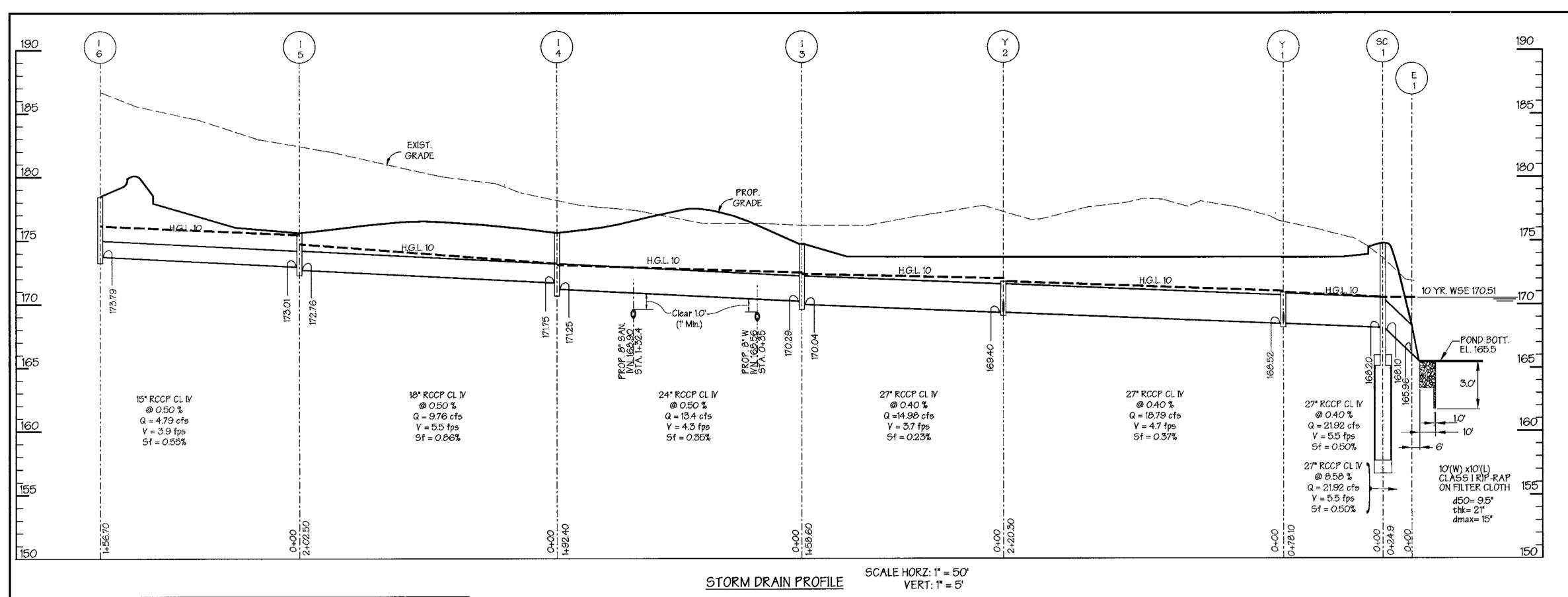
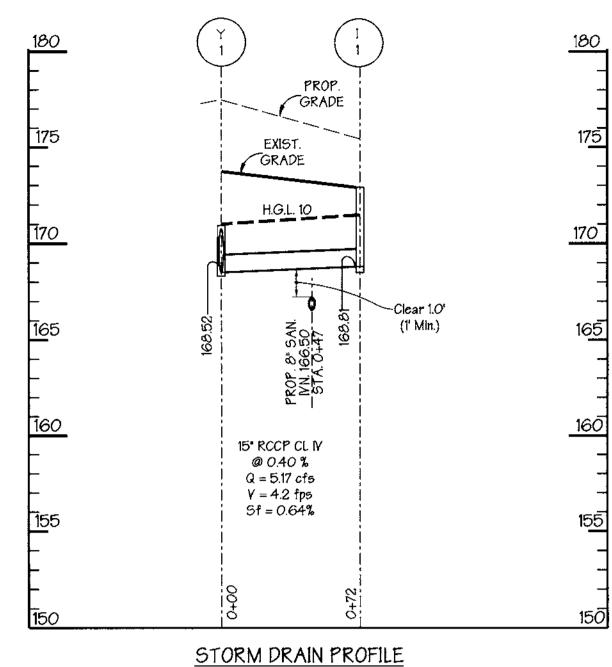


8976002siteplandet.s01 02/19/99 EMT





5 | OKIVI DRAIN | ROFII | SCALE HORZ: 1" = 50' | VERT: 1" = 5'

		STRI	JCTU	IRE S	SCHEDULE
NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	REMARKS
E-1	CONC. END-SEC.	27"	165.70		HOW, CO. DTL, SD 5.52
E-2	CONC. END-SEC.	30"	165.70		HOW, CO. DTL, SD 5.52
SC-1	STORMCEPTOR	4800 GAL.	168.10	174.80	MODEL STC 4800
SC-2	STORMCEPTOR	6000 GAL.	168.76	176.00	MODEL STC 6000
Y1	WYE	27"	168.52		HOW, CO. DTL, SD 1.11
Y–2	WYE	27"	169.40		HOW. CO. DTL. SD 1.11
MH-1	MODIFIED*	TYPE 'A'	165.00	169.50	HOW, CO, DTL, G 5.03*
MH-2	MODIFIED*	TYPE 'A'	165.17	169.70	HOW. CO. DTL. G.503 *

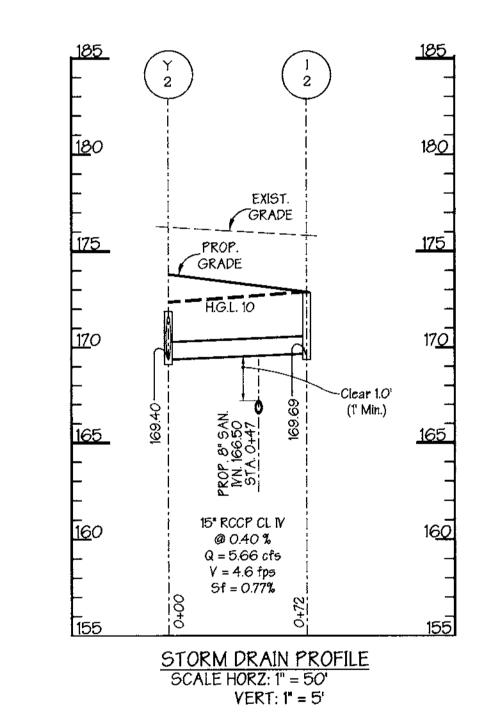
* FRAME AND COVER TO BE FLUSH WITH SLAB

Stormceptor Operation and Maintenance Schedule

1. The Stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the Stormceptor unit yearly at a minimum, utilizing the Stormceptor Inspection/Monitoring Form. Inspections shall be done by using a clear Plexiglass tube ("sludge judge") to extract a water column sample. When the sediment depths exceed the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.

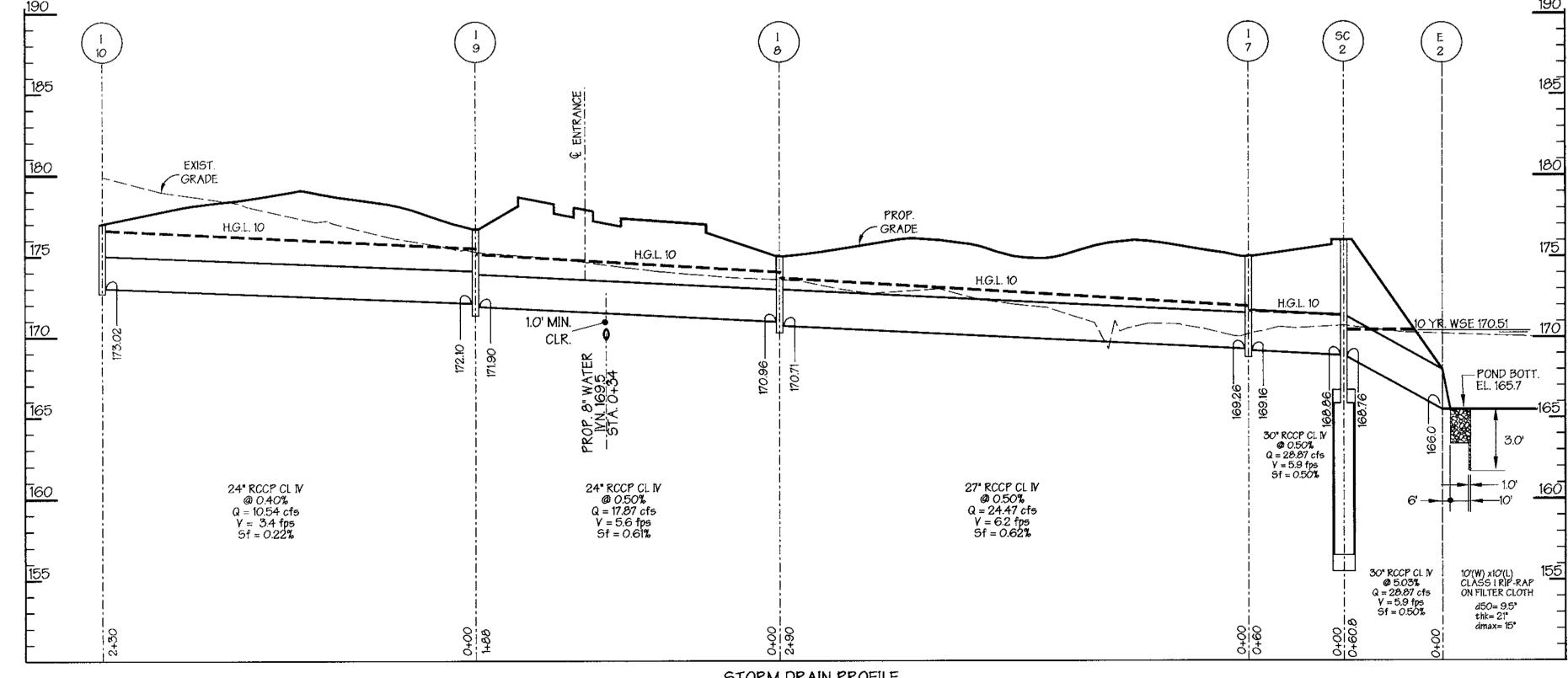
2. The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.

- 3. The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- 4. The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the OWNER shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
- 5. The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available the Howard County officials upon their request.



			NLET	SCH	IEDUI	_E
NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.	Q=CFS	ANNE ARUNDEL DET.
I – 1	DBL. 'S'		168.81	172.50 *	5.17	HO. CO. STD DTL. SD- 4.23
I <u>-</u> 2	DBL. '\$'		169.69	172.50 🛧	5.66	HO. CO. STD DTL. SD- 4.23
I–3	DBL. 'S'	170.29	170.04	174.50 🛧	3.03	HO. CO. STD DTL. SD- 4.23
I–4	DBL. 'S'	171.75	171.25	175.60 🖈	4.88	HO. CO. STD DTL. SD- 4.23
l 5	DBL. 'S'	173.01	172.76	175.60 🛧	5.12	HO. CO. STD DTL. SD- 4.23
I - 6	DBL. 'S'		173.79	178.85 🖈	4.28	HO. CO. STD DTL. SD- 4.23
<u>1</u> –7	DBL. 'S'	169.26	169.16	175.00 🛨	6.03	HO. CO. STD DTL. SD- 4.23
I 8	DBL. 'S'	170.96	170.71	175.00 🛨	8.08	HO. CO. STD DTL. SD- 4.23
i –9	DBL. 'S'	172.10	171.90	176.70 🛨	8.18	HO. CO. STD DTL. SD- 4.23
1–10	DBL. 'S'		173.02	177.01 🛨	10.45	HO, CO, STD DTL, SD- 4.23

* TOP GRATE



AMPROVED: HOWARD SOIL CONSERVATION DISTRICT

PLAN NUMBER

Reviewed for the Howard Conservation District and meets technical requirements.

Conservation Service

DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

CONSERVATION DISTRICT

CONSERVATION

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

DIRECTOR

DIRECTOR

DIRECTOR

DIRECTOR

DIRECTOR

DIRECTOR

DIATE

ADDRESS CHART

PARCEL NO. STREET ADDRESS

BUILDING No. 1 8955 HENKELS LANE

BUILDING No. 2 8975 HENKELS LANE

SUBDIVISION NAME

N/A

SECTION NAME

N/A

PARCEL *

45

PLAT *

N/A

BLOCK *

ZONE

ADDRESS

BUILDING No. 1 8955 HENKELS LANE

SECTION NAME

N/A

PARCEL *

45

PLAT *

N/A

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PARCEL *

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SECTION NAME

N/A

ADDRESS

BUILDING NO. 2 8975 HENKELS LANE

GWS

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.

