
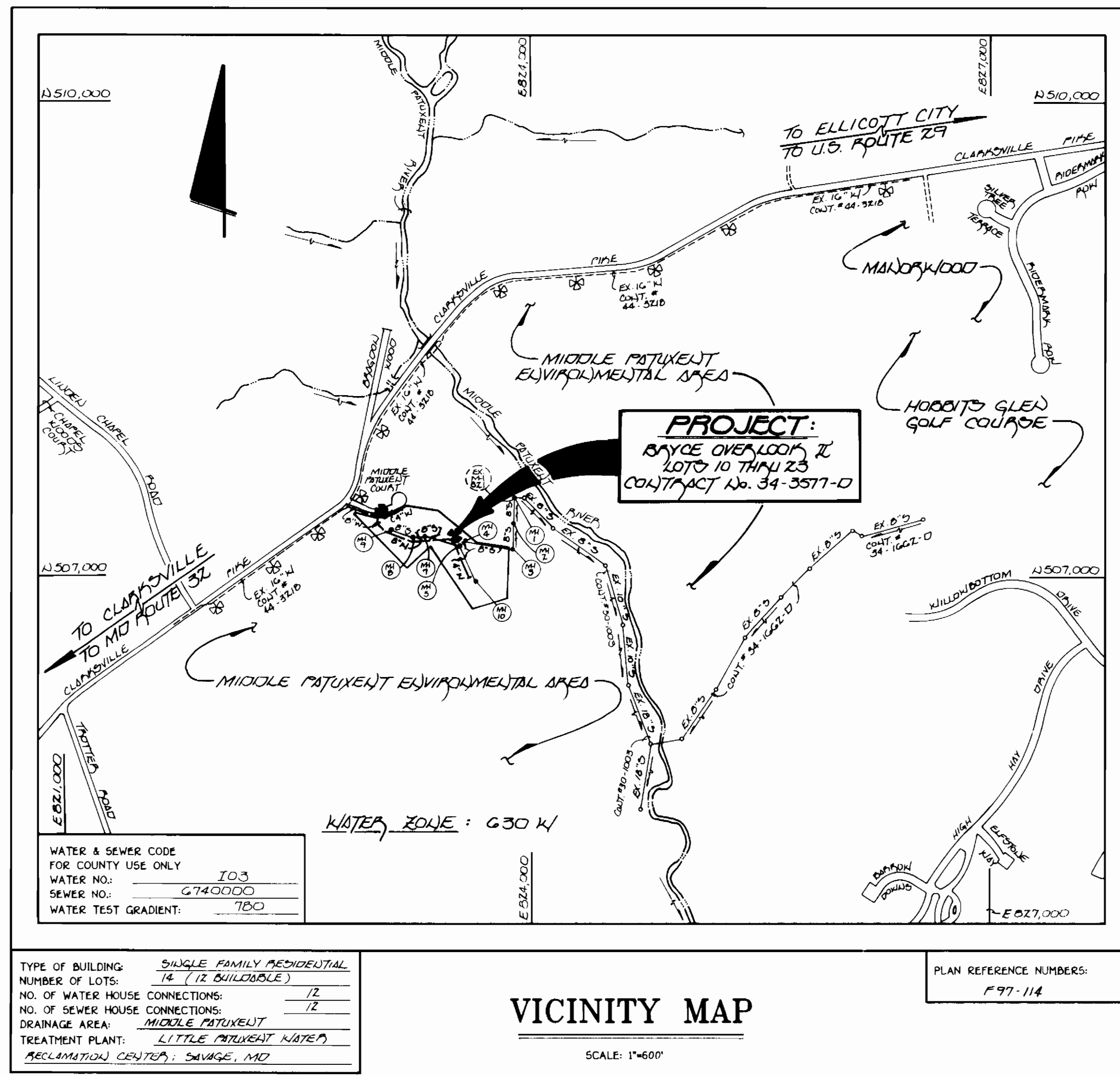


**GENERAL NOTES**

- 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.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM.
- 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.
- 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.
- 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 - 797-9068
  - MISS UTILITY - 1-800-257-7777
  - COLONIAL PIPELINE CO. - 795-1390
  - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
- 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 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 G 5.52.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- 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 TEES SHALL BE STRAPPED TO TEES.
- 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 SYSTEM.
- 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 BORROWING 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(d) OF THE HOWARD COUNTY CODE.

