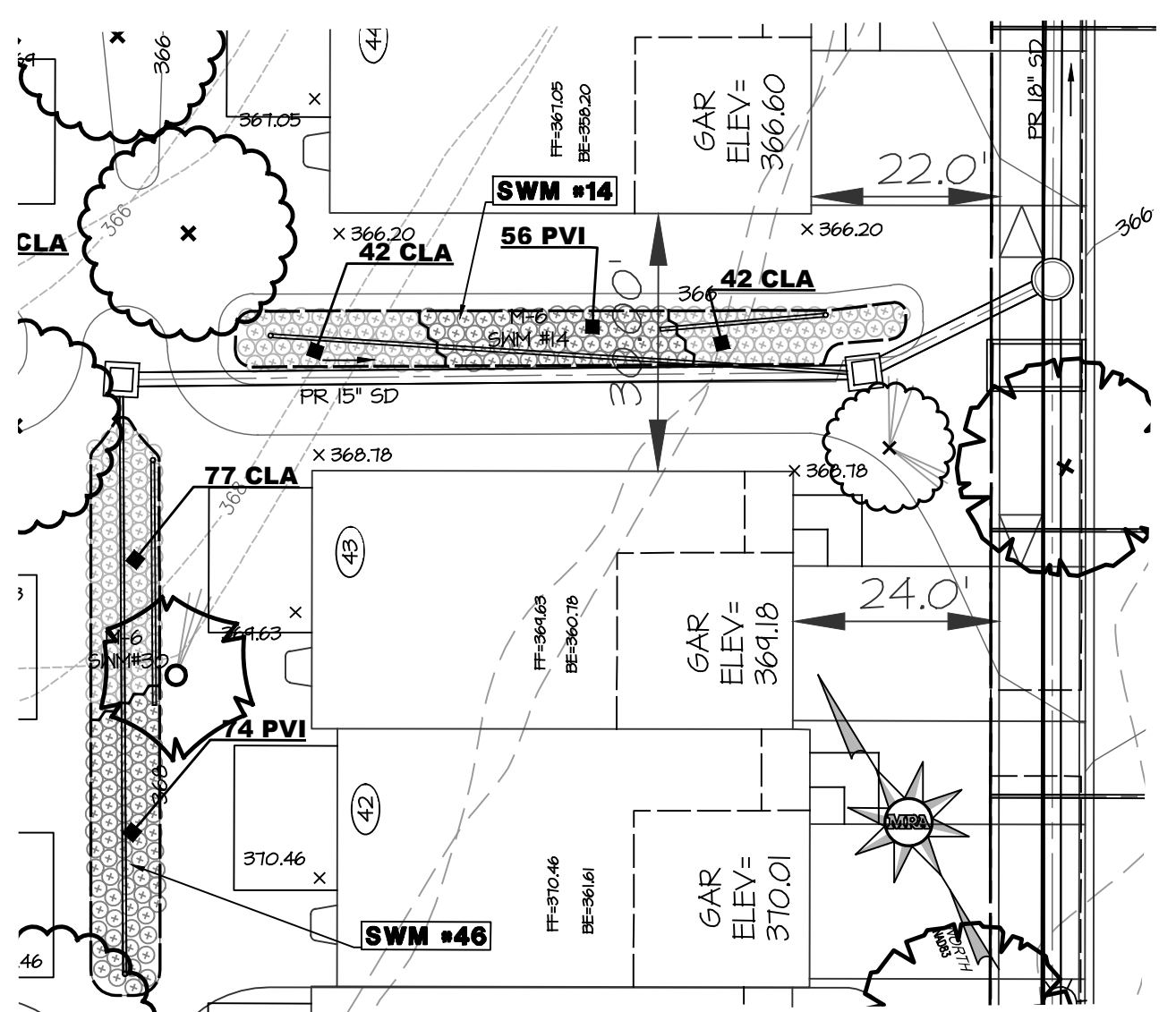
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #13
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	187
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	217
TOTAL						404

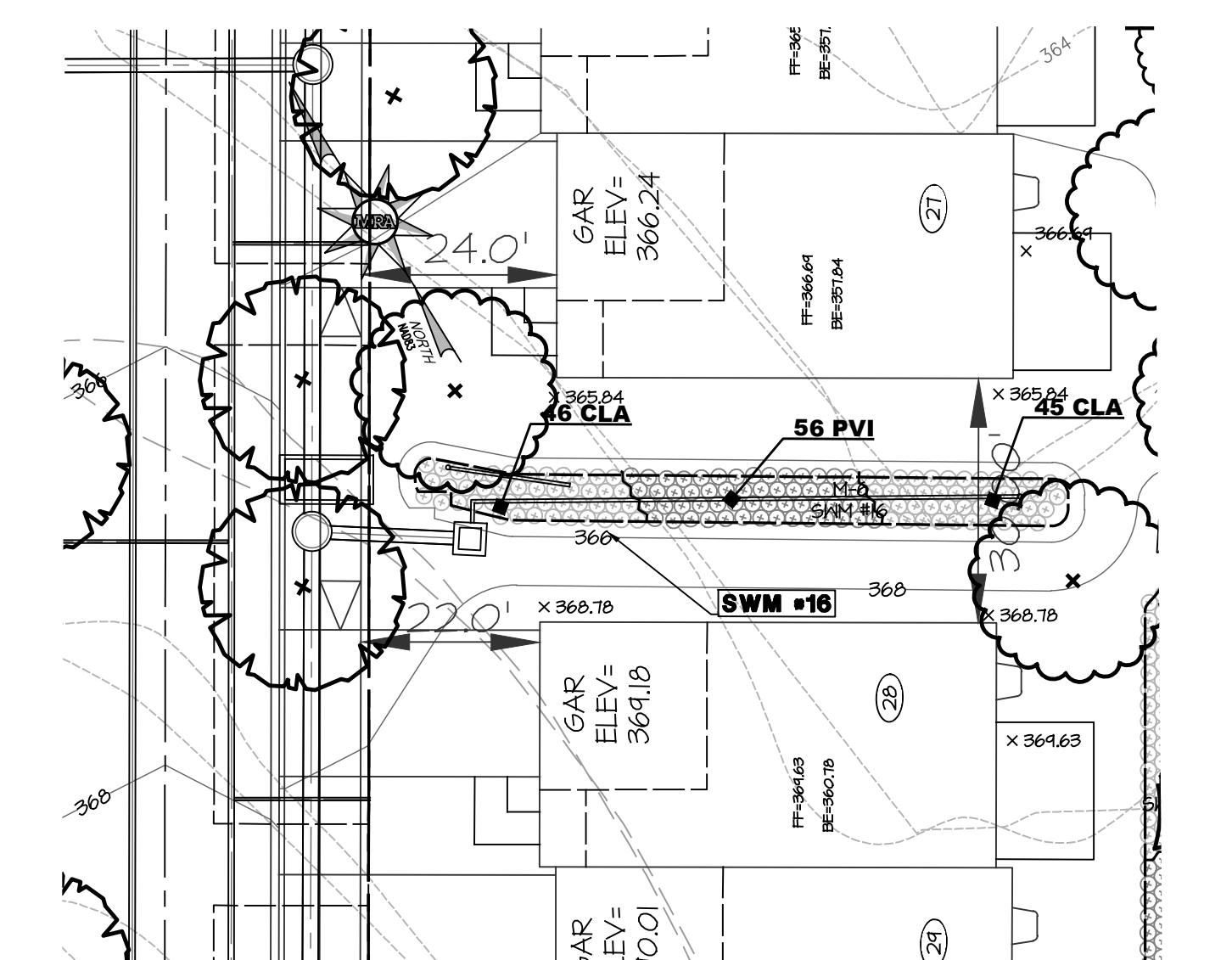
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #14 AND #46
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	84
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	56
TOTAL GRASSES / PERENNIALS SWM 14						140
LANDSCAPE PLANT LIST - SWM 46 MICRO-BIO						
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	77
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	74
TOTAL GRASSES / PERENNIALS SWM 46						151

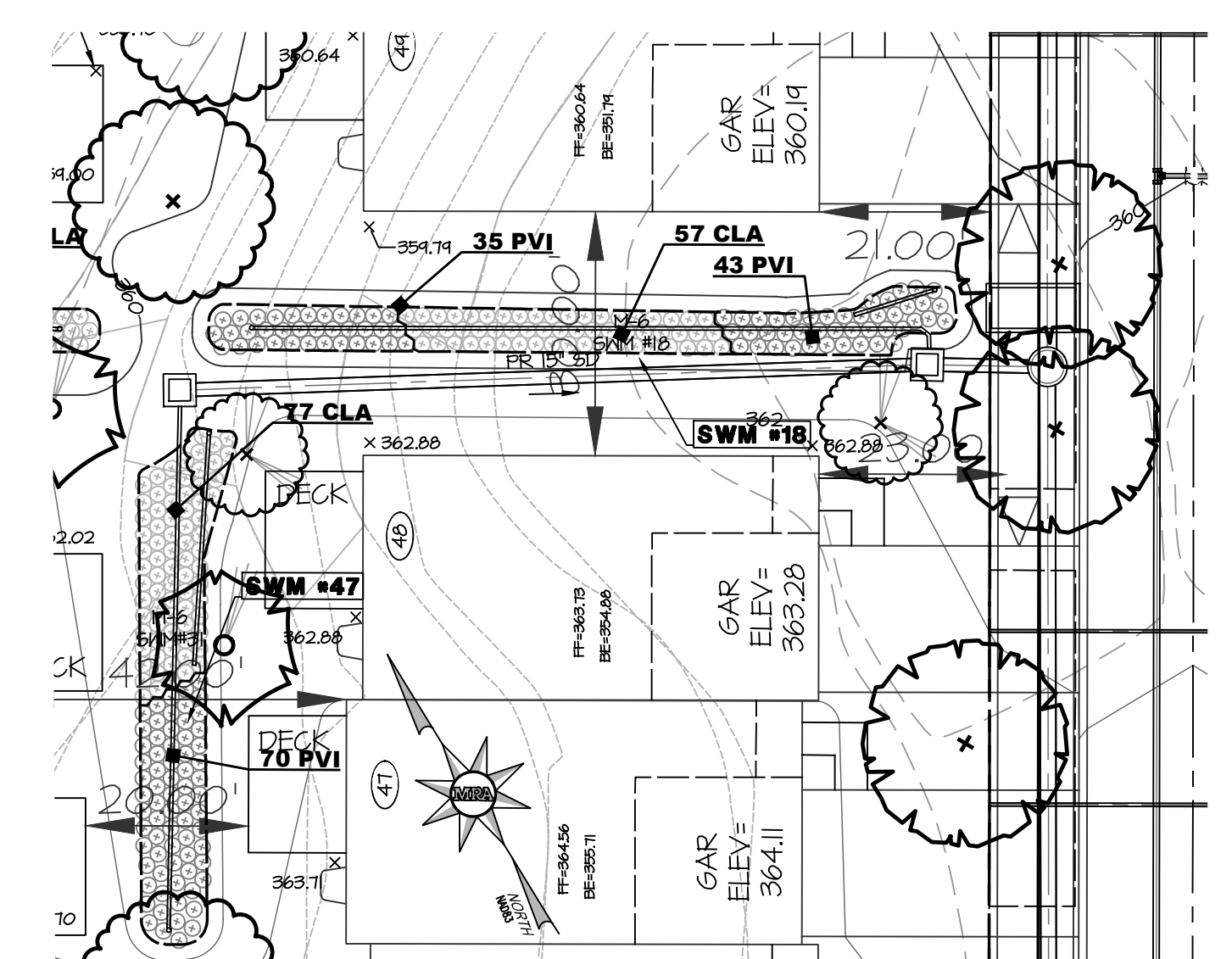
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #16
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	91
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	56
TOTAL						147

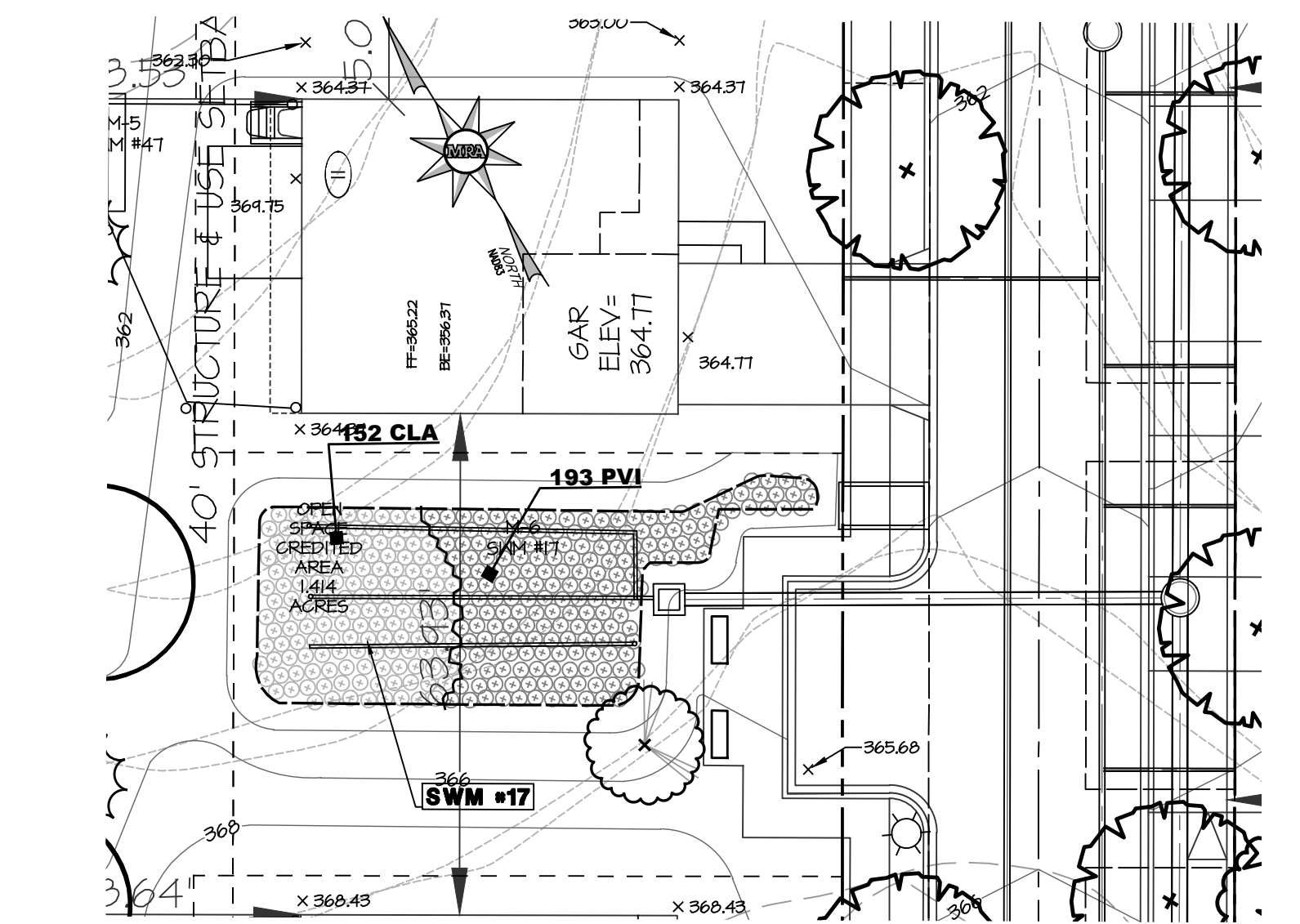
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #18 AND #47
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	57
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	78
TOTAL GRASSES / PERENNIALS SWM 18						135
LANDSCAPE PLANT LIST - SWM 47 MICRO-BIO						
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	77
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	70
TOTAL GRASSES / PERENNIALS SWM 47						147

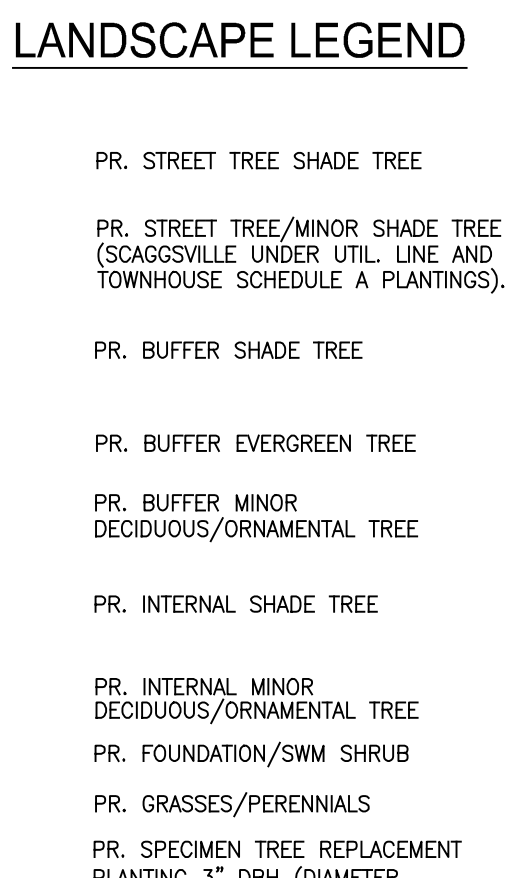
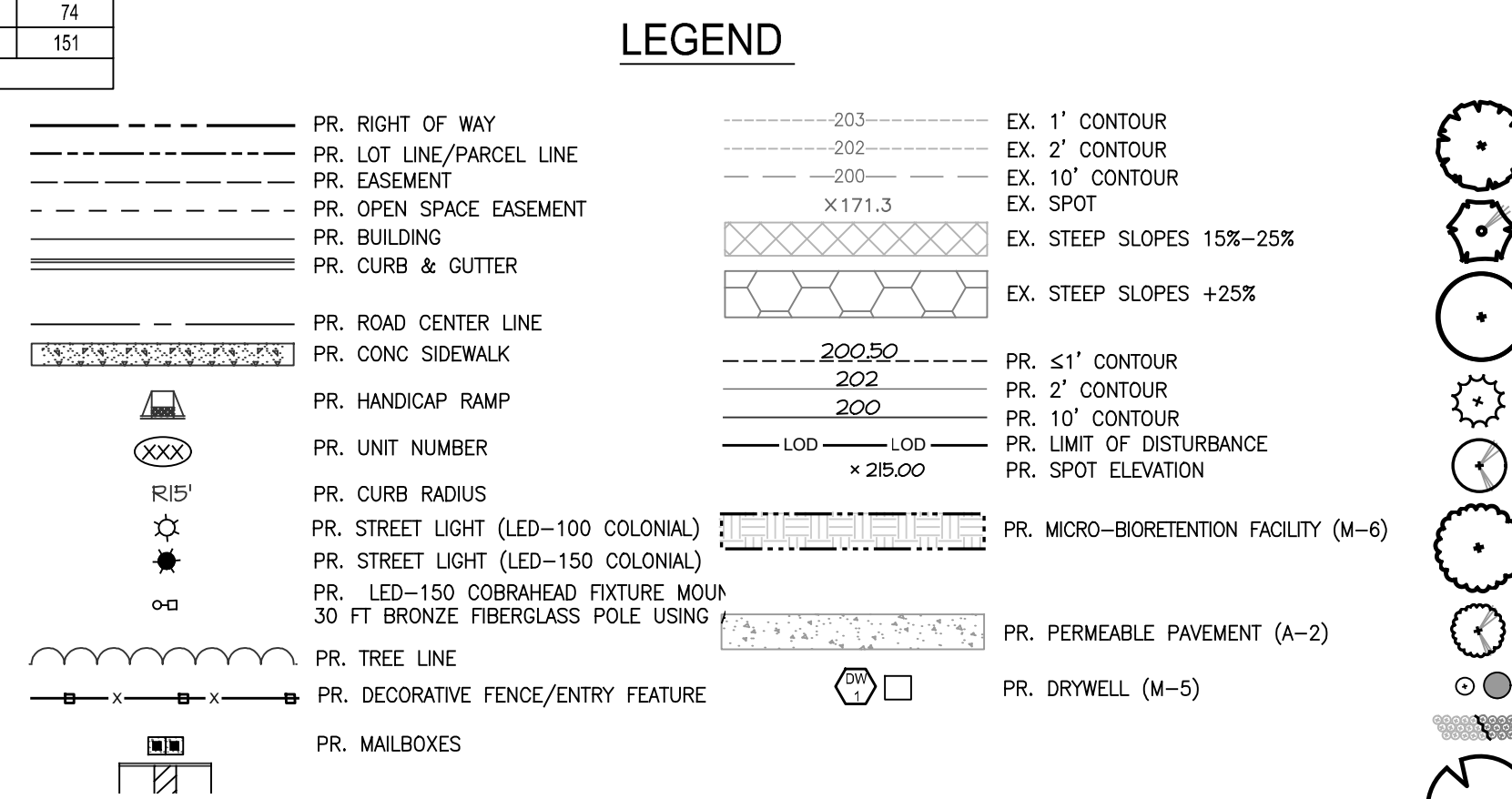
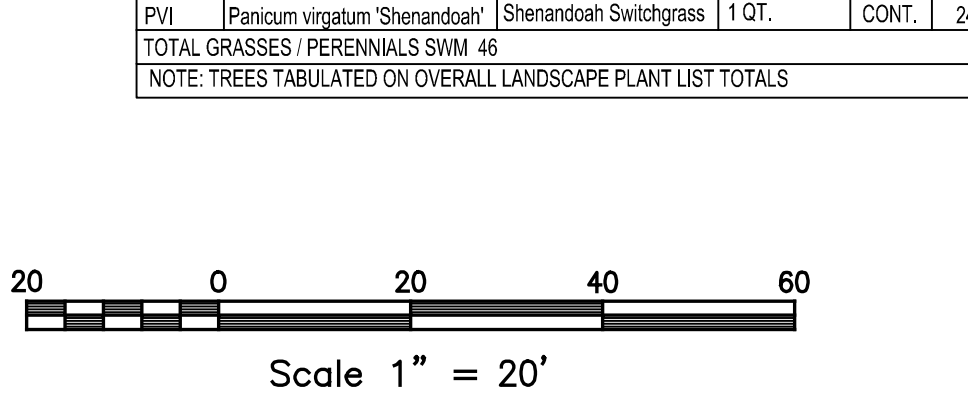
NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #17
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	152
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	193
TOTAL						345

NOTE: TREES TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



MAINTENANCE CRITERIA FOR MICRO-BIORETENTION AND BIOSWALE FACILITIES

- THE FOLLOWING ITEMS SHOULD BE ADDRESSED TO ENSURE PROPER MAINTENANCE AND LONG-TERM PERFORMANCE OF MICRO-BIORETENTION AND BIOSWALE FACILITIES:
- PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE, OR OTHER LEGAL MEASURES PREVENTING ITS NEGLIGENCE, ADVERSE ALTERATION, AND REMOVAL.
 - THE TOP FEW INCHES OF FILTER MEDIA SHOULD BE REMOVED AND REPLACED WHEN WATER PONDS FOR MORE THAN FORTY-EIGHT (48) HOURS. SILTS AND SEDIMENT SHOULD BE REMOVED FROM THE SURFACE OF THE FILTER BED WHEN ACCUMULATION EXCEEDS ONE (1) INCH.
 - WHERE PRACTICES ARE USED TO TREAT AREAS WITH HIGHER CONCENTRATIONS OF HEAVY METALS (E.G., PARKING LOTS, ROADS, ETC.), MULCH SHOULD BE REPLACED ANNUALLY. OTHERWISE, THE TOP TWO (2) TO THREE (3) INCHES SHOULD BE REPLACED AS NECESSARY.
 - OCCASIONAL PRUNING AND REPLACEMENT OF DEAD VEGETATION IS NECESSARY. IF SPECIFIC PLANTS ARE NOT SURVIVING, MORE APPROPRIATE SPECIES SHOULD BE USED. WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

APPROVED: DEPARTMENT OF PLANNING AND ZONING
10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION
10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT
10/6/2022
DIRECTOR

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

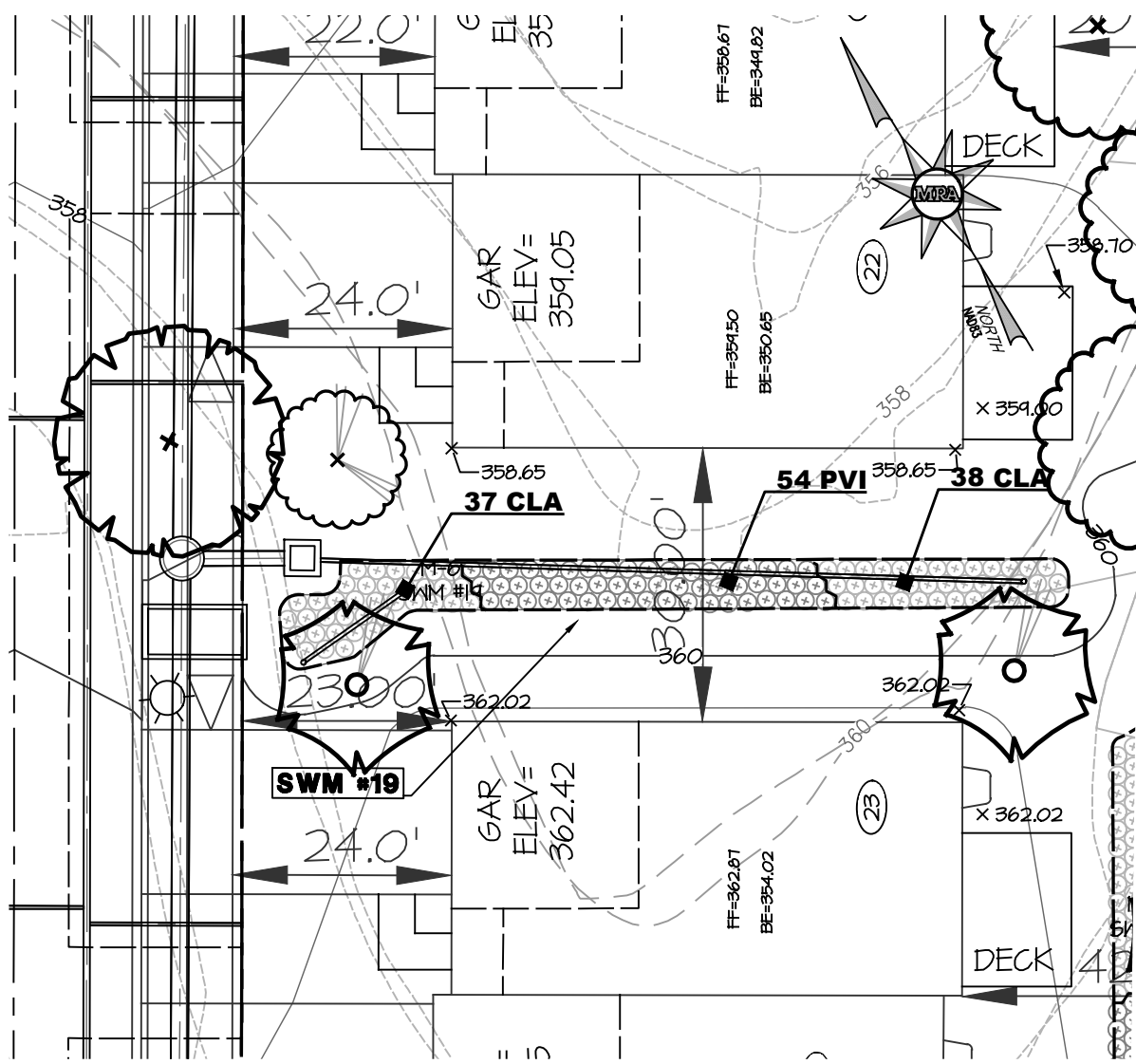
ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM PLANTING PLANS - SWM #10 - #18

