

GENERAL NOTES

- SUBJECT PROPERTY ZONED R-20 IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- GROSS AREA OF PROPERTY = 1.73 AC ±
- REFERENCE: RECORD PLAT 19759.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION	410.531.5533
BGE (CONTRACTOR SERVICES)	410.850.4020
BGE (UNDERGROUND DAMAGE CONTROL)	410.787.6968
MISS UTILITY	800.257.7777
COLONIAL PIPELINE COMPANY	410.795.1390
HOWARD COUNTY DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.313.4800
HOWARD COUNTY HEALTH DEPARTMENT	410.313.2640
AT&T	800.252.1133
VERIZON	800.743.0033/410.224.9210
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: F-07-78; PLAT 19759; CONTR. 24-4160-D; ECP 19-016
- PUBLIC WATER AND SEWER WILL BE USED WITHIN THIS SITE. CONTRACT NO. 24-4160
- THIS PROPERTY IS IN THE METROPOLITAN DISTRICT
- THE BOUNDARY AND TOPOGRAPHY SHOWN HEREON ARE BASED ON A FILED RUN BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED BY NJR & ASSOCIATES IN SEPTEMBER OF 2017.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NUMBERS 1611A AND 161B WERE USED FOR THIS PROJECT.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATION OF HOWARD COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE PROJECT IS IN CONFORMANCE WITH THE CURRENT HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- A NOISE STUDY WAS PERFORMED AND APPROVED UNDER F-07-078
- ALL HDPE PIPE SPECIFICATIONS, AND INSTALLATION SHALL MEET AASHTO M-252 TYPE S, M-294 TYPE S AND ASTM D2321, RESPECTIVELY.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. DRIVEWAY PAVING TO BE HOWARD COUNTY STANDARD P-1 PAVING SECTION. (SEE DETAIL SHEET 1) GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST, PRIOR TO CONSTRUCTION.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING NECESSARY FEES.
- ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - SIX (6) INCHES OF COMPACTED CRIBBER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM)
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING)
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
 - MAINTENANCE - SUBJECT TO INSURE ALL WEATHER USE
- SEWER HOUSE CONNECTION (S/C) ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE. CLEANOUTS ARE TO BE PROVIDED AT ALL BENDS FOR GRAVITY SEWER LINES.
- THERE ARE NO WETLANDS, FLOODPLAINS, HISTORIC RESOURCES OR CEMETERIES WITHIN THE PROJECT BOUNDARY. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- OPEN SPACE REQUIREMENT PROVIDED UNDER F-07-078
- THE FOREST CONSERVATION OBLIGATION FOR THIS PROJECT HAS BEEN PROVIDED FOR UNDER F-07-078.
- FLAG AND PIPESTEM LINES, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$3,000.00 FOR THE REQUIRED TEN (10) LANDSCAPING SHADE TREES.
- STORMWATER MANAGEMENT OBLIGATION FOR THIS SITE WILL BE MET BY TWO BIORETENTION FACILITIES (M-6) FOR THE DRIVEWAYS AND THE FRONTS OF THE HOUSES ON LOTS 2 AND 3 AND DRYWELLS (M-5) FOR THE REARS OF THE HOUSES ON LOT 1 AND 2. DRYWELLS (M-5) WILL TREAT THE DRIVEWAY AND HOUSE ON LOT 3. ON-LOT FACILITIES SHALL BE OWNED AND MAINTAINED BY THE LOT OWNER.
- FOR DRIVEWAY ENTRANCE DETAILS REFER TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD DETAIL R-6.06
- A PRIVATE RANGE OF ADDRESS SIGNAGE SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5762 FOR DETAILS AND COST ESTIMATES.
- THIS PLAN IS SUBJECT TO WAIVER PETITION DMV-20-010 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME 2. UNDER THIS WAIVER, NO GRAVITY SEWER SERVICE OR EASEMENTS FOR GRAVITY SEWER SERVICE ARE REASONABLY OBTAINABLE. ADDITIONAL UPSTREAM SEWER IS REQUIRED. THE WAIVER REQUEST MEETS AND/OR AGREES TO THE SEVEN CONDITIONS LISTED UNDER THE POLICY DESCRIBED IN SECTION 8.2B OF THE DESIGN MANUAL, VOLUME II, AND THE PROPOSED LPSS FROM THE THREE LOTS WILL BE CONNECTED TO THE CAPPED LPSS CONNECTION IN THE COUNTY RIGHT-OF-WAY. THIS WAIVER WAS APPROVED ON JANUARY 23, 2020.
- AN AGREEMENT WITH THE FIRE AND RESCUE SERVICES TO PROVIDE A WIDENED DRIVEWAY AS WELL AS EASEMENT ON LOT 1 TO SERVE AS A TURNAROUND AREA FOR EMERGENCY VEHICLES. PARKING FOR ANY OTHER VEHICLE IS PROHIBITED.

SITE DEVELOPMENT PLAN

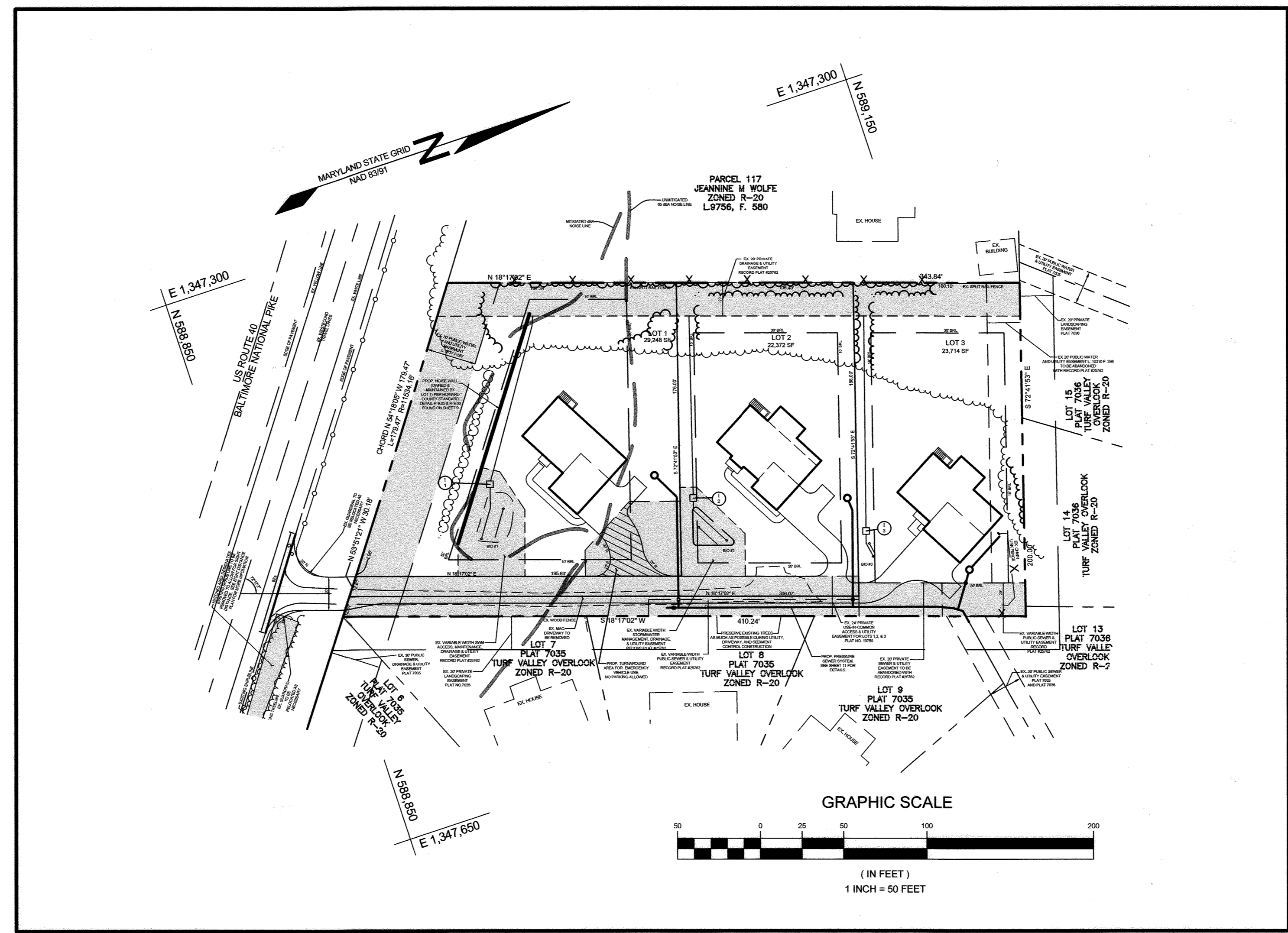
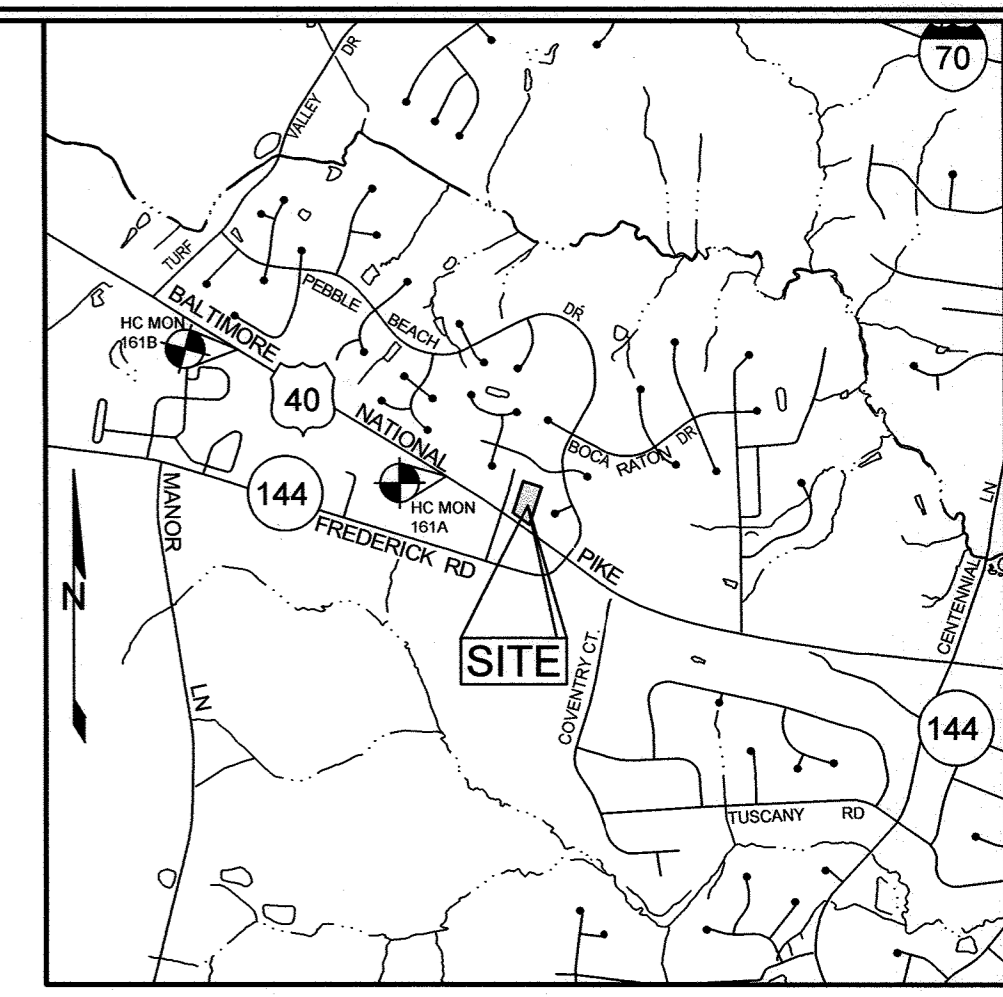
TURF VALLEY GROVE

LOTS 1, 2, AND 3

HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- LIGHT POLES: POST TOP, OVERHEAD
- EXISTING WOODEN FENCE
- EXISTING CHAIN LINK FENCE
- PROPOSED WATER HOUSE CONNECTION
- PROPOSED ROOFLEADERS
- BORING LOCATION
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROP. EMERGENCY TURNAROUND AREA, NO PARKING ALLOWED
- EXISTING AND PROPOSED EASEMENTS (SEE SHEET 5 FOR DETAILS)



ADDRESS CHART

LOT NO.	ADDRESS
1	10480 BALTIMORE NATIONAL PIKE
2	10476 BALTIMORE NATIONAL PIKE
3	10472 BALTIMORE NATIONAL PIKE

PAVING SECTIONS

SEC. NO.	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	TO <65 TO <7	27	TO <65 TO <7	27	
P-1	PARKING BAYS: RESIDENTIAL AND NON-RESIDENTIAL PARKING DRIVE ABLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	N/A	N/A	N/A	N/A	
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22 LEVEL 1 (ESAL)	2.0	2.0	2.0	3.0	2.5
		GRADED AGGREGATE BASE (GAB)	8.5	7.0	5.0	4.0	4.0

NOTES:
 1. HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
 2. HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX).
 3. GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 4" MAX COMPACTED THICKNESS LAYERS.
 4. THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
 5. IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL / INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
 6. THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY.

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	PARCEL #			
TURF VALLEY GROVE	N/A	62			
PLAT #	GRID #	ZONING	TAX MAP #	ELECT. DIST.	CENSUS TRACT
19759	24	R-20	16	5TH	6022.01

STORMWATER MANAGEMENT INFORMATION

LOT/ PARCEL NUMBER	FACILITY NAME & NUMBER	PRACTICE TYPE	PUBLIC	PRIVATE	HOA MAINTAINS
LOT 1 #2	MICRO-BIORETENTION FACILITY #1	M-6	-	X	YES
LOT 2 #2	MICRO-BIORETENTION FACILITY #2	M-6	-	X	YES

SITE ANALYSIS DATA SHEET

ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	1.73 ACRES ±
LIMIT OF DISTURBANCE	1.31 ACRES ±
GREEN OPEN AREA (LAWN)	1.37 ACRES ±
IMPERVIOUS AREA	0.36 ACRES ±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0 SQ FT ±
WETLAND BUFFERS	0 SQ FT ±
FLOODPLAINS	0 SQ FT ±
FLOODPLAIN BUFFERS	0 SQ FT ±
EXISTING FOREST	0.40 ACRES ±
SLOPES GREATER THAN 15% (S)	0 SQ FT ±
HIGHLY ERODIBLE SOILS	0 ACRES ±

STORMWATER MANAGEMENT PRACTICES

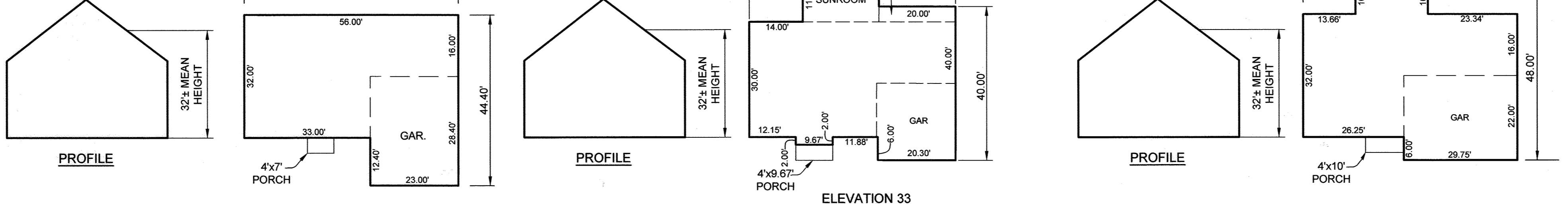
LOT NUMBER	ADDRESS	DRY WELLS M-5 (NUMBER)	MICRO-BIORETENTION M-6 (NUMBER)
LOT 1	10480 BALTIMORE NATIONAL PIKE	#1	X
LOT 1	10480 BALTIMORE NATIONAL PIKE	X	#1
LOT 2	10476 BALTIMORE NATIONAL PIKE	#2	X
LOT 2	10476 BALTIMORE NATIONAL PIKE	#3	X
LOT 2	10476 BALTIMORE NATIONAL PIKE	X	#2
LOT 3	10472 BALTIMORE NATIONAL PIKE	#4	X
LOT 3	10472 BALTIMORE NATIONAL PIKE	#5	X
LOT 3	10472 BALTIMORE NATIONAL PIKE	#6	X
LOT 3	10472 BALTIMORE NATIONAL PIKE	X	#3

- NOTES:
 1. SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2. HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

- NOTES:
 1. THERE IS NO DISCONNECTION OF NON-ROOFTOP RUNOFF.

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

- BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.
- ENVIRONMENTALLY SENSITIVE AREAS HAVE BEEN AVOIDED. NO STREAMS OR WETLANDS EXIST ON-SITE.
 - TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
 - IMPERVIOUS AREAS HAVE BEEN REDUCED BY POSITIONING THE BUILDINGS AS CLOSE TO THE USE IN COMMON DRIVEWAY AS THE SETBACKS AND GRADES ALLOW.
 - A STABILIZED CONSTRUCTION ENTRANCE, DIVERSION FENCE, SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL.
 - THE STORMWATER MANAGEMENT OBLIGATIONS FOR THESE PARCELS WILL BE MET BY THE USE OF DRYWELLS (M-5) & MICRO-BIORETENTION FACILITIES (M-6).
 - NO WAIVER PETITIONS OR DESIGN MANUAL WAIVERS HAVE BEEN RECEIVED.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 6/30/22

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 7/10/22

DIRECTOR: [Signature] DATE: 7/10/22

REVISIONS

NO.	DESCRIPTION	DATE
1	REVISION TO THE HOUSES AND DRIVEWAYS IN THE PLAN VIEW. REVISION TO THE SITE ANALYSIS DATA CHART, THE STORMWATER MANAGEMENT TABLE, THE HOUSE TEMPLATES FOR LOTS 1 & 3, AND REVISION TO THE SHEET INDEX FOR SHEETS BEING REVISED.	03/11/2022

STORMWATER MANAGEMENT SUMMARY TABLE

LOT	Pe		ESDv		RECHARGE		SWM PRACTICE	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	MICRO BIO (M-6)	DRY WELL (M-5)
1	1.6"	1.63"	980 CF	982.5 CF	N/A	N/A	1	1
2	1.6"	1.95"	588 CF	737 CF	N/A	N/A	1	2
3	1.6"	1.68"	448 CF	462 CF	N/A	N/A	1	3
TOTALS	1.6"	1.75"	2,016 CF	2,241.5 CF	741 CF	741 CF	3	6

BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
161A	589,509.389	1,346,343.685	462.916	11' SOUTH OF RT 40 WEST BOUND LANE, 144' SOUTH EAST TO END OF GUARDRAIL ON SOUTH SIDE RT 40 EAST BOUND LANES
161B	590,475.286	1,344,753.990	469.829	66.4' SOUTH EAST OF LAST POST RT 40 WEST BOUND, 11.5' SOUTH OF RT 40 WEST BOUND LANES, 62' NORTH WEST OF CALL 511 SIGN

SHEET INDEX

SHEET NO.	DESCRIPTION
1	REVISED COVER SHEET
2	REVISED GRADING PLAN
3	REVISED SEDIMENT AND EROSION CONTROL PLAN
4	SEDIMENT AND EROSION CONTROL DRAINAGE AREA MAP & WATER AND SEWER CHARTS
5	SEDIMENT AND EROSION CONTROL DETAILS
6	SEDIMENT AND EROSION CONTROL NOTES
7	REVISED STORMWATER MANAGEMENT DRAINAGE AREA MAP, NOTES & DETAILS
8	REVISED STORMWATER MANAGEMENT PROFILE, NOTES & DETAILS
9	REVISED STORMWATER MANAGEMENT PROFILE, NOTES & NOISE WALL DETAILS
10	LANDSCAPING PLAN
11	FORCE MAIN SEWER PLAN, PROFILE, & DETAILS

OWNER
 LOTS 1 & 3: JONG HWI & HEO SOOK LEE
 10281 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

BUILDER
 CARUSO HOMES
 2120 BALDWIN AVENUE
 SUITE 200
 CROFTON, MD 21114
 (301) 261-0277

DEVELOPER
 JONG HWI LEE
 10281 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

LOT 2: CARTIQUEYANE BARATHAPUNNIAM
 3121 NORMANDY WOODS DRIVE
 ELLICOTT CITY, MD 21042
 (410) 818-0465

REVISED COVER SHEET

TURF VALLEY GROVE
 LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE

TAX MAP 16 GRID 24
 5TH ELECTION DISTRICT
 ZONE: R-20
 PARCEL 62
 HOWARD COUNTY, MARYLAND

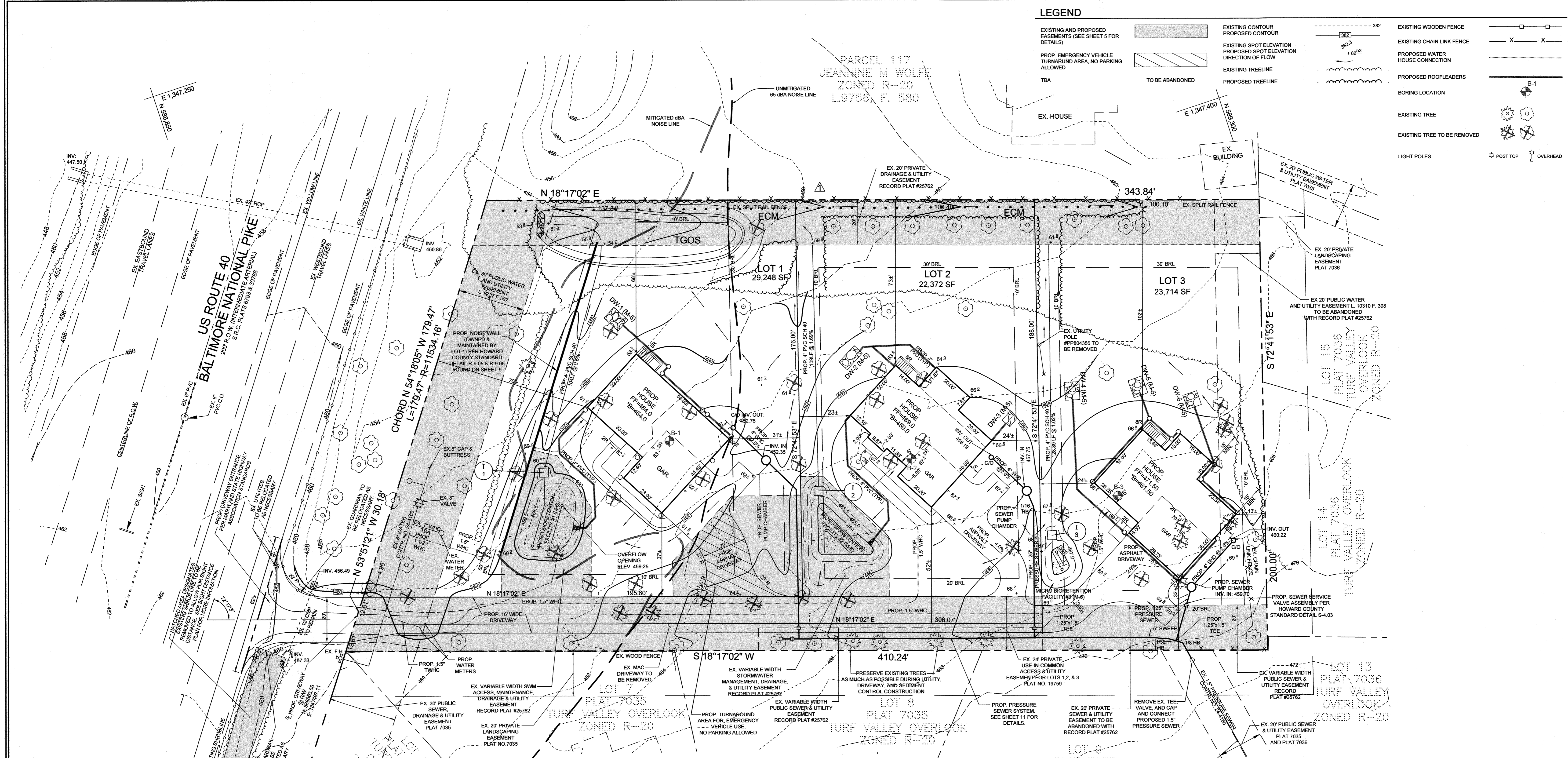
DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: JUNE 1, 2022
 PROJECT #: 19-016
 SHEET # 1 of 11

SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

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. 32025, EXPIRATION DATE: JUNE 20, 2021.

