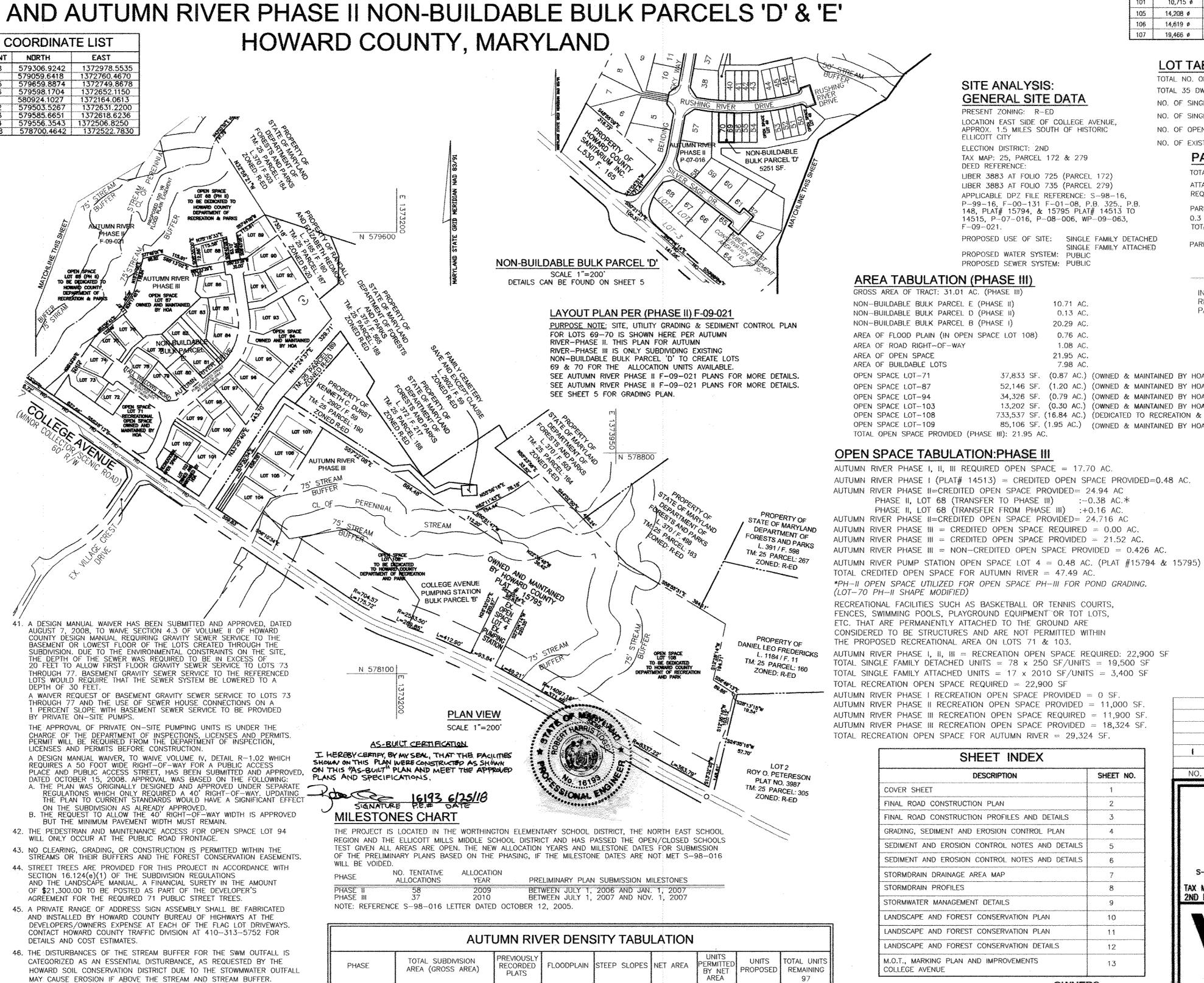
## **GENERAL NOTES** 1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK 2. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS: BGE (CONSTRUCTION SERVICES)\_\_\_\_\_ BGE (EMERGENCY). \_410-531-5533 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 4. ANY DAMAGE TO PUBLIC RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT 5. EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. LOT 6 CURRENTLY HAS A WELL AND SEPTIC SYSTEM. THE WELL AND SEPTIC SYSTEM WILL BE PROPERLY ABANDONED AND THE DWELLING WILL BE CONNECTED TO PUBLIC WATER AND SEWER WITHIN 90 DAYS OF AVAILABILITY 5. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CHIMNEYS, OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FFFT IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK 8. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: A) WIDTH - 14 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE) B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE F) STRUCTURE CLEARANCES - MINIMUM 12 FEET G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE 9. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS 10. THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PREPARED BY FISHER, COLLINS & CARTER, INC. DATED FEBRUARY 14, 2000, WHICH WAS VERIFIED AS CORRECT BY ROBERT H. VOGEL ENGINEERING, INC. IN MARCH 2010 11. THE TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY WINGS AERIAL MAPPING COMPANY, INC. PHOTOGRAPHED MARCH 1995. . WATER AND SEWER FOR THIS PROJECT WILL BY PUBLIC. WATER WILL BE PROVED THROUGH CONTRACT NO. 14-4520-D. SEWER WILL BE PROVIDED THROUGH CONTRACT# 14-4520-D. WATER SHED IS THE PATAPSCO RIVER. FACILITY LOCATED IN OPEN SPACE LOT 87. THE FACILITY IS HAZARD CLASS 'A' AND WILL BE PRIVATELY OWNED BY HOA AND SWM FACILITY TO BE JOINTLY MAINTAINED BY HOA AND HOWARD COUNTY PUBLIC WORKS. 14. STREAMS SHOWN ON-SITE ARE BASED ON A FIELD INVESTIGATION PREPARED BY CHESAPEAKE ENVIRONMENTAL DATED MARCH, 1995. AS SHOWN ON S-98-016. 15. THE 100-YR FLOODPLAIN DRAINAGE AND UTILITY EASEMENT SHOWN ON-SITE IS BASED ON A FLOODPLAIN STUDY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED OCT. 2007. 16. FOREST STAND DELINEATION PLAN PREPARED BY CHESAPEAKE ENVIRONMENTAL AND APPROVED 1999 UNDER P-99-16., DATED JUNE 2004. (FOR LOTS 1, 2, 3 & BULK PARCEL 'A AND FOR OPEN SPACE LOT 4 AND BULK PARCEL 'B') 17. FOREST CONSERVATION PLAN PREPARED BY CHESAPEAKE ENVIRONMENTAL AND APPROVED ON NOVEMBER D, 1999 UNDER P-99-16. (FOR LOTS 1, 2, 3 & BULK PARCEL 'A' AND FOR OPEN SPACE LOT 4 18. THE PRIVATE EASEMENTS SHOWN HEREON ARE TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION 19 AUTUMN RIVER PHASE I: FXISTING FOREST EASEMENT COMBINED WITH FUTURE PHASE, AUTUMN RIVER PHASE II: 13.81 AC. RETENTION IN CREDITED EASEMENT 3.31 AC. RETENTION IN NON-CREDITED FASEMENT AUTUMN RIVER PHASE III: 9.42 AC. RETENTION REQUIRED. PROVED BY A FOREST BANK 'COLLEGE AVENUE PUMP STATION AUTUMN RIVER BULK 20. A TRAFFIC IMPACT ANALYSIS WAS PREPARED BY THE TRAFFIC GROUP AND APPROVED ON FEBRUARY 8, 1999 21. ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL SHALL BY COMPLIED WITH. 22. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. 23. SEDIMENT AND EROSION CONTROL IS PROVIDED FOR THIS SITE. 24. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT. 25. THE ACCOMMODATION OF AND ACCESS TO THE GRAVE SITE (OPEN SPACE 94) WAS APPROVED BY THE PLANNING BOARD ON JANUARY 27, 1999. 26. A NOISE STUDY IS NOT REQUIRED FOR THIS SUBDIVISION 27. OPEN SPACE LOT 108 OWNED AND MAINTAINED BY HOWARD COUNTY, MARYLAND DEPARTMENT OF RECREATION AND PARKS. OPEN SPACE LOT 109 TO BE OWNED AND MAINTAINED BY THE HOA. 28. EXISTING HOUSE AND SHED TO BE REMOVED FROM OPEN SPACE LOT 103 AND OPEN SPACE LOT 108. SEE PLAT #14513 & PLAT #15794. 29. THE PLANNING BOARD APPROVED THE AMENDED SKETCH PLAN (S-98-16). THE PLAN WAS SIGNED ON FEBRUARY 8, 1999 AND PB 325 WAS APPROVED ON JANUARY 14, 1999 30. LOTS 75- 77, 82-83, 88-89, 100-101, 104-107 WILL UTILIZE A USE-IN-COMMON DRIVEWAY HOWARD COUNTY STANDARD DETAIL NO. R-6.06 WILL BE UTILIZED FOR THE ENTRANCE AT THE INTERSECTION OF THE PUBLIC ROAD AND EACH USE-IN-COMMON DRIVEWAY. THE USE-IN-COMMON DRIVEWAY MAINTENANCE AGREEMENTS ARE TO BE RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND. THE MAINTENANCE AGREEMENT FOR THE USE-IN-COMMON LOTS BETWEEN LOTS 88 & 89 WAS RECORDED WITH F-09-021 REFUSE COLLECTION, SNOW REMOVAL, AND MAINTENANCE FOR LOTS 75, 76, 77, 82, 83, 100, 101, 104, 105, 106, & 107 SHALL BE PROVIDED AT THE JUNCTION OF PRIVATE USE—IN—COMMON ACCESS EASEMENT AND THE RIGHT-OF-WAY OF PROPOSED ROAD. 32. COLLEGE AVENUE IS A SCENIC ROAD, 35' WIDE FOREST BUFFER WILL BE RETAINED WHERE IT CURRENTLY EXISTS AND A TYPE B LANDSCAPE BUFFER WILL BE ADDED IN AREAS WHERE A 35' FOREST DOES NOT CURRENTLY EXIST. SPECIES TYPICALLY OCCURRING IN THE EXISTING FORESTED AREA ALONG THE ROADWAY WILL BE USED FOR THE TYPE B LANDSCAPE BUFFER. TREE PROTECTION FENCING WILL BE PROVIDED AT THE LIMITS OF DISTURBANCE WHERE GRADING IS ADJACENT TO ENVIRONMENTAL AREAS AND RETENTION FOREST CONSERVATION AREAS. THIS SUBDIVISION COMPLIES WITH THE AMENDED 4TH EDITION OF THE SUBDIVISION AND ZONING REGULATIONS, BOTH AS AMENDED BY COUNCIL BILL 75-2003. 35. THE OPEN SPACE SHOWN HEREON IS HEREBY DEDICATED TO A PROPERTY OWNERS ASSOCIATION FOR THE RESIDENTS OF THIS SUBDIVISION AND RECORDING REFERENCES OF THE ARTICLES OF INCORPORATION HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS. OPEN SPACE LOTS 71, 87, 94, AND 103 ARE TO BE OWNED AND MAINTAINED BY THE HOA. EXISTING OPEN SPACE LOT 4 (PUMPING STATION) TO BE OWNED AND MAINTAINED BY DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY 36. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE-3' LONG). A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 CF. THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL WITH 29 SHADE TREES, 115 EVERGREEN TREES/ORNAMENTAL TREES, G8 SHRUBS AND 422LF OF FENCE PROVIDED WITH LANDSCAPE SURETY IN THE AMOUNT OF 32, 210,000 WITH THE DEVELOPER'S AGREEMENT." (THE UNIT PRICES TO BE USED FOR ESTABLISHING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE ADOPTED COUNTY FEE SCHEDULE WHICH IS \$150.00 PER SMALL TREE, \$150.00 PER EVERGREEN/ORNAMENTAL TREE, \$30.00 PER SHRUB, \$10.00 PER LINEAR FEET OF FENCING). 38. TOTAL 35 UNITS ARE PROPOSED UNDER THIS PLAN. LOT 69 & LOT 70 HAVE REEN CREATED BY RE-SUBDIVIDING OF NON-BUILDABLE BULK PARCEL A-2, WHICH WILL BE INDICATED ON PHASE II PLANS. 39. THE RELOCATION OF THE AT&T CONDUITS IS REQUIRED PRICE TO COMMENCEMENT OF THE CONSTRUCTION ACTIVITIES. THE FIBER OPTIC DUCT LINE HAS BEEN FIELD LOCATED. THE EXISTING FIBER OPTIC LINE AND EASEMENT TO BE ABANDONED IN ACCORDANCE WITH RECORDED AGREEMENT. APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, DIVISION OF LAND DEVELOPMENTAL

