

**GENERAL NOTES** (THESE NOTES PERTAIN TO ALL CIVIL DRAWINGS)

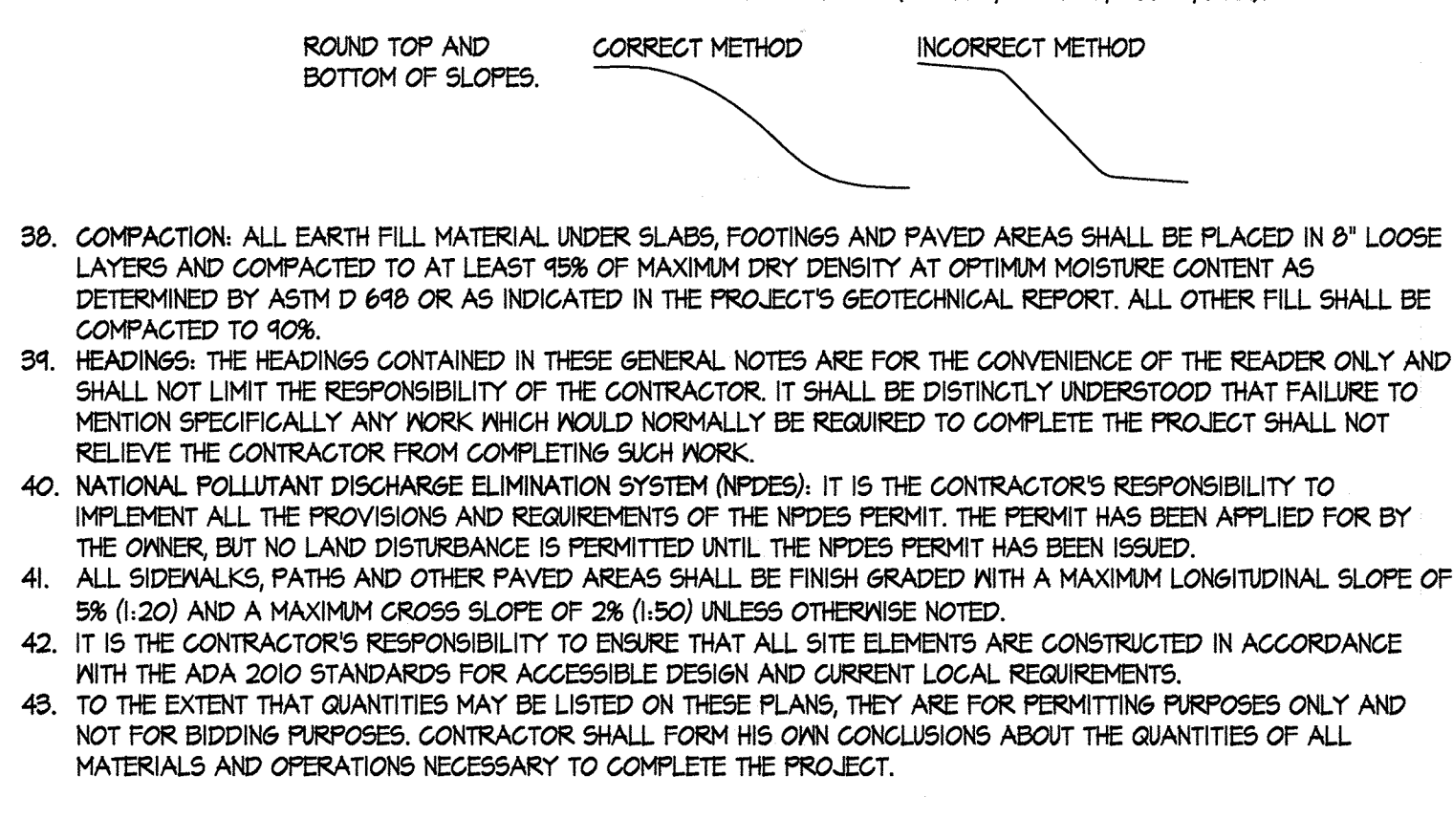
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-251-TITI AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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 PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY WAS OBTAINED FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY HANOVER LAND SERVICES, INC. DATED OCTOBER 11, 2015.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 36FC, 36F1, 3TDA, AND 3TDB WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. (CONTRACT #24-4711-D)
- SEWER IS PUBLIC. (CONTRACT #24-4711-D)
- STORMWATER MANAGEMENT WILL BE PROVIDED BY ENVIRONMENTAL SITE DESIGN (ESD) PRACTICES, INCLUDING M-6 MICRO-BIORETENTION, AND N-2 DISCONNECTION OF NON-ROOFTOP RUNOFF. THESE FACILITIES ARE TO BE PRIVATELY MAINTAINED.
- EXISTING UTILITIES ARE BASED ON A SUBSURFACE UTILITY SURVEY PREPARED BY ACCURATE INFRASTRUCTURE DATA, INC. DATED OCTOBER 22, 2015, A TOPOGRAPHIC SURVEY BY HANOVER LAND SERVICES, AND HOWARD COUNTY GIS DATED OCTOBER 11, 2015.
- THERE IS NO FLOODPLAIN ON THIS SITE. FEMA FLOODPLAIN MAP PANEL #2402101150, EFFECTIVE NOVEMBER 6, 2013.
- THE METLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED SEPTEMBER 14, 2015, AND WAS APPROVED ON SEPTEMBER 21, 2015.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC. DATED MARCH 28, 2016, AND WAS APPROVED ON JULY 13, 2016.
- THE SUBJECT PROPERTY IS ZONED NEW TOWN (NT) OPEN SPACE PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN, AND PER FDP-147-A-VII, PART II.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OF TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, AND FLOODPLAIN.
- LANDSCAPING NOTES: THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY ANIMALS AND LANDSCAPING MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$10,200 FOR 21 SHADE TREES, 26 EVERGREEN TREES, 0 ORNAMENTAL TREES AND 0 SHRUBS HAS BEEN POSTED WITH THE DEVELOPER'S AGREEMENT.

- ABBREVIATIONS:**
- |         |                              |      |                                  |
|---------|------------------------------|------|----------------------------------|
| PROP    | PROPOSED*                    | DIP  | DUCTILE IRON PIPE                |
| EX      | EXISTING                     | PVC  | POLYVINYL CHLORIDE PIPE          |
| BIT     | BITUMINOUS                   | HDPE | HIGH DENSITY POLYETHYLENE PIPE   |
| CONC    | CONCRETE                     | CMP  | CORRUGATED METAL PIPE            |
| M OR MH | MANHOLE                      | RCCP | REINFORCED CONCRETE PIPE         |
| SD      | STORM DRAIN                  | C16  | CONCRETE CURB & GUTTER           |
| IN      | INLET                        | IN   | INLET ELEVATION                  |
| SAN     | SANITARY SEWER               | FD   | FIRE DEPARTMENT CONNECTION       |
| FF      | FINISHED FLOOR ELEVATION     | FDH  | FIRE HYDRANT                     |
| BF      | BASEMENT FLOOR ELEVATION     |      |                                  |
| TC      | TOP OF CURB                  | BC   | BOTTOM OF CURB                   |
| TS      | TOP OF STEP                  | BS   | BOTTOM OF STEP                   |
| TM      | TOP OF WALL                  | BM   | BOTTOM OF WALL                   |
| PC      | POINT OF CURVATURE           | PS   | PARKING SPACE                    |
| PT      | POINT OF TANGENCY            | HC   | HANDICAPPED PARKING SPACE        |
| FI      | POINT OF INTERSECTION        | TYP  | TYPICAL                          |
| ASIP    | AT-GRADE INLET PROTECTION    | GI   | GUTTER INLET PROTECTION          |
| COIP    | COMBINATION INLET PROTECTION | ED   | EARTH DIKE                       |
| FB      | FILTER BAG                   | IB   | INLET BLOCKING                   |
| RPS     | REMOVABLE PUMPING STATION    | SCE  | STABILIZED CONSTRUCTION ENTRANCE |
| SFD     | SUPER FENCE DIVERSION        | SIP  | STANDARD INLET PROTECTION        |
| SP      | SUMP PIT                     | SSF  | SUPER SILT FENCE                 |
| TS      | TEMPORARY SHALE              | TSOS | TEMPORARY STONE OUTLET STRUCTURE |

- \*PROPOSED MEANS WORK INCLUDED IN THE BASE CONTRACT UNLESS ACCOMPANIED BY THE PHRASES "N.I.C." OR "BY OTHERS".
- EXISTING INFORMATION AND CONDITIONS NOT GUARANTEED. VERIFY AND TEST PIT EXISTING UTILITIES. THE CORRECTNESS AND COMPLETENESS OF THE INFORMATION SHOWING EXISTING CONDITIONS IS NOT GUARANTEED. BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL PERFORM THE FOLLOWING TASKS:
    - NOTIFY MISS UTILITY AT 1-800-251-TITI, AND MAKE SURE THEY COMPLETE THE MARKING OF UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AT LEAST 48 HOURS PRIOR TO INSTALLING SEDIMENT CONTROL MEASURES. MAINTAIN ALL MARKINGS THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL ALSO INCLUDE IN HIS BID PRICE MARKING OF ON-SITE UTILITIES THAT MIGHT NOT BE MARKED BY MISS UTILITY; THE CONTRACTOR SHALL EITHER MARK THESE ON-SITE UTILITIES HIMSELF OR BY SUBCONTRACTING WITH A PRIVATE ON-SITE UTILITY LOCATION COMPANY.
    - VERIFY THE GENERAL ACCURACY OF THE EXISTING CONDITIONS SHOWN ON THE SITE DRAWINGS BY VISUAL INSPECTION OF THE SURFACE OF THE SITE AND ALL EXISTING STRUCTURES, PAVING AND UTILITY APPURTENANCES VISIBLE THEREON.
    - WITH REGARD TO THE STRUCTURES & APPURTENANCES OBSERVED AS REQUIRED PER ITEM (b) ABOVE, DETERMINE THE TYPE, SIZE, LOCATION AND ELEVATION OF ALL THOSE EXISTING UTILITIES (INCLUDING BUT NOT LIMITED TO ALL STORM DRAINS, SANITARY LINES, WATER LINES, GAS LINES, STEAM LINES, ELECTRIC LINES, TELEPHONE LINES, AND COMMUNICATION DUCTS, AND ALL MANHOLES, INLETS, CLEAN-OUTS, VALVES, HANDHOLES, ETC. RELATED THERETO) WITHIN THE LIMITS OF CONSTRUCTION IN ORDER TO: (i) AVOID DAMAGING OR DISRUPTING SERVICE, AND (ii) TO COORDINATE AND FACILITATE CONSTRUCTION OF PROPOSED UTILITIES AND OTHER IMPROVEMENTS. IN ADDITION TO THE CONTRACTOR'S VISUAL OBSERVATION AND THE UTILITY MARKING (AS REQUIRED ABOVE), THE CONTRACTOR SHALL SCHEDULE AND COMPLETE TEST PITTING OF ALL EXISTING UTILITIES (FOR THE PURPOSES SET FORTH ABOVE) AND SHALL DO SO IN A TIMELY MANNER IN ORDER TO ALLOW TIME FOR ANALYSIS AND REDESIGN BY SITE RESOURCES AND/OR OTHER CONSULTANTS, WITHOUT DELAYING THE PROJECT SCHEDULE.
    - IMMEDIATELY REPORT TO SITE RESOURCES, INC. THE RESULTS OF STEPS (A), (B) AND (C) WHICH MIGHT INDICATE ANY DISCREPANCY BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ON THE PLAN, AND ANY POTENTIAL CONFLICTS BETWEEN PROPOSED IMPROVEMENTS AND EXISTING CONDITIONS.
  - TEST PITTING DEFINED: FOR THE PURPOSES OF THIS CONTRACT, EXCAVATION OF UTILITY TRENCHES DOES NOT CONSTITUTE TEST PITTING. TEST PITTING IS A SEPARATE OPERATION COMPLETED AT LEAST SEVEN DAYS BEFORE UTILITY INSTALLATION IS SCHEDULED TO BEGIN. TEST PITTING MEANS EXCAVATION TO EXPOSE EXISTING UTILITIES IN TWO SITUATIONS: (i) WHERE PROPOSED IMPROVEMENTS CROSS EXISTING UTILITIES (PIPES, LINES, STRUCTURES, APPURTENANCES) AND; (ii) WHERE PROPOSED UTILITIES ARE DESIGNED TO CONNECT TO EXISTING UTILITIES. TEST PITTING INCLUDES RECORDING THE TYPE, SIZE, LOCATION AND ELEVATION OF THE EXPOSED UTILITIES, AND MAKING AND MAILING THE RECORD TO SITE RESOURCES, INC. AND THE OWNER. THE RECORD MAY BE A LEGIBLE HAND-WRITTEN FIELD SKETCH.
  - EXISTING AND PROPOSED GAS LINES, ELECTRIC LINES, TELEPHONE LINES, COMMUNICATION LINES AND OTHER UTILITIES: THESE DRAWINGS INCLUDE INFORMATION AND DEPICTIONS OF BALTIMORE GAS & ELECTRIC COMPANY'S (BGE) ELECTRIC AND/OR GAS UTILITIES LOCATED WITHIN THE GENERAL PROJECT AREA. LOCATIONS, DIMENSIONS, DEPTHS, AND OTHER DETAILS OF ANY SUCH UTILITIES MAY NOT BE AS ACTUALLY CONSTRUCTED, AND THE INFORMATION SHALL NOT BE RELIED UPON WITHOUT FIELD VERIFICATION BY TEST PITTING AS DEFINED ABOVE. EXCAVATORS MUST EMPLOY SAFE DIGGING PRACTICES WHEN APPROACHING BGE ELECTRIC AND/OR GAS UTILITIES AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS INCLUDING, BUT NOT LIMITED TO, THE LAW GOVERNING NOTIFICATION OF MISS UTILITY. NO REPRESENTATION, GUARANTEE, OR WARRANTIES EXPRESSED OR IMPLIED ARE MADE BY BGE OR SITE RESOURCES, INC. AS TO THE QUALITY, COMPLETENESS, OR ACCURACY OF THE BGE UTILITY INFORMATION, AND IN ACCEPTING THESE DRAWINGS, THE RECIPIENT EXPRESSLY AGREES THAT IT IS NOT RELYING ON THE ACCURACY OF THE SAME. EXISTING AND PROPOSED GAS LINES, STEAM LINES, ELECTRIC LINES, TELEPHONE LINES, COMMUNICATION DUCTS AND OTHER SUCH UTILITIES ARE NOT PART OF THE SCOPE OF WORK SHOWN ON THESE SITE PLANS AND SITE RESOURCES, INC. HAS NO RESPONSIBILITY FOR DESIGN SPECIFICATION OR INSTALLATION OF SAID UTILITIES. TO THE EXTENT THAT SOME OR ALL OF SUCH UTILITIES (WHETHER EXISTING OR PROPOSED) APPEAR ON THE SITE DRAWINGS, IT IS PRESENTED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR AND THE CORRECTNESS AND COMPLETENESS OF THE INFORMATION SHOWING THESE UTILITIES IS NOT GUARANTEED.

- COORDINATION BETWEEN PROPOSED UTILITIES: THE CONTRACTOR SHALL ADJUST THE LOCATION AND ELEVATION OF PROPOSED GAS LINES, ELECTRIC LINES, TELEPHONE LINES, COMMUNICATION LINES, AND WATER LINES AS NEEDED TO CONSTRUCT THE PROPOSED STORM DRAINS AND SANITARY SEWER WITH MINIMUM CLEARANCES. COORDINATE WITH THE MECHANICAL/ELECTRICAL DRAWINGS AND SPECIFICATIONS AND APPROPRIATE UTILITY COMPANY.
- RELOCATION OF EXISTING UTILITIES: IN THE EVENT THAT THE LOCATION OR ELEVATION OF EXISTING MINOR UNDERGROUND ELECTRIC LINES AND PHONE LINES CONFLICT WITH PROPOSED STORM DRAINS, SANITARY SEWER LINES OR WATER LINES, THE CONTRACTOR SHALL, WITH THE PERMISSION OF THE OWNER AND WITHOUT AN EXTRA COST TO THE PROJECT, ADJUST THESE LINES TO PERMIT INSTALLATION OF THE NEW UTILITIES. IN THE EVENT THAT ANY OTHER UTILITY IS RELOCATED TO ACCOMMODATE A NEW UTILITY, SAID RELOCATION SHALL BE AN EXTRA COST TO THE PROJECT, SUBJECT TO THE TERMS AND CONDITIONS OF THE CONSTRUCTION CONTRACT.
- PROPOSED WATER LINES: PROPOSED WATER LINES SHALL HAVE A MINIMUM OF 4'-0" COVER FROM FINISHED GRADE. 1'-0" CLEARANCE FROM STORM DRAINS AND 1'-0" CLEARANCE FROM SANITARY SEWERS, UNLESS OTHERWISE NOTED ON THE PLANS. ALL WATER MAINS 3" OR LARGER SHALL BE CLASS 54 DIP MEETING ANNA C10/C15. ALL WATER LINES 2" AND SMALLER SHALL BE TYPE K COPPER TUBING MEETING THE MATERIAL, CHEMICAL, AND MECHANICAL REQUIREMENTS OF ASTM B-88.
- PROPOSED STORM DRAINS: UNLESS INDICATED OTHERWISE ON THESE CONSTRUCTION DRAWINGS ALL REINFORCED CONCRETE CULVERT PIPE (RCCP) SHALL BE CLASS IV, ALL PVC SHALL BE SCHEDULE 40, AND ALL HDPE SHALL BE ADS N-2 9T 18 OR EQUIVALENT.
- PROPOSED SANITARY SEWERS: ALL PIPE AND FITTINGS FOR SANITARY HOUSE CONNECTION SHALL BE POLYVINYL CHLORIDE (PVC) MEETING MATERIAL REQUIREMENTS OF ASTM D2034, (SDR-35). JOINTS SHALL BE ELASTOMERIC GASKETED.
- STANDARD CONSTRUCTION SPECIFICATIONS AND DETAILS: UNLESS OTHERWISE NOTED OR DETAILED ON THE DRAWINGS, ALL CONSTRUCTION SHALL FOLLOW THE LATEST HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- SEDIMENT CONTROL: THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL UTILITIES TO AVOID CONSTRUCTION PROBLEMS/CONFLICTS WITH SEDIMENT AND EROSION CONTROL MEASURES. ANY DISTURBANCE TO SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REPAIRED AT THE END OF EACH WORKING DAY. CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE PROJECT, REPAIR AND MAINTAIN EXISTING SEDIMENT CONTROL DEVICES UNTIL ALL AREAS WITHIN LIMITS OF CONSTRUCTION ARE STABILIZED. WITH THE APPROVAL OF SEDIMENT CONTROL INSPECTOR, ALL SEDIMENT CONTROL DEVICES SHALL BE REMOVED AND AREAS RESTORED AND STABILIZED. ALL SEDIMENT CONTROL MEASURES REFERRED TO ON THESE PLANS SHALL BE IN ACCORDANCE WITH THE PUBLICATION ENTITLED 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- DISTURBED AREAS: ALL AREAS DISTURBED BY THE CONTRACTOR DURING OR PRIOR TO CONSTRUCTION, NOT DESIGNATED TO RECEIVE PAVING, MULCH OR SOLID SOD SHALL BE FINE GRADED, SEEDED AND MULCHED IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES AND SPECIFICATIONS SHOWN ON THE SEDIMENT CONTROL DRAWINGS.
- REPAIR AND REPLACEMENT OF DAMAGE CAUSED BY CONTRACTOR AND SUBCONTRACTORS: IN THE EVENT THAT THE CONTRACTOR OR ANY OF HIS SUBCONTRACTORS DAMAGE ANY EXISTING CURB, GUTTER, PAVING, UTILITIES, SIDEWALKS, TREES, SHRUBS, LAWNS, OR ANY OTHER EXISTING CONDITIONS (NOT INDICATED TO BE DEMOLISHED), OR ANY NEWLY INSTALLED PROPOSED IMPROVEMENT, THE GENERAL CONTRACTOR SHALL REPAIR AND REPLACE SAID DAMAGE TO OWNER'S SATISFACTION AT GENERAL CONTRACTOR'S SOLE COST AND EXPENSE.
- BENCHMARKS: SEE GRADING AND SEDIMENT CONTROL PLAN.
- ELEVATION AND LABELING: ALL SPOT GRADE ELEVATIONS IN ROADWAYS AND PARKING LOTS ARE FOR BOTTOM OF CURB UNLESS OTHERWISE NOTED. ELEVATIONS ON HARD SURFACES (ROADS, WALKS, WALLS, STEPS, MANHOLES, INLETS, ETC.) ARE LABELED TO THE HUNDRETH OF A FOOT (E.G. 245.45). ELEVATIONS ON PROPOSED LAWN AND PLANTING AREAS ARE LABELED TO THE TENTH OF A FOOT (E.G. 245.5).
- DIMENSIONS: UNLESS OTHERWISE NOTED ON THE DRAWING, ALL DIMENSIONS SHOWN ON THE SITE DRAWINGS FOLLOW THESE CONVENTIONS:
  - DIMENSIONS TO A BUILDING OR RETAINING WALL ARE TO THE FACE OF THE WALL;
  - DIMENSIONS TO A CURB ARE TO THE FACE (NOT THE BACK) OF THE CURB;
  - DIMENSIONS TO A FENCE ARE TO THE CENTERLINE OF THE FENCE;
  - DIMENSIONS FOR SIDEWALKS ADJUTING A CURB ARE FROM THE FACE OF CURB TO THE BACK EDGE OF THE WALK;
  - DIMENSIONS FOR OTHER SIDEWALKS OR OPEN PAVING SECTIONS ARE MEASURED TO THE EDGE OF PAVING;
  - DIMENSIONS TO A MANHOLE, INLET, CLEANOUT, PIPE BEND, VALVE, FIRE HYDRANT OR OTHER UTILITY APPURTENANCE ARE TO THE CENTER OF THE STRUCTURE;
  - DIMENSIONS FOR STEPS ARE TO THE OUTER EDGE OF THE STAIRCASE AND THE NOSE OF THE TOP OR BOTTOM STEP;
  - LAYOUT OF SEDIMENT CONTROL MEASURES AND PLANT MATERIAL SHALL BE SCALED.
- GRADING: IT IS THE INTENT OF THE GRADING DESIGN TO ACHIEVE POSITIVE DRAINAGE AND AESTHETICALLY PLEASING VERTICAL CURVES AND LINES. TRANSITIONS BETWEEN EXISTING AND PROPOSED PAVEMENT SHALL BE SMOOTH AND JOINTS FLUSH. UNLESS OTHERWISE EXPRESSLY NOTED ON THE PLAN (BY ARROW WITH THE PERCENT SLOPE LABELED), ALL PROPOSED BITUMINOUS PAVING SHALL HAVE A SLOPE OF AT LEAST 2 PERCENT AND ALL CONCRETE SHALL HAVE A MINIMUM SLOPE OF 15 PERCENT IN THE DIRECTION INDICATED BY PROPOSED CONTOURS. UNPAVED AREAS SHALL HAVE A MINIMUM SLOPE OF 2 PERCENT AND A MAXIMUM SLOPE OF 2:1. FINAL GRADING SHALL ACHIEVE POSITIVE SURFACE DRAINAGE AWAY FROM BUILDINGS AND TOWARD DRAINAGE FACILITIES (SWALES, GUTTERS, INLETS, ETC.).

- COMPACTION: ALL EARTH FILL MATERIAL UNDER SLABS, FOOTINGS AND PAVED AREAS SHALL BE PLACED IN 8" LOOSE LAYERS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 698 OR AS INDICATED IN THE PROJECT'S GEOTECHNICAL REPORT. ALL OTHER FILL SHALL BE COMPACTED TO 40%.
- HEADINGS: THE HEADINGS CONTAINED IN THESE GENERAL NOTES ARE FOR THE CONVENIENCE OF THE READER ONLY AND SHALL NOT LIMIT THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLETING SUCH WORK.
- NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES): IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT ALL THE PROVISIONS AND REQUIREMENTS OF THE NPDES PERMIT. THE PERMIT HAS BEEN APPLIED FOR BY THE OWNER, BUT NO LAND DISTURBANCE IS PERMITTED UNTIL THE NPDES PERMIT HAS BEEN ISSUED.
- ALL SIDEWALKS, PATHS AND OTHER PAVED AREAS SHALL BE FINISH GRADED WITH A MAXIMUM LONGITUDINAL SLOPE OF 5% (1:20) AND A MAXIMUM CROSS SLOPE OF 2% (1:50) UNLESS OTHERWISE NOTED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL SITE ELEMENTS ARE CONSTRUCTED IN ACCORDANCE WITH THE ADA 2010 STANDARDS FOR ACCESSIBLE DESIGN AND CURRENT LOCAL REQUIREMENTS.
- TO THE EXTENT THAT QUANTITIES MAY BE LISTED ON THESE PLANS, THEY ARE FOR PERMITTING PURPOSES ONLY AND NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL FORM HIS OWN CONCLUSIONS ABOUT THE QUANTITIES OF ALL MATERIALS AND OPERATIONS NECESSARY TO COMPLETE THE PROJECT.



- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- 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 SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

**SITE ANALYSIS DATA CHART**

A. TOTAL PROJECT AREA:	11,42 AC± / 491,446 SF
B. AREA OF PLAN SUBMISSION:	5,35 AC± / 233,236 SF
C. LIMIT OF DISTURBED AREA:	5,35 AC± / 233,236 SF
D. PRESENT ZONING DESIGNATION:	NT
E. PROPOSED USE FOR SITE AND STRUCTURES:	INDOOR TENNIS, ASSOCIATED PARKING & SWM
F. NUMBER OF PARKING SPACES REQUIRED:	41 SPACES
G. NUMBER OF PARKING SPACES PROVIDED:	42 SPACES
H. BUILDING COVERAGE OF SITE:	128 AC. 43% OF GROSS SITE
I. TOTAL BUILDING AREA:	44,914 GSF
J. FIRST FLOOR BUILDING AREA:	41,475 GSF
K. SECOND FLOOR BUILDING AREA:	2,114 GSF

**SURVEY NOTE**

BEARINGS, DISTANCES, COORDINATES AND ELEVATIONS AS SHOWN HEREON ARE BASED ON THE MARYLAND STATE SYSTEM OF PLANE COORDINATES, NAD 83 (2011 Adjustment) (EPOCH 2010) AND THE NAVD 88 VERTICAL SYSTEM FROM GPS OBSERVATIONS TO HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SURVEY DIVISION CONTROL STATIONS AS CITED BELOW, DURING A FIELD-RUN SURVEY BY HANOVER LAND SERVICES, INC. ON SEPTEMBER 11, 2015:

STATION	NORTH	EAST	ELEVATION	DESCRIPTION
36FC	594921.554	1363648.217	375.741'	DISC IN CONCRETE
36F1	560281.912	1364530.216	426.213'	DISC IN CONCRETE
3TDA	558661.508	1366251.542	374.193'	DISC IN CONCRETE
3TDB	560307.343	1366249.240	345.412'	DISC IN CONCRETE

**PARKING TABULATION**

I. REQUIRED PARKING (PARKING RATIOS PROPOSED ARE IN ACCORDANCE WITH A PARKING ANALYSIS SUBMITTED BY COLUMBIA ASSOCIATION FOR DPZ REVIEW ON JULY 21, 2016 AND APPROVED ON SEPTEMBER 9, 2016).

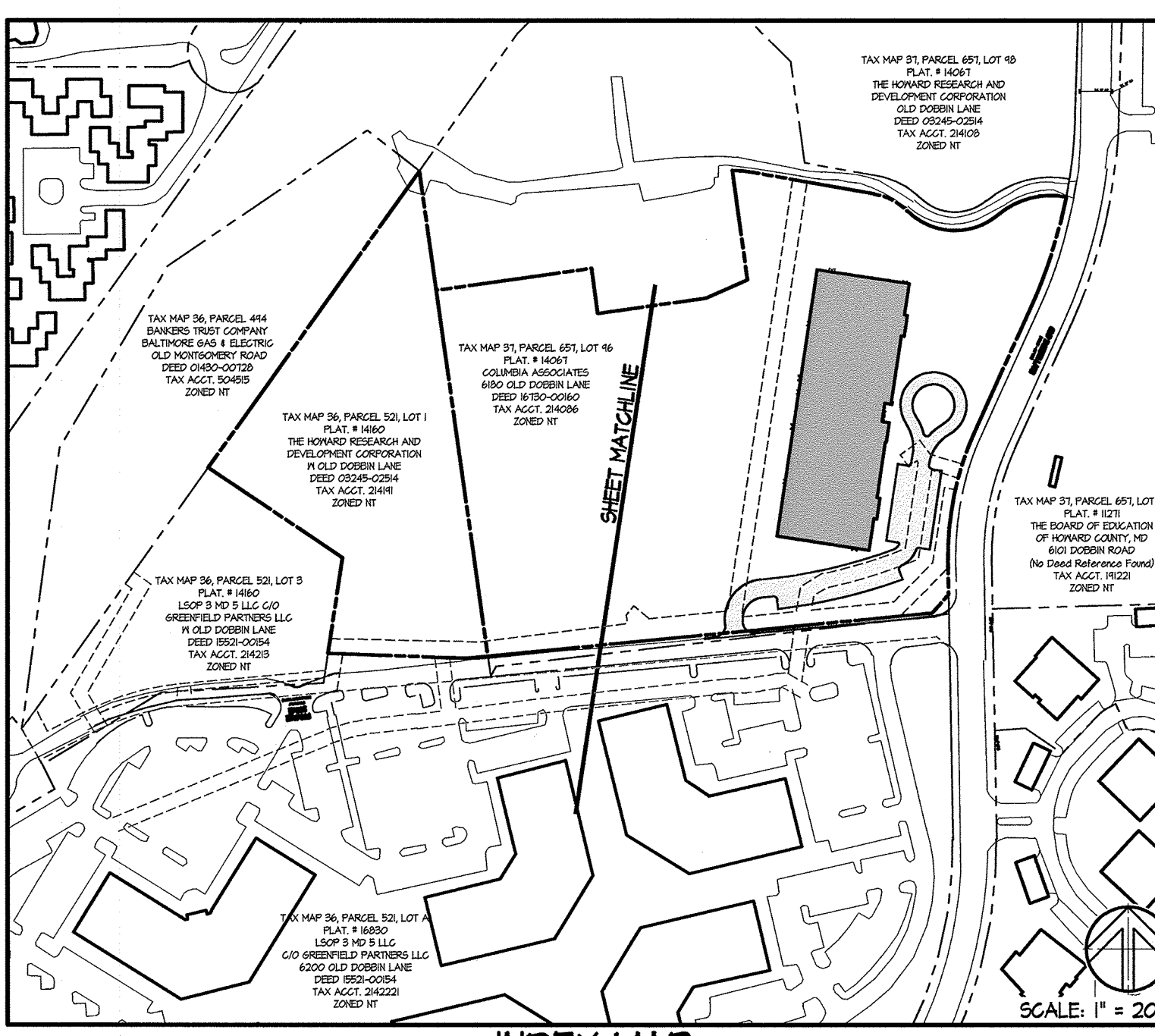
SPECIFIC USE	GROSS AREA	RATE	PARKING REQUIRED
TENNIS COURTS	6 COURTS	6 SPACES/COURT	36 SPACES
LOUNGE AREA	4905 SF	1.0 SPACES/1000 SF	5 SPACES
PROVIDED:			41 SPACES REQUIRED
SURFACE SPACES PROVIDED:	40 SPACES		
ACCESSIBLE SPACES PROVIDED:	2 SPACES		
TOTAL SPACES PROVIDED:	42 SPACES > 41 SPACES REQUIRED		

**ASSOCIATED PROJECT REVIEW FILE NUMBERS**

PLANS ASSOCIATED WITH 6180 OLD DOBBIN LANE:  
 FDP-147-A-IV PART II, ECP-16-035, 24-4411-D, FDP-147-A-VII

**FOREST CONSERVATION**

THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION BASED ON SECTION 16.1202(b)(iv). A PLANNED UNIT DEVELOPMENT WHICH HAS PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 50% OR MORE OF THE LAND IS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992.

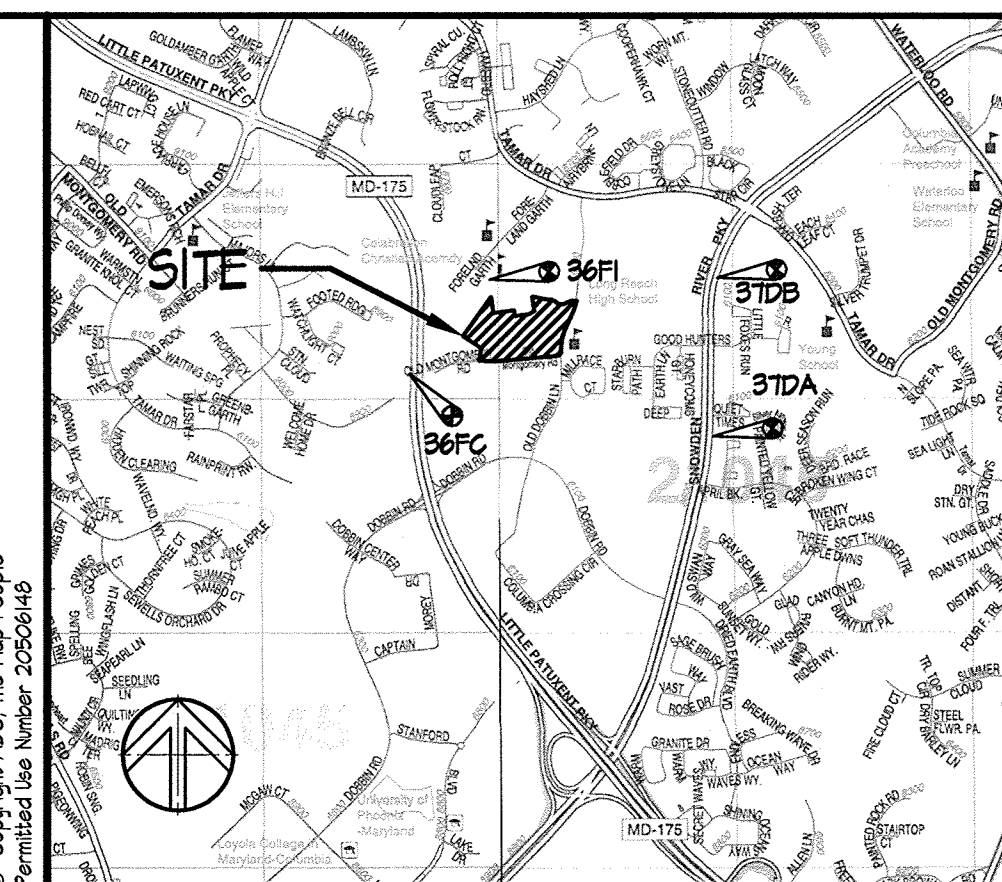
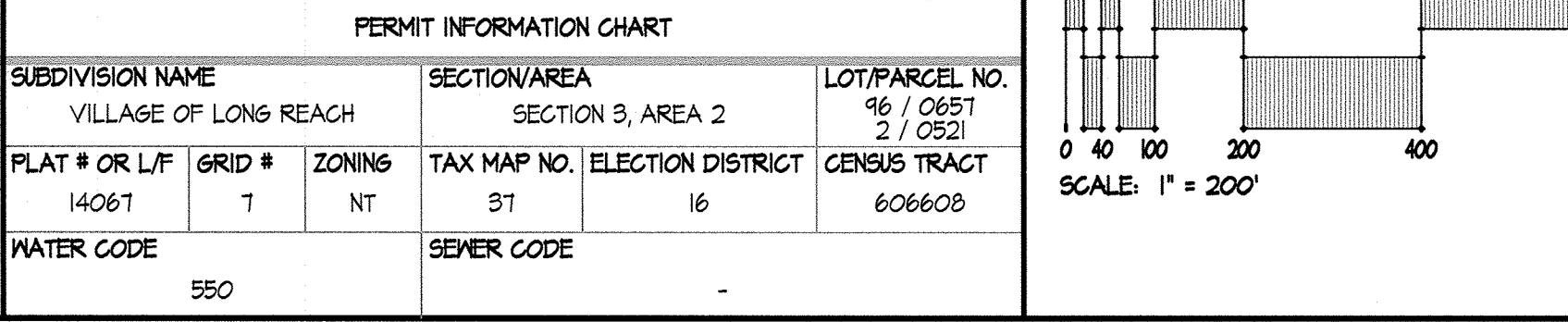


APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie Jaffee* 2-17-17  
 DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

APPROVED: ADDRESS CHART  
 LOT/PARCEL STREET ADDRESS  
 LOT 46 / PARCEL 0651 6180 OLD DOBBIN LANE, COLUMBIA, MD 21045  
 LOT 2 / PARCEL 0521 OLD DOBBIN LANE, COLUMBIA, MD 21045

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.
VILLAGE OF LONG REACH		SECTION 3, AREA 2		46 / 0651
FLAT # OR L/P	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT
	14061	7	NT	3T
WATER CODE	SEWER CODE		CENSUS TRACT	
550			606608	



**VICINITY MAP**  
 (HOWARD COUNTY MAP - ADC 2012 - 33 F2 & 34 A2)  
 1"=2000'

**DATA SOURCES**

EXISTING CONDITIONS SHOWN ON THIS PLAN ARE BASED UPON HOWARD COUNTY GIS, A FIELD RUN TOPOGRAPHIC AND BOUNDARY SURVEY PERFORMED BY HANOVER LAND SERVICES, DATED OCTOBER 11, 2015 AND SUBSURFACE UTILITY DESIGNATING PERFORMED BY A1 DATA, DATED OCTOBER 22, 2015.

**SHEET LIST TABLE**

SHEET #	SHEET TITLE
C0.01	COVER SHEET
C0.02	SITE NOTES
C1.01	EXISTING CONDITIONS & DEMOLITION PLAN
C1.02	EXISTING CONDITIONS & DEMOLITION PLAN
C1.11	SITE LAYOUT PLAN
C1.12	SITE LAYOUT PLAN
C1.21	DETAIL REFERENCE PLAN
C1.22	DETAIL REFERENCE PLAN
C1.31	SITE UTILITY PLAN
C1.32	SITE UTILITY PLAN
C2.01	SITE DETAILS
C2.02	SITE DETAILS
C2.03	SITE DETAILS
C3.01	STORM DRAIN PROFILES
C3.02	STORM DRAIN PROFILES
C3.03	STORM DRAIN PROFILES
C3.04	UTILITY PROFILES
C3.05	STORM DRAIN STRUCTURE TABLES
C4.01	GRADING PLAN
C4.02	GRADING PLAN
C4.11	GRADING PLAN ENLARGEMENT
C4.12	GRADING PLAN ENLARGEMENT
C4.13	GRADING PLAN ENLARGEMENT
C4.14	GRADING PLAN ENLARGEMENT
C4.15	GRADING PLAN ENLARGEMENT
C4.16	GRADING PLAN ENLARGEMENT
ESC1.01	EXISTING EROSION & SEDIMENT CONTROL PLAN
ESC1.02	EXISTING EROSION & SEDIMENT CONTROL PLAN
ESC1.11	PROPOSED EROSION & SEDIMENT CONTROL PLAN
ESC1.12	PROPOSED EROSION & SEDIMENT CONTROL PLAN
ESC2.01	EROSION & SEDIMENT CONTROL DETAILS
ESC2.02	EROSION & SEDIMENT CONTROL DETAILS
ESC2.03	EROSION & SEDIMENT CONTROL DETAILS & NOTES
ESC2.04	EROSION & SEDIMENT CONTROL NOTES
SNM1.01	STORMWATER MANAGEMENT PLAN
SNM2.01	STORMWATER MANAGEMENT DETAILS & NOTES
SNM2.11	STORMWATER MANAGEMENT DETAILS
SNM2.12	STORMWATER MANAGEMENT DETAILS
SNM2.13	STORMWATER MANAGEMENT DETAILS
SNM2.14	STORMWATER MANAGEMENT DETAILS
SNM2.01	STORMWATER MANAGEMENT SOIL BORINGS
SNM3.02	STORM DRAINAGE AREA MAP
L1.01	PLANTING PLAN
L1.02	PLANTING PLAN
L2.01	PLANTING DETAILS & NOTES

**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 1515 Ardenville Pike • Poolesville, Maryland 21131  
 (410) 883-3388 • Fax (410) 883-3389

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**  
**COVER SHEET**

**LONG REACH**  
**TENNIS CLUB**  
**VILLAGE OF LONG REACH**  
**SECTION 3, AREA 2**  
**LOT 96**

**REVISIONS:**

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMS SET	05/04/2016
45% CD SET	04/15/2016

**SEAL:**

**DRAWN BY:** SRI  
**CHECKED BY:** DJS  
**SCALE:** AS NOTED  
**DATE:** 07/29/16  
**SRI PROJECT NO.:** 15034  
**DRAWING NO.:**

**No As-Built Information this sheet.**

**OWNER/DEVELOPER:**  
 COLUMBIA ASSOCIATION  
 6310 HILLSIDE COURT / SUITE 1000  
 COLUMBIA, MD 21046 / 410-715-3000

**C0.01**  
 SHEET 1 OF 46  
 GDP-16-053

Z:\1610034-CA\_Tennis Pavilion\04-DMS\COI-1\_Cover\_Sheet.dwg-C0.01 Sep 15, 2016 04:07:00 am

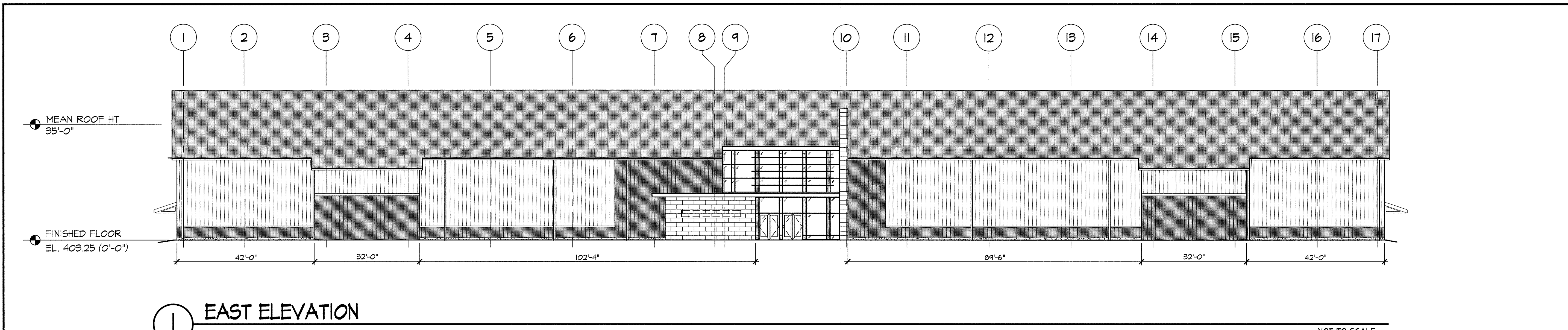
REVISIONS:

DD SET	02/19/2016
60% CHECK SET	04/29/2016
PERM SET	09/09/2016
95% CD SET	04/15/2016

SEAL:  
PROFESSIONAL ENGINEER  
JAMES W. BRINGTON  
No. 12516  
EXPIRES 12/31/2018  
PREPARED OR APPROVED BY ME, AND THAT I AM  
A DULY LICENSED PROFESSIONAL ENGINEER  
UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 2068 EXPIRATION DATE: 07/08/2011  
COPYRIGHT 2016, SRP ARCHITECTS, INC.

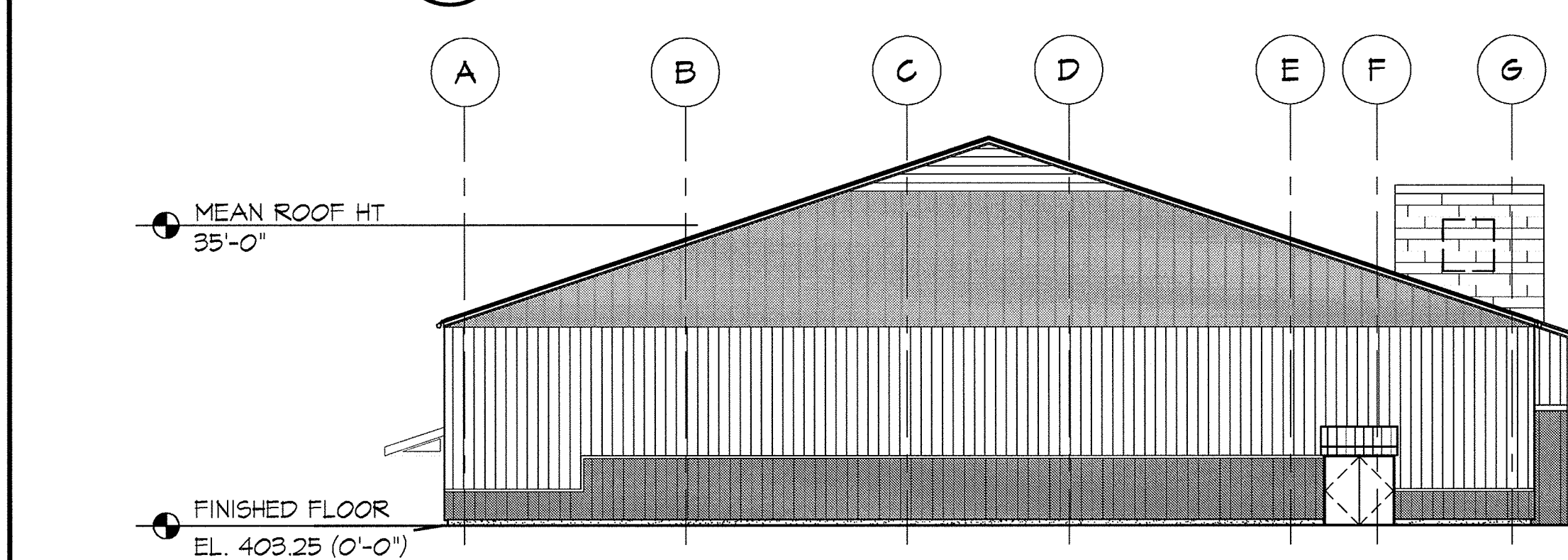
DRAWN BY:  
SRI  
CHECKED BY:  
DJS  
SCALE:  
AS NOTED  
DATE:  
07/29/16  
SRI PROJECT NO.  
15034  
DRAWING NO.

**C0.02**  
SHEET 2 OF 46  
SDP-16-053



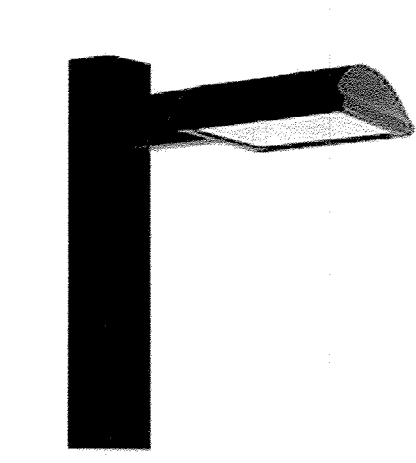
1 EAST ELEVATION

NOT TO SCALE



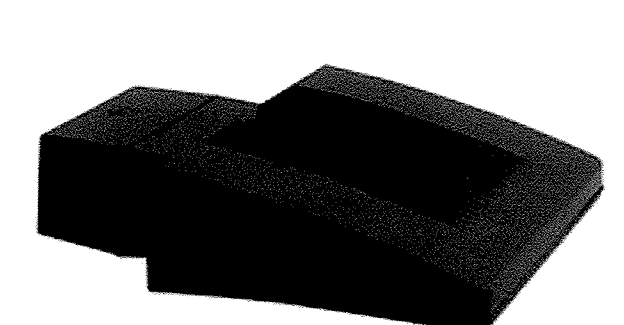
2 SOUTH ELEVATION

NOT TO SCALE



3 POST-MOUNTED AREA FIXTURE IMAGE

NOT TO SCALE



5 WALL-MOUNTED DOWNLIGHT FIXTURE IMAGE

NOT TO SCALE

**LIGHTING FIXTURE SCHEDULE (SEE DRAWING C1.31 FOR PROPOSED LOCATIONS)**

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMP DATA			VOLTS	REMARKS
				QTY.	TYPE	TOTAL WATTS		
⊕	24"X18" POST-MOUNTED AREA FIXTURE	RAB LIGHTING	ALED3T10	6	LED	70	277	EXTERIOR PARKING LOT LIGHTING
◀	1"x4" WALL-MOUNTED DOWNLIGHT FIXTURE	RAB LIGHTING	MPLEDFC26	2	LED	52	277	EXTERIOR BUILDING LIGHTING
⊕	6" DIA. x 33" H "ANNAPOLIS" BOLLARD, STANDARD STYLE, SURFACE MOUNTED, WITH TOP-MOUNTED LED LAMPS, SILVER COLOR, W/ MANUFACTURER'S SILVER PROTECTIVE SLEEVE.	LANDSCAPE FORMS, INC.	ANNAPOLIS	5	LED	N/A	N/A	EXTERIOR BOLLARD WITH TOP-MOUNT LUMINARIES

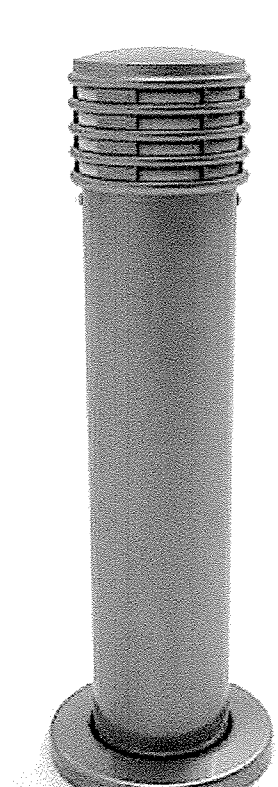
**EXISTING VEGETATIVE COMMUNITIES**

THE SITE IS PRIMARILY COVERED WITH A YOUNG SUCCESSIONAL FOREST COMMUNITY. RED MAPLE, BLACK CHERRY, TULIP POPLAR, BLACK LOCUST, MULBERRY, AND SLIPPERY ELM MAKE UP THE DOMINANT CANOPY. MULTIFLORA ROSE, JAPANESE HONEYSUCKLE, AND AUTUMN OLIVE PRIMARILY OCCUPY THE UNDERSTORY, WHERE PRESENT.

THE WESTERN EDGE OF THE PROJECT AREA IS MORE OPEN AND APPEARS TO HAVE ONCE BEEN USED AS A DRIVEWAY OR ROADWAY. THIS AREA CONTAINS A FEW LARGE TREES WITH LARGE CANOPY BREAKS THAT ARE DOMINATED BY OLD FIELD VEGETATION. SILVER MAPLE, RED MAPLE, BLACK LOCUST, BLACK CHERRY AND BLACK WALNUT WERE NOTED IN THIS AREA.

THE WETLAND AREAS PRESENT ON SITE ARE GENERALLY FORESTED, ALTHOUGH CANOPY CLOSURE IS NOT DENSE AND THE STEM COUNT WITHIN THE WETLANDS IS MARGINAL. MOST CANOPY COVERAGE IS GENERATED FROM TREES ALONG THE PERIMETER OF THE WETLANDS WITH ONLY A FEW SCATTERED TREES BEING PRESENT WITHIN THE WETLANDS THEMSELVES. RED MAPLE IS THE DOMINANT TREE IN THE COMMUNITY WITH SLIPPERY ELM, BLACK GUM AND BLACK WILLOW OBSERVED IN THIS AREA. THE PRIMARY VEGETATION WITHIN THE WETLAND IS HERBACEOUS WITH JAPANESE STILT GRASS BEING A COMMON INVASIVE SPECIES. NATIVE WETLAND VEGETATION OBSERVED WITHIN THE WETLANDS INCLUDES JACK-IN-THE-PULPIT, JEWELWEED, FALSE NETTLE AND LIRIOD SEDGE. SPICEBUSH AND ARROWWOOD VIBURNUM WERE ALSO FOUND WITHIN THE WETLANDS, PRIMARILY ALONG THE OUTER EDGES.

THE UPLAND/WETLAND BOUNDARY IS GENERALLY DEFINED BY TOPOGRAPHIC CHANGES AND CHANGES TO THE SOIL CONDITIONS, BUT ALSO BY A CHANGE IN VEGETATION. THE TYPICAL UPLAND COMMUNITY INCLUDES BLACK CHERRY, BLACK LOCUST, MULTIFLORA ROSE, AND TULIP POPLAR.



4 LIGHTED BOLLARD IMAGE

NOT TO SCALE

**STORMWATER MANAGEMENT INFORMATION CHART**

LOT/PARCEL NO.	FACILITY NAME & NUMBER	PRACTICE TYPE	PUBLIC	PRIVATE	HOA MAINTAINS	MISCELLANEOUS
96 / 0657	M-6 MB#1	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	M-6 MB#2	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	M-6 MB#3	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	M-6 MB#4	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	M-6 MB#5	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	M-6 MB#6	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	M-6 MB#7	M-6 MICRO-BIORETENTION	NO	YES	NO	-
96 / 0657	N-2 #1	N-2 NON-ROOF TOP DISC.	NO	YES	NO	-

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APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Vickie Zylka* 2-17-17  
DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE November 17, 2016

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Chad Clark* 2-8-17  
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT & INF  
*Kurt Schuler* 2-13-17  
DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Vickie Zylka* 2-17-17  
DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE November 17, 2016

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Chad Clark* 2-8-17  
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT & INF  
*Kurt Schuler* 2-13-17  
DATE

ADDRESS CHART

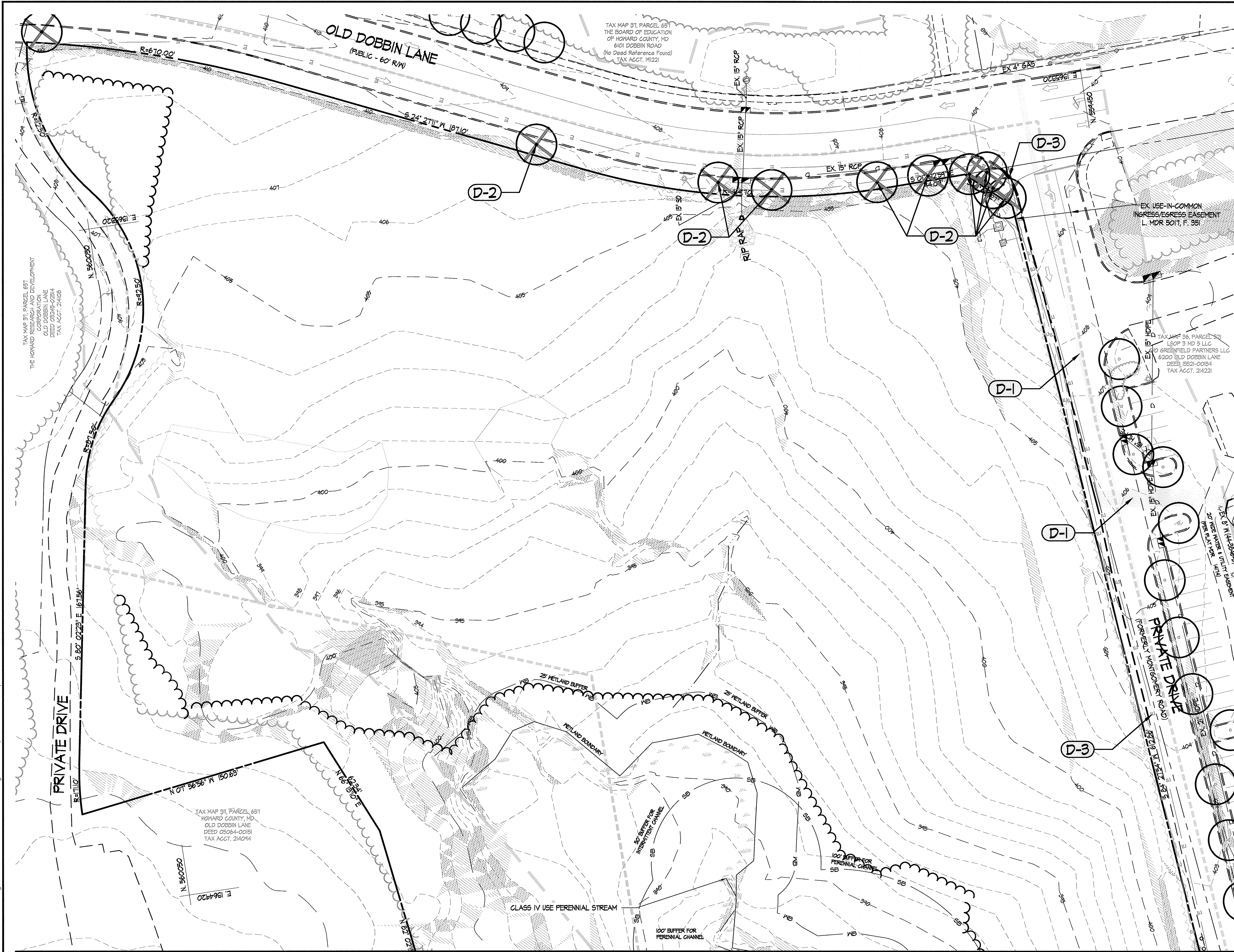
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0657	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0657 2 / 0521
FLAT # OR L/F	GRID #	ZONING
14067	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
37	16	606608
WATER CODE	SEWER CODE	
550	-	

NOTE:  
ON SEPTEMBER 1, 2016, THE LONG REACH COMMUNITY ASSOCIATION RESIDENT ARCHITECTURAL COMMITTEE APPROVED THE TENNIS CLUB BUILDING AND LANDSCAPING PLAN.

No As-Built  
Information  
this sheet.



- LEGEND** (THIS LEGEND APPLIES TO C1.01 AND C1.02 ONLY)
- PROPERTY LINE
  - EXISTING CONTOURS
  - EXISTING TREELINE TO REMAIN
  - EXISTING TREES TO REMAIN
  - EXISTING TREES TO BE REMOVED
  - EXISTING WALK TO REMAIN
  - EXISTING ROAD TO REMAIN
  - EXISTING CURB TO REMAIN
  - EXISTING CURB TO BE REMOVED
  - EXISTING PAVING TO BE REMOVED
  - EX. 15" SD TO REMAIN
  - EX. 15" SD TO BE REMOVED
  - EX. 6" WATER TO BE REMOVED
  - EX. 8" SAN TO BE REMOVED
  - EX. 2" GAS TO BE REMOVED
  - EX. 110V E TO BE REMOVED
  - EXISTING LIGHTING TO BE REMOVED
  - EXISTING WETLANDS
  - WETLAND BUFFER
  - EXISTING STREAM
  - EXISTING STREAM BUFFER
  - TOPOGRAPHIC SURVEY LIMITS
  - SUBSURFACE UTILITY SURVEY LIMITS
  - EXISTING 25% SLOPES
  - EXISTING 15% - 25% SLOPES
  - PROPOSED TREE LINE

- DEMOLITION NOTES** (THESE NOTES APPLY TO THIS SHEET ONLY)
- D-1** SAW CUT AND REMOVE EXISTING BITUMINOUS PAVING FOR PROPOSED UTILITY. (SEE DRAWING C1.01.)
  - D-2** REMOVE EXISTING TREE, STUMP, AND MAJOR ROOTS. REPLACE WITH APPROVED COMPACTED FILL.
  - D-3** SAW CUT AND REMOVE EXISTING CURB. (REFER TO DRAWING C1.01 AND C1.02 FOR NEW CONSTRUCTION.)

**GENERAL DEMOLITION NOTES**

THERE IS A REQUIREMENT TO RE-SPREAD 4" DEPTH TOPSOIL OVER ALL PROPOSED SEEDED AREAS. CONTRACTOR MAY STRIP AND STOCKPILE MATERIAL MEETING THE REQUIREMENTS FOR TOPSOIL FOR RE-SPREADING DURING FINAL GRADING OPERATIONS.



**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**  
**EXISTING CONDITIONS & DEMOLITION PLAN**

**LONG REACH TENNIS CLUB**  
**VILLAGE OF LONG REACH**  
**SECTION 3, AREA 2**  
**LOT 96**

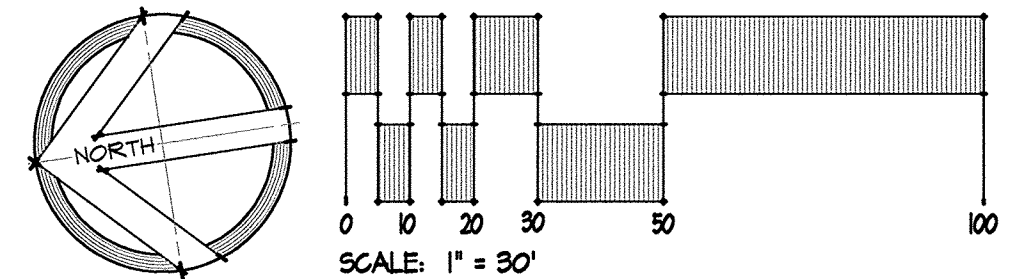
**REVISIONS:**

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	09/15/2016

**SEAL:**

**DRAWN BY:** SRI  
**CHECKED BY:** DJS  
**SCALE:** AS NOTED  
**DATE:** 07/29/16  
**SRI PROJECT NO.:** 15034  
**DRAWING NO.:**

No As-Built Information this sheet.



MATCHLINE - SEE SHEET C1.02

**APPROVED: DEPARTMENT OF PLANNING & ZONING**

*William J. SRI* 2-17-17  
 DIRECTOR DATE

*Christy Edick* 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Kathleen* 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**APPROVED PLANNING BOARD OF HOWARD COUNTY**

DATE November 17, 2016

**ADDRESS CHART**

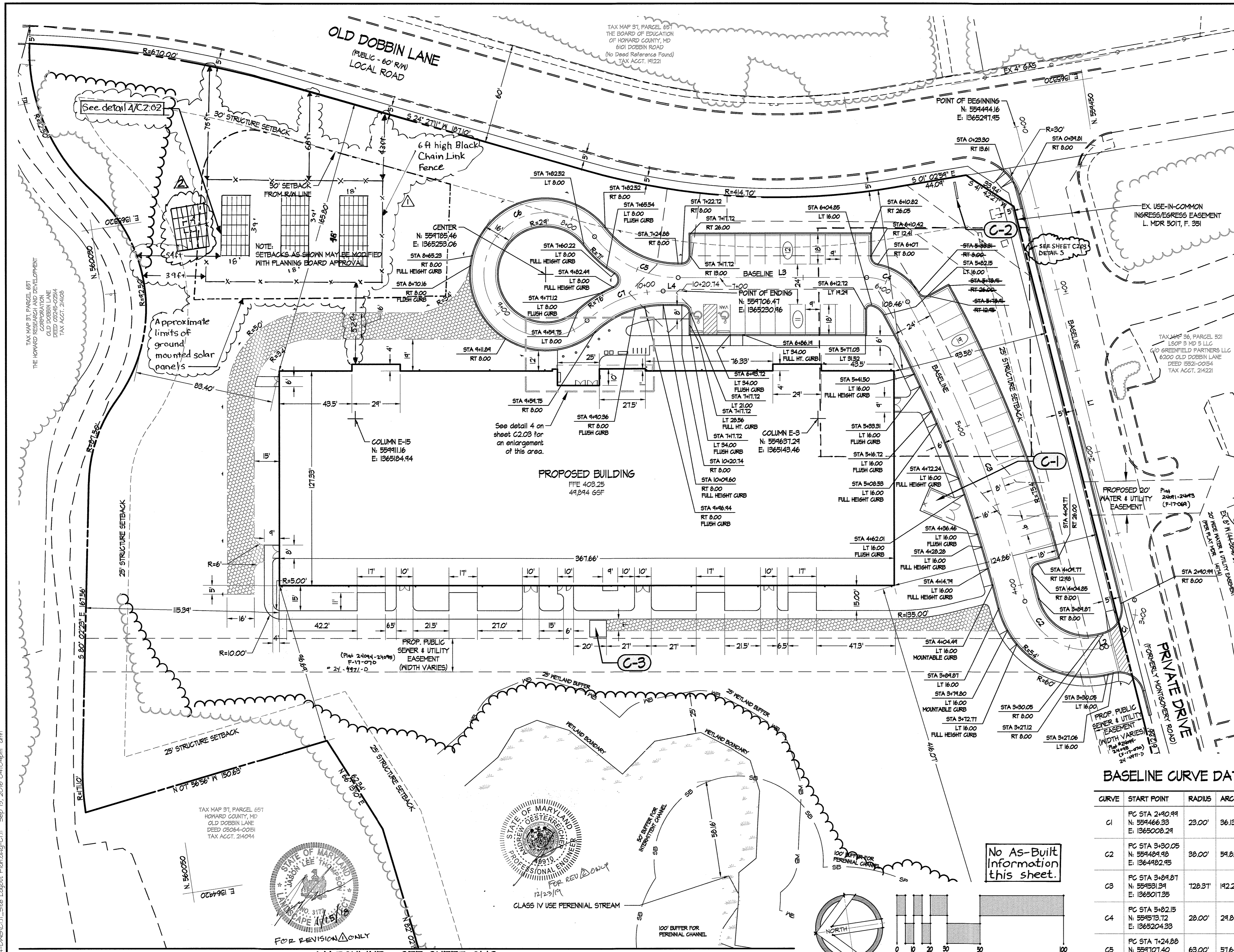
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

**PERMIT INFORMATION CHART**

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.			
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651			
FLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	31	16	606608
WATER CODE	SEWER CODE				
550	-				

Z:\15034-CA\_Tennis Pavilion\04-DWG\C1.01\_Existing Conditions & Demolition Plan.dwg-C1.01 Sep 15, 2016 04:06pm .cmh





### LEGEND (THIS LEGEND APPLIES TO C1.1 AND C1.2 ONLY)

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING ROAD
- EXISTING CURB
- EXISTING BUILDING
- EXISTING WETLANDS
- WETLAND BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- PROPOSED WOODLINE
- PROPOSED CURB
- PROPOSED LIGHT DUTY CONCRETE WALK (SEE DETAIL 5, C2.0)
- PROPOSED REINFORCED TURF (SEE DETAIL 1, C2.0)
- PROPOSED EASEMENT

### CONSTRUCTION NOTES (THESE NOTES APPLY TO THIS SHEET ONLY)

- (C-1)** PROPOSED TRASH ENCLOSURE. (SEE ARCHITECTURAL DRAWINGS).
- (C-2)** PROPOSED SIGN. (BY OTHERS).
- (C-3)** PROPOSED TRANSFORMER PAD. (SEE ELECTRICAL PLANS).