LEGEND

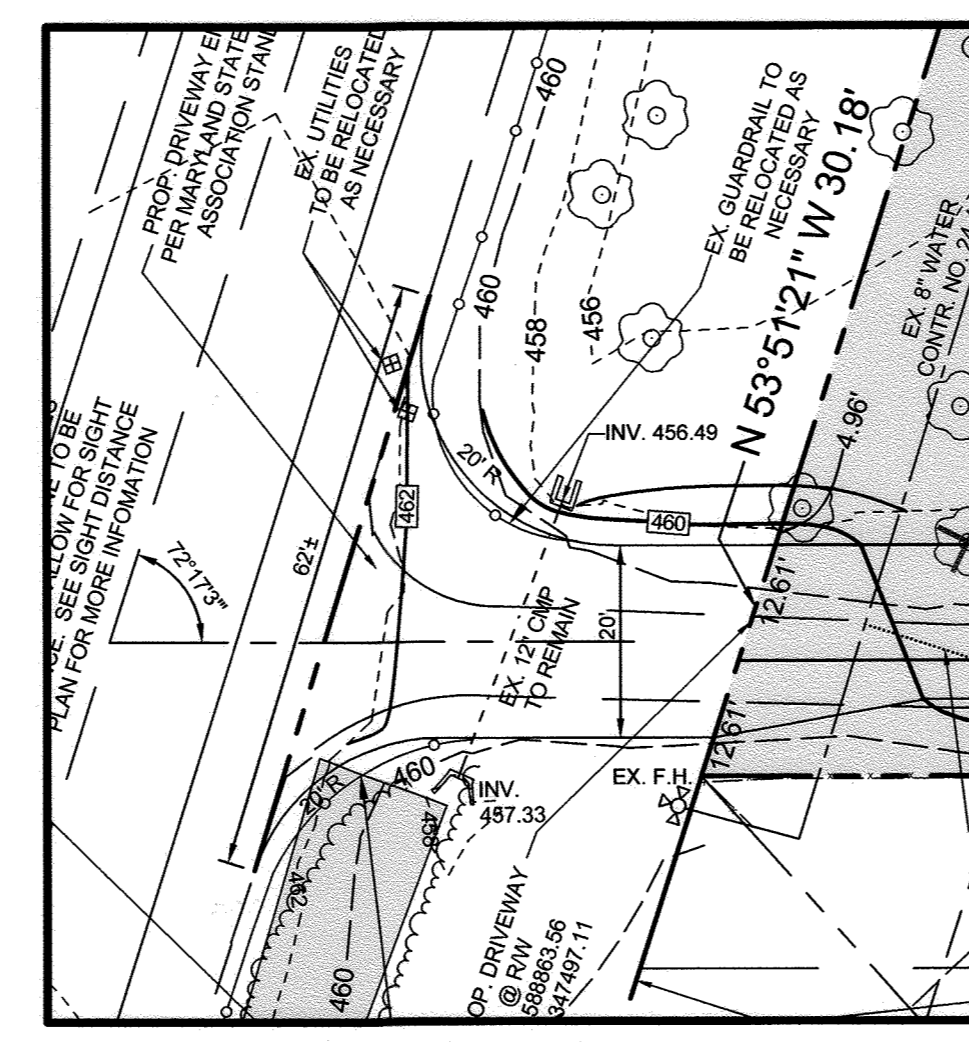
EXISTING AND PROPOSED EASEMENTS (SEE SHEET 5 FOR DETAILS)		EXISTING CONTOUR		EXISTING WOODEN FENCE	
PROP. EMERGENCY VEHICLE TURNAROUND AREA, NO PARKING ALLOWED		EXISTING SPOT ELEVATION		EXISTING CHAIN LINK FENCE	
TBA		PROPOSED SPOT ELEVATION		PROPOSED WATER HOUSE CONNECTION	
		EXISTING TREELINE		PROPOSED ROOFLEADERS	
		PROPOSED TREELINE		BORING LOCATION	
		TO BE ABANDONED		EXISTING TREE	
				EXISTING TREE TO BE REMOVED	
				LIGHT POLES	



* THESE PROPERTIES HAVE BEEN APPROVED FOR THE USE OF A LOW PRESSURE SEWER SYSTEM PER WAIVER PETITION DMV2-20-010. SEE GENERAL NOTE #33 ON SHEET 1

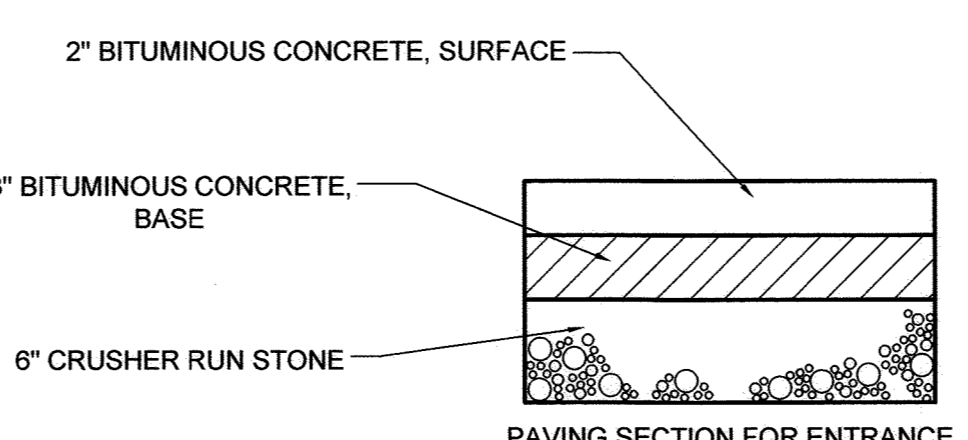
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	DATE	6-30-22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE	7/1/22
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE	7-11-22
DIRECTOR	DATE	

NO.	DESCRIPTION	DATE
2	REVISION TO THE HOUSES, DRIVEWAYS, DRYWELLS, BIOS, AND GRADING ON LOTS 1 & 3 PER THE NEW HOUSE LAYOUT	03/11/2022
1	REVISION TO THE SWALE WITHIN THE 20' PRIVATE DRAINAGE & UTILITY EASEMENT, THE PROPOSED TREELINE AND ADDED EXISTING TREES WITHIN THE EASEMENT	01/13/2022

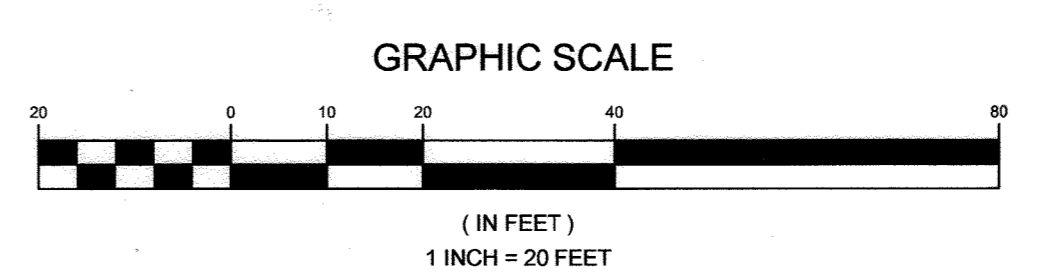


DETAILED ENTRANCE PLAN VIEW
SCALE: 1=20'

PLAN VIEW
SCALE: 1=20'



MARYLAND STATE HIGHWAY ADMINISTRATION
FULL DEPTH PAVING SECTION
NOT TO SCALE



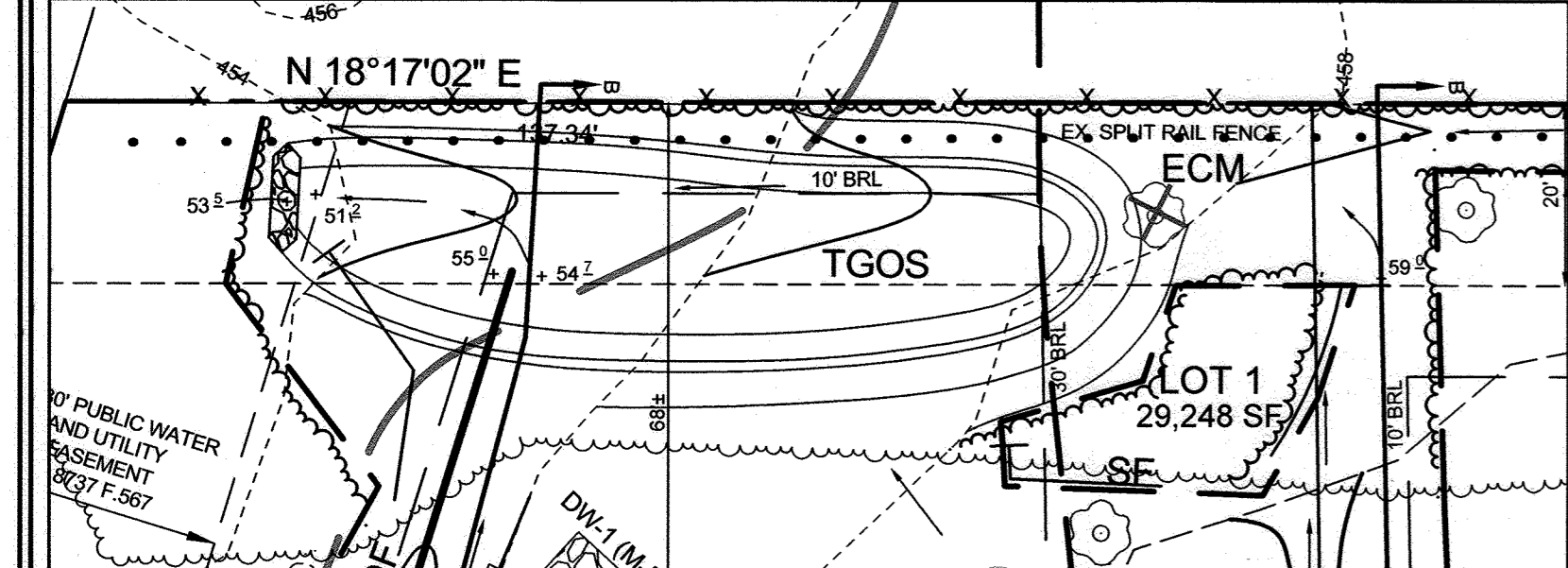
OWNER	BUILDER	DEVELOPER
LOTS 1 & 3: JONG HWI & HEO SOOK LEE 10231 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271	CARUSO HOMES 2120 BALDWIN AVENUE SUITE 200 CROFTON, MD 21114 (301) 261-0277	JONG HWI LEE 10231 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271
LOT 2: CARTIQUEYANE BARATHAPUNIAM 3121 NORMANDY WOODS DRIVE ELLCOTT CITY, MD 21042 (410) 818-9465		

REVISED GRADING PLAN
TURF VALLEY GROVE
LOTS 1, 2, AND 3
10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
ZONE: R-20
TAX MAP 18 GRID 24
5TH ELECTION DISTRICT
PARCEL 62
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: JUNE 1, 2022
PROJECT #: 19-016
SHEET #: 2 of 11

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. 32225, EXPIRATION DATE: JUNE 30, 2021



ULTIMATE GRADING AT TGOS
SCALE: 1"=20'

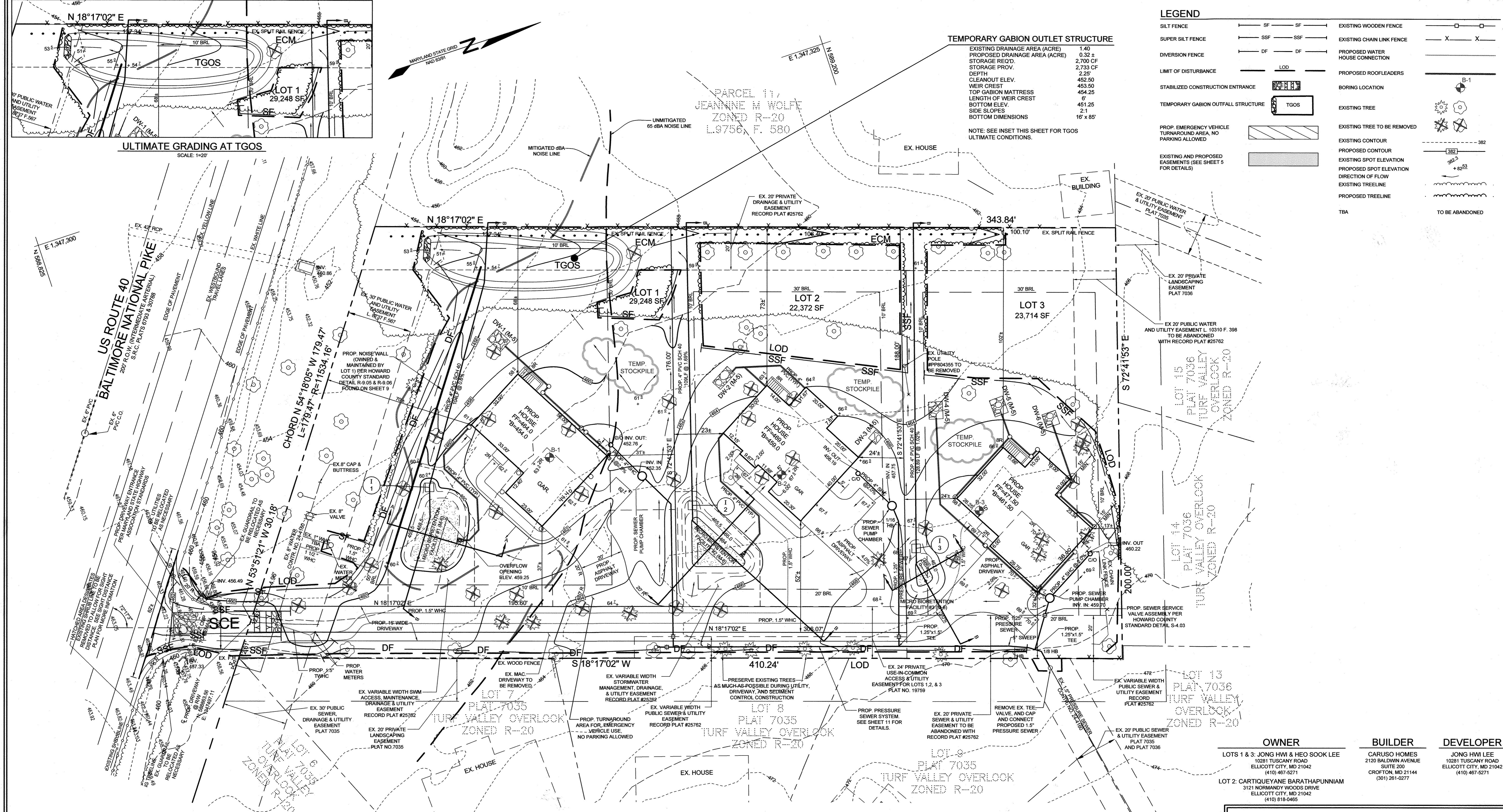
TEMPORARY GABION OUTLET STRUCTURE

EXISTING DRAINAGE AREA (ACRE)	1.40
PROPOSED DRAINAGE AREA (ACRE)	0.32 ±
STORAGE PROV.	2,700 CF
DEPTH	2.25'
CLEANOUT ELEV.	452.50
WEIR CREST	453.50
TOP GABION MATTRESS	454.25
LENGTH OF WEIR CREST	6'
BOTTOM ELEV.	451.25
SIDE SLOPES	2:1
BOTTOM DIMENSIONS	16' x 85'

NOTE: SEE INSET THIS SHEET FOR TGOS ULTIMATE CONDITIONS.

LEGEND

SILT FENCE	SF	EXISTING WOODEN FENCE	—□—□—
SUPER SILT FENCE	SSF	EXISTING CHAIN LINK FENCE	—X—X—
DIVERSION FENCE	DF	PROPOSED WATER HOUSE CONNECTION	—○—○—
LIMIT OF DISTURBANCE	LOD	PROPOSED ROOFLEADERS	—○—○—
STABILIZED CONSTRUCTION ENTRANCE	[Symbol]	BORING LOCATION	B-1
TEMPORARY GABION OUTFALL STRUCTURE	TGOS	EXISTING TREE	[Symbol]
PROP. EMERGENCY VEHICLE TURNAROUND AREA, NO PARKING ALLOWED	[Symbol]	EXISTING TREE TO BE REMOVED	[Symbol]
EXISTING AND PROPOSED EASEMENTS (SEE SHEET 5 FOR DETAILS)	[Symbol]	EXISTING CONTOUR	—○—○—
		PROPOSED CONTOUR	—○—○—
		EXISTING SPOT ELEVATION	382
		PROPOSED SPOT ELEVATION	382
		DIRECTION OF FLOW	→
		EXISTING TREELINE	—○—○—
		PROPOSED TREELINE	—○—○—
		TBA	TO BE ABANDONED



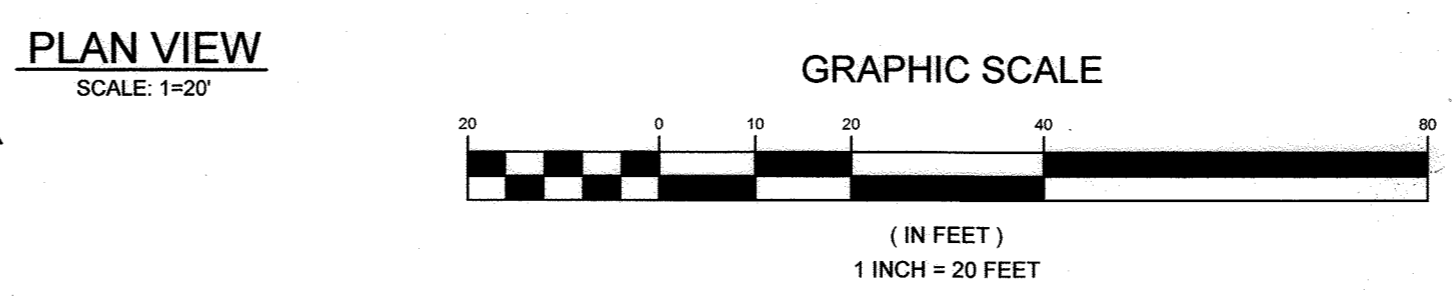
REVISIONS

NO.	DESCRIPTION	DATE
2	REVISION TO THE HOUSES, DRIVEWAYS, DRYWELLS, BIOS, AND GRADING ON LOTS 1 & 3 PER THE NEW HOUSE LAYOUT. REVISION TO THE SEDIMENT CONTROLS ON LOT 3. REVISION TO THE TITLE THIS SHEET.	03/11/2022
1	REVISION TO THE SWALE WITHIN THE 20' PRIVATE DRAINAGE & UTILITY EASEMENT, THE ECM, THE LOD, THE PROPOSED TREELINE AND ADDED TREES WITHIN THE EASEMENT.	01/13/2022

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
G1B	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	A	0.32

NOTES:
1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY
2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 6/30/22

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
DATE: 06/27/22

ENGINEER'S CERTIFICATE
"I 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."
DATE: 6/1/22

DEVELOPER'S CERTIFICATE
"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
DATE: 4/28/22

OWNER	BUILDER	DEVELOPER
LOTS 1 & 3: JONG HWI & HEO SOOK LEE 10281 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271	CARUSO HOMES 2120 BALDWIN AVENUE SUITE 200 CROFTON, MD 21114 (301) 261-0277	JONG HWI LEE 10281 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271
LOT 2: CARTIQUEYANE BARATHAPUNNIAM 3121 NORMANDY WOODS DRIVE ELLCOTT CITY, MD 21042 (410) 818-0465		

REVISED SEDIMENT AND EROSION CONTROL PLAN
TURF VALLEY GROVE
LOTS 1, 2, AND 3
10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
ZONE: R-20
TAX MAP 16 GRID 24
5TH ELECTION DISTRICT
PARCEL 62
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: ZS
CHECKED BY: PS
SCALE: AS SHOWN
DATE: JUNE 1, 2022
PROJECT #: 19-016
SHEET #: 3 of 11

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. 32025, EXPIRATION DATE: JUNE 20, 2021