# FINAL ROAD CONSTRUCTION PLAN AUTUMN RIVER PHASE III

LOTS 72-86, 88-93, 95-102, 104-107, OPEN SPACE LOTS 71, 87, 94, 103, 108 AND 109 CONCRETE RESUBDIVISION OF COLLEGE AVENUE PUMPING STATION BULK PARCEL 'B'

AND AUTUMN RIVER PHASE II NON-BUILDABLE BULK PARCELS 'D' & 'E'



CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.	AUTUMN RIVER DENSITY TABULATION								
6. THE DISTURBANCES OF THE STREAM BUFFER FOR THE SWM OUTFALL IS CATEGORIZED AS AN ESSENTIAL DISTURBANCE, AS REQUESTED BY THE HOWARD SOIL CONSERVATION DISTRICT DUE TO THE STOWMWATER OUTFALL MAY CAUSE EROSION IF ABOVE THE STREAM AND STREAM BUFFER.	PHASE	TOTAL SUBDIVISION AREA (GROSS AREA)	PREVIOUSLY RECORDED PLATS	FLOODPLAIN	STEEP SLOPES	NET AREA	UNITS PERMITTED BY NET AREA	UNITS PROPOSED	TOTAL UNITS REMAINING 97
I. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I AND II. IT WAS	I (F-00~131)	48.229 AC.	(# 14513)	~		-	-	02	95
DETERMINED THAT THIS PROJECT MET THE CRITERIA OUTLINED IN THE MDE STORMWATER MANAGEMENT REGULATIONS GUIDANCE FOR	и (F-09-021)	37.344 AC.	(# 14513)	0.86	5.786 AC.	30.783 AC.	62	60*	37
IMPLEMENTATION FOR ACCEPTANCE OF THE 2000 DESIGN CRITERIA AND GRANTED A WAIVER. THIS PLAN RECEIVED PRELIMINARY APPROVAL (P-08-006) ON (9/4/09) AND FINAL APPROVAL (F-10-067) ON (12/9/2010).	III (F-10-067)	10.885 AC. 20.297 AC.	(# 14513) (# 15794)	0,84	9.964 AC.	20.296 AC.	40	35**	2
THIS PLAN IS ALSO SUBJECT TO THE EXPIRATION OF THIS WAIVER UNLESS ALL STORMWATER MANAGEMENT IS CONSTRUCTED BY (MAY 4, 2017).	TOTAL	68.526 AC.		1.7	15.75 AC.	51.079 AC.	102	95	2

SKETCH PLAN S-98-016 APPROVED 95 UNITS PLUS 2 EXISTING UNITS TOTALING 97 UNITS ( LETTER DATED OCTOBER 15, 2005 )

\* PHASE II PLAN PROPOSED 58 UNITS PLUS 2 EXSITING UNITS FOR A TOTAL OF 60 UNITS

48. THE ON LOT PAIN GARDENS (M-7) FOR LOTS 88 AND 89 ARE

49. THE ON-LOT DRY WELLS (M-5) FOR LOTS 104, 105, 106, 107 ARE

SUBJECT TO PRIVATE DECLARATION COVENANTS.

QUANTITY AND ELEVATIONS.

SUBJECT TO PRIVATE DECLARATION OF COVENANTS. SEE SHEET 9 FOR

\*\* THIS PLAN PROPOSES 33 UNITS PLUS 2 UNITS FROM THE RESUBDIVISION OF PHASE II NON BUILDABLE BULK PARCEL D INTO 2 LOTS FOR A TOTAL OF 35 UNITS

**BENCHMARKS** 

HOWARD COUNTY BENCHMARK #2411 (CONC. MON.) <del>----(82)--</del> 382,56

PROPOSED SPOT ELEVATION DIRECTION OF FLOW EXISTING TREES TO REMAIN

EXISTING SPOT ELEVATION

LIGHT POLES

**LEGEND** 

EXISTING CONTOUR

PROPOSED CONTOUR

AREA TABULATION (PHASE III)

GROSS AREA OF TRACT: 31.01 AC. (PHASE III)

AREA OF FLOOD PLAIN (IN OPEN SPACE LOT 108)

TOTAL OPEN SPACE PROVIDED (PHASE III): 21.95 AC.

PHASE II, LOT 68 (TRANSFER TO PHASE III)

PHASE II. LOT 68 (TRANSFER FROM PHASE III) :+0.16 AC.

NON-BUILDABLE BULK PARCEL E (PHASE II)

NON-BUILDABLE BULK PARCEL D (PHASE II)

NON-BUILDABLE BULK PARCEL B (PHASE I)

AREA OF ROAD RIGHT-OF-WAY

AREA OF OPEN SPACE

OPEN SPACE LOT-71

OPEN SPACE LOT-87

OPEN SPACE LOT-94

OPEN SPACE LOT-103

OPEN SPACE LOT-108

OPEN SPACE LOT-109

AREA OF BUILDABLE LOTS

 $+82^{53}$ 

SITE ANALYSIS:

ELECTION DISTRICT: 2ND

DEED REFERENCE:

GENERAL SITE DATA

TAX MAP: 25, PARCEL 172 & 279

PROPOSED WATER SYSTEM: PUBLIC

PROPOSED SEWER SYSTEM: PUBLIC

LOCATION EAST SIDE OF COLLEGE AVENUE,

APPROX. 1.5 MILES SOUTH OF HISTORIC

LIBER 3883 AT FOLIO 725 (PARCEL 172)

LIBER 3883 AT FOLIO 735 (PARCEL 279)

APPLICABLE DPZ FILE REFERENCE: S-98-16. P-99-16, F-00-131 F-01-08, P.B. 325., P.B. 148, PLAT# 15794, & 15795 PLAT# 14513 TO

14515, P-07-016, P-08-006, WP-09-063,

0.13 AC.

20.29 AC.

1.08 AC

21,95 AC.

7.98 AC

SINGLE FAMILY ATTACHED

37,833 SF. (0.87 AC.) (OWNED & MAINTAINED BY HOA.)

52,146 SF. (1.20 AC.) (OWNED & MAINTAINED BY HOA.)

34.326 SF. (0.79 AC.) (OWNED & MAINTAINED BY HOA.)

13,202 SF. (0.30 AC.) (OWNED & MAINTAINED BY HOA.)

85,106 SF. (1.95 AC.) (OWNED & MAINTAINED BY HOA.)

HOWARD COUNTY BENCHMARK #2413 (CONC., MON.) N. 580648.90, E. 1364974.47 ELEV. = 463.77 MINIMUM LOT SIZE CHART 1.324 0 10,139 ø 1,158 ₡ 13,764 \$ 2,732 ø 14,286 ø 1,402 ∅

N. 577298.65, E. 1366075.16 ELEV. = 437.12 9,572 ♦ 8,815 # 8,519 ø 11,032 ø 12,884 Ø 9,353 ø 13,039ø 12,731 ø

ADC MAP: 4816, GIRDS: D9, E9, D10, E10, F1

.02 (LOTS 109 & 110)

LOT TABULATION:

10,715 ø

14,208 ♦

14,619 ø

TOTAL NO. OF PROPOSED LOTS - 35

1,362 #

1.169 ø

1,888 ø

2,560 ø

TOTAL 35 DWELLING UNITS FOR THIS SUBMISSION NO. OF SINGLE FAMILY DETACHED: 33

NO. OF SINGLE FAMILY ATTACHED: 2 (5251 SF)

NO. OF OPEN SPACE LOTS:

NO. OF EXISTING OPEN SPACE (LOT 4): 1

PARKING TABULATION: PHASE II

TOTAL NUMBER OF UNITS ALLOWED AND PROPOSED

TOTAL PARKING SPACES REQUIRED: = 05 SPACES

ATTACHED UNITS

REQUIRED AT 2.0 SPACES PER DU. PARKING SPACES REQUIRED: 2 SPACES PER UNIT=04 SPACES 0.3 SPACES PER UNIT FOR GUEST/OVERFLOW PARKING= 01 SPACE

PARKING SPACES PROVIDED: UNIT= 2 GARAGE/1 DRIVEWAY= 03 SPACES 2 SPACES IN GARAGE= 04 SPACES (FOR 02 UNITS) 1 SPACE ON DRIVEWAY = 02 SPACES (FOR 02 UNITS)

PARKING ON SITE = 05 SPACES TOTAL PARKING SPACES PROVIDED: = 06 SPACES IN ACCORDANCE WITH SECTIONS 133.C.1.a AND 133.D.2.a OF THE ZONING REGULATIONS, GARAGES IN ATTACHED DWELLING UNITS MUST BE USED FOR

WATERWAYS, AND 100-YEAR FLOODPLAIN

# PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT OF THE NONTIDAL WETLAND.

ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OU' 733,537 SF. (16.84 AC.) (DEDICATED TO RECREATION & PARKS) 3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE, IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE QUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLANDS OR BUFFER 5) REPAIR AND MAINTAIN ANY SERVICEARLE STRUCTURE OR FILL SO THERE S NO PERMANENT LOSS OF NONTIDAL WETLANDS IN EXCESS OF NONTIDAL WETLANDS LOST LINDER THE ORIGINAL STRUCTURE OR FILL 6) RECTIFY ANY NONTIDAL WETLANDS TEMPORARILY IMPACTED BY ANY ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYEGRASS (LOLIUIN MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE DIVISION. KENTUCKY 33 FESCUE SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER AREAS SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. 8) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION CRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS. 9) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM. USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR. 10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY

11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS

NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE

PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

SHEET INDEX SHEET NO. DESCRIPTION COVER SHEET FINAL ROAD CONSTRUCTION PLAN FINAL ROAD CONSTRUCTION PROFILES AND DETAILS GRADING, SEDIMENT AND EROSION CONTROL PLAN SEDIMENT AND EROSION CONTROL NOTES AND DETAILS SEDIMENT AND EROSION CONTROL NOTES AND DETAILS STORMDRAIN DRAINAGE AREA MAP STORMORAIN PROFILES STORMWATER MANAGEMENT DETAILS 9 LANDSCAPE AND FOREST CONSERVATION PLAN 10 LANDSCAPE AND FOREST CONSERVATION PLAN 11 LANDSCAPE AND FOREST CONSERVATION DETAILS 12 M.O.T., MARKING PLAN AND IMPROVEMENTS COLLEGE AVENUE

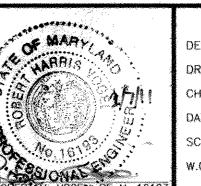
AUTUMN RIVER CORPORATION

4100 COLLEGE AVE

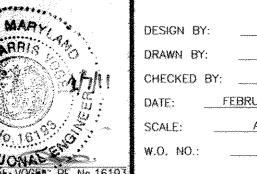
ELLICOTT CITY MD 21042-7819 21043 - 5506NO AS-BUILT INFORMATION ON THIS SHEET (410) 465-3500

AUTUMN DEVELOPMENT CORPORATION C/O LAND DESIGN & DEVELOPMENT, INC 5300 DORSEY HALL DR STE 102 ELLICOTT CITY MD 21042-7819 ATTN: MR. DONALD R. REUWER (443) 367-0422

REVISE THE POND GABION FOREBAY ELEVATION AND REMOVE RAINGARDEN 3-27-18 on Lots 104-107 AND ILLUSTRATE DRYWELLS AS APPRICED ON SDP-14-047 FINAL ROAD CONSTRUCTION PLAN **AUTUMN RIVER - PHASE III COVER SHEET** LOTS 72-86, 88-93, 95-102, 104-107 OPEN SPACE LOTS 71, 87, 94, 103, 108 AND 109 RESUBDIVISION OF COLLEGE AVENUE PUMPING STATION BULK PARCEL 'B' AND AUTUMN RIVER PHASE II NON-BUILDABLE BULK PARCELS 'D' & 'E' HOWARD COUNTY, MARYLAND 5—98—16, P—99—16, F—00—131, F—01—08, P.B.325, P.B.148, PLAT#15794 & 15795, PLAT#14513 TO 14515, P-07-016, P-08-006, WP-09-063, F-09-021. AX MAP #25 GRID 14 & 21 2ND ELECTION DISTRICT ROBERT H. VOGEL Engineering, Inc.



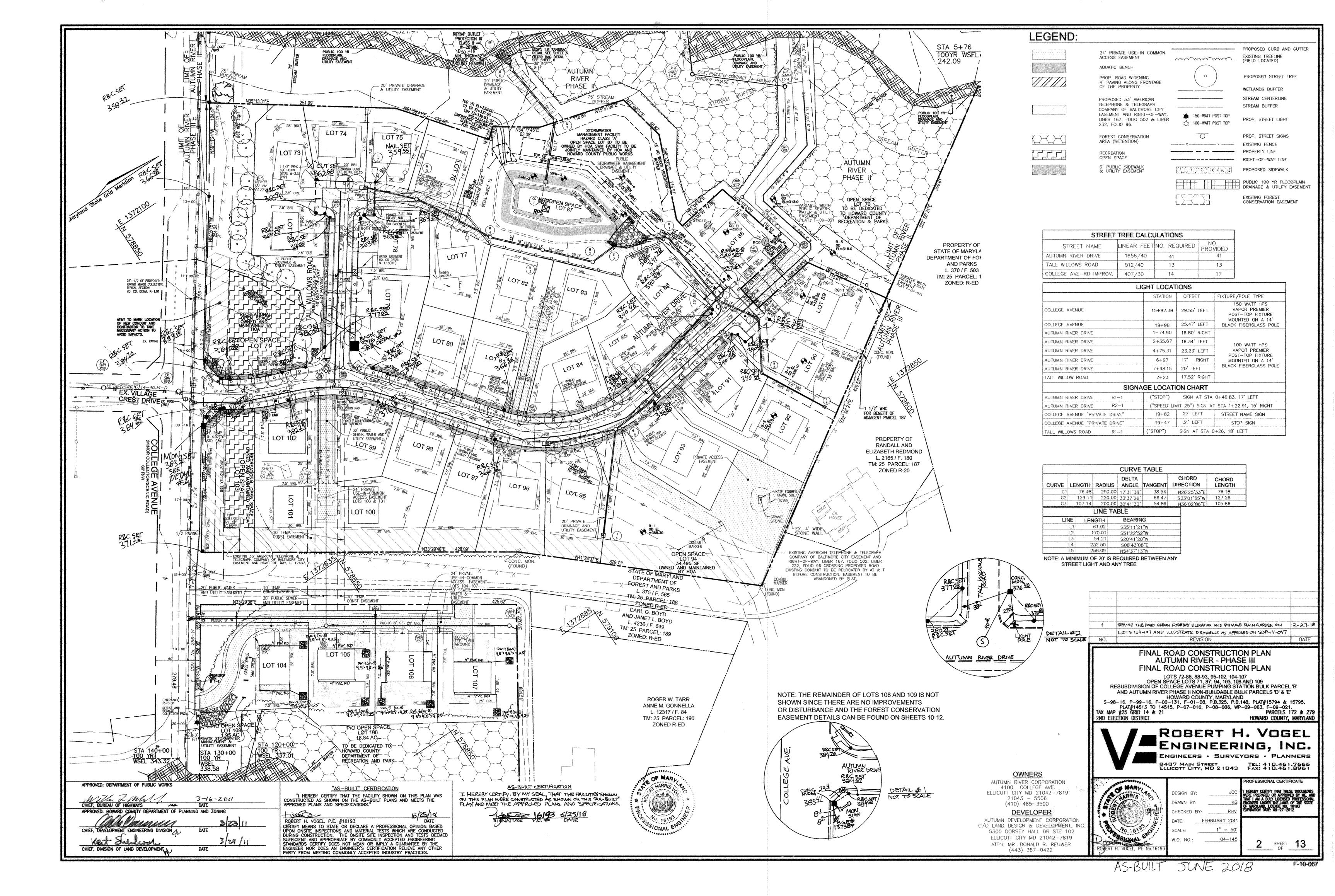
ENGINEERS · SURVEYORS · PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961 DESIGN BY

