

QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" WATER	950 L.F.			
6" WATER	6 L.F.			
1" WATER	103 L.F.			
FIRE HYDRANTS	1 EACH			
8" X 6" TEE	1 EACH			
8" VALVE	1 EACH			
6" VALVE	1 EACH			
8" PLUG & BUTTRESS	1 EACH			
8" SEWER	531.55 L.F.			
4" SEWER	48 L.F.			
MANHOLES	3 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY & DRAFTING DIVISION AS-BUILT DATE:				

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 THE DEPARTMENT OF THE ENVIRONMENT 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 ASKED BY THEM.

Paul W. Raebel FOR:
 Ellicott City Land Holding, Inc. 09/20/01
 SIGNATURE OF DEVELOPER DATE

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.

Paul W. Raebel 09-20-01
 SIGNATURE OF ENGINEER DATE

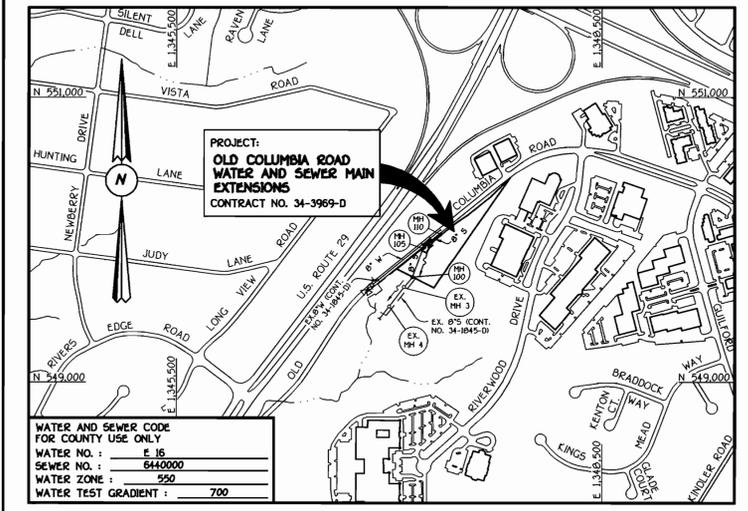
GP-02-28
 REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Jim Myers 9/27/01
 S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

APPROVED:
 John P. R. [Signature] 9/27/01
 HOWARD SOIL CONSERVATION DISTRICT DATE

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 IN DEVELOPING AREAS AND AS SHOWN ON THIS PLAN.

Paul W. Raebel FOR:
 Ellicott City Land Holding, Inc. 09/20/01
 SIGNATURE OF DEVELOPER DATE

