

GENERAL NOTES

- SUBJECT PROPERTY ZONED RR-DEO PER 10/06/13 COMPREHENSIVE ZONING PLAN. SUBJECT PROPERTY ZONED BR, BUSINESS RURAL, PER 01/04/2018 AND 03/14/2018 ZONING CASE ZB-1117M.
- PROPERTY ADDRESS: 12064 HALL SHOP ROAD
- TOTAL AREA OF PROPERTY: 1.04 AC ±
- REFERENCE: L 116453 F 284
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE. THE SITE IS NOT LOCATED WITHIN THE PLANNED SEWER AREA.
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT, AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE AREA. RECORDATION OF A MODIFIED SEWERAGE AREA SHALL NOT BE NECESSARY.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PERFORMED BY SHANABERGER & LANE IN MAY 2016.
- THE TOPOGRAPHY SHOWN HEREON IS AT TWO FOOT INTERVALS AND IS BASED ON A FIELD RUN TOPOGRAPHY SURVEY PERFORMED BY SHANABERGER & LANE IN MAY 2016. OFFSITE TOPOGRAPHY IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2004.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
- THE PROPOSED BUILDING IS A COMMERCIAL OFFICE BUILDING, TWO SHEDS FOR STORAGE SPACE, AND PARKING FOR THE BUSINESS'S COMMERCIAL VEHICLES. THE OFFICE BUILDING WILL HOUSE SIX EMPLOYEES AND ONE BATHROOM. THE MAJORITY OF THE EMPLOYEES WORK OFF-SITE DURING THE DAY. THESE PROPOSED COVERED STRUCTURES MAKE UP 2.7% OF THE PROPERTY.
- PROPOSED COMMERCIAL SPACE IS NOT RETAIL AND WILL NOT HAVE CUSTOMERS ON SITE.
- THIS PROPERTY IS SUBJECT TO THE HOWARD COUNTY ZONING CASE ZB-1117M TO ALLOW THE USE OF THE BUSINESS RURAL ZONING DISTRICT AND WAS APPROVED ON JANUARY 4, 2018 AND MARCH 14, 2018 WITH THE FOLLOWING CONDITIONS:
 - THAT PARKING AND STORAGE OF VEHICLES AND EQUIPMENT USED IN CONNECTION WITH THE USE SHALL BE CONFINED TO THE PAVED AREAS AS INDICATED ON THIS PLAN;
 - THAT THE NORMAL BUSINESS HOURS OF THE USE UNDER THE BR ZONING SHALL BE MONDAY THROUGH FRIDAY, 7AM TO 7PM; AND
 - THAT THE HEIGHT LIMIT OF THE PROPOSED 2-STORY OFFICE BUILDING AS SHOWN ON THE PLAN SHALL BE UP TO 34 FEET.
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN/DRAWING OR RED-LINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES AND/OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW STAGE.

FOREST STAND DELINEATION NARRATIVE

THE SUBJECT PROPERTY IS ZONED RR-DEO PER 10/06/13 COMPREHENSIVE ZONING PLAN. SUBJECT PROPERTY ZONED BR, BUSINESS RURAL, PER 01/04/2018 AND 03/14/2018 ZONING CASE ZB-1117M. THE ADDRESS IS 12064 HALL SHOP ROAD AND THE TOTAL AREA OF PROPERTY IS 1.04 AC ± THE PROPOSED BUILDING IS A COMMERCIAL OFFICE BUILDING, TWO SHEDS FOR STORAGE SPACE, AND PARKING FOR THE BUSINESS'S COMMERCIAL VEHICLES.

A FOREST STAND DELINEATION WAS COMPLETED ON APRIL 24, 2020 WHERE NO FOREST EXIST FOR THIS SITE. THERE ARE LANDSCAPING SHRUBS AND TREES AT SOME OF THE PERIMETER OF THE PROPERTY. JUNIPER AND EUONYMOUS SHRUBS, A HOLLY AND 2 FIR TREES AND SEVERAL LEYLAND CYPRESS. NO SPECIMEN TREES OR STATE CHAMPION TREES EXIST ON THIS SITE. THERE ARE SEVERAL INVASIVE TREE OF HEAVEN AND CLIMBING VINES NEAR THE ENTRANCE OF THE EXISTING DRIVE. THE MAJORITY OF THE SITE IS PATCHES OF LAWN THAT IS MOWED.

THE PROPERTY IS NOT LOCATED IN A 100 YEAR FLOODPLAIN THERE IS A STREAM THAT CROSSES THE SITE AT THE REAR OF THE PROPERTY OUTSIDE OF THE LOD.

THERE ARE NO STEEP SLOPES AND NO KNOWN CRITICAL HABITAT AREAS. THERE ARE NO NON-TIDAL OR TIDAL WETLANDS ON SITE. NO RARE, THREATENED OR ENDANGERED SPECIES, OR THEIR HABITATS, WERE OBSERVED ON THE PROPERTY.

NO HISTORIC ELEMENTS OR CEMETERIES ARE KNOWN TO OCCUR ON THE PROPERTY. SURROUNDING LAND USE IS PRIMARILY MEDIUM DENSITY RESIDENTIAL DEVELOPMENT. THE SITE IS LOCATED IN THE MIDDLE PATUXENT RIVER WATERSHED, THE NEAREST STREAM IS AN UNNAMED TRIBUTARY TO CARROLLS BRANCH AND IS CLASSIFIED AS A USE CLASS IV-P.

FOREST CONSERVATION ACT COMPLIANCE: THIS PROPOSED PROJECT WILL REQUIRE IMPACTS TO MORE THAN 20,000 SF, AND THEREFORE IS NOT ELIGIBLE FOR ANY EXEMPTIONS. FOREST CONSERVATION OBLIGATIONS WILL BE MET BY AN OFF SITE CONSERVATION BANK WITHIN THE SAME WATERSHED, AND WILL BE DETERMINED AT THE NEXT PHASE OF PLANNING.