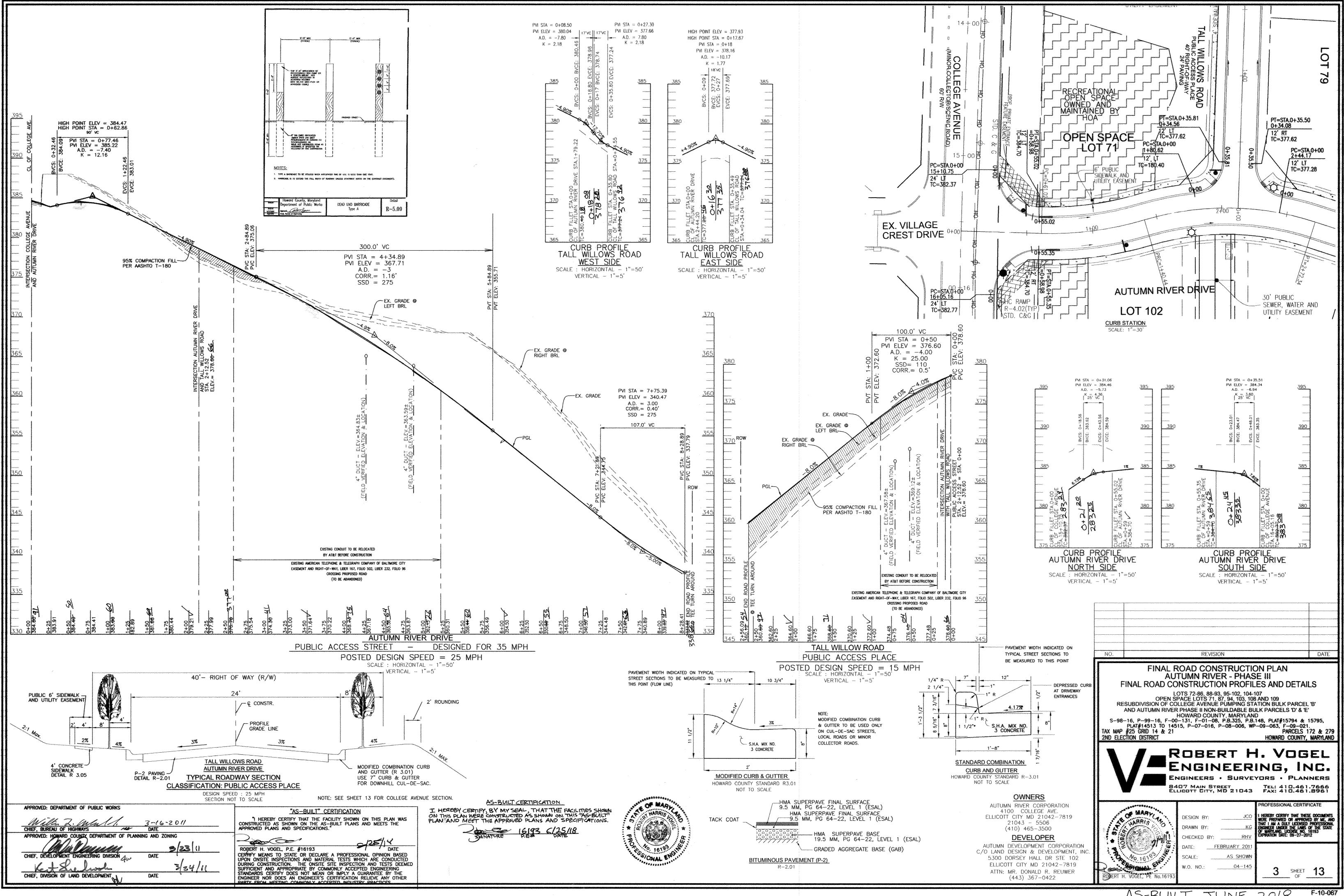


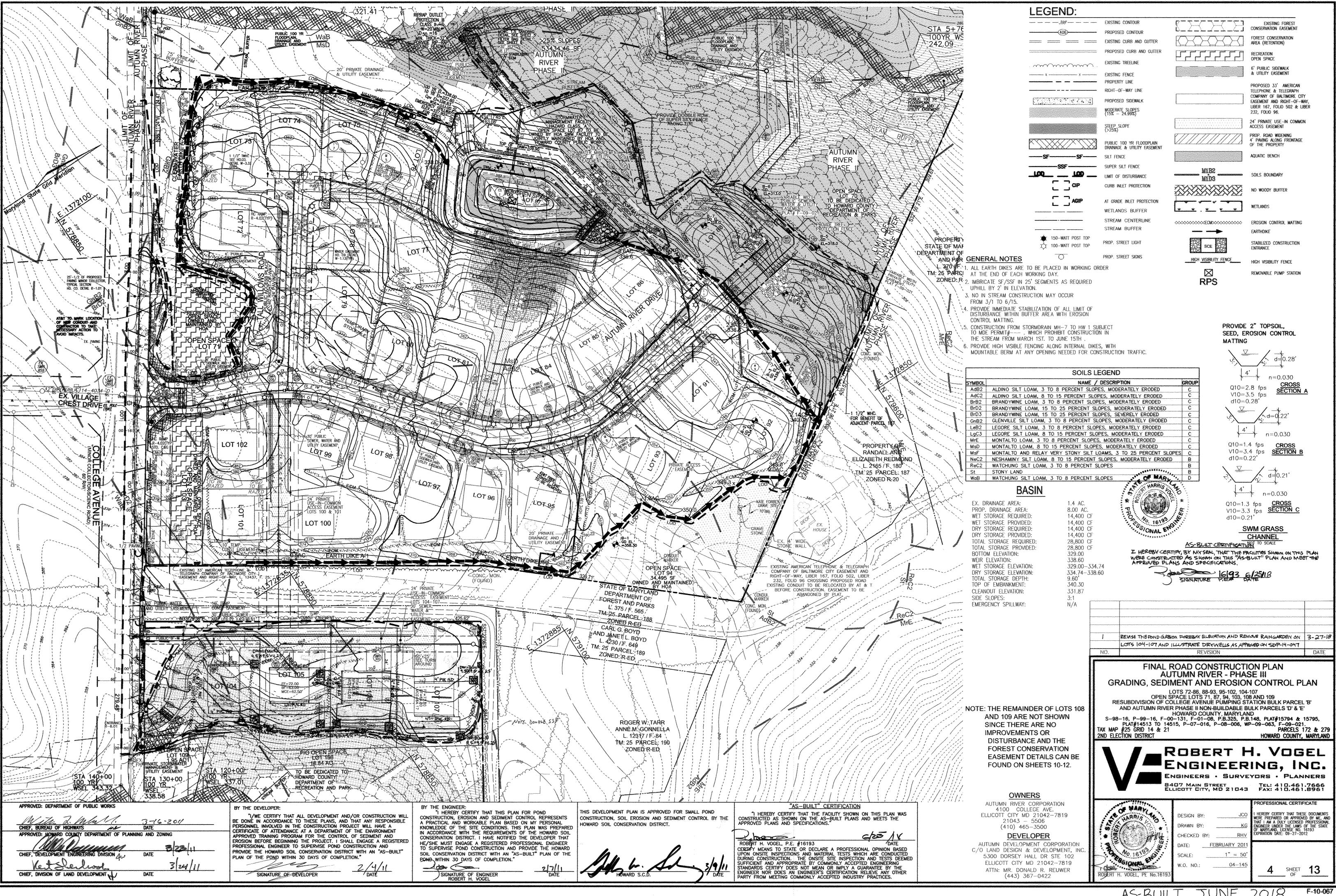
FEBRUARY 20 SHEET 13

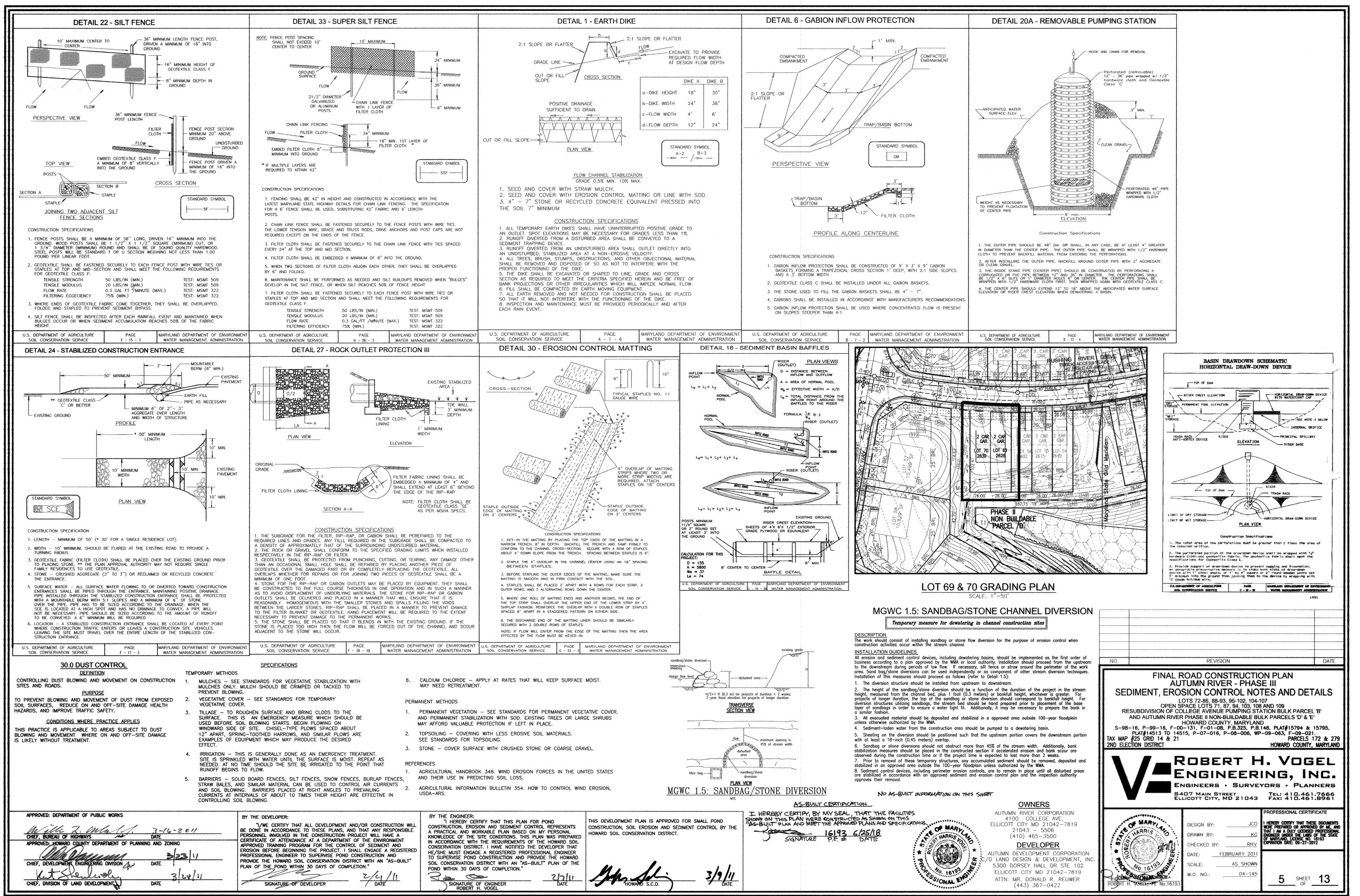
PARCELS 172 & 279

HOWARD COUNTY, MARYLAND









# MARYLAND 378

# STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

### Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the auality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be saueezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within  $\pm \sqrt{-2\%}$  of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with requirements of AASHTO M294 Type S. construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth or as shown on the plans. The side slopes shall be 1 to 1 or flotter. The core shall be compacted with construction compacted to provide adequate support. equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

# Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill (flowable fill)zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

# All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

**OPERATION AND MAINTENANCE SCHEDULE FOR** 

STORMWATER MANAGEMENT

EXTENDED DETENTION FACILITY

INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE

. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS

OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER.

3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE

OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS

REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE

2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE

DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN

PPROVED: HOWARD COUNDY, DEPARTMENT OF PLANNING AND ZONING

STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER

STORMWATER MANAGEMENT FACILITY: JOINTLY MAINTAINED

NON-ROUTINE MAINTENANCE: BY HOWARD COUNTY

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS

ROUTINE MAINTENANCE: BY H.O.A.

Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coating shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bonds or flonges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

3-16-2011

### Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip agryanized bolts

at any construction site. Given the unique conditions at any particular construction site, any or all of the practices may apply. Regardless of the applicability of the practices listed herein, operators are required to may be used for connections. The pH of the surrounding soils shall be between 4 and 9. use acceptable procedures for maintenance and dewatering. In all cases, every effort shall be made to eliminate sediment pollution associated with dewatering 2. Coupling, bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as Designers shall specify the preferred procedures for dewatering on plans. In particular, designers should pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least identify procedures for dewatering sediment traps and basins prior to elimination of the last sediment control facility on the site or prior to conversion of sediment control facilities to stormwater management 24 mils in thickness

3. Connections – All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be rerolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell negorene gasket; Pre- Punched to the flange bolt circle sandwich between salacent flanges; a 12 inch wide standard lap type band with 12 inch wide by 3/8 inch thickclosedcell circularneoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum. of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead

4. Bedding — The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support

5. Backfilling shall conform to "Structure Backfill.

6. Other details (anti-seep callars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe: 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser. 4. Backfilling shall conform to "Structure Backfill.

5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

Plastic Pipe - The following criteria shall apply for plastic pipe:

Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" -10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft,

Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3

Rock riprop shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction Materials, Section 311.

Geotexile shall be placed under all riprap and shall meet requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

POND BOTTOM SOIL CONDITIONS If broken rock fragments are encountered at finished pond bottom under cut a minimum of 12" below basin grade and to a horizontal distance of at least 18" beyond each edge of the broken rock and backfill with fine-grained ML or CL soils compacted to a firm condition. IT IS FUNCTIONING PROPERLY.

2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM This procedure should be performed under the supervision of the project Geotechnical Engineer.

# OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL

E DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE

EROSION BEFORE BEGINNING THE PROJECT, I SHALL ENGAGE A REGISTERED

PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT"

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

PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND

- ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
- 2. IMBRICATE SF/SSF IN 25' SEGMENTS AS REQUIRED UPHILL BY 2' IN ELEVATION.
- 3. IMBRICATE SF/SSF IN 25' SEGMENTS AS REQUIRED NO IN STREAM CONSTRUCTION MAY OCCUR FROM 3/1 TO 6/15.
- PROVIDE IMMEDIATE STABILIZATION OF ALL LIMIT OF DISTURBANCE WITHIN BUFFER AREA WITH EROSION CONTROL MATTING.

DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLIED

A. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES SLOPES AND ALL SLOPES GREATER THAN 3:1.

B. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.

HIS DEVELOPMENT PLAN IS APPROVED FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

7. SITE ANALYSIS

**DEWATERING STRATEGY** 

A Dewatering of Excavated Areas

Dewatering of Sediment Traps and Basins

Removable pumping station.