Civil Engineers and land Surveyors 658 Kenilworth Drive, Suite 100 Towson, Maryland 21204 (410) 825-8120



STORM DRAIN PROFILE

SCALE HORZ: 1" = 50'

VERT: 1" = 5'

MERRITT - HK, LLC

2066 LORD BALTIMORE DR. BALTIMORE, MD 21207 (410) 298-2600 DESIGNED BY: H.P.P.

DRAWN BY: J.N.L.

CHECKED BY: H.P.P.

REVISIONS

WATER CODE B-02

STORMAN AND STO

STORM DRAIN PROFILES

THE HENKEL PROPERTY

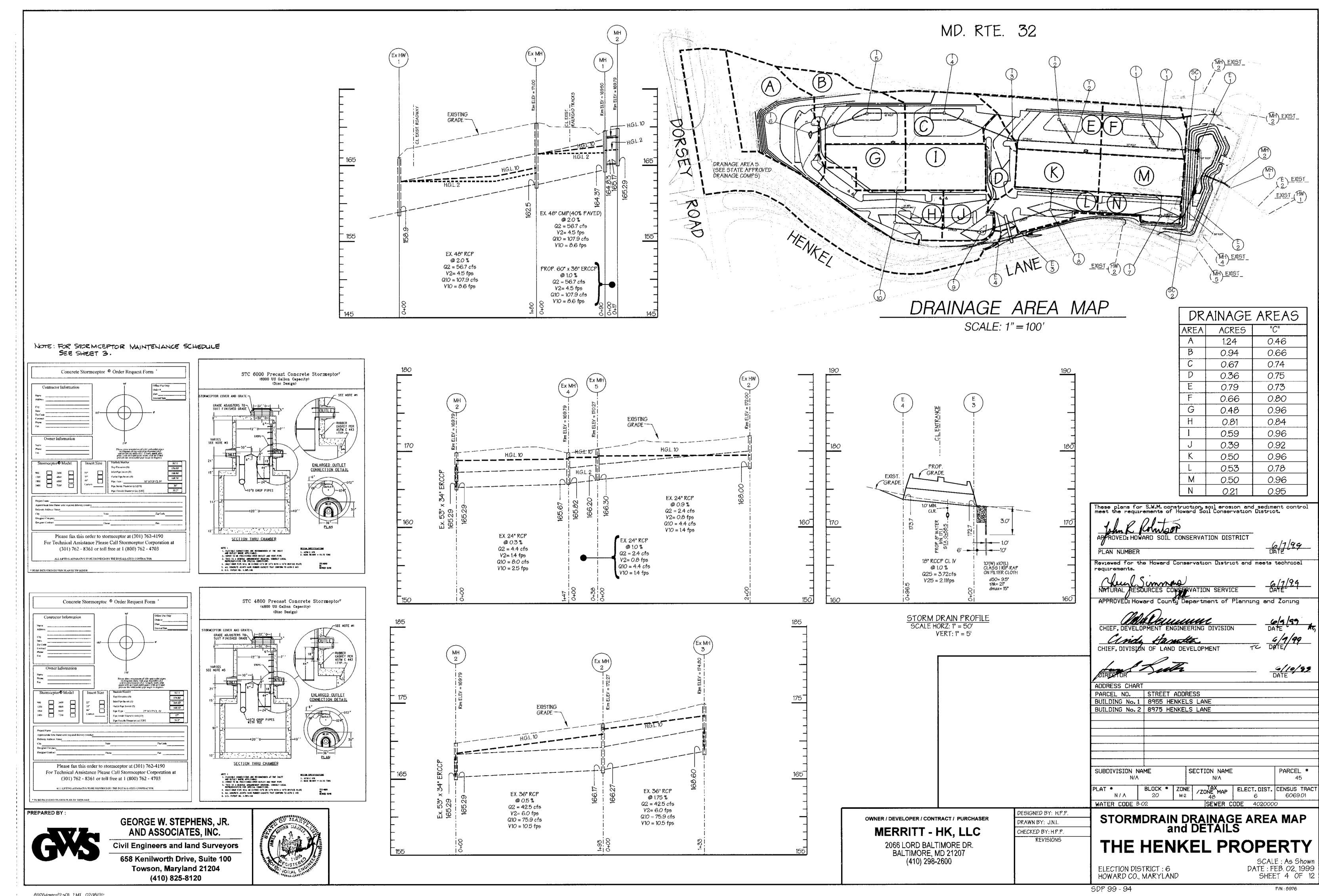
ELECTION DISTRICT : 6 HOWARD CO., MARYLAND SCALE : As Shown DATE : FEB. 02, 1999 SHEET 3 OF 12

SEWER CODE 4020000

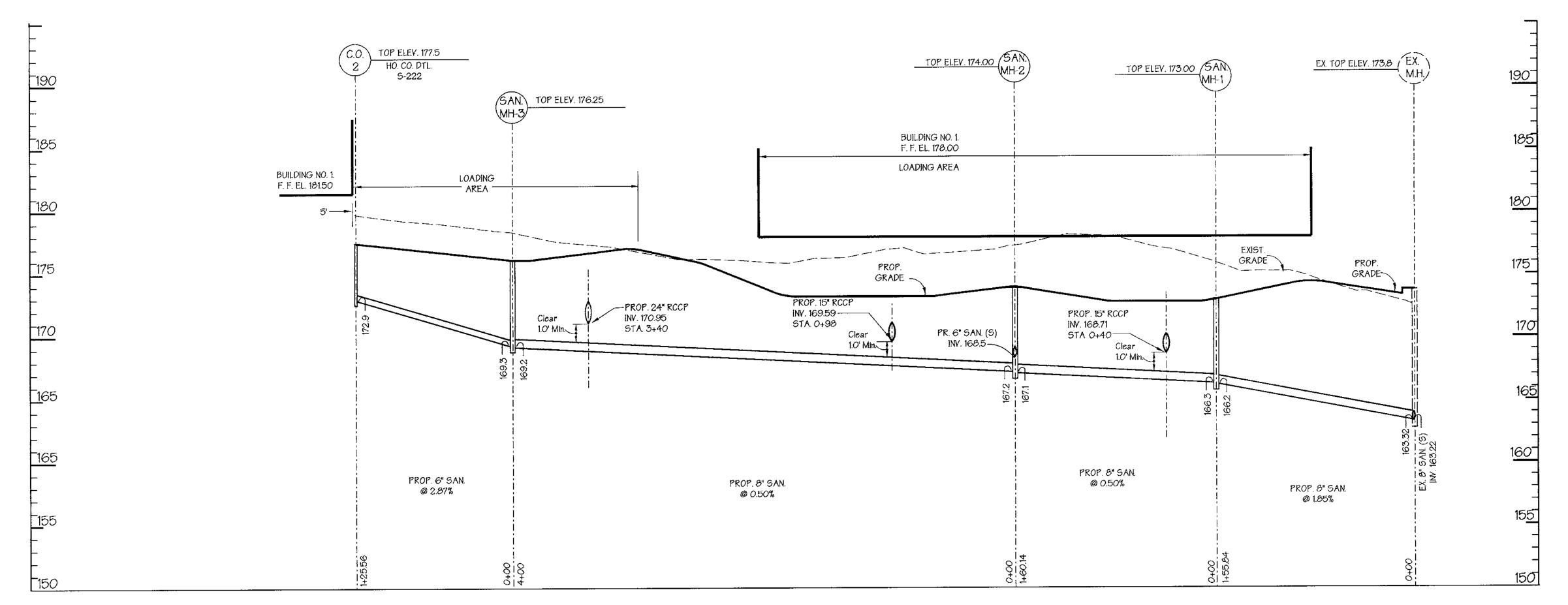
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SDP 99 - 94

P/N:8976



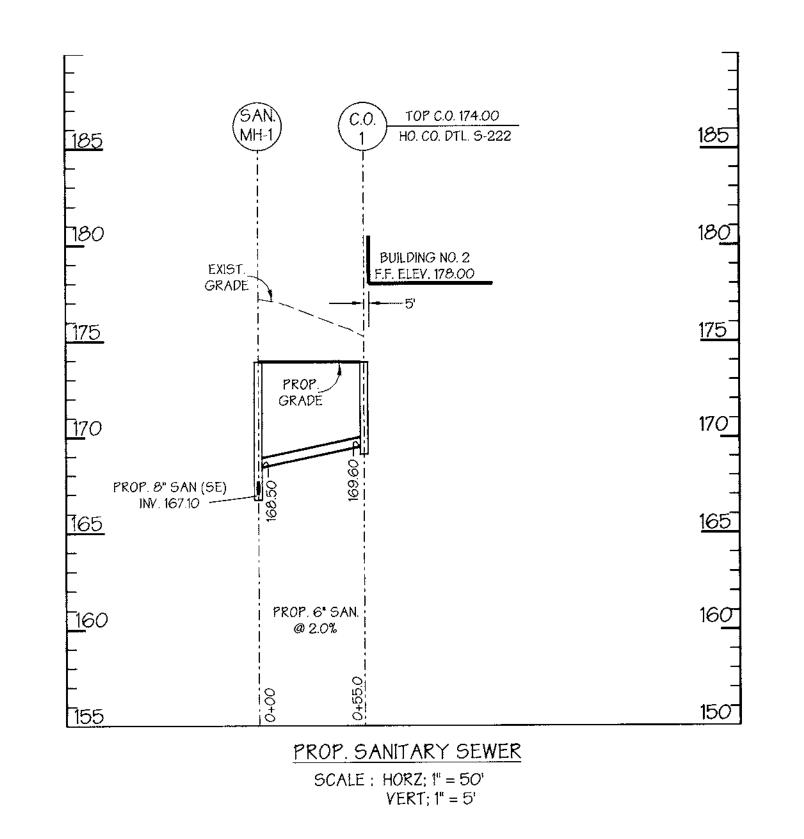
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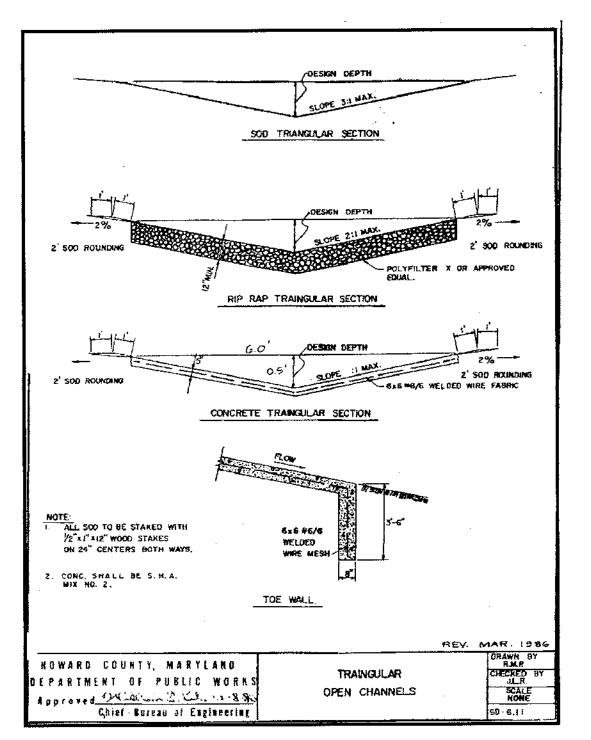


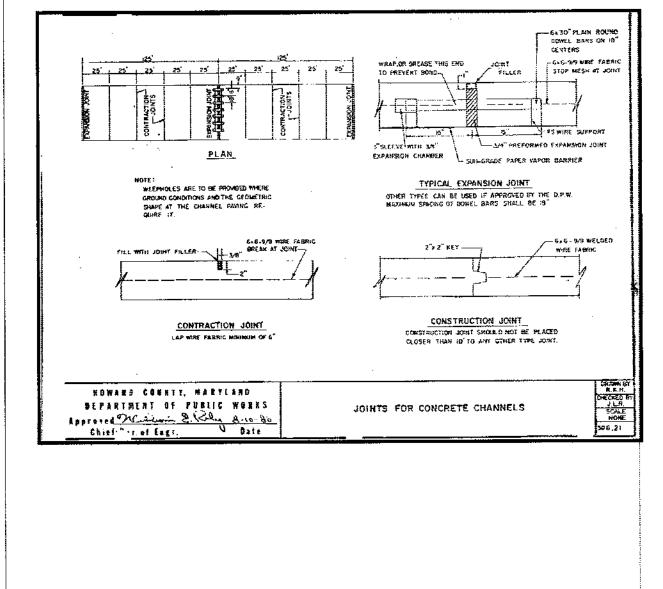
PROP. SANITARY SEWER

SCALE: HORZ; 1" = 50'

VERT; 1" = 5'







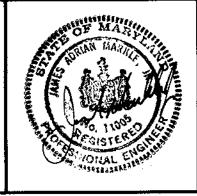
These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District. PLAN NUMBER Reviewed for the Howard Conservation District and meets technical requirements. APPROVED: Howard County Department of Planning and Zoning 6/9/59 DATE A ADDRESS CHART PARCEL NO. STREET ADDRESS BUILDING No. 1 8955 HENKELS LANE BUILDING No. 2 8975 HENKELS LANE SUBDIVISION NAME SECTION NAME PARCEL # BLOCK * ZONE ELECT. DIST. CENSUS TRACT SEWER CODE 4020000 WATER CODE B-02 DESIGNED BY: H.P.P. **SEWER PROFILES**



GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.