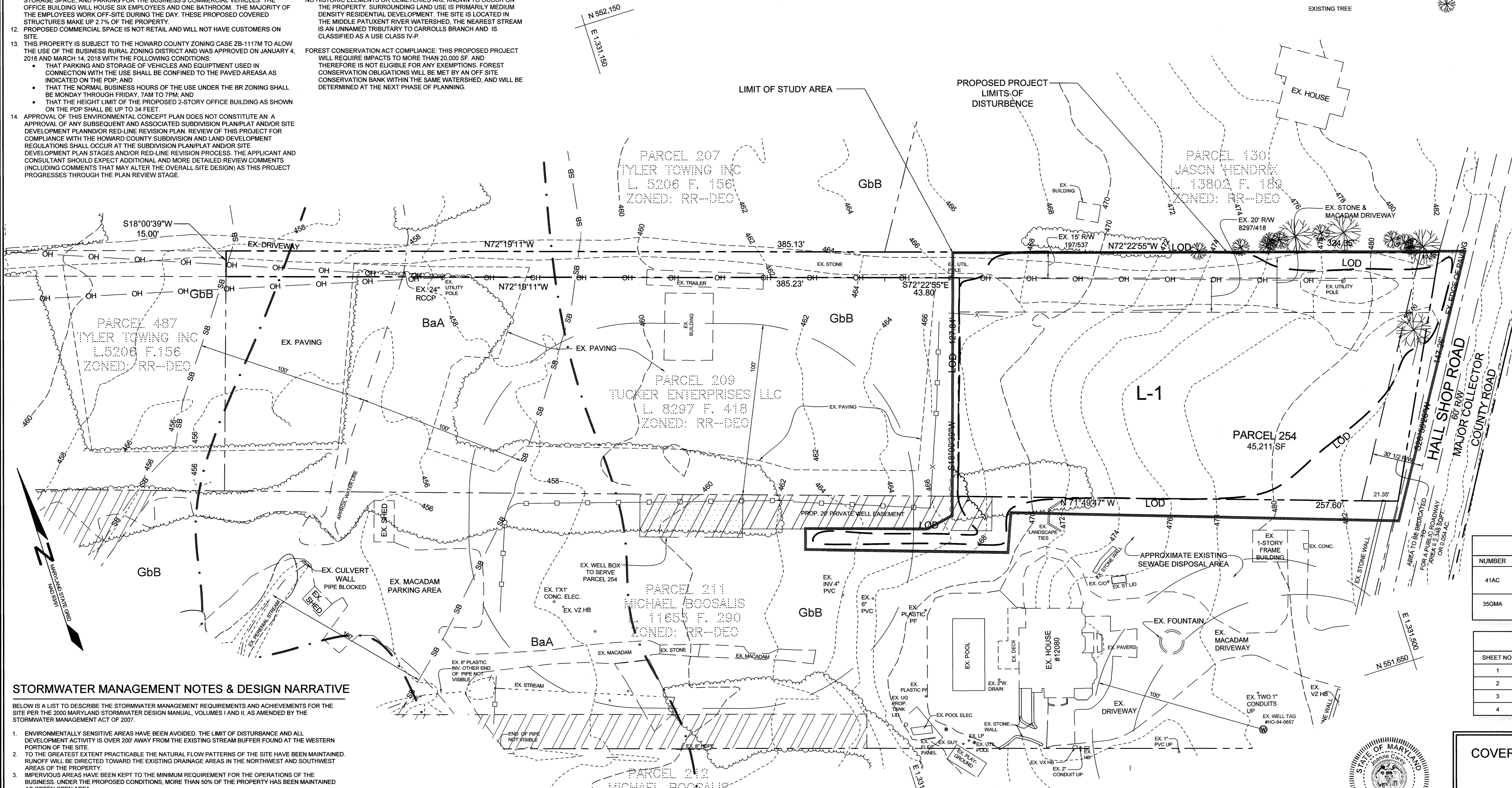
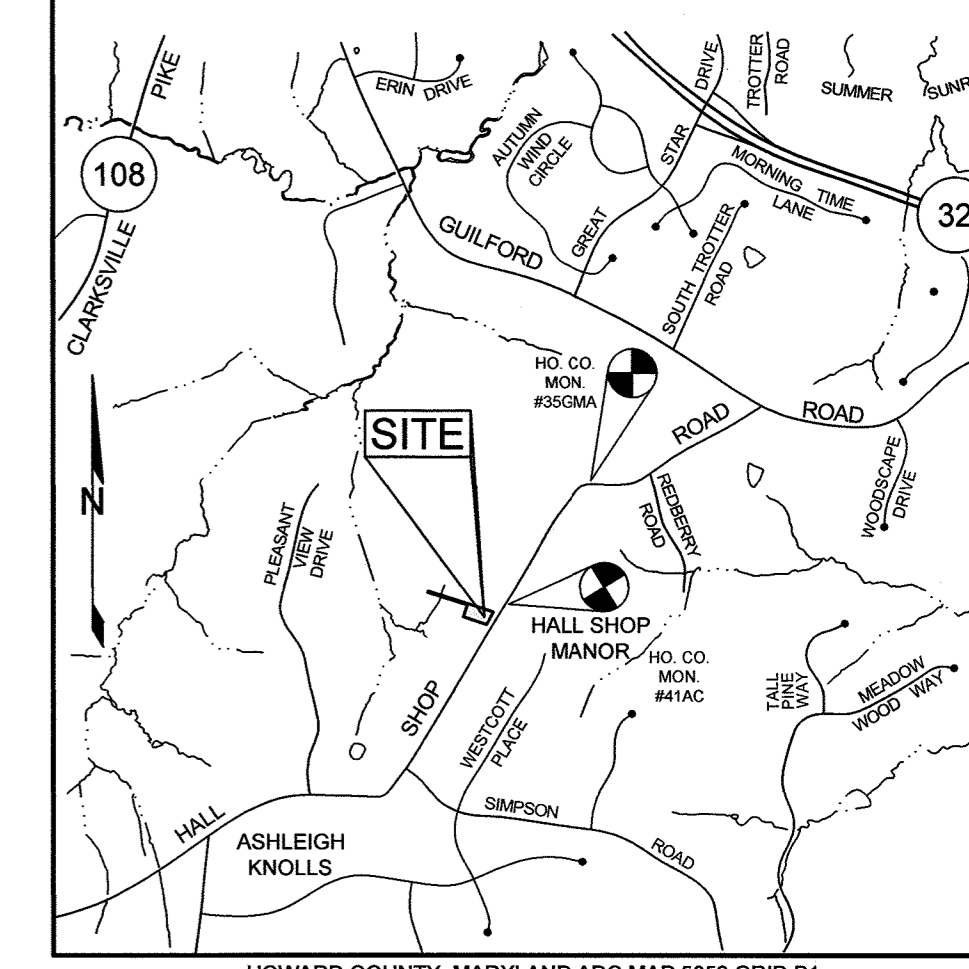
ENVIRONMENTAL CONCEPT PLAN

BOOSALIS PROPERTY

HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING CONTOUR
- EXISTING TREELINE
- SOIL BOUNDARY
- EXISTING PRIVACY FENCE
- EXISTING SPLIT RAIL FENCE
- STREAM BUFFER
- EXISTING WELL AREA
- EXISTING OVERHEAD WIRES
- ROAD CENTERLINE
- EXISTING UTILITY POLE
- EXISTING RW
- EXISTING TREE