LEGEND

EXISTING CONTOUR		EXISTING WOODEN FENCE	
PROPOSED CONTOUR		EXISTING CHAIN LINK FENCE	
EXISTING SPOT ELEVATION		PROPOSED WATER HOUSE CONNECTION	
PROPOSED SPOT ELEVATION		PROPOSED ROOFLEADERS	
DIRECTION OF FLOW		BORING LOCATION	
EXISTING TREELINE		EXISTING TREE	
PROPOSED TREELINE		EXISTING TREE TO BE REMOVED	
LIGHT POLES		SILT FENCE	
		SUPER SILT FENCE	
		DIVERSION FENCE	
		LIMIT OF DISTURBANCE	
		STABILIZED CONSTRUCTION ENTRANCE	
		TEMPORARY GABION OUTFALL STRUCTURE	
		PROPOSED DRAINAGE DIVIDE	
		PROPOSED EROSION CONTROL MATTING	
		PROP. EMERGENCY VEHICLE TURNAROUND AREA, NO PARKING ALLOWED	
		EXISTING AND PROPOSED EASEMENTS (SEE SHEET 5 FOR DETAILS)	

DRAINAGE AREA TEMPORARY GABION OUTFALL STRUCTURE
PROPOSED DRAINAGE AREA (ACRE) = 1.46±

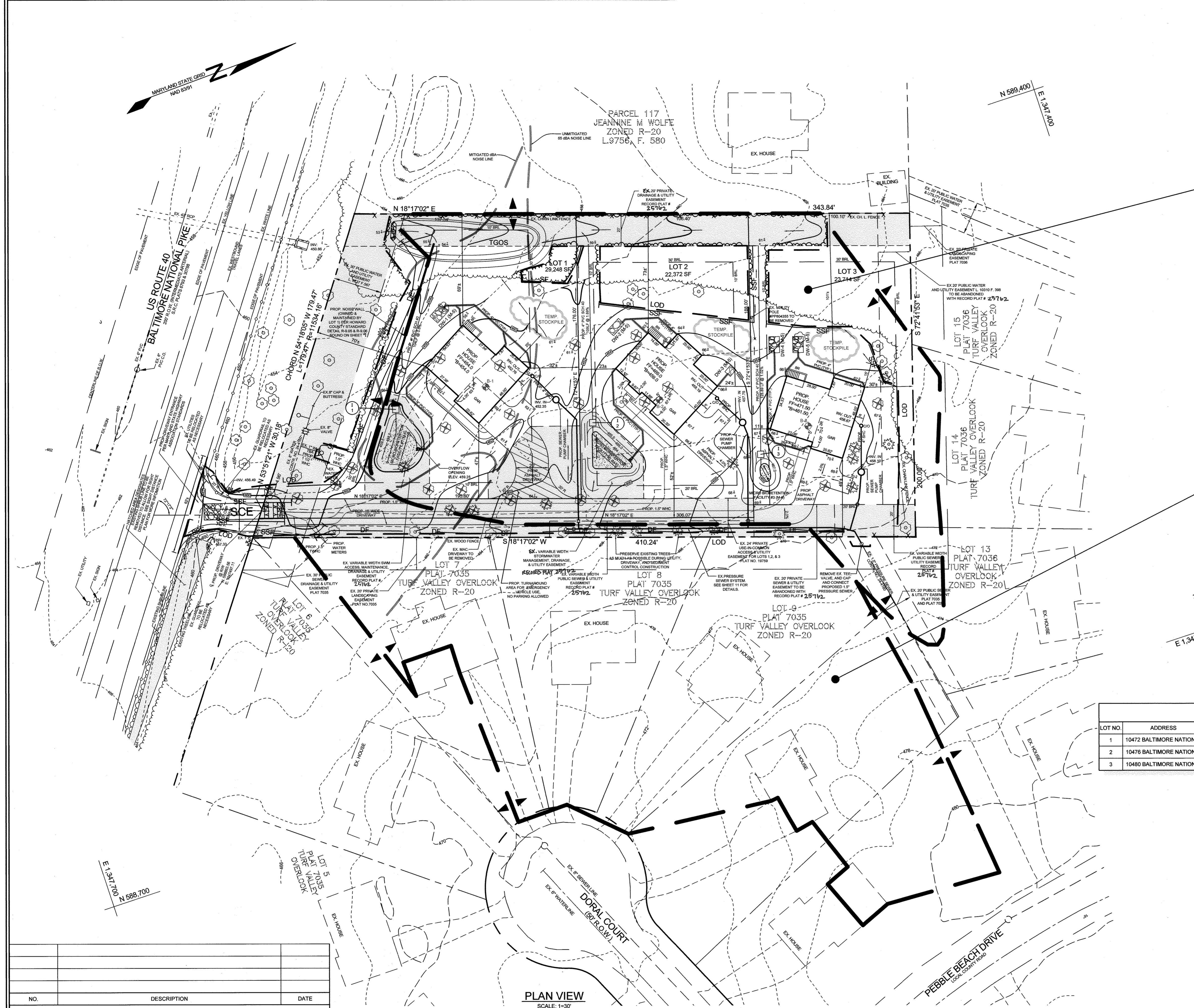
DRAINAGE AREA DIVERSION FENCING
PROPOSED DRAINAGE AREA (ACRE) = 1.29±

WATER HOUSE CONNECTION SCHEDULE

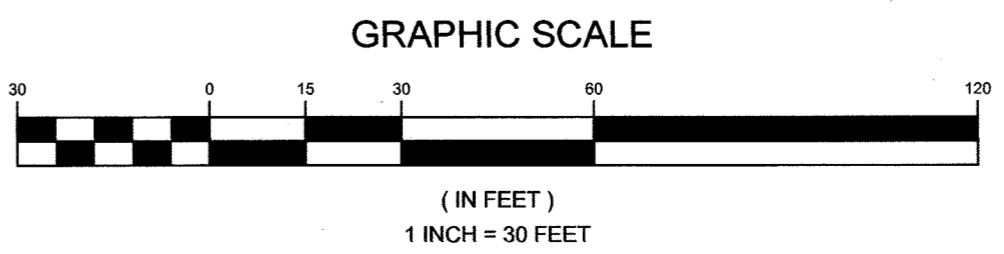
LOT NO.	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	10472 BALTIMORE NATIONAL PIKE		
2	10476 BALTIMORE NATIONAL PIKE		
3	10480 BALTIMORE NATIONAL PIKE		

SEWER HOUSE CONNECTION SCHEDULE

LOT NO.	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2	INVERT OF 1.5' MAIN	BASEMENT FLOOR	FIRST FLOOR	DROP DEPTH	REMARKS
1	10472 BALTIMORE NATIONAL PIKE			461.38	454.00	464.00	N/A	S-2.12
2	10476 BALTIMORE NATIONAL PIKE			463.94	459.00	469.00	N/A	S-2.12
3	10480 BALTIMORE NATIONAL PIKE			465.49	461.50	471.50	N/A	S-2.12



PLAN VIEW
SCALE: 1"=30'



REVISIONS

NO.	DESCRIPTION	DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 5/26/21
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE: 6/25/21
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE: 6/28/21
 DIRECTOR

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 [Signature] DATE: 05/17/21
 HOWARD SCD

ENGINEERS CERTIFICATE
 "I 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] DATE: 9/29/20
 SIGNATURE OF ENGINEER
 PAUL M. SILL, P.E.

DEVELOPER'S CERTIFICATE
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature] DATE: 9/28/20
 SIGNATURE OF DEVELOPER

OWNER
 LOTS 1 & 3: JONG WHI & HEO SOOK LEE
 10251 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

BUILDER
 CARUSO HOMES
 2120 BALDWIN AVENUE
 SUITE 200
 CROFTON, MD 21114
 (301) 261-0277

DEVELOPER
 JONG WHI LEE
 10251 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

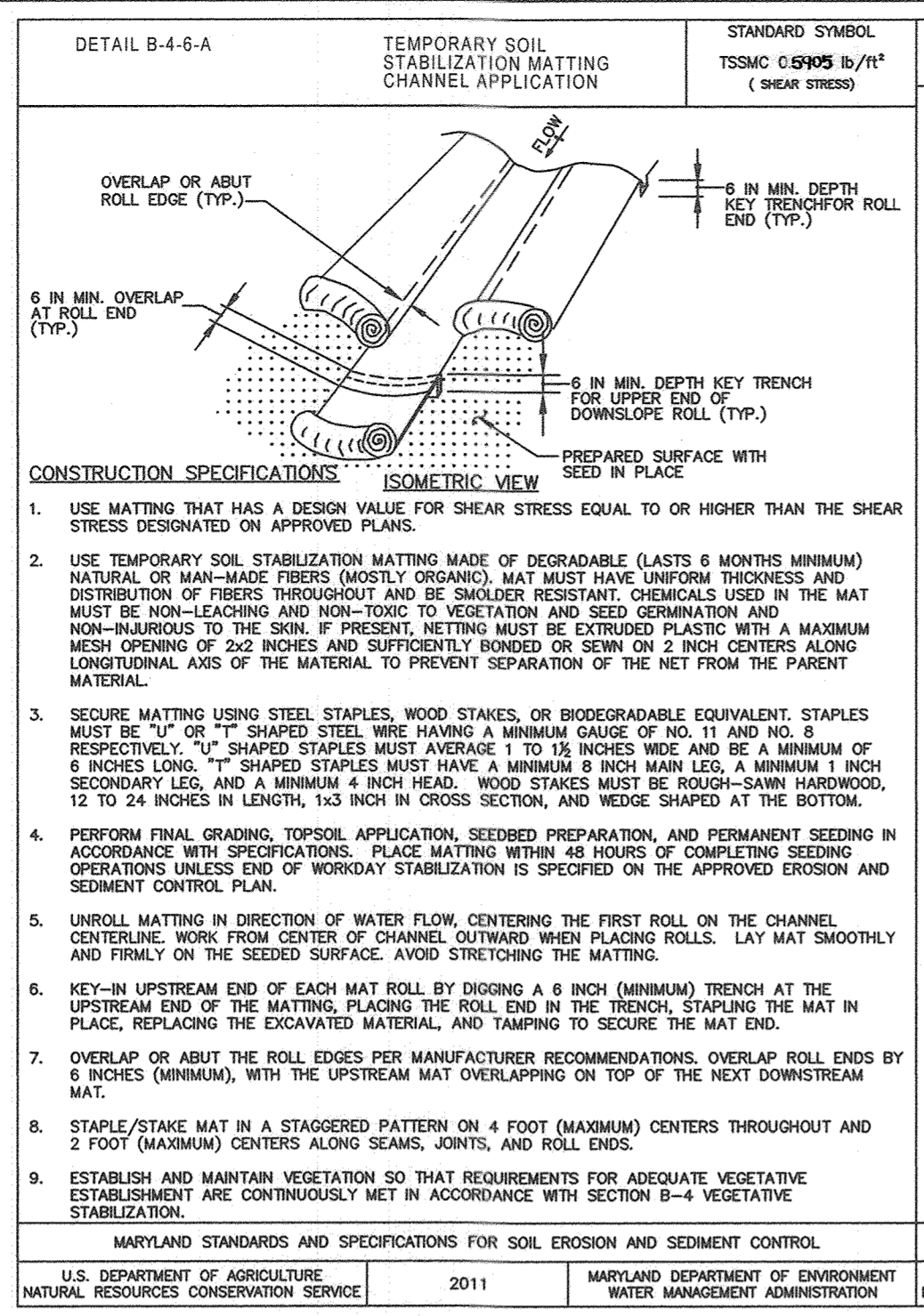
LOT 2: CARTIQUEYANE BARATHAPUNIAM
 3121 NORMANDY WOODS DRIVE
 ELLICOTT CITY, MD 21042
 (410) 818-9465

SEDIMENT AND EROSION CONTROL DRAINAGE AREA MAP & WATER AND SEWER CHARTS
TURF VALLEY GROVE
 LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
 ZONE: R-20
 TAX MAP 18 GRID 24
 5TH ELECTION DISTRICT
 PARCEL 62
 HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: ZS
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 22, 2020
 PROJECT #: 19-016
 SHEET #: 4 of 11

SILL ENGINEERING GROUP, LLC
 26005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

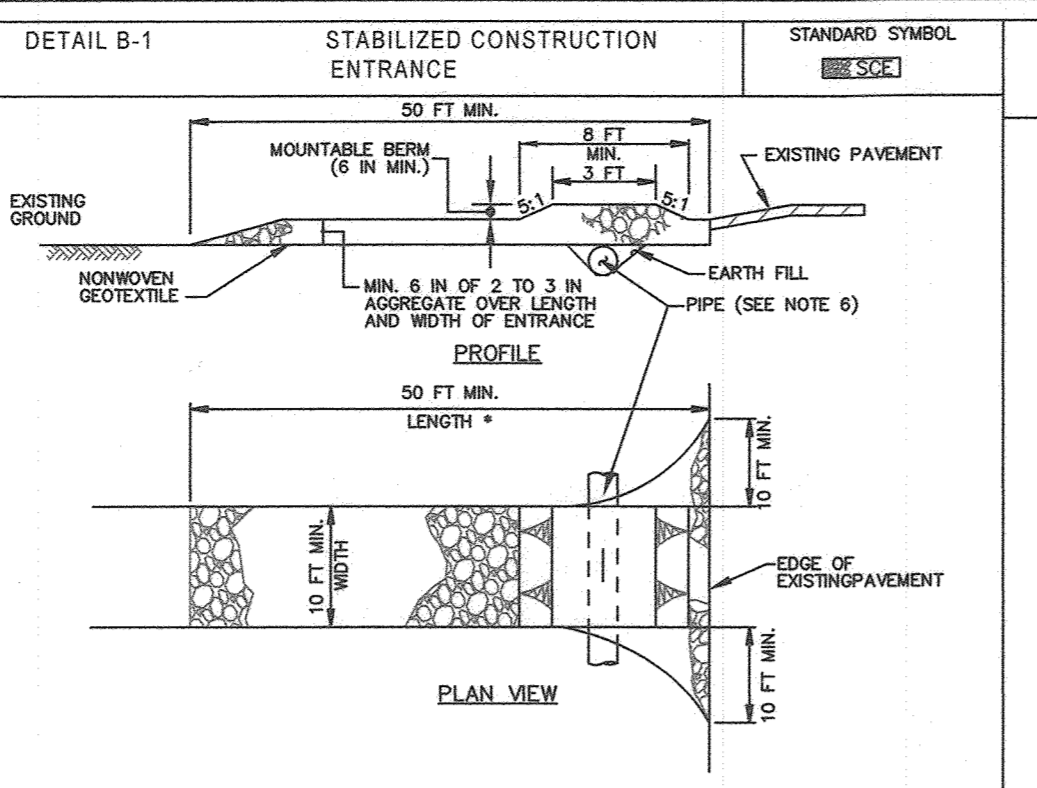
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2021



CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SULKER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SOIL. MAT MUST BE NON-INJURIOUS TO THE SOIL. IF PRESENT, MATTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 3/4 INCH AND SUFFICIENTLY BUNDLED OR BOUND ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAPLES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAPLES MUST BE ROUGH-SAWN HARDWOOD, 1/2 TO 3/4 INCHES IN LENGTH, 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDING SURFACE. AVOID STRETCHING THE MATTING.
- KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMING TO SECURE THE MAT END.
- OVERLAP OR ABUT THE ROLL ENDS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON A FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

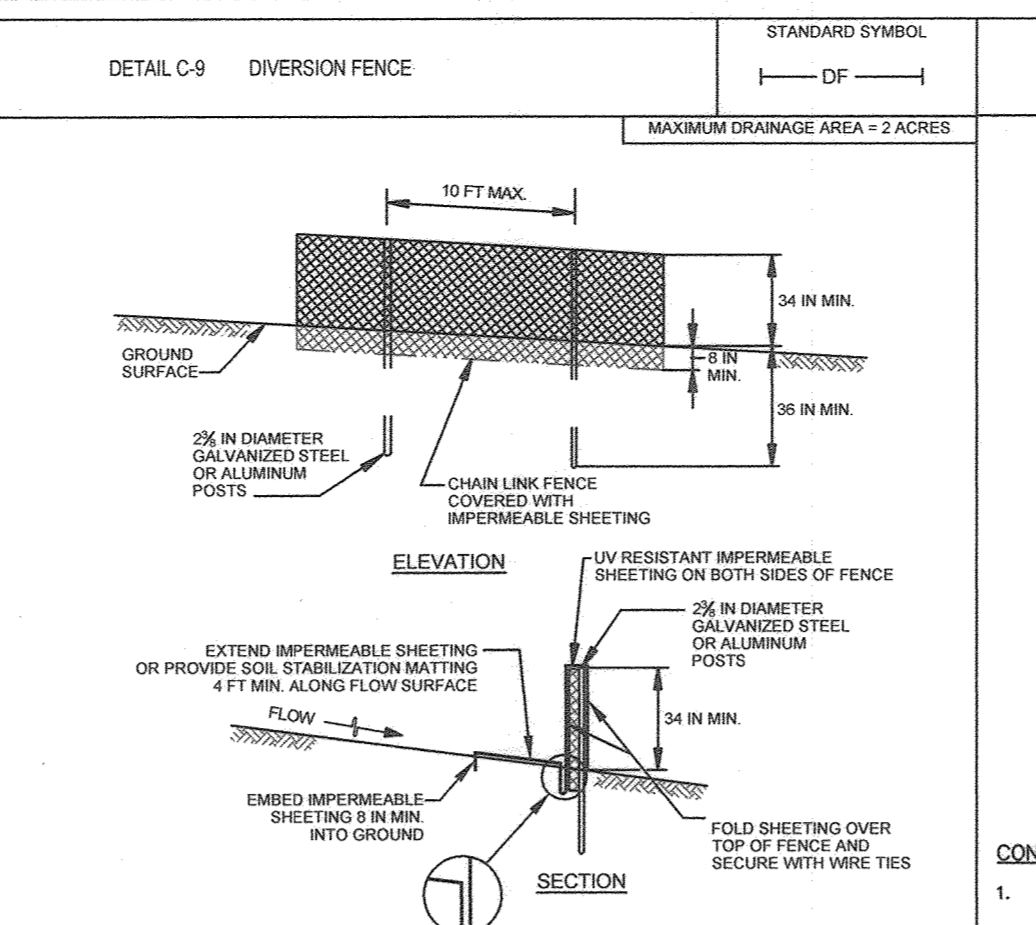
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (40 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. PLACE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCOPING, AND/OR SHEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

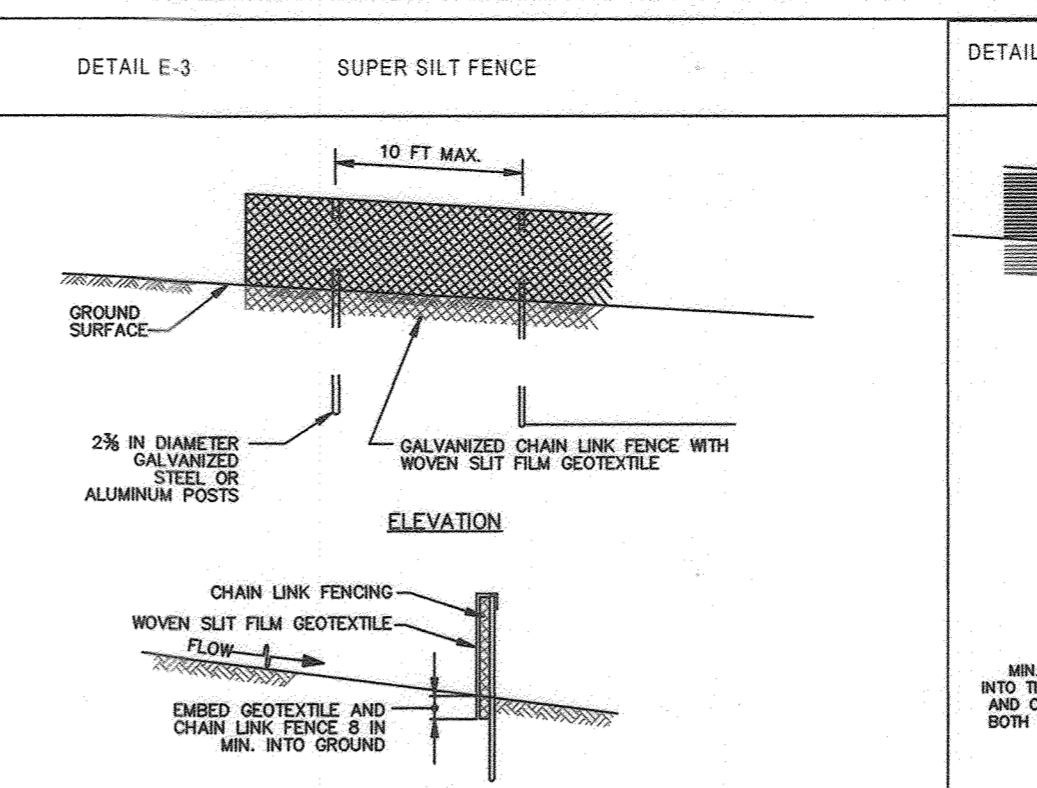
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U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



CONSTRUCTION SPECIFICATIONS

- USE 42 INCH HIGH 9 GAUGE OR THICKER CHAIN LINK FENCING (2 1/2 INCH MAXIMUM OPENING).
- USE 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.935 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
- FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
- SECURE 10 MIL OR THICKER UV RESISTANT IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
- EXTEND SHEETING A MINIMUM OF 2 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
- WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNSTREAM.
- KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN, UNDERMINING OCCURS, REINSTALL FENCE.

