	-	QUANTIT	IES	,		
····	A5-BUILT					
ITEM	ESTIMATED	QUANTITIES	TYPE	SUPPLIER		
3" 5EX/EP D.I.P.	1,755 L.F.					
4" SEWER	70 L.F.					
MANHOLES	9 EACH					
			-			
AME OF UTILITY C	ONTRACTOR:			L		
urvey & draftin	g division as-b	UILT DATE:				

DEVELOPERS CERTIFICATE

"I/KIE CERTIFY THAT ALL IDEVELOPMENT & CONDITRUCTION)

VIILL BE DONE ACCORDING TO THIS PLAY OF IDEVELOPMENT & PLAY FOR

EPODION & DEDIMENT CONTROL & THAT ALL PEDFONDIBLE PERCONNEL

INVOLVED IN THE CONDITRUCTION PROJECT WILL HAVE A CERTIFICATE

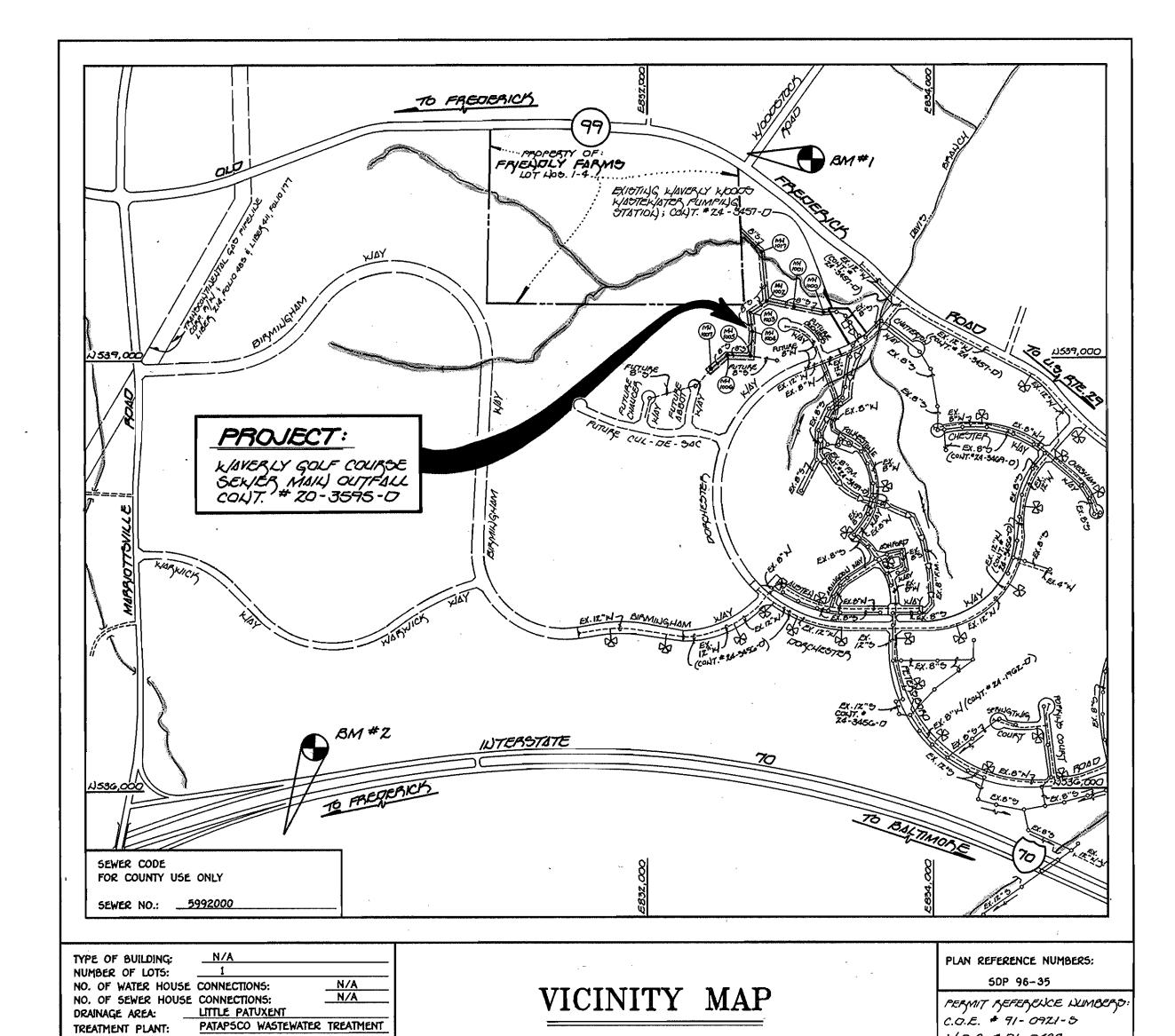
OF ATTENDINGE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED

TRAINING PROGRAM FOR THE CONTROL OF DEDIMENT & ERCHON

BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERSON

ON THEIR AUTHORIZED AGENTO, AD APPE DEEMED NOCESSORY."

Michaelf. MCan BR WAVERLY DEVELOPMENT CORP. GIGHATURE OF DEVELOPER



CONTRACT NO. 20-3595-D WAVERLY GOLF COURSE SEWER MAIN OUTFALL HOWARD COUNTY, MARYLAND

5CALE: 1"=600"

GENERAL NOTES

- 1. APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- 2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- 3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- 4. ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- 5. Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum.
- 6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV. STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1991 AMENDMENTS) THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 7. Where test pits have been made on existing utilities, they are noted by the symbol 🖼 at the location of the TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- B. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION - 531-5533

BALTIMORE GAS & ELECTRIC CO.. - CONTRACTOR SERVICES - 050-4620 BALTIMORE GAS & ELECTRIC CO.. - UNDER GROUND DAMAGE CONTROL - 787-9060 MISS UTILITY - 1-600-257-7777

COLONIAL PIPELINE CO. - 795-1390

BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900 9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE

CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR 10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE

INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.

11. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.

12. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED. 13. T.B. DENOTES TEST BORING.

14. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.

15. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.

16. Where watertight manhole frame and cover is used, set top of frame 1'-6" above finished grade unless otherwise NOTED ON THE PLANS OR IN THE SPECIFICATIONS.

17. HOUSE(5) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

18. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.

19. MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS,

20. WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.

21. ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED.

22. JOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.

23. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.

24. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.

25. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS (W1.11 AND W2.13). SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

27. ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.

28. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, @ (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF THE HOWARD COUNTY CODE

BENCH MARKS

HOKIARO COULTY COLITROL STATION) #1012 (NIAO '83) (NIEAR THE HITERSECTION) OF MARYLANIO POUTE 99 & HOODSTOCK ROAD) NG01,0G0.177

E 1,345,33G.758

ELEY .: 445.577

HONJARO COUNTY CONTROL STATION * IGE I (NAO '83) (NEAR THE INTERSECTION) OF U.S. POUTE 40 ; MARRYOTTSVILLE ROAD) N 593, 250. 932

£ 1,340,192.711

ELEV. 509.924

CONTRACT NO. 20 - 3595 - D WAVERLY GOLF COURSE SEWER MAIN OUTFALL HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION

W.S.D.A. MATURAL RESOURCES CONSERVATION SERVICE

CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

VARD SOIL CONSERVATION DISTRICT

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

Michaelf. Win For WAYTELY DAVELOPMENT Cop. 3-20-97

IN DEVELOPING AREAS AS SHOWN ON THESE PLANS

AND UNDER SDP-96-35

SIGNATURE OF DEVELOPER

DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

Fisher, Collins & Carter, Inc.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK 10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 461 - 2855

PLANT: CITY OF BALTIMORE: VIA WAVERLY WASTENATER PUMPING STATIONS



DES: M.J.M.					
DRWN: J.M.M./					
D.L.H. CHK: P.W.K.	ECC		DEVICE VICINITY MAD	11/97	
	FCC FCC	<u>/2\</u>	REVISE VICINITY MAP REVISE QUANTITIES BLOCK	11/97	
DATE: 4 -30-97	βY	NO.	revision	DATE	

W.Q.C. # 91-0488

AGREBHENT CONTRACT

24-3457-D

4550CIATED WITH MATOR SEWER

SHEET

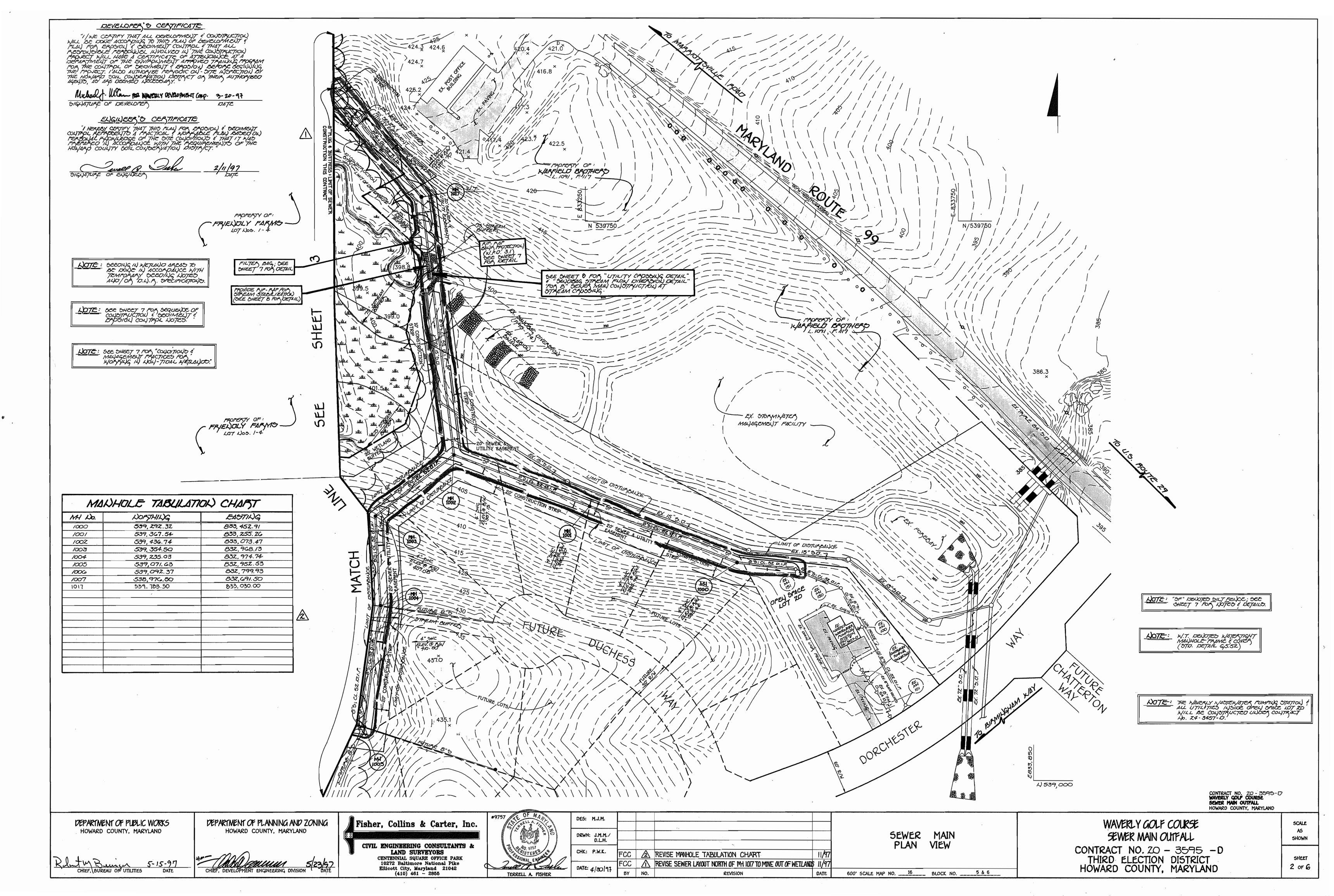
600' SCALE MAP NO. _____16_____ BLOCK NO. _____5 & G____