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

MD PROFESSIONAL CERTIFICATION:
MICHAEL A. MITCHELL, RLA
LICENSE NO. 3111
EXPIRATION DATE: 11/21/2023

DATE	REVISIONS	JOB NO.:
		19590v04
		SCALE: 1" = 20'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 41 OF 49

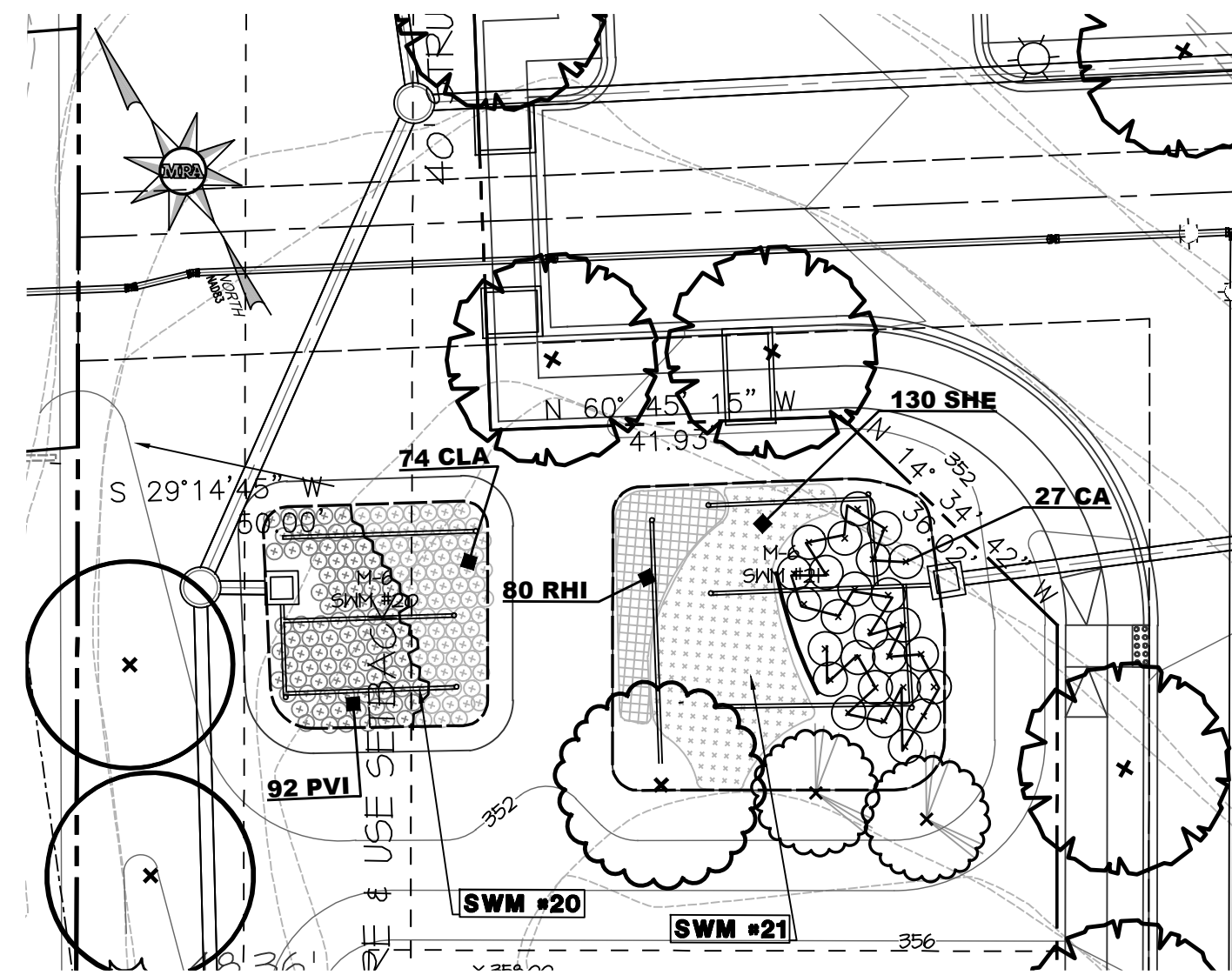
SDP-21-038



SWM #19
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	75
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	54
TOTAL						129

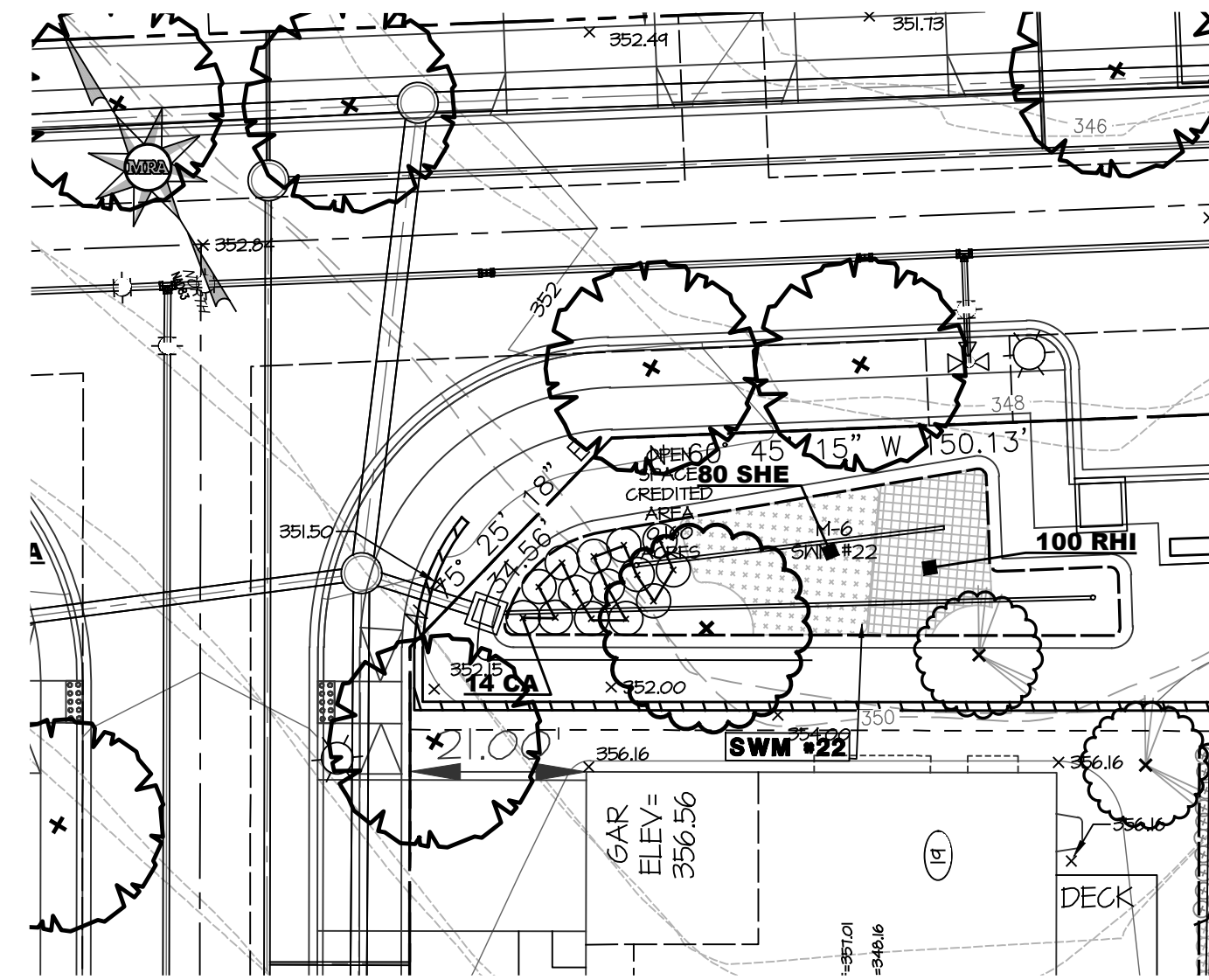
NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #20 AND #21
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	74
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	92
TOTAL						166
LANDSCAPE PLANT LIST - SWM 21 MICRO-BIO						
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
SHRUBS						
CA	Clethra alnifolia	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	27
GRASSES / PERENNIALS						
RHI	Rutbeckia hirta	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	130
SHE	Sporobolus heterolepis	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	80
TOTAL GRASSES / PERENNIALS SWM 21						210

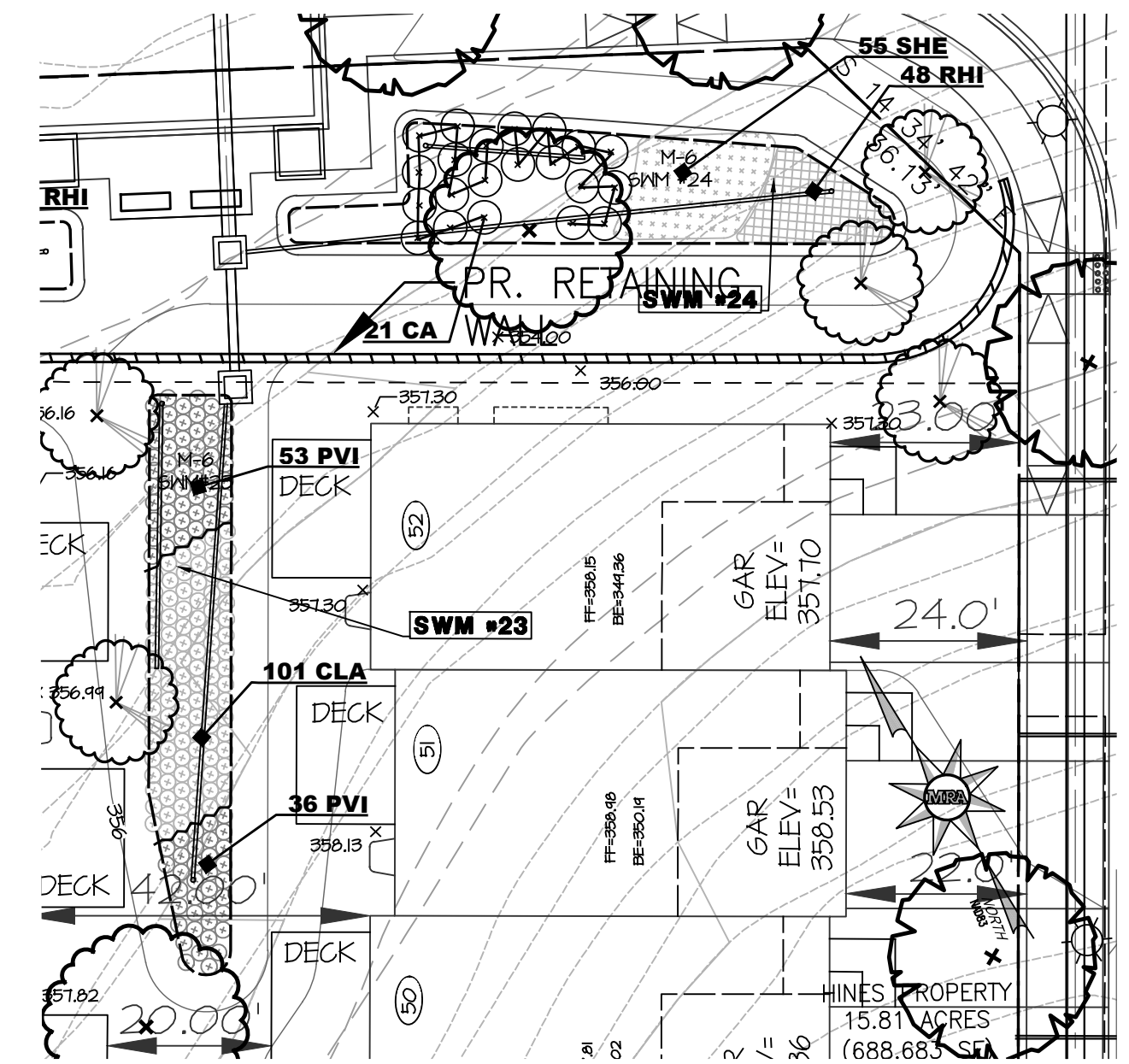
NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #22
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
SHRUBS						
CA	Clethra alnifolia	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	14
GRASSES / PERENNIALS						
RHI	Rutbeckia hirta	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	100
SHE	Sporobolus heterolepis	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	80
TOTAL GRASSES / PERENNIALS						180

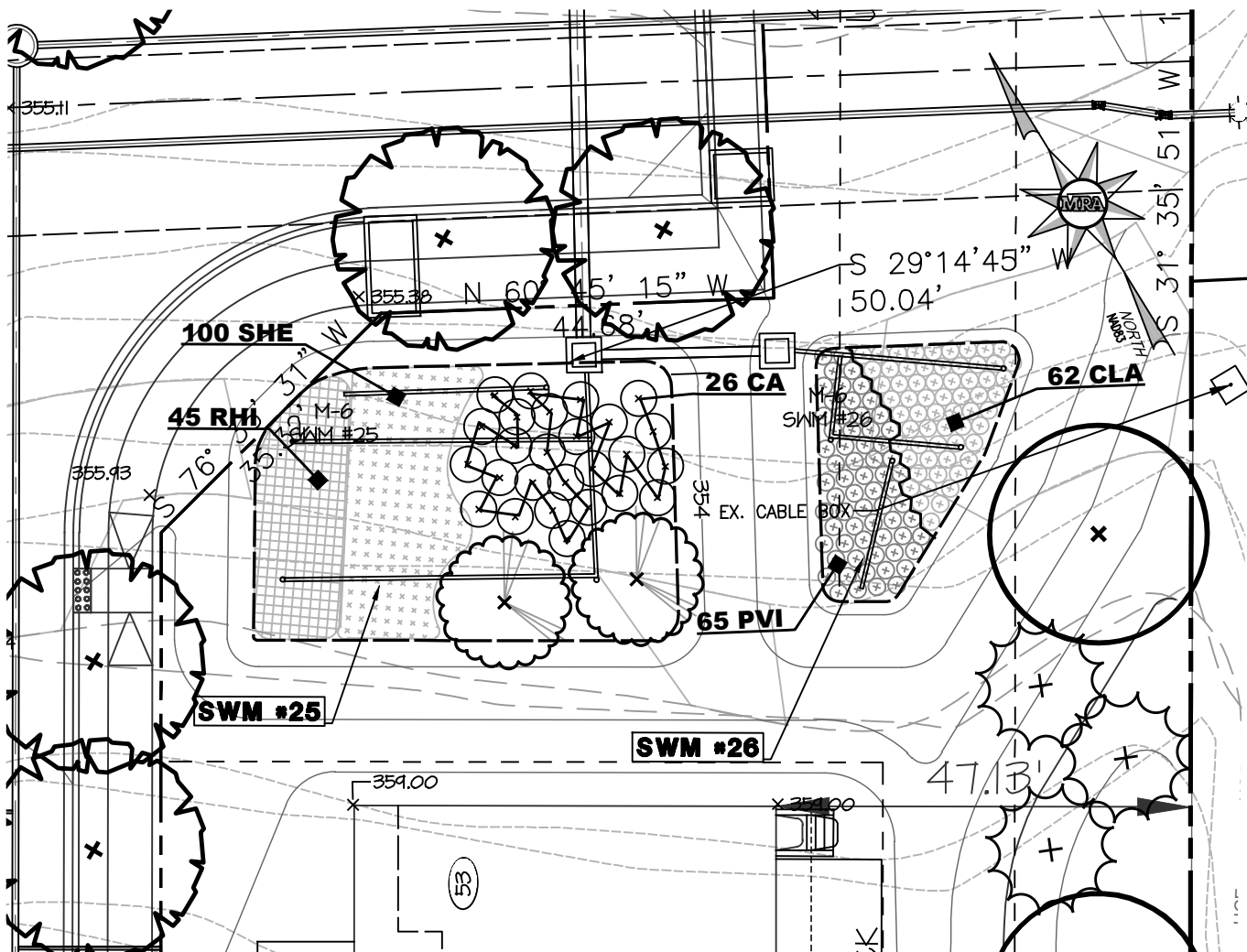
NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #23 AND #24
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	101
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	89
TOTAL SWM 23						190
LANDSCAPE PLANT LIST - SWM 24 MICRO-BIO						
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
SHRUBS						
CA	Clethra alnifolia	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	21
GRASSES / PERENNIALS						
RHI	Rutbeckia hirta	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	48
SHE	Sporobolus heterolepis	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	55
TOTAL GRASSES / PERENNIALS SWM 24						103

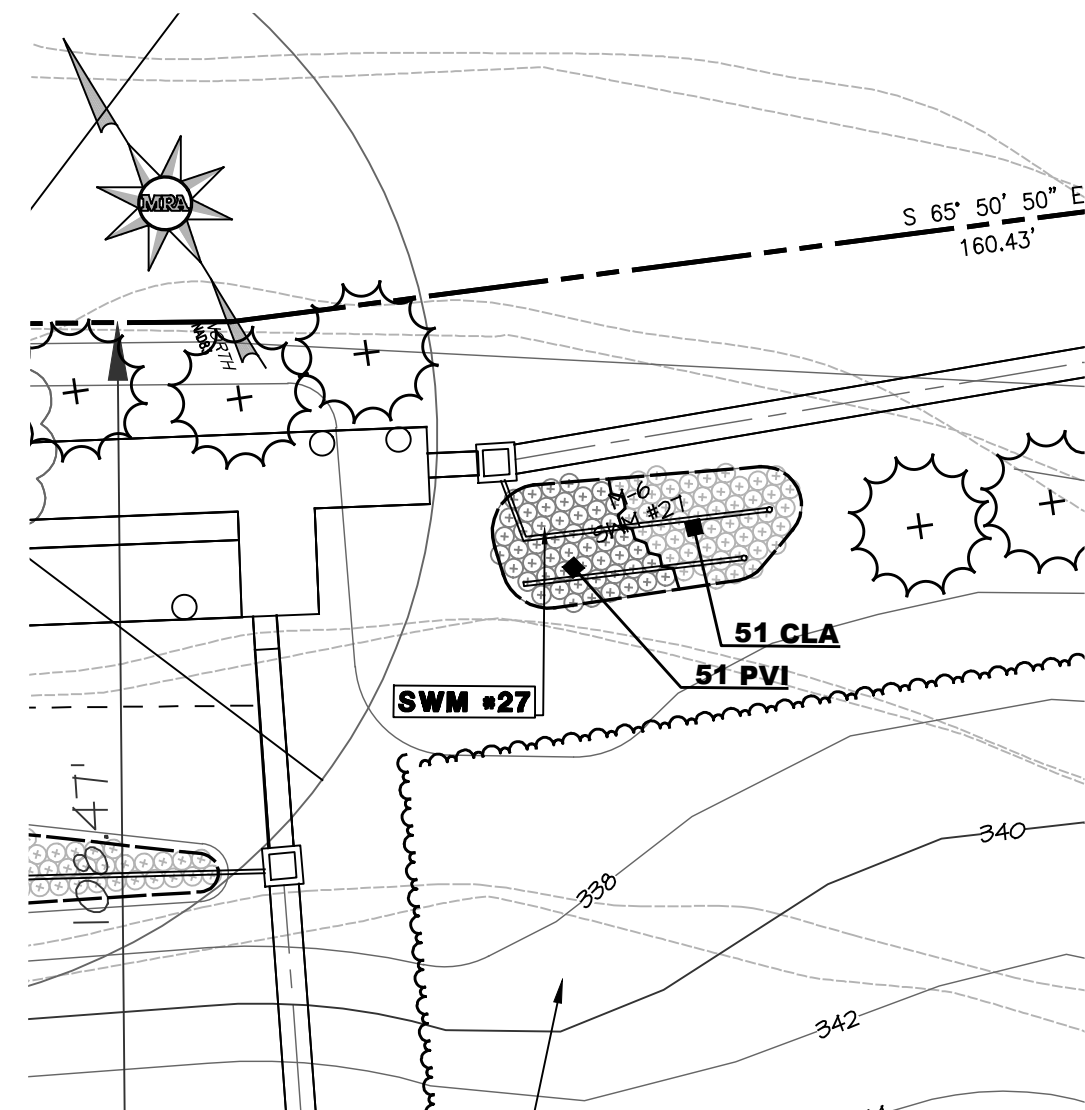
NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #25 SWM #26
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
SHRUBS						
CA	Clethra alnifolia	Summersweet Clethra	2-1/2' 3' HGT.	CONT.	4' O.C.	26
GRASSES / PERENNIALS						
RHI	Rutbeckia hirta	Blackeyed Susan	1 GAL.	CONT.	18" O.C.	45
SHE	Sporobolus heterolepis	Prairie Dropseed	1 GAL.	CONT.	18" O.C.	100
TOTAL GRASSES / PERENNIALS SWM 25						145
LANDSCAPE PLANT LIST - SWM 26 MICRO-BIO						
KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	62
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	65
TOTAL SWM 26						127

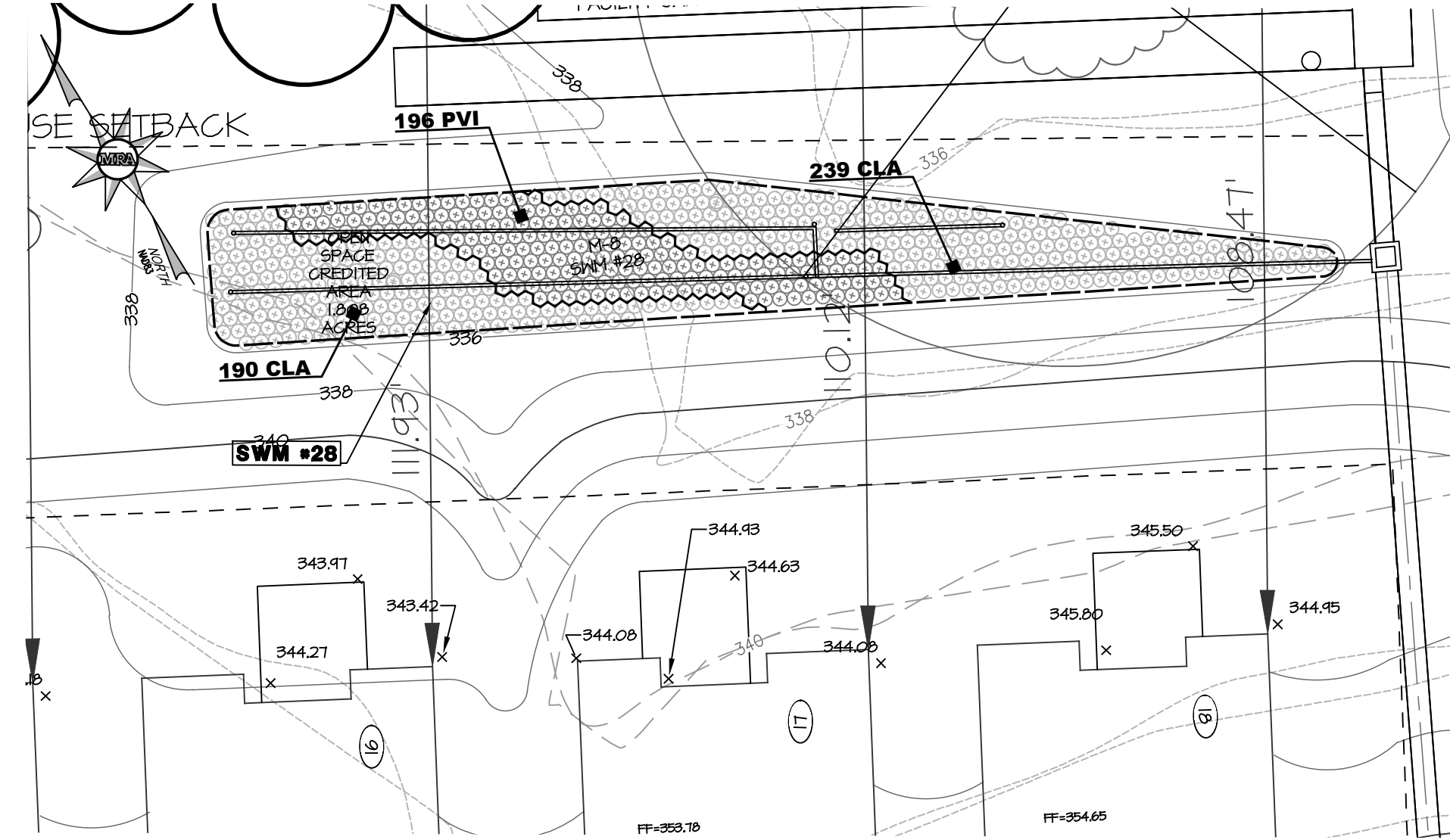
NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #27
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	51
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	51
TOTAL						102