### GENERAL NOTES

- UNLESS OTHERWISE SHOWN ON PLAN, CONCRETE WALKS SHALL BE 5' WIDE.
- UNLESS OTHERWISE SHOWN ON PLAN, ALL CURB RADI SHALL BE 5'.
- UNLESS OTHERWISE SHOWN ON PLAN, ALL WALK RADI SHALL BE 3'.
- PROPOSED SOLAR FIELD WAS APPROVED BY THE LONG REACH ARCHITECTURAL COMMITTEE PER A LETTER DATED NOVEMBER 22, 2017.

### BASILINE DATA

LINE	START POINT	BEARINGS	DISTANCE	END POINT
L1	STA 0+00.00 N: 5594463.66 E: 1365241.94	S84° 36' 34" W	240.44'	STA 2+40.44 N: 5594466.33 E: 1365208.24
L2	STA 3+21.12 N: 5594481.06 E: 1364483.23	N5° 23' 26" E	2.45'	STA 3+30.05 N: 5594484.98 E: 1364482.45
L3	STA 6+11.94 N: 5594515.14 E: 1365222.30	N8° 36' 34" E	112.84'	STA 7+24.88 N: 5594701.40 E: 1365234.20
L4	STA 10+09.60 N: 5594711.40 E: 1365232.63	S8° 36' 34" W	11.4'	STA 10+20.74 N: 5594706.41 E: 1365230.96

### BASILINE CURVE DATA

CURVE	START POINT	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	END POINT
C1	PC STA 2+40.44 N: 5594466.33 E: 1365208.24	23.00'	36.15'	32.53'	N50° 23' 26" W	90° 00' 00"	PT STA 3+21.12 N: 5594481.06 E: 1364483.23
C2	PC STA 3+30.05 N: 5594484.98 E: 1364482.45	30.00'	54.82'	53.83'	N84° 42' 24" E	90° 11' 52"	PT STA 3+84.87 N: 5594531.34 E: 1365011.35
C3	PC STA 3+84.87 N: 5594531.34 E: 1365011.35	128.31'	142.28'	141.72'	NTT 14° 40' E	15° 07' 31"	PT STA 5+82.15 N: 5594515.14 E: 1365204.33
C4	PC STA 5+82.15 N: 5594515.14 E: 1365204.33	28.00'	24.84'	28.45'	N84° 08' 47" E	61° 04' 15"	PT STA 6+11.94 N: 5594515.14 E: 1365222.30
C5	PC STA 7+24.88 N: 5594701.40 E: 1365234.20	63.00'	57.64'	55.65'	N84° 44' 25" E	52° 25' 31"	PT STA 7+82.52 N: 5594703.10 E: 1365210.48
C6	PC STA 7+82.52 N: 5594703.10 E: 1365210.48	31.00'	171.22'	50.26'	N16° 10' 44" W	274° 26' 00"	PT STA 4+54.75 N: 5594703.10 E: 1365222.11
C7	PC STA 4+54.75 N: 5594703.10 E: 1365222.11	60.00'	44.26'	48.75'	S12° 23' 35" E	42° 00' 24"	PT STA 10+09.60 N: 5594711.40 E: 1365232.63

APPROVED: DEPARTMENT OF PLANNING & ZONING  
 Director: *Valerie J. ...* 2-17-17  
 DATE: 2-17-17  
 Chief, Development Engineering Division: *Chad ...* 2-13-17  
 Chief, Division of Land Development: *Walter ...* 2-13-17

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

### ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

### PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651
PLAT # OR L/F	GRID #	ZONING
14061	T	NT
WATER CODE	TAX MAP NO.	ELECTION DISTRICT
550	31	16
SEWER CODE	CENSUS TRACT	
	606608	

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**SITE RESOURCES**  
 INCORPORATED  
 Comprehensive Land Planning & Site Design Services  
 14315 Jurellville Pike • Phoenix, Maryland 21131  
 (410) 683-0388 • Fax (410) 683-3389

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

**SITE LAYOUT PLAN**

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/23/2016
PERM SET	05/04/2016
95% CD SET	09/15/2016
ADDED SOLAR FIELD	1/15/18
ADDED SOLAR POLE MOUNT	12/14/18

SEAL:

PROFESSIONAL ENGINEER  
 JAMES W. ...  
 LICENSE NO. 12516, EXPIRATION DATE: 01/01/2021  
 COMPANY: SITE RESOURCES, INC.

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO: 15034  
 DRAWING NO.

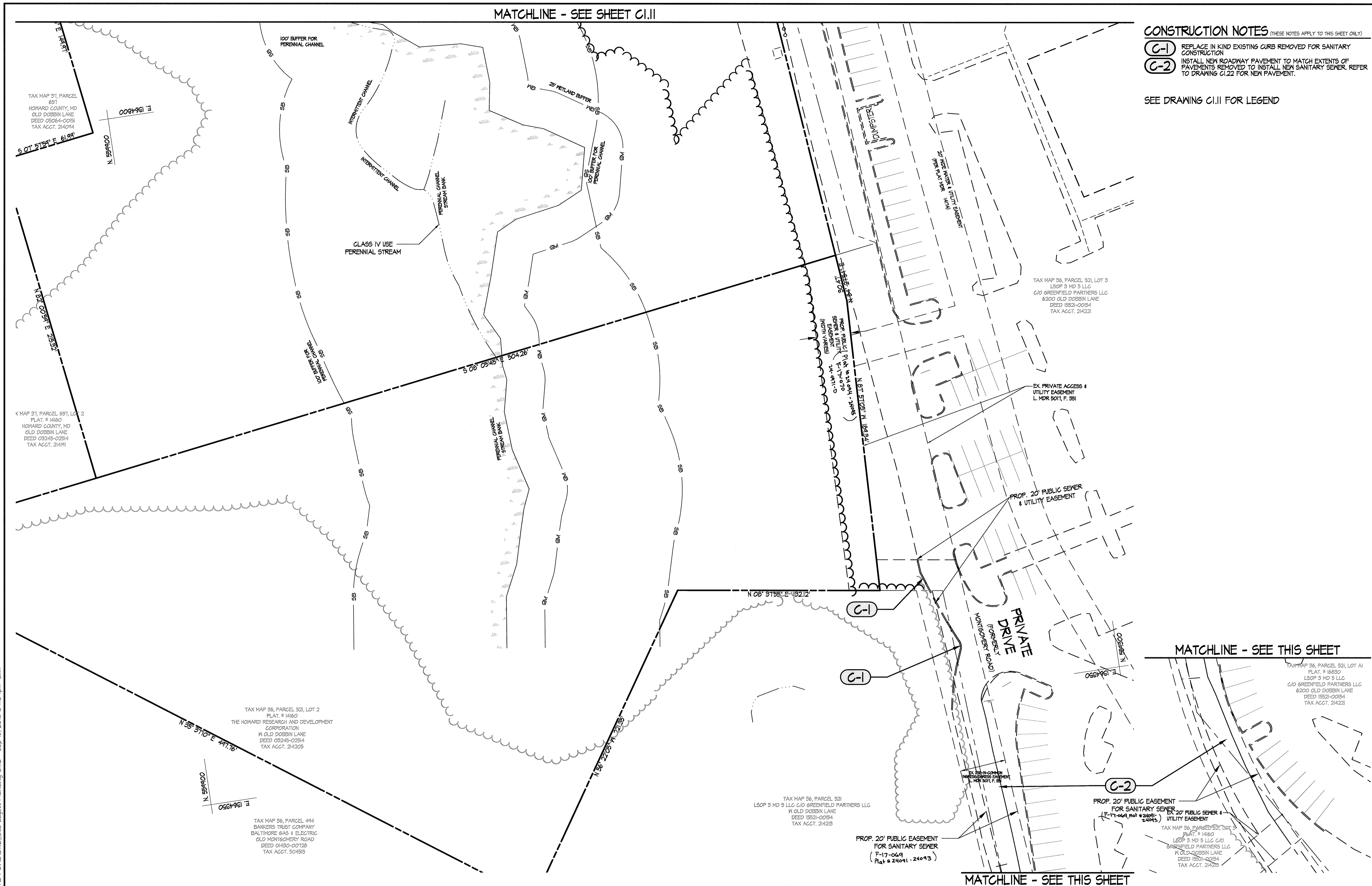
**C1.1**  
 SHEET 5 OF 46  
 SDP-16-053

MATCHLINE - SEE SHEET C1.11

**CONSTRUCTION NOTES** (THESE NOTES APPLY TO THIS SHEET ONLY)

- (C-1)** REPLACE IN KIND EXISTING CURB REMOVED FOR SANITARY CONSTRUCTION
- (C-2)** INSTALL NEW ROADWAY PAVEMENT TO MATCH EXTENTS OF PAVEMENTS REMOVED TO INSTALL NEW SANITARY SEWER. REFER TO DRAWING C1.22 FOR NEW PAVEMENT.

SEE DRAWING C1.11 FOR LEGEND



MATCHLINE - SEE THIS SHEET

MATCHLINE - SEE THIS SHEET

**SITE RESOURCES**  
 Incorporated  
 Comprehensive Land Planning & Site Design Services  
 1415 Jaccardville Pike • Phoenix, Maryland 21151  
 (410) 683-3888 • Fax (410) 683-3882

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 SITE LAYOUT PLAN

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/23/2016
PERM SET	05/04/2016
45% CD SET	04/15/2016

SEAL: [Professional Engineer Seal for James W. ...]

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C1.12**  
 SHEET 6 OF 46

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Nadine J. ...*  
 DIRECTOR  
 DATE: 2-17-17

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

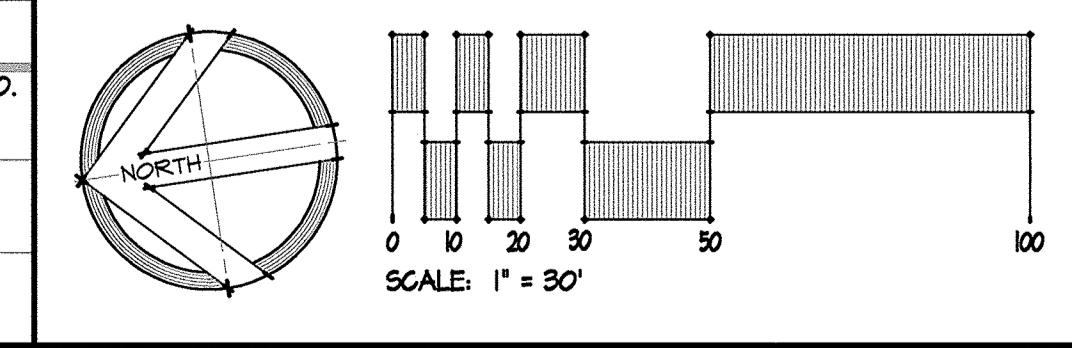
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 2-8-17

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2-13-17

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

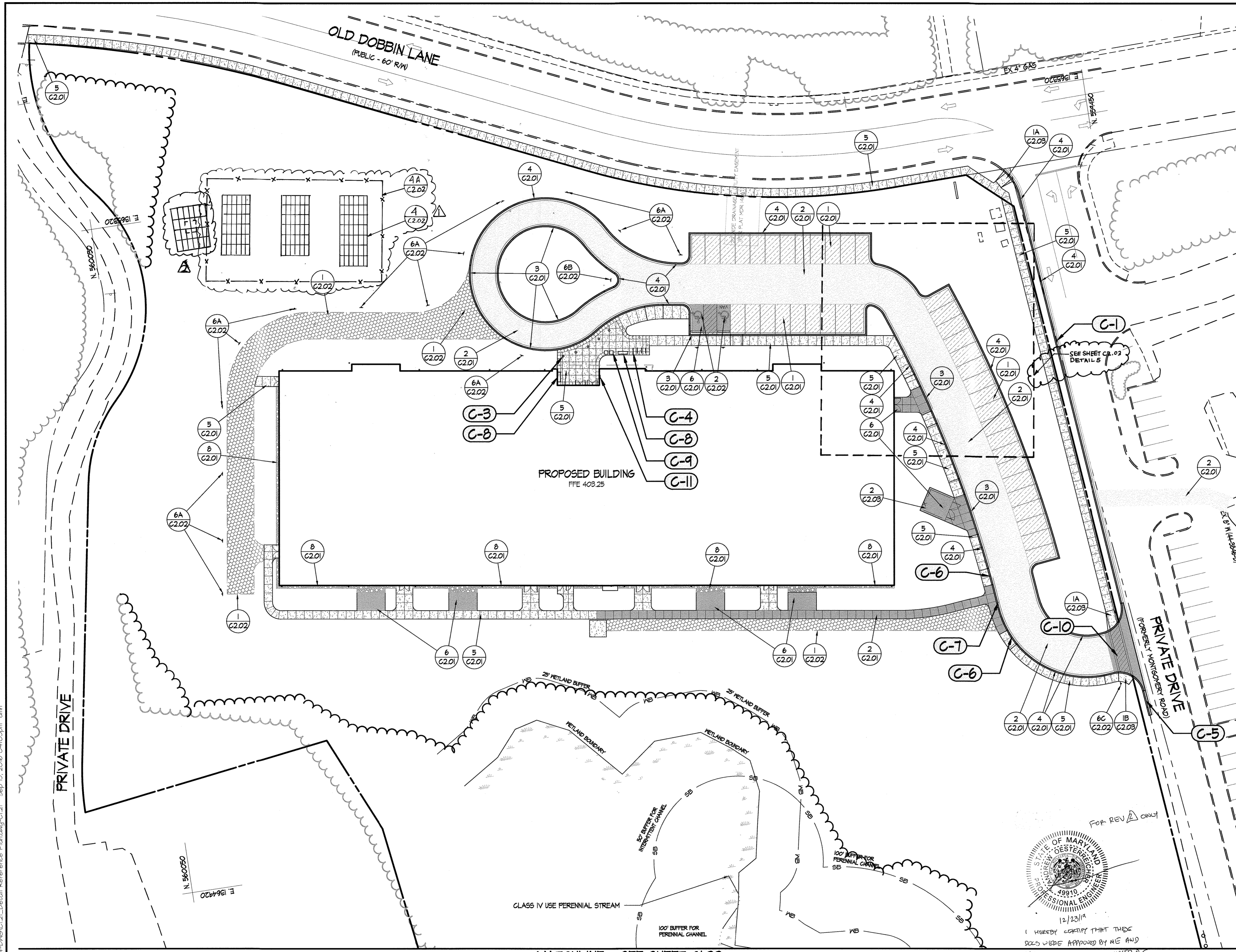
ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	31	16	606608
WATER CODE		SEWER CODE			
550					



No As-Built Information this sheet.

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**LEGEND** (THIS LEGEND APPLIES TO C111 AND C112 ONLY)

- PROPERTY LINE
- EXISTING TREELINE
- EXISTING WALK
- EXISTING ROAD
- EXISTING CURB
- EXISTING BUILDING
- EXISTING WETLANDS
- WETLAND BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- PROPOSED WOODLINE
- PROPOSED CURB
- PROPOSED LIGHT DUTY CONCRETE WALK (SEE DETAIL 5, C2.0)
- PROPOSED HEAVY DUTY BITUMINOUS PAVING (SEE DETAIL 2, C2.0)
- PROPOSED LIGHT DUTY BITUMINOUS PAVING (SEE DETAIL, C2.0)
- PROPOSED HEAVY DUTY CONCRETE PAVING (SEE DETAIL 6, C2.0)
- PROPOSED BUILDING
- DETAIL REFERENCE
- PROPOSED REINFORCED TURF (SEE DETAIL 1, C2.0)

- CONSTRUCTION NOTES:** (THESE NOTES APPLY TO THIS SHEET ONLY)
- C-1** SAW CUT AND REMOVE EXISTING BITUMINOUS PAVING AND BASE MATERIAL. PATCH WITH FULL DEPTH ASPHALT PAVEMENT TO MEET PROPOSED CURB AND GUTTER IN LINE AND GRADE AS NECESSARY FOR FLUSH CONDITION.
  - C-2** NOT USED
  - C-3** LIGHTED BOLLARDS, TYP. OF 5, SEE LIGHTING FIXTURE SCHEDULE ON C0.02 FOR SPECIFICATIONS.
  - C-4** BIKE RACK, TYPICAL OF 4. PRODUCT SHALL BE "LOOP" BY LANDSCAPE FORMS, PHONE: 1-800-521-2546. SURFACE MOUNT INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDE. PROVIDE MANUFACTURER'S STANDARD SILVER METALLIC POWDERCOAT FINISH.
  - C-5** CURB AND GUTTER NOSE DOWN, IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL NO. R-3.02
  - C-6** T CURB AND GUTTER TRANSITION TO MODIFIED CURB AND GUTTER IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL NO. R-3.02
  - C-7** MODIFIED COMBINATION CURB AND GUTTER IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL NO. R-3.01
  - C-8** BENCH TYPICAL OF 2. PRODUCT SHALL BE "STAY" BY LANDSCAPE FORMS, PHONE: 1-800-521-2546. PROVIDE MANUFACTURER'S STANDARD BACKLESS BENCH STYLE SURFACE MOUNT INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDE. PROVIDE MANUFACTURER'S STANDARD SILVER METALLIC POWDERCOAT FINISH.
  - C-9** LITTER RECEPTACLE, TYPICAL OF 2. PRODUCT SHALL BE "PITCH" BY LANDSCAPE FORMS, PHONE: 1-800-521-2546. PROVIDE MANUFACTURER'S STANDARD 28 GALLON CAPACITY SIDE-OPENING STYLE SURFACE MOUNT INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDE. PROVIDE MANUFACTURER'S STANDARD SILVER METALLIC POWDERCOAT FINISH.
  - C-10** 8' WIDE PEDESTRIAN CROSSWALK IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAIL T-1.03.
  - C-11** PROPOSED KNOX BOX. (SEE ARCHITECTURAL PLANS FOR SPECIFICATION)

APPROVED: DEPARTMENT OF PLANNING & ZONING  
 Director: *William J. Ziegler* 2-17-17  
 DATE: 2-8-17  
 Chief, Development Engineering Division  
 Chief, Division of Land Development *g.m.f.* 2-13-17  
 DATE

APPROVED PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

MATCHLINE - SEE SHEET C1.22

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	1	NT	31	16	606608
WATER CODE		SEWER CODE			
550					

STATE OF MARYLAND  
 PROFESSIONAL ENGINEERING  
 12/23/14  
 I HEREBY CERTIFY THAT THESE SECS WERE APPROVED BY ME AND THAT I AM A DULY LICENSED P.E. UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE #49419

NO AS-BUILT INFORMATION THIS SHEET.

SCALE: 1" = 30'

**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 1815 Arrettsville Pike • Potosi, Maryland 21131  
 (410) 863-3300 • Fax (410) 863-3300

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

**DETAIL REFERENCE PLAN**

REVISIONS:

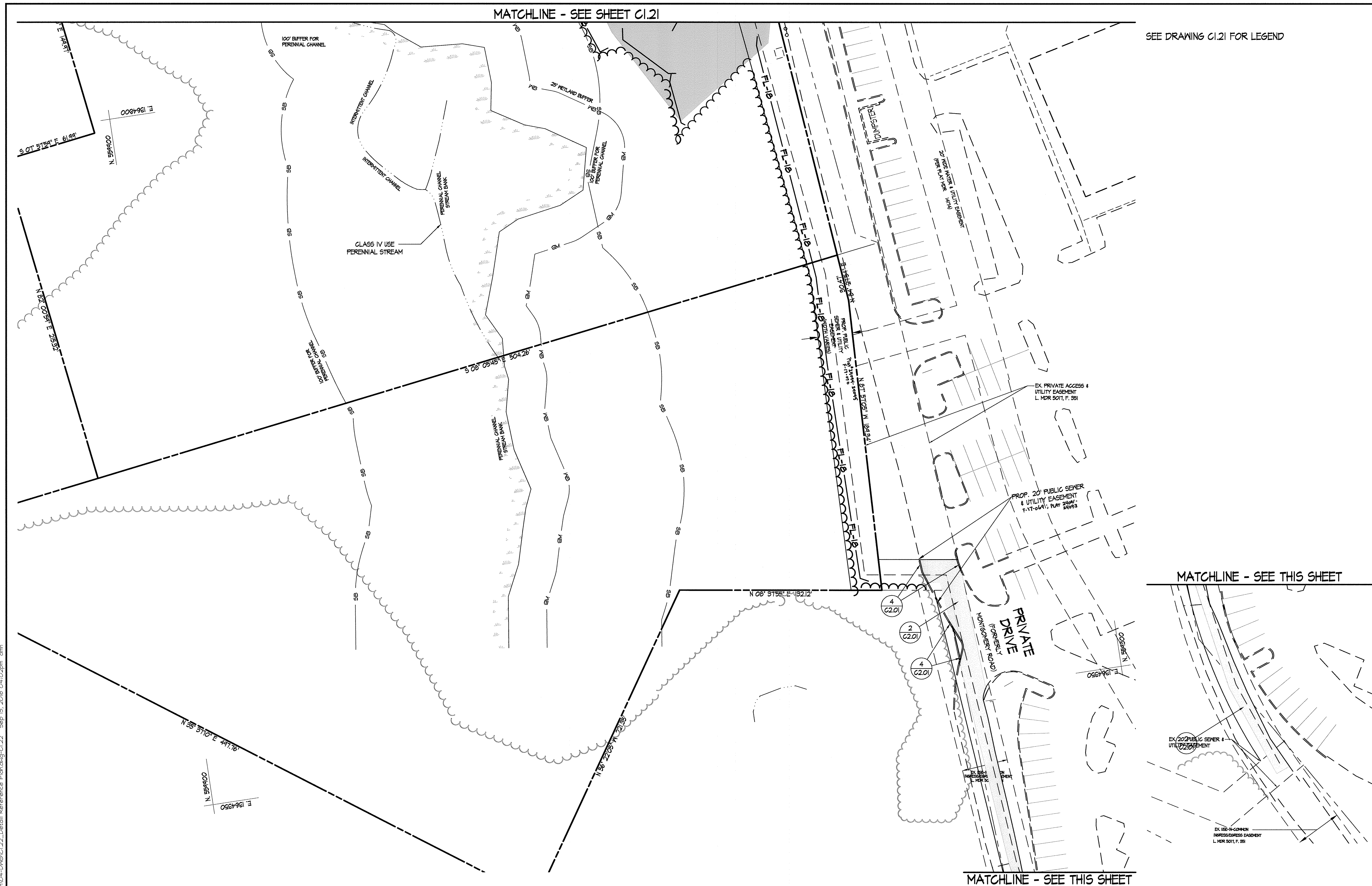
DD SET	02/15/2016
60% CHECK SET	04/25/2016
FEMB SET	05/04/2016
95% CD SET	09/15/2016
ADDED SOLAR	1/15/18
ADDED SOLAR POLE MOUNT	12/14/19

SEAL: PROFESSIONAL ENGINEER  
 STATE OF MARYLAND  
 12/23/14  
 12.5.16

PROFESSIONAL CERTIFICATE NO. 22516  
 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. 29848 EXPIRATION DATE: 01/18/2021. SCOTTFRIGHT 2019, 07TH ARCHITECTS, INC.

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 01/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C1.21**  
 SHEET 7 OF 46  
 SDP-16-053



MATCHLINE - SEE SHEET C1.21

SEE DRAWING C1.21 FOR LEGEND

MATCHLINE - SEE THIS SHEET

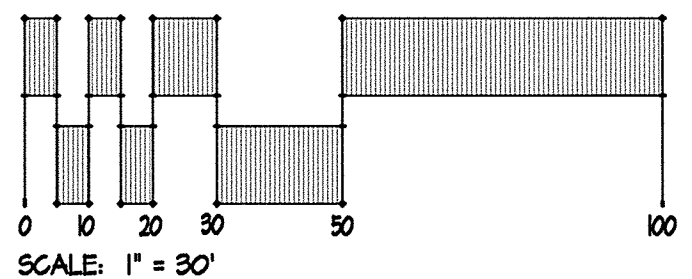
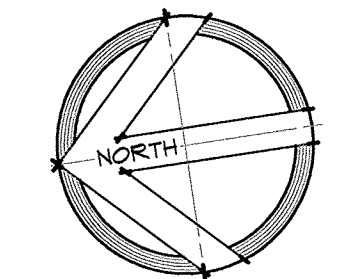
MATCHLINE - SEE THIS SHEET

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie Taylor* 2-17-17  
 DIRECTOR DATE  
*Chad Edwards* 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Kent Schaefer* 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME			SECTION/AREA		
VILLAGE OF LONG REACH			SECTION 3, AREA 2		
FLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	31	16	606608
WATER CODE			SEWER CODE		
550			-		



No As-Built Information this sheet.

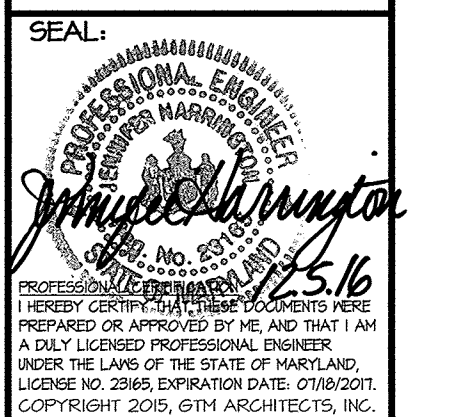
**SITE RESOURCES**  
 INCORPORATED  
 Comprehensive Land Planning & Site Design Services  
 14315 Juddville Pike • Phoenix, Maryland 21131  
 (410) 683-3388 • Fax (410) 683-3389

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
**DETAIL REFERENCE PLAN**

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/23/2016
PEMB SET	05/09/2016
45% CD SET	09/15/2016



DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C122**  
 SHEET 8 OF 46

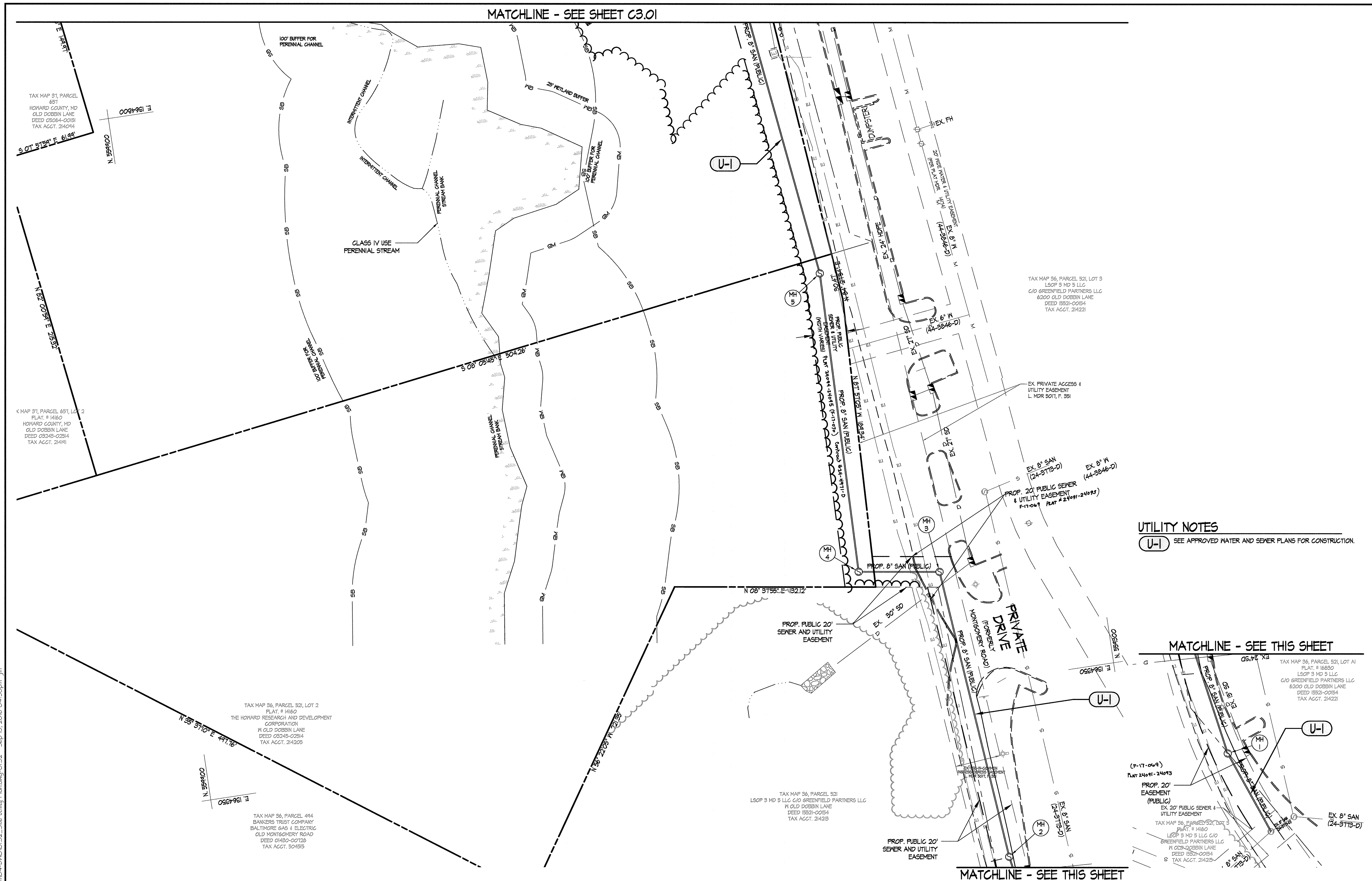
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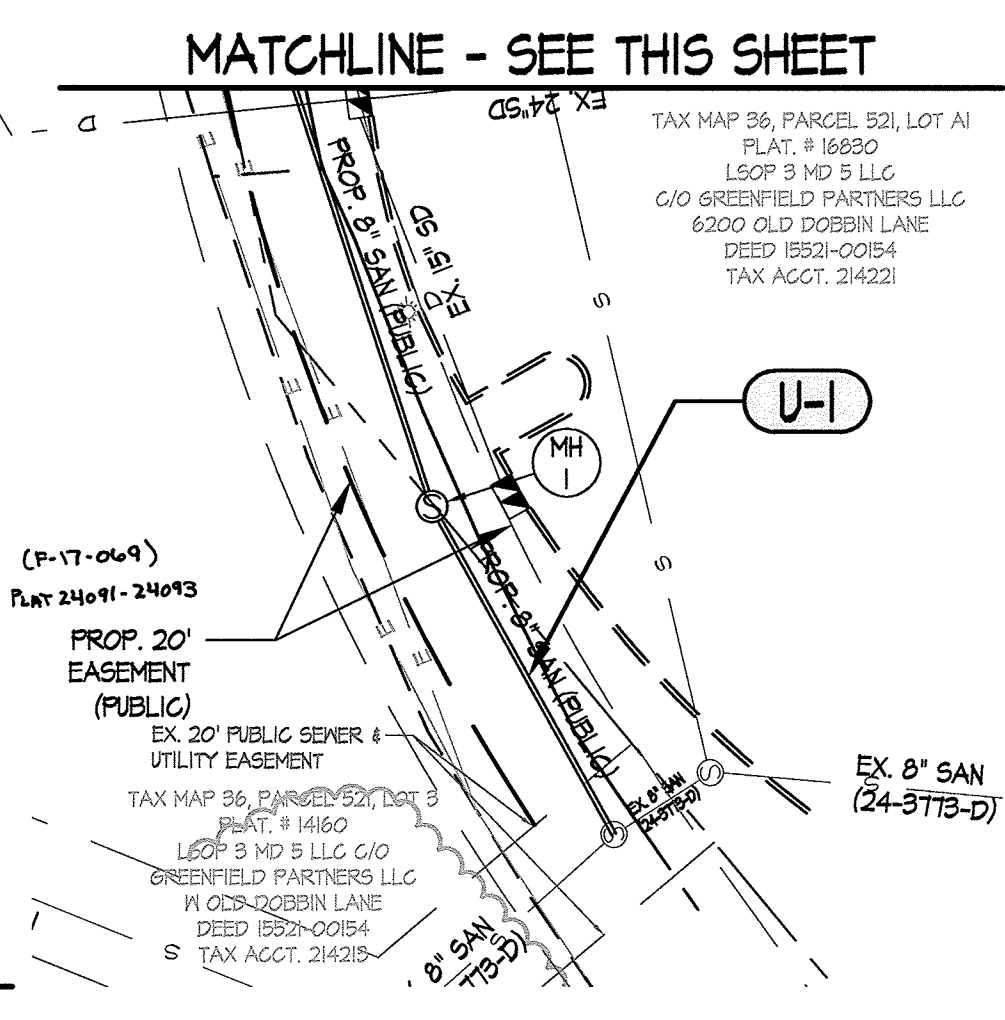


REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016



**UTILITY NOTES**  
U-1 SEE APPROVED WATER AND SEWER PLANS FOR CONSTRUCTION.



APPROVED: DEPARTMENT OF PLANNING & ZONING  
*N. Walker* 2-17-17  
DIRECTOR DATE  
*Chad E. Smith* 2-8-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Kevin J. ...* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT & PLANNING DATE

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE November 17, 2016

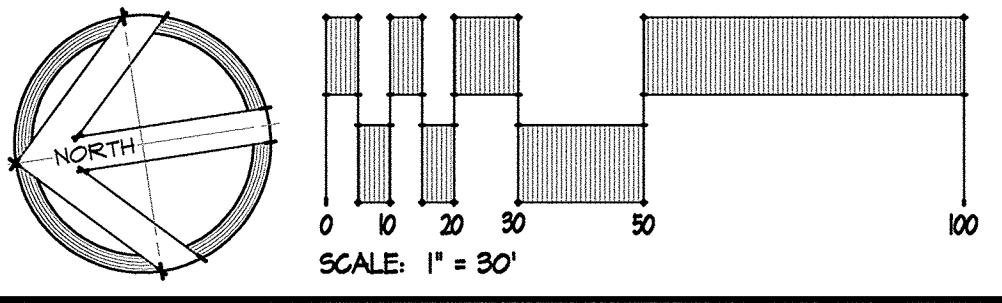
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0657	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	46 / 0657 2 / 0521
PLAT # OR L/F	GRID #	ZONING
14067	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
31	16	606608
WATER CODE	SEWER CODE	
550	-	

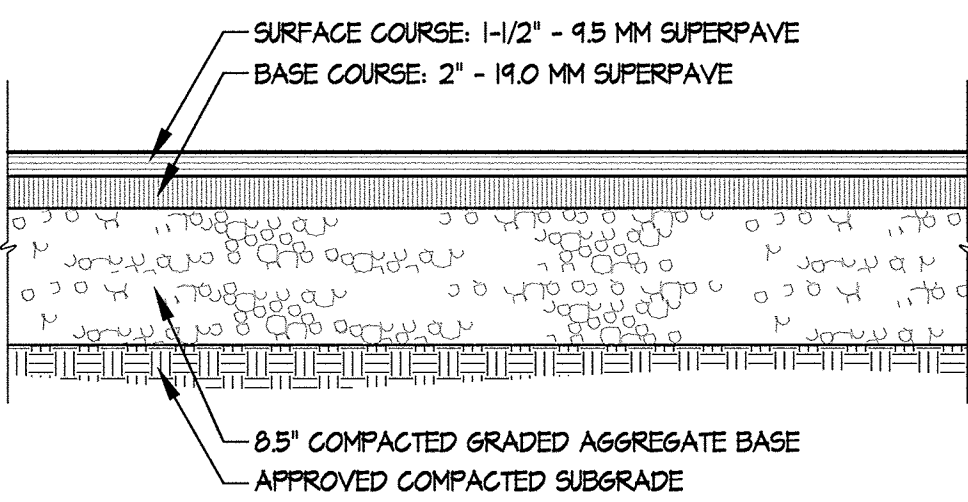
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SEAL:  
PROFESSIONAL ENGINEER  
JAMES D. ...  
No. ...  
EXPIRES ...

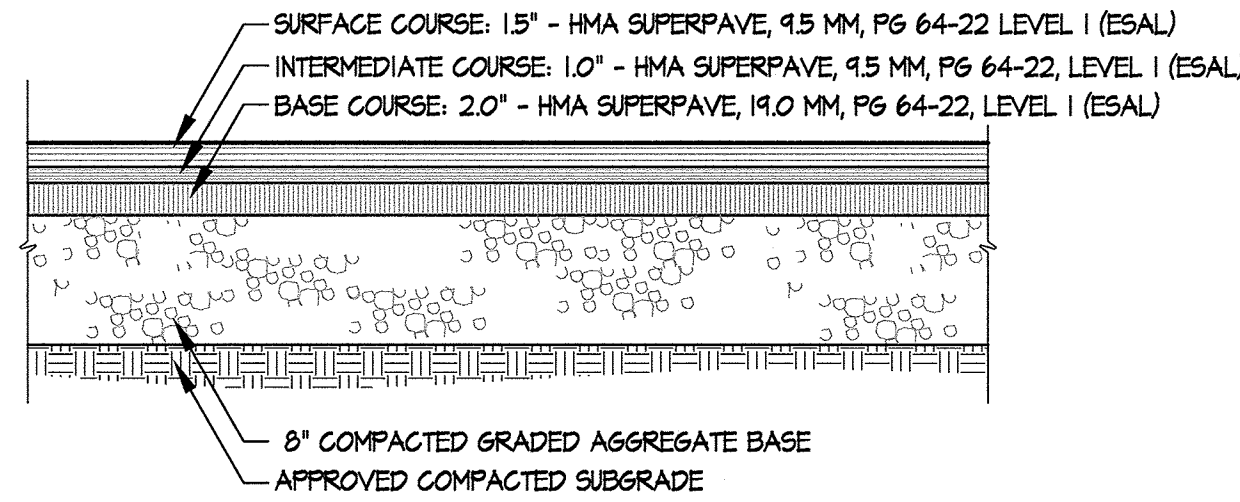
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CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO.

Z:\1519094-CA Tennis Pavilion\04-DMS\C132\_Site Utility Plan.dwg - C132 Sep 15, 2016 04:30pm .jfn



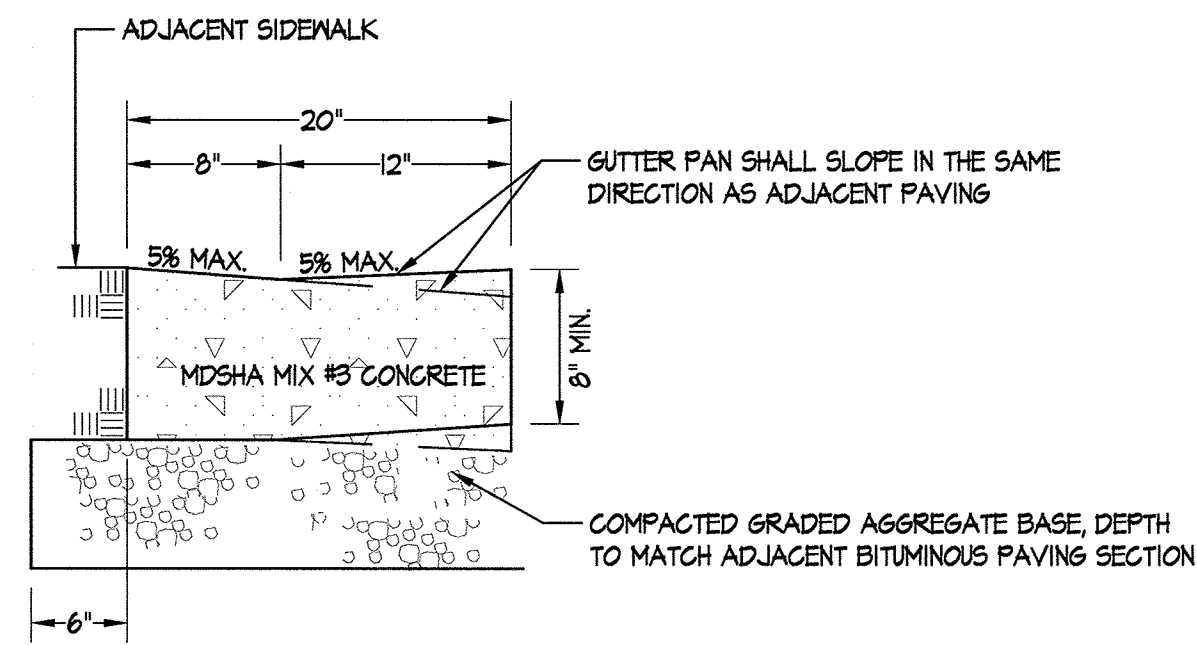
- NOTES:**
1. A REPRESENTATIVE FROM THE ON-SITE GEO-TECHNICAL ENGINEER SHALL OBSERVE AND TEST ALL IN-PLACE COMPACTED FILL TO BE USED FOR PAVEMENT SUPPORT, AND OBSERVE PROOFROLLING OPERATIONS FOR PAVEMENT SUBGRADES.
  2. LIGHT DUTY PAVEMENT SECTION IS BASED ON HOWARD COUNTY STANDARD PAVING SECTION P-1 (DETAIL R-2.0) WITH AN ASSUMED CBR RANGE BETWEEN 3 TO 5. PAVEMENT SECTION MAY BE REDUCED IN ACCORDANCE WITH HOWARD COUNTY DETAIL R-2.0 ONLY IF GEOTECHNICAL TEST DATA SHOWING A HIGHER CBR VALUE IS SUBMITTED BY THE CONTRACTOR TO THE GEOTECHNICAL ENGINEER FOR REVIEW AND APPROVAL. SUCH TESTING SHALL BE BASED ON ON-SITE SOIL BORINGS WITHIN THE LIMITS TO RECEIVE THE PROPOSED PAVEMENT SECTION.

**1 LIGHT-DUTY BITUMINOUS PAVING**  
NOT TO SCALE

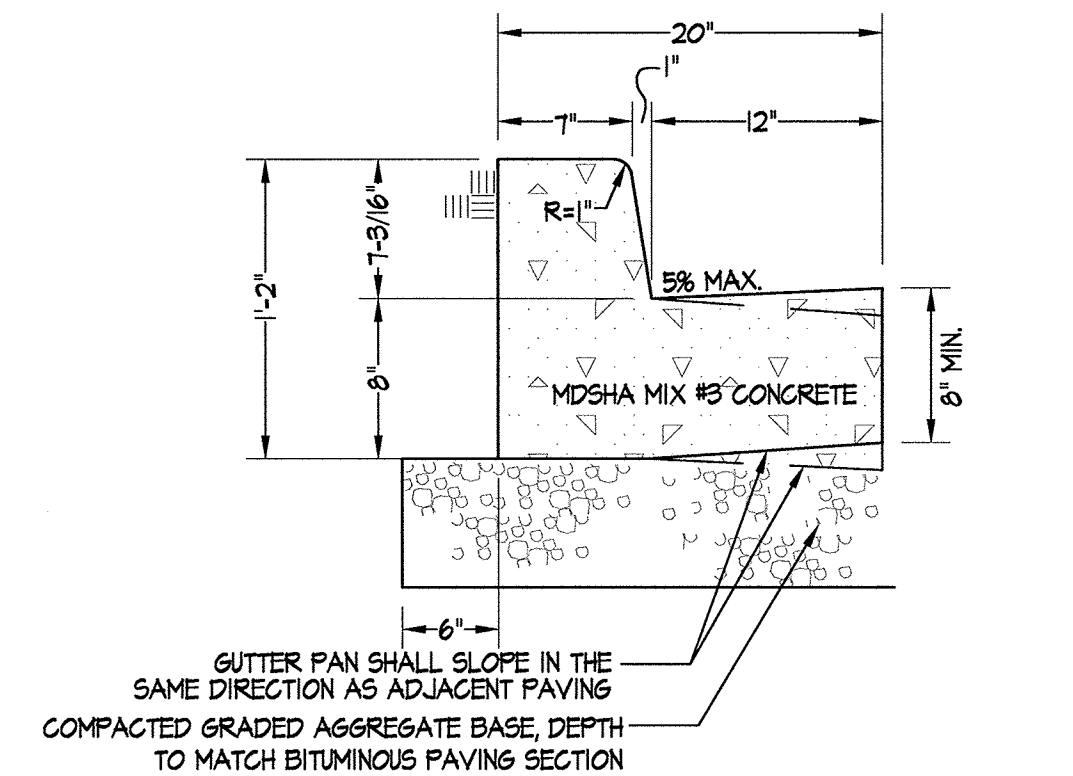


- NOTES:**
1. A REPRESENTATIVE FROM THE ON-SITE GEO-TECHNICAL ENGINEER SHALL OBSERVE AND TEST ALL IN-PLACE COMPACTED FILL TO BE USED FOR PAVEMENT SUPPORT, AND OBSERVE PROOFROLLING OPERATIONS FOR PAVEMENT SUBGRADES.
  2. HEAVY DUTY PAVEMENT SECTION IS BASED ON HOWARD COUNTY STANDARD PAVING SECTION P-2 (DETAIL R-2.0) WITH AN ASSUMED CBR RANGE BETWEEN 3 TO 5. PAVEMENT SECTION MAY BE REDUCED IN ACCORDANCE WITH HOWARD COUNTY DETAIL R-2.0 ONLY IF GEOTECHNICAL TEST DATA SHOWING A HIGHER CBR VALUE IS SUBMITTED BY THE CONTRACTOR TO THE GEOTECHNICAL ENGINEER FOR REVIEW AND APPROVAL. SUCH TESTING SHALL BE BASED ON ON-SITE SOIL BORINGS WITHIN THE LIMITS TO RECEIVE THE PROPOSED PAVEMENT SECTION.

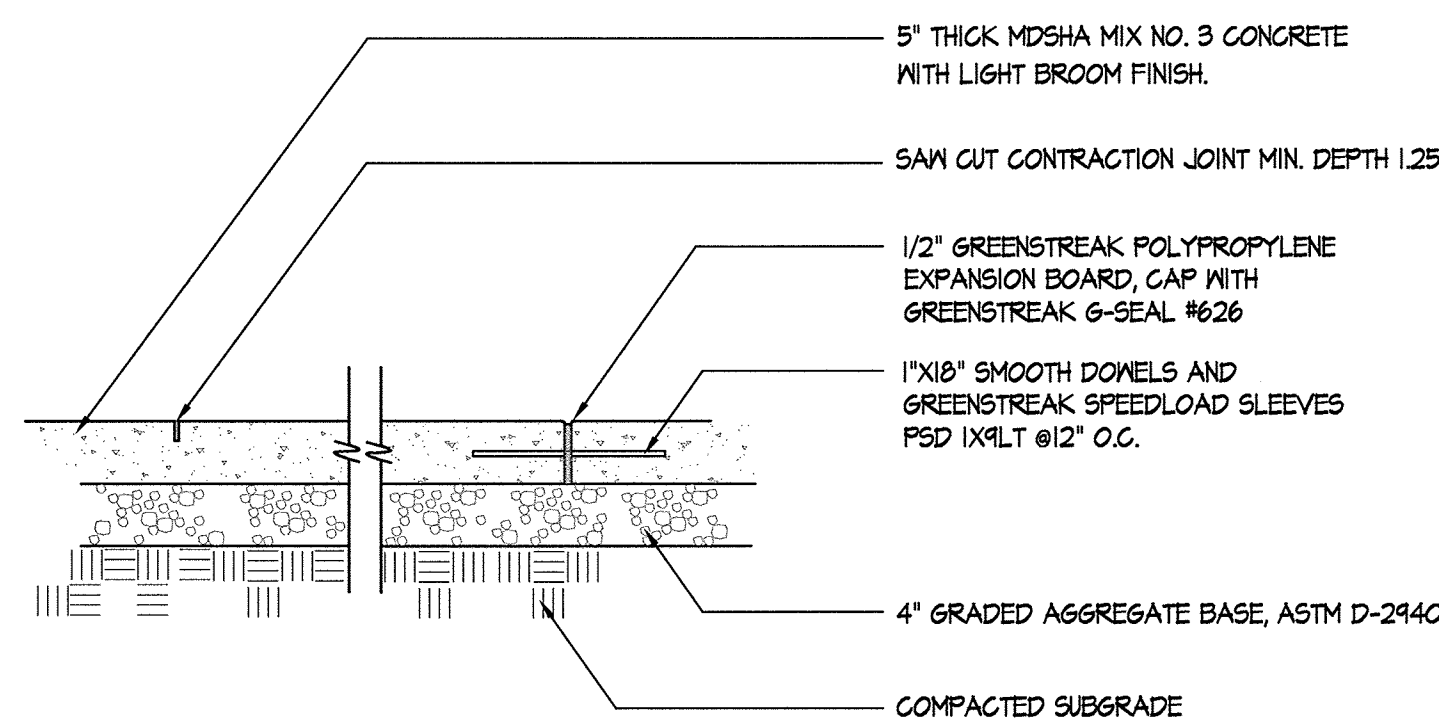
**2 HEAVY-DUTY BITUMINOUS PAVING**  
NOT TO SCALE



**3 FLUSH CURB & GUTTER**  
NOT TO SCALE

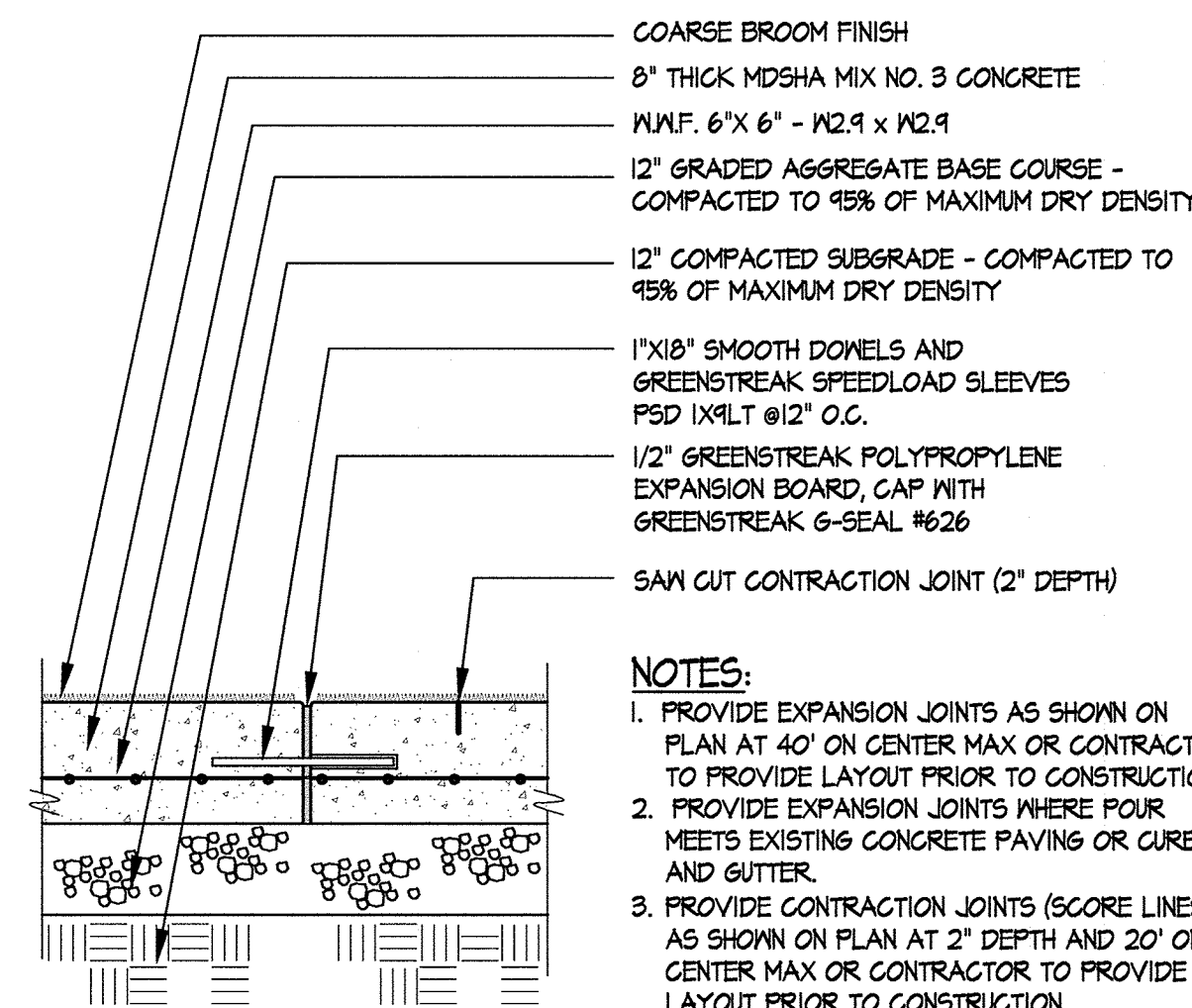


**4 CONCRETE CURB & GUTTER**  
NOT TO SCALE



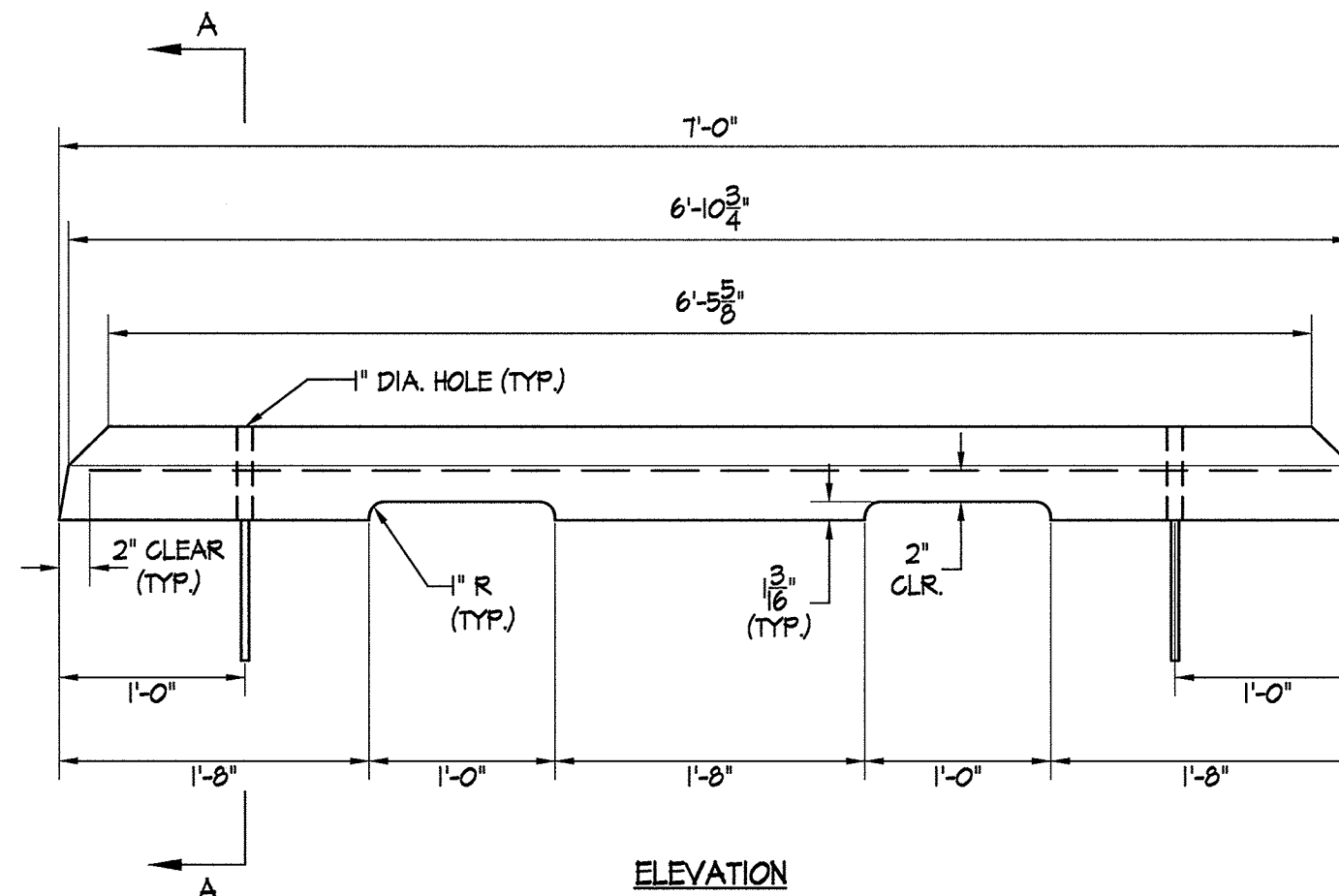
- NOTES:**
1. PLACE EXPANSION JOINTS AS SHOWN ON PLANS AND NOT MORE THAN 20' APART AND AT THE END OF EACH CONTIGUOUS POUR.
  2. PLACE CONTRACTION JOINTS AS SHOWN ON PLANS AND AT INTERVAL MATCHING WIDTH OF SIDEWALK BUT NOT MORE THAN 6' APART.
  3. PROVIDE EXPANSION JOINTS WHERE POUR MEETS EXISTING CONCRETE PAVING OR CURB.
  4. EXPANSION JOINTS TO BE RECESSED 1/4\"/>

**5 LIGHT-DUTY CONCRETE SIDEWALK DETAIL**  
NOT TO SCALE

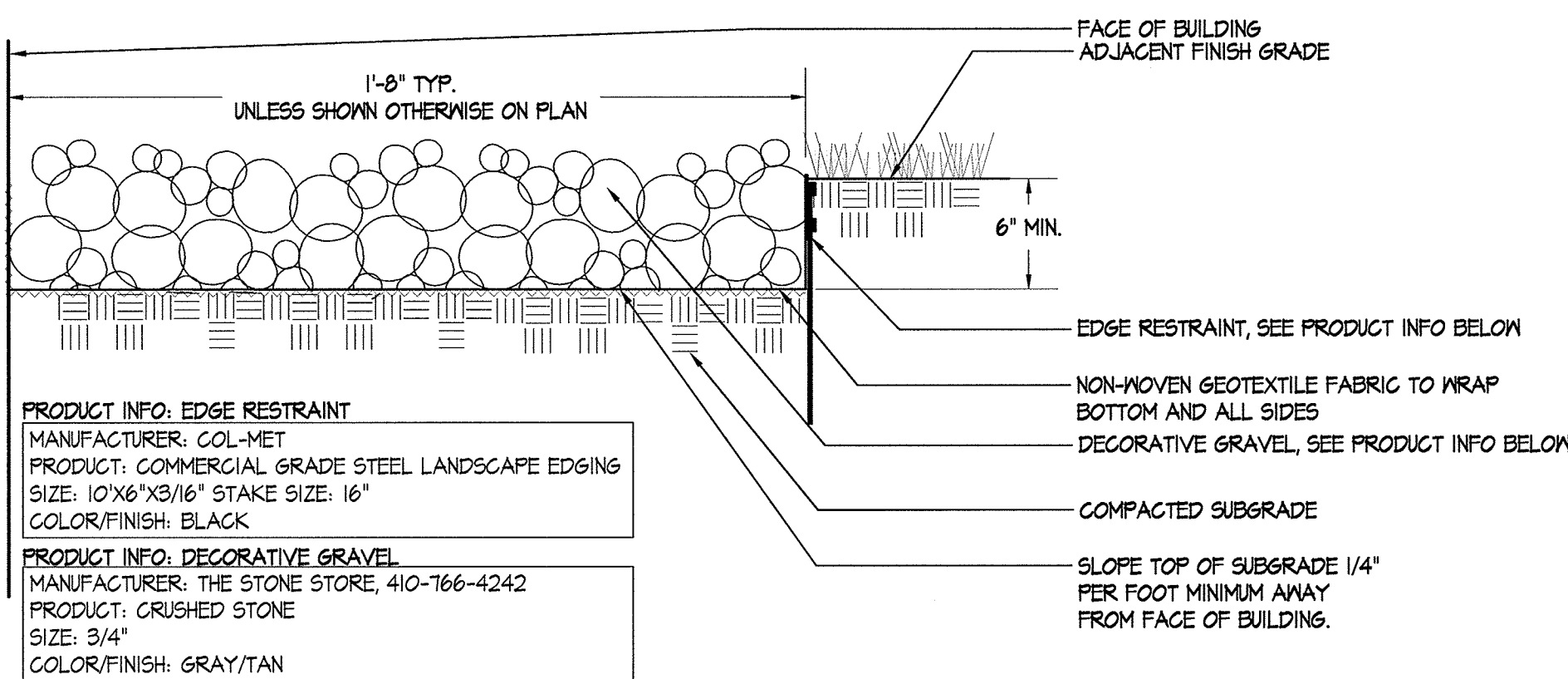
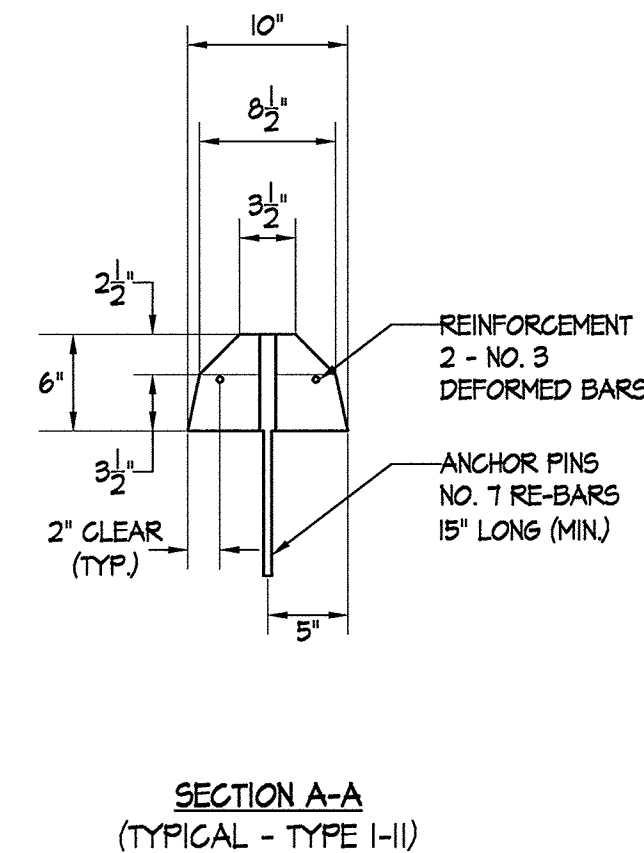


- NOTES:**
1. PROVIDE EXPANSION JOINTS AS SHOWN ON PLAN AT 40' ON CENTER MAX OR CONTRACTOR TO PROVIDE LAYOUT PRIOR TO CONSTRUCTION.
  2. PROVIDE CONTRACTION JOINTS WHERE POUR MEETS EXISTING CONCRETE PAVING OR CURB AND GUTTER.
  3. PROVIDE CONTRACTION JOINTS (SCORE LINES) AS SHOWN ON PLAN AT 2' DEPTH AND 20' ON CENTER MAX OR CONTRACTOR TO PROVIDE LAYOUT PRIOR TO CONSTRUCTION.

**6 HEAVY-DUTY CONCRETE PAVEMENT**  
NOT TO SCALE



**7 CONCRETE WHEEL STOP**  
NOT TO SCALE



**8 GRAVEL EDGE TREATMENT**  
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING & ZONING <i>Walter J. J...</i> 2-17-17 DIRECTOR DATE	APPROVED: PLANNING BOARD OF HOWARD COUNTY DATE: November 17, 2016
<i>Ch...</i> 2-8-17 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE	
<i>W...</i> 2-13-17 CHIEF, DIVISION OF LAND DEVELOPMENT DATE	

ADDRESS CHART		PERMIT INFORMATION CHART			
LOT/PARCEL	STREET ADDRESS	SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.	
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651	
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	FLAT # OR L/F	TAX MAP NO.	ELECTION DISTRICT	GENUS TRACT
		14061	7	NT	37 16
		550			606608

No As-Built Information this sheet.

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/09/2016
95% CD SET	04/15/2016

SEAL: PROFESSIONAL ENGINEER  
WALTER J. J...  
12-5-16

DRAWN BY:	SRI
CHECKED BY:	DJS
SCALE:	AS NOTED
DATE:	07/29/16
SRI PROJECT NO.	15034
DRAWING NO.	

