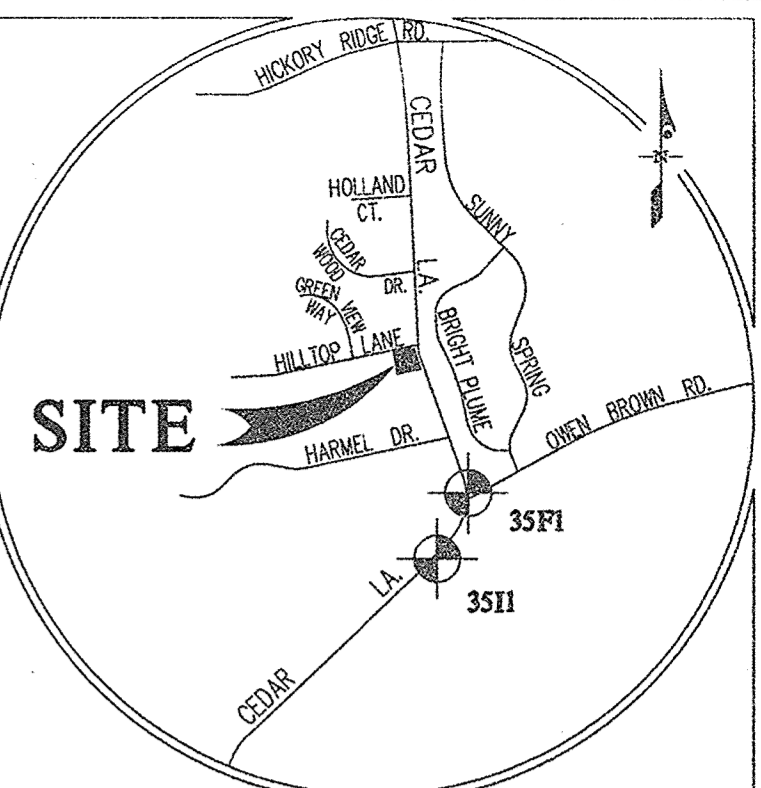


SITE DEVELOPMENT PLAN

CEDAR LANE WATER PUMPING STATION

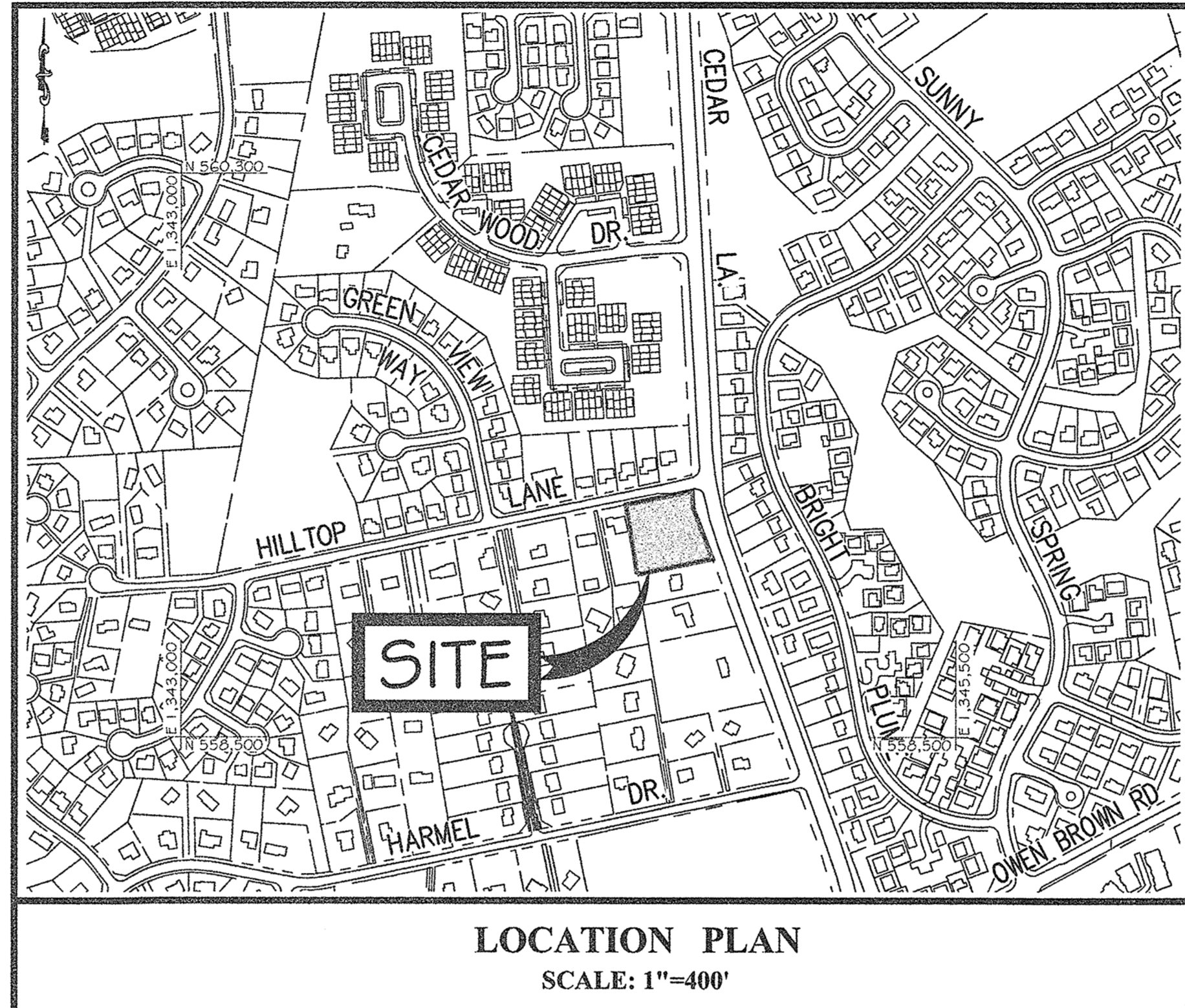
CEDAR ACRES BLOCK 'B', LOT 1 LIBER 17223 FOLIO 117 ASBUILT



VICINITY MAP
SCALE: 1" = 2,000'

BENCHMARKS
35F1 N=557,787.369 E=1,345,217.326
35I1 N=557,110.385 E=1,344,893.672

ADC MAP: 4934-J8



LOCATION PLAN
SCALE: 1"=400'

- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "M&S UTILITY" AT 1-800-251-1111 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - PROJECT BACKGROUND:
LOCATION: TAX MAP 935, GRID II
ZONING: R-20
ELECTION DISTRICT: 5TH
PARCEL: BLOCK 'B', LOT 1
AREA: 1.11 AC.
REG. REF.: FLAT BOOK 4, NO. II
 - THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES AT (410) 313-4400 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY EXCAVATION WORK.
 - PROPOSED USE: GOVERNMENT STRUCTURE - PUBLIC UTILITY
 - ALL PLAN DIMENSIONS ARE TO FACE OF BUILDING UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIIALLY BETWEEN ITEMS UNLESS OTHERWISE NOTED.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO FOOT CONTOUR INTERVALS PREPARED BY KCI TECHNOLOGIES DATED DECEMBER 2017.
 - COORDINATES AND BEARINGS ARE BASED UPON THE '83 MD STATE COORDINATE SYSTEM (NAD '83) AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3511 AND 35F1.
 - THE PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS:
ECP-18-014
 - WATER AND SEWER SERVICE IS PUBLIC PER CONTRACT NO. 44-5036.
 - ALL ON-SITE STORM DRAIN SYSTEMS ARE PRIVATE.
 - STORMWATER MANAGEMENT, SATISFYING ENVIRONMENTAL SITE DESIGN (ESD) CRITERIA, PROPOSED BY THESE PLANS INCLUDES 1 MICRO BIO-RETENTION (M-6) FACILITIES. THIS STORMWATER MANAGEMENT PRACTICE WILL BE MAINTAINED BY HOWARD COUNTY.
 - EXISTING UTILITIES ARE BASED ON PLANS, AND INFORMATION RECEIVED BY KCI TECHNOLOGIES.
 - THERE ARE NO KNOWN CEMETERIES, GRAVE SITES OR HISTORIC STRUCTURES LOCATED ON THE SUBJECT PROPERTY.
 - THERE ARE NO SCENIC ROADS WITHIN OR ADJACENT TO THE SUBJECT PROPERTY.
 - THERE ARE NO FLOODPLAINS OR WETLANDS WITHIN THE SUBJECT PROPERTY.
 - ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS AWAY FROM ALL ADJOINING RESIDENTIAL USE AREAS AND PUBLIC ROADS IN ACCORDANCE WITH SECTION 16.4.0 OF THE HOWARD COUNTY ZONING REGULATIONS.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL NOT BE REQUIRED DUE TO GOVERNMENT OWNERSHIP OF THE PROJECT. THE LANDSCAPE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.12.4 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
 - SETBACK REQUIREMENTS DO NOT APPLY TO WALLS AND FENCES WHICH SERVE AS ENTRANCE FEATURES FOR A SUBDIVISION OR DEVELOPMENT IN ALL ZONING DISTRICTS PROVIDED THE ENTRANCE FEATURE DOES NOT EXCEED 0 FEET IN HEIGHT AND DOES NOT INTERFERE WITH SIGHT DISTANCE ALONG PUBLIC ROADS IN ACCORDANCE WITH SECTION 129.0 OF THE ZONING REGULATIONS.
 - THERE IS A LOWER LEVEL BASEMENT SPACE IN THE BUILDING.
 - APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP-18-046) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN.
 - IN ACCORDANCE WITH SECTION 129.0 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.
 - 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.
 - FOREST CONSERVATION FOR THIS SITE IS BEING PROVIDED VIA A FEE-IN-LIEU IN THE AMOUNT OF \$5,133.75 FOR 1645 SQ. FT.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
 - THE COMMUNITY MEETING FOR THIS PROJECT WAS HELD AT SHANFIELD ELEMENTARY SCHOOL AT 7PM ON JANUARY 25, 2018.

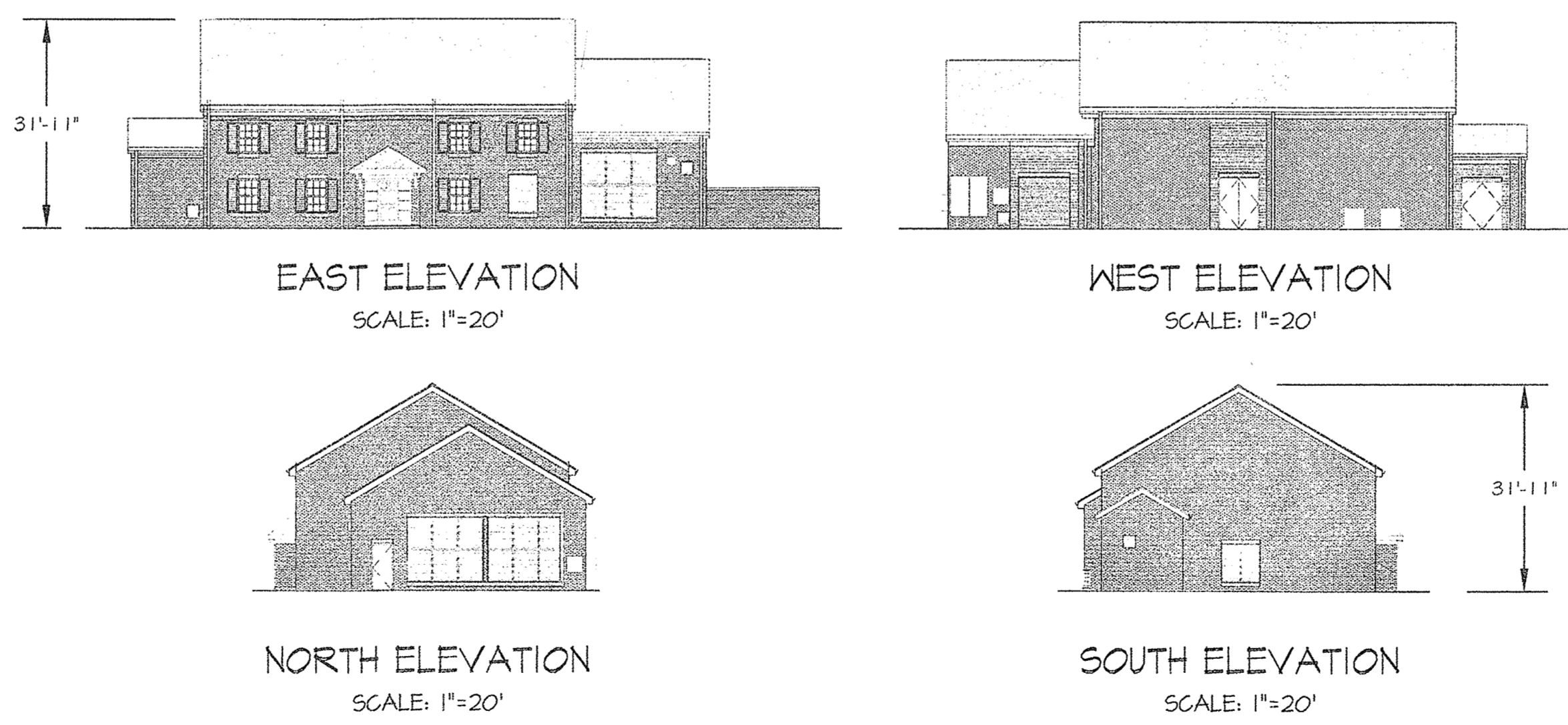
- SHEET INDEX**
- COVER SHEET
 - EXISTING CONDITIONS PLAN
 - SITE DEVELOPMENT PLAN
 - SITE PLAN DETAILS
 - UTILITY PROFILES
 - STORMWATER MANAGEMENT PLAN
 - LANDSCAPE PLAN
 - LANDSCAPE DETAILS
 - SEDIMENT CONTROL PLAN
 - SEDIMENT CONTROL NOTES
 - SEWER CONTROL NOTES
 - DRAINAGE AREA MAP

SITE ANALYSIS DATA

- ZONING: RESIDENTIAL SINGLE FAMILY (R20)
 - LEGAL DESCRIPTION: LOT 1, BLK 'B' CEDAR ACRES, FLAT BK 4, NO. II
 - GROSS AREA OF LOT 1 = 1.11 AC. DEED REFERENCE: L 17223 F. COIT
 - LIMIT OF DISTURBED AREA = 1.21 AC.
 - PROPOSED USE: GOVERNMENT STRUCTURE, PUBLIC UTILITY
 - PARKING:
REQUIRED PARKING: N/A
PARKING PROVIDED: N/A
HANDICAP PARKING REQUIRED: N/A
HANDICAP SPACES PROVIDED: N/A
 - OWNER: HOWARD COUNTY MD
 - APPLICANT: HOWARD COUNTY MD
2430 COURT HOUSE DR
ELLICOTT CITY, MD 21048
 - ZONING STANDARDS, R-20 ZONE
- | | ALLOWED / PERMITTED | PROPOSED |
|----------------------------------|---------------------|------------------|
| 1. BUILDING HEIGHT (SEC. 11.4.D) | 34 FT. | 52 FT. |
| 2. MINIMUM LOT SIZE | 20,000 SQ. FT. | 1.11 AC PROVIDED |
| 3. MINIMUM STRUCTURE SETBACK | | |
| a. SIDE | 10 FT. | 20 FT. |
| b. REAR | 30 FT. | 30 FT. |
| c. FROM PUBLIC STREET R/W | 30 FT. | 15 FT. |
| 3. MINIMUM USE SETBACK | | |
| a. SIDE | 20 FT. | 20 FT. |
| b. REAR | 20 FT. | 20 FT. |
| c. FROM PUBLIC STREET R/W | 20 FT. | 20 FT. |

LEGEND

- EX. SEWER
- EX. WATER
- EX. STORM DRAIN
- PROP. SEWER
- PROP. WATER
- PROP. STORM DRAIN
- EX. CONTOURS
- PROP. CONTOURS
- EX. ELECTRIC
- EX. CURB & GUTTER
- PROP. CURB & GUTTER
- PROP. ELECTRIC
- PROP. BUILDING
- PROP. TRANSFORMER
- PROP. CONCRETE
- EX. FIBER OPTIC
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND TELEPHONE
- EX. OVERHEAD ELECTRIC
- PROP. FIRE HYDRANT
- EX. TELEPHONE
- 10%-25% SLOPE
- +25% SLOPE
- EX. PAVING
- SSF PROP. SUPER SILT FENCE
- TEMP. EARTH DIKE
- PROP. STOCKPILE AREA
- PROP. STABILIZED CONST. ENTR.



BUILDING ELEVATIONS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

N. Williams 8-2-18
Director Date

K. Stenhouse 8-2-18
Chief, Division of Land Development Date

J. Edwards 7-24-18
Chief, Development Engineering Division Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20886
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-988-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:
OWNER:
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9250 BENDIX ROAD
COLUMBIA, MD 21045
(410)-313-2040

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 17285
EXPIRATION DATE: MARCH 17, 2025

T. Reddan 6-26-18
TODD M. REDDAN, P.E.
MARYLAND REG. NO. 17285

ASBUILT SITE DEVELOPMENT COVER SHEET

**CEDAR LANE WATER PUMPING STATION
LOT 1 BLOCK B**

SCALE AS SHOWN ZONING R-20 G. L. W. FILE NO. 16018

DATE MARCH 2021 TAX MAP - GRID 35-11 SHEET 1 OF 12
JUNE 2018

HOWARD COUNTY, MARYLAND

ASBUILT 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. 17285, EXPIRATION DATE: MARCH 17, 2025.