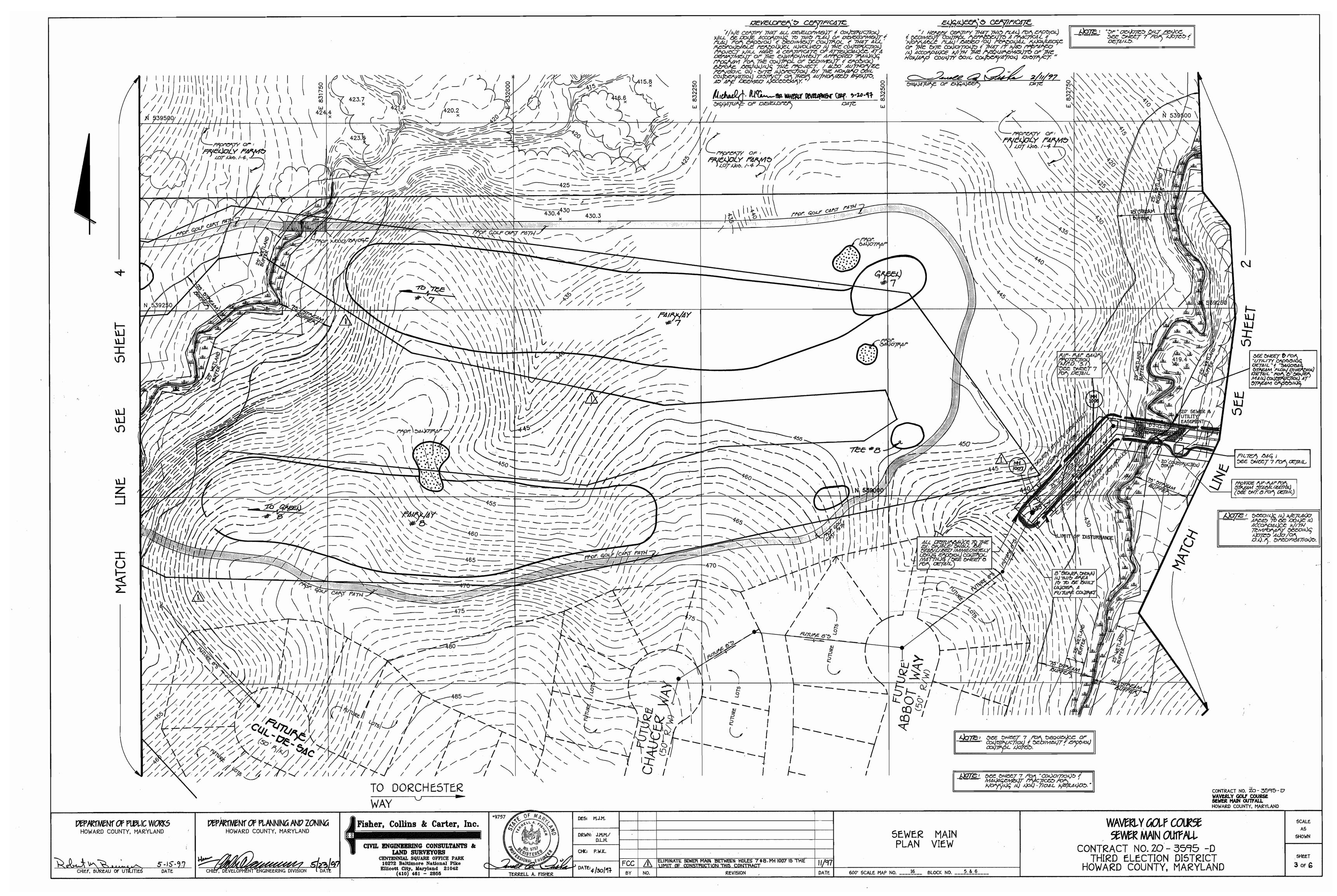
WAVERLY GOLF COURSE SEWER MAIN OUTFALL CONTRACT NO. 20 - 3595 -D

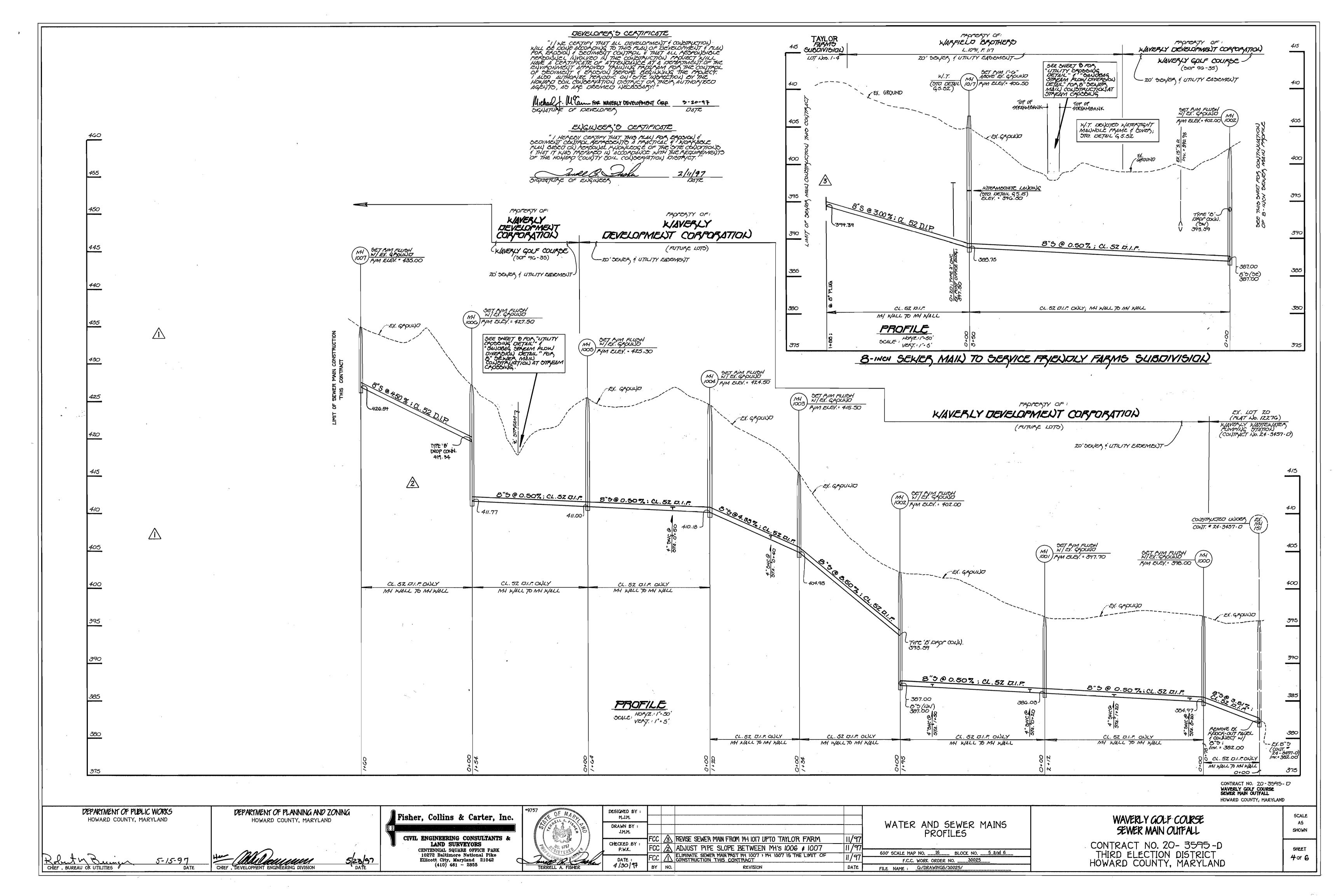
A5 SHOWN

THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

1 of 6







SECTION 20: STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION Using vegetation as cover for barren soil to protect it from forces that cause erosion. Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources. CONDITIONS WHERE PRACTICE APPLIES This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc. EFFECTS ON WATER QUALITY AND QUANTITY Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters. SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. 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) Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee 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 sieve and 90-100% will pass through a *20 mesh sieve. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means. C. Seedbed Preparation i. Temporary Seeding i. Temporary Seeding a. Seedbed preparation shall consist of loosening soil to a depth of 3° to 5° by means of suitable 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. Stoped areas (greater than 3:1 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope. b. Apply fertilizer and lime as prescribed on the plans. c. in corporate lime and fertilizer into the top 3-5° of soil by disking or other suitable means. li. Permanent Seeding a. Minimum, soil conditions required for permanent vegetables establishment: 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 (ppm). 3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas 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 Topsoil. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5° to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area. the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope. Apply soil amendments as per soil test or as included on the plans. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil 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 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on 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 on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used. ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-tixing 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 recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° f. can weaken bacteria and make the inoculant less effective. recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as puntil used. Temperatures above 75°-80° f. can weaken bacteria and make the inoculant less eff. E. Methods of Seeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder. or grop seeded, 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 of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium); 200 lbs/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 lime when hydroseeding. c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption. 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 265 or 266. 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 seeding rate in each direction. 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. Mulch Specifications (In order of preference) Straw shall consist of thoroughly threshed wheat, ree or out straw, reasonable 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. 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. WCFM, including dye, shall contain no germination or growth inhibiting factors. 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 contact with the soil without inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic. will be phytol-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 along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed accordance with these specifications. ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. 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 2.5 tons/acre. lii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 ibs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 ibs. of wood cellulose fiber per 100 gallons of water. Securing Straw Mulch (Mulch Anchoring): 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) described upon size of area and experience. preference), depending upon size of area and erosion hazard A mulch 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 on the confour if possible. 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 fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Ta II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

SEDIMENT CONTROL NOTES D A MINIMUM OF 40 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1055).
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.