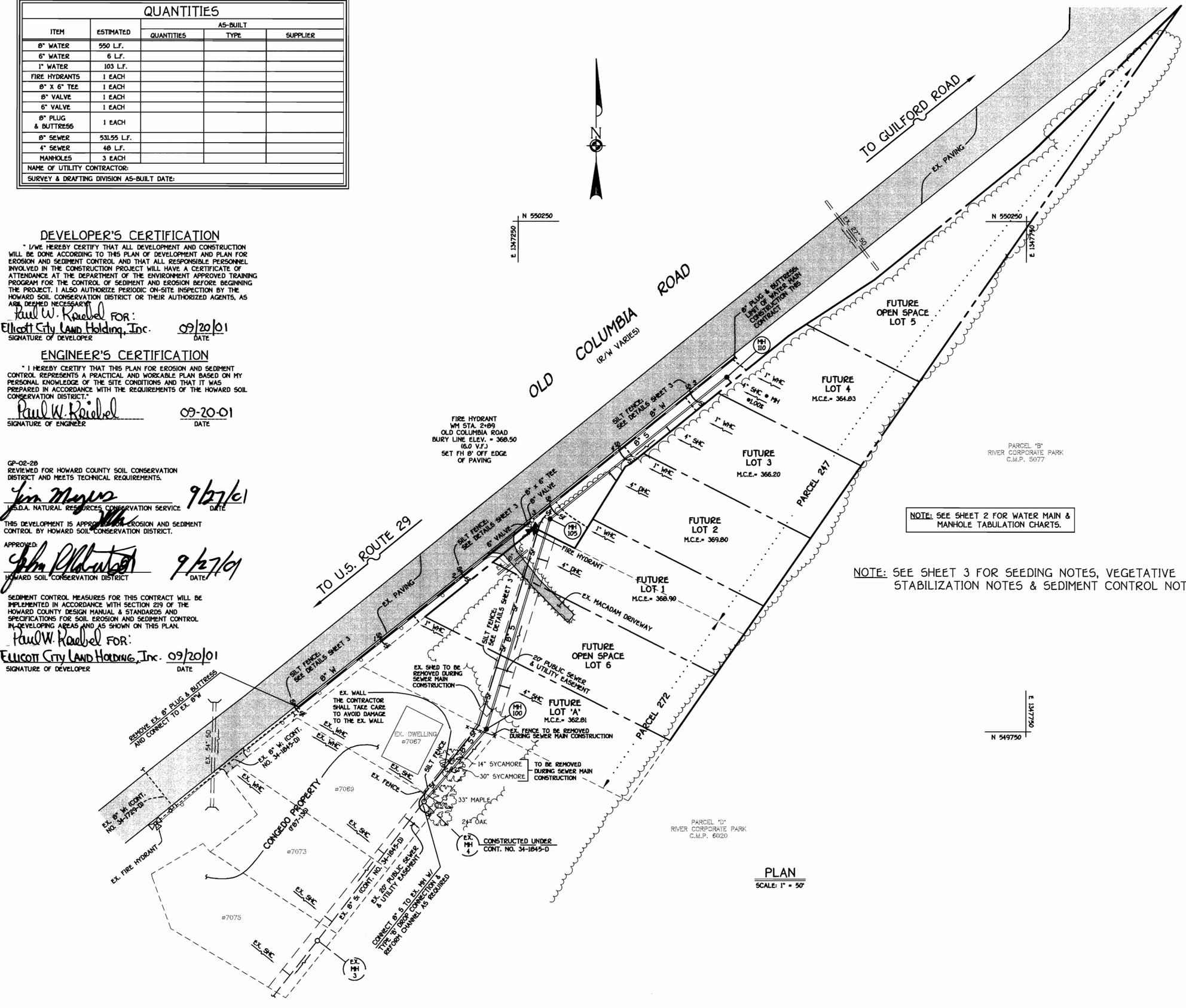


TYPE OF BUILDING	RESIDENTIAL: SINGLE FAMILY DETACHED
NUMBER OF LOTS & PARCELS	7 (5 BUILDABLE)
NO. OF WATER HOUSE CONNECTIONS	5
NO. OF SEWER HOUSE CONNECTIONS	5
DRAINAGE AREA	MIDDLE PATUMENT
TREATMENT PLANT	LITTLE PATUMENT WATER RECLAMATION CENTER

VICINITY MAP
 SCALE: 1" = 600'

GENERAL NOTES

- 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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 29.
- ALL PIPE ELEVATIONS ARE PIPE ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1991 AMENDMENTS) THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL BI 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 THE EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - AT&T 1-800-526-2000
 - BGE (CONTRACTOR SERVICES) 410-850-4620
 - DGE (UNDERGROUND DAMAGE CONTROL) 410-787-9096
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 410-313-4900
 - BELL ATLANTIC MARYLAND, INC. 1-800-621-9900
 - COLONIAL PIPELINE CO. 410-795-1390
 - MISS UTILITY 1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION 410-531-5533
- 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.
- 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 THE CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G5.52.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.51.
- 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.
- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- 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 (W111 AND W213). 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 MAIN SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH THE 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 (5) 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 1B.114(b) OF THE HOWARD COUNTY CODE.



PLAN
 SCALE: 1" = 50'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

9-24-01
 DATE

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

9/20/01
 DATE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

10277 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21116
 (410) 461-2955



DESIGNED BY:	M.D.T.
DRAWN BY:	M.D.T.
CHECKED BY:	P.W.K.
DATE:	SEPTEMBER, 2001
BY NO.	
REVISION	

**WATER AND SEWER MAINS
 PLAN VIEW**

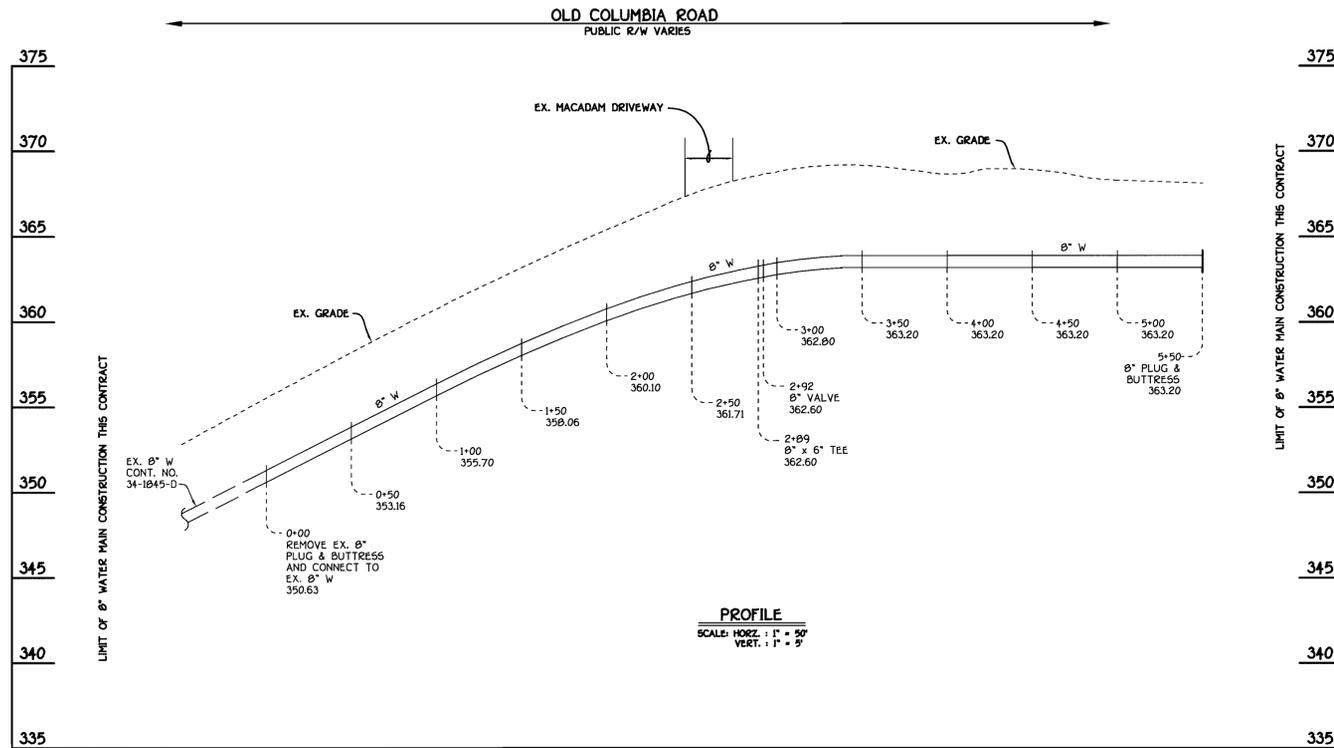
600' SCALE MAP NO. 41 BLOCK NO. 6
 F.C.C. WORK ORDER NO. 539
 FILE NAME: 539 FINAL WATER AND SEWER PLAN SHT1