Civil Engineers and land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204

(410) 825-8120



MERRITT - HK, LLC

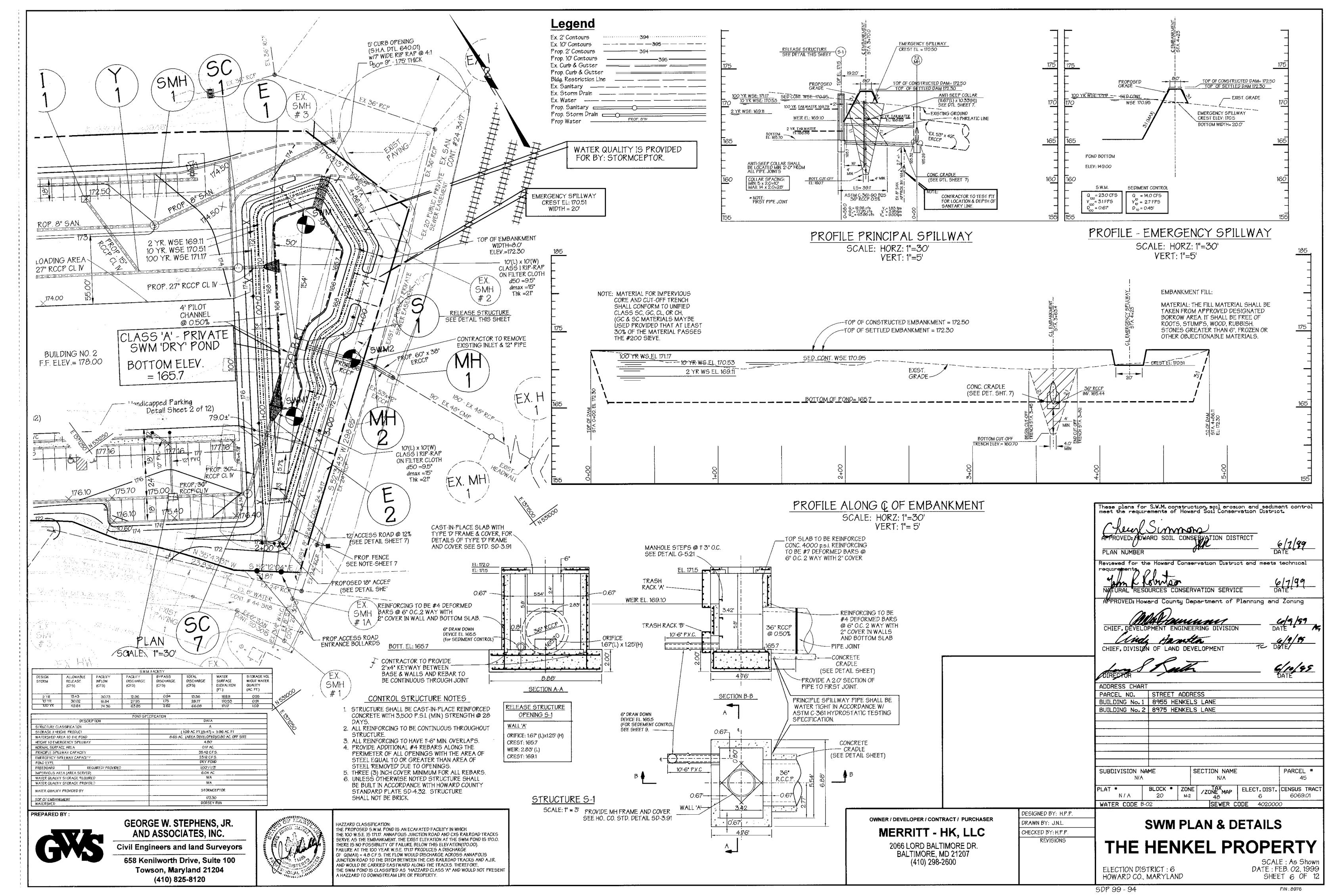
2066 LORD BALTIMORE DR.
BALTIMORE, MD 21207
(410) 298-2600

THE HENKEL PROPERTY

ELECTION DISTRICT : 6 HOWARD CO., MARYLAND SCALE: As Shown DATE: FEB. 02, 1999 SHEET 5 OF 12

SDP 99 - 94

P/N : 8976



8976swmpln.s01 EMT 02/18/99

POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard 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.

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 50 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.

EARTH FILL

MATERIAL - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones areater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut off trench shall conform to United Soli Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical

PLACEMENT - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in a maximum 8° 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 the 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 the water can be squeezed out.

Minimum required density shall not be less than 95% of maximum dry 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.

Note: See additional compaction requirements per geotechnical engineer. (Sheet 10 of 13)

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

PIPE CONDUITS All pipes shall be circular in cross section.

REINFORCED CONCRETE PIPE - All pipe to be circular in cross section

All 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 Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the

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 2 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

PERFORATED PIPE

Bituminous coated corrugated metal pipe (BCCMP) shall conform to the requirements of AASHTO M36 (pipe should be specified to be fully bituminous coated in accordance with AASHTO MISO). Perforated pipe is TYPE III. Pipe shall have CLASS 2 perforations 3/8" in diameter.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 918 (Portland Cement Concrete Mixture), Mix No. 3

REINFORCING STEEL IN CONCRETE STRUCTURES

Reinforcing steel shall be ASTM A 615, Grade 60. Steel angles and anchor bars

ROCK RIP RAP

shall be ASTM 1-36.

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the volds between the larger rocks. Filter cloth 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,

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 the 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 of 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 to sumps from which 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 Maryland Soll Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the

Stormwater management facility will be stabilized with permanent slope seeding as

1. Seedbed Preparation - lossen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

2. Soil Amendments - apply 2 tons per acre Dolomitic Limestone (92 bs./1000sq. ft.), 600 bs. per acre 10-10-10 fertilizer (14 bs./1000 sq. ft.), and 400 bs. per acre of 30-0-0 Ureaform Fertilizer (9.2 \$5./1000 sq. ft.). Harrow or disc lime and fertilizer Into upper 3 inches of soil. At time of seeding, apply 400 lbs. (9.2 lbs./1000 sq. ft.) of 30-0-0 Ureaform Fertilizer and 500 lbs. per acre (11.5 lbs./1000 sq. ft.), of 10-0-0

3. Seeding - for the period March 1 through April 30 seed with 40 bs. per acre Kentucky 31 Tail Fescue, and 15 bs. per acre inoculated Crown Vetch. For the period May 1 through July 31 seed with 60 bs. per acre Kentucky 31 Tall Fescue and 2 lbs. per acre inoculated Weeping Lovegrass. For the period August 1 through October 15 seed with 40 lbs. per acre Kentucky 31 Tall Fesue, and 20 lbs. per acre inoculated interstate Serica Lespedeza. For the period October 16 through February 28 protect the site by Option (1): 2 tons per acre of well anchored straw. For the period May I through February 28 Inoculated Crown Yetch shall be applied during the subsequent period of March 1 through April 30 at the rate of 15 lbs. per acre. 4. Mulching - apply 1.5 to 2 tons per acre of un-rotted small grain straw immediately after seeding. Anchor muich immediately after application using 218 gallons per acre of emulsified ashphalt. On flat areas of slope 8 feet or higher, use 348 gallons per acre of anchoring.

5. Maintenance - Inspect all seeded areas and make needed repairs, replacements and re-seeding

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 sediment control measures to be employed during the construction process.

PERMANENT SLOPE SEEDING

After spreading 4" topsoil, seed with a mixture of 30% inoculated Crown Vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs./ acre; 10-20-20 fertilizer shall be applied at a rate of 25 lbs./1000 sq. ft.; lime at a rate of 92 lbs / 1000 s.f.; mulch area with unweathered small grain straw at a rate of 1.5 Tons/acre; anchor with a rapid curing asphalt (RC-70, R-250 or RC-800 at a rate of 0.1 gal/S.Y.

Filter cloth shall meet or exceed the requirements in Section 20.25-5 of the Howard County Standard Specifications and Details for Construction. Durable fliter fabrics for drainage purposes are not limited to Mirafi 1405, DuPont TYPAC No. 3341 or 3401.

Filter cloth shall be protected from punching or tearing. Any damage other than an occasional small hole shall be repaired by placing another small place of filter cioth over the damaged area or by replacing the cloth section. All overlaps shall be a

GABIONS

Gabions shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 312 and must be Cl. IV, PVC coated.

OUTFALL PROTECTION

Subgrade for riprap or gabion outfalls shall be prepared to the required line and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undistrubed material. All rock or gravel shall conform to the specified grading limits when installed in the riprap or gabion. All stone shall be delivered and placed in a manner that will insure the stone in place shall be reasonably homgeneous with the larger rocks uniformly distributed and firmly In contact one to another, with the smaller rocks filling the voids between the larger rocks. Stone for outfalls may be placed by equipment. Riprap or gabion outlets shall be constructed to full course thickness in one operation and in such a manner as to avoid any displacement of underlying materials. The contractor shall avoid damage to the filter blanket or cloth during placement of riprap. Hand placement shall be required as needed to prevent damage to the permanent works. Filter cloth shall be placed under all riprap and gabions.

CONSTRUCT FENCING IN ACCORDANCE WITH THE STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 690.02. USE SPECIFICATIONS FOR A 6' FENCE, SUBSTITUTING 42" FABRIC AND 6" 8" LINE POSTS. CONSTRUCT THE GATE IN ACCORDANCE WITH THE S.H.A. STANDARD DETAIL 690.01 WITH 42" FABRIC THE FABRIC USED FOR THE FENCE AND GATE MUST CONFORM TO AASHTO DESIGNATION M-181-74. DARK VINYL COATING IS REQUIRED FOR THE FENCE POSTS AND WIRE FABRIC IN ACCORDANCE WITH THE LANDSCAPE MANUAL ADOPTED BY RESOLUTION 56-90, OCTOBER 1, 1990. * 3 SPLIT RAIL (WOOD) FENCE IS OPTIONAL

CUT-OFF TRENCH - THE CUT-OFF 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 1:1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSUER MAXIMUM DENSITY AND MINIMUM

ANTI-SEEP COLLAR NOTES

PERMEABILITY.

- 1. LOCATE COLLARS A MINIMUM OF 2'FROM ALL PIPE JOINTS 2. THE SEAL BETWEEN THE PIPE AND COLLAR SHALL BE WATER TIGHT.
- 3. COLLAR SHALL PROJECT A MINIMUM OF TWO FEET FROM THE EXTERIOR OF THE CONCRETE CRADLE AND THE PIPE ON ALL FOUR SIDES.
- 4. COLLAR SHALL BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 PSI (MIN.) STRENGTH @ 28 DAYS.
- 5. ALL REINFORCING TO BE CONTINUOUS THROUGHTOUT COLLAR. 6. ALL REINFORCING TO HAVE 1'-6" MIN. OVERLAP.
- 7. PROVIDE ADDITIONAL #4 REBARS ALONG THE PERIMETER OF ALL OPENINGS WITH THE AREA OF STEEL EQUAL TO OR GREATER THAN AREA OF STEEL REMOVED DUE TO OPENINGS. 8. TWO (2) INCH COVER MINIMUM FOR ALL REBARS.
- 9. UNLESS OTHERWISE NOTED COLLAR SHALL BE BUILT IN ACCORDANCE WITH HOWARD COUNTY CONSTRUCTION MATERIAL SPECIFICATIONS. COLLAR SHALL NOT BE BRICK.
- 10. WATER TIGHT SEAL TO BE SIKADUR 32, HI-MOL, CONFORMING TO ASTM C-881; TYPE I & II: GRADE 2: CLASS B & C. EPOXY BONDING/GROUTING

CONTROL STRUCTURE NOTES

IN HOWARD COUNTY PLATE 5D-4.23.