SITE ANALYSIS DATA SHEET

ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	1.0379 AC ±
ROW TO BE DEDICATED	0.054 AC
PROPOSED PROJECT AREA	1.0379 AC ±
LIMIT OF DISTURBANCE	0.8250 AC ±
GREEN OPEN AREA (LAWN)	0.4277 AC ±
PROPOSED IMPERVIOUS AREA	0.3830 AC ±
*STREAM BUFFER	0.0703 AC ±
PROPOSED SITE USES	COMMERCIAL
WETLANDS	0 AC ±
WETLAND BUFFERS	0 AC ±
FLOODPLAINS	0 AC ±
FLOODPLAIN BUFFERS	0 AC ±
EXISTING FOREST	0 AC ±
SLOPES 15%-24.95%	0 AC ±
SLOPES GREATER THAN 25%	0 AC ±
HIGHLY ERODIBLE SOILS	0 AC ± (1)

- *NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 - 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.
 - *AREA OF LOT INSIDE STREAM BUFFER

STORMWATER MANAGEMENT PRACTICES

PARCEL	ADDRESS	MICRO-BIORETENTION M-6 (NUMBER)
254	12064 HALL SHOP ROAD	1

BENCHMARKS

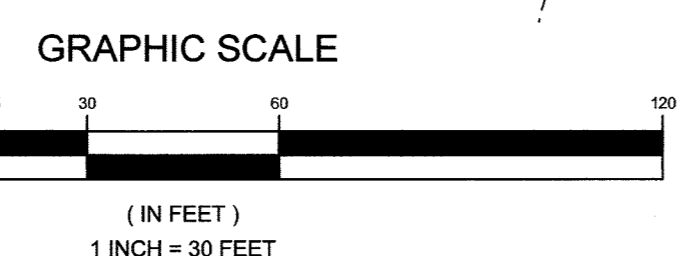
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
41AC	551,989.539	1,331,695.401	488.323	48.1' EAST OF THE MALBOW ALONG HALL SHOP ROAD, 111' SOUTHWEST FROM BGE POLE 112410, 135' NORTHEAST FROM BGE POLE 112411.
35GMA	550,232.069	1,330,624.258	494.779	27.1' NORTHEAST FROM G&E POLE 112410, 54.6' SOUTHWEST FROM INTERSECTION OF HALL SHOP RD AND SIMPSON RD, 41.2' EAST OF POST AND BOARD FENCE ENDING.

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET AND FOREST STAND DELINEATION
2	GRADING PLAN
3	CONCEPTUAL SEDIMENT AND EROSION CONTROL PLAN
4	STORMWATER MANAGEMENT PLAN, NOTES, & DETAILS

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. THE LIMIT OF DISTURBANCE AND ALL DEVELOPMENT ACTIVITY IS OVER 200' AWAY FROM THE EXISTING STREAM BUFFER FOUND AT THE WESTERN PORTION OF THE SITE.
 - TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED. RUNOFF WILL BE DIRECTED TOWARD THE EXISTING DRAINAGE AREAS IN THE NORTHWEST AND SOUTHWEST AREAS OF THE PROPERTY.
 - IMPERVIOUS AREAS HAVE BEEN KEPT TO THE MINIMUM REQUIREMENT FOR THE OPERATIONS OF THE BUSINESS. UNDER THE PROPOSED CONDITIONS, MORE THAN 50% OF THE PROPERTY HAS BEEN MAINTAINED AS GREEN OPEN AREA.
 - A STABILIZED CONSTRUCTION ENTRANCE, SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL.
 - THE STORMWATER MANAGEMENT OBLIGATIONS FOR THIS SITE WILL BE MET BY THE USE OF A MICRO-BIORETENTION FACILITY (M-6).
 - PER THE DEFINITION IN THE HOWARD COUNTY FOREST CONSERVATION MANUAL, DATED JUNE 1999, NO FOREST EXISTS ON THIS SITE.



PLAN VIEW
SCALE: 1"=30'

FOREST STAND ANALYSIS TABLE

KEY	A. TYPE OF COMMUNITY	B. AREA	C. SOIL INFORMATION			D. EXISTING VEGETATION	E. STAND CHARACTERISTICS			F. FOREST AREA IN SENSITIVE ENVIRONMENTS	G. HABITAT VALUE
			1. SOIL TYPES	2. TYPICAL FOREST COVER SOIL TYPE	3. WOODLAND SUITABILITY INDEX		1. SIZE (DIAM)	2. AGE	3. GENERAL CONDITIONS		
L-1	N/A	N/A	GbB	NORTHERN RED OAK WHITE OAK YELLOW POPLAR	75 75 95	N/A	N/A	N/A	N/A	0	N/A

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GbB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	A	0.32

- NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 - 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: 10/14/20