| QUANTITIES         |           |            |                 |                      |
|--------------------|-----------|------------|-----------------|----------------------|
| ITEM               | ESTIMATED | AS-BUILT   |                 | SUPPLIER             |
|                    |           | QUANTITIES | TYPE            |                      |
| 8" DENVER DIP      | 726 LF    | 710        | PVC             | MUNICIPAL CONTRACTOR |
| 8" DENVER DIP      | 713 LF    | 710        | DIP             | GRIFFIN PIPE         |
| 4" SMC             | 213 LF    | 230        | PVC             | MUNICIPAL CONTRACTOR |
| MANHOLES           | 9 EACH    | 9          |                 | ATLANTIC             |
| 8" KNOTES          | 778 LF    | 790        | DIP             | GRIFFIN PIPE         |
| 6" KNOTES          | 33 LF     | 24         | DIP             | GRIFFIN PIPE         |
| 4" KNOTES          | 390 LF    | 394        | DIP             | GRIFFIN PIPE         |
| PIPE HYDRANTS      | 2 EACH    | 2          | C.P.C.          | KENNEDY MFG. CO.     |
| 3/4" W.H.C.        | 206 LF    | 233        | C.P.P.E.M. TYPE | MUNICIPAL CONTRACTOR |
| 16" x 8" T.S. 1V   | 1 EACH    | 1          | C.P.P.E.M. TYPE | FORRE MFG.           |
| 8" VALVE           | 1 EACH    | 1          |                 | MUNICIPAL CONTRACTOR |
| 6" VALVE           | 2 EACH    | 2          |                 | MUNICIPAL CONTRACTOR |
| RAINWATER BOXES    | 4 EACH    | 4          |                 | MUNICIPAL CONTRACTOR |
| 8" x 8" TEE        | 1 EACH    | 1          |                 | GRIFFIN PIPE         |
| 8" x 6" TEE        | 2 EACH    | 2          |                 | GRIFFIN PIPE         |
| 8" - 1/2" H.B.     | 1 EACH    | 2          |                 |                      |
| 8" - 1/2" H.B.     | 4 EACH    | 3          |                 | GRIFFIN PIPE         |
| 8" - 1/2" H.B.     | 2 EACH    | 1          |                 | GRIFFIN PIPE         |
| 8" x 4" REDUCER    | 2 EACH    | 2          |                 | GRIFFIN PIPE         |
| LUMBER L.A.S.      | 1 - 2x4x8 | 1          |                 | MUNICIPAL CONTRACTOR |
| 4" - 1/2" H.B.     | 1 EACH    | 1          |                 | GRIFFIN PIPE         |
| 4" PLUG & BUTTRESS | 2 EACH    | 2          |                 | GRIFFIN PIPE         |
| 1 1/2" OPANS       | 1 EACH    | 1          |                 | MUNICIPAL CONTRACTOR |
| COMP. AIR VALVE    | 1         | 1          |                 | MUNICIPAL CONTRACTOR |
| VALVE              | 1         | 1          |                 | MUNICIPAL CONTRACTOR |

NAME OF UTILITY CONTRACTOR: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_ DATE: \_\_\_\_\_



|                                 |                           |
|---------------------------------|---------------------------|
| TYPE OF BUILDING:               | SINGLE FAMILY RESIDENTIAL |
| NUMBER OF LOTS:                 | 14 (12 BUILDABLE)         |
| NO. OF WATER HOUSE CONNECTIONS: | 12                        |
| NO. OF SEWER HOUSE CONNECTIONS: | 12                        |
| DRAINAGE AREA:                  | MIDDLE PATUXENT           |
| TREATMENT PLANT:                | LITTLE PATUXENT WATER     |
| RECLAMATION CENTER:             | SEWAGE, MD                |