- 1. STRUCTURE SHALL BE CAST -IN- PLACE REINFORCED CONCRETE WITH 3,500 PSI (MIN.) STRENGTH @ 28 DAYS. ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
- 3. ALL REINFORCING TO HAVE 1-6" MIN. OVERLAPS. 4. PROVIDE ADDITIONAL #4 REBARS ALONG THE PERIMETER OF ALL
- OPENINGS WITH THE AREA OF STEEL EQUAL TO OR GREATER THAN AREA OF STEEL 'REMOVED' DUE TO OPENINGS. THREE (3) INCH COVER MINIMUM FOR ALL REBARS. 6. UNLESS OTHERWISE NOTED STRUCTURE SHALL BE BUILT IN ACCORD-
- TIONS AND HOWARD COUNTY STANDARD PLATE SD-4.23. STRUCTURE SHALL NOT BE BRICK. 7. STRUCTURE TO CONFORM TO THE STRUCTURAL DETAILS REFERRED TO

ANCE WITH HOWARD COUNTY CONSTRUCTION MATERIAL SPECIFICA-

POND NOTES

- 1. NO TREES, SHRUBS OR OTHER WOODY VEGETATION WILL BE ALLOWED WITHIN 50' OF THE INLET STRUCTURE IN THE POOL AREA, AND NOT
- ALLOWED WITHIN 15' OF THE TOE OF THE EMBANKMENT. 2. IF REQUIRED BY THE SEDIMENT CONTROL INSPECTOR FENCING SHALL BE
- INSTALLED TO PREVENT ACCESS TO THE BASIN BY CHILDREN. 3. THIS STORMWATER MANAGEMENT FACILITY IS DESIGNED TO MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND THE SOIL CONSERVATION DISTRICT. MAINTENANCE OF THIS PRIVATE FACILITY WILL BE THE RESPONSIBILITY OF
- 4. IF UNSUITABLE (PERVIOUS) MATERIAL IS ENCOUNTERED AT TIME OF CUT-OFF TRENCH INSTALLATION DEEPER THAN 4', IT WILL BE NECESSARY TO EXTEND THE CUT-OFF TRENCH DOWN UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEOTECHNICAL ENGINEER. AT TIME OF CONSTRUCTION, EXISTING SOIL ADJACENT TO CUT-OFF TRENCH SHALL BE EVALUATED FOR SEEPAGE BY A GEOTECHNICAL ENGINEER AND ADDRESSED PER RECOMMENDATIONS OF THE GEOTECHNICAL
- 5. SOILS TO BE USED FOR CUT-OFF TRENCH SHALL CONFORM TO UNIFIED CLASSES CL, SC, CH OR GC.

#4 BARS GALY. .

6 1/2" o.c. EACH WAY

SECTION E-E

2.83' W x 2.40' H OPENING

TRASH RACK 'A'

hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meet the

Certify means to state or declare a professional opinion based upon on-site inspections and material tests which are

conducted during construction. The on-site inspections and material tests are those inspections and tests deemed

sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the engineer nor does an engineer's certification relieve any other party from meeting requirements imposed by

contract, employment, or other means, including meeting commonly accepted industry practices.

AS-BUILT CERTIFICATION:

approved plans and specifications.

BOLTS @ 6" o.c.

4*x4*x1/4* GALV. ANGLE

BOLTED WITH 3/8"x4"~

BOLTS @ 6" o.c.

GENERAL NOTES

UNLESS OTHERWISE NOTED, ALL CONSTRUCTION AND WORKMANSHIP SHALL

- BE IN ACCORDANCE WITH: 1. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECI-FICATIONS AND DETAILS FOR CONSTRUCTION, 1976, ERRATA AND
- 2. SOIL CONSERVATION SERVICE MARYLAND STANDARDS AND SPECI-FICATIONS POND CODE 378, NOVEMBER, 1992.
- 3. MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION, JANUARLY, 1982, STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIAL.
- 4. STORMWATER MANAGEMENT APPROVED UNDER BILL 105-84.

AS-BUILT NOTES

- 1. AS-BUILT PLANS AND CERTIFICATION ARE REQUIRED FOR THIS STORM-WATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER. HOWARD COUNTY WILL NOT PERFORM THE INSPECTION OR PREPARE THE AS-BUILT PLANS OR CERTIFICATION. THE STORMWATER MANAGEMENT PERMIT SECURITY WILL NOT BE RELEASED UNTIL THE AS-BUILT PLANS AND CERTIFICATION
- ARE APPROVED BY HOWARD COUNTY. 2. IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS AND CERTIFI-CATION, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT THE SPECIFIC STAGES DURING CON-STRUCTION AS REQUIRED BY THE CURRENT HOWARD COUNTY STORM-WATER MANAGEMENT POLICY AND DESIGN MANUAL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

STOCKPILE/SPOIL AREA NOTES

ANY AREA NEEDED FOR TEMPORARY STOCKPILE AND SEDIMENT BASIN SPOIL WILL BE LOCATED WITHIN THE LIMIT OF DISTURBANCE, AND UPSTREAM FROM A SEDIMENT CONTROL MEASURE, BUT LOCATED SUCH AS NOT TO IMPEDED UPON THE MEASURE.

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY DETENTION POND ROUTINE MAINTENANCE

- 1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY
- 2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS NEEDED.
- 3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- 4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIP-RAP OUTLET SHALL BE
- REPAIRED AS SOON AS IT IS NOTICED. NON-ROUTINE MAINTENANCE 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS
- SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS. 2. SEDIMENT SHOULD BE REMOYED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, OR WHEN DEEMED NECESSARY

#4 BARS GALV. @

6 1/2" o.c. EACH WAY

NOTE: TRASH RACKS ARE TO BE HOT DIPPED GALVANIZED AFTER FABRICATION

1.67" W x 1.25" H OPENING

TRASH RACK 'B'

TRASH RACK DETAILS S-1

SCALE: 1" = 3"

3/8"x4" GALV.

BOLTS @ 6" o.c.

4"x4"x1/4" GALV. ANGLE

BOLTED WITH 3/8*x4*__

#4 GALY, BARS -

certify that this pond meets all requirements for hazard class 🔥 B or C. (Requiirements as stated in the Soil Conservation

Service - Maryland Standards and Specifications for Pond, Code 378, November 1992). All necessary investigations and

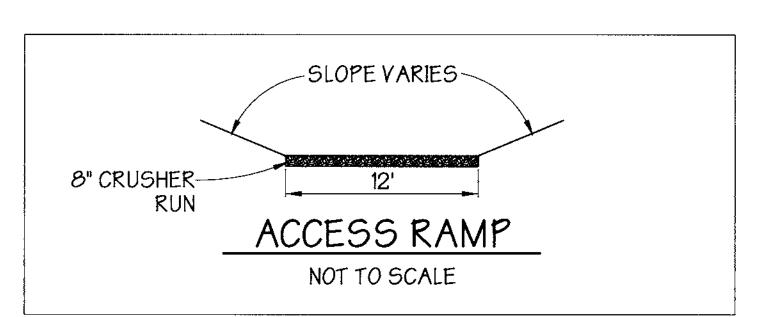
computations have been performed to verify this finding. A copy of said information has been supplied to Howard County Soil

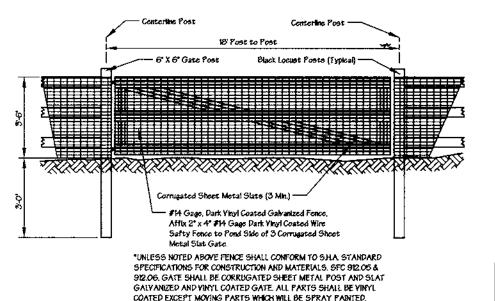
@ 6 1/2" o.c.

CONSULTANT'S HAZARD CLASS CERTIFICATION:

BOLTS @ 6" o.c.

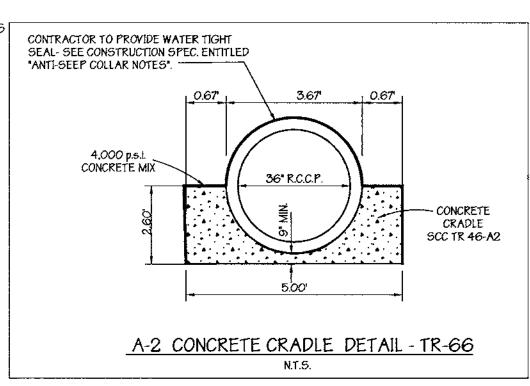
BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.





Corrugated Sheet Metal Gate

With Safety Wire Fence



#4 BARS GALY. @

6 1/2³ o.c. EACH WAY

SECTION G-G

•

0.33' - 2.00' -0.33'

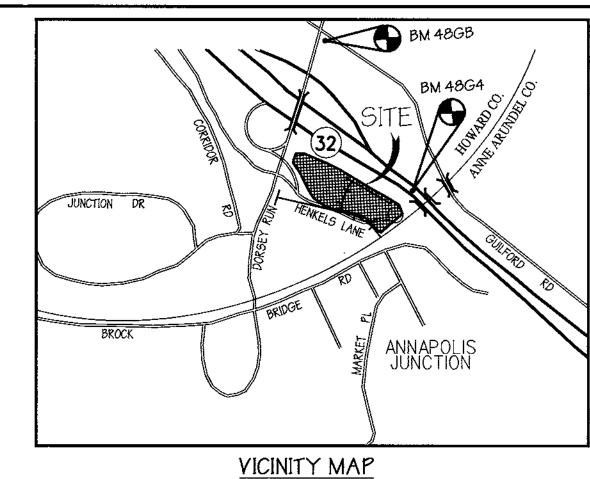
2.00' W x 2.88' H OPENING

TRASH RACK 'C'

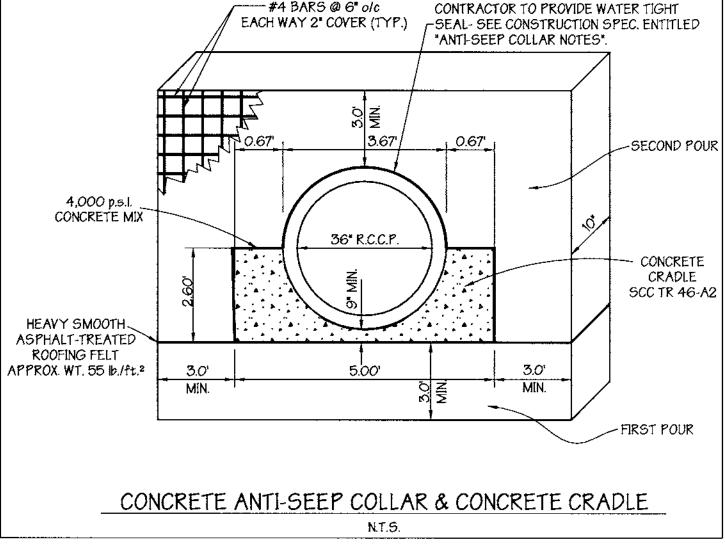
FOR SED. CONTROL

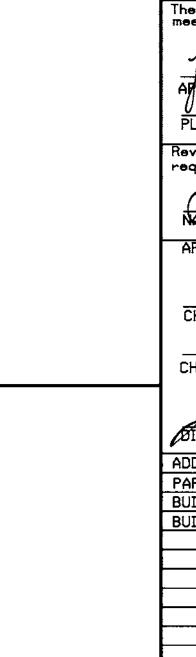
Date 5/27/99

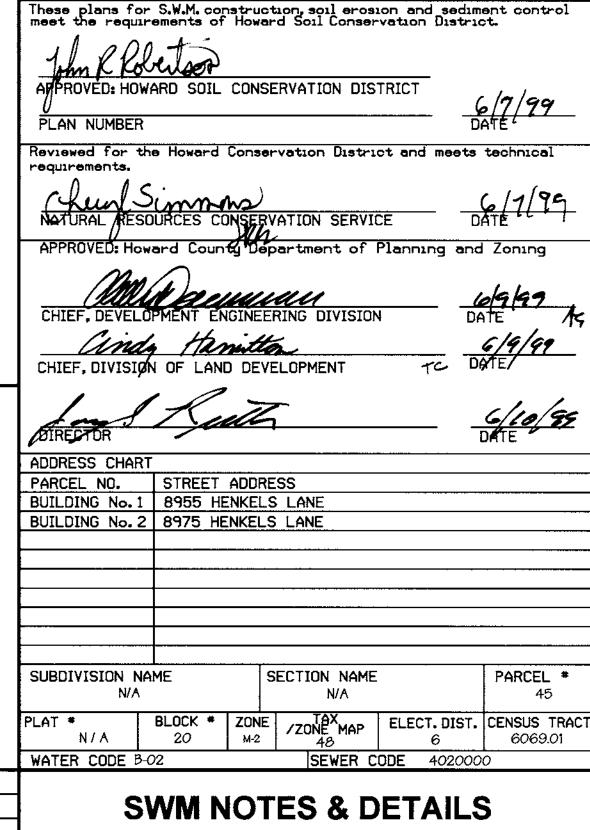
PE# //005



SCALE: 1" = 1000









GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.

ivil Engineers and land Surveyors 658 Kenilworth Drive, Suite 100 Towson, Maryland 21204

(410) 825-8120



ENGINEER CERTIFICATION:

l 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 and that it 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. "

Date 5/27/99 PE# 1/005

DEVELOPER CERTIFICATION:

BOLTS @ 6" o.c.