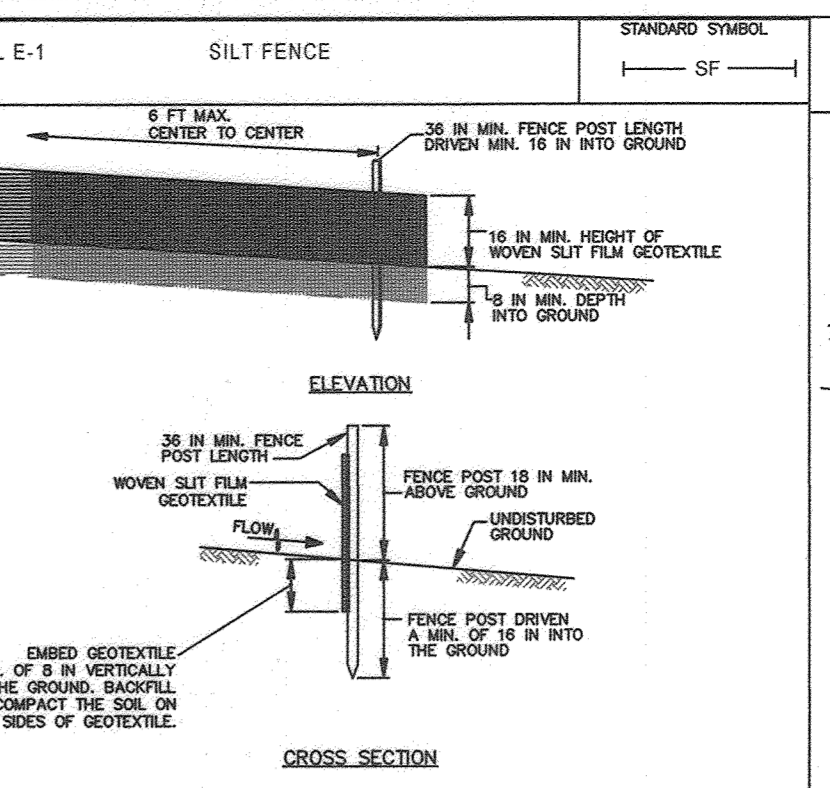
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U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.935 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASSES.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BUILDS DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

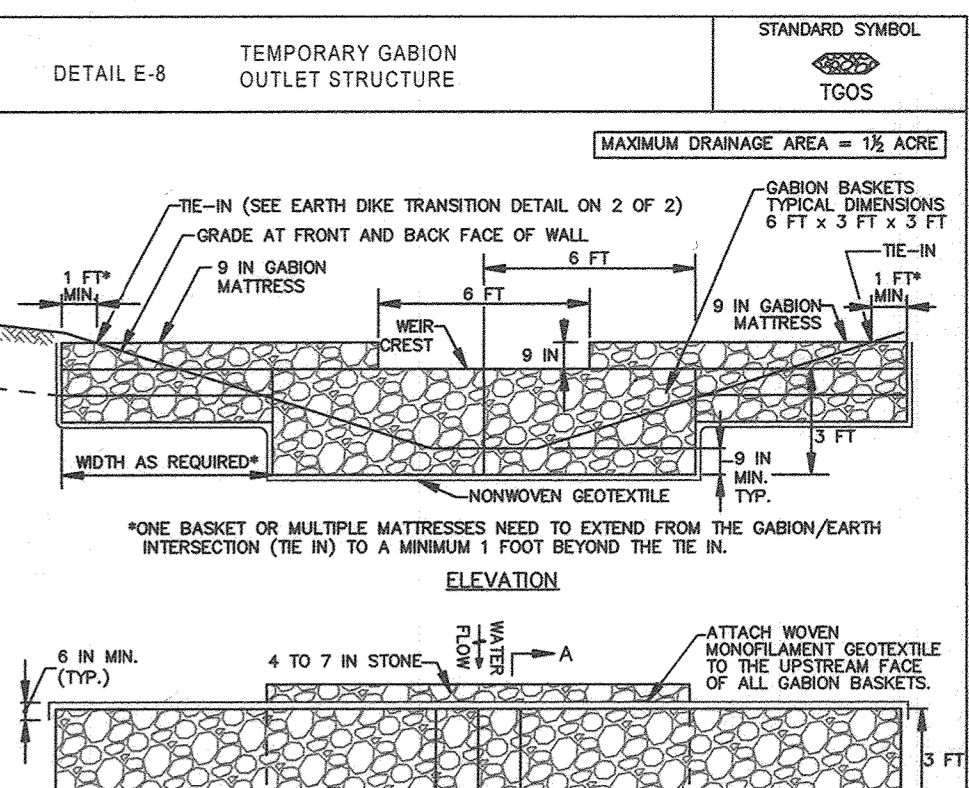
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



CONSTRUCTION SPECIFICATIONS

- USE 36 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.935 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASSES.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BUILDS DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

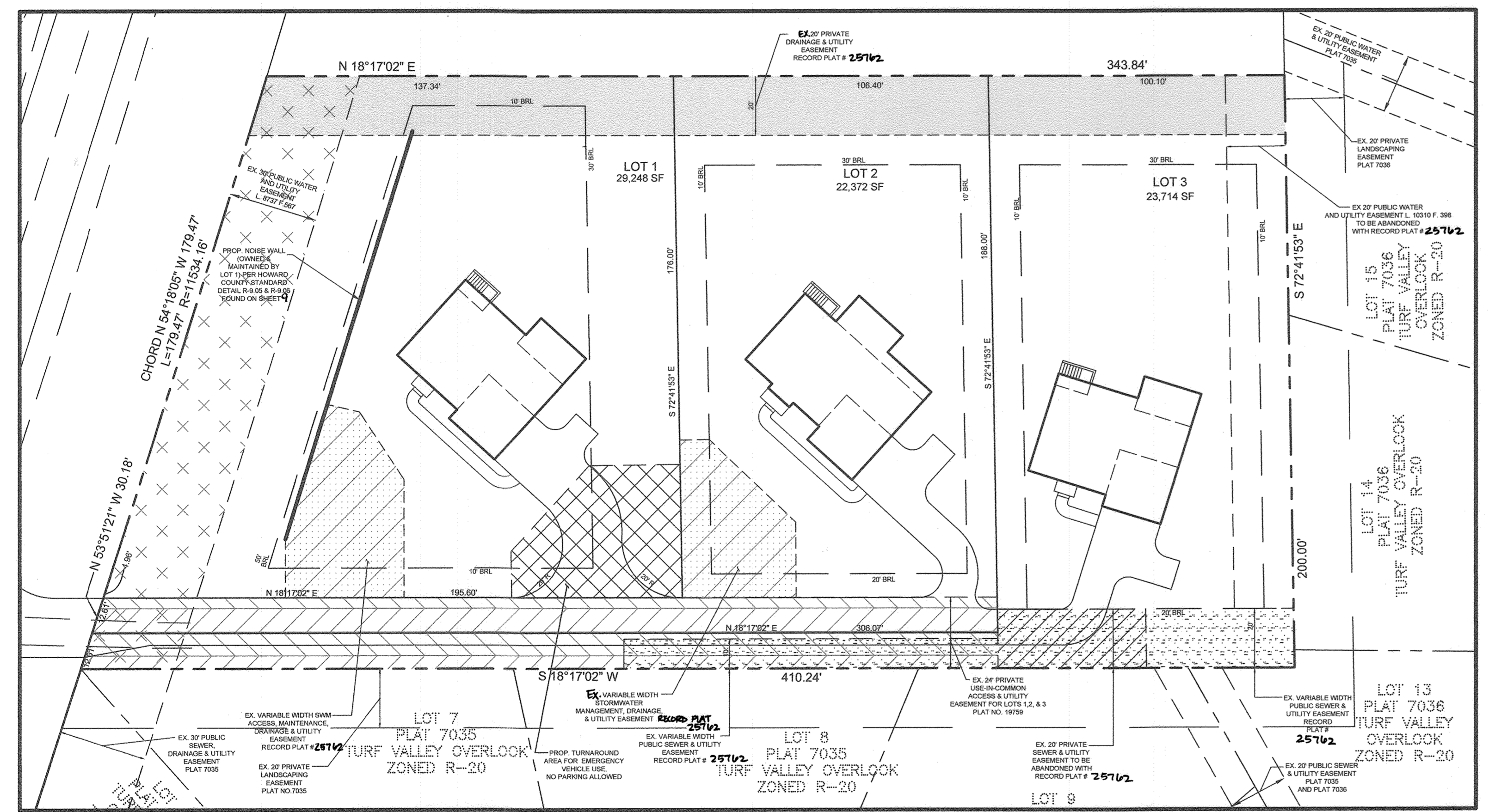
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
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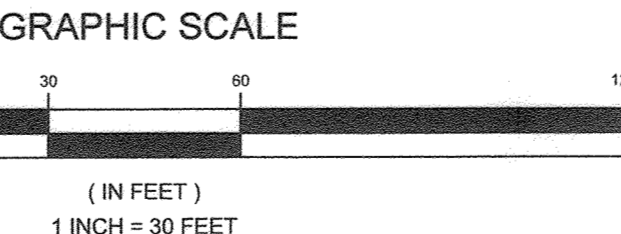
CONSTRUCTION SPECIFICATIONS

- PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
- USE BASKETS MADE OF 1 1/2 GAUGE WIRE OR HEAVIER.
- USE NONWOVEN AND WOVEN MONOLAYER GEOTEXTILES AS SPECIFIED IN SECTION H-1 MATERIALS.
- INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- EMBED THE GABION OUTLET STRUCTURE INTO THE SOIL A MINIMUM OF 9 INCHES. PROVIDE NONWOVEN GEOTEXTILE UNDER ALL GABIONS.
- FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WIRE MESH.
- MAKE THE WEIR CREST OF THE GABION OUTLET STRUCTURE 9 INCHES LOWER THAN THE TOP OF THE ADJACENT GABIONS.
- ATTACH WOVEN MONOLAYER GEOTEXTILE TO THE UPSLOPE FACE OF GABION AND COVER WITH 4 TO 7 INCH STONE.
- FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WIRE MESH.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 12 INCHES OF THE WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO FUNCTION. MAINTAIN LINE, GRADE, AND CROSS SECTION.
- UPON REMOVAL OF GABION OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND, WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

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



DETAILED EASEMENT PLAN VIEW
SCALE: 1"=30'



LEGEND

- EX VARIABLE WIDTH STORMWATER MANAGEMENT, DRAINAGE, & UTILITY EASEMENT
- EX 30' PUBLIC WATER & UTILITY EASEMENT
- EX 24' PRIVATE USE-IN-COMMON ACCESS & UTILITY EASEMENT
- TURNAROUND EASEMENT FOR EMERGENCY VEHICLE USE
- EX VARIABLE WIDTH PUBLIC SEWER & UTILITY EASEMENT
- EX 20' PRIVATE DRAINAGE & UTILITY EASEMENT
- EX PUBLIC 20' SEWER & UTILITY EASEMENT TO BE ABANDONED

NO.	REVISIONS	DATE
1	REVISION TO SHEAR STRESS ON THE TEMPORARY SOIL STABILIZATION CHANNEL MATTING DETAIL	11/13/2022

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 9-26-21

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 DATE: 05/17/21

ENGINEERS CERTIFICATE
 "I 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: Alexander Butcher
 DATE: 9/29/20

DEVELOPER'S CERTIFICATE
 "I ME CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
 SIGNATURE OF DEVELOPER: [Signature]
 DATE: 9/28/20

SEDIMENT AND EROSION CONTROL DETAILS

TURF VALLEY GROVE
 LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
 ZONE: R-20
 TAX MAP 16 GRID 24
 5TH ELECTION DISTRICT
 PARCEL 62
 HOWARD COUNTY, MARYLAND

OWNER LOTS 1 & 3: JONG WHI & HEO SOOK LEE 10261 TUSCANY ROAD ELICOTT CITY, MD 21042 (410) 467-5271	BUILDER CARUSO HOMES 2120 BALDWIN AVENUE SUITE 200 CROFTON, MD 21144 (301) 261-0277	DEVELOPER JONG WHI LEE 10261 TUSCANY ROAD ELICOTT CITY, MD 21042 (410) 467-5271
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DESIGN BY: PS
 DRAWN BY: ZS
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 22, 2020
 PROJECT #: 19-016
 SHEET #: 5 of 11

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

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. 32023, EXPIRATION DATE: JUNE 20, 2021

TABLE B.1: TEMPORARY SEEDING FOR SITE STABILIZATION

PLANT SPECIES	SEEDING RATE		SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE		
	LB/AC	LB/1000 FT ²		5b & 6a	6b	7a & 7b
COOL-SEASON GRASSES						
ANNUAL RYEGRASS (LOLIUM PERENNIS SSP. MULTIFLORUM)	40	1.0	0.5	MARCH 15 TO MAY 31, AUG 1 TO SEP 30	MARCH 1 TO MAY 15, AUG 1 TO OCT 15	FEB 15 TO APR 30, AUG 15 TO NOV 30
BARLEY (HORDEUM VULGARE)	96	2.2	1.0	MARCH 15 TO MAY 31, AUG 1 TO SEP 30	MARCH 1 TO MAY 15, AUG 1 TO OCT 15	FEB 15 TO APR 30, AUG 15 TO NOV 30
OATS (AVENA SATIVA)	72	1.7	1.0	MARCH 15 TO MAY 31, AUG 1 TO SEP 30	MARCH 1 TO MAY 15, AUG 1 TO OCT 15	FEB 15 TO APR 30, AUG 15 TO NOV 30
WHEAT (TRITICUM AESTIVUM)	120	2.8	1.0	MARCH 15 TO MAY 31, AUG 1 TO OCT 31	MARCH 1 TO MAY 15, AUG 1 TO NOV 15	FEB 15 TO APR 30, AUG 15 TO DEC 15
CERIAL RYE (SECALE CEREALE)	112	2.8	1.0	MARCH 15 TO MAY 31, AUG 1 TO OCT 31	MARCH 1 TO MAY 15, AUG 1 TO NOV 15	FEB 15 TO APR 30, AUG 15 TO DEC 15
WARM-SEASON GRASSES						
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14

FERTILIZER RATE (10-0-20): 436 LB/AC (10LB/1000SF) LIME RATE: 2 TONS/AC (90LB/1000SF)

- NOTES:
- SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY. AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES. SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT. FOR SMALLER SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX. CERIAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CERIAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE GERMINATION AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
 - FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
 - THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

TABLE B.5: RECOMMENDED PLANTING DATES FOR PERMANENT COVER IN MARYLAND

TYPE OF PLANT MATERIAL	PLANT HARDINESS ZONES		
	5b & 6a	6b	7a & 7b
SEEDS - COOL-SEASON GRASSES (INCLUDES MIXES WITH FORBS AND/OR LEGUMES)	MAR 15 TO MAY 31 JUN 1 TO SEP 30	MAR 1 TO MAY 15 AUG 1 TO OCT 15	FEB 15 TO APR 30 AUG 15 TO OCT 31 NOV 1 TO NOV 30
SEEDS - WARM-SEASON COOL-SEASON GRASS MIXES (INCLUDES MIXES WITH FORBS AND/OR LEGUMES)	MAR 15 TO MAY 31 JUN 1 TO AUG 31	MAR 1 TO MAY 15 MAY 15 TO SEP 14 SEP 15 TO NOV 15	FEB 15 TO APR 30 MAY 1 TO SEP 30 OCT 1 TO DEC 15
SOD - COOL-SEASON	MARCH 15 TO MAY 31 JUN 1 TO JUN 30	MARCH 1 TO MAY 15 MAY 16 TO JUN 30	FEB 15 TO APR 30 MAY 1 TO JUN 30
UNROOTED WOODY MATERIALS, BARE-ROOT PLANTS, BULBS, RHIZOMES, CORMS AND TUBERS	MAR 15 TO MAY 31 JUN 1 TO NOV 15	MAR 1 TO MAY 15 SEP 15 TO NOV 30	FEB 15 TO APR 30 OCT 1 TO DEC 15
CONTAINERIZED STOCK, BALLED-AND-BURLAPPED STOCK	MAR 15 TO MAY 31 JUN 1 TO NOV 15	MAR 1 TO MAY 15 SEP 15 TO NOV 30	FEB 15 TO APR 30 OCT 1 TO DEC 15

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

- PURPOSE:
- TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.
 - 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:
- SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), 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.
 - FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED.
 - WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4.3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSE AND PERMITS, SEDIMENT CONTROL DIVISION, (410) 313-1855, AT LEAST 48 HOURS BEFORE STARTING WORK.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE, AND DIVERSION FENCE ALONG EASTERN PROPERTY LINE. (1 DAY)
- INSTALL TEMPORARY GABION OUTLET STRUCTURE AND DIVERSION FENCE LEADING TO THE FACILITY. (1 DAY)
- INSTALL MULCH LEADING TO TEMPORARY GABION OUTLET STRUCTURE AND STABILIZE IMMEDIATELY. (1 DAY)
- INSTALL REMAINING SEDIMENT CONTROLS. (2 DAYS)
- ROUGH GRADE LOTS AND BEGIN BUILDING CONSTRUCTION. (1 WEEK)
- INSTALL INLETS 1", 1.2", & 1.3" & THEIR OUTFALL PIPES. (1 WEEK)
- FINISH BUILDING CONSTRUCTION, PAVEMENT DRIVEWAY, AND INSTALL DRYWELLS. FULLY STABILIZE LOT BEFORE ALLOWING DRAINAGE TO DRYWELLS. (4 MONTHS)
- WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE TEMPORARY GABION OUTLET STRUCTURE AND COMPLETE SWALE PER ULTIMATE GRADING AT TEMPORARY GABION OUTLET STRUCTURE DETAIL ON SHEET 3. (1 WEEK)
- CONSTRUCT NOISE WALL. (1 WEEK)
- WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CONSTRUCT BIO FACILITIES 1, 2, & 3, ENSURING NO SEDIMENT LADEN RUNOFF ENTERS THE FACILITIES. (2 WEEKS)
- UPON STABILIZATION OF ALL DISTURBED AREAS AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING DISTURBED AREAS. (1 WEEK)

B-4.8 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:
- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
 - 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 LAND GRADING.
 - RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
 - ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
 - CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
 - WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE HILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
 - STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4.4 TEMPORARY STABILIZATION.
 - 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.

NO.	DESCRIPTION	DATE

REVISIONS

APPROVED:	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE: 5/26/21
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 6/18/21
DIRECTOR	DATE: 6/29/21

SEDIMENT CONTROL NOTES

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
 - A. PRIOR TO THE START OF EARTH DISTURBANCE
 - B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
 - C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
 - D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
- OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERE TO.
- FOLLOWING INITIAL SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL. (SEC. B-4.2).
- PERMANENT SEEDING (SEC. B-4.5), TEMPORARY SEEDING (SEC. B-4.4) AND MULCHING (SEC. B-4.3), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4.1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4.8) IN EXCESS OF 20 FT. MUST BE BENCHING WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY EROSSIVE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4.6).
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM CID.
- SITE ANALYSIS:

TOTAL AREA:	1.72 ± ACRES
AREA TO BE SEEDED:	1.28 ± ACRES
AREA TO BE ROOFED OR PAVED:	0.32 ± ACRES
AREA TO BE VEGETATIVELY STABILIZED:	1.4 ACRES
TOTAL CUT:	454 CY
TOTAL FILL:	853 CY
OFFSITE WASTE/BORROW AREA LOCATION:	**

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
 - INSPECTION DATE
 - INSPECTION TYPE (ROUTINE, PRE-STORE EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLAN DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 - IDENTIFICATION OF MISSING OR DEFECTIVELY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPES LENGTHS OR THAT WHICH CAN AND SHALL BE BACKFILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD APPROVED CHANGES.
- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA OF THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE HSCD. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER ADEQUATE STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2" IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
 - USE I AND II P MARCH 1 - JUNE 31
 - USE III AND III P OCTOBER 1 - APRIL 30
 - USE IV MARCH 1 - MAY 31
 - USE V OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.
- EARTHWORK QUANTITIES ARE SOLELY FOR THE PURPOSE OF CALCULATING FEES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO THE START OF CONSTRUCTION.
- TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT.

MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN & LANDSCAPE INFILTRATION

MATERIAL PLANTINGS	SPECIFICATION	SIZE	NOTES
PLANTING SOIL (2'-4" TO 4' DEEP)	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	PLANTINGS ARE SITE-SPECIFIC, SEE PLANT LIST THIS SHEET
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL, ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
CURTAIN DRAIN (IF REQUIRED)	ORNAMENTAL STONE; WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PERIF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MX NO. 3, F _c = 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED, REINFORCING TO MEET ASTM 615-06	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 309 R89; VERTICAL INCLUDING (H-10 OR H-20), ALLOWABLE HORIZONTAL LOADING (BASED ON 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.

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

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

- GENERAL USE
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDFIRE OR ESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
 - FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
 - FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS IN THE PERMANENT SEEDING SUMMARY.
- TURFGRASS MIXTURES
 - AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - 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 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - KENT PERENNIAL RYE: TO BE USED IN FULL SUN AREAS WHERE B.22 RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS: 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 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 5 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
 - KENTUCKY BLUEGRASS/FINE FESCUE: SHADY MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF. RECOMMENDED MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1% TO 3 POUNDS PER 1000 SQUARE FEET.
 - NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY AND/OR MARYLAND PUBLICATION, AGRONOMY MEMO #77, TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND. CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR 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.
 - IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES: WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 8B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
 - TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL BE WITHOUT PROBLEM.
 - IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.
 - SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
 - GENERAL SPECIFICATIONS
 - GLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GRASS AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - 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 GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
 - SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - 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.
 - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
 - 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 GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - 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 SLIDING ON SLOPES. ENSURE CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - 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 PIECE OF SOD WITHIN EIGHT HOURS.
 - SOD MAINTENANCE
 - 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 SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - AFTER THE FIRST WEEK, SOIL FIRMING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - DO NOT MOW UNTIL THE SOD IS WELL 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.

- NOTES:
- THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE. THESE DATES MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONES. WHEN SEEDING TOWARD THE END OF THE LISTED PLANTING DATES, OR WHEN CONDITIONS ARE EXPECTED TO BE LESS THAN OPTIMAL, SELECT AN APPROPRIATE NURSE CROP FROM TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION AND PLANT TOGETHER WITH THE PERMANENT SEEDING MIX.
 - WHEN PLANTED DURING THE GROWING SEASON, MOST OF THESE MATERIALS MUST BE PURCHASED AND KEPT IN A DORMANT CONDITION UNTIL PLANTING. BARE-ROOT GRASSES ARE THE EXCEPTION—THEY MAY BE SUPPLIED AS GROWING (NON-DORMANT) PLANTS.
 - ADDITIONAL PLANTING DATES FOR THE LOWER COASTAL PLAIN, DEPENDENT ON ANNUAL RAINFALL AND PLANTING TRENDS. RECOMMEND ADDING A NURSE CROP, AS NOTED ABOVE, IF PLANTING DURING THIS PERIOD.
 - WARM-SEASON GRASSES NEED A SOIL TEMPERATURE OF AT LEAST 50 DEGREES F IN ORDER TO GERMINATE. IF SOIL TEMPERATURES ARE COLDER THAN 50 DEGREES, OR MOISTURE IS NOT ADEQUATE, THE SEEDS WILL REMAIN DORMANT UNTIL CONDITIONS ARE FAVORABLE. IN GENERAL, PLANTING DURING THE LATTER PORTION OF THIS PERIOD ALLOWS MORE TIME FOR WEED EMERGENCE AND WEED CONTROL PRIOR TO PLANTING. WHEN SELECTING A PLANTING DATE, CONSIDER THE NEED FOR WEED CONTROL VS. THE LIKELIHOOD OF HAVING SUFFICIENT MOISTURE FOR LATER PLANTINGS, ESPECIALLY ON DROUGHTY SITES.
 - ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.
 - FREQUENT FREEZING AND THAWING OF WET SOILS MAY RESULT IN FROST-HEAVING OF MATERIALS PLANTED IN LATE FALL. IF PLANTS HAVE NOT SUFFICIENTLY ROOTED IN PLACE, SOD USUALLY NEEDS 4 TO 6 WEEKS TO BECOME SUFFICIENTLY ROOTED. LARGE CONTAINERIZED AND BALLED-AND-BURLAPPED STOCK MAY BE PLANTED INTO THE WINTER MONTHS AS LONG AS THE GROUND IS NOT FROZEN AND SOIL MOISTURE IS ADEQUATE.