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 STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. 4) 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 MANUAL, STORM DRAINAGE.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS APPLIED THAT SECONDANCE WITH THE 1994 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. 7) SITE ANALYSIS: 577.7 ACRES TOTAL AREA OF SITE ACRES O BE ROOFED OR PAVED ACRES O.BO ACRES BE VEGETATIVELY STABILIZED WASTE/BORROW AREA LOCATION 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

DADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEPHED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

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 APPROVAL BY THE INSPECTION AGENCY IS MADE. 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. PERMANENT SEEDING NOTES ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS: SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING SOIL AMENDMENTS:
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/ .000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC. INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING. APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER 9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (11.5 LBS./ 000 5Q.FT.) OF 10-20-20 FERTILIZER. FOR THE PRERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST FOR THE PRERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE (1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 20. PROJECT SITE BY: OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED AS SOON ACCES OF WELL ANCHORED STRAW MILL CH AND SEED ACCES OF WELL ANCHORED STRAW MILL CH AND SEED ANCH MILL CH A ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING: OPTION (2) - USE SOD; OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD MULCHING:

APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.)

OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING.
ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200

GALLONS PER ACRE (5 GAL./1,000 SQ.FT.) OF EMULSIFIED

ASPHALT ON FLAT ACRES. ON SLOPES & FEET OR HIGHER USE 48 GALLONS PER ACRE (8 GAL/1,000 SQ.FT.) FOR ANCHORING MAINTENANCE:
INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS. TEMPORARY SEEDING NOTES 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, DISCING OR
OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./ FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./1,000 SQ.FT. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 20, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR 115F 500 Spring, or use sod. APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 5Q.FT.) of unrotted small grain straw immediately after seeding ANCHORING TOOL OR 210 GALLONS PER ACRE (5 GALI,000 SQ.FT.)
OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES & FEET OR
HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR REFER TO THE 1900 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED. SEQUENCE OF CONSTRUCTION OBTAIN THE REQUIRED GRADING PERMIT.
NOTIFY MISS UTILITY 40 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777), NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES
AS INDICATED ON SHEETS 2, 3, AND 4 OF THIS CONTRACT (5 DAYS). THE
START OF CONSTRUCTION ON THE WETLAND AND STREAM CROSSINGS SHALL
BE LIMITED TO A 5-DAY CLEAR WEATHER FORECAST FROM THE N.W.S.
CONSTRUCTION WITHIN THESE LIMITS MUST BE COMPLETED WITHIN 5 DAYS. CONSTRUCTION WITHIN THESE LIMITS MUST BE COMPLETED WITHIN 5 DAYS.

CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION

AND INSTALLATION OF THE SEWER MAIN, AND ONLY WITHIN THE

DESIGNATED SEWER AND UTILITY EASEMENTS (7 DAYS).

NOTE: THE LENGTH OF OPEN SEWER MAIN TRENCH SHALL BE LIMITED TO

THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND

STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.

CONSTRUCT THE SEWER MAIN AND APPURTENANCES (40 DAYS). THE CONTRACTOR
SHALL REFERENCE THIS SHEET FOR A LIST OF CONDITIONS, "CONDITIONS
AND MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS".

THESE CONDITIONS APPLY TO ALL UTILITY WORK CONDUCTED WITHIN

THE NON-TIDAL WETLANDS AND BUFFERS AS SHOWN ON THESE PLANS.

STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE

WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET.THE

WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET. THE WETLAND AND STREAM CROSSINGS SHALL BE STABILIZED IN ACCORDANCE WITH CONDITION 'G' OF THE "CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS" (ABOVE). (5 DAYS) FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS.

AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES. (4 DAYS)

SECTION 21 : STANDARD AND SPECIFICATIONS FOR TOPSOIL 1) DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. 3) SPECIFICATIONS: A.TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. B.TOPSOIL SHALL.NOT BE A MIXTURE OF CONTRASTING SUBSOILS C.TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER.

4) APPLICATION:

A.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"- 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4"; AVOID SURFACE IRREGULARITIES.

B.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND

SPECIFICATIONS FOR VEGETATIVE STABILIZATION".
C.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET

CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS

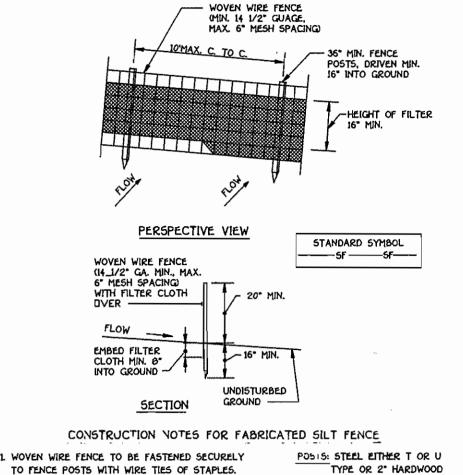
- A) STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6"-12" OF TOPSOIL MATERIAL, TO BE REPLACED AS THE LAYER OF THE BACKFILLED MATERIAL;
- B) REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA;
- C) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND;
- D) MAINTAIN THE HYDROLOGIC REGIME OF THE NONTIDAL WETLANDS UPSTREAM, DOWNSTREAM. OR ADJACENT TO THE SEWERLINE:
- E) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY DESIGN THE EQUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLANDS;
- F) USE PREVIOUSLY EXCAVATED MATERIAL AS BACKFILL, UNLESS IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE
- G) ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HOREDUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF THE NATURAL WETLANDS SPECIES, OTHER NONPERSISTENT VEGETATION MAY ALSO BE ACCEPTABLE, BUT MUST BE APPROVED BY THE DIVISION, KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- H) UPON COMPLETION OF THE PROJECT NONTIDAL WETLANDS AND THE 25-FOOT NONTIDAL WETLAND BUFFER WILL NOT BE MOWED OR OTHERWISE MANAGED TO PREVENT THE RE-ESTABLISHMENT OF FORESTED COVER.
- D AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS;

DEVELOPER'S CERTIFICATION I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNE INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS

Michael J. McCam for WAYDELY DEIEN THOU COR 3/24/4:

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN FOR 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



2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED

. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP

OR APPROVED EQUAL PREFABRICATED UNIT: GEOFAB. ENVIROFENCE, OR APPROVED

EQUAL

FENCE: WOVEN WIRE, 14. GA.

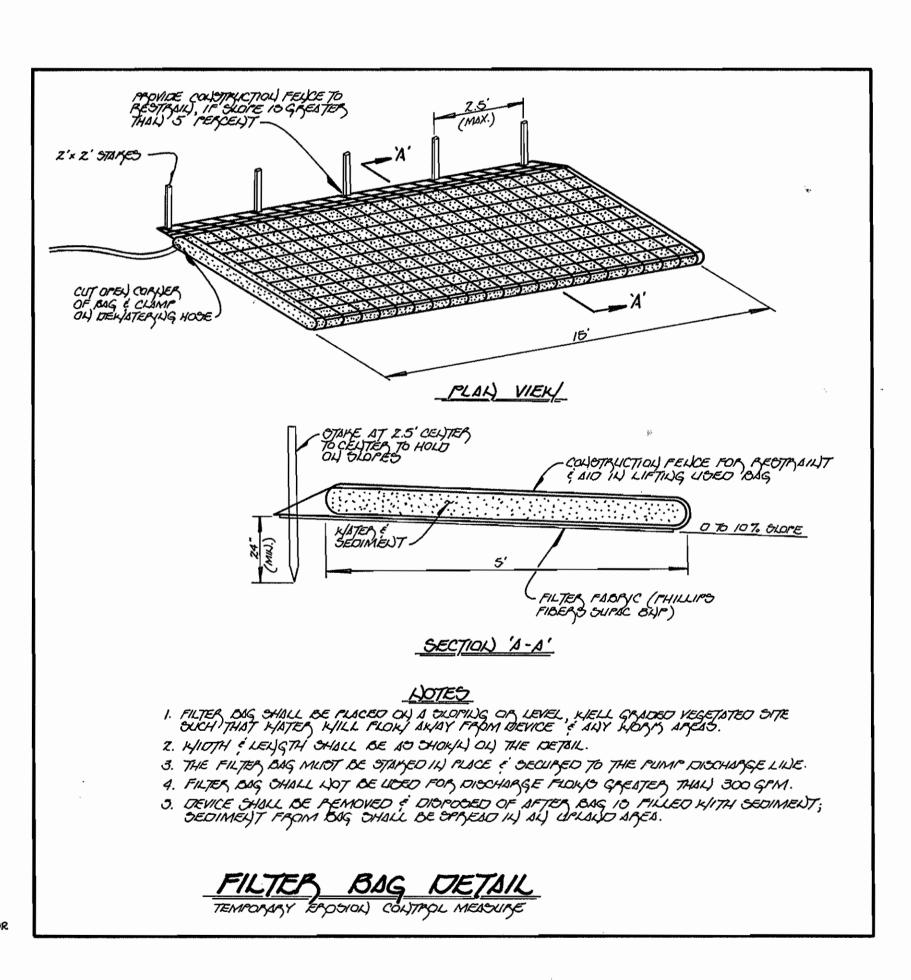
6" MAX. MESH OPENING

100X, STABILINKA TI4 ON

FILTER CLOTH FILTER X, MIRAFI

IN THE SILT FENCE

SILT FENCE



I. DESCRIPTION THIS KIDRYS SHALL CONSIDE OF PROTECTING SLOPES & CHANNIGED FROM EROSION KITH COVERNINGS OF STONE IN ACCORDANCE KITH THE PLANS & SPECIFICATIONS SHOKN ON THIS DRAKING. TOUMPED PUP-PAP ____ II. MATERIAL OFECIFICATIONS 1. BEDDING : A. BALIK AVILI GRAVEL SHALL MEET THE POLLOKING REQUIREMENTS: * SIRE BASED ON BANYFULL VELOCITY CROSS SECTION % LEGO THAL U.S. STAL)DAPID SEIVE SIZE Z 1/Z /W. 35-70 1/2 14). SHELDG RIP-RAP PER STREAM VELOCITY 20-50 3-20 No. 40 B. GEOTEXTILE FILTER FARRYC SHALL MEET THE FOLLOKING MEQUINEMENTS: 200 /65. 350 /65.

TELIGILE STRENGTH BURST STRENGTH PUNCTURE STRENGTH PERMEABILITY ELANGATION AT FAILURE MINIMUM LAP LENGTH 70 /60. .OZ cm/5cc. Z. R// - BAP :

THE MAXIMUM WEIGHT OF CHALL BE BADED UPON THE BANKFULL DIFFERM CHANNEL VELOCITY WHING THE GRADATION OF THE STONE CHALL BE' AS INDICATED!

III. CONSTRUCTION REQUIREMENTO I. THE COL)TRACTOR SHALL INSTALL ALL SEDIMENT & EROSION CONTROL DEVICES AS A FIRST OF DER OF 2. PROVIDIOND MUDT BE MADE TO ANCHOR THE RIP-RAP AT THE ETREAM BED DO AD TO PROVIDE PROJECTION AGAINDT UNDERMINING. IF THIS CANNOT BE ACCOMPLIGHED BY EXTENDING THE TOE TRENATIVE INDICATED IN CROOD DECTION, AN ALTERNATIVE METHOD OF PROJECTION MUDT RECEIVE PRIOR NIRITIEN APPROVAL OF THE ADMINISTRATION.