OWNER/DEVELOPER
 MICHAEL BOOSALIS
 12064 HALL SHOP ROAD
 CLARKSVILLE, MARYLAND 21029
 301-554-1006

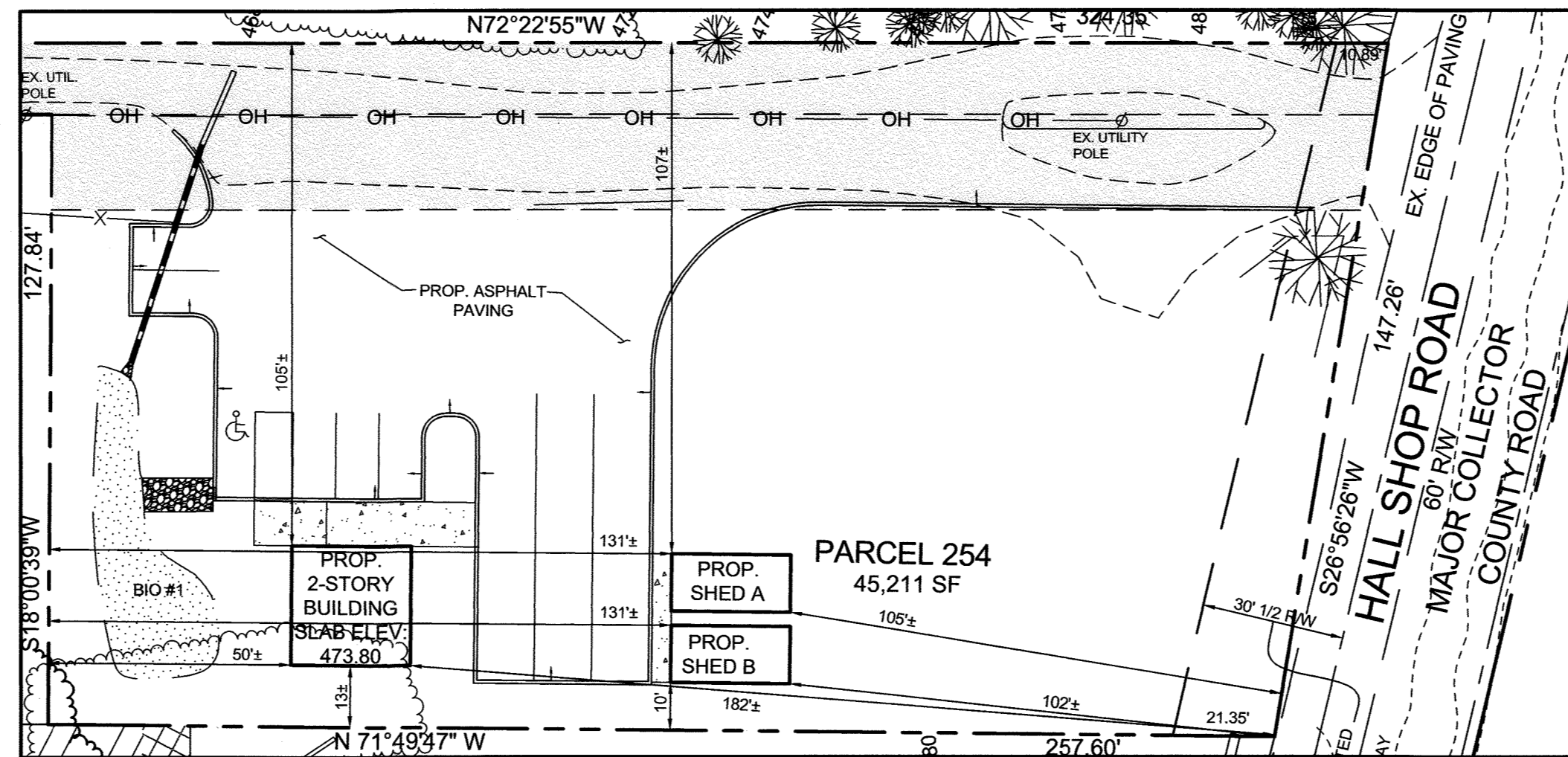
COVER SHEET AND FOREST STAND DELINEATION
BOOSALIS PROPERTY
 12064 HALL SHOP ROAD
 ZONED: BR
 TAX MAP 41 GRID 1
 5TH ELECTION DISTRICT
 PARCEL 254
 HOWARD COUNTY, MARYLAND

SILL ENGINEERING, LLC
 16005 Frederick Rd, 2nd Floor
 Woodbine, MD 21797
 Phone: 413.325.5076
 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: AUGUST 24, 2020
 PROJECT #: 15-043
 SHEET #: 1 of 4

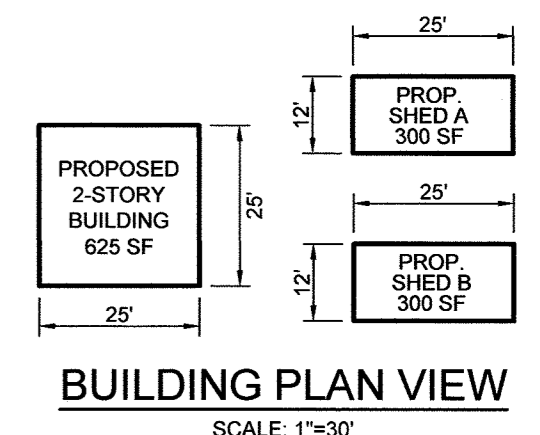
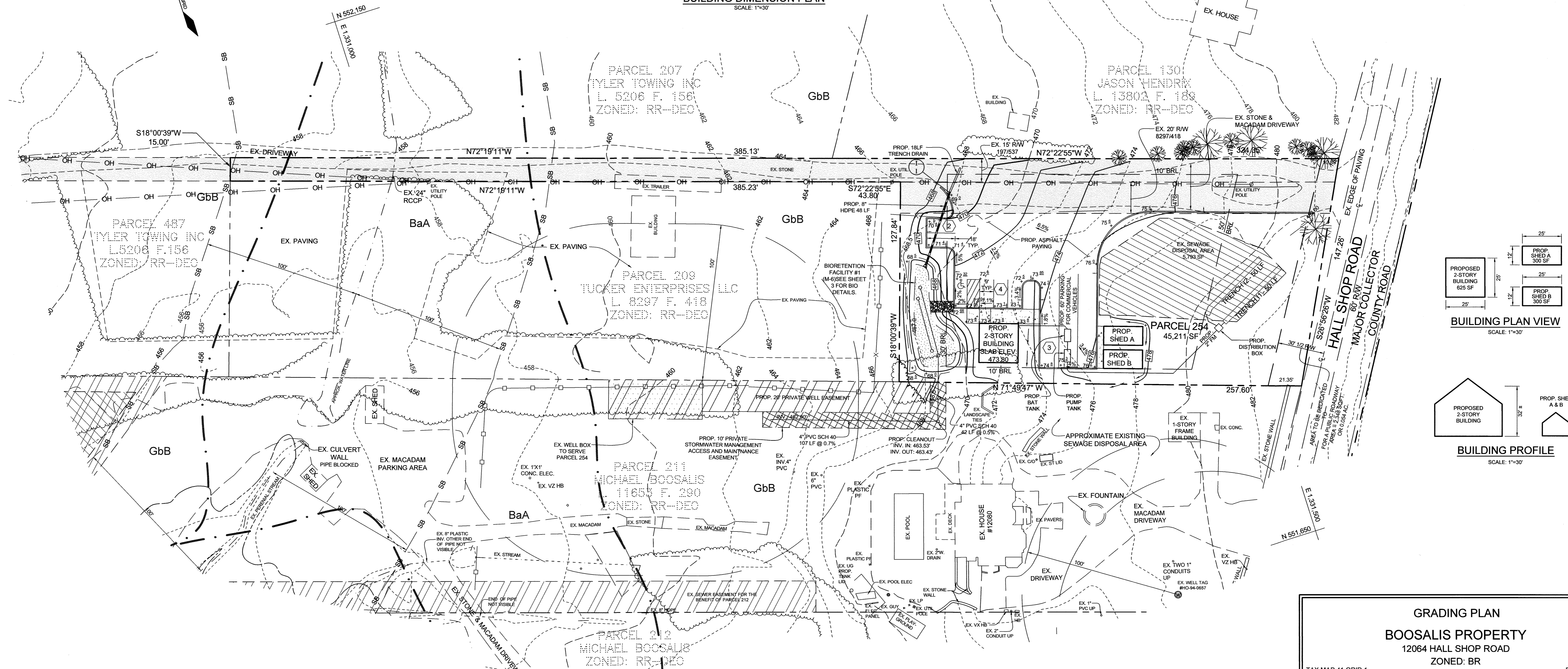
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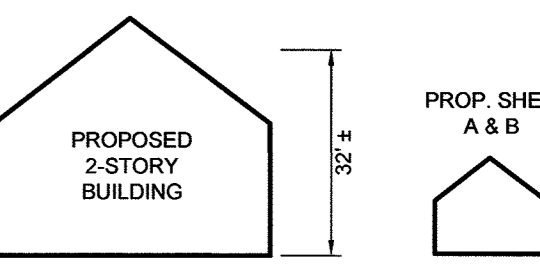