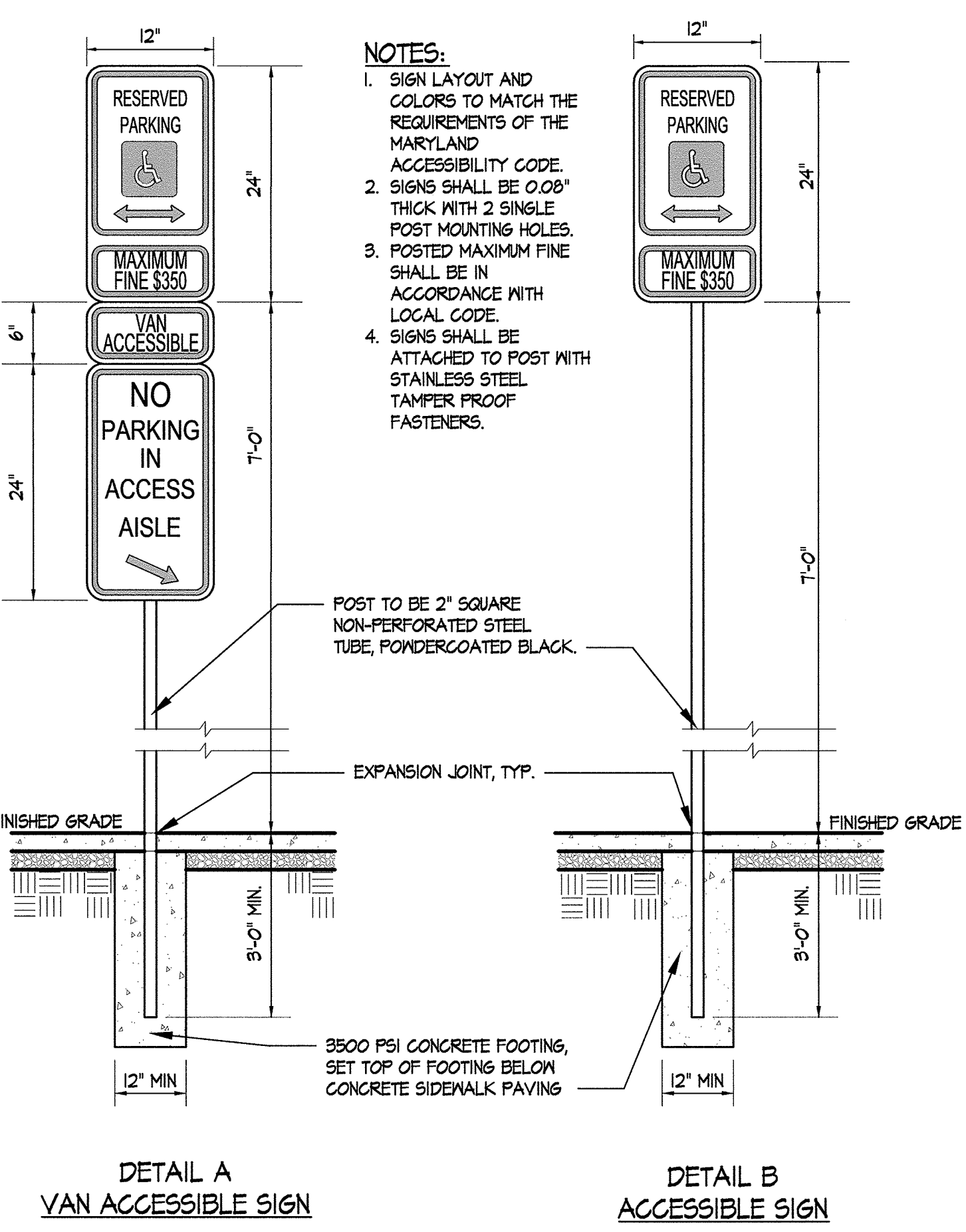
REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/23/2016
PEMB SET	05/04/2016
95% CD SET	09/15/2016
ADDED SQUARE 1	1/15/18
FENCE DETAILS	1/15/18

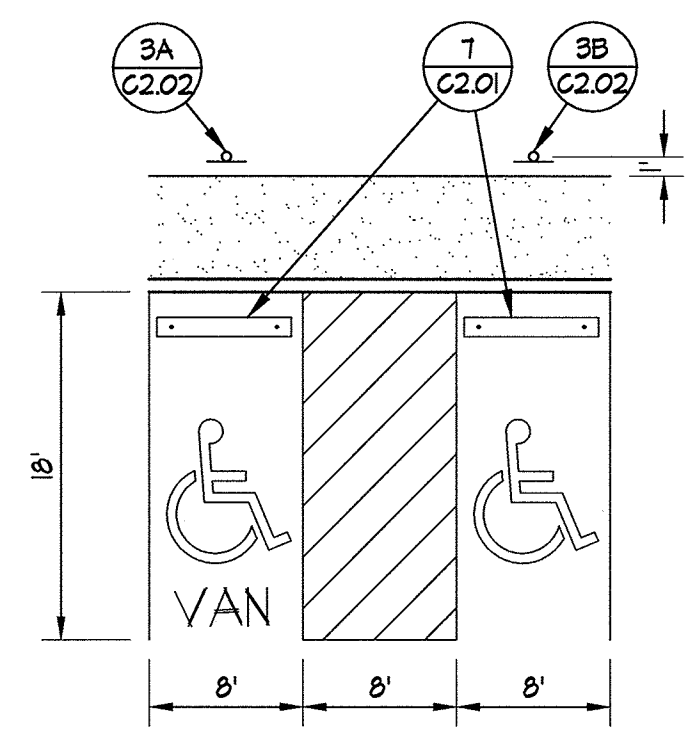
SEAL:

*James C. Williams*  
10/16/16  
PROFESSIONAL ENGINEER  
1 HENRY STREET, BALTIMORE, MD 21201  
PREPARED OR APPROVED AND THAT I AM  
A DULY LICENSED PROFESSIONAL ENGINEER  
UNDER THE LAWS OF THE STATE OF MARYLAND,  
LICENSE NO. 20868, EXPIRATION DATE: 07/29/2021.  
COPYRIGHT 2016, SRI ARCHITECTS, INC.

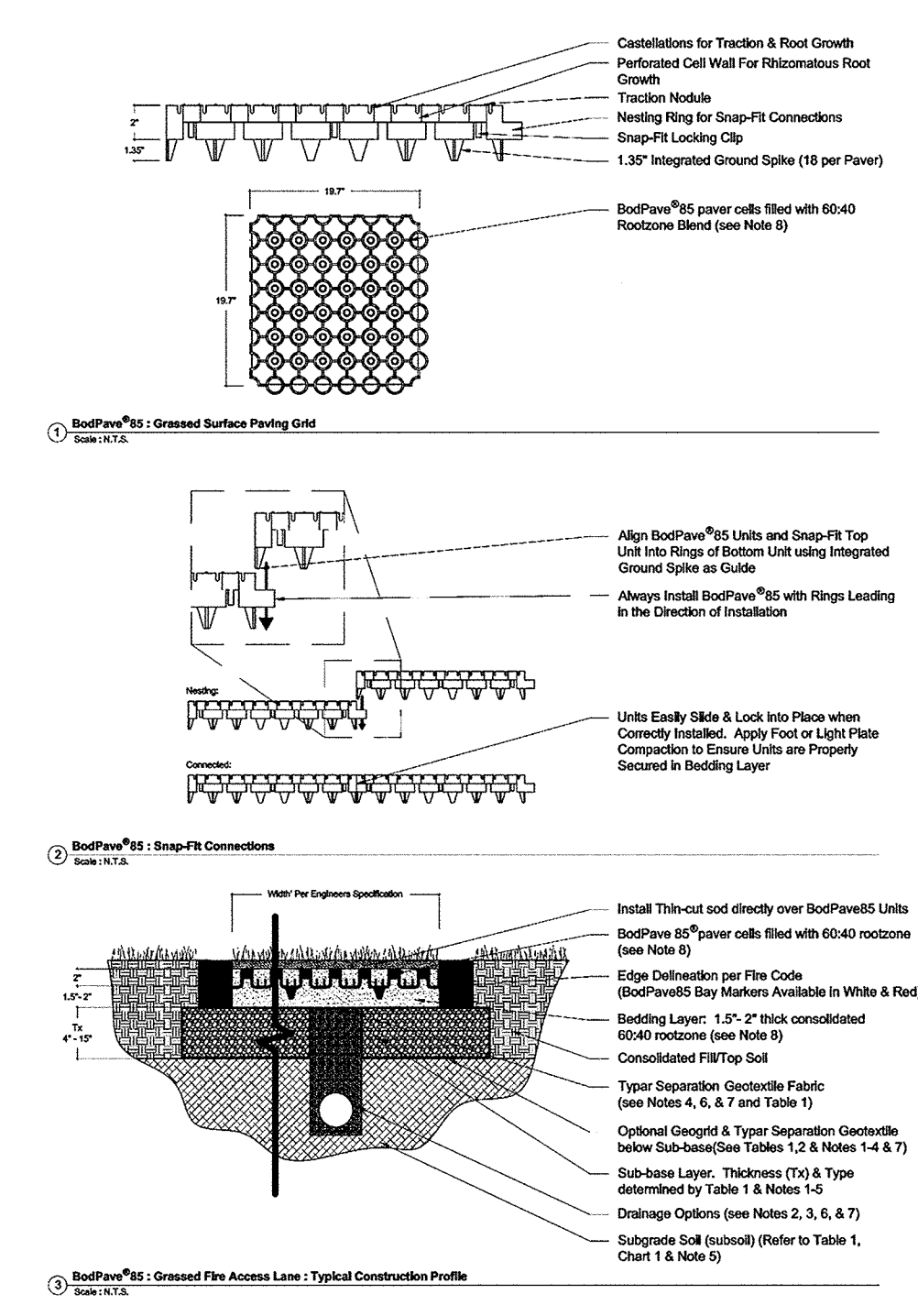
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SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO.



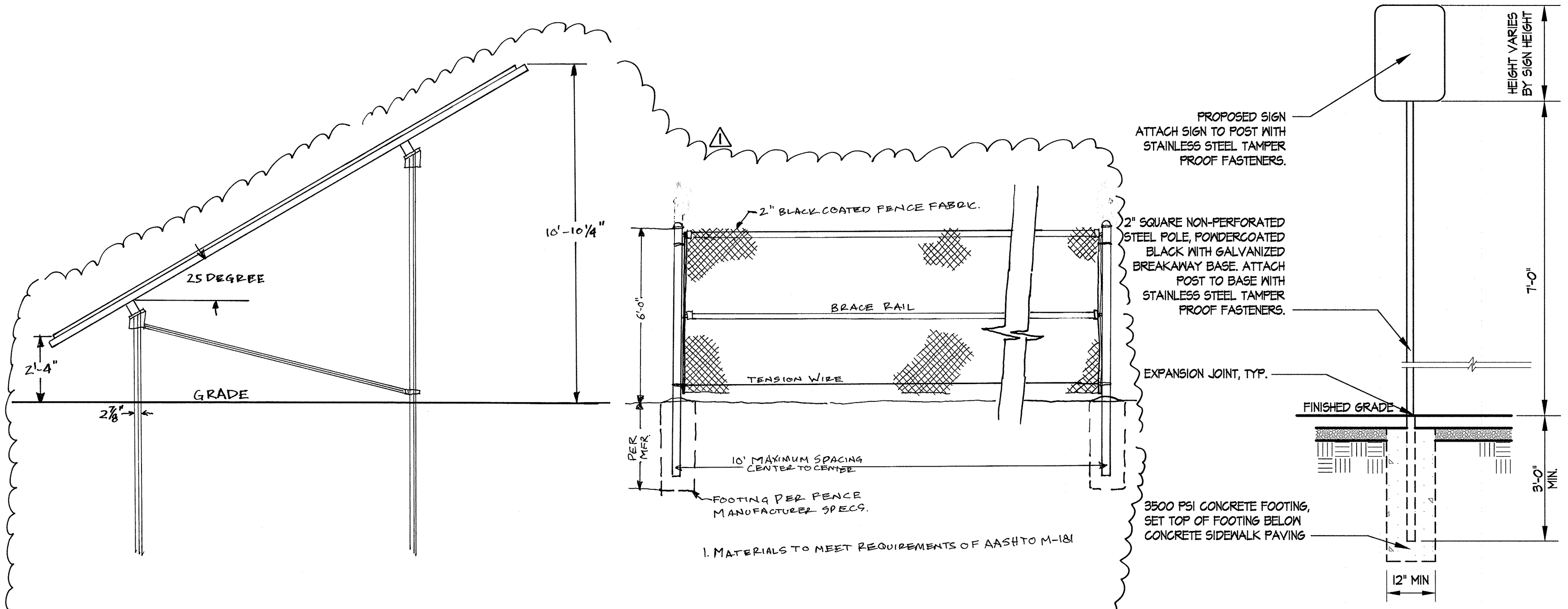
**3 ACCESSIBLE PARKING SIGNS**  
NOT TO SCALE



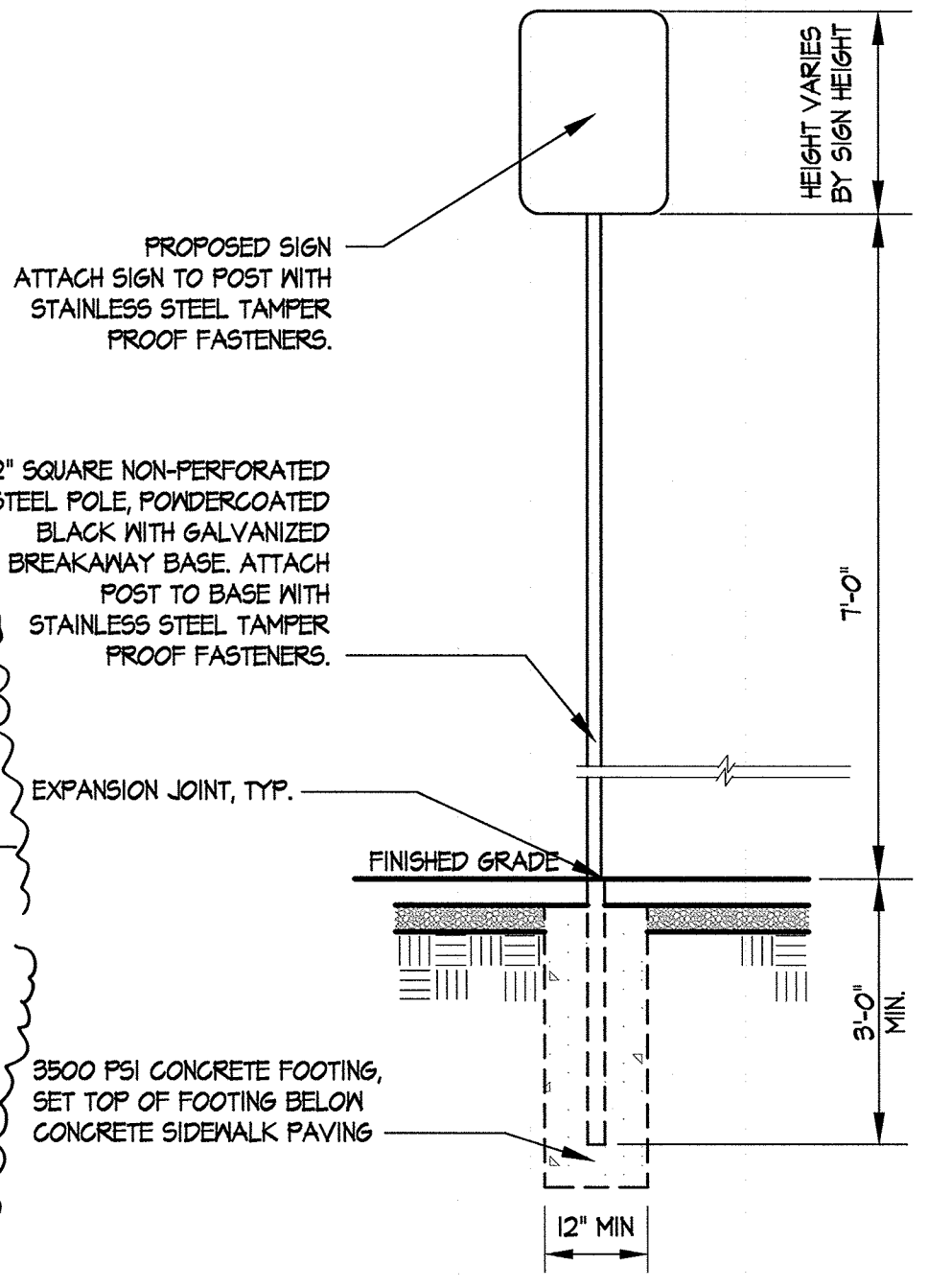
**2 HANDICAP PARKING CONFIGURATION**  
NOT TO SCALE



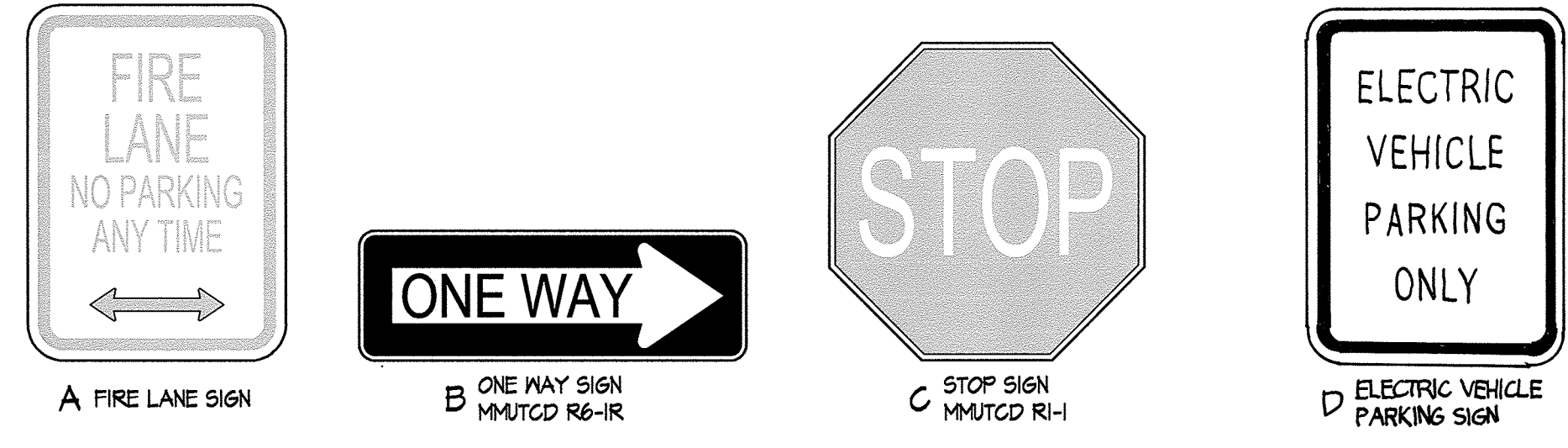
**1 REINFORCED TURF**  
NOT TO SCALE



**4 PILE & ARRAY ELEVATION** NOT TO SCALE  
**4A 6 FT CHAIN LINK FENCE** NOT TO SCALE



**5 TYPICAL SIGN POST**  
NOT TO SCALE



**6 TYPICAL TRAFFIC SIGNAGE**  
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie Griffin* 2-17-17  
DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE: November 17, 2016

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kurt Schaefer* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie Griffin* 2-17-17  
DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE: November 17, 2016

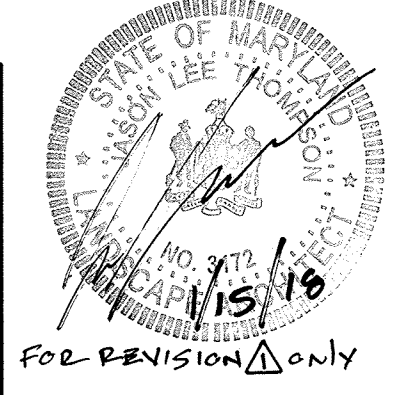
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kurt Schaefer* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 46 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		46 / 0651 2 / 0521	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	GENUS TRACT
14067	7	NT	37	16	606608
WATER CODE		SEWER CODE			
550					



No As-Built Information this sheet.

**6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND**

**SITE DETAILS**

**LONG REACH  
 TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

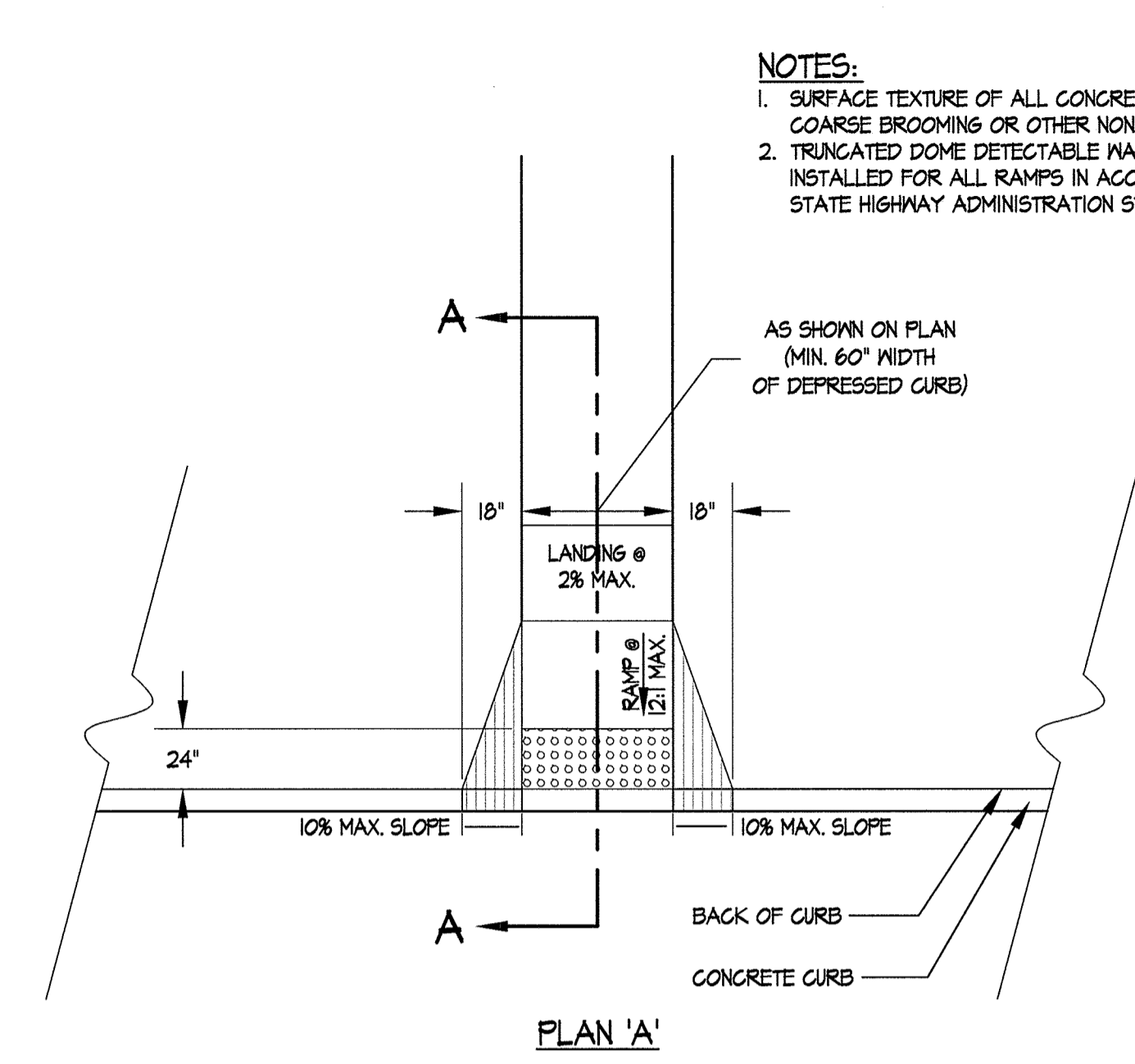
REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/09/2016
95% CD SET	04/15/2016

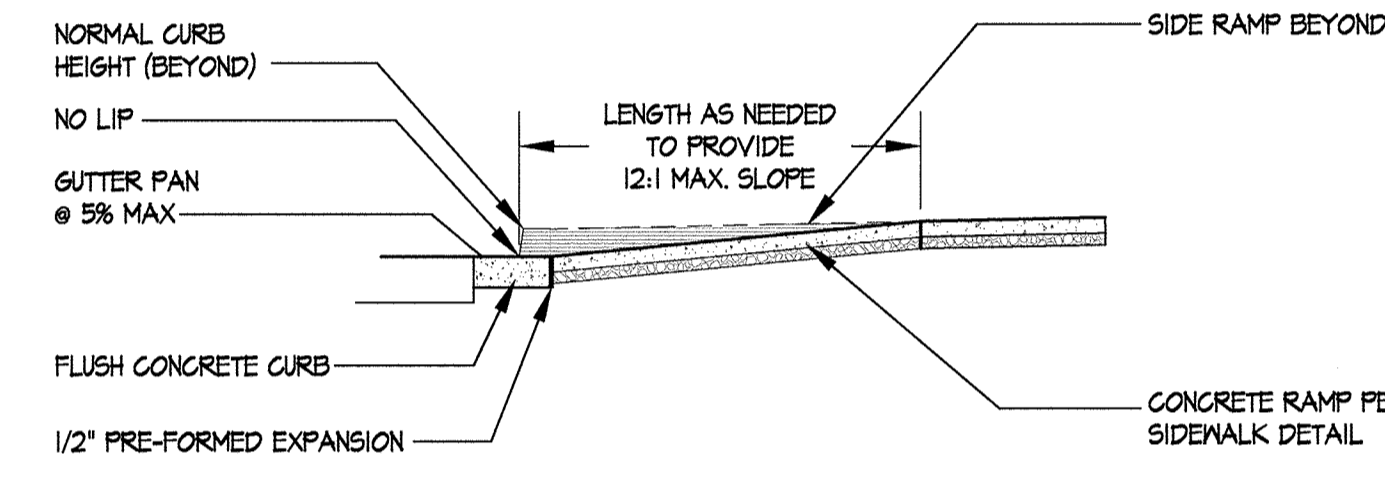
SEAL:

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

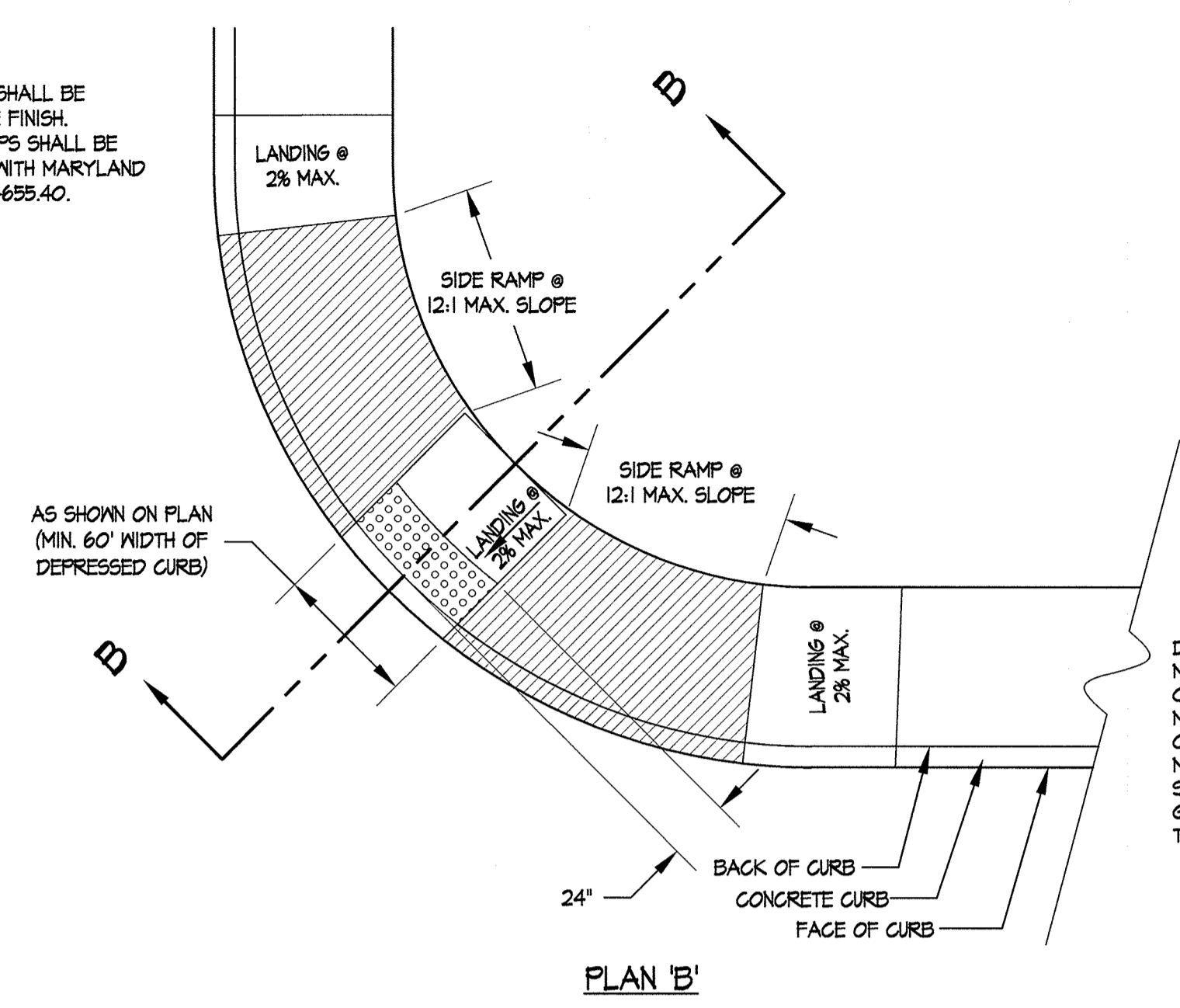
**NOTES:**  
 1. SURFACE TEXTURE OF ALL CONCRETE RAMPS SHALL BE COARSE BROOMING OR OTHER NON-SKID TYPE FINISH.  
 2. TRUNCATED DOME DETECTABLE WARNING STRIPS SHALL BE INSTALLED FOR ALL RAMPS IN ACCORDANCE WITH MARYLAND STATE HIGHWAY ADMINISTRATION STD. NO. MD-655.40.



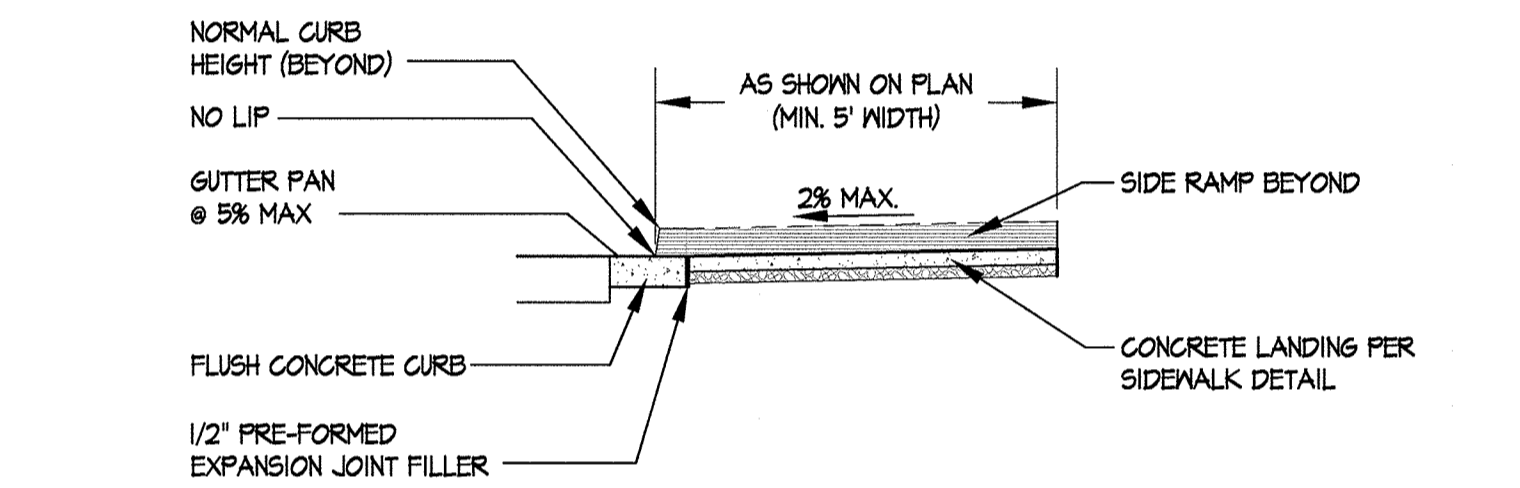
PLAN 'A'



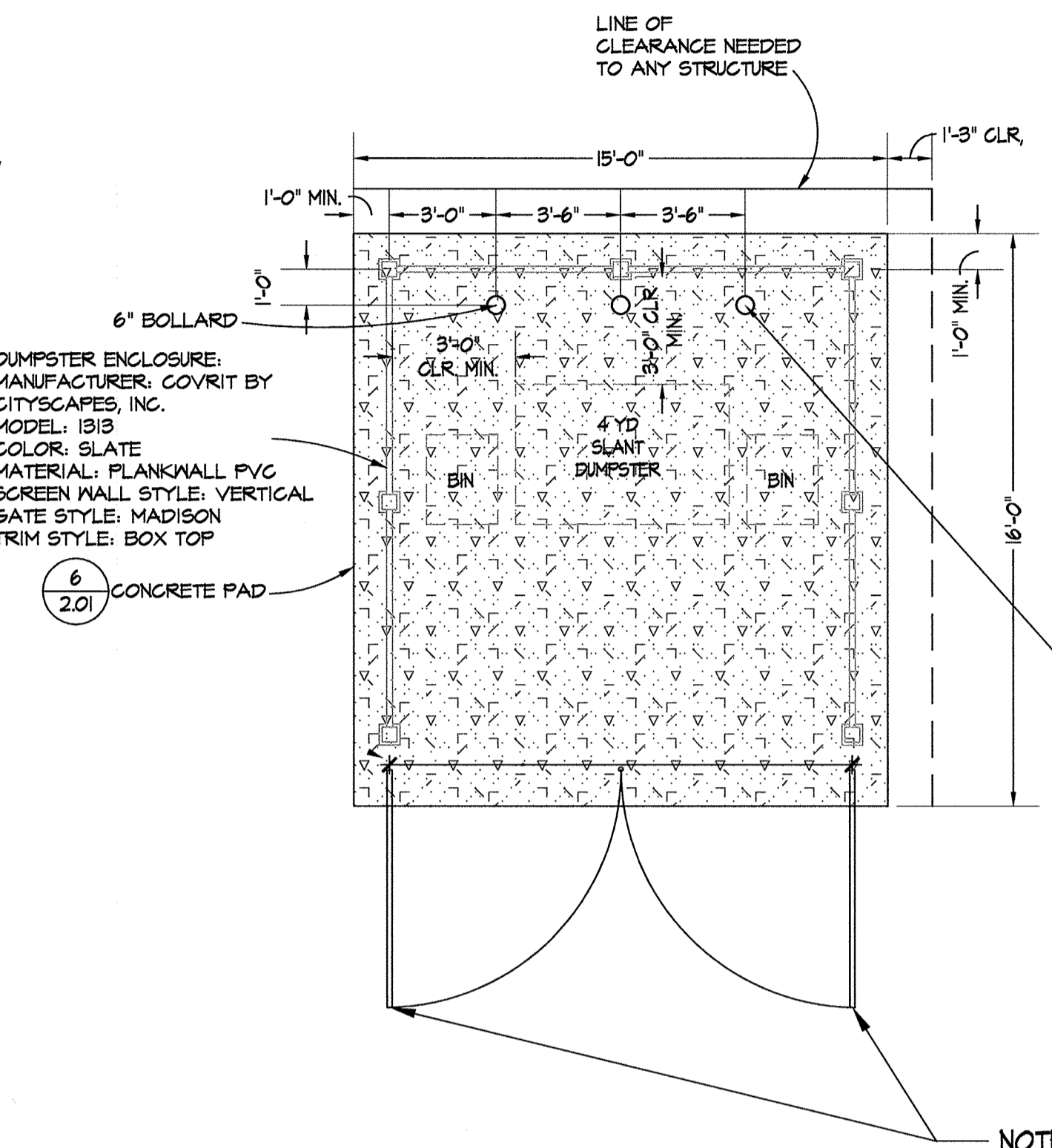
SECTION A-A



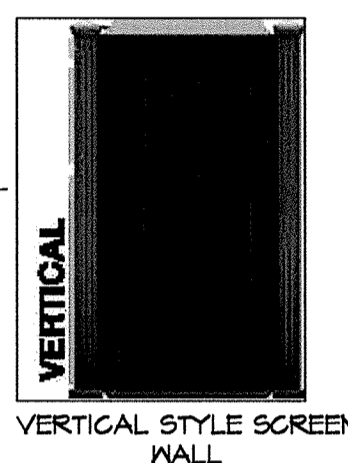
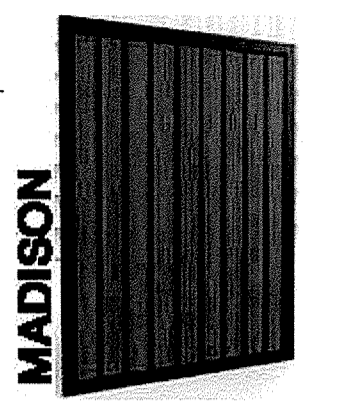
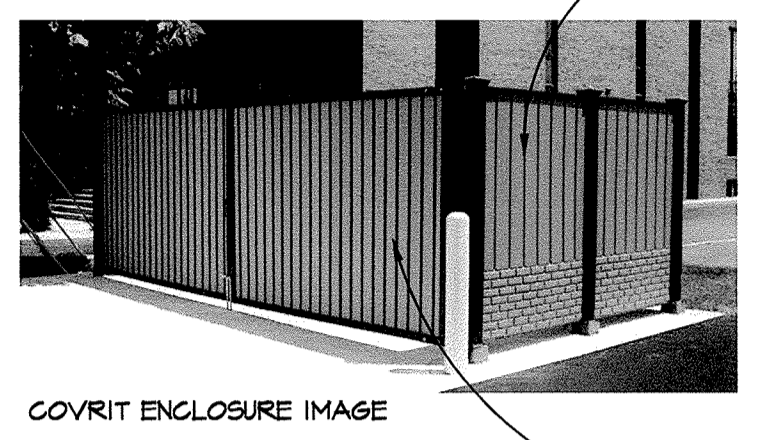
PLAN 'B'



SECTION B-B



DUMPSTER ENCLOSURE:  
 MANUFACTURER: COVRT BY  
 CITYSCAPES, INC.  
 MODEL: 1B1B  
 COLOR: SLATE  
 MATERIAL: PLANKWALL PVC  
 SCREEN WALL. STYLE: VERTICAL  
 GATE STYLE: MADISON  
 TRIM STYLE: BOX TOP



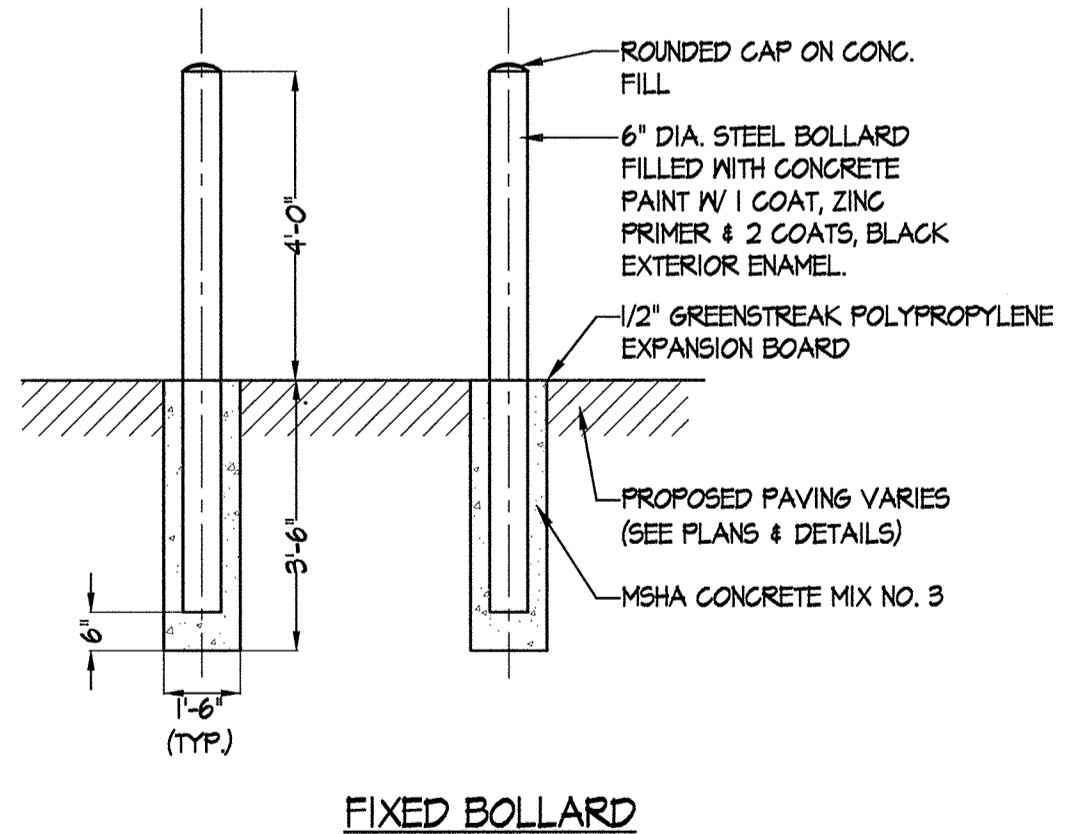
NOTE:  
 CORE DRILL CONCRETE PAVING TO ACCOMMODATE  
 DROP PINS WITH GATES FULLY OPEN.

**1 CURB RAMP**

**2 DUMPSTER PAD**

NOT TO SCALE

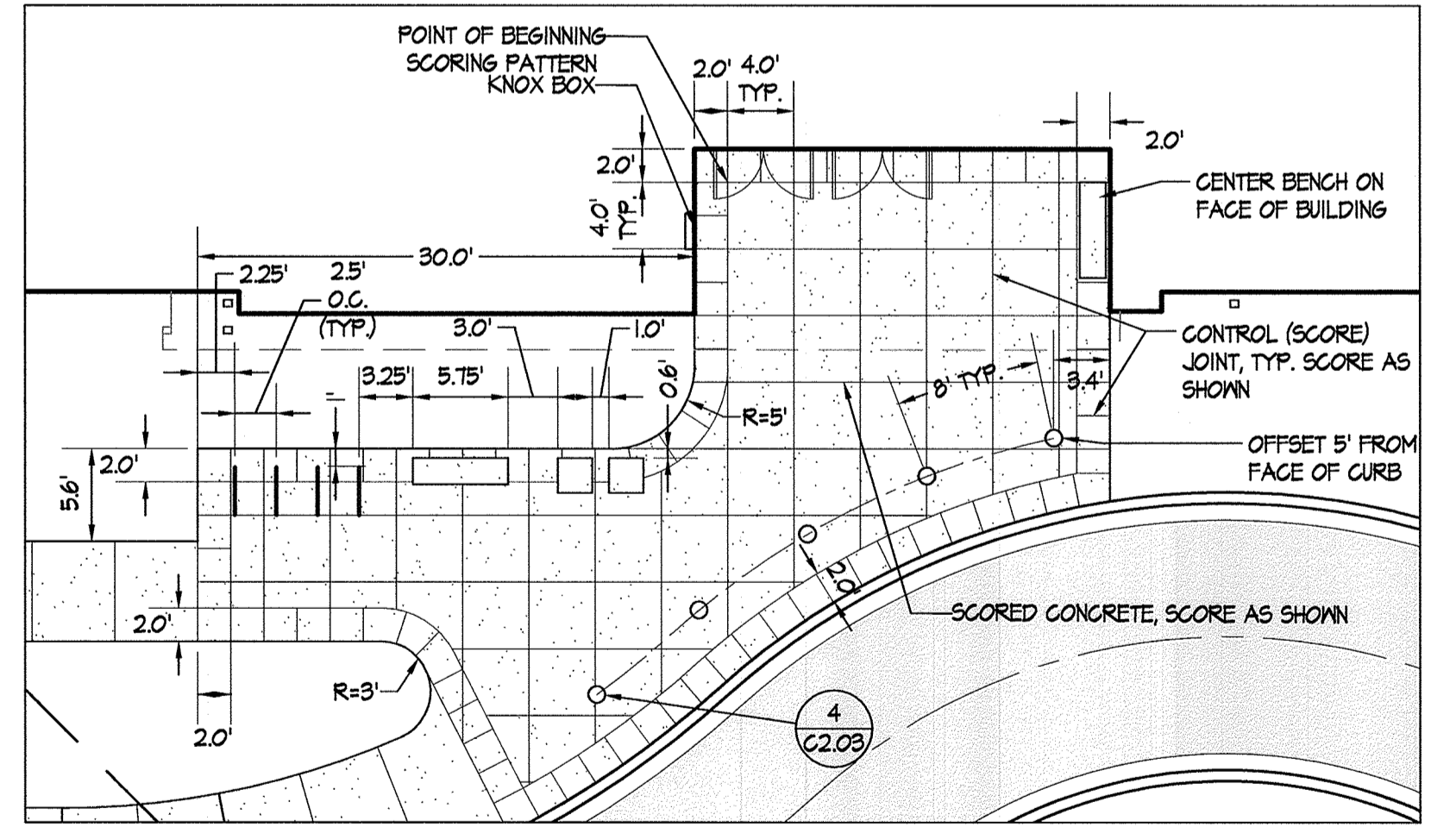
NOT TO SCALE



FIXED BOLLARD

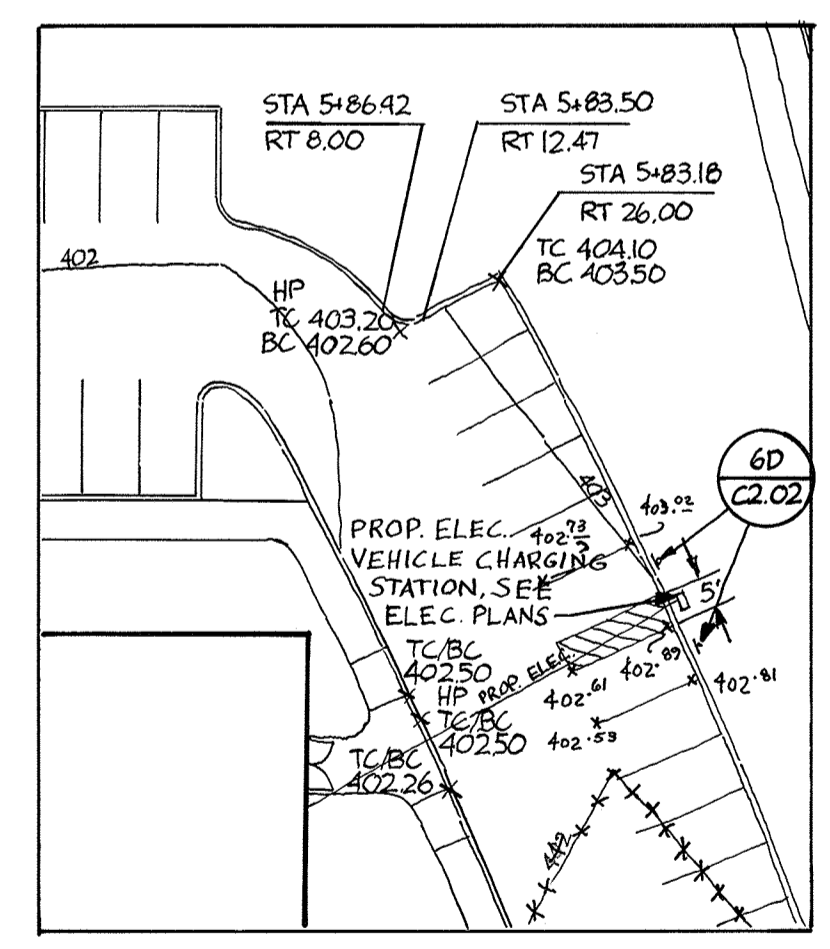
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NOT TO SCALE

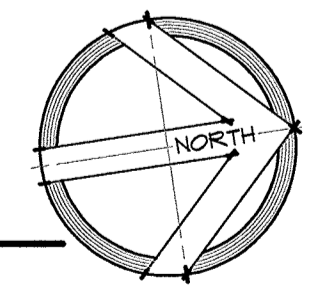
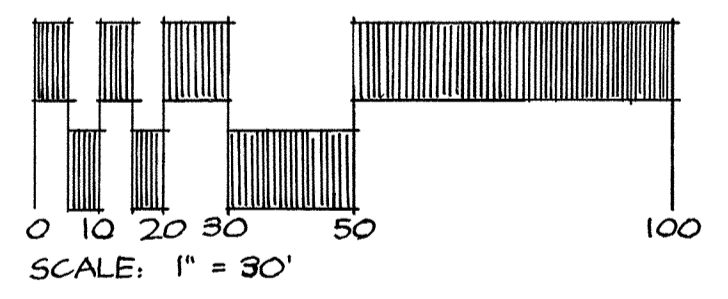


**4 ENLARGED LAYOUT PLAN**

1"=10'



**5 ENLARGED LAYOUT PLAN**



Z:\1515034-CA\_Tennis Pavilion\04-DWG\C2.03-Site Details\sdp-16-053.dwg Sep 15, 2016 04:01pm a.m.

APPROVED: DEPARTMENT OF PLANNING & ZONING

*William J. Griffin* 2-17-17  
 DIRECTOR DATE

*Phil Edwards* 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Keith Shedd* 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY

DATE: November 17, 2016

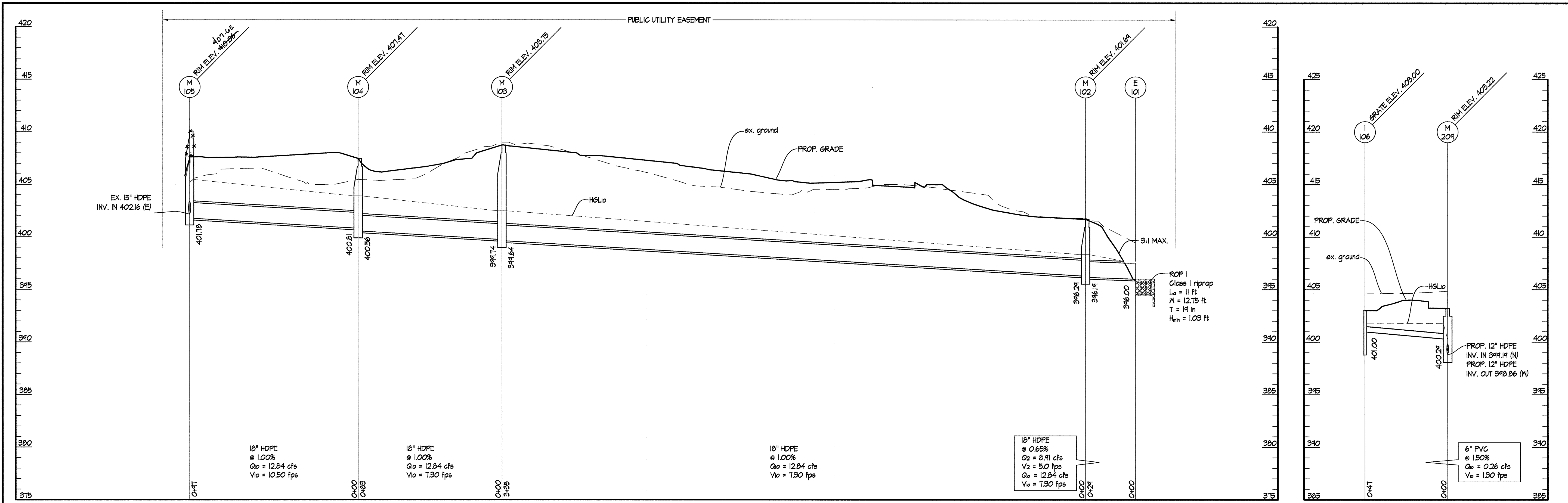
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651 2 / 0521
FLAT # OR L/F	GRID #	ZONING
14067	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
31	16	606608
WATER CODE	SEWER CODE	
550	-	

No As-Built  
 Information  
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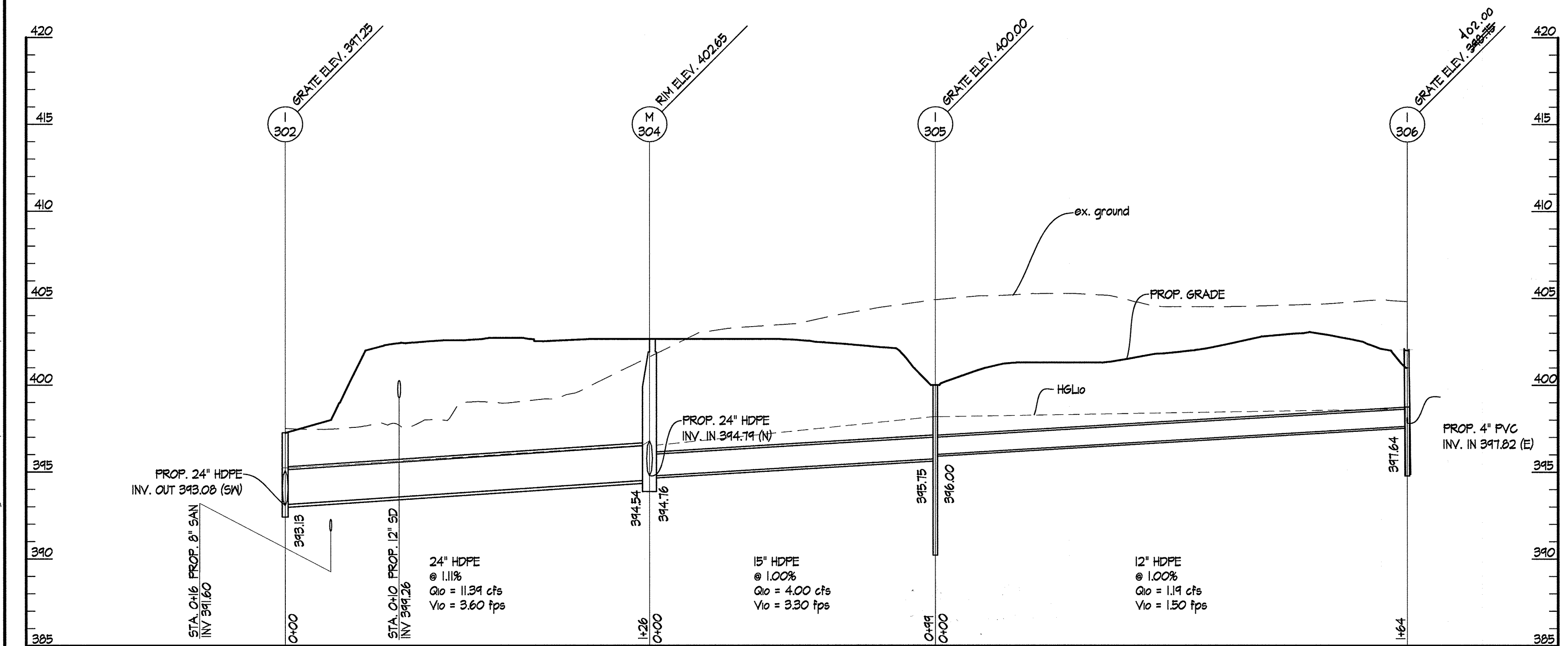


1 M-105 to E-101 PUBLIC STORM DRAIN

SCALES: HORIZ. 1" = 30'  
VERT. 1" = 5'

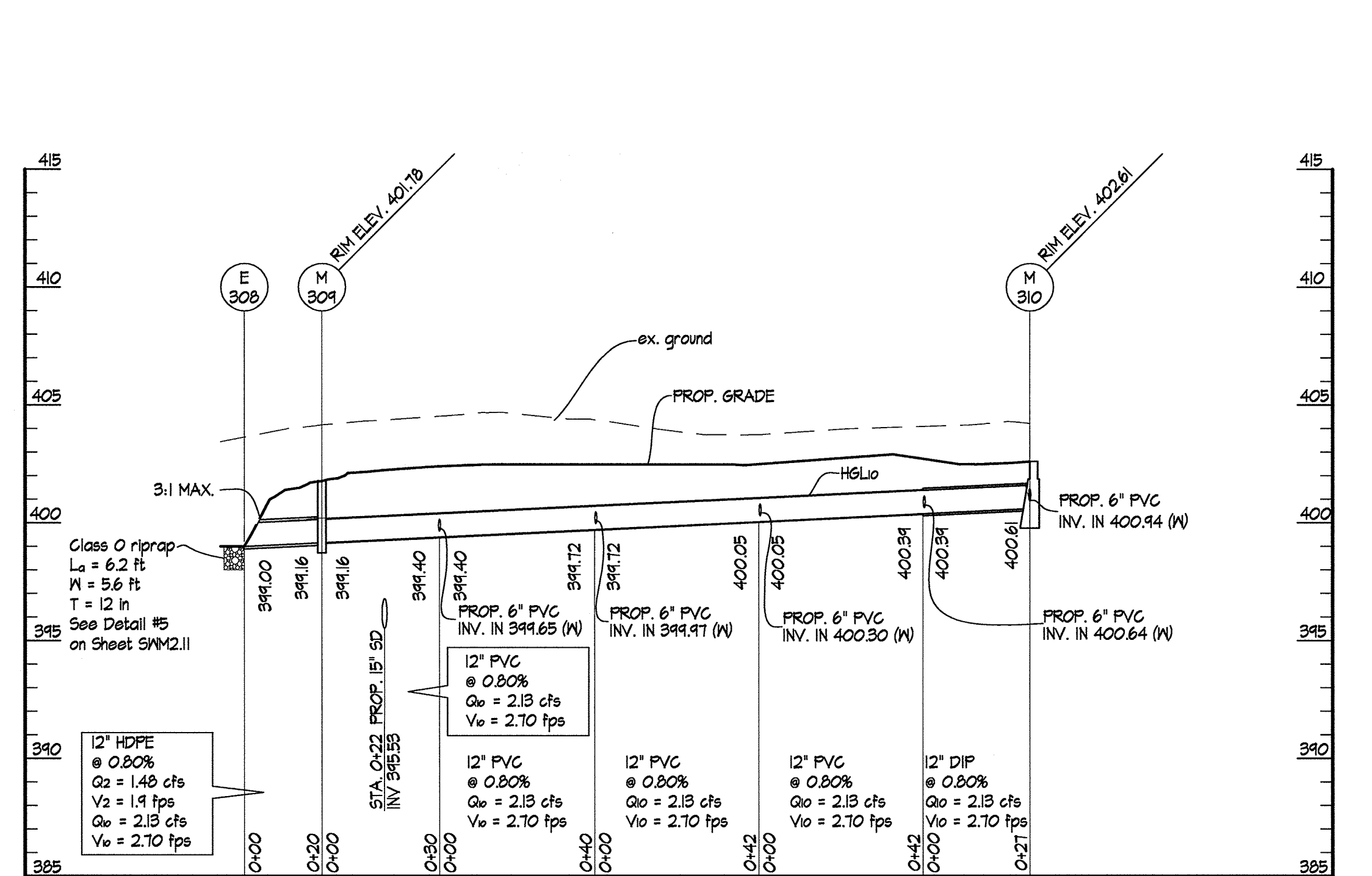
2 I-106 to M-209

SCALES: HORIZ. 1" = 30'  
VERT. 1" = 5'



3 I-306 to I-302

SCALES: HORIZ. 1" = 30'  
VERT. 1" = 5'



4 M-310 to E-308

SCALES: HORIZ. 1" = 30'  
VERT. 1" = 5'

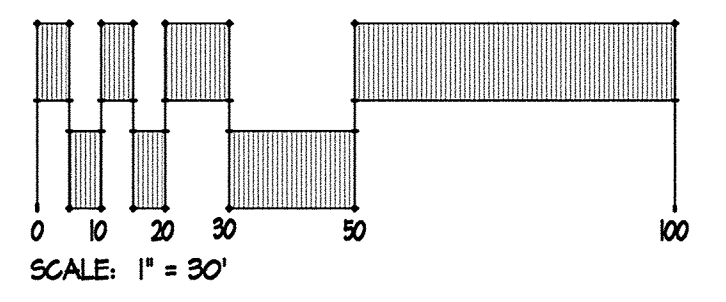
APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie J. Kelly* 2-17-17  
 DIRECTOR DATE  
 Chief, Development Engineering Division  
 DATE 2-13-17

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	GENUS TRACT
14061	7	NT	37	16	606608
WATER CODE			SEWER CODE		
550					

No As-Built Information this sheet.



ALL PIPES PLACED IN FILL AREAS SHALL BE IN COMPACTED SOIL IN ACCORDANCE WITH AASHTO T-180.