4"x4"x1/4" GALV. ANGLE

BOLTED WITH 3/8"x4"

BOLTS @ 6" o.c.

#4 GALV. BARS -

@ 6 1/2" o.c.

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. shall engage a registered professional engineer to supervise pond construction and provide the Howard Soi Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on site inspection by the howard fail conservation district. "

Conservation District.

OWNER / DEVELOPER / CONTRACT / PURCHASER

MERRITT - HK, LLC

2066 LORD BALTIMORE DR. BALTIMORE, MD 21207 (410) 298-2600

DESIGNED BY: H.P.P. DRAWN BY: J.N.L. HECKED BY: H.P.P.

REVISIONS

THE HENKEL PROPERTY

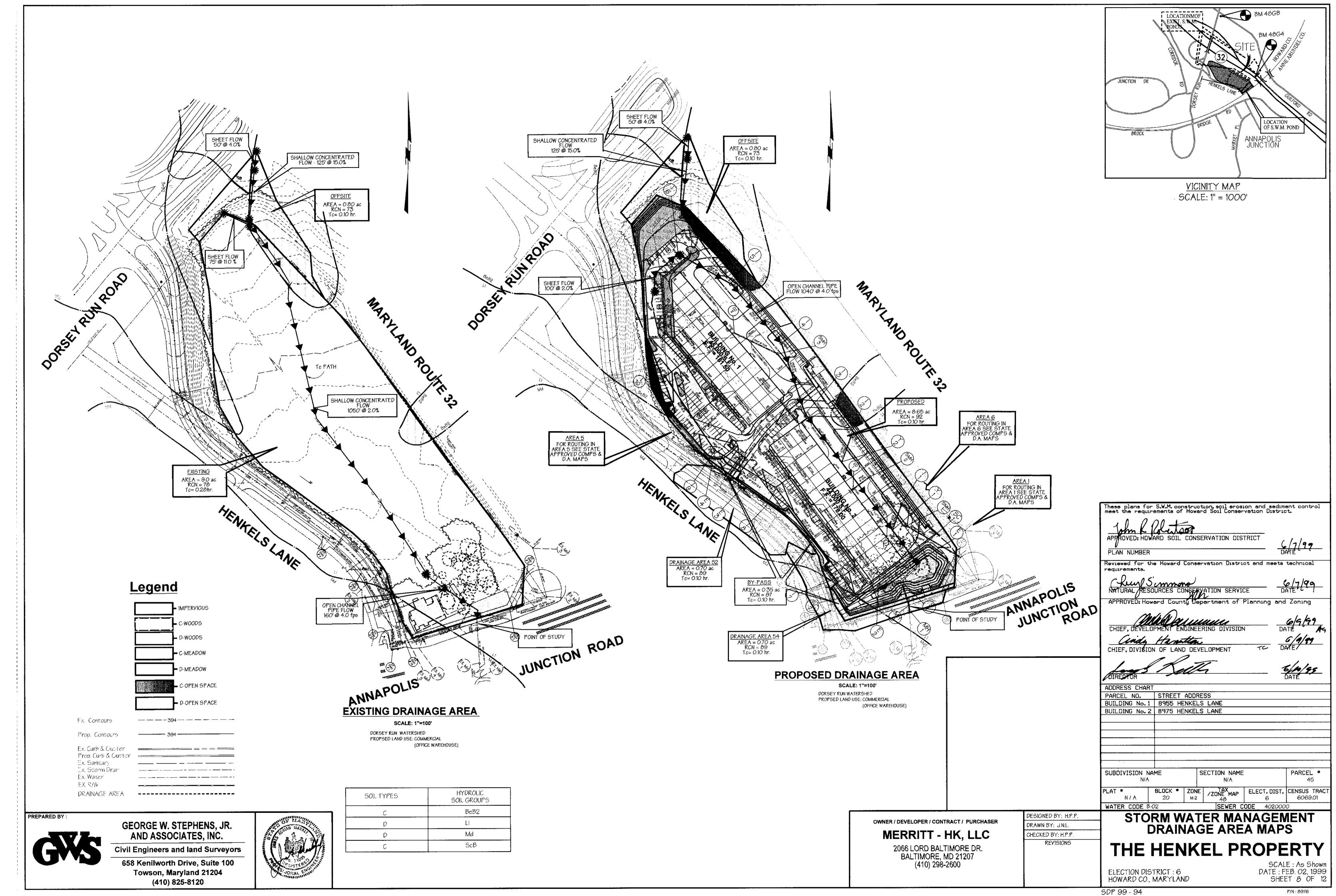
ELECTION DISTRICT: 6 HOWARD CO., MARYLAND

SCALE: As Shown DATE: FEB. 02, 1999 SHEET 7 OF 12

SDP 99 - 94

897601iswmdet.s01 EMT 02/19/99

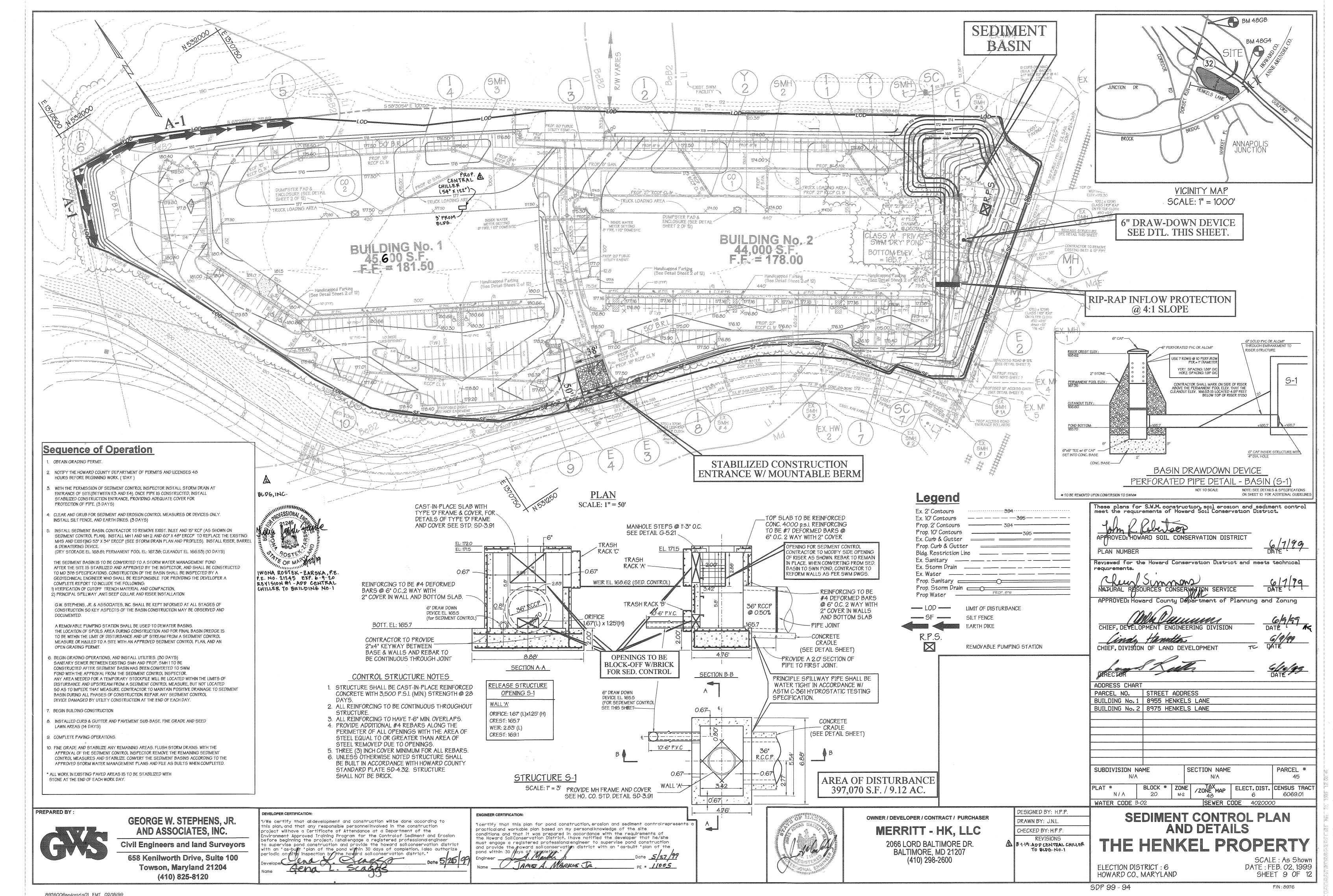
P/N:8976



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Stabilization Specifications

Section I - Vegetative Stabilization Methods and Materials

- I Install crosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basis
- II. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
- III. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres
- B. Soil Amendments (Fertilizer and Lime Specifications)
- I. Soil tests must be performed to determine the exact ratios and application rates for both time and fertilizer on sites having disturbed areas over 5 areas. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples may be taken for engineering purposes may also be used for chemical analysis.
- il. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with order approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fortilizer laws and shall bear the name, trade name or trademark and warrantee of the
- III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness
- that at least 50% will pass through a \$100 mesh sleve and 98 100% will pass through a \$20 mesh sleve. by incorporate time and fertilizer into the top $3\cdot 5$ of soil by disking or other suitable means.
- v. Soil Amendments: Use only one of the following schedules
- I. Preferred Apply 2 tone per agre dolomble limestone (92 lbs. / 100 s.f.) and 600 lbs. per agre 10-10-10 fertilizer (14 lbs. / 100 s.f.). Before seeding, harrow or disc into upper three inches of soil. At time of seeding apply 400 by per sore 30-0-0 auriform fertilizer (91 bs / 100 s f)
- II. Acceptable Apply 2 tons per acre dolomtic limestone (92lbs. / 1000 s.f.) and 1000 bs. per acre IO-10 to fertilizer (23 be 1 1000 of) before seeding harrow or disc upper three inches of soil.

C. Seedbed Preparation

I. Temporary Seeding

- a. Seedbed preparation shall consist of loosening soil to a depth of sultable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should not be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
- b. Apply fertilizer and time as prescribed on the plans.
- c. incorporate time and fertilizer into the top 3 5" of soil by disking or other suitable means.

II. Permanent Seedina

a. Minimum soil conditions required for permanent vegetative establishment:

- 1. Soil pH shall be between 6.0 and 7.0. 2. Soluble salts shall be less than 500 parts per million (pom).
- 3. The soil shall contain less than 40% clay but enough fine grained material (> 30% slit plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable. 4. Soil shall contain 1.5% minimum organic matter by weight.
- 5. Soil must contain sufficient pore space to permit adequate root penetration 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoll
- b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarlifed or otherwise loosened to a depth of 3 - 5° to permit bonding of the topsoil to the surface area and to create horizontal crosion check slots to prevent topsoil from sliding down a slope.
- c. Apply soil amendments as per soil test or as included on the plans
- d. Mix soll amendments into the top 3 5° of topsoll by disking or other sultable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface sell by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top I - 3° of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

I. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material in this job.

ii. Inoculant - The inoculant for treating legume seed in the seed mixture shall be a ours culture of nitrogen-fixing bacteria prepared specifically for the species, inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the rended rate when hydrogeoding. NOTE: It is very important to keep inoculant as cool as posiused. Temperatures above 75 - 80 degrees F. can weaken bacteria and make inoculant less effective.

NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO YERIFY TYPE AND RATE OF SEED USED. E Methods of Seeding

- I. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
- a, if fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total soluble nitrogen; P205 (phosphorus): 200 - bs./ac.; K2O (potassium); 200 bs./ac
- b. Lime use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated Ilms when hydrosecding
- c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

- a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
- b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the
- III. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil
- a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4
- Inch of soil covering. Seedbed must be firm after planting. b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the

seeding rate in each direction. F. Mulch Specifications (In order of preference)

- I. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
- II. Wood Cellulose Fiber Mulch (WCFM)
- a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color
- to facilitate visual inspection of the uniformly spread slurry 6. WCFM, including dvc, shall contain no dermination or drowth inhibiting factors

contact with the soil without inhibiting the growth of the grass seedlings.

- d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in
- e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic. f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm. diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding
- capacity of 90% minimum NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES
- OF GRASS IS DESIRED. G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding
- I. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with those specifications.

Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 25 tons/acre.

II. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre.