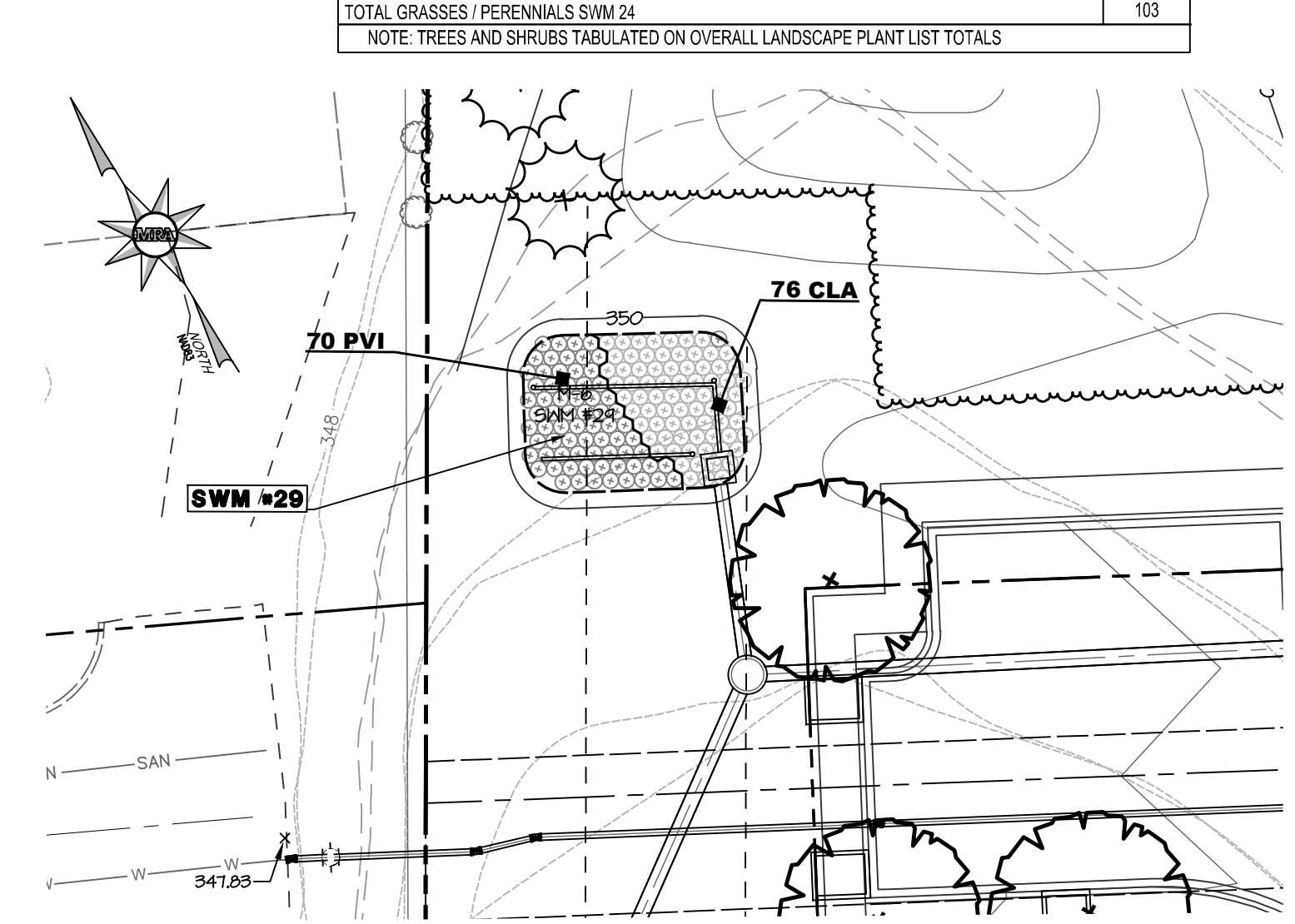
NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #28
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	429
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	196
TOTAL						625

NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS



SWM #29
SCALE: 1"=20'

KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	SPACING	QUANTITY
GRASSES / PERENNIALS						
CLA	Chasmanthium latifolium	Northern Sea Oats	1 QT.	CONT.	24" O.C.	76
PVI	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	1 QT.	CONT.	24" O.C.	70
TOTAL						146

NOTE: TREES AND SHRUBS TABULATED ON OVERALL LANDSCAPE PLANT LIST TOTALS

SHEET: SDP-42

LEGEND	
	PR. RIGHT OF WAY
	PR. LOT LINE/PARCEL LINE
	PR. EASEMENT
	PR. OPEN SPACE EASEMENT
	PR. BUILDING
	PR. CURB & GUTTER
	PR. ROAD CENTER LINE
	PR. CONC SIDEWALK
	PR. HANDICAP RAMP
	PR. UNIT NUMBER
	PR. CURB RADIUS
	PR. STREET LIGHT (LED-100 COLONIAL)
	PR. STREET LIGHT (LED-150 COLONIAL)
	PR. LED-150 COBRAHEAD FIXTURE MOUNT 30 FT BRONZE FIBERGLASS POLE USING
	PR. TREE LINE
	PR. DECORATIVE FENCE/ENTRY FEATURE
	PR. MAILBOXES
	EX. 1' CONTOUR
	EX. 2' CONTOUR
	EX. 10' CONTOUR
	EX. SPOT
	EX. STEEP SLOPES 15%-25%
	PR. <1' CONTOUR
	PR. 2' CONTOUR
	PR. 10' CONTOUR
	PR. LIMIT OF DISTURBANCE
	PR. SPOT ELEVATION
	PR. MICRO-BIORETENTION FACILITY (M-6)
	PR. PERMEABLE PAVEMENT (A-2)
	PR. DRYWELL (M-5)

LANDSCAPE LEGEND

	PR. STREET TREE SHADE TREE
	PR. STREET TREE/MINOR SHADE TREE (SCAGGSVILLE UNDER UTIL. LINE AND TOWNHOUSE SCHEDULE A PLANTINGS)
	PR. BUFFER SHADE TREE
	PR. BUFFER EVERGREEN TREE
	PR. BUFFER MINOR DECIDUOUS/ORNAMENTAL TREE
	PR. INTERNAL SHADE TREE
	PR. INTERNAL SHADE TREE DECIDUOUS/ORNAMENTAL TREE
	PR. FOUNDATION/SWM SHRUB
	PR. GRASSES/PERENNIALS
	PR. SPECIMEN TREE REPLACEMENT PLANTING 3" DBH (DIAMETER BREAST HEIGHT) PIN OAK PER FOREST CONSERVATION PLAN

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
	10/5/2022
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION	DATE
	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
	10/6/2022
DIRECTOR	DATE

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SWM PLANTING PLANS - SWM #19 - #29

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590x04
		SCALE: 1" = 20'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 42 OF 49

MD PROFESSIONAL CERTIFICATION:

APPLICANT /OWNER/ DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

SDP-21-038



GENERAL NOTES

- 1. TOTAL PROJECT AREA: 15.81 ACRES (688,683 SF)
2. ZONING: R-20
3. WATERSHED NAME AND DNR LISTING NUMBER: PATUXENT RIVER / 021311050950
4. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION...

- 1. MINIMUM WIDTH OF WOODLAND PRESERVATION AREAS: 35'
MINIMUM WIDTH OF AFFORESTATION AREAS: 50'
MINIMUM AFFORESTATION/REFORESTATION AREA: 10,000 SF
2. REQUIRED PERCENTAGES
REFORESTATION: 20% (RESIDENTIAL SUBURBAN - LESS THAN 1 ACRE PER DWELLING UNIT)

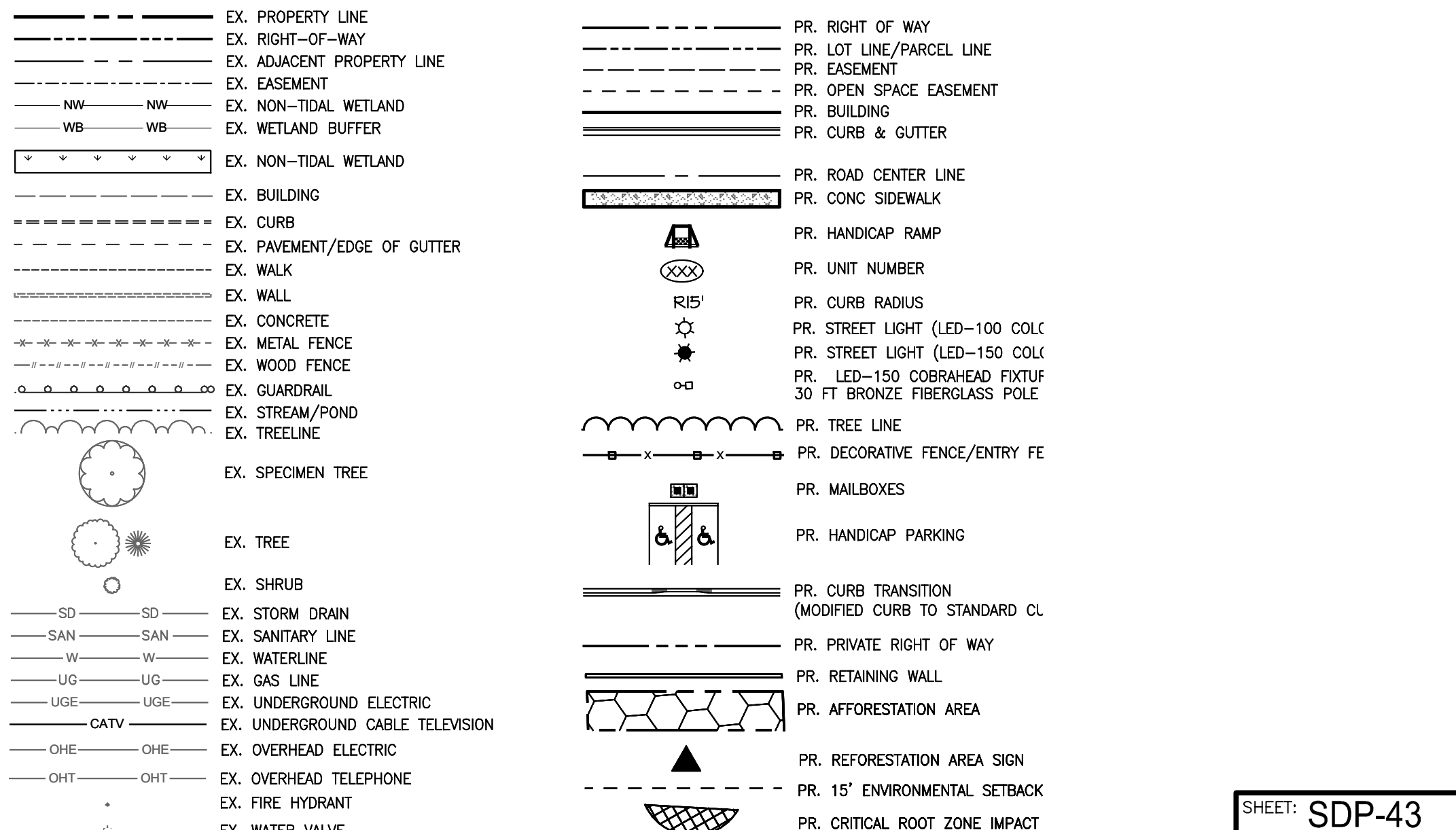
- 3. PREFERRED LOCATION FOR REFORESTATION/AFFORESTATION: ESTABLISH OR ENHANCE FOREST IN 100-YEAR FLOODPLAIN AND BUFFERS TO INTERMITTENT AND PERENNIAL STREAMS, IN WETLANDS AND WETLAND BUFFERS, SLOPES OF 25% OR GREATER OR SLOPES OF 15% OR GREATER WITH A SOIL VALUE GREAT THAN 0.35, ADJACENT TO EXISTING FOREST, ALONG PROPERTY LINE BETWEEN DIFFERING USES OR ADJACENT HIGHWAYS, UTILITY RIGHTS-OF-WAY ESPECIALLY SCENIC ROADS.

- 4. RESIDENTIAL DEVELOPMENTS WITH MORE THAN ONE ACRE OF OBLIGATION SHALL MEET 75% OF THEIR OBLIGATION ON-SITE BY REDUCING LOT SIZES, CLUSTERING LOTS, AND MAXIMIZING OPEN SPACES TO THE MAXIMUM EXTENT PERMITTED BY THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

SPECIMEN TREE RETENTION PROCEDURES

- 1. FOUR SPECIMEN SPECIMEN TREES WITH CRITICAL ROOT ZONES ARE LOCATED WHOLLY OR PARTLY WITHIN THE SUBJECT PROPERTY. THESE NOTES PERTAIN TO SPECIMEN TREES ST-1 AND ST-2 WHOSE CRITICAL ROOTS ZONES ARE IMPACTED BY THE PROPOSED DISTURBANCE, ALTHOUGH ST-2 IS LOCATED OFF-SITE. SPECIMEN TREES ST-3 & ST-4 ARE SLATED TO BE REMOVED.

LEGEND



SHADE TREES FOR SPECIMEN TREE REPLACEMENT

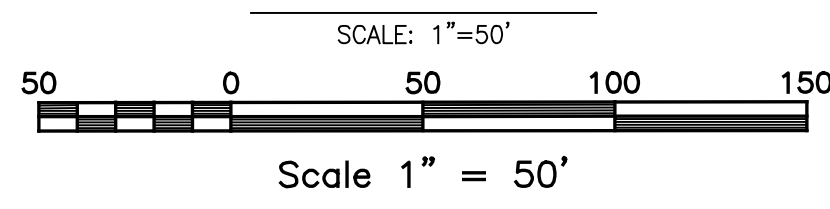
Table with columns: KEY, BOTANICAL NAME, COMMON NAME, SIZE, ROOT, SPACING/NOTES, QUANTITY. Includes entry for Quercus palustris Pin Oak.

NOTES: FOR ALL PROPOSED LANDSCAPING AND PLANTING DETAILS, SEE SEPARATE LANDSCAPE PLAN. THIS TABLE IS A DUPLICATE TO SUMMARIZE PLANTING PROPOSED TO MEET FOREST CONSERVATION PLAN REQUIREMENTS...

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER: WBG ESM, LLC ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044 CONTACT: BRUCE HARVEY PHONE: 410-997-8800

LAYOUT PLAN

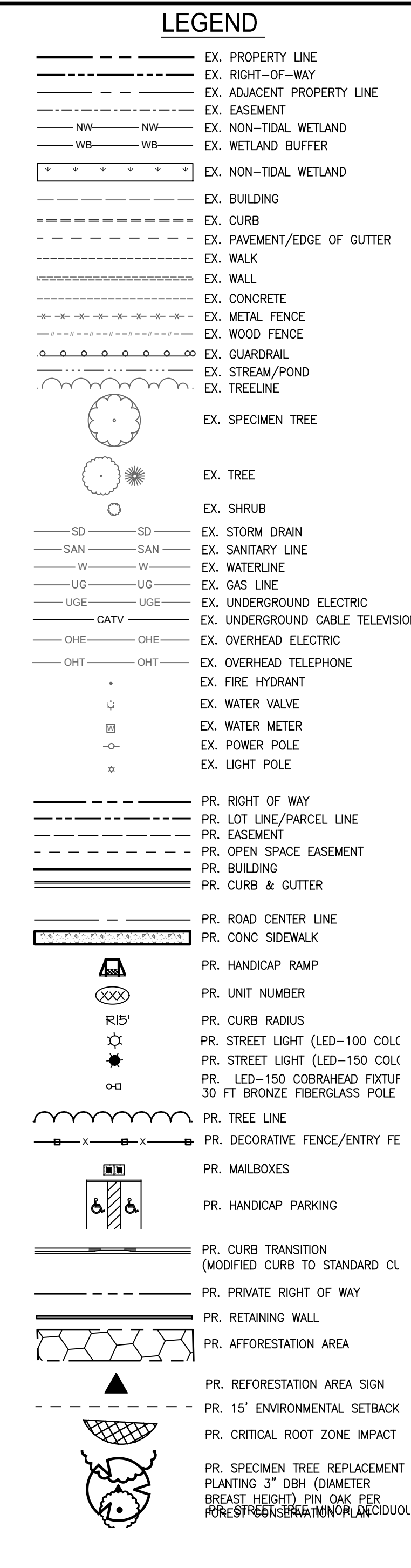
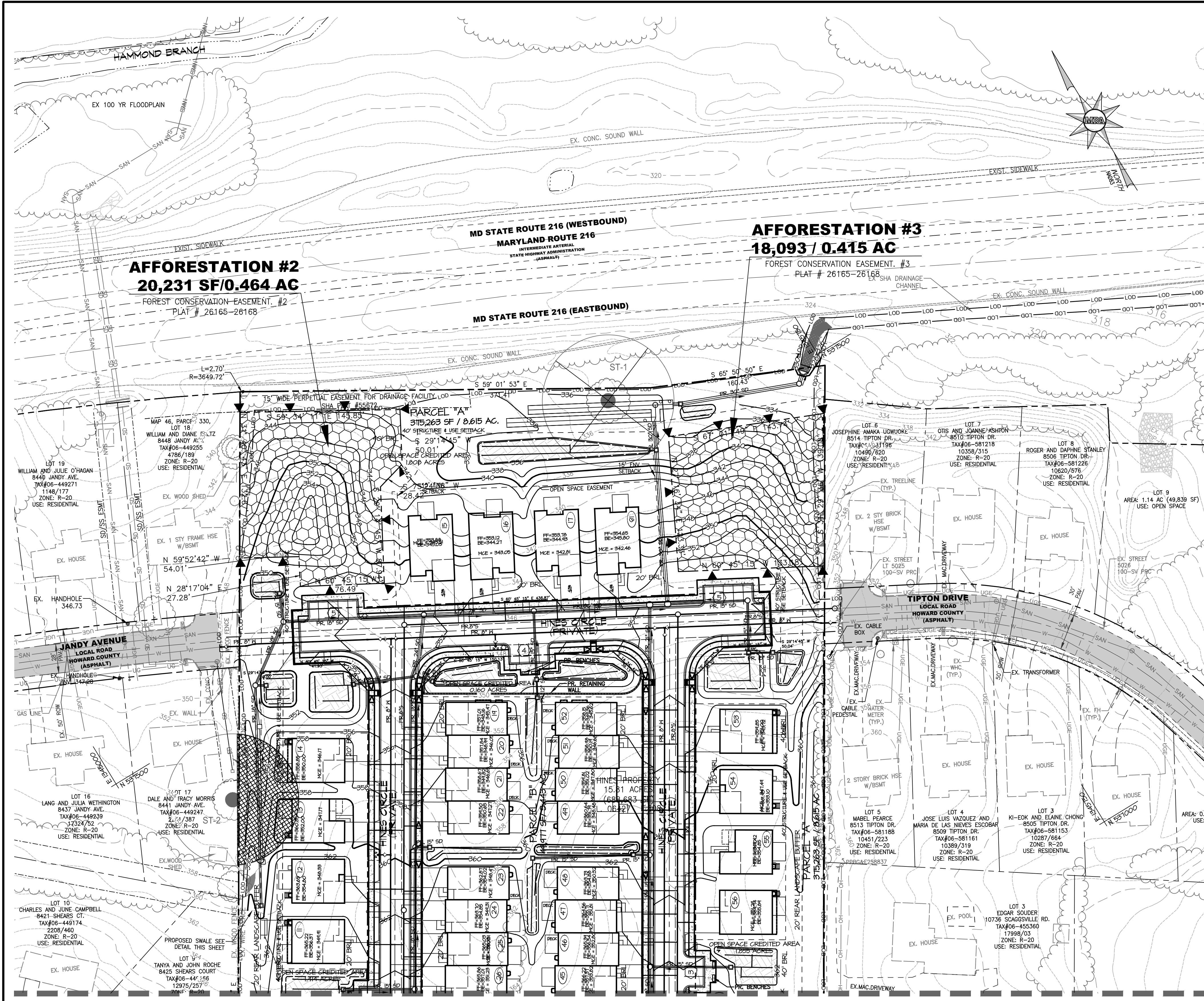


SPECIMEN TREES

Table with columns: NUMBER, SCIENTIFIC NAME, COMMON NAME, DBH, CONDITION, COMMENTS. Lists trees like Fraxinus pennsylvanica and Acer saccharum.

APPROVED: DEPARTMENT OF PLANNING AND ZONING. Chief, Development and Engineering Division: Chad Edmondson. Chief, Division of Land Development: Amy Staman. Director: [Signature]

MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS. 14280 PARK CENTER DRIVE LAUREL, MD 20707. ENCLAVE AT HINES FARM SITE DEVELOPMENT PLAN PARCEL A FOREST CONSERVATION PLAN. SHEET: SDP-43



FOREST CONSERVATION WORKSHEET FOR

Net Tract Area

A	Total (Gross) Tract Area	A = 15.1
B	Area within 100-year Floodplain	B = 0.0
C	Other Deductions (Identify)	C = 0.0
D	Net Tract Area	D = 15.1

Land Use Category

Insert the number "1" under the appropriate land use (limit to only one entry)

Resid. Rural LD	Resid. Rural MD	Resid. Suburban	Inst./Linear	Retail/nd./Office	Mixed Use/PUD
0	0	1	0	0	0

Existing Forest Cover

E	Afforestation Threshold (Net Tract Area x 15%)	E = 2.3
F	Reforestation Threshold (Net Tract Area x 20%)	F = 3.0

Existing Forest Cover

G	Existing Forest Cover within the Net Tract Area	G = 0.0
H	Area of Forest above Afforestation Threshold	H = 0.0
I	Area of Forest above Reforestation Threshold	I = 0.0

Break Even Point

J	Break Even Point	J = 0.0
K	Forest Clearing Permitted without Mitigation	K = 0.0

Proposed Forest Clearing

L	Total Area of Forest to be Cleared	L = 0.0
M	Total Area of Forest to be Retained	M = 0.0

Planting Requirements Inside Watershed

N	Reforestation for Clearing above the Reforestation Threshold	N = 0.0
P	Reforestation for Clearing below the Reforestation Threshold	P = 0.0
Q	Credit for Retention above the Reforestation Threshold	Q = 0.0
R	Total Reforestation Required	R = 0.0
S	Total Afforestation Required	S = 2.3
T	Total Reforestation and Afforestation Requirement	T = 2.3
U	75% of Total Obligation (Retention + Planting)	U = 1.7
V	Planting Required Onsite to meet 75% Obligation	V = 1.7

Planting Requirements Outside Watershed

W	Total Planting within Development Site Watershed	W = 1.6
X	Total Afforestation Required	X = 0.5
Y	Remaining Planting within Watershed for Reforestation Credit	Y = 0.0
Z	Reforestation for Clearing above the Reforestation Threshold	Z = 0.0
AA	Reforestation for Clearing below the Reforestation Threshold	AA = 0.0
BB	Credit for Retention above the Reforestation Threshold	BB = 0.0
CC	Total Reforestation Required	CC = 0.0
DD	Total Afforestation and Reforestation Requirement	DD = 0.5

Date: 10-8-2021

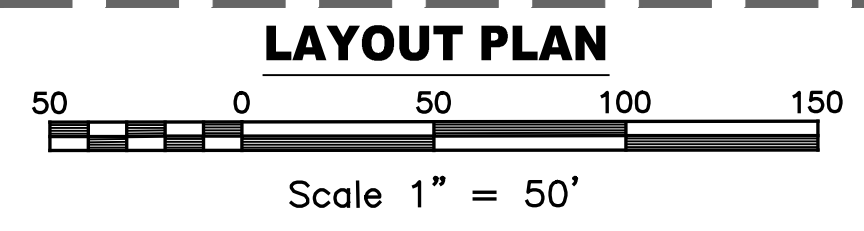
FOREST CONSERVATION NOTES

FOREST CONSERVATION REFORESTATION SURETY

AS REQUIRED PER SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION AND THE UPDATED FOREST CONSERVATION MANUAL, 75% OF THE 2.40 AC. REQUIREMENT SHALL BE MET BY THE 79,110 SF (1.8 AC.) OF AFFORESTATION PROVIDED ON-SITE. FOREST CONSERVATION EASEMENTS WILL BE PROVIDED FOR LONG-TERM PROTECTION OF THESE AFFORESTATION AREAS. FINANCIAL SURETY FOR AFFORESTATION AREAS WILL BE PROVIDED IN THE AMOUNT OF \$0.50 PER SF, FOR A TOTAL FOREST CONSERVATION SURETY AMOUNT OF \$39,555.00.

OFF-SITE FOREST CONSERVATION

THE REMAINING 0.50 AC./21,780 SF FOREST CONSERVATION BALANCE REQUIRED FOR SDP-21-038 SHALL BE ADDRESSED WITH A 2:1 OFFSITE PURCHASE, PER SECTION 3.4.3 RETENTION MITIGATION BANKS AND OFF-SITE RETENTION OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL DATED FEBRUARY 3, 2022. ONE ACRE HAS BEEN SET ASIDE THROUGH A REDLINE OF F-17-077, THE ESTATES AT SCHOOLEY MILL RETENTION BANK.



SEE MATCHLINE SHEET SDP-43

AFFORESTATION AREAS

NUMBER	AREA	TOTAL TREES PROVIDED (1" CALIPER TREES AT 200 TREES PER ACRE)	SPECIES PER AFFORESTATION AREA	
			SHADE/DECIDUOUS TREES	FLOWERING TREES
AFFORESTATION 1	0.233 AC (10,148 SF)	47 TREES REQUIRED	9 AR, 7 FG, 7 NS, 8 QA, 8 QR	8 CF
AFFORESTATION 2	0.464 AC (20,231 SF)	93 TREES REQUIRED	17 AR, 14 FG, 14 NS, 16 QA, 16 QR	8 CF, 8 SA
AFFORESTATION 3	0.415 AC (18,093 SF)	83 TREES REQUIRED	16 AR, 13 FG, 13 NS, 15 QA, 15 QR	11 SA
AFFORESTATION 4	0.230 AC (10,016 SF)	46 TREES REQUIRED	8 AR, 7 FG, 7 NS, 8 QA, 8 QR	8 CF
AFFORESTATION 5	0.473 AC (20,624 SF)	95 TREES REQUIRED	18 AR, 14 FG, 14 NS, 16 QA, 17 QR	8 CF, 8 SA
TOTAL AFFORESTATION	1.815 AC (79,110 SF)	364 TREES REQUIRED TOTAL	305 SHADE/DECIDUOUS	59 FLOWERING

SEE PLANT CHART FOR PLANT SPECIFICATIONS AND TOTALS.
PLANTS TO BE PROVIDED IN A RANDOM PLANTING PATTERN IN EACH AFFORESTATION AREA TO TOTAL TREE COUNT FOR EACH.

PLANT CHART

ABBREV.	LATIN NAME / COMMON NAME	PROPOSED SIZE	TYPE	SPACING FEET (FROM WOODLAND CONSERVATION MANUAL)	TOTAL PROVIDED IN ALL 5 AFFORESTATION AREAS
AR	<i>Acer rubrum</i> / Red Maple	1" to 1-1/2" Cal	Container	15'x15'	68
FG	<i>Fagus grandifolia</i> / American Beech	1" to 1-1/2" Cal	Container	15'x15'	55
NS	<i>Nyssa sylvatica</i> / Black Gum	1" to 1-1/2" Cal	Container	15'x15'	55
QA	<i>Quercus alba</i> / White Oak	1" to 1-1/2" Cal	Container	15'x15'	63
QR	<i>Quercus rubra</i> / Red Oak	1" to 1-1/2" Cal	Container	15'x15'	64
TOTAL SHADE/DECIDUOUS TREES					305
CF	<i>Cornus florida</i> / Flowering Dogwood	1" to 1-1/2" Cal	Container	15'x15'	32
SA	<i>Sassafras albidum</i> / Common Sassafras	1" to 1-1/2" Cal	Container	15'x15'	27
TOTAL UNDERSTORY/FLOWERING TREES					59
GRAND TOTAL ALL TREES					364

THE FOREST CONSERVATION PLANTING SIZES PROPOSED MAY NOT CHANGE. IF THE TREES PLANTED ARE LESS THAN 1" DBH FOR THE AFFORESTATION AREAS AS SPECIFIED (OTHER THAN THE LARGER SPECIMEN TREE REPLACEMENT PLANTINGS), THEN A 35' SETBACK FROM THE EDGE OF FOREST CONSERVATION WILL BE REQUIRED, NEGATIVELY IMPACTING THE DESIGN OF THIS PROJECT.