CONTRACT NO. 34-3969-D
OLD COLUMBIA ROAD
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 3

SEE THIS SHEET FOR WATER MAIN TABULATION CHART



WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
OLD COLUMBIA ROAD			
0+00	CONNECT TO EX. 8" WATER	549773.06	1347034.46
2+09	8" X 6" TEE	549953.70	1347260.05
2+92	8" VALVE	549955.56	1347262.39
5+50	8" PLUG & BUTTRESS	550116.84	1347463.78

NOTE: SEE SHEET 3 FOR SEEDING NOTES, VEGETATIVE STABILIZATION NOTES & SEDIMENT CONTROL NOTES.

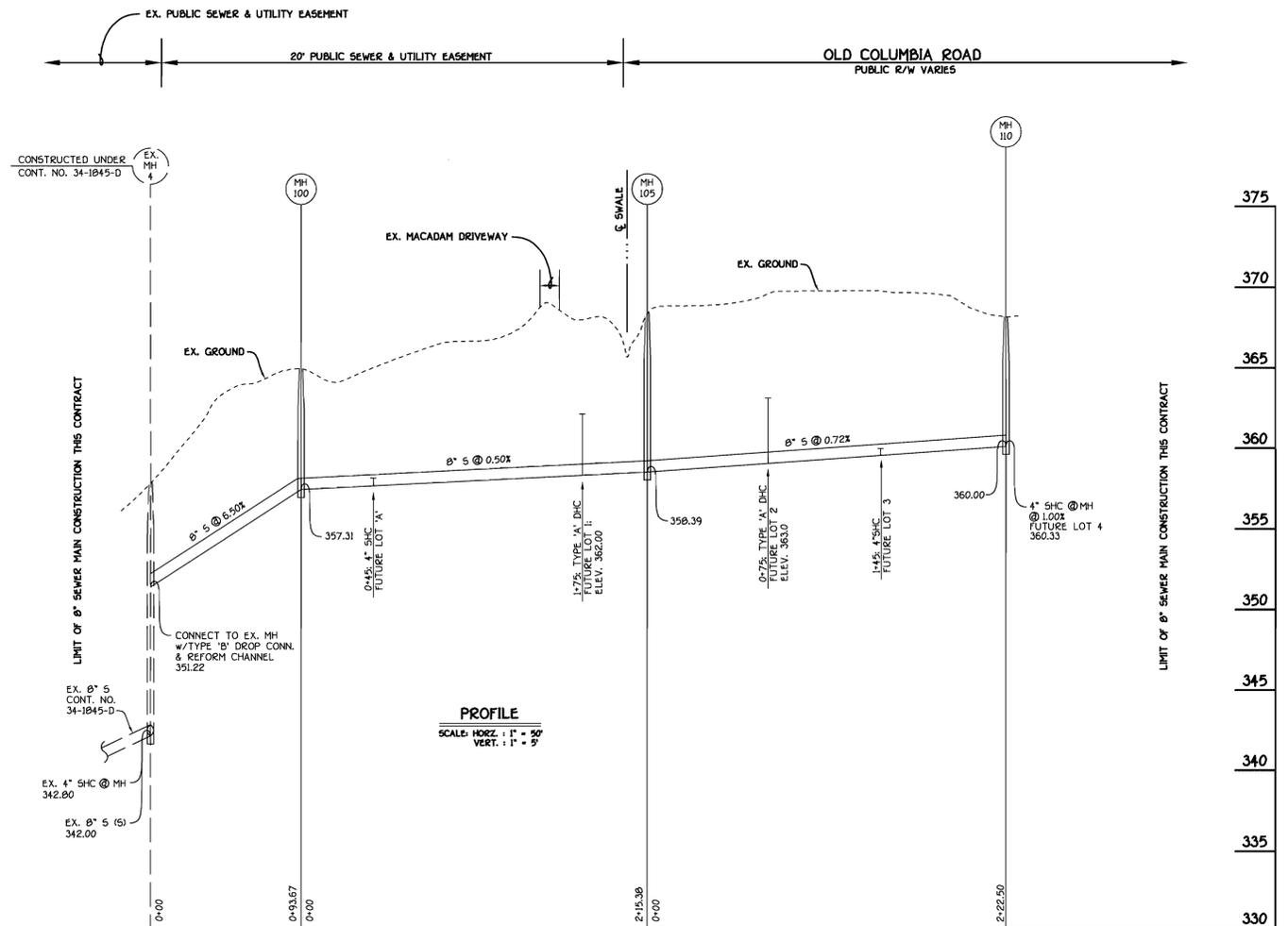
NOTE: SET RIMS OF MANHOLE NOS. 100, 105, & 110 FLUSH W/ EXISTING OR PROPOSED GROUND AS APPLICABLE; SEE MANHOLE TABULATION CHART THIS SHEET.