**SITE RESOURCES**  
 Incorporated  
 Comprehensive Land Planning & Site Design Services  
 1615 Arretville Pike • Pocomoke, Maryland 21151  
 (410) 683-3888 • Fax (410) 683-3889

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND

LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

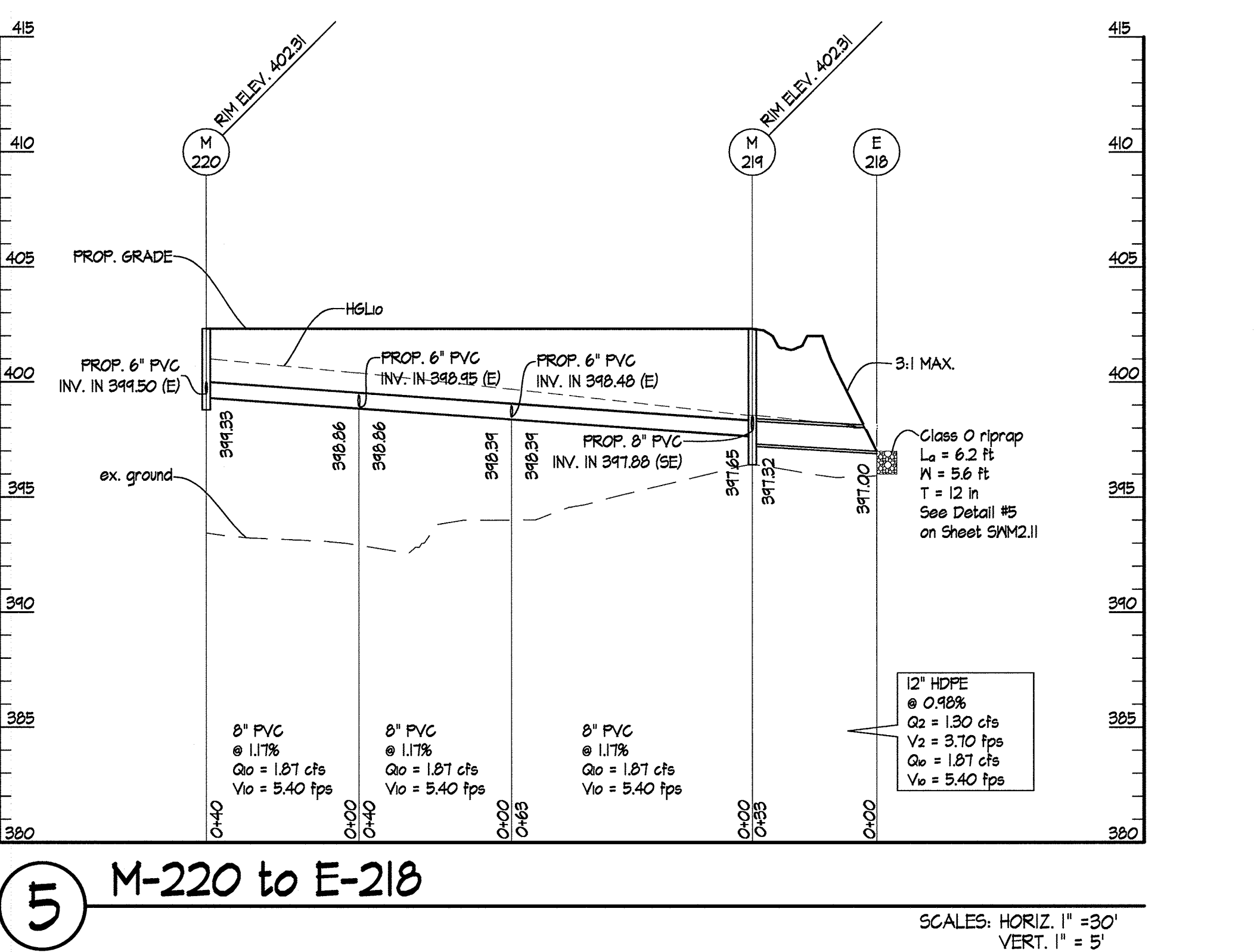
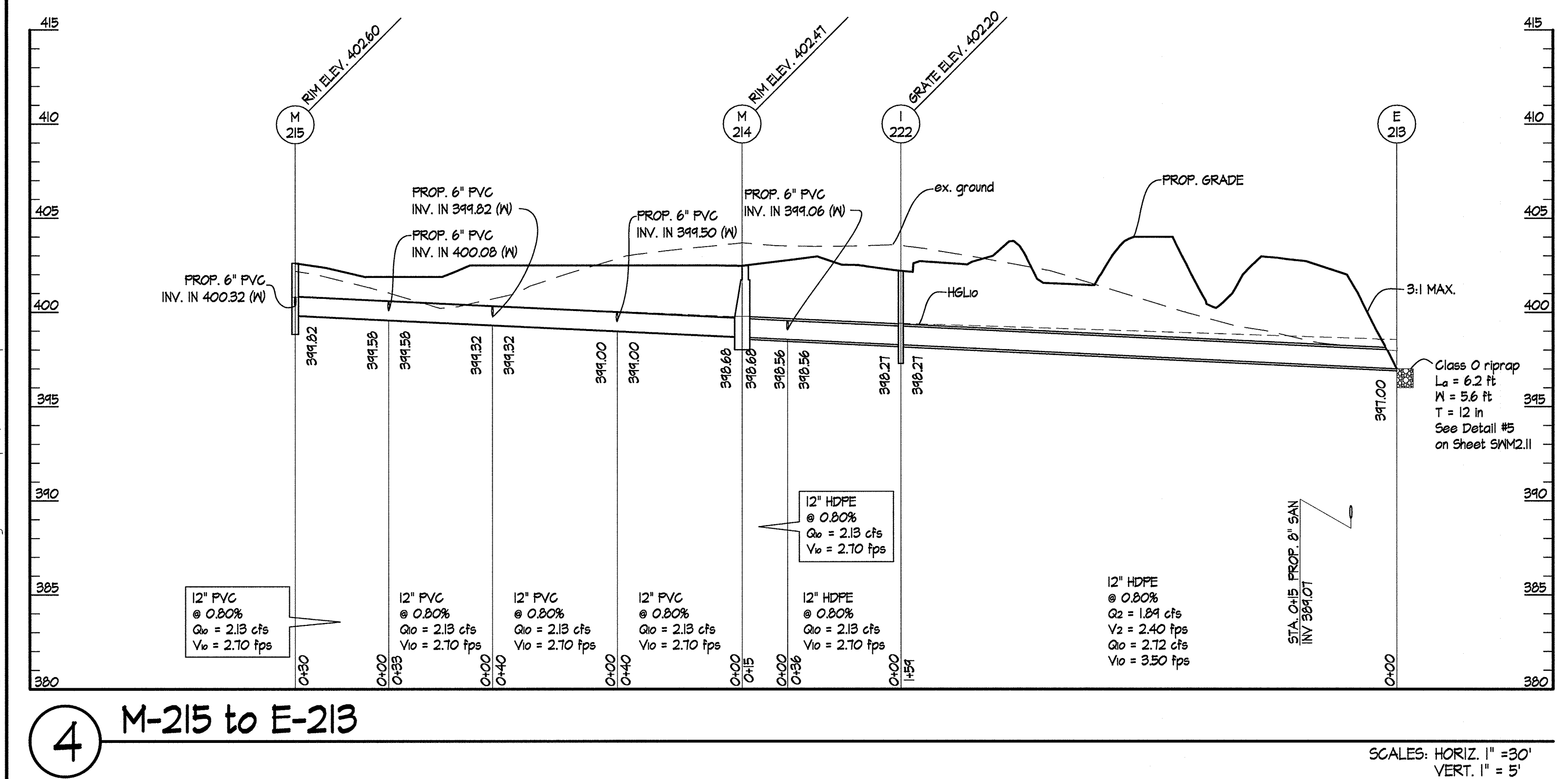
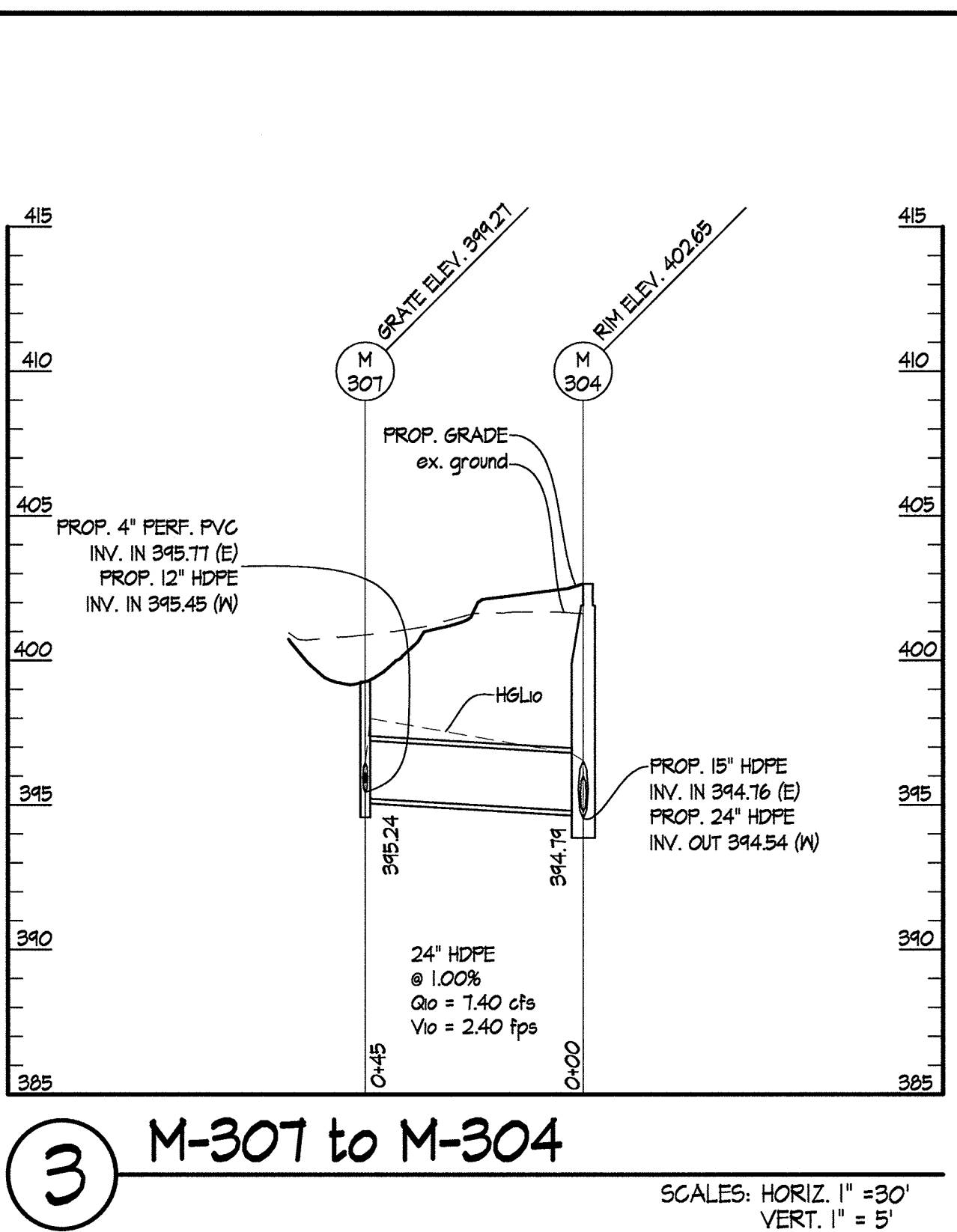
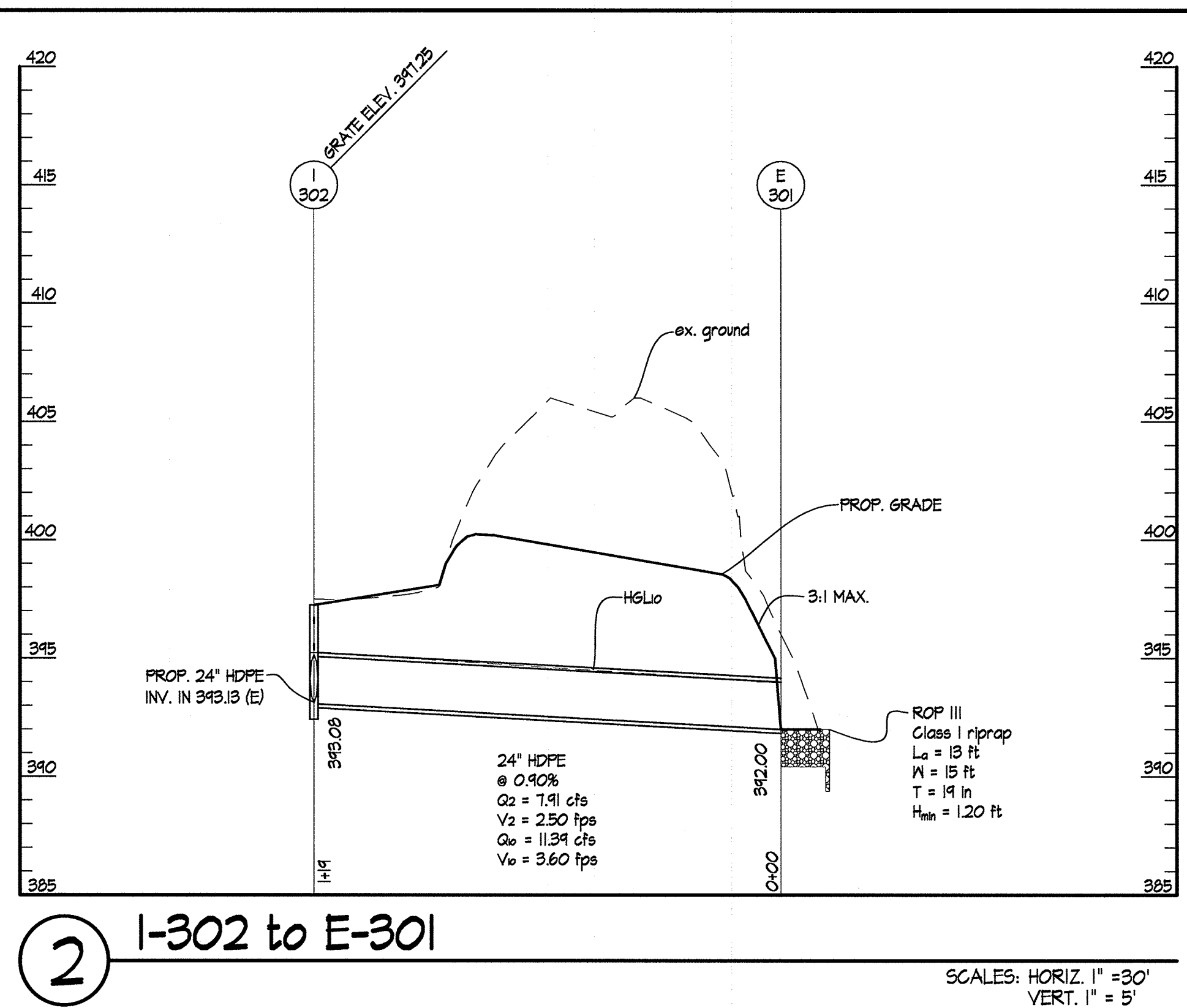
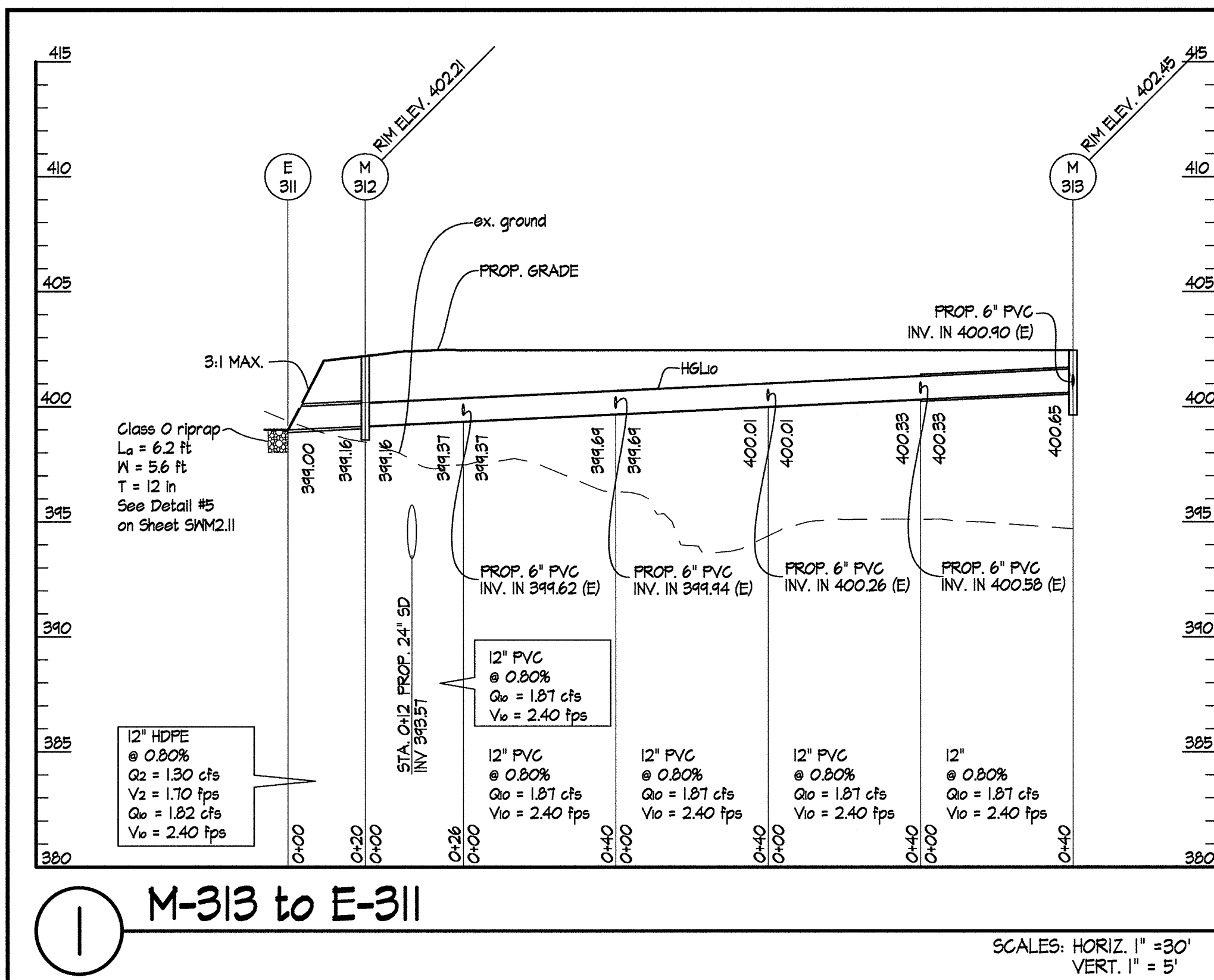
STORM DRAIN PROFILES

REVISIONS:  
 DD SET 02/15/2016  
 60% CHECK SET 04/23/2016  
 PEMB SET 05/04/2016  
 95% CD SET 04/15/2016

SEAL:  
*Michael J. Kelly*  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 15034  
 STATE OF MARYLAND  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 15034 EXPIRATION DATE: 07/31/2021. COPYRIGHT © 2016, SITE RESOURCES, INC.

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C3.01**  
 SHEET 14 OF 46  
 SDP-16-053



No As-Built  
Information  
this sheet.

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*N. Williams* 2-17-17  
 DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

CHIEF, DEVELOPMENT ENGINEERING DIVISION 2-8-17  
 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 2-13-17  
 DATE

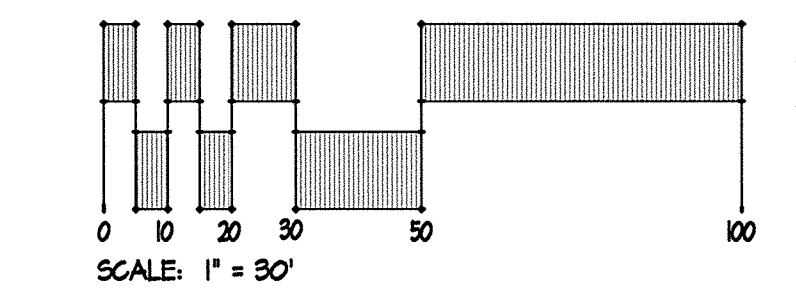
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651
FLAT # OR L/F	GRID #	ZONING
14061	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
31	16	606608
WATER CODE	SEWER CODE	
550		

ALL PIPES PLACED IN FILL AREAS SHALL BE IN COMPACTED SOIL IN ACCORDANCE WITH AASHTO T-180.



**SITE RESOURCES**  
 Incorporated  
 Comprehensive Land Planning & Site Design Services  
 1615 Arrettsville Pike • Phoenix, Maryland 21151  
 (410) 883-3388 • Fax (410) 883-3389

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**

**LONG REACH**  
**TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

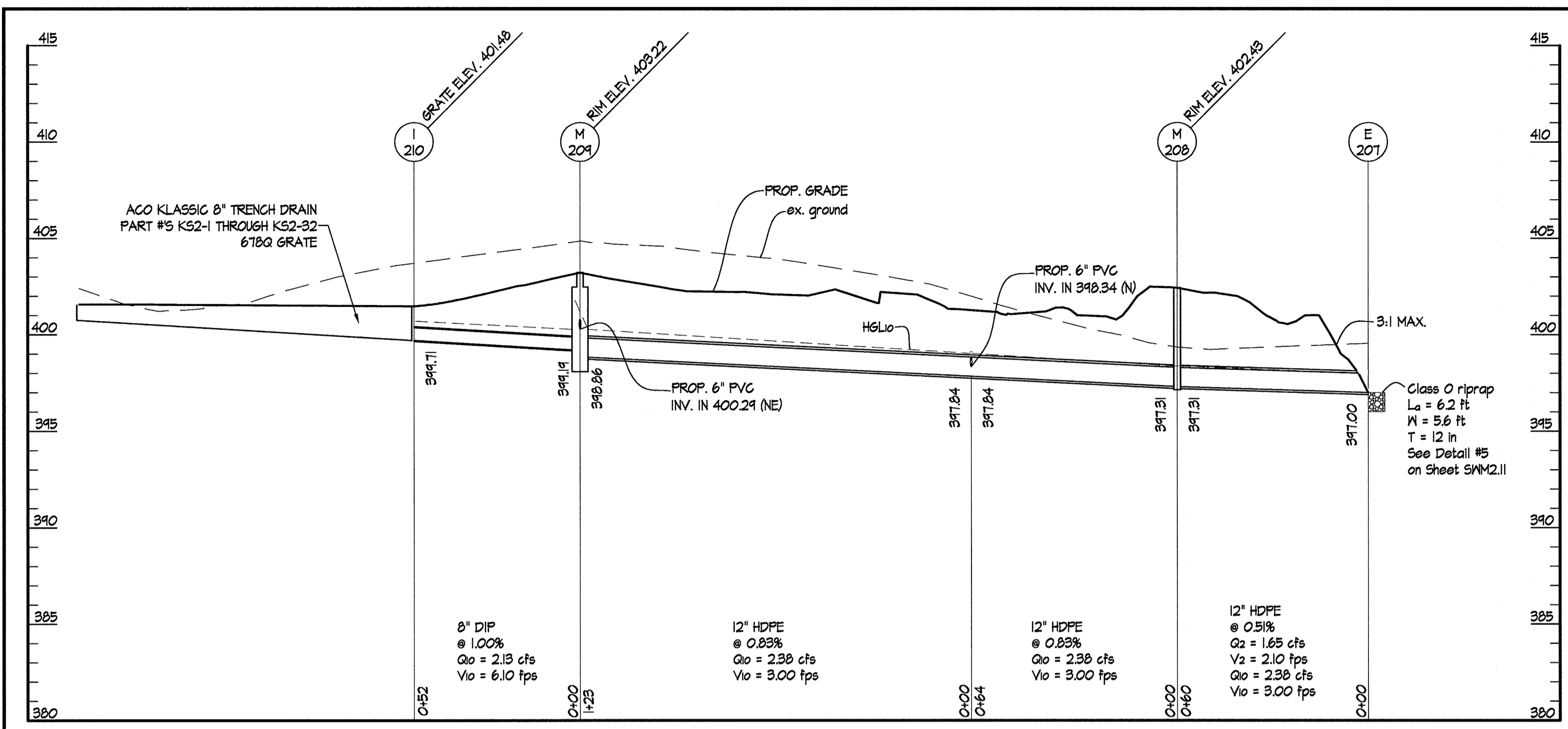
**STORM DRAIN PROFILES**

REVISIONS:  
 DD SET 02/15/2016  
 60% CHECK SET 04/25/2016  
 PERM SET 05/09/2016  
 95% CD SET 04/15/2016

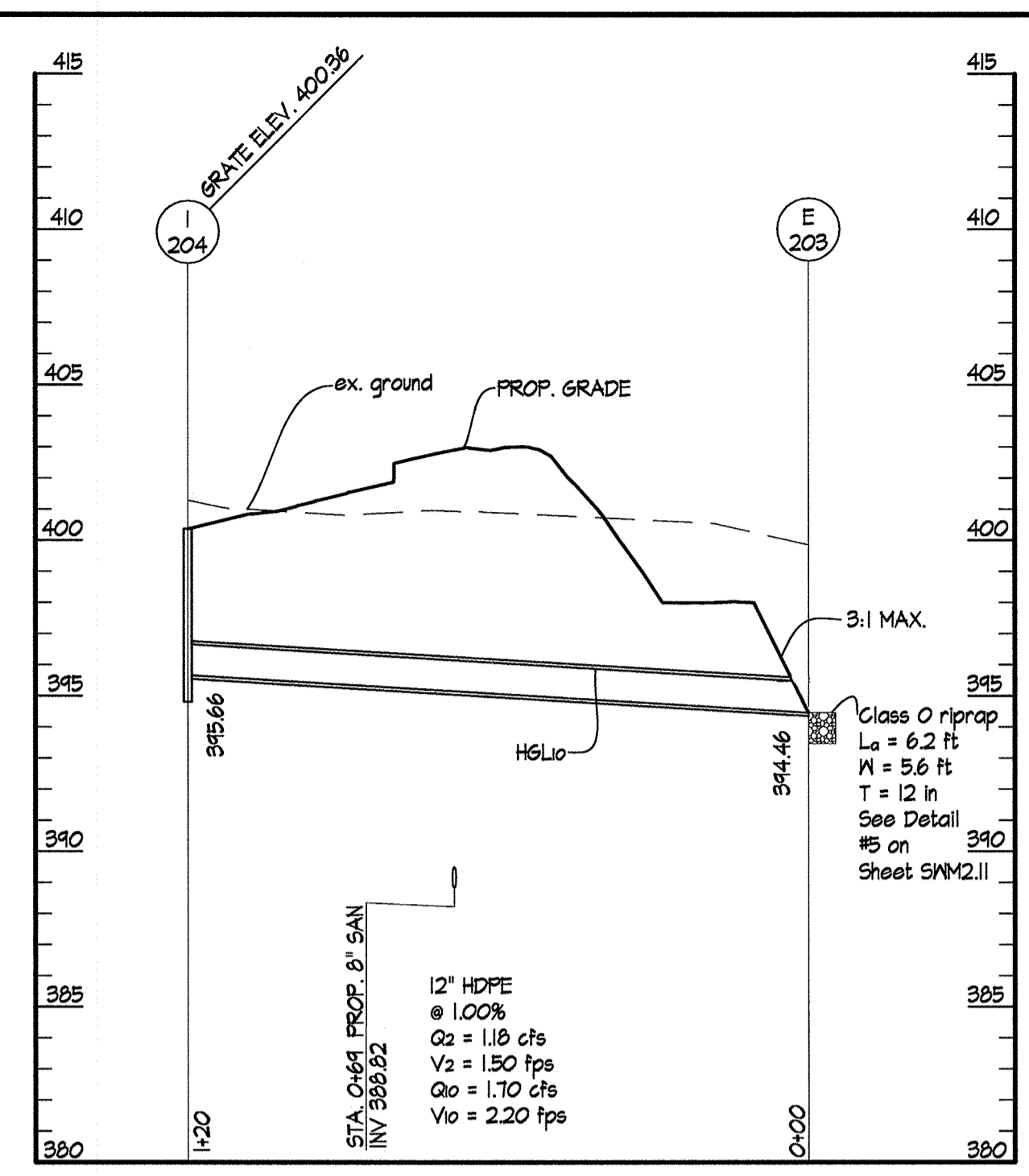
SEAL:  
*James P. Williams*  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 12356  
 EXPIRES 12/31/16

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

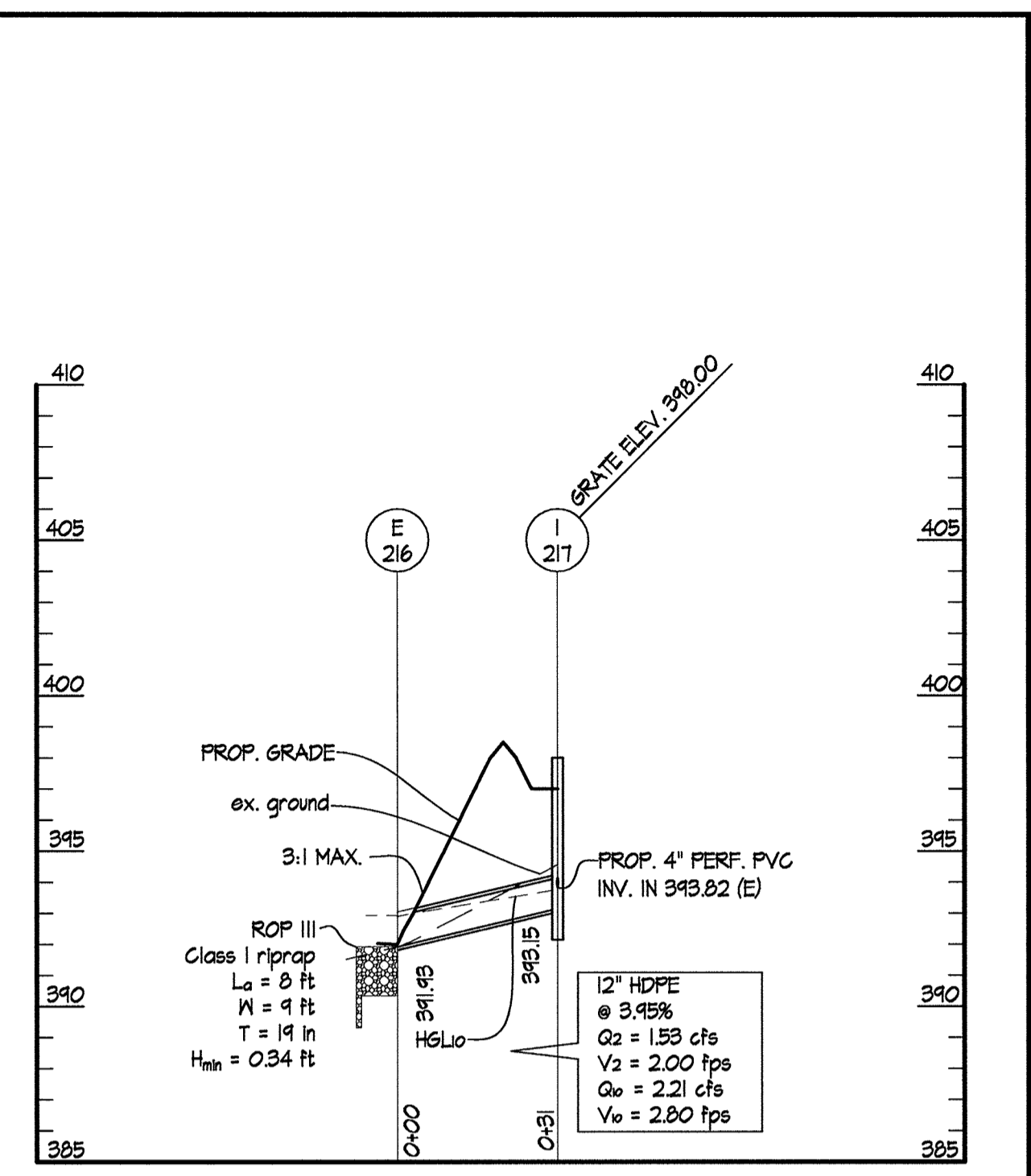
**C3.02**  
 SHEET 15 OF 46  
 SDP-16-053



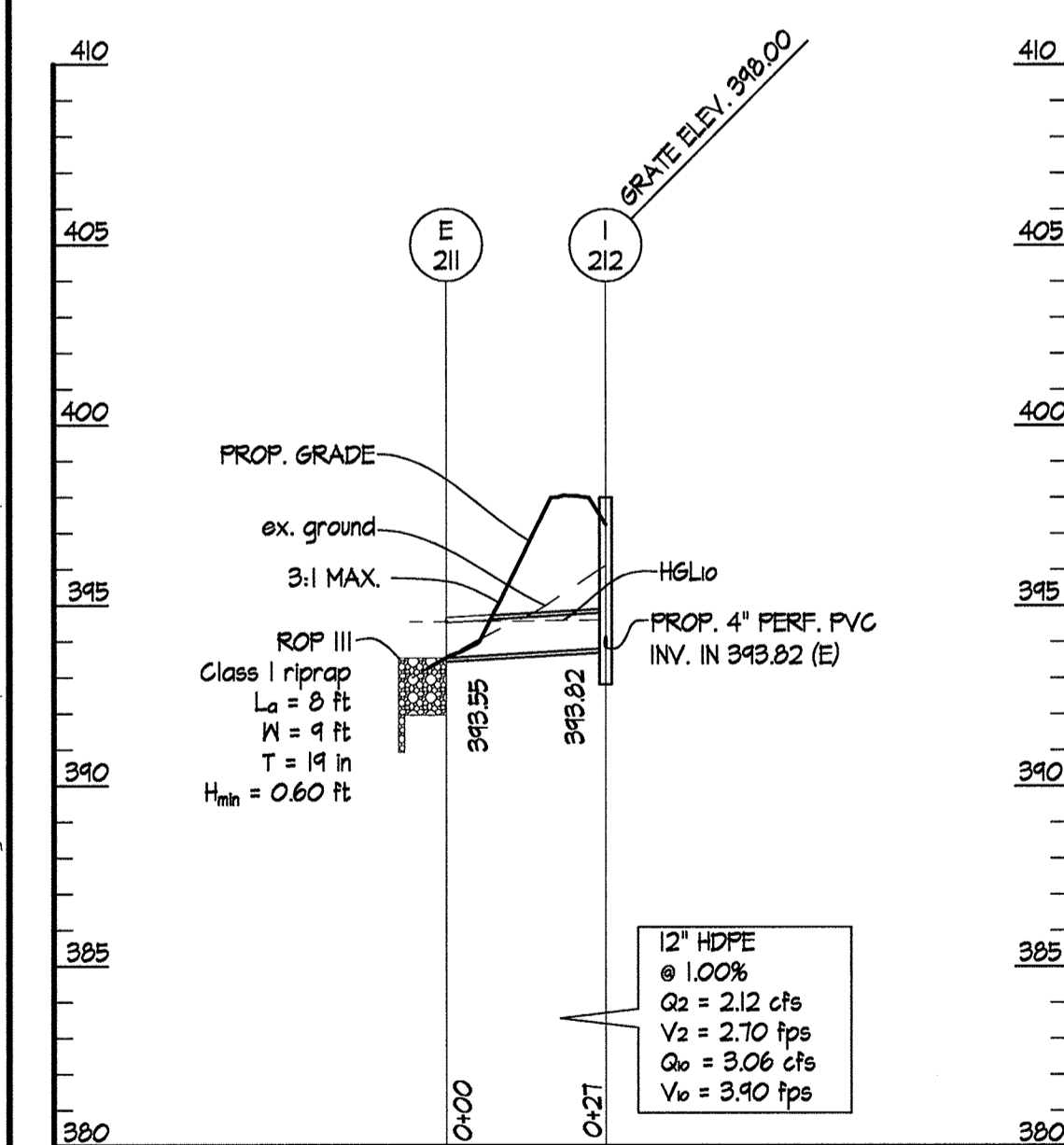
1 I-210 to E-207  
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 VERT. 1" = 5'



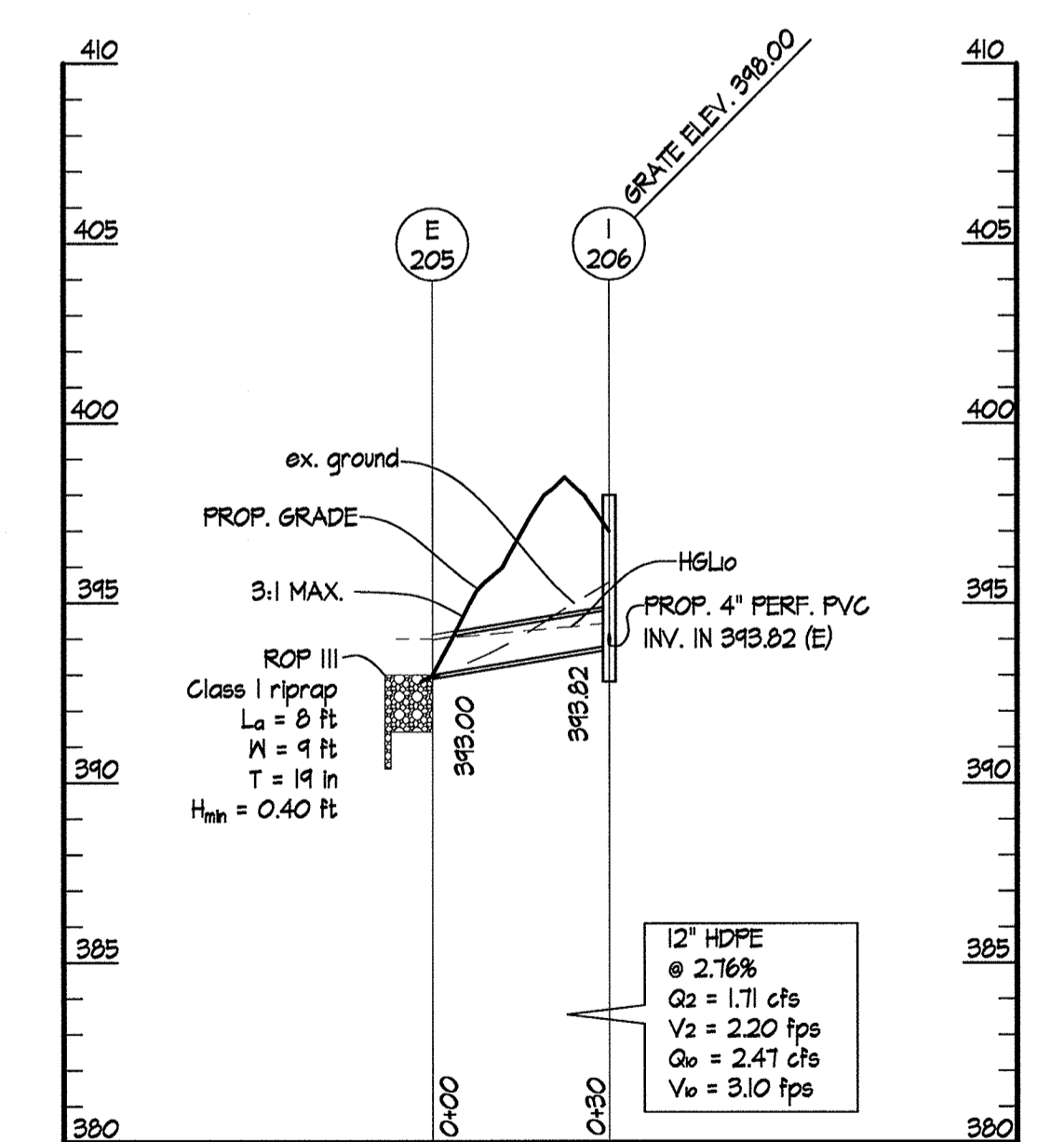
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 VERT. 1" = 5'



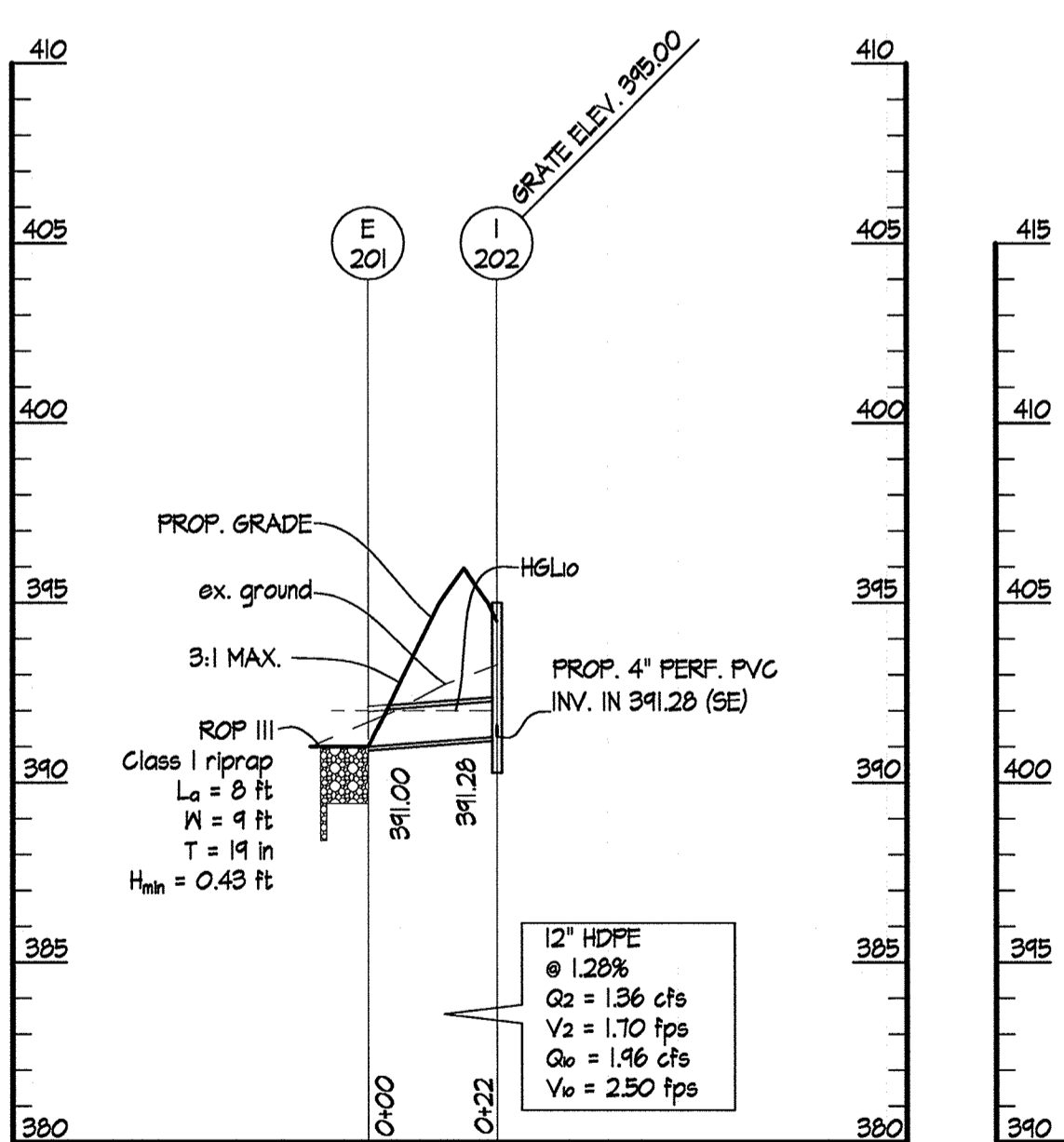
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 VERT. 1" = 5'



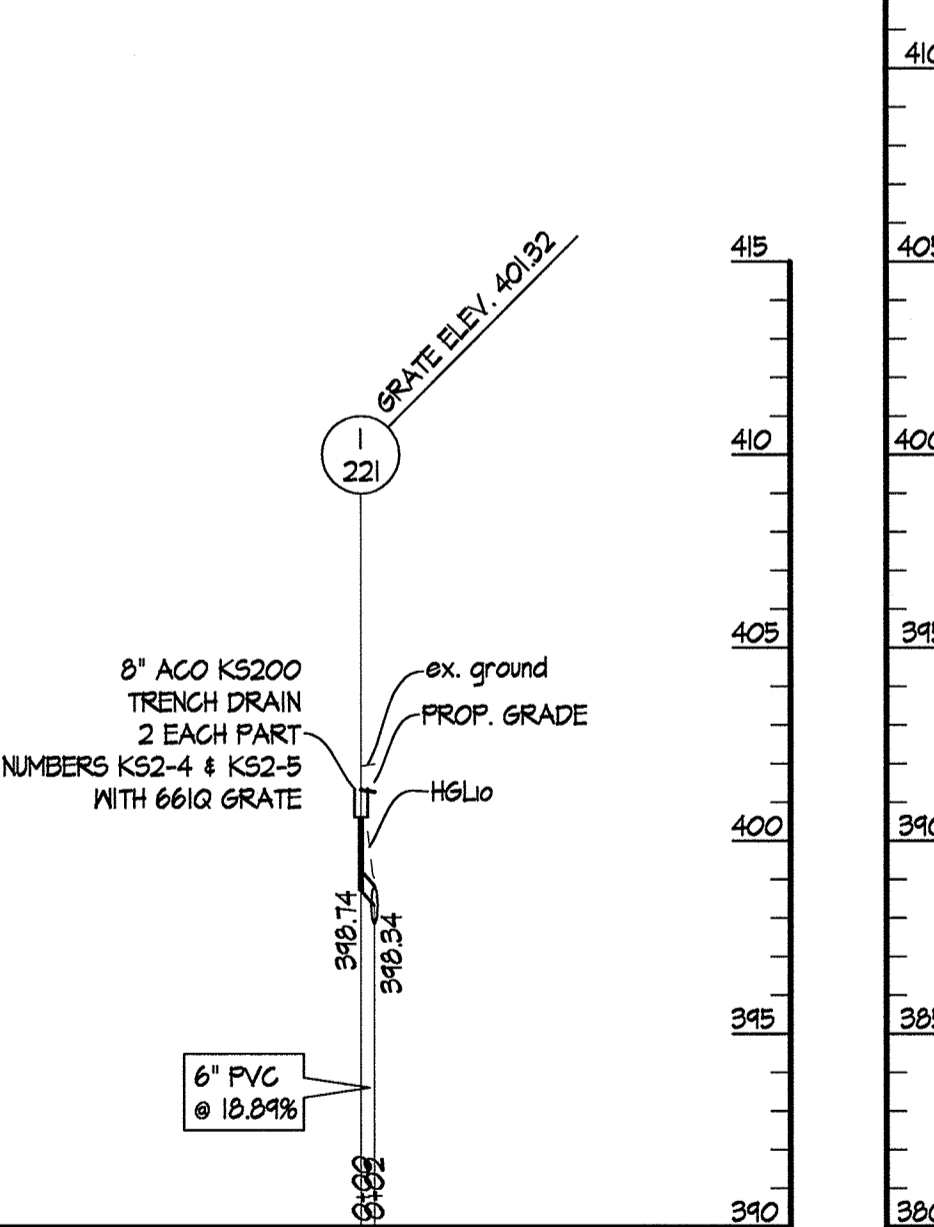
4 I-212 to E-211  
 SCALES: HORIZ. 1" = 30'  
 VERT. 1" = 5'



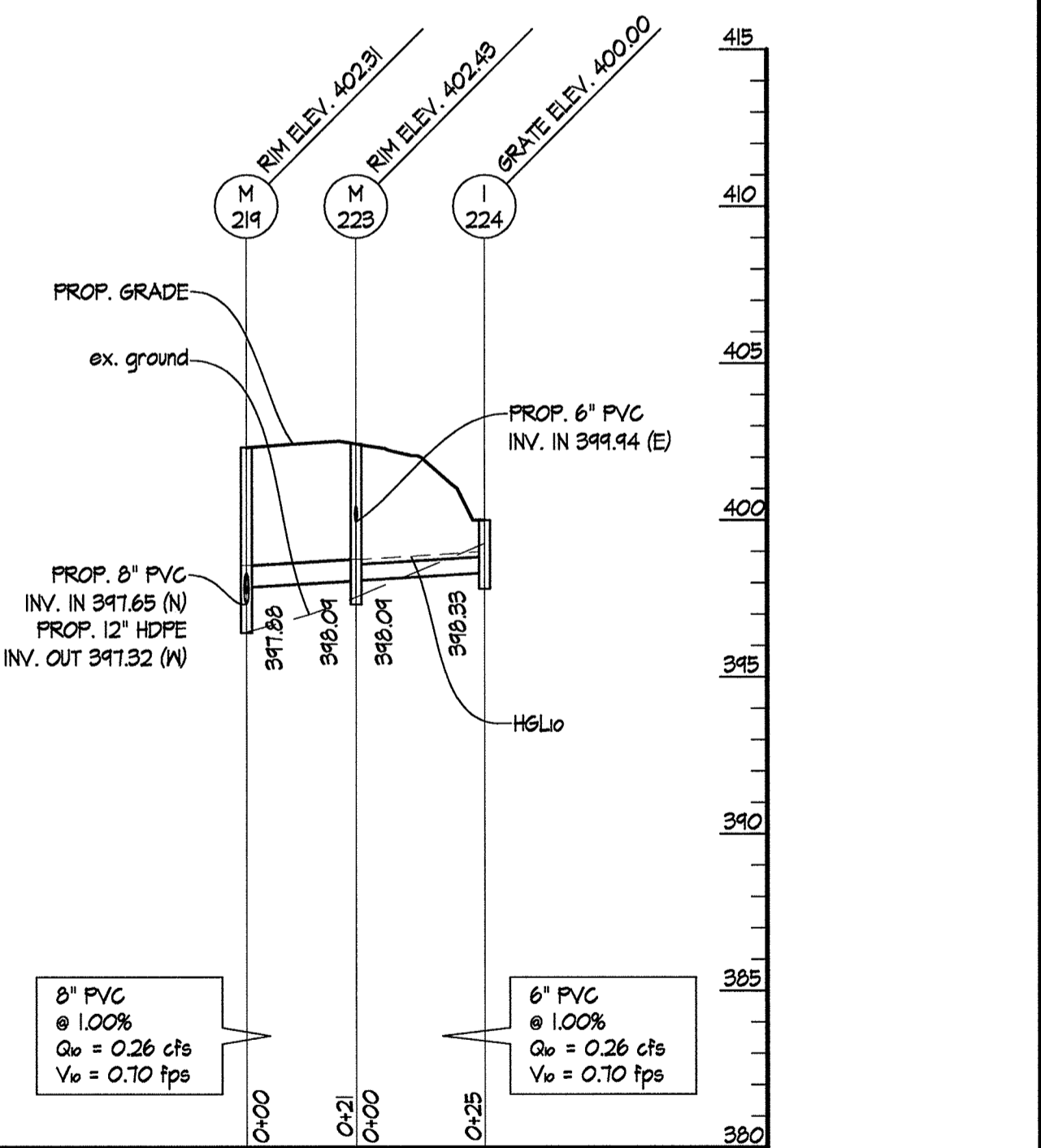
5 I-206 to E-205  
 SCALES: HORIZ. 1" = 30'  
 VERT. 1" = 5'



6 I-202 to E-201  
 SCALES: HORIZ. 1" = 30'  
 VERT. 1" = 5'



7 I-221 to PROP. 12" SD  
 SCALES: HORIZ. 1" = 30'  
 VERT. 1" = 5'



8 I-224 to M-219  
 SCALES: HORIZ. 1" = 30'  
 VERT. 1" = 5'

No As-Built Information this sheet.

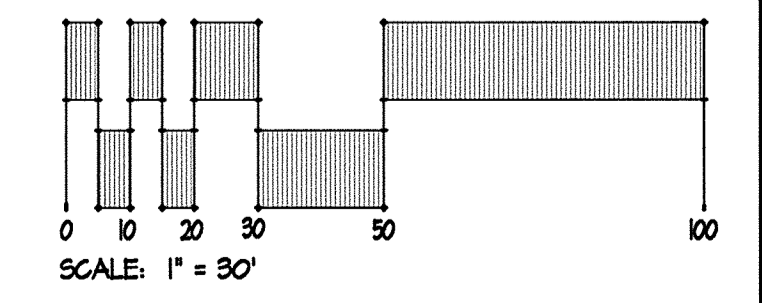
APPROVED: DEPARTMENT OF PLANNING & ZONING  
 Director: *William J. Jolly* 2-17-17  
 Chief, Development Engineering Division: *Chad E. ...* 2-8-17  
 Chief, Division of Land Development: *Kent Shewchuk* 2-13-17

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO. ELECTION DISTRICT	CENSUS TRACT
14067	7	NT	37 16	606608
WATER CODE		SEWER CODE		
550		-		

ALL PIPES PLACED IN FILL AREAS SHALL BE IN COMPACTED SOIL IN ACCORDANCE WITH AASHTO T-180.



**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 1615 Arrettsville Pike • Phoenix, Maryland 21151  
 (410) 883-3380 • Fax (410) 883-3389

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

**STORM DRAIN PROFILES**

REVISIONS:  
 DD SET 02/15/2016  
 60% CHECK SET 04/25/2016  
 PEMB SET 05/04/2016  
 45% CD SET 07/15/2016

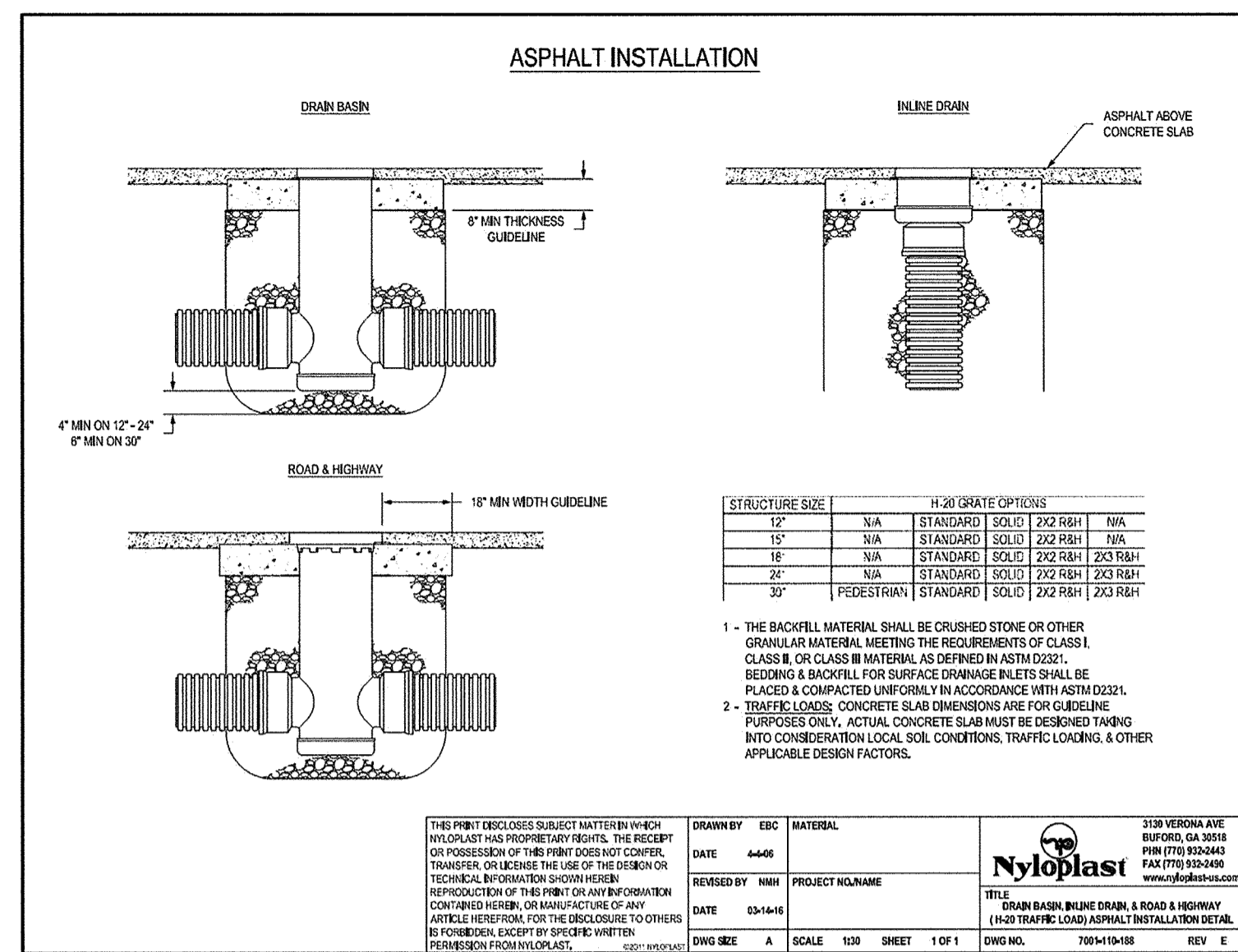
SEAL: *William J. Jolly*  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 2586, EXPIRATION DATE: 07/31/2021  
 COPYRIGHT © 2016, SITE ARCHITECTS, INC.

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

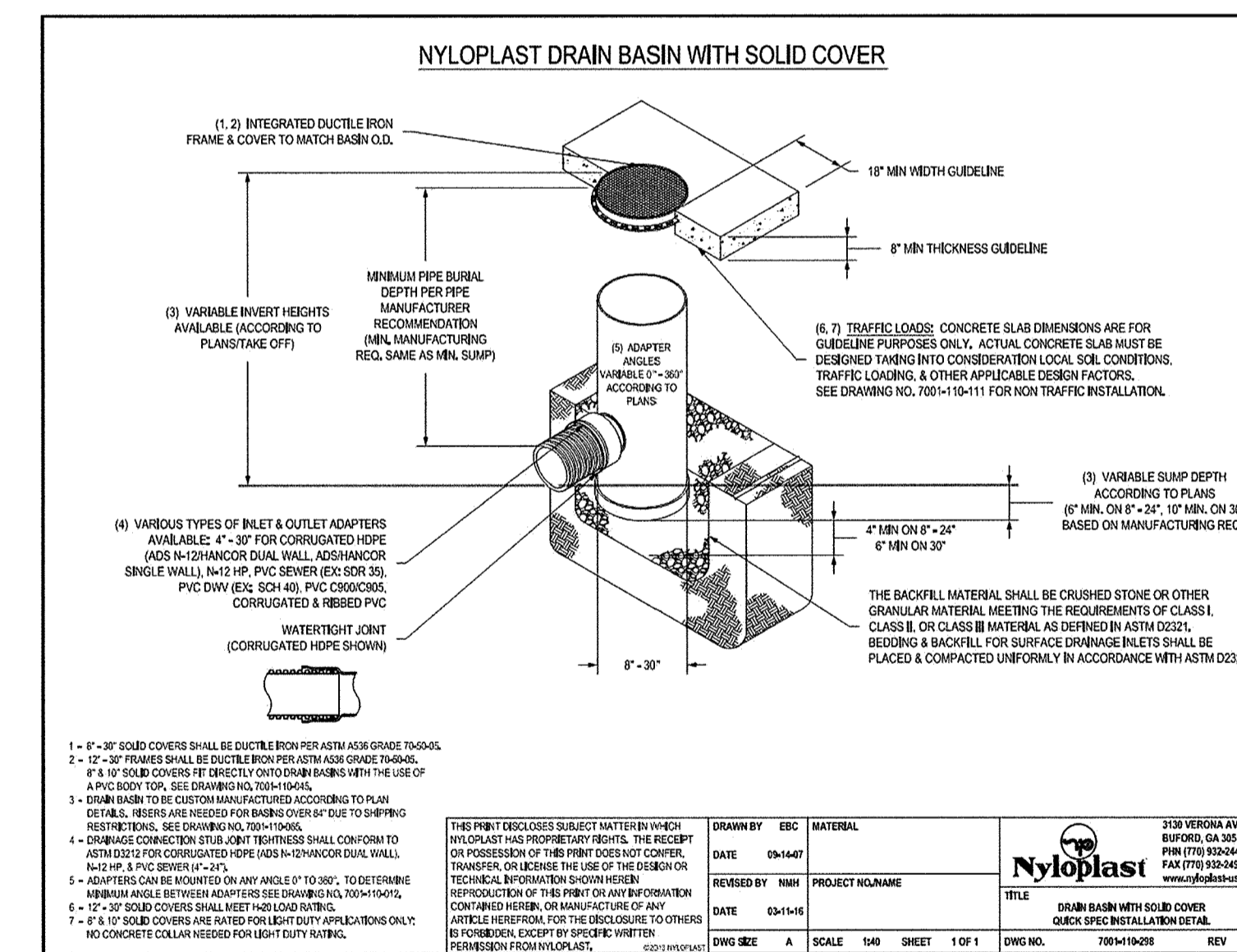
**C3.03**  
 SHEET 16 OF 46  
 SDF-16-053







1 NYLOPLAST ASPHALT INSTALLATION DETAIL NOT TO SCALE



2 NYLOPLAST CONCRETE INSTALLATION DETAIL NOT TO SCALE

STORM DRAIN STRUCTURE TABLE

STRUCTURE ID	DESCRIPTION	TOP ELEV.	INV. IN	INV. OUT	COORDINATES
E-101	18" HDPE END SECTION	347.15	18" HDPE (SE) 346.00		N: 559,449.86 E: 1364,241.64
M-102	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 401.64	18" HDPE (E) 346.24	18" HDPE (NW) 346.14	N: 559,475.46 E: 1364,264.71
M-103	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 408.76	18" HDPE (NE) 349.14	18" HDPE (N) 349.64	N: 559,507.19 E: 1365,203.26
M-104	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 407.47	18" HDPE (N) 400.21	18" HDPE (SW) 400.56	N: 559,566.35 E: 1365,261.52
M-105	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 407.62	18" HDPE (E) 402.16	18" HDPE (S) 401.78	N: 559,662.01 E: 1365,276.57
I-106	24" NYLOPLAST DRAIN BASIN STANDARD GRATE	GRATE 403.00		6" PVC (SW) 401.00	N: 559,571.66 E: 1365,231.91
E-201	12" HDPE END SECTION	342.14	12" HDPE (SE) 341.00		N: 559,574.23 E: 1364,219.48
I-202	18" NYLOPLAST DRAIN BASIN PEDESTRIAN GRATE	GRATE 345.00	4" PERF. PVC (SE) 341.28	12" HDPE (NW) 341.28	N: 559,554.86 E: 1364,224.57
E-203	12" HDPE END SECTION	345.65	12" HDPE (E) 344.46		N: 559,530.40 E: 1364,918.12
I-204	18" NYLOPLAST DRAIN BASIN 2'x3' STEEL BAR GRATE	GRATE 400.36		12" HDPE (W) 345.66	N: 559,549.09 E: 1365,037.32
E-205	12" HDPE END SECTION	344.14	12" HDPE (SE) 343.00		N: 559,571.13 E: 1364,231.51
I-206	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 348.00	4" PERF. PVC (E) 343.82	12" HDPE (NW) 343.82	N: 559,561.61 E: 1364,271.45
E-207	12" HDPE END SECTION	348.14	12" HDPE (E) 347.00		N: 559,568.35 E: 1364,454.71
M-208	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 402.43	12" HDPE (E) 347.31	12" HDPE (W) 347.31	N: 559,575.47 E: 1365,014.15

3 NYLOPLAST TURF INSTALLATION DETAIL NOT TO SCALE

STORM DRAIN STRUCTURE TABLE

STRUCTURE ID	DESCRIPTION	TOP ELEV.	INV. IN	INV. OUT	COORDINATES
M-209	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12 SHALLOW	RIM 403.22	8" DIP (N) 349.14	12" HDPE (W) 348.86	N: 559,547.47 E: 1365,191.06
E-211	12" HDPE END SECTION	344.74	12" HDPE (SE) 343.55		N: 559,607.14 E: 1364,214.23
I-212	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 348.00	4" PERF. PVC (E) 343.82	12" HDPE (NW) 343.82	N: 559,544.26 E: 1364,241.23
E-213	12" HDPE END SECTION	348.14	12" HDPE (E) 347.00		N: 559,540.42 E: 1364,918.43
M-214	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 402.47	12" PVC (N) 348.68	12" HDPE (SW) 348.68	N: 559,581.10 E: 1365,182.68
M-215	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 402.60	6" PVC (W) 400.32	12" PVC (N) 349.82	N: 559,728.64 E: 1365,204.13
E-216	12" HDPE END SECTION	343.11	12" HDPE (E) 341.43		N: 559,660.76 E: 1364,904.45
I-217	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 348.00	4" PERF. PVC (E) 343.82	12" HDPE (N) 343.15	N: 559,624.95 E: 1364,928.63
E-218	12" HDPE END SECTION	348.14	12" HDPE (E) 347.00		N: 559,625.15 E: 1364,984.73
M-219	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 402.31	8" PVC (SE) 347.88	12" HDPE (W) 347.32	N: 559,624.01 E: 1365,011.10
M-220	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 402.31	6" PVC (E) 344.50	8" PVC (S) 344.33	N: 559,770.50 E: 1365,038.33
I-222	18" NYLOPLAST DRAIN BASIN 2'x3' STEEL BAR GRATE	GRATE 402.20	12" HDPE (NE) 348.21	12" HDPE (W) 348.21	N: 559,561.14 E: 1365,136.45
M-223	24" NYLOPLAST DRAIN BASIN DOME GRATE	RIM 402.57	6" PVC (SE) 348.09	8" PVC (NW) 348.09	N: 559,610.42 E: 1365,026.99
I-224	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 400.00		6" PVC (NW) 348.33	N: 559,588.64 E: 1365,038.33
E-301	24" HDPE END SECTION	344.25	24" HDPE (N) 342.00		N: 559,874.98 E: 1365,014.08
I-302	24" NYLOPLAST DRAIN BASIN STANDARD GRATE	GRATE 347.25	24" HDPE (E) 343.13	24" HDPE (S) 343.08	N: 559,491.48 E: 1365,153.40
I-303	24" NYLOPLAST DRAIN BASIN PEDESTRIAN GRATE	GRATE 400.00	4" PVC (N) 345.82	12" HDPE (E) 345.62	N: 560,020.04 E: 1365,153.40
M-304	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 402.57	18" HDPE (E) 344.76	24" HDPE (W) 344.54	N: 559,472.54 E: 1365,163.54
I-305	18" NYLOPLAST DRAIN BASIN STANDARD GRATE	GRATE 400.00	12" HDPE (S) 346.00	15" HDPE (W) 345.75	N: 559,451.64 E: 1365,261.61
I-306	18" NYLOPLAST DRAIN BASIN PEDESTRIAN GRATE	GRATE 402.00	4" PVC (E) 347.82	12" HDPE (N) 347.64	N: 559,745.73 E: 1365,231.09
I-307	24" NYLOPLAST DRAIN BASIN DOME GRATE	GRATE 400.00	4" PVC (E) 345.71	18" HDPE (N) 346.00	N: 559,472.54 E: 1365,110.34
E-308	12" HDPE END SECTION	400.14	12" HDPE (SE) 349.00		N: 559,493.34 E: 1365,230.43
M-309	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 401.73	12" PVC (S) 349.16	12" HDPE (NW) 349.16	N: 559,476.43 E: 1365,241.72
M-310	48" PRECAST STANDARD MANHOLE Howard Co 6-5.12	RIM 402.61	6" PVC (W) 400.44	12" DIP (N) 400.61	N: 559,791.25 E: 1365,214.60
E-311	12" HDPE END SECTION	400.14	12" HDPE (SW) 349.00		N: 560,015.01 E: 1365,089.44
M-312	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 402.25	12" PVC (S) 349.16	12" HDPE (NE) 349.16	N: 559,497.64 E: 1365,079.44
M-313	24" NYLOPLAST DRAIN BASIN SOLID GRATE	RIM 402.45	6" PVC (E) 400.40	12" (N) 400.65	N: 559,814.03 E: 1365,051.64

NOTE: ALL NYLOPLAST DRAIN BASINS WITH DOMED GRATES SHALL BE ORDERED WITH FACTORY TEXTURED COATING.

PRIVATE PIPE SCHEDULE

TYPE	LENGTH (LF)
21" RCCP	437
12" HDPE	1013
15" HDPE	40
18" HDPE	84
24" HDPE	271
6" PVC	245
8" PVC	164
12" PVC	567
4" PERFORATED PVC	861

PUBLIC PIPE SCHEDULE

TYPE	LENGTH (LF)
21" RCCP	0
12" HDPE	0
15" HDPE	46
18" HDPE	0
24" HDPE	0
6" PVC	0
8" PVC	0
12" PVC	0
4" PERFORATED PVC	0

131015034-CA, Tennis Pavilion/Clubhouse Storm Drain Structure Tables.dwg-C3.05, Sep 15, 2016, 04:34pm, a.m.

ALL PIPES PLACED IN FILL AREAS SHALL BE IN COMPACTED SOIL IN ACCORDANCE WITH AASHTO T-180.

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valdis J. Jylka* 2-17-17  
 DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Robert J. ...* 2-8-16  
 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT  
*Kathleen ...* 2-13-16  
 DATE

ADDRESS CHART		PERMIT INFORMATION CHART			
LOT/PARCEL	STREET ADDRESS	SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.	
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651	
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	PLAT # OR L/F	TAX MAP NO. / ELECTION DISTRICT	96 / 0521	
		14061 / 1	37 / 16	606608	
		WATER CODE	SEWER CODE		
		550	-		

No As-Built Information this sheet.