3. EXCAVATION FOR EXP-PAP CHALL BE MADE IN PERSONNELY CLOSE CONFORMITY WITH THE EXISTING STREAM SHOPE & BED.

A FILTER BECOINS IS REQUIRED UNDER ALL RYP-RAF. BEODING MATERIAL SHALL CONSIST OF EITHER A BOWN MILL GRAVEL OR A GEOTEXTILE FILTER FABRIC MEETING THE SPECIFICATIONS OF II. 1.8 ABOVE.

5. THE PLACEMENT OF PYP-PAP SHALL BEGIN WITH THE TOE. THE LAPGER STONES SHALL BE PLACED IN THE TOE & ALONS THE OUTSIDE EDGES OF THE LIMITO OF THE SLOPE & CHANNEL PROTECTION. THE PYP-PAP SHALL BE PLACED WITH SHITABLE EQUIPMENT IN SUCH A MANNER AS TO PROJUCE A PERSONABLY GROUD MASS OF STONES KITH ZERO DROP HEIGHT. THE PLACING OF STONES THAT CAUSE EXTELYSIVE SEGREGATION TO NOT ALLOWED.

G. ALLY EXCAVATION VOIDS EXISTING ALONG THE EDGES OF THE COMPLETED GLORE & CHANNEL PROTECTION SHALL BE BACKFILLED.

7. ALL DISTURGED AREAD CHALL BE PERMANENTRY STABILIZED IN ACCOMPANICE WITH AN APPROVED GEOIMENT & EMPOION CONTROL PLAN.

RIP-RAP BANK PROTECTION DETAIL

+150 -

+50

PERCEL)T OF TOTAL WEIGHT

SMALLER THAN THE GIVEN STIE

ID max.

100 10 max.

100 10 max.

BOTTOM VELOCITY IL) FT. / DEC.

RIP - RAP GRADATION

2 Lb. Y / Kg.

700 Lb. (320 kg

20 Lb. (10 Mg.)

Z,000 Lb. [910 kg.] 40 Lb. (ZO Kg.)

> CONTRACT NO. 20-3595-D WAVERLY GOLF COURSE SEWER MAIN OUTFALL HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

> CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK 10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 461 - 2855



DESIGNED BY M.J.M. DRAWN BY MJM./JMM. CHECKED BY P.W.K. 4/30/97

FCC | REVISE THE "SITE ANALYSIS" IN THE SEDIMENT CONTROL NOTES

DETAILS

DATE

600' SCALE MAP NO. 16 BLOCK NO. 5 and 6 F.C.C. WORK ORDER NO. ____30025

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CLASS II

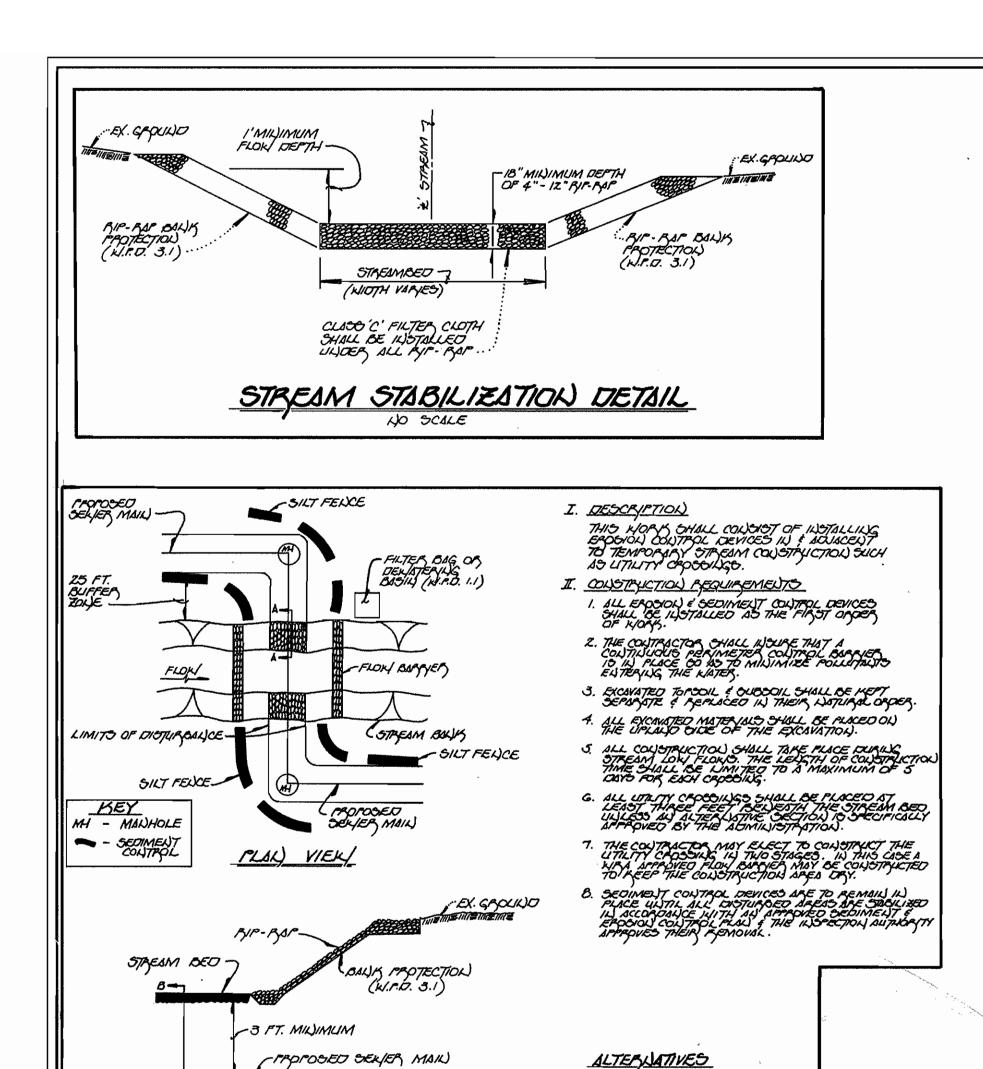
WAVERLY GOLF COURSE SEWER MAIN OUTFALL

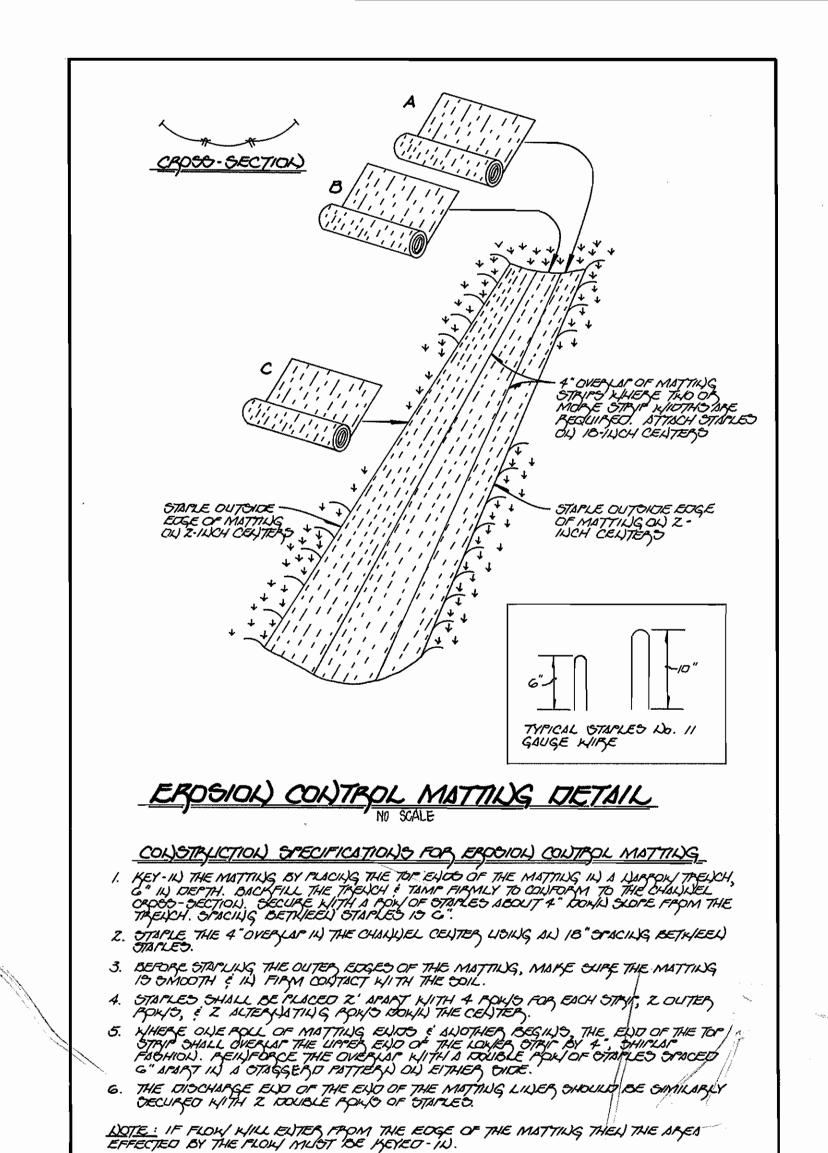
CONTRACT NO. 20-3595-D THIRD ELECTION DISTRICT

SHOWN SHEET 5 of 6

CHIEF , BUREAU OF UTILITIES

HOWARD COUNTY, MARYLAND FILE NAME : G:/DRAWINGS/30025/WGC5DET.DWG





SANDBAG / STONE STREAM FLOW DIVERSION DETAIL

I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS

SECTION 'A-A'

SECTION B-B

-3 FT. MIL)IMUM

- PROPODED DEKÆR MAIL)

UTILITY CROSSING DETAIL

STREAM BED

Michael J. M. Cany for WANCRY VENEROPMENT (049. 3/24/97

I HEREBY CERTIFY THAT THIS PLAN FOR 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.

SIGNATURE OF ENGINEER 3/24/97
DATE

CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

CHIEF , DEVELOPMENT ENGINEERING DIVISION DATE

- FLOW

EX. CAPULLO : 15-34 IN. RIP-RAP

Fisher, Collins & Carter, Inc.