- It Wood collisions fiber used as a mulch shall be applied at a net dry weight of 1500 by per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed mmediately following mulch — Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods(listed by preference), depending upon size of area and erosion hazard: I. A muich anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil

surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to

- flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used
- iii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose filter shall be mixed with water and the mixture shall
- contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. III. Application of liquid binders should be heavier at the edges where wind catches muich, such as in alleys and on the crests of banks. The remainder of area should appear uniform after binder application Synthetic binders - such as Acrylic DLR (Argo-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or
- other approved equal may be used at rates recommended by the manufacturer to anchor mulch. iv. Lightweight plastic netting may be stapied over the mulch according to manufacturer's recommendations Netting is usually available in rolls 4' to 15' feet wide and 300 to 3000 feet long.

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

- A Seed Mixtures Permanent Seeding
- I. select one or more off the species or mixtures listed in Table 25 for the appropriate Plant Hardinese Zone (from figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary le not put on the construction plane and completed, then Table 25 must be put on the plane, Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or asthetic treatment may be found in USDA-SCS Technical Field Office Gulde, Section 342 - Critical Area Planting. For special lawn maintainance areas, see Sections IV Sod
- II. For sites having disturbed areas over 5 acres, the rates shownon this table shall be deleted and the rates recommended by the testing agency shall be written in.
- iii. For areas recleving low maintenance, apply ureaform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (150 be/ac), in addition to the above soil ammendments shown in the table below, to be performed at the

Section III - Permanent Seeding Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance

- A. Soed Mixtures Permanent Seeding
- I. select one or more off the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans, Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or asthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintainance areas, see Sections IV Sod
- II. For sites having disturbed areas over 5 acres, the rates shownon this table shall be deleted and the
- III. For areas recieving low maintenance, apply ureaform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (150 bs/ac), in addition to the above soil ammendments shown in the table below, to be performed at the

Section IV - Sod: To provide quick cover on disturbed areas (2:1 grade or steeper). A. General specifications

- I. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approval. Sod labels shall be
- it Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude too growth and thatch, individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pade and torn or uneven ends will not be acceptable.
- Standard size sections of sod shall be strong enough to support their own weight and retain their. alze and shape when suspended vertically with a firm grasp on the upper 10 percent of the section
- iv. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- v. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation
- vi. Site Preparation: Fertilizer and Lime application rates will be determined by soil test. Under unusual circumstances where there is insufficent time for a complete sell test, fertilizer and lime may be applied In amounts shown under vi-b, below.
- a. Prior to sodding, the surface will be cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing, or maintenance operations
- b. Where soll is acid or composted of heavy clays, ground limestone will be spread at the rate of 2 tons per acre(100 lbs. / 1000 s.f.). In all soils 1000 lbs. per acre (25 bs. / 1000 s.f.) of 10-10-to fertilizer or equivalent will be uniformly applied and mixed into the top thre. Inches of soil with the required time
- c. All areas recieving sod will be uniformly fine graded. Hard packed earth will be scarified prior to placement of sod.

24.0 MATERIALS SPECIFICATIONS

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN,	BURST STRENGTH PSL MIN.
٨	0.30 **	250	500
В	0.60	200	320
С	0.30	200	320
D	0.60	90	145
ε	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

US Std. Sieve CW-02215 - ** 0.50 MM. MAX. FOR SUPER SILT FENCE

The properties shall be determined in accordance with the following procedures:

- Apparent opening size MSMT 323

-Grab tensile strength ASTM D 1682: 4 x 8* specimen, ix2* clamps, 12* /min. strain rate in both principal directions of geotextile fabric. ASTM D 3786 -Burst strenath

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and milidew resistant. It shall be manufactured from fibers consisting of iong chain synthetic polymers, and composed of a minimum of 85% by weight of polyolephins, polyesters, or polymides. The geotextile fabric shall resist deterioration from ultraviolet exposure.

with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above. Class F geotextile fabrics for silt fence have a 50 lb./in. minimum tensile strength and a 20 lb./in.

In addition, Classes A through E shall have a 0.01 cm./sec. minimum permeability when tested in accordance

minimum tensile modules when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./ft.²/min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance Geotextile fabrics used in the construction of slit fence shall resist deterioration from ultraviolet exposure

The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimun of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

4. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.

ii. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral Joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all Joints are butted tight in order to prevent

- Hi. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering loints. Sad shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
- lv. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soll surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance

- i in the absence of adequate rainfall, watering shall be performed dally or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4°. Watering should be done during the heat of the day to prevent within
- II. After the first week, sod watering is required as necessary to maintain adequate moisture content
- III. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be naintained between 2" and 3" unless otherwise specified.

Section N - Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

NOTE: Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

A. Turfarass Mixtures

- l. Kentucky Bluegrass Fall sun mixture For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and eastern shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- II. Kentucky Bluegrass/Perennial Rye Full our mixture For use in full our great where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/ Certified Kentucky Bisegrass Seeding rate: 2 counds mixture/1000 square feet. A minimum of 3 Kentucky Bivearage Cultivary must be chosen, with each cultivar ranging from 10% to 25% of
- III. Tall Fescue/Kentucky Bluegrass Full sun mixture For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; certified Tall Fescue Cultivars 95 - 100%, certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate 5 to 8 b /1000 square feet. One or more cultivars may be blended. ly. Kentucky Bluegrass/Fine Fescue - Shade Mixture - For use in areas with shade in Bluegrass lawns. For
- establishment in high quality, intensively managed turf area. Mixture includes; certified Kentucky Bluegrass Cultivars 30 - 40% and certified Fine Fescue and 60 - 70%. Seeding rate: 11/2 - 3 lbs/1000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- NOTE: Turfarase varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo #77, "Turfgrass Cultivar Recommendations for Maryland"
- B. Ideal times of seeding
- Western MD: March 15-June 1, August 1-October 1 (Hardiness Zones 5b, 6a)
- Central MD: March 1-May 15, August 15-October 15 (Hardiness Zones 6b) Southern MD, Eastern Shore: March 1-May 15, August 15-October 15 (Hardiness Zones - 7a, 7b)
- if soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2" " every

3 to 4 days depending on soil texture) until they are firmly established. This is especially true when

seedings are made late in the planting season, in almormally dry or hot seasons, or on adverse sites. D. Repairs and Maintenance

seedbed preparation and seeding recommen

- Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the
- I. Once the vegetation is established, the site shall have 95% groundcover to be considered adequately Ii. If the stand provides less than 40% ground coverage, reestablish following original lime, fertilizer,
- ill. If the stand provides between 40% and 94% around coverage, overseeding and fertilizing using half of the rates originally applied may be necessary
- iv. Maintenance fertilizer rates for permanent seedings are shown in Table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in

Table 25 - Permanent Seeding for Low Maintenance Areas

M	SEED MIX		NTING NTE	SITE	USDA		RECO	MMEN	ED PLA	NTING	DATES		1
ž	(USE CERTIFIED MATERIAL IF AVAILABLE)	LB6/AC.	185,000 50, F1	CONDITIONS	HARDNESS ZONES	5/1: 5/15	3/15 - 6/1	5/16 8/14	6/2 · 7/31	8/1 10/1	8/15 - 10/15	8/15 11/15	
TALL FESCUE (75%) CANADA BLUEGRASS (10%)	850	3.4	MOIST	. 5≽		X			X			Г	
			TOPRY	6.		X			Х				
1	KENTUCKY BLUEGRASS (10%)	i]	6)	X		${}^{-}$	•		X		,
	REDTOP (5%)			<u> </u>	7.0	X			-			Х	ı
				}	76	X		$\overline{}$	-	$\overline{}$		х	ı
	KENTUCK BLUEGRASS (50%)	150	5.4	MOIST TO	5>		х			X			r
2	CREEPING RED FESCUE OR A HARD FESCUE (40%)			MODERATELY DRY TO DRY	64		X		1	X			1,
	REDIOP (IOS)			PKT JODKI	66	X		⇈	-	${}^{-}$	X	\vdash	ľ
	TALL FESCUE (85%)	25	2.9	MOIST	59		×			X	 -		r
	PERENNIAL RYEGRÁSS (10%)	15	2.9 34 25	10 DKY	61	\vdash	x		-	X	t	${}$	٦,
5	KENTUCKY BLUEGRASS (5%)	10	25		6B	×					1 x		
 				1 .	7.6	×.	<u> </u>				1	×	Г
			1	7B	X	1	\vdash	┫	-		X	ı	
	RED FESCUE OR	60	92	MOIS1	5>		Х		_	X		l "	r
4	CHEWINGS FESCUE (80%)	60	.92 .92 .54	TOPRY	6.	-	X	 	 	×	_	\vdash	П
PERENNIAL RYEGRASS (20%)	Perennial Ryegrass (201)	5 54	34	1 1	6)	- X					X		Г
TALL PESCUE (85%) OR	110	25	MOIST	5>	۱	X	<u> </u>	╌	×	 	┢	H	
	PERENNAL RYEGRASS (50%)	20	.46	TODRY	6.	\vdash	X	\vdash	_	X	1	\vdash	ı
5	PLUS CROWINGTOHOR	20 20	.46 .46	1	6b	×	Ë	! 		"	X	\vdash	ı,
	FLATFEA	20	~~		7.	×	\vdash	!-	-		 	×	I `
				i '	7b	X		 				X	ı
	WEEPING LOVEGRASS (17%)	4	.09	DRY TO	6.	X	 	x	ऻ	_	\vdash	-	+
6	SERECIA LESPEDEZA (83%)	20	.46	YERY ORY	7.	Ÿ	-	X	 	-	\vdash	\vdash	L
-]	7 b	x	\vdash	X	-	-	 	\vdash	ľ
-	TALL FESCUE (65%)	HO.	25	DRY 10	5b	Ĥ	x	 	X	×	┡	\vdash	H
	WEEPING LOVEGRASS (2%)	5	.07	VERY PRY	6.	\vdash	x	 	X	X	├─	_	ı
7	₹LUS	20	.46		66	×	Ĥ	X	L^	-	x	\vdash	₫,
	SERECIA LESPEDEZA (16%)				7.4	Ť	\vdash	l î	─	┥	Ĥ	×	
				1	76	- 2	-	Ŷ			┼	- -	ı
	REED CANARYGRASS (75%)	40	.92	WEY TO	5b	Ĥ	x	 		X	↤	Ë	H
	REDTOP (6%) PLUS	40	.07	MODERATELY		\vdash	Ŷ	ι—		Î	! 	\vdash	ı
ð	BIRDSFOOT TREEFOIL (19%)	ю	23	DRY :	66	X	<u> </u>	├─	 	 ^	X	├-	١,
·				1	7.0	Ŷ	┝	⊢	-	├─	 ^	X	ľ
				1	76	÷	 	 	┿	┈	₹	x	ı
-	TALL FESCUE (86%)	125		L				 	 -	×	}	-	ŀ
9	POA TRIVIALIS (7%)	10	2.9 23	MET TO MODERATELY	5≯	⊢	X	} 	₩	Ŷ	Ͱ	⊢	١.
SWDSFOOT TREEFOR (7%)		DRY				╄			X		ľ		
TALL PESCUE (80%)	THE PROPERTY (ACM)	120 3	-		- 6≯ - 5⊁	 ^		₩	-	x	←	┝	⊦
	HARD FESCUE (20%)	50	5.4 69	WET TO DRY			X	├			 		ı
ю		' ~~ 			6.	X	<u> </u>	₩	₩	 ^	X	⊢	ı
~					6)		├	₩	₩	⊢	 ^	L.	ľ
					7.4	X	—	₩	₩	₩	₩	_	X
_	11100 111111111111111111111111111111111		<u> </u>		7 Þ	X	<u> </u>	₩	₩	<u> </u>		X	₽
	HARD FESCUE (100%)	75	17	MORST TO DRY	56		X			X		ļ	ı
Ħ				J.,	6 a		X	₩	₩	X	 		ı
					6>	X	Ь—	╙	₩	—	X	L_	ľ
		l	l .	L	7.	l.×.	L	L	L	L	L	_ X	L.

A USED BY SHA ON SLOPED AREAS, ADD A LEGUME FOR SLOPES > THAN 3%.

B. USED BY MEDIAN AREAS BY SHA SHADE TOLERANT.

C. POPULAR MAY - PRODUCES PERMANENT GROUNDCOVER QUICKLY, BLUEGRASS THICKENS STAND.

D. BEST USE ON SHADY SLOPES NOT ON PROMED CLAYS.

E. USE ON LOW MAINTENANCE, STEEP SLOPES, USE TALL FESCUE IN DRAUGHLY CONDITIONS, CROWN VETCH BEST FOR 50, 60, 60

F. SULTABLE FOR SEEDING IN MAD-SUMMER.

G. WEEPING LOVEGRASS MAY BE SEEDED WITH TALL FESCUE IN MID-SUMMER, SEXECIA LESPEDEZA IS BEST SUITED FOR ZONES 7% AND 70.

N. USE ON FOORLY DRANED SOLIS - DITCHES OR WATERWAYS, BROSFOOT TREEFCUE SEST FOR ZONES 50, 60, ABOYE 2,000 FEET.

I USE IN AREAS OF MOIST SHADE POA TRIVIALS THRIPES IN WEIT SHADY KARS.