8" WATER MAIN EXTENSION: OLD COLUMBIA ROAD

SHC INVERT @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
MH 100 TO MH 105		
0+45 RT.	FUTURE 'A'	357.91
1+75 RT.	FUTURE 1 (DHC)	362.20
MH 105 TO MH 110		
0+75 RT.	FUTURE 2 (DHC)	363.24
1+45 RT.	FUTURE 3	359.76
② MH 110 RT.	FUTURE 4 (② MH1,000)	360.41

MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
100	549752.00	1347219.29	364.5*
105	549950.17	1347281.62	366.6*
110	550097.24	1347455.30	368.0*

* SET ALL MANHOLE RIMS FLUSH W/ EXISTING OR PROPOSED GROUND AS APPLICABLE.



8" SEWER MAIN EXTENSION: OLD COLUMBIA ROAD

CONTRACT NO. 34-3969-D
OLD COLUMBIA ROAD
WATER AND SEWER MAIN EXTENSIONS
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 - 18272 BALTIMORE NATIONAL FREE
ELLIOTT CITY, MARYLAND 21842
410 461 - 2955



DESIGNED BY:	M.D.T.
DRAWN BY:	M.D.T.
CHECKED BY:	P.W.K.
DATE:	SEPTEMBER, 2001
BY NO.	
REVISION	
DATE	

WATER AND SEWER MAINS
PROFILES

600' SCALE MAP NO. 41 BLOCK NO. 6
F.C.C. WORK ORDER NO. 539
FILE NAME : 539 FINAL WATER AND SEWER PROFILES SH2

OLD COLUMBIA ROAD
WATER AND SEWER MAIN EXTENSIONS
CONTRACT NO. 34-3969-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE
AS
SHOWN
SHEET
2 of 3

9-24-01
DATE

9/26/01
DATE

SEDIMENT CONTROL NOTES

- 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 (303-2950).
- All Vegetative and Structural Practices Are To Be Installed According to The Provisions of This Plan and Are To Be In Accordance with 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 Thereof.
- 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. As To All Other Disturbed Or Graded Areas On The Project Site.
- 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, Chapter 12, Of The Howard County Design Manual, Storm Drainage.
- 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. 50), Sod (Sec. 54), Temporary Seeding (Sec. 50), Permanent Seeding (Sec. 50), Sod (Sec. 54), Temporary Seeding (Sec. 50), and Mulching (Sec. 52). Temporary Stabilization with Much Alone Can Only be Done When Recommended Seeding Dates Do Not Allow for Proper Germination and Establishment of Grasses.
- 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.
- Site Analysis:
Total Area of Site: 2,919 Acres
Area Disturbed: 0,244 Acres
Area To be Re-seeded or Paved: 0,000 Acres
Area To be Vegetatively Stabilized: 0,244 Acres
Total Cut: NOT APPLICABLE, CONSTRUCTION OF UTILITIES ONLY
Off-Site Waste/Borrow Area Location: []
- Any Sediment Control Practice Which is Disturbed by Grading Activity for Placement of Utilities Must be Replaced On The Same Day of Disturbance.
- Additional Sediment Controls Must be Provided, if Deemed Necessary by The Howard County Sediment Control Inspector.
- 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 Approvals May Not be Authorized Until This Initial Approval by The Inspection Agency is Made.
- 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.
- The Total Amount of Silt Fence = 410 LF.
- The Builder is Responsible for Protecting Constructed and Stabilized Lots from Sediment Laden Runoff.

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 (94 LBS./1,000 SQ.FT.) BEFORE SEEDING HARDWOOD OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA/FORM FERTILIZER (94 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE 0-15-15 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.
- SEEDING:**
FOR THE PERIODS 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 50 LBS./ACRE (1.1 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WHEATING LOVEGRASS, DURING THE PERIOD OF OCTOBER 15 THROUGH FEBRUARY 28, PROJECT SITE BY: OPTION (1) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) - USE SOO, OPTION (3) - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD be HYDROSEEDDED.
- MULCHING:**
APPLY 1 TO 2 TONS PER ACRE (50 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 GALLONS/100 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 6 FEET OR HIGHER USE 340 GALLONS PER ACRE (8 GALLONS/100 SQ.FT.) FOR ANCHORING.
- MAINTENANCE:**
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
* FOR PUBLIC PONDS SUBSTITUTE CHEMUNG CROWNWEED AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS./ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS MIXTURE IS MARCH 1 TO APRIL 30.

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 LOOSENED.
- SOIL AMENDMENTS:**
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (94 LBS./1,000 SQ.FT.)
- SEEDING:**
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 17 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WHEATING LOVEGRASS (27 LBS./1,000 SQ.FT.) FOR THE PERIOD NOVEMBER 15 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOO.
- MULCHING:**
APPLY 1 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 GALLONS/100 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 15 FEET OR HIGHER, USE 340 GALLONS PER ACRE (8 GALLONS/100 SQ.FT.) FOR ANCHORING.
- REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, FOR RATE AND METHODS NOT COVERED.