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
- WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA:

- A. SOIL PREPARATION

- TEMPORARY STABILIZATION
 - SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3-5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- PERMANENT STABILIZATION
 - A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - SOIL PH BETWEEN 6.0 AND

BORING LOG **GEOLAB INC.**

Report No: 1/29/2018
 Client: Caruso Homes c/o Maryland Real Estate Development
 Project: Turf Valley Grove
 Boring No: B-1 (1 of 1)
 Type of Boring: Hand Auger
 Date: 1/22/2018
 Location: See Boring Location Plan
 Designer: D. Cochran & D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Blows	Moisture Content (%)	REMARKS
460.5	0.0	Topsoil with root matter and organic soil			Groundwater was not encountered during drilling or at completion.
458.5	2.0	Red-brown to light brown clayey SILT with little fine sand, moist. (USCS: ML, USDA: Silty Clay Loam)			
454.5	4.0	Red-brown to light brown micaceous fine sandy SILT with some clay and some gravel, moist. (USCS: ML, USDA: Loam)			
453.5	7.0	Light brown micaceous fine SAND with little silt, moist. (USCS: SM, USDA: Loamy Sand)			
452	8.5	Gray-brown and off-white fine to coarse SAND with little silt, moist. (USCS: SM, USDA: Loamy Sand)	8.5	21.0	
449.5	12.0	Brown and gray fine to medium SAND with little silt and trace clay, moist. (USCS: SM, USDA: Loamy Sand)	9		
449.5	12.0	End of boring			

Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the last two increments of penetration is termed the standard penetration resistance, N.

BORING LOG **GEOLAB INC.**

Report No: 1/29/2018
 Client: Caruso Homes c/o Maryland Real Estate Development
 Project: Turf Valley Grove
 Boring No: B-2 (1 of 1)
 Type of Boring: Hand Auger
 Date: 1/22/2018
 Location: See Boring Location Plan
 Designer: D. Cochran & D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Blows	Moisture Content (%)	REMARKS
465	0.0	Topsoil with root matter and organic soil			Groundwater was not encountered during drilling or at completion.
464	1.0	Red-brown clayey SILT with little fine sand, moist. (USCS: ML, USDA: Silty Clay Loam)			
461	4.0	Red-brown clayey SILT with gravel and little to some fine sand, moist. (USCS: ML, USDA: Silty Clay Loam)			
459	6.0	Light brown, orange-brown and off-white fine to medium micaceous SAND with some gravel, little silt and trace clay, moist. (USCS: SM, USDA: Loamy Sand)			
457.5	7.5	Light brown, orange-brown and off-white fine to medium micaceous SAND with little silt and trace clay, moist. (USCS: SM, USDA: Loamy Sand)	8.5	14.7	
453	12.0	End of boring			

Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the last two increments of penetration is termed the standard penetration resistance, N.

BORING LOG **GEOLAB INC.**

Report No: 1/29/2018
 Client: Caruso Homes c/o Maryland Real Estate Development
 Project: Turf Valley Grove
 Boring No: B-3 (1 of 1)
 Type of Boring: Hand Auger
 Date: 1/22/2018
 Location: See Boring Location Plan
 Designer: D. Cochran & D. Rockwood

Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	Sample Blows	Moisture Content (%)	REMARKS
466	0.0	Topsoil with root matter and organic soil			Groundwater was not encountered during drilling or at completion.
465.5	0.5	Brown clayey SILT with little fine sand, wet to moist. (USCS: ML, USDA: Silty Clay Loam)			
460.5	5.5	Light brown to gray-brown micaceous fine to medium SAND with some to little silt and little clay, moist. (USCS: SM, USDA: Sandy Loam)			
457.5	7.5	Light brown, orange-brown and off-white fine to medium micaceous SAND with little silt and trace clay, moist. (USCS: SM, USDA: Loamy Sand)	8.5	22.2	
454	12.0	End of boring			

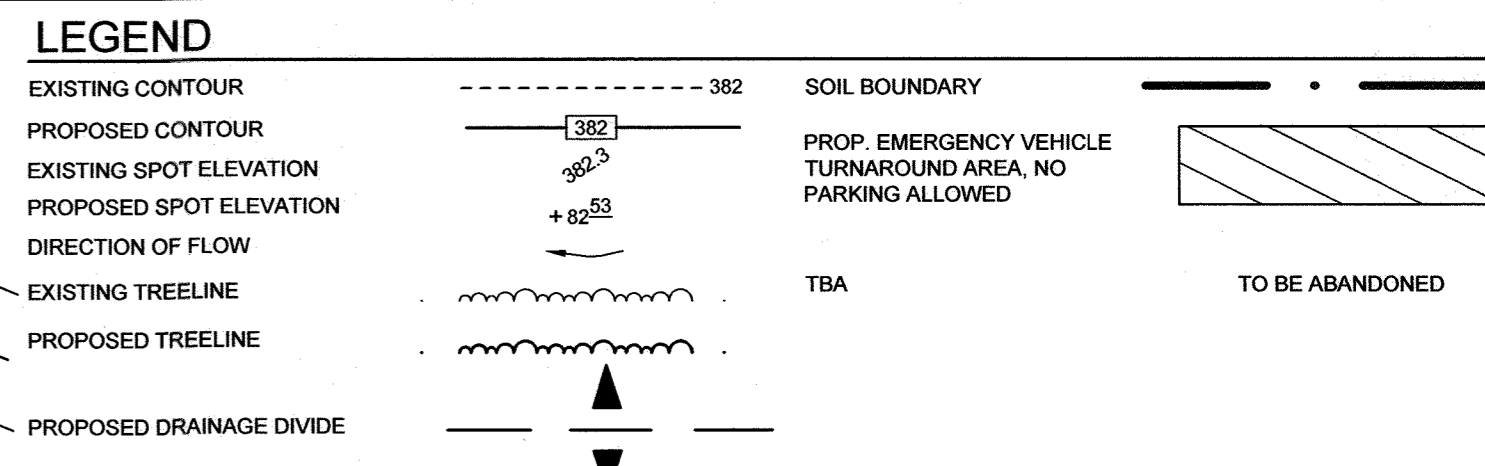
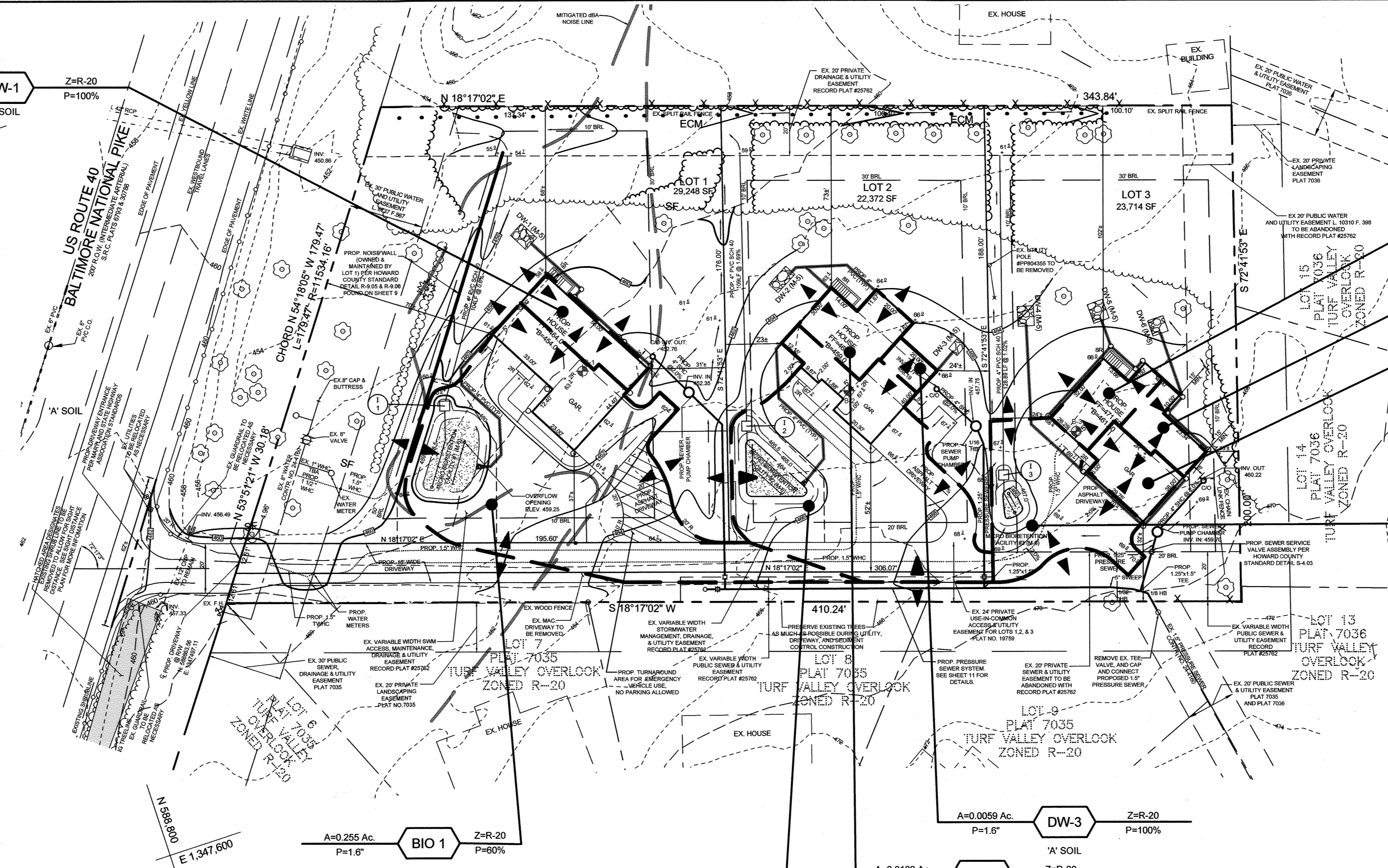
Number of blows required for a 140 lb hammer dropping 30" to drive 2" O.D., 1.375" I.D. sampler a total of 18 inches in three 6" increments. The sum of the last two increments of penetration is termed the standard penetration resistance, N.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6-30-22
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7-11-22
 DIRECTOR

NO.	DESCRIPTION	DATE
1	REVISION TO THE HOUSES, DRIVEWAYS, DRYWELLS AND DRAINAGE AREAS FOR LOTS 1 & 3. REVISION TO THE DRYWELL DESIGN CHART AND THE STORMWATER MANAGEMENT SUMMARY TABLE.	03/11/2022

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOURS TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



STORMWATER MANAGEMENT SUMMARY

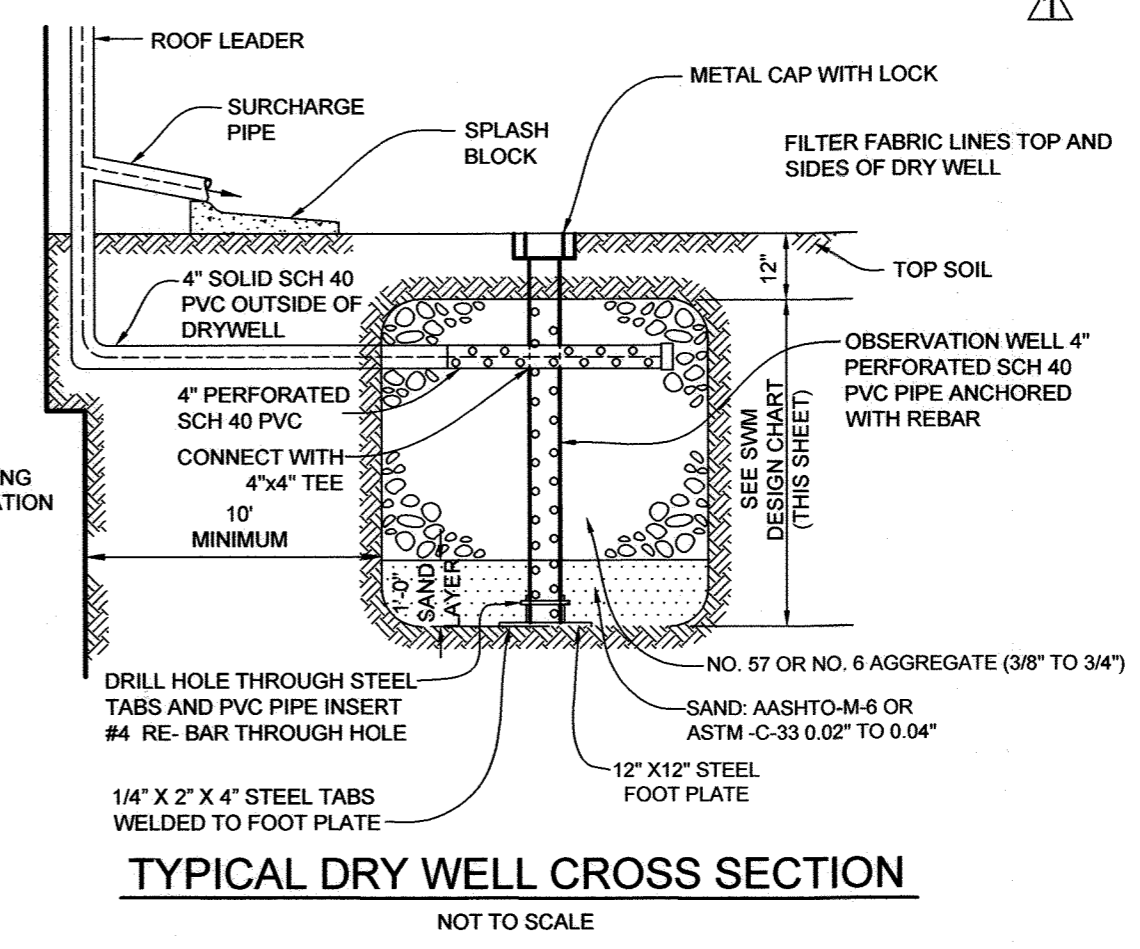
FACILITY	ESDV REQUIRED	ESDV PROVIDED	TARGET Pp	PROVIDED Pp
MICRO-BIORETENTION 1	871 CF	872 CF	1.6"	1.60"
MICRO-BIORETENTION 2	453 CF	661 CF	1.6"	2.30"
MICRO-BIORETENTION 3	174 CF	176 CF	1.6"	1.60"
DRY WELL 1	109 CF	110.5 CF	1.6"	1.65"
DRY WELL 2	100 CF	100 CF	1.6"	1.78"
DRY WELL 3	35 CF	36 CF	1.6"	1.78"
DRY WELL 4	100 CF	104 CF	1.6"	1.65"
DRY WELL 5	100 CF	104 CF	1.6"	1.67"
DRY WELL 6	74 CF	78 CF	1.6"	1.71"
TOTAL	2,016 CF	2,241.5 CF	1.6"	1.75"

DRAINAGE AREA MAP

SCALE: 1"=30'

DRYWELL (M-5) DESIGN CHART

LOT	DRYWELL #	VOLUME REQUIRED	VOLUME PROVIDED	WELL SIZE
1	DW 1	109 CF	110.5 CF	8.5' X 6.5' X 5.0' DEEP
2	DW 2	100 CF	100 CF	10.0' X 5.0' X 5.0' DEEP
2	DW 3	35 CF	36 CF	5.0' X 4.5' X 4.0' DEEP
3	DW 4	100 CF	104 CF	8.0' X 6.5' X 5.0' DEEP
3	DW 5	100 CF	104 CF	8.0' X 6.5' X 5.0' DEEP
3	DW 6	74 CF	78 CF	6.5' X 6.5' X 5.0' DEEP



OWNER
 LOTS 1 & 3: JONG HWI & HEO SOOK LEE
 10281 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

BUILDER
 CARUSO HOMES
 2120 BALDWIN AVENUE
 SUITE 200
 CROFTON, MD 21114
 (301) 261-0277

DEVELOPER
 JONG HWI LEE
 10281 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

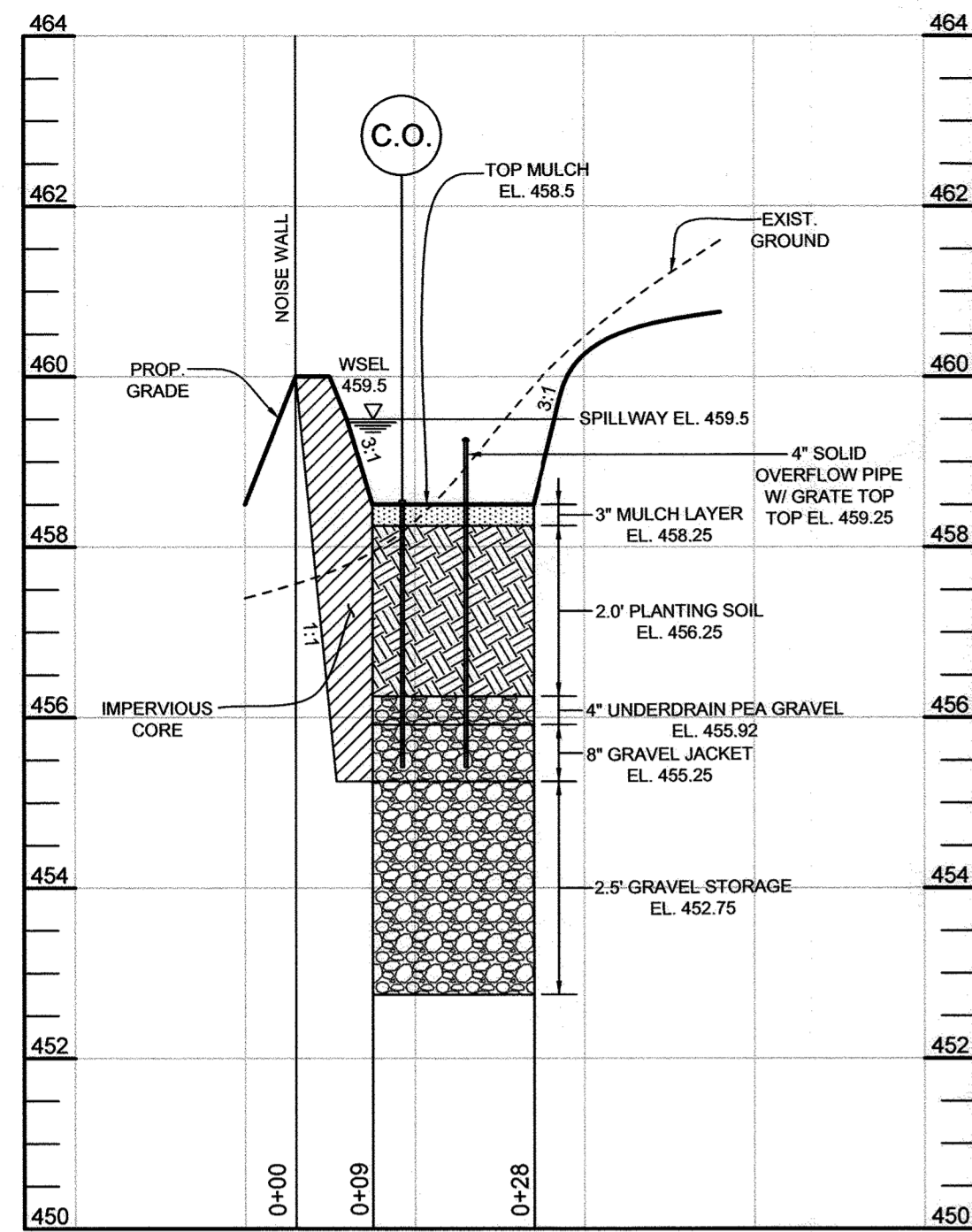
LOT 2: CARTIQUEYANE BARATHAPUNNIAM
 3121 NORMANDY WOODS DRIVE
 ELLICOTT CITY, MD 21042
 (410) 818-0465

REVISED STORMWATER MANAGEMENT, DRAINAGE AREA MAP, NOTES & DETAILS
TURF VALLEY GROVE
 LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
 ZONE: R-20
 TAX MAP 16 GRID 24
 6TH ELECTION DISTRICT
 PARCEL 62
 HOWARD COUNTY, MARYLAND

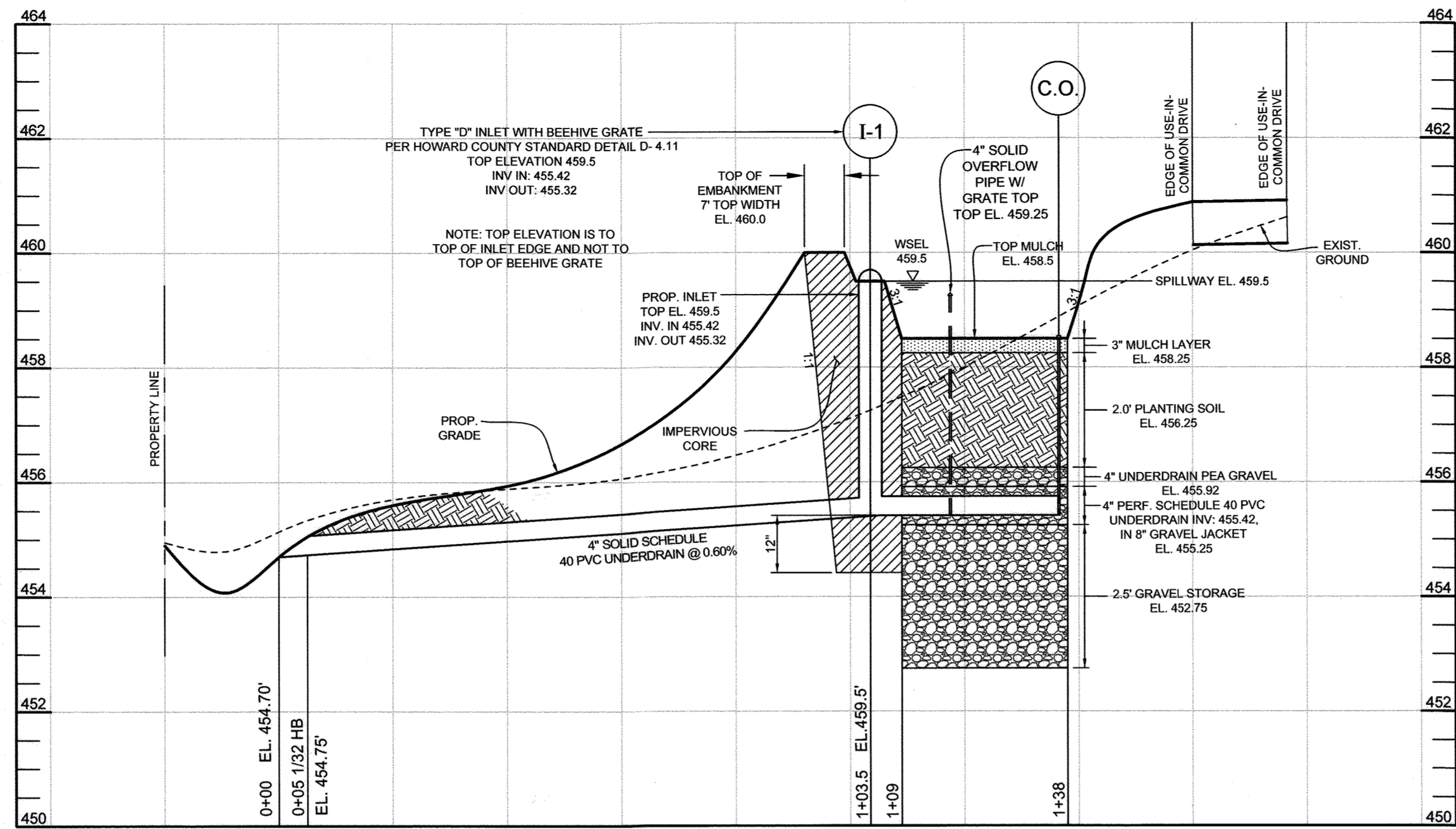
DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: JUNE 1, 2022
 PROJECT #: 19-016
 SHEET #: 7 of 11

SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

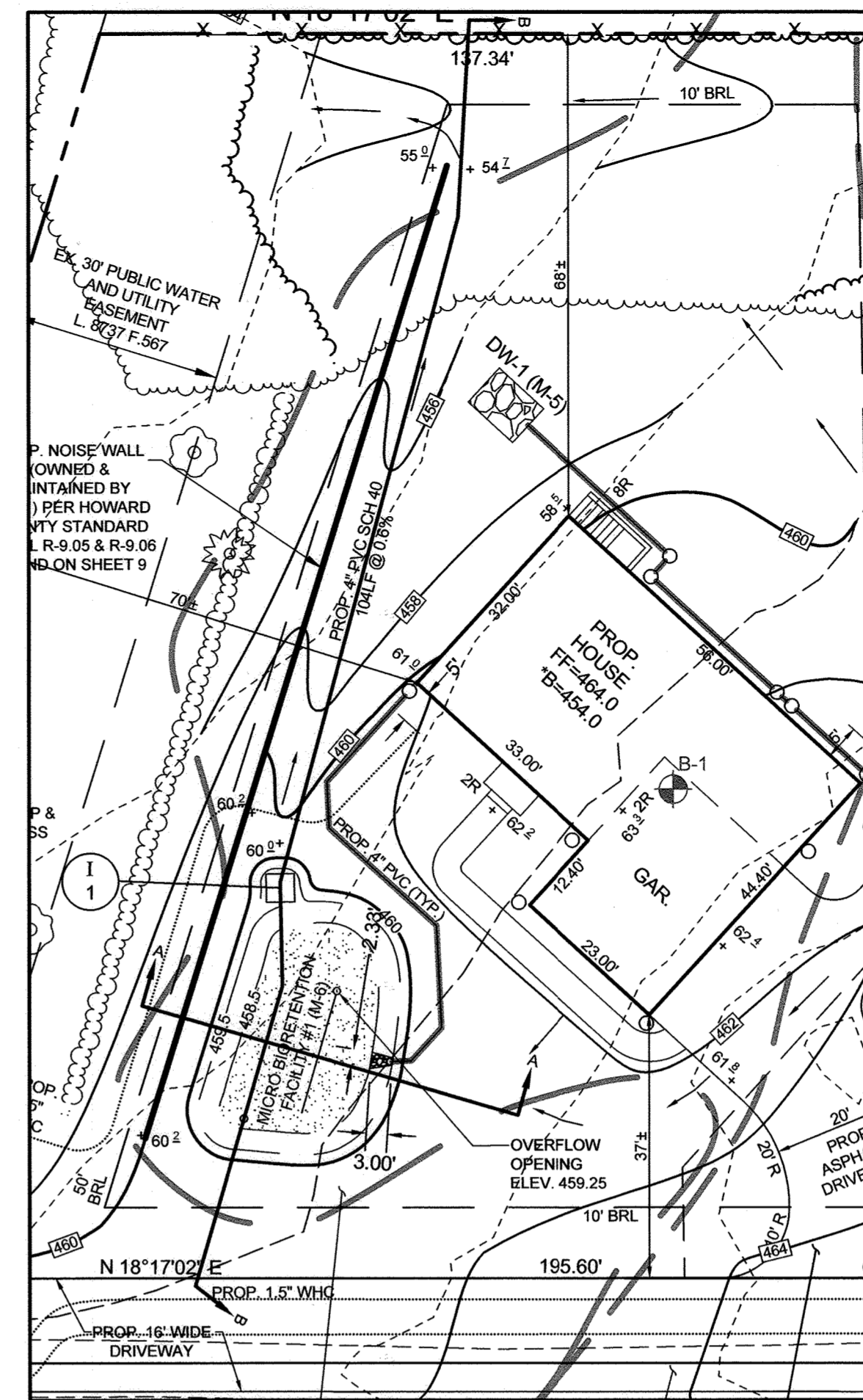
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32023, EXPIRATION DATE: JUNE 20, 2021



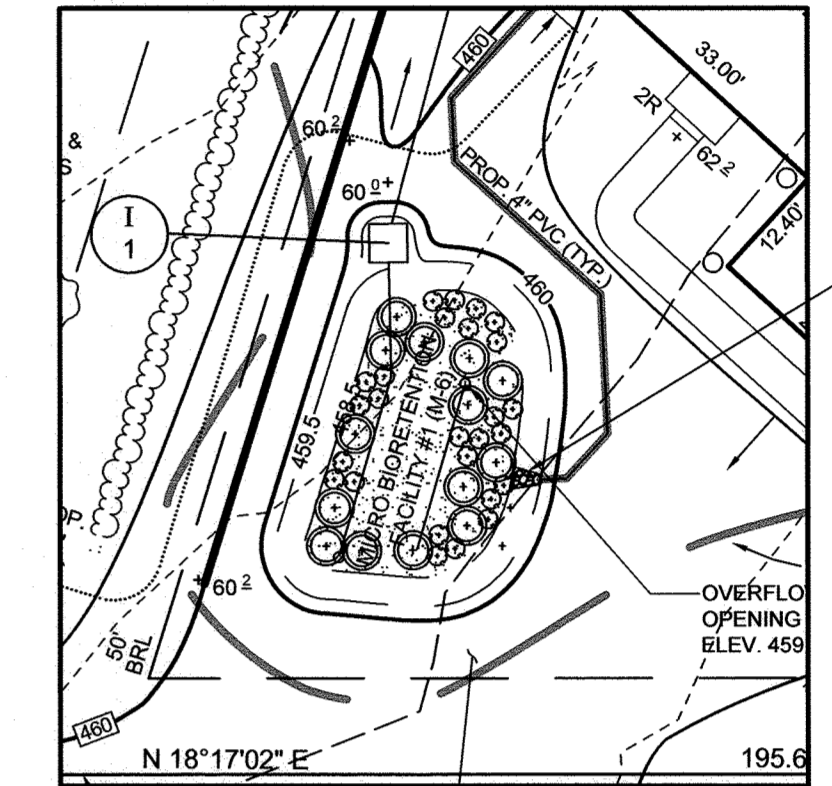
BIORETENTION FACILITY #1 (M-6) PROFILE (A-A)
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=20'



BIORETENTION FACILITY #1 (M-6) PROFILE (B-B)
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=20'

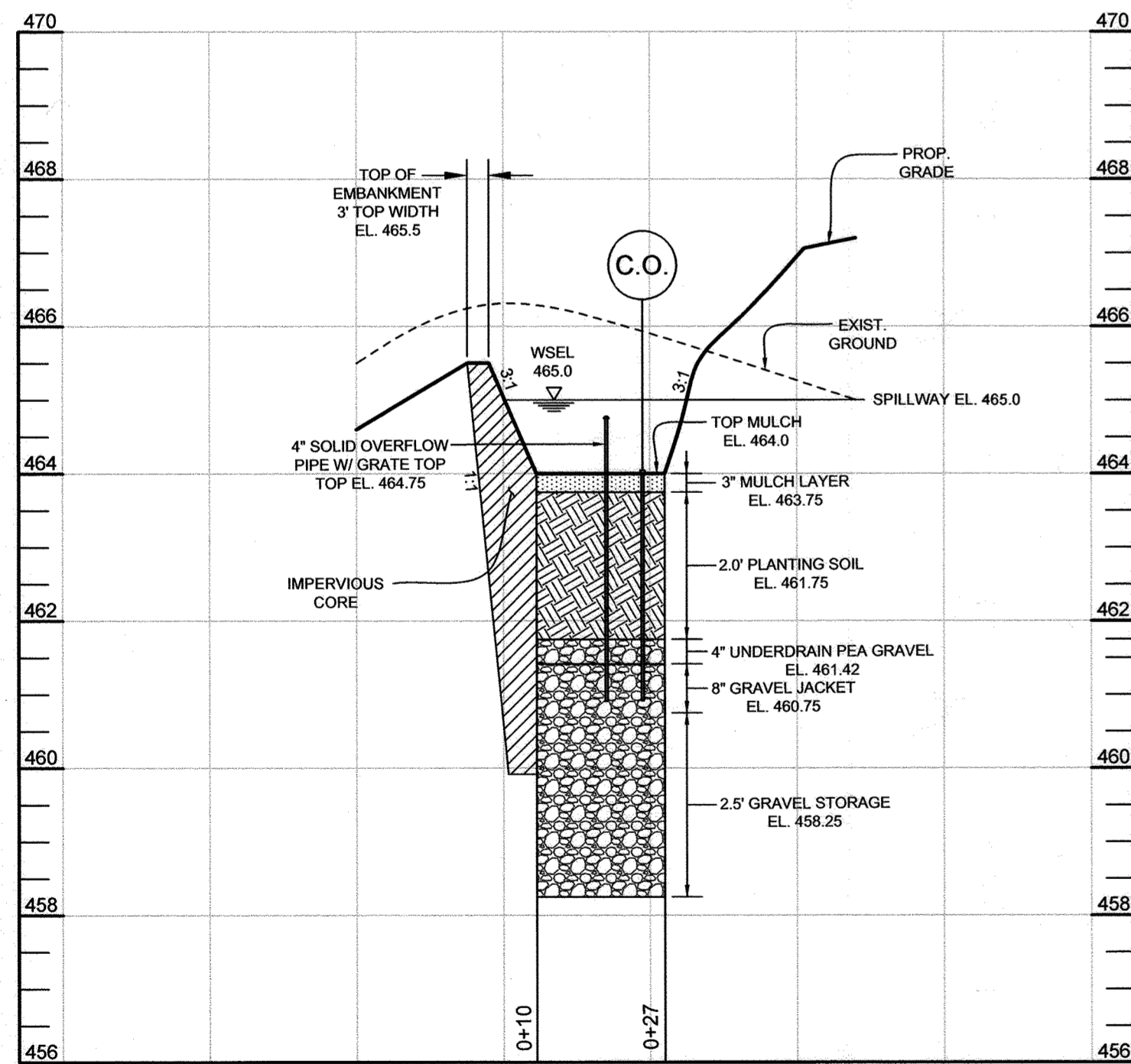


PLAN VIEW - MICRO BIORETENTION FACILITY (M-6) #1
 SCALE: 1"=20'

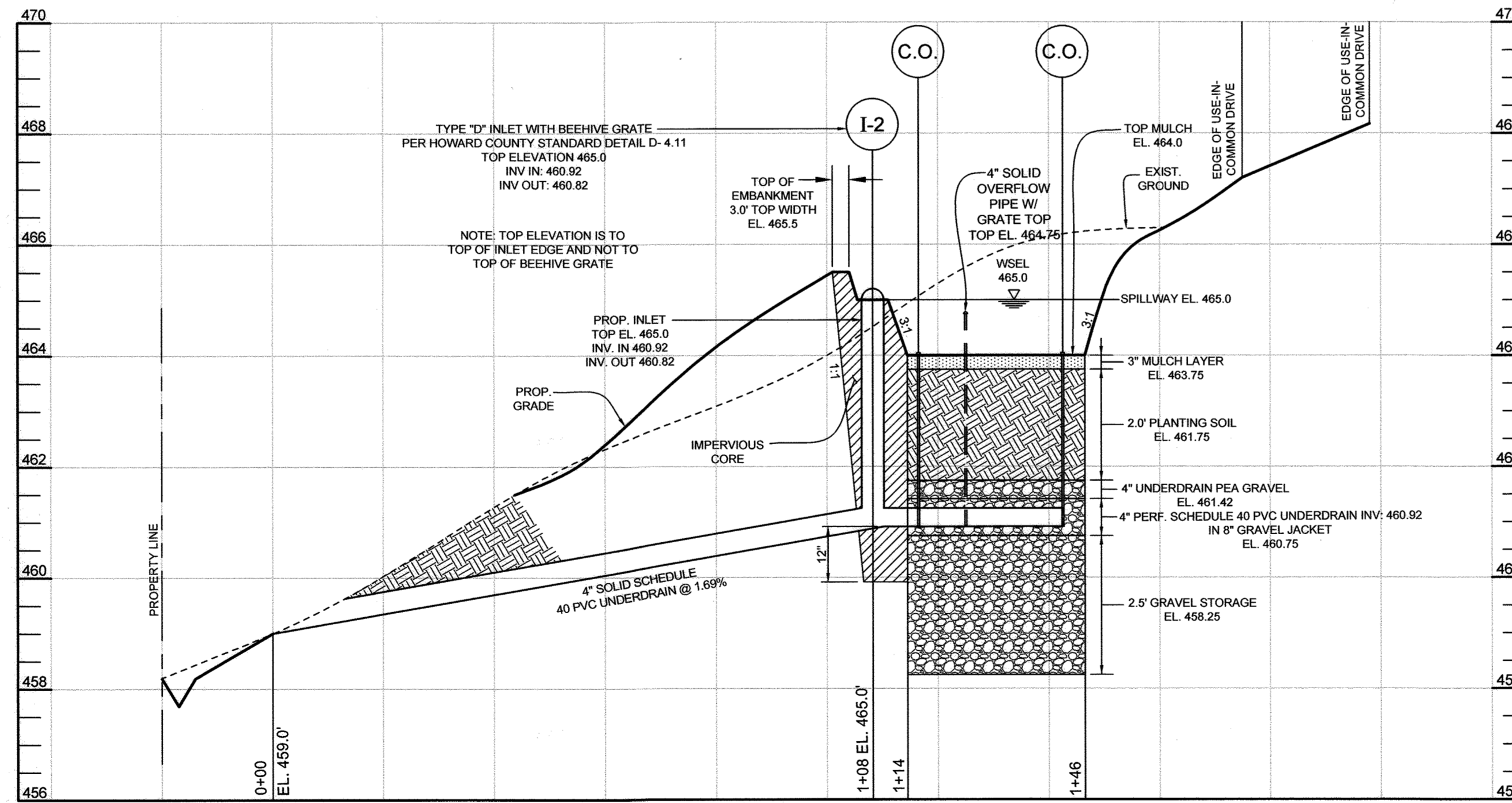


MICRO BIORETENTION FACILITY (M-6) #1 LANDSCAPE PLAN
 SCALE: 1"=20'

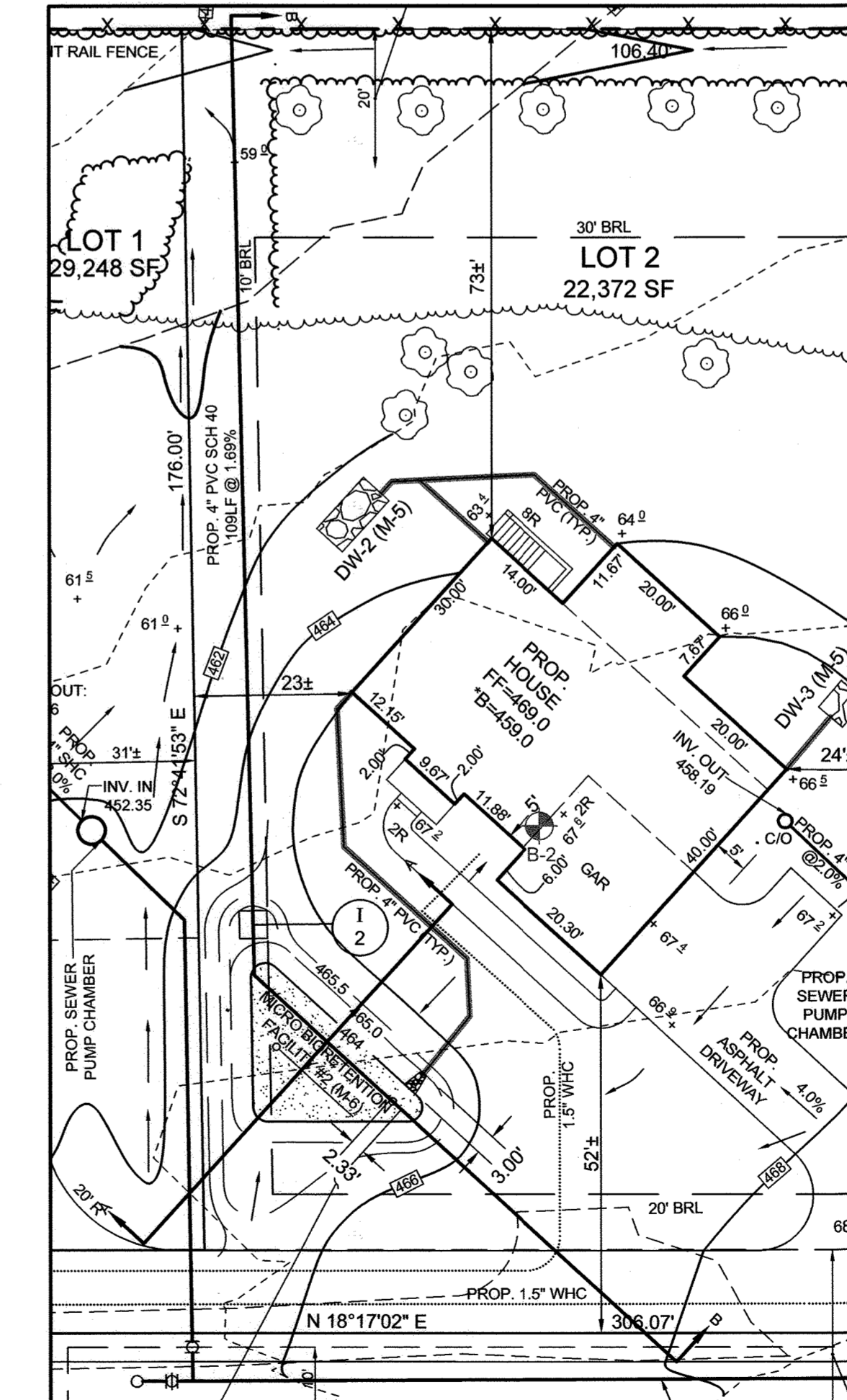
NOTE: SEE BIORETENTION PLANT LIST ON SHEET 9 FOR PLANT DESCRIPTION AND QUANTITY



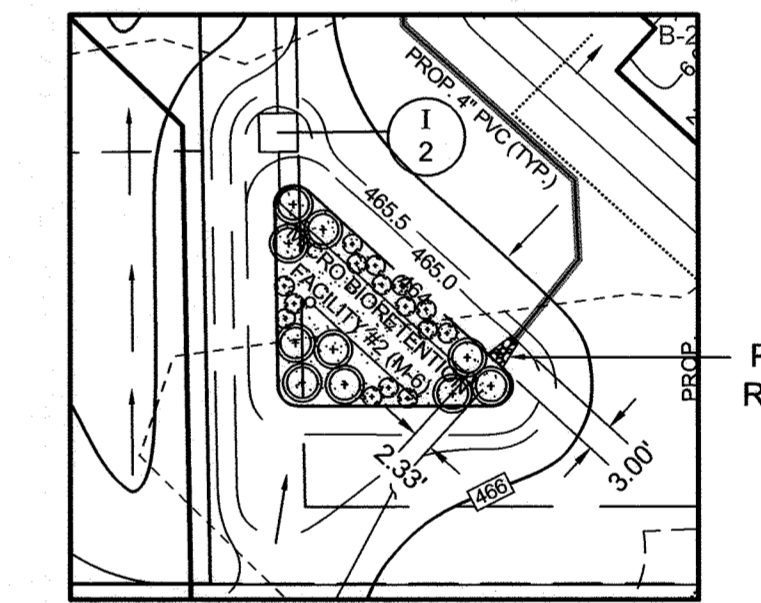
BIORETENTION FACILITY #2 (M-6) PROFILE (A-A)
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=20'



BIORETENTION FACILITY #2 (M-6) PROFILE (B-B)
 HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=20'



PLAN VIEW - MICRO BIORETENTION FACILITY #2
 SCALE: 1"=20'



MICRO BIORETENTION FACILITY (M-6) #2 LANDSCAPE PLAN
 SCALE: 1"=20'

NOTE: SEE BIORETENTION PLANT LIST ON SHEET 9 FOR PLANT DESCRIPTION AND QUANTITY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6-30-22
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7-11-22
 DIRECTOR

NO.	DESCRIPTION	DATE
2	REVISION TO THE HOUSE, DRIVEWAY, DRYWELL, BIO, AND GRADING ON LOT 1 PER THE NEW HOUSE LAYOUT IN BOTH LOT 1 PLAN VIEWS, ADDED BIO PLANTINGS TO BIO #1	03/11/2022
1	REVISION TO THE SWALE, THE PROPOSED TREELINE, AND ADDED TREES SHOWN IN THE BIORETENTION FACILITY #2 PLAN VIEW, REVISION TO THE SWALE IN THE BIORETENTION FACILITY #2 PROFILE B-B.	01/13/2022

REVISIONS

OWNER	BUILDER	DEVELOPER
LOTS 1 & 3: JONG HWI & HEO SOOK LEE 10231 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271	CARUSO HOMES 2120 BALDWIN AVENUE SUITE 200 CROFTON, MD 21144 (301) 261-0277	JONG HWI LEE 10231 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271
LOT 2: CARTIQUEYANE BARATHAPUNIAM 3121 NORMANDY WOODS DRIVE ELLCOTT CITY, MD 21042 (410) 818-9465		