CIVIL ENGINEERING CONSULTANTS &

LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK
10272 Baltimore National Pike
Ellicott City, Maryland 21042
(410) 461 - 2855

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z	- Commenter of the contract of
ı	TERRELL A. FISHER

DESIGNED BY :

M.J.M.				
DRAWN BY : M.J.M./J.M.M.				
O'KOKKO OV				
CHECKED BY : P.W.K.				
DATE :				
date : 4/30/97	BY	NO.	REVISION	DATE

NOTES AND DETAILS

600' SCALE MAP NO. 16 BLOCK NO. 5 and 6

F.C.C. WORK ORDER NO. _____30025

FILE NAME : G:/DRAWINGS/30025/WGC5DET.DWG

CONTRACT NO. 20-3595-D
WAVERLY GOLF COURSE
SEWER MAIN OUTFALL
HOWARD COUNTY, MARYLAND

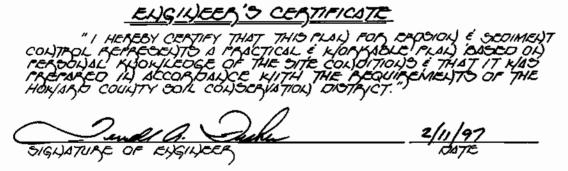
WAVERLY GOLF COURSE SEWER MAIN OUTFALL

CONTRACT NO. 20-3595-D THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND SHEET 6 of 6

SCALE

SHOWN

		QUANTIT:	IES			
A5-BUILT						
ITEM	ESTIMATED	QUANTITIES	TYPE	SUPPLIER		
_				, RD		
8"5EK/EZ 17.1.P.	1,755 L.F.	1.717.0	D.1.P.	CRIFFIN BELAIR		
4" SEKLEPS	70 L.F.	70.0	D.I.P.	GRIFFIN/BELAIR		
MANHOLES	9 EACH	O EA	PRECAST	ATLANTIC		
				+		
NAME OF UTILITY CO	ONTRACTOR:					



DEVELOPERS CERTIFICATE

"I / KIE CERTIFY THAT ALL DEVELOPMENT & CONSTRUCTION)

VILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT & PLAN FOR

EROSION & SEDIMENT CONSTRUCTION PROJECT KILL HAVE A CERTIFICATE

INVOLVED IN THE CONSTRUCTION PROJECT KILL HAVE A CERTIFICATE

OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED

TRAINING PROGRAM FOR THE CONSTROL OF SEDIMENT & EROSION

BEFORE BESINNING THE PROJECT. I ALSO AUTHORIZE PERSON

ON THEIR INSTRUCTION BY THE HOWARD SOIL CONSERVATION DISTRICT

OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NOCESSORY."

Michaelt. Man BR WAVERLY DEVELOPMENT CORP.	カ-2
GIGNATURE OF DEVELOPER	

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TO FREDERICK 99	3
FRYENDLY FARMS FRYENDLY FARMS FRYENDLY FARMS	
EXIOTILIS KLAVERLY KOOCH KLAUTEKLATER PUMPILISI OTATIOK); COLIT. * 24 - 5457-0	
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	S SULL OF STREET
PROJECT:	CONT. STA - SAGA-O)
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BM #Z WIERSTATE	Court of 8
70	\$2.000 POST POST POST POST POST POST POST POST
10 PACTERICA	nooe and
SEWER CODE FOR COUNTY USE ONLY	70 Final 1
SEWER NO.:	S SET 3
TYPE OF BUILDING: N/A NUMBER OF LOTS: 1 N/A	PLAN REFERENCE NUMBERS: 5DP 96-35
NO. OF WATER HOUSE CONNECTIONS: NO. OF SEWER HOUSE CONNECTIONS: DRAINAGE AREA: LITTLE PATUXENT N/A N/A N/A N/A N/A N/A N/A N/A N/A N/	PERMIT MEFERIENCE HUMBERS

CONTRACT NO. 20-3595-D SEWER MAIN OUTFALL

5CALE: 1"=600"

WAVERLY GOLF COURSE HOWARD COUNTY, MARYLAND

GENERAL NOTES

- 1. APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY
- TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. 2. ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- 3. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- 4. ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- 5. CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM.
- 6. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1991 AMENDMENTS) THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL 👨 AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION - 531-5533

BALTIMORE GAS & ELECTRIC CO.. - CONTRACTOR SERVICES - 850-4620 BALTIMORE GAS & ELECTRIC CO.. - UNDER GROUND DAMAGE CONTROL - 787-9058

MISS UTILITY - 1-800-257-7777

COLONIAL PIPELINE CO. - 795-1390

- BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 313-4900 9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR
- 10. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- 11. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- 12. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 13. T.B. DENOTES TEST BORING.
- 14. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- 15. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- 16. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- 17. HOUSE(5) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- 18. ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN
- 19. MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS,
- STANDARD DETAIL G5.51. 20. WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER
- MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- 21. ALL WATER MAINS SHALL BE D.I.P., CLASS 52 UNLESS OTHERWISE NOTED. 22. JOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2' COVER UNLESS OTHERWISE NOTED.
- 23. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- 24. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- 25. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS (W1.11 AND W2.13). SOIL AROUND THE FIRE HYDRANT SHALL
- BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS. 26. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- 27. ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH
- 12-INCH FOR WATER AND OTHER LIQUIDS. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, @ (410) 313-2450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 10.114(a) OF

HOWARD COUNTY CONTROL STATION) #1012 (NAT '83) (NEAR THE INTERSECTION) OF MARYLAND ROUTE 99 ; WOODSTOCK ROAD)

NG01,0G0.177 £ 1,345, 33G.758

BM #Z "HOKIARO COUNTY CONTROL STATION * IGE I (NAO '83)
(NEAR THE INTERSECTION OF U.S. APUTE 40 &
MARYOTTS VILLE ROAD)

N 593, 250. 932

£ 1,340,192.711

ELEV. 509.924

CONTRACT NO. 20-3595-D HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION

W.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

Michaelf. Will BE WAYERLY DEVELOPMENT GOP. 3-20-97

IN DEVELOPING AREAS AS SHOWN ON THESE PLANS

AND UNDER SDP-96-35

SIGNATURE OF DEVELOPER

DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

(Levy Sommons

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

Fisher, Collins & Carter, Inc.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK 10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 461 - 2855

TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT



DE5: M.J.M.				
DRWN: J.M.M./ D.L.H.				
V.L	K.C.T.	A	ASBUILT CONDITIONS ADDED TO PLAN	6/28
CHK: P.W.K.	FCC	2	REVISE VICINITY MAP	11/97
DATE:	FCC		REVISE QUANTITIES BLOCK	11/97
4-30-97	BY	NO.	REVISION	DATE

A SSOCIATED WITH MAJOR SEWER

C.O.E. # 91-0921-5

AGREBHENT CONTRACT

24-3457-D

N.Q.C. # 91-0488

600' SCALE MAP NO. _____16

BLOCK NO. 5 4 6

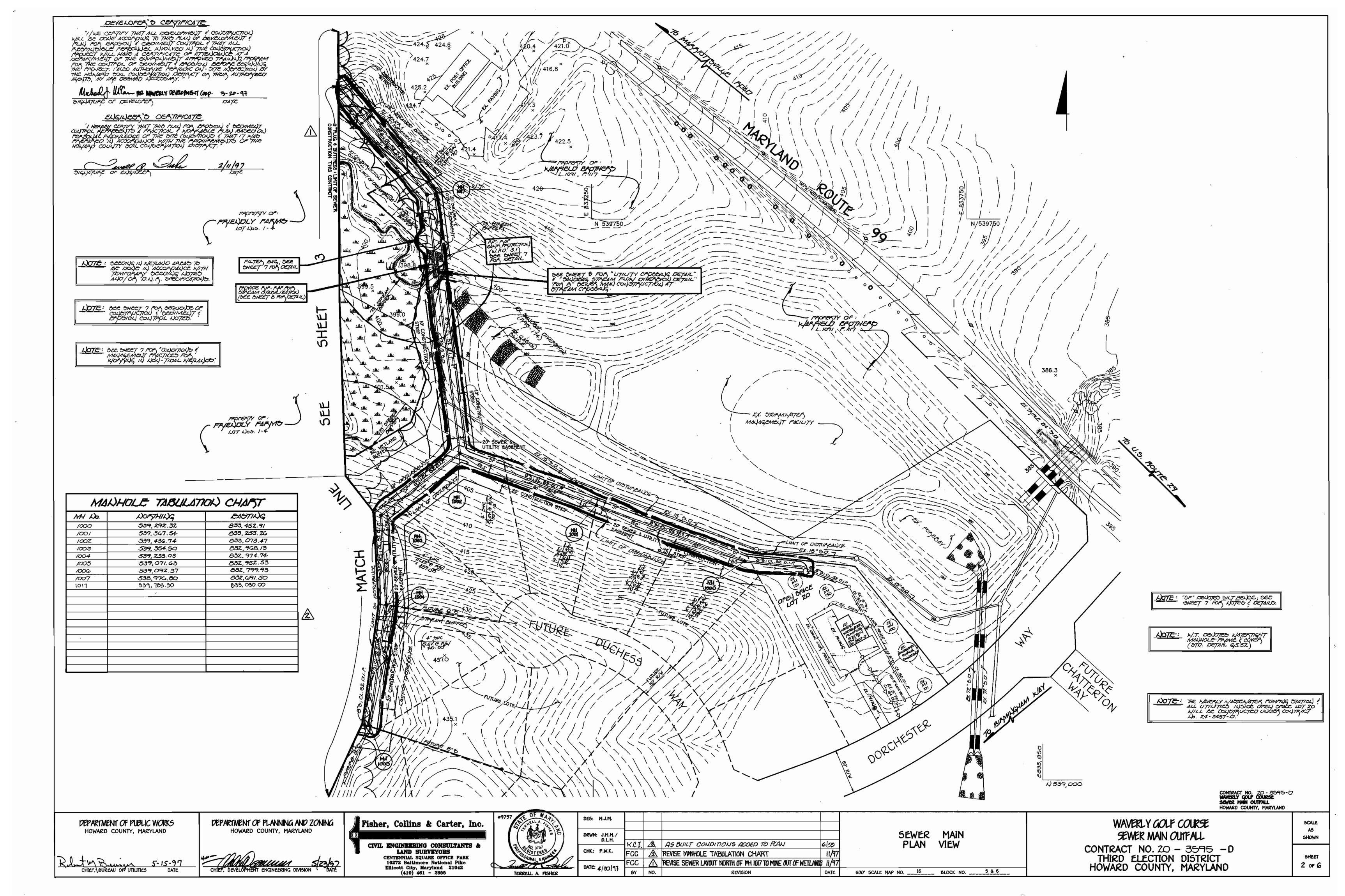
WAVERLY GOLF COURSE SEWER MAIN OUTFALL CONTRACT NO. 20 - 3595 - D THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