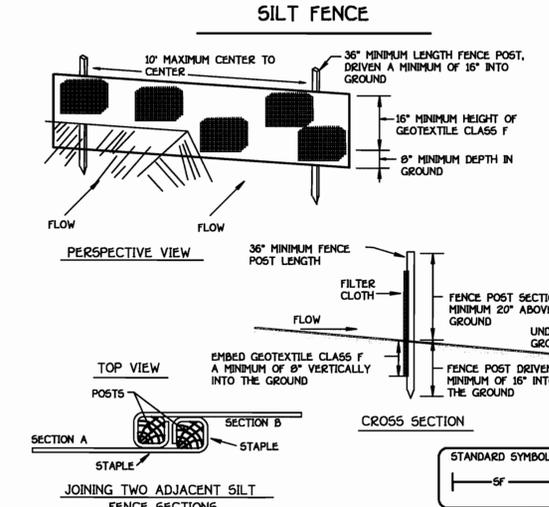
STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION:
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: bars, 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**
- Site Preparation**
 - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas 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.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Nitrate 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 warranty of the producer.
 - Lime materials shall be ground limestone hydrated or burnt lime may be substituted which contains at least 50% total oxidized 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 discing or other suitable means.
 - 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 chain saws 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.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3-5" of soil by discing or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.5.
 - Soluble salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but enough fine grained material (20% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loesslike or arenic loesslike soils to be planted, then a sandy soil (30% silt plus clay) would be acceptable.
 - Soil shall contain 1% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - 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.
 - Apply soil amendments as per soil test or as included on the plans.
 - Mix soil amendments into the top 3-5" of topsoil by discing 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.
 - Seed Specifications**
 - 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 the job.
 - Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
 - Inoculants - The inoculant for treatment of the seed mixture 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 to seed containers. 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°F will weaken bacteria and make the inoculant less effective.
 - Methods of Seeding**
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
 - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: Nitrogen: minimum of 100 lbs. per acre total of soluble nitrogen (P205 (phosphorous): 200 lbs./ac; L20 (potassium): 200 lbs./ac.
 - Lime - use only ground agricultural limestone, (Up to 2 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 wet or hydrated lime when hydroseeding.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Seed spreader shall be incorporated into the rates prescribed on the Temporary or Permanent Seeding summaries of Tables 22 & 23.
 - The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - When dry seed is used, it shall be applied in two directions perpendicular to each other.
 - Apply half the seeding rate in each direction.
 - Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker 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.
 - Where practical seed shall 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, rye or oat straw, reasonable bright in color, and shall not be frosty, moldy, decayed, or excessive dust and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood cellulose fiber (WCFM)
 - 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 bond with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a hotter-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 seedings.
 - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - WCFM must conform to the following physical requirements: fiber length to approximately 100 micrometers (1 mm), pH range of 6.0 to 6.5, ash content of 16% maximum and water holding capacity of 50% minimum.
 - Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.**
 - If grading is completed outside of the seeding season, mulch 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.
 - 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.
 - 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:
 - 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 contour 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 valleys and creek banks. The remainder of area should be applied uniform after binder application. Synthetic binders - such as Acrylic DLR (Ago-Tack), DCA-70 Petroset, Terra Tex II, Terra Tack AK or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - Lightweight plastic netting may be applied over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 12' feet wide and 300 to 3,000 feet long.



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 100 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min)	Test: MGMT 509
Tensile Modulus	20 lbs/in (min)	Test: MGMT 509
Flow Rate	0.3 gal ft / minute (max)	Test: MGMT 322
Filtering Efficiency	75% (min)	Test: MGMT 322
 - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PARK
ELLSWORTH CITY, MARYLAND 21042
(410) 461 - 2955



DESIGNED BY:	M.D.T.		
DRAWN BY:	M.D.T.		
CHECKED BY:	P.W.L.		
DATE:	SEPTEMBER, 2001	BY NO.	
REVISION		DATE	

SEDIMENT CONTROL
NOTES AND DETAILS

600' SCALE MAP NO. 41 BLOCK NO. 6
F.C.C. WORK ORDER NO. 539
FILE NAME: 539 FINAL WATER AND SEWER DETAILS SHTS

OLD COLUMBIA ROAD
WATER AND SEWER MAIN EXTENSIONS
CONTRACT NO. 34-3969-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