PLANT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 10/5/2022
150374244409

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 10/6/2022

Angy Goman 10/6/2022
8840800470024

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 10/6/2022

DIRECTOR DATE

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

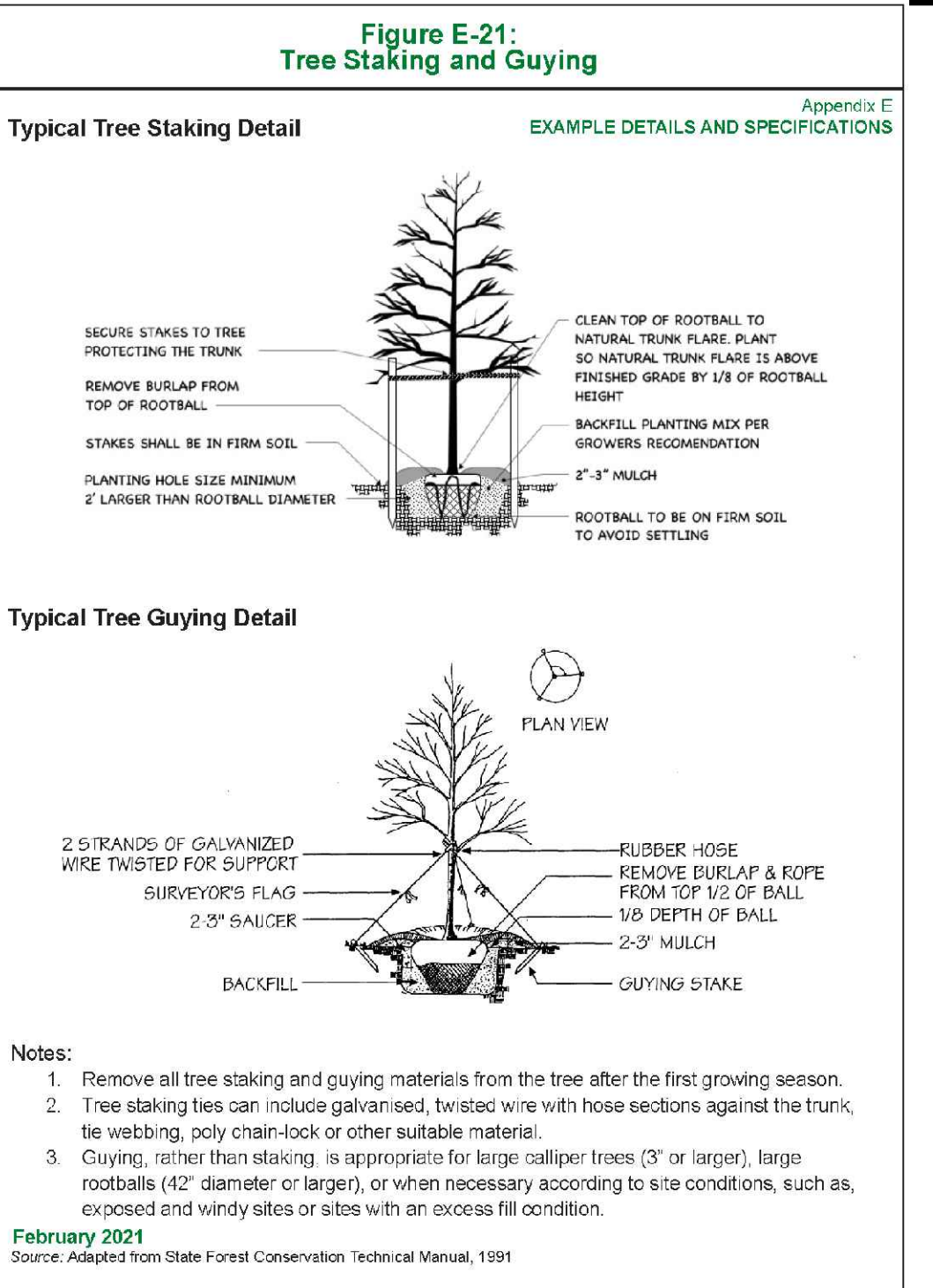
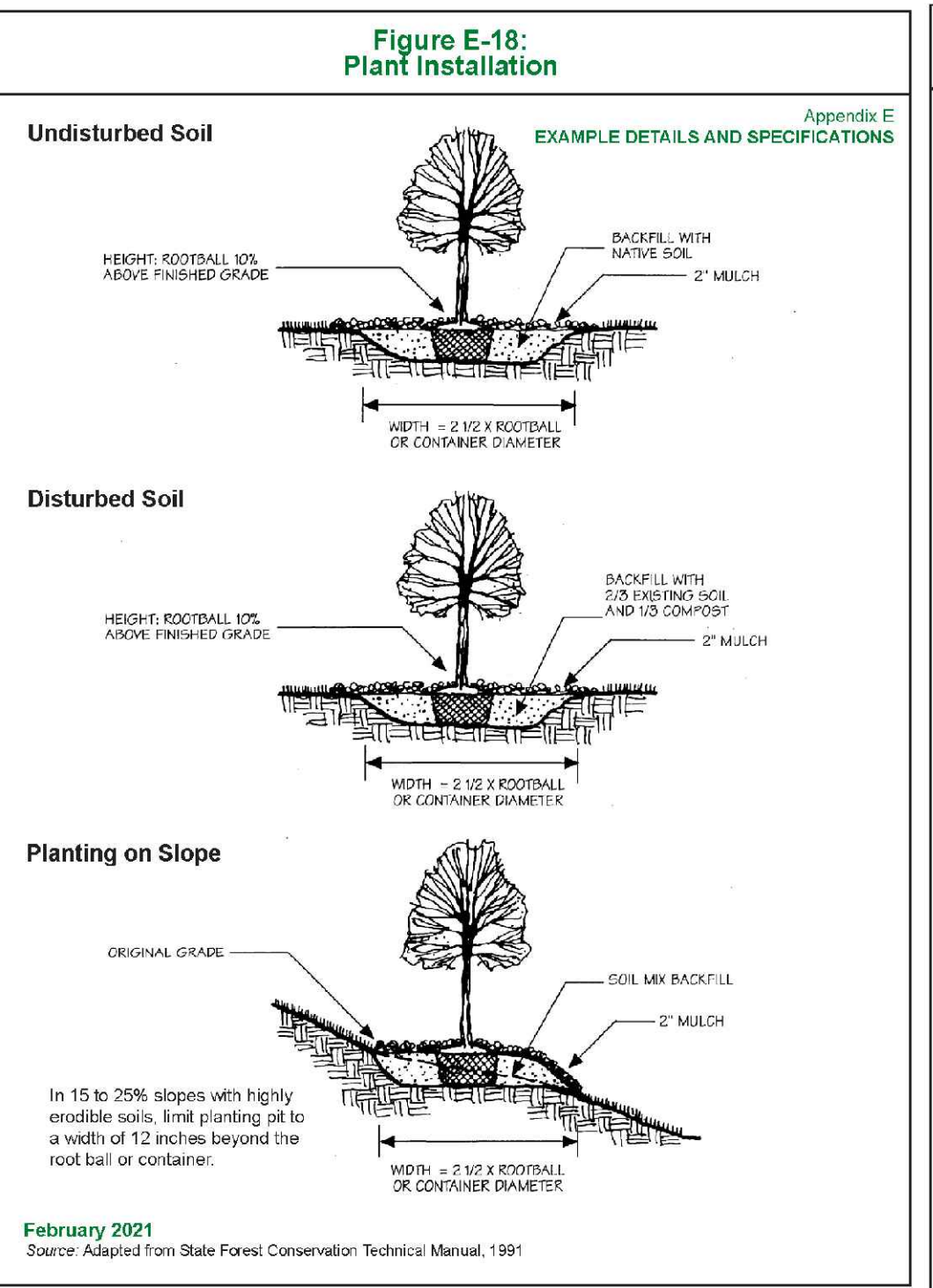
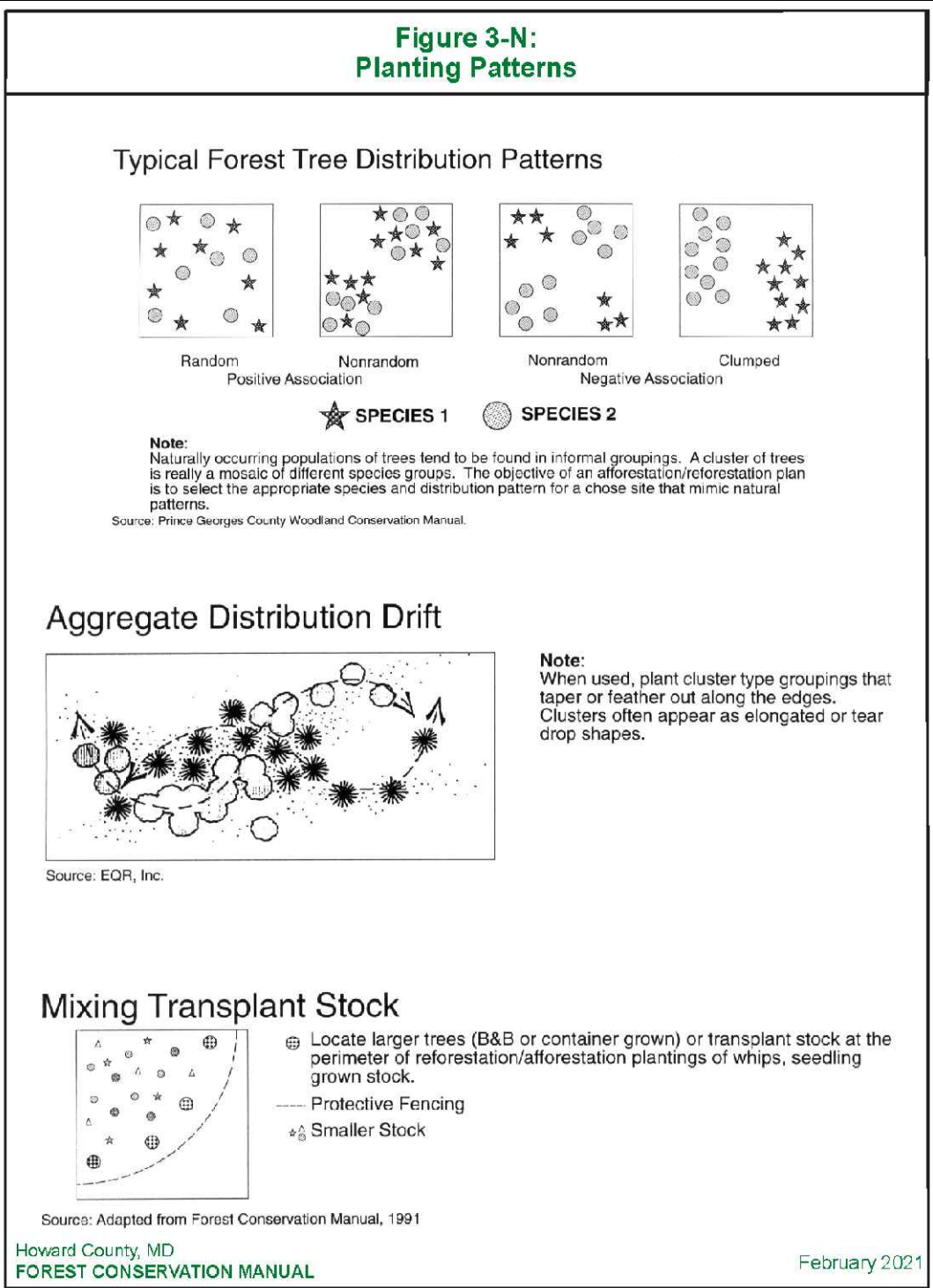
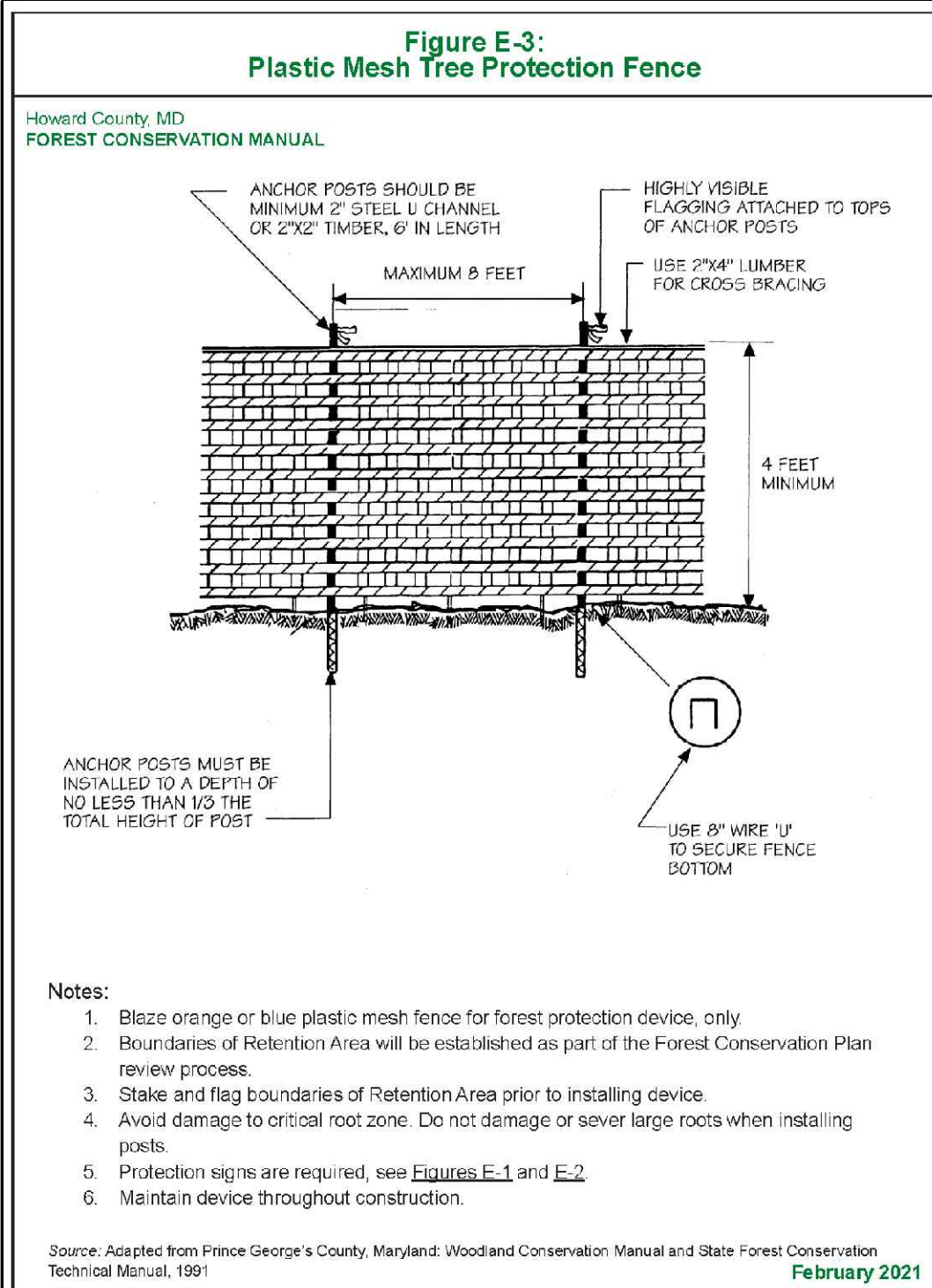
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
FOREST CONSERVATION PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE REVISIONS JOB NO.: 19590/04
SCALE: 1" = 50'
DATE: 4-26-2022
DRAWN BY: MF
DESIGN BY: MF
REVIEW BY: MM
SHEET: 44 OF 49

SDP-21-038



REFORESTATION AREA PLANTING NOTES

SITE PREPARATION FOR PLANTING DISTURBED AREAS

SOILS SHOULD BE TREATED BY INCORPORATING NATURAL MULCH WITHIN THE TOP 12 INCHES OR BY AMENDMENTS AS DETERMINED BY A SOILS ANALYSIS. SOIL AMENDMENTS, BY DEFINITION, INCLUDE MODIFICATIONS OF SOILS TO IMPROVE SUCH STRUCTURAL CHARACTERISTICS AS BULK DENSITY OR POROSITY. ON DEVELOPMENT SITES, THE COMMON USE OF FILL MATERIALS MAY INCREASE THE NEED FOR SUCH AMENDMENTS. NATURAL AMENDMENTS SUCH AS ORGANIC MULCH OR LEAF MOLD COMPOST ARE PREFERRED.

WHEN FILL MATERIAL IS USED AT THE PLANTING SITE, IT SHOULD BE CLEAN FILL TOPPED WITH 12 INCHES OF NATIVE SOIL. STOCKPILING OF NATIVE TOP SOILS MUST BE DONE IN SUCH A WAY THAT THE HEIGHT OF THE PILE DOES NOT DAMAGE THE SEED BANK.

PLANTING PERIOD

PLANTING WINDOWS ARE THE TIME DURING THE YEAR WHEN, DEPENDING ON THE SIZE STOCK BEING USED, PLANTING WINDOWS DIFFER. RECOMMENDED PLANTING WINDOWS ARE SHOWN IN EXHIBIT H-1, THIS PAGE.

PLANT MATERIAL STORAGE

PLANTING SHOULD OCCUR WITHIN 24 HOURS OF DELIVERY TO THE SITE. PLANT MATERIALS LEFT UNPLANTED FOR MORE THAN 24 HOURS SHOULD BE PROTECTED FROM DIRECT SUN AND WEATHER AND KEPT MOIST. BARE ROOT STOCK UNPLANTED FOR MORE THAN 24 HOURS SHOULD BE HEeled IN AS SHOWN IN EXHIBIT H-2. NURSERY STOCK SHOULD BE PLANTED WITHIN 2 WEEKS. ON-SITE OR LOCAL TRANSPORTED MATERIALS SHOULD BE STORED IN TREE BANKS IF UNPLANTED FOR MORE THAN 24 HOURS, FOLLOWING THE EXAMPLE IN EXHIBIT H-3, THIS PAGE.

ON-SITE INSPECTION

PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.

PLANT MATERIAL SIZE AND DENSITY

PLANT SIZE

NURSERY GROWN PLANT MATERIALS GREATER THAN 1" CALIPER SHOULD MEET OR EXCEED THE REQUIREMENTS OF AMERICAN ASSOCIATION OF NURSERYMEN SPECIFICATIONS, I.E. SHOULD BE TYPICAL OF THE SPECIES AND VARIETY, HAVE A NORMAL HABIT OF GROWTH, BE FIRST QUALITY, SOUND, VIGOROUS, WELL-BRANCHED, HAVE HEALTHY, WELL FURNISHED ROOT SYSTEMS, AND BE FREE OF DISEASE, INSECT PESTS AND MECHANICAL INJURIES.

THE FOLLOWING DENSITIES ARE REQUIRED FOR REFORESTATION AND AFFORESTATION PLANT MATERIALS:

- 400-2" CALIPER TREES/ACRE (20" X 20" SPACING)
- 200 1" CALIPER TREES/ACRE (15" X 15" SPACING)
- 350 HARDWOOD SEEDLINGS OR WHIPS/ACRE WITH TREE SHELTERS (11" X 11" SPACING)
- 700 SEEDLINGS/ACRE (6" X 6" SPACING)

THE SPACINGS IDENTIFIED ABOVE ARE NOT MEANT TO IMPLY THAT TREES MUST BE PLANTED IN A GRID PATTERN. A MORE NATURAL APPEARANCE IS DESIRED. SEE DETAIL TCP-28 PLANTING DISTRIBUTION PATTERN INSTALLATION.

PLANT INSTALLATION

SMALL STOCK, SUCH AS SEEDLINGS AND WHIPS, AND BALL AND BURLAP STOCK UP TO 2" CALIPER, CAN BE PLANTED BY MANUAL METHODS OF PLANTING USING SHOVELS, PLANTING OR DIGBLE BARS, AND MATOOKS (SEE EXHIBIT H-4). EXTREME CARE SHOULD BE TAKEN TO INSURE RETAINED MOISTURE OF THE ROOTS. WHEN PLANTING SEEDLINGS AND WHIPS, A MOST CARRYING CONTAINER SHOULD BE USED TO PREVENT DESICCATION (SEE EXHIBIT H-5). FOR GREATER PROTECTION, SEEDLINGS MAY BE PLANTED WITH TREE SHELTERS. AREAS PLANTED WITH SEEDLINGS OR WHIPS SHOULD BE MULCHED AFTER PLANTING AS SHOWN IN EXHIBIT H-6. PLANTING DISTRIBUTION PATTERNS SHALL APPEAR RANDOM AS SHOWN IN DETAIL TCP-28 PLANTING DISTRIBUTION PATTERNS EXHIBIT, THIS PAGE.

THE PLANTING FIELD SHOULD BE PREPARED AND NATIVE STOCKPILED SOILS SHOULD BE USED TO BACKFILL THE PLANTING FIELD. RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH 2 TO 4 INCHES OF MULCH. USE WATERING TO SETTLE SOIL BACKFILLED AROUND TREES. AMENDMENTS ARE NOT RECOMMENDED IN THE PLANTING FIELD; STUDIES HAVE SHOWN THAT ROOTS WILL BE ENCOURAGED TO STAY WITHIN THE AMENDED SOILS.

STAKING

STAKING OF LARGER TREES IS NOT RECOMMENDED EXCEPT IN AREAS OF HIGH WINDS. STAKING MAY BE USED FOR TREES LARGER THAN 8 FEET IN HEIGHT. MOVEMENT IS NECESSARY TO STRENGTHEN THE TRUNK OF THE PLANTED TREE. WHEN STAKES ARE USED, THE POST-CONSTRUCTION PERIOD MANAGEMENT PLAN SHOULD SPECIFY THEIR REMOVAL AFTER THE FIRST GROWING SEASON.

GENERAL GUIDANCE FOR MAINTENANCE OF PLANTED AREAS

WATERING

A WATERING PLAN SHOULD ONLY BE IMPLEMENTED TO COMPENSATE FOR DEFICIENT RAINFALL PATTERNS. NEWLY PLANTED TREES MAY NEED WATER AS MUCH AS ONCE A WEEK FOR THE ENTIRE FIRST GROWING SEASON. THE NEXT TWO YEARS, IN CONTRAST, MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR (ONE A MONTH DURING JULY AND AUGUST). AFTER THAT, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. BARE ROOT TRANSPLANTS, IF SUFFICIENTLY WATERED DURING PLANTING, MAY NOT NEED WATER FOR ALMOST 2-4 WEEKS AFTER GROWTH BEGINS. BALLED AND BURLAP MATERIAL MAY REQUIRE MORE FREQUENT WATERING.

SOIL AND WATERING: SOIL TEXTURE INFLUENCES THE DOWNWARD FLOW OF WATER. SOILS WITH MORE CLAY TEND TO RETAIN MORE WATER AND CAN BE WATERED LESS OFTEN; SOILS WITH MORE SAND DRAIN MORE QUICKLY AND NEED TO BE WATERED MORE OFTEN. FOR EXAMPLES OF ON-SITE EVALUATION RECOMMENDATIONS, IF THE SOIL WAS WELL PREPARED BEFORE PLANTING, THERE SHOULD BE FEW DRAINAGE PROBLEMS. RESTRICTED DOWNWARD PENETRATION INDICATES THE SOIL MAY HAVE BEEN COMPACTED DURING CONSTRUCTION AND NOT AERATED BEFORE PLANTING, OR THERE MAY BE A CLAY HARDPAN.

HOW TO WATER: THE BEST WAY TO WATER IS DEEPLY AND SLOWLY USING A REGULAR HOSE, A SOAKER HOSE, OR DRIP IRRIGATION. FOR LARGER TREES, START BY WATERING THE ROOT BALL THOROUGHLY. THE WATERED AREA SHALL BE ENLARGED TO INCLUDE THE WHOLE ROOT ZONE AS THE TREE BECOMES MORE ESTABLISHED. MULCHING AROUND THE BASE OF NEWLY TRANSPLANTED TREES PREVENTS ROOTS FROM DRYING TOO QUICKLY WHILE STILL PROVIDING AIR MOVEMENT TO THE ROOTS.

FERTILIZING

WHAT NUTRIENTS TO APPLY: FERTILIZING IS THE CHEMICAL MODIFICATION OF SOILS TO CORRECT FOR A SPECIFIC NUTRIENT DEFICIENCY. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT FIRST TESTING TO DETERMINE ANY NUTRIENT NEEDS. TREES DEPEND ON THREE MAJOR NUTRIENTS, NITROGEN, PHOSPHORUS, AND POTASSIUM AND A HOST OF OTHER MINOR ONES (OR MICRONUTRIENTS) SUCH AS CALCIUM, MAGNESIUM AND IRON. IN MOST SOILS, MOST OF THE MICRONUTRIENTS ARE AVAILABLE IN ABUNDANCE.

OF THE MAJOR NUTRIENTS, NITROGEN IS USUALLY THE LIMITING ONE.

WHEN TO FERTILIZE: FERTILIZING WITHIN THE FIRST GROWING SEASON AFTER PLANTING IS NOT RECOMMENDED. TOO MUCH NITROGEN MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT. IT IS, THEREFORE, BEST TO WAIT UNTIL AFTER THE END OF THE FIRST GROWING SEASON, EITHER IN THE LATE FALL OR EARLY SPRING.

TYPE OF FERTILIZER: ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALY. ORGANIC FERTILIZERS HAVE A SLOW RELEASE EFFECT THAT CAN SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND THE WATER SUPPLY. SOME SYNTHETIC FERTILIZERS CAN MIMIC THIS SLOW-RELEASE ACTION AND MAY BE APPROPRIATE FOR USE.

CONTROL OF COMPETING VEGETATION

UNWANTED VEGETATION GROWING NEAR NEWLY PLANTED TREES CAN TAKE OVER THE SITE. THE NEED TO CONTROL THIS PROBLEM DEPENDS ON THE ABILITY OF THE PLANTED MATERIAL TO WITHSTAND THE INTRUSION. SMALLER TREES MAY NEED MORE CARE, ALTHOUGH SOME SEEDLINGS SURVIVE WITH THE OVERGROWTH AND WILL SHADE IT OUT AS THE TREES GROW.

