

# ENVIRONMENTAL CONCEPT PLAN

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND					
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	k-VALUE
MkF		B	B	MANOR-BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCK	0.32
FbaA*	YES	D		FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24
UcB		D	B/C	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	-
MaD		B		MANOR LOAM, 15 TO 25 PERCENT SLOPES	0.32

ESD SUMMARY TABLE													
Per	1.5	Inches											
DA	MDE Type	Total DA	Impervious Area	Qe	Required	Provided	2% DA	Depth	Required	Provided	75% ESDv	RV	Pe
MBR 1	(M-6)	10,590	4,600	0.62	212	288	PASS	1.0	438	451	PASS	0.44	1.16
MBR 2	(M-6)	6,170	2,500	0.62	123	356	PASS	1.0	240	676	PASS	0.41	3.17
MBR 3	(M-6)	3,668	2,530	1.01	73	164	PASS	1.0	231	260	PASS	0.67	1.27
MBR 4	(M-6)	2,361	989	0.64	47	74	PASS	1.0	95	171	PASS	0.43	2.04
DW-1	(M-5)	1,200	1,200	1.43	143	200	PASS	5.0	143	200	PASS	0.95	2.11
DW-2	(M-5)	1,200	1,200	1.43	143	200	PASS	5.0	143	200	PASS	0.95	2.11
DW-3	(M-5)	707	707	1.43	84	200	PASS	5.0	84	200	PASS	0.95	3.57
DW-4	(M-5)	730	730	1.43	87	200	PASS	5.0	87	200	PASS	0.95	3.46
DW-5	(M-5)	640	640	1.43	76	200	PASS	5.0	76	200	PASS	0.95	3.95
DW-6	(M-5)	785	785	1.43	93	200	PASS	5.0	93	200	PASS	0.95	3.22
DW-7	(M-5)	640	640	1.43	76	200	PASS	5.0	76	200	PASS	0.95	3.95
DW-8	(M-5)	640	640	1.43	76	200	PASS	5.0	76	200	PASS	0.95	3.95
<b>Totals</b>		<b>28,691</b>	<b>16,521</b>	<b>0.85</b>	<b>1,157</b>	<b>2,282</b>			<b>1,704</b>	<b>2,958</b>			

Non-Rooftop Disconnection (Filter Strip)		JOB NO:	3018
<b>DR-1</b>	Driveway	Target PE:	1.50
(N-2)		Total DA:	1953 SF
		Impervious:	1088 SF
		Area of Filter Strip:	865 SF ok
		Rv:	0.55

NON-ROOFTOP DISCONNECTIONS			
FACILITY	Disconnect Area	Receiving Area	Volume Treated
DR-1	1088	865	91
<b>TOTAL:</b>			<b>91 cf</b>

## LEGEND

- SOILS CLASSIFICATION
- SOILS DELINEATION
- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED CONTOURS
- EX. SANITARY MANHOLE
- PROPOSED TREELINE
- PROPOSED DRYWELL
- PROPOSED MICRO-BIORETENTION FACILITY
- SLOPES 15% TO 24.9%
- SLOPES 25% OR GREATER
- NON-CRITICAL FLOODPLAIN
- USE-IN-COMMON DRIVEWAY
- PRIVATE USE-IN-COMMON DRIVEWAY ACCESS EASEMENT AND PUBLIC WATER & UTILITY EASEMENT
- LIMITS OF DISTURBANCE
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- EROSION CONTROL MATTING
- ROOF DRAIN
- ESD DRAINAGE AREA
- SPECIMEN TREE LOCATIONS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

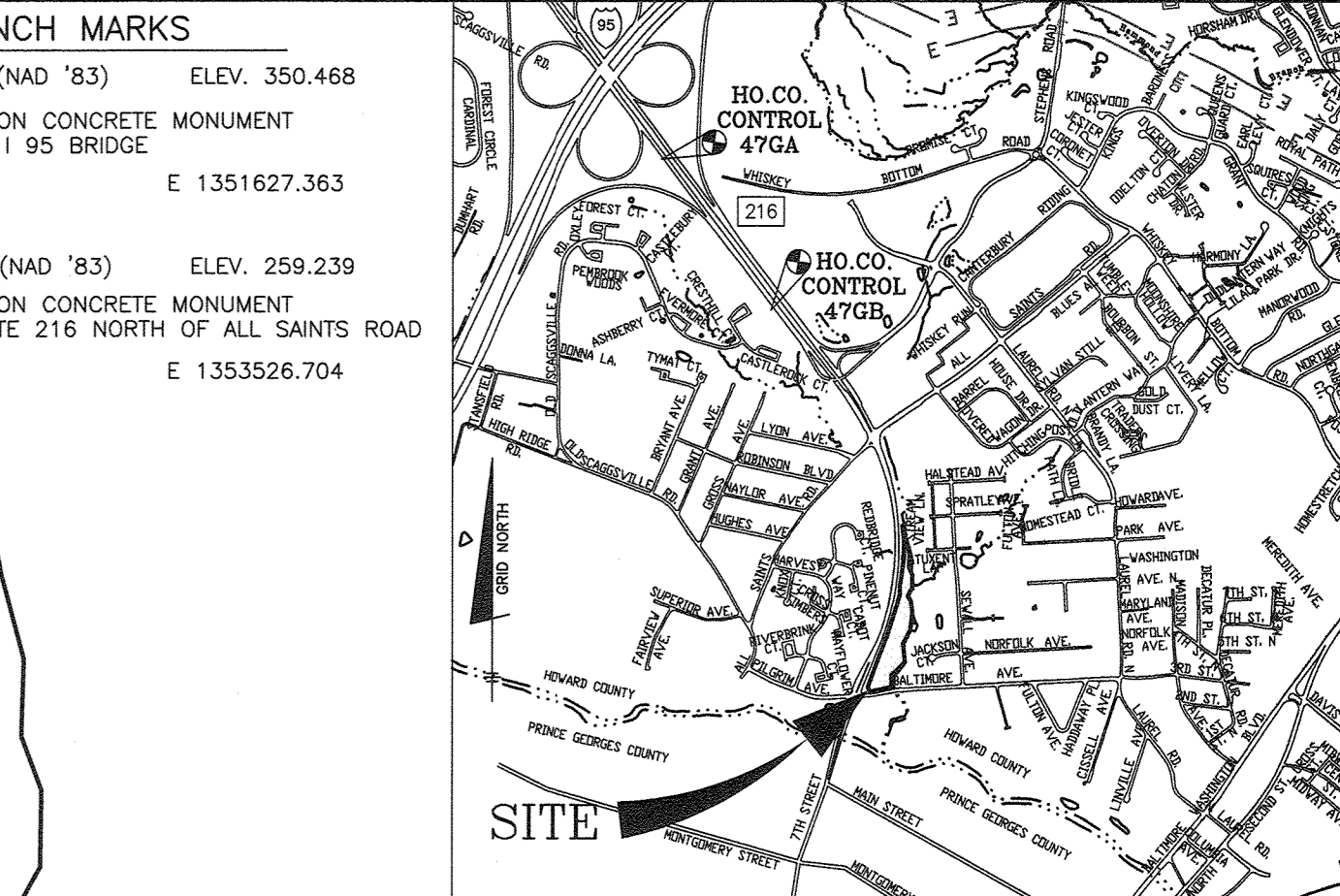
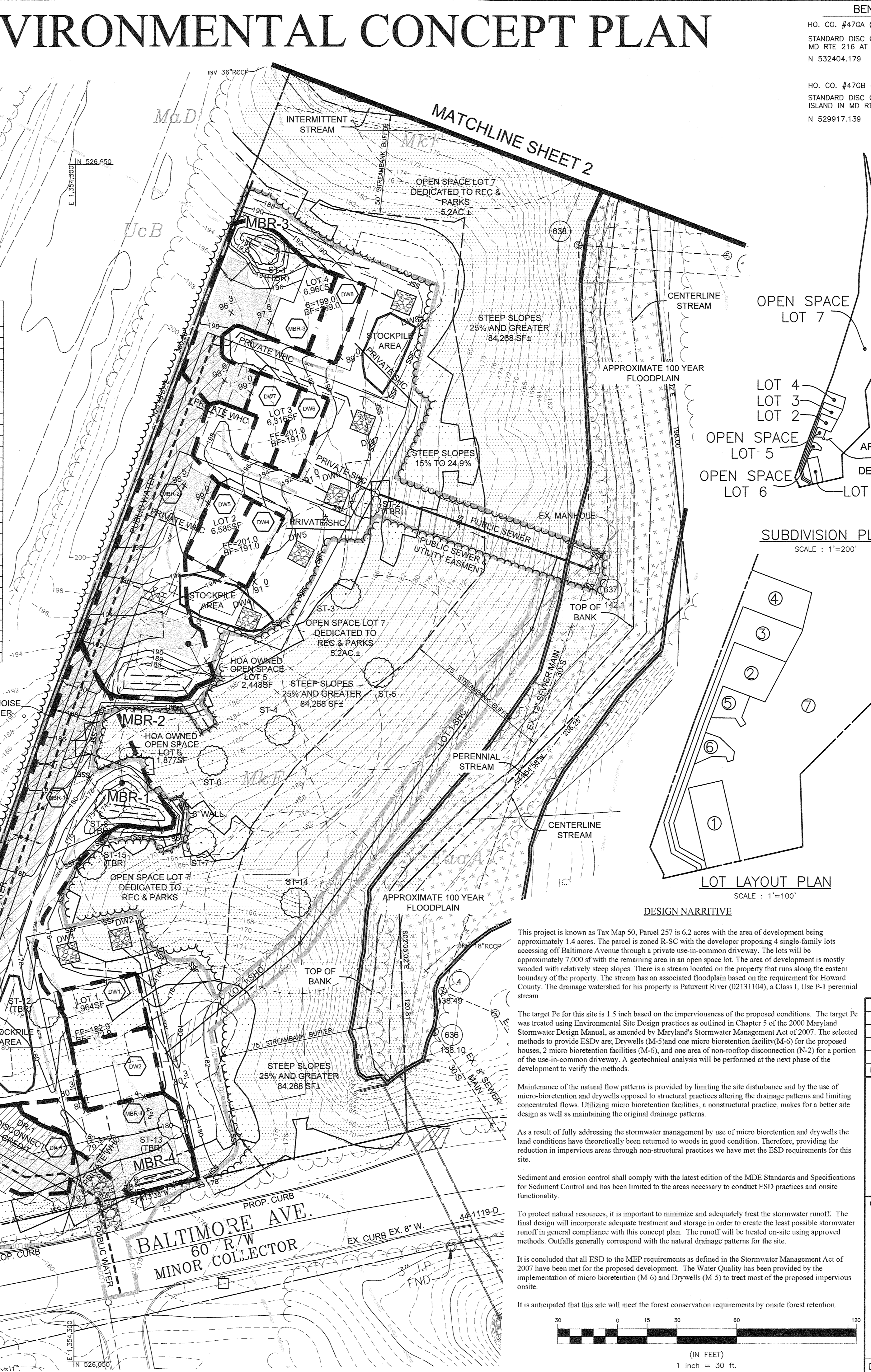
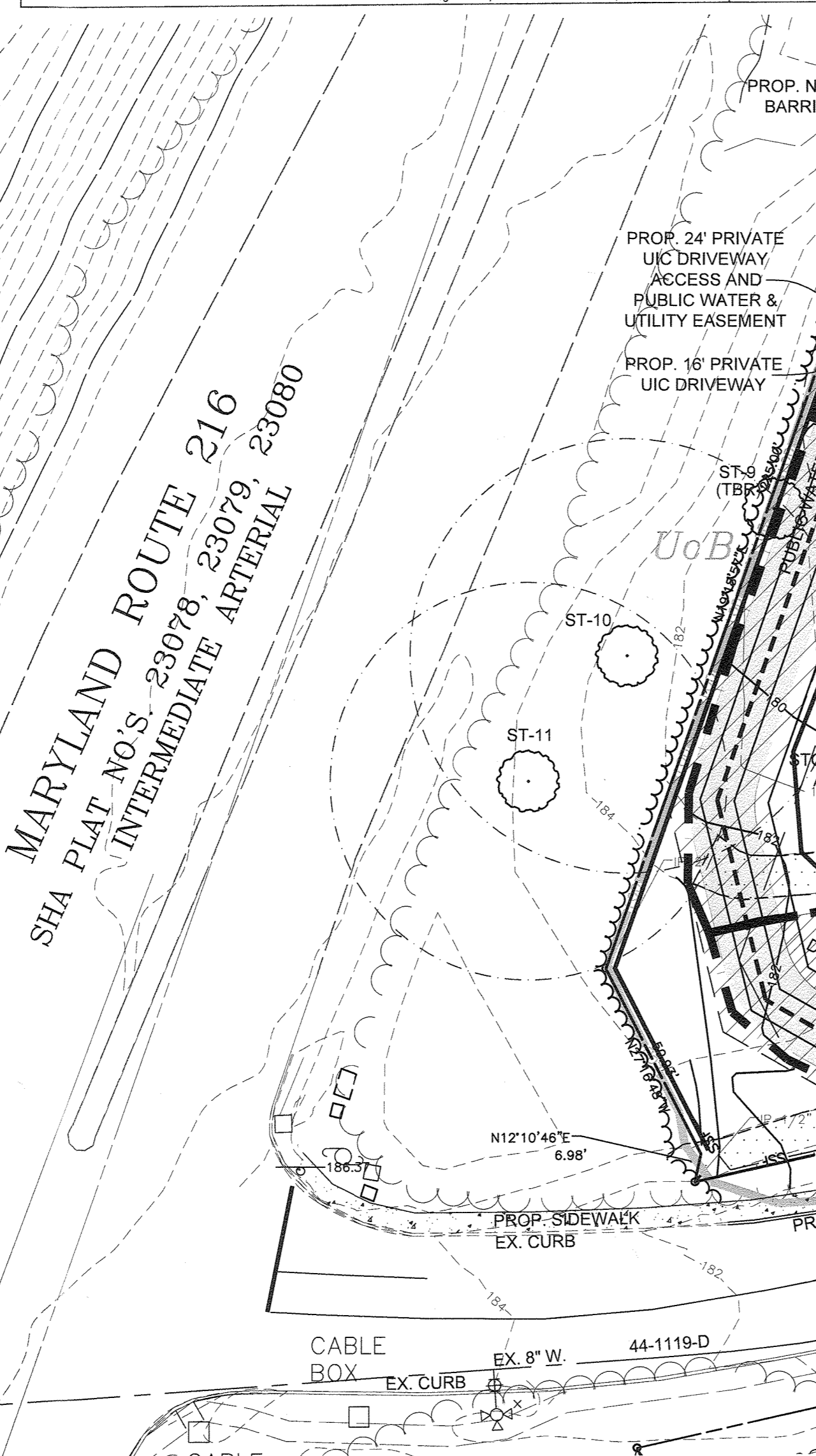
CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

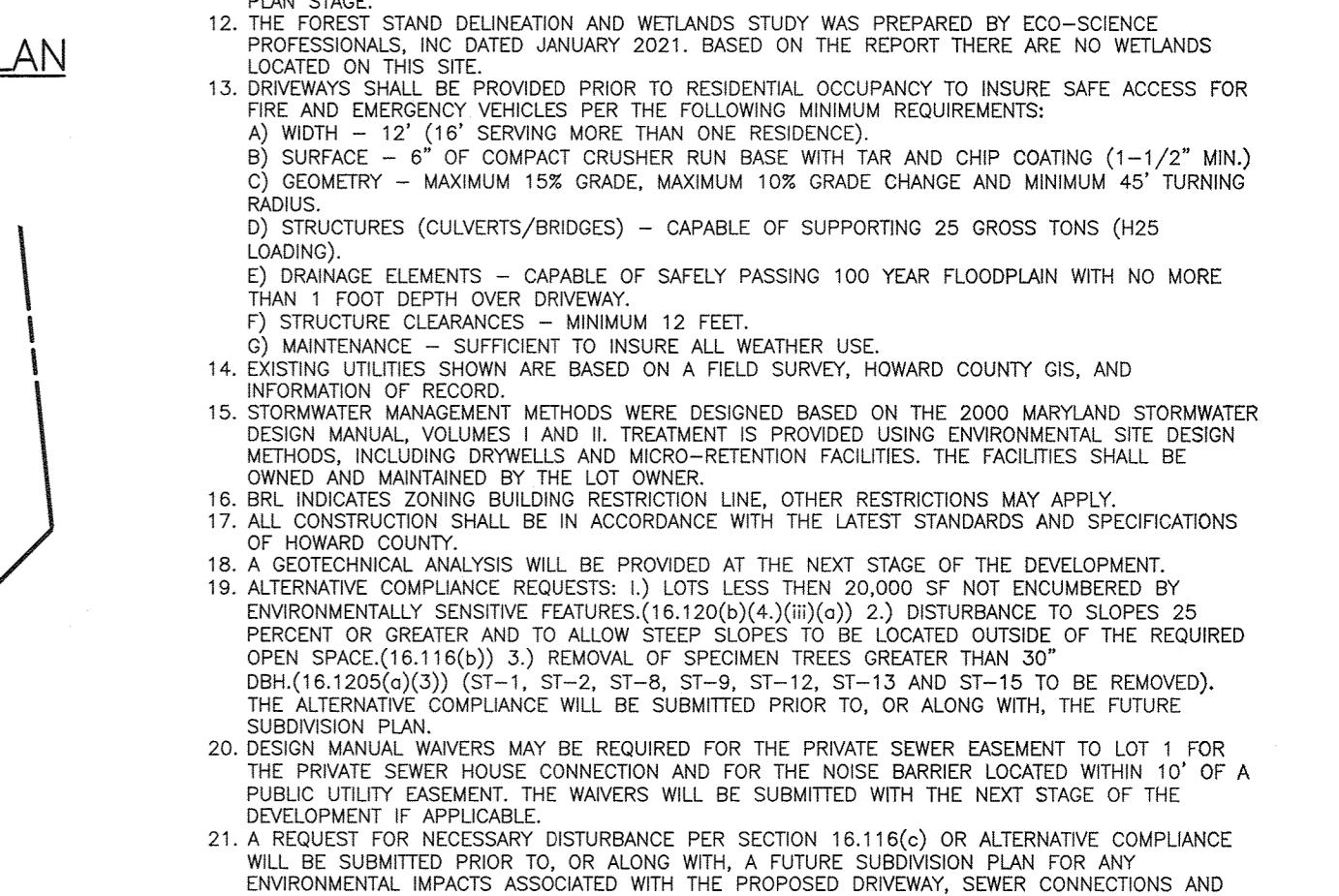
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SPECIMEN TREE IMPACT CALCULATION CHART									
Key (X)	Species	Size (in dbh)	CRZ (feet radius)	Comments	CRZ Area (SF)	CRZ Impact (SF)	Percent CRZ Impact	Retained/Removed	Mitigation Requirement
1	Tulip poplar	41.5	62.25	Good condition, tall above bh	12168	12168	100.00%	Retained	2
2	Tulip poplar	34.5	51.75	Good condition	8469	8469	100.00%	Retained	2
3	Tulip poplar	31	46.5	Good condition	6789	6789	27.98%	Retained	NA
4	Tulip poplar	34	51	Good condition	8167	329.7	4.02%	Retained	NA
5	Tulip poplar	31.5	48.75	Good condition, tall above bh	7610	630.9	8.30%	Retained	NA
6	Tulip poplar	31.5	47.25	Good condition, tall above bh	7571	1914.2	25.29%	Retained	NA
7	Tulip poplar	42.5	63.75	Fair condition, tall above bh	17823	17823	100.00%	Retained	2
8	Tulip poplar	43	64.5	Fair condition, three stems above bh	13263	13263	100.00%	Retained	2
9	River maple	35.5	52.25	Good condition	8904	2136	23.98%	Retained	NA
10	River oak	32.5	48.75	Good condition	7462	522.3	7.00%	Retained	NA
11	River oak	30	45	Fair condition, rot in canopy	6359	6359	100.01%	Removed	2
12	River oak	30	45	Fair condition, rot in canopy	6359	6359	100.01%	Removed	2
13	Tulip poplar	30.5	45.75	Good condition	6972	1051.5	16.00%	Retained	NA
14	White oak	33	49.5	Good condition	7984	7984	100.00%	Retained	2
15	River oak	49	73.5	Fair, some dieback	10963	0	0.00%	Retained	NA
16	Tulip poplar	31.5	47.25	Good condition	7010	0	0.00%	Retained	NA
17	River oak	35	52.5	Fair condition, some dieback	8655	0	0.00%	Retained	NA
18	River oak	31	46.5	Poor condition, notable dieback in crown	6789	0	0.00%	Retained	NA
19	River oak	31.5	47.25	Fair condition, some dieback	7010	0	0.00%	Retained	NA
20	River oak	34	51	Good condition	8167	0	0.00%	Retained	NA
21	Tulip poplar	30	45	Good condition	6359	0	0.00%	Retained	NA
22	River oak	30	45	Good condition	6359	0	0.00%	Retained	NA
23	Tulip poplar	30.5	45.75	Fair condition, thin stems below bh	6972	0	0.00%	Retained	NA
24	White oak	30	45	Good condition	6359	0	0.00%	Retained	NA
25	Tulip poplar	34	51	Floor condition, trunk rot and weeping bark	8167	0	0.00%	Retained	NA
26	River oak	33.5	50.25	Fair condition, leaning	7929	0	0.00%	Retained	NA
27	Tulip poplar	34	51	Good condition	8167	0	0.00%	Retained	NA
28	Tulip poplar	34	51	Fair, thin trunks above bh	8167	0	0.00%	Retained	NA
30	Tulip poplar	33	49.5	Good condition	7694	0	0.00%	Retained	NA



- ### GENERAL NOTES
- SUBJECT PROPERTY IS ZONED R-SC PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN.
  - THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, DATED OCTOBER 7, 2007.
  - PROJECT LIMITS ARE BASED ON A BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT APRIL 2020.
  - TOPOGRAPHY SHOWN HEREON IS BASED ON FIELD SPOT ELEVATIONS SURVEY PREPARED BY BENCHMARK ENGINEERING, INC. DATED APRIL 2020 AND SUPPLEMENTED WITH HOWARD COUNTY GIS CONTOUR INTERVAL IS 2'.
  - THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 476A AND 476B WERE USED FOR THIS PROJECT.
  - THERE ARE STEEP SLOPES (15% OR GREATER AND 25% OR GREATER) IN EXCESS OF 20,000 SF WITHIN THE AREA OF DEVELOPMENT.
  - THERE IS A FLOODPLAIN AND STREAM LOCATED ON-SITE. A NON-CRITICAL FLOODPLAIN STUDY HAS BEEN PROVIDED AND IT HAS BEEN DETERMINED THAT THE DEVELOPMENT DOES NOT IMPACT THE FLOODPLAIN. THERE ARE NO WETLANDS WITHIN THE AREA OF DEVELOPMENT.
  - TO THE BEST OF OUR KNOWLEDGE THERE ARE NO CEMETERIES OR HISTORIC STRUCTURES LOCATED ON THIS SITE.
  - A NOISE STUDY IS REQUIRED FOR THIS PLAN AND WILL BE PROVIDED AT THE NEXT PHASE OF THE DEVELOPMENT.
  - THIS SITE IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND THE PLANNED SERVICE AREA. WATER AND SEWER WILL BE PUBLIC.
  - THIS SITE IS SUBJECT TO THE FOREST CONSERVATION REQUIREMENTS. IT IS ANTICIPATED THAT THE FOREST CONSERVATION REQUIREMENTS WILL BE MET BY ON-SITE RETENTION AT THE SUBDIVISION PLAN STAGE.
  - THE FOREST STAND DELINEATION AND WETLANDS STUDY WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY 2021. BASED ON THE REPORT THERE ARE NO WETLANDS LOCATED ON THIS SITE.
  - DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
    - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
    - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.)
    - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
    - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
    - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 4' FOOT DEPTH OVER DRIVEWAY.
    - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
    - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
  - EXISTING UTILITIES SHOWN ARE BASED ON A FIELD SURVEY, HOWARD COUNTY GIS, AND INFORMATION OF RECORD.
  - STORMWATER MANAGEMENT METHODS WERE DESIGNED BASED ON THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. TREATMENT IS PROVIDED USING ENVIRONMENTAL SITE DESIGN METHODS, INCLUDING DRYWELLS AND MICRO-RETENTION FACILITIES. THE FACILITIES SHALL BE OWNED AND MAINTAINED BY THE LOT OWNER.
  - BR1 INDICATES ZONING BUILDING RESTRICTION LINE, OTHER RESTRICTIONS MAY APPLY.
  - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
  - A GEOTECHNICAL ANALYSIS WILL BE PROVIDED AT THE NEXT STAGE OF THE DEVELOPMENT.
  - ALTERNATIVE COMPLIANCE REQUESTS: 1) LOTS LESS THAN 20,000 SF NOT ENCUMBERED BY ENVIRONMENTALLY SENSITIVE FEATURES (16.120(b)(4)(iii)(b)) 2) DISTURBANCE TO SLOPES 25 PERCENT OR GREATER AND TO ALLOW SITE SLOPES TO BE LOCATED OUTSIDE OF THE REQUIRED OPEN SPACE (16.116(b)) 3) REMOVAL OF SPECIMEN TREES GREATER THAN 30" DBH (16.1205(c)(3)) (ST-1, ST-2, ST-8, ST-9, ST-12, ST-13 AND ST-15 TO BE REMOVED). THE ALTERNATIVE COMPLIANCE WILL BE SUBMITTED PRIOR TO, AND ALONG WITH, THE FUTURE SUBDIVISION PLAN.
  - DESIGN MANUAL WAIVERS MAY BE REQUIRED FOR THE PRIVATE SEWER EASEMENT TO LOT 1 FOR THE PRIVATE SEWER HOUSE CONNECTION AND FOR THE NOISE BARRIER LOCATED WITHIN 10' OF A PUBLIC UTILITY EASEMENT. THE WAIVERS WILL BE SUBMITTED WITH THE NEXT STAGE OF THE DEVELOPMENT IF APPLICABLE.
  - A REQUEST FOR NECESSARY DISTURBANCE PER SECTION 16.116(c) OR ALTERNATIVE COMPLIANCE WILL BE SUBMITTED PRIOR TO, OR ALONG WITH, A FUTURE SUBDIVISION PLAN FOR ANY ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED DRIVEWAY, SEWER CONNECTIONS AND SWM FACILITIES.



Site Analysis Data Sheet	
Gross Site Area	6.20 ac
100yr Floodplain	0.80 ac
Slopes 15% or greater	0.38 ac
Slopes 25% or greater	2.08 ac
Wetlands	0.00 ac
Wetlands Buffer	0.00 ac
Forested Area	6.20 ac
Erodible Soils	0.00 ac
Limit of Disturbance	1.38 ac
Impervious Area	0.42 ac
Green Space	0.96 ac
Public Road Right-of-Way	0.00 ac
Site Use	RESIDENTIAL
Open Space	5.20 ac

NOTE: REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION AND/OR SITE DEVELOPMENT PLAN STAGES. THEREFORE, THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS (INCLUDING THOSE THAT MAY ALTER OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES.

Maintenance of the natural flow patterns is provided by limiting the site disturbance and by the use of micro-bioretention and drywells opposed to structural practices altering the drainage patterns and limiting concentrated flows. Utilizing micro bioretention facilities, a structural practice, makes for a better site design as well as maintaining the original drainage patterns.

As a result of fully addressing the stormwater management by use of micro bioretention and drywells the land conditions have theoretically been returned to woods in good condition. Therefore, providing the reduction in impervious areas through non-structural practices we have met the ESD requirements for this site.

Sediment and erosion control shall comply with the latest edition of the MDE Standards and Specifications for Sediment Control and has been limited to the areas necessary to conduct ESD practices and onsite functionality.

To protect natural resources, it is important to minimize and adequately treat the stormwater runoff. The final design will incorporate adequate treatment and storage in order to create the least possible stormwater runoff in general compliance with this concept plan. The runoff will be treated on-site using approved methods. Outfalls generally correspond with the natural drainage patterns for the site.

It is concluded that all ESD to the MEP requirements as defined in the Stormwater Management Act of 2007 have been met for the proposed development. The Water Quality has been provided by the implementation of micro bioretention (M-6) and Drywells (M-5) to treat most of the proposed impervious onsite.

It is anticipated that this site will meet the forest conservation requirements by onsite forest retention.

OWNER/DEVELOPER: MR. HILL HUANG, TROTTER 5857 LLC, 1819 PANORAMA COURT, MCLEAN, VA 22107

BALTIMORE AVENUE, LOTS 1-7

TAX MAP: 50 GRID: 02 PARCEL: 257

ELECTION DISTRICT NO. 6TH HOWARD COUNTY, MARYLAND

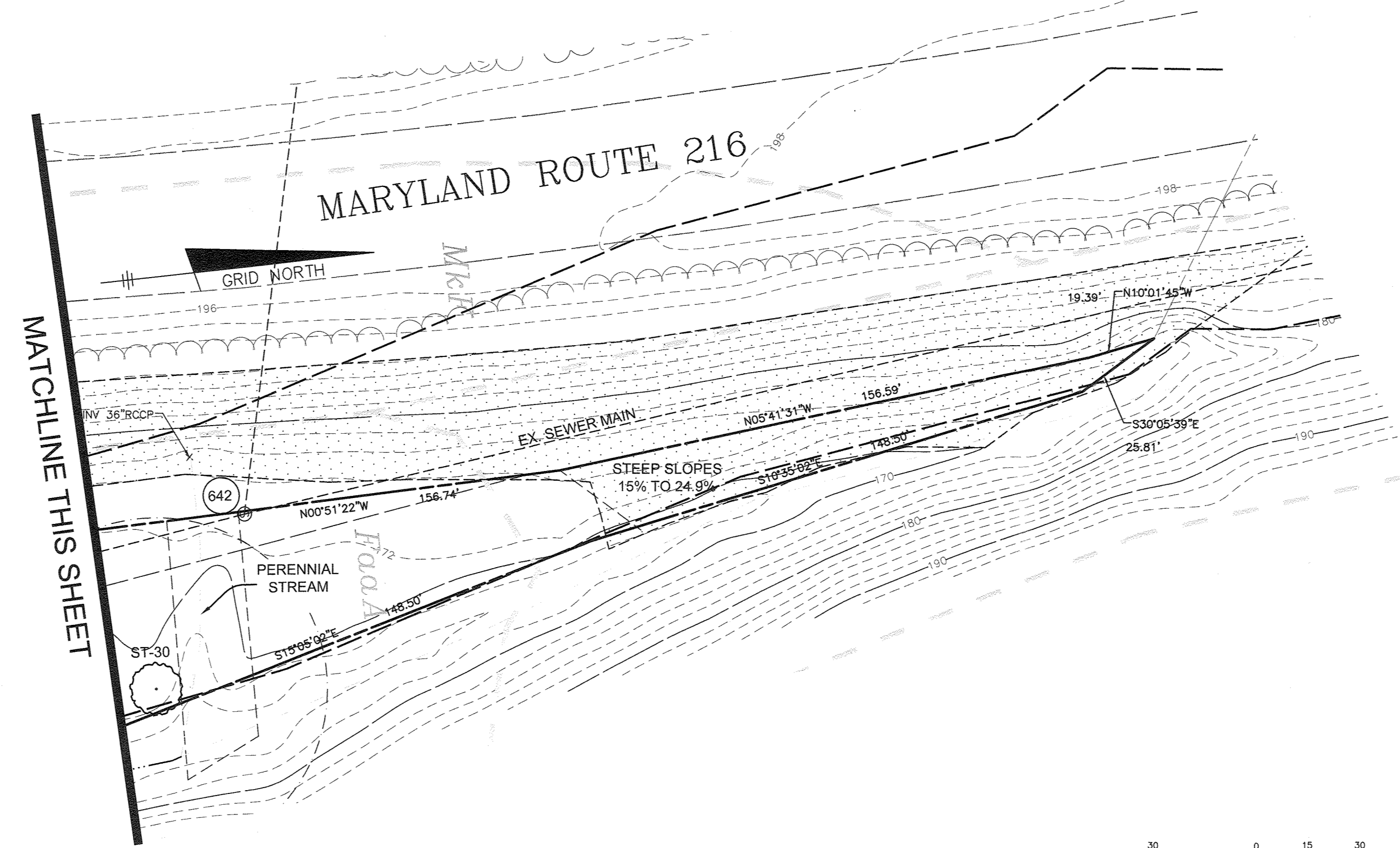
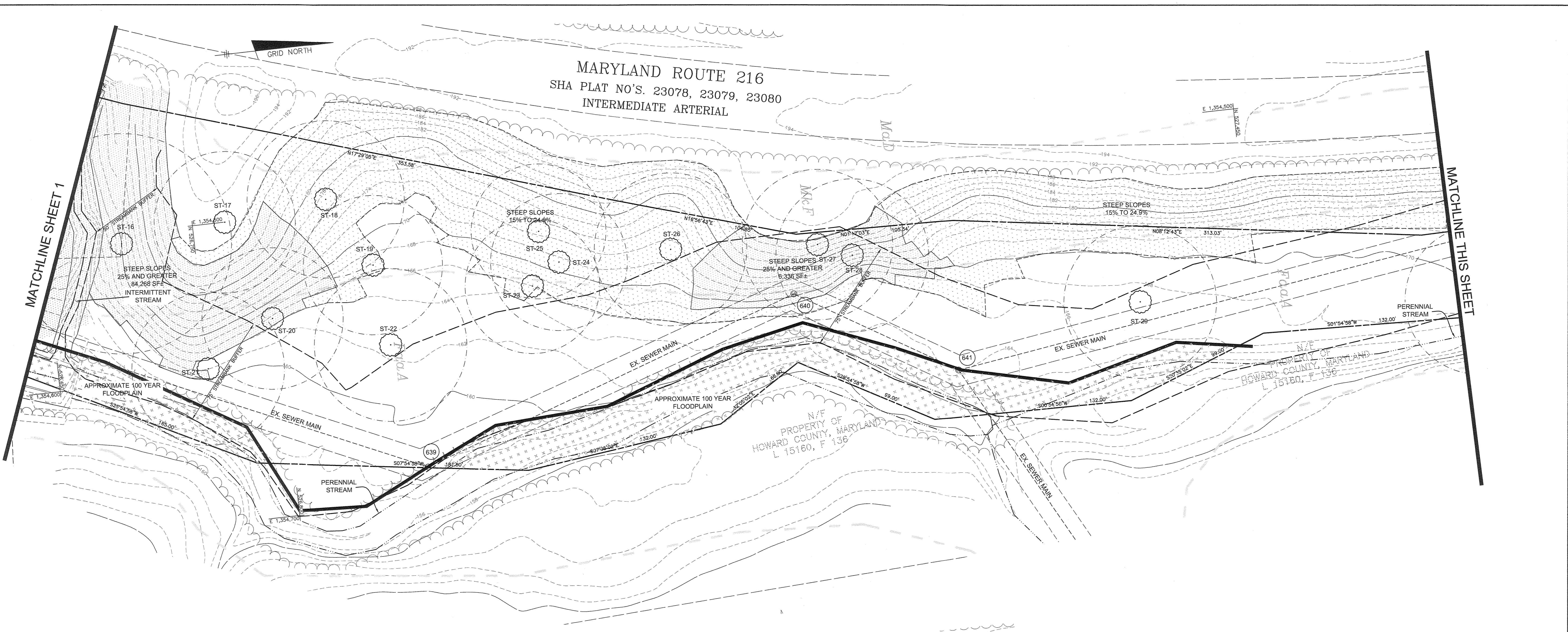
ENVIRONMENTAL CONCEPT PLAN

DATE: JANUARY 2022 | BEI PROJECT NO. 3018

SCALE: AS SHOWN | SHEET 1 OF 2

DESIGN: JCO | DRAFT: JCO





**LEGEND**

- |                                      |            |  |  |
|--------------------------------------|------------|--|--|
| SOILS CLASSIFICATION                 | <i>UcD</i> | NON-CRITICAL FLOODPLAIN  |  |
| SOILS DELINEATION                    |            | USE-IN-COMMON DRIVEWAY   |  |
| EXISTING CONTOURS                    |            | PRIVATE USE-IN-COMMON DRIVEWAY ACCESS EASEMENT AND PUBLIC WATER & UTILITY EASEMENT |  |
| EXISTING TREELINE                    |            | LIMITS OF DISTURBANCE  |  |
| PROPOSED CONTOURS                    |            | SUPER SILT FENCE   |  |
| EX. SANITARY MANHOLE                 |            | STABILIZED CONSTRUCTION ENTRANCE   |  |
| PROPOSED TREELINE                    |            | EROSION CONTROL MATTING  |  |
| PROPOSED DRYWELL                     |            | ROOF DRAIN   |  |
| PROPOSED MICRO-BIORETENTION FACILITY |            | ESD DRAINAGE AREA  |  |
| SLOPES 15% TO 24.9%                  |            | SPECIMEN TREE LOCATIONS  |  |
| SLOPES 25% OR GREATER                |            |  |  |

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 2-17-22  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 1/20/22  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

NO.	DATE	REVISION

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELIJAH CITY, MARYLAND 21043  
 (P) 410-465-8100 (F) 410-465-8844  
 WWW.BE-CIVILENGINEERING.COM

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. 22389 (Mechanical) (Date: 6-30-2023).

OWNER/DEVELOPER: MR. HILL HUANG TROTTER 5857 LLC 1819 PANORAMA COURT MCLEAN, VA 22107	<b>BALTIMORE AVENUE</b> LOTS 1-7 TAX MAP: 50 GRID: 02 PARCEL: 257 ZONED: R-SC ELECTION DISTRICT NO. 6TH HOWARD COUNTY, MARYLAND
<b>ENVIRONMENTAL CONCEPT PLAN</b>	
DATE: JANUARY 2022	BEI PROJECT NO. 3018
DESIGN: JCO	DRAFT: JCO
SCALE: AS SHOWN	SHEET 2 OF 2