SCALE: 1" = 30'

**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 14315 Arundellville Pike • Poolesville, Maryland 21131  
 (410) 883-3388 • Fax (410) 883-3389

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 STORM DRAIN STRUCTURE TABLES

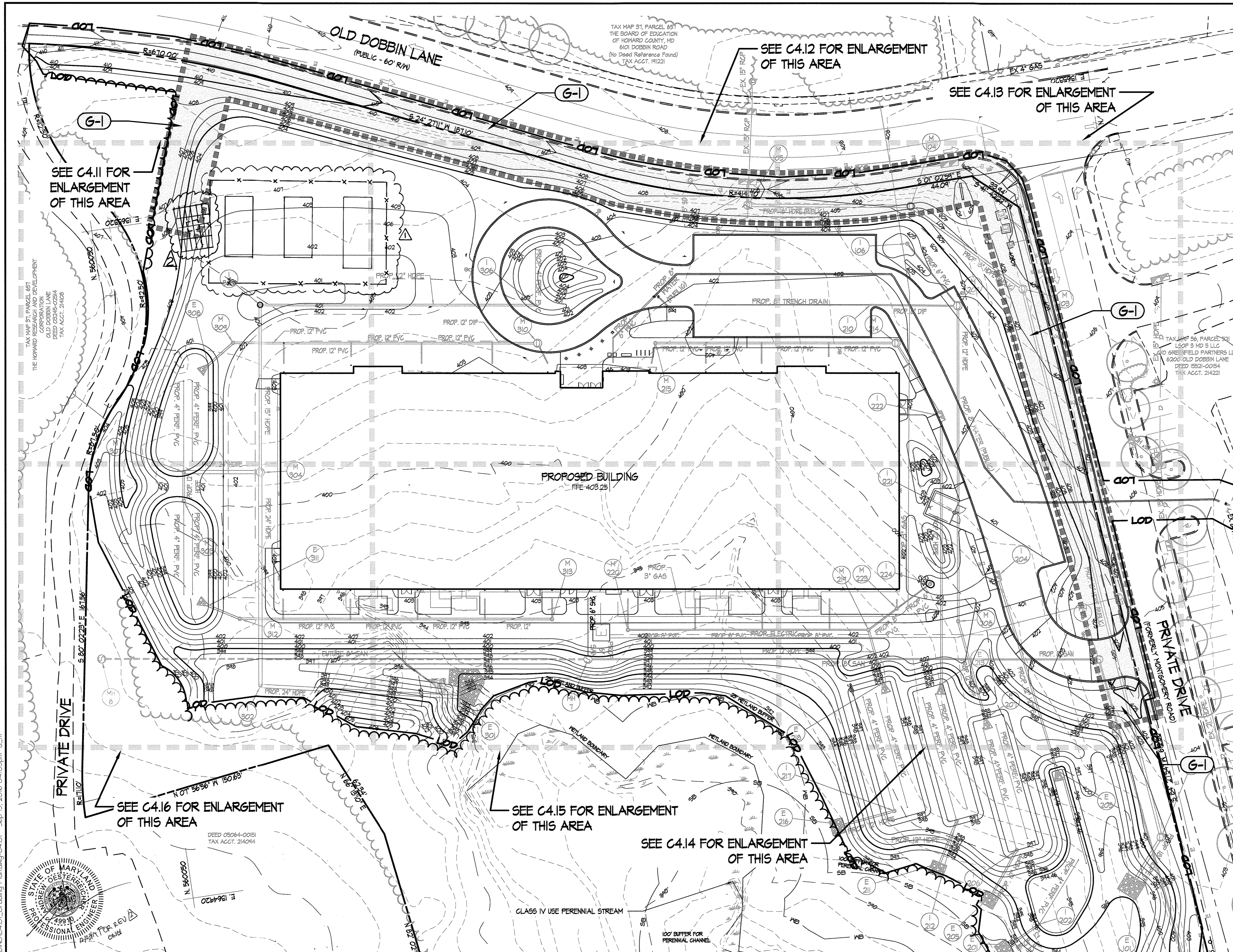
LONG REACH TENNIS CLUB  
 VILLAGE OF LONG REACH SECTION 3, AREA 2  
 LOT 96

REVISIONS:  
 DD SET 02/15/2016  
 60% CHECK SET 04/25/2016  
 PEMB SET 05/04/2016  
 45% CD SET 09/15/2016

SEAL: *Professional Engineer*  
 No. 17316  
 Date: 11/17/16

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C3.05**  
 SHEET 18 OF 46  
 SDF-16-053



**LEGEND** (THIS LEGEND APPLIES TO C4.01 AND C4.02 ONLY)

	PROPERTY LINE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING TREES
	EXISTING WALK
	EXISTING ROAD
	EXISTING CURB
	EXISTING STORM DRAIN
	EXISTING WATER
	EXISTING SANITARY SEWER
	EXISTING GAS
	EXISTING ELECTRIC
	EXISTING LIGHTING
	EXISTING BUILDING
	EXISTING WETLANDS
	WETLAND BUFFER
	EXISTING STREAM
	EXISTING STREAM BUFFER
	PROPOSED WOODLINE
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED REINFORCED TURF
	PROPOSED STORM DRAIN
	PROPOSED WATER
	PROPOSED SANITARY SEWER
	PROPOSED GAS
	PROPOSED ELECTRIC
	PROPOSED CONTOURS
	LIMIT OF DISTURBANCE

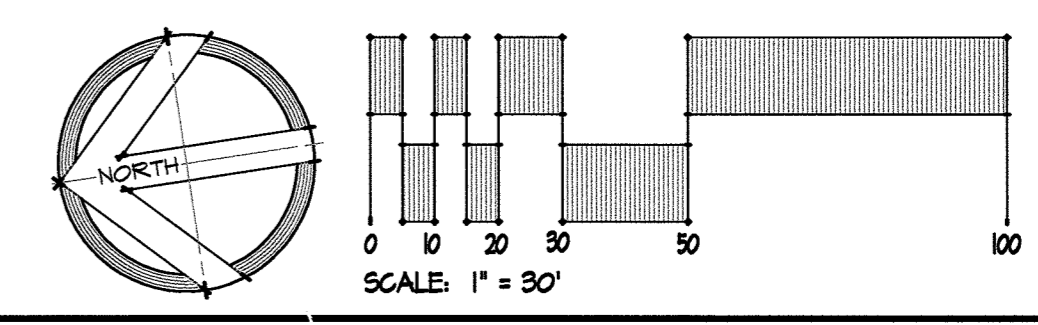
**GRADING NOTES:**

**(G-1)** CONTRACTOR SHALL NOTIFY OWNER WHEN FINE GRADING IS COMPLETE WITHIN THE LIMITS IDENTIFIED WITH SOLID SHADING PRIOR TO TOPSOILING, SEEDING AND STABILIZATION SO THAT ANY REFINEMENTS CAN BE MADE TO THE FINISHED GRADING BEFORE SEEDING OPERATIONS. CONTRACTOR SHALL NOT PROCEED WITH STABILIZATION, TOPSOILING AND SEEDING OPERATIONS WITHOUT WRITTEN AUTHORIZATION TO PROCEED FROM THE OWNER.

**GRADING NOTES (GENERAL):**

- ALL AREAS TO RECEIVE SEED SHALL RECEIVE MINIMUM 4" DEPTH TOP SOIL. SUBSOIL GRADES SHALL BE ADJUSTED ACCORDINGLY TO ACHIEVE FINISH GRADES SHOWN.
- ALL OFF-SITE DISTURBANCE WILL OCCUR WITHIN THE BOUNDARIES OF EXISTING PRIVATE EASEMENTS.

No As-Built Information this sheet.



**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 14115 Annapolis Pike • Potosi, Maryland 21111  
 (410) 683-3388 • Fax (410) 683-3389

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

**REVISIONS:**

DD SET	02/19/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
95% CD SET	09/19/2016
FIELD	11/15/18
ADDED SOLAR POLE MOUNT	12/10/19

SEAL OF PROFESSIONAL ENGINEER  
 JAMES S. BRANTON  
 No. 12516  
 EXPIRES 12/31/2024

DRAWN BY:	SRI
CHECKED BY:	DJS
SCALE:	AS NOTED
DATE:	07/29/16
SRI PROJECT NO.:	15034
DRAWING NO.:	

**C4.01**  
 SHEET 19 OF 46  
 SDP-16-053

APPROVED: DEPARTMENT OF PLANNING & ZONING

	2-17-17
DIRECTOR	DATE
	2-8-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
	2-13-17
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY

DATE	November 17, 2016
------	-------------------

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

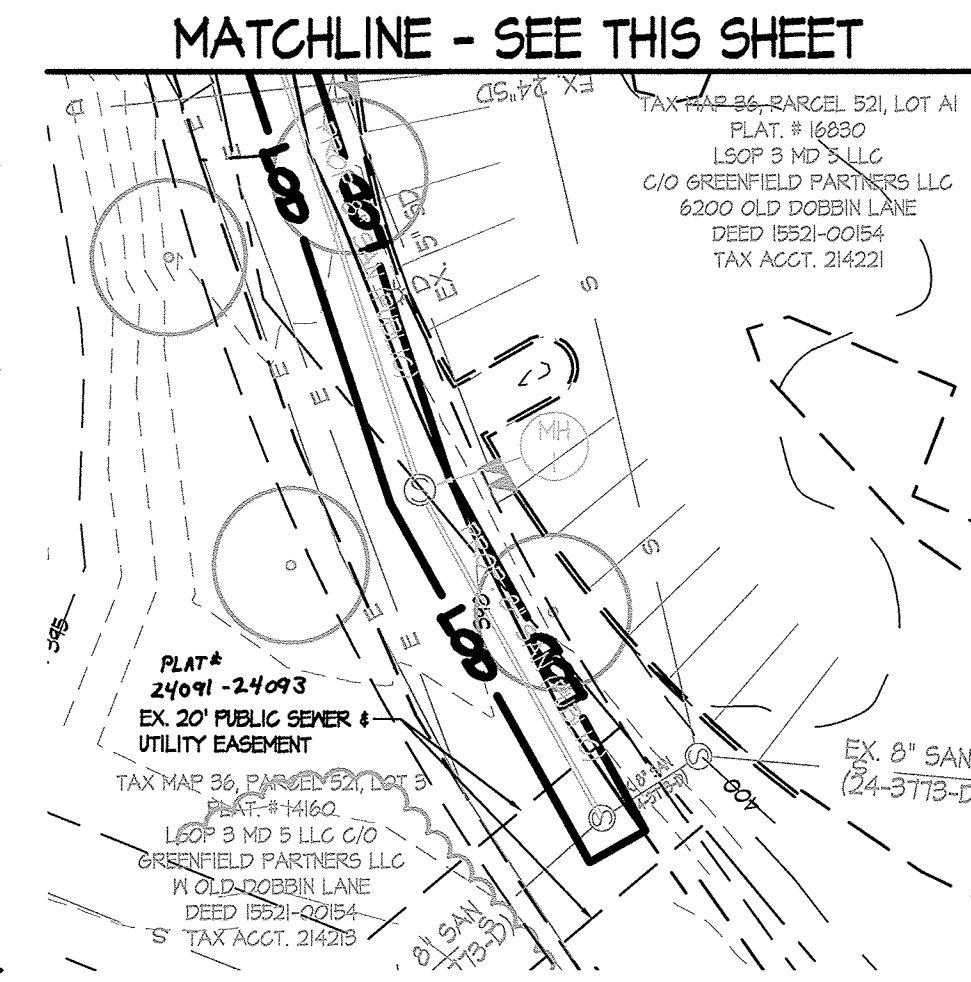
PERMIT INFORMATION CHART

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
FLAT # OR LIF	GRID #	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT	
	14061	31	16	606608	
WATER CODE	SEWER CODE				
550					

SEAL OF PROFESSIONAL ENGINEER  
 JAMES S. BRANTON  
 No. 12516  
 EXPIRES 12/31/2024

Z:\1515034-C4\_Tennis\_Positioning-DWG\C4.01\_Grading\_Plan.dwg-C4.01 Sep 15, 2016 04:03pm a.m.

MATCHLINE - SEE SHEET C4.01

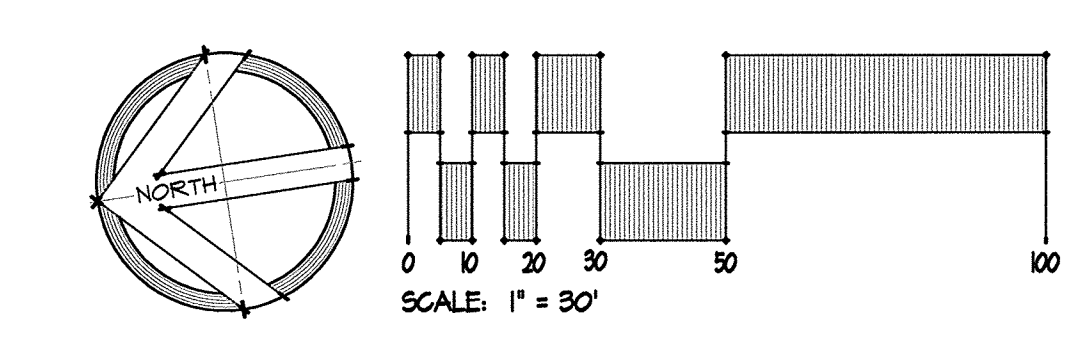


APPROVED: DEPARTMENT OF PLANNING & ZONING  
**Valdas Jolin** 2-17-17  
 DIRECTOR DATE  
**Chadwick** 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
**Kristen Wood** 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	37	16	606608
WATER CODE		SEWER CODE			
550					



No As-Built Information this sheet.

**SITE RESOURCES**  
 INCORPORATED  
 Comprehensive Land Planning & Site Design Services  
 1615 Jerehville Pike • Phoenix, Maryland 21131  
 (410) 683-3388 • fax (410) 683-3389

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
**GRADING PLAN**

**LONG REACH**  
**TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/09/2016
45% CD SET	09/15/2016

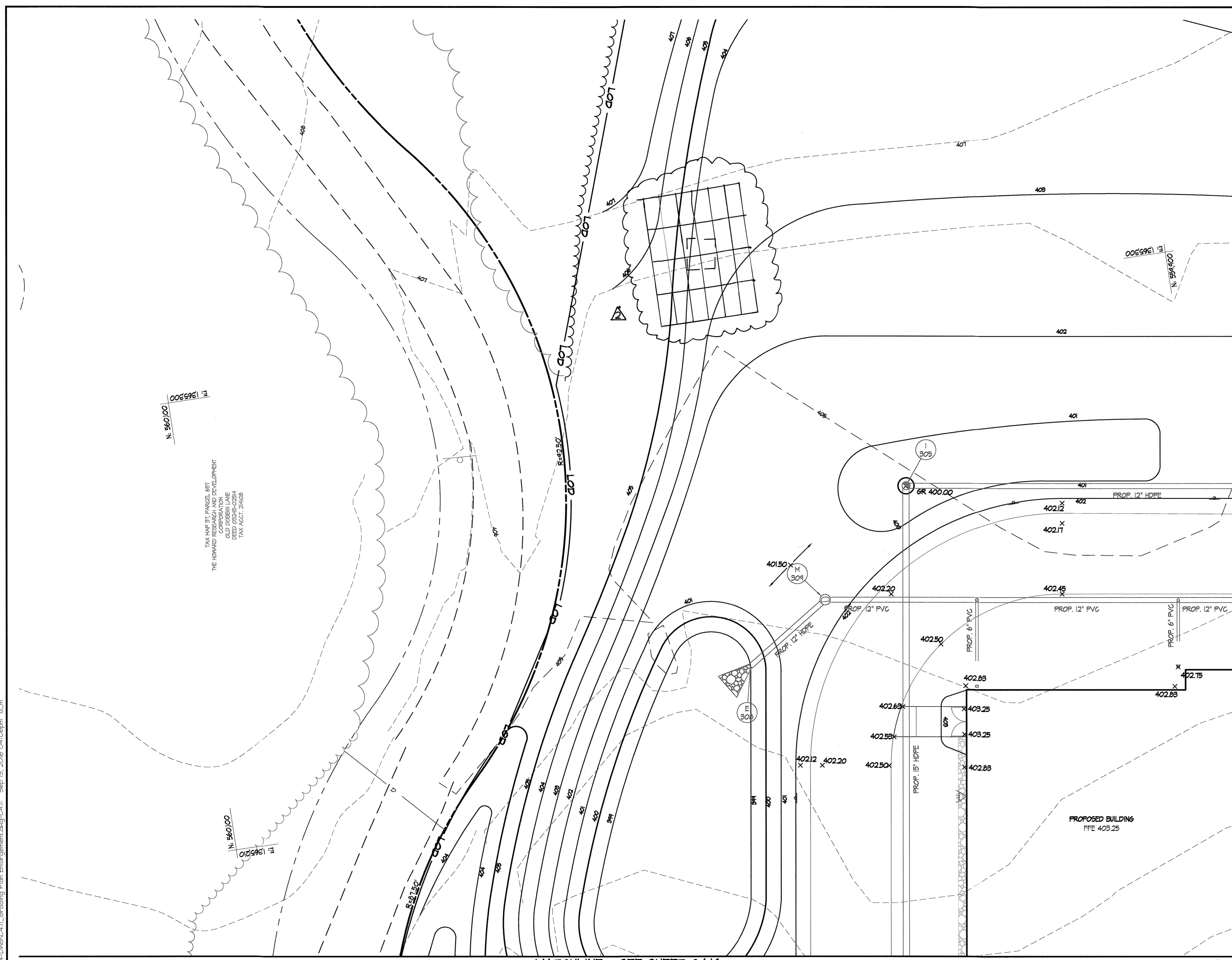
SEAL:  
  
 Michael J. Jolin  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 165316  
 STATE OF MARYLAND

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C4.02**  
 SHEET 20 OF 46  
 SDP-16-053

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Z:\1515034-C4 Tennis Pavilion04-DWG\C4.11\_Grading Plan Enlargement.dwg-C4.11 Sep 15, 2016 04:06pm d.m



**LEGEND** (THIS LEGEND APPLIES TO C4.11 THROUGH C4.16 ONLY)

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING WALK
- EXISTING ROAD
- EXISTING CURB
- EXISTING STORM DRAIN
- EXISTING WATER
- EXISTING SANITARY SEWER
- EXISTING GAS
- EXISTING ELECTRIC
- EXISTING LIGHTING
- EXISTING BUILDING
- EXISTING WETLANDS
- WETLAND BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- PROPOSED WOODSLINE
- PROPOSED CURB
- PROPOSED WALK
- PROPOSED BUILDING
- PROPOSED REINFORCED TURF
- PROPOSED STORM DRAIN
- PROPOSED WATER
- PROPOSED SANITARY SEWER
- PROPOSED GAS
- PROPOSED ELECTRIC
- PROPOSED LIGHTING
- PROPOSED CONTOURS
- LOD - LIMIT OF DISTURBANCE
- SPOT ELEVATIONS (EXISTING, PROPOSED)
- STORM DRAIN STRUCTURE GRATE ELEVATION

**STORMWATER MANAGEMENT NOTE:**  
REFER TO STORMWATER MANAGEMENT DRAWINGS FOR DETAILED GRADING INFORMATION WITHIN PROPOSED BIORETENTION FACILITIES.

**SITE RESOURCES**  
CONSULTANTS  
Comprehensive Land Planning & Site Design Services  
14115 Annettsville Pike • Potosi, Maryland 21151  
(410) 983-3300 • Fax (410) 983-3300

**6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND**

**LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96**

REVISIONS:

DD SET	02/19/2016
60% CHECK SET	04/25/2016
FEMB SET	05/04/2016
95% CD SET	09/15/2016
APPROVED SOLAR POLE HEIGHT	12/11/19

SEAL: [Professional Engineer Seal]  
PROFESSIONAL ENGINEER  
STATE OF MARYLAND  
J. [Name]  
12/23/19

DRAWN BY:	SRI
CHECKED BY:	DJS
SCALE:	AS NOTED
DATE:	07/29/16
SRI PROJECT NO.:	15034
DRAWING NO.:	

**C4.11**  
SHEET 21 OF 46  
SDP-16-053

APPROVED: DEPARTMENT OF PLANNING & ZONING

<i>Valdis Taylor</i>	2-17-17
DIRECTOR	DATE
<i>Phil Edwards</i>	2-8-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Karen DeWahl</i>	2-13-17
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE	November 17, 2016
------	-------------------

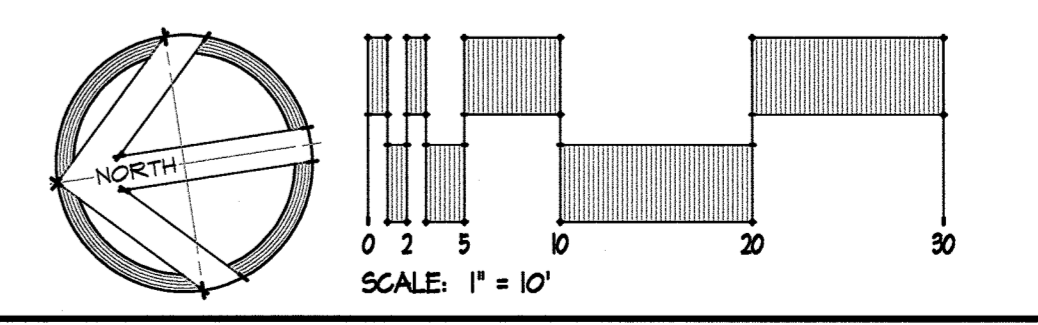
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

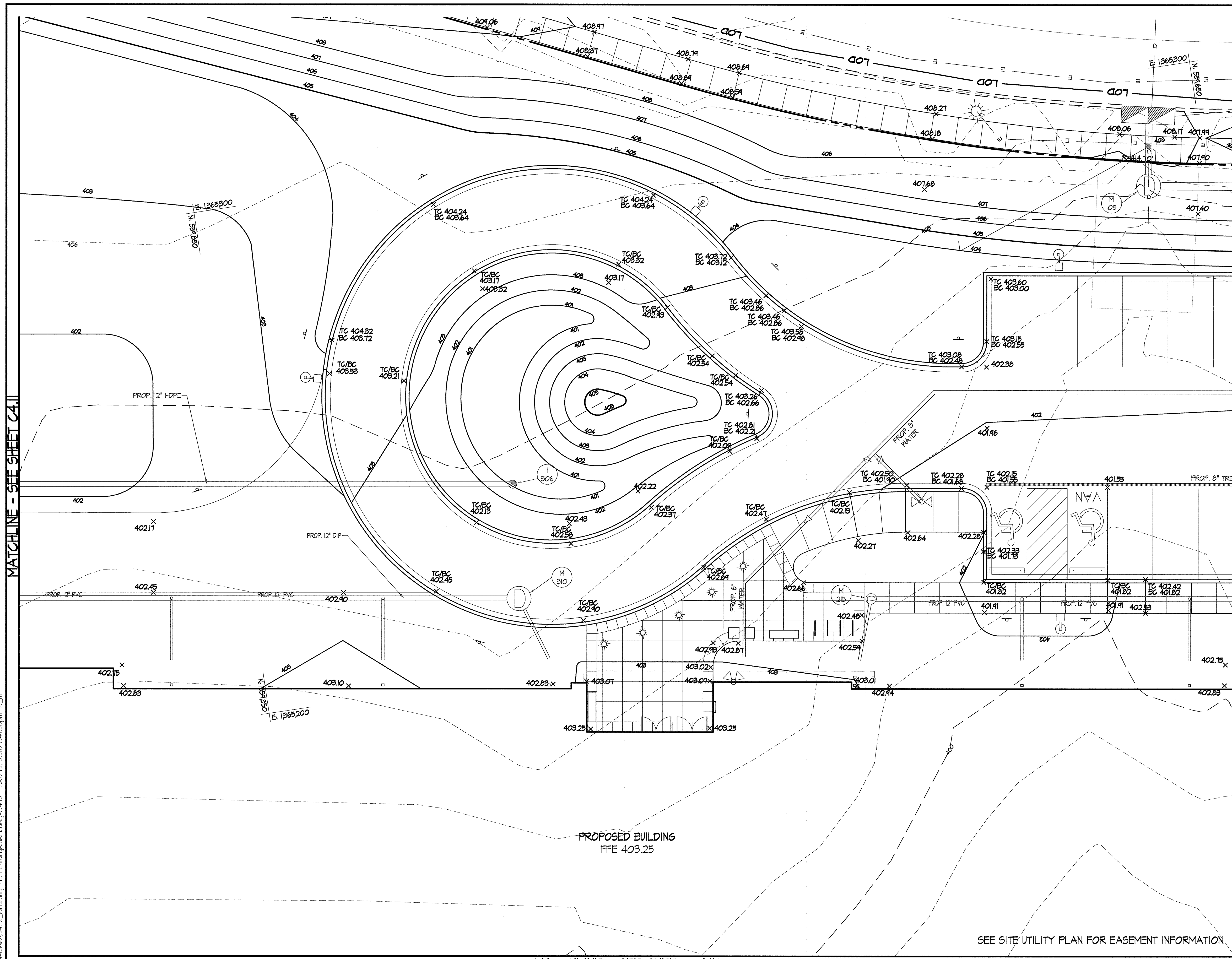
PERMIT INFORMATION CHART

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
FLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
	14067	T NT	37	16	606608
WATER CODE		SEWER CODE			
550					

FOR REV ONLY  
[Professional Engineer Seal]  
PROFESSIONAL ENGINEER  
STATE OF MARYLAND  
12/23/19



I CERTIFY THAT THESE DOCUMENTS WERE APPROVED BY ME AND THAT I AM A DULY LICENSED P.E. UNDER THE LAWS OF THE STATE OF MD. LICENSE # 49410



SEE DRAWING C4.11 FOR LEGEND

**STORMWATER MANAGEMENT NOTE:**  
REFER TO STORMWATER MANAGEMENT DRAWINGS FOR DETAILED GRADING INFORMATION WITHIN PROPOSED BIORETENTION FACILITIES.

MATCHLINE - SEE SHEET C4.11

MATCHLINE - SEE SHEET C4.13

MATCHLINE - SEE SHEET C4.15

SEE SITE UTILITY PLAN FOR EASEMENT INFORMATION



6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
GRADING PLAN  
ENLARGEMENT

LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96

REVISIONS:

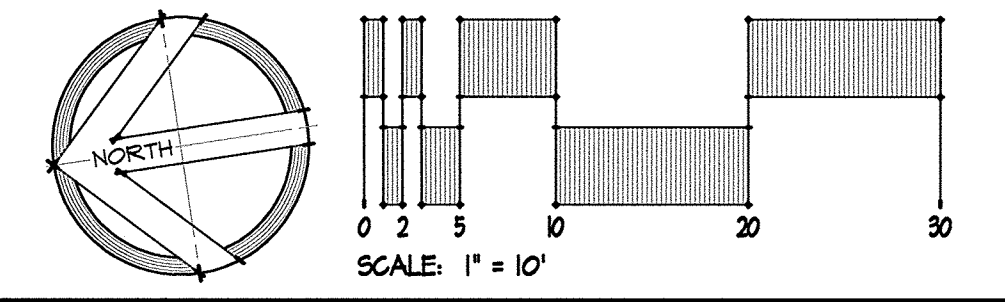
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PEMB SET	05/09/2016
45% CD SET	09/15/2016



DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO.

**C4.12**  
SHEET 22 OF 46

No As-Built  
Information  
this sheet.



APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Walter J. J. J.* 2-17-17  
 DIRECTOR DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Walter J. J. J.* 2-8-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

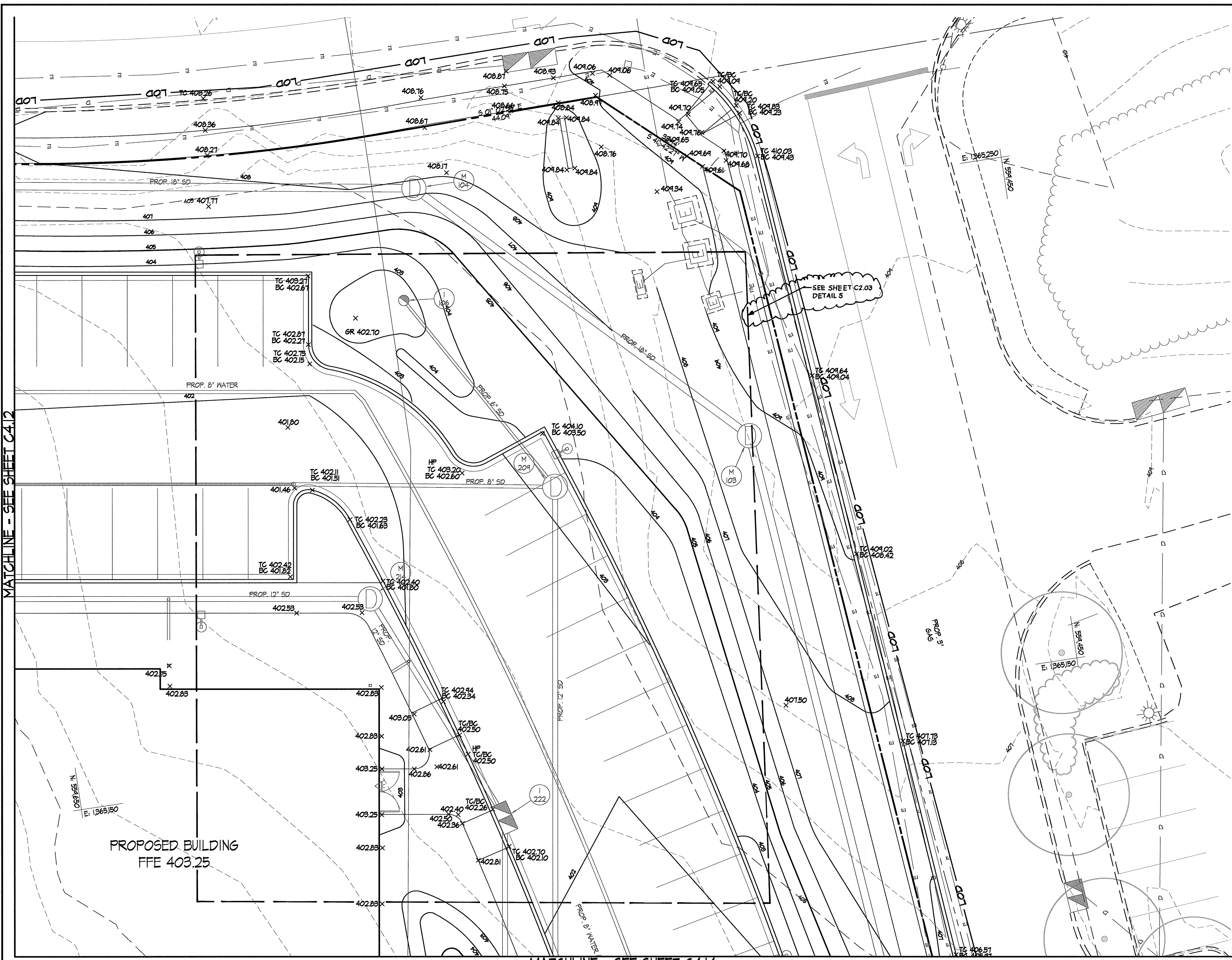
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.			
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651 2 / 0521			
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
1406T	7	NT	31	16	606608
WATER CODE	SEWER CODE				
550	-				

Z:\15034-C4.12 Tennis Pavilion\04-DWG\C4.12-Grading Plan Enlargement.dwg-C4.12 Sep 15, 2016 04:06pm a.m.



SEE DRAWING C4.11 FOR LEGEND

**STORMWATER MANAGEMENT NOTE:**  
REFER TO STORMWATER MANAGEMENT DRAWINGS FOR DETAILED GRADING INFORMATION WITHIN PROPOSED BIORETENTION FACILITIES.

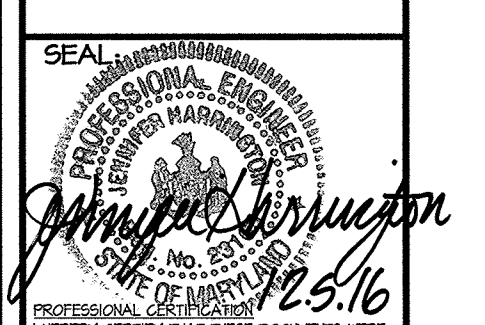


**6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
GRADING PLAN  
ENLARGEMENT**

**LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96**

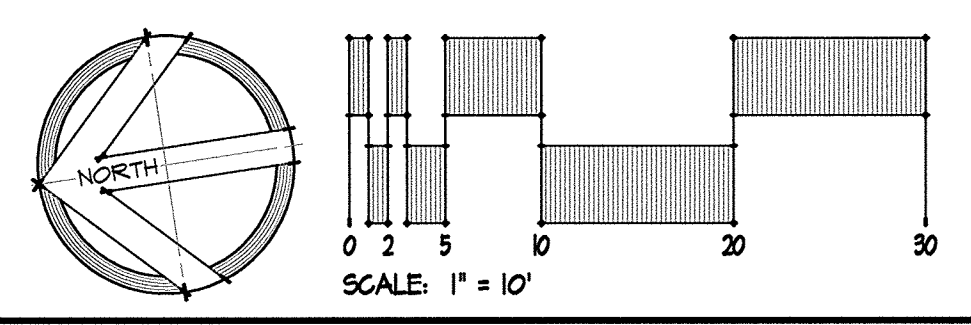
REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016



DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO: 15034  
DRAWING NO.

No As-Built Information this sheet.



MATCHLINE - SEE SHEET C4.12

MATCHLINE - SEE SHEET C4.14

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie J. J...* 2-17-17  
DIRECTOR DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION 2-8-17  
*...* DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT 2-13-17  
*JMY* DATE

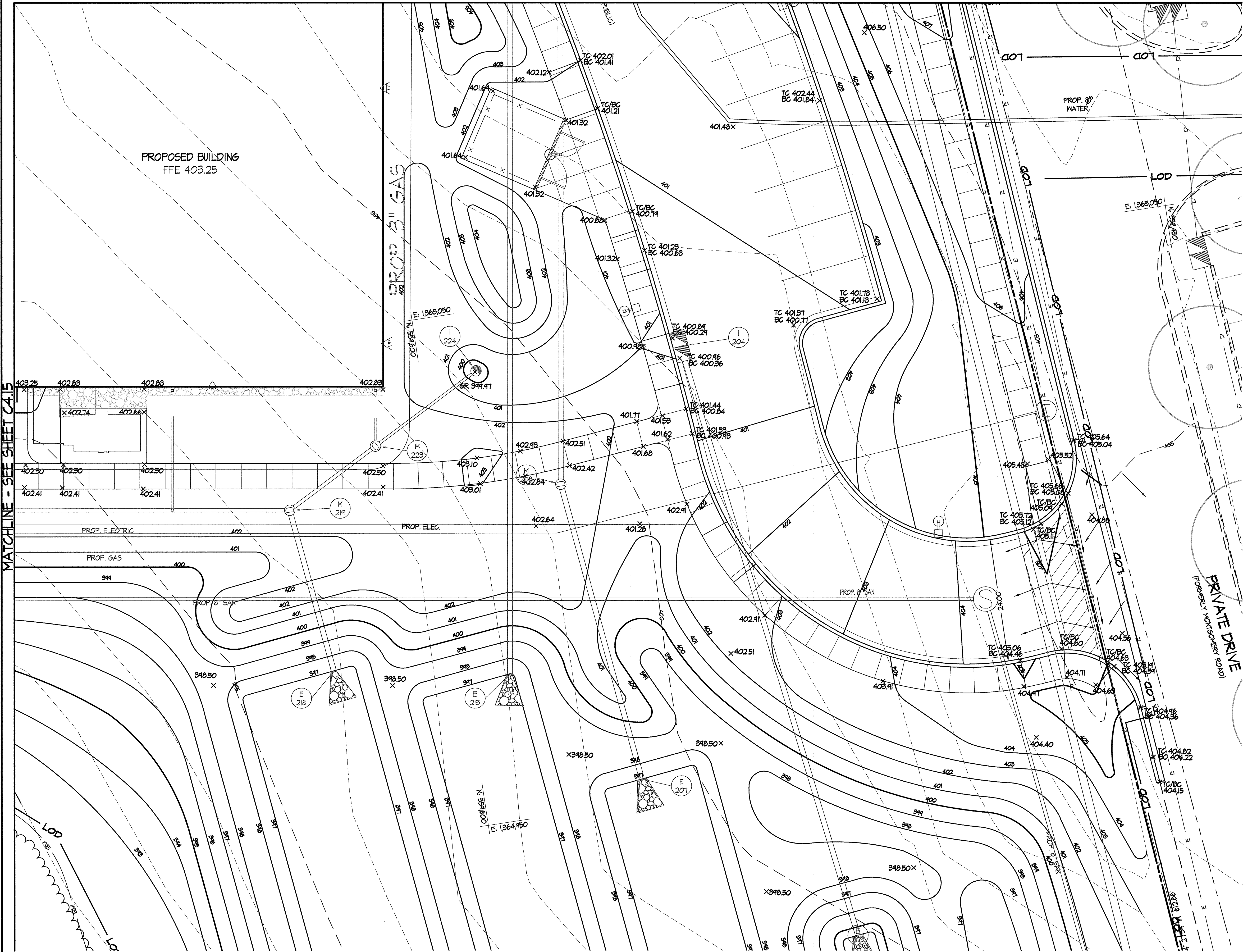
APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE: November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION 3, AREA 2			
VILLAGE OF LONG REACH					
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	37	16	606608
WATER CODE		SEWER CODE			
550					

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MATCHLINE - SEE SHEET C4.13



SEE DRAWING C4.11 FOR LEGEND

**STORMWATER MANAGEMENT NOTE:**  
REFER TO STORMWATER MANAGEMENT DRAWINGS FOR DETAILED GRADING INFORMATION WITHIN PROPOSED BIORETENTION FACILITIES.

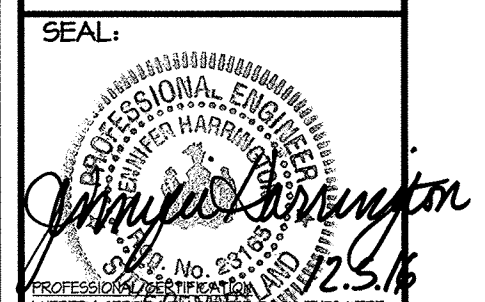


6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
GRADING PLAN  
ENLARGEMENT

LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96

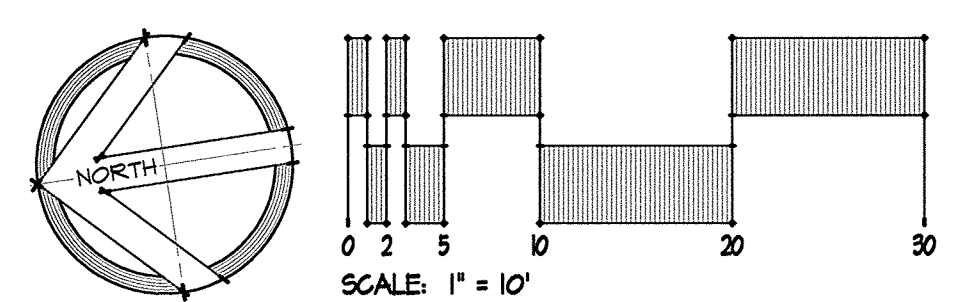
REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	07/15/2016



DRAWN BY:	SRI
CHECKED BY:	DJS
SCALE:	AS NOTED
DATE:	07/29/16
SRI PROJECT NO:	15034
DRAWING NO.	

No As-Built  
Information  
this sheet.



APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie J. J...* 2-17-17  
DIRECTOR DATE  
*Ch...* 2-8-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Kent...* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE November 17, 2016

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

SUBDIVISION NAME				SECTION/AREA		LOT/PARCEL NO.
VILLAGE OF LONG REACH				SECTION 3, AREA 2		96 / 0651
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT	
14061	7	NT	37	16	606608	
WATER CODE			SEWER CODE			
550						

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MATCHLINE - SEE SHEET C4.12

SEE DRAWING C4.11 FOR LEGEND

**STORMWATER MANAGEMENT NOTE:**  
REFER TO STORMWATER MANAGEMENT DRAWINGS FOR DETAILED GRADING INFORMATION WITHIN PROPOSED BIORETENTION FACILITIES.

PROPOSED BUILDING  
FFE 403.25

MATCHLINE - SEE SHEET C4.16

MATCHLINE - SEE SHEET C4.14

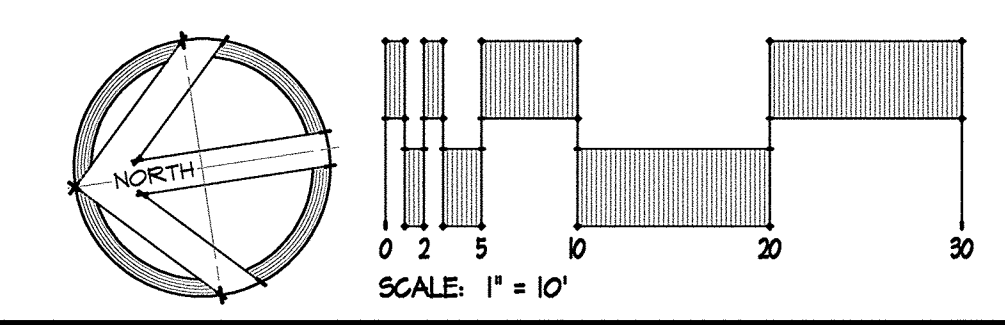
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APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie Taylor* 2-17-17  
 DIRECTOR DATE  
*Al Chen* 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Kurt Schaefer* 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	31	16	606608
WATER CODE		SEWER CODE			
550					



No As-Built  
Information  
this sheet.

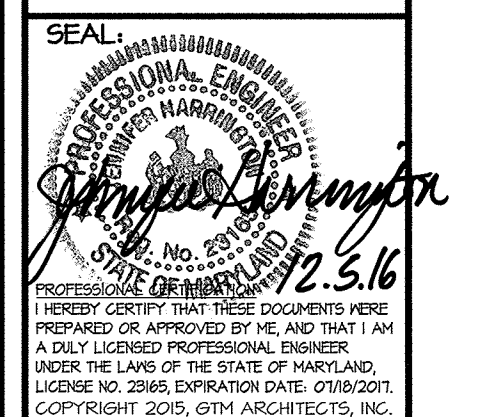


6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
**GRADING PLAN  
 ENLARGEMENT**

**LONG REACH  
 TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	09/15/2016

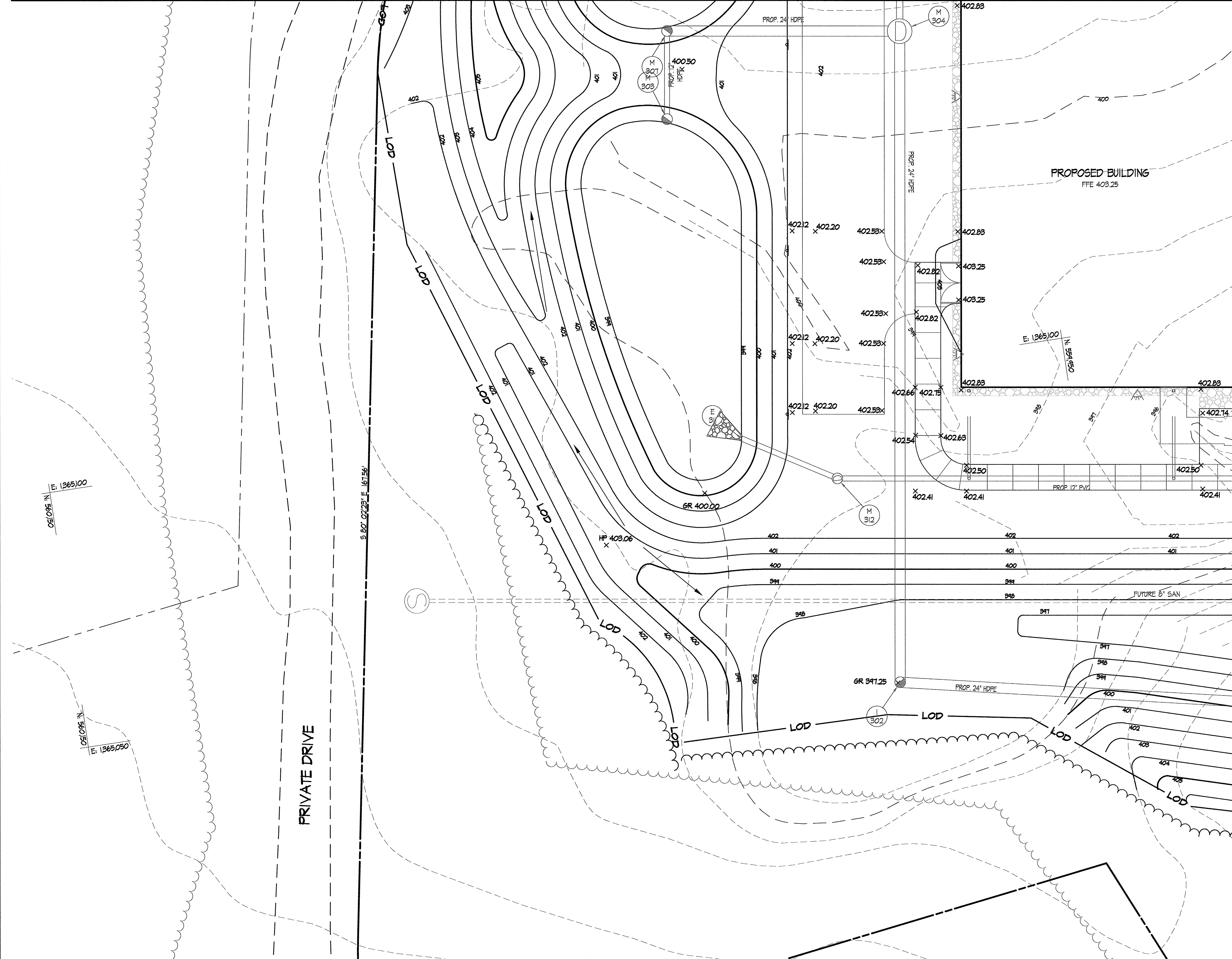


DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**C4.15**  
 SHEET 25 OF 46  
 SDP-16-053

Z:\15\15034-C4-Tennis Pavilion\04-DWG\C4.16\_Grading\_Plan\_Enlargement.dwg-C4.16\_Sep 15, 2016 04:03pm a.m.

MATCHLINE - SEE SHEET C4.11



SEE DRAWING C4.11 FOR LEGEND

**STORMWATER MANAGEMENT NOTE:**  
REFER TO STORMWATER MANAGEMENT DRAWINGS FOR DETAILED GRADING INFORMATION WITHIN PROPOSED BIORETENTION FACILITIES.

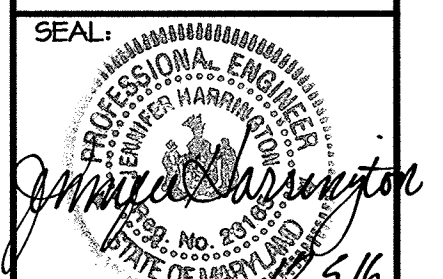
MATCHLINE - SEE SHEET C4.15



**6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
GRADING PLAN  
ENLARGEMENT**

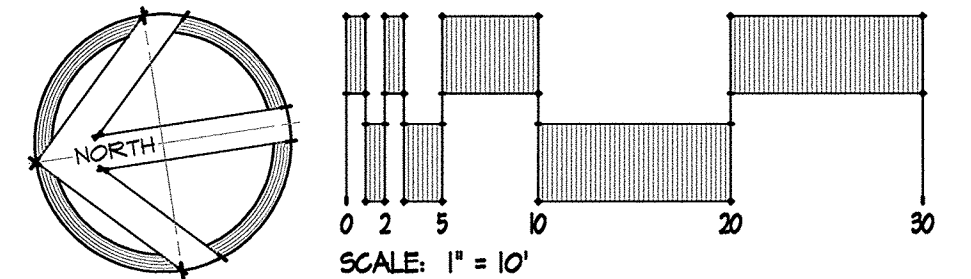
**LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96**

REVISIONS:	
DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016

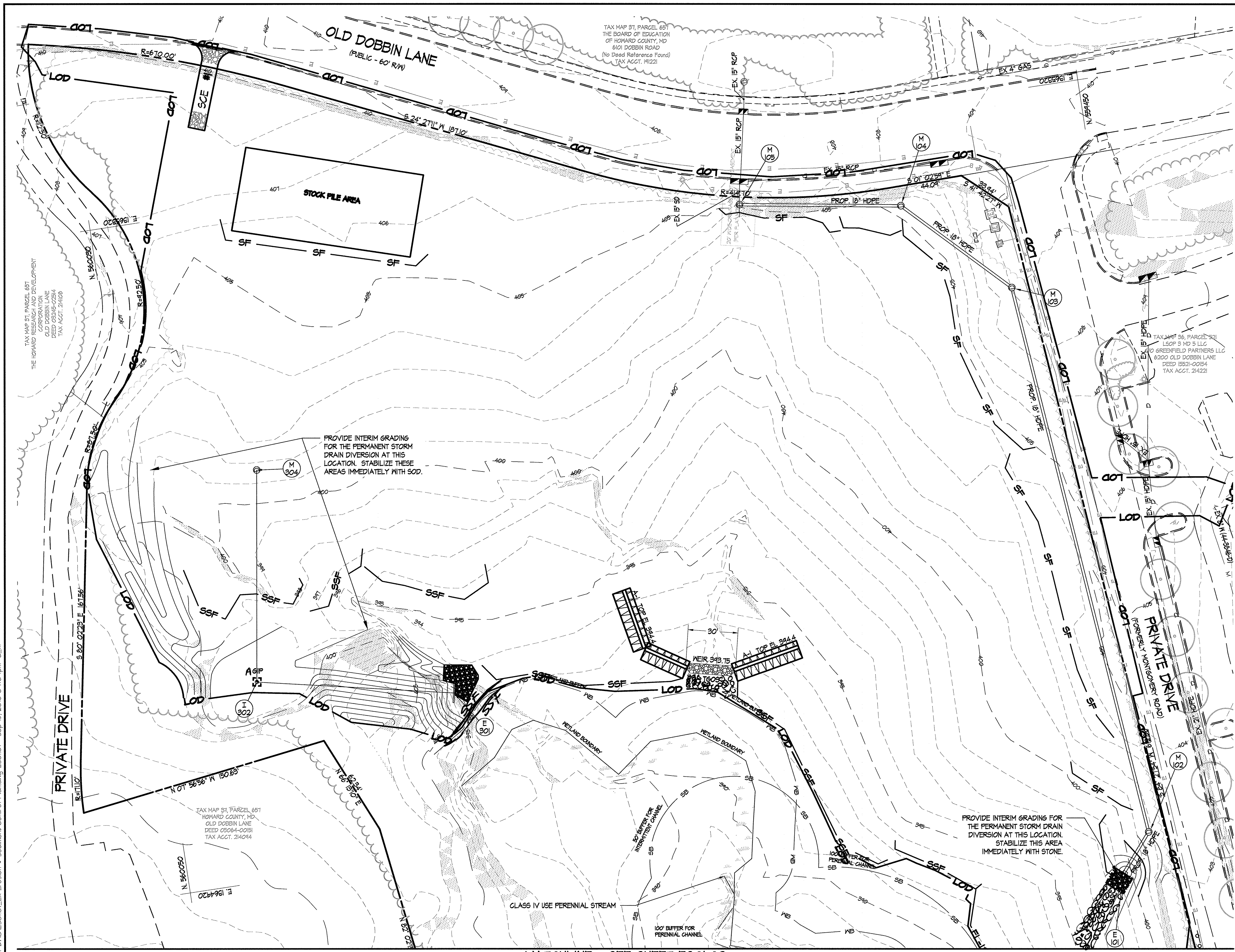


DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO: 15034  
DRAWING NO.

No As-Built Information this sheet.



APPROVED: DEPARTMENT OF PLANNING & ZONING <i>V. J. J. J.</i> 2-17-17 DIRECTOR DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION 8 2-8-17 DATE CHIEF, DIVISION OF LAND DEVELOPMENT 2-13-17 DATE	APPROVED PLANNING BOARD OF HOWARD COUNTY DATE: November 17, 2016	<table border="1"> <thead> <tr> <th colspan="2">ADDRESS CHART</th> </tr> <tr> <th>LOT/PARCEL</th> <th>STREET ADDRESS</th> </tr> </thead> <tbody> <tr> <td>LOT 96 / PARCEL 0651</td> <td>6180 OLD DOBBIN LANE, COLUMBIA, MD 21045</td> </tr> <tr> <td>LOT 2 / PARCEL 0521</td> <td>OLD DOBBIN LANE, COLUMBIA, MD 21045</td> </tr> </tbody> </table>	ADDRESS CHART		LOT/PARCEL	STREET ADDRESS	LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	<table border="1"> <thead> <tr> <th colspan="6">PERMIT INFORMATION CHART</th> </tr> <tr> <th colspan="2">SUBDIVISION NAME</th> <th colspan="2">SECTION/AREA</th> <th colspan="2">LOT/PARCEL NO.</th> </tr> </thead> <tbody> <tr> <td colspan="2">VILLAGE OF LONG REACH</td> <td colspan="2">SECTION 3, AREA 2</td> <td colspan="2">96 / 0651</td> </tr> <tr> <td>PLAT # OR L/F</td> <td>GRID #</td> <td>ZONING</td> <td>TAX MAP NO.   ELECTION DISTRICT</td> <td colspan="2">GENSUS TRACT</td> </tr> <tr> <td>14061</td> <td>7</td> <td>NT</td> <td>37   16</td> <td colspan="2">606608</td> </tr> <tr> <td colspan="2">WATER CODE</td> <td colspan="4">SEWER CODE</td> </tr> <tr> <td colspan="2">550</td> <td colspan="4"></td> </tr> </tbody> </table>	PERMIT INFORMATION CHART						SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.		VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651		PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.   ELECTION DISTRICT	GENSUS TRACT		14061	7	NT	37   16	606608		WATER CODE		SEWER CODE				550					
ADDRESS CHART																																																					
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14061	7	NT	37   16	606608																																																	
WATER CODE		SEWER CODE																																																			
550																																																					



**LEGEND** (THIS LEGEND APPLIES TO ESC1.01 THROUGH ESC1.02 ONLY)

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING TREES
- EXISTING WALK
- EXISTING ROAD
- EXISTING CURB
- EXISTING STORM DRAIN
- EXISTING WATER
- EXISTING SANITARY SEWER
- EXISTING GAS
- EXISTING ELECTRIC
- EXISTING LIGHTING
- EXISTING BUILDING
- EXISTING WETLANDS
- WETLAND BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- LOD - LIMIT OF DISTURBANCE
- DF - DIVERSION FENCE
- SF - SILT FENCE
- SSF - SUPER SILT FENCE
- FL-18 - FILTER LOG
- SIP STANDARD - AGIP AT GRADE
- CIP CURB - SSFIP SUPER SILT FENCE
- SCE - STABILIZED CONSTRUCTION ENTRANCE
- EXISTING 25% SLOPES

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

*Shirley Blanton* 11/3/17  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**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.

*Albert Edwards* 12.5.16  
 ALBERT EDWARDS, COLUMBIA ASSOCIATION DATE

**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.

*Jennifer Harrington* 12.5.16  
 JENNIFER HARRINGTON, P.E. - ENGINEER DATE



6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 EXISTING EROSION &  
 SEDIMENT CONTROL PLAN

LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016

SEAL:

DRAWN BY: SRI  
 CHECKED BY: DJJ  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Walter J. Jolly* 2-17-17  
 DIRECTOR DATE

*David Chitt* 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Kent Schaefer* 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

DATE: November 17, 2016

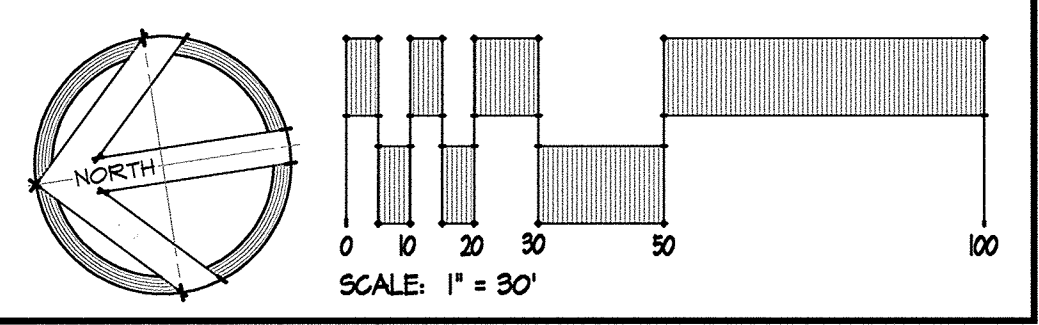
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651 2 / 0521
PLAT # OR L/F	GRID #	ZONING
14061	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
37	16	606608
WATER CODE	SEWER CODE	
550		

No As-Built Information this sheet.



Z:\15034-CA-Tennis\_Plan\04-DWG\ESC1.01\_Exc\_Erosion\_1\_Sediment Control Plan.dwg-ESC1.01 Sep 15, 2016 04:04pm a.m.

MATCHLINE - SEE SHEET ESC1.01



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

*John R. ...*  
 HOWARD SOIL CONSERVATION DISTRICT  
 DATE 12/17/16

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.

*Albert Edwards*  
 ALBERT EDWARDS, COLUMBIA ASSOCIATION  
 DATE 12-5-16

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.

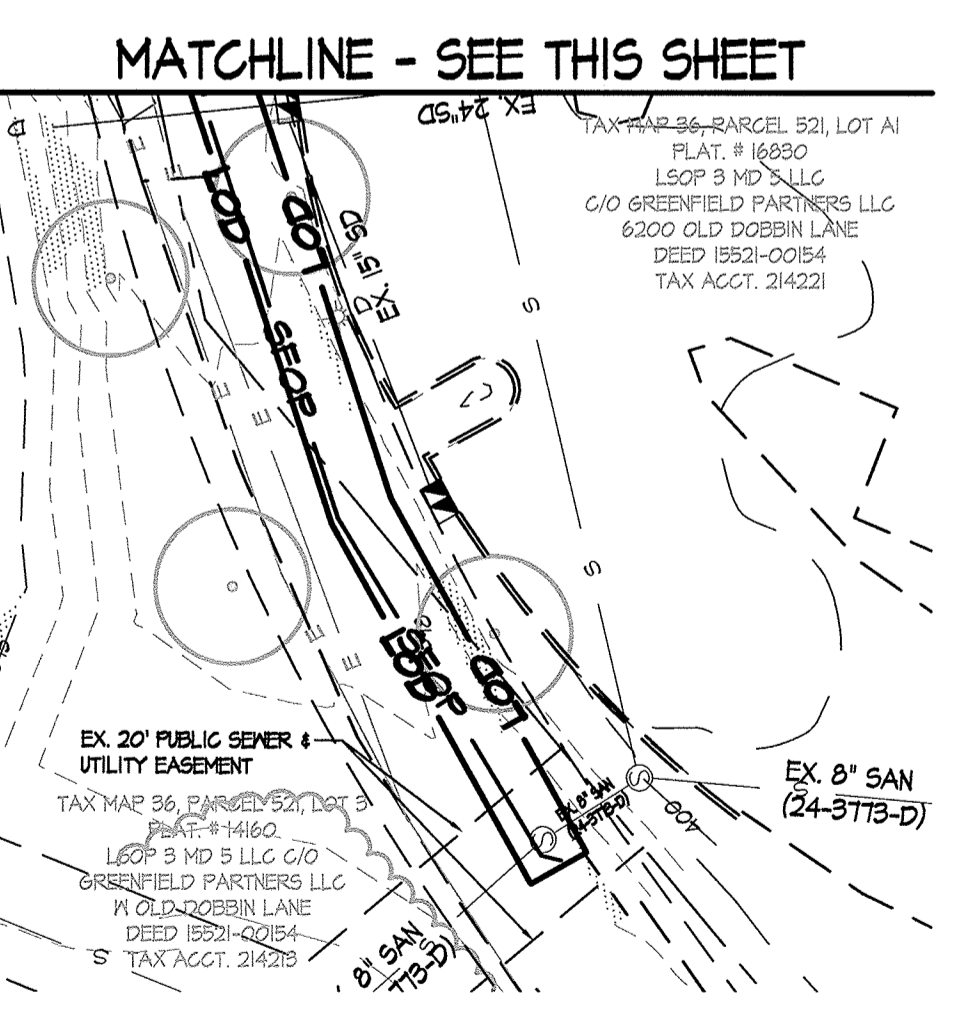
*Jennifer Harrington*  
 JENNIFER HARRINGTON, P.E. - ENGINEER  
 DATE 12.5.16



6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 EXISTING EROSION &  
 SEDIMENT CONTROL PLAN

LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

REVISIONS:  
 DD SET 02/15/2016  
 60% CHECK SET 04/23/2016  
 PEMB SET 05/04/2016  
 45% CD SET 04/15/2016



APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Nalika Jeylin*  
 DIRECTOR  
 DATE 2-17-17

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE 2-8-17

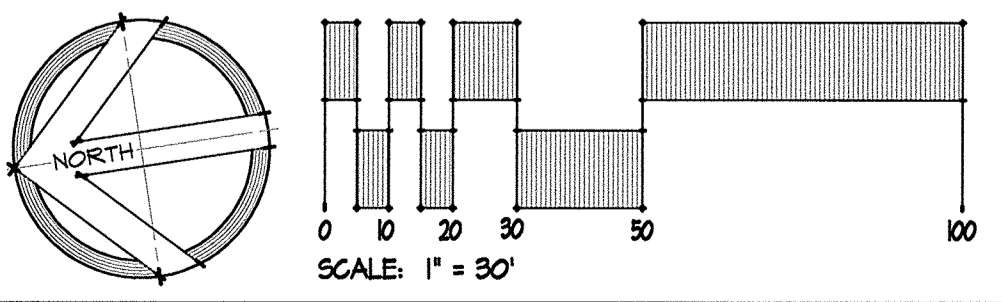
CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE 2-13-17

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0657	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		46 / 0657	
FLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	GENUS TRACT
14067	7	NT	37	16	606608
WATER CODE		SEWER CODE			
550					

No As-Built Information this sheet.

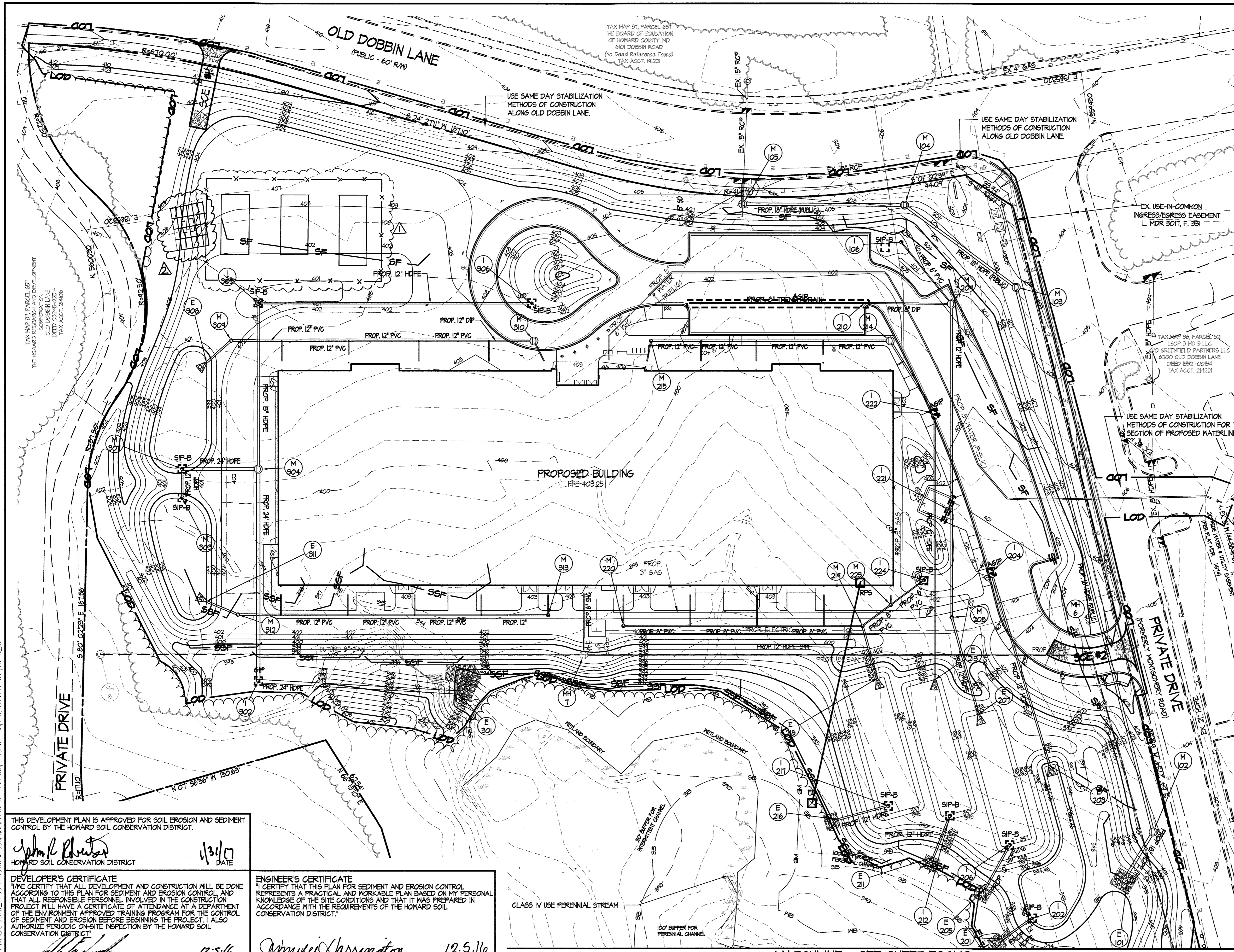


SEAL:  
  
 DATE 12.5.16

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

**ESC1.02**  
 SHEET 28 OF 46  
 SDP-16-053

Z:\151024-CA Tennis Pavilion\04-DWG\ESC1.02\_Ext\_Erosion & Sediment Control Planning\ESC1.02\_Sep15\_2016\_04:05pm.dwg



**LEGEND** (THIS LEGEND APPLIES TO ESC1.1 THROUGH ESC1.2 ONLY)

	PROPERTY LINE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING WALK
	EXISTING ROAD
	EXISTING CURB
	EXISTING STORM DRAIN
	EXISTING WATER
	EXISTING SANITARY SEWER
	EXISTING GAS
	EXISTING ELECTRIC
	EXISTING LIGHTING
	EXISTING BUILDING
	EXISTING WETLANDS
	WETLAND BUFFER
	EXISTING STREAM
	EXISTING STREAM BUFFER
	PROPOSED CONTOURS
	LIMIT OF DISTURBANCE
	DIVERSION FENCE
	SILT FENCE
	SUPER SILT FENCE
	FILTER LOG
	INLET PROTECTION
	STABILIZED CONSTRUCTION ENTRANCE
	PROPOSED WOODLINE
	PROPOSED CURB
	PROPOSED WALK
	PROPOSED BUILDING
	PROPOSED STORM DRAIN
	PROPOSED WATER
	PROPOSED SANITARY SEWER
	PROPOSED GAS
	PROPOSED LIGHTING

**REVISIONS:**

DD SET	02/19/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
95% CD SET	09/15/2016
ADDED SOLAR FIELD	1/15/18
ADDED SOLAR POLE MOUNT	12/10/19

**SEAL:**

*Amber Harrington*  
 PROFESSIONAL ENGINEER  
 STATE OF MARYLAND  
 LICENSE NO. 22963  
 EXPIRES 12/31/19  
 FOR REV. ONLY

**NO AS-BUILT INFORMATION THIS SHEET.**

**SCALE:** 1" = 30'

**GRAPHIC SCALE:** 0 10 20 30 40

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

*John L. Roberts*  
 HOWARD SOIL CONSERVATION DISTRICT  
 DATE: 1/31/17

**DEVELOPER'S CERTIFICATE**  
 I HEREBY 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.

*Albert Edwards*  
 ALBERT EDWARDS, COLUMBIA ASSOCIATION  
 DATE: 12-5-16

**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.

*Amber Harrington*  
 AMBER HARRINGTON, P.E. - ENGINEER  
 DATE: 12.5.16

**APPROVED:** DEPARTMENT OF PLANNING & ZONING  
*William J. J. J.*  
 DIRECTOR  
 DATE: 2-8-17

**CHIEF, DEVELOPMENT ENGINEERS DIVISION**  
*Robert J. Schenck*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2-13-17

**APPROVED:** PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

**MATCHLINE - SEE SHEET ESC1.2**

ADDRESS CHART		PERMIT INFORMATION CHART		
LOT/PARCEL	STREET ADDRESS	SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	FLAT # OR L/F GRID # ZONING	TAX MAP NO. ELECTION DISTRICT	CENSUS TRACT
		14061 T NT	37 16	606608
		WATER CODE	SEWER CODE	
		550	-	

**STATE OF MARYLAND**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 317  
 EXPIRES 12/31/16  
 FOR REVISION ONLY

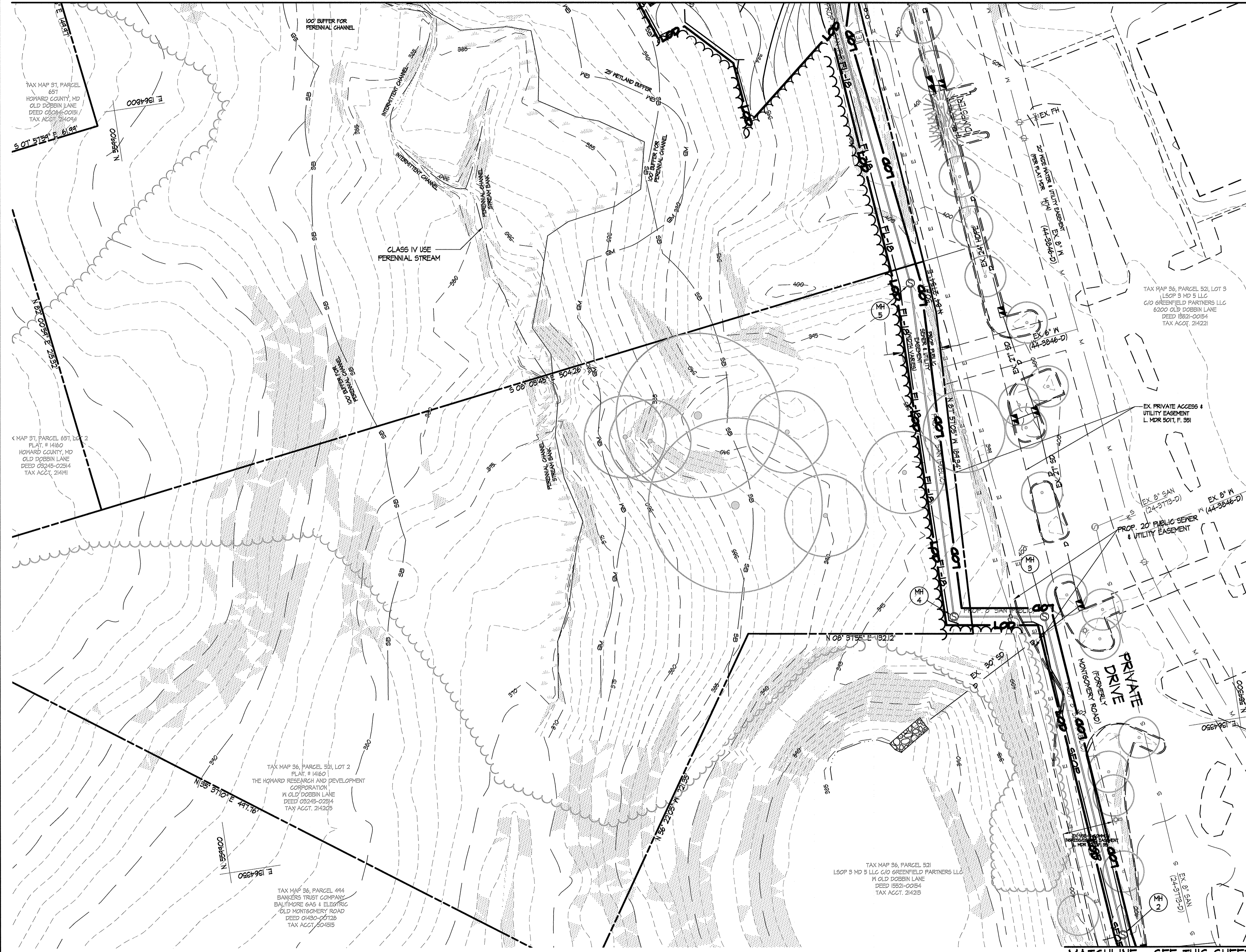
**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 14815 Jurellville Pike • Pikesville, Maryland 21111  
 (410) 683-3388 • Fax (410) 683-3389

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**  
**PROPOSED EROSION & SEDIMENT CONTROL PLAN**

**LONG REACH TENNIS CLUB**  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

**ESC1.11**  
 SHEET 29 OF 46  
 SDP-16-053

MATCHLINE - SEE SHEET ESC1.11



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

*John L. Roberts* 12/1/17  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**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.

*Albert Edwards* 12-5-16  
 ALBERT EDWARDS, COLUMBIA ASSOCIATION DATE

**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.

*Amelia Harrington* 12-5-16  
 AMELIA HARRINGTON, P.E. - ENGINEER DATE

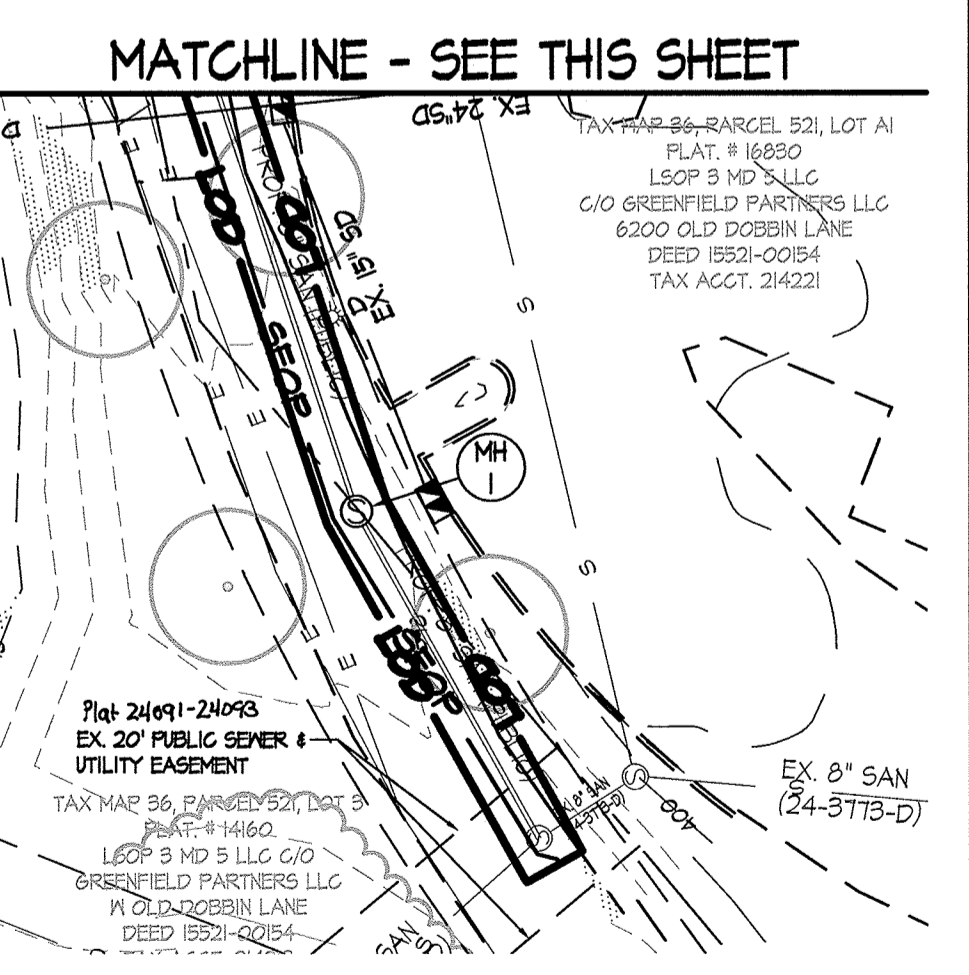


**6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 PROPOSED EROSION &  
 SEDIMENT CONTROL PLAN**

**LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 98**

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	08/09/2016
45% CD SET	04/15/2016



APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie Jagan* 2-17-17  
 DIRECTOR DATE

*Paul Shaw* 2-8-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

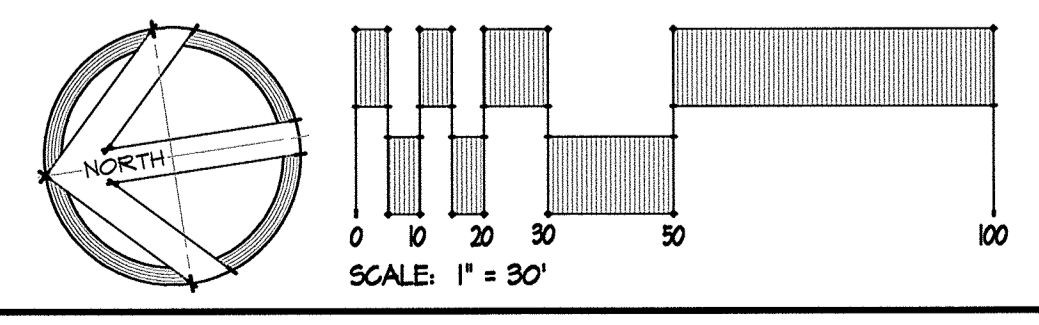
*Robert Shaw* 2-13-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

DATE: November 17, 2016

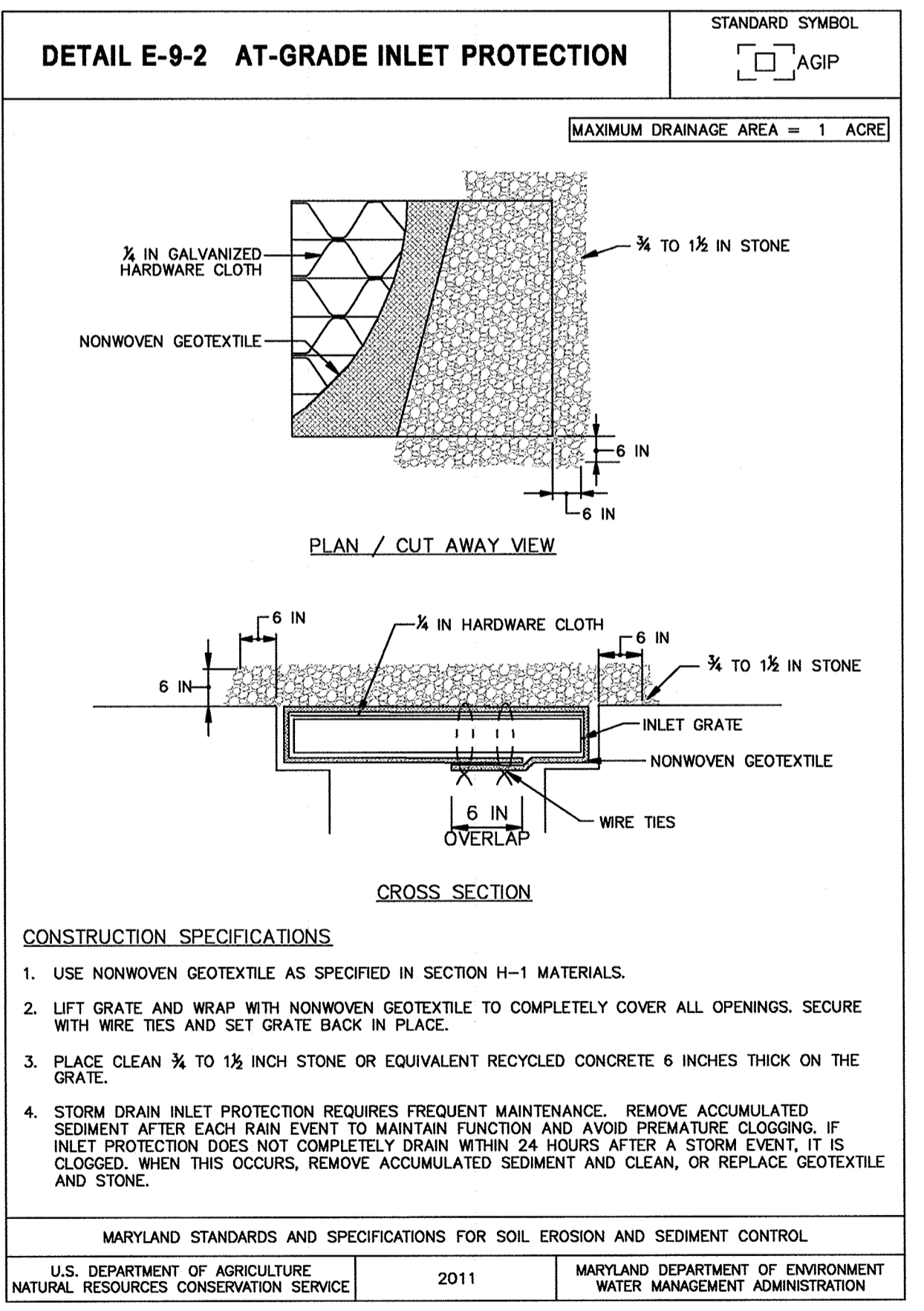
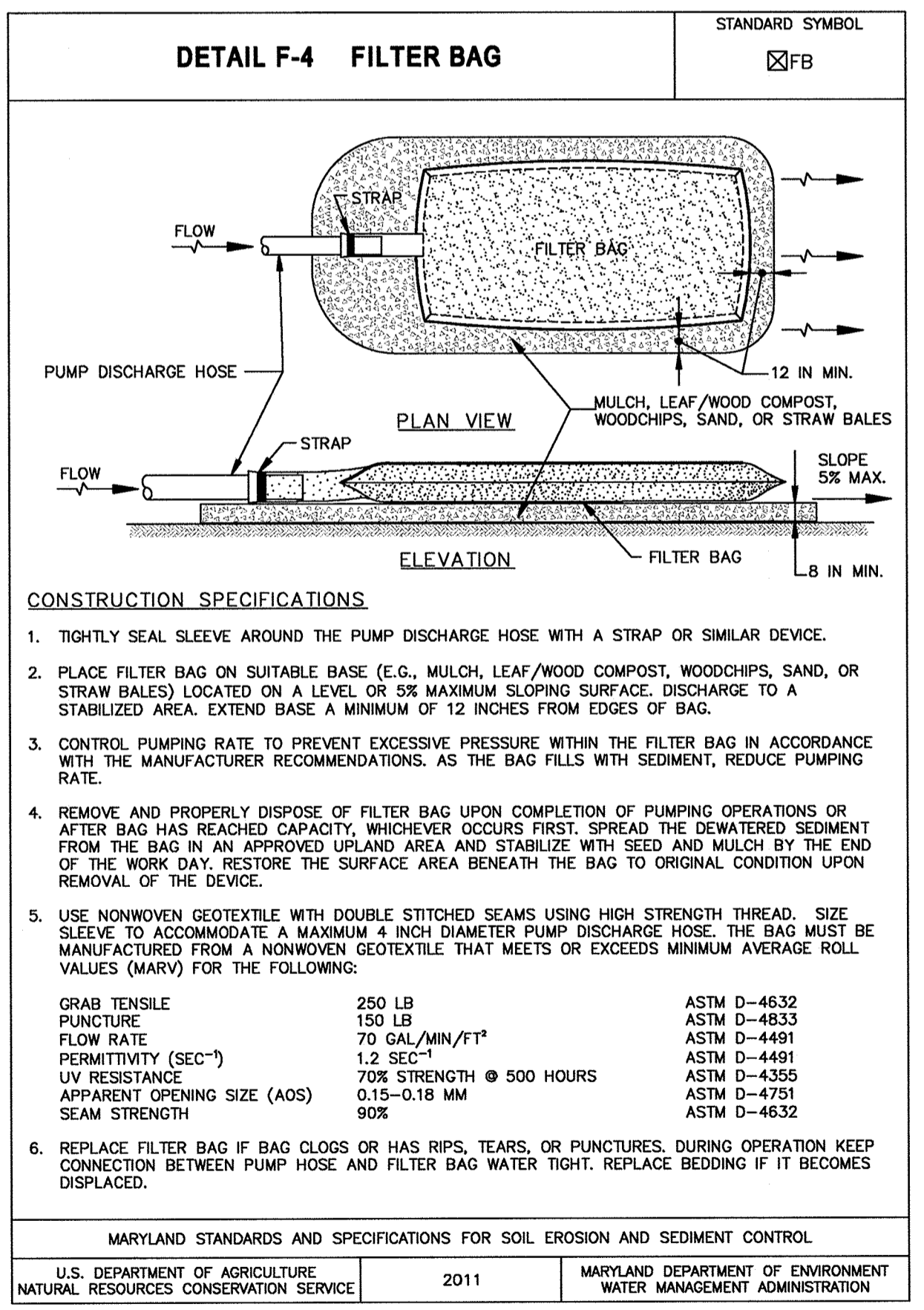
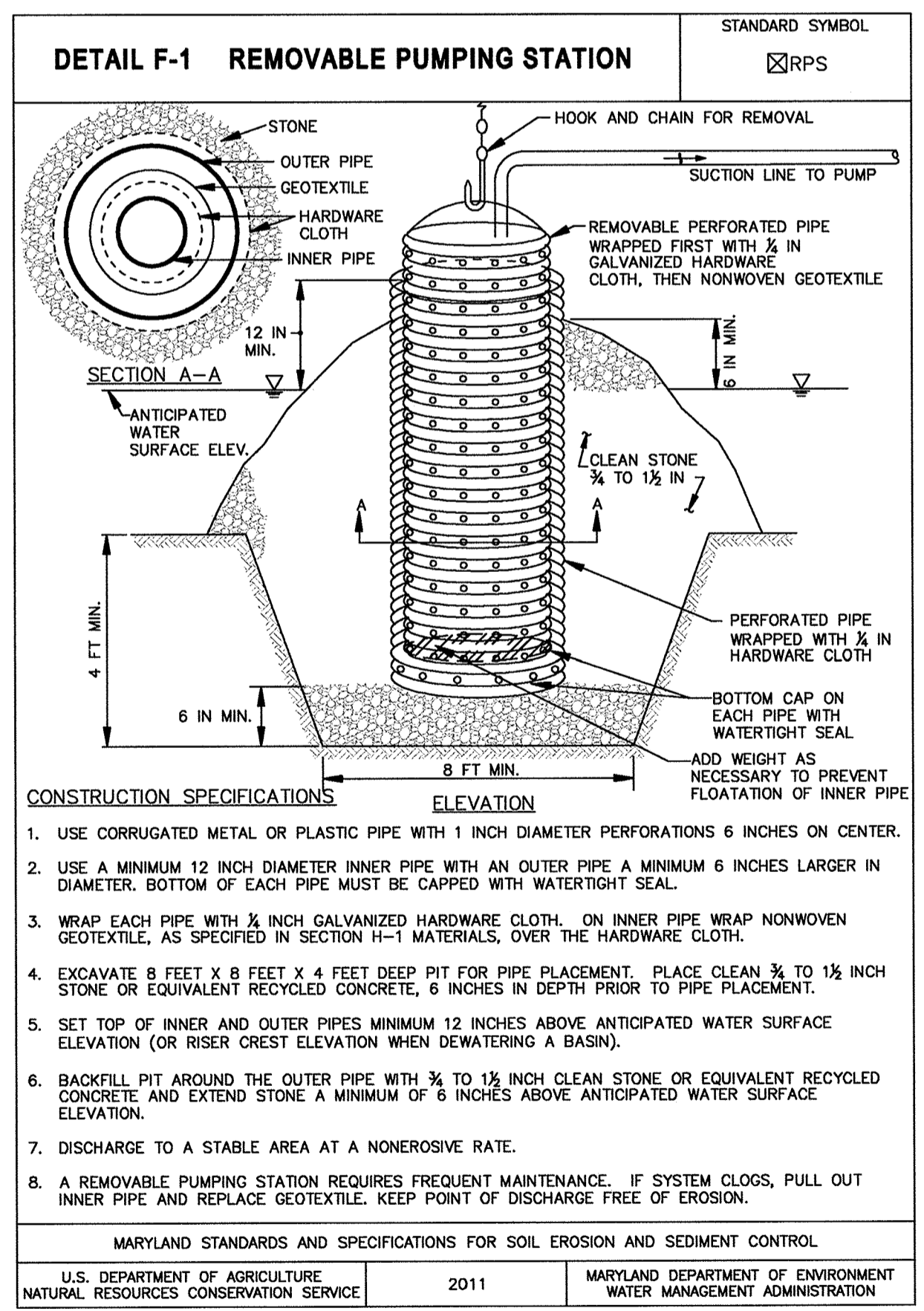
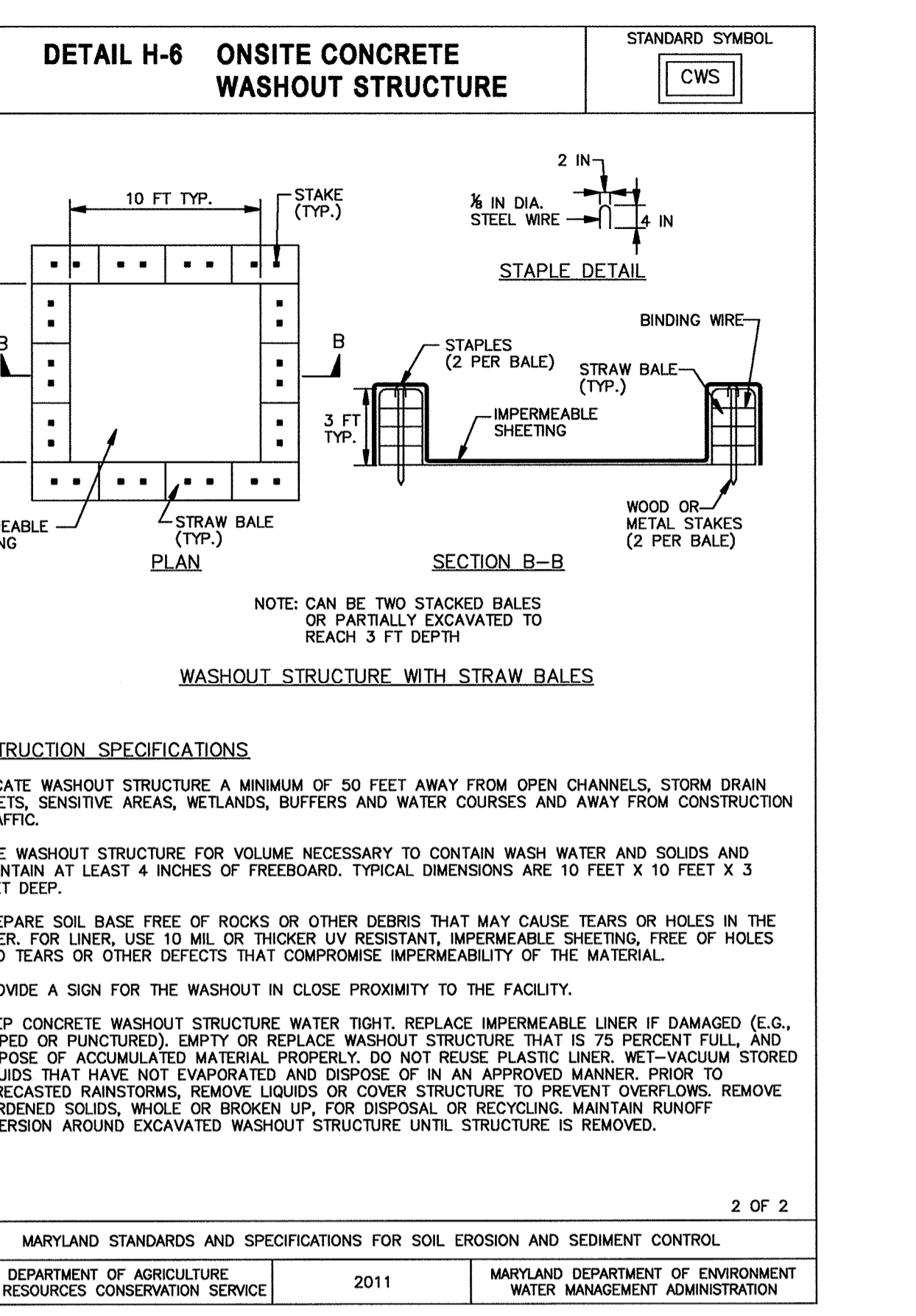
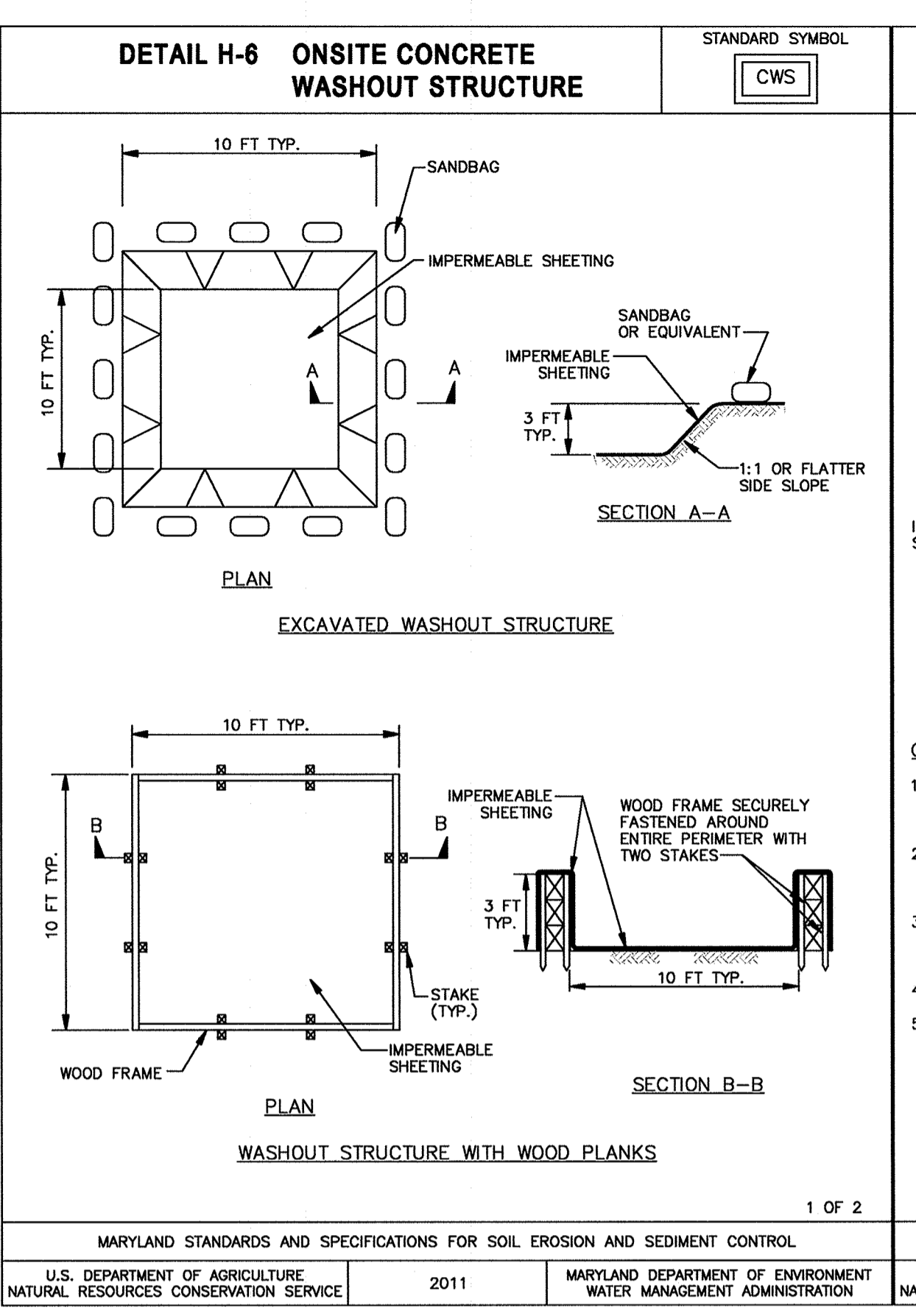
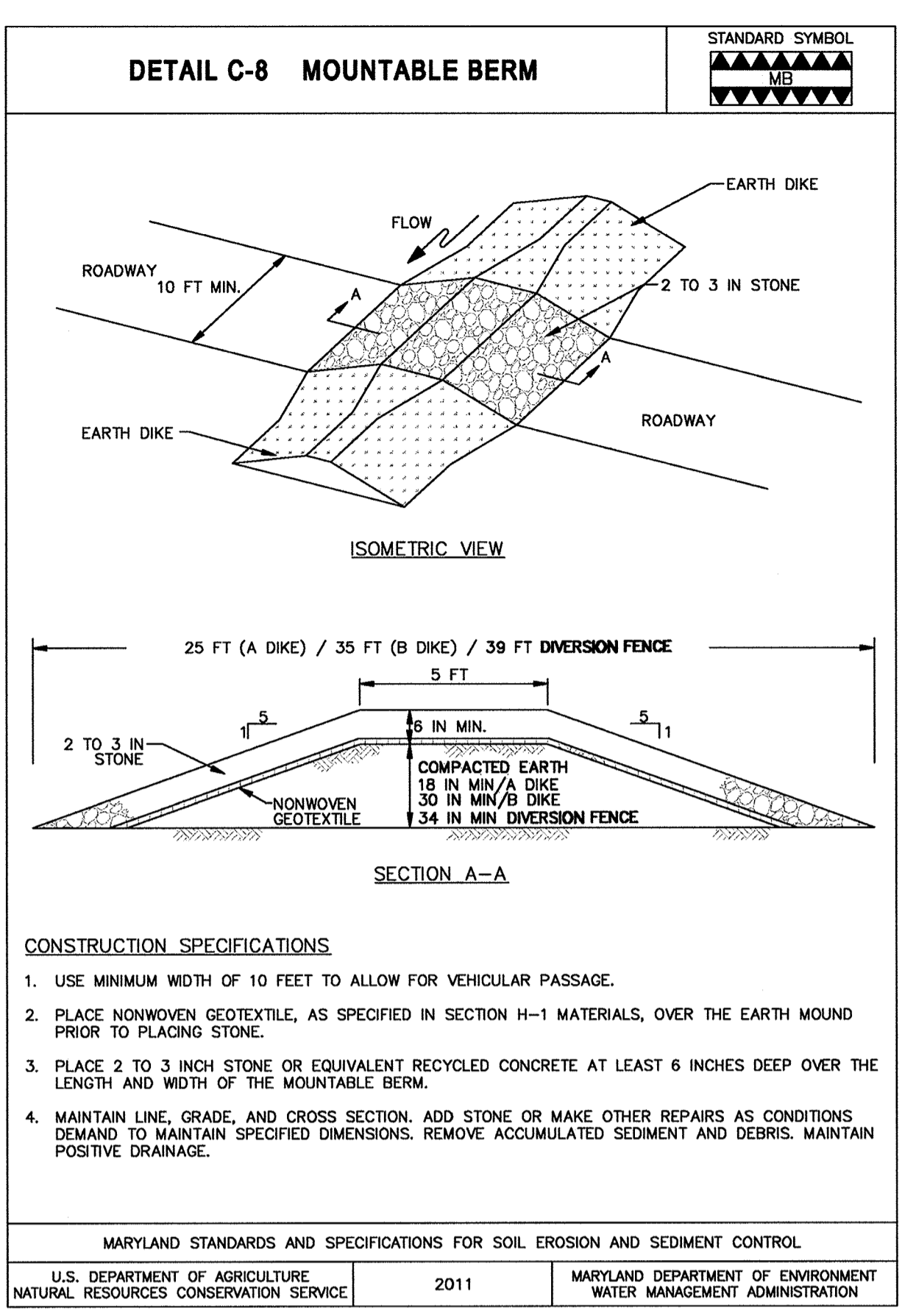
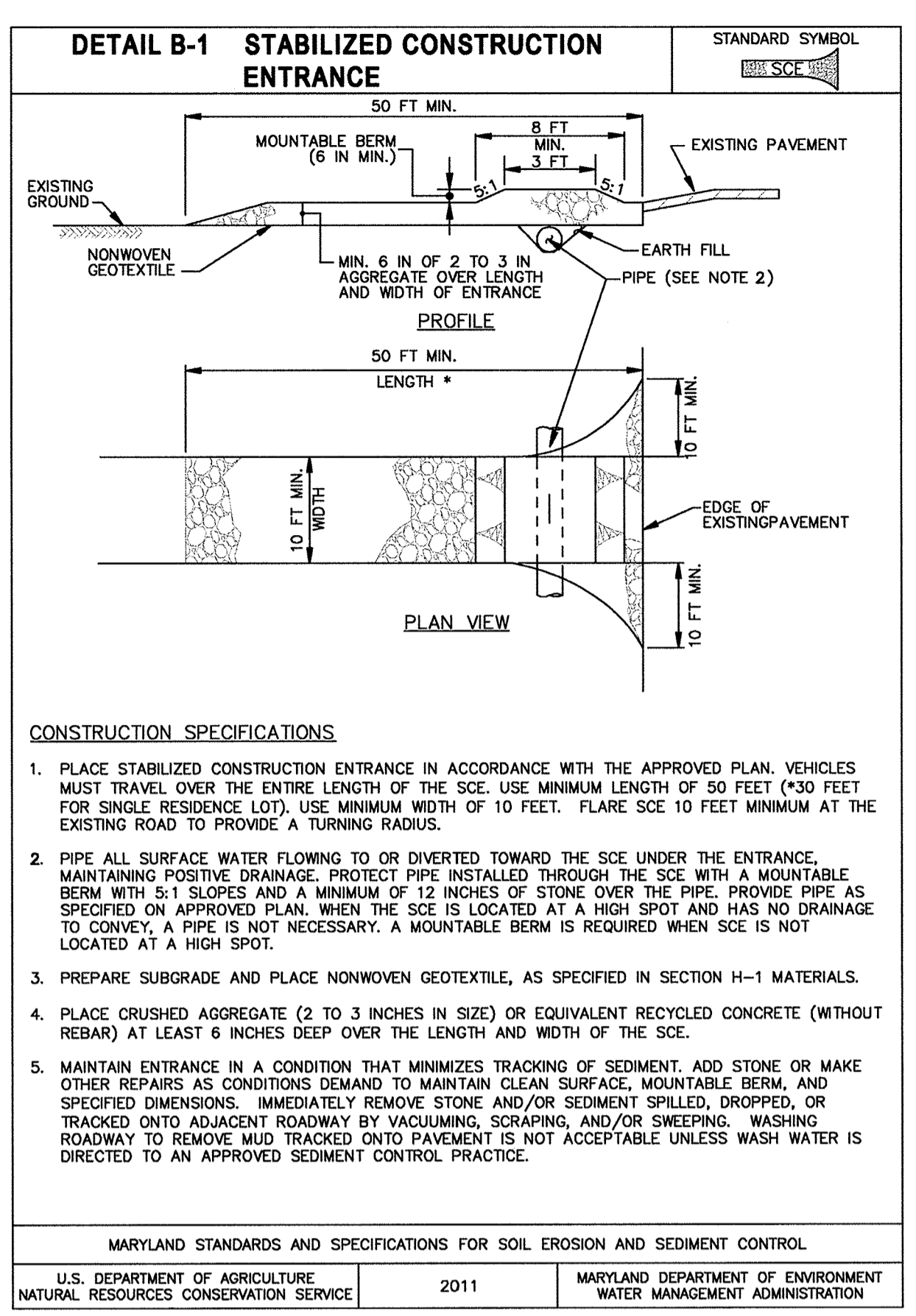
ADDRESS CHART		PERMIT INFORMATION CHART			
LOT/PARCEL	STREET ADDRESS	SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.	
LOT 98 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	VILLAGE OF LONG REACH	SECTION 3, AREA 2	98 / 0651	
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	PLAT # OR L/F	ZONING	TAX MAP NO.	ELECTION DISTRICT
		14061	7 NT	31	16
		WATER CODE	SEWER CODE	CENSUS TRACT	
		550		606608	

No As-Built Information this sheet.



SEAL:  
  
 DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 01/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.  
**ESC1.12**  
 SHEET 30 OF 46  
 SDF-16-053

E:\15034-CA\_Tennis\_Foundation\04-DWG\ESC1.12\_Prop Erosion & Sediment Control Plan.dwg-ESC1.12\_Sep 15, 2016 04:02pm d.m



APPROVED: DEPARTMENT OF PLANNING & ZONING  
*William J. Jolly* 2-17-17  
 DIRECTOR DATE  
 Chief, Development Engineering Division 2-9-17  
 DATE  
 Chief, Division of Land Development 2-13-17  
 DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE November 17, 2016

ADDRESS CHART		PERMIT INFORMATION CHART			
LOT/PARCEL	STREET ADDRESS	SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.	
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651	
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	FLAT # OR L/F	GRID #	ZONING	TAX MAP NO.   ELECTION DISTRICT
		14061	7	NT	31   16
		WATER CODE	SEWER CODE		606608
		550			

NO AS-BUILT INFORMATION THIS SHEET.

**SITE RESOURCES**  
 Comprehensive Land Planning & Site Design Services  
 16185 Arnetville Pike • Phoenix, Maryland 21151  
 (410) 685-3388 • Fax (410) 685-3389

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 EROSION & SEDIMENT CONTROL DETAILS

LONG REACH TENNIS CLUB  
 VILLAGE OF LONG REACH SECTION 3, AREA 2  
 LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016

SEAL:

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

*William J. Jolly* 1/31/17  
 HOWARD SOIL CONSERVATION DISTRICT DATE

DEVELOPER'S CERTIFICATE  
 I HEREBY 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.

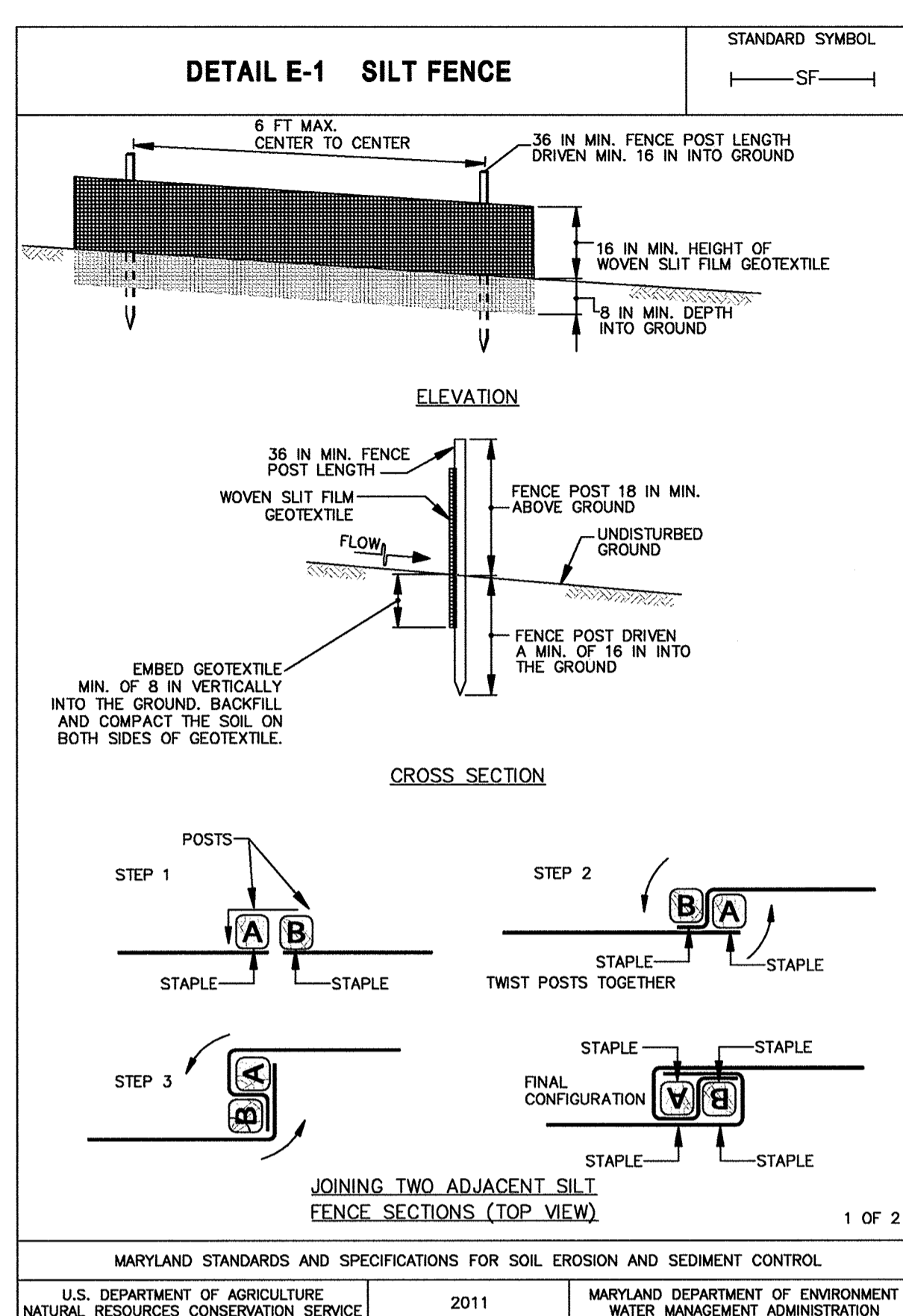
*Albert Edwards* 12-5-16  
 ALBERT EDWARDS, COLUMBIA ASSOCIATION DATE

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

*William J. Jolly* 12-5-16  
 ENGINEER DATE

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 01/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.  
**ESC2.01**  
 SHEET 31 OF 46  
 SDP-16-053

Z:\16185\04-CA-Tennis-Foundation\04-Draft\ESC2.01-Erosion & Sediment Control-Detail.dwg-ESC2.01 - Sep 15, 2016 04:08pm d.m.



### DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

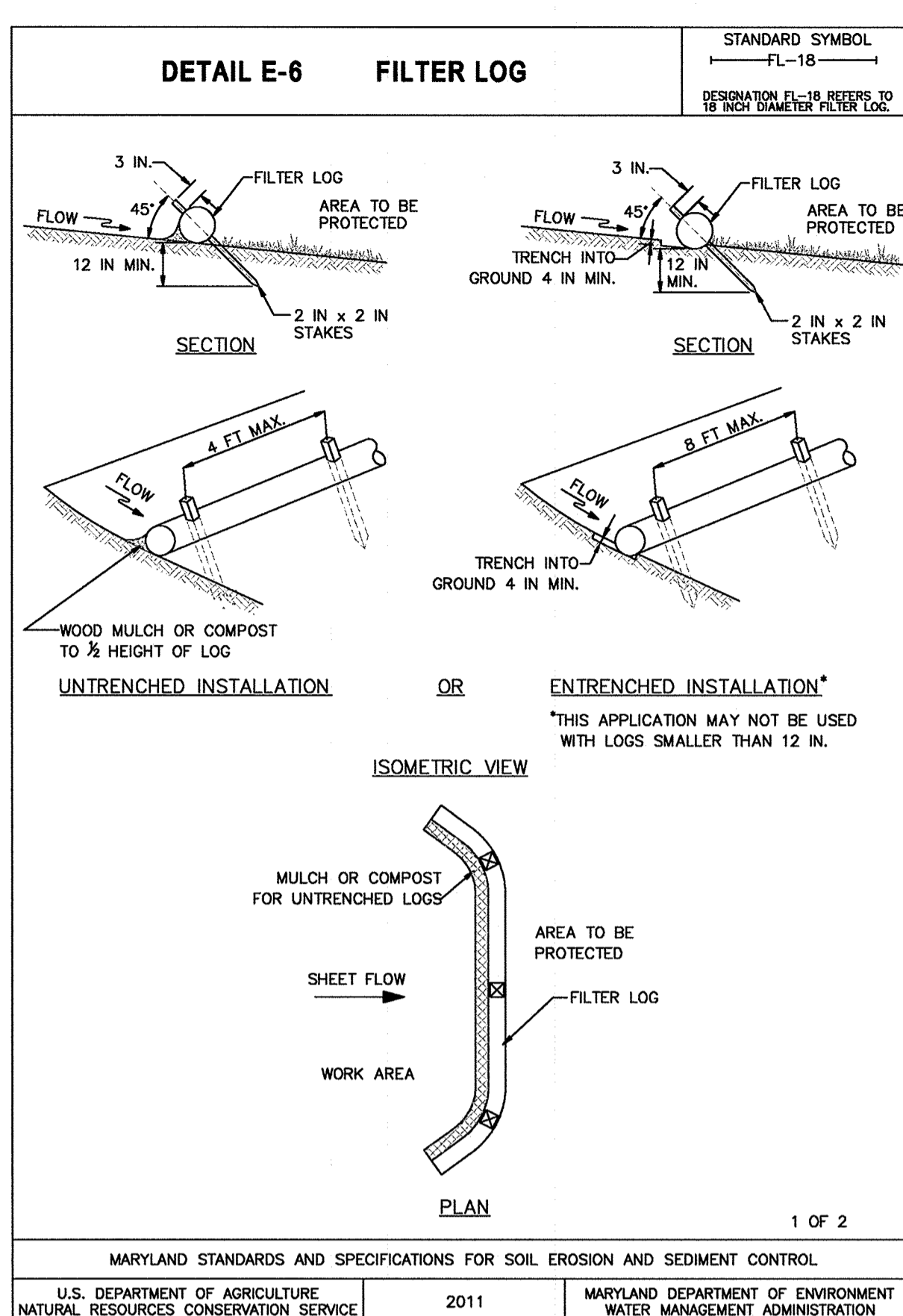
**CONSTRUCTION SPECIFICATIONS**

- USE WOOD POSTS 1 1/4 x 1 1/4 x 3/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- 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.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

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

2 OF 2



### DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18 (REFERS TO 18 INCH DIAMETER FILTER LOG)

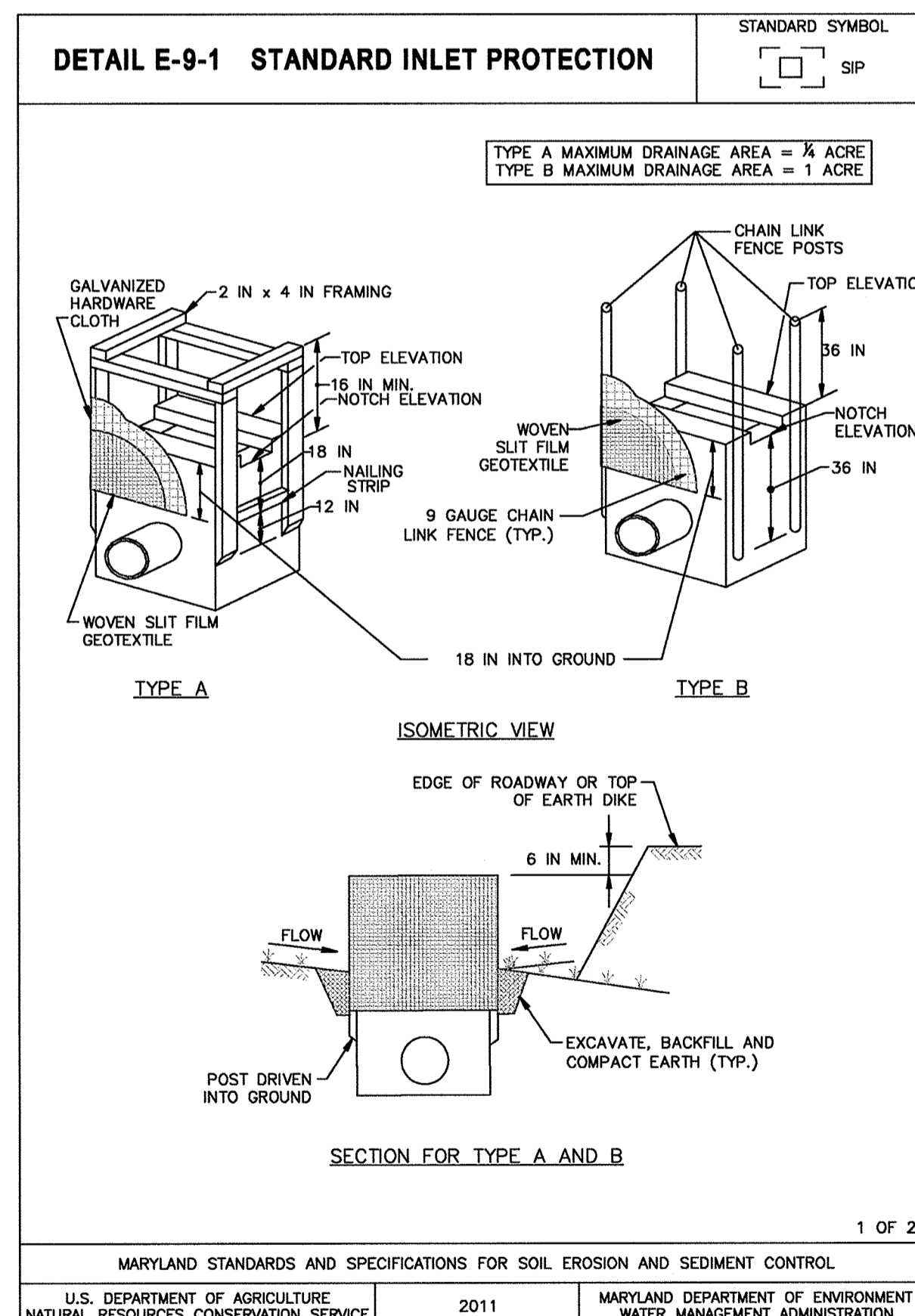
**CONSTRUCTION SPECIFICATIONS**

- PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
- FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
- INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
- FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
- STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
- USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
- WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
- REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLOGGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT 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

2 OF 2



### DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

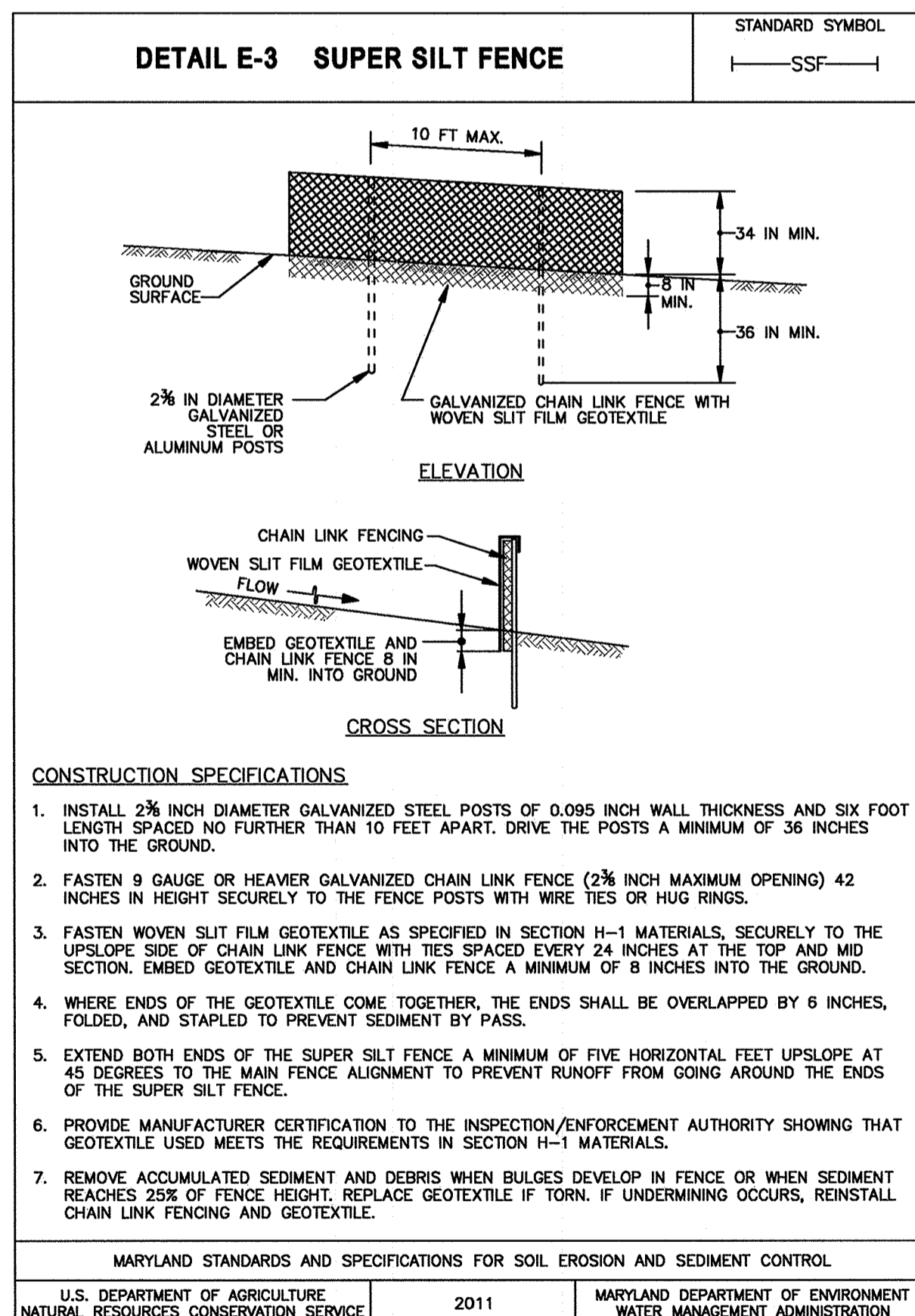
**CONSTRUCTION SPECIFICATIONS**

- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
- FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN, STRETCH 1/2 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- FOR TYPE B, USE 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
- BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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

2 OF 2



APPROVED: DEPARTMENT OF PLANNING & ZONING

*Walter J. Griffin* 2-17-17  
DIRECTOR DATE

*Chris E. Jones* 2-9-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Walter J. Griffin* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY

DATE: November 17, 2016

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0657	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0657
FLAT # OR L/F	GRID #	ZONING
14067	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
550	37	606608
SEWER CODE		

No As-Built Information this sheet.

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

*John R. Harrington* 4/31/17  
HOWARD SOIL CONSERVATION DISTRICT DATE

**DEVELOPER'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.

*Albert Edwards* 12-5-16  
ALBERT EDWARDS, COLUMBIA ASSOCIATION DATE

**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.

*Jennifer Harrington* 12.5.16  
JENNIFER HARRINGTON, P.E. - ENGINEER DATE

**SITE RESOURCES**  
INCORPORATED  
Comprehensive Land Planning & Site Design Services  
1615 Arretville Pike • Pocomoke, Maryland 21151  
(410) 683-3388 • Fax (410) 683-3389

6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
EROSION & SEDIMENT CONTROL DETAILS

LONG REACH TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/09/2016
95% CD SET	04/15/2016

SEAL:

*John R. Harrington* 12.5.16  
JENNIFER HARRINGTON, P.E. - ENGINEER

DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO.

**ESC2.02**  
SHEET 32 OF 46  
SDP-16-053



Z:\161004-C4-Tennis Pavilion\04-DWG\ESC2.03\_Erosion & Sediment Control Details.dwg ESC2.03 Sep 15, 2016 04:04pm d.m

### DETAIL C-1 EARTH DIKE

STANDARD SYMBOL: A-1  
BLANK OPERATION SEE DETAIL C-1 ON LOW CHANNEL SEE DETAIL C-2

**CROSS SECTION**  
 2:1 SLOPE OR FLATTER  
 EXISTING GROUND  
 GRADE TO PROVIDE REQUIRED FLOW WIDTH AND FLOW DEPTH

**PLAN VIEW**  
 CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE

DIKE TYPE	DIKE TYPE	
	A	B
a - DIKE HEIGHT	18 IN. MIN.	30 IN. MIN.
b - DIKE WIDTH	24 IN. MIN.	36 IN. MIN.
c - FLOW WIDTH	4 FT. MIN.	6 FT. MIN.
d - FLOW DEPTH	12 IN. MIN.	24 IN. MIN.

**FLOW CHANNEL STABILIZATION**

A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)  
 A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.  
 A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

**CONSTRUCTION SPECIFICATIONS**

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

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
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### DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP

**ISOMETRIC VIEW**  
 10 FT MAX. A  
 2 IN X 4 IN ACROSS TOP OF STONE  
 12 IN MAX. BETWEEN NAILS  
 3/4 TO 1 1/2 INCH STONE  
 18 IN MIN. MASTIC SEAL

**SECTION A-A**  
 POST  
 STAPLE  
 LATHE  
 JOINING ADJACENT SECTIONS OF GEOTEXTILE  
 SUPPORT FRAME  
 WOVEN SLIT FILM GEOTEXTILE SILT FENCE  
 2 IN X 4 IN  
 WOVEN SLIT FILM GEOTEXTILE  
 MASTIC SEAL

**CONSTRUCTION SPECIFICATIONS**

- USE NOMINAL 2 INCH X 4 INCH LUMBER.
- USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
- PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
- KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
- PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
- SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

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
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### DETAIL D-4-1-A ROCK OUTLET PROTECTION I

STANDARD SYMBOL: ROP1  
DISCHARGE TO SEMI CONFINED CHANNEL SECTION

**PLAN VIEW**  
 DISCHARGE TO SEMI CONFINED CHANNEL SECTION  
 EMBED GEOTEXTILE LINING A MIN. OF 4 IN.  
 NONWOVEN GEOTEXTILE OR STONE FILTER  
 CHANNEL CROSS SECTION WILL TRANSITION FROM A-A TO B-B

**PROFILE**  
 EXTEND RIPRAP TO A MIN. HEIGHT OF H  
 DEPTH DICTATED BY CHANNEL SECTION AT END OF APRON  
 NONWOVEN GEOTEXTILE OR STONE FILTER  
 SLOPE TO DRAIN  
 4 IN.  
 6 IN X 3 FT MIN.  
 12 IN MIN.

CLASS	THICKNESS (T)
I	18 IN
II	32 IN
III	46 IN

**CONSTRUCTION SPECIFICATIONS**

- RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/4 TO 1 1/2 INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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
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### DETAIL D-4-1-C ROCK OUTLET PROTECTION III

STANDARD SYMBOL: ROPIII  
DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA

**PLAN VIEW**  
 DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA  
 EXTEND RIPRAP TO A MIN. HEIGHT OF H  
 NONWOVEN GEOTEXTILE OR STONE FILTER

**PROFILE**  
 EXISTING STABILIZED AREA  
 4 IN.  
 3 FT MIN.  
 12 IN MIN.  
 NONWOVEN GEOTEXTILE OR STONE FILTER

CLASS	THICKNESS (T)
I	18 IN
II	32 IN
III	46 IN

**CONSTRUCTION SPECIFICATIONS**

- RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
- USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/4 TO 1 1/2 INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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
--	------	---

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Valerie J. J. J.* 2-17-17  
 DIRECTOR DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kele...* 2-9-17  
 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT  
*...* 2-15-17  
 DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY

DATE November 17, 2016

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0657	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0657
FLAT # OR L/F	GRID #	ZONING
14067	7	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
37	16	606606
WATER CODE	SEWER CODE	
550		

No As-Built Information this sheet.

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

*John R. ...* 1/31/17  
 HOWARD SOIL CONSERVATION DISTRICT DATE

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.

*Albert Edwards* 12-5-16  
 ALBERT EDWARDS, COLUMBIA ASSOCIATION DATE

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.

*Jennifer Harrington* 12-5-16  
 JENNIFER HARRINGTON, P.E. - ENGINEER DATE

**SITE RESOURCES**  
 Incorporated  
 Comprehensive Land Planning & Site Design Services  
 16165 Jereville Pike • Phoenix, Maryland 21151  
 (410) 682-3086 • Fax (410) 682-3088

6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 EROSION & SEDIMENT CONTROL DETAILS

LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

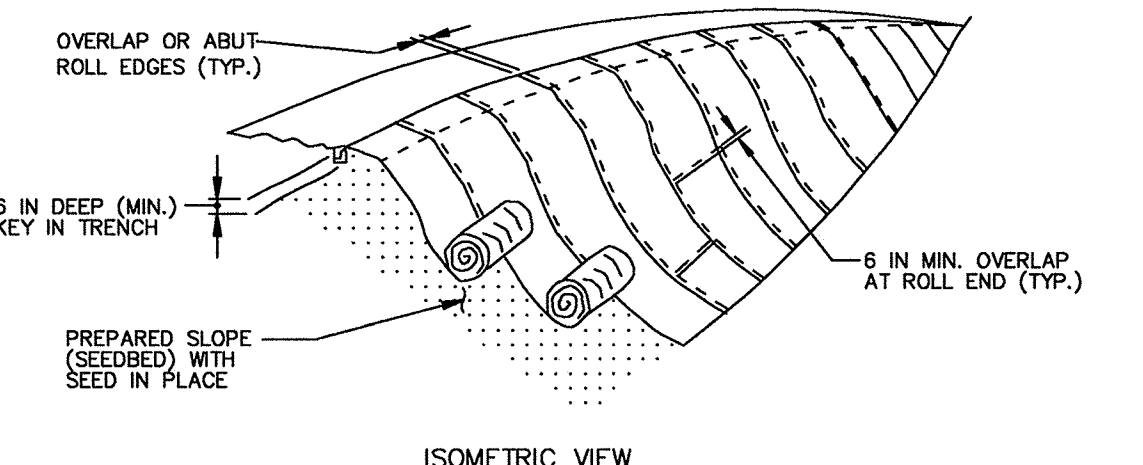
REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/23/2016
PERM SET	05/01/2016
45% CD SET	04/15/2016

SEAL:

DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO.: 15034  
 DRAWING NO.:  
**ESC2.03**  
 SHEET 33 OF 46  
 EDP-16-035

**DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION**

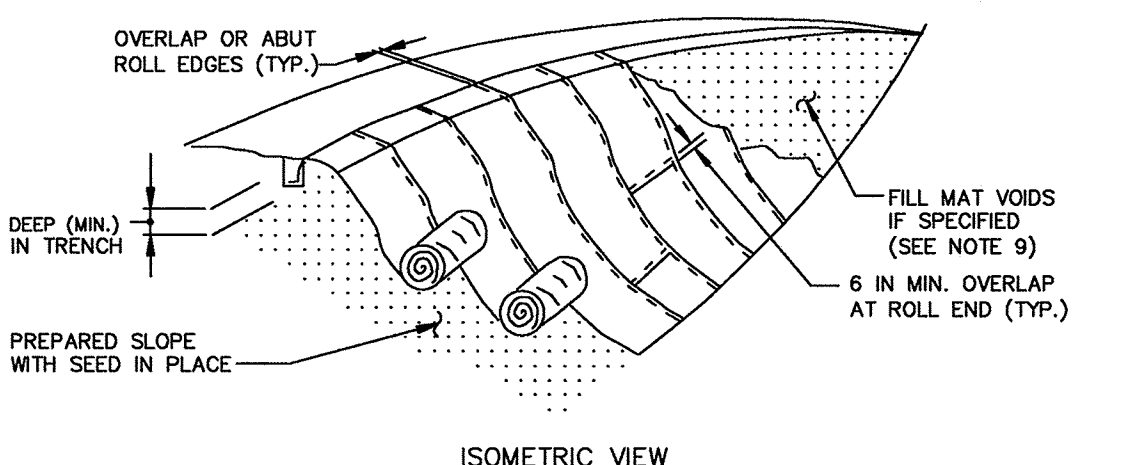


**CONSTRUCTION SPECIFICATIONS**

- 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 SMOOTHER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 242 INCHES AND SUFFICIENTLY BONDED OR SEWN 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 STAKES, 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 STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED 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 DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 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.

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**DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION**

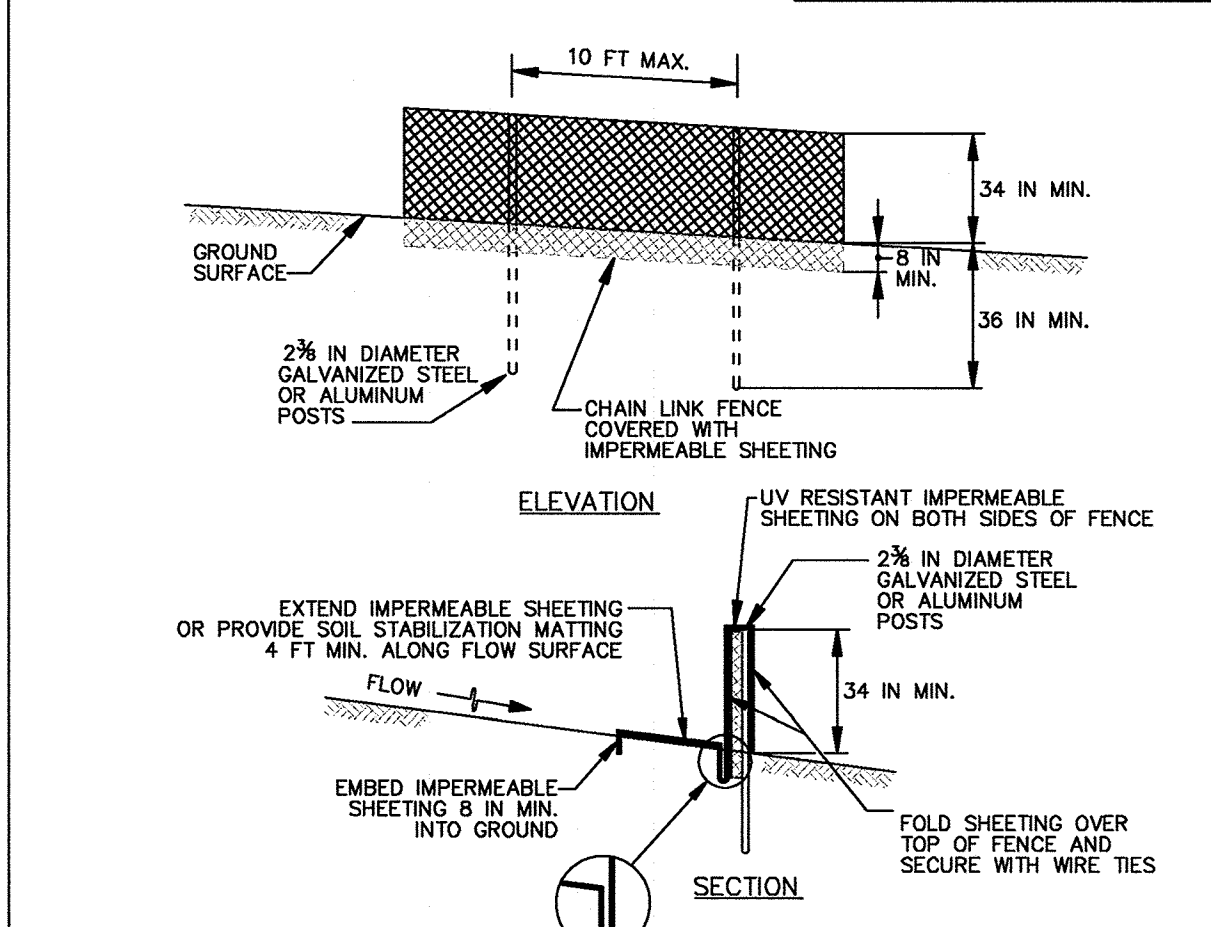


**CONSTRUCTION SPECIFICATIONS**

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 242 INCHES AND SUFFICIENTLY BONDED OR SEWN 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 OR WOOD STAKES. 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 STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED 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 DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDBED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYS AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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**DETAIL C-9 DIVERSION FENCE**



**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 0.095 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 4 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 DOWNSLOPE.
- 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. IF UNDERMINING OCCURS, REINSTALL FENCE.

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**HSCD STANDARD 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 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING TIMES:
  - PRIOR TO THE START OF EARTH DISTURBANCE.
  - UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
  - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
  - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
 OTHER BUILDING OR GRADING INSPECTION PERMITS 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 VEGETATIVE 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 THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-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 ABOVE 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 1/2 OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-6) IN EXCESS OF 20 FT. MUST BE BENCHING WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE 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 THE CID.
- SITE ANALYSIS:
  - TOTAL AREA OF SITE: 11.13 ACRES
  - AREA DISTURBED: 5.10 ACRES
  - AREA TO BE ROOFED OR PAVED: 1.90 ACRES
  - AREA TO BE VEGETATIVELY STABILIZED: 3.20 ACRES
  - TOTAL CUT: 1210 CU. YDS.
  - TOTAL FILL: 4800 CU. YDS.
 OFFSITE MASTER/DRAINAGE AREA LOCATION TO BE DETERMINED.
- ANY AND ALL PRACTICES 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 HSCD. 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-STORM 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 IMPROPERLY 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 PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED 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 ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD 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 IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, 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 APPLICABLE WASHOUT 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-COUNTER, AND BE IMBERGATED 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 MARCH 1 - JUNE 15
  - USE III AND I/II OCTOBER 1 - APRIL 30
  - USE I MARCH 1 - MAY 31
- A COPY 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.

**SEQUENCE OF CONSTRUCTION**

- ASSURE THAT GRADING PERMIT AND ALL OTHER NECESSARY PERMITS ARE OBTAINED BY OWNER.
- NOTIFY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS BEFORE START OF WORK. CONTACT MISS UTILITY AT 1-800-287-1111 AT LEAST THREE DAYS IN ADVANCE OF STARTING WORK SHOWN ON PLANS.
- WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB FOR AND INSTALL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING STABILIZED CONSTRUCTION ENTRANCE #1 AND SILT FENCE (SF) FOR THE CONSTRUCTION OF STORM DRAIN SYSTEMS E-101 TO M-105 AND E-301 TO I-314 AS PERMANENT CLEAR WATER DIVERSIONS OF OFFSITE DRAINAGE. INSTALL SILT FENCE (SF) FOR STORM DRAIN CONSTRUCTION.
- COORDINATE WITH CONTROL INSPECTOR AND ENGINEER UPON COMPLETION OF THIS INSTALLATION TO RECEIVE APPROVAL TO CONSTRUCT THE PERMANENT DIVERSIONS.
- CONSTRUCT STORM DRAIN FROM E-101 TO M-105 AND CONNECT TO EXISTING DRAIN AS A PERMANENT DIVERSION. CONSTRUCT STORM DRAIN FROM E-301 TO M-304. INSTALL SOIL PROTECTION. PROVIDE INTERIM GRADING AS SHOWN ON E-101. INSTALL ROCK OUTLET PROTECTION FOR CLEAR WATER DIVERSION PIPE AT E-101 AND E-301. IMMEDIATELY PROVIDE TEMPORARY STABILIZATION MATTING ON ALL AREAS DISTURBED BY THIS CONSTRUCTION. REMOVE SILT FENCE NO LONGER REQUIRED FOR STORM DRAIN CONSTRUCTION AREAS.
- CLEAR AND GRUB FOR AND INSTALL REMAINING EROSION AND SEDIMENT CONTROL MEASURES OR DEVICES. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE #2 (ECE), TEMPORARY GABION OUTLET STRUCTURE (TGO), EARTH DIKES (ED), SUPER SILT FENCE (SSF) AND FILTER LOGS (FL).
- NOTIFY SEDIMENT CONTROL INSPECTOR AND ENGINEER UPON COMPLETION OF THIS INSTALLATION.
- CLEAR AND GRUB REMAINING SITE.
- ROUGH GRADE SITE AND INSTALL UTILITIES. FOR STORM DRAINS, INSTALL INLET PROTECTION (IP) AS SHOWN ON APPROVED EROSION AND SEDIMENT CONTROL PLANS. DO NOT DISTURB ANY UTILITIES TO REMAIN.
- REMOVE CURBS AND PORTIONS ROADWAY AS SHOWN ON THE DEMOLITION PLAN. ANY WALKS, PAVERS, ROADS, CURBS, ETC. OR ANY EXISTING UTILITY OR STRUCTURE DAMAGED DURING CONSTRUCTION, NOT SCHEDULED FOR DEMOLITION, SHALL BE REPAIRED BY THE CONTRACTOR, IN KIND AT THE CONTRACTOR'S EXPENSE.
- BEGIN BUILDING CONSTRUCTION.
- FINISH GRADE AND INSTALL SOIL CEMENT AND BASE COURSE FOR ALL ROAD SURFACES AND PARKING LOTS. INSTALL CURB AND GUTTER.
- FINISH GRADE THE REMAINING AREAS WITH AT LEAST 4 INCHES OF TOPSOIL AND PERMANENTLY STABILIZE THOSE AREAS.
- AFTER ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN COMPLETELY STABILIZED, INSTALL PROPOSED SWM FACILITIES PER APPROVED SWM PLANS. THIS CAN BE ACCOMPLISHED BY INSTALLING STONE BASE ON ALL ADJACENT SURFACES OR PROVIDING VEGETATIVE STABILIZATION CONSISTING OF 45% GRASS COVER PER SECTION B-4 OF THE 2011 MD STANDARDS FOR ESC. OR FOR ADDITIONAL MEASURES TO PREVENT SEDIMENTATION OF FILTER BEDS, INSTALL SILT FENCE AT THE EDGE OF THE FILTER BED DIRECTLY AFTER THE INSTALLATION OF THE FILTER MEDIA. NOTIFY THE CERTIFYING ENGINEER TO OBSERVE FOR PREPARING AS-BUILTS.
- PAVE ROAD SURFACES WITH THE FINAL SURFACE COURSE.
- AFTER PERMANENT STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE EROSION AND SEDIMENT CONTROL MEASURES OR DEVICES, AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.
- CONDUCT FINAL AS-BUILT SURVEYS OF THE STORMWATER MANAGEMENT FACILITIES AND SUBMIT AS-BUILT PLANS AND COMPUTATIONS TO HOWARD COUNTY WITHIN 30 DAYS OF COMPLETION.

**STANDARD STABILIZATION NOTE**

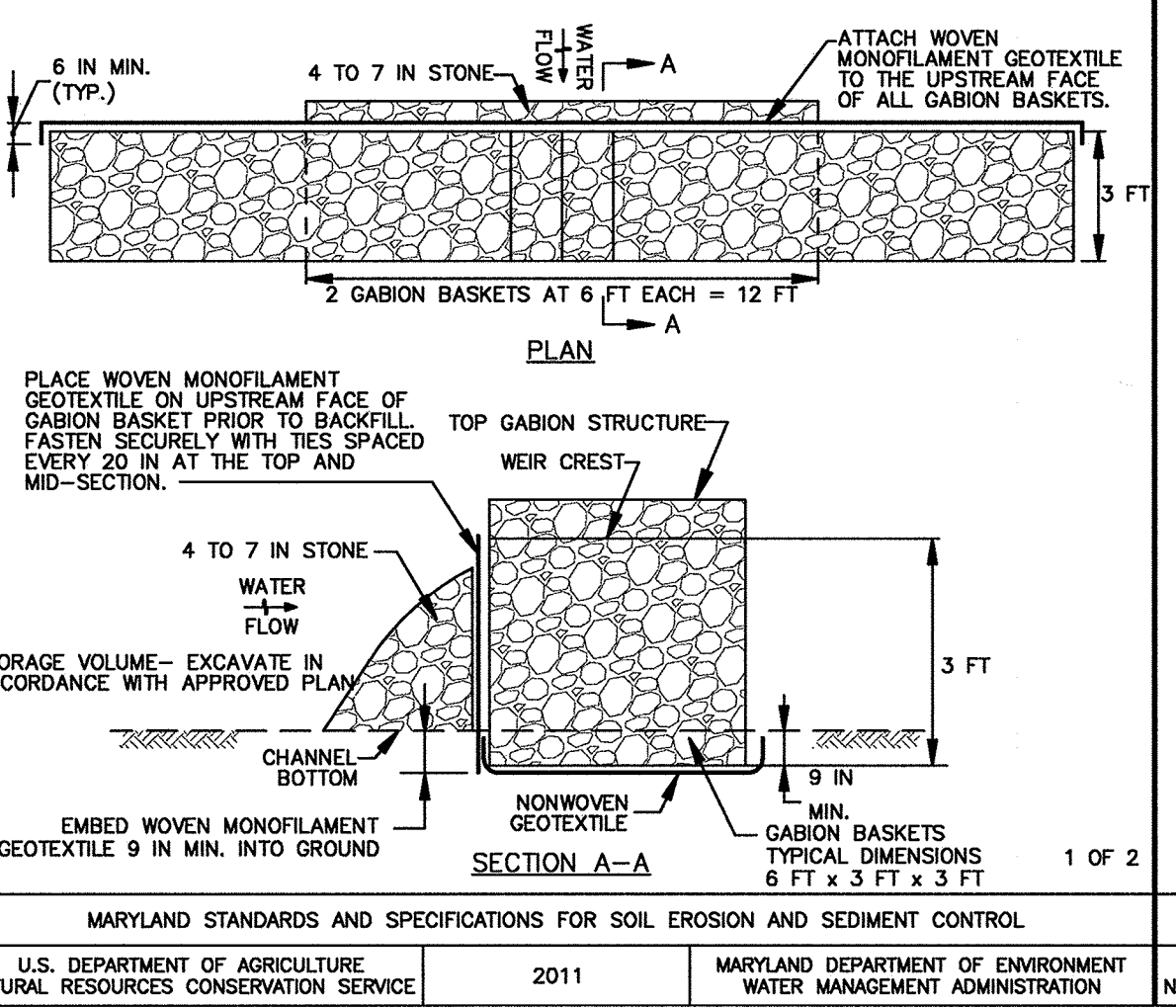
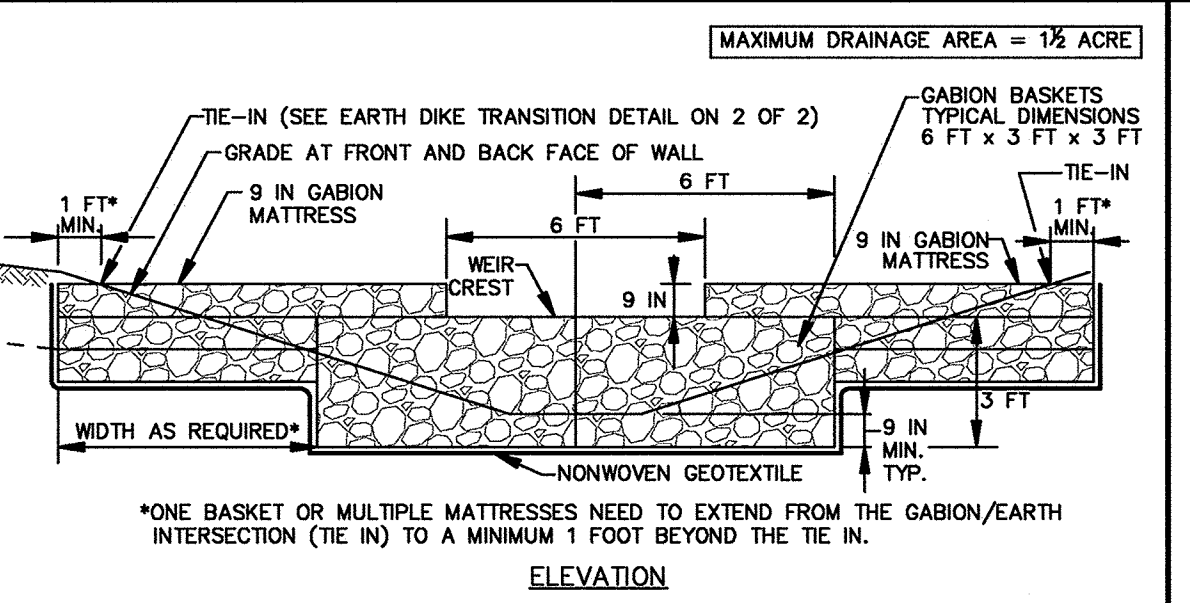
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER 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 OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

**STOCKPILE MAINTENANCE**

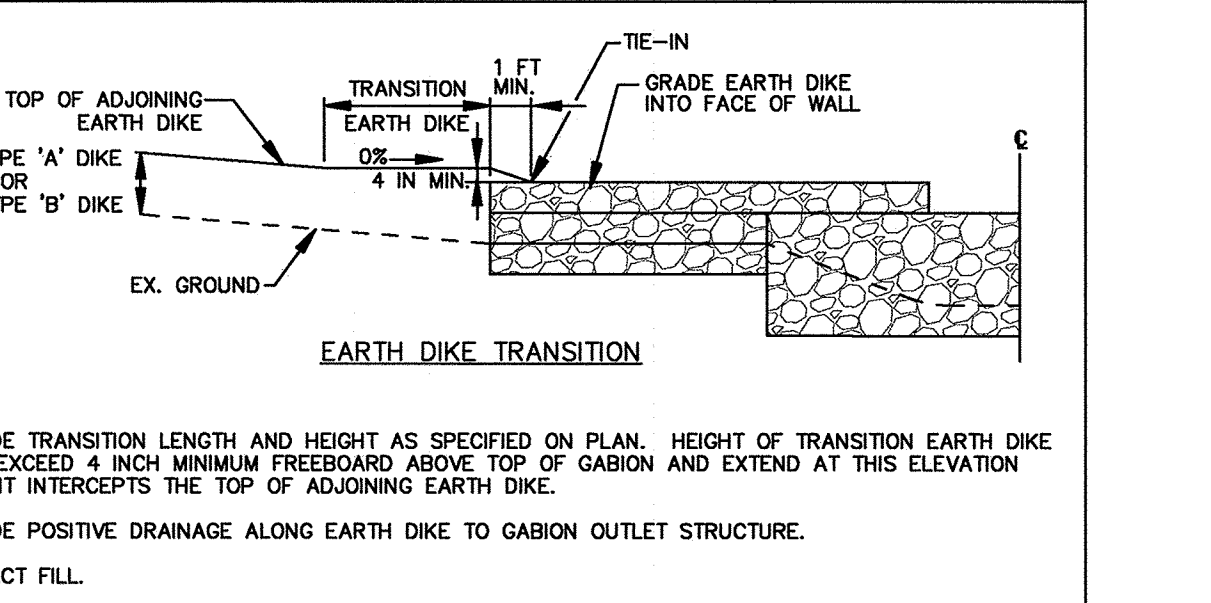
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE 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.

**DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE**



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**DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE**



- NOTES:
- PROVIDE TRANSITION LENGTH AND HEIGHT AS SPECIFIED ON PLAN. HEIGHT OF TRANSITION EARTH DIKE MUST EXCEED 4 INCH MINIMUM FREEBOARD ABOVE TOP OF GABION AND EXTEND AT THIS ELEVATION UNTIL IT INTERCEPTS THE TOP OF ADJOINING EARTH DIKE.
  - PROVIDE POSITIVE DRAINAGE ALONG EARTH DIKE TO GABION OUTLET STRUCTURE.
  - COMPACT FILL.
  - SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED ON PLAN. BANK PROJECTIONS OR IRREGULARITIES ARE NOT ALLOWED.
- CONSTRUCTION SPECIFICATIONS**
- PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
  - USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.
  - USE NONWOVEN AND WOVEN MONOFILAMENT 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.
  - PROVIDE A MINIMUM WEIR CREST OF 6 FEET.
  - ATTACH WOVEN MONOFILAMENT GEOTEXTILE TO THE UPSTREAM FACE OF GABION BASKETS AND COVER WITH 4 TO 7 INCH STONE.
  - 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.

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

*John P. Blanton* 1/31/17 DATE  
HOWARD SOIL CONSERVATION DISTRICT

**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.

*Albert Edwards* 12.5.16 DATE  
ALBERT EDWARDS, COLUMBIA ASSOCIATION

**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.

*Jennifer Harrington* 12.5.16 DATE  
JENNIFER HARRINGTON, P.E. - ENGINEER

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Nathan J. Jolly* 2-17-17 DATE  
DIRECTOR

*Keith Culver* 2-9-18 DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Keith Culver* 2-13-17 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED PLANNING BOARD OF HOWARD COUNTY	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

ADDRESS CHART		PERMIT INFORMATION CHART	
LOT/PARCEL	STREET ADDRESS	SUBDIVISION NAME	SECTION/AREA
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045	VILLAGE OF LONG REACH	SECTION 3, AREA 2
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045	PLAT # OR L/F	TAX MAP NO. / ELECTION DISTRICT
		14061	7 NT 37 16
			SEWER CODE

No As-Built information this sheet.

EXCAVATED SOIL MATERIAL MAY BE PLACED ON SITE SO LONG AS THE FINAL BENCHES SHOWN ON THE GRADING PLAN ARE MET AND THOSE AREAS ARE RE-STABILIZED

NOTE: TO THE EXTENT THAT QUANTITIES MAY BE LISTED ON THESE PLANS, THEY ARE FOR PERMITTING PURPOSES ONLY AND NOT FOR BIDDING PURPOSES. CONTRACTOR SHALL FORM HIS OWN CONCLUSIONS ABOUT THE QUANTITIES OF ALL MATERIALS AND OPERATIONS NECESSARY TO COMPLETE THE PROJECT.

**SITE RESOURCES**  
CORPORATION  
Comprehensive Land Planning & Site Design Services  
14815 Arundellville Pike • Poolesville, Maryland 21131  
(410) 883-3388 • Fax (410) 883-3389

6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND

LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96

EROSION & SEDIMENT CONTROL  
DETAILS & NOTES

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PERM SET	05/04/2016
45% CD SET	04/15/2016

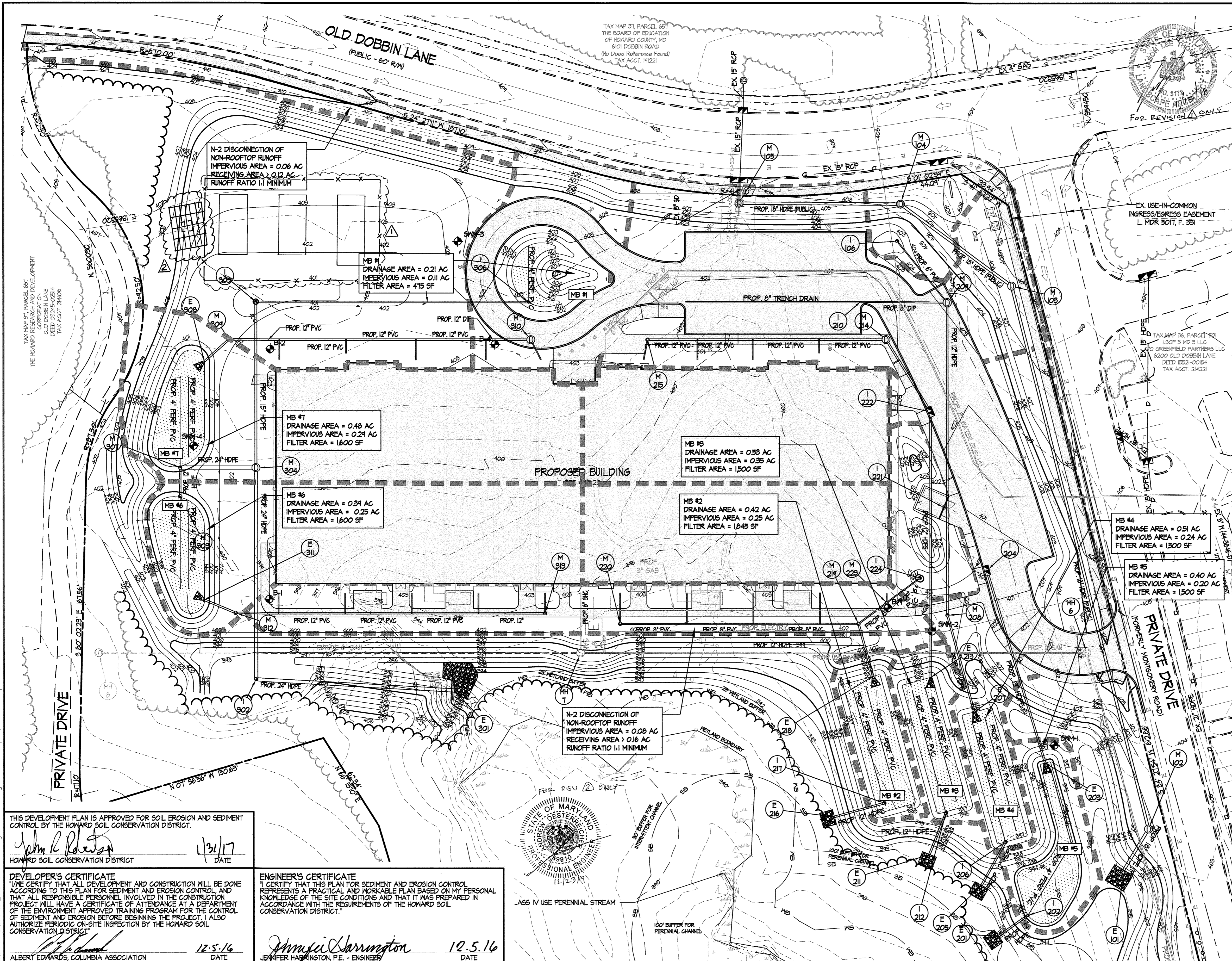
SEAL: [Professional Engineer Seal]

*Jennifer Harrington* 12.5.16 DATE  
JENNIFER HARRINGTON, P.E. - ENGINEER

CHECKED BY: DJJ  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO: 15034  
DRAWING NO: 15034

ESC2.04  
SHEET 34 OF 46  
SDP-16-053





### LEGEND (THIS LEGEND APPLIES TO ES01.01 THROUGH ES02.02 ONLY)

	PROPERTY LINE
	EXISTING CONTOURS
	EXISTING TREELINE
	EXISTING WALK
	EXISTING ROAD
	EXISTING CURB
	EXISTING STORM DRAIN
	EXISTING WATER
	EXISTING SANITARY SEWER
	EXISTING GAS
	EXISTING ELECTRIC
	EXISTING LIGHTING
	EXISTING WETLANDS
	WETLAND BUFFER
	EXISTING STREAM
	EXISTING STREAM BUFFER
	PROPOSED CONTOURS
	PROPOSED DRAINAGE AREA
	PROPOSED WOODLINE
	PROPOSED CURB
	PROPOSED IMPERVIOUS
	PROPOSED BUILDING
	PROPOSED MICRO-BIORETENTION FACILITY
	PROPOSED STORM DRAIN
	PROPOSED WATER
	PROPOSED SANITARY SEWER
	PROPOSED GAS
	PROPOSED ELECTRIC
	PROPOSED LIGHTING
	SOIL BORING

### SITE AREA TABULATION

TOTAL PROPERTY AREA	= 11.80 Ac
EX. IMPERVIOUS AREA	= 0.0 Ac (40%)
SWM STUDY AREA	= 5.70 +/- Ac
EX. IMPERVIOUS AREA	= 0.0 +/- Ac
PROP. IMPERVIOUS AREA	= 1.84 +/- Ac
TARGET P <sub>e</sub>	= 1.49 inches

### SWM STORAGE REQUIREMENTS

REQUIREMENT	VOLUME REQ'D (CUBIC FEET)	VOL. PROV'D (CUBIC FEET)
ESDV	10,533 +/-	12,682 +/-
REV	488 +/-	1,002 +/-
Q10	14.91 CFS (EX)	17.60 CFS (PR)
Q100	35.17 CFS (EX)	34.21 CFS (PR)

### TREATMENT SUMMARY TABLE

ESD PRACTICE	DRAINAGE AREA (AC)	IMP. AREA TREATED (AC)	ESD VOL. PROV'D (CF)	RECHARGE VOL. (CF)
M-6 MB#1	0.24	0.11	758	48
M-6 MB#2	0.42	0.25	2166	105
M-6 MB#3	0.35	0.35	1808	150
M-6 MB#4	0.51	0.24	1808	150
M-6 MB#5	0.40	0.20	1808	150
M-6 MB#6	0.34	0.25	1887	160
M-6 MB#7	0.48	0.24	1887	160
N-2	0.42	0.14	483	0
TOTAL	1.84	1.14	12,682	1,002

**NOTE:**  
EXCAVATED SWM MATERIAL MAY BE SPREAD AND PLACED ON SITE SO LONG AS THE FINAL GRADES SHOWN ON THE GRADING PLAN ARE MET AND THOSE AREAS RE-STABILIZED.

**SITE RESOURCES**  
INCORPORATED  
Comprehensive Land Planning & Site Design Services  
16165 Ardenville Pike • Pikesville, Maryland 21111  
(410) 885-3388 • Fax (410) 885-3389

**6180 OLD DOBBIN LANE**  
**COLUMBIA, MARYLAND**  
**STORMWATER MANAGEMENT PLAN**

**LONG REACH TENNIS CLUB**  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 98

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016
ADDED SOLAR FIELD	1/15/16
ADDED SOLAR POLE MOUNT	12/10/19

SEAL:

DRAWN BY: SRI  
CHECKED BY: D.J.S.  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO.

**SWM1.01**  
SHEET 36 OF 46  
SDP-16-053

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

*John L. Rafter* 1/31/17  
HOWARD SOIL CONSERVATION DISTRICT DATE

**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/WE AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Albert Edwards* 12-5-16  
ALBERT EDWARDS, COLUMBIA ASSOCIATION DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Walter J. J. J.* 2-17-17  
DIRECTOR DATE  
*Paul J. J.* 2-9-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Katherine J.* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**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.

*Jennifer Harrington* 12-5-16  
JENNIFER HARRINGTON, P.E. - ENGINEER DATE

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE: November 17, 2016

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 46 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SECTION/AREA	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	98 / 0651
PLAT # OR L/F	GRID #	ZONING
14067	7	NT
TAX MAP NO.	ELECTION DISTRICT	GENUS TRACT
31	16	606608
WATER CODE	SEWER CODE	
550		

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**MARYLAND STORMWATER DESIGN MANUAL CONSTRUCTION SPECIFICATIONS FOR MICRO-BIORETENTION**

B.4.C. SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION AND INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS  
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.I.

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

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

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. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORRETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL ASSED (6 TO 12 MONTHS) FOR ACCEPTANCE.

6. UNDERDRAINS  
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:  
• PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F59, TYPE PS 28, OR AASHTO M-218) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).  
• PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.  
• GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.  
• THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.  
• A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

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

**920.01.05 MDSHA BIORRETENTION SOIL MIX**

920.01.05 BIORRETENTION SOIL MIX (BSM). A HOMOGENEOUS MIXTURE COMPOSED BY LOOSE VOLUME OF 5 PARTS COARSE SAND, 3 PARTS BASE SOIL, AND 2 PARTS FINE BARK. BSM SHALL CONFORM TO THE FOLLOWING:

- (a) COMPONENTS. COMPONENTS OF BSM SHALL BE SAMPLED, TESTED AND APPROVED BEFORE MIXING AS FOLLOWS:  
(1) COARSE SAND, MSMT 356. COARSE SAND SHALL BE WASHED SILICA SAND OR CRUSHED GLASS THAT CONFORMS TO ASTM FINE AGGREGATE C-33. COARSE SAND SHALL INCLUDE LESS THAN 1% BY WEIGHT OF CLAY OR SILT SIZE PARTICLES, AND LESS THAN 5% BY WEIGHT OF ANY COMBINATION OF DIABASE, GREYSTONE, CALCAREOUS OR DOLOMITIC SAND.  
(2) BASE SOIL. BASE SOIL SHALL BE TESTED AND CERTIFIED BY THE PRODUCER TO CONFORM TO THE FOLLOWING REQUIREMENTS:

TEST PROPERTY	TEST METHOD	TEST VALUE AND AMENDMENT			
PROHIBITED NEEDS	-	FREE OF SEED AND VIABLE PLANT PARTS OF SPECIES IN 920.06.02(a)(b)(c) WHEN INSPECTED.			
DEBRIS	-	NO OBSERVABLE CONTENT OF CEMENT, CONCRETE, ASPHALT, CRUSHED GRAVEL OR CONSTRUCTION DEBRIS WHEN INSPECTED.			
GRADING ANALYSIS	T 87	SIEVE SIZE	PASSING BY WEIGHT		
		2 IN.	100		
		NO. 4	90		
		NO. 10	80		
TEXTURAL ANALYSIS	T 88	PARTICLE SIZE	% PASSING BY WEIGHT		
		mm	MINIMUM	MAXIMUM	
		SAND	2.0-0.050	50	85
		SILT	0.050-0.002	5	45
CLAY	LESS THAN 0.002	5	10		
SOIL pH	D 4912	pH OF 5.1 TO 6.9			
ORGANIC MATTER	T 194	1.0 TO 10.0% BY WEIGHT			
SOLUBLE SALTS	ECL-2 (V:V)	500 ppm (1.25 mthos/cm) OR LESS			
HARMFUL MATERIALS	-	920.01.01(a)			

(b) FINE BARK. FINE BARK SHALL BE THE BARK OF HARDWOOD TREES THAT IS MILLED AND SCREENED TO A UNIFORM PARTICLE SIZE OF 2 IN. OR LESS. FINE BARK SHALL BE COMPOSTED AND ASSED FOR 6 MONTHS OR LONGER, AND BE FREE FROM SANDSIT AND FOREIGN MATERIALS. A 1 TO 2 LB SAMPLE OF FINE BARK SHALL BE SUBMITTED TO THE LANDSCAPE OPERATIONS DIVISION FOR EXAMINATION.

(c) COMPOSITION. BSM SHALL BE SAMPLED AND TESTED ACCORDING TO THE REQUIREMENTS OF MSMT 356 AND CONFORM TO THE FOLLOWING:

TEST PROPERTY	TEST METHOD	TEST VALUE AND AMENDMENT				
NEEDS	-	FREE OF SEED AND VIABLE PLANT PARTS OF SPECIES IN 920.06.02(a)(b)(c) WHEN INSPECTED.				
DEBRIS	-	920.01.03(a)(2)				
TEXTURAL ANALYSIS	T 88	PARTICLE SIZE	% PASSING BY WEIGHT			
		mm	MINIMUM	MAXIMUM		
		SAND	2.0-0.050	55	85	
		SILT	0.050-0.002	-	20	
CLAY	LESS THAN 0.002	1	8			
SOIL pH	D 4912	pH OF 5.1 TO 7.1				
ORGANIC MATTER	T 194	MINIMUM 1.5% BY WEIGHT				
NUTRIENT ANALYSIS AND SOLUBLE SALTS	MEHLICH-3	CONCENTRATION				
		ELEMENT	MINIMUM	MAXIMUM		
			ppm	FIV	ppm	FIV
		CALCIUM (Ca)	32	25	NO LIMIT	NO LIMIT
		MAGNESIUM (Mg)	15	25	NO LIMIT	NO LIMIT
		PHOSPHORUS (P)	18	25	42	100
		POTASSIUM (K)	22	25	NO LIMIT	NO LIMIT
SULFUR (S)	25	N/A	NO LIMIT	NO LIMIT		
HARMFUL MATERIALS	ECL-2 (V:V)	SOLUBLE SALTS	40	N/A	500	N/A

(c) AMENDMENT OR FAILURE. BSM THAT DOES NOT CONFORM TO COMPOSITION REQUIREMENTS FOR PH OR NUTRIENT ANALYSIS SHALL BE AMENDED AS SPECIFIED BY THE NMP. BSM THAT EXCEEDS MAXIMUM PHOSPHORUS CONCENTRATION OR FAILS OTHER COMPOSITION REQUIREMENTS WILL NOT BE ACCEPTED, AND SHALL NOT BE DELIVERED OR USED AS BSM.  
(d) STORAGE. 920.01.02(b), BSM SHALL BE STORED IN A STOCKPILE THAT IS PROTECTED FROM WEATHER UNDER TARP OR SHED. BSM STORED FOR 6 MONTHS OR LONGER SHALL BE RESAMPLED, RETESTED, AND REAPPROVED BEFORE USE.  
(e) APPROVAL. 920.01.02(c).  
(f) CERTIFICATION AND DELIVERY. 920.01.02(d).

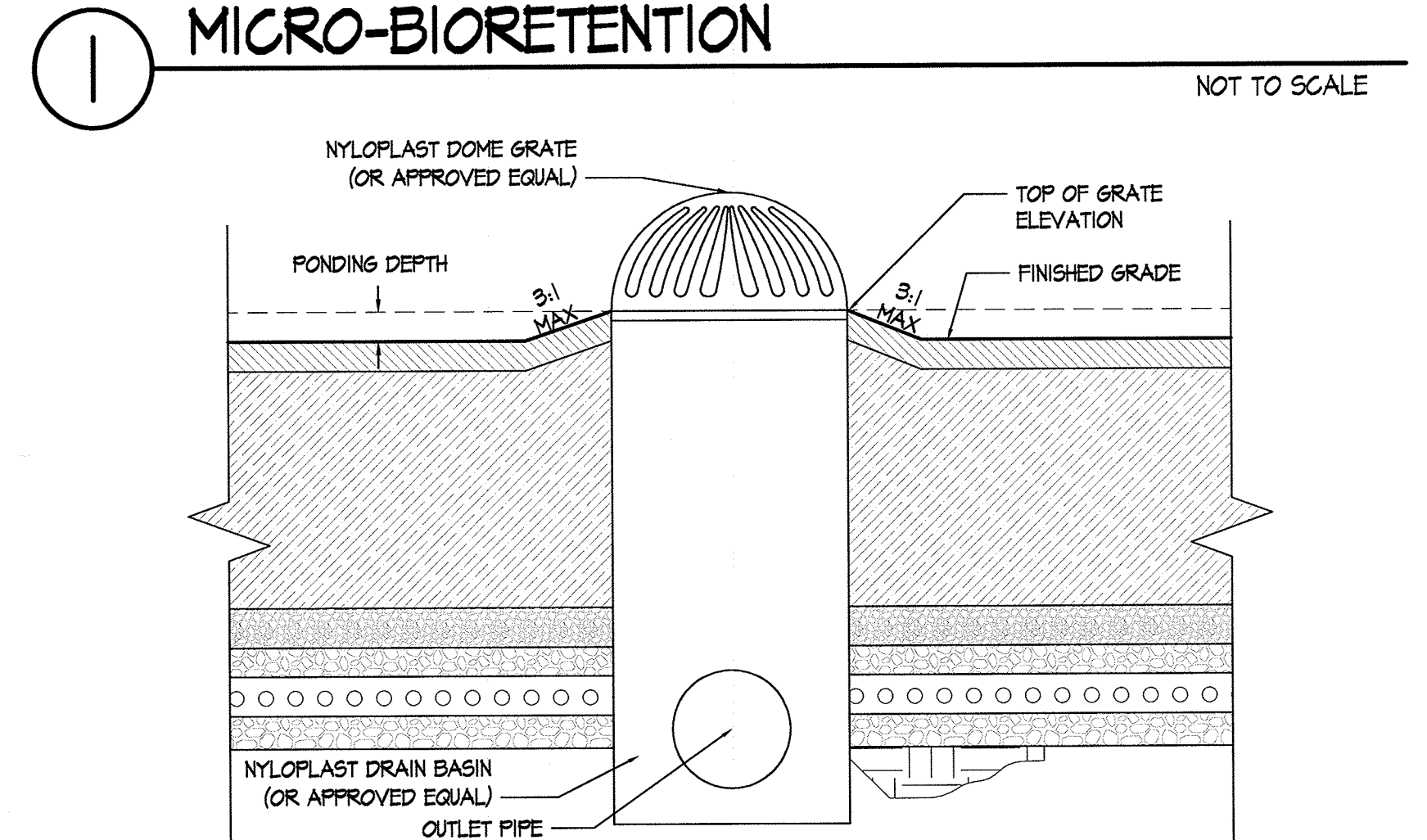
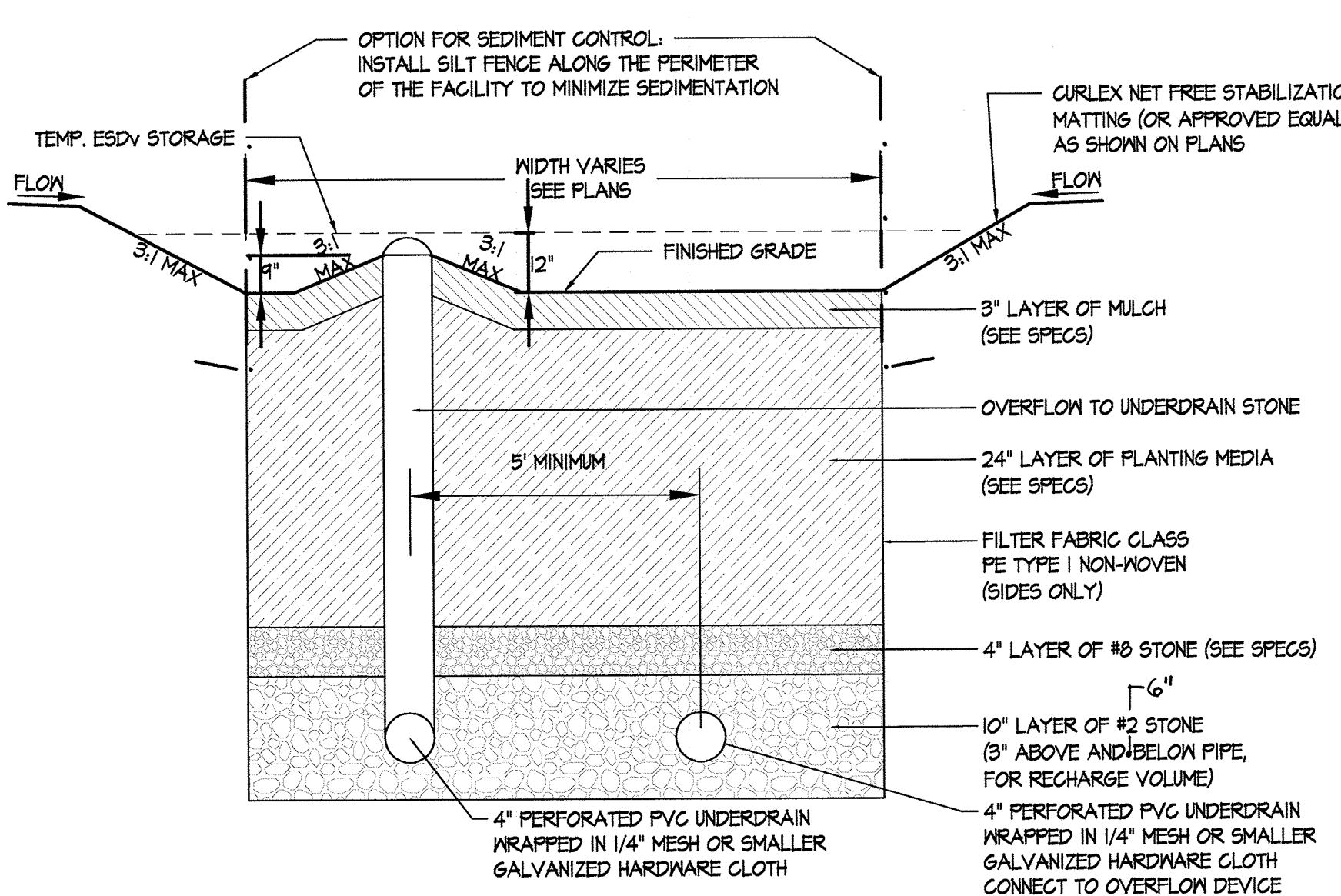
**OPERATION AND MAINTENANCE SCHEDULE**

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION AREAS (M-6)  
1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. 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.I AND 2.  
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND NIPES.  
3. MULCH SHALL BE INSPECTED EACH SPRING. REPLACE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.  
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

**TABLE B.4.I MATERIAL SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS & LANDSCAPE INFILTRATION**

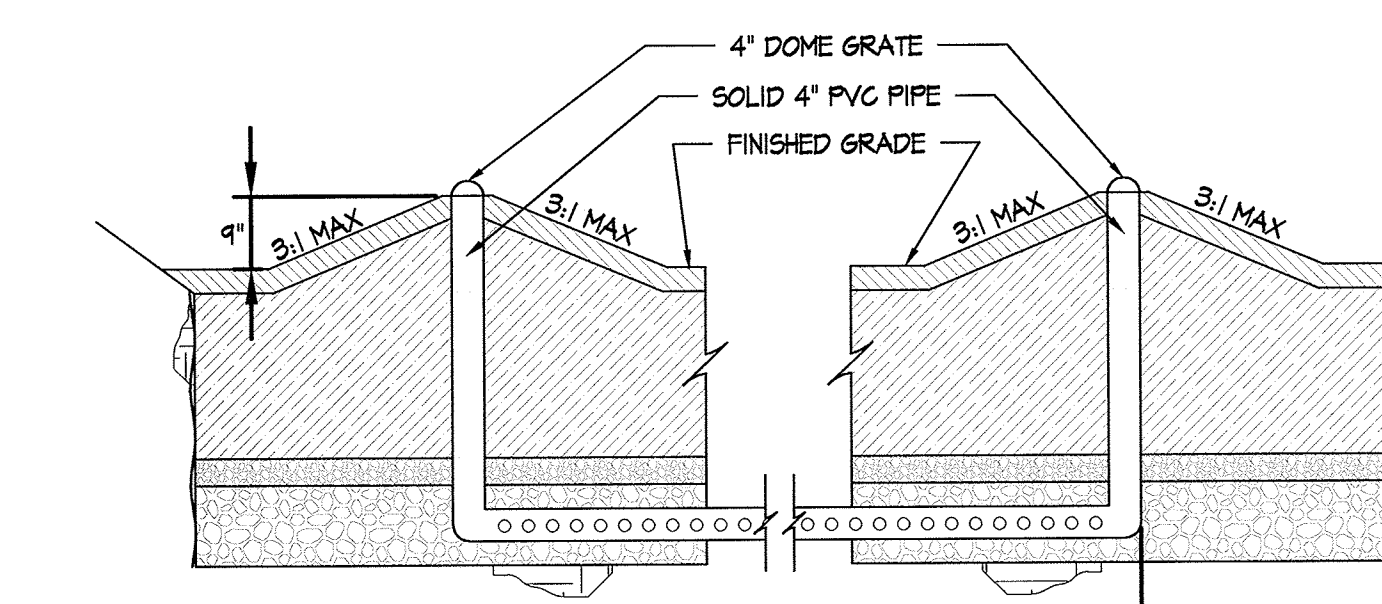
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE-SPECIFIC
* PLANTING MEDIA (2" TO 4" DEEP)	LOAMY SAND (60-65%) & COMPOST (25-40%) OR SANDY LOAM (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
* ORGANIC CONTENT	MIN. 1.0% BY DRY WEIGHT (ASTM D 2174)		
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO FINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
CURTAIN DRAIN	ORNAMENTAL STONE; WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE I NONWOVEN
GRAVEL (UNDERDRAINS AND INFILTRATION BERMS)	AASHTO M-43	NO. 8 (BRIDGING LAYER) NO. 2 (BEDDING LAYER)	
UNDERDRAIN PIPING	F 158, TYPE PS 28 OR AASHTO M-218	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR 35	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" INCH GALVANIZED HARDWARE CLOTH.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MIX NO. 3; F <sub>c</sub> = 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) MUST BE PREVIOUSLY APPROVED BY 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 308R/94, VERTICAL LOADS (1-HO OR 1-H-20); ALLOWABLE HORIZONTAL LOADS (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
SAND	AASHTO M-6 OR ASTM-C-33	0.075" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

\* SEE MATERIAL SPECIFICATIONS FOR SHA BIORRETENTION SOIL MIX (BSM) THIS SHEET FOR SPECIFIC BIORRETENTION SOIL MIX FOR THIS PROJECT.



**2 OVERFLOW DEVICE**  
APPLIES TO ALL MICRO-BIORETENTION FACILITIES NOT TO SCALE

**3 CLEAN-OUT / OBSERVATION WELL**  
NOT TO SCALE



**4 OVERFLOW TO UNDERDRAIN STONE**  
NOT TO SCALE

**OPERATION AND MAINTENANCE SCHEDULE**

OPERATION AND MAINTENANCE SCHEDULE FOR DISCONNECTION OF NON-ROOFTOP RUNOFF (M-2)  
MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LANN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

**NOTE:**

AS-BUILT PLANS AND CERTIFICATION ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITIES. THESE MUST BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER, HOWARD COUNTY WILL NOT PERFORM THE INSPECTION OR PREPARE THE AS-BUILT PLANS OR CERTIFICATION. THE STORMWATER MANAGEMENT PERMIT SECURITY WILL NOT BE RELEASED UNTIL THE AS-BUILT PLAN AND CERTIFICATION ARE APPROVED BY HOWARD COUNTY.

IT IS THE CONTRACTOR'S RESPONSIBILITY, ON BEHALF OF THE OWNER, TO ENGAGE A LICENSED PROFESSIONAL ENGINEER TO CERTIFY THE STORMWATER MANAGEMENT FACILITY AND TO PREPARE AND SUBMIT AS-BUILT DRAWINGS. "CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ON-SITE OBSERVATIONS AND/OR INSPECTIONS AT CRITICAL MILESTONES DURING CONSTRUCTION OF THE FACILITY, MATERIAL TESTS CONDUCTED DURING CONSTRUCTION, AND POST-CONSTRUCTION SURVEYING AND VERIFICATION. VERIFICATION SHALL INCLUDE PHOTODOCUMENTATION CONSISTING OF AT LEAST TEN (10) PHOTOS AT EACH STAGE OF CONSTRUCTION PROGRESS.

CRITICAL MILESTONES INCLUDE: AT A MINIMUM, REGULAR INSPECTIONS MADE AND DOCUMENTED DURING AND AT COMPLETION OF THE FOLLOWING STAGES OF CONSTRUCTION: 1) EXCAVATION TO SUBGRADE, 2) INSTALLATION OF GEOTEXTILE FABRIC, 3) INSTALLATION OF UNDERDRAIN SYSTEM WITH DRAINAGE STRUCTURE AND OUTFALL PIPE, 4) INSTALLATION OF UNDERDRAIN STONE AND REQUIRED SEPARATION STONE, 5) INSTALLATION OF FILTER MEDIA, AND 5) UPON COMPLETION OF FINAL GRADING, MULCH INSTALLATION, AND ESTABLISHMENT OF PERMANENT STABILIZATION.

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.  
USDA - Natural Resources Conservation Service Date  
These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
Howard Soil Conservation District Date 1/31/17

**BY THE ENGINEER:**  
"I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."  
Signature of Engineer Date 12.5.16  
Jennifer Harrington  
Jennifer L. Harrington, P.E.

**BY THE DEVELOPER:**  
"I/We certify that all development and/or construction will be done according to these plans, and that any 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 shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."  
Signature of Developer Date 12.5.16  
Albert F. Edwards, Columbia Association

3.10.15.2014 - CA, Tennis, Position/Out-Drain/Inlet/2.01, Stormwater Management, Details & Notes, dskg-shk2.01, Sep. 15, 2016 04:26pm, cwh



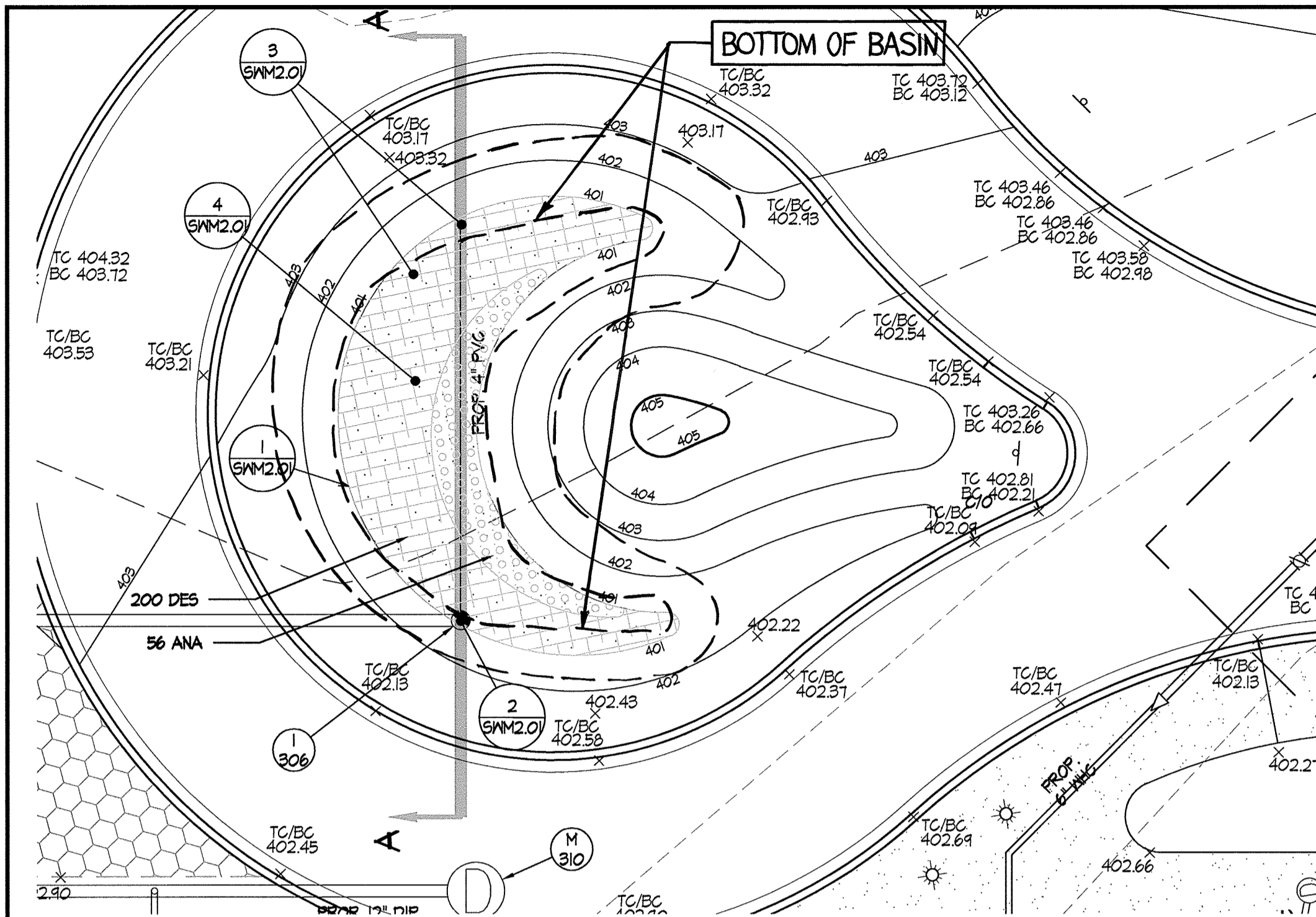
6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
STORMWATER MANAGEMENT  
DETAILS & NOTES

LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 98

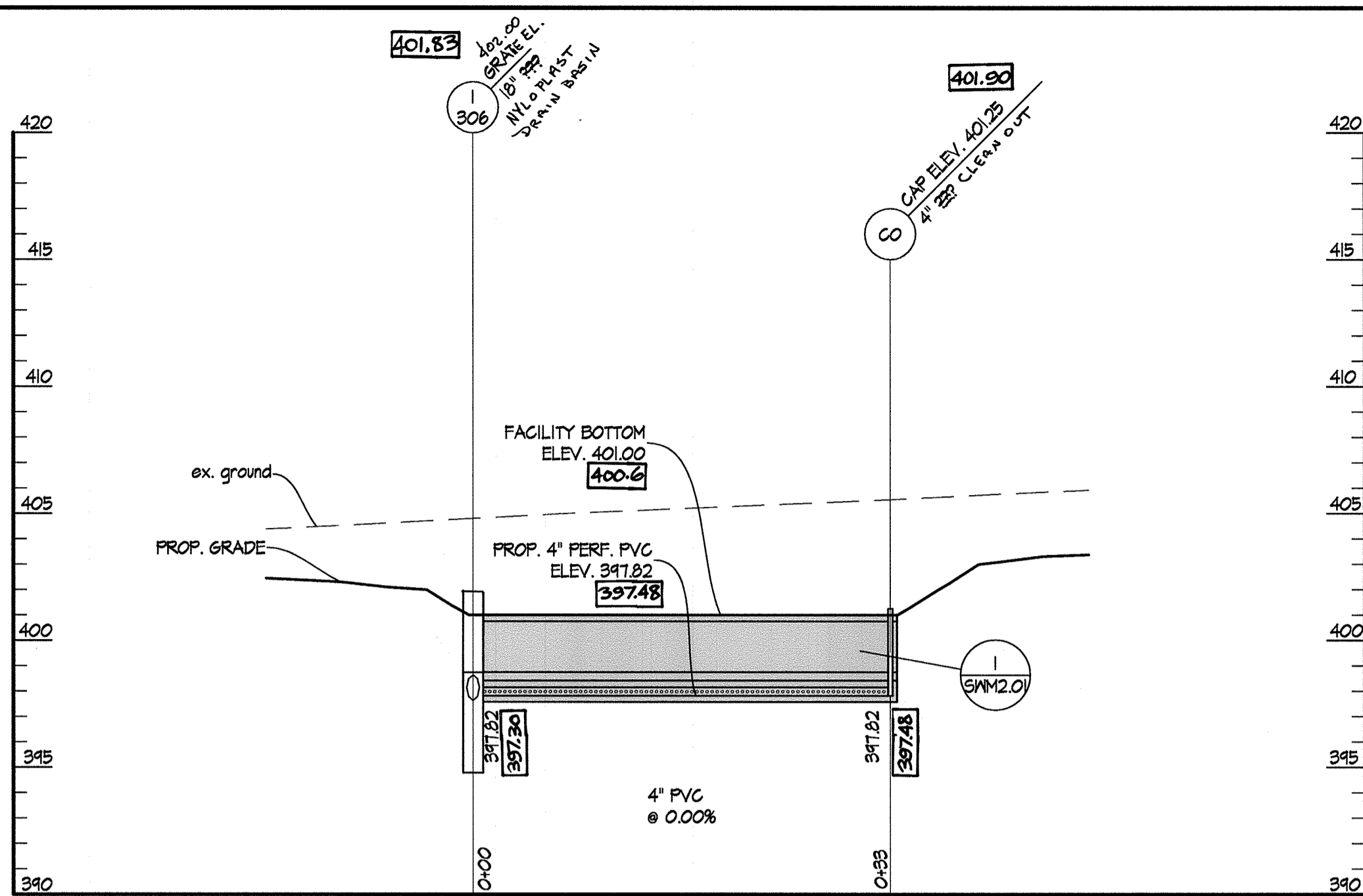
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60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
15% CD SET	04/15/2016



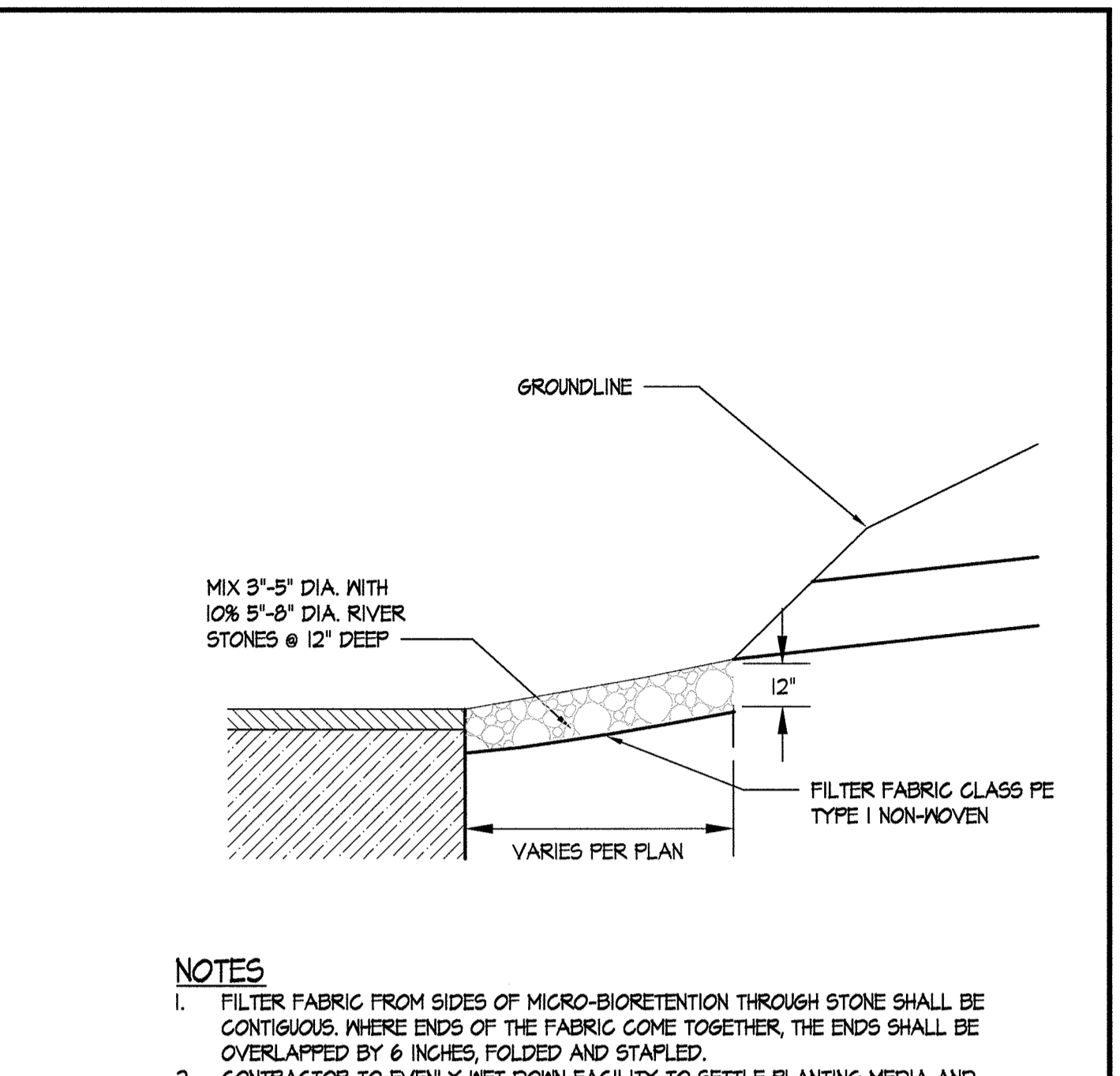
CHECKED BY: SRI  
SCALE: AS NOTED  
DATE: 01/29/16  
SRI PROJECT NO.: 15034  
DRAWING NO.: SWM2.01  
SHEET 37 OF 46  
GDP-16-053



**1 MICRO-BIORETENTION #1 PLAN**  
SCALE: 1" = 10'



**2 MICRO-BIORETENTION #1 SECTION A-A**  
SCALES: HORIZ. 1" = 10'  
VERT. 1" = 5'

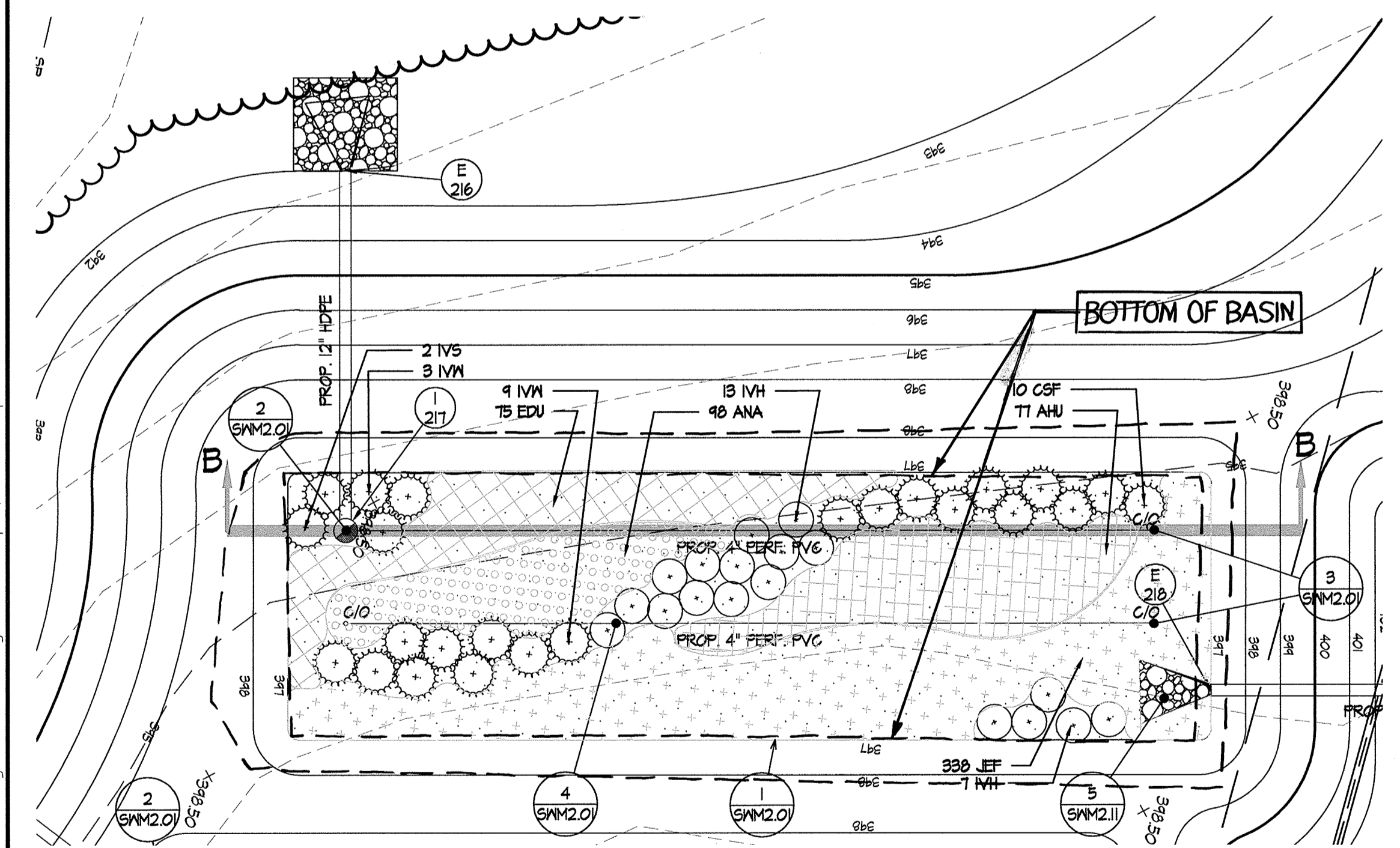


**5 MICRO-BIORETENTION RIVER ROCK**  
NOT TO SCALE

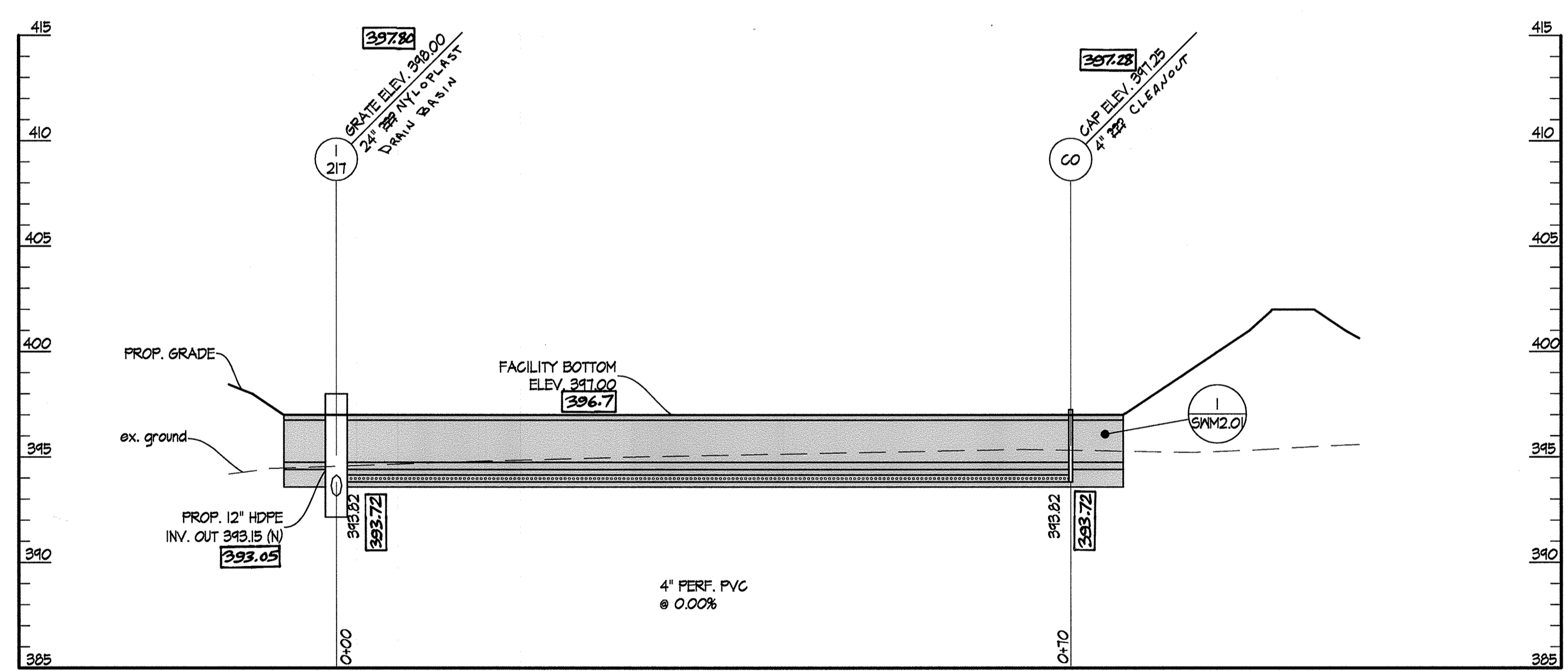
**AS-BUILT NOTES:**  
1. AS-BUILT DATA IS INDICATED IN BOXED INK  
2. BIORETENSION BOTTOM ELEVATION IS AVERAGE OF TOE OF SLOPE SHOTS FOR EACH FACILITY.

**AS-BUILT CERTIFICATION**

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THIS AS-BUILT REPRESENTS FIELD CONDITIONS BASE ON A SURVEY CONDUCTED DURING MARCH 2018. FIELD CONDITIONS INCLUDE, BUT ARE NOT LIMITED TO, SIZES, DIAMETERS, LINE AND GRADE, AND ELEVATIONS. I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23165, EXPIRATION DATE 7/18/19.



**3 MICRO-BIORETENTION #2 PLAN**  
SCALE: 1" = 10'

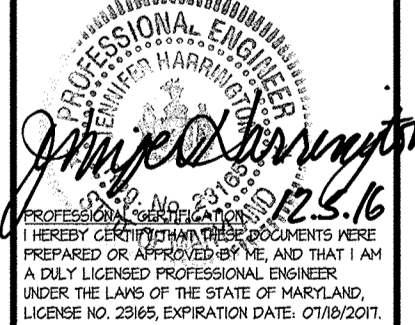


**4 MICRO-BIORETENTION #2 SECTION B-B**  
SCALE: 1" = 10'

REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	09/15/2016

SEAL:



DRAWN BY:	SRI
CHECKED BY:	DJS
SCALE:	AS NOTED
DATE:	07/29/16
SRI PROJECT NO.	15034
DRAWING NO.	

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Walter J. [Signature]* 2-17-17  
DIRECTOR DATE

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE November 17, 2016

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Paul [Signature]* 2-9-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT  
*Walter [Signature]* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

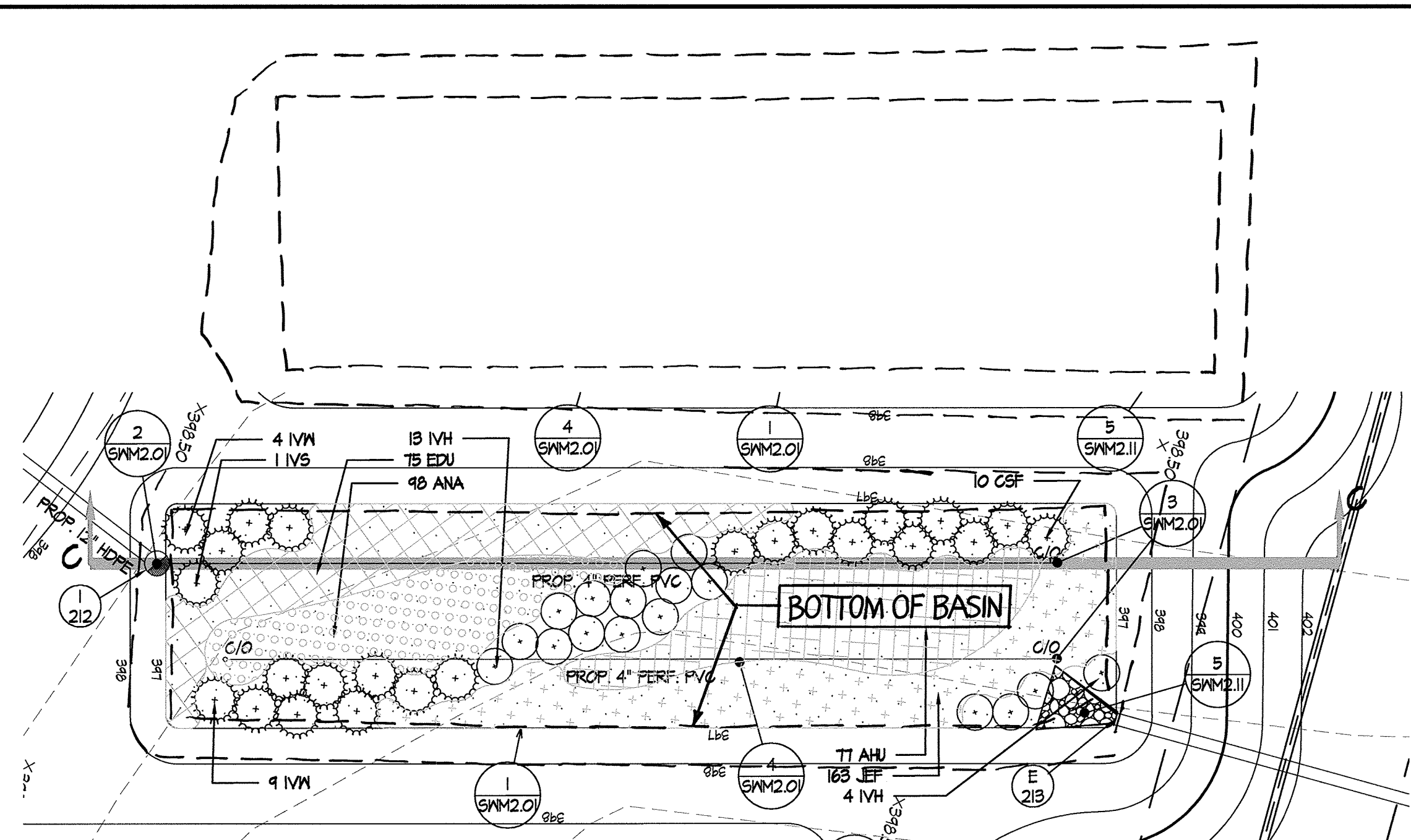
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

SUBDIVISION NAME		SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH		SECTION 3, AREA 2	96 / 0651 2 / 0521
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO. ELECTION DISTRICT
14061	7	NT	37 16
WATER CODE		SEWER CODE	
550			

SUBDIVISION NAME		SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH		SECTION 3, AREA 2	96 / 0651 2 / 0521
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO. ELECTION DISTRICT
14061	7	NT	37 16
WATER CODE		SEWER CODE	
550			

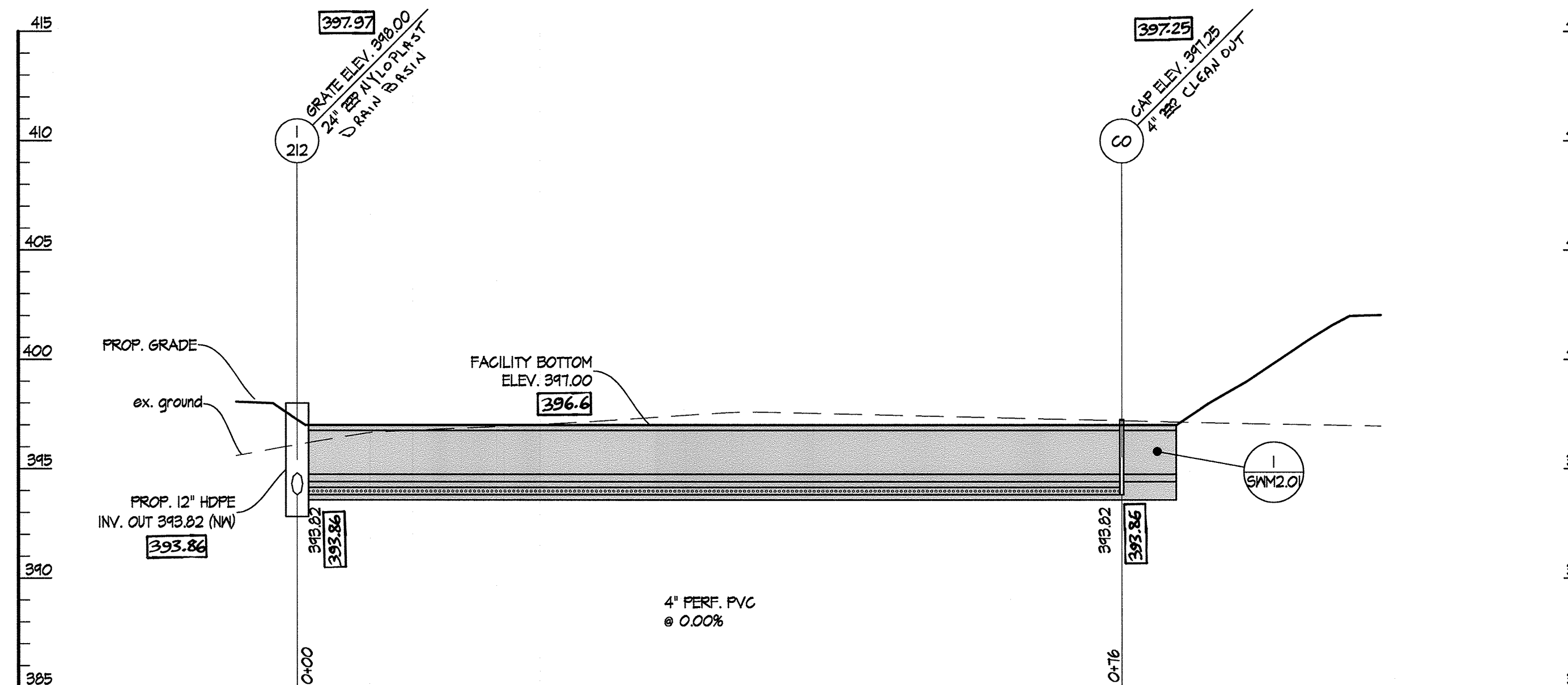
SEE DRAWING LI.01 FOR LEGEND  
SCALE: 1" = 10'

Z:\15034-C.A. Tennis Pavilion\CA-DWG\SWM2.11 Stormwater Management Details.dwg-SWM2.11 Sep 15, 2016 04:25pm amh



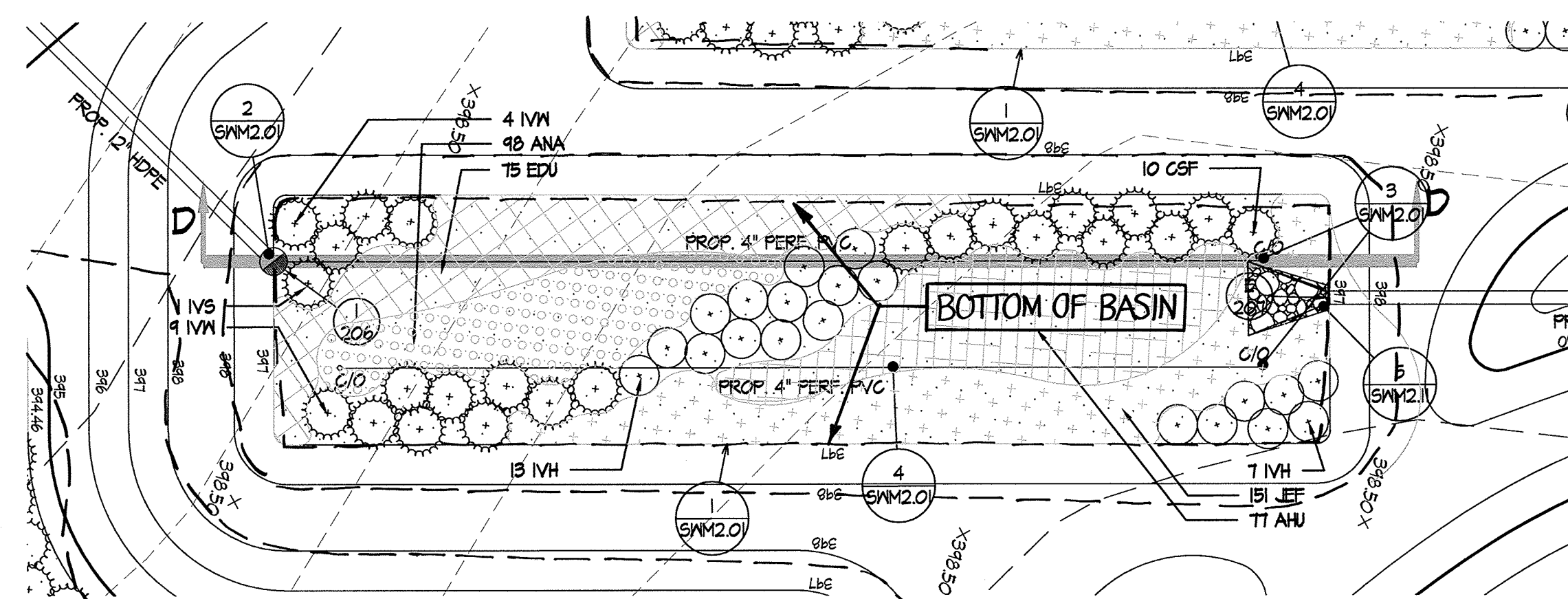
1 MICRO-BIORETENTION #3 PLAN

SCALE: 1" = 10'



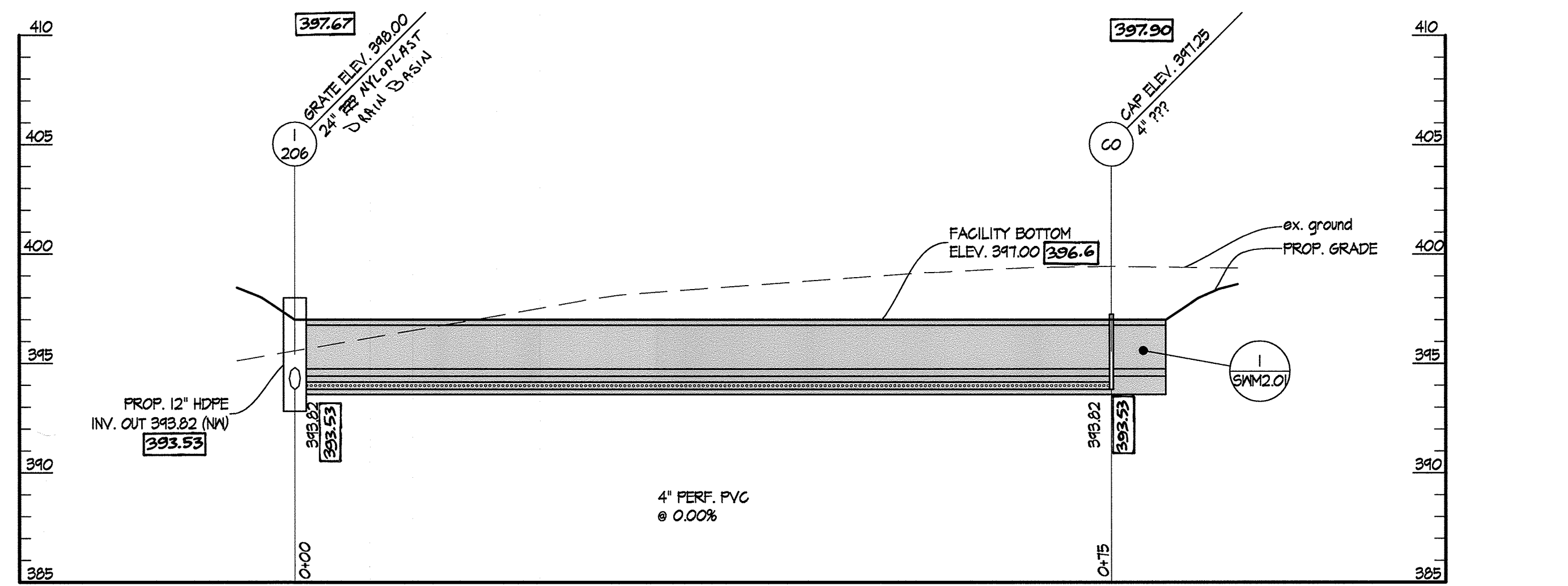
2 MICRO-BIORETENTION #3 SECTION C-C

SCALE: HORIZ. 1" = 10'  
VERT. 1" = 5'



3 MICRO-BIORETENTION #4 PLAN

SCALE: 1" = 10'



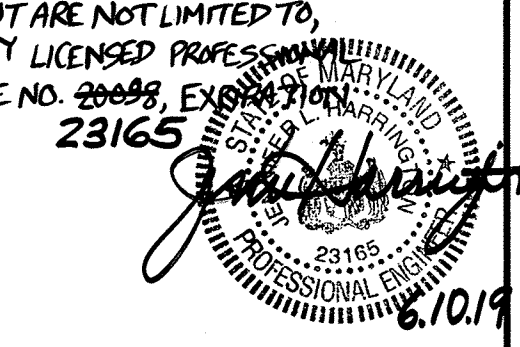
4 MICRO-BIORETENTION #4 SECTION D-D

SCALE: HORIZ. 1" = 10'  
VERT. 1" = 5'

AS-BUILT NOTES:  
1. AS-BUILT DATA IS INDICATED IN BOXED INK.  
2. BIORETENTION BOTTOM ELEVATION IS AVERAGE OF TOE OF SLOPE SHOTS FOR EACH FACILITY.

AS-BUILT CERTIFICATION

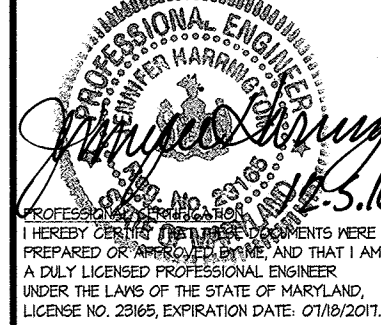
PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THIS AS-BUILT REPRESENTS FIELD CONDITIONS BASE ON A SURVEY CONDUCTED DURING MARCH 2018. FIELD CONDITIONS INCLUDE, BUT ARE NOT LIMITED TO, SIZES, DIAMETERS, LINE AND GRADE, AND ELEVATIONS. I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20088, EXPIRES 12/31/2019. DATE 10/14/2019. 07/18/2019.



REVISIONS:

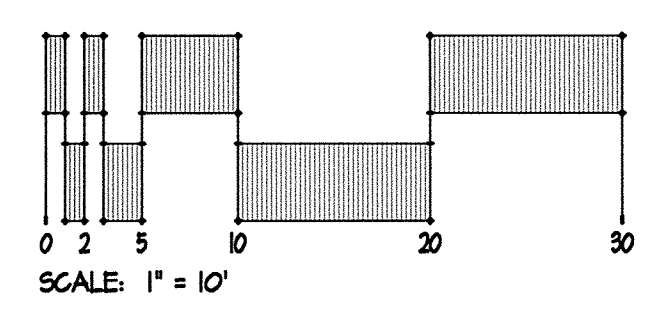
DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/09/2016
15% CD SET	09/15/2016

SEAL:



DRAWN BY:	SRI
CHECKED BY:	DJS
SCALE:	AS NOTED
DATE:	07/29/16
SRI PROJECT NO.	15034
DRAWING NO.	

**SWM2.12**  
SHEET 39 OF 46



Z:\V\15034-C.A. Tennis Pavilion\04-DWG\SWM2.12\_S Stormwater Management Details.dwg-swm2.12 Sep 15, 2016 04:22pm amh

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Nadine Jaffe* 2-17-17  
DIRECTOR DATE  
*Chad Schmitt* 2-9-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Katschke* 2-13-17  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE November 17, 2016

ADDRESS CHART

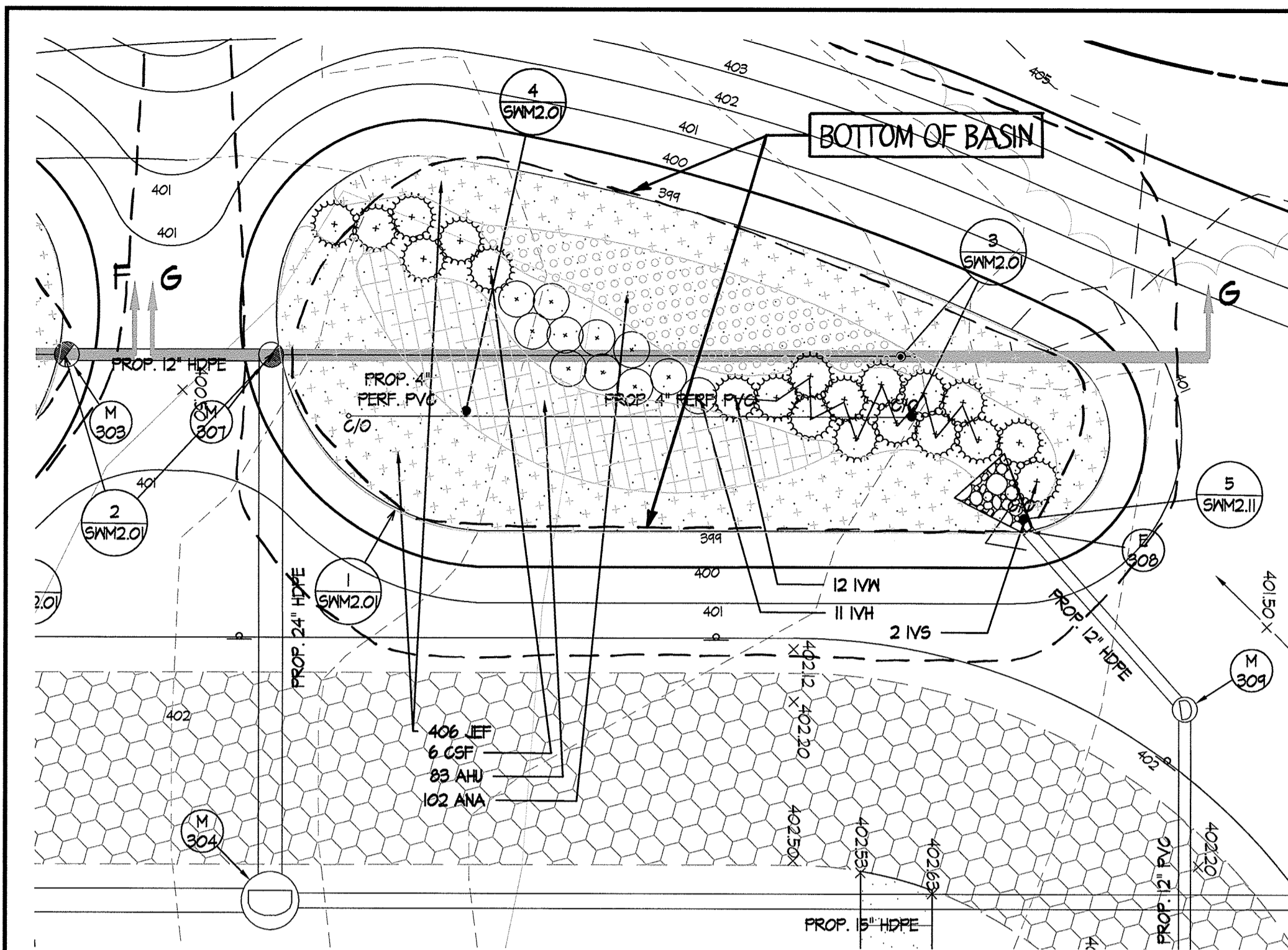
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

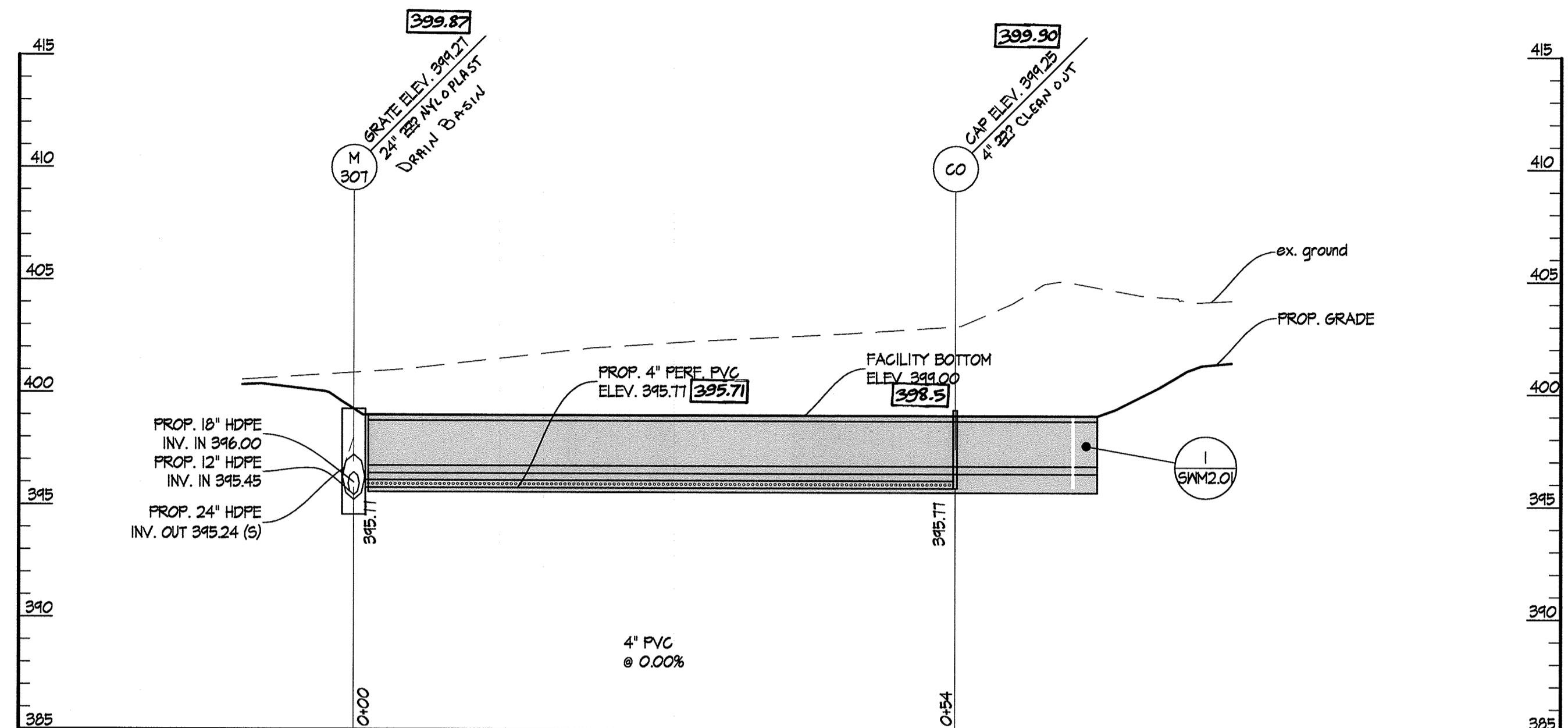
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651 2 / 0521
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO. ELECTION DISTRICT	CENSUS TRACT
14061	1	NT	37 16	606608
WATER CODE		SEWER CODE		
550		-		







**1 MICRO-BIORETENTION #7 PLAN**  
SCALE: 1" = 10'



**2 MICRO-BIORETENTION #7 SECTION G-G**  
SCALES: HORIZ. 1" = 10'  
VERT. 1" = 5'

SEE DRAWING LI.01 FOR LEGEND

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 1	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	28' DIAMETER (600 SF)	485 SF
FINISHED GRADE SURFACE ELEVATION	401.0	400.6
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	402.00	401.83
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	391.82	397.48 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	391.6	397.2

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 2	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	80' X 11' (800 SF)	1780 SF
FINISHED GRADE SURFACE ELEVATION	391.0	396.7
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	398.00	397.80
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	398.82	393.72 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	398.6	393.3

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 3	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	80' X 11' (800 SF)	1405 SF
FINISHED GRADE SURFACE ELEVATION	391.0	396.6
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	398.00	397.97
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	398.82	393.86 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	398.6	393.2

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 4	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	80' X 11' (800 SF)	1445 SF
FINISHED GRADE SURFACE ELEVATION	391.0	396.6
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	398.00	397.67
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	398.82	393.53 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	398.6	393.2

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 5	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	100' X (6' to 35') (500 SF)	1510 SF
FINISHED GRADE SURFACE ELEVATION	394.5	393.8
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	395.50	394.95
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	391.82	390.86 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	391.1	390.4

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 6	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	27'-4" X 11'-4" (1600 SF)	1568 SF
FINISHED GRADE SURFACE ELEVATION	391.0	398.9
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	400.00	399.89
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	398.82	395.79 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	398.6	395.5

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PROJECT NAME: LONG REACH TENNIS CENTER		
AS-BUILT DATA FOR MICRO-BIORETENTION *TO BE COMPLETED BY THE CONTRACTOR'S CERTIFYING ENGINEER		
TYPE OF FACILITY:	DESIGN	*AS-BUILT
TYPE OF FACILITY: MICRO-BIORETENTION	ESD ID: 7	
FEATURE	DESIGN	*AS-BUILT
FILTER BED DIMENSIONS & AREA	27'-4" X 11'-4" (1600 SF)	1512 SF
FINISHED GRADE SURFACE ELEVATION	391.0	398.5
THICKNESS OF FILTER MEDIA	24"	24"
GRATE ELEVATION	400.00	399.87
OUTLET PIPE (ANDERDRAIN) SIZE/INVERT ELEVATION	398.82	395.71 (4")
PLANTINGS	(SEE LANDSCAPE PLANS)	
RECHARGE STORAGE BOTTOM ELEVATION	398.6	395.1

DATE AS-BUILT ACCEPTED BY COUNTY: \_\_\_\_\_

PLANTING SCHEDULE - STORMWATER MANAGEMENT FACILITIES ONLY					
QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
<b>SHRUBS</b>					
60	CSF	CORNUS SERICEA 'FARROW' (ARCTIC FIRE)	ARCTIC FIRE RED-TWIG DOGWOOD	36" HT	HEAVY, 5 CANE MIN.
94	IVH	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	36" HT	HEAVY
11	IVS	ILEX VERTICILLATA 'SOUTHERN GENTLEMEN'	WINTERBERRY HOLLY	36" HT	HEAVY, 5 CANE MIN.
70	IVN	ILEX VERTICILLATA 'WINTER RED'	WINTERBERRY HOLLY	36" HT	HEAVY, 5 CANE MIN.
<b>PERENNIALS / ORNAMENTAL GRASSES</b>					
450	AHJ	AMSONIA HUBRICHII	BLUE STAR	1 QT	PLANT 24" O.C.
126	ANA	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 QT	PLANT 18" O.C.
200	DES	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL	PLANT 18" O.C.
242	EDU	EUPATORIUM DUBIUM 'LITTLE JOE'	'LITTLE JOE' PYE WEED	1 QT	PLANT 24" O.C.
1541	JEF	JUNCUS EFFUSUS	SOFT RUSH	1 QT	PLANT 18" O.C.

**AS-BUILT NOTES:**  
1. AS-BUILT DATA IS INDICATED IN BOXED INK.  
2. BIORETENTION BOTTOM ELEVATION IS AVERAGE OF TOE OF SLOPE SHOTS FOR EACH FACILITY.

**AS-BUILT CERTIFICATION**

**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THIS AS-BUILT REPRESENTS FIELD CONDITIONS BASED ON A SURVEY CONDUCTED DURING MARCH 2018. FIELD CONDITIONS INCLUDE, BUT ARE NOT LIMITED TO, SIZES, DIAMETERS, LINE AND GRADE, AND ELEVATIONS. I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23165, EXPIRATION DATE 07/15/2019.  
DATE: 07/15/2019

APPROVED: DEPARTMENT OF PLANNING & ZONING  
Director: *Walter J. J. [Signature]* 2-17-17  
DATE: 2-17-17  
Chief, Development Engineering Division: *[Signature]* 2-13-17  
DATE: 2-13-17  
Chief, Division of Land Development: *[Signature]*

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE: November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/P	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
14061	7	NT	91	16	606608
WATER CODE			SEWER CODE		
550			-		



**SITE RESOURCES**  
Incorporated  
Comprehensive Land Planning & Site Design Services  
14815 Arundelville Pike • Pikesville, Maryland 21114  
(410) 881-3388 • Fax: (410) 881-3389

**6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND**

**STORMWATER  
MANAGEMENT DETAILS**

**LONG REACH  
TENNIS CLUB**  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 96

REVISIONS:  
DD SET 02/15/2016  
60% CHECK SET 04/23/2016  
PMB SET 05/09/2016  
15% CD SET 09/15/2016

SEAL: [Professional Engineer Seal]

DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO. SWM2.14  
SHEET 41 OF 46  
SDP-16-053

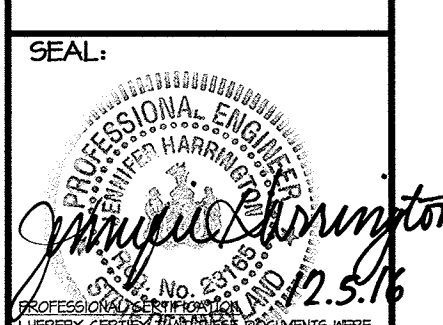


61615 Ardennan Pike • Poolesville, Maryland 21131  
(410) 883-3808 • Fax (410) 883-3800

6180 OLD DOBBIN LANE  
COLUMBIA, MARYLAND  
STORMWATER MANAGEMENT  
SOIL BORINGS  
LOT 98

LONG REACH  
TENNIS CLUB  
VILLAGE OF LONG REACH  
SECTION 3, AREA 2  
LOT 98

REVISIONS:  
DD SET 02/15/2016  
60% CHECK SET 04/25/2016  
P&MB SET 05/04/2016  
45% CD SET 04/15/2016



DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE: 07/29/16  
SRI PROJECT NO. 15034  
DRAWING NO.  
SWM3.01  
SHEET 42 OF 46  
SDP-16-053

No As-Built Information this sheet.

RECORD OF SOIL EXPLORATION SWM-4

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	8" Topsoil								
1		1	2	3	5	8	12		
2	dark brown to orange-brown, moist, medium dense to dense, silty sand (SM) with mica	2	4	5	5	10	14		
3		3	4	6	9	15	16		
4		4	4	4	5	9	16		
5	grey-brown, moist, medium dense, poorly graded sand with silt (SP-SM) and mica	5	10	8	7	15	12		
6		6	7	8	9	17	16		
7		7	8	10	12	22	16		

RECORD OF SOIL EXPLORATION SWM-3

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	8" Topsoil								
1		1	1	2	3	5	12		
2	brown, moist, soft, sandy silt (ML) with mica	2	5	5	6	11	16		
3		3	6	7	11	18	16		
4		4	6	5	5	10	18		
5	light brown to orange-brown, moist, medium dense to dense, poorly graded sand with silt (SP-SM) and mica	5	6	7	8	15	16		
6		6	10	12	15	27	16		
7		7	17	20	25	45	16		

RECORD OF SOIL EXPLORATION SWM-2

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	8" Topsoil								
1		1	2	2	3	5	14		
2	dark brown, moist, soft, sandy silt (ML) with mica	2	4	5	9	14	16		
3		3	5	7	9	16	16		
4		4	8	10	13	23	16		
5	light brown to grey-brown-black, moist, medium dense to very dense, silty sand (SM) with mica	5	10	14	21	35	16		
6		6	17	20	29	49	16		
7		7	21	28	32	60	16		

RECORD OF SOIL EXPLORATION SWM-1

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	10" Topsoil								
1		1	1	2	2	4	10		
2	brown to dark brown, moist, soft, sandy silt (ML) with mica	2	2	2	2	4	3		
3		3	4	6	10	16	18		
4		4	5	6	5	11	18		
5	light brown to grey-brown-black, moist, medium dense to dense, silty sand (SM) with mica	5	6	7	7	14	18		
6		6	12	12	17	29	16		
7		7	15	18	21	39	18		

RECORD OF SOIL EXPLORATION B-7

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	8" Topsoil								
1		1	1	2	2	4	14		
2	dark brown, moist, medium stiff, sandy silt (ML) with mica	2	3	5	5	10	16		
3		3	6	5	6	11	16		
4		4	5	5	5	10	18		
5	light brown to dark brown, moist, loose to medium dense, silty sand (SM) with mica	5	4	5	4	9	18		
6		6	5	5	6	11	18		
7		7	6	6	7	13	18		

RECORD OF SOIL EXPLORATION B-4

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	10" Topsoil								
1		1	2	4	4	8	12		
2		2	5	5	7	12	16		
3		3	7	8	10	18	16		
4		4	8	9	11	20	16		
5	light brown to dark brown, moist, loose to dense, poorly graded sand with silt (SP-SM) with mica	5	8	10	12	22	16		
6		6	10	12	15	27	18		
7		7	11	14	17	31	16		

RECORD OF SOIL EXPLORATION B-3

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	8" Topsoil								
1		1	1	2	2	4	8		
2		2	5	7	6	13	12		
3		3	7	7	5	12	18		
4		4	7	10	13	23	14		
5	dark brown to grey-brown, moist, loose to dense, poorly graded sand with silt (SP-SM) with mica	5	7	11	14	25	18		
6		6	17	15	16	31	18		
7		7	7	15	23	38	16		

RECORD OF SOIL EXPLORATION B-1

DEPTH (ft)	MATERIAL DESCRIPTION AND BORING NOTES	SAMPLE #	BLOW COUNTS			N VALUE	REC. (in)	BORING NUMBER	
			1st	2nd	3rd			0	50
0	7" Topsoil								
1		1	4	1	3	4	8		
2	brown, moist, soft, sandy silt (ML) with gravel	2	3	3	4	7	16		
3		3	7	8	12	20	14		
4	brown, moist, loose to medium dense, silty sand (SM) with mica	4	5	7	10	17	16		
5		5	7	9	9	18	18		
6	grey-brown to orange brown, moist, medium dense to dense, poorly graded sand with silt (SP-SM) with mica	6	6	14	21	35	8		
7		7	5	5	9	14	18		

APPROVED: DEPARTMENT OF PLANNING & ZONING  
Director: *Walter J. Pyle* 2-17-17  
DATE: 2-9-17  
Chief, Development Engineering Division

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE: November 17, 2016  
Chief, Division of Land Development

ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME VILLAGE OF LONG REACH		SECTION/AREA SECTION 3, AREA 2		LOT/PARCEL NO. 96 / 0651 2 / 0521	
PLAT # OR L/F 14067	GRID # 7	ZONING NT	TAX MAP NO. 37	ELECTION DISTRICT 16	CENSUS TRACT 606608
WATER CODE 550		SEWER CODE			

2:\616034-C.A. Tennis Pavilion\04-DWG\SWM3.01\_SDP-16-053.dwg: 09/19/2016 11:36:00 AM

REVISIONS:

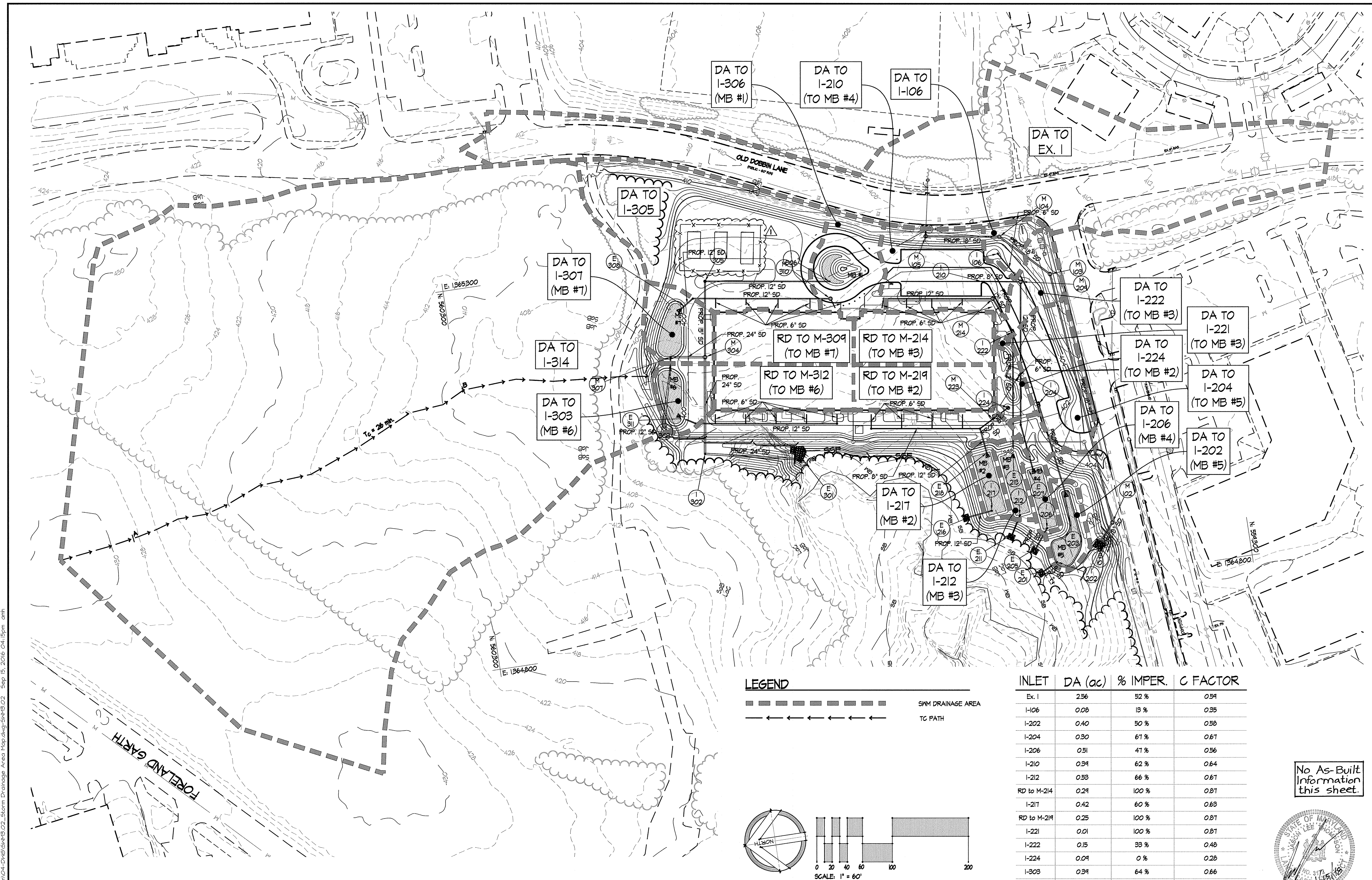
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PEMB SET	05/04/2016
45% CD SET	09/15/2016
APPRO SOLAR	
FIELD	1/5/18

SEAL:



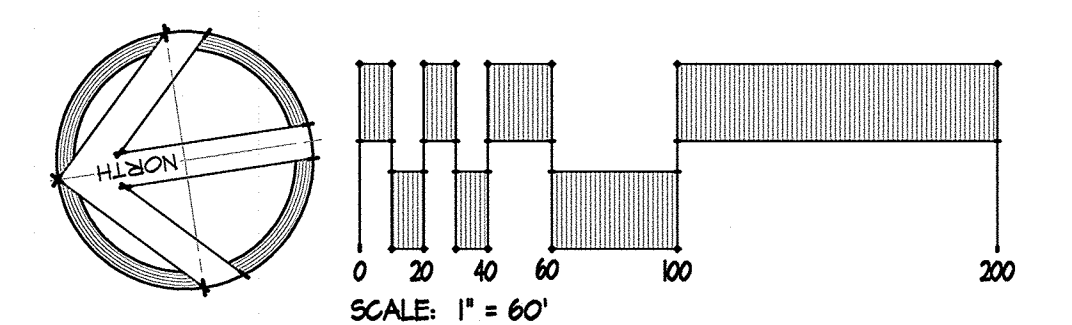
DRAWN BY: SRI  
CHECKED BY: DJS  
SCALE: AS NOTED  
DATE:  
SRI PROJECT NO. 15034  
DRAWING NO.

**SWM3.02**



**LEGEND**

	SWM DRAINAGE AREA
	TC PATH



INLET	DA (ac)	% IMPER.	C FACTOR
Ex. I	2.56	52%	0.51
I-106	0.08	13%	0.35
I-202	0.40	50%	0.58
I-204	0.30	61%	0.61
I-206	0.51	41%	0.56
I-210	0.31	62%	0.64
I-212	0.53	66%	0.61
RD to M-214	0.21	100%	0.81
I-211	0.42	60%	0.63
RD to M-219	0.25	100%	0.81
I-221	0.01	100%	0.81
I-222	0.15	33%	0.48
I-224	0.09	0%	0.28
I-303	0.31	64%	0.66
I-305	1.02	1%	0.32
I-306	0.24	44%	0.51
I-307	0.48	60%	0.64
RD to M-309	0.21	100%	0.81
RD to M-312	0.25	100%	0.81
I-314	1.63	1%	0.28

No As-Built  
Information  
this sheet.



OWNER/DEVELOPER:  
COLUMBIA ASSOCIATION  
6310 HILLSIDE COURT / SUITE 100  
COLUMBIA, MD 21046 / 410-715-3000

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Walter J. J. J.* 2-17-17  
DIRECTOR DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION 2-9-17  
*W. J. J.* DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT 2-13-17  
*W. J. J.* DATE

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE November, 17, 2016

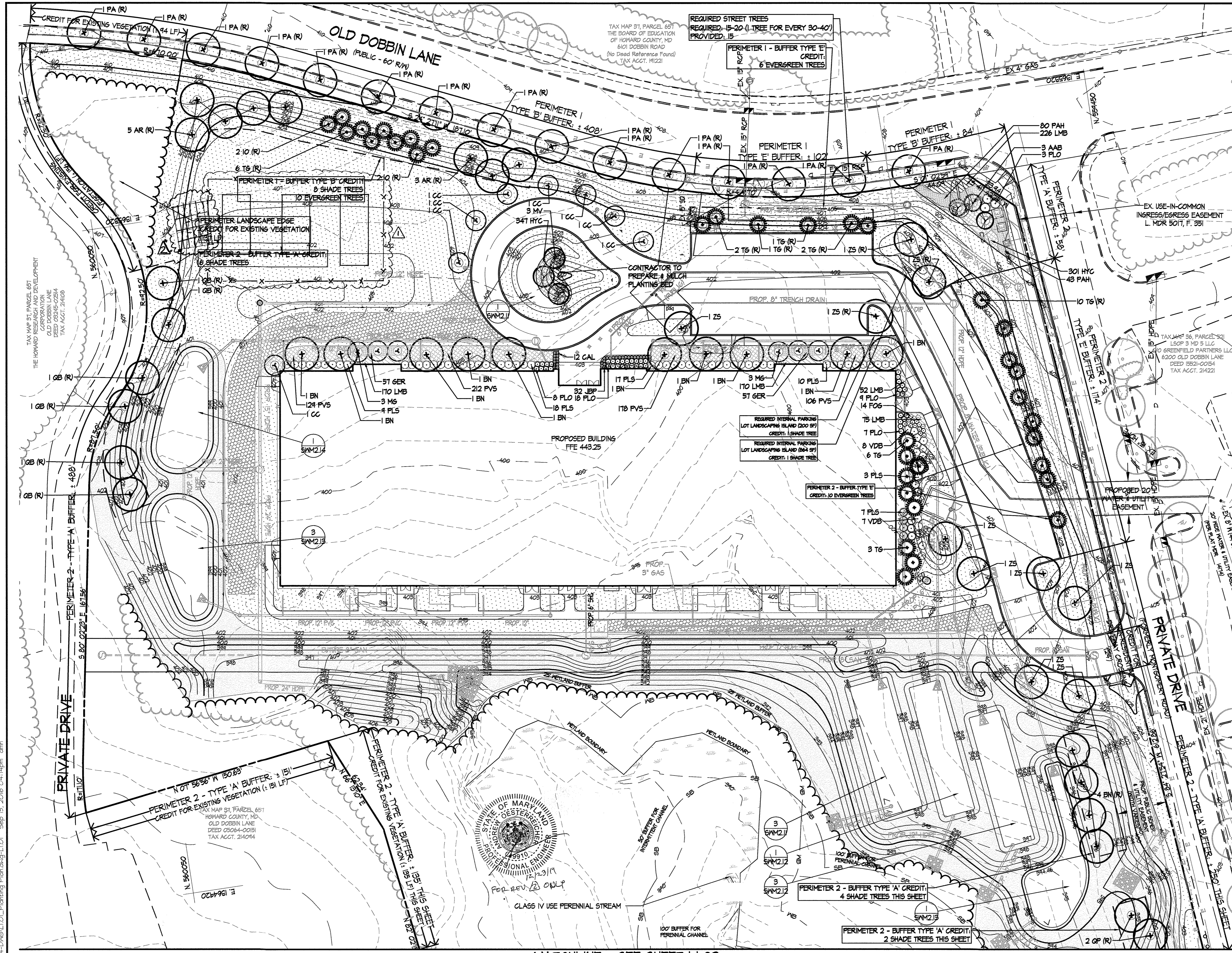
ADDRESS CHART

LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NO.
VILLAGE OF LONG REACH	SECTION 3, AREA 2	96 / 0651
PLAT # OR L/F	GRID #	ZONING
14061	1	NT
TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
37	16	606608
WATER CODE	SEWER CODE	
550		

Z:\V\15034-CA\_Tennis Pavilion\04-DWG\SW\16-02\_Storm Drainage Area Map.dwg-SWM3.02 Sep 15, 2016 04:15pm omh



**BY THE DEVELOPER:**  
 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 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.

Signature of Developer/Owner: Albert F. Edwards, Columbia Association  
 Date: 1/20/17

**NOTE:**  
 PLANTS IDENTIFIED WITH '(R)' FOLLOWING THE LABEL INDICATE COUNTY REQUIRED PLANTINGS.

**LEGEND (THIS LEGEND APPLIES TO L1.01 AND L1.02 ONLY)**

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED MOODSLINE
- EXISTING TREES
- EXISTING WALK
- EXISTING ROAD
- EXISTING CURB
- EXISTING STORM DRAIN
- EXISTING WATER
- EXISTING SANITARY SEWER
- EXISTING GAS
- EXISTING ELECTRIC
- EXISTING LIGHTING
- EXISTING BUILDING
- EXISTING WETLANDS
- WETLAND BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- PROPOSED SHADE TREE
- PROPOSED EVERGREEN TREE
- PROPOSED ORNAMENTAL TREE
- PROPOSED MULTI-STEM TREE
- PROPOSED SHRUBS
- PROPOSED GROUNDCOVER, PERENNIALS AND ORNAMENTAL GRASSES
- PROPOSED NO-MOW SEED MIX
- PROPOSED TURFGRASS SEED
- PROPOSED TURFGRASS SEED (REINFORCED)

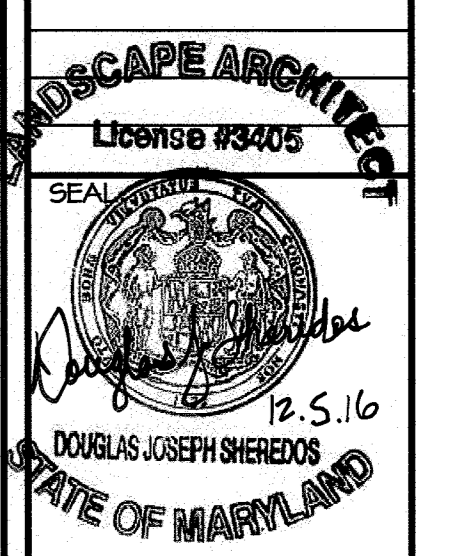


**6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND**

**LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96**

**REVISIONS:**

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/01/2016
45% CD SET	04/15/2016
ADDED SOLAR FIELD	1/15/18
ADDED SOLAR POLE MOUNT	12/11/17



**DRAWN BY:** SRI  
**CHECKED BY:** D.J.S.  
**SCALE:** AS NOTED  
**DATE:** 01/29/16  
**SRI PROJECT NO.:** 15034  
**DRAWING NO.:**

**L1.01**  
 SHEET 44 OF 46  
 SDP-16-053

**APPROVED:** DEPARTMENT OF PLANNING & ZONING  
 Director: [Signature] DATE: 2-17-17  
 Chief, Development Engineering Division: [Signature] DATE: 2-9-17  
 Chief, Division of Land Development: [Signature] DATE: 2-13-17

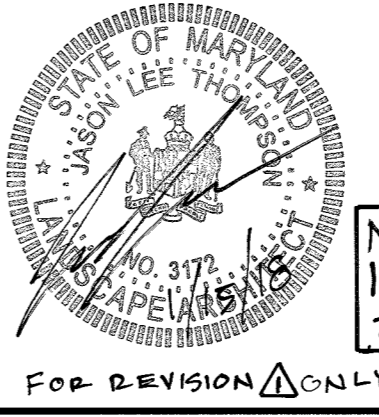
**APPROVED:** PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

**ADDRESS CHART**

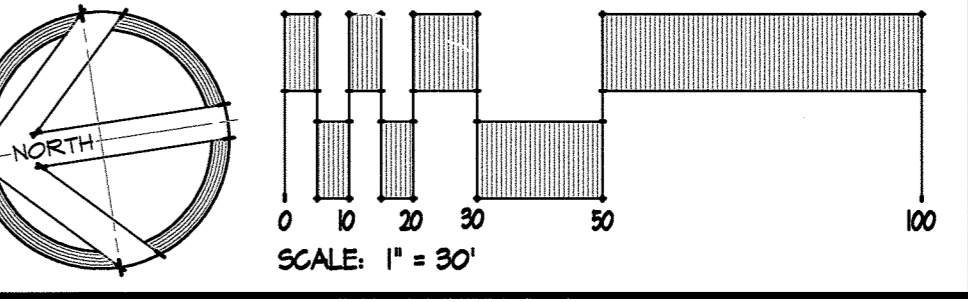
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

**PERMIT INFORMATION CHART**

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
FLAT # OR L/F	GRID #	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT	
14067	7	31	16	606608	
MATER CODE		SEWER CODE			
550					

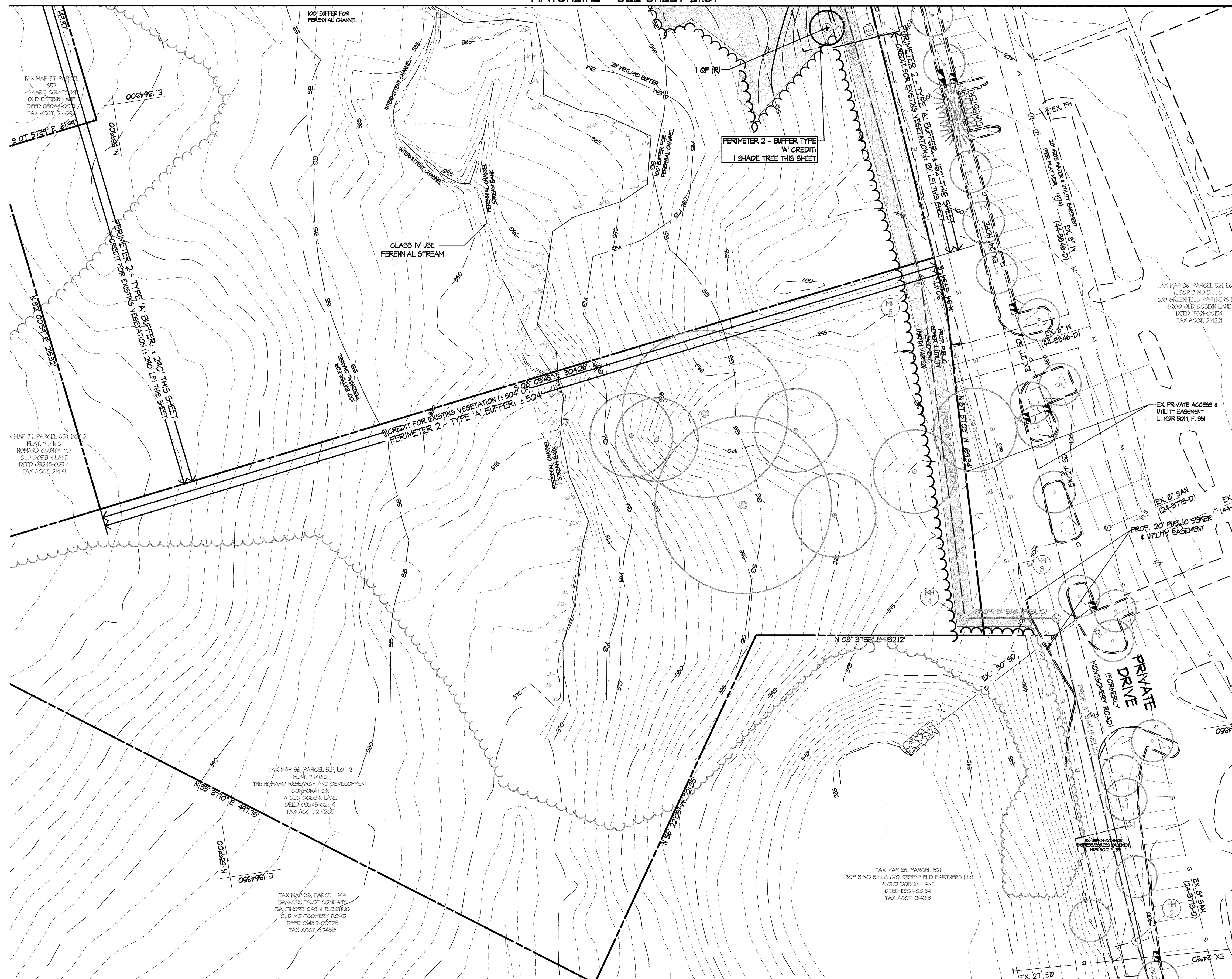


No As-Built Information this sheet.



Z:\150528-C4\_Tennis\_Facility\04-DWG\11-01-Planting\_Plan.dwg - L1.01 Sep 15, 2016 04:14pm .amx

MATCHLINE - SEE SHEET LI.01



BY THE DEVELOPER:  
 "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 Landscape Manual. 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."  
 Signature of Developer/Owner: *Albert F. Edwards*  
 Date: 1.20.2017  
 Albert F. Edwards, Columbia Association

SEE DRAWING LI.01 FOR LEGEND  
 NOTE:  
 PLANTS IDENTIFIED WITH 'R' FOLLOWING THE LABEL INDICATE COUNTY REQUIRED PLANTINGS.

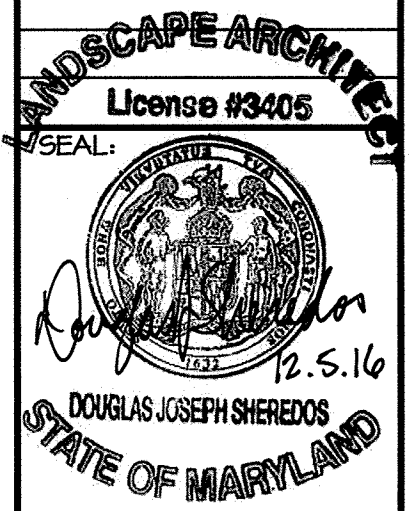


6180 OLD DOBBIN LANE  
 COLUMBIA, MARYLAND  
 PLANTING PLAN

LONG REACH  
 TENNIS CLUB  
 VILLAGE OF LONG REACH  
 SECTION 3, AREA 2  
 LOT 96

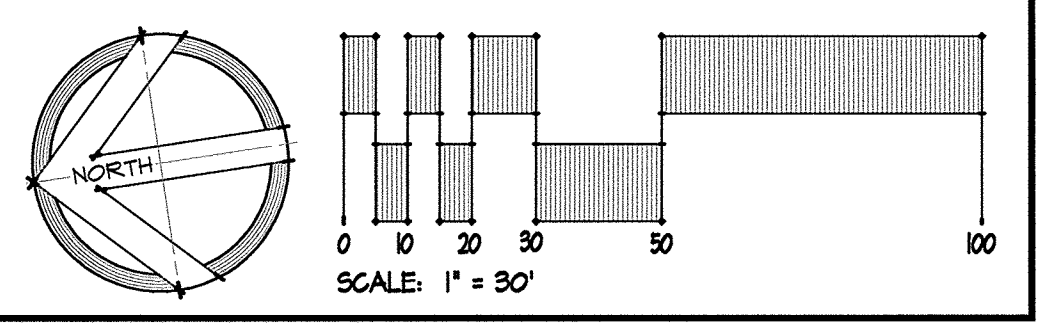
REVISIONS:

DD SET	02/15/2016
60% CHECK SET	04/25/2016
PEMB SET	05/04/2016
45% CD SET	04/15/2016



DRAWN BY: SRI  
 CHECKED BY: DJS  
 SCALE: AS NOTED  
 DATE: 07/29/16  
 SRI PROJECT NO. 15034  
 DRAWING NO.

No As-Built Information this sheet.



Z:\1515034-C.A. Tennis Pavilion\04-DWG\LI.02\_Planting\_Plan.dwg-LI.02\_Sep.15.2016.04:11pm.amh

APPROVED: DEPARTMENT OF PLANNING & ZONING  
*Walter J. J. J.* 2-17-17  
 DIRECTOR DATE  
 Chief Development Engineering Division 2-9-17  
 DATE  
 Chief, Division of Land Development 2-13-17  
 DATE

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE: November 17, 2016

ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
LOT 96 / PARCEL 0651	6180 OLD DOBBIN LANE, COLUMBIA, MD 21045
LOT 2 / PARCEL 0521	OLD DOBBIN LANE, COLUMBIA, MD 21045

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.	
VILLAGE OF LONG REACH		SECTION 3, AREA 2		96 / 0651	
PLAT # OR L/F	GRID #	ZONING	TAX MAP NO.	ELECTION DISTRICT	CENSUS TRACT
1406T	7	NT	37	16	606608
WATER CODE			SEWER CODE		
550					

L1.02  
 SHEET 45 OF 46  
 SDP-16-053