TO DETER WEED GROWTH, SPREAD A 2" TO 4" LAYER OF MULCH OVER THE ROOT AREA OF THE NEWLY PLANTED TREES AVOIDING DIRECT CONTACT WITH THE TRUNK, A PRIME SPOT FOR FUNGAL GROWTH. MULCH ALSO HELPS MAINTAIN THE SOIL MOISTURE LEVEL AND MAY PROVIDE A BUFFER FOR ANY EQUIPMENT SUCH AS MOWERS THAT MAY BE USED TO MAINTAIN THE AREA. MULCHING AND MANUAL CONTROL OF COMPETING VEGETATION IS MORE COMPATIBLE WITH THE LONG TERM FOREST HEALTH THAN THE USE OF HERBICIDES.

PROTECTION - PESTS, DISEASES AND MECHANICAL INJURY

INTEGRATED PEST MANAGEMENT (IPM) IS ONE OF THE MOST EFFECTIVE AND SAFEST APPROACHES FOR MAINTAINING A HEALTHY FOREST. IPM BASICS INCLUDE PROPER SPECIES SELECTION FOR THE SITE, GOOD PRUNING, MULCHING AND FERTILIZING PRACTICES, REGULAR MONITORING, AND PROPER TIMING OF NECESSARY SPRAYS. GOOD CULTURAL PRACTICES WILL MINIMIZE THE AMOUNT OF SPRAYING. PROFESSIONAL IPM PROGRAMS HAVE REDUCED PESTICIDE USE BY 90%. SOME ASPECTS OF A FULL IPM PROGRAM INCLUDE:

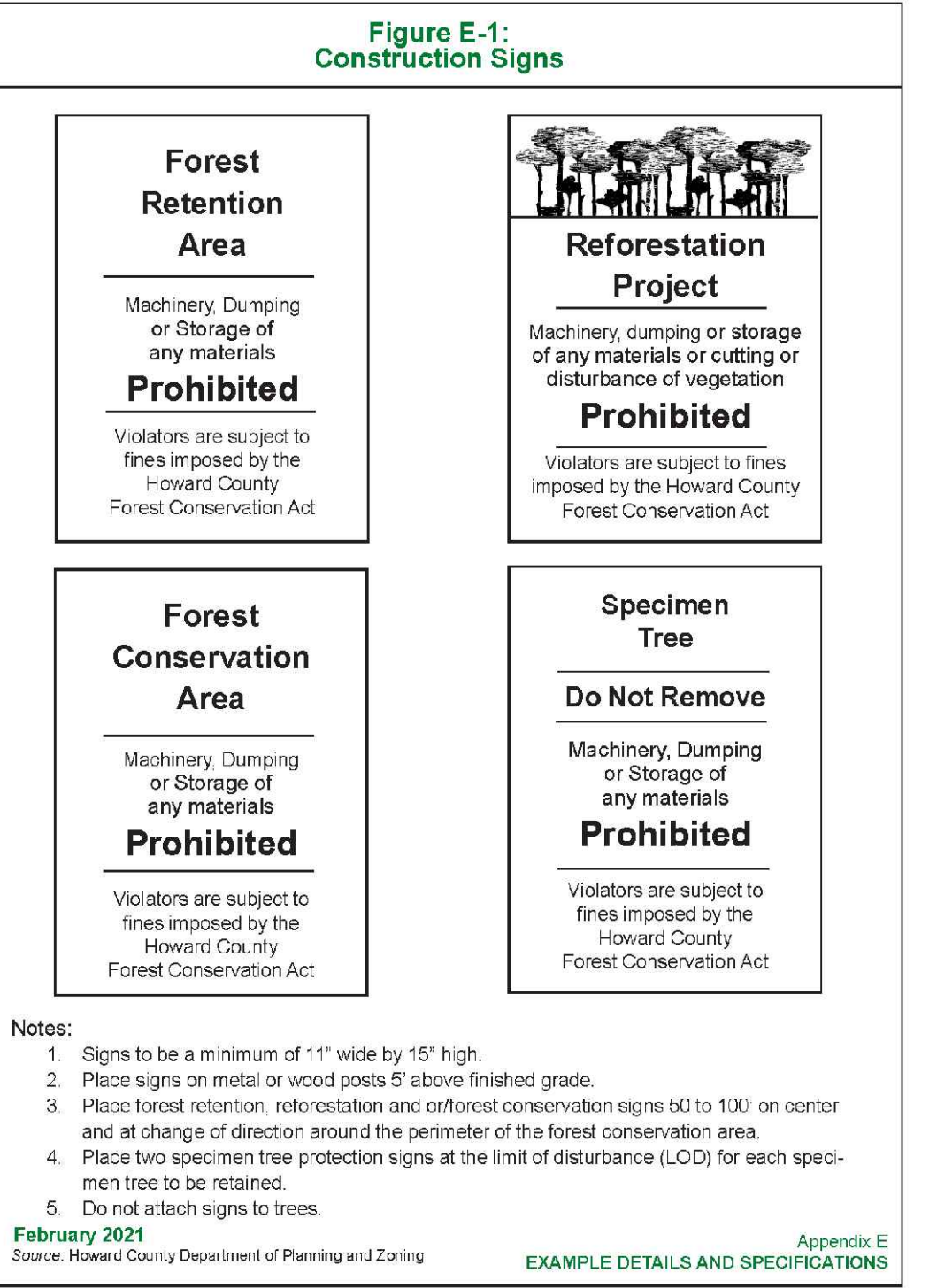
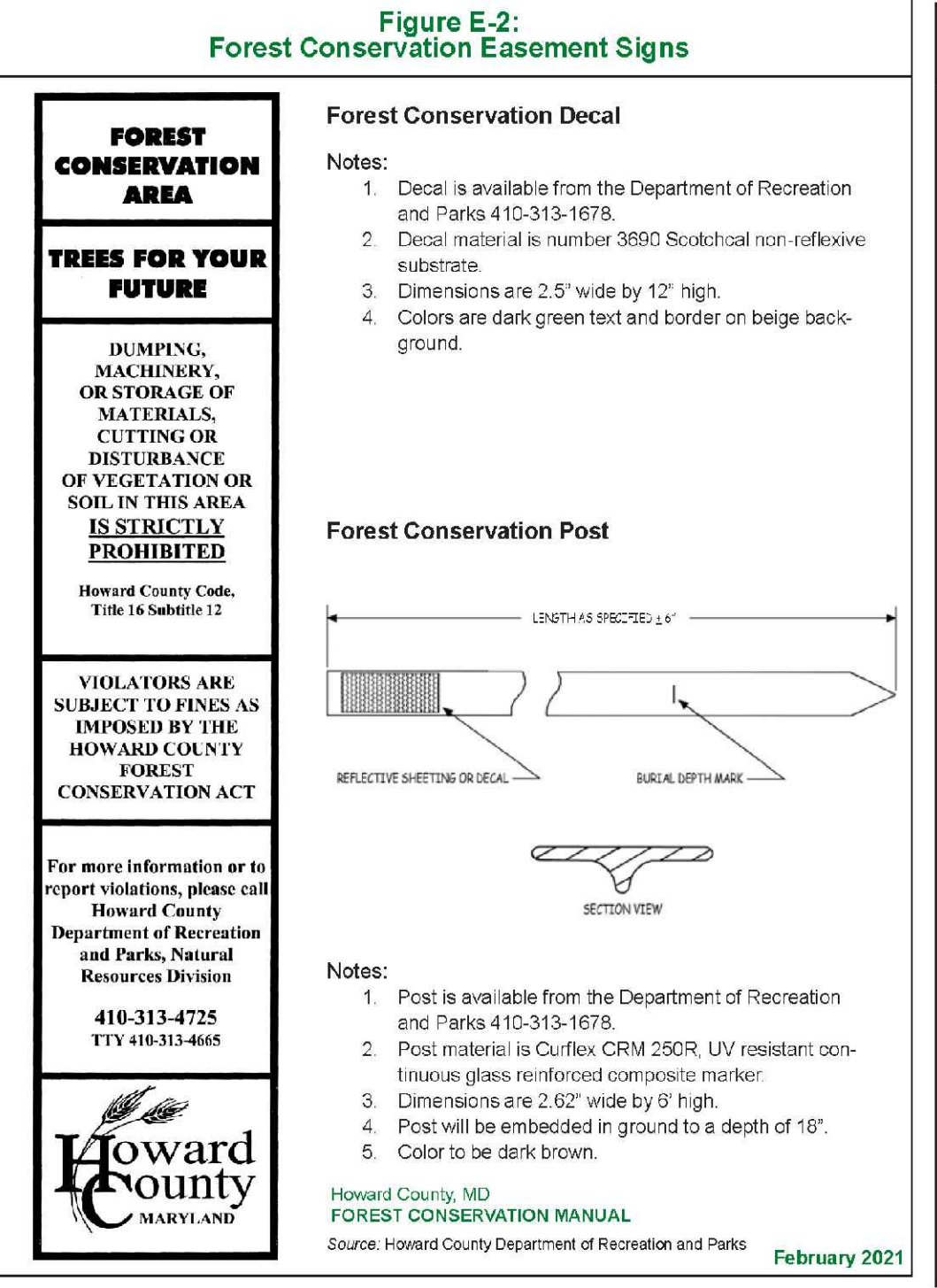
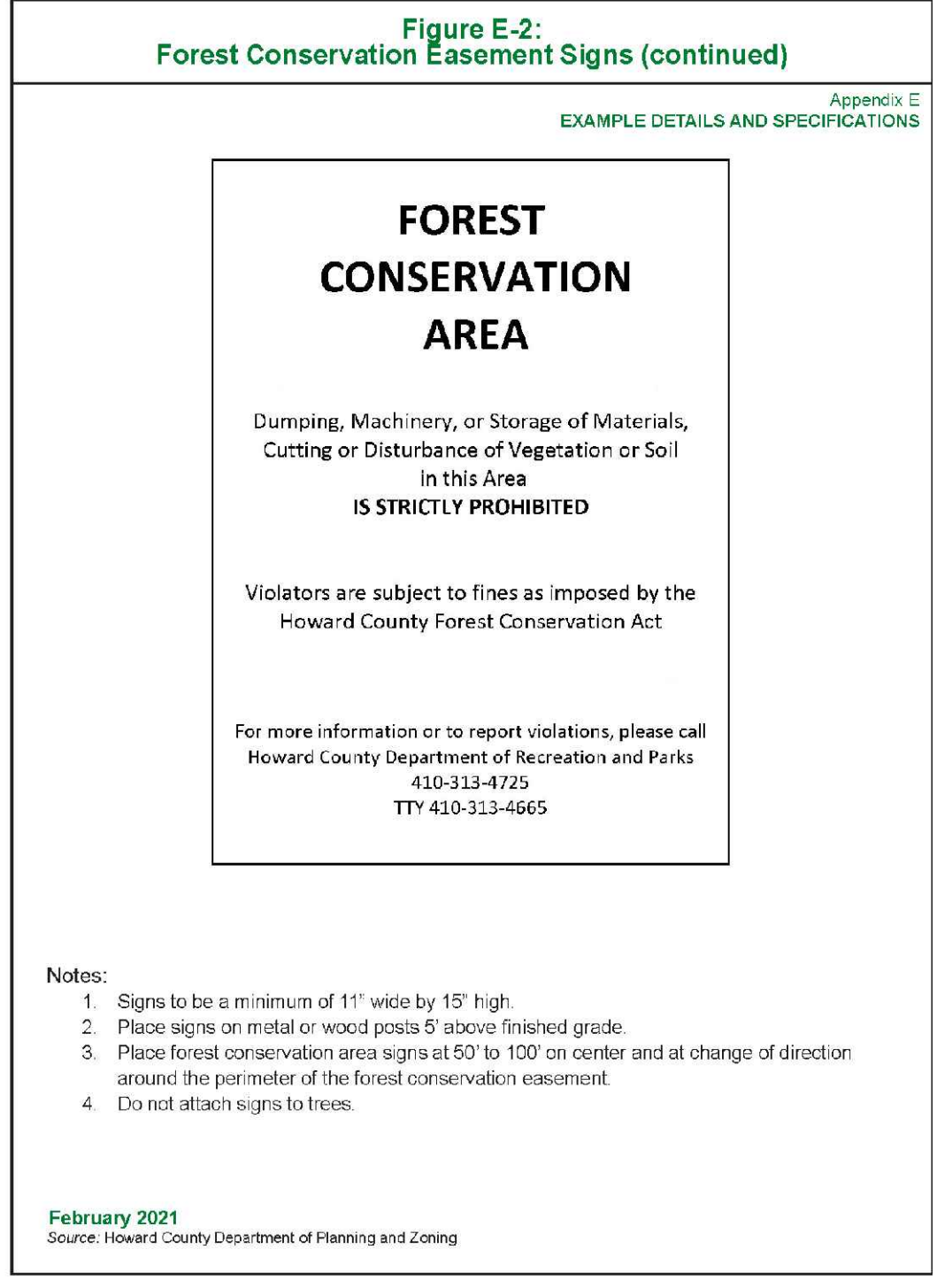
- 1) ELIMINATION OF SOME LOW VEGETATION BEFORE PLANTING TO HELP CONTROL THE RODENT POPULATION WHICH THRIVES IN BRUSHY ENVIRONMENTS.
- 2) USE OF TREE SHELTERS TO PROTECT THE TRUNKS OF SEEDLINGS OR WHIPS FROM ANIMAL DAMAGE. THE SHELTERS ACT AS MINI-GREENHOUSES TO SPEED GROWTH. (THESE TREES NEED MORE WATER THAN THOSE PLANTED WITHOUT TREE SHELTERS, HOWEVER.)
- 3) MULCHING AROUND THE TREES TO MINIMIZE TRUNK DAMAGE FROM MOWERS. WOUNDS PROVIDE AN ENTRY WAY FOR PESTS.
- 4) PRUNING DEAD AND DISEASED BRANCHES WITH A CLEAN CUT TO PREVENT ESTABLISHMENT OR SPREADING OF DISEASE.

SUNSCALD IS A PROBLEM FOR THIN BARKED YOUNG TREES. TREE WRAP WAS COMMONLY USED TO PROTECT TREES FROM SUNSCALD BUT IS NO LONGER RECOMMENDED DUE TO THE INCREASED OPPORTUNITIES FOR INSECT INFESTATION AND DISEASE. AN ALTERNATIVE TO WRAPPING IS TO ALLOW SMALL NON-COMPETITIVE BRANCHES, COMMONLY PRUNED DURING OR BEFORE PLANTING, TO GROW ON THE SUNNY SIDE OF THE TRUNK TO HELP SHADE THE TRUNK

FINANCIAL SECURITY FOR REFORESTATION/AFFORESTATION

PROJECT CLIENT SHALL FURNISH FINANCIAL SECURITY IN THE FORM OF A BOND, AN IRREVOCABLE LETTER OF CREDIT, OR OTHER SECURITY APPROVED BY THE COUNTY. THIS SHALL BE PROVIDED PRIOR TO PLANT RECORDED, SITE DEVELOPMENT PLAN APPROVAL OR GRADING PERMIT DEPENDING ON PROJECT. THIS BOND IS TO BE IN AN AMOUNT EQUAL TO THE ESTIMATED COST OF REFORESTATION/AFFORESTATION AND ASSURE THAT FOREST CONSERVATION AGREEMENT ARE IMPLEMENTED IN ACCORDANCE WITH THE APPROVED FOREST CONSERVATION PLAN.

IF, AFTER 3 GROWING SEASONS FOLLOWING THE AFFORESTATION/REFORESTATION OR AS PROVIDED IN THE FOREST CONSERVATION AGREEMENT, THE PLANTS ASSOCIATED WITH THE AFFORESTATION OR REFORESTATION MEET OR EXCEED THE STANDARDS OF THE MANUAL, THE AMOUNT OF THE BOND, LETTER OF CREDIT, OR OTHER SECURITY SHALL BE RETURNED OR RELEASED.

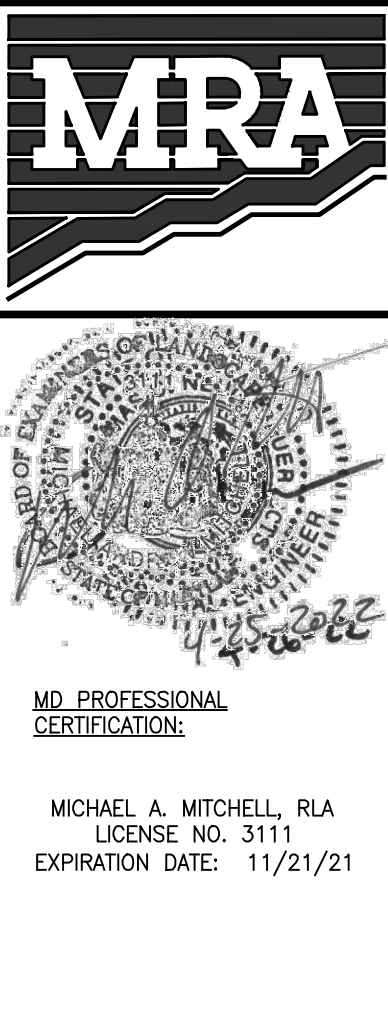


APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edmondson</i>	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i>	10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Amy Goman</i>	10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

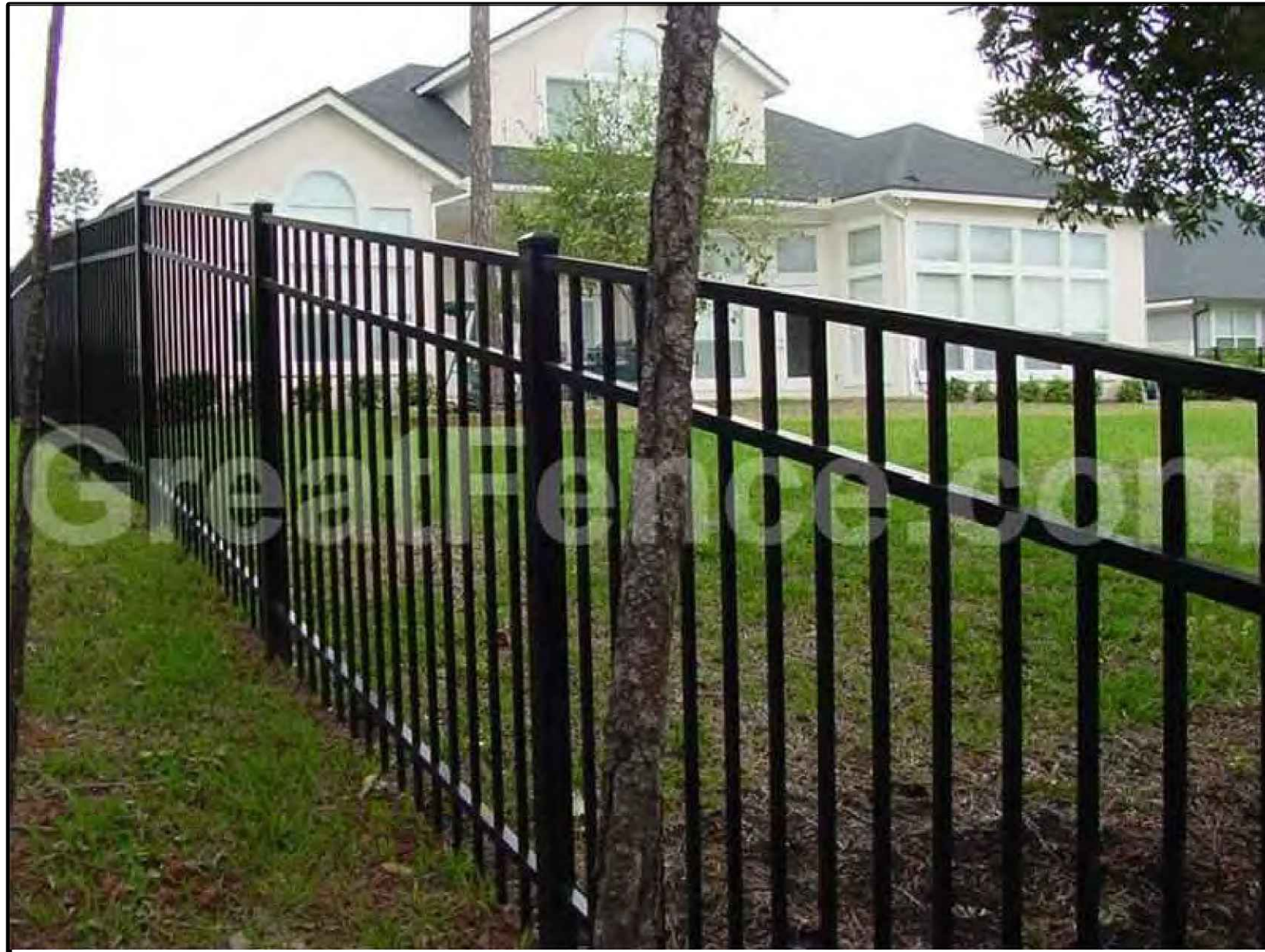
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
FOREST CONSERVATION DETAILS

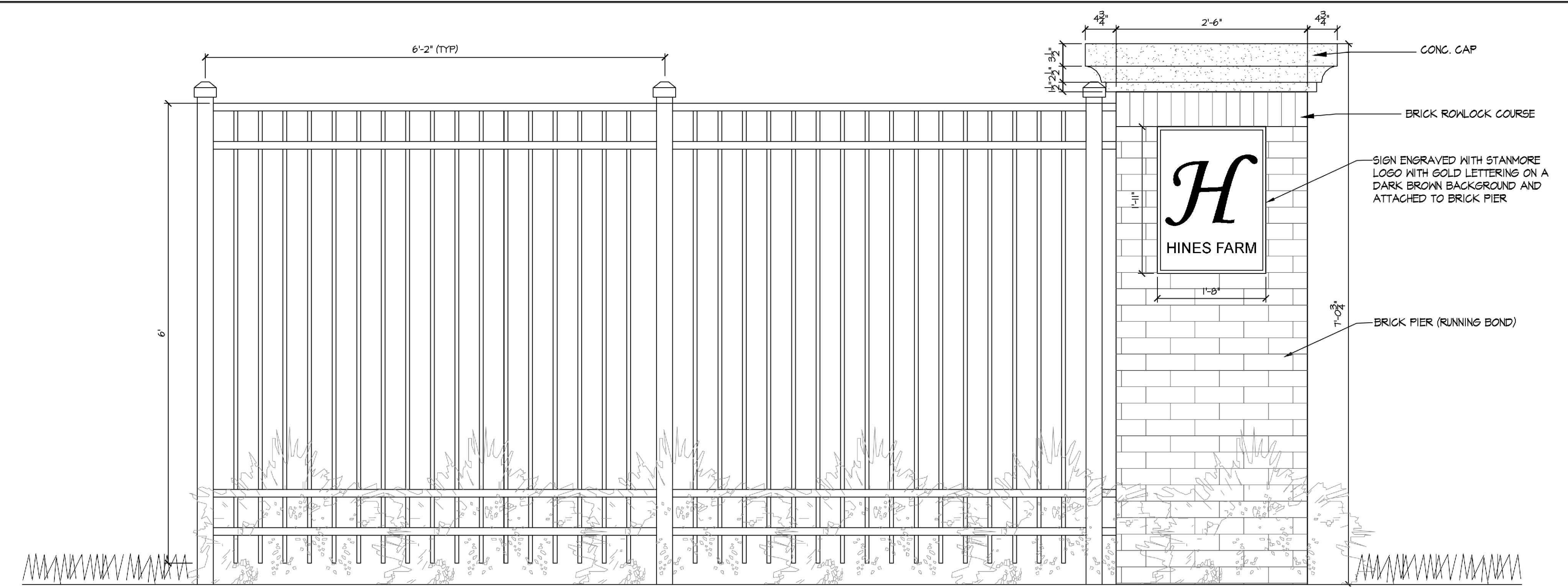
TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.: 19590/04
		SCALE: SEE TEMPLATE
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 45 OF 49