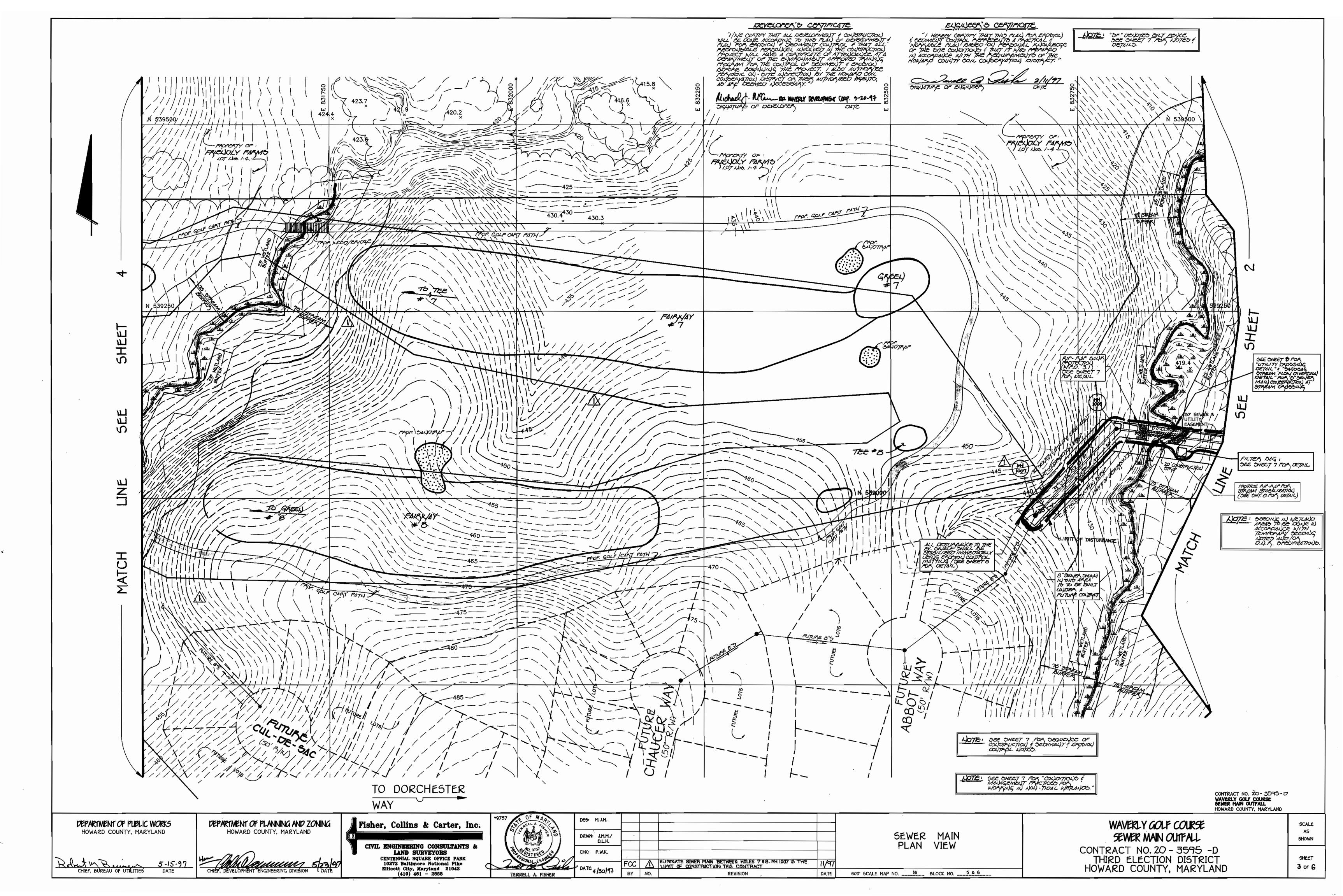
ELEY .= 445,577

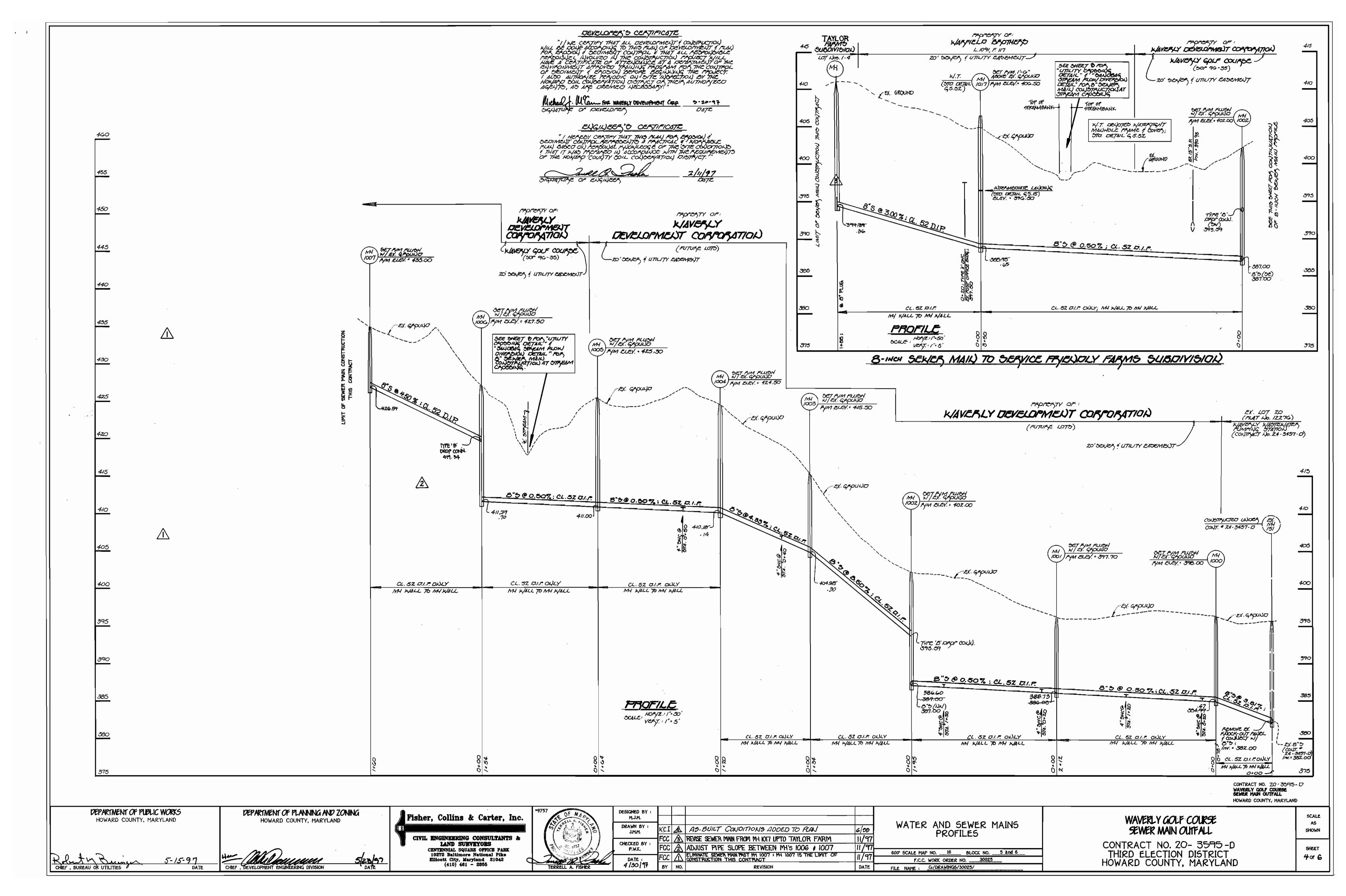
SHOWN

SHEET 1 of 6

SCALE







SECTION 20: STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

EFFECTS ON WATER QUALITY AND QUANTITY

- i. Install erosion and sediment control structures (either temporary of permanent) such as diversions,
 grade stabilization structures, berms, waterways, or sediment control basins.
 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.

 Soil Amendments (Fertilizer and Lime Specifications)
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee 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 sieve and 90-100% will pass through a *20 mesh sieve v. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
- iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 C. Seedbed Preparation

 Temporary Seeding
 Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable 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 be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 b. Apply fertilizer and lime as prescribed on the plans.
 c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
 ii. Permanent Seeding
 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 (ppm).
 - - Soluble salts shall be less than 500 parts per million (ppm).

 The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is it lovegrass o serecia lespedezas is to be planted, then a sandy soil (30% sill
 - serecia iespedezas 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 Topsoil.

 Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

 Apply soil amendments as per soil test or as included on the plans.

 Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil 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 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
 - 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 on this lob. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used
- Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

 ii. Inoculant The inoculant for treating legume seed in the seed mixtures shall be a pure 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 recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° f. can weaken bacteria and make the inoculant less effective.

 Methods of Seeding

 i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, 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 of soluble nitrogen: P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/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 lime when hydroseeding.

 c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

- 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 265 or 266. 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 seeding rate in each direction.
- 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. Seeded 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.
- Apply note the seeding rate in each direction.

 F. Mulch Specifications (in order of preference)

 i. Straw shall consist of thoroughly threshed wheat, rive or oat straw, reasonable 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.
- - nicrous physical state.

 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. WCFM, including dye, shall contain no germination or growth inhibiting factors.

 WCFM materials shall be manufactured and processed in such a manner that the
 - wcfm materials shall be manufactured and processed in such a manner that the wood cellulose fiber much 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 contact with the soil without inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.
- will be phytol-toxic.

 f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., phi range of 4.0 to 8.5, ash content of 1.6% maximum and 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 along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

 ii. When staw mulch is used it shall be annead over all conductable and the seeding can be performed in the seeding season returns and seeding can be performed in accordance with these specifications.
- ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. 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 2.5 tons/acre.

 iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. 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.
- Securing Straw Mulch (Mulch Anchoring): 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 mulch 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 safety. It used on sloping land, this practice should be used on the contour it possible.

 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 fiber 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 mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders such as Acrylic DLR (Agro-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 stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long

SEDIMENT CONTROL NOTES

- DEPARTMENT OF HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL. DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- DIVISION PRIOR TO THE START OF ANY 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.

 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 STEEPER THAN 31, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

 4) 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 MANUAL, STORM DRAINAGE.

 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD
 SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 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 ESTABILISHMENT OF GRASSES.
- GERMINATION AND ESTABLISHMENT OF GRASSES. all sediment control structures are to remain in place and are O BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT

577.7 ACRES 0.80 ACRES

0.80 ACRES

ACRES

CU.YD5.

SITE ANALYSIS:

TOTAL AREA OF SITE

AREA DISTURBED

AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED

BY THE INSPECTION AGENCY IS MADE.

- 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 APPROVAL
- 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.

PERMANENT SEEDING NOTES ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

SEEDBED PREPARATION:
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING
OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS:

APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1,000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER 14 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC. INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (II.5 LBS./ 1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

FOR THE PRERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.3 LBS./LOOD SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS/ACRE 1.4 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND
2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING
LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH
FEBRUARY 20. PROJECT SITE BY: OPTION (D - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING: OPTION (2) - USE SOD; OPTION (3) -SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD

MULCHING:
APPLY 1 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL-/1,000 SQ.FT.) OF EMULSIFIED
ASPHALT ON FLAT ACRES. ON SLOPES & FEET OR HIGHER USE
340 GALLONS PER ACRE (8 GAL-/1,000 SQ.FT.) FOR ANCHORING.

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

TEMPORARY SEEDING NOTES 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, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY
- SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./
- FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST
 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BUSHELS PER ACRE OF
 ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./
 1,000 SQ.FT. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY
 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL
 ANDUGSO STANL HILL CH AND SEED AS SOON AS POSSIBLE IN THE anchored straw mulch and seed as soon as possible in the SPRING, OR USE SOD.
- APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.)
 OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING.
 ANCHORING TOOL OR 210 GALLONS PER ACRE (5 GAL.1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT ACRES ON SLOPES & FEET OR HIGHER, USE 348 GALLONS PER ACRE (& GAL./1,000 SQ.FT.) FOR
- REFER TO THE 1900 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT

SECUENCE OF CONSTRUCTION

- OBTAIN THE REQUIRED GRADING PERMIT.