BUILDING DIMENSION PLAN
SCALE: 1"=30'

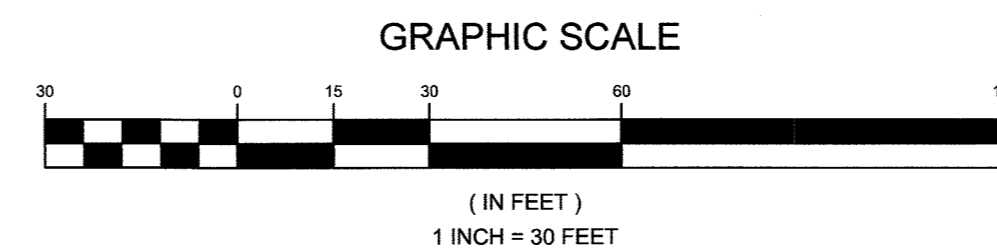
LEGEND	
EXISTING CONTOUR	--- 382
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
SOIL BOUNDARY	- - - - -
EXISTING PRIVACY FENCE	□
EXISTING SPLIT RAIL FENCE	X
STREAM BUFFER	SB
EXISTING WELL AREA	□
STANDARD GUTTER PAN	— —
REVERSED GUTTER PAN	— —
EXISTING OVERHEAD WIRES	OH
PROPOSED CONCRETE	▨
PROPOSED 10' PRIVATE STORMWATER MANAGEMENT ACCESS AND MAINTENANCE EASEMENT	▨
PROPOSED RIP-RAP	▨
ROAD CENTERLINE	— —
EXISTING UTILITY POLE	⊙
EXISTING RAW	▨



BUILDING PLAN VIEW
SCALE: 1"=30'



BUILDING PROFILE
SCALE: 1"=30'



PLAN VIEW
SCALE: 1"=30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/14/20
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: [Signature]

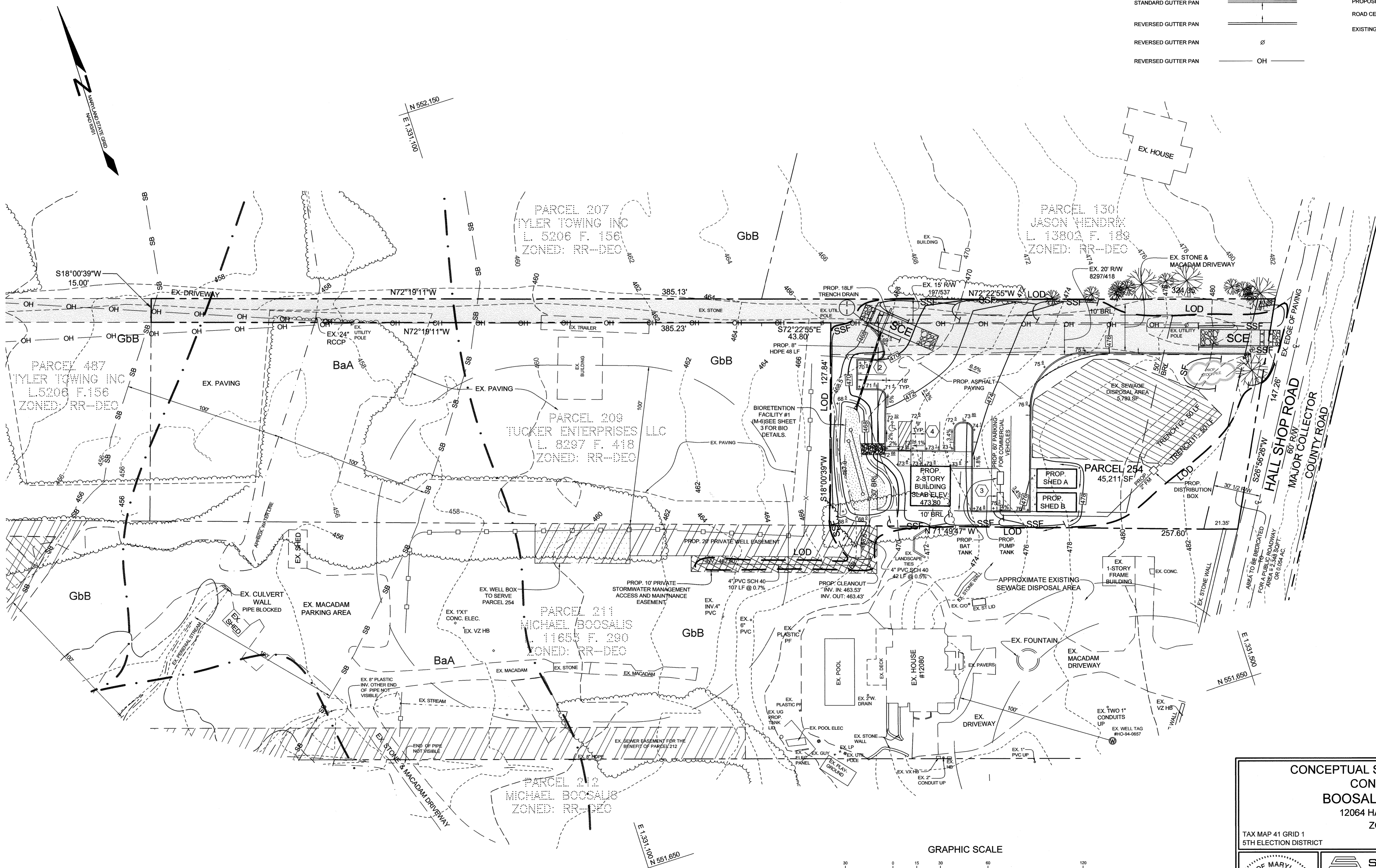
GRADING PLAN
BOOSALIS PROPERTY
 12064 HALL SHOP ROAD
 ZONED: BR
 TAX MAP 41 GRID 1
 5TH ELECTION DISTRICT
 PARCEL 254
 HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 16905 Frederick Rd., 2nd Floor Woodbine, MD 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: AUGUST 24, 2020 PROJECT #: 15-043 SHEET #: 2 of 4
	OWNER/DEVELOPER MICHAEL BOOSALIS 12064 HALL SHOP ROAD CLARKSVILLE, MARYLAND 21029 301-854-1006	
	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.	
	ECP-20-013	