**CONTRACT NO. 34-3577-D**  
**BRYCE OVERLOOK II**  
**LOTS 10 THRU 23**  
**WATER AND SEWER MAIN EXTENSIONS**  
**HOWARD COUNTY, MARYLAND**

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT & CONSTRUCTION SHALL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT & PLAN FOR EROSION & SEDIMENT CONTROL & 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 EROSION & SEDIMENT. I HEREBY CERTIFY THAT THIS PROJECT ALSO WILL MAINTAIN PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

SIGNATURE OF DEVELOPER: \_\_\_\_\_ DATE: AUG 1, 1997  
 DONALD R. REWGER, JR.

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION & SEDIMENT CONTROL REPRESENTS A PRACTICAL & WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS & THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: \_\_\_\_\_ DATE: JULY 05, 1997

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE: \_\_\_\_\_

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

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 210 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS.

SIGNATURE OF DEVELOPER: \_\_\_\_\_ DATE: \_\_\_\_\_

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

Robert M. Deane  
 CHIEF, BUREAU OF UTILITIES

DATE: 8/13/97

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND

DATE: 8/10/97

Fisher, Collins & Carter, Inc.  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK  
 10072 Baltimore National Pike  
 Ellicott City, Maryland 21042  
 (410) 461-2855

TERRELL A. FISHER

|              |                 |
|--------------|-----------------|
| DESIGNED BY: | M.J.M.          |
| DRAWN BY:    | M.J.M. / J.M.H. |
| CHECKED BY:  | P.W.K.          |
| DATE:        | 6-5-97          |
| BY NO.       | REVISION        |
| DATE         |                 |

TITLE SHEET

600' SCALE MAP NO. 23 BLOCK NO. 14  
 F.C.C. WORK ORDER NO. 6118  
 FILE NAME: BRYCE OVERLOOK II

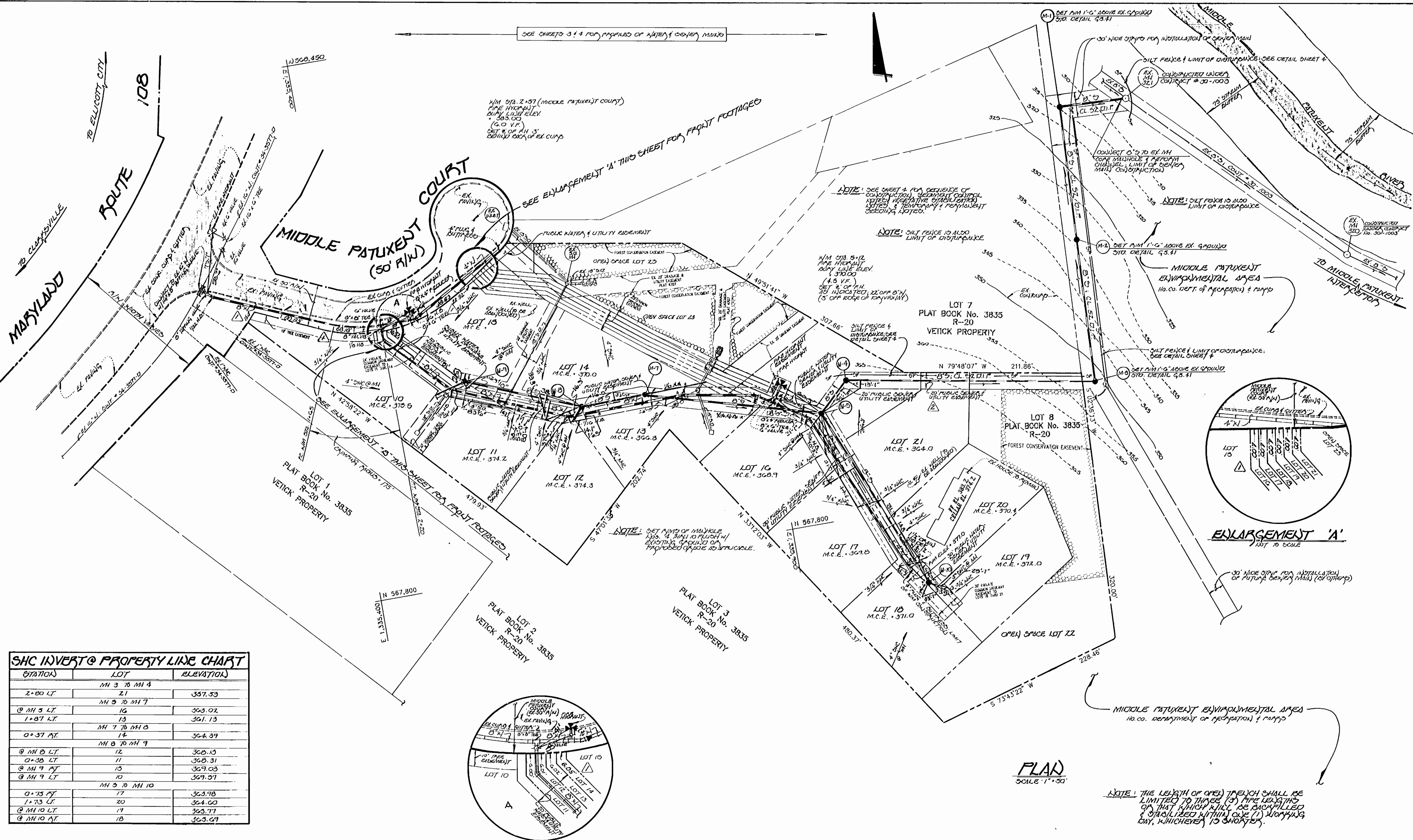
CONTRACT NO. 34-3577-D  
 BRYCE OVERLOOK II  
 LOTS 10 THRU 23  
 WATER AND SEWER MAIN EXTENSIONS  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 4

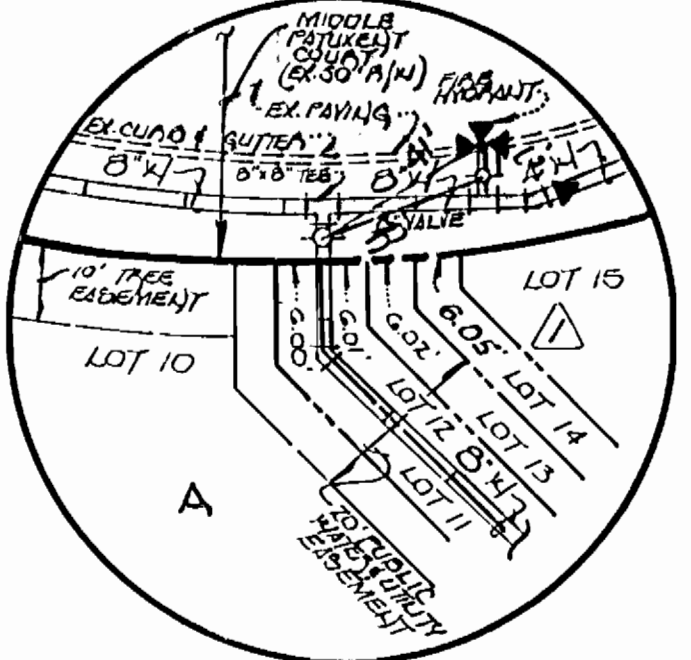
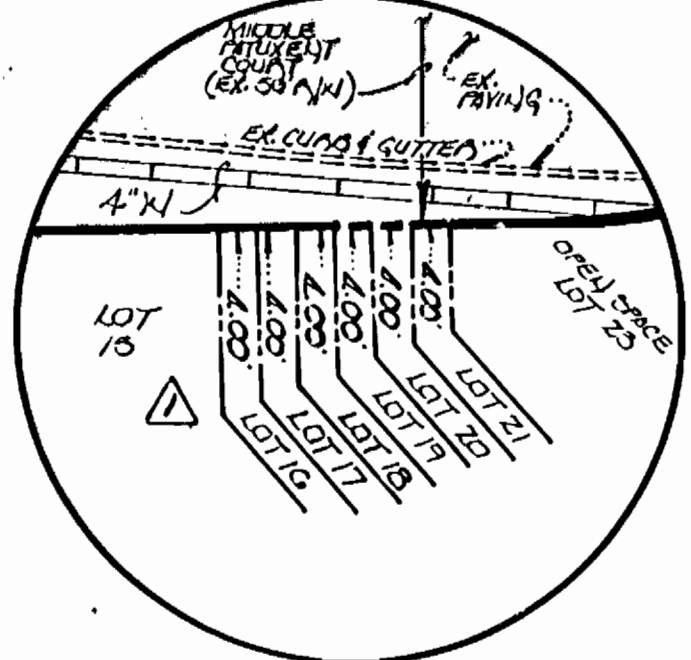


SEE SHEETS 3 & 4 FOR PORTIONS OF WATER & SEWER MAINS



**SHC INVERT @ PROPERTY LINE CHART**

| STATION    | LOT           | ELEVATION |
|------------|---------------|-----------|
| 2+00 LT    | MH 3 TO MH 4  | 357.33    |
| @ MH 5 LT  | MH 5 TO MH 7  | 363.02    |
| 1+87 LT    | 13            | 361.13    |
| 0+37 PT    | MH 7 TO MH 8  | 362.39    |
| @ MH 8 LT  | MH 8 TO MH 9  | 360.15    |
| 0+38 LT    | 11            | 360.31    |
| @ MH 9 PT  | 15            | 369.03    |
| @ MH 9 LT  | 10            | 369.37    |
| 0+75 PT    | MH 9 TO MH 10 | 363.98    |
| 1+73 LT    | 20            | 364.00    |
| @ MH 10 LT | 19            | 363.77    |
| @ MH 10 PT | 18            | 363.49    |



**PLAN**  
SCALE 1" = 30'

NOTE: THE LENGTH OF OPEN TRENCH SHALL BE LIMITED TO THREE (3) PIPE LENGTHS OR THAT WHICH WILL BE BACKFILLED & STABILIZED WITHIN ONE (1) WORKING DAY, WHICHEVER IS SHORTER.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Robert M. Benjamin 8-13-97  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

Chief, DEVELOPMENT ENGINEERING DIVISION 8/10/97

**FISHER, COLLINS & CARTER, INC.**  
#9757

CIVIL ENGINEERS, ARCHITECTS & LAND SURVEYORS  
10272 Baltimore National Pike  
Ellicott City, Maryland 21042  
(410) 461-2855

DESIGN: PWH  
DRAWN: JMM  
CHECK: PWH  
DATE: 6-8-97

| BY     | NO. | REVISION                         | DATE     |
|--------|-----|----------------------------------|----------|
| B.L.M. | 1   | REVISE / INDICATE FRONT FOOTAGES | 8/20/97  |
| B.L.M. | 2   | REVISE LOT LINES FOR LOT 21      | 11/20/97 |

**PLAN**  
**WATER & SEWER MAINS**

600' SCALE MAP NO. 29 BLOCK 12

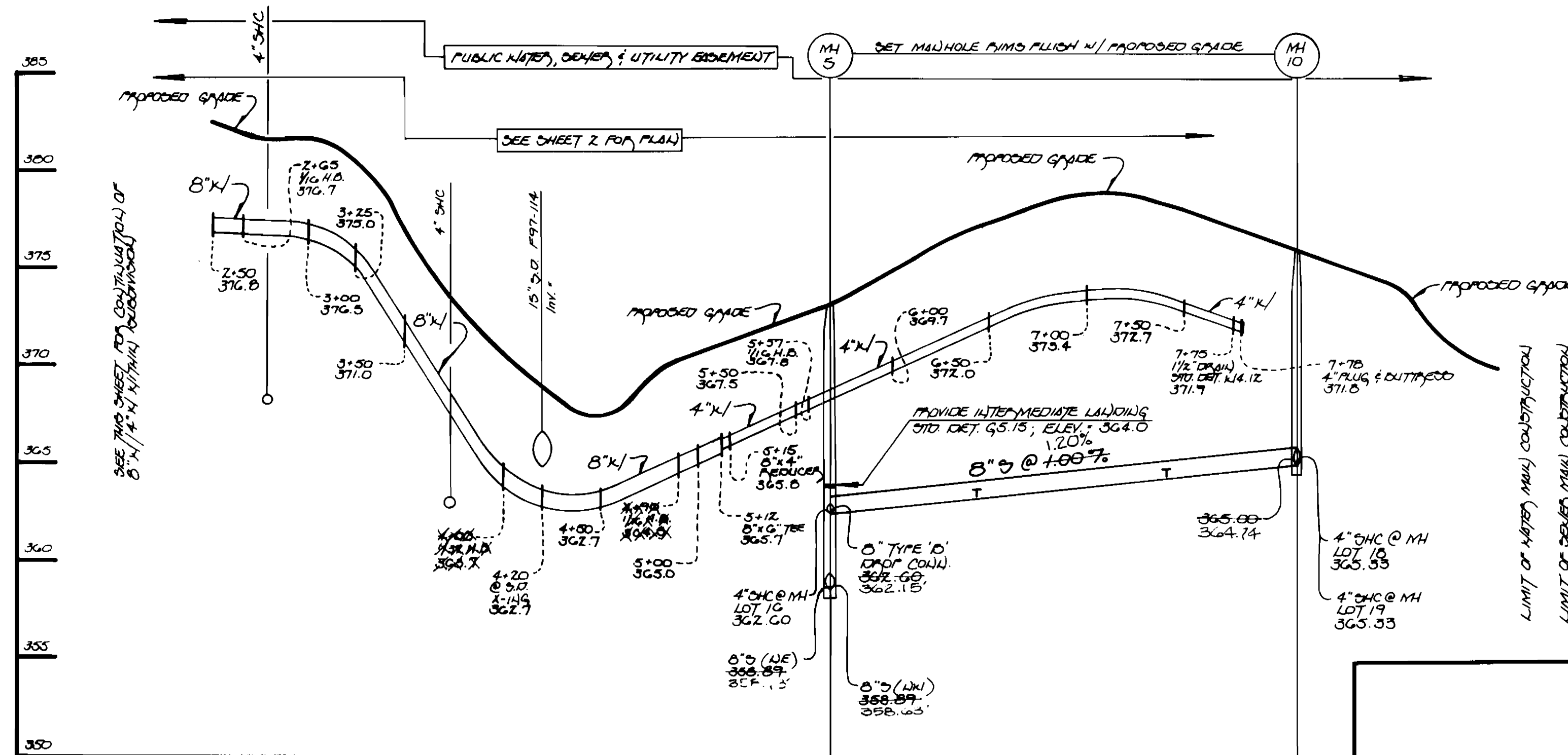
WATER & SEWER AS BUILTS  
**CONTRACT No. 34-3577-D**

**BRYCE OVERLOOK II**  
LOTS 10 THRU 23  
TAX MAP 29 PARCEL 8 & 9  
5th ELECTION DISTRICT; HOWARD COUNTY, MARYLAND