TO AVOID IMPACTS.

Approved Practices for Dewatering of Excavated Areas

Approved Practices for Dewatering of Traps and Basins

When this hoppens the pumping operation will cease. SEQUENCE OF CONSTRUCTION

HOURS BEFORE STARTING ANY WORK.

ADDITIONAL AROUND BURIAL SITE.

AND CLEAR AND GRUB SITE.

AND STORM DRAIN SYSTEM.

AND POND PLANTINGS.

SPECIFICATIONS.

THE STREAM FROM MARCH 1ST TO JUNE 15TH.

3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.

practices follow:

or from sediment traps or basins on construction sites. Standards and specifications for dewatering

facilities. Récommended procédures shall be consistent with these standards. Atypical site conditions may

Designers shall specify on plans, and in sequences of construction included on plans, practices for

dewatering of excavated areas. Plan reviewers shall check to see that procedures for dewatering

through a sediment control device prior to entering receiving waters. Sediment control devices

Pumping of water to an existing sediment basin or trap in which the entire volume of water from

the area to be dewatered can be contained without discharge to receiving waters. Pumping of water to an existing sediment basin or trap such that the entire volume of water from

the area to be dewatered can be managed without exceeding the design outflow from the sedimen

Removable Pumping Station? Standards and specifications for Removable Pumping Station are

B. In all cases, water removed from excavated areas shall be discharged such that it shall pass

include sediment traps and basins, in addition to the practices in this section.

. Use of a Sump Pit: Standards and specifications for a sump pit are on Detail 208.

Sediment Tank: Standards and specifications for a sump pit are on Detail 21.

that it passes through a sediment control device prior to entering receiving waters.

\*CONSTRUCTION FROM STORMDRAIN MH-7 TO HW 1 SUBJECT

OF INSPECTIONS AND PERMITS (313-1880) AT LEAST 24

AT&T CONDUIT RELOCATION TO BE COMPLETED PRIOR TO

COMMENCEMENT OF WORK, AT&T TO MARK LOCATION OF

4. INSTALL TREE PROTECTION FENCE AS SHOWN ON PLAN AND

CONSTRUCT SEDIMENT BASIN\*AND BEGIN MASS GRADING OF

7. WITH SITE MASS GRADED INSTALL STORM DRAIN WATER, SEWER

8. WITH ROAD GRADED TO SUB-BASE BEGIN CURB AND GUTTER

FINAL ROAD PAVING COMPLETE, STABILIZE ANY REMAINING.

10. INSTALL PERMITER LANDCSAPING AS WELL AS STREET TREES

11. WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, CONVERT 10 DAYS

12. REMOVE ALL NEW AND OLD JUNK, TRASH, DEBRIS AND OTHER 5 DAYS

13. PROVIDE COPY OF THE AS-BUILT APPROVAL LETTER FROM THE 10 DAYS

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPT

STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY

4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY

ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL

AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE

UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

12. PROTECTION SHALL BE PROVIDED AROUND THE BURIAL SITE ON LOT 94.

10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION

WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS

\* TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR

\*\* EARTHWORK QUANTITIES FOR PURPOSE OF COMPETING COUNTY FEES ONLY. NOT TO BE USED

AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED

TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT

EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING,

OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER

(B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE

PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND

SEDIMENT BASINS TO FINAL STORMWATER MANAGEMENT FACILITIES

MAN-MADE OBJECTS FROM THE ENTIRE FOREST CONSERVATION

EASEMENT, FLOODPLAIN, WETLANDS, STREAMS AND THEIR BUFFERS.

SEDIMENT CONTROL NOTES

DESIGN MANUAL, STORM DRAINAGE.

TOTAL AREA TRACT AREA

AREA TO BE ROOFED OR PAVED

BE VEGETATIVELY STABILIZED

OFFSITE WASTE/BORROW AREA LOCATION

HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

WITH AN APPROVED AND ACTIVE GRADING PERMIT

FOR ESTABLISHING CONSTRUCTION COSTS.

AREA DISTURBED

6. WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR

SITE. INSTALL EARTH DIKES AND DIRECT TO BASIN.

6. GRADE ROADS TO SUB-BASE AND APPLY DUST CONTROL

CONSTRUCTION AND ROAD PAVING. INSTALL SIDEWALKS.

9. WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, AND

DISTURBED AREAS, AND FLUSH STORM DRAIN SYSTEM.

AND REMOVE SEDIMENT CONTROL MEASURES.

HOWARD SCD, TO THE COUNTY INSPECTOR.

NEW CONDUIT AND CONTRACTOR TO TAKE NECESSARY ACTION

TO MDE PERMIT#201061636. WHICH PROHIBIT CONSTRUCTION IN

Designers shall specify on plans, and in sequences of construction included on plans, the practices for

used are included on plans. In all cases, water removed from traps and basins shall be discharged so

water is pumped the suction hose will lower and eventually encounter sediment laden water.

OBTAIN GRADING PERMIT. CONTRACTOR TO PRESENT "MDE CONSTRUCTION ACTIVITY PERMIT" TO INSPECTOR, NOTIFY HOWARD COUNTY BUREAU

5. INSTALL PERIMETER SUPER SILT FENCE AND CLEANWATER DIKES 15 DAYS

Provisions shall be made to filter water

5 DAYS

30 DAYS

20 DAYS

require innovative dewatering designs. Dewatering measures not referenced in this standard may be used with the consent of the approval authority.

"AS-BUILT" CERTIFICATION "I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

CREIN do ROBERT H. VOGEL, P.E. #16193 MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING

Dewatering refers to the act of removing and discharging water from excavated areas on construction sites PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO

DEFINITION

These standards apply to removal and discharge of water from any excavated area or sediment trap or basin PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS. C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE

# CONSTRUCTION AND MATERIAL SPECIFICATIONS TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED

PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION. Use of a Sump Pit.
Use of a floating suction hose to pump the cleaner water from the top of the pond. As the cleaner II. TOPSOIL SPECIFICATIONS — SOIL TO BE USED AS TOPSOIL

STABILIZATION SHOWN ON THE PLANS.

MUST MEET THE FOLLOWING: TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM

SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS. TOPSON SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAT 1 AND 1/2"

IL TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SLICH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY. THISTLE, OR OTHERS AS SPECIFIED. III. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR

COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT HE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES. II. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS

STAKE THROUGH CONSTRUCTION FENCE TO RESTRAIN IF SLOPE IS GREATER THAN 5%

CUT OPEN CORNER O

SAG AND CLAMP ON

# 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

- III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES: I, ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
- A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
- B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT. C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN
- 500 PARTS PER MILLION SHALL NOT BE USED. D. NO SOD OR SEED SHALL BE PLACED ON SOIL SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED RY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMMENDMENTS

SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION I-VEGETATIVE STABILIZATION METHODS AND MATERIALS.

I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE TABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

V. TOPSOIL APPLICATION

II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" 8" HIGHER IN ELEVATION.

III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" — B" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4" SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING R SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS LOOSENED OR WATER POCKETS.

IV. TOPSOIL SHALL NOT BE PLACE WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

-STAKE AT 2.5' C.C TO HOLD ON SLOPES

WATER AND SEDMENT -

HILLIS - CAPITES EXCHEEPING ASSOCIATES, IM

Astron Bro

OWNERS

4100 COLLEGE AVE

21043 ~ 5506

(410) 465-3500

DEVELOPER

AUTUMN DEVELOPMENT CORPORATION

5300 DORSEY HALL DR STE 102

ELLICOTT CITY MD 21042-7819

ATTN: MR. DONALD R. REUWER

(443) 367-0422

C/O LAND DESIGN & DEVELOPMENT, INC

AUTUMN RIVER CORPORATION

ELLICOTT CITY MD 21042-7819

# PERMANENT SEEDING NOTES

THREE INCHES OF SOIL.

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF

1) PREFERRED-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/100 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.) 2) ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMATIC LIMESTONE (92 LBS/ 1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10- FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU DICTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF SENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE .05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF DICTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED

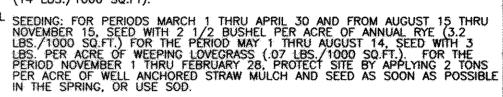
MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

# TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER



MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT AS-BUILT CERTIFICATION

I HEREBY CERTIFY BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS. - Low Son SIGNATURE 16193 6/25/18



DATE

HOWARD COUNTY, MARYLAND

ROFESSIONAL CERTIFICATE

# FILTER BAG DETAIL

Bream, militer All Chapter All Child

190m) Siz. 903

(NOT TO SCALE)

STORMWATER MANAGEMENT BORING LOGS

NO AS-BUILT INFORMATION ON THIS SHEET

Andrews House Mannest County, MC

HILLIS - CARNES ENCUNEERING ASSOCIATED, INC

LIBOR COV. ACC

Abuse to greater boson, mark. Transite to the process of the distribution of the contract of the process of the

Complete Security of the section of

Same Control Character

### MBANKMENT AND CUT-OFF TRENCH The areas of the SWM facilities should be tripped of topsoil and any other unsuitable materials from the embankment or structure grea in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade material should be proofrolled with a loaded dump truck o similar equipment in the presence of a geotechnical engineer or his representative For areas that are not accessible to a dump truck, the exposed materials should Dynamic Cone Penetrometer. Any excessively soft or loose materials identified proofrolling or penetrometer testing should be excavated to suitably firm soil, and A representative of the Geotechnical Engineer should be present to monito placement and compaction of fill for the embankment and cut off trench. In

CONSTRUCTION FENCE

accordance with NRCS-MD Code No. 378 Pond Standards/Specifications, soils considered suitable for the center of the embankment and cut off trench shall conform to Unified Soil Classification GC, SC, CL, or CH and have at least 30%

It is our professional coinion that in addition to the soil materials described above a fine-grained soil, including silt (ML-MH) with a plasticity index of 10 or more can be placed and compacted in accordance with NRCS-MD Code no. 378

REF: HILLIS-CARNES STORMWATER MANAGEMENT INFILTRATION STUDY FOR AUTUMN RIVER DATED SEPTEMBER 28, 2008

# Appendix 19 Transfer Control of C REVISION FINAL ROAD CONSTRUCTION PLAN **AUTUMN RIVER - PHASE III** LOTS 72-86, 88-93, 95-102, 104-107 OPEN SPACE LOTS 71, 87, 94, 103, 108 AND 109 HOWARD COUNTY, MARYLAND

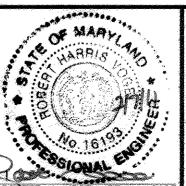
SEDIMENT, EROSION CONTROL NOTES AND DETAILS RESUBDIVISION OF COLLEGE AVENUE PUMPING STATION BULK PARCEL 'B'

AND AUTUMN RIVER PHASE II NON-BUILDABLE BULK PARCELS 'D' & 'E' S-98-16, P-99-16, F-00-131, F-01-08, P.B.325, P.B.148, PLAT#15794 & 15795, PLAT#14513 TO 14515, P-07-016, P-08-006, WP-09-063, F-09-021.

