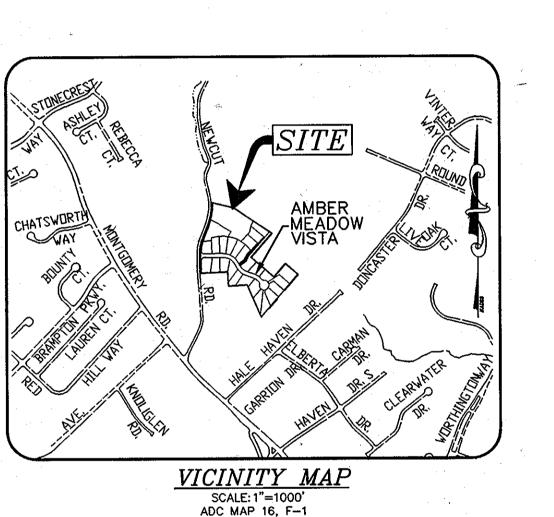
ROAD CONSTRUCTION PLANS

AMBER MEADOW

LOTS 1-23 & OPEN SPACE LOTS 24-27 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



\underline{LEGEND}

DENOTES WETLANDS FOREST CONSERVATION EASEMENT (RETENTION) FOREST CONSERVATION EASEMENT (REFORESTATION) DENOTES 4' CONCRETE SIDEWALK DENOTES LIMITS OF DISTURBANCE STABILIZED CONSTRUCTION ENTRANCE

EROSION CONTROL MATTING INLET PROTECTION DEVICE

EXISTING TREELINE PROPOSED TREELINE

REMOVABLE PUMP STATION

BY THE DEVELOPER:	7
"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 RUSSEL DICKENS PRINTED NAME OF DEVELOPER	
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 R. JACOB HIKMAT PRINTED NAME OF ENGINEER	
THESE PLANS HAVE BEEN REMEMED 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 CASS	
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	

HOWARD SOIL CONSERVATION DISTRICT APPROVED: DEPARTMENT OF PUBLIC WORKS



OWNER & DEVELOPER SUN MEADOW, L.C. 5094 DORSEY HALL DRIVE, SUITE 104 ELLICOTT CITY, MD 21042 410-720-3021 (CONTACT: RUSSELL DICKENS)

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REGULATIONS, EFFECTIVE OCTOBER 2, 2003, AND TO THE 2006 COMPREHENSIVE ZONING PLAN DATED JULY 28, 2006. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.

TAX MAP 31 PARCEL 11 BLOCK 8 DEED REFERENCE : GROSS AREA: MINIMUM LOT SIZE: NUMBER OF PROPOSED BUILDABLE LOTS: NUMBER OF OPEN SPACE LOTS: OPEN SPACE REQUIRED (30% X 12.76ac) OPEN SPACE PROVIDED =3.86 ACRES± CREDITED OPEN SPACE NON-CREDITED OPEN SPACE =0.02 ACRES± AREA OF BUILDABLE LOTS= =7.61 ACRES±

=1.29 ACRES± TOPOGRAPHIC INFORMATION IS BASED ON FIELD RUN TOPOGRAPHY PERFORMED BY MILDENBERG, BOENDER & ASSOCIATES, INC. ON OR ABOUT

E 1,369,949.47

4. BOUNDARY INFORMATION BASED ON BOUNDARY SURVEY PERFORMED BY MILDENBERG BOENDER & ASSOCIATES, INC., ON OR ABOUT JULY 2003. HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 31AB & 31DA.

N 573,984.47

E 1,372,145.08 6. BASED ON AVAILABLE COUNTY DATA, NO HISTORIC STRUCTURES OR BURIAL GROUNDS EXIST ON SITE.

7. SOILS DATA BASED ON HOWARD COUNTY SOIL SURVEY DATED 1968, SHEET 20. 8. PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER CONTRACT NUMBER #14-4327-D.

9. WETLAND STUDY PREPARED BY ECO-SCIENCE PROFESSIONAL, INC., IN AUGUST 2003.

FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENT). B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1.5" MIN. D) STRUCTURES (CULVERT/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING). E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE. F) STRUCTURE CLEARANCES - MINIMUM 12 FEET

G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.

11. ALL STRUCTURES TO BE REMOVED UNLESS OTHERWISE NOTED.

12. NO STEEP SLOPES EXIST ON SITE.

13. STORM WATER MANAGEMENT IS PRIVATELY OWNED AND MAINTAINED BY THE H.O.A AND WILL BE PROVIDED VIA: - MICRO-POOL EXTENDED DETENTION POND, STONE STORAGE TRENCH, RAIN GARDENS, SHEET FLOW TO BUFFER AND NATURAL CONSERVATION AREA. THE POND PROVIDES MANAGEMENT FOR THE WQV, 1, 2, 10, 25 AND 100 YEAR EVENTS, THE STONE TRENCH PROVIDES Rev FOR THE ENTIRE PROJECT. RAIN GARDENS ARE PROVIDED FOR THE REAR OF LOTS 9-14.

14. NO FLOODPLAINS EXIST ON SITE AS CERTIFIED BY MILDENBERG BOENDER & ASSOCS. INC. IN AUGUST 2003.

15. ADEQUATE FACILITIES ROAD TEST EVALUATION WAS PERFORMED BY MARS GROUP IN JULY 2003. APPROVED UNDER S-04-04.

16. PERIMETER AND STORMWATER MANAGEMENT LANDSCAPING SHALL BE PROVIDED AS SHOWN ON THE LANDSCAPE PLAN SHEET OF THE ROAD CONSTRUCTION DRAWINGS FOR THIS SITE. FINANCIAL SURETY FOR 73 SHADE TREES, 26 EVERGREENS AND 40 SHRUBS IN THE AMOUNT OF \$27,000.00 SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS FINAL PLAN, F-07-083.

17. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION HAVE BEEN FULFILLED BY PROVIDING 2.10 ACRES OF RETENTION, 0.79 ACRES OF ON-SITE REFORESTATION AND PAYMENT OF FEE-IN-LIEU FOR 1.28 ACRES OF REQUIRED-REFORESTATION TO THE FOREST CONSERVATION FUND IN THE AMOUNT OF \$41,817.60 (55,756.8 x .75). FINANCIAL SURETY FOR THE RETENTION OF 2.10 AC. (91,476 S.F. x .02) IN THE AMOUNT OF \$18,295.20 AND 0.79 ACRES OF REFORESTATION (34,412.40 S.F. x .50) IN THE AMOUNT OF \$17,206.20 FOR A TOTAL OF \$35,501.40 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN, F-07-083.

18. STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (OCTOBER 2006)." THE OCTOBER 2006 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

19. THE STREET LIGHT LOCATIONS AND TYPES OF LIGHTS SHOWN ON SHEETS 2 & 3 ARE AS FOLLOWS: - 150-WATT HPS VAPOR PREMIER POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE, STATION 0+20, 36' RIGHT (CORNER OF AMBER MEADOW VISTA

- 100-WATT HPS VAPOR "PREMIER" POST TOP FIXTURE ON A 14' BLACK FIBERGLASS POLE AT ROAD A, STATION 3+30, 15' LEFT, STATION 5+54, 15' RIGHT,

LP STATION 0+70, 3' BACK. 20. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST (5)

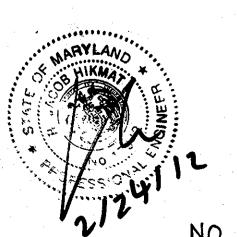
FIVE WORKING DAYS PRIOR TO THE START OF WORK. 21. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST

48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE. 22. TRAFFIC DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH 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 ASPHALT.

23. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GUAGE)-3" LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED

24. WHERE NEEDED SMOOTH OUT OLD DRIVEWAY, PLANT TREEES AND COVER WITH

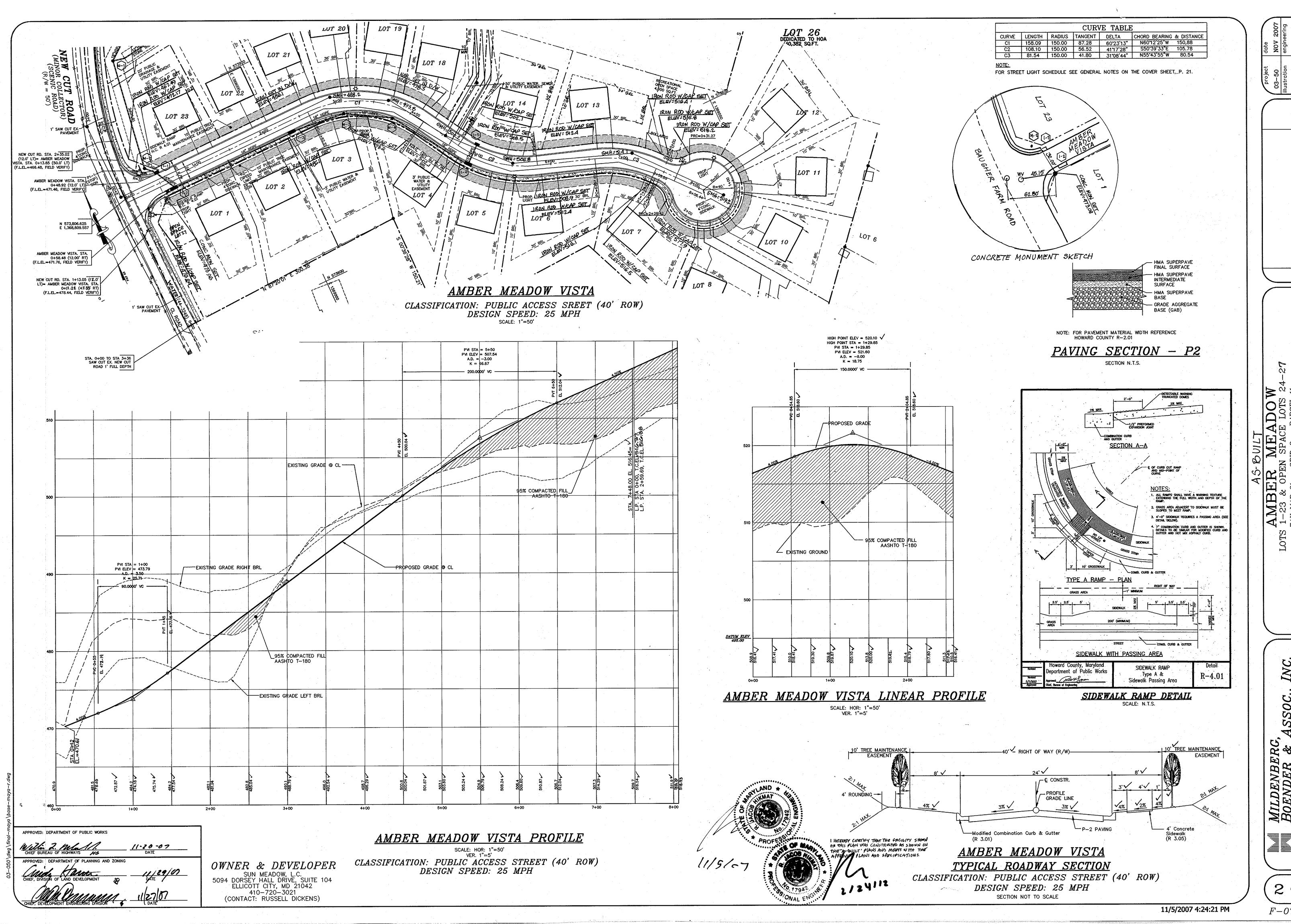


NO AS-BUILT INFORMATION REQUIRED ON THIS SHEET

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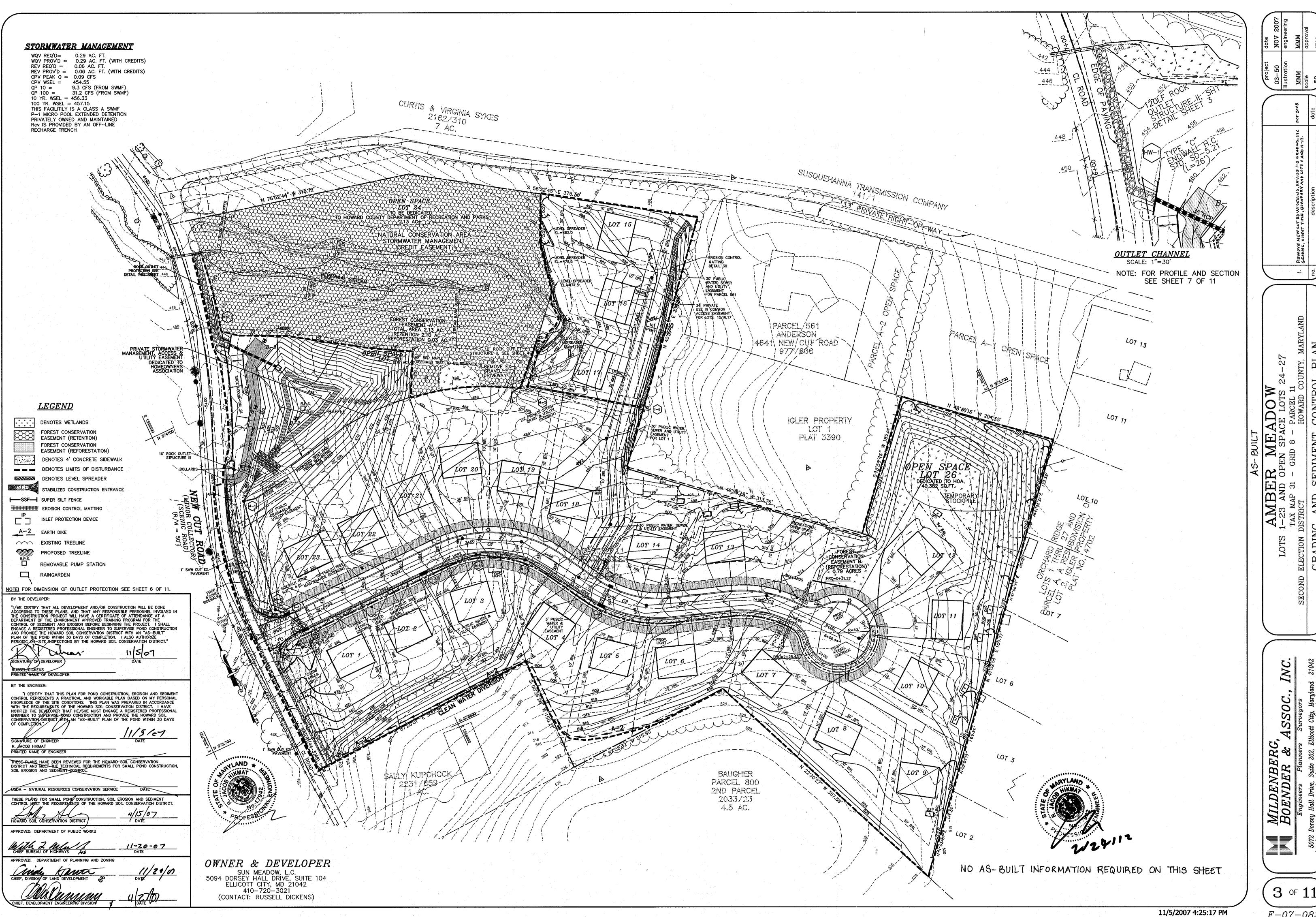
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F-07-083



F-07-083

EDIMENT

GRADI

<u>PERMANENT SEEDING NOTES</u>

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES: PREFERRED — APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.)
AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING.

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

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

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 SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2
BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3
LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER
28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE

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

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

STANDARD SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF NAY CONSTRUCTION, (313-1855).
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF
- THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION
- SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

TOTAL AREA OF SITE: ____ AREA TO BE ROOFED OR PAVED AREA TO BE VEGITATIVELY STABILIZED: TOTAL WASTE/BORROW AREA LOCATION: (NOT REQUIRED) THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY.

CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITY MEASUREMENTS.

"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"

"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."

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

PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE

BY THE DEVELOPER:

PRINTED NAME OF DEVELOPER

R. JACOB HIKMAT

PRINTED NAME OF ENGINEER

USDA - NATURAL RESOURCES CONSERVATION SERVICE

- 8) ANY SEDIMENT CONTROL PRACTICE 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 HOWARD
- 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION 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 UNTIL THIS INITIAL
- 11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

- TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE 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 I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
- 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 STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. 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. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL 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 SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL 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 THAN 1 1/2" IN DIAMETER.
- ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE 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
- 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.
- IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES: 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 topsoils shall be between 6.0 and 7.5. If the tested soil demonstrates a ph of less than 6.0, sufficient lime shall be perscribed 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. . NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT
- NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL ii. Place topsoil (if required) and apply soil amendments as specified in <u>20.0 yegetative</u> <u>Stabilization</u> — Section 1 — vegetative stabilization methods and materials.
- TOPSOIL APPLLICATION WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
- TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE FORMATION OF DEPRESSIONS OR WATER POCKETS. V. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN
- HE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
- COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE
- ENVIRONMENT UNDER COMAR 26.04.06. COMPOSTED SLUDGE SHALL CONTAIN AT LEASE 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOURUS, AND 0.2 PERCENT POTASSIUM AND HAVE A Ph OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
- II. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILLIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD—VA, PUB. **#1.** COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

TEMPORARY DUST CONTROL MEASURES

MULCHES — SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.

2. VEGETATIVE COVER — SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER. 3. Tillage — to roughtn surface and bring clods to the surface. This is an Emergency measure which should be used before soil blowing starts. Begin plowing on WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS APCED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED

4. IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW. 5. BARRIERS — SOLID BOARD FENCES, SLT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWNG. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALT OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWNG. . CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED

SEQUENCE OF CONSTRUCTION

OBTAIN GRADING PERMIT (1 DAY)

- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE (1 DAY) INSTALL CLEAN WATER DIVERSION DIKE (2 DAYS)
- INSTALL SILT PENCE AND SUPER SILT FENCES (2 DAYS) CONSTRUCT SEDIMENT BASIN WITH ALL BASIN CONSTRUCTION MATERIALS to be on site before start. (10 days) CONSTRUCT RETAINING WALLS INDICATED, ATTACH PLATE WITH 4' ORIFICE AT
- HEADWALL OF LOW FLOW PIPE. (15 DAYS) WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR, BRING SITE TO GRADE AND CONSTRUCT ROADS TO BASE PAVEMENT.
- PROVIDE DUST CONTROL AS DIRECTED BY SEDIMENT CONTROL WSPECTOR (45 DAYS) CONSTRUCT ROAD INDEMING AND CURG & GUTTER ALONG NEW CUT ROAD. INSTALL SUPER SILT FENCE AROUND LIMITS OF ROAD WIDENING STRIP (10 DAYS). LIMIT ROAD WIDENING LO.D. TO THAT WHICH MUST & SHALL BE FULLY STABILIZED WITH
- STONE BASE, CONCRETE. ECM/SEED BY THE END OF EACH DAY. CONSTRUCT SUPER SILT FENCE BEHIND NEW CURB ALONG NEW CUT ROAD (1 DAY). WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT BASIN HAVE BEEN STABILIZED AND WITH APPROVAL OF SEDIMENT INSPECTOR CONVERT SEDIMENT BASIN TO PERMANENT STORMWATER MANAGEMENT
- POND (45 DAYS) 10. WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, CONSTRUCT LEVEL
- SPREADERS (5 DAYS) STABILIZE ALL REMAINING DISTURBED AREAS (3 DAYS)
- 12. WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, REMOVE ALL OLD AND NEW JUNK, TRASH AND DEBRIS FROM THE FLOODPLAINS, STREAMS, WETLANDS AND THEIR BUFFERS, AND FROM FOREST CONSERVATION AREAS.
- 13. AFTER SITE HAS BEEN CONSTRUCTED, SUBMIT AS-BUILT PLANS TO THE COUNTY FOR APPROVAL.

RYLAND WIKMA;

OWNER & DEVELOPER

SUN MEADOW, L.C.

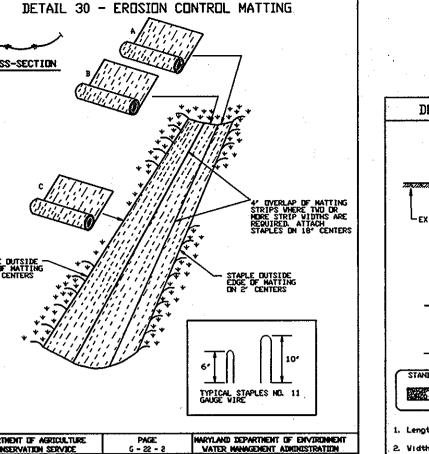
5094 DORSEY HALL DRIVE, SUITE 104

ELLICOTT CITY, MD 21042

410-720-3021 (CONTACT: RUSSELL DICKENS)

ROCK DUTLET PROTECTION

- Construction Specifications The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs for joining two pieces of geotextile shall be a
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course of thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent
- 5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.



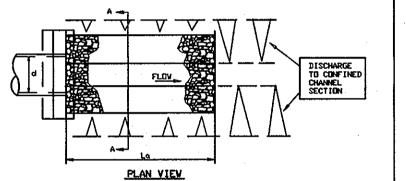
EROSION CONTROL MATTING

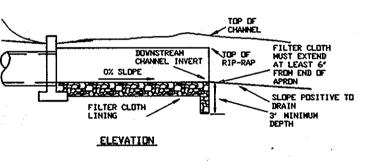
1. Key—in the natting by placing the top ends of the natting in a narrow trench, 6' in depth. Backfill the trench and tanp firmly to conform to the channel cross—section. Secure with a row of staples about 4' down slope from the trench. Spacing between staples is 6'. 2. Staple the 4' overlap in the channel center using an 18' spacing Before stapling the outer edges of the natting, make sure the natting is smooth and in firm contact with the soil.

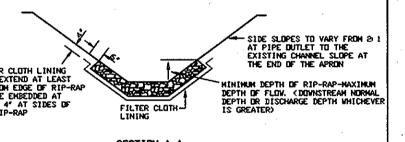
4. Stoples shall be placed 2' apart with 4 rows for each strip, 2 5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

secured with 2 double rows of staples. Note: If flow will enter from the edge of the matting them the area effected by the flow must be keyed—in.

U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT SDIL CONSERVATION SERVICE G - 22 - 24 VATER MANAGEMENT ADMINISTRATION DETAIL 26 - ROCK OUTLET PROTECTION II

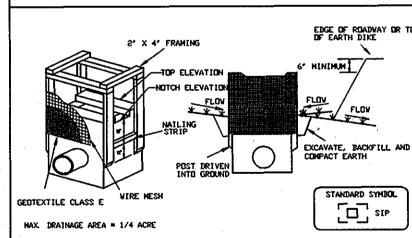






NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

DETAIL 23A - STANDARD INLET PROTECTION



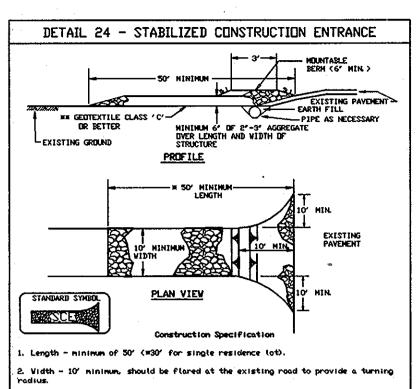
Construction Specifications 1. Excavate completely around the inlet to a depth of 18° below the 2. Drive the 2' \times 4' construction grade lumber posts 1' into the ground at each corner of the inlet. Place half strips between the

posts on the ends of the inlet. Assemble the top portion of the $2^{\prime} \times 4^{\prime}$ frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6^{\prime} below adjacent roadways where 3. Stretch the 1/2' \times 1/2' wire mesh tightly around the frame and fasten securely. The ends must neet and overlap at a

4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of the frame to 18' below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must neet at a post, be overlapped and

5. Backfill around the inlet in compacted 6' layers until the layer of earth is level with the notch elevation on the ends and 6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.



Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. MaThe plan approval authority may not require single family residences to use geotextile. equivalent shall be placed at least 6' deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable bern with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe ha to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6' minimum will be required. Location - A stabilized construction entrance shall be located at every point

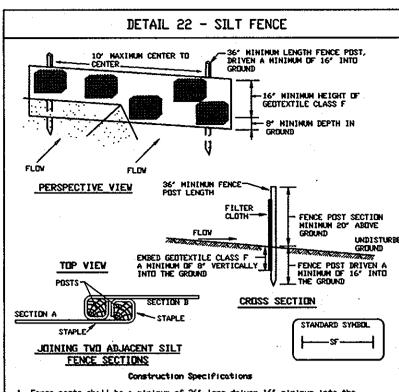
the site must travel over the entire length of the stabilized construction entranx U.S. DEPARTMENT OF AGRICULTURE PAGE HARYLAND DEPARTMENT OF ENVIRONMENT SUB_CONSERVATION SERVICE F-17-3 WATER MANAGEMENT ADMIDISTRATION

indisturbed, stobilized area at a non-erosive velocity.

Fill shall be compacted by earth moving equipment.

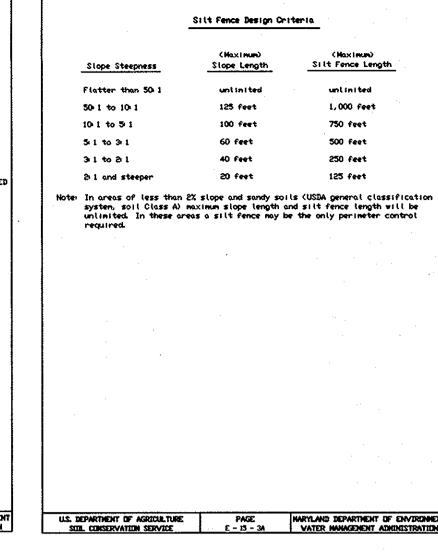
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike. $\,$

8. Inspection and maintenance must be provided periodically and after

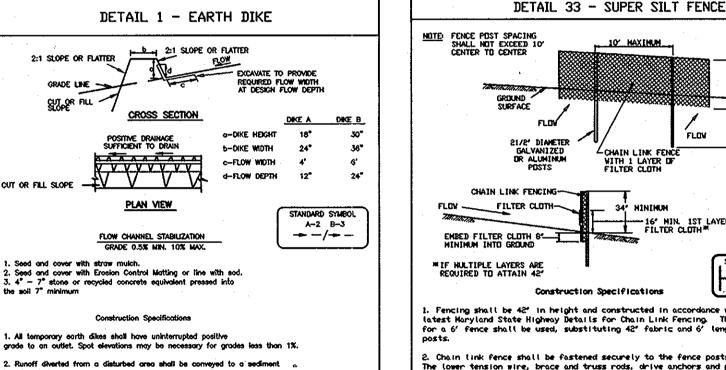


1. Fence posts shall be a minimum of 36' long driven 16' minimum into the ground. Wood posts shall be $11/2^{\circ}\times11/2^{\circ}$ square (minimum) cut, or $13/4^{\circ}$ diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1,00 pond per linear foot. or staples at top and mid-section and shall neet the following requirements

Tensile Strength 50 lbs/in (nin.) Test MSNT 509
Tensile Modulus 20 lbs/in (nin.) Test MSNT 509
Flow Rate 0.3 gal ft*/ ninute (nax.) Test MSNT 322 Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Silt Fence shall be inspected after each rainfall event and maintained wher bulges occur or when sediment accumulation reached 50% of the fabric height.



SILT FENCE

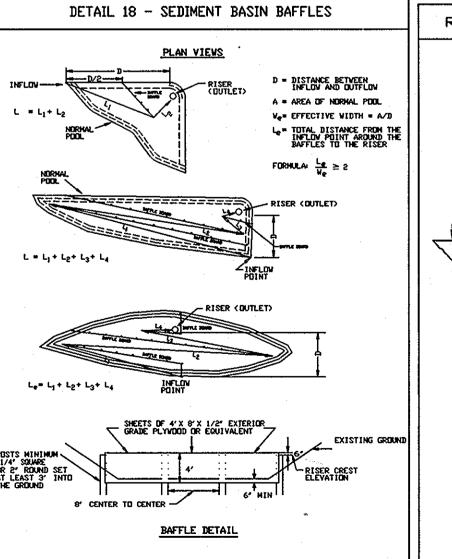


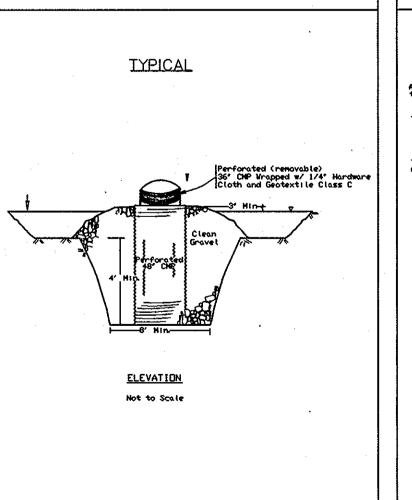
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike. 5. The dike shall be excavated or shaped to fine, grade and cross section as required to meet the criteria specified herein and be free of bank projections

Tensile Strength PAGE HARYLAND DEPARTMENT OF ENVIRONMENT
A -- 1 -- 6 VATER HANGEMENT ADMINISTRATION

MININUM 21/2' DIAMETER CHAIN LINK FENCING-FLOV FILTER CLOTH EMBED FILTER CLOTH 8*______ MINIMUM INTO GROUND JOHNY Z GRADINATO _____ SSF ---Fencing shall be 42° in height and constructed in accordance with the test Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42' fabric and 6' length Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not every 24" at the top and mid section. 4. Filter cloth shall be embedded a minimum of B' into the ground. 5. When two sections of filter cloth adjoin each other, they shall be overlapped 6. Haintenance shall be performed as needed and silt buildups renoved when "bulges' develop in the silt fence, or when silt reaches 50% of fence height 7. Filter cloth shall be fastened securely to each fence post with wire ties or 50 lbs/in (nin.) Tensile Modulus 20 lbs/in (nin.)
Flow Rate 0.3 gal/ft*/minute (nox.)
Filtering Efficiency 75% (nin.) Test MSMT 322 Test MSMT 322 REMOVABLE PUMP STATION

0 - 10% 0 - 10:1 Unlimited Unlimited 10 - 20% 10:1 - 5:1 200 feet 1,500 feet 20 - 33% 5:1 - 3:1 100 feet 1,000 feet 33 - 50% 3:1 - 2:1 100 feet 500 feet 50% + 2:1 + 50 feet 250 feet	0 - 10% 0 - 10:1 Unlimited Unlimited 10 - 20% 10:1 - 5:1 200 feet 1,500 feet 20 - 33% 5:1 - 3:1 100 feet 1,000 feet 33 - 50% 3:1 - 2:1 100 feet 500 feet	Slope Stope Length (maximum) Slit Fence Length (maximum) 0 - 10% 0 - 10 1 Untimited Untimited 10 - 20% 10 1 - 5 1 200 feet 1,500 feet 20 - 33% 5 1 - 3 1 100 feet 1,000 feet 33 - 50% 3 1 - 2 1 100 feet 500 feet	Stope Steepness				
10 - 20% 10 i - 5 i 200 feet 1,500 feet 20 - 33% 5 i - 3 i 100 feet 1,000 feet 33 - 50% 3 i - 2 i 100 feet 500 feet	0 - 10% 0 - 10:1 Unlimited Unlimited 10 - 20% 10:1 - 5:1 200 feet 1,500 feet 20 - 33% 5:1 - 3:1 100 feet 1,000 feet 33 - 50% 3:1 - 2:1 100 feet 500 feet	Slope Stope Length (maximum) Slit Fence Length (maximum) 0 - 10% 0 - 10 1 Untimited Untimited 10 - 20% 10 1 - 5 1 200 feet 1,500 feet 20 - 33% 5 1 - 3 1 100 feet 1,000 feet 33 - 50% 3 1 - 2 1 100 feet 500 feet	Slope Steepness Slope Length (maximum) Slit Fence Length (maximum)				
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10 - 20% 10 i - 5 i 200 feet 1,500 feet 20 - 33% 5 i - 3 i 100 feet 1,000 feet	0 - 10% 0 - 10:1 Unlimited Unlimited 10 - 20% 10:1 - 5:1 200 feet 1,500 feet 20 - 33% 5:1 - 3:1 100 feet 1,000 feet	Slope Stope Steepness Stope (maximum) Slit Fence Length (maximum) 0 - 10% 0 - 10 l Unlimited Unlimited 10 - 20% 10 l - 5 l 200 feet 1,500 feet 20 - 33% 5 l - 3 l 100 feet 1,000 feet	Slope Stope Steepness Stope Length (maximum) Slitt Fence Length (maximum) 0 - 10% 0 - 10/1 Unlimited Unlimited 10 - 20% 10/1 - 5/1 200 feet 1,500 feet 20 - 33% 5/1 - 3/1 100 feet 1,000 feet	50% +	211 +	50 feet	250 feet
10 - 20% 10 i - 5 i 200 feet 1,500 feet	0 - 10% 0 - 10:1 Untimited Unlimited 10 - 20% 10:1 - 5:1 200 feet 1,500 feet	Slope Stope Length Slit Fence Length (maximum) Charlet	Slope Stepness Slope Length Slitt Fence Length (maximum) Chaximum) Slope Chaximum) Slitt Fence Length (maximum) Chaximum) Chaximum C	33 - 50%	3-1 - 2-1	100 feet	500 feet
	0 - 10% 0 - 10:1 Untinited Unlimited	Slope Steepness Cmaximum Silt Fence Length (maximum) 0 - 10% 0 - 10:1 Unlimited Unlimited	Slope Steepness Slope Length (maximum) Slift Fence Length (maximum) 0 - 10% 0 - 1001 Unlimited Unlimited	20 - 33%	5 1 - 3 1	100 feet	1,000 feet
0 - 10% 0 - 10:1 Untimited Untimited		Slope Steepness (maximum) (maximum)	Slope Slope Length Slit Fence Length Slope Steepness (maximum) (maximum)	10 - 50%	10:1 - 5:1	200 feet	1,500 feet
	Slope Steepness (naximum) (naximum)	Slope Slope Length Silt Fence Length	Slope Slope Length Slit Fence Length	0 - 10%	0 - 10 1	Untimited	Unlimited





SPECIFICATIONS FOR REMOVABLE PUMP STATION 12.0 DEVATERING SPECIFICATIONS REMOVABLE PUMPING STATION

Description of Practice

A temporary stuncture which is used to remove water from exacvated areas, sediment traps and basins. The pumping staton provides a device that fiters sediment laden water for pumping to a suitable discharge area.

Conditions Where Practice Applies The pumping station will be used to dewater sediment traps and basins for maintenance or removal.

A perforated vertical stand pipe is placed inside another pipe. The outside pipe is then enveloped by a cone of washed 2' aggreagate. Water is then pumped from the center of the inside pipe to a suitable dischage area. Nater pumped from the standpipe should discharge into a sediment traap, sediment basin of stabilized area. If water from the sump pit will be pumped directley to a storm drainage system, geotextile fabric and wire mesh must be wrapped around the standpipe to ensure clean water discharge. Nater pumped from the standpipe should discharge into a sediment trap, sediment basin or stabilized area.

1. the inner pipe shall be constructed by perforating a 12" to 36" diameter pipe with a water-tight cap on the botton end and snapping it with 1/2" handware cloth and Geotexnile Class E. The perforations shall be 1/2"X6" slits on 1" diameter holes 6" on center. 2. The outer pipe shall be at least 4' larger in diameter than the inside pipe. Both the inner and outer pipes should extend 12' to 18' above the riser crest elevation, or anticipated high mater elevation. Fitter naterial ranging from clean gravel (ninimum fines) to #57 stone
 1/2' maximum diameter) should be backfilled around the outer pipe. 4. The suction hose from the pump shall be placed inside the inner pipe to begin demotering, the discharge hose shall be placed in a stabilized areas downslope of unstabilized areas to prevent enosion. Headow or wooded areas are preferred discharge locations but storm drain and paved areas are acceptable. 5. <u>Maintenance</u>— The inner pipe can easily be removed to facilitate changing the geotextile when it clogs. Maintenance must be performed when the pump runs any abd backed up water remains.



HARYLAND DEPARTMENT OF ENVIRONME

NO AS-BUILT INFORMATION REQUIRED ON THIS SHEET

4 of 11

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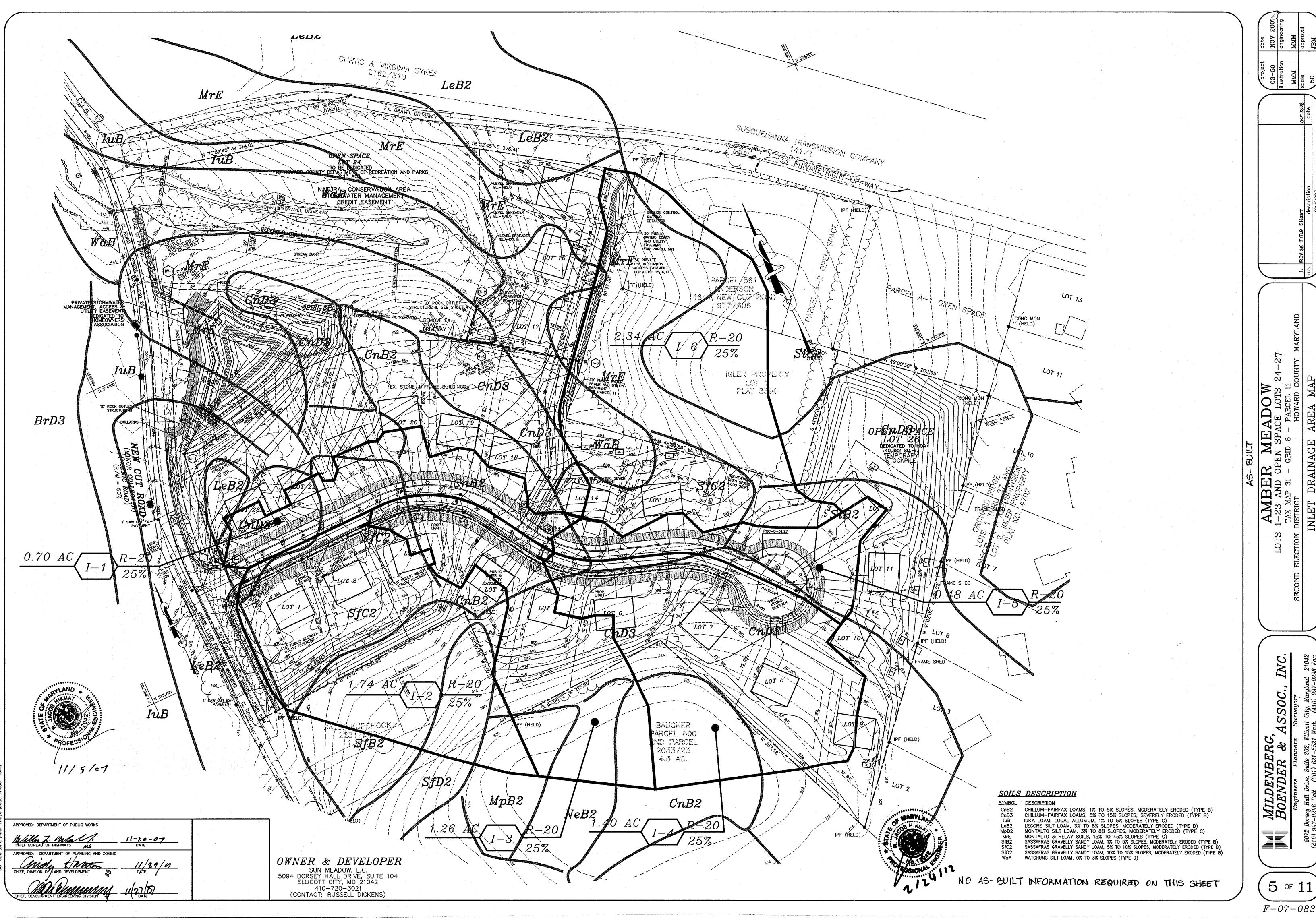
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LOTS

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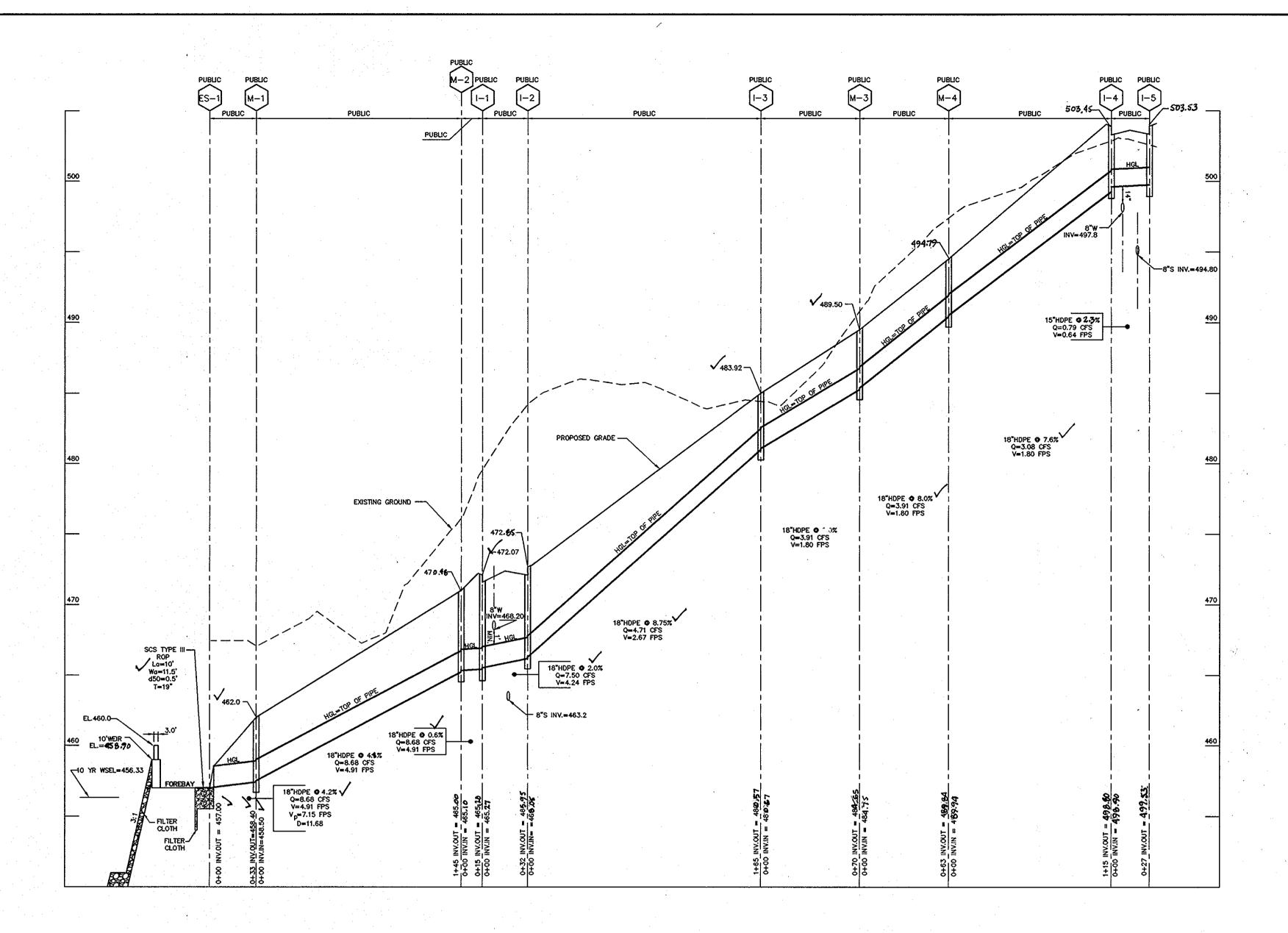
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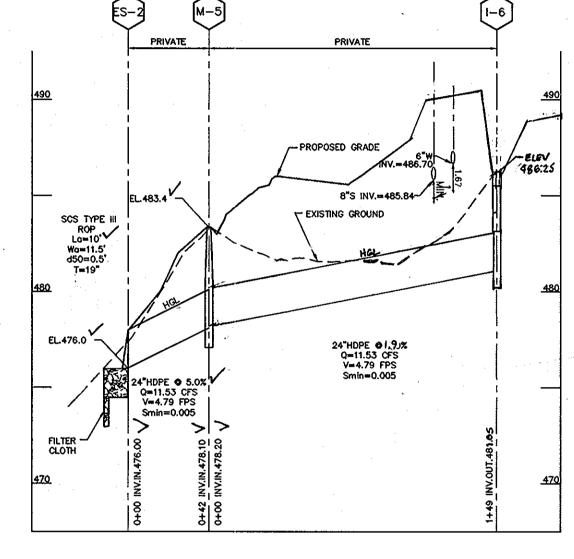
F-07-083



LOTS

ASSOC.





STORMDRAIN PROFILE ES-2 TO I-6 SCALE: HOR. 1"=50' VER. 1"=5'

10'-0" TRANSITION 1/2" EXPANSION JOINT-1/2" EXPANSION JOINT ROAD DESIGN WIDTH MEASURED TO THIS POINT, INLETS ARE OFFSET 5-1/4"

	<u>STRUCTU</u>	RE	<u>SCHE</u>	CDULI	\underline{F}		
NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS	WIDTH	OWNERSHIP
ES-1	N 573,994.35 E 1,368,895.31		457.00 🗸		END SECTION	·	PUBLIC
ES-2	N 573,986.92 E 1,369,292.94		476.00 V		END SECTION		PRIVATE
HW-1	N 574,166.23 E 1,368,940.96	·		45)-1	HEAD WALL		PRIVATE
I1	AMBER MEADOW VISTA STA. 0+52.27 OFFSET 12.52' LT.	472.07✓	466.27	465.20	INLET TYPE A-5 (HO. CO. STD SD-4.40) - SUMP	2'-6" (I.D.)	PUBLIC
I-2	AMBER MEADOW VISTA STA. 0+64.38 OFFSET 12.52', RT.	472.85	466.05	465.90	INLET TYPE A-10 (HO. CO. STD SD 4.02)	2'-6" (I.D.)	PUBLIC
I-3	AMBER MEASOW VISTA STA. 2+32.44 OFFSET 12.52' RT. 10 8 75	ే 483.92 √	480.67	480. 57	INLET TYPE A-10 (HO. CO. STD SD 4.02)	2'-6" (I.D.)	PUBLIC
I-4	AMBER MEADOW VISTA STA. 4+96.46 OFFSET 12.52' RT.	503.46	498.90	49 3.8 0	INLET TYPE A-10 (HO. CO. STD SD 4.02)	2'-6" (I.D.)	PUBLIC
I-5	AMBER MEADOW VISTA STA. 4+96.46 OFFSET 12.52 LT.	50 3.53		499. 53	INLET TYPE A-5 (HO. CO. STD SD 4.01)	2'-6" (I.D.)	PUBLIC
I-6	N. 573,868.4 E 1,369,386.4	486.25		481.05	INLET TYPE "D" (HO. CO. STD SD 4.39)	STANDARD	PRIVATE
M-1		400.00. /	150.50	450.40. /			
	N 573,976.1 E 1,368,871.9	462.00 🗸	458.50 🗸		MH (HO. CO. STD G 5.01)		PUBLIC
M-2	AMBER MEADOW VISTA STA. 0+40.19 OFFSET 25.5' LT.	470.48	465.10	465.00	MH (HO. CO. STD G 5.01)		PUBLIC
M-3	AMBER MEADOW VISTA STA. 3+08.81 OFFSET 15.39' RT.	489.50 🗸	48475	48 4.55	MH (HO. CO. STD G 5.01)		PUBLIC
M-4	AMBER MEADOW VISTA STA. 3+79.91 OFFSET 15.18' RT.	494.79	489.94	489.84	MH (HO. CO. STD G 5.01)		PUBLIC
M-5	N 573,955.4 E 1,369,264.7	483. 60	478.20 🗸	478.10 🗸	MH (HO. CO. STD G 5.01)		PRIVATE

- * STATIONS GIVEN TO CENTERLINE FACE OF INLET AT TOP OF CURB FOR INLETS LOCATED WITHIN THE ROAD RIGHT-OF-WAY. STATIONS FOR YARD INLETS TO CL OF INLET. LOCATION OF MANHOLES IS TO CL OF MANHOLE COVER. END SECTION GIVEN TO THE CENTERLINE OF PIPE AT THE CONNECTION OF THE STORM DRAIN PIPE TO THE END SECTION.

STORMDRAIN PROFILE ES-1 TO I-5

SCALE: HOR. 1"=50' VER. 1"=5'

HDPE END SECTION

					<i>ИН</i> Ь		
	PUBLIC		PRIVA	TE.	· 1		ŧ
PIPE	SCHED	III.E = P	IPE SCI	HEDULE	\mathcal{V}_1	1' TYP.	
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QUAN	ITITY PIPE SIZE		QUANTITY	PIPE SIZE			
6:	5' 12" HDPE		191'	21" HDPE			1
- 28	8' 15" HDPE		67'	36" RCP	//		Ī
6.	45' 18" HDPE	.'			/ /		
					/ /		
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		and the second of H_{i}	b'				

APPROVED: DEPARTMENT OF PUBLIC WORKS

11-20-07 DATE

(PART NO. 2410 NP) NOT TO SCALE OWNER & DEVELOPER

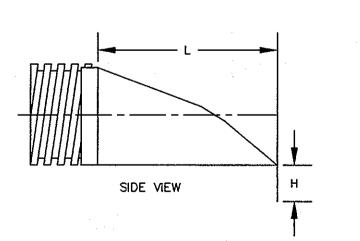
SUN MEADOW, L.C.

5094 DORSEY HALL DRIVE, SUITE 104

ELLICOTT CITY, MD 21042

410-720-3021

(CONTACT: RUSSELL DICKENS)



PIPE DIAMETER	PART NO.	A, ±1	B MAX	H,±1	L, ±1/2	W, ±2	
15" HDPE	1210 NP	6.5"	10"	6.5"	25"	29"	
18" HDPE	1810 NP	7.5"	15"	6.5"	32"	35"	
24" HDPE	2410 NP	7.5"	18"	6.5*	36"	45"	
36" HDPE	3610 NP	10.5"	NA	7.0"	53"	68"	

INSTALLATION INSTRUCTIONS

- SPREAD THE END SECTION COLLAR AND
 PLACE IT OVER THE LAST PIPE
 CORRUGATION. MAKE SURE THE
 COLLAR SEATS VALUE
 CORRUGATION VALUE
 CORRUGA CORRUGATION VALLEY.
- INSERT THREADED ROD THROUGH THE PRE-DRILLED HOLES IN THE END SECTION COLLAR. TIGHTEN WING NUTS.
- PLACE BACKFILL AROUND THE END SECTION AND OVER THE TOE PLATE. USE CARE DURING COMPACTION ALONG THE SIDES TO PREVENT DISTORTION.

** ELEVATIONS MEASURED TO CENTER OF ALL INLETS.

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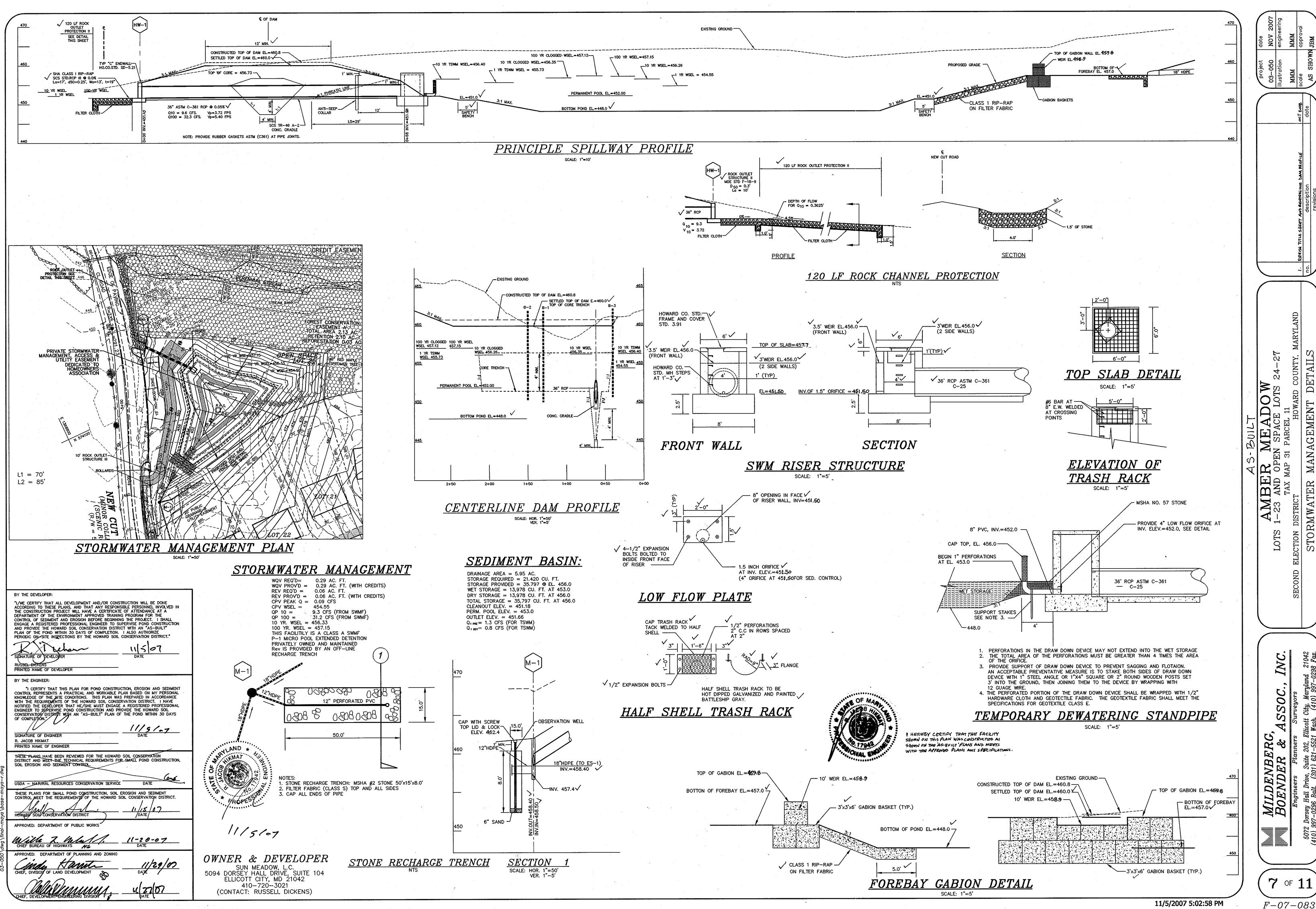
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DRAIN

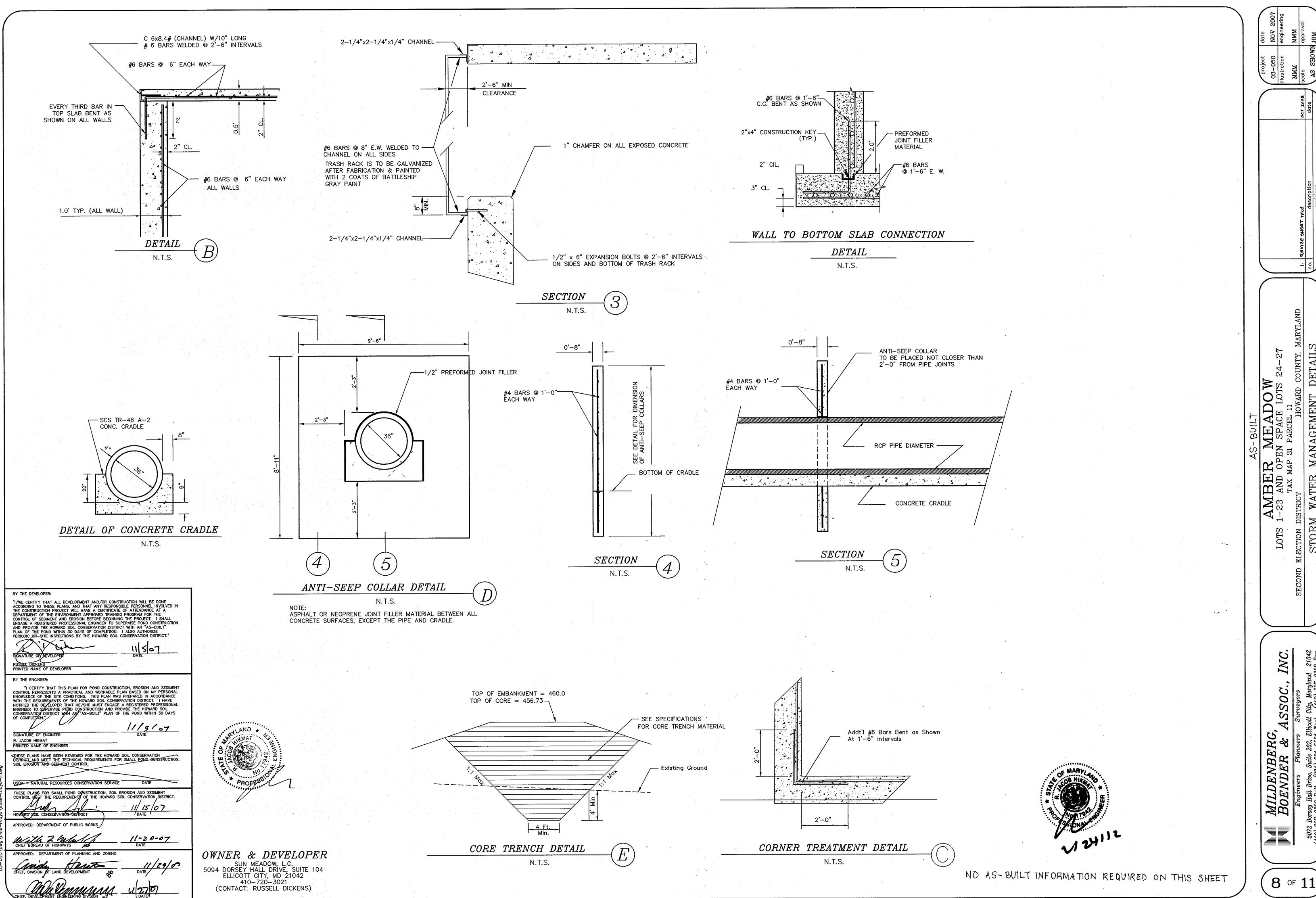
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ANAGEMENT

STORM

CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MO-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, CRUBBED 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 STORM WATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DRAIN 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

FMRANKMENT AND OTHER DESIGNATED AREAS. EARTH FILL

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 CC, 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 QUALITY REQUIRED TO PREVENT

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 RALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT. WHEN REQUIRE BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95 % OF MAXIMUM RY DENSITY WITH A MOISTURE CONTENT WITHIN 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

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 CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY

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 OR AS SHOWN ON THE PLANS. THE SIDE SLOPES SHALL BE 1 TO 1 OR FLATTER. THE CORE SHALL BE COMPACTED WITH CONSTRUCTION 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.

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 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 EQUIPMEN BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE OR PIPE, UNLESS THERE IS A COMPACTED FILL (24" OR GREATER OVER THE STRUCTURE OR PIPE STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE RECUIREMENTS 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 A 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 TAMPER 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, MFASTIRED HORIZONTALLY. TO ANY PART OF A STRUCTURE, UNDER NO CIRCUMSTANCES SHALL EQUIPMEN 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 MATERIAL OUTSIDE THE STRUCTURAL 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.

BY THE DEVELOPER:	
"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CO ACCORDING TO THESE PLANS, AND THAT ANY RESP THE CONSTRUCTION PROJECT WILL HAVE A CERTIFIC DEPARTMENT OF THE ENVIRONMENT APPROVED TRAI CONTROL OF SEDIMENT AND EROSION BEFORE BEGIN ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO AND PROVIDE THE HOWARD SOIL CONSERVATION DIS PLAN OF THE POND WITHIN 30 DAYS OF COMPLETIC PERIODIC ON SITE INSPECTIONS BY THE HOWARD SO	ONSIBLE PERSONNEL INVOLVED IN CATE OF ATTENDANCE AT A INING PROGRAM FOR THE WINING THE PROJECT. I SHALL O SUPERVISE POND CONSTRUCTION STRICT WITH AN "AS—BUILT" DN. I ALSO AUTHORIZE
SIGNATURE OF DEVELOPER	DATE
RUSSEL DICKENS PRINTED NAME OF DEVELOPER	
DV THE ENGINEED.	· · · · · · · · · · · · · · · · · · ·

"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 115/07 F ENGINEER S HIKMAT

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION

USDA - NATURAL RESOURCES CONSERVATION SERVICE THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONSERVATION DISTRICT.

SOIL CONSERVATION DISTRICT APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF BUREAU OF HIGHWAYS 11-20-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING trant. and CHIEF, DIVISION OF LAND DEVELOPMENT

PIPE CONDUIT

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE: I, MATERIALS -- (POLYMER COATED STEEL PIPE) -- STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THIS PIPE AND ITS APPURTENANCES

AATERIALS - (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 DURARILITY, SHALL BE FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO PECIFICATION 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.

SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATIONS M-245 & M-246 WITH WATERTIGHT COUPLING

MATERIALS - (ALUMINUM PIPE) - THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-21 L 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 FULLY BITUMINOUS COATED PER REQUIREMENTS OF AASHTO SPECIFICATION M-190 TYPE A. ALUMINUM SURFACES HAT ARE TO BE IN CONTACT WITH CONCRETE SHALL BE PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR INO COATS OF ASPHALT. HOT DIP GALVANIZED BOLTS MAY BE USED FOR CONNECTIONS. THE PH OF THE

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC., MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 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

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE 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 SEARNS WITH

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 COLLARS, 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.

3. 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 AS SHOWN ON THE DRAWINGS. PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 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 REQUIREMENTS OF AASHTO M294 TYPE S. 2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTICHT.

3. 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 SUPPOR

4. BACKFILL 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 RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS,

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE 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, ND 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 HAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM REQUIRED EXCAVATIONS ND 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

STABILIZATION

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.

EROSION AND SEDIMENT CONTROL

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



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OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BY PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA. SCS "STAND-ARDS AND SPECIFICATIONS FOR PONDS" (MD-378), THE POND OWNER(S) AND THE 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 ORSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE. TURBID SEEPAGE, SLIDING OR SLUMPING.

OPERATION AND MAINTENENCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEM

- 1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR
- STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE BASED ON BORING DATA, STANDARD SCRAPING TECHNIQUES 2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE
- 4. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS

3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATION AND AS

PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.

- 5. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY. 6. EACH FOREBAY SHALL BE INSPECTED NO LESS THAN EVERY OTHER MONTH. DEBRIS AND ACCUMULATED SEDIMENT SHALL BE REMOVED FORM THE FOREBAYS.
- 7. THE MICRO-POOL AREA OF SWM FACILITY SHALL BE INSPECTED CONCURRENTLY WITH THE FOREBAYS, DEBRIS SHALL BE REMOVED FROM THE PERMANENT POOL AREA NO LESS THAN A BI-MONTHLY BASIS.
- 3. THE LOW FLOW OULET SHALL BE VISUALLY INSPECTED AND ACCUMULATED DEBRIS SHALL BE REMOVED FROM THE HALF SHELL TRASH RACK AT NO LES THAN BI-MONTHLY BASIS. 9. LANDSCAPE PLANTINGS SHALL BE INSPECTED A MINIMUM OF TWICE YEARLY AND REPLACED

GEOTECHNICAL RECOMENDATIONS:

A. MATERIAL REQUIREMENTS

GTA UNDERSTANDS THAT MARYLAND SPECIFICATIONS 378 (MD 378) GOVERNS DESIGN AND CONSTRUCTION OF THE POND FACILITIES, MD 378 SPECIFIES THAT SOILS FOR USE IN CUTOFF TRENCH CONSTRUCTION MEET USCS CLASSIFICATION CL (LOW PLASTICITY CLAY), CH (HIGH PLASTICITY CLAY). SC (CLAYEY SAND), OR GC (CLAYEY GRAVEL), FURTHERMORE, GTA RECOMMENDS THAT SIMILAR MATERIALS BE USED FOR BACKFILL ADJACENT TO THE PIPE SHOULD DECREASE THE POTENTIAL FOR EMBANKMENT FAILURE INDUCED BY "PIPING" FROSION PROCESSES.

GTA'S EXPLORATION IDENTIFIED SOILS GENERALLY CLASSIFIED AS USCS ML, SM, AND CL. BASED ON THE BORING DATA, LIMITED QUANTITIES OF MATERIALS SUITABLE FOR THE CONSTRUCTION OF CUTOFF TRENCH MAY BE AVAILABLE FROM EXCAVATIONS. HOWEVER, SUFFICIENT QUANTITY OF SUITABLE MATERIALS MAY NOT BE AVAILABLE FROM POND EXCAVATIONS. MATERIALS FROM OTHER ON-SITE CUT AREAS SHOULD BE EXCAVATED DURING CONSTRUCTION TO ASSESS IF THEY MEET THE REQUIREMENTS FRO CUT-OFF TRENCH CONSTRUCTION. IF REQUIRED, OFF—SITE BORROW SOURCES MEETING THE REQUIRED CLASSIFICATIONS SHOULD BE IDENTIFIED PRIOR TO MASS GRADING, ALL CORE TRENCH MATERIAL SHOULD MEET THE CLASSIFICATIONS REQUIRED BY MD 378. AND BE APPROVED BY GTA PRIOR TO PLACEMENT AS FILL.

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GTA

SSOCIATES, INC.

AASHTO: A-2-4

GEOTECHNICAL RECOMENDATIONS (CONTINUED):

MD 378 SPECIFIES THAT ALL FO THE REFERENCED SOIL CLASSIFICATIONS SUITABLE FOR CUTOFF TRENCH CONSTRUCTION ARE ALSO SUITABLE FOR EMBANKMENT CONSTRUCTION. THE USCS ML AND SM SOILS PRESENT ARE ALSO DEEMED SUITABLE, AND SHOULD BE AVAILABLE ON SITE. GTA RECOMMENDS THAT THE MOST PLASTIC NATIVE MATERIALS AVAILABLE BE USED FOR EMBANKMENT CONSTRUCTION, GTA SHOULD EVALUATE EMBANKMENT SOILS DURING THE POND CONSTRUCTION PHASE.

B. BASIN EXCAVATION AND EMBANKMENT CONSTRUCTION

BASED UPON THE PROPOSED GRADING PLANS PROVIDED BY MBA, EXCAVATION UP TO APPROXIMATELY 16 FEET WILL BE REQUIRED TO ESTABLISH THE BASIN ELEVATION, AND FILLS UP TO APPROXIMATELY 2 FEET WILL BE REQUIRED ON THE

SHOULD BE SUITABLE FOR EXCAVATION OF THE PROPOSED POND TO THE REQUIRED DEPTH. HOWEVER, LOCALLY VERY DENSE WEATHERED OR RELATIVELY UNWEATHERED ROCK OR "FLOATING" COBBLES/BOULDERS MAY BE ENCOUNTERED. SUCH MATERIALS MAY REQUIRE USE OF RIPPING, JACKING, OR OTHER MECHANICAL MEANS TO ACHIEVE BASIN OR OUTFALL INVERTS. SUCH MATERIALS ARE NOT ANTICIPATED TO BE PRESENT ON A WIDESPREAD BASIS.

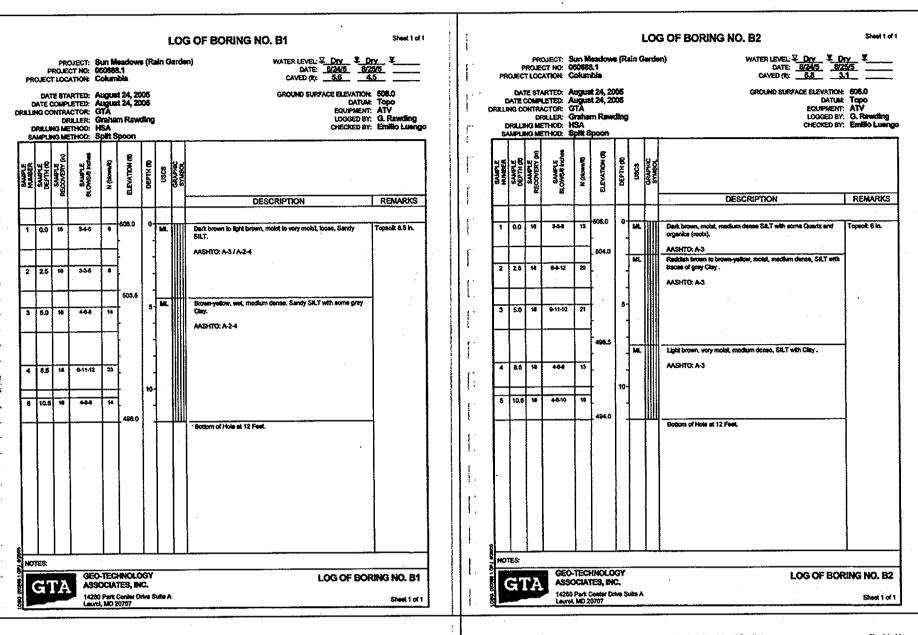
GROUNDWATER WAS NOT OBSERVED IN BORINGS LOCATED IN THE PROPOSED STORMWATER MANAGEMENT POND. WHILE NOT ANTICIPATED, IF GROUNDWATER IS ENCOUNTERED ABOVE PROPOSED BASIN BOTTOM LEVELS, DEWATERING OF BASINS AND OF OUTFALL STRUCTURE SUBGRADES MAY BE REQUIRED DURING THE CONSTRUCTION PHASE.

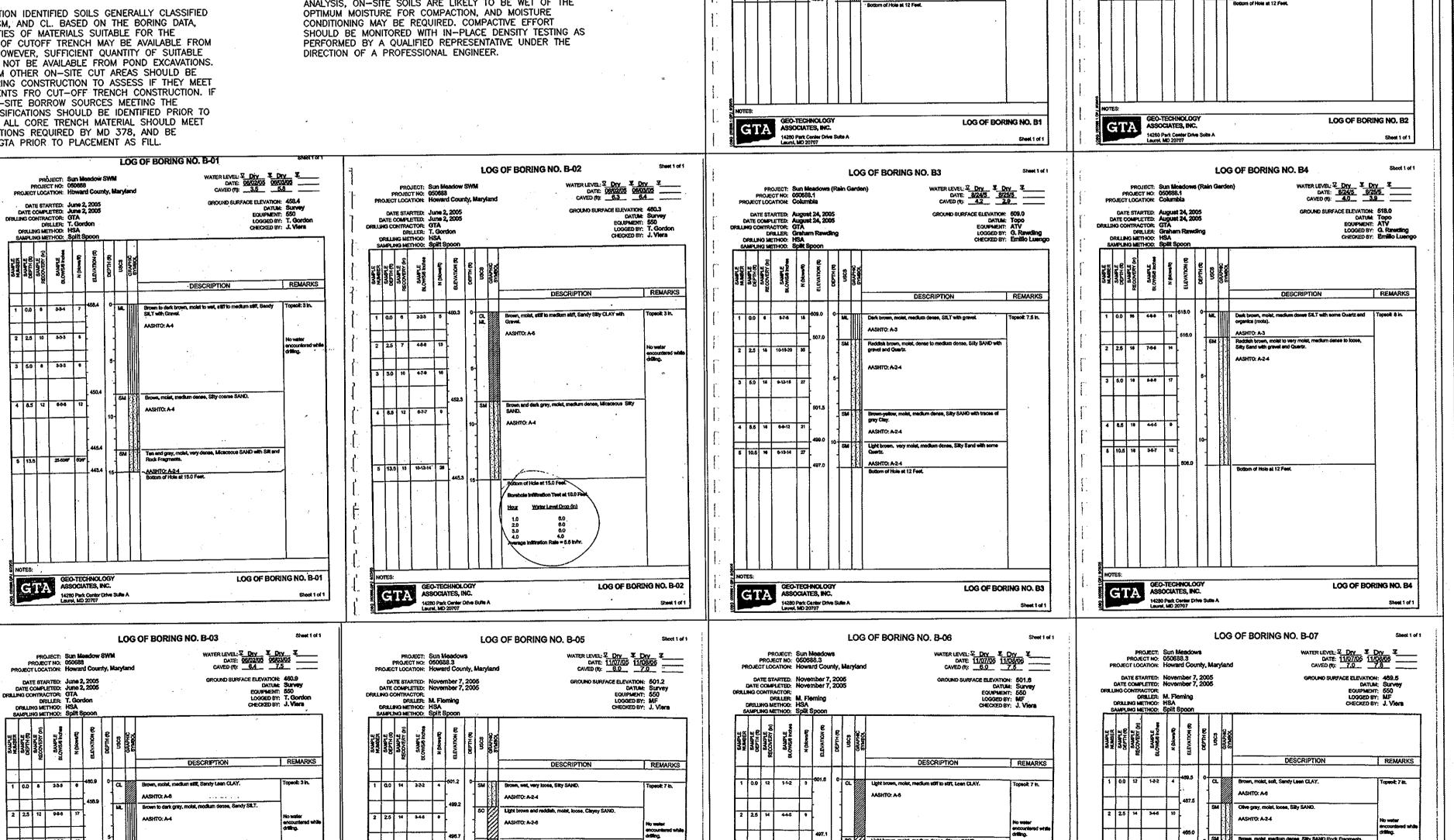
PROPOSED SLOPES SHOULD BE DESIGNED IN ACCORDANCE WITH MD 378. PRIOR TO THE PLACEMENT OF COMPACTED FILL OR THE CONSTRUCTION OF THE OUTFALL CRADLE AND STRUCTURES. AREAS SUPPORTING PROPOSED EMBANKMENTS AND STRUCTURES SHOULD BE STRIPPED AND GRUBBED TO REMOVE ALL TOPSOIL AND OTHER ORGANIC MATTER. AFTER STRIPPING, THE SUBGRADE SHOULD BE PROOF-ROLLED AS DIRECTED BY A GEOTECHNICAL ENGINEER OR HIS QUALIFIED REPRESENTATIVE, UNSTABLE SOILS IDENTIFIED BY PROOFROLLING SHOULD BE REMOVED FROM SUBGRADE, NO FILLS SHOULD BE PLACED OR FOUNDATIONS CONSTRUCTED UNTIL THE SUBGRADE IS APPROVED BY THE GEOTECHNICAL

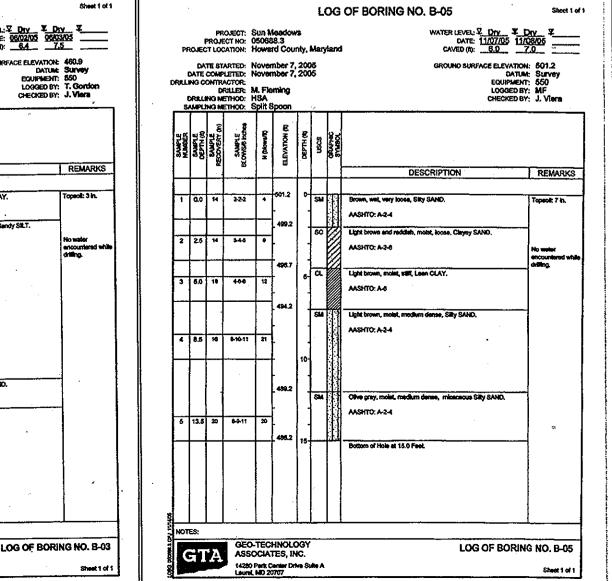
FILLS FOR CUTOFF TRENCH AND EMBANKMENT CONSTRUCTION SHOULD BE PLACED IN EIGHT-INCH LOOSE LIFTS, AND COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE STANDARD PROCTOR, ASTM-698. FILLS AROUND THE OUTFALL WORKS SHOULD BE PLACED IN 4-INCH LIFTS AND COMPACTED TO THE SAME STANDARD WITH HAND EQUIPMENT, BASED ON LABORATORY ANALYSIS, ON-SITE SOILS ARE LIKELY TO BE WET OF THE CONDITIONING MAY BE REQUIRED. COMPACTIVE EFFORT SHOULD BE MONITORED WITH IN-PLACE DENSITY TESTING AS

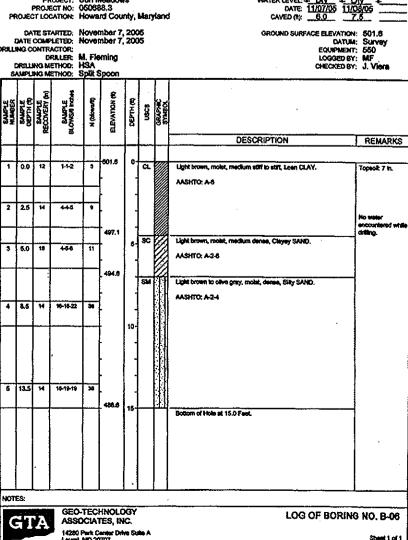


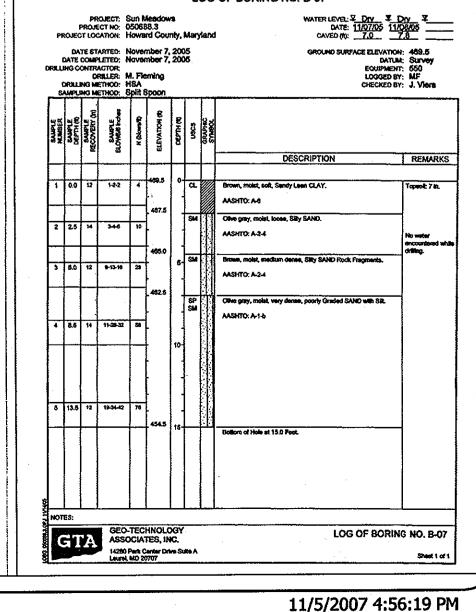
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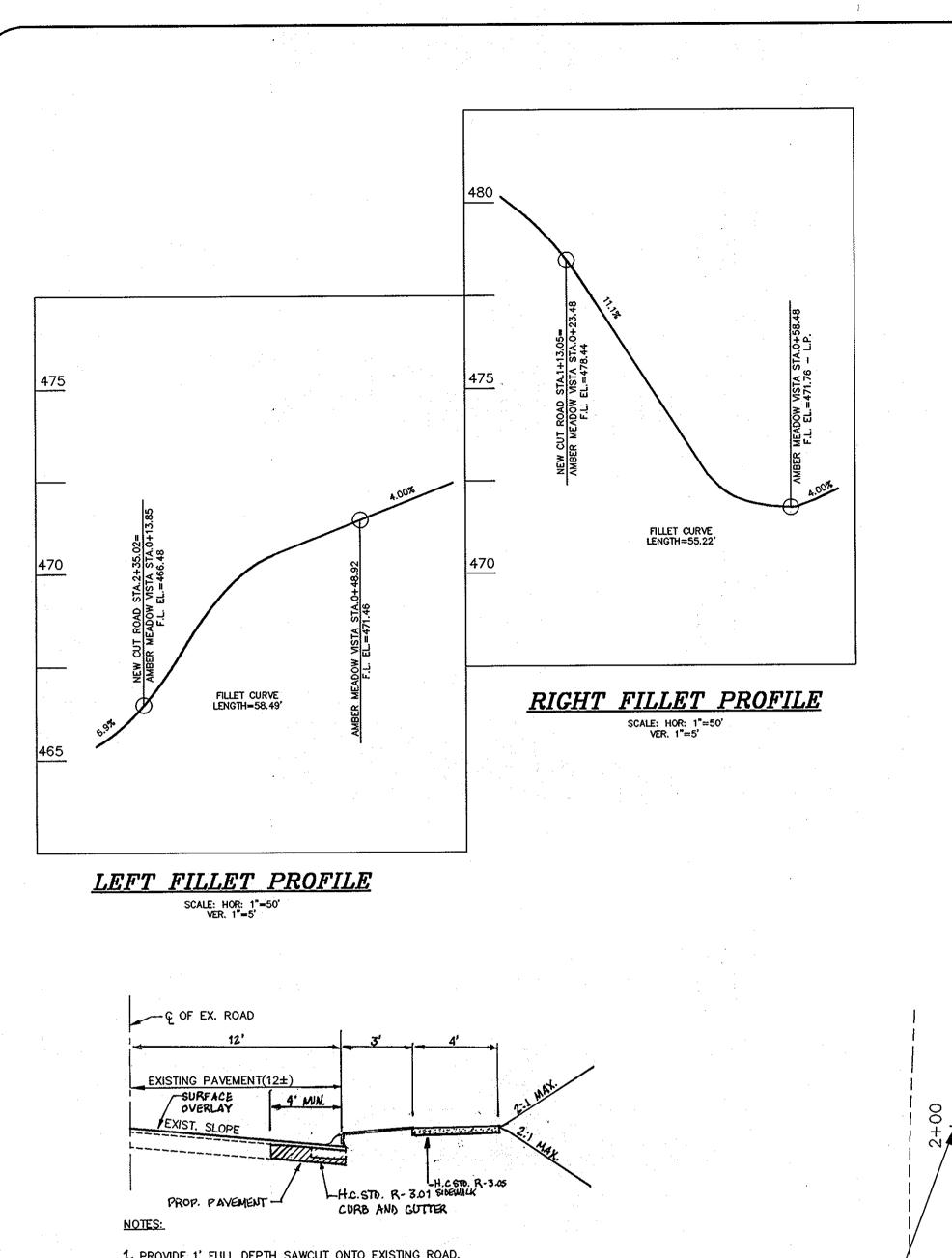
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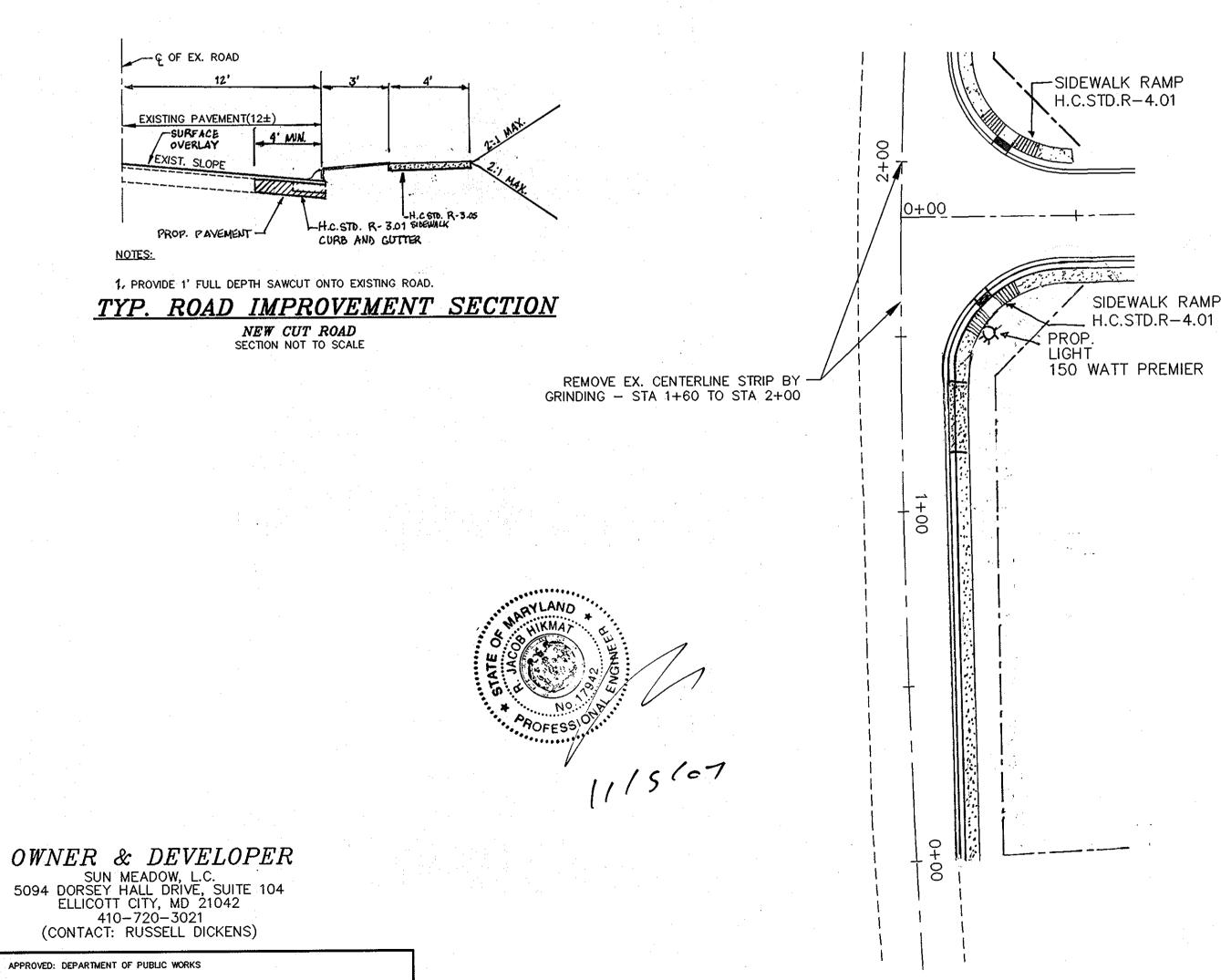
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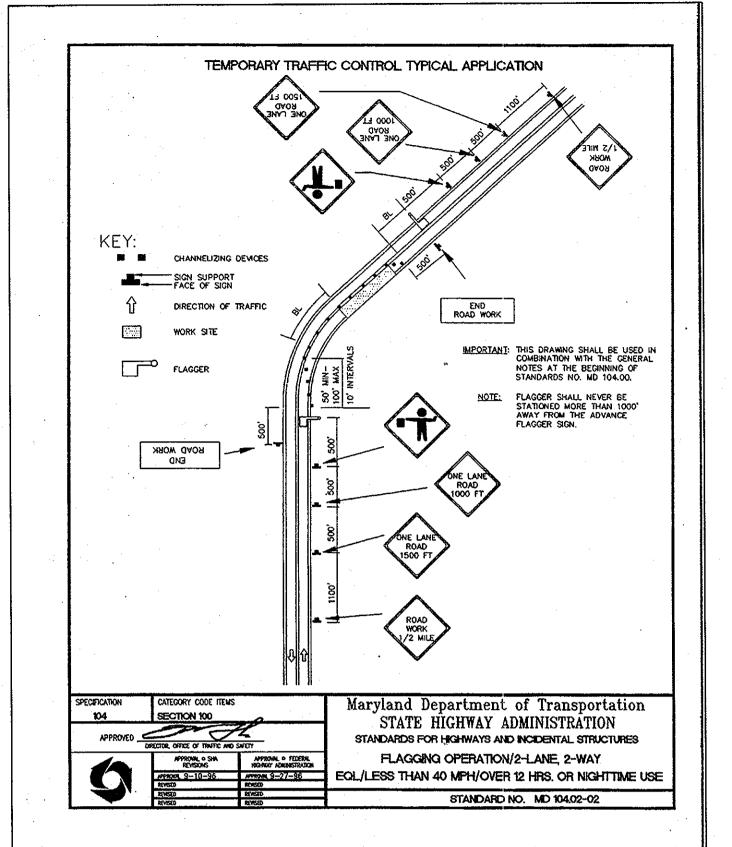
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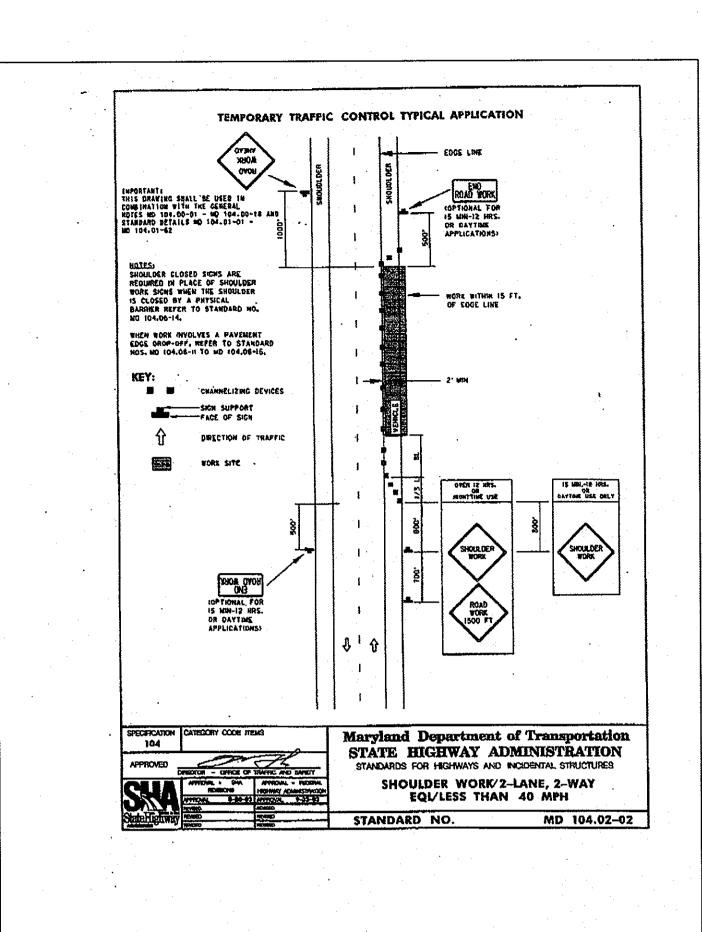
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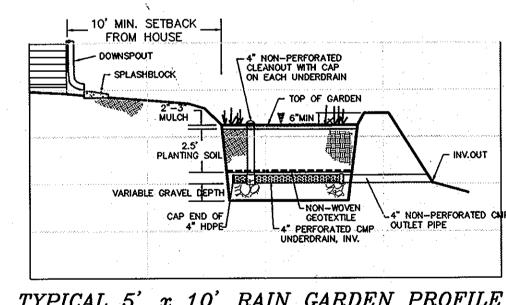