 NOTIFY MISS UTILITY 40 HOURS BEFORE BEGINNING ANY WORK

 (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION /ISION 24 HOURS BEFORE STARTING ANY WORK ((410)313-1870). 3. INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES
 AS INDICATED ON SHEETS 2, 3, AND 4 OF THIS CONTROL TO DAYS). THE
 START OF CONSTRUCTION ON THE WETLAND AND STREAM CROSSINGS SHALL
 BE LIMITED TO A 5-DAY CLEAR WEATHER FORECAST FROM THE N.W.S.
 CONSTRUCTION WITHIN THESE LIMITS MUST BE COMPLETED WITHIN 5 DAYS.

 4. CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION
- CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION
 AND INSTALLATION OF THE SEWER MAIN, AND ONLY WITHIN THE
 DESIGNATED SEWER AND UTILITY EASEMENTS (7 DAYS).
 NOTE: THE LENGTH OF OPEN SEWER MAIN TRENCH SHALL BE LIMITED TO
 THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED AND
 STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.
 CONSTRUCT THE SEWER MAIN AND APPURTENANCES (40 DAYS). THE CONTRACTOR
 SHALL REFERENCE THIS SHEET FOR A LIST OF CONDITIONS; "CONDITIONS
 AND MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS".
 THESE CONDITIONS APPLY TO ALL UTILITY WORK CONDUCTED WITHIN
 THE NON-TIDAL WETLANDS AND BUFFERS AS SHOWN ON THESE PLANS.
 STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE
 WITH THE PERMANENT SEEDINGS NOTES SHOWN ON THIS SHEET.THE
 WETLAND AND STREAM CROSSINGS SHALL BE STABILIZED IN ACCORDANCE
 WITH CONDITION 'G' OF THE "CONDITIONS AND MANAGEMENT PRACTICES
 FOR WORKING IN NON-TIDAL WETLANDS" (ABOVE). (5 DAYS)
 FOLLOWING SUCCESSFUL STABILIZATION OF ALL DISTURBED AREAS,
 AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD

AND AFTER PERMISSION HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL EROSION AND SEDIMENT CONTROL DEVICES. (4 DAYS)

SECTION 21: STANDARD AND SPECIFICATIONS FOR TOPSOIL 1) DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF

- PERMANENT VEGETATION.
 2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. D SPECIFICATIONS: A.TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY
- LOAM, OR LOAMY SAND.

 B.TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS.

 C.TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5° IN DIAMETER.

 4) APPLICATION:

 A.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"- 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4"; AVOID SURFACE IRREGULARITIES.

 B.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION".
 C.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET

CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS

- A) STOCKPILE AND MAINTAIN SEPARATELY THE TOP 6"-12" OF TOPSOIL MATERIAL, TO BE REPLACED AS THE LAYER OF THE BACKFILLED MATERIAL;
- B) REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA;
- C) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONTIDAL WETLAND;
- D) MAINTAIN THE HYDROLOGIC REGIME OF THE NONTIDAL WETLANDS UPSTREAM, DOWNSTREAM, OR ADJACENT TO THE SEWERLINE;
- E) PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY DESIGN THE EQUIPMENT TO PREVENT DAMAGE TO THE NONTIDAL WETLANDS: F) USE PREVIOUSLY EXCAVATED MATERIAL AS BACKFILL, UNLESS IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE
- G) ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HOREDUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF THE NATURAL WETLANDS SPECIES. OTHER NONPERSISTENT VEGETATION MAY ALSO BE ACCEPTABLE, BUT MUST BE APPROVED BY THE DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- H) UPON COMPLETION OF THE PROJECT NONTIDAL WETLANDS AND THE 25-FOOT NONTIDAL WETLAND BUFFER WILL NOT BE MOWED OR OTHERWISE MANAGED TO PREVENT THE

PROVIDE CONSTRUCTION FENCE TO RESTRAIN, IF SLOPE 10 GREATES, THAN 5 PERCENT

Z'x Z' 578/555 --

CUT ONEY COPYLE

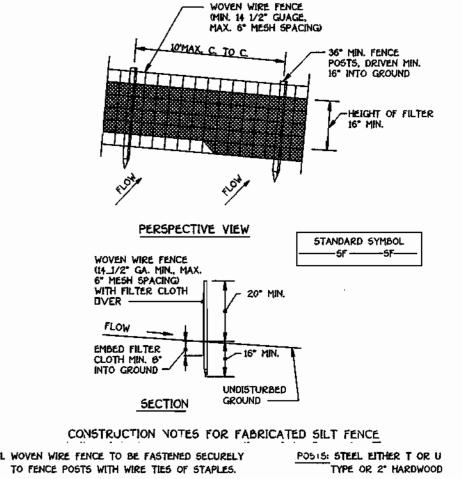
D. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONTIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS;

DEVELOPER'S CERTIFICATION I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS

Michaeld. McCam BR HANDER BEIROTHON COP 3/14/47

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN FOR 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.



2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY

FENCE: WOVEN WIRE, 14. GA.

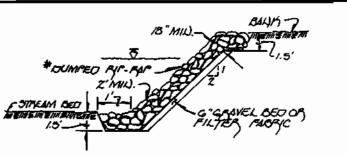
24" AT TOP AND MID SECTION 3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN

FILTER CLOTH FILTER X, MIRAFI EACH OTHER THEY SHALL BE OVERLAPPED BY 100X, STABILINKA TI4 ON SIX INCHES AND FOLDED. OR APPROVED EQUAL

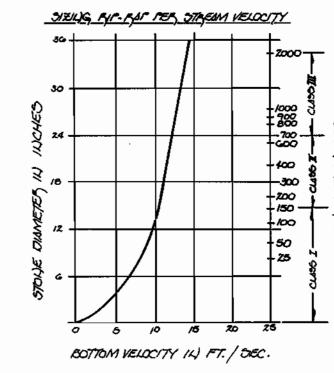
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

6° Max. Mesh opening

SILT FENCE



* SIZE BASED ON BANYYFULL VELOCITY <u> CROSO SECTION</u>



<u>RIP - RAP GRADATION</u> PERCELIT OF TOTAL HEIGHT SMALLER, THALL THE GVELL STEE SIZE

CLASS I 150 Lb. (70 Kg.) /00 /0 max. 700 Lb. (370 kg.) 20 Lb. (10 kg.) 100 10 max. 100 10 max. 2,000 Lb. /910 kg 40 Lb. (20 Kg.)

I. DEGCRYPTION THIS KINKY SHALL CONSIST OF PROTECTING SLOPES & CHANNIGHTS FROM EROSION KITH COVERINGS OF STONE IN ACCORDANCE WITH THE PLANS & SPECIFICATIONS SHOWN ON THIS DRAWING. II. MATERIAL SPECIFICATIONS

1. BEDDING

A. BALIK PULL CRAVEL SHALL MEET THE POLLOKILIGE REQUIREMENTS: U.S. STAL)DAYD SEIVE SIZE 100 85-100 60-100 35-70

No. 40 20-50 *3 - 2*0 SHALL MEET THE FOLLOWING PEQUIPEMENTS:

ELOWGATION AT FAILURE MINIMUM LAP LENGTH Z. RIT-RAT:

THE MAXIMUM WEIGHT OF CHALL BE BACED LIFOLD THE BAUNG THAT CHALLY DELOCITY, LICILLY THE GRADATION OF THE STOLLE CHALL BE AD MICHOLOTED!

III. CONOTRUCTION REQUIREMENTO I. THE CONTRACTOR SHALL INSTALL ALL SEDIMENT & EROSION CONTROL DEVICES AS A FIRST OF DER OF BUSINESS.

2. PROVIDION MUDT BE MADE TO ANCHOR THE PYP-PAP AT THE STREAM BED DO AD TO PROVIDE PROTECTION AGAINDT UNDERMINING. IF THIS CONJUCT TOE ACCOMPLICATED BY EXTENDING THE TRENDY AD INDICATED IN CROOD DECTION, AN ALTERNATIVE METHOD OF PROTECTION MUST RECEIVE PRIOR METHOD OF PROTECTION MUST RECEIVE PRIOR)

3. EXCAVATION) FOR AIR-PAIR CHALL BE MADE IN AESOCHABLY CLOCK CONFORMITY WITH THE EXISTING OTHERM CHOPE & BED.

4. A FILTER BEDONLY TO REQUIRED ULYDER BLL
RIP-RAM. BEDIONLY MATERIAL THALL CONTINT OF
EITHER A DANK MUN GRAVEL OR A GEOTEYTILE
FILTER FABRIC MEETING THE SPECIFICATIONS OF

S. THE PLACEMENT OF PUT-PUT SHALL BEGIN WITH THE TOE. THE LARGER STOLDED SHALL BE PLACED IN THE TOE & ALDING THE OUTSIDE EDGES OF THE LIMITS OF THE SLOPE & CHAUNIEL PROTECTION. THE PUT-PUT SHALL BE PLACED WITH SUITABLE EQUIPMENT IN SUCH A MAINER AS TO PROJUCE A PERSONABLY GRADED MISTS OF STOLDED WITH ZERO DROP HEIGHT: THE PLACING OF STOLDED THAT CRUCE EXTENSIVE SEGREGATION TO NOT ALLOWED.

G. ALLY EXCAVATION VOIDS EXISTING ALONG THE EDGES
OF THE COMPLETED SLOPE & CHANINEL PROTECTION
SHALL BE BACKFILLED.

ALL DISTURBED AREAD CHALL BE PERMANDITLY STABILIZED IN ACCOMPOSICE WITH AN APPROVED CEDIMENT & EMPOSIONS CONTROL PLAN.

RIP-RAP BANK PROTECTION DETAIL

CONTRACT NO. 20-3595-D WAVERLY GOLF COURSE SEWER MAIN OUTFALL HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING

HOWARD COUNTY, MARYLAND

fisher, Collins & Carter, Inc. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK

10272 Baltimore National Pike

Ellicott City, Maryland 21042 (410) 461 - 2855

DESIGNED BY M.J.M. DRAWN BY M.J.M./J.M.M. CHECKED BY P.W.K. FCC |igwedge igwedge igwedge | REVISE THE "SITE ANALYSIS" IN THE SEDIMENT CONTROL NOTES |eta|4/30/17 BY NO. REVISION

PLAL) VIEK/

SECTION 'A-A

1. FILTER DOG SHALL BE PLACED ON A SLOPPING OR LEVEL, KIELL GRADED VEGETATED SITE SUCH THAT HATER KILL FLOK! AKAY FROM DEVICE & ANY KIONY AREAS.