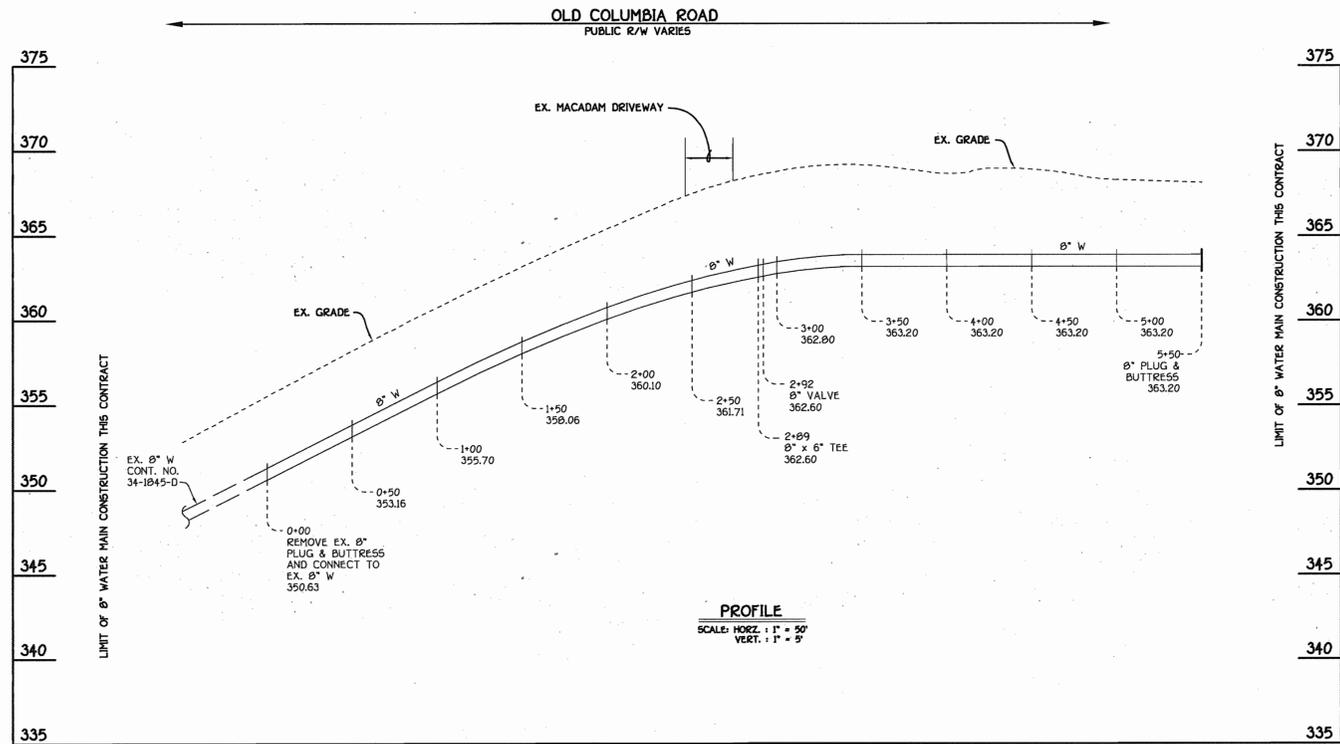
SCALE AS SHOWN
SHEET 3 of 3

9-24-01
DATE

DATE

CONTRACT NO. 34-3969-D
OLD COLUMBIA ROAD
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