TAX MAP #25 GRID 14 & 21 PARCELS 172 & 279

ROBERT H. VOGEL

ENGINEERING, INC. ENGINEERS · SURVEYORS · PLANNERS 8407 MAIN STREET TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961 8407 MAIN STREET



2ND ELECTION DISTRICT

1 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. 16193 EXPIRATION DATE: 09-27-2012 DESIGN BY: DRAWN BY: CHECKED BY: DATE: FEBRUARY 20 SCALE: W.O. NO.:

13 SHEET

### CHIEF DEVELOPMENT ENGINEERING DIVISION (124) SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." -POND WITHIN 30 DAYS OF COMPLETION." URING CONSTRUCTION. THE ONSITE SITE INSPECTION AND TESTS DEEMED STANDARDS CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER CHIEF, DIVISION OF LAND DEVELOPMENT, SIGNATURE OF ENGINEER ROBERT H. VOGEL SIGNATURE OF DEVELOPER

"I HEREBY CERTIFY THAT THIS PLAN FOR POND

CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS

KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED

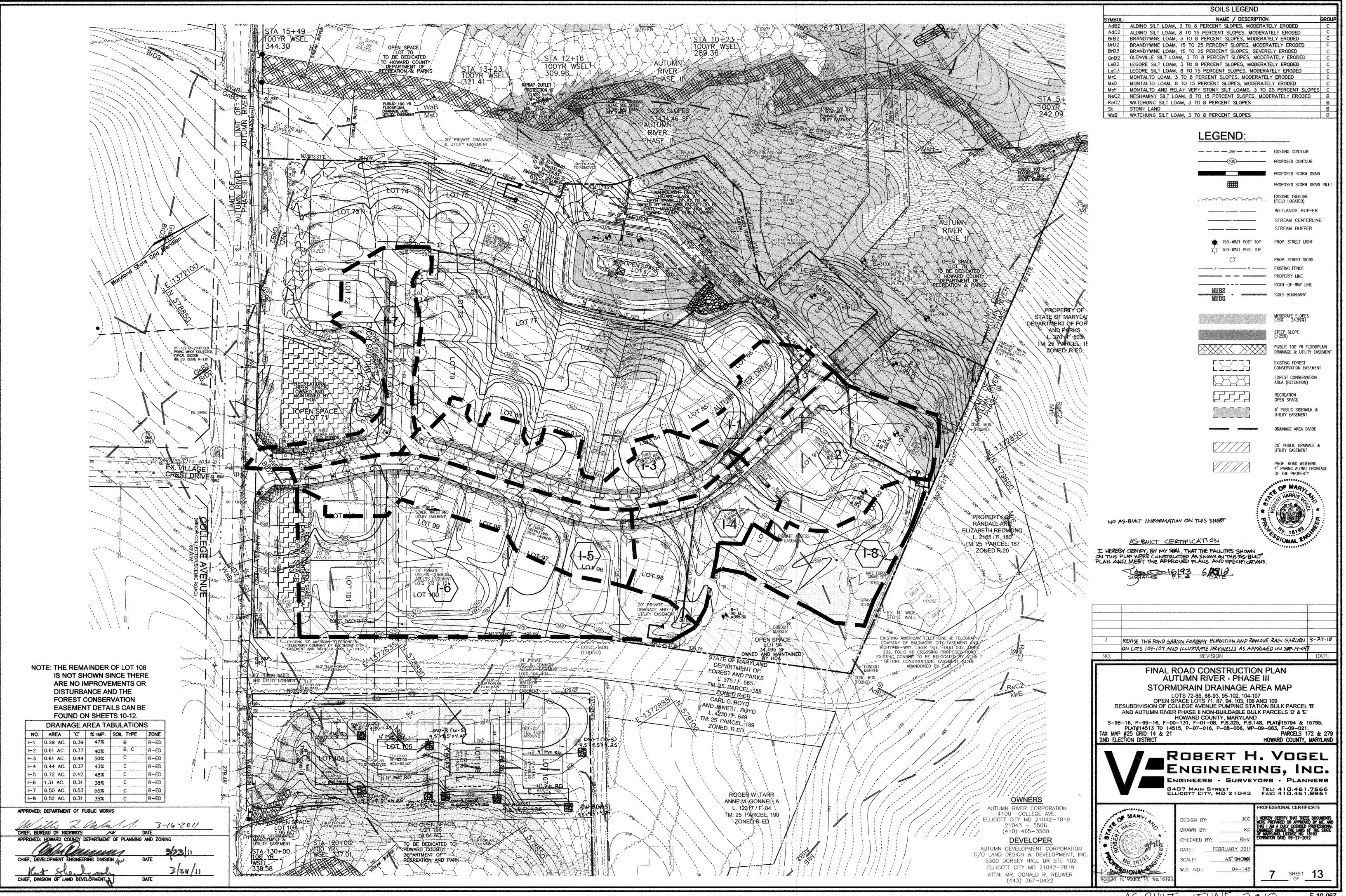
A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL

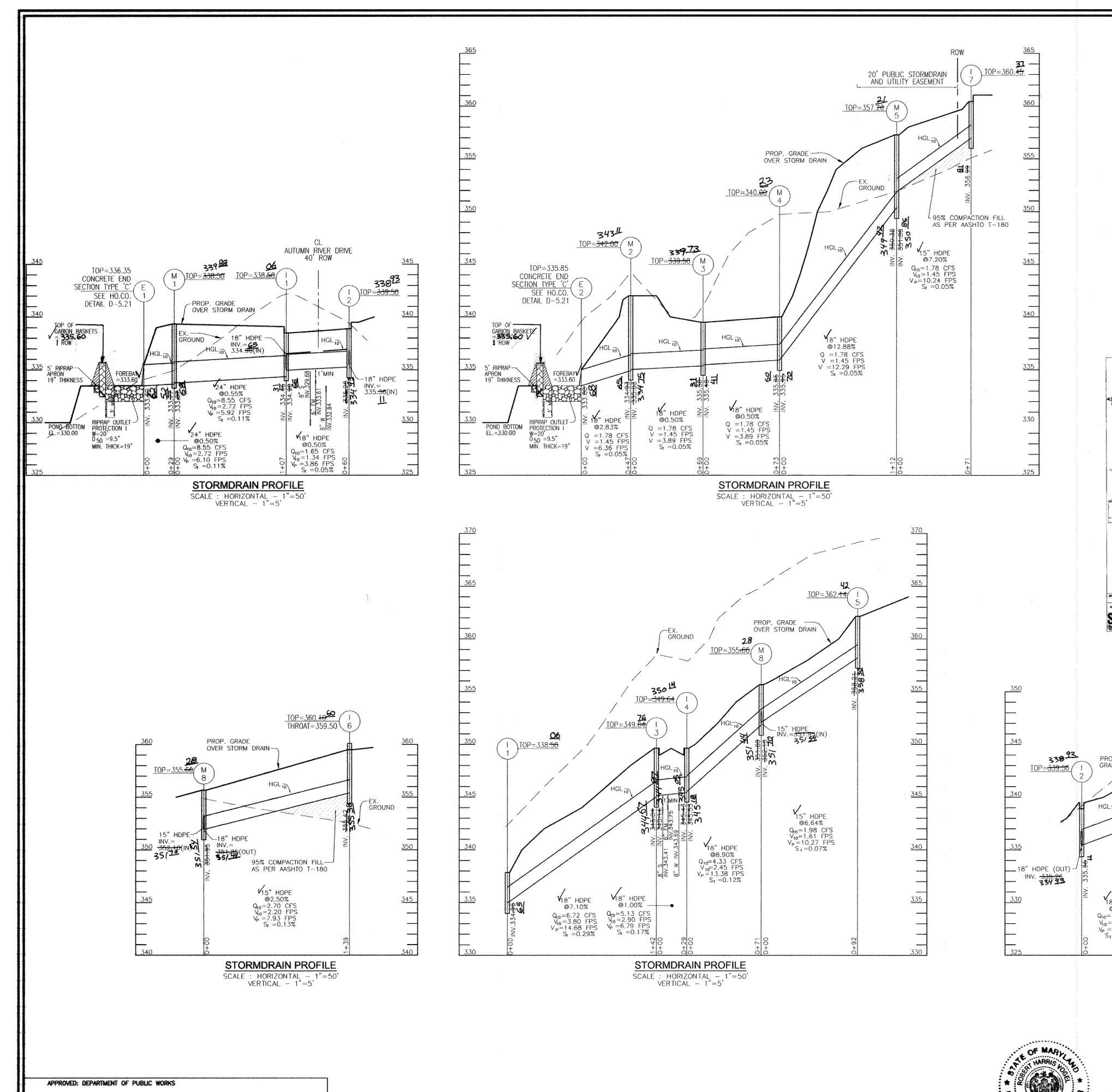
IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL

CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT

HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER

O SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD

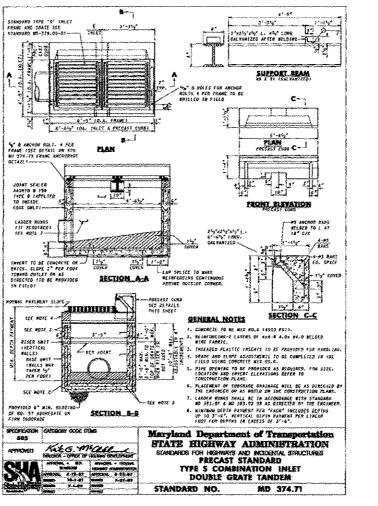


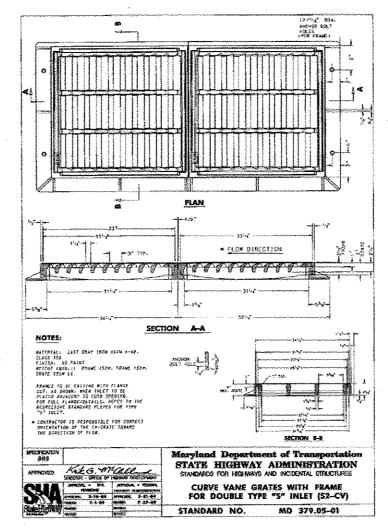


3-16-2011

CHIEF, BUREAU OF HIGHWAYS

CHIEF, DIVISION OF LAND DEVELOPMENT





NO.	TYPE	LOCATION	TOP ELEV.*	THROAT	INV. IN	INV. OUT	REMARKS	
1-1	TYPE 'DOUBLE S' INLET	AUTUMN RIVER DRIVE 8+05.56,30.12'LT.	338.50		334.96	334.46	MD 374.71 MD 379.05.0	
1-2	TYPE 'DOUBLE S' INLET	AUTUMN RIVER DRIVE 8+28.41,27.37 RT.	339.50		335.36	335.26	MD 374.71 MD 379.05.0	
1-3	TYPE 'A-10' INLET	AUTUMN RIVER DRIVE 6+62.43,12'LT.	349.64		345.14	345.04	D-4.03	
1-4	TYPE 'A-10' INLET	AUTUMN RIVER DRIVE 6+62.43,12'RT.	349.64		345.53	345.43	D-4.03	
I-5	TYPE 'A-10' INLET	AUTUMN RIVER DRIVE 5+01.65,12'RT.	362.14			358.21	D-4.03	
1-6	TYPE 'D' INLET	N. 579166.48 E. 1372804.58	360.10	359,50	~~-	355.42	D-4.10	
1~7	TYPE 'A-10' INLET	TALL WILLOWS ROAD 2+56.09,24.63'RT.	360.45		——————————————————————————————————————	356.99	MD 374.71	
1-8	TYPE 'D' INLET	N. 579510.07 E. 1372825.81	342.86	342,36		339.36	D-4.10	
M-1	STANDARD 4' PRECAST MANHOLE	N. 579459.62 E. 1372518.52	338.50		333.87	333.77	G-5.12	
M-2	STANDARD 4' PRECAST MANHOLE	N. 579356.99 E. 1372491.32	342.00		335.03	334.93	G-5.12	
M-3	STANDARD 4' PRECAST MANHOLE	N. 579309.69 E.1372440.55	339.50		335,48	335,38	G-5.12	
M-4	STANDARD 4' PRECAST MANHOLE	N. 579260.03 E. 1372387.55	340.00		335,95	335.85	G-5.12	
M-5	STANDARD 4' PRECAST MANHOLE	N. 579205.68 E. 1372290.07	357.26		351.88	350.38	G-5.12	
M-6	STANDARD 4' PRECAST MANHOLE	N. 579419.02 E. 1372305.45	317.00	,	311.20	310.08	G-5.12	
M7	STANDARD 4' PRECAST MANHOLE	N. 579408.47 E. 1372216.17	330,00		324.00	320.00	G-5.12	
M-8	STANDARD 4' PRECAST MANHOLE	N. 579258,99 E. 1372695,32	355.66		351.95 352.10	351.85	G-5.12	
M-9	STANDARD 4' PRECAST MANHOLE	N. 579464.55 E. 1372741.52	341.75		338,40	338.15	G-5.12	
E-1	24" HOPE END SECTION TYPE 'C'	N. 579435.76 E. 1372501.49	336.35		333.60	-	-	
E-2	18" HOPE END SECTION TYPE 'C'	N. 579403.73 E. 1372489.23	335.85		333.60	~	»~·	
£~3	12" TYPE 'C' ENDWALL	N. 579360,23 E. 1372371.05	334.75		cum file	333.00	D-5.21	
CS-1	CONCRETE CONTROL STRUCTURE	N. 579363.42 E. 1372367.07					SEE DETAIL SHEET 10	
HW-1	30" TYPE 'A' HEADWALL	N. 579409.82 E. 1372208.62	314.00		~;	310.00	D-5.12	

\* TOP ELEV.=TOP OF THE CURB AT CENTER OF THE INLET FOR TYPE S AND A-10 INLET, AND TOP OF THE FRAME & COVER FOR TYPE D INLET.

504 LF

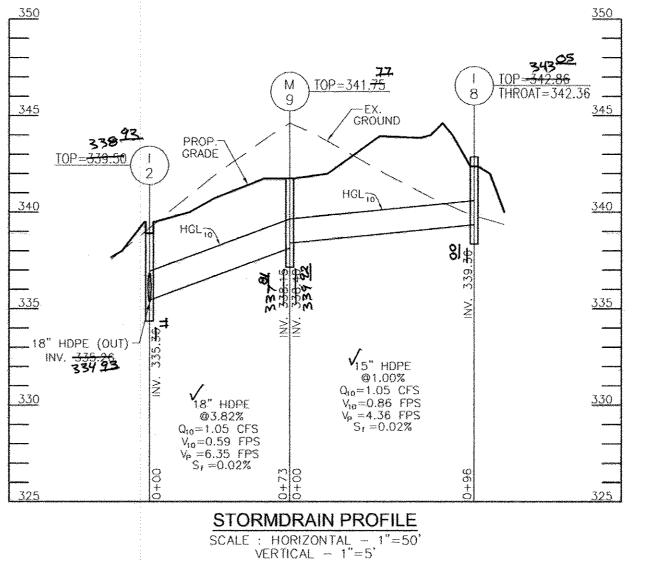
821 LF

201 LF

15" HDPE

18" HOPE

24" RCP



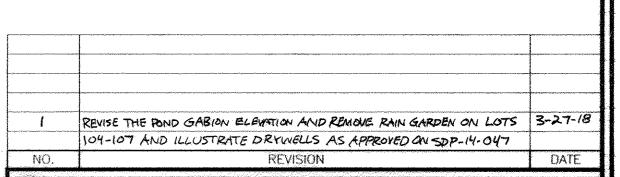


AS-BUILT CERTIFICATION I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS MASSILLT EN PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.

**OWNERS** AUTUMN RIVER CORPORATION 4100 COLLEGE AVE. COTT CITY MD 21042-7819 21043 - 5506 (410) 465-3500

DEVELOPER

AUTUMN DEVELOPMENT CORPORATION C/O LAND DESIGN & DEVELOPMENT, INC 5300 DORSEY HALL DR STE 102 ELLICOTT CITY MD 21042-7819 ATTN: MR. DONALD R. REUWER (443) 367-0422



FINAL ROAD CONSTRUCTION PLAN AUTUMN RIVER - PHASE III STORMDRAIN PROFILES

LOTS 72-86, 88-93, 95-102, 104-107 OPEN SPACE LOTS 71, 87, 94, 103, 108 AND 109 RESUBDIVISION OF COLLEGE AVENUE PUMPING STATION BULK PARCEL 'B' AND AUTUMN RIVER PHASE II NON-BUILDABLE BULK PARCELS 'D' & 'E' HOWARD COUNTY, MARYLAND

S-98-16, P-99-16, F-00-131, F-01-08, P.8.325, P.8.148, PLAT#15794 & 15795,
PLAT#14513 TO 14515, P-07-016, P-08-006, WP-09-063, F-09-021.

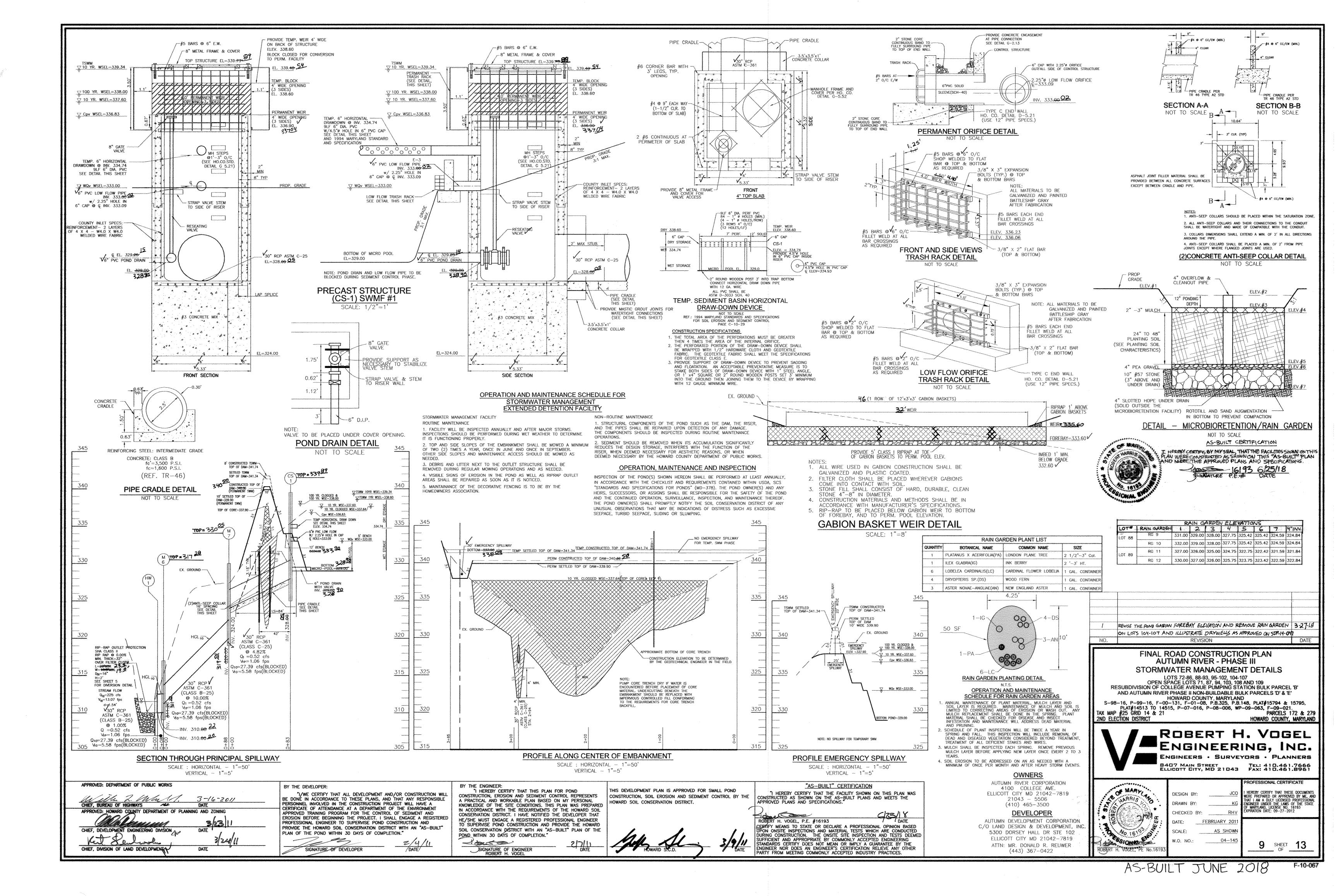
TAX MAP #25 GRID 14 & 21
PARCELS 172 & 279
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

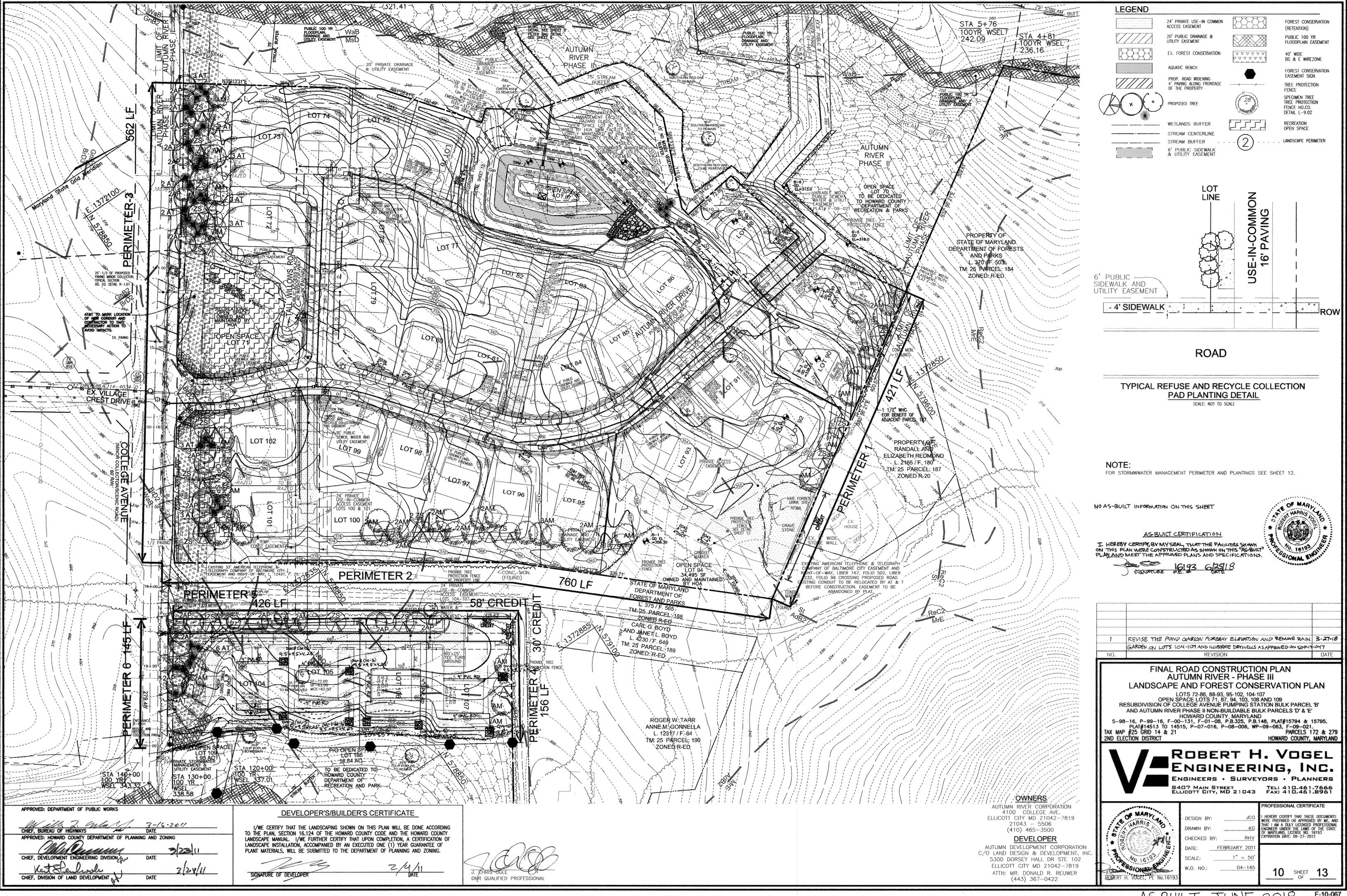
ROBERT H. VOGEL

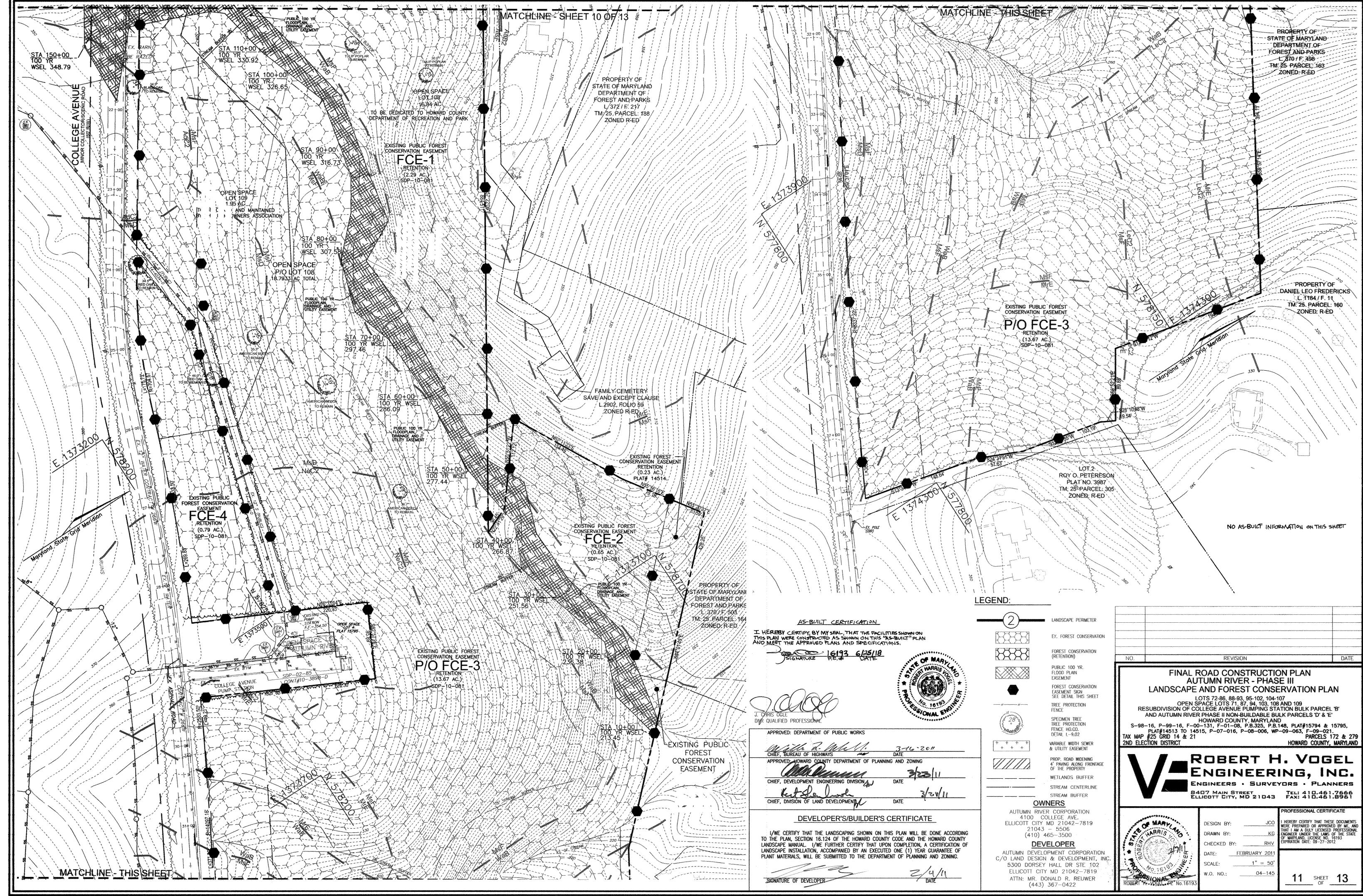


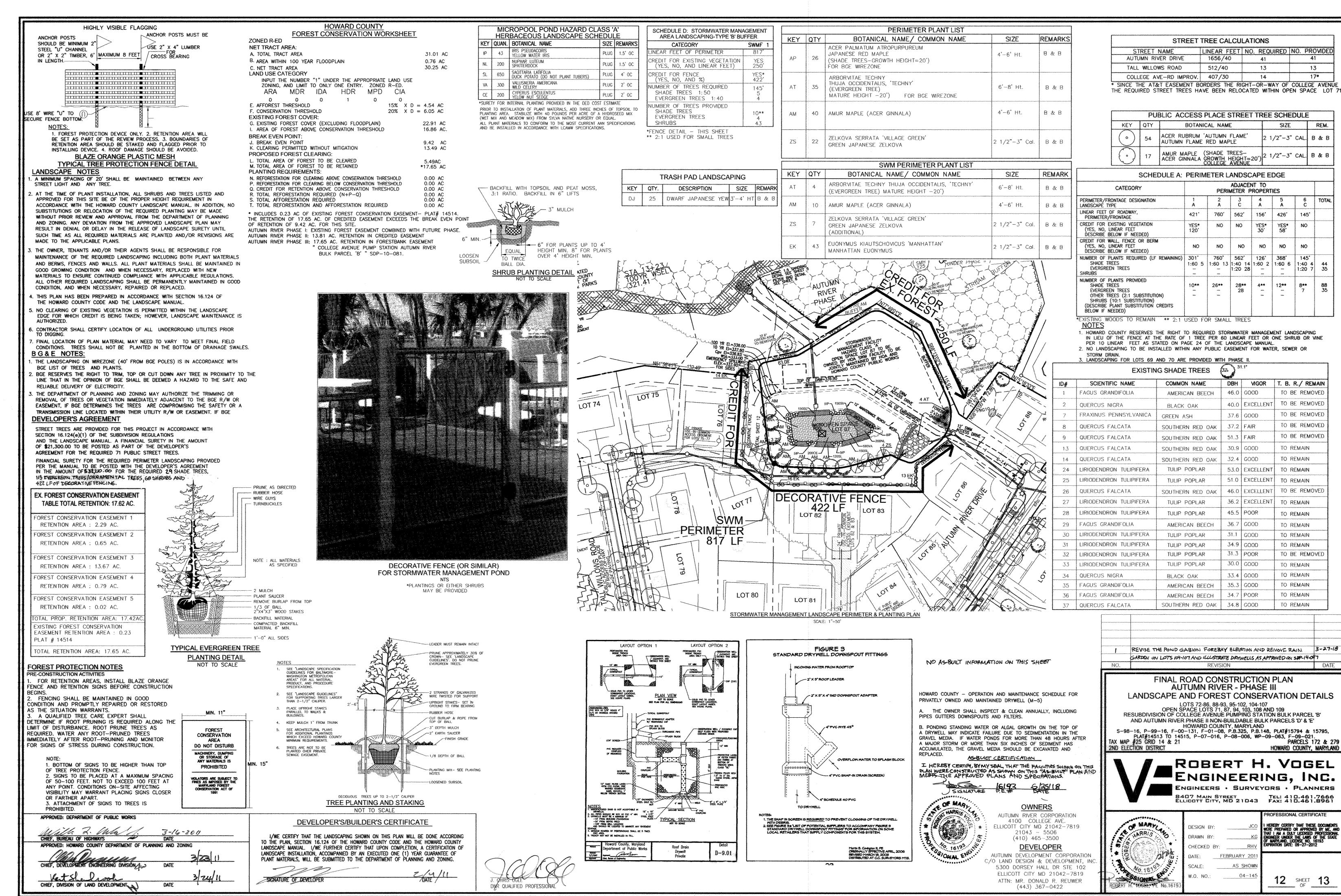


I HEREBY CERTIFY THAT THESE DOCUMENTS WE'RE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2012 SHEET 13









13

14

156'

YES\*

126

YES\*

NO

13

17\*

REM.

1/2"-3" CAL

1/2"-3" CAL. B & B

145

NO

1:20 7

TO BE REMOVED

TO BE REMOVED

TO BE REMOVED

TO BE REMOVED

TO REMAIN

HOWARD COUNTY, MARYLAND

ROFESSIONAL CERTIFICATI

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER LINDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2012

SHEET

DATE

TO BE REMOVE

13