J. TALL FESCUE MAY BE SEEDED ALONE. THE HALP FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND.

K. LOW FERTELITY GRASS, REQUIRES INFREGUENT MOWING, GOOD COMPANION FOR WILDFLOWERS.

PERMANENT SEEDING RATES FERTILIZER RATE

PERMANENT SEEDING SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE USED, SOIL TESTING SHALL BE PERFORMED AT THE TIME OF FINE

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 ANY CONSTRUCTION (313-1855). L ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE *1994 Maryland Standards and Specifications for soil erosion and sediment CONTROL. AND REVISIONS THERETO 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, 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 FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. 4. IF REDUIRED BY SEDIMENT CONTROL INSPECTOR SEDIMENT TRAPS/BASINS

Posted around their perimeter in accordance with Vol. 1, Chapter 7, of THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED above in accordance with the 11994 maryland standards and specifications. for soil erosion and sediment control for permanent seeding, sod, TEMPORARY SEEDING AND MULCHING (SEC G), TEMPORARY STABILIZATION WITH mulch alone shall only be done when recommended seeding dates of notallow 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 SEDDMENT CONTROL INSPECTOR.

7. SITE ANALYSIS: TOTAL AREA OF SITE 9,000 ACRES AREA DISTURBED 9.12 ACRES AREA TO BE ROOFED OR PAVED 6.84 ACRES AREA TO BE VEGETATIVELY STABILIZED 2.96 ACRES TOTAL CUT 17,858 C.Y. (INCLUDES 15% COMPACTION)

SHOWN MUST BE FENCED AND WARNING SIGNS

OFFSITE WASTE/BORROW AREA LOCATION : EXCESS CUT SHALL BE TAKEN TO A SITE WITH AN OPEN GRADING PERMIT. 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 controls must be provided if deemed necessary by the Howard County department of public works sediment control inspector. ibl 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 approval by the inspection

11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SPECIES	MENNIUM SEEPING		PLANSING DEPTH	HARDINESS ZONES AND SEEDING DATES									
	RATES	7a and 7b			6)			6e and 50					
	PER ACRE	L85/1000 SQ. Ff.	NOES	2/1 4/30	5/1 - 8/54	8/15 ·	3/1- 4/50	55.4 874	8/55- 11/15	3/15 · 5/31	6/1- 7/31	8/1 10/31	
CHOOSE ONE:						BY :			ΒY			βY	
BARLEY	2.5 8.U. (222 lbs.)	2.80	1-2	X	-	10/15	X	-	10/15	х		юл	
OAT5	5 B.U. (96 lbs.)	2.21	1-2	X	-	- 1	X ·	-	-	Χ		-	
RYE	2.5 B.U. (HO be.)	522	1-2	X	-	χ :	Χ.		x	х		x	
BARLEY OR			1	X	X	10/15	X	X	10/15	X	Х	юл	
rye plus Poxtail Mollet	150 bs.	3.46		X	Х	X	X	x	×	х	X	х	
weeping Lovegrass	4 \$45.	.09	1/4 - 1/2	-	X	-	-	χ			х	-	
ANNUAL RYEGRASS	50 lbs.	115	V4 - V2	×	-	IVI	х	-	tt/1	х	-	BNS	
MILET	50 bs.	115	¥2	-	х	-	-	х	-	·	X	-	

DETAIL 5 - RIP-RAP INFLOW PROTECTION DETAIL 20A - REMOVABLE PUMPING STATION **⊠** №6 200 -MITICIPATED WATER SUFFACE BLEY. _ PERSPECTIVE VIEW 5. Rip-rap fined inflow channels shall be 1° in depth, have a trapezoldal arcss section with 211 or flatter side slapes and 3° (ain.) bottom width. The channel shall be illned with 4° to 12° rip-rap to a depth of 18°. 2. Filter atoth shall be instalted under all rip-rap. Filter cloth shall ELEVATION (CUT AWAY)

3. Entrance and exit sections shall be installed as shown on the detail: 4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a starmaster management facility. 5. Gabian Inflow Protection may be used in Item of Rip-rap Inflow

2:1 SLOPE OF

Figure 2 Temporary Sediment Basin Design Data Shee

2. To convert ft to yd, divide ft by 27. To convert ft to yd, divide by 9.

I. Min. required vol. = 3600ft /ac x 9.0 ac. drainage = 32,400 ft³

2. Actual Volume of basin = <u>83,394</u> ft

3. Excavate <u>83,394</u> ft (<u>3,089 vd</u> 7 to obtain required capacity.

4. Vol. at dewatering elev. = 1800 ft /ac x <u>9.0</u> ac. = <u>16,200</u> ft 7min: Provided =

5. Vol. of basin at cleanout = 900 ft /ac x 9.0 ac. = 8,100 ft /min: Provided =

11. Q₁₀= 48.22 cfs (peak discharge from 10-yr, 24-hr storm event, attach computations)

12. Design Principal Spillway (Barrel) discharge, Design Q = 39.35 cfs (min. 10% of 10

in.; Trash Rack Height =

NOTE: A TABLE SHOWING DESIGN DATA SHALL BE INCLUDED ON THE

x (length correction factor)

ft.; Riser Head (h) =

ft. (COMPUTED)

ft.; Barrel length = ________ ft. 14. Barrel Diam. 36 in. Note: Q must equal or exceed Design Q

in.; Riser Height

Elevation corresponding to min. required volume of basin (riser crest elevation 168.62 FT/ 32,536 FT⁵)

Project name: HENKEL PROPERTY Basin #: BASIN

Basin Volume Design

7. Permanent pool elevation 167.35 ft. (16,278 FF)
8. Distance from riser crest elevation to permanent pool elevation

10. Distance from riser crest elevation to cleanout elevation 2.02 ft.

Principal Spillway (QPS) (See Detail 11)

9. Basin cleanout elevation <u>166.60</u> ft. (8,162 FT⁵)

Spillway Design

year peak or 8" Diameter Pipe)

Q = Q (from Table 13 or 14)

* CONCRETE RISER STRUCTURE

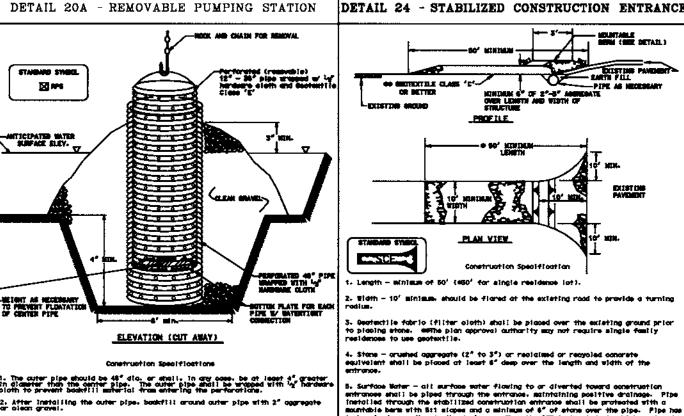
Trash Rack Diam.

Note: 1. Also see Surface Area Design # 30 this form.

Location: HOWARD COUNTY

Total area draining to basin: 9.00 acres (ac)

2. After Installing the outer pipe, backfill around outer pipe with 2" aggregate or alexy arows. 4. The center pipe should extend 12° to 18° above the anticipated water surface elevation or riser creet elevation when devatering a basin. U.S. DEPARTMENT OF ACRICULTURE PAGE MANTLAND DEPARTMENT OF REVIDENTATION SERVICE B - 6 - 2 VATER MANAGEMENT ADMINISTRATION SERVICE D - 19 - 5 VATER MANAGEMENT ADMINISTRATION SERVICE D - 19 - 5 VATER MANAGEMENT ADMINISTRATION SERVICE PAGE MANTLAND DEPARTMENT OF REVIDENCE PAGE MANTLAND DEPARTMENT DEPARTMENT OF REVIDENCE PAGE MANTLAND DEPARTMENT DEPARTMENT



e-DIKE HEIGHT 18"

b-DIKE WIOTH 24"

o-FLOW WIDTH 4'

O-FLOW DEEPTH 12"

DIKE A DIKE S

STANDARD SYNGOL A-2 B-3

DETAIL 1 - EARTH DIKE

V V V V V V V V

PLAN VIEW

Seed and abover with strow suich.
 Seed and cover with Breaton Control Matting or Line with ead.
 4" - 7" stane or recycled concrete equivalent present info

Construction Specifications

1. All temporary earth diless shall have uninterrupted positive grade to an outlet. Spot elevations may be recessary for grades less than 1%

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

4. All trees, brush, stumps, obstructions, and other objectional schemes shall be recoved and disposed of so as not to interfere with the proper functioning of the dike.

6. Fill shall be comparted by earth moving equipment-

Emergency Spillway (Q es)

Anti-Seep Collar Design (If Required)

21. y = 5.47 ft.; z = 3 :1; pipe slope = 0.50 % Ls = 39.1 ft 22. Use 1 collars, ft. - in. square; projection = 3.0 ft.

27. Permanent pool = <u>167.35</u> ft. 28. Bottom of Basin = <u>165.5</u> ft.

30. Min. basin surface area; $> 0.0035 \times Q_{10} = 0.0035 \times 48.22 \text{ cfs} < 0.23 \text{ ac.}$

A = Internal orifice area (from Table 11 or computed) Perforation Dia= 1.0"

31. Draw-down device orifice diameter = $\frac{4^n}{2}$ in. (From Table 11 32. A = Total area of perforations > 4A = 0.35

23. Riser Crest = <u>168.62</u> ft. 24. Design High Water = <u>170.51</u> ft. 25. Emergency Spillway Crest = 170.51 ft. 26. Min. settled top of dam = <u>172.3</u> ft.

A = (# of perforations/foot)(perforation area ft2) (perforated section length ft.)

Horiz Spacing 1.69" o/c

17. Emergency spillway cap., Q = Q - Q =

Size: 10.33 ft (L) x 11.67 ft (H) x .83 ft (THk)

29. Draw-down orifice invert = 165.5 ft.

S.A. @ 167.38 = 10,152 S.F. / 0.23 AC.

10 Row Perf @ 15 Perf/Row

C-10-11

Surface Area Design

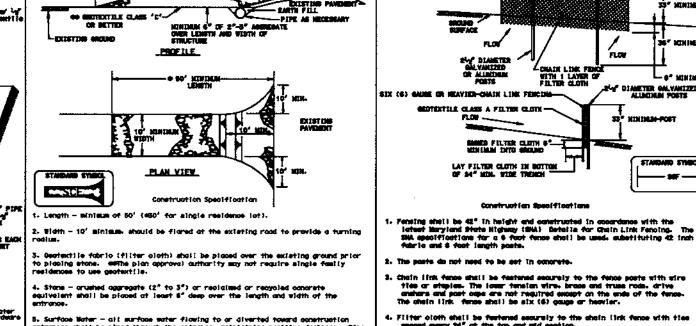
19. Entrance channel slope 3:1

20. Exit channel slope 0.5 %

5. The dike shall be excovated or shaped to line, grade and cross section as required to meet the criteria specified herein and be tree of bank projections or other irregularities which will impede normal flow.

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 partiallosity and after



DETAIL 22 - SILT FENCE

EMED SEPTEMBLE CLASS F —
A MINIMAL OF S VERTICALLY
LISTO THE SECURE

JOINING THE ADJACENT SILT

The pasts do not need to be set In ocnorate. • Chain lifet fance shall be fastered searrely to the fence posts with sire ties or steples. The lower tension wires brace and stuce rode, drive analyze and past cape are not required except on the ends of the fence. The chain link fence shall be aix 162 gauge or heavier. B. Surface Note: — all surface water flowing to or diverted toward construction enfrance shall be piped through the entrance, saintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mannihile baris with \$11 slopes and a sinisum of \$^6 of stone over the pipe. Pipe has to be elzed according to the drainage. Shan the SCE is located at a high spat and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the account of runoff to be conveyed. A \$^6\$ sinisum will be required, Filter oloth shall be featured securely to the chain link fence with ties specied every 24° at the tap and sid section. Filter sloth shall be exhauded a minimum of 8" into the ground. When two sections of geotectile febric calloin each others they shall be overlapped by 8° and folded. Helintenance shall be performed on needed and allth bulldape removed when "Bullgee" develop in the allthrence, or when allthreadnes 60% of the fince height 6. Location — A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

> SILT FENCE SIII Fance Design Critaria † Fence Length Siope Steapness Slope Length Flotter than 50: united ted unitalted 125 feet 5:000 feet SOIT to 1011 1011 to 511 100 feet 750 feet 511 to 311 60 feet 500 feet 40 feet 311 to 211 system, soll Closs A) stockes alope length and stift fence length will be unlimited. In these areas a stift fence may be the only perimeter control ----**--**

U.S. DEPARTMENT OF ACRUSARIANE
SOL CONDERVATION SERVICE

SOL CONDERVATION SERVICE

MODIFIED

DETAIL 33 - SUPER SILT FENCE

MOTERTILE GLASS A FILTER GLOTX —

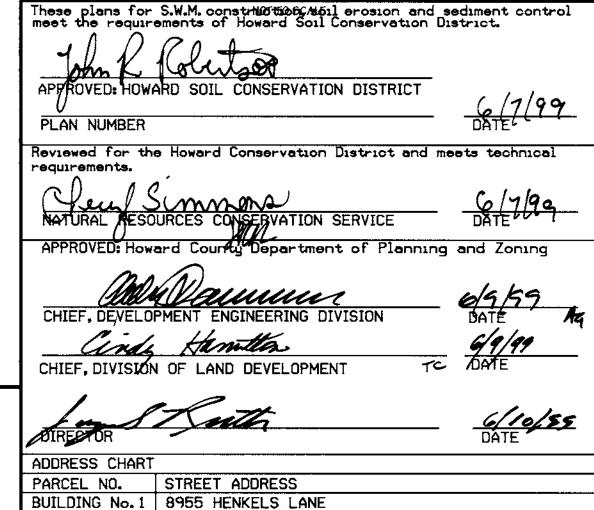
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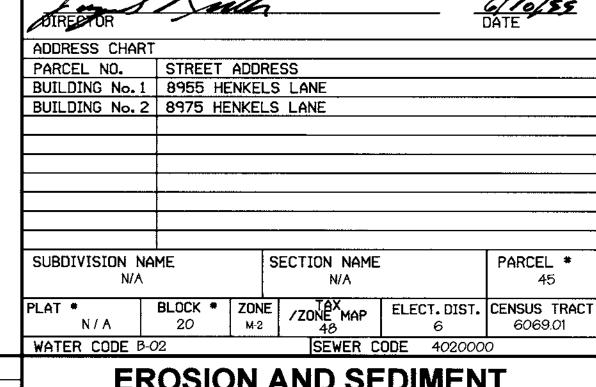
Construction Specification

FENCE SECTIONS Construction Specifications 1. Fence posts shall be a minimum of 36° long driven 16° minimum into the ground. Stod posts shall be $1^{l}q^{l} \times 1^{l}q^{l}$ square (minimum) out, or $1^{l}q^{l}$ diameter (whiteme) round and abuil be of sound quality hardwood. Steel posts will be attended if or II section weighting not less than 1.00 pand per linear foot. Declarities shall be fastened securely to each fence post with wire ties. Tensile Strength 50 (be/in (min.) Teet: MSMT 50 Flow Rote 9.3 gol (14*/ min.) Teet: MSMT 50 Flow Rote 9.3 gol (14*/ min.) Teet: MSMT 32 Filtering Efficiency 75% (min.) Teet: MSMT 32 Teet: MSMT 32 . Where ends of geofestile fabric came together, they shall be overlapped, bided and stopled to prevent sediment bypass. 4- \$119 Fence shall be inspected after each rainfall event and sainfalned when bulges come or when sediment accumulation reached 60% of the fabric height. U.S. DEPARTMENT OF AGRICULTURE PAGE MARTLAND DEPARTMENT OF REVIEWMENT OF AGRICULTURE PAGE MARTLAND DEPARTMENT OF REVIEWMENT OF AGRICULTURE PAGE MARTLAND DEPARTMENT OF

-6" MIN. #2 STONE CAP COMPACTED EARTH -FILTER CLOTH " DIKE "A" = 18" DIKE "B" = 30"

Stone Mountable Berm







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GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.

ivil Engineers and land Surveyors 658 Kenilworth Drive. Suite 100 Towson, Maryland 21204 (410) 825-8120



1/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project willhave a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosian before beginning the project. Ishail engage a registered professional engineer to supervise pand construction and provide the howard soli conservation district with an "as-built "pian of the pand within 30 days of completion. I also authorize periodic on-site inspection by the hard soliconservation district.

Developer

Name

icertify 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 and that it was prepared in accordance with the requirements of must engage a registered professional engineer to supervise pond construction and provide the noward soliconservation district with an 'as-built 'plan of the JAMES A. MAKKLE JA.

OWNER / DEVELOPER / CONTRACT / PURCHASER **MERRITT - HK, LLC**

(410) 298-2600

2066 LORD BALTIMORE DR. BALTIMORE, MD 21207

CHECKED BY: H.P.P. REVISIONS

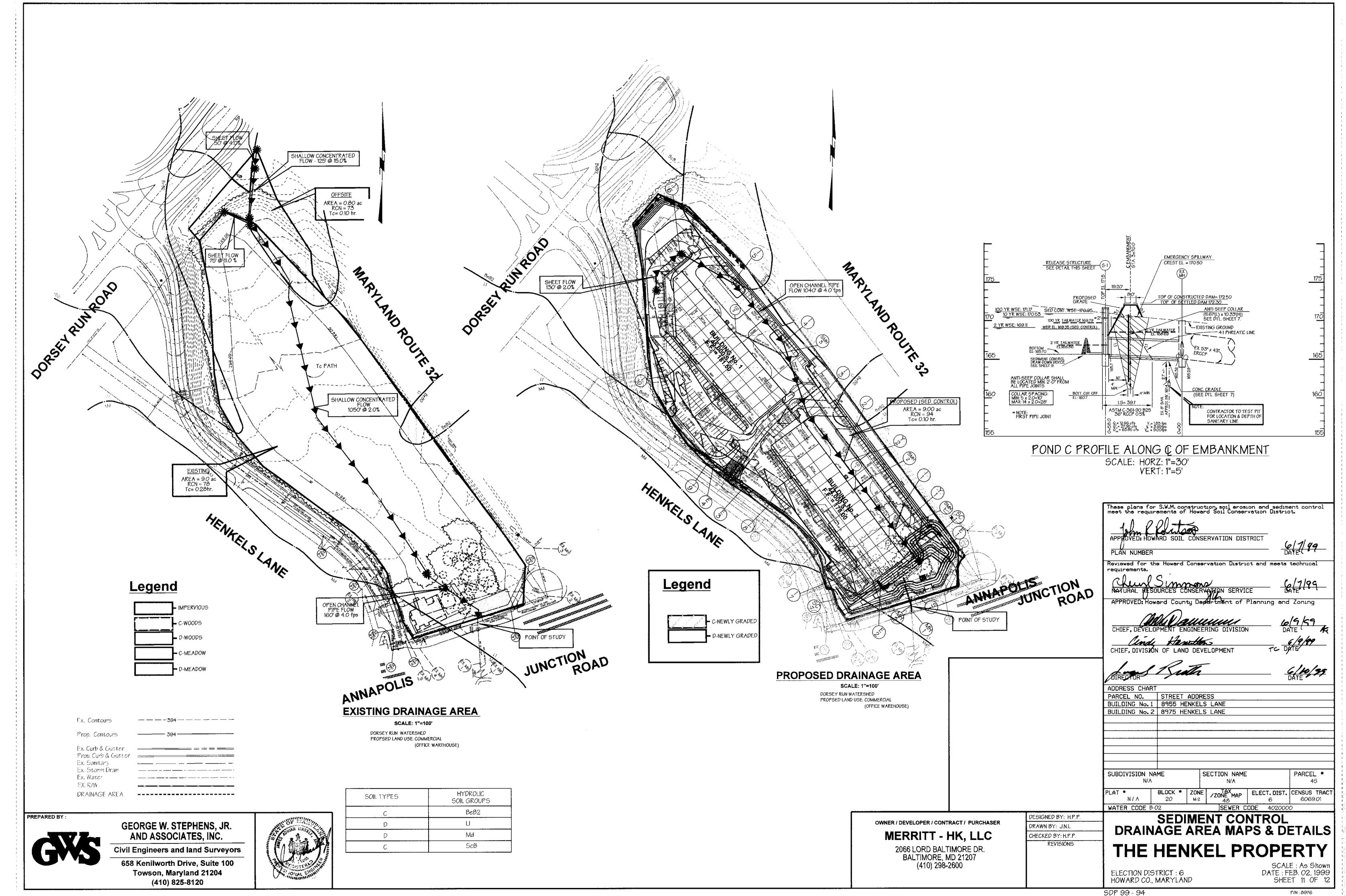
DESIGNED BY: H.P.P.

DRAWN BY: J.N.L.

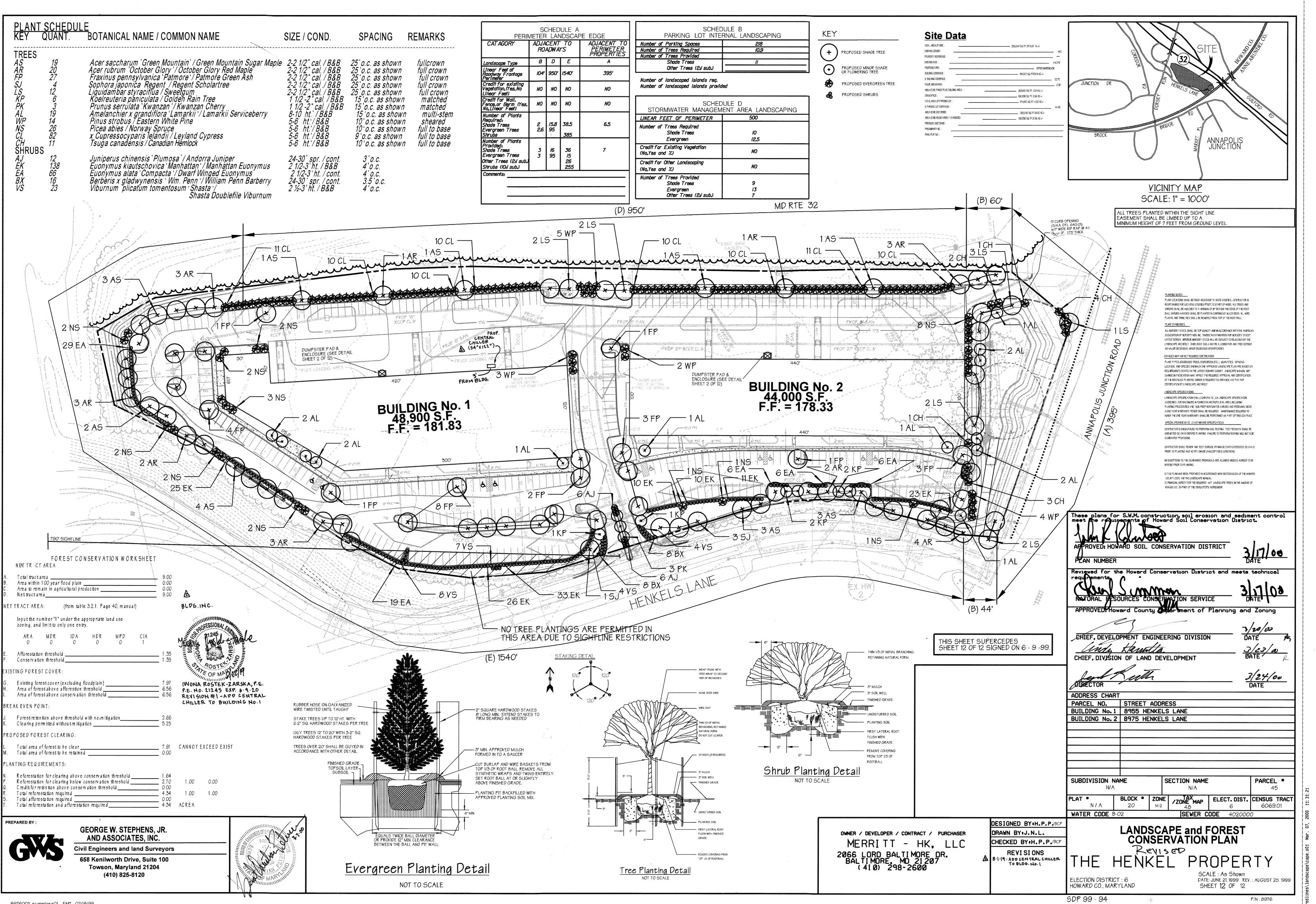
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS THE HENKEL PROPERTY

ELECTION DISTRICT: 6 HOWARD CO., MARYLAND DATE: FEB. 02, 1999 SHEET 10 OF 12

P/N:8976



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