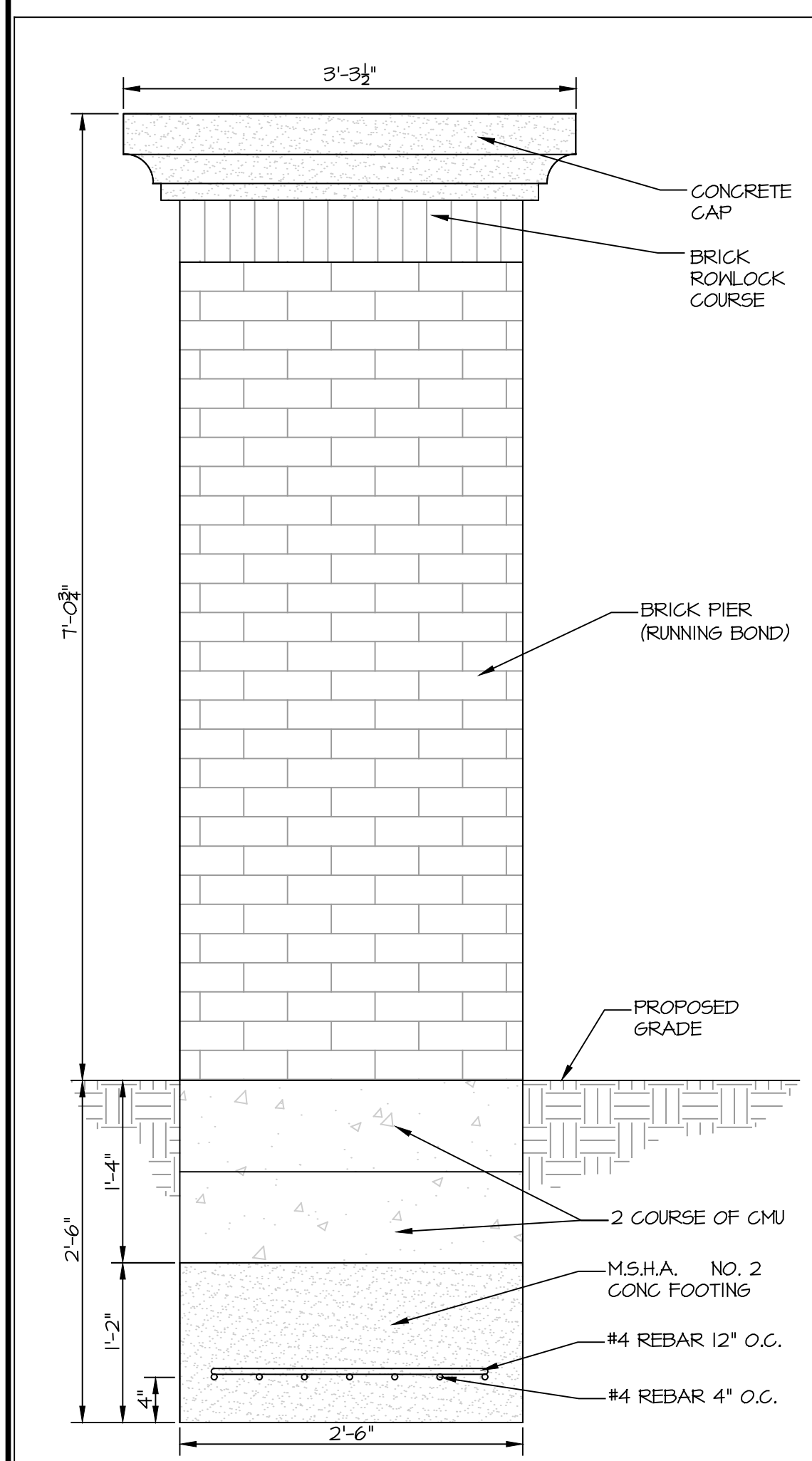
SDP-21-038



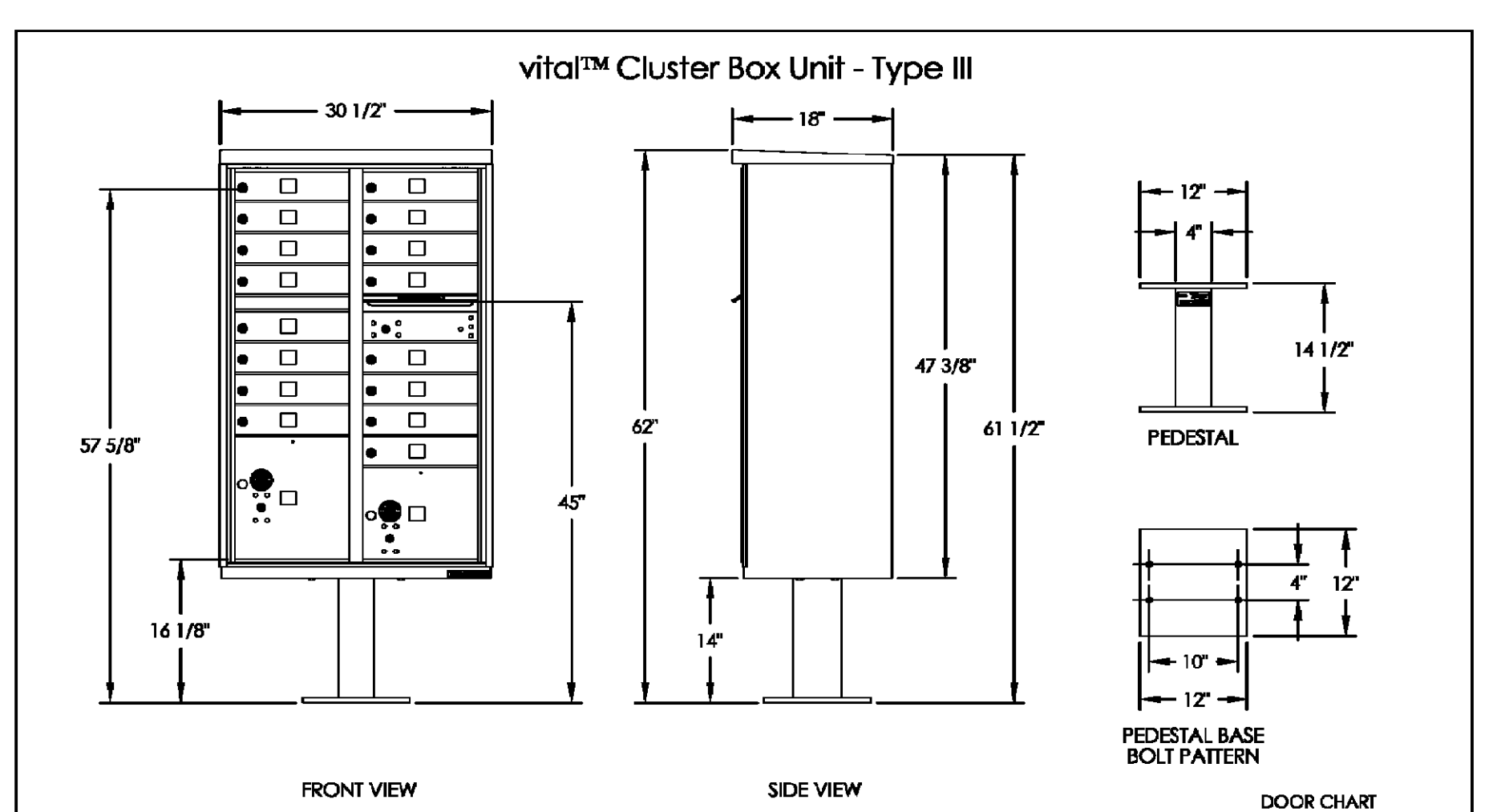
TYPICAL FENCE IMAGE
SCALE: NOT TO SCALE



ENTRANCE FEATURE PIER AND FENCE DETAIL
SCALE: 1" = 1'-0"



PIER CONSTRUCTION DETAIL
SCALE: 1" = 1'-0"



NOTES:

- This unit is approved for USPS and private applications.
- Decorative mailbox accessories sold separately and are USPS Approved products.
- Pedestal should be installed with included Rubber Pad; mounting hardware not included, refer to installation manual for recommendations.
- Florence 1™ series CBU is Officially Licensed by USPS; License#CDSEQ-08-B-0012

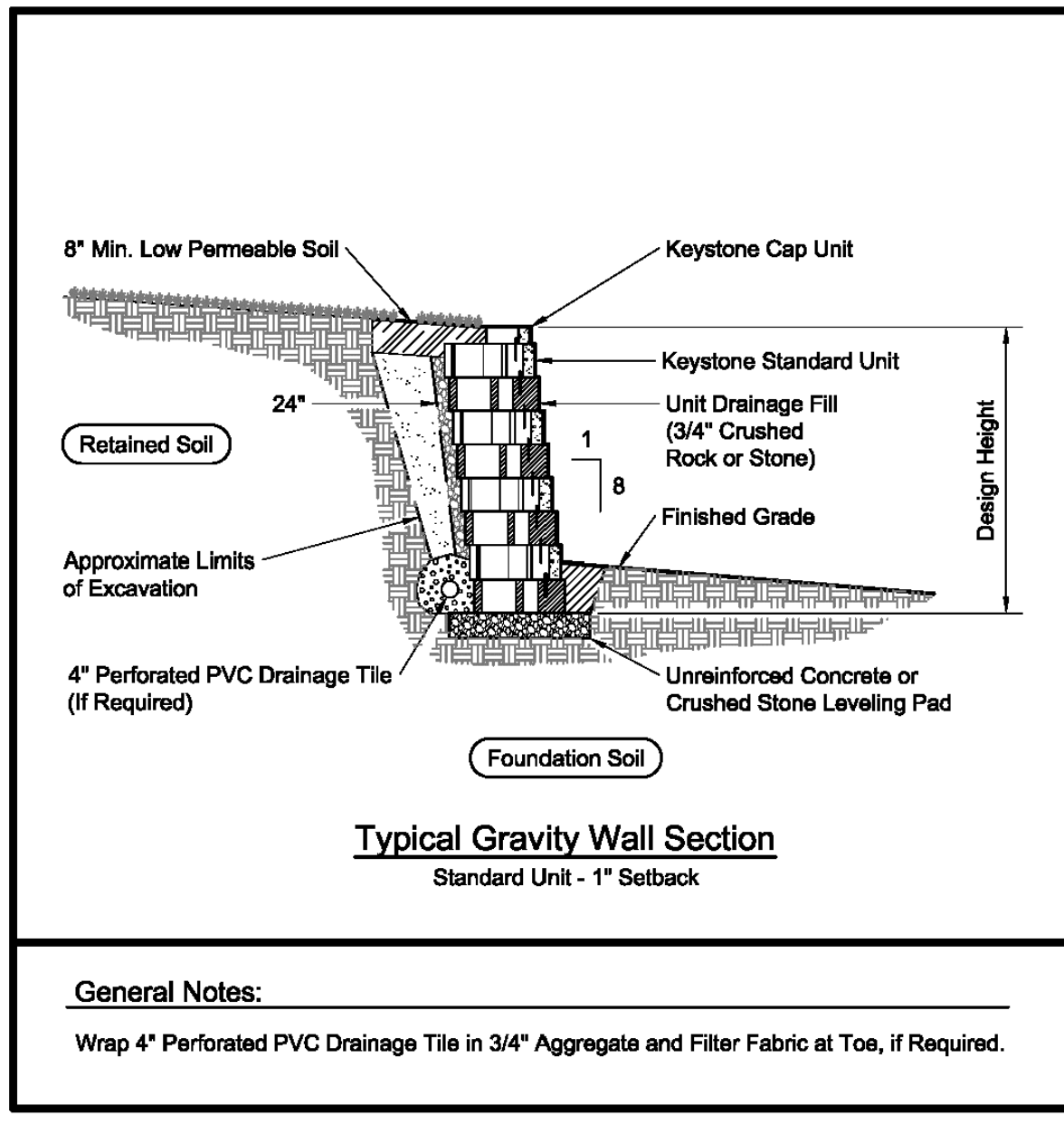
GENERAL NOTES:

Wrap 4" Perforated PVC Drainage Tile in 3/4" Aggregate and Filter Fabric at Toe, if Required.

MAILBOX DETAIL TYP. (OR APPROVED EQUAL)
SCALE: NOT TO SCALE

NOTES:

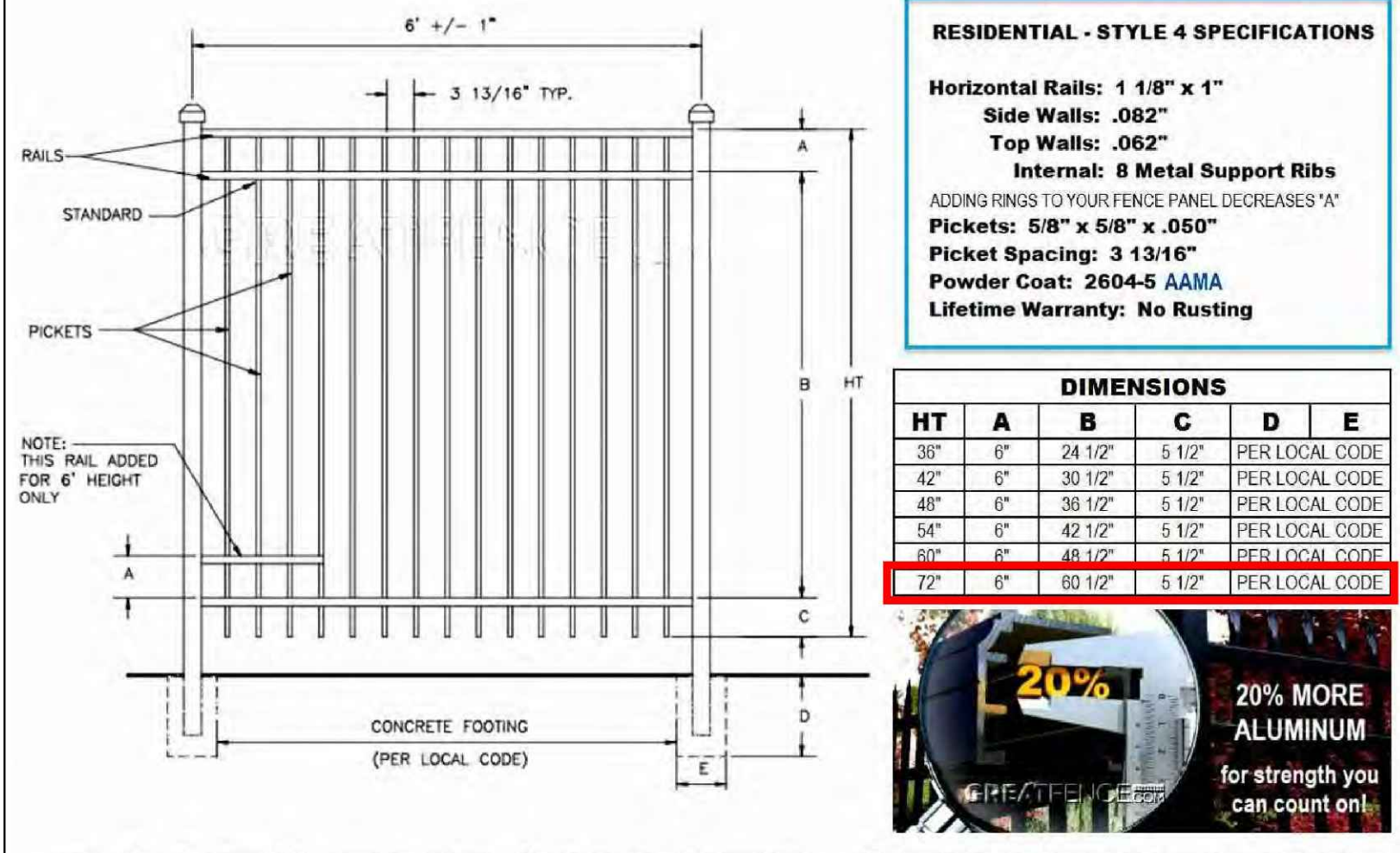
- TWO CLUSTER BOX PEDESTAL UNITS, EACH CONTAINING 16 MAILBOXES, ARE TO BE LOCATED AT EACH 4'x8' CONCRETE PAD FOR A TOTAL OF 64 PROVIDED MAILBOXES.



Typical Gravity Wall Section
Standard Unit - 1" Setback

General Notes:

Wrap 4" Perforated PVC Drainage Tile in 3/4" Aggregate and Filter Fabric at Toe, if Required.



RESIDENTIAL - STYLE 4 SPECIFICATIONS

Horizontal Rails: 1 1/8" x 1"
Side Walls: .062"
Top Walls: .062"
Internal: 8 Metal Support Ribs
ADDING RIBS TO YOUR FENCE PANEL DECREASES "X"
Pickets: 5/8" x 5/8" x .050"
Picket Spacing: 3 13/16"
Powder Coat: 2604-5 AAMA
Lifetime Warranty: No Rusting

HT	DIMENSIONS				PER LOCAL CODE
	A	B	C	D	
36"	0"	24 1/2"	5 1/2"		PER LOCAL CODE
42"	0"	30 1/2"	5 1/2"		PER LOCAL CODE
48"	0"	36 1/2"	5 1/2"		PER LOCAL CODE
54"	0"	42 1/2"	5 1/2"		PER LOCAL CODE
60"	0"	48 1/2"	5 1/2"		PER LOCAL CODE
72"	0"	80 1/2"	5 1/2"		PER LOCAL CODE



FENCING DETAIL
SCALE: NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

10/5/2022

CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

10/6/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

10/6/2022

DIRECTOR

10/6/2022

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:

WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD
SUITE 200
COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
SITE DETAILS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

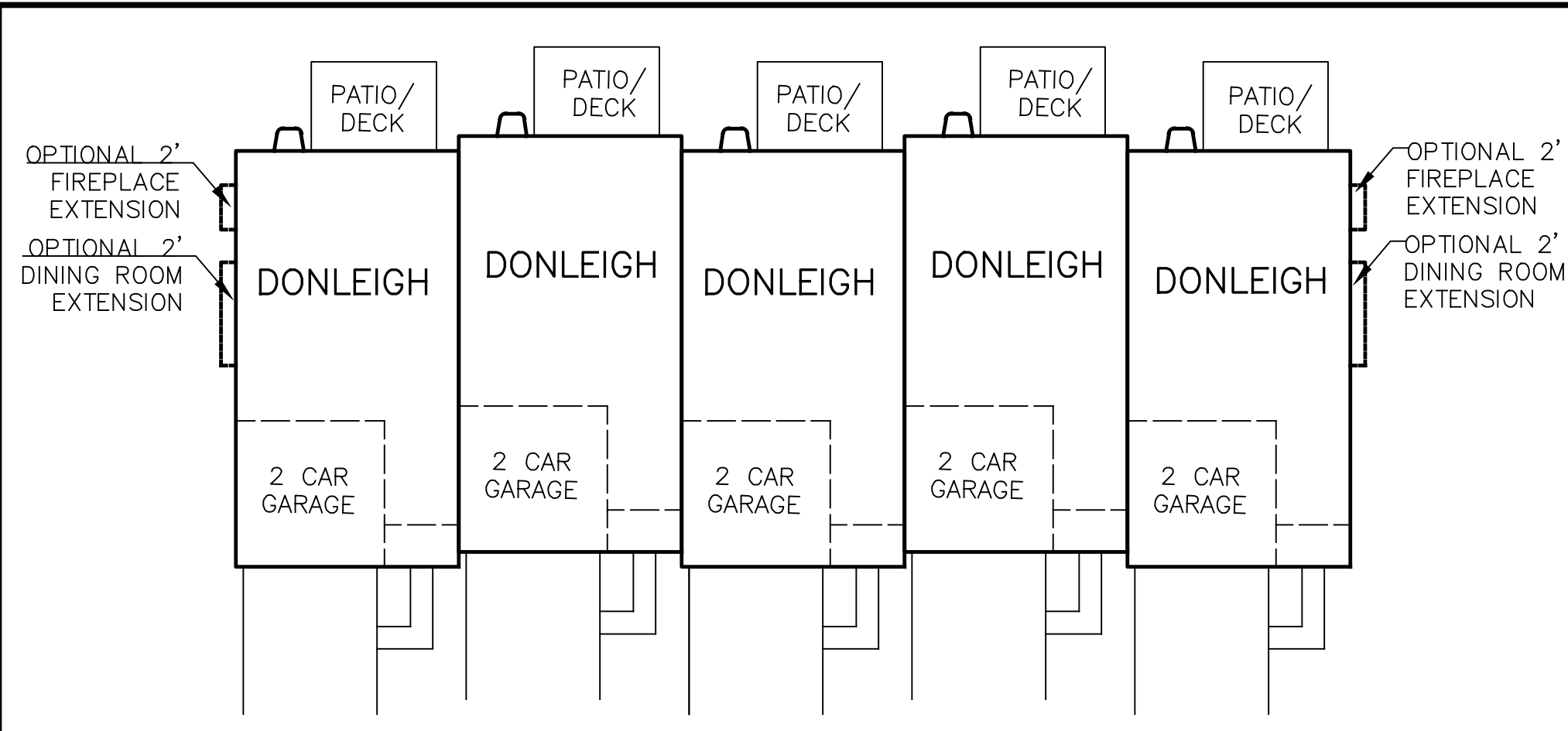
MRA

MD PROFESSIONAL CERTIFICATION:
MICHAEL A. MITCHELL, RIA
LICENSE NO. 3111
EXPIRATION DATE: 11/21/2023

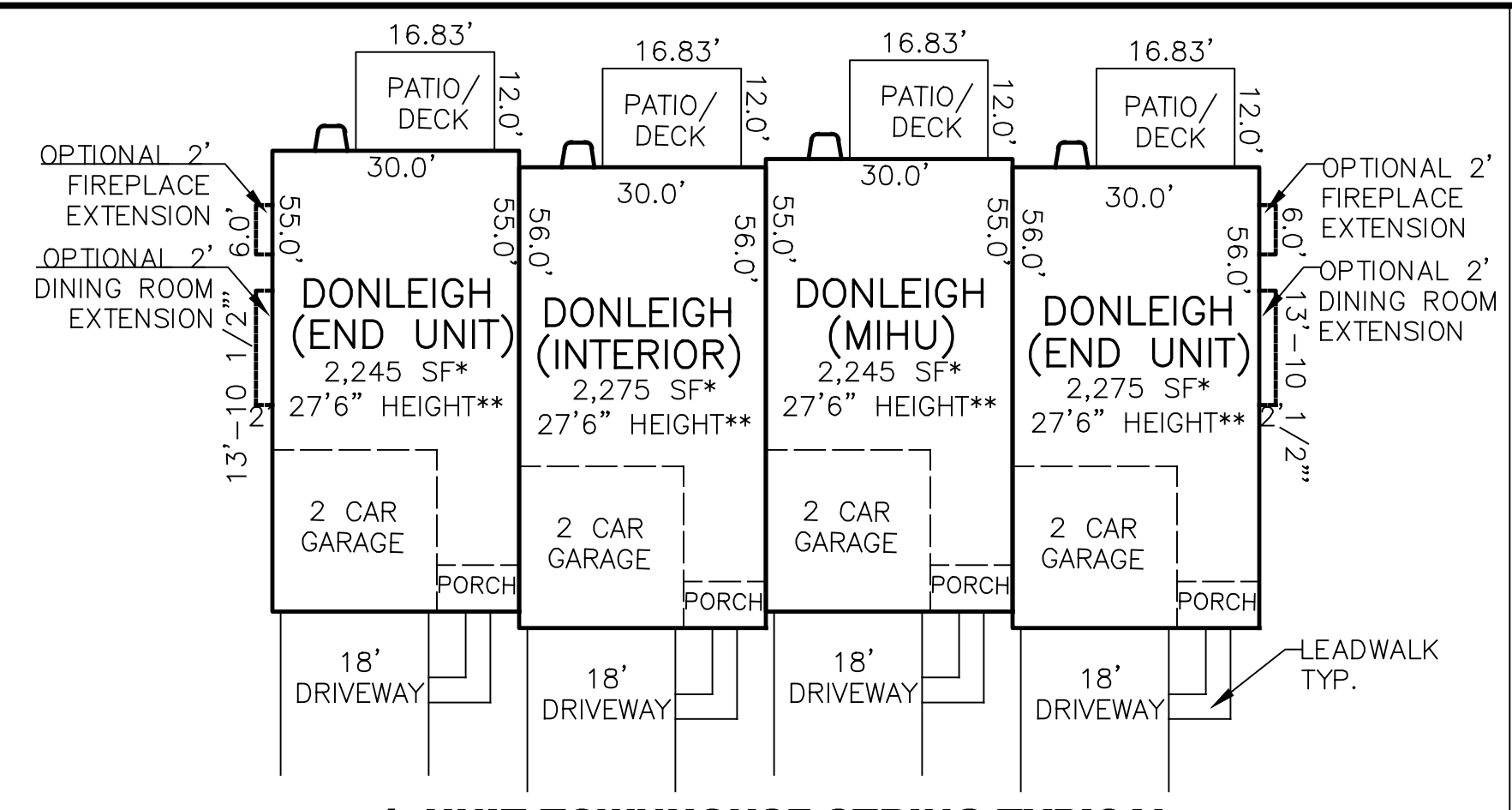
DATE	REVISIONS	JOB NO.:
		19590-04
		SCALE: SEE TEMPLATE
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 46 OF 49

SDP-21-038

SHEET: SDP-46



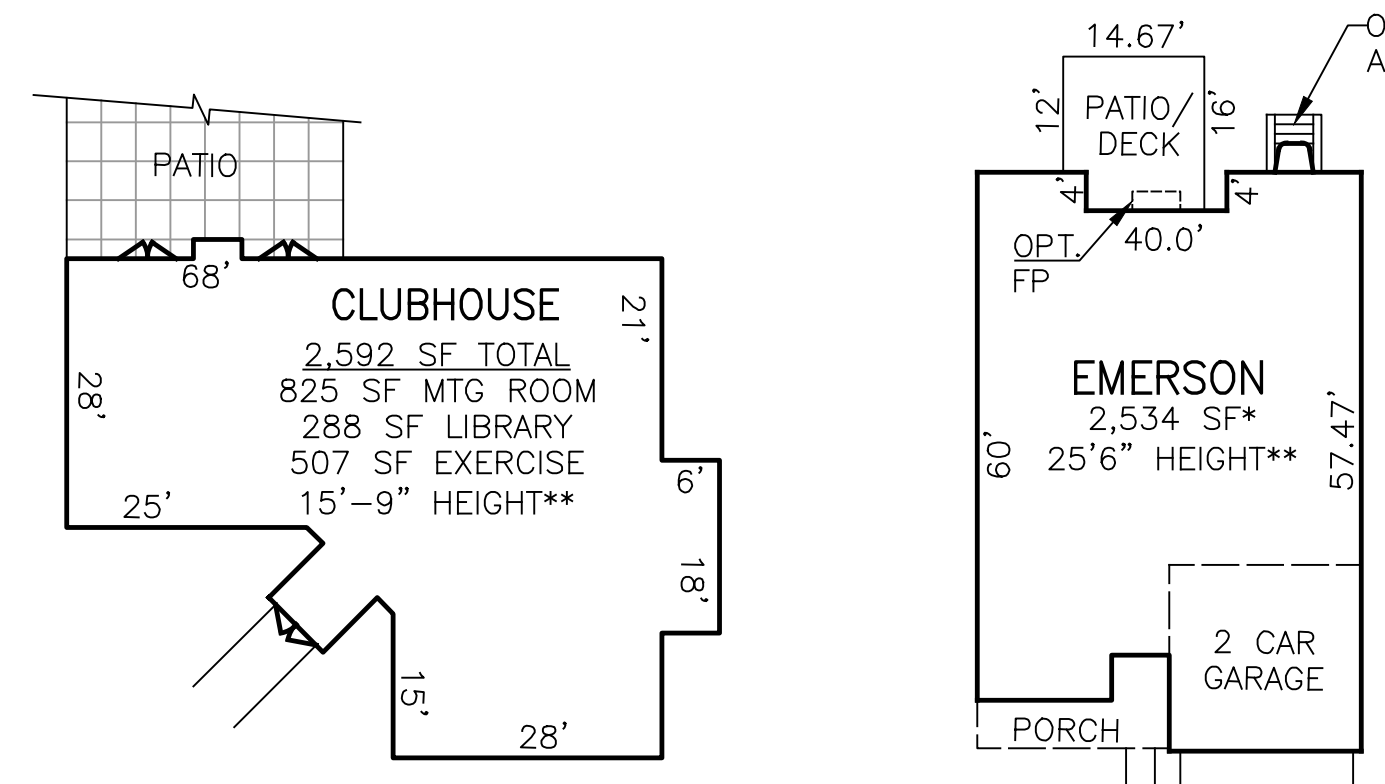
5 UNIT TOWNHOUSE STRING TYPICAL



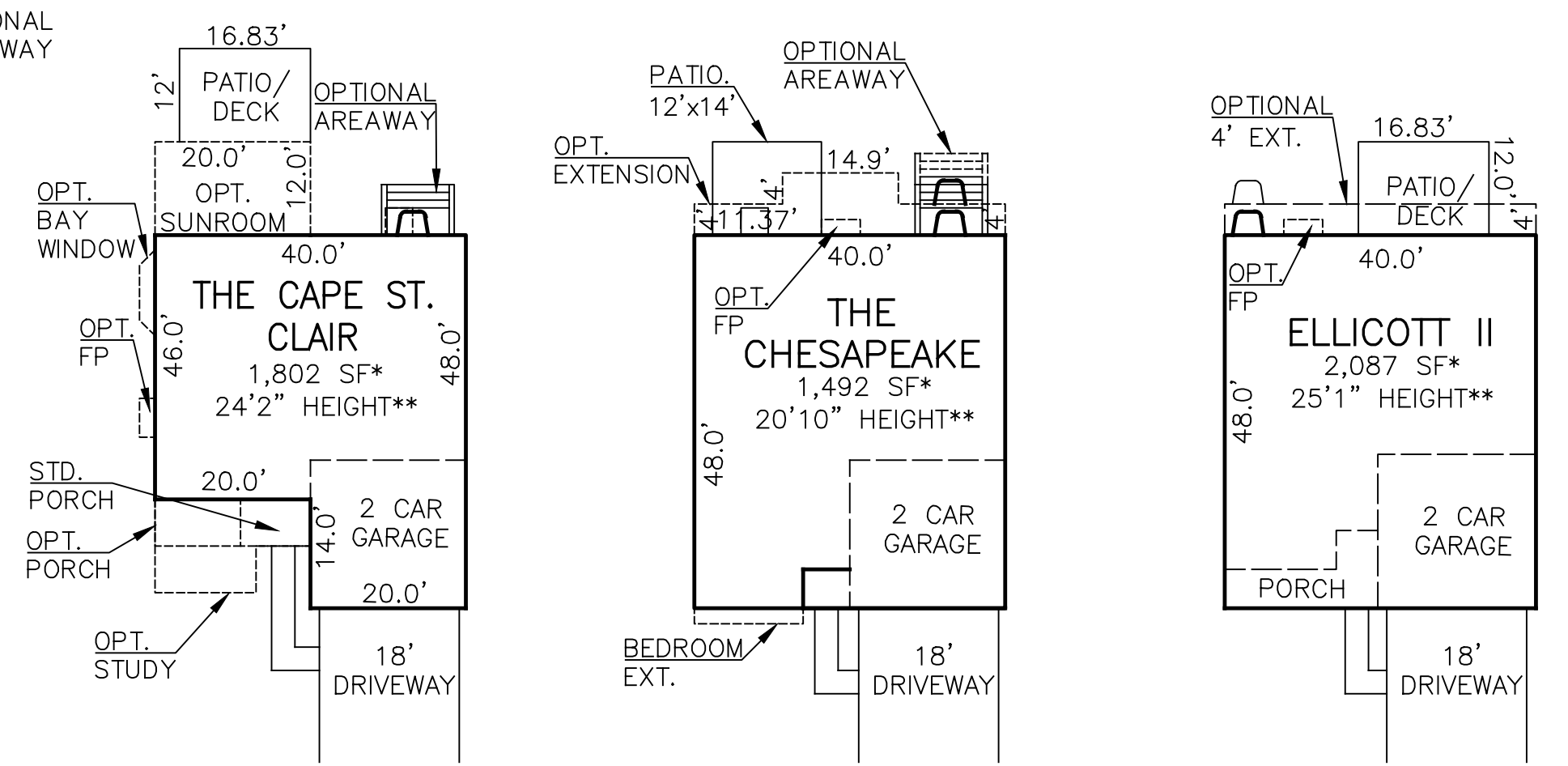
4 UNIT TOWNHOUSE STRING TYPICAL

TOWNHOUSE NOTES:

- THE MINIMUM DISTANCE BETWEEN THE SINGLE-FAMILY ATTACHED DECKS FOR UNITS ORIENTED REAR TO REAR IS 20 FEET AS APPROVED BY THE HEARINGS EXAMINER ON THE CONDITIONAL USE PLAN. SINGLE FAMILY ATTACHED DECKS MAY NOT EXCEED THE 12' LENGTH AS SHOWN ON THE APPROVED HOUSE MODEL. DECKS THAT EXCEED THIS LENGTH MAY REQUIRE A RESIDENTIAL VARIANCE. THESE DECKS MAY NOT BE CONVERTED TO A LIVING SPACE, SUCH AS A SUNROOM, IN THE FUTURE.
- FOR SINGLE FAMILY ATTACHED UNITS, A DISTANCE OF 40' OR GREATER MUST BE PROVIDED FROM REAR OF DWELLING TO REAR OF DWELLING.
- NOTE THAT THE HEARINGS EXAMINER APPROVED AN INCREASE IN THE LENGTH TO 150', ALLOWING FOR THE TWO (2) STICKS OF TOWNHOUSES EACH CONTAINING 5 UNITS.

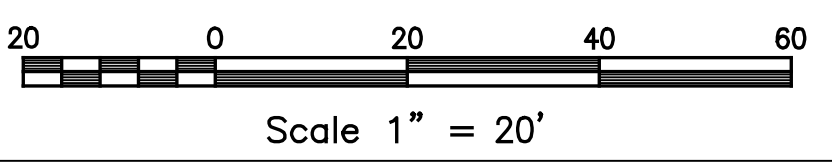


COMMUNITY CENTER



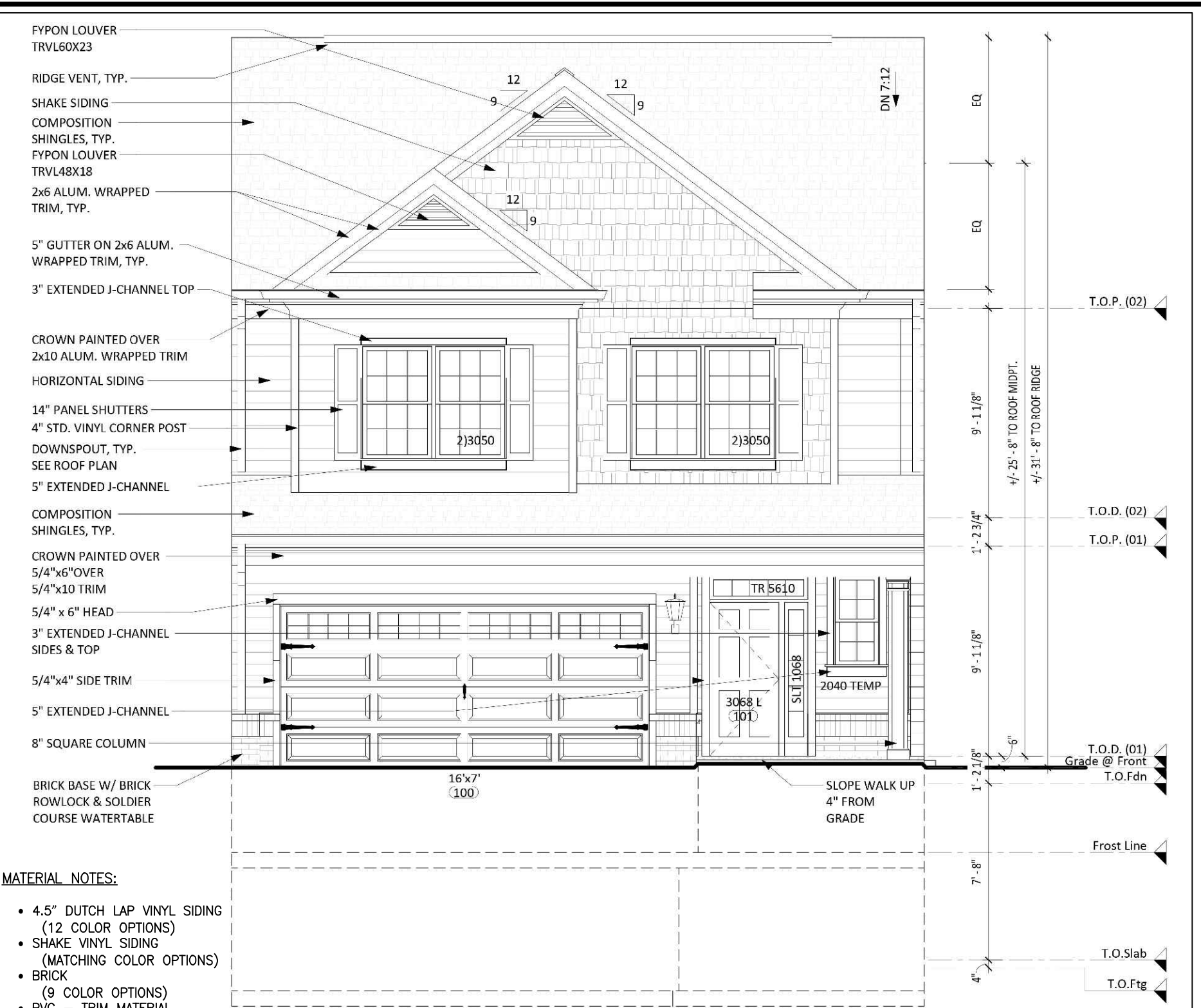
SINGLE FAMILY UNITS

BUILDING TEMPLATES

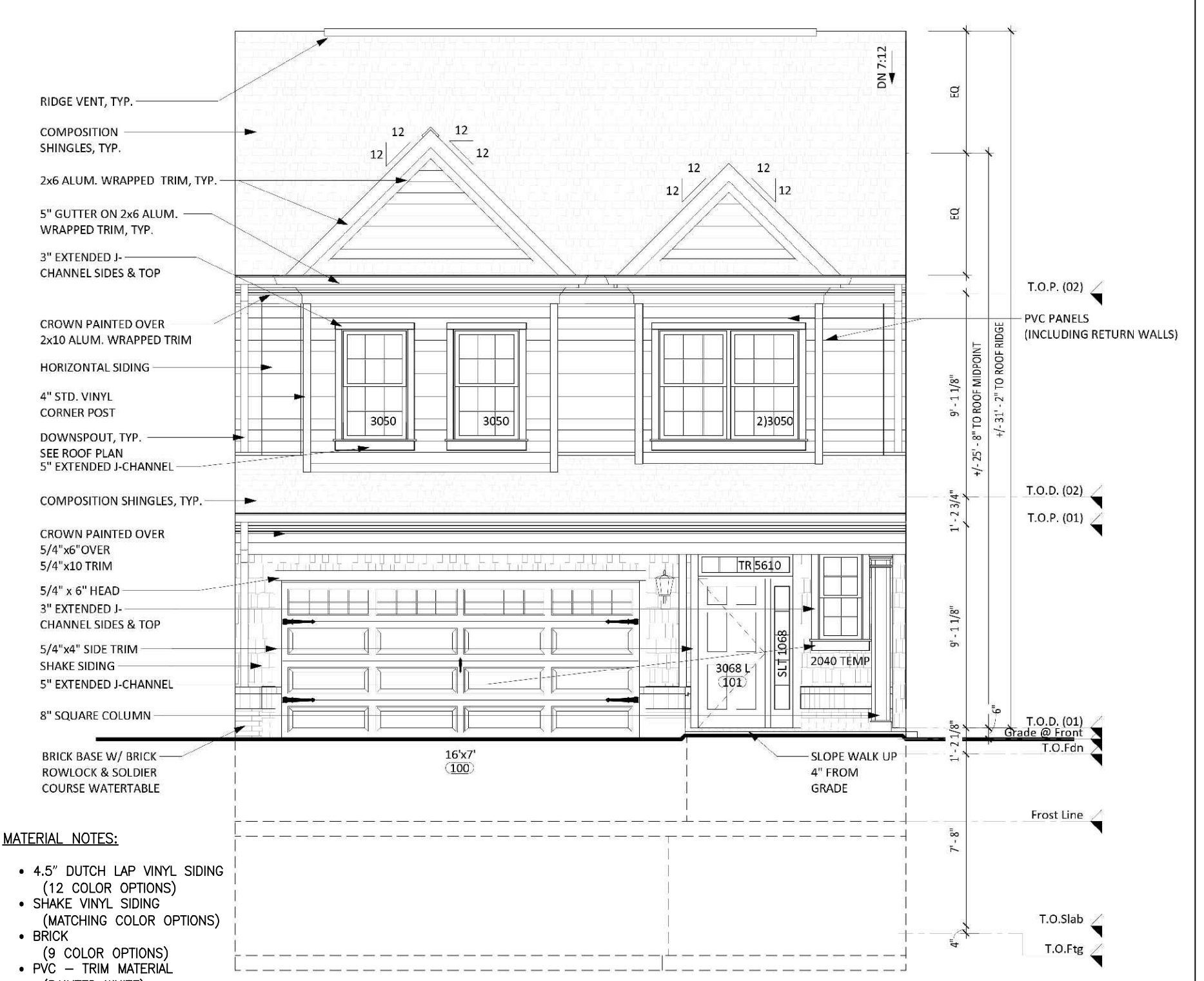


BUILDING NOTES:

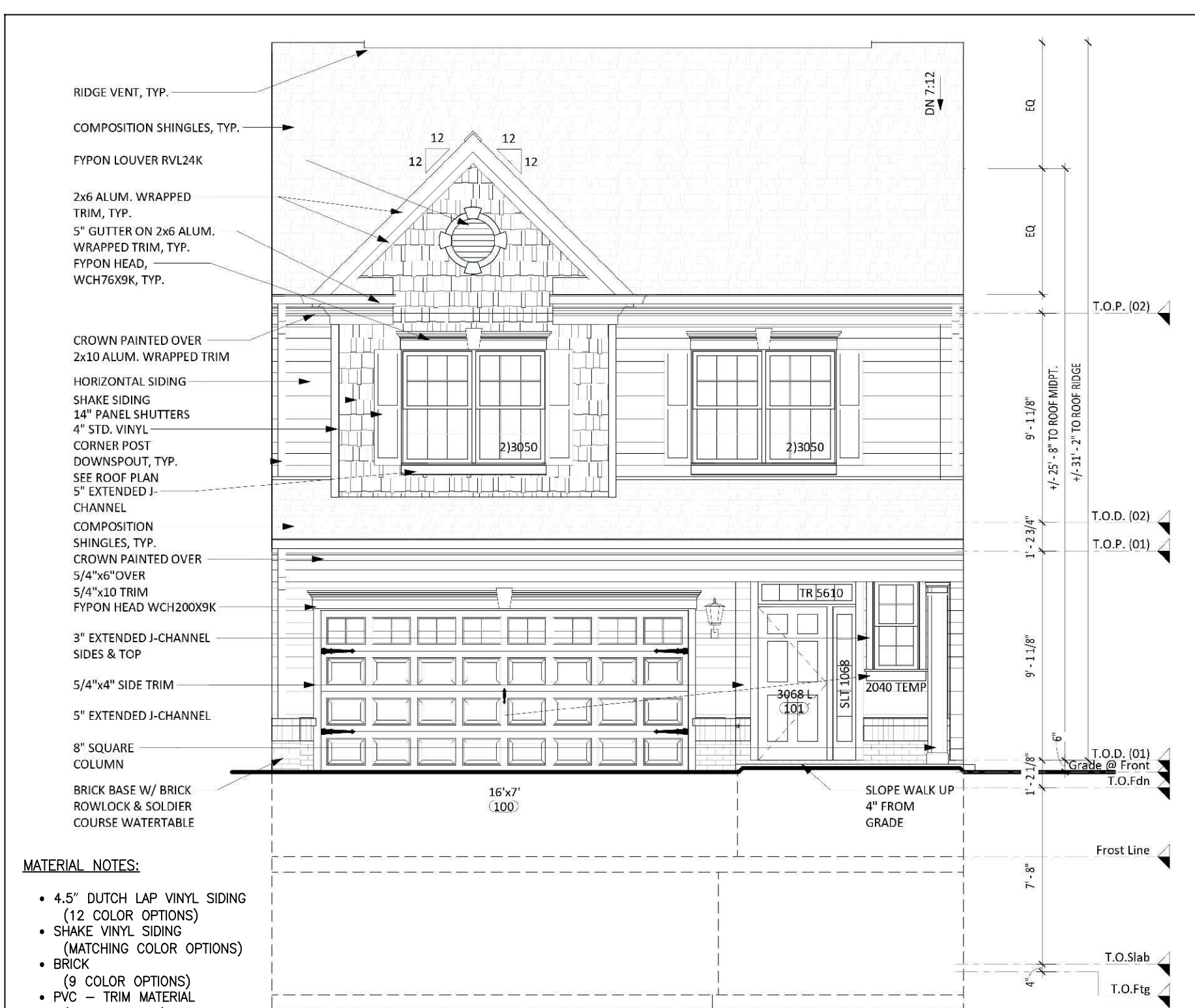
- *SQUARE FOOTAGE IS BASE FOOTPRINT WITH NO OPTIONS AND AN UNFINISHED BASEMENT
- **BUILDING HEIGHT PER HOWARD COUNTY ZONING CODE MEASUREMENT CRITERIA - THE VERTICAL DISTANCE FROM THE MEAN ELEVATION OF THE LOWEST AND HIGHEST ELEVATION POINTS AT GRADE ADJOINING THE EXTERIOR WALLS OF THE BUILDING TO THE HIGHEST POINT OF A FLAT ROOF; TO THE MEAN HEIGHT BETWEEN THE EAVE AND RIDGE OF THE HIGHEST ROOF SECTION FOR A GABLE, HIP OR GAMBREL ROOF.



DONLEIGH (TOWNHOUSE UNIT) FRONT ELEVATION "2" SIDING W/ BRICK WATERTABLE



DONLEIGH (TOWNHOUSE UNIT) FRONT ELEVATION "3" SIDING W/ BRICK WATERTABLE

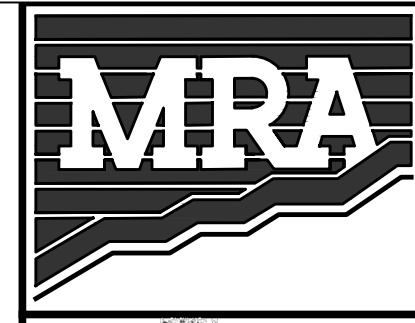


DONLEIGH (TOWNHOUSE UNIT) FRONT ELEVATION "1" SIDING W/ BRICK WATERTABLE

APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MRAGTA.COM

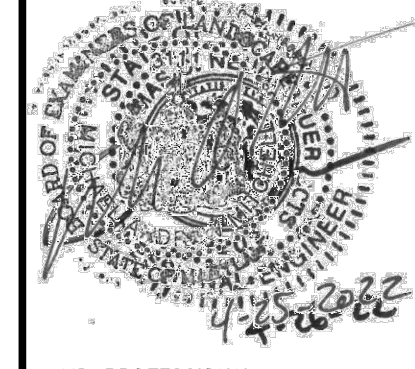
Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A

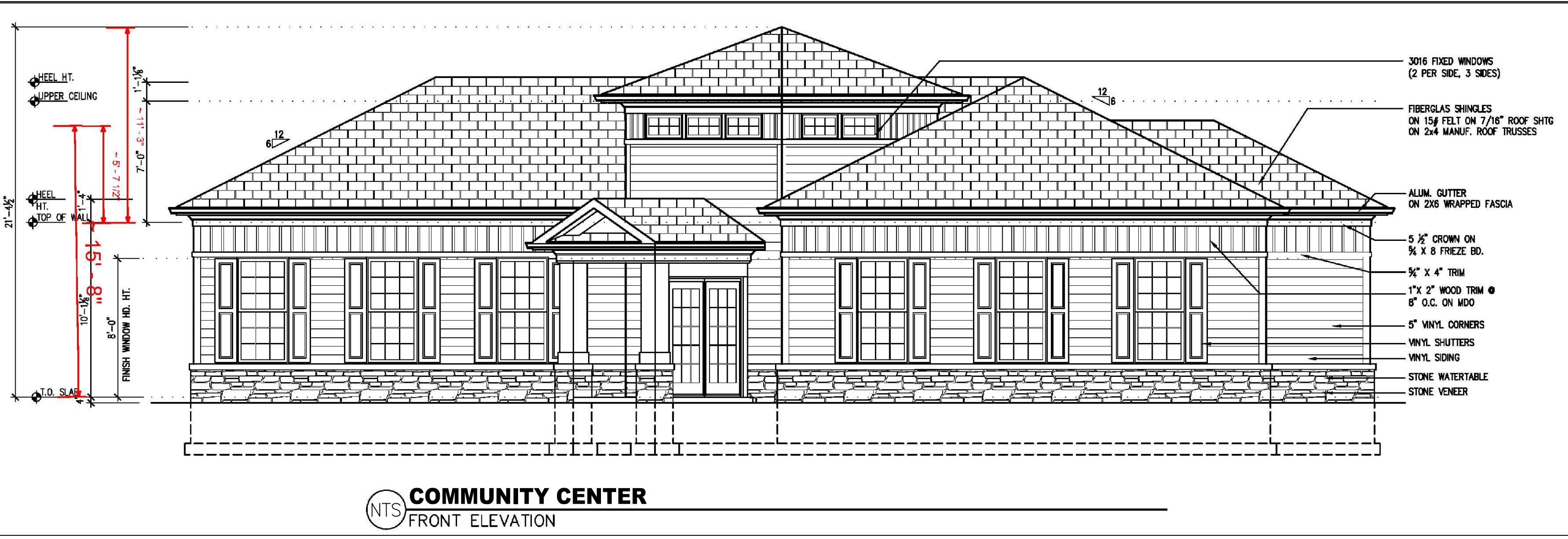
BUILDING TEMPLATES & ARCHITECTURAL ELEVATIONS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

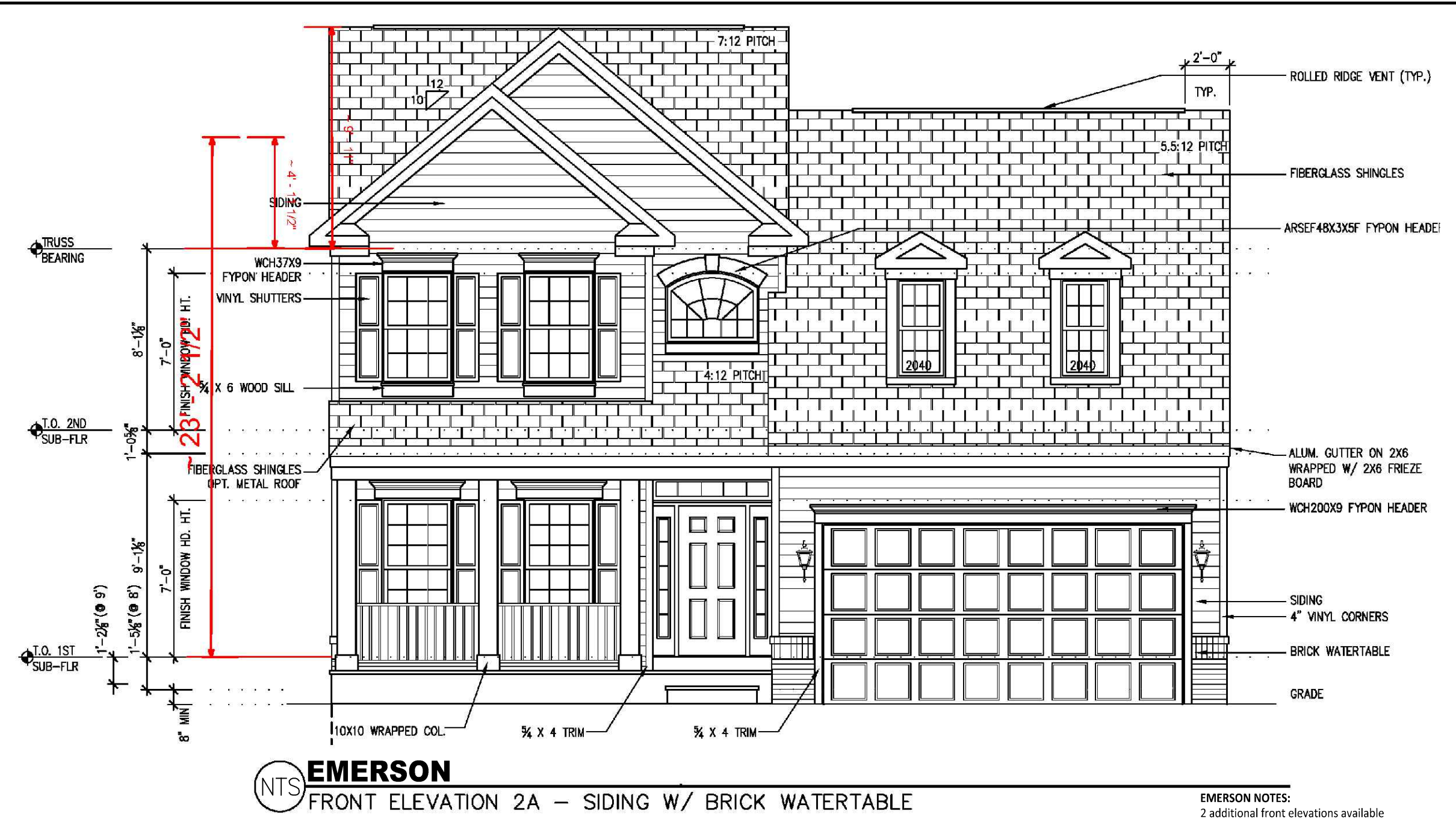
DATE	REVISIONS	JOB NO.:	19590/04
		SCALE:	NOT TO SCALE
		DATE:	4-26-2022
		DRAWN BY:	MF
		DESIGN BY:	MF
		REVIEW BY:	MM
		SHEET:	47 OF 49