3. THE FILTER BAG MUIOT BE STAYED IN PLACE & DECURED TO THE PUMP DISCHARGE LINE.

4. FILTER BAG CHALL WOT BE LICKED FOR DISCHARGE FLOWE GREATER THAN 300 GPM.

3. DEVICE SHALL BE PEMOVED & DISPOSED OF AFTER BAG IS FILLED KITH SEDIMENT; SEDIMENT,

-CONOTRUCTION FENCE FOR REOTRAINT & AIO IN LIFTING WOED IONG

FILTER FABRIC / PHILLIPS

FIBERS SUPAC BUP)

0 70 10% SLOPE

- GTAKE AT Z.S' CELITER TO CELITER TO HOLD OU TLOPES

SEDIMENT -

Z. KILOTH & LELIGTH SHALL BE AS SHOWN OL) THE DETAIL.

FILTER BAG DETAIL

TEMPORARY EROSION CONTROL MEASURE

AND DETAILS

600' SCALE MAP NO. 16 BLOCK NO. 5 and 6

WAVERLY GOLF COURSE SEWER MAIN OUTFALL

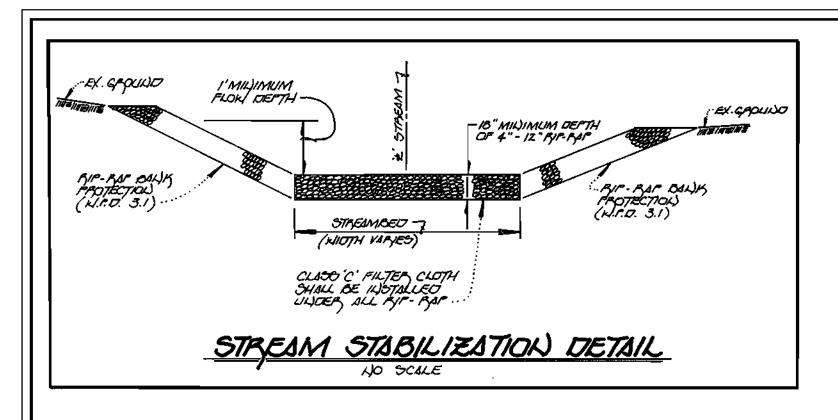
CONTRACT NO. 20-3595-D THIRD ELECTION DISTRICT

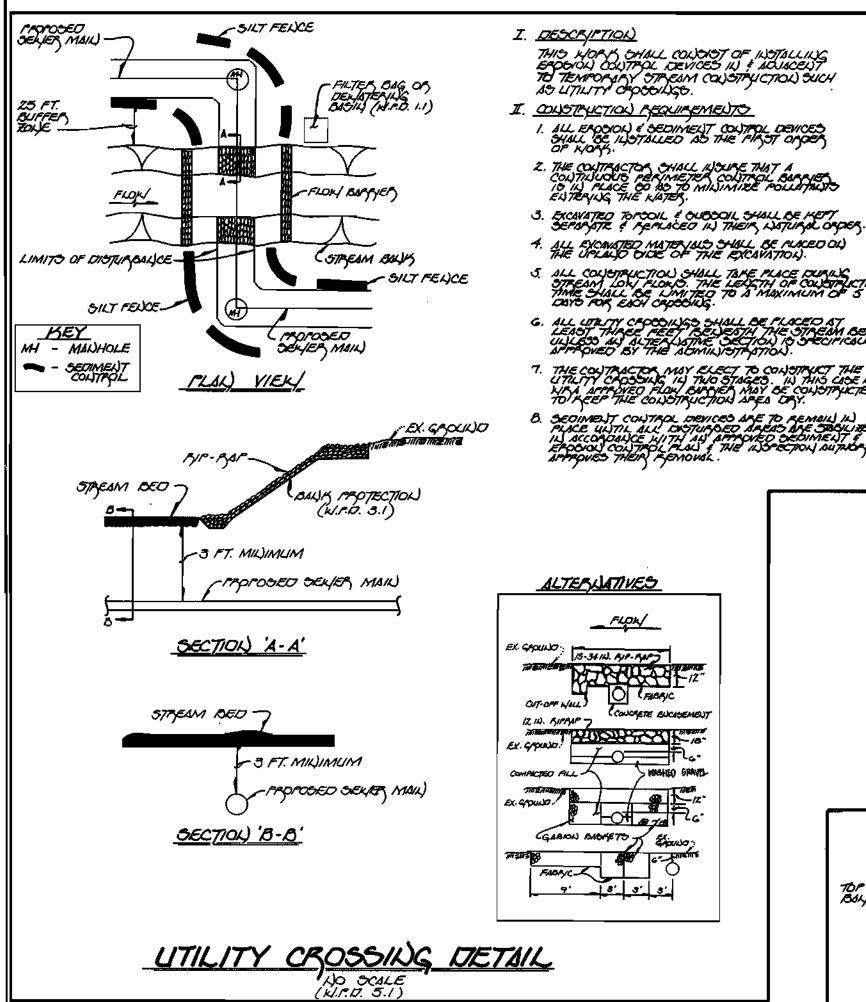
SCALE A5 SHOWN SHEET

Lut M. Bernar CHIEF , BUREAU OF UTILITIES

F.C.C. WORK ORDER NO. _____30025 FILE NAME : G:/DRAWINGS/30025/WGC5DET.DWG HOWARD COUNTY, MARYLAND

5 of 6



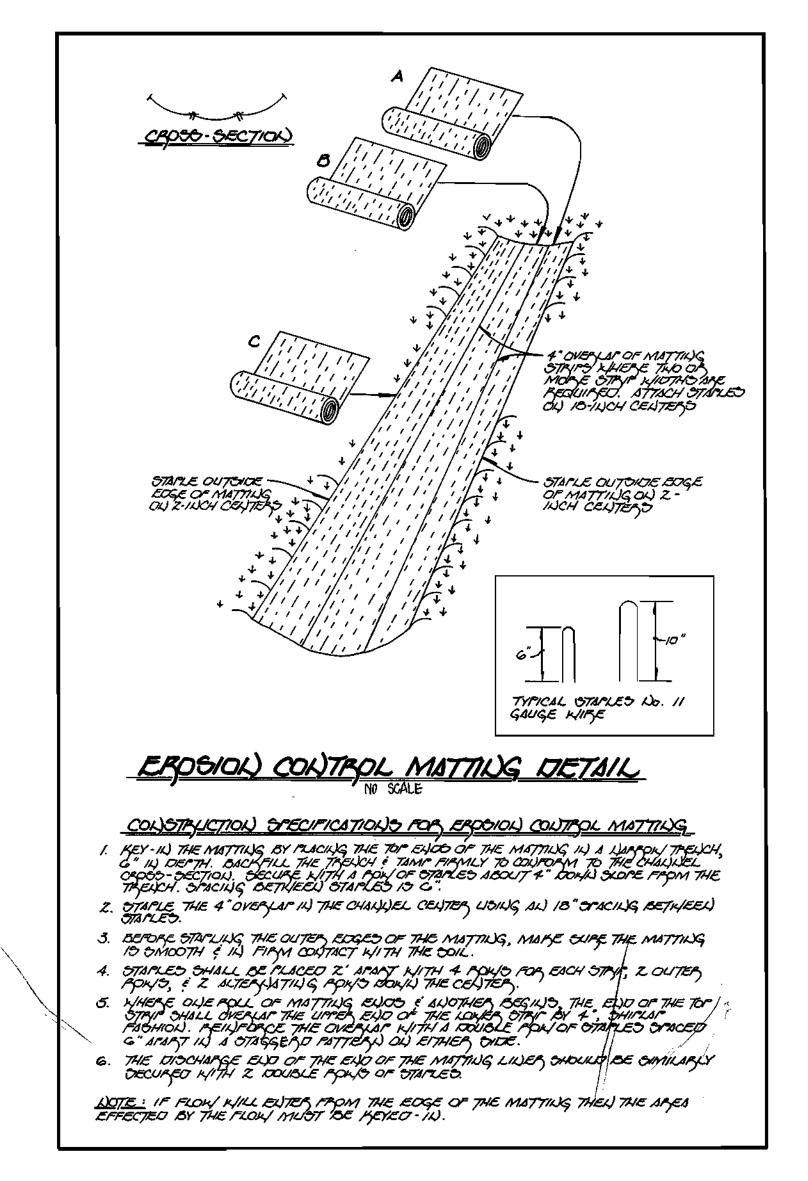


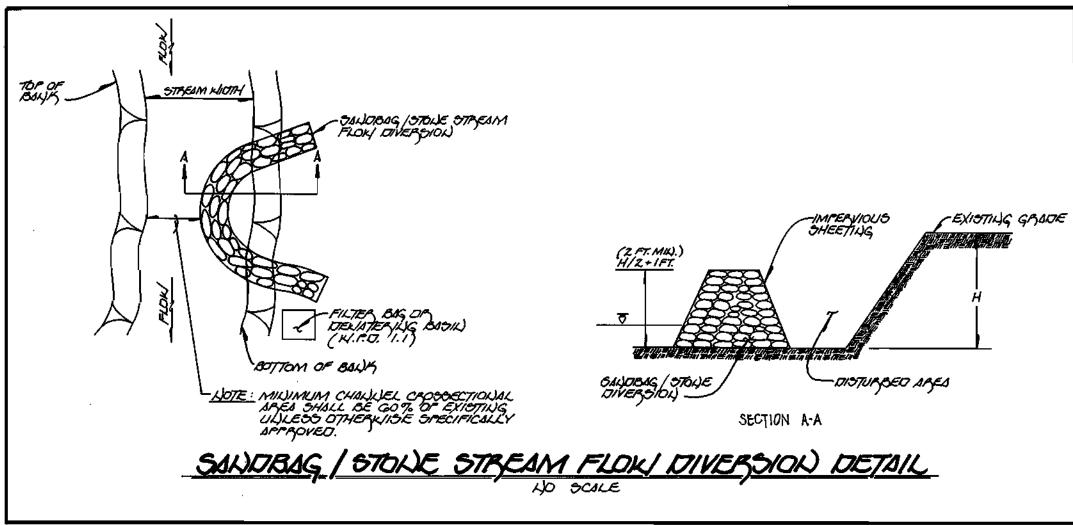
I/WE HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Uichael) . N. Com on WINCRLY RECEIPMENT (prp. 3/24/97 DATE

I HEREBY CERTIFY THAT THIS PLAN FOR 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

SIGNATURE OF ENGINEER 3/24/97
DATE





CONTRACT NO. 20-3595-D
WAYERLY GOLF COURSE
SEWER MAIN OUTFALL
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKSHOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES

CHIEF , DEVELOPMENT ENGINEERING DIVISION DATE

DEPARTMENT OF PLANNING AND ZONING

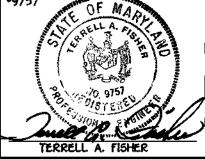
HOWARD COUNTY, MARYLAND

Fisher, Collins & Carter, Inc.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK

10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 461 - 2855



4/30/97	βY	NO.	REVISION	DATE		
Y	DATE : 4/30/97					
P.W.K.			_			
	CHECKED BY:					
١	DRAWN BY : M.J.M./J.M.M.				·	
	M.J.M.					
DESIGNED BY :						

WAVERLY GOLF COURSE SEWER MAIN OUTFALL

NOTES AND DETAILS

600' SCALE MAP NO. __ 16 BLOCK NO. __ 5 and 6

FILE NAME: G:/DRAWINGS/30025/WGCSDET.DWG

CONTRACT NO. 20-3595-D THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND SHEET

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