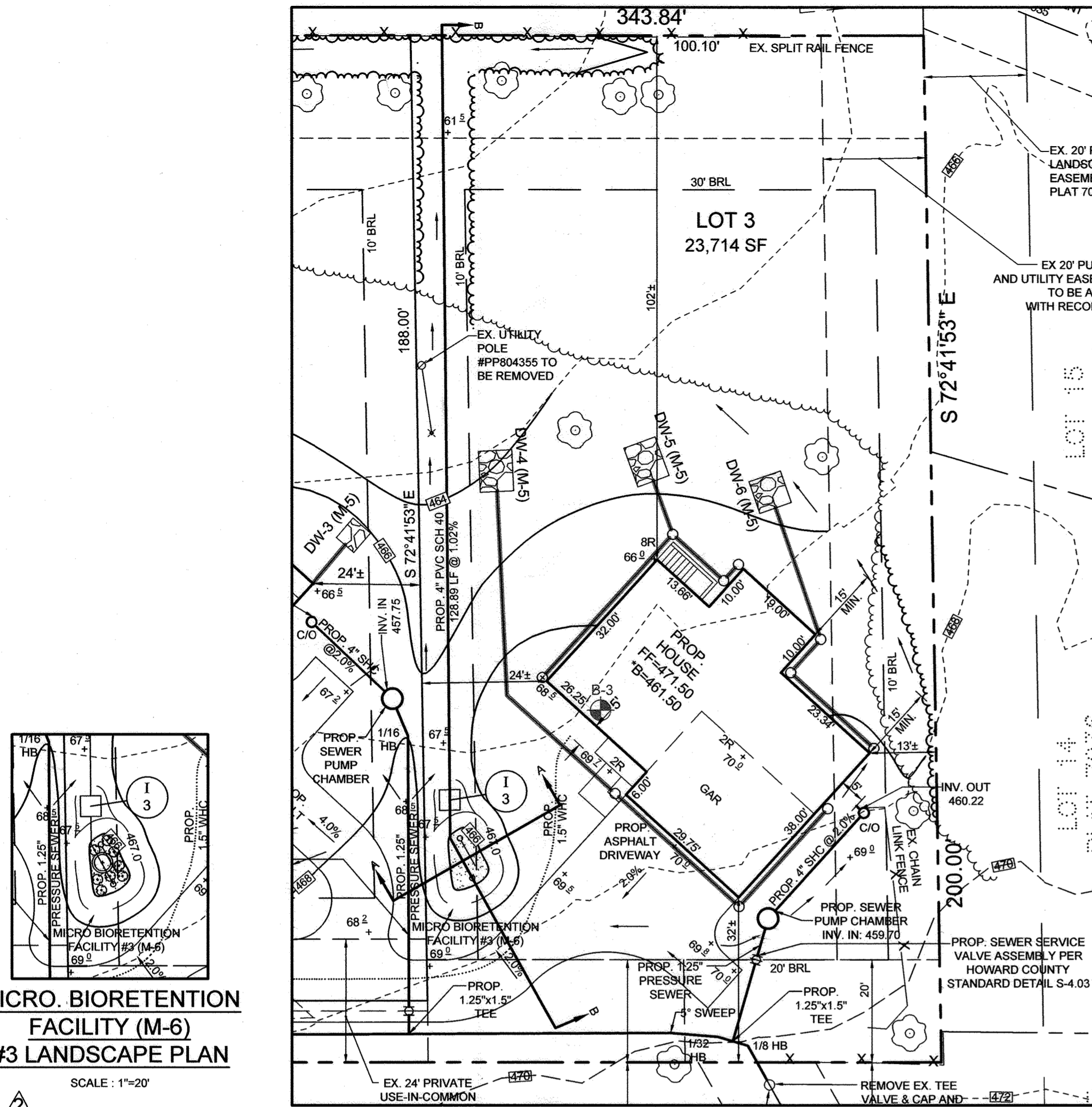
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TURF VALLEY GROVE
 LOTS 1, 2, AND 3
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TAX MAP 16 GRID 24
 5TH ELECTION DISTRICT
 PARCEL 62

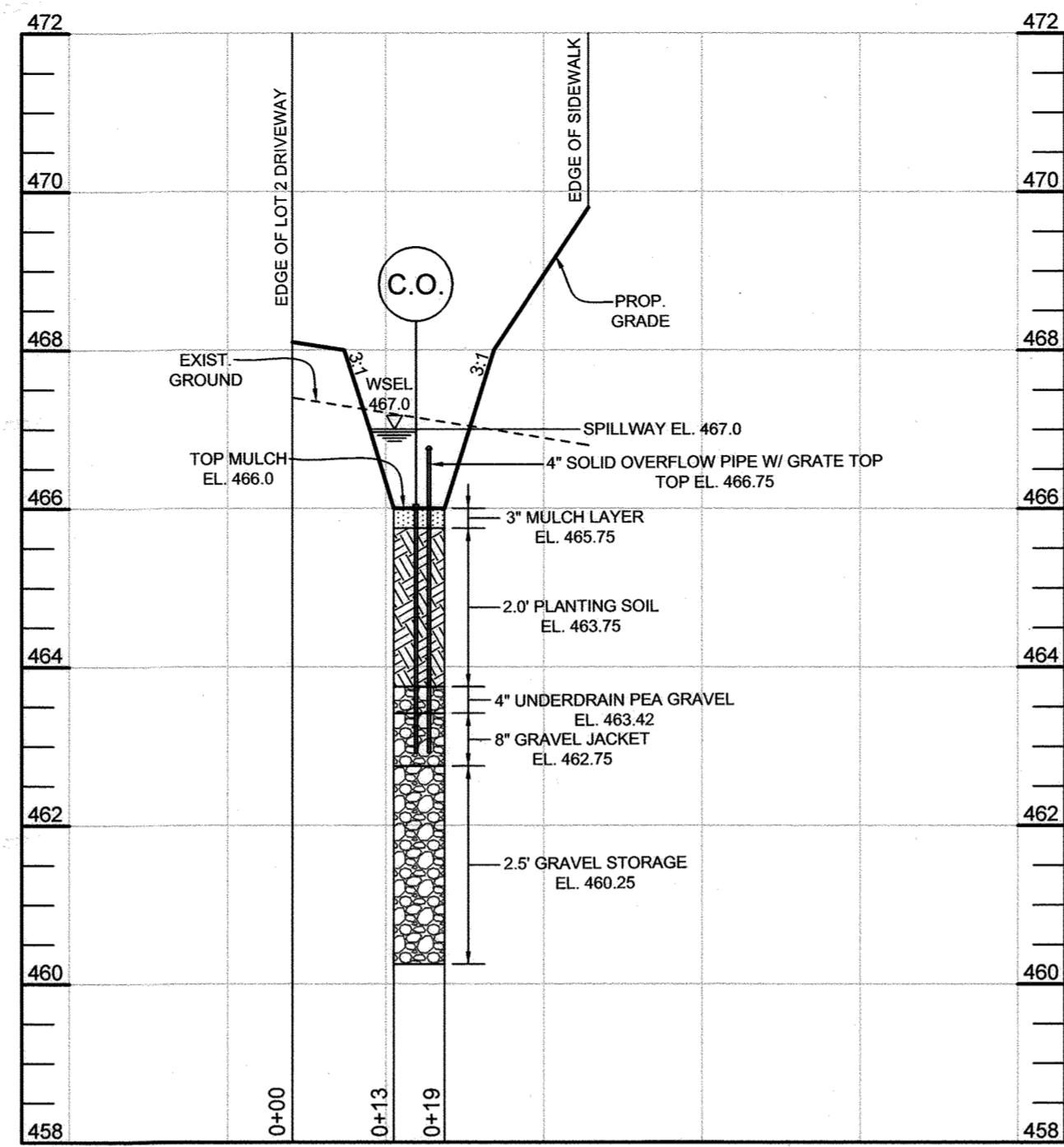
SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
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 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: JUNE 1, 2022
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 SHEET #: 8 of 11

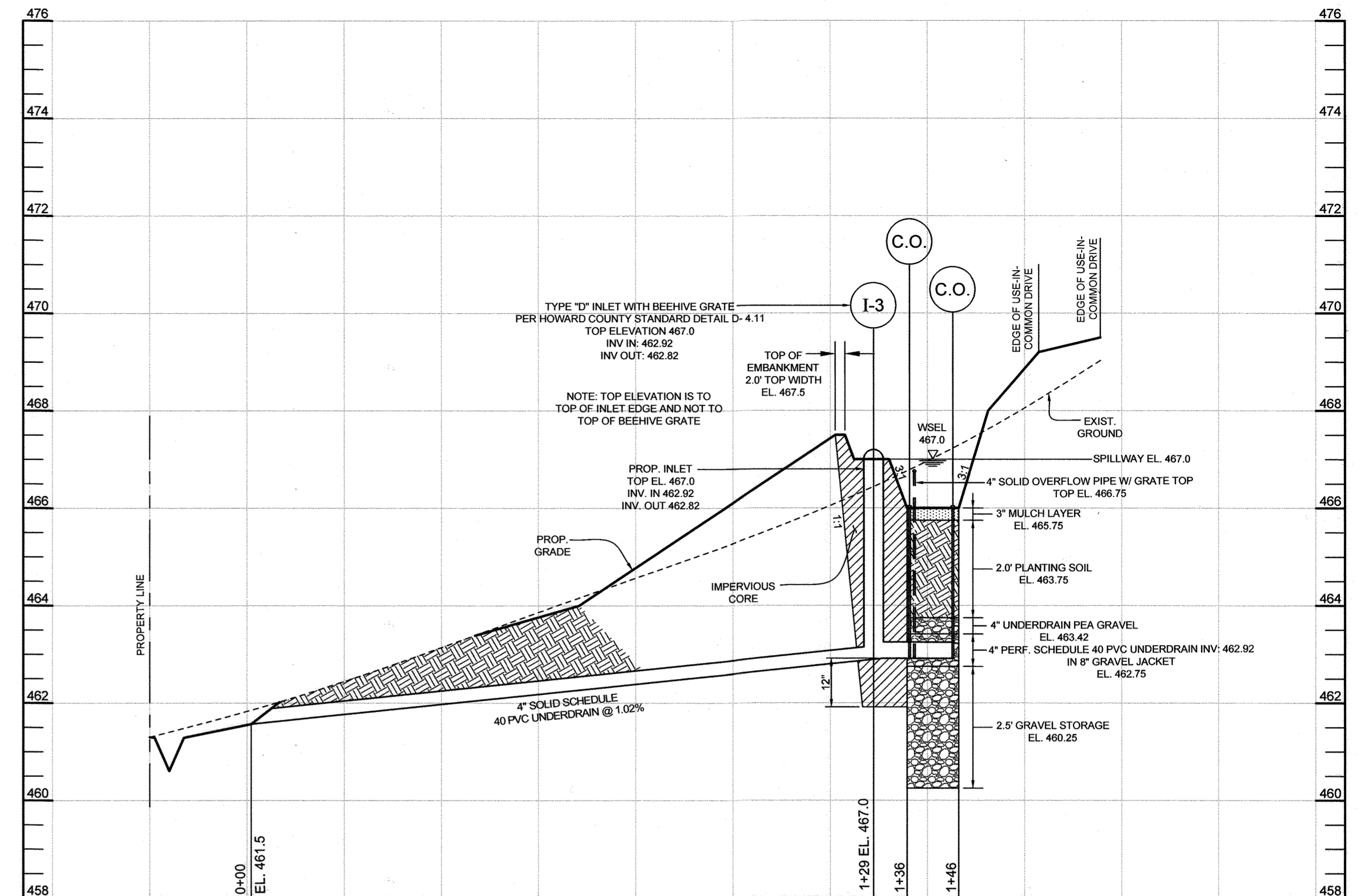
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32026, EXPIRATION DATE: JUNE 30, 2021



PLAN VIEW - MICRO. BIORETENTION FACILITY (M-6) #3
SCALE: 1"=20'



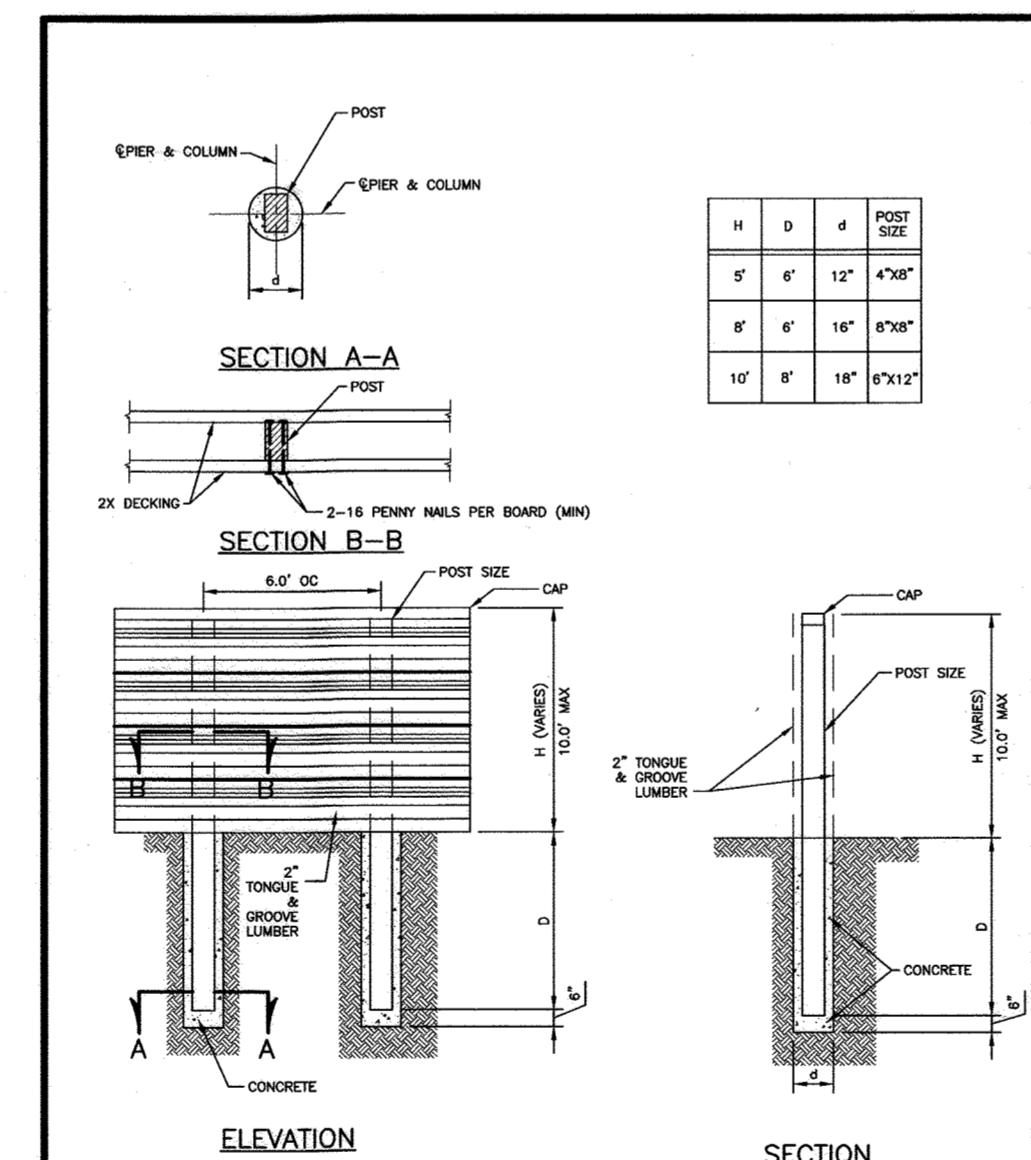
BIORETENTION FACILITY #3 (M-6) PROFILE (A-A)
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'



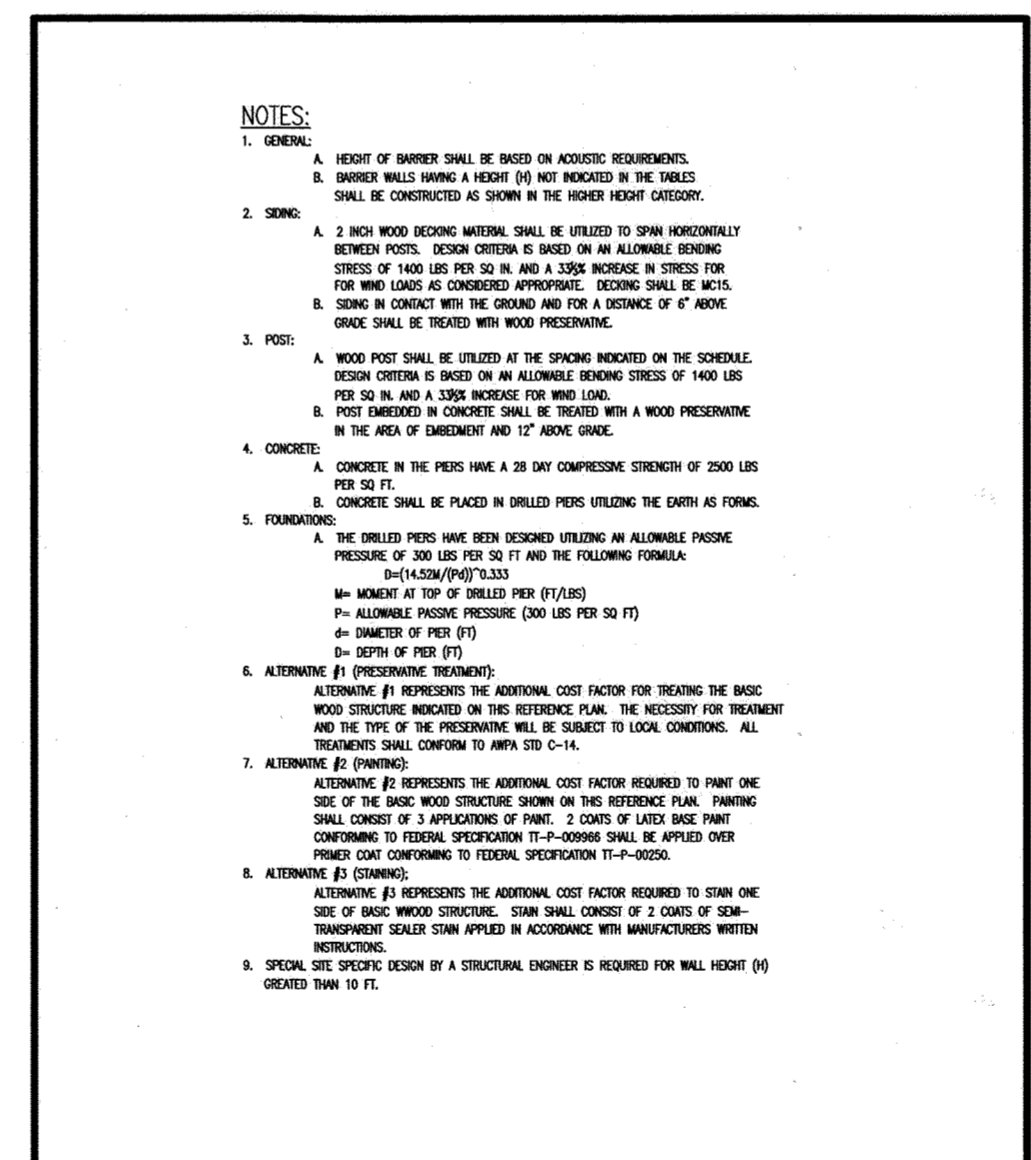
BIORETENTION FACILITY #3 (M-6) PROFILE (B-B)
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'

MICRO. BIORETENTION FACILITY (M-6) #3 LANDSCAPE PLAN
SCALE: 1"=20'

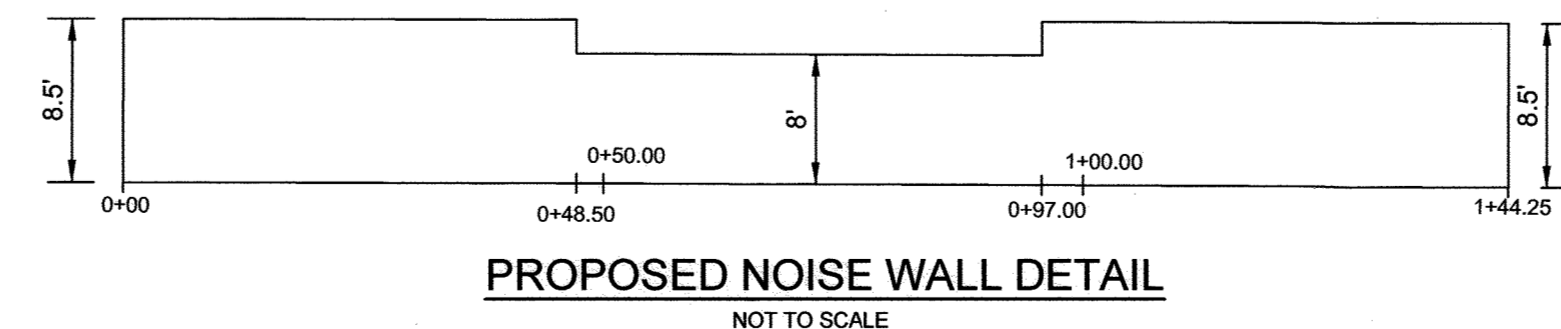
MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN & LANDSCAPE INFILTRATION			
	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLANT LIST THIS SHEET	N/A	PLANTINGS ARE SITE-SPECIFIC, SEE PLANT LIST THIS SHEET
PLANTING SOIL (2'-4" TO 4" DEEP)	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
CURTAIN DRAIN (IF REQUIRED)	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 75L 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, MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MX 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 508.9(B), VERTICAL LOADING (H-10 OR H-20); ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
	AASHTO-M-6 OR ASTM-C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRANITONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.