MD PROFESSIONAL CERTIFICATION:
MICHAEL A. MITCHELL, RIA
LICENSE NO. 3111
EXPIRATION DATE: 11/21/2023

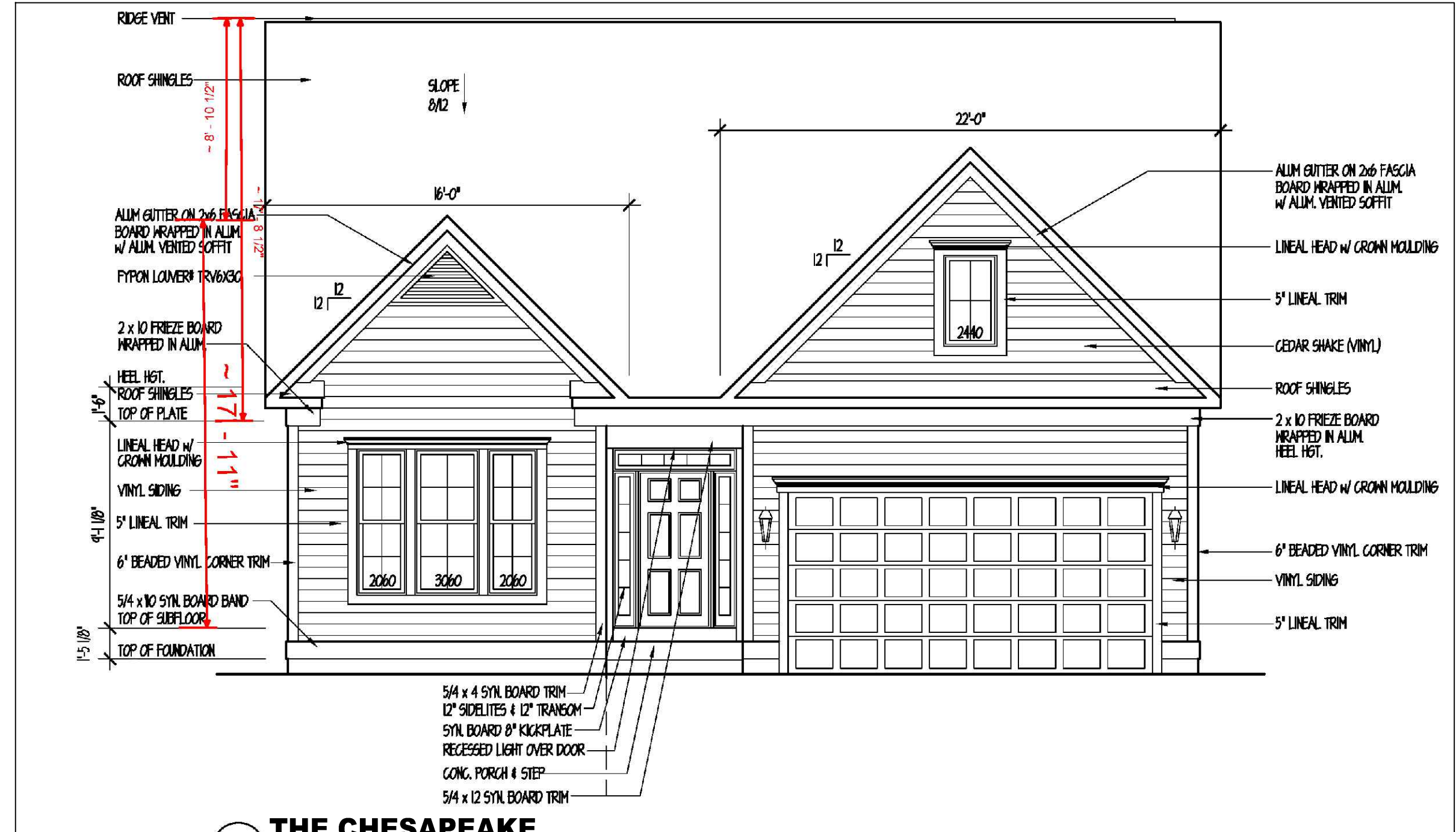


NTS COMMUNITY CENTER FRONT ELEVATION



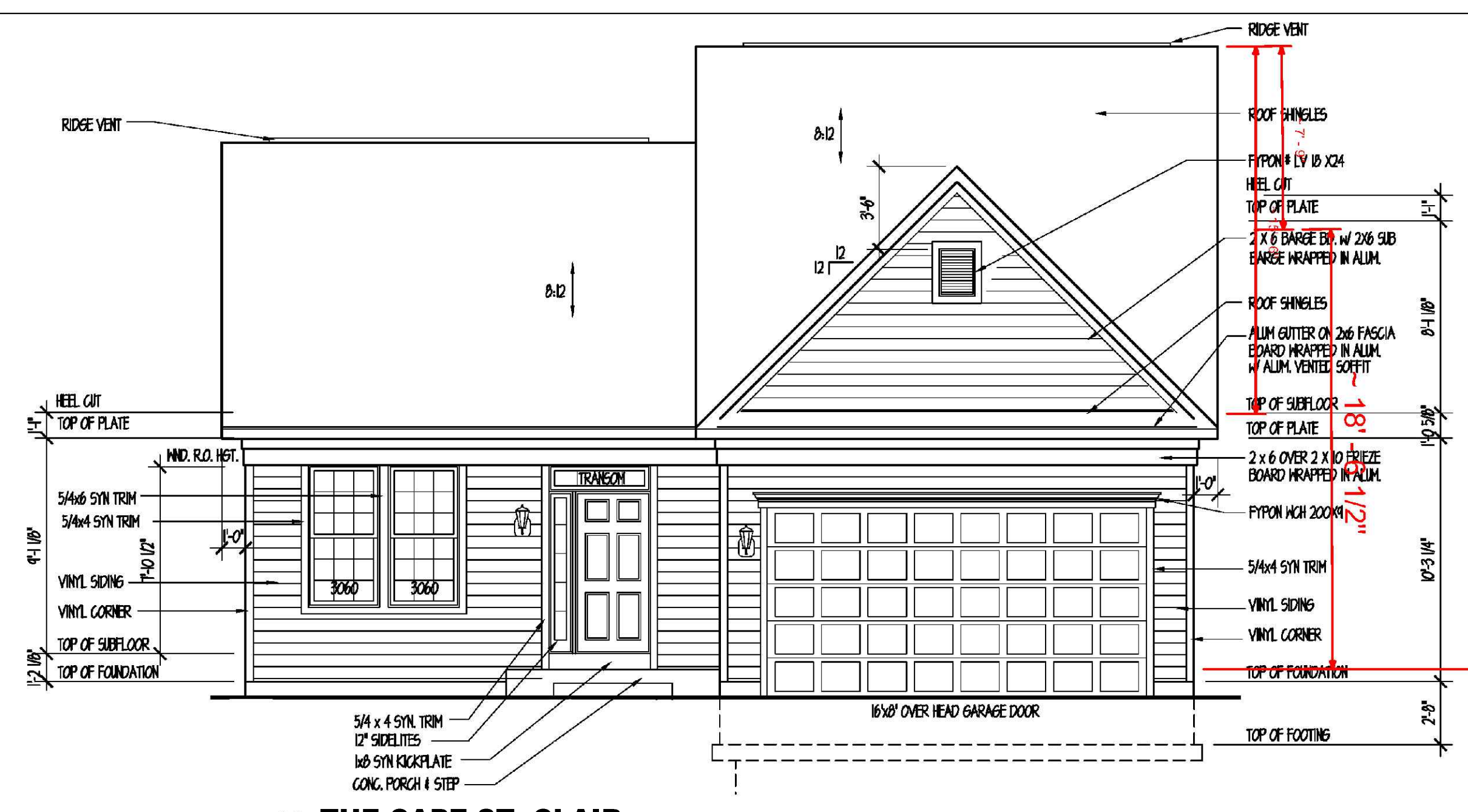
NTS EMERSON FRONT ELEVATION 2A - SIDING W/ BRICK WATERTABLE

EMERSON NOTES:
 2 additional front elevations available
 4.5" Dutch Lap Vinyl Siding (12 color options)
 6.5" Beaded Vinyl Siding (12 color options)
 Shake Vinyl Siding (Matching color options)
 Brick (9 Color Options)
 Cultured Stone (5 Color Options)
 PVC - Trim Material Painted White or Almond



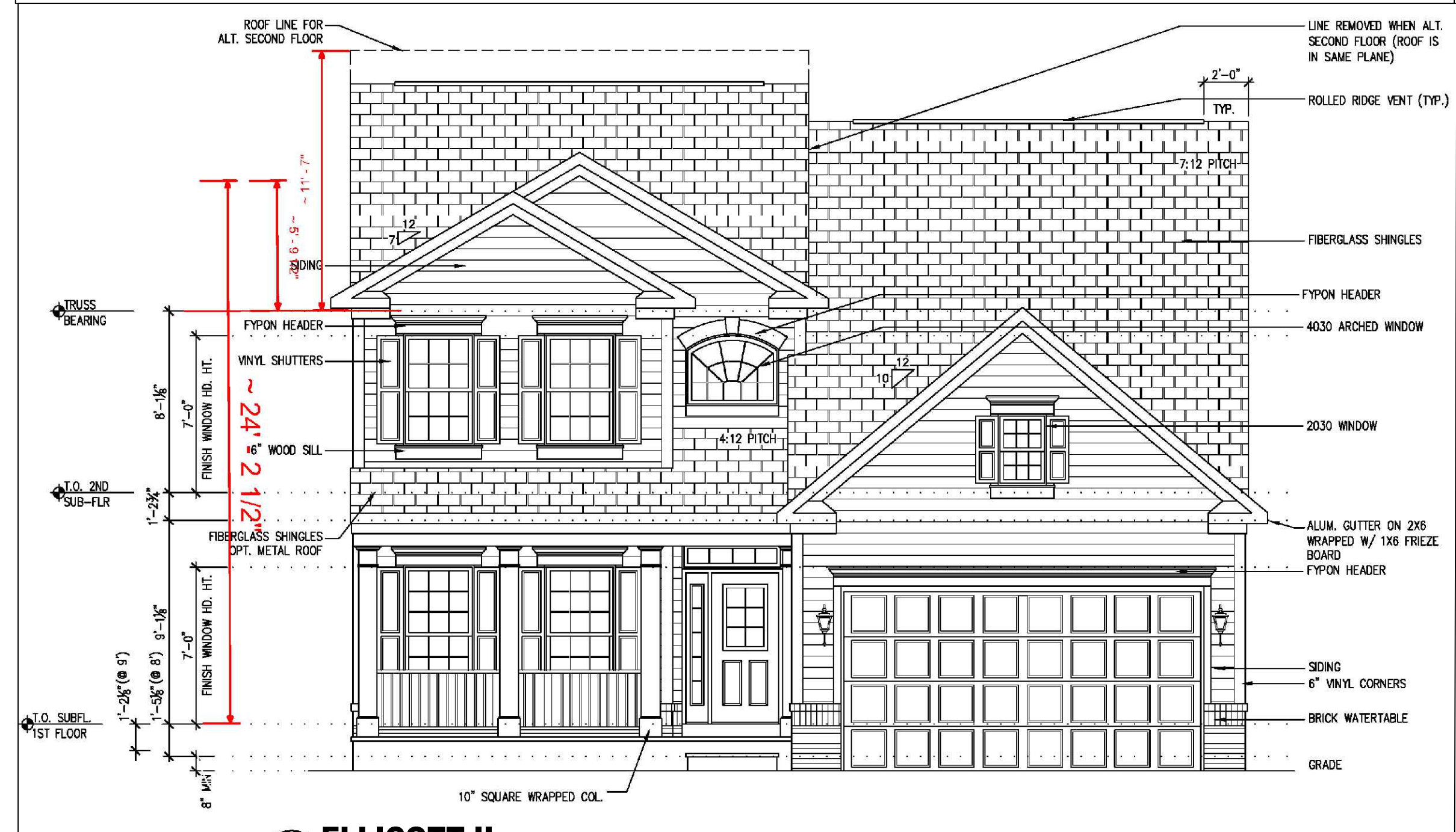
NTS THE CHESAPEAKE FRONT ELEVATION

THE CHESAPEAKE NOTES:
 3 additional front elevations available
 4.5" Dutch Lap Vinyl Siding (12 color options)
 6.5" Beaded Vinyl Siding (12 color options)
 Shake Vinyl Siding (Matching color options)
 PVC - Trim Material Painted White or Almond



NTS THE CAPE ST. CLAIR FRONT ELEVATION

THE CAPE ST. CLAIR NOTES:
 2 additional front elevations available
 4.5" Dutch Lap Vinyl Siding (12 color options)
 6.5" Beaded Vinyl Siding (12 color options)
 Shake Vinyl Siding (Matching color options)
 Brick (9 Color Options)
 Cultured Stone (5 Color Options)
 PVC - Trim Material Painted White or Almond



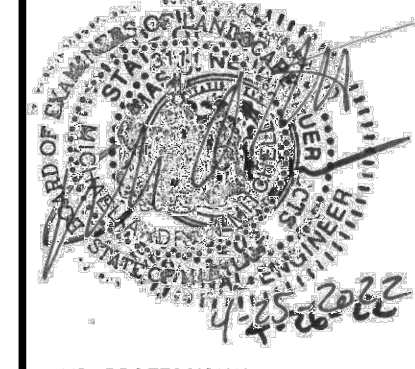
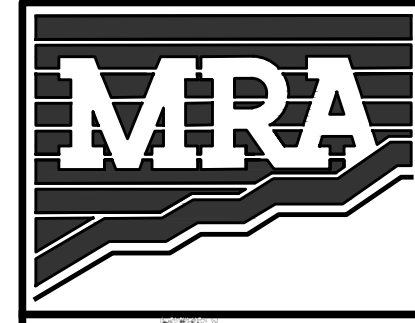
NTS ELLCOTT II FRONT ELEVATION 1A - 4' EXTENSION

ELLCOTT II NOTES:
 1 additional front elevations available
 4.5" Dutch Lap Vinyl Siding (12 color options)
 6.5" Beaded Vinyl Siding (12 color options)
 Shake Vinyl Siding (Matching color options)
 Brick (9 Color Options)
 Cultured Stone (5 Color Options)
 PVC - Trim Material Painted White or Almond

APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT & ENGINEERING DIVISION	DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT /OWNER/ DEVELOPER:
 WBC ESM, LLC
 ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
 CONTACT: BRUCE HARVEY
 PHONE: 410-997-8800



MD PROFESSIONAL CERTIFICATION:
 MICHAEL A. MITCHELL, RIA
 LICENSE NO. 3111
 EXPIRATION DATE: 11/21/2023

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
 LAUREL, MD 20707
 (410) 792-9792 / (301) 776-1690
 MRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

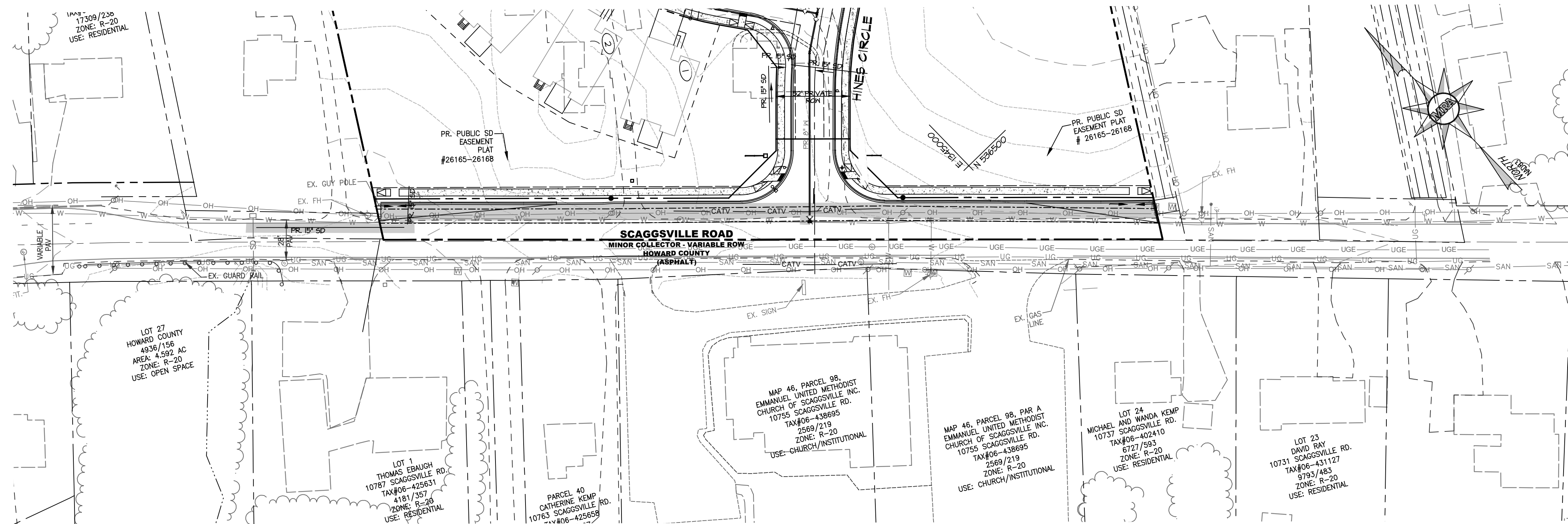
ENCLAVE AT HINES FARM
 SITE DEVELOPMENT PLAN
 PARCEL A
 ARCHITECTURAL ELEVATIONS

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:	19590/04
		SCALE:	NOT TO SCALE
		DATE:	4-26-2022
		DRAWN BY:	MF
		DESIGN BY:	MF
		REVIEW BY:	MM
		SHEET:	48 OF 49

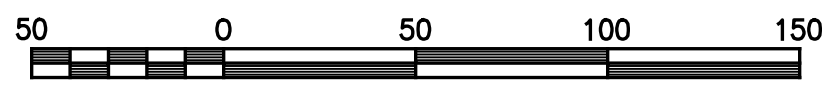
SHEET: SDP-48

SDP-21-038



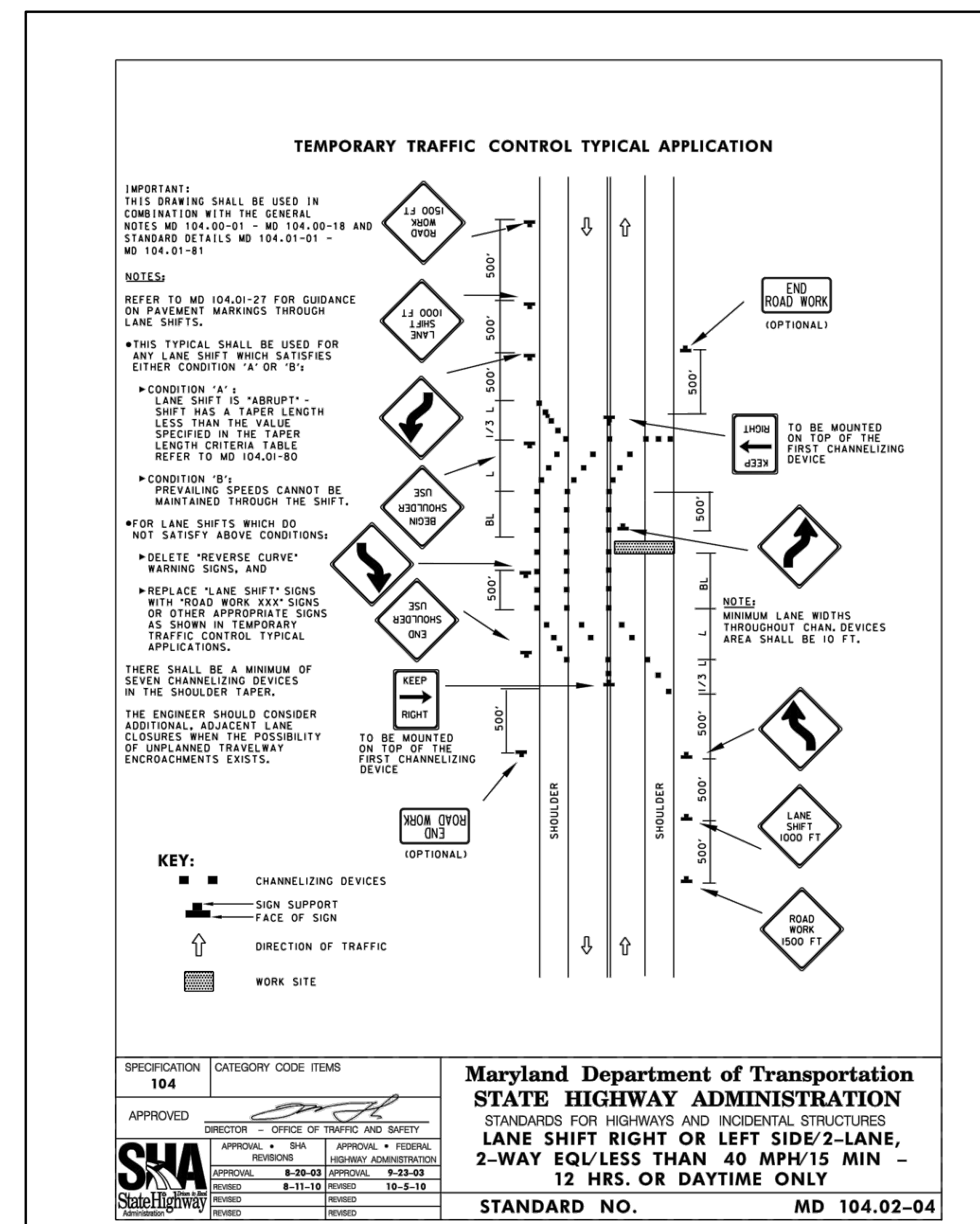
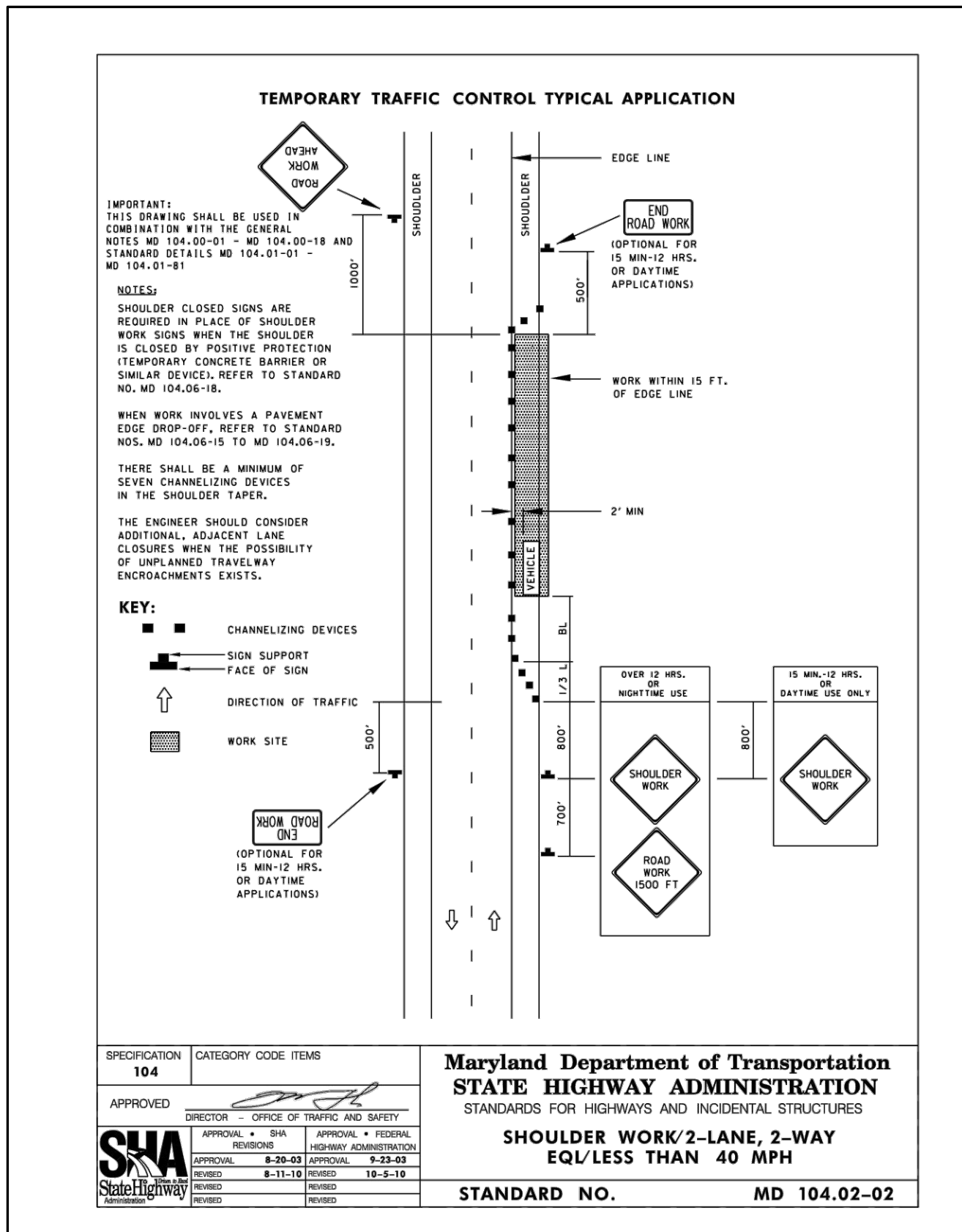
POSTED SPEED = 35 MPH

MAINTENANCE OF TRAFFIC PLAN



Scale 1" = 50'

LEGEND	
---	EX. PROPERTY LINE
---	EX. RIGHT-OF-WAY
---	EX. ADJACENT PROPERTY LINE
---	EX. EASEMENT
NW	EX. NON-TIDAL WETLAND
WB	EX. WETLAND BUFFER
---	EX. NON-TIDAL WETLAND
---	EX. BUILDING
---	EX. CURB
---	EX. PAVEMENT/EDGE OF GUTTER
---	EX. WALK
---	EX. WALL
---	EX. CONCRETE
---	EX. METAL FENCE
---	EX. WOOD FENCE
---	EX. GUARDRAIL
---	EX. STREAM/POND
---	EX. TREELINE
○	EX. SPECIMEN TREE
○	EX. TREE
○	EX. SHRUB
SD	EX. STORM DRAIN
SAN	EX. SANITARY LINE
W	EX. WATERLINE
UG	EX. GAS LINE
UGE	EX. UNDERGROUND ELECTRIC
CATV	EX. UNDERGROUND CABLE TELEVISION
OHE	EX. OVERHEAD ELECTRIC
OHT	EX. OVERHEAD TELEPHONE
+	EX. FIRE HYDRANT
U	EX. WATER VALVE
W	EX. WATER METER
+	EX. POWER POLE
---	PR. RIGHT OF WAY
---	PR. LOT LINE/PARCEL LINE
---	PR. EASEMENT
---	PR. OPEN SPACE EASEMENT
---	PR. BUILDING
---	PR. CURB & GUTTER
---	PR. ROAD CENTER LINE
---	PR. CONC SIDEWALK
---	PR. TREE LINE
---	PR. DECORATIVE FENCE/ENTRY FEATURE
---	WORK ZONE



APPROVED: DEPARTMENT OF PLANNING AND ZONING	10/5/2022
CHIEF, DEVELOPMENT & ENGINEERING DIVISION	DATE 10/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 10/6/2022
DIRECTOR	DATE

PLAT NOTE: A PLAT OF EASEMENT WAS RECORDED FOR THE PUBLIC WATER AND FOREST CONSERVATION EASEMENTS ON 9/14/2022, PLAT NUMBERS 26165-26168.

APPLICANT / OWNER / DEVELOPER:
WBG ESM, LLC
ADDRESS: 5485 HARPERS FARM ROAD SUITE 200 COLUMBIA, MD 21044
CONTACT: BRUCE HARVEY
PHONE: 410-997-8800



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE
LAUREL, MD 20707
(410) 792-9792 / (301) 776-1690
MIRAGTA.COM

Copyright 2022 Morris & Ritchie Associates, Inc.

ENCLAVE AT HINES FARM
SITE DEVELOPMENT PLAN
PARCEL A
MAINTENANCE OF TRAFFIC PLAN

TAX MAP 46 GRID 11 PARCEL 5 ZONED: R-20
6TH ELECTION DISTRICT
HOWARD COUNTY, MD 20723

DATE	REVISIONS	JOB NO.:
		19590v04
		SCALE: 1" = 50'
		DATE: 4-26-2022
		DRAWN BY: MF
		DESIGN BY: MF
		REVIEW BY: MM
		SHEET: 49 OF 49

MD PROFESSIONAL CERTIFICATION:
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 NO. 29203 EXPIRATION DATE: 6/16/2023

SHEET: SDP-49

SDP-21-038