3/18/21
DATE

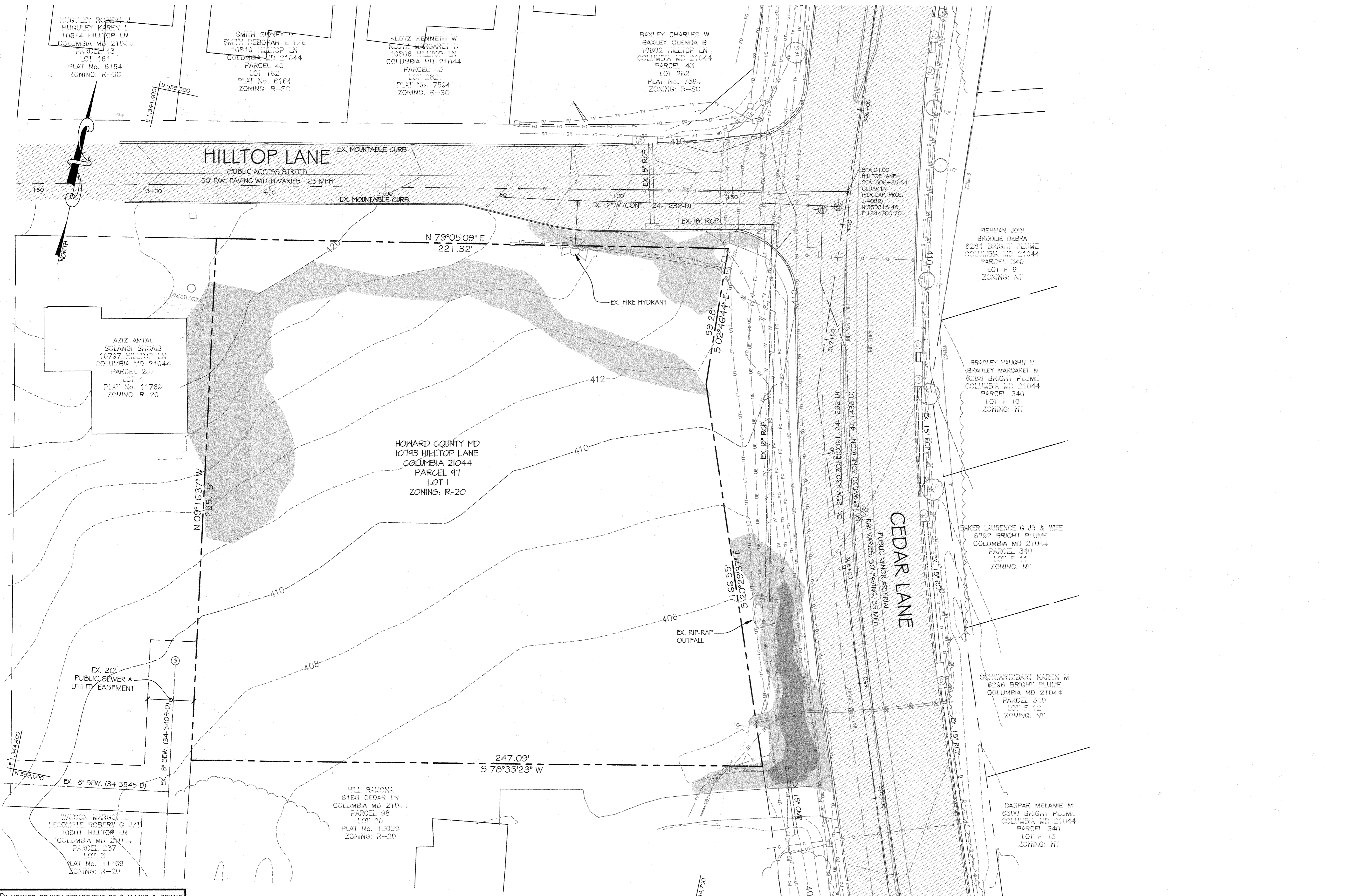
T. Reddan
TODD M. REDDAN, P.E.
MARYLAND REG. NO. 17285

For GLWPA

I, CAROL V. BRANNON, REGISTERED PROFESSIONAL ENGINEER, STATE OF MARYLAND, LICENSE NO. 17285, EXPIRATION DATE: MARCH 17, 2025, HAVE REVIEWED THESE PLANS AND CERTIFY THAT THEY COMPLY WITH THE REQUIREMENTS OF THE MARYLAND PROFESSIONAL ENGINEERING ACT AND REGULATIONS.

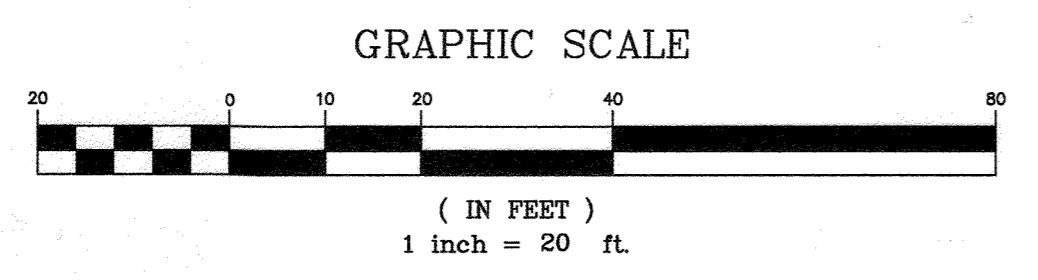
LEGEND

- EX. SEWER
- EX. WATER
- EX. STORM DRAIN
- EX. CONTOURS
- EX. CURB & GUTTER
- EX. FIBER OPTIC
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND TELEPHONE
- EX. OVERHEAD ELECTRIC
- 10%-25% SLOPE
- +25% SLOPE
- EX. PAVING



**NO ASBUILT
INFORMATION**
3/18/21

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
N. M. J. J. J. 8-2-18
 Director Date
K. S. S. 8-22-18
 Chief, Division of Land Development Date
D. C. C. 7-24-18
 Chief, Development Engineering Division Date



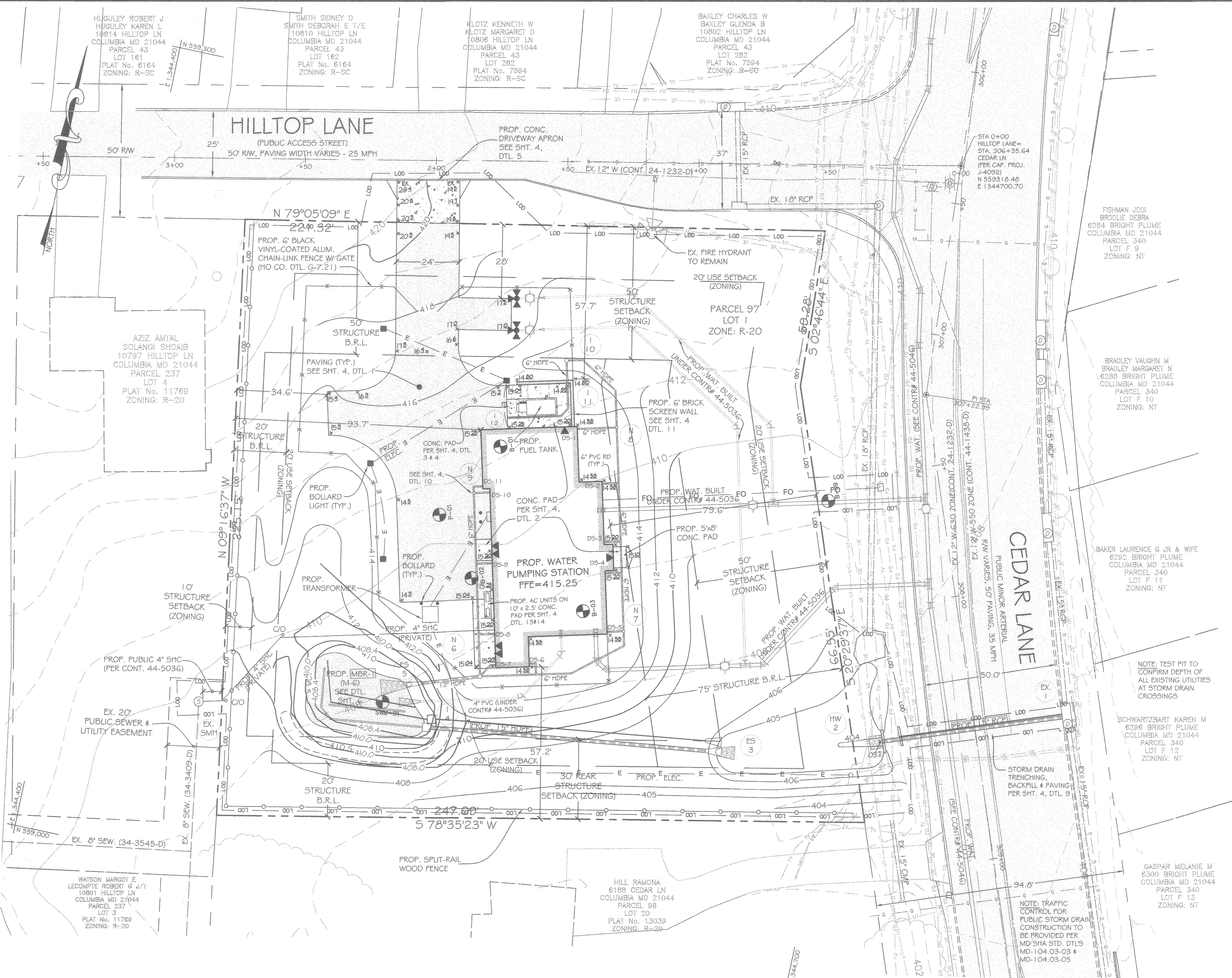
GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

PREPARED FOR:
 OWNER:
 DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 9250 BENDIX ROAD
 COLUMBIA, MD 21045
 (410)-313-2040

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 17285
 EXPIRATION DATE: MARCH 17, 2028

EXISTING CONDITIONS PLAN
CEDAR LANE WATER PUMPING STATION
LOT 1 BLOCK B

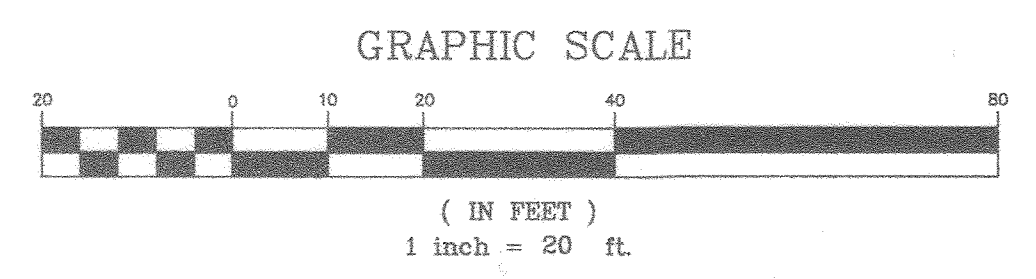
SCALE 1"=20'	ZONING R-20	G. L. W. FILE NO. 16018
DATE JUNE 2018	TAX MAP - GRID 35-11	SHEET 2 OF 12



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 DES. EWM DRN. EWM CHK. TMR

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Nacarin Zifli* 8-2-18
 Chief, Division of Land Development: *Wade S. Lusk* 8-02-18
 Chief, Development Engineering Division: *Chad Clark* 7-24-18

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
 OWNER:
 DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 9250 BENDIX ROAD
 COLUMBIA, MD 21045
 (410)-313-2040

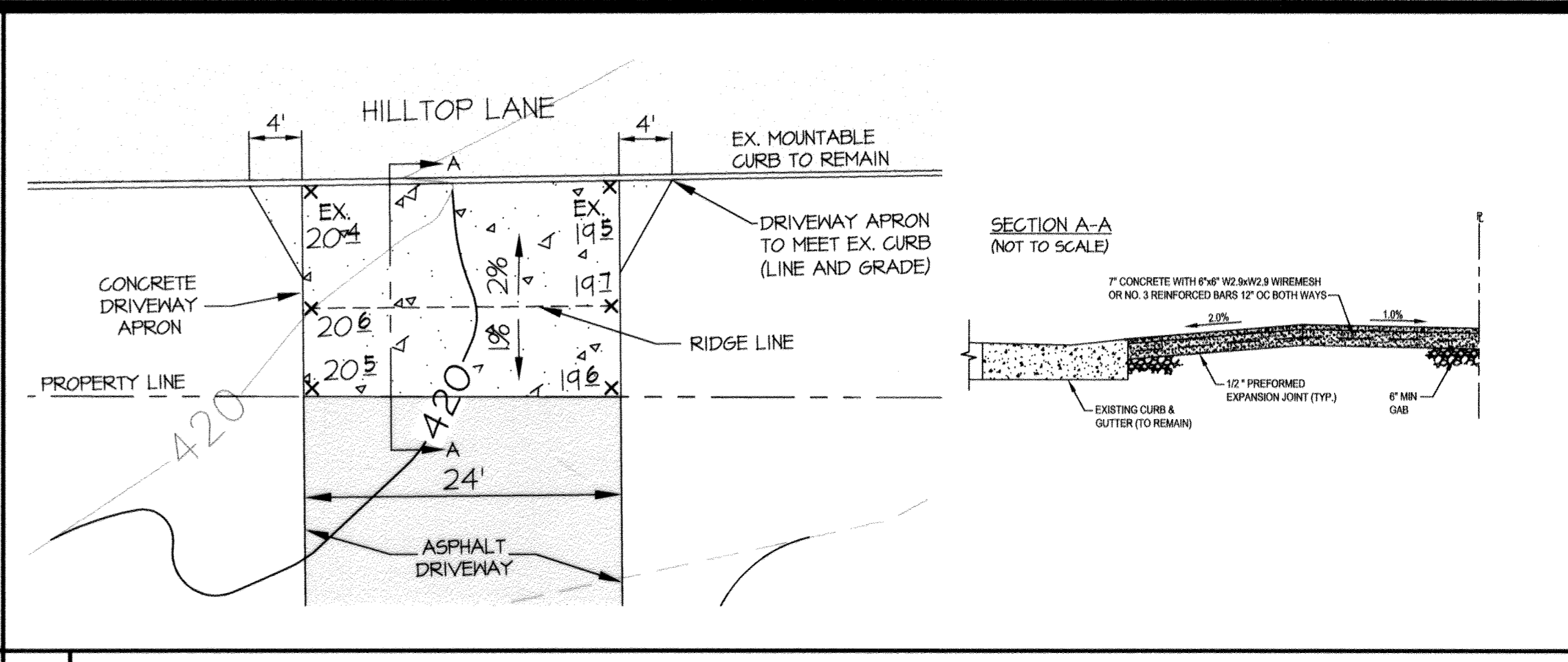
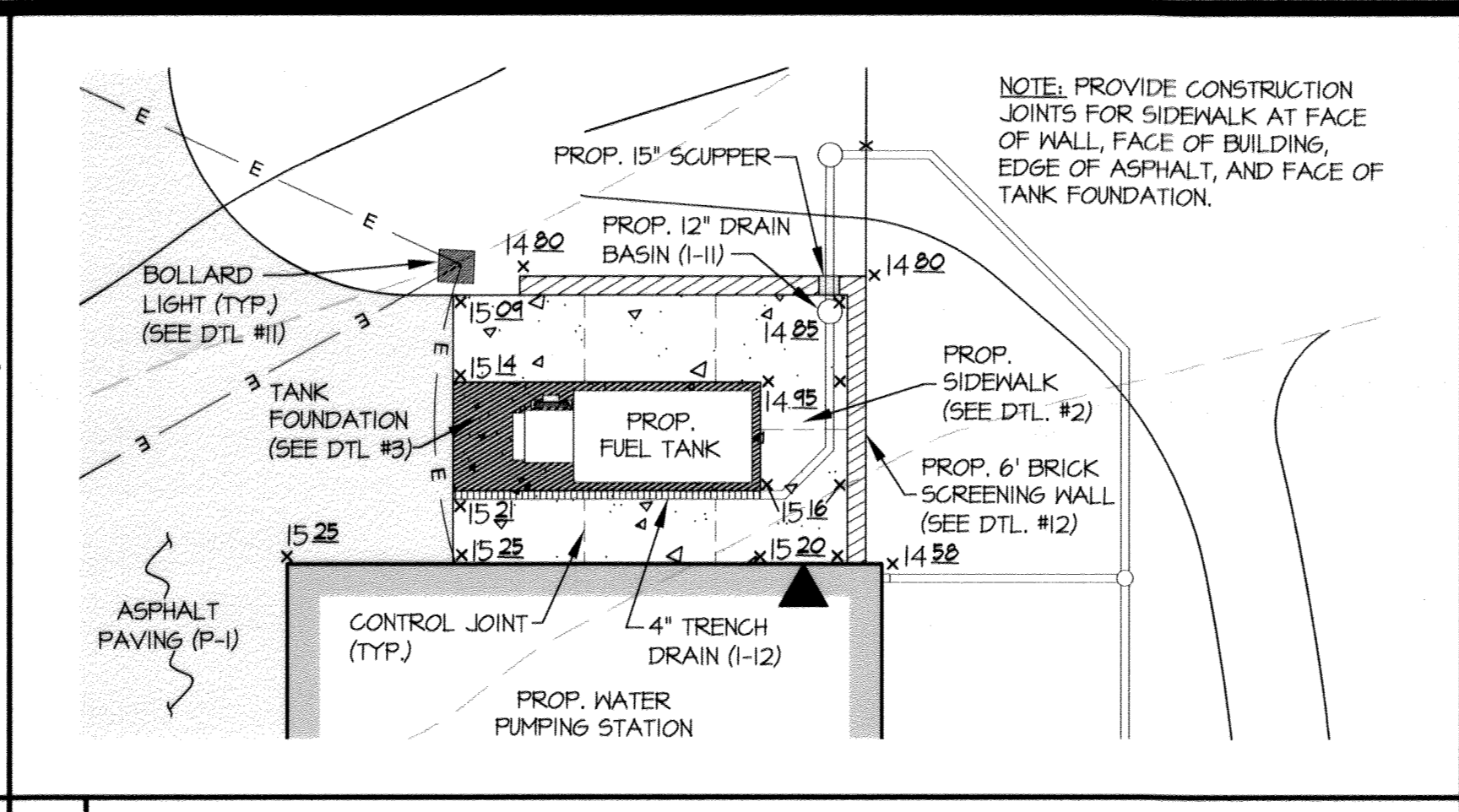
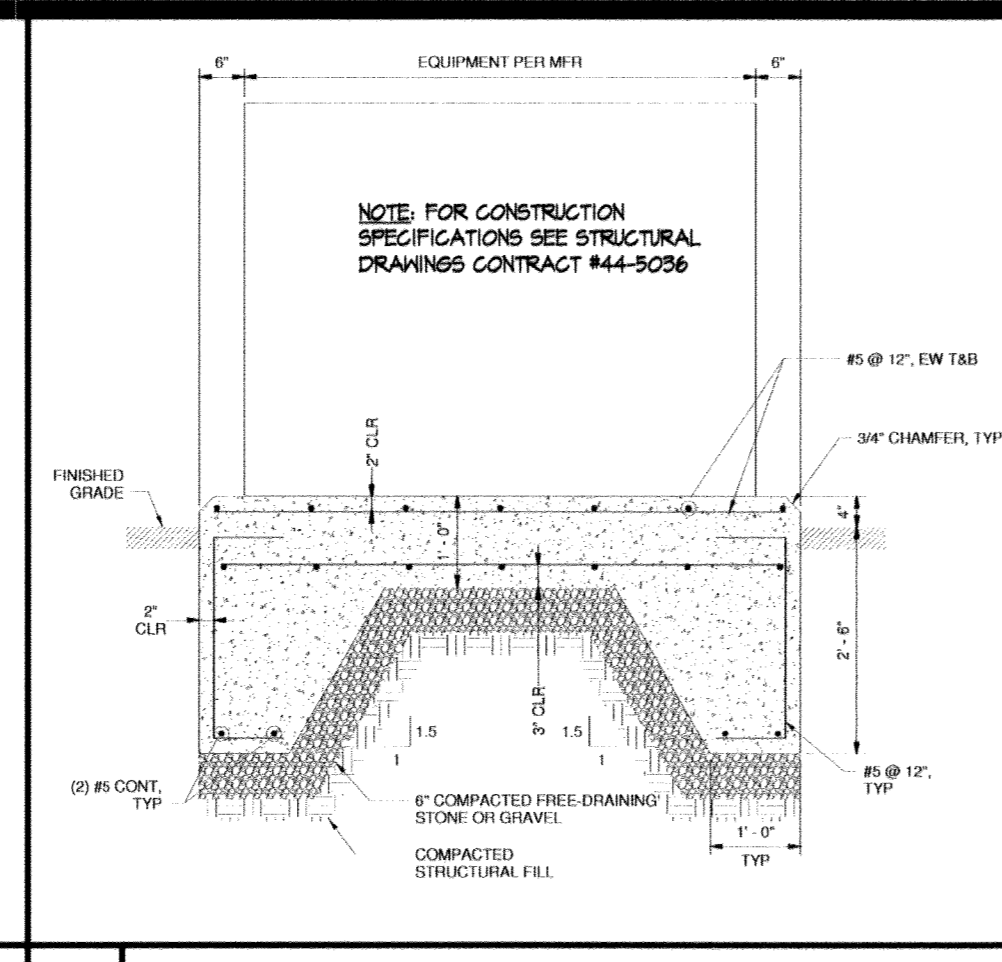
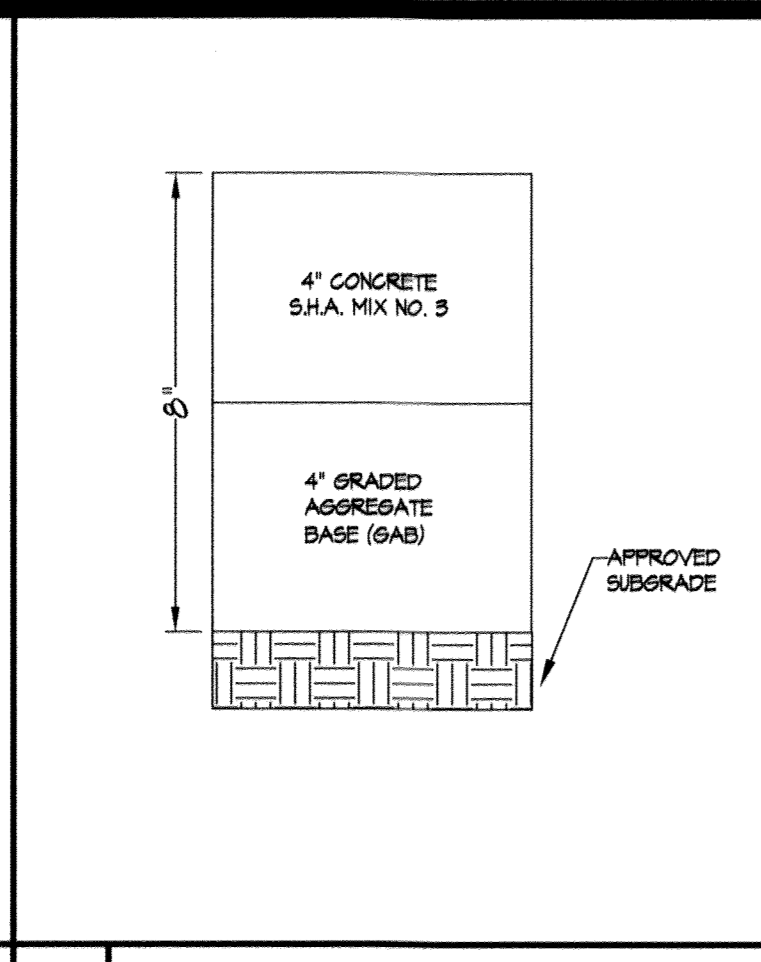
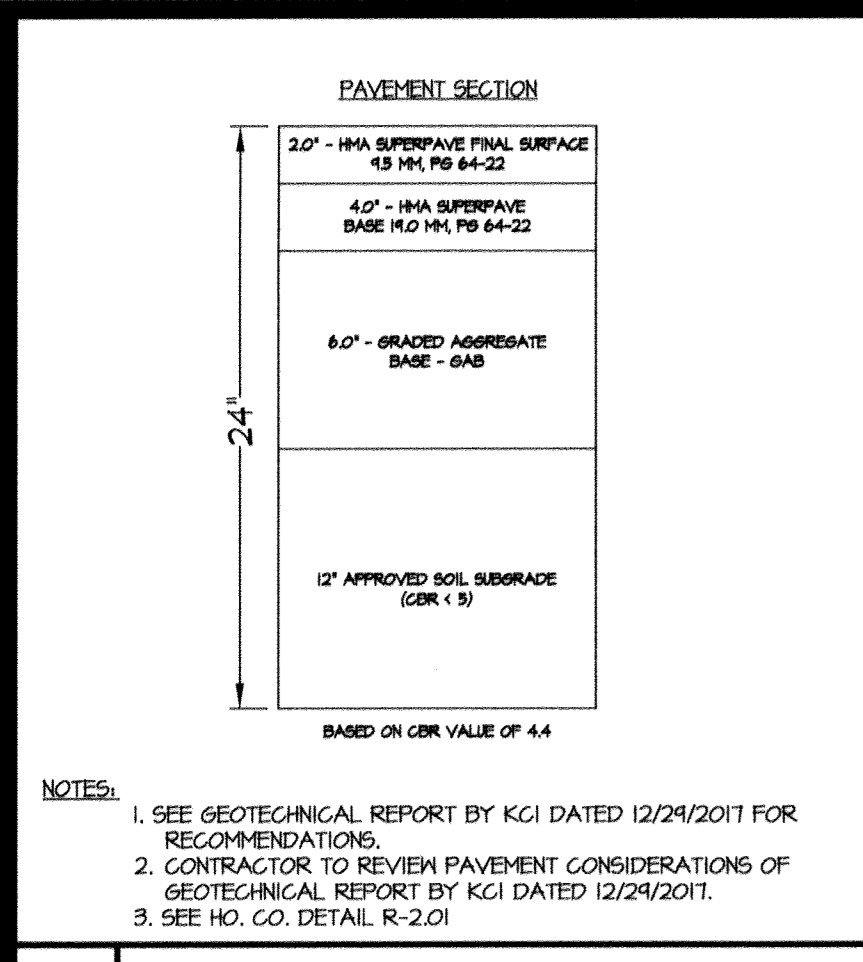
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 11285
 EXPIRATION DATE: MARCH 31, 2019

ASBUILT SITE DEVELOPMENT PLAN
CEDAR LANE WATER PUMPING STATION
LOT 1 BLOCK B
 ELECTION DISTRICT No. 05
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=20'	R-20	16018
DATE	TAX MAP - GRID	SHEET
MARCH 2021 JUNE 2018	35-11	3 OF 12

ASBUILT 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. 11285, EXPIRATION DATE: MARCH 31, 2019.
 DATE: 3.18.21
 TODD M. REDDAN, P.E.
 MARYLAND REG. NO. 11285
 FORGIVENA

ASBUILT SHEET 2 OF 4



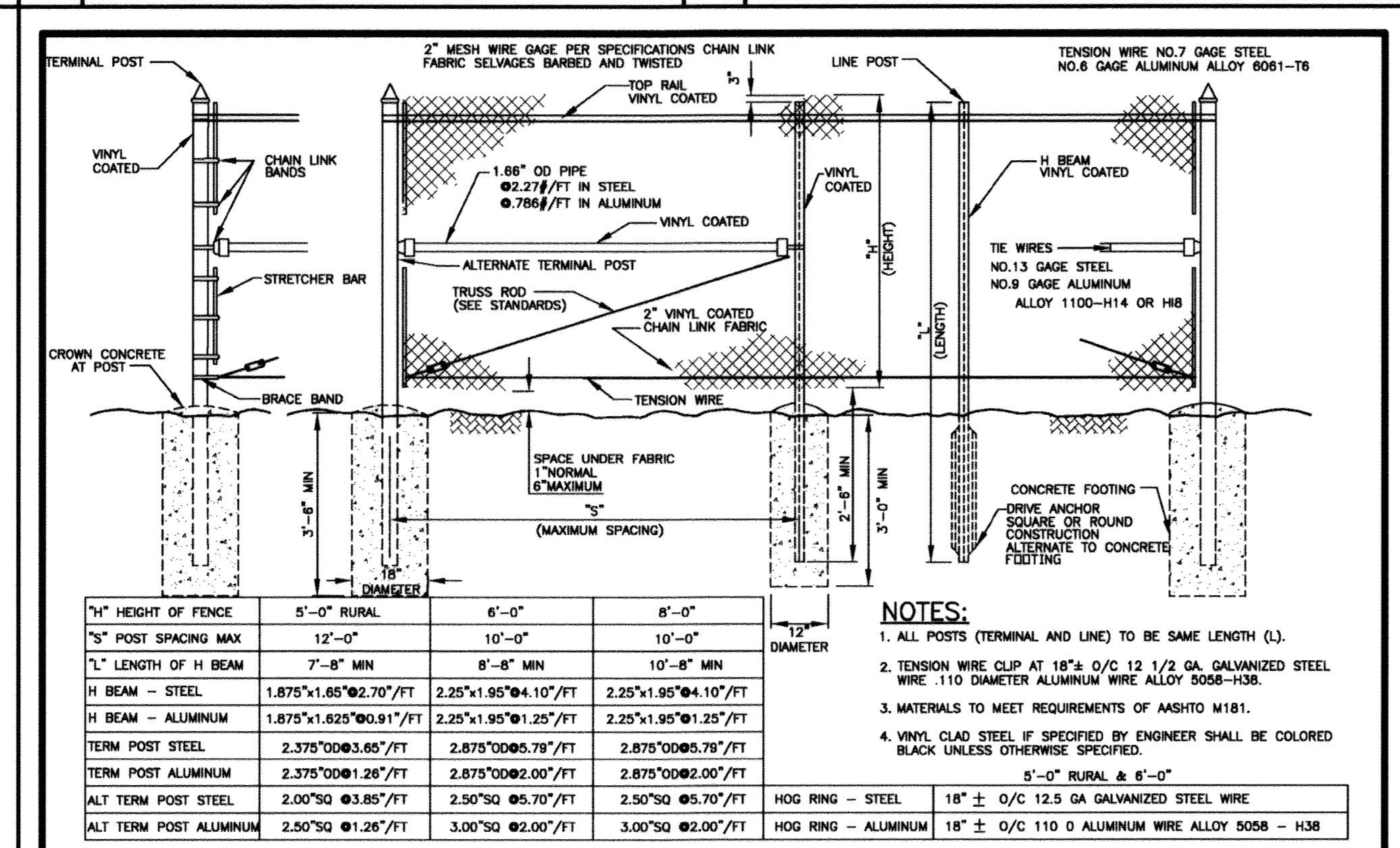
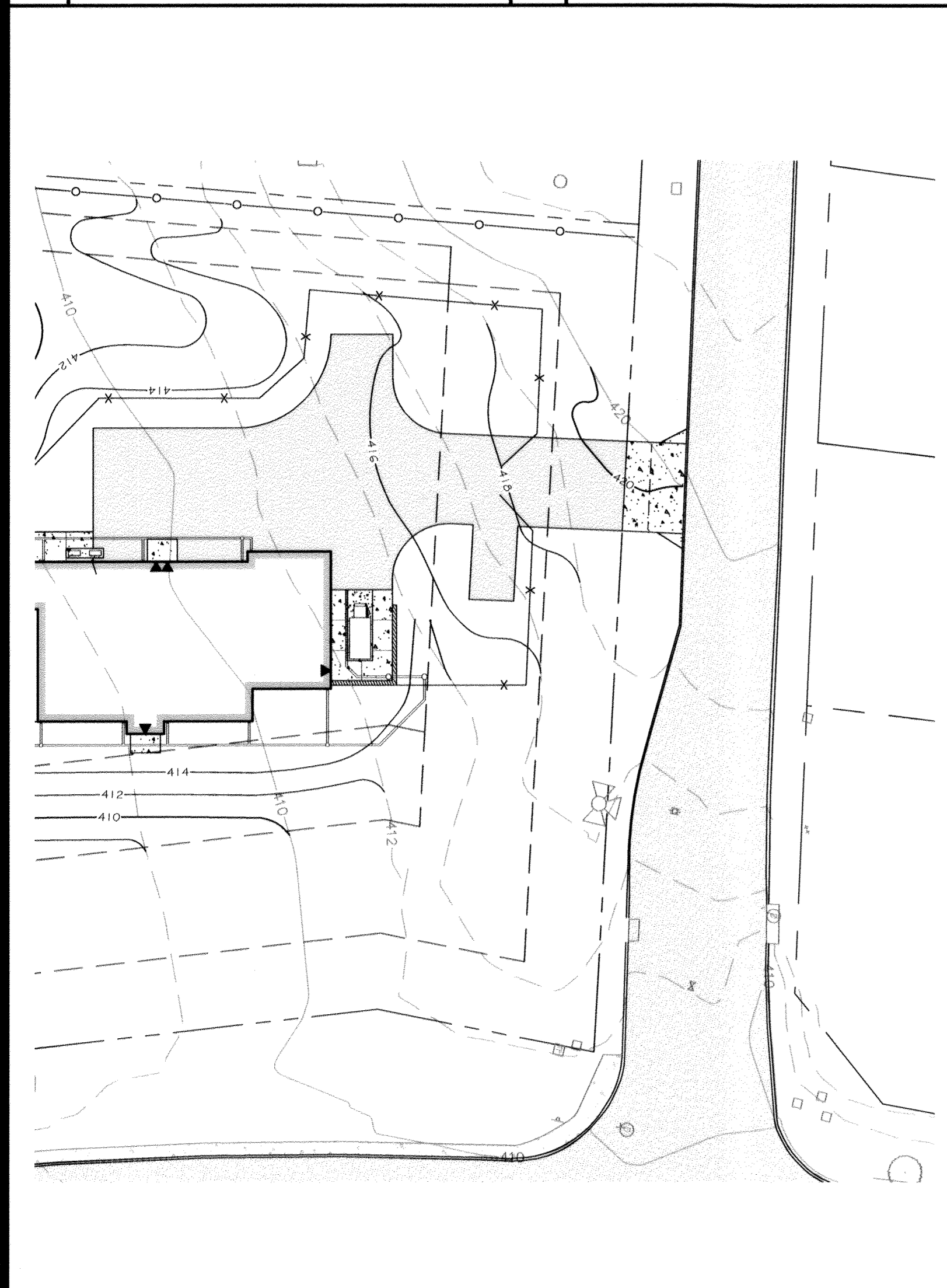
1 BITUMINOUS PAVING SECTION NO SCALE

2 CONCRETE PAVING SECTION NO SCALE

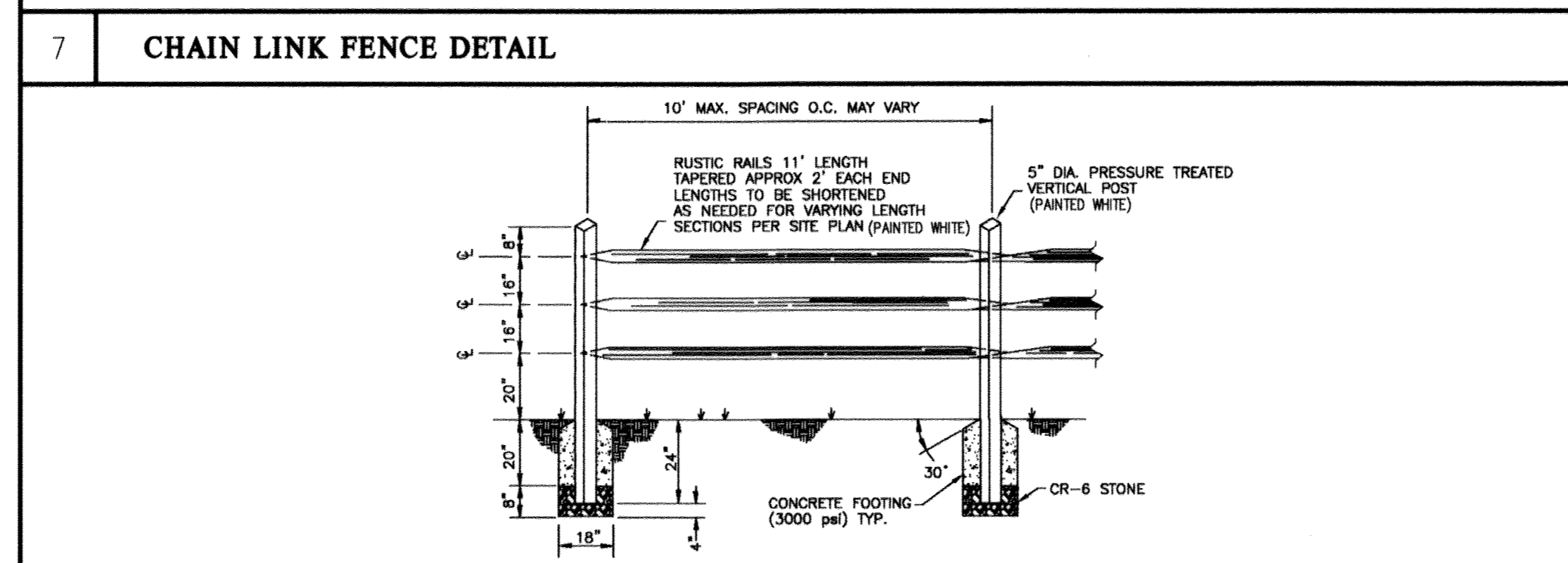
3 FUEL TANK FOUNDATION NO SCALE

4 FUEL TANK AREA DETAIL SCALE: 1" = 10'

5 CONCRETE DRIVEWAY APRON DETAIL SCALE: 1" = 10'

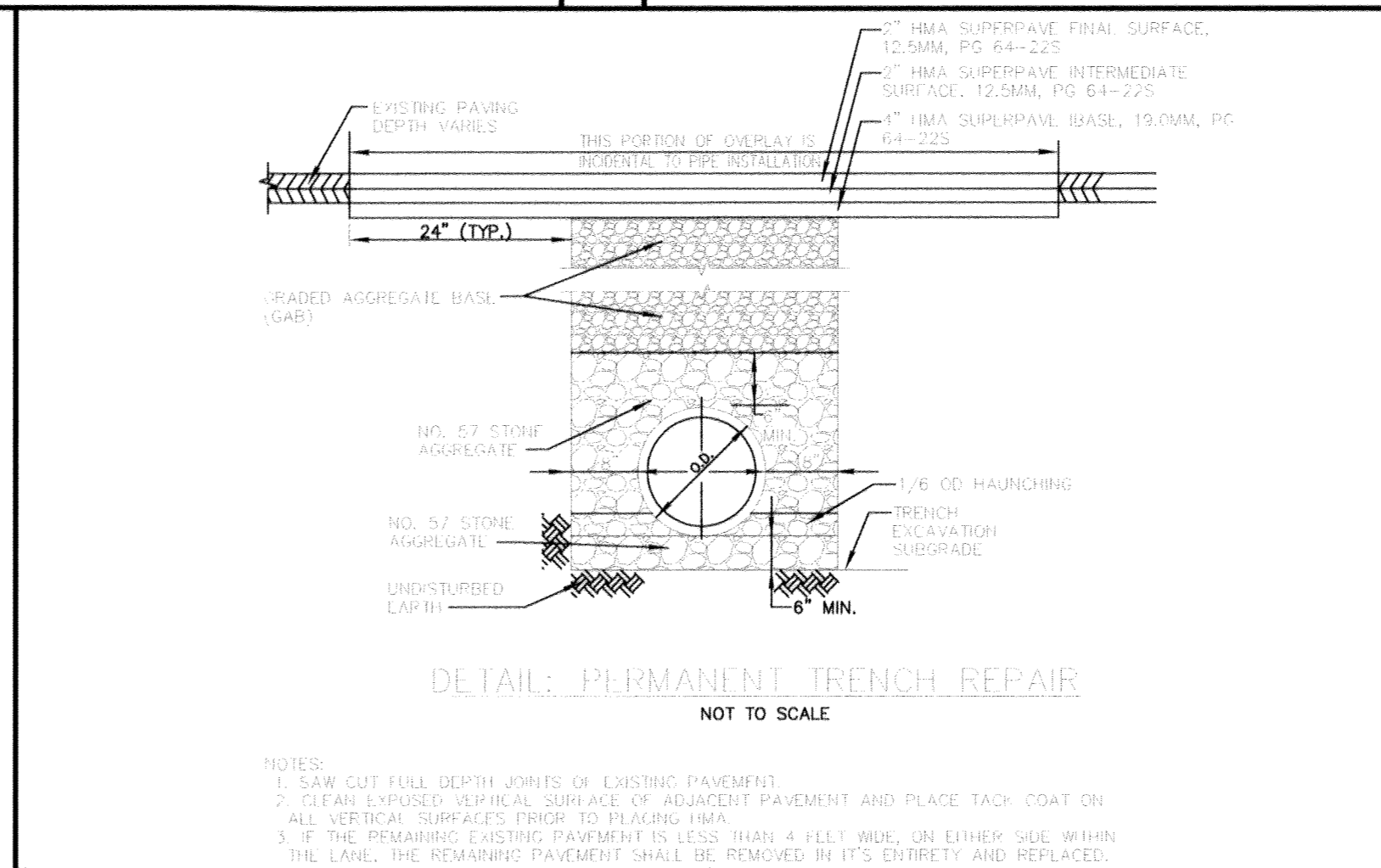


"H" HEIGHT OF FENCE	5'-0" RURAL	6'-0"	8'-0"
"S" POST SPACING MAX	12'-0"	10'-0"	10'-0"
"L" LENGTH OF H BEAM	7'-8" MIN	8'-8" MIN	10'-8" MIN
H BEAM - STEEL	1.875"x1.65"x0.270"/FT	2.25"x1.95"x0.107"/FT	2.25"x1.95"x0.107"/FT
H BEAM - ALUMINUM	1.875"x1.625"x0.917"/FT	2.25"x1.95"x0.125"/FT	2.25"x1.95"x0.125"/FT
TERM POST STEEL	2.375"x0.003x3.657"/FT	2.875"x0.005x3.787"/FT	2.875"x0.005x3.787"/FT
TERM POST ALUMINUM	2.375"x0.003x3.657"/FT	2.875"x0.002x3.007"/FT	2.875"x0.002x3.007"/FT
ALT TERM POST STEEL	2.00"x0.385"/FT	2.50"x0.570"/FT	2.50"x0.570"/FT
ALT TERM POST ALUMINUM	2.50"x0.385"/FT	3.00"x0.200"/FT	3.00"x0.200"/FT

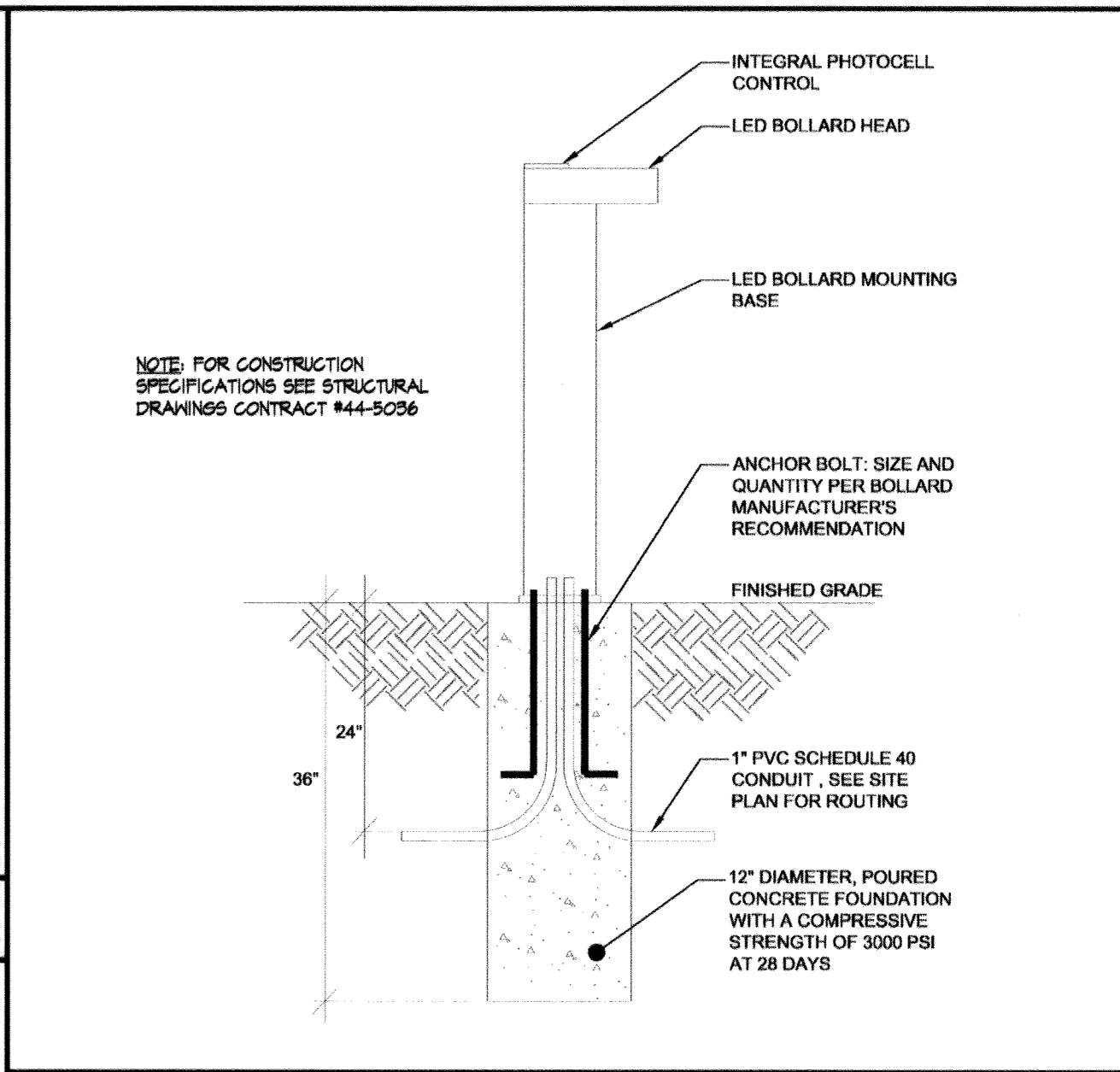


6 FIRE ACCESS PLAN SCALE: 1" = 30'

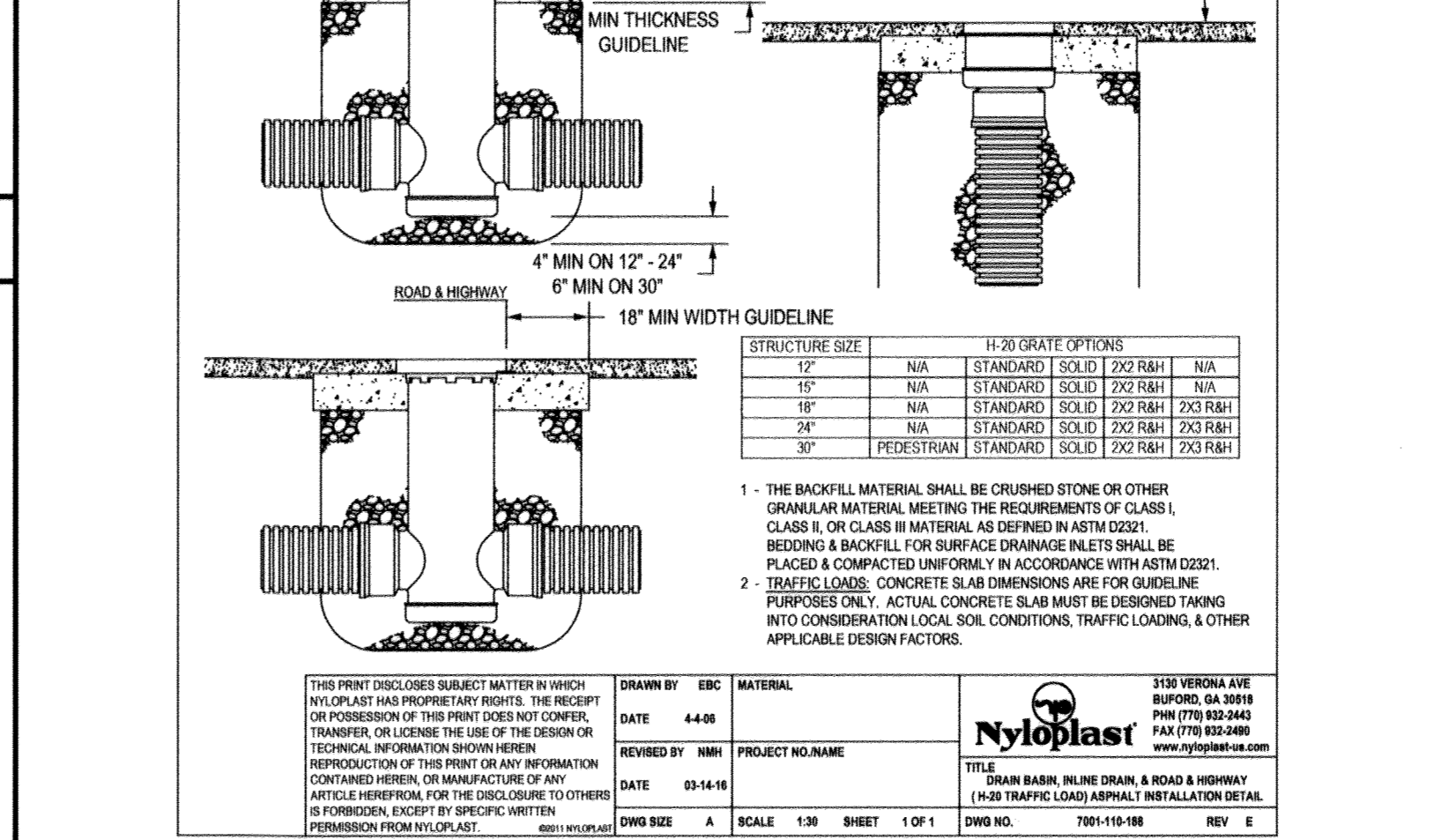
7 CHAIN LINK FENCE DETAIL NO SCALE



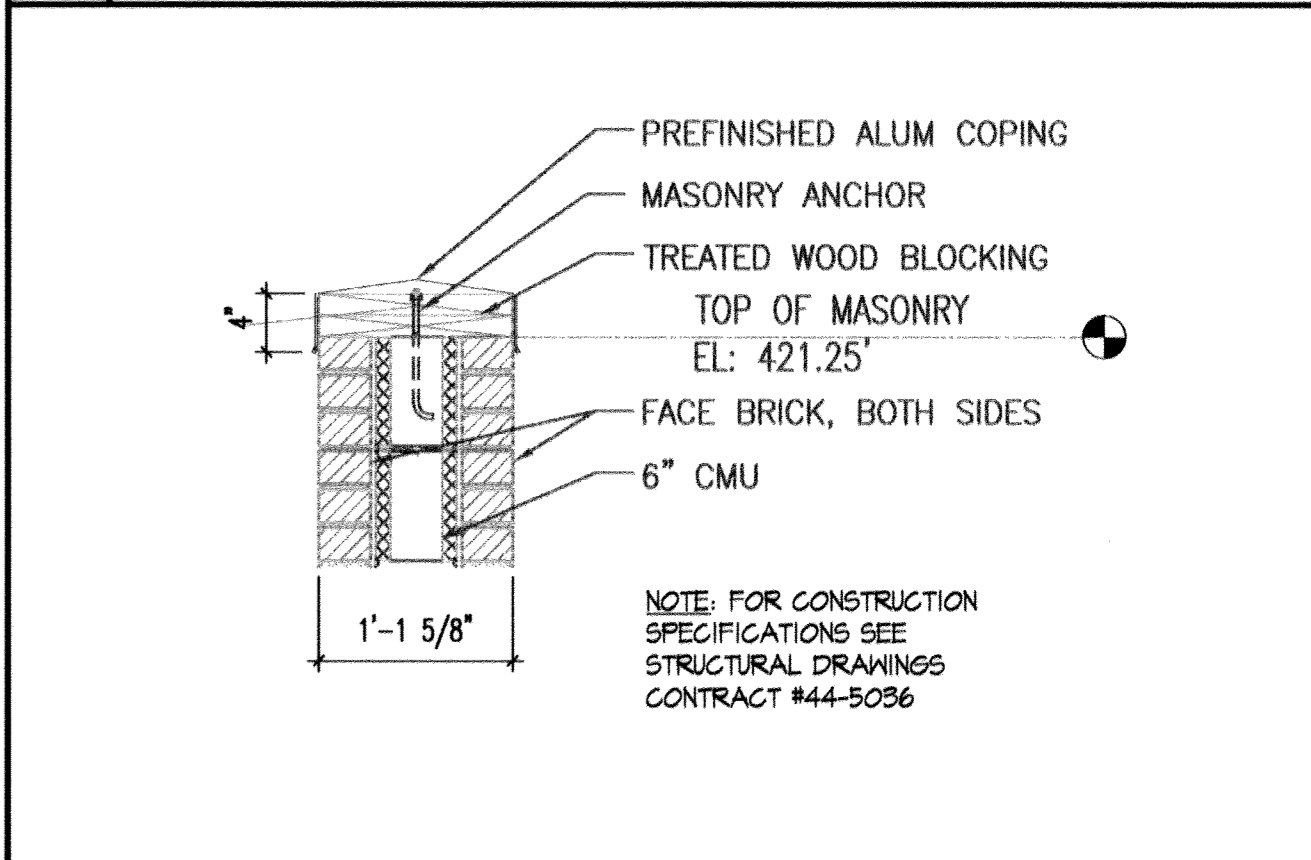
9 PERMANENT TRENCH REPAIR NO SCALE



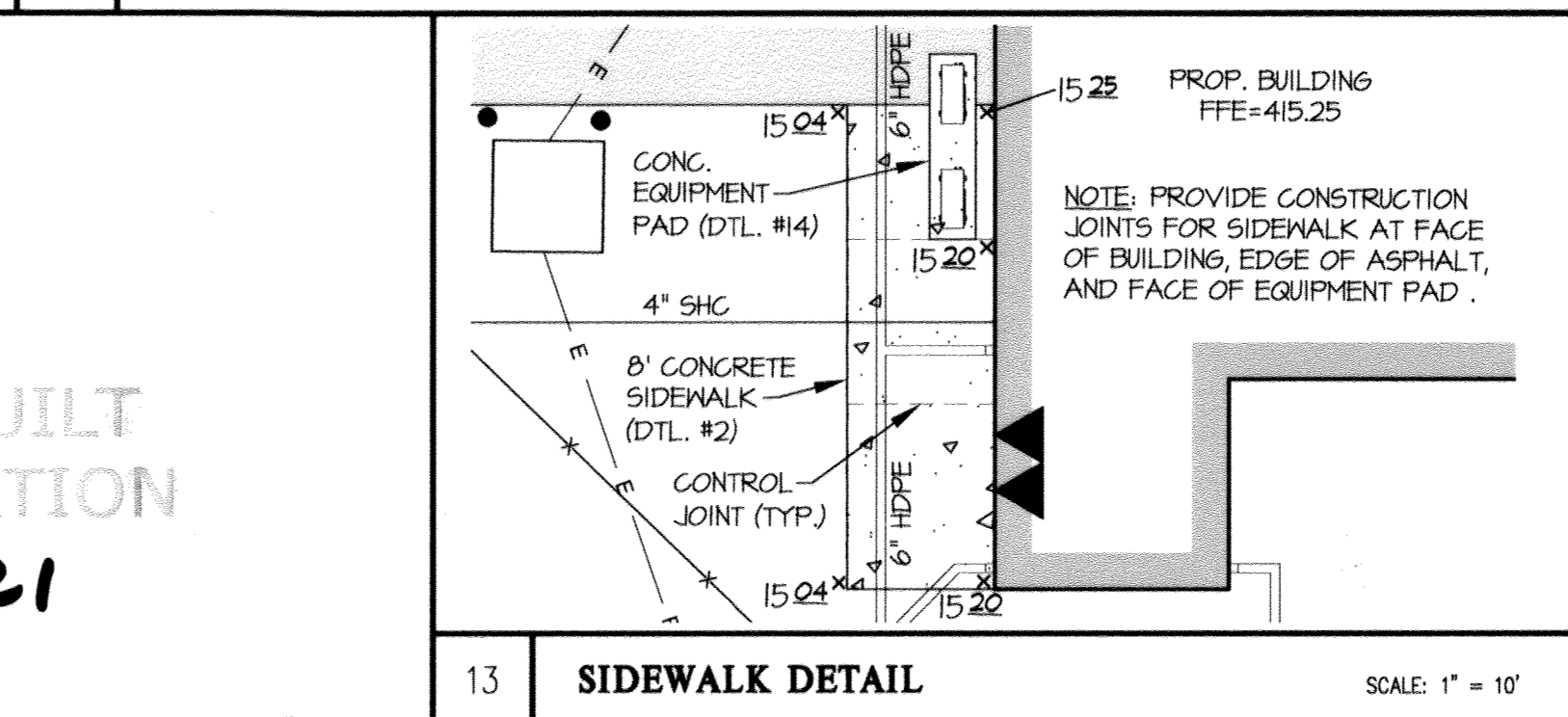
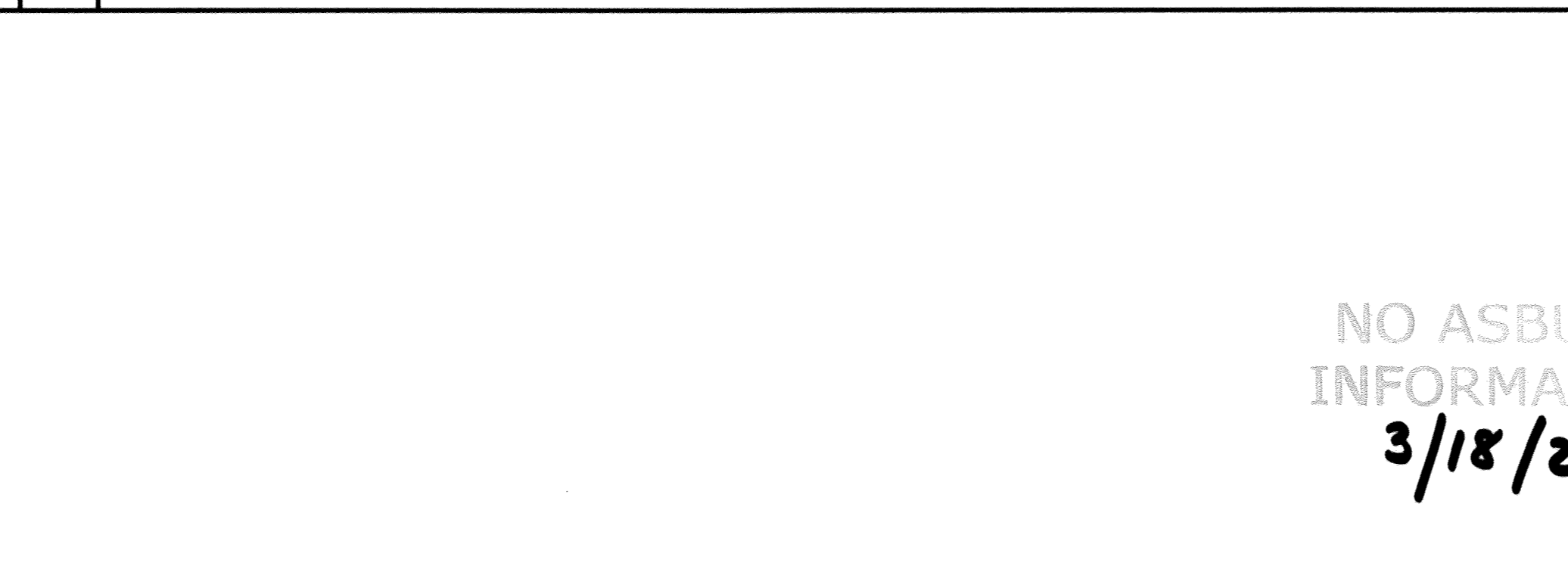
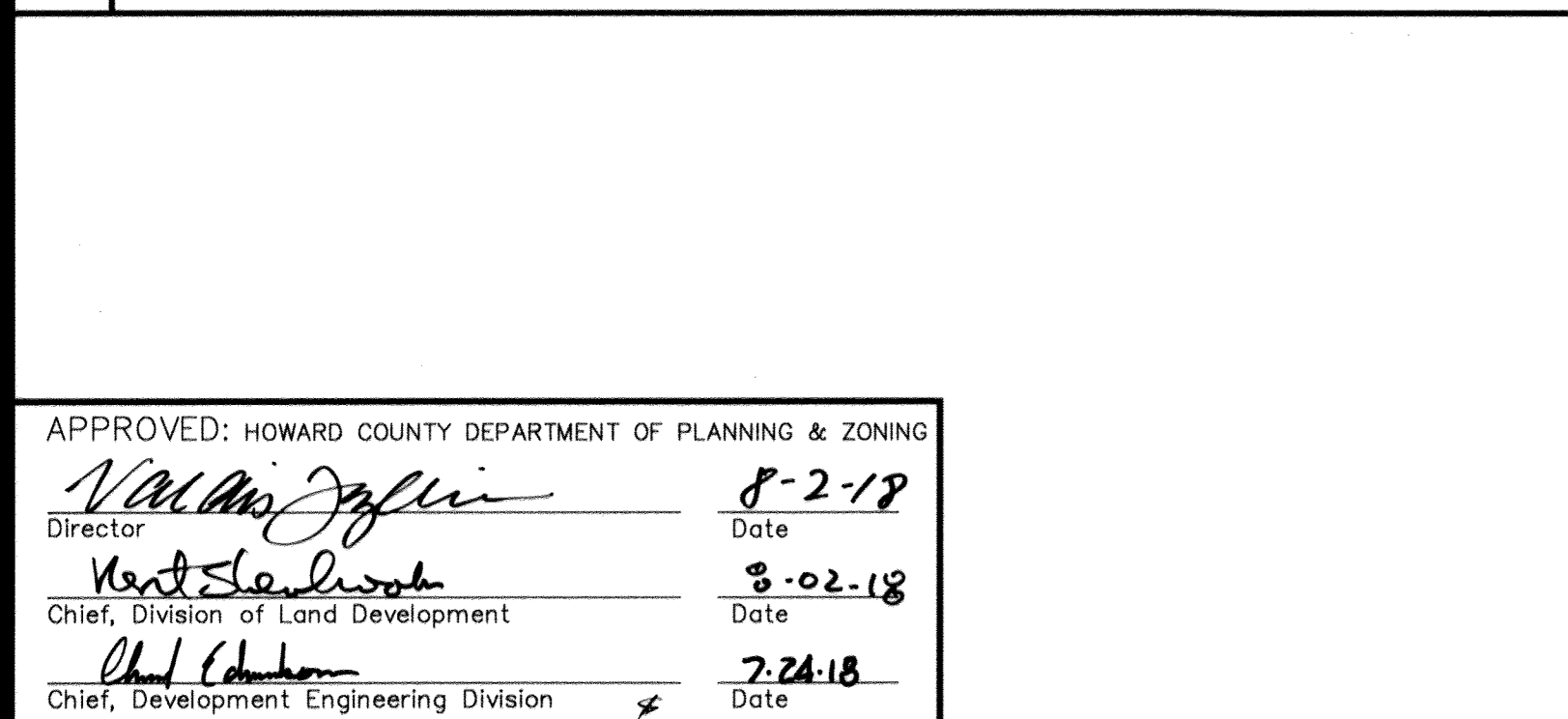
11 BOLLARD LIGHTING DETAIL NO SCALE



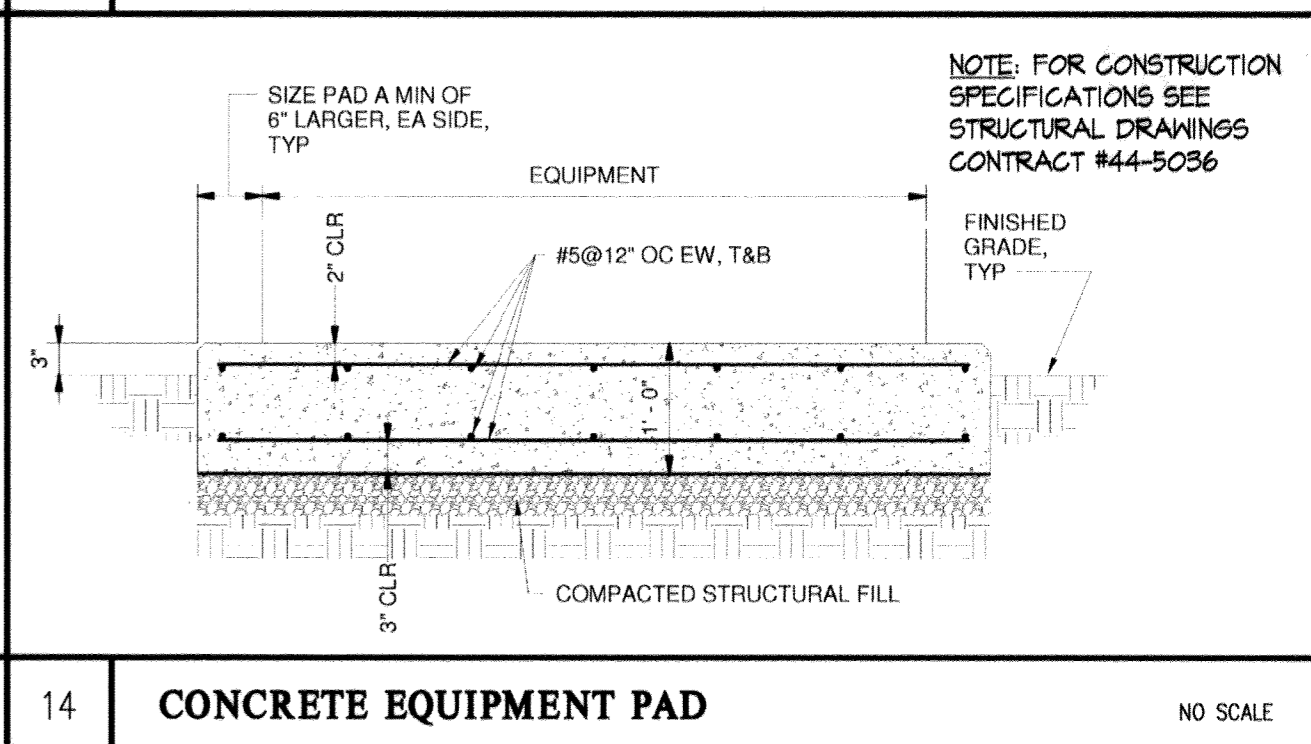
10 DRAIN BASIN - ASPHALT INSTALLATION DETAIL NO SCALE



12 SCREEN WALL TYPICAL SECTION NO SCALE



13 SIDEWALK DETAIL SCALE: 1" = 10'



14 CONCRETE EQUIPMENT PAD NO SCALE

GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
 BURTONSVILLE, MARYLAND 20866
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

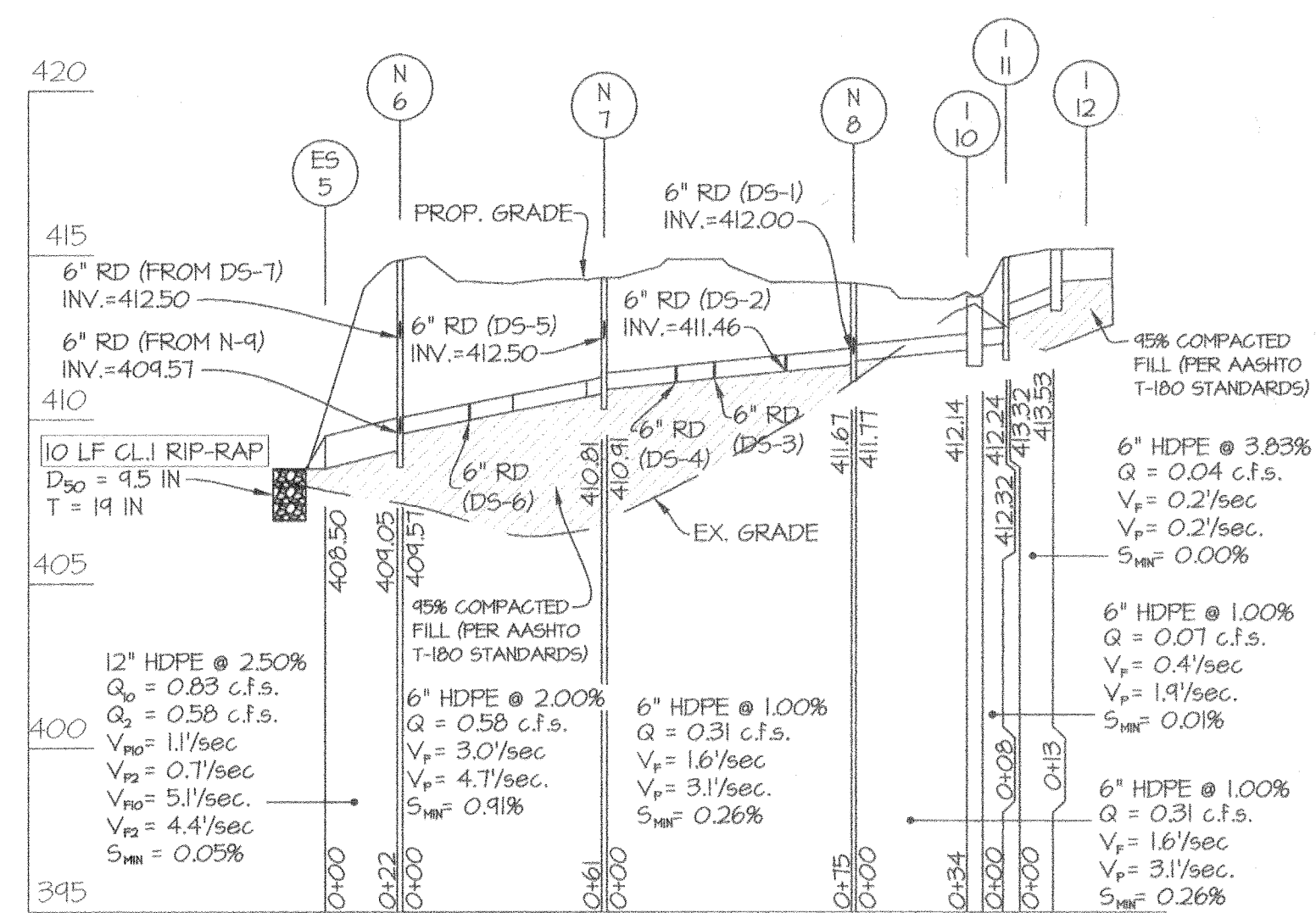
DATE	REVISION	BY	APP'R.

PREPARED FOR:
 OWNER:
 DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 9250 BENDIX ROAD
 COLUMBIA, MD 21045
 (410)-313-2040

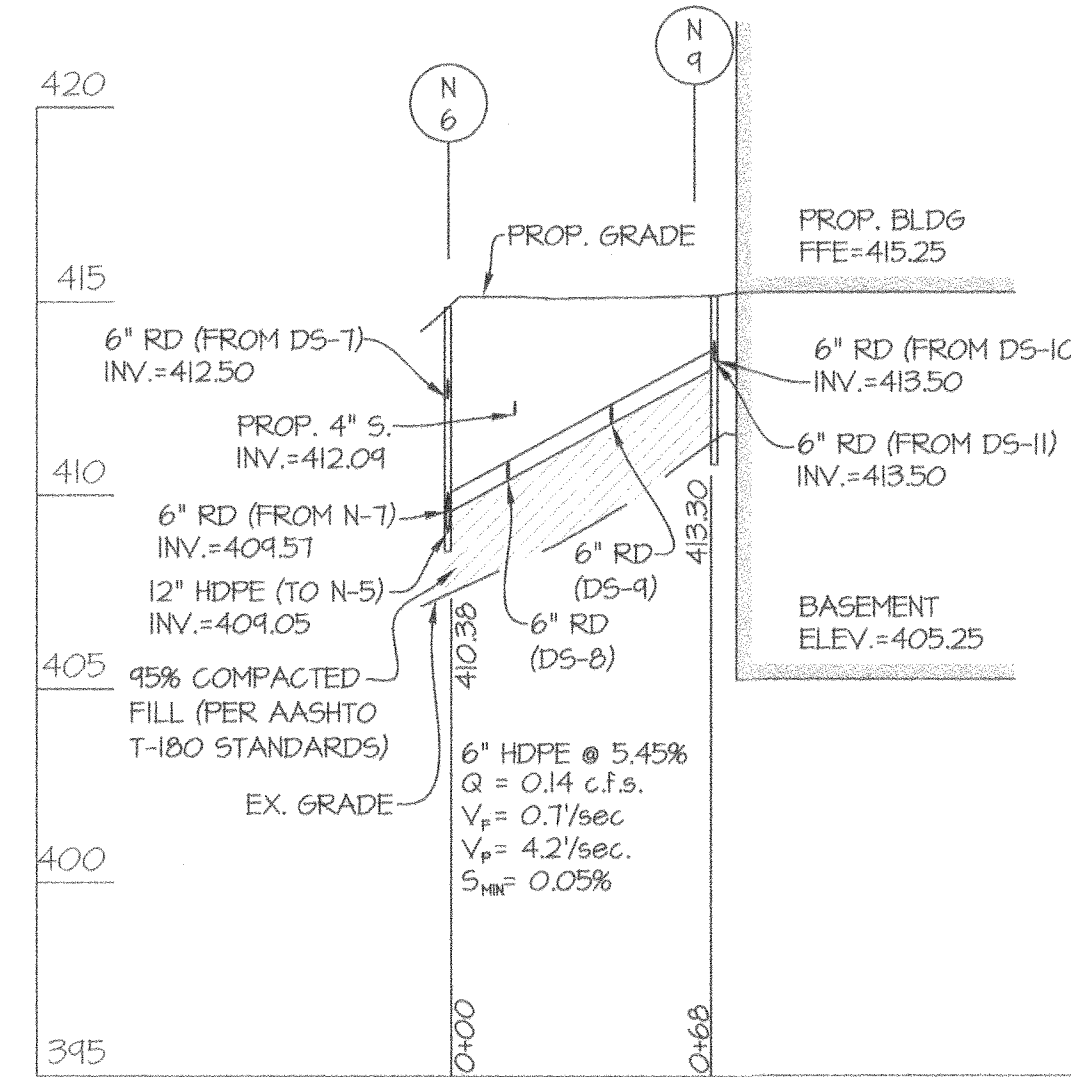
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
 LICENSE NO. 17225
 EXPIRATION DATE: MARCH 11, 2018

CEDAR LANE WATER PUMPING STATION
 LOT 1 BLOCK B
 SCALE: 1" = 20'
 ZONING: R-20
 G. L. W. FILE NO.: 16018
 DATE: JUNE 2018
 TAX MAP - GRID: 35-11
 SHEET: 4 OF 12
 HOWARD COUNTY, MARYLAND

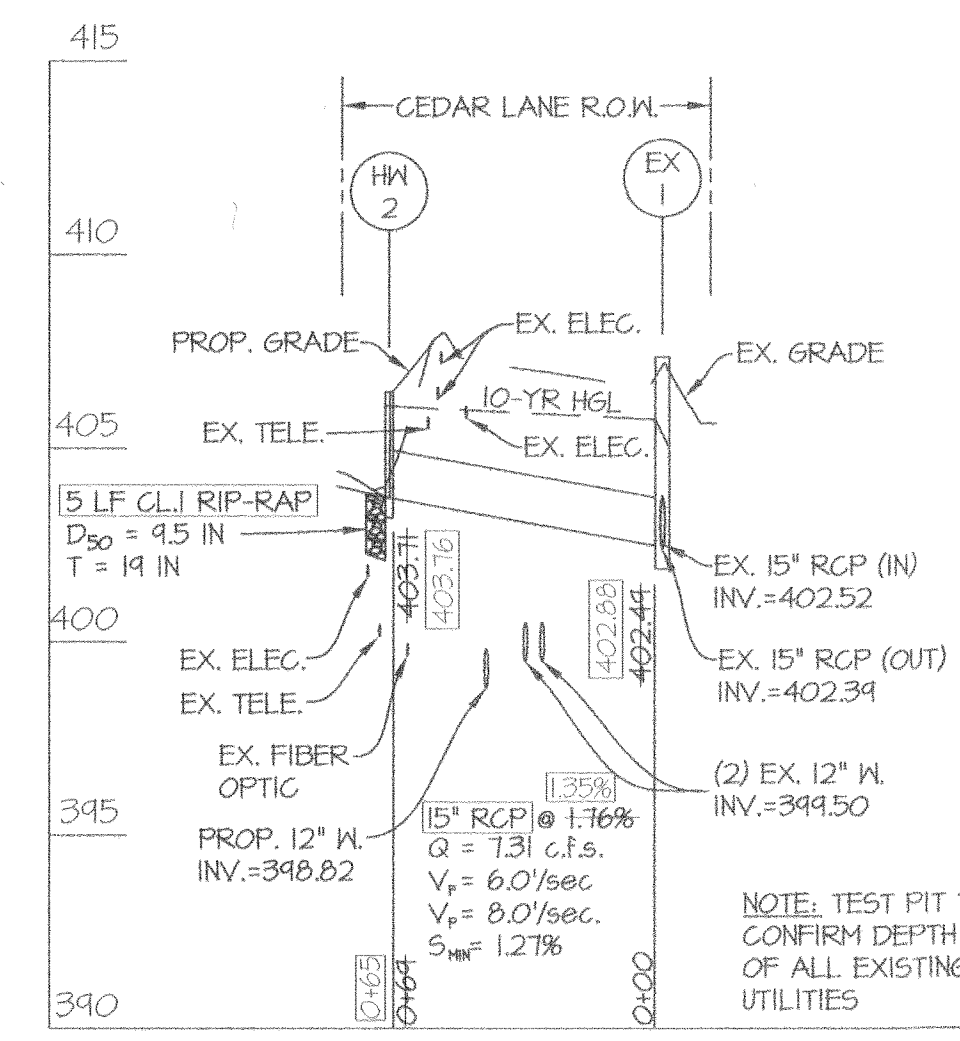
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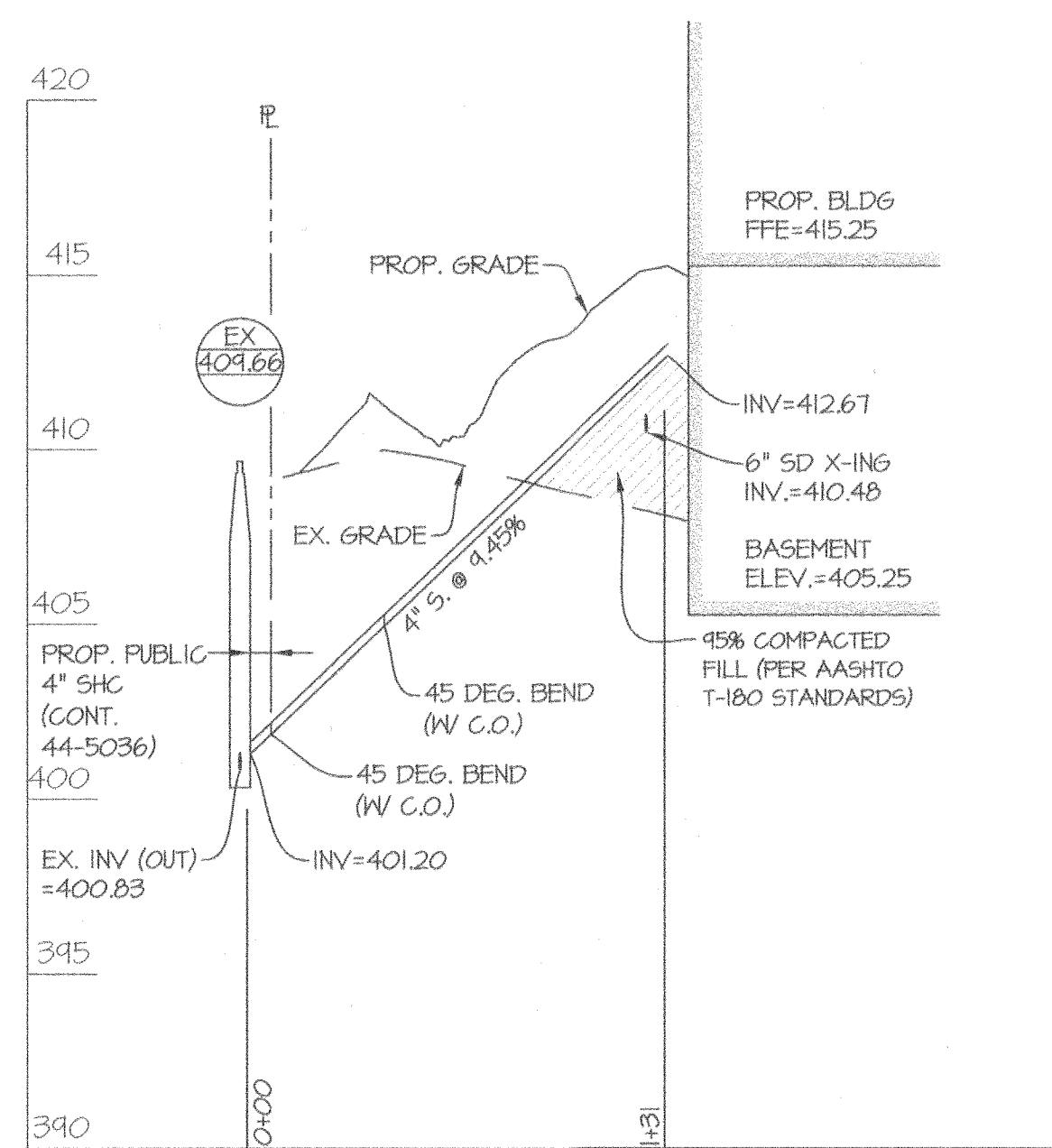
PRIVATE ROOF DRAIN PROFILES
SCALE: 1"=50' (HORIZ.)
1"=5' (VERT.)



PRIVATE STORM DRAIN PROFILE
SCALE: 1"=50' (HORIZ.)
1"=5' (VERT.)



PUBLIC STORM DRAIN PROFILE
SCALE: 1"=50' (HORIZ.)
1"=5' (VERT.)



PRIVATE SEWER PROFILE
SCALE: 1"=50' (HORIZ.)
1"=5' (VERT.)

PIPE SCHEDULE			
SIZE	TYPE	QUANTITY (LF)	REMARKS
6"	PVC	87	SLOTTED
6"	HDPE	323	
12"	HDPE	22	
15"	HDPE	105	
15"	RCP	64	CLASS IV

HDPE INDICATES HIGH DENSITY POLYETHYLENE PIPE, SUCH AS N-12 BY ADS, OR HI-Q BY HANGOR OR AN APPROVED EQUAL. ALL RCP PIPE IS TO BE CLASS IV. TRENCH BEDDING TO BE PROVIDED PER HOWARD COUNTY DETAIL 6 211 & 6 212 RESPECTIVELY.

PRIVATE WATER / SEWER QUANTITIES				
ITEMS	ESTIMATED QUANTITIES	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
4" SEWER PVC SDR 35	131 LF			

NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION				INVERT				STD. DETAIL	LOCATION	REMARKS
			PROPOSED		AS-BUILT		PROPOSED		AS-BUILT				
			UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER			
HN-2	HEADWALL	15"	405.71	405.71	405.76	405.76	403.71	---	403.76	403.76	HO. CO. D-521	SEE SHEET C-202	

NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION				INVERT				STD. DETAIL	LOCATION	REMARKS
			PROPOSED		AS-BUILT		PROPOSED		AS-BUILT				
			UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER			
ES-3	HDPE END SECTION	15"	405.45	---	405.74	405.74	404.70	---	404.49	404.49	PER MANUFACTURER	SEE SHEET C-202	
I-4	YARD INLET	51D	404.50*	---	404.20	404.20	405.42	405.42	405.33	405.33	HO. CO. D-412	SEE SHEET C-202	
ES-5	HDPE END SECTION	12"	404.50	---	404.40	404.40	408.50	---	408.40	408.40	PER MANUFACTURER	SEE SHEET C-202	
N-6	NYLOPLAST DRAIN BASIN	18"	414.80*	---	---	---	412.50	404.05	---	---	NYLOPLAST DRAIN	SEE SHEET C-202	SOLID GRATE
N-7	NYLOPLAST DRAIN BASIN	12"	414.31*	---	---	---	412.50	410.81	---	---	NYLOPLAST DRAIN	SEE SHEET C-202	SOLID GRATE
N-8	NYLOPLAST DRAIN BASIN	12"	414.15*	---	---	---	412.00	411.67	---	---	NYLOPLAST DRAIN	SEE SHEET C-202	SOLID GRATE
N-4	NYLOPLAST DRAIN BASIN	12"	415.10*	---	---	---	413.50	413.30	---	---	NYLOPLAST DRAIN	SEE SHEET C-202	SOLID GRATE
I-10	NYLOPLAST DRAIN BASIN	18"	413.50*	---	---	---	412.24	412.14	---	---	NYLOPLAST DRAIN	SEE SHEET C-202	DOMED GRATE
I-II	NYLOPLAST DRAIN BASIN	12"	414.91*	---	---	---	413.32	412.32	---	---	NYLOPLAST DRAIN	SEE SHEET C-202	STANDARD GRATE
I-12	TRENCH DRAIN	4"	415.21*	415.16*	---	---	413.53	---	---	---	ACO K-100	SEE SHEET C-203	TYPE 44TD GRATE

* ELEV. = GRATE ELEV.

ASBUILT 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. 11285, EXPIRATION DATE: MARCH 11, 2023.

3.18.21
DATE
TODD M. REDDAN, P.E.
MARYLAND REG. NO. 11285
FOR GLW&A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: *Nathan Joffe* 8-2-18
Chief, Division of Land Development: *Ken Schaefer* 8-02-18
Chief, Development Engineering Division: *Paul Elmer* 7.24.18

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE REVISION BY APPR.

PREPARED FOR:
OWNER:
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9250 BENDIX ROAD
COLUMBIA, MD 21045
(410)-313-2040

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 11285, EXPIRATION DATE: MARCH 11, 2023

TODD M. REDDAN, P.E.
MARYLAND REG. NO. 11285
3.18.21

ASBUILT UTILITY PROFILES
CEDAR LANE WATER PUMPING STATION
LOT 1 BLOCK B

ASBUILT SHEET 3 OF 4

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	R-20	16018
DATE: MARCH 2021 JUNE 2018	TAX MAP - GRID: 35-11	SHEET: 5 OF 12

HOWARD COUNTY, MARYLAND

ELECTION DISTRICT No. 05

GENERAL NOTES

- 1. MATERIAL SPECIFICATIONS:**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- 2. PLANTING SOIL:**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER E.0408.025.

- THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
- SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (SOIL TEXTURAL CLASSIFICATION)
 - ORGANIC CONTENT - MINIMUM 1.0% BY DRY WEIGHT (ASTM D 2914). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60% - 65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (80%) COARSE SAND (20%) AND COMPOST (40%).
 - CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
 - PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.

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

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

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

- ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

- WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18" DEEP. DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

- 4. PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

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

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

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

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

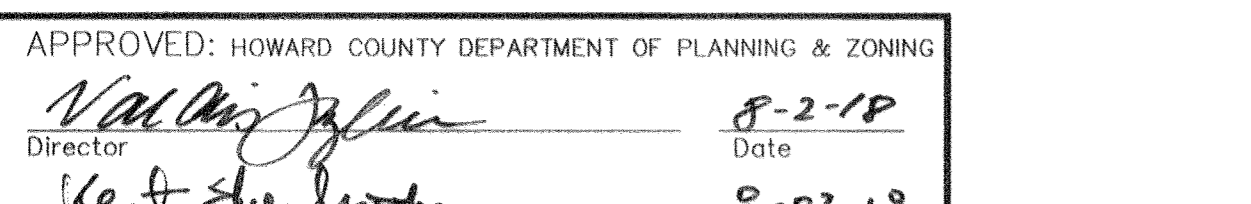
- THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS OR AT A MINIMUM, INERTS THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO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

- 6. UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
- PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 158, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).
 - PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER RIGID PIPE SHALL BE WRAPPED WITH A 1/2" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
 - GRAVEL - THE GRAVEL LAYER (NO. 51 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
 - THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
 - A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 10000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
 - A 4" LAYER OF #5A GRAVEL (10% TO 30% STONES) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24"

- THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

- 7. MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

- OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (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 AND 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.
 - THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE UNDERDRAINS WITHIN THE BIO-RETENTION LAYERS.
 - THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

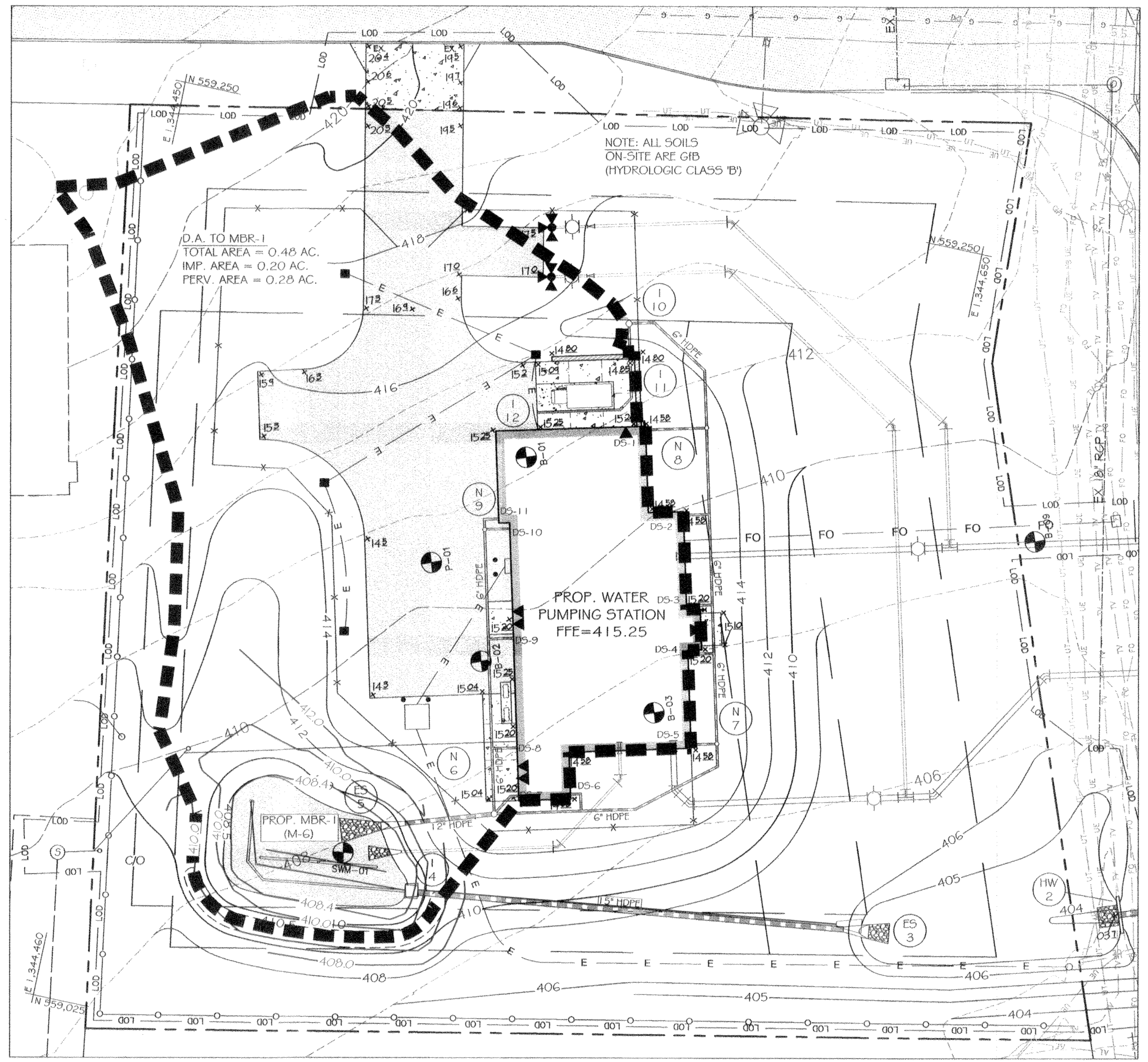
Nadine J. J. J. 8-2-18
Director Date

Kent S. S. 8-02-18
Chief, Division of Land Development Date

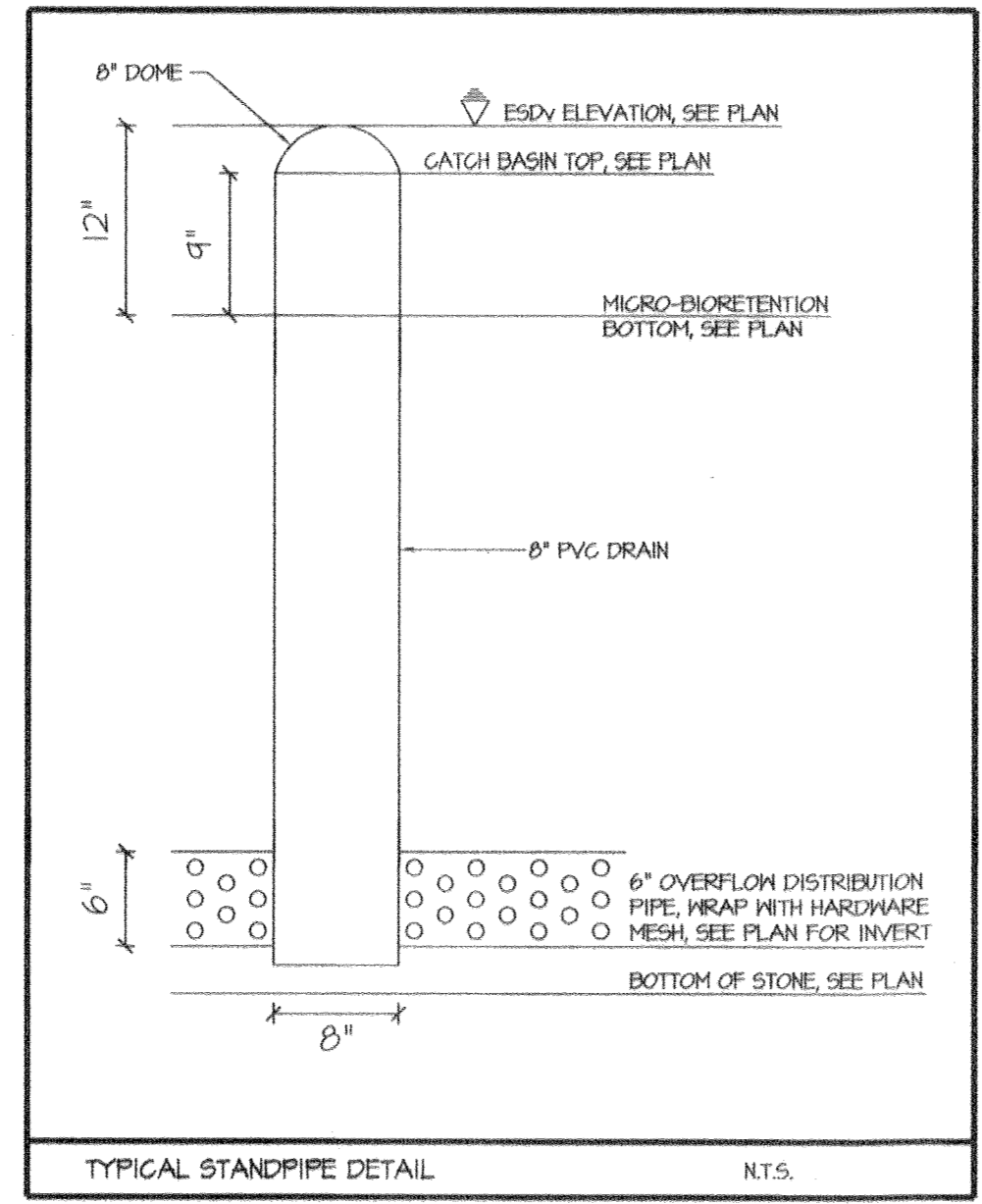
Chick 7-24-18
Chief, Development Engineering Division Date

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONVILLE OFFICE PARK
BURTONVILLE, MARYLAND 20866
TEL: 301-421-4024 FAX: 301-421-4188

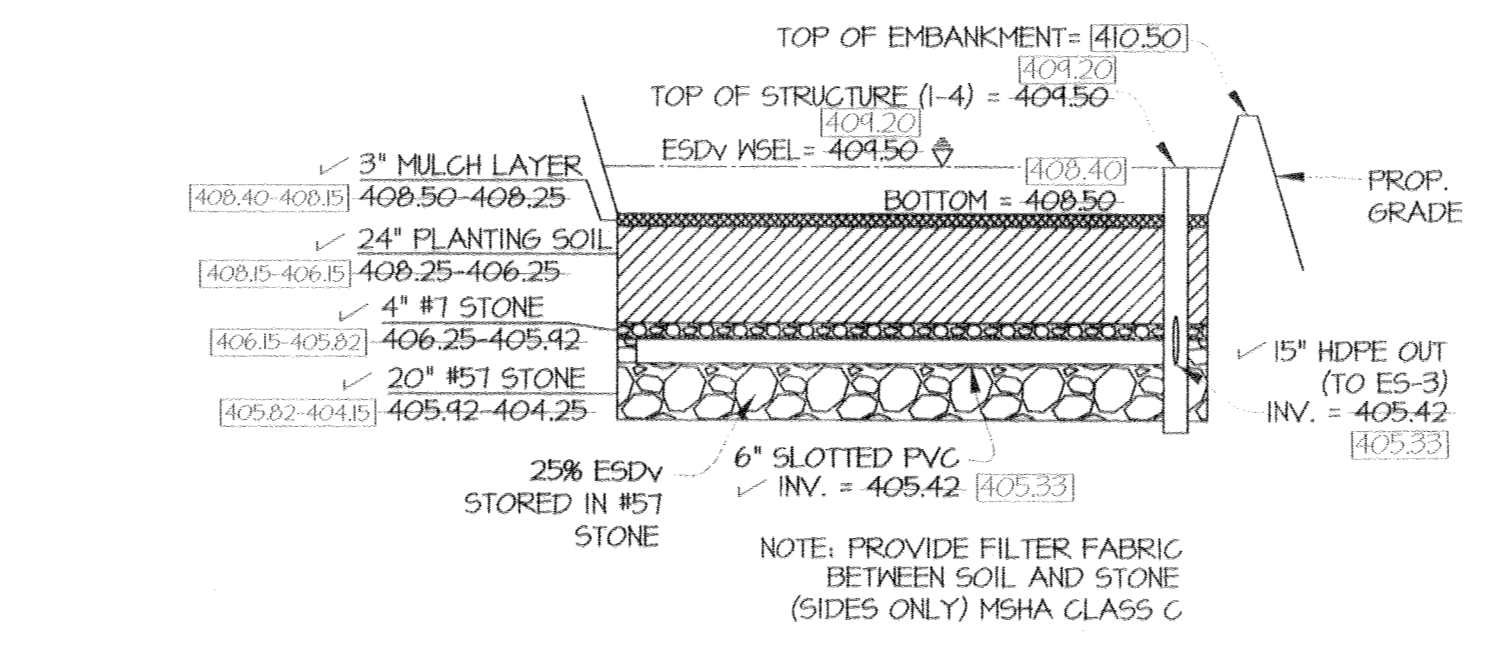
DES. EWM	DRN. EWM	CHK. TMR	DATE	REVISION	BY	APPR.
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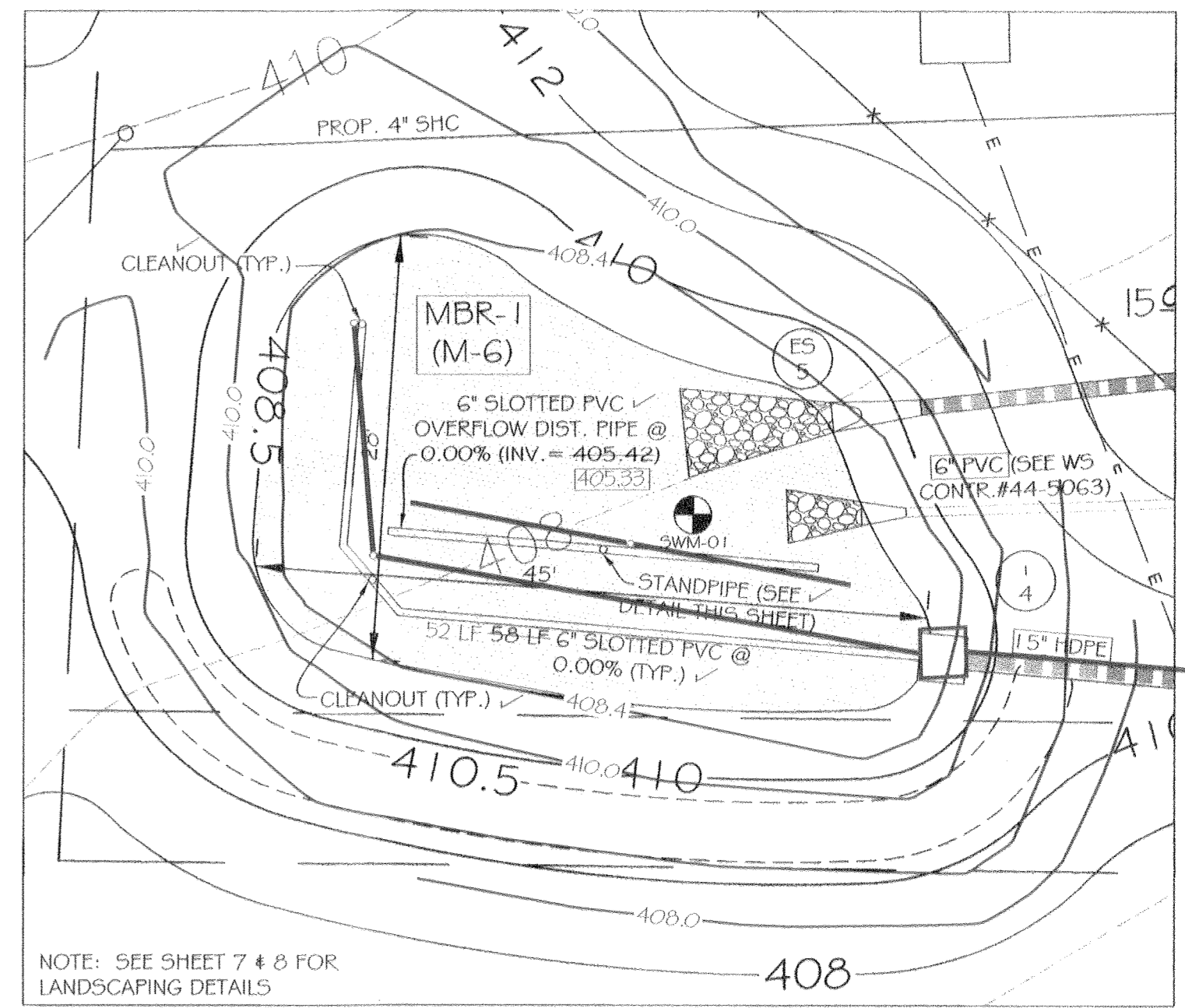
ESD DRAINAGE AREA MAP
SCALE: 1"=20'



TYPICAL STANDPIPE DETAIL N.T.S.



MICRO-BIORETENTION #1 TYPICAL SECTION
SCALE: N.T.S.



MICRO-BIORETENTION #1 DETAIL
SCALE: 1" = 10'

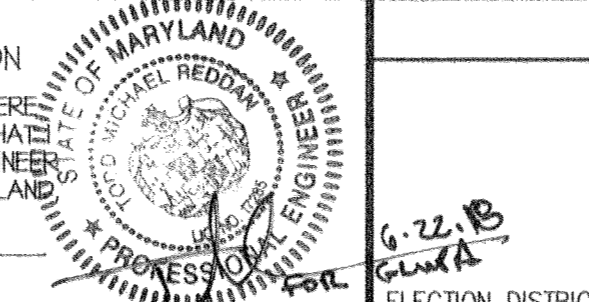
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MBR-1	20,802	752	1,456	1,481 [1,414]	245 [355]	150 [124]
TOTAL ESD _v REQ'D. = 1,667				TOTAL ESD _v PROV. = 1,481 [1,414]		
TOTAL Re _v REQ'D. = 253				TOTAL Re _v PROV. = 245 [355]		

ASBUILT SHEET 4 OF 4		
SCALE AS SHOWN	ZONING R-20	G. L. W. FILE NO. 16018
DATE MARCH 2021 JUNE 2018	TAX MAP - GRID 35-11	SHEET 6 OF 12

ASBUILT STORMWATER MANAGEMENT PLAN
CEDAR LANE WATER PUMPING STATION
LOT 1 BLOCK B
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 05

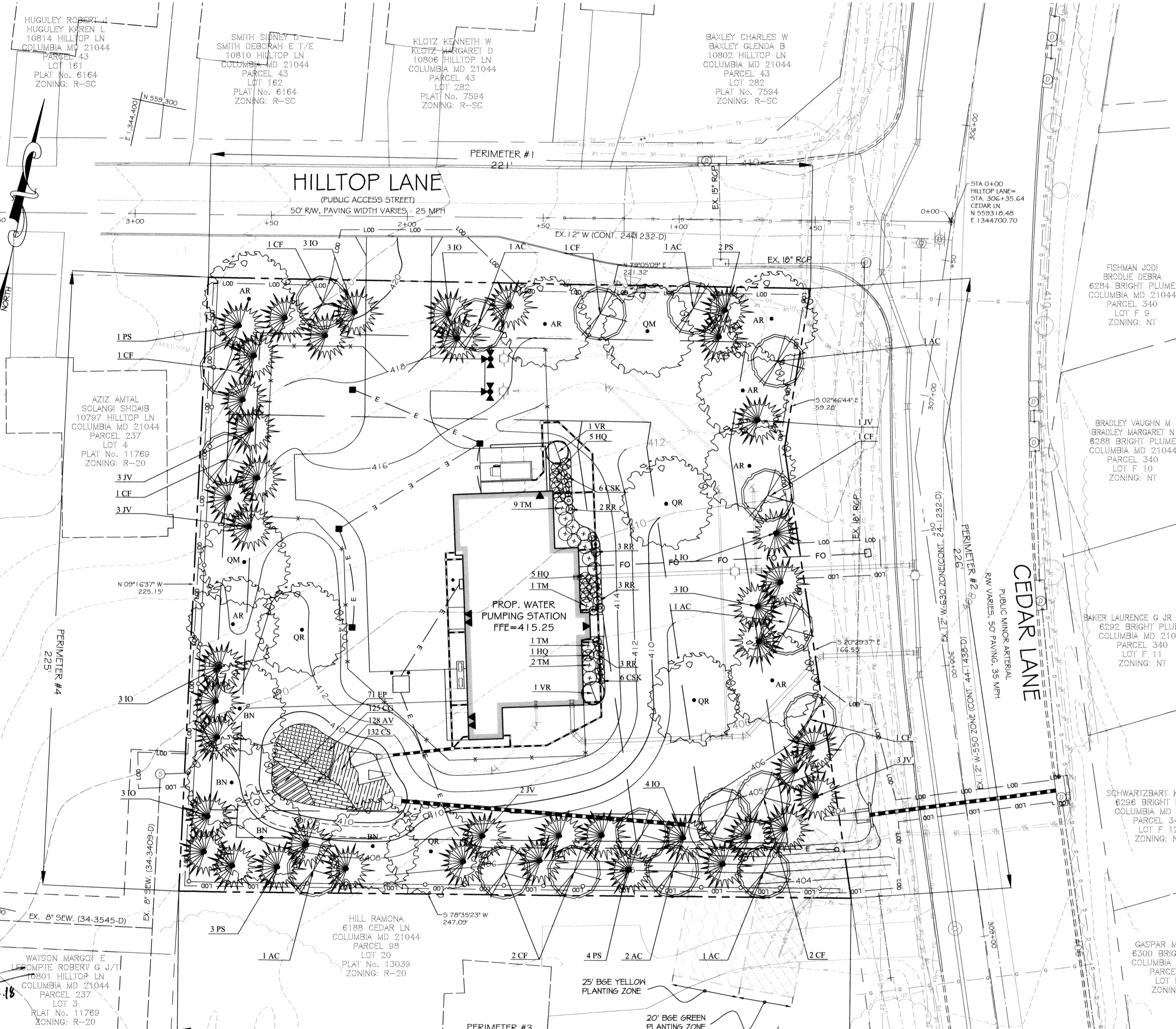
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 11285. EXPIRATION DATE: MARCH 31, 2019.

6-22-18
GWPA



PREPARED FOR:
OWNER:
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9250 BENDIX ROAD
COLUMBIA, MD 21045
(410)-313-2040

L:\2018\1808\1808\PLANS BY GLW\SDP\1808-SDP-18-384.dwg DES. EWM DRN. EWM CHK. TMR DATE REVISION BY APPR.
 PLOTTED: 6/27/2018 9:43:33 AM LAST SAVED: 6/24/2018 11:24 AM PLOTTED BY: EWM MICRORIP



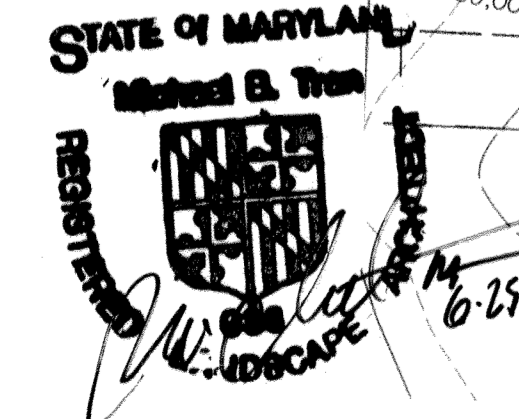
LEGEND

- EX. SEWER
- EX. WATER
- EX. STORM DRAIN
- PROP. SEWER
- PROP. WATER
- PROP. STORM DRAIN
- EX. CONTOURS
- PROP. CONTOURS
- EX. CURB & GUTTER
- PROP. CURB & GUTTER
- PROP. ELECTRIC
- PROP. BUILDING
- PROP. TRANSFORMER
- PROP. CONCRETE
- EX. FIBER OPTIC
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND TELEPHONE
- EX. OVERHEAD ELECTRIC

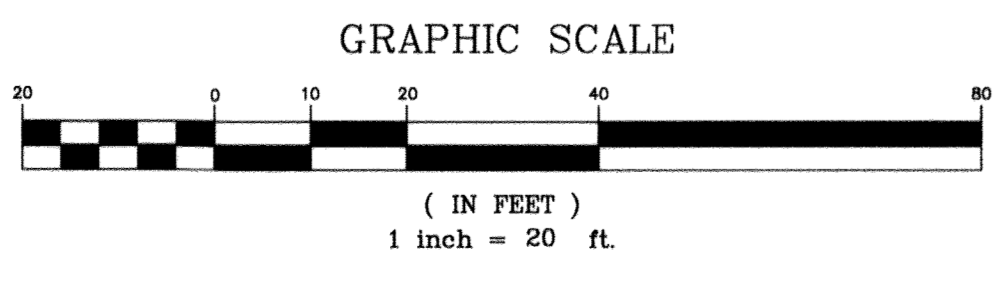
NO ASBUILT INFORMATION
3/18/21

DEVELOPER'S/OWNER'S CERTIFICATE
I/WE 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/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Kerri Dinsmore
NAME: Kerri Dinsmore DATE: 6/25/2018



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Michael B. Tran
 Director 8-2-18
Kent Stenhouse
 Chief, Division of Land Development 8-02-18
Chad...
 Chief, Development Engineering Division 7-24-18



GLWGUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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PREPARED FOR:
 OWNER:
 DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 9250 BENDIX ROAD
 COLUMBIA, MD, 21045
 (410)-313-2040

LANDSCAPE PLAN
CEDAR LANE WATER PUMPING STATION
 LOT 1 BLOCK B
 ELECTION DISTRICT No. 05
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=20'	R-20	16018
DATE	TAX MAP - GRID	SHEET
JUNE 2018	35-11	7 OF 12

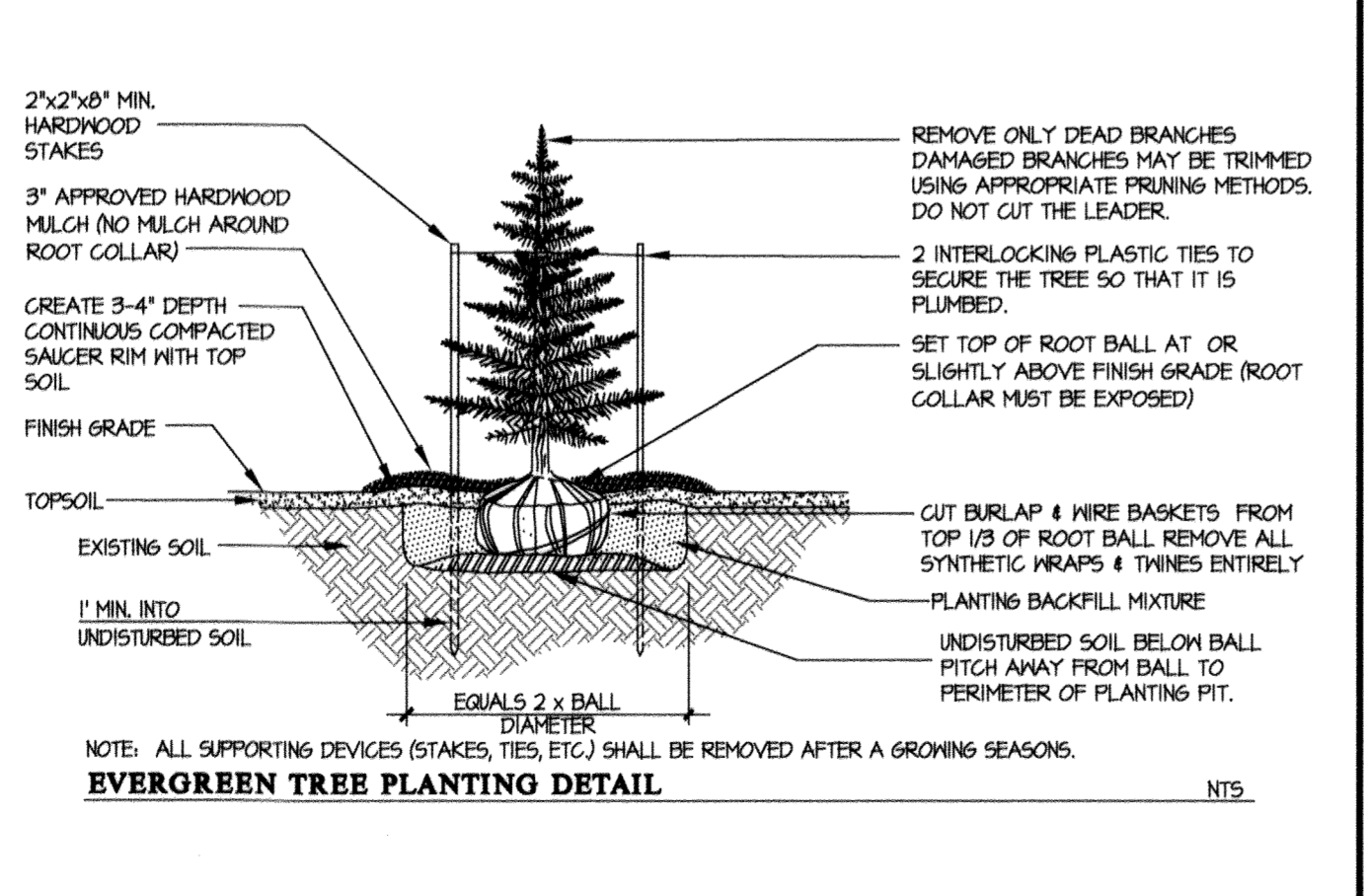
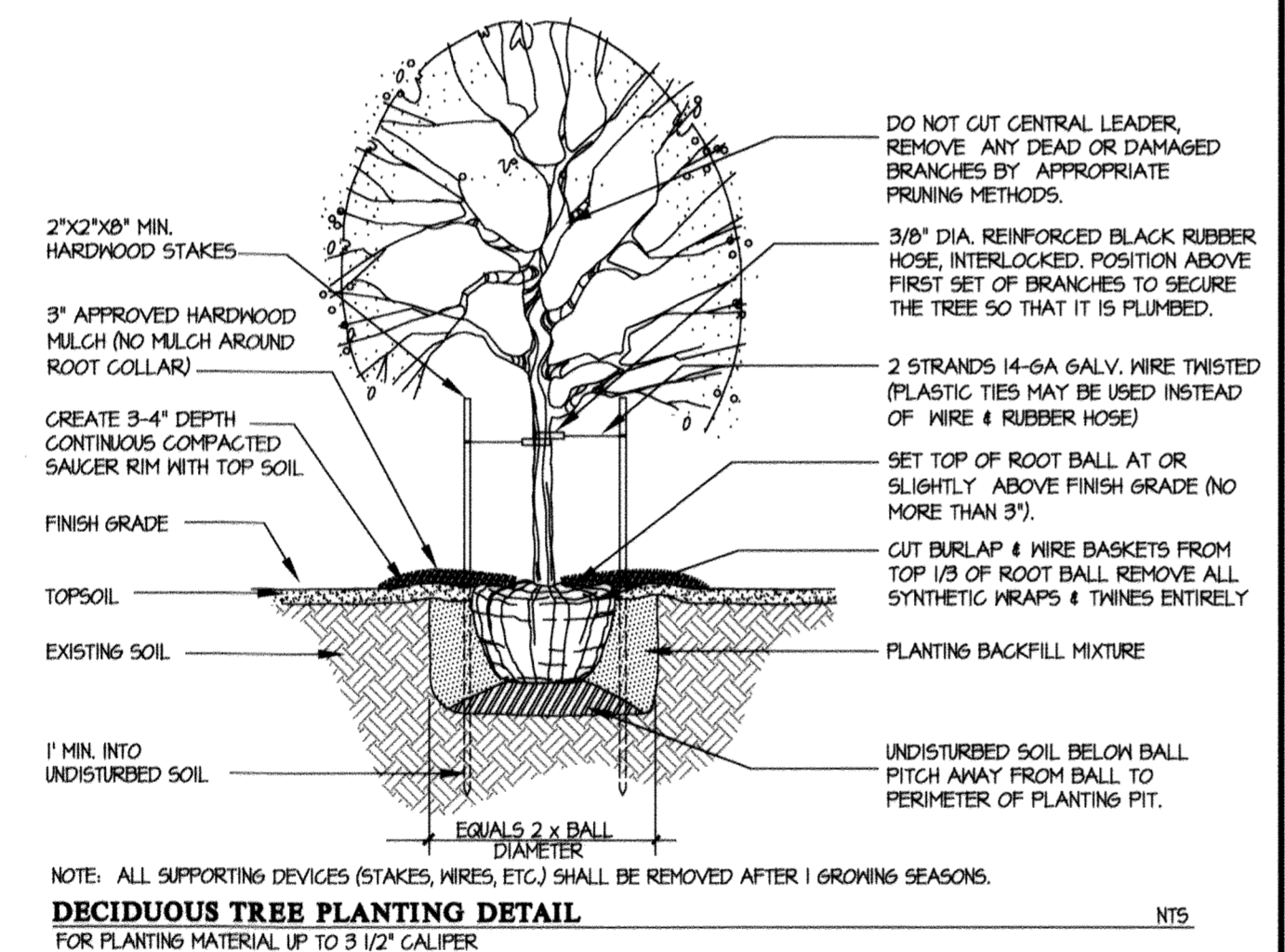
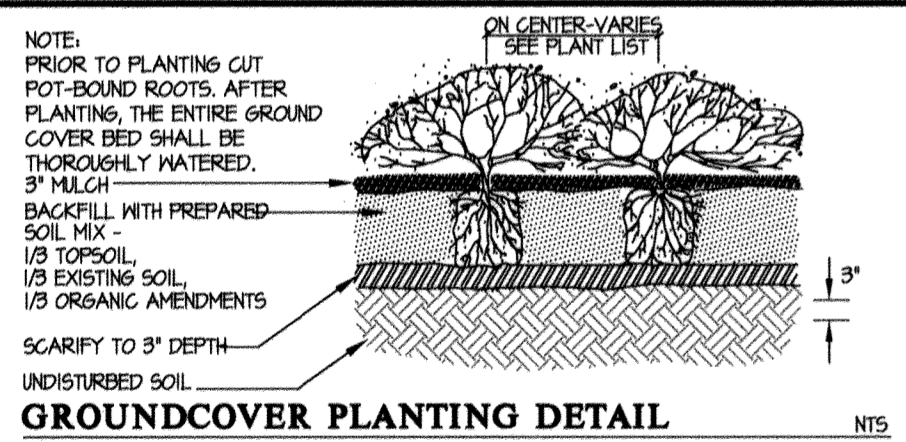
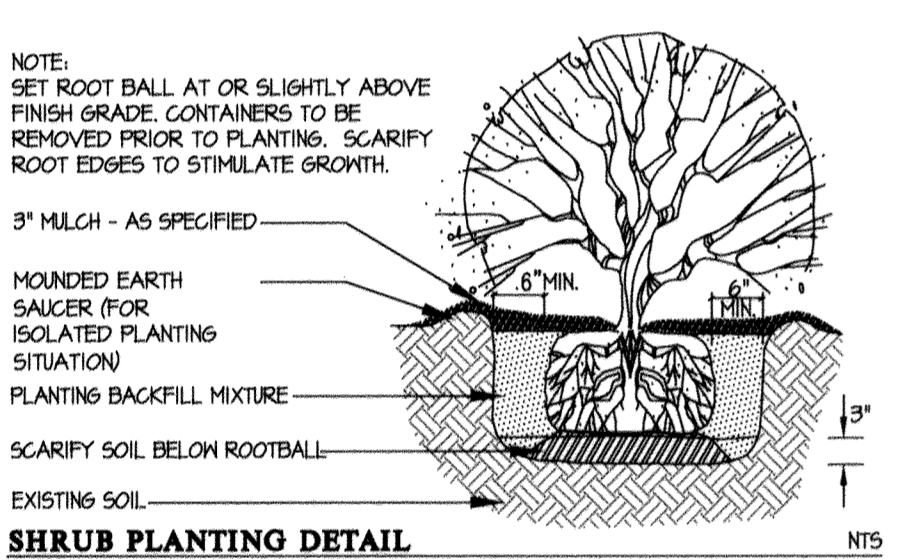
LANDSCAPE NOTES

- 1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16J24 OF THE HOWARD COUNTY CODE & THE HOWARD COUNTY LANDSCAPE MANUAL.
2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST (5) FIVE DAYS BEFORE FINISH GRADE CONTAINERS TO BE REMOVED PRIOR TO PLANTING. SCARIFY ROOT EDGES TO STIMULATE GROWTH.
3. FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK. CONTACT CONSTRUCTION MANAGER OR OWNER IF ANY RELOCATIONS ARE REQUIRED.
4. PLANT QUANTITIES SHOWN ON THE PLAN LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.
5. ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, SYMMETRICAL, AND CONFORM TO THE A.A.N. SPECIFICATIONS.
6. NO SUBSTITUTION SHALL BE MADE WITHOUT PRIOR APPROVAL FROM HOWARD COUNTY DPZ AND THE OWNER OR HIS REPRESENTATIVE.
7. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SOODED OR SEEDED IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATION. A MINIMUM OF 4" OF TOPSOIL SHALL BE PROVIDED TO ALL PLANTING AREAS.
8. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS THAT MAY BE DETRIMENTAL TO THE GROWTH OF THE PLANTS.
9. ALL EXPOSED EARTH WITHIN THE LIMITS OF PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER THE PLANTING DETAILS.

SPECIFICATIONS: PLANT MATERIALS AND PLANTING METHODS

- A. PLANT MATERIALS
THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIG, BALL, BURLAP AND TRANSPORT ALL OF THE PLANT MATERIALS CALLED FOR ON DRAWINGS AND/OR LISTED IN THE PLANT SCHEDULE.
1. PLANT NAMES
PLANT NAMES USED IN THE PLANT SCHEDULE SHALL CONFORM WITH 'A.A.N.' STANDARDS.
2. PLANT STANDARDS
ALL PLANT MATERIAL SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE 'USA STANDARD FOR NURSERY STOCK' LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (HERE-AFTER REFERRED TO AS 'A.A.N. STANDARDS'). ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, SHALL HAVE A NORMAL HABIT OF GROWTH AND SHALL BE FIRST QUALITY, SOUND, VIGOROUS, WELL-BRANCHED AND WITH HEALTHY, WELL-FURNISHED ROOT SYSTEMS. THEY SHALL BE FREE OF DISEASE, INSECT PESTS AND MECHANICAL INJURIES.
ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATE CONDITIONS AS THE LOCATION OF THIS PROJECT FOR AT LEAST TWO YEARS BEFORE PLANTING. NEITHER HEEL-IN PLANTS NOR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
3. PLANT MEASUREMENTS
ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED IN THE PLANT SCHEDULE.
A. CALIPER MEASUREMENTS SHALL BE TAKEN SIX INCHES (6") ABOVE GRADE FOR TREES UP TO FOUR-INCH (4") CALIPER AND TWELVE (12") ABOVE GRADE FOR TREES GREATER THAN FOUR INCHES (4") IN CALIPER.
B. MINIMUM BRANCHING HEIGHT FOR ALL SHADE TREES SHALL BE SIX FEET (6'), MAXIMUM EIGHT FEET (8').
C. CALIPER HEIGHT, SPREAD AND SIZE OF BALL SHALL BE GENERALLY AS FOLLOWS:
CALIPER HEIGHT SPREAD SIZE OF BALL
2' - 2.5' 12'-14' 5'-6' 28" DIAMETER
3' - 3.5' 14'-16' 6'-8' 32" DIAMETER
3.5' - 4' 14'-16' 8'-10' 36" DIAMETER
4' - 4.5' 16'-18' 8'-10' 40" DIAMETER
4.5' - 5' 16'-17' 10'-12' 44" DIAMETER
5' - 5.5' 16'-20' 10'-12' 48" DIAMETER
5.5' - 6' 18'-20' 12'-14' 52" DIAMETER
ALL PLANT MATERIAL SHALL GENERALLY AVERAGE THE MEDIAN FOR THE SIZE RANGES INDICATED ABOVE AS INDICATED IN THE 'A.A.N.' STANDARDS.
4. PLANT IDENTIFICATION
LEGIBLE LABELS SHALL BE ATTACHED TO ALL SHADE TREES, MINOR TREES, SPECIMEN SHRUBS AND BUNDLES OR BOXES OF OTHER PLANT MATERIAL GIVING THE BOTANICAL AND COMMON NAMES, SIZE AND QUANTITY OF EACH. EACH SHIPMENT OF PLANTS SHALL BEAR CERTIFICATES OF INSPECTION AS REQUIRED BY FEDERAL, STATE AND COUNTY AUTHORITIES.
5. PLANT INSPECTION
THE OWNER MAY REQUEST, AT LEAST TEN (10) DAYS PRIOR TO THE INSTALLATION OF ANY PROPOSED PLANT MATERIAL, TO INSPECT ALL PROPOSED PLANT MATERIAL AT THE SOURCE OF ORIGIN.
B. PLANTING METHODS
ALL PROPOSED PLANT MATERIALS THAT MEET THE SPECIFICATIONS IN SECTION A ARE TO BE PLANTED IN ACCORDANCE WITH THE FOLLOWING METHODS DURING THE PROPER PLANTING SEASONS AS DESCRIBED IN THE FOLLOWING:
1. PLANTING SEASONS
THE PLANTING OF DECIDUOUS TREES, SHRUBS AND VINES SHALL BE FROM MARCH 1ST TO JUNE 15TH AND FROM SEPTEMBER 15TH TO DECEMBER 15TH. PLANTING OF DECIDUOUS MATERIAL MAY BE CONTINUED DURING THE WINTER MONTHS PROVIDING THERE IS NO FROST IN THE GROUND AND FROST-FREE TOPSOIL PLANTING MIXTURES ARE USED.
THE PLANTING OF EVERGREEN MATERIAL SHALL BE FROM MARCH 15TH TO JUNE 15TH AND FROM AUGUST 15TH TO DECEMBER 15TH. NO PLANTING SHALL BE DONE WHEN THE GROUND IS FROZEN OR EXCESSIVELY MOIST. NO FROZEN OR WET TOPSOIL SHALL BE USED AT ANY TIME.
2. DIGGING
ALL PLANT MATERIAL SHALL BE DIG, BALLED AND BURLAPPED (DBB) IN ACCORDANCE WITH THE 'A.A.N. STANDARDS'.
3. EXCAVATION OF PLANT PITS
THE LANDSCAPE CONTRACTOR SHALL EXCAVATE ALL PLANT PITS, VINE PITS, HEDGE TRENCHES AND SHRUB BEDS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
A. LOCATIONS OF ALL PROPOSED PLANT MATERIAL SHALL BE STAKED AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT BEFORE ANY OF THE PROPOSED PLANT MATERIAL IS INSTALLED BY THE LANDSCAPE CONTRACTOR.
B. ALL PITS SHALL BE GENERALLY CIRCULAR IN OUTLINE, VERTICAL SIDES, DEPTH SHALL NOT BE LESS THAN 6" DEEPER THAN THE ROOT BALL, DIAMETER SHALL NOT BE LESS THAN TWO TIMES THE DIAMETER OF THE ROOT BALL AS SET FORTH IN THE FOLLOWING SCHEDULE.
C. IF AREAS ARE DESIGNATED AS SHRUB BEDS OR HEDGE TRENCHES, THEY SHALL BE EXCAVATED TO AT LEAST 18" DEPTH MINIMUM. AREAS DESIGNATED FOR GRASS COVERS AND VINES SHALL BE EXCAVATED TO AT LEAST 12" IN DEPTH MINIMUM.
D. DIAMETER AND DEPTH OF TREE PITS SHALL GENERALLY BE AS FOLLOWS:
PLANT SIZE ROOT BALL PIT DIA. PIT DEPTH
2' - 2.5' CAL. 28" 56" 24"
3' - 3.5' CAL. 32" 64" 28"
3.5' - 4' CAL. 36" 72" 32"
4' - 4.5' CAL. 40" 80" 36"
4.5' - 5' CAL. 44" 88" 40"
5' - 5.5' CAL. 48" 96" 44"
5.5' - 6' CAL. 52" 104" 48"
A 20% COMPACTION FIGURE OF THIS SOIL TO BE REMOVED IS ASSUMED AND WILL BE ALLOWED IN CALCULATION OF EXTRA TOPSOIL. THE TABULATED PIT SIZES ARE FOR PURPOSES OF UNIFORM CALCULATION AND SHALL NOT OVERRIDE THE SPECIFIED DEPTHS BELOW THE BOTTOMS OF THE ROOT BALLS.

- 4. STAKING, SITING AND BRACING
ALL PLANT MATERIAL SHALL BE STAKED OR GUYED, AND WRAPPED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
A. STAKES SHALL BE SOLID WOOD 2" X 2" ROUGH SAWN OAK OR SIMILAR DURABLE WOODS, OR LENGTHS, MINIMUM 7'-0" FOR MAJOR TREES AND 5'-0" MINIMUM FOR MINOR TREES.
B. WIRE AND CABLE
WIRE SHALL BE #10 GA. GALVANIZED OR BETHANIZED ANNEALED STEEL WIRE. FOR TREES OVER 3" CALIPER, PROVIDE 5/16" TURN BUCKLES, EYE AND EYE WITH 4" TAKE-UP. FOR TREES OVER 5" CALIPER, PROVIDE 3/16" 1 STRAND CABLE CADMIUM PLATED STEEL, WITH GALVANIZED 'EYE' THIMBLES OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER.
C. HOSE
SHALL BE NEW 2 PLY REINFORCED RUBBER HOSE, MINIMUM 1/2" I.D. 'PLASTIC LOCK TIES' OR 'PAUL'S TREES BRACES' MAY BE USED IN PLACE OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER.
D. ALL TREES UNDER 3" IN CALIPER ARE TO BE PLANTED AND STAKED IN ACCORDANCE WITH THE ATTACHED PLANTING DETAILS.
5. PLANT PRUNING, EDGING AND MULCHING
A. EACH TREE, SHRUB OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER TO ITS PARTICULAR REQUIREMENTS, IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE. BROKEN OR DAMAGED BRANCHES SHALL BE REMOVED WITH CLEAN CUTS FLUSH WITH THE ADJACENT TRUNK OR BRANCHES. ALL CUTS OVER 1" IN DIAMETER SHALL BE PAINTED WITH AN APPROVED ANTISEPTIC TREE WOUND DRESSING.
B. ALL TRENCHES AND SHRUB BEDS SHALL BE EDGED AND CULTIVATED TO THE LINES SHOWN ON THE DRAWING. THE AREAS AROUND ISOLATED PLANTS SHALL BE EDGED AND CULTIVATED TO THE FULL DIAMETER OF THE PIT. SOD WHICH HAS BEEN REMOVED AND STACKED SHALL BE USED TO TRIM THE EDGES OF ALL EXCAVATED AREAS TO THE NEAR LINES OF THE PLANT PIT SAUCERS, THE EDGES OF SHRUB AREAS, HEDGE TRENCHES AND VINE POCKETS.
C. AFTER CULTIVATION ALL PLANT MATERIALS SHALL BE MULCHED WITH A 3" LAYER OF FINE, SHREDDED PINE BARK, PEAT MOSS, OR ANOTHER APPROVED MATERIAL OVER THE ENTIRE AREA OF THE BED OR SAUCER.
6. PLANT INSPECTION AND ACCEPTANCE
THE DESIGN REVIEW COMMITTEE SHALL BE RESPONSIBLE FOR INSPECTING ALL PLANTING PROJECTS ON A PERIODIC BASIS TO ASSURE THAT ALL WORK IS PROCEEDING IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
7. PLANT GUARANTEE
ALL PLANT MATERIAL SHALL BE GUARANTEED FOR THE DURATION OF ONE FULL GROWING SEASON AFTER FINAL INSPECTION AND ACCEPTANCE OF THE WORK IN THE PLANTING PROJECT. PLANTS SHALL BE ALIVE AND IN SATISFACTORY GROWING CONDITION AT THE END OF THE GUARANTEE PERIOD.
A. FOR THIS PURPOSE, THE 'GROWING SEASON' SHALL BE THAT PERIOD BETWEEN THE END OF THE 'SPRING' PLANTING SEASON AND THE COMMENCEMENT OF THE 'FALL' PLANTING SEASON.
B. GUARANTEE FOR PLANTING PERFORMED AFTER THE SPECIFIED END OF THE 'SPRING' PLANTING SEASON, SHALL BE EXTENDED THROUGH THE END OF THE NEXT FOLLOWING 'SPRING' PLANTING SEASON.
SOODING
ALL SOODING SHALL BE IN ACCORDANCE TO THE 'LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS' LATEST EDITION, APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.
ALL SOD SHALL BE STRONGLY ROOTED SOD, NOT LESS THAN TWO YEARS OLD AND FREE OF WEEDS AND UNDESIRABLE NATIVE GRASSES. PROVIDE ONLY SOD CAPABLE OF GROWTH DEVELOPMENT WHEN PLANTED AND IN STRIPS NOT MORE THAN 18" WIDE X 4' LONG. PROVIDE SOD COMPOSED PRINCIPALLY OF IMPROVED STRAIN KENTUCKY BLUEGRASS, SUCH AS COLUMBIA VICTA OR ESCORT.



PLANT SCHEDULE

Table with columns: KEY, QTY., BOTANICAL NAME, COMMON NAME, SIZE, CONTAINER, COMMENTS. Lists various trees and shrubs like Acer rubrum, Betula nigra, Quercus montana, etc.

PERIMETER LANDSCAPE EDGE PLANTING

Table showing perimeter planting requirements for different landscape edge types (Linear, etc.) and plant types (Shade trees, Evergreen trees, etc.).

FOREST CONSERVATION WORKSHEET

Form for Forest Conservation Worksheet with sections for Site Data, Input Data, Reforestation Calculations, and Forest Conservation Required. Includes project name 'Cedar Lane Water Pumping Station' and DPZ File No. 'SDP-18-046'.

* FOREST CONSERVATION OBLIGATIONS FOR THIS PROJECT SHALL BE FULFILLED IN ACCORDANCE WITH SECTION 16J20 OF THE FOREST CONSERVATION MANUAL UNDER SDP-18-046 BY THE PAYMENT OF A FEE IN LIEU OF \$0.75/SQ. FT. IN THE AMOUNT OF \$5,133.75 FOR THE 7,645 SQ. FT. OF FOREST CONSERVATION OBLIGATION.

NO ASBUILT INFORMATION 3/18/21

DEVELOPER'S/OWNER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16J24 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXHAUSTIVE ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature: Keiri Dinmore, Date: 6/25/2018

STATE OF MARYLAND
Michael B. Tran
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
6-25-18

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Director: Valdis Jylia, Date: 8-2-18
Chief, Division of Land Development: Kent Sherwood, Date: 8-2-18
Chief, Development Engineering Division: [Signature], Date: 7-24-18

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND, 20866
TEL: 301-421-4024 BALT: 410-880-1820 DMV: 301-988-2524 FAX: 301-421-4186

PREPARED FOR:
OWNER:
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9250 BENDIX ROAD
COLUMBIA, MD 21045
(410)-313-2040

LANDSCAPE DETAILS
CEDAR LANE WATER PUMPING STATION
LOT 1 BLOCK B
SCALE: 1"=20'
ZONING: R-20
G. L. W. FILE NO.: 16018
DATE: JUNE 2018
TAX MAP - GRID: 35-11
SHEET: 8 OF 12
ELECTION DISTRICT No. 05
HOWARD COUNTY, MARYLAND