SEE THIS SHEET FOR WATER MAIN TABULATION CHART

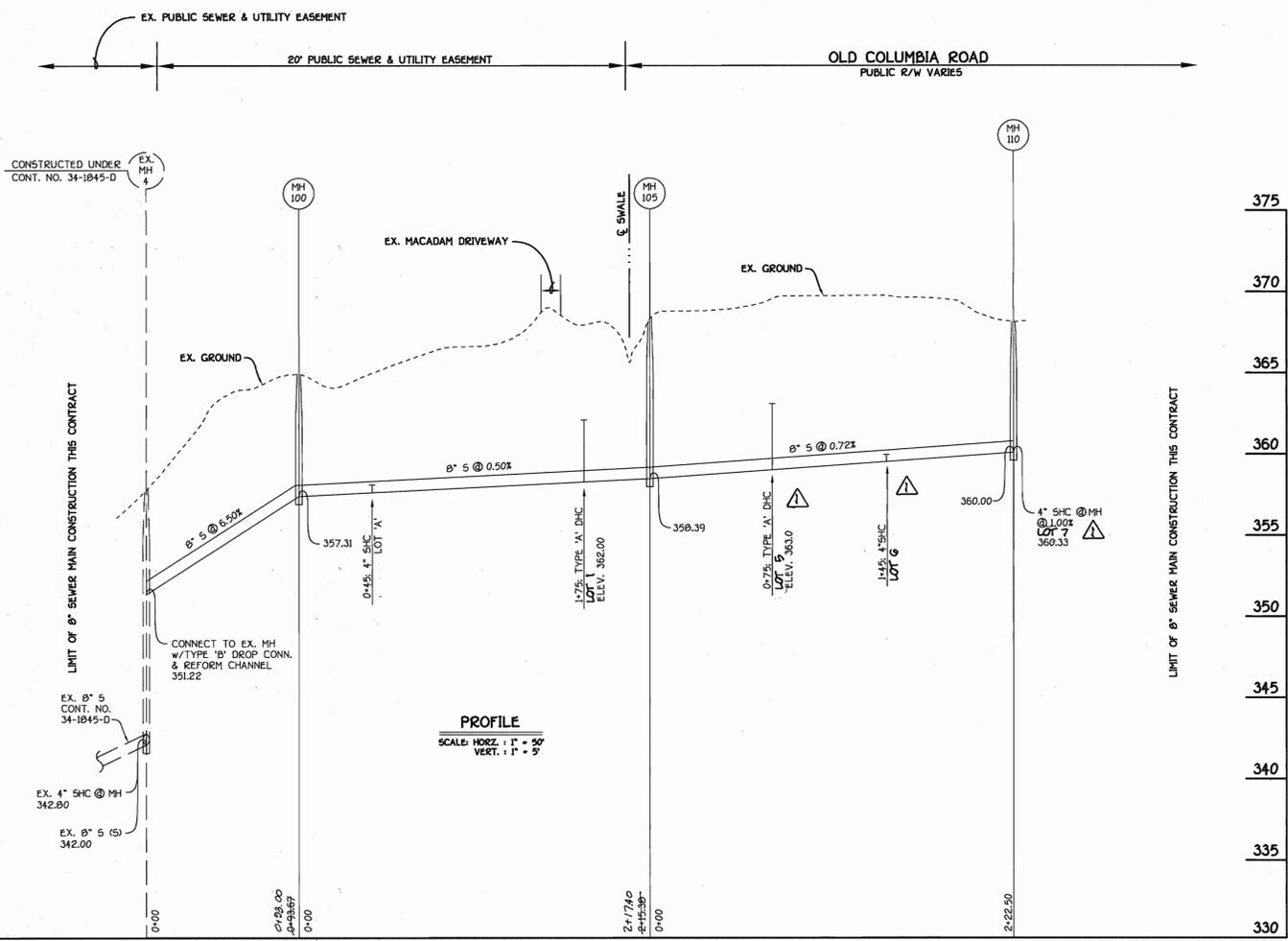


8" WATER MAIN EXTENSION: OLD COLUMBIA ROAD

WATER MAIN TABULATION CHART			
W.M. STA.	APPURTENANCE	NORTHING	EASTING
OLD COLUMBIA ROAD			
0+00	CONNECT TO EX. 8" WATER	549773.06	1347034.46
2+09	8" X 6" TEE	549953.70	1347280.05
2+92	8" VALVE	549955.50	1347282.39
5+50	8" PLUG & BUTTRESS	550116.04	1347463.70

NOTE: SEE SHEET 3 FOR SEEDING NOTES, VEGETATIVE STABILIZATION NOTES & SEDIMENT CONTROL NOTES.

NOTE: SET RIMS OF MANHOLE NOS. 100, 105, & 110 FLUSH W/ EXISTING OR PROPOSED GROUND AS APPLICABLE; SEE MANHOLE TABULATION CHART THIS SHEET.



8" SEWER MAIN EXTENSION: OLD COLUMBIA ROAD

SHC INVERT @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
MH 100 TO MH 105		
0+45 RT.	LOT 'A'	357.91
1+75 RT.	LOT 1 (DHC)	362.20
MH 105 TO MH 110		
0+75 RT.	LOT 5 (DHC)	363.24
1+45 RT.	LOT 6	359.76
@ MH 110 RT.	LOT 7 (MH 100)	360.41

MANHOLE TABULATION CHART			
NO.	NORTHING	EASTING	RIM ELEVATION
100	549752.00	1347219.29	364.5*
105	549950.17	1347201.62	368.6*
110	550097.24	1347455.30	368.0*

* SET ALL MANHOLE RIMS FLUSH W/ EXISTING OR PROPOSED GROUND AS APPLICABLE

CONTRACT NO. 34-3969-D
OLD COLUMBIA ROAD
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DATE: 9-24-01

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
 DATE: 9/26/01

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLSWORTH CITY, MARYLAND 21042
 410 461 - 2955

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 TERRELL A. FISHER

DESIGNED BY: M.D.T.
 DRAWN BY: M.D.T.
 CHECKED BY: P.W.K.
 DATE: SEPTEMBER, 2001

WATER AND SEWER MAINS PROFILES
 600' SCALE MAP NO. 41 BLOCK NO. 6
 F.C.C. WORK ORDER NO. 539
 FILE NAME: 539 FINAL WATER AND SEWER PROFILES SHT2

OLD COLUMBIA ROAD
 WATER AND SEWER MAIN EXTENSIONS
 CONTRACT NO. 34-3969-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 3

QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE/AVIA	SUPPLIER
8" WATER	550 L.F.	549 L.F.	DIP C150/C151/C111	GRAFFIN PIPE HUGHES SUPPLY
6" WATER	5 L.F.	5 L.F.	"	"
1" WATER	103 L.F.	124 L.F.	"	"
FIRE HYDRANTS	1 EACH	1	KENNEDY VALVE / C-800	HOWELL METALS / KENNEDY VALVE
8" X 6" TEE	1 EACH	1	"	"
8" VALVE	1 EACH	1	1/2" GATE / C-800	KENNEDY VALVE
6" VALVE	1 EACH	1	"	"
8" PLUG & BUTTRESS	1 EACH	1	"	"
8" SEWER / P.V.C.	531.55 L.F.	430 L.F.	"	"
4" SEWER	40 L.F.	41.5 L.F.	"	"
MANHOLES	3 EACH	3	"	ATLANTIC CONCRETE

NAME OF UTILITY CONTRACTOR: ANGELOZZI BROS INC.
 SURVEY & DRAFTING DIVISION AS-BUILT DATE:

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 THE 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 MAY BE DEEMED NECESSARY.

Paul W. Raebel FOR: **Ellicott City Land Holding, Inc.** 09/20/01
 SIGNATURE OF DEVELOPER DATE

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.