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GbB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	A	0.32

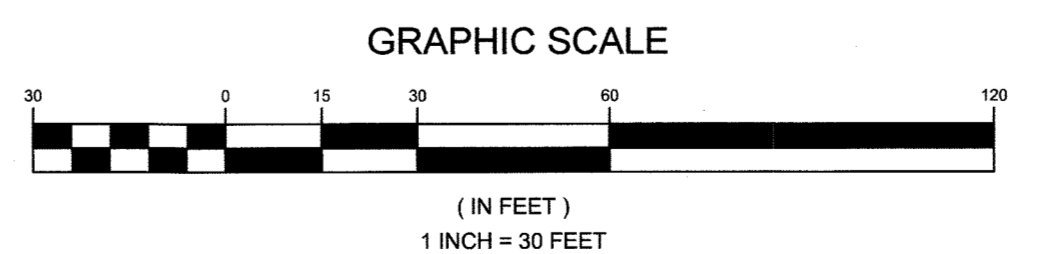
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LEGEND	
EXISTING CONTOUR	--- 382
EXISTING TRENCHLINE	---
SOIL BOUNDARY	---
EXISTING PRIVACY FENCE	---
EXISTING SPLIT RAIL FENCE	X---
STREAM BUFFER	---
PROPOSED WELL AREA	---
STANDARD GUTTER PAN	---
REVERSED GUTTER PAN	---
REVERSED GUTTER PAN	∅
REVERSED GUTTER PAN	OH
PROPOSED CONCRETE	---
SILT FENCE	SF --- SF
SUPER SILT FENCE	SSSF --- SSSF
LIMIT OF DISTURBANCE	LOD
STABILIZED CONSTRUCTION ENTRANCE	---
PROPOSED 10' PRIVATE STORMWATER MANAGEMENT ACCESS AND MAINTENANCE EASEMENT	---
PROPOSED RIP-RAP	---
ROAD CENTERLINE	---
EXISTING RAW	---



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10.14.20
 [Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10/14/20

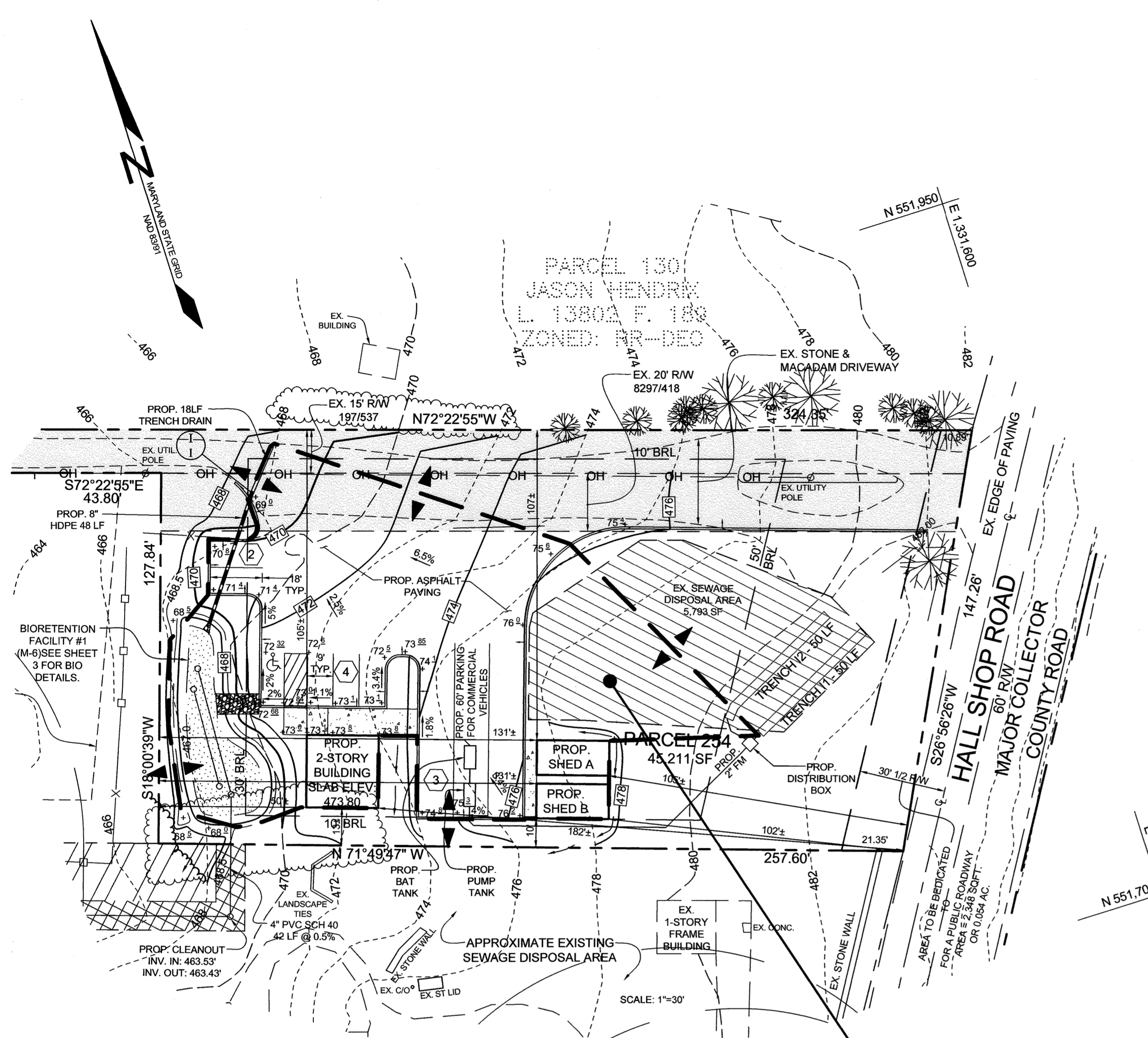
PLAN VIEW
 SCALE: 1"=30'