PAVEMENT MARKING PLAN

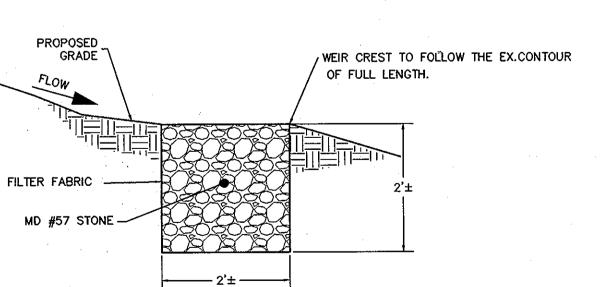




NOTE: FINAL DESIGN, SECTIONS AMD DETAILS FOR THE RAIN GARDENS SHALL BE PART OF THE SITE DEVELOPMENT PLAN FOR EACH LOT.



TYPICAL 5' x 10' RAIN GARDEN PROFILE



LEVEL SPREADER DETAIL

SPECIFICATIONS: THE TOP OF THE STONE ELEVATION FOR EACH DEVICE SHALL BE LEVEL FOR ITS ENTIRE LENGTH.

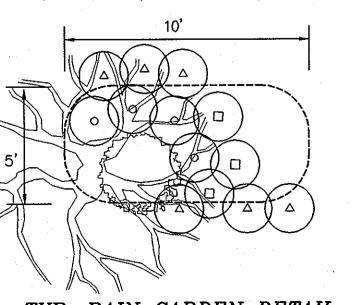
THE LOW SIDE OF THE DEVICE SHALL TYPICALLY BE INSTALLED AT THE LIMITS OF THE LOD.

IF THE DRAINAGE AREA ABOVE THE SPREADER IS NOT STABILIZED AND WITH THE PERMISSION OF THE INSPECTOR, FILTER FABRIC MAY BE EXTENDED FROM THE IN FLOW SIDE AND LAID OVER THE TOP OF THE DEVICE UNTIL THE DRAINAGE AREA



		<u>PLANT LI</u>	<u>ST</u>	
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
1	卷	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2-1/2" - 3" CAL.
1	0 :	ILEX GLABRA	INK BERRY	2' – 3' HT.
6	. (2)	LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	1 GAL. CONTAINER
4	0	ONOCLEA SENSIBILIS	SENSITIVE FERN	1 GAL CONTAINER
3	0	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

IOTAL: 13 PERENNIALS, 1 SHRUB, 1 TREE (PER EACH RAIN GARDEN)

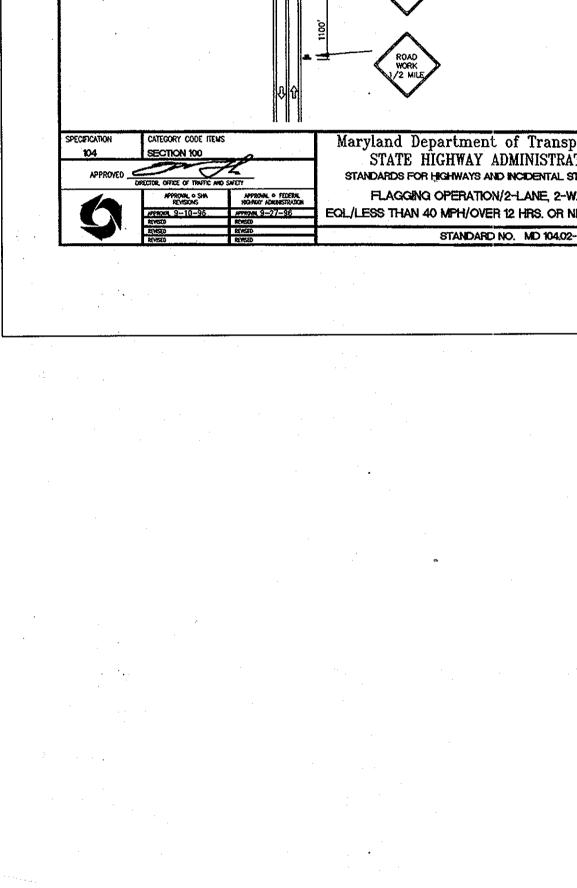


TYP. RAIN GARDEN DETAIL

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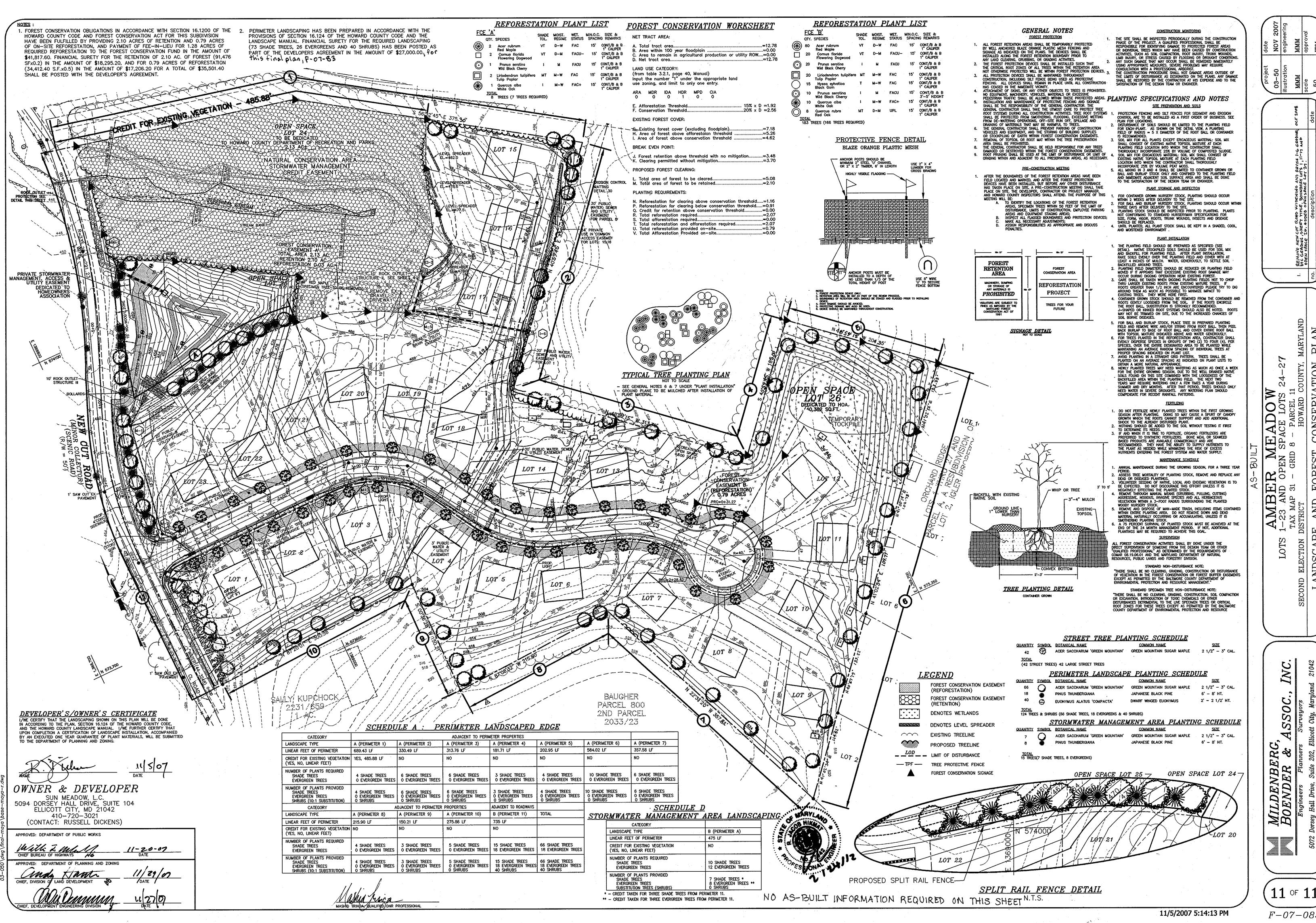
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