Howards County, Maryland Department of Public Works Approved: <i>Deanna S. Smith</i> Chief, Bureau of Engineering	Noise Wall Private	Detail R-9.05
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Howards County, Maryland Department of Public Works Approved: <i>Deanna S. Smith</i> Chief, Bureau of Engineering	Noise Wall Notes Private	Detail R-9.06
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BIORETENTION PLANT LIST										
SHRUBS										
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1	QTY. BIO 2	QTY. BIO 3		
(1)	ILEX GLABRA	INK BERRY	AS SHOWN* (MIN. 4" O.C.)	24" - 36" HT.	-	14	10	1		
(2)	RUBRICKIA	BLACK-EYED SUSAN	AS SHOWN* (MIN. 2" O.C.)	1 GALLON	-	26	15	8		

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.
BIO 1 - BIORETENTION AREA = 510 S.F. OR 0.0117 AC. PROVIDED: 14 SHRUBS AND 26 HERBACEOUS SPECIES
BIO 2 - BIORETENTION AREA = 343 S.F. OR 0.0079 AC. PROVIDED: 10 SHRUBS AND 15 HERBACEOUS SPECIES
BIO 3 - BIORETENTION AREA = 69 S.F. OR 0.0016 AC. PROVIDED: 1 SHRUB AND 8 HERBACEOUS SPECIES

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED MICRO-BIORETENTION FACILITIES (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OWNER	BUILDER	DEVELOPER
LOTS 1 & 3: JONG HWI & HEO SOOK LEE 10281 TUSCANY ROAD ELICOTT CITY, MD 21042 (410) 467-5271	CARUSO HOMES 2120 BALDWIN AVENUE SUITE 200 CROFTON, MD 21144 (301) 261-0277	JONG HWI LEE 10281 TUSCANY ROAD ELICOTT CITY, MD 21042 (410) 467-5271
LOT 2: CARTIQUEYANE BARATHAPUNNAM 3121 NORMANDY WOODS DRIVE ELICOTT CITY, MD 21042 (410) 916-0465		

REVISED STORMWATER MANAGEMENT PROFILE, NOTES, & NOISE WALL DETAILS
TURF VALLEY GROVE
LOTS 1, 2, AND 3
10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
ZONE: R-20
TAX MAP 16 GRID 24 5TH ELECTION DISTRICT
PARCEL 62 HOWARD COUNTY, MARYLAND

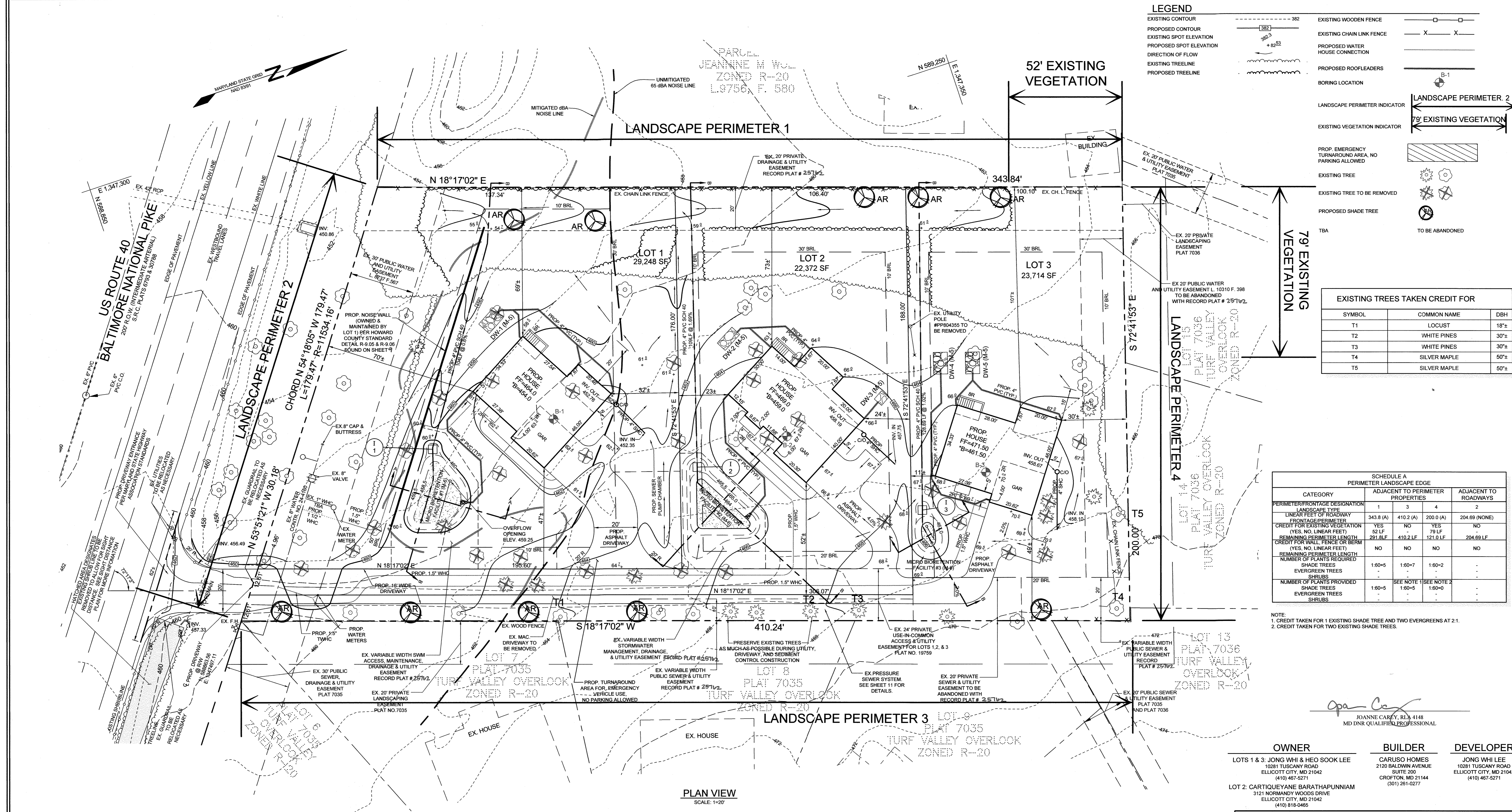
DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: JUNE 1, 2022
PROJECT#: 19-016
SHEET #: 9 of 11

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. 32025, EXPIRATION DATE: JUNE 20, 2021

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

DATE: 6-30-22
DATE: 7-11-22
DATE: 7-11-22

NO.	DESCRIPTION	DATE
2	REVISION TO THE HOUSE, DRIVEWAY, DRYWELL, BIO, AND GRADING ON LOT 3 PER THE NEW HOUSE LAYOUT IN BOTH LOT 3 PLAN VIEWS. ADDED BIO PLANTINGS TO BIO #3.	03/11/2022
1	REVISION TO THE SHEDS. THE PROPOSED TREELINE AND TREES SHOWN IN THE BIO #3 PLAN VIEW, REVISION TO PROFILE B-B.	01/13/2022



LEGEND

EXISTING CONTOUR		EXISTING WOODEN FENCE	
PROPOSED CONTOUR		EXISTING CHAIN LINK FENCE	
EXISTING SPOT ELEVATION		PROPOSED WATER HOUSE CONNECTION	
PROPOSED SPOT ELEVATION		PROPOSED ROOFLEADERS	
DIRECTION OF FLOW		BORING LOCATION	
EXISTING TREELINE		LANDSCAPE PERIMETER INDICATOR	
PROPOSED TREELINE		EXISTING VEGETATION INDICATOR	

EXISTING TREES TAKEN CREDIT FOR

SYMBOL	COMMON NAME	DBH
T1	LOCUST	18"
T2	WHITE PINES	30"
T3	WHITE PINES	30"
T4	SILVER MAPLE	50"
T5	SILVER MAPLE	50"

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES			ADJACENT TO ROADWAYS
	1	3	4	
PERIMETER/FRONTAGE DESIGNATION	1	3	4	2
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	343.8 (A)	410.2 (A)	200.0 (A)	204.69 (NONE)
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES 52 LF	NO 291.8 LF	YES 79 LF	NO 204.69 LF
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO
REMAINING PERIMETER LENGTH (YES, NO, LINEAR FEET)	1,600=5	1,600=7	1,600=2	-
NUMBER OF PLANTS REQUIRED	SHADE TREES	EVERGREEN TREES	SHRUBS	-
NUMBER OF PLANTS PROVIDED	SHADE TREES	EVERGREEN TREES	SHRUBS	-

NOTE:
 1. CREDIT TAKEN FOR 1 EXISTING SHADE TREE AND TWO EVERGREENS AT 2:1.
 2. CREDIT TAKEN FOR TWO EXISTING SHADE TREES.

Joanne Carey
 JOANNE CAREY, RLA 4148
 MD DNR QUALIFIED PROFESSIONAL

OWNER	BUILDER	DEVELOPER
LOTS 1 & 3: JONG WHI & HEO SOOK LEE 10261 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271	CARUSO HOMES 2120 BALDWIN AVENUE SUITE 200 CROFTON, MD 21114 (301) 261-0277	JONG WHI LEE 10261 TUSCANY ROAD ELLCOTT CITY, MD 21042 (410) 467-5271
LOT 2: CARTIQUEYANE BARATHAPUNNIAM 3121 NORMANDY WOODS DRIVE ELLCOTT CITY, MD 21042 (410) 916-0465		

DEVELOPER'S CERTIFICATE

I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

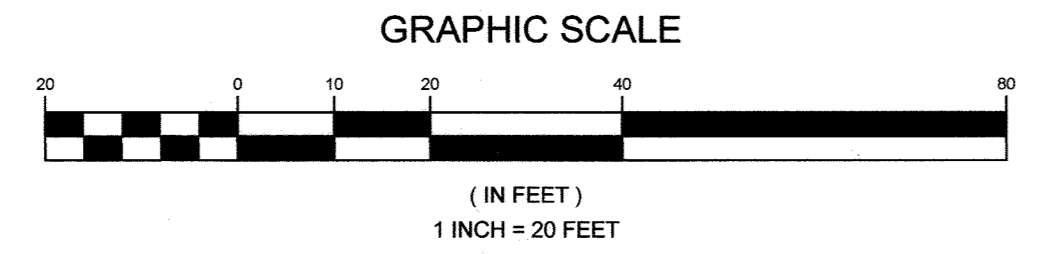
JONG WHI LEE *[Signature]* 9/20/20
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 5/26/21
 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 6/23/21
 DATE

DIRECTOR *[Signature]* 6/29/21
 DATE



LANDSCAPE PLANT LIST

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	NOTE
AR	10	ACER RUBRUM RED SUNSET	RED SUNSET MAPLE	2 1/2"-3" CAL	B & B FULL HEAD

LANDSCAPE NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT. \$3,000.00 FOR THE REQUIRED TEN (10) LANDSCAPING SHADE TREES.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

LANDSCAPING PLAN

TURF VALLEY GROVE

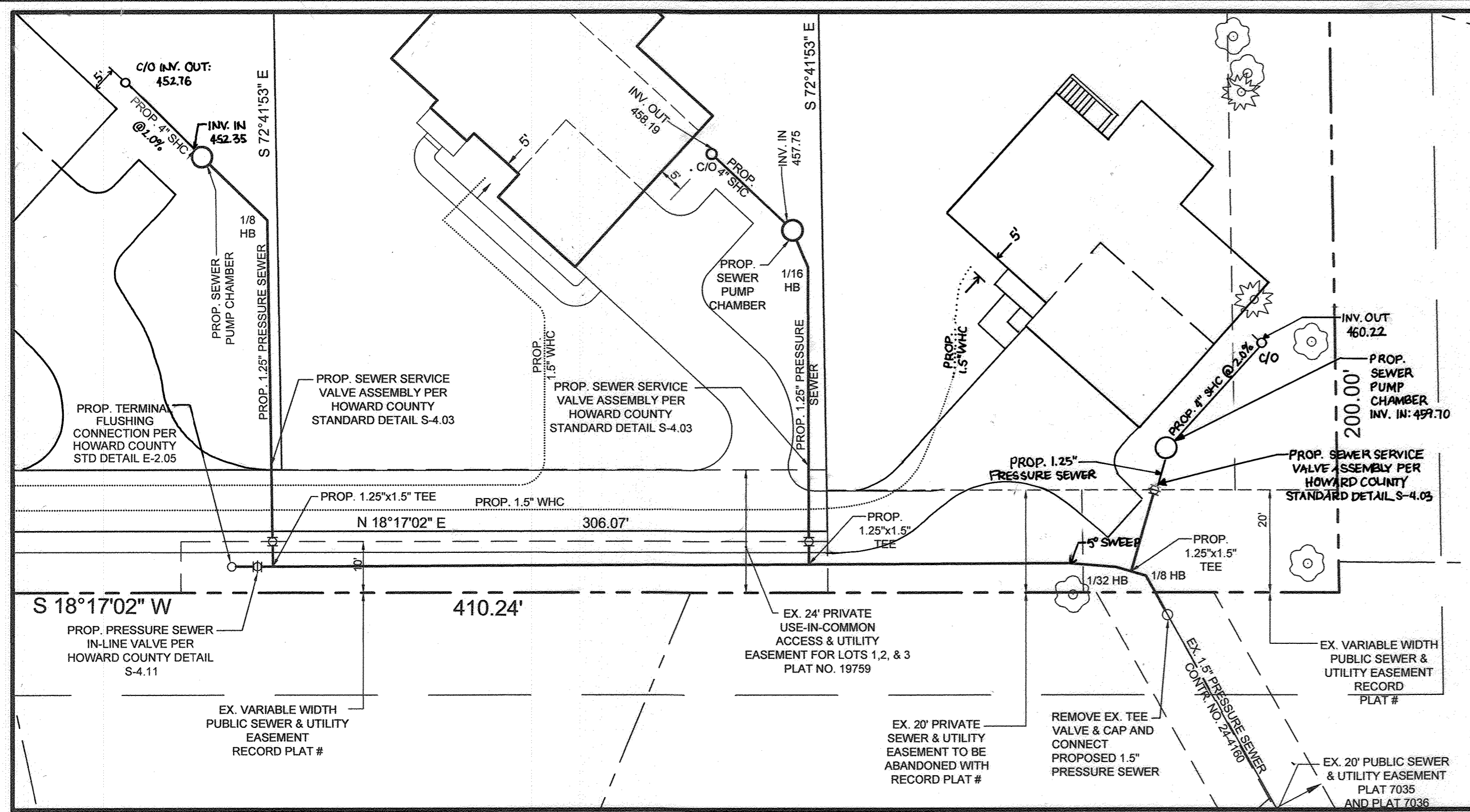
LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
 ZONE: R-20

TAX MAP 16 GRID 24
 5TH ELECTION DISTRICT

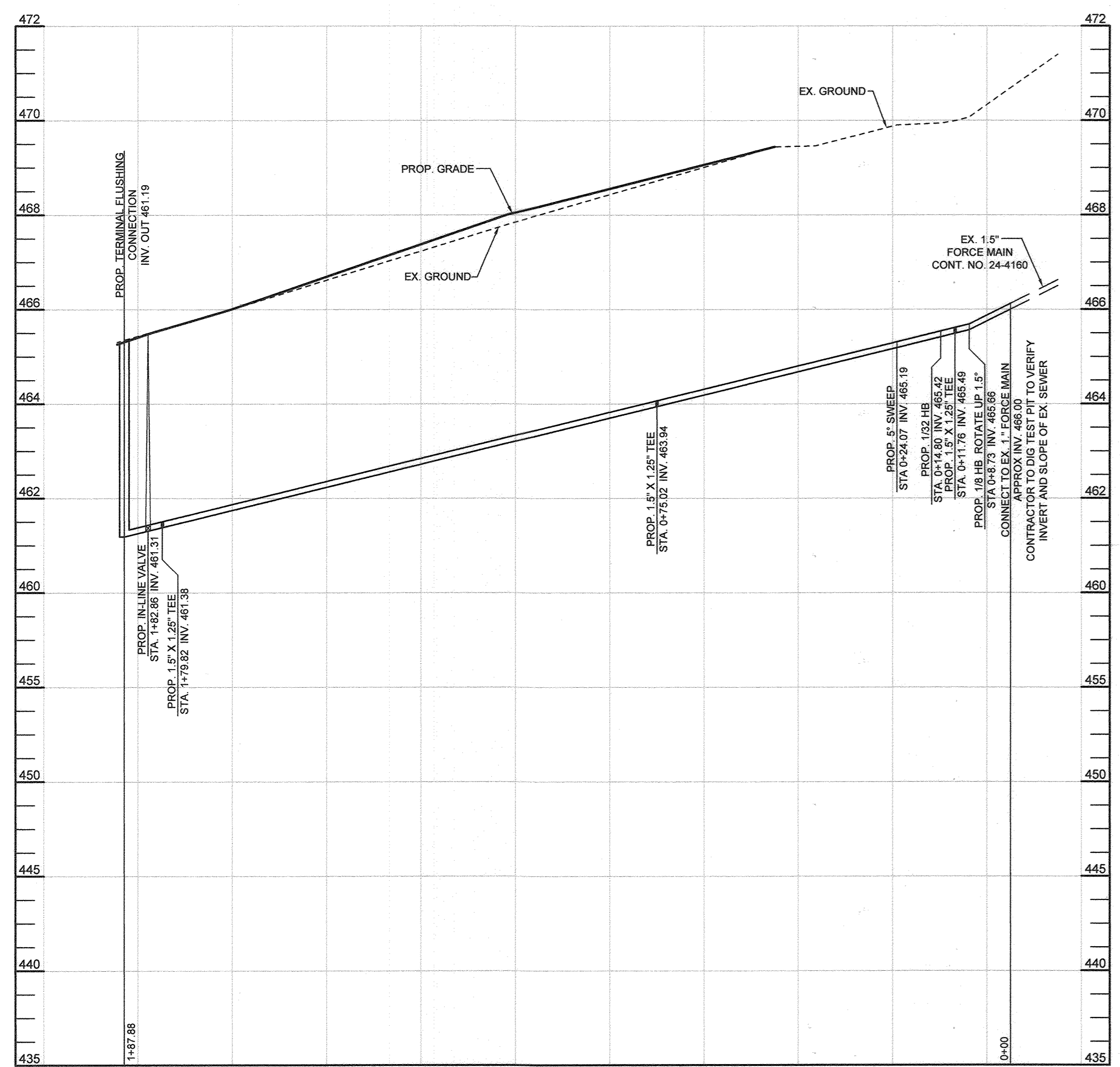
PARCEL 62
 HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodhills, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS DRAWN BY: ZS CHECKED BY: PS SCALE: AS SHOWN DATE: SEPTEMBER 22, 2020 PROJECT #: 19-016 SHEET #: 10 of 11
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PRESSURE SEWER SYSTEM PLAN VIEW
SCALE: 1"=20'



PRESSURE SEWER SYSTEM PROFILE
SCALE: HORIZ: 1"=20' VERT: 1"=2'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-26-21
 DATE: 6/25/21
 DATE: 6/28/21

NO.	DESCRIPTION	DATE
1	REVISION TO THE PRESSURE SEWER SYSTEM PLAN VIEW TO REFLECT THE CHANGES IN LOT 1 & 3 HOUSE AND DRIVEWAY, AS WELL AS THE PUBLIC SEWER SYSTEM ON LOTS 1, 2, & 3	09/11/2022

E/ONE EXTREME

DH151/DR151

General Features
 The model DH151 or DR151 grinder pump station is a complete unit that includes: the grinder pump, check valve, HDPE (high density polyethylene) tank, controls, and alarm panel. A single DH151 or DR151 is a popular choice for up to two, average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 1500 gpd (5678 lpd)
- 150 gallons (568 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 63 inches to 160 inches

The DH151 is the "hardwired," or "wired," model where a cable connects the motor controls to the level controls through watertight penetrators.
 The DR151 is the "radio frequency identification" (RFID), or "wireless," model that uses wireless technology to communicate between the level controls and the motor controls.

Operational Information
Motor
 1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase
Inlet Connections
 4-inch inlet grommet standard for DWV pipe. Other inlet configurations available from the factory.
Discharge Connections
 Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Accessories
 E/One requires that the Uni- lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.
 Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.
 The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

Patent Numbers: 5,752,315
 5,662,254 5,439,180
 NA0051P01 Rev C

OPTIONS: DH151-160 (HARD WIRED LEVEL CONTROLS) DR151-160 (WIRELESS LEVEL CONTROLS)

DETAIL: FIELD JOINT
 SEE INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS

CONCRETE BALLAST MAY BE REQUIRED
 SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REFERENCE ONLY

UL NSF SP

AD CAH 7/15/07 C 1/18
 DR BY CHK'D DATE ISSUE SCALE

eone
 SEWER SYSTEMS
 MODEL DH151-160 / DR151-160
 NA0051P08

OPTIONS: DH151 (HARD WIRED LEVEL CONTROLS) DR151 (WIRELESS LEVEL CONTROLS)

CONCRETE BALLAST MAY BE REQUIRED
 SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REFERENCE ONLY

UL NSF SP

AD	CH	10/20/10	D
DR BY	CHK'D	DATE	ISSUE SCALE

eone
 SEWER SYSTEMS
 MODEL DH151 / DR151
 DETAIL SHEET
 NA0051P02

FORCE MAIN SEWER FITTING CHART

STATION	TYPE	LOCATION	INV.
0+00	CONNECT TO EX. 1.5" FORCE MAIN	N 589,209.95 E 1,347,632.99	466.004
0+08.73	1/8" HORIZONTAL BEND	N 589,208.34 E 1,347,624.41	465.66
0+11.76	1.5" X 1.25" TEE	N 589,205.83 E 1,347,622.70	465.49
0+14.80	1/2" HORIZONTAL BEND	N 589,203.32 E 1,347,620.99	465.42
0+24.07	5" SWEEP	N 589,194.80 E 1,347,617.36	465.19
0+75.02	1.5" X 1.25" TEE	N 589,146.36 E 1,347,601.56	463.94
1+79.82	1.5" X 1.25" TEE	N 589,046.72 E 1,347,569.08	461.38
1+82.86	IN-LINE VALVE	N 589,043.83 E 1,347,568.13	461.31
1+87.88	TERMINAL FLUSHING CONNECTION	N 589,039.05 E 1,347,566.58	461.19

OWNER
 LOTS 1 & 3: JONG WHI & HEO SOOK LEE
 10281 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

BUILDER
 CARUSO HOMES
 2120 BALDWIN AVENUE
 SUITE 200
 CROFTON, MD 21144
 (301) 281-0277

DEVELOPER
 JONG WHI LEE
 10281 TUSCANY ROAD
 ELLICOTT CITY, MD 21042
 (410) 467-5271

LOT 2: CARTIQUEYANE BARATHAPUNNAM
 3121 NORMANDY WOODS DRIVE
 ELLICOTT CITY, MD 21042
 (410) 818-0465

FORCE MAIN SEWER PLAN, PROFILE, & DETAILS
TURF VALLEY GROVE
 LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
 TAX MAP 16 GRID 24 5TH ELECTION DISTRICT
 ZONE: R-20
 PARCEL 62
 HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: ZS
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 22, 2020
 PROJECT #: 19-016
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SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

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