Paul W. Raebel 09-20-01
 SIGNATURE OF ENGINEER DATE

GP-02-28 REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

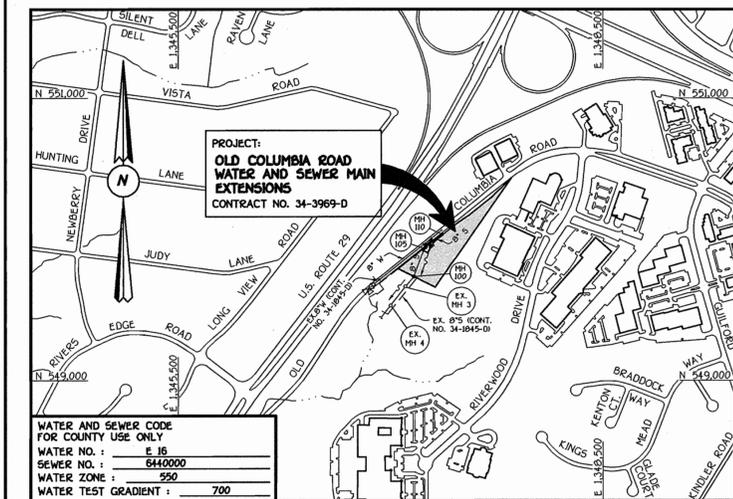
John Meyer 9/27/01
 S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Raebel 9/27/01
 APPROVED: HOWARD SOIL CONSERVATION DISTRICT DATE

SEDDIMENT 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 IN DEVELOPING AREAS AND AS SHOWN ON THIS PLAN.

Paul W. Raebel FOR: **Ellicott City Land Holding, Inc.** 09/20/01
 SIGNATURE OF DEVELOPER DATE



WATER AND SEWER CODE FOR COUNTY USE ONLY

WATER NO. :	E 15
SEWER NO. :	6440000
WATER ZONE :	550
WATER TEST GRADIENT :	700

TYPE OF BUILDING: RESIDENTIAL SINGLE FAMILY DETACHED
 NUMBER OF LOTS & PARCELS: 7 (5 BUILDABLE)
 NO. OF WATER HOUSE CONNECTIONS: 5
 NO. OF SEWER HOUSE CONNECTIONS: 5
 DRAINAGE AREA: MIDDLE PATUXENT
 TREATMENT PLANT: LITTLE PATUXENT WATER RECLAMATION CENTER

VICINITY MAP

SCALE: 1" = 600'

GENERAL NOTES

- 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.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD 29.
- ALL PIPE ELEVATIONS ARE PIPE ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12" CLEAR ALL POLES BY 5'-0" MINIMUM.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1991 AMENDMENTS). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL M AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTATION 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 THE EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

- AT&T 1-800-526-2000
- BCE (CONTRACTOR SERVICES) 410-850-4620
- BCE UNDERGROUND DAMAGE CONTROL 410-787-9096
- BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 410-313-4900
- BELL ATLANTIC MARYLAND, INC 1-800-621-9900
- COLONIAL PIPELINE CO 410-795-1399
- MISS UTILITY 1-800-257-7777
- STATE HIGHWAY ADMINISTRATION 410-531-5533

- 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.
- 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 THE CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.D. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER TIGHT FRAME AND COVERS, STANDARD DETAIL G5.52.
- WHERE WATER TIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.51.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (0) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BUY LINE ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS (W111 AND W213). 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 MAIN SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH THE 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 (5) 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 1511(A) OF THE HOWARD COUNTY CODE.

NOTE: SEE SHEET 2 FOR WATER MAIN & MANHOLE TABULATION CHARTS.

NOTE: SEE SHEET 3 FOR SEEDING NOTES, VEGETATIVE STABILIZATION NOTES & SEDIMENT CONTROL NOTES.

WATER SUBJECT FIELD MEASUREMENT

LOT #	DISTANCE FT	TO
A	145'-6"	F.H. @ W/L STA. 2+89
A	145'-6"	6" F.H. VALVE
1	44'	SMH 105
1	57'-6"	F.H. @ W/L STA. 2+89
2	107'	SMH 105
2	122'	EDGE OF RD. 46 3/4" W/ OF MH 110
3	46'-6"	SMH 110
3	20'	EDGE OF RD. 46 3/4" W/ OF MH 110
4	20'	SMH 110
4	20'-8"	EDGE OF RD. 17 1/2" W/ OF MH 110

SEWER SUBJECT FIELD MEASUREMENT

LOT #	DISTANCE (ft)	TO
A	40'-6"	SMH - 100
A	38'-4"	S/W CORNER OF HOUSE
1	30'-3"	SMH 105
1	37'-6"	F.H. @ W/L STA 2+80
2	80'	SMH - 105
2	151'-6"	SMH - 110
3	77'	SMH - 110
3	20'	EDGE OF RD. 76 3/4" W/ OF SMH 110
4	0'	SMH - 110
4	18'	EDGE OF RD. 3" SMH - 110

PLAN
SCALE: 1" = 50'

NOTE: ALL MEASUREMENTS WERE TAKEN FROM CENTER OF "BATTER BOARD" TO CENTER OF MANHOLE COVERS OR APPURTENANCES ... UNLESS OTHERWISE STATED.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 9-24-01 DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND 9/20/01 DATE	FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK ELLICOTT CITY, MARYLAND 21042 410 461 - 2995	DESIGNED BY: M.D.T. DRAWN BY: M.D.T. CHECKED BY: P.W.K. DATE: 9/20/01	INDICATE & DENOTE PRIVATE S/W/M/C BASEMENTS REVISE LOT LINES & LOT NOS PER PLAT NO. 10240 AS BUILT DATA ADDED TO PLAN	WATER AND SEWER MAINS PLAN VIEW 600' SCALE MAP NO. 41 BLOCK NO. 6 F.C.C. WORK ORDER NO. 539 FILE NAME: 539 FINAL WATER AND SEWER PLAN SH1	CONTRACT NO. 34-3969-D OLD COLUMBIA ROAD WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 3
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