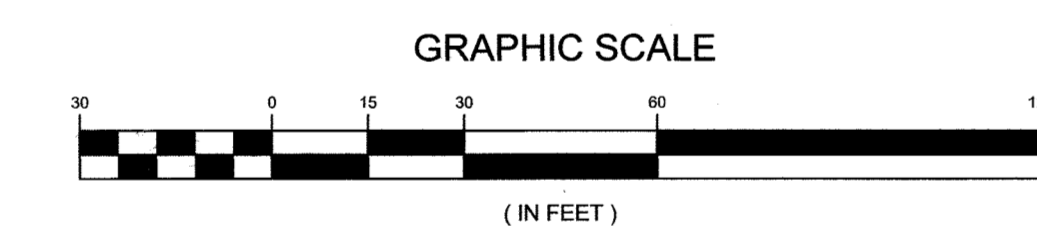
OWNER/DEVELOPER
 MICHAEL BOOSALIS
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 CLARKSVILLE, MARYLAND 21029
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CONCEPTUAL SEDIMENT & EROSION CONTROL PLAN
 BOOSALIS PROPERTY
 12064 HALL SHOP ROAD
 ZONED: BR
 TAX MAP 41 GRID 1
 5TH ELECTION DISTRICT
 PARCEL 254
 HOWARD COUNTY, MARYLAND

		DESIGN BY: PS DRAWN BY: TB CHECKED BY: PS SCALE: AS SHOWN DATE: AUGUST 24, 2020 PROJECT #: 15-043 SHEET #: 3 of 4
	16005 Frederick Rd, 2nd Floor Woodbine, MD 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.	



DRAINAGE AREA MAP
SCALE 1"=30'

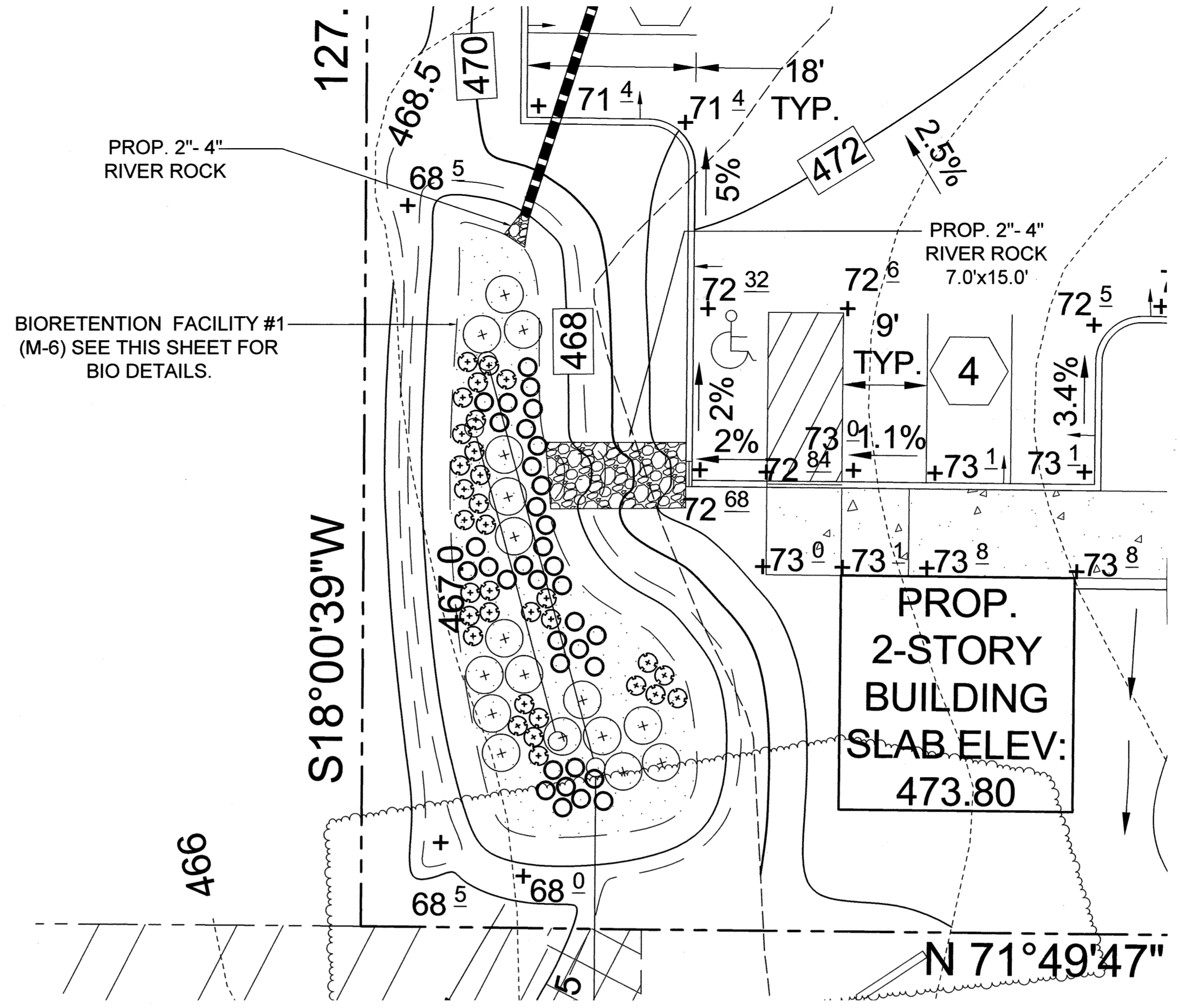


BIORETENTION ELEVATIONS AND DIMENSIONS

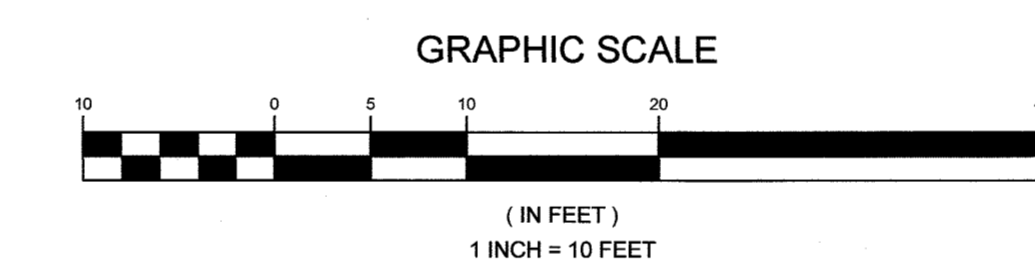
DESCRIPTION	BIO 1
'A' PONDING DEPTH	1.0'
'B' TOP OF MULCH	467.0
'C' WSEL	468.0
'D' EMBANKMENT WIDTH	1.0'
'E' SPILLWAY WIDTH	4.0'
'F' SPILLWAY LENGTH	9.0'
'G' FACILITY LENGTH	66.0'
'H' FACILITY WIDTH (AVERAGE)	17.0'
'I' PERF. UNDERDRAIN PIPE DIMENSION	49.7"
'J' UNDERDRAIN PIPE INVERT	463.92
'K' SOLID UNDERDRAIN DIMENSION	45.0"
'L' OUTFALL INVERT	462.9
'M' PERF. OVERFLOW PIPE DIMENSION	34.5"
'N' OVERFLOW PIPE INVERT	463.92
'O' GRAVEL STORAGE DEPTH	2.5'
'P' BOTTOM ELEVATION OF FACILITY	461.25
'Q' GRADE % OF OUTFALL PIPE	*

NOTES:
* SEE PLAN VIEW ON SHEET 2 FOR THE SLOPE OF THE OUTFALL PIPE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 10/14/20
 Chief, Division of Land Development



MICRO-BIORETENTION FACILITY #1 DETAIL
LANDSCAPING PLAN
SCALE 1"=10'



LEGEND

EXISTING CONTOUR	---	382	STANDARD GUTTER PAN	
PROPOSED CONTOUR	---	382	REVERSED GUTTER PAN	
EXISTING TREELINE	---		PROPOSED 10' PRIVATE STORMWATER MANAGEMENT ACCESS AND MAINTENANCE EASEMENT	
SOIL BOUNDARY	---		PROPOSED RIVER-ROCK	
EXISTING PRIVACY FENCE	---		ROAD CENTERLINE	
EXISTING SPLIT RAIL FENCE	---		EXISTING UTILITY POLE	
STREAM BUFFER	---		EXISTING OVERHEAD WIRES	
PROPOSED WELL AREA	---		EXISTING RAW	
PROPOSED CONCRETE	---			

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.

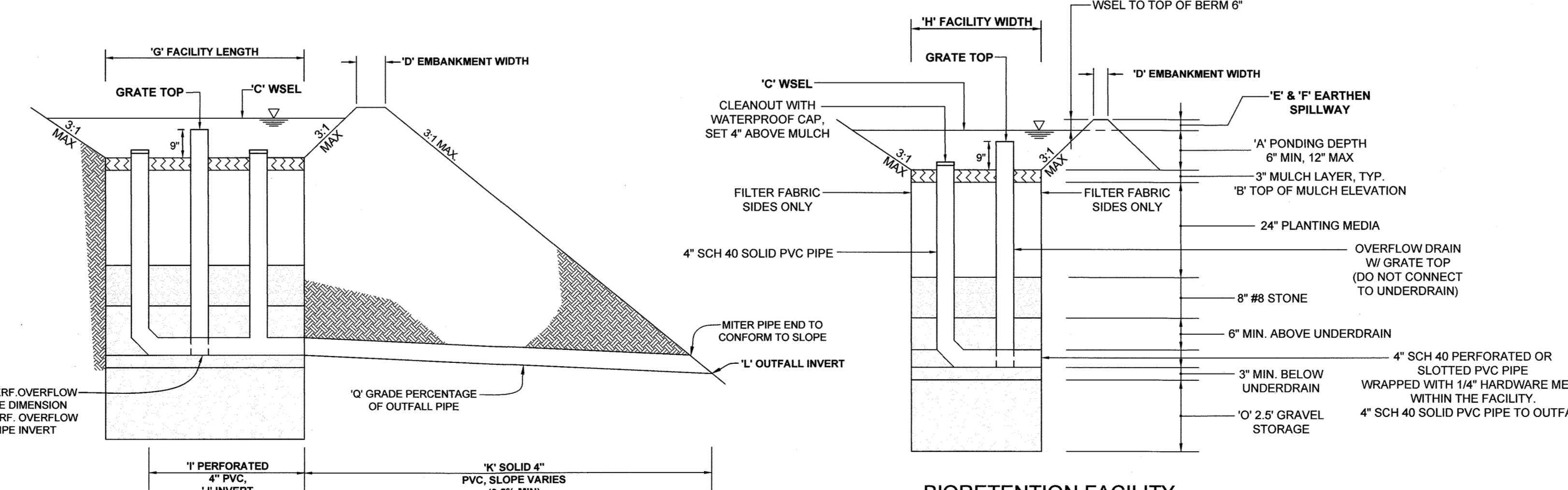
M-6 MICRO-BIORETENTION PLANT LIST

SHRUBS						
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1
(+)	ILEX GLABRA "SHAMROCK"	INKBERRY	AS SHOWN" (MIN. 4' O.C.)	24" - 36" HT.		17
HERBACEOUS SPECIES						
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1
(*)	ECHINACEA PURPLE CONEFLOWER	RUDEBECKIA BLACK EYED SUSAN	AS SHOWN" (MIN. 2' O.C.)	1 GAL		32
(O)	RUDEBECKIA LACINIATA	TALL CONEFLOWER BLACK EYED SUSAN	AS SHOWN" (MIN. 2' O.C.)	1 GAL		35

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.

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

MATERIAL	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)		
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" PER' @ 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-A615-58	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 350 R/89; VERTICAL LOADING (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.



BIORETENTION FACILITY TYPICAL PROFILE
NOT TO SCALE

NOTES:
* FOR ADDITIONAL INFORMATION, SEE THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II.
* SEE CHART, THIS SHEET, FOR ELEVATIONS, DISTANCES, AND GRADE PERCENTAGE OF OUTFALL PIPE.

BIORETENTION FACILITY TYPICAL SECTION
NOT TO SCALE

NOTES:
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* SEE CHART, THIS SHEET, FOR ELEVATIONS, DISTANCES, AND GRADE PERCENTAGE OF OUTFALL PIPE.

STORMWATER MANAGEMENT PLAN, NOTES, & DETAILS
BOOSALIS PROPERTY
 12064 HALL SHOP ROAD
 ZONED: BR

TAX MAP 41 GRID 1
 5TH ELECTION DISTRICT

PARCEL 254
 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
 16005 Frederick Rd., 2nd Floor
 Woodbine, MD 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: AUGUST 24, 2020
 PROJECT #: 15-043
 SHEET #: 4 of 4

OWNER/DEVELOPER
 MICHAEL BOOSALIS
 12080 HALL SHOP ROAD
 CLARKSVILLE, MARYLAND 21029
 301-854-1006

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 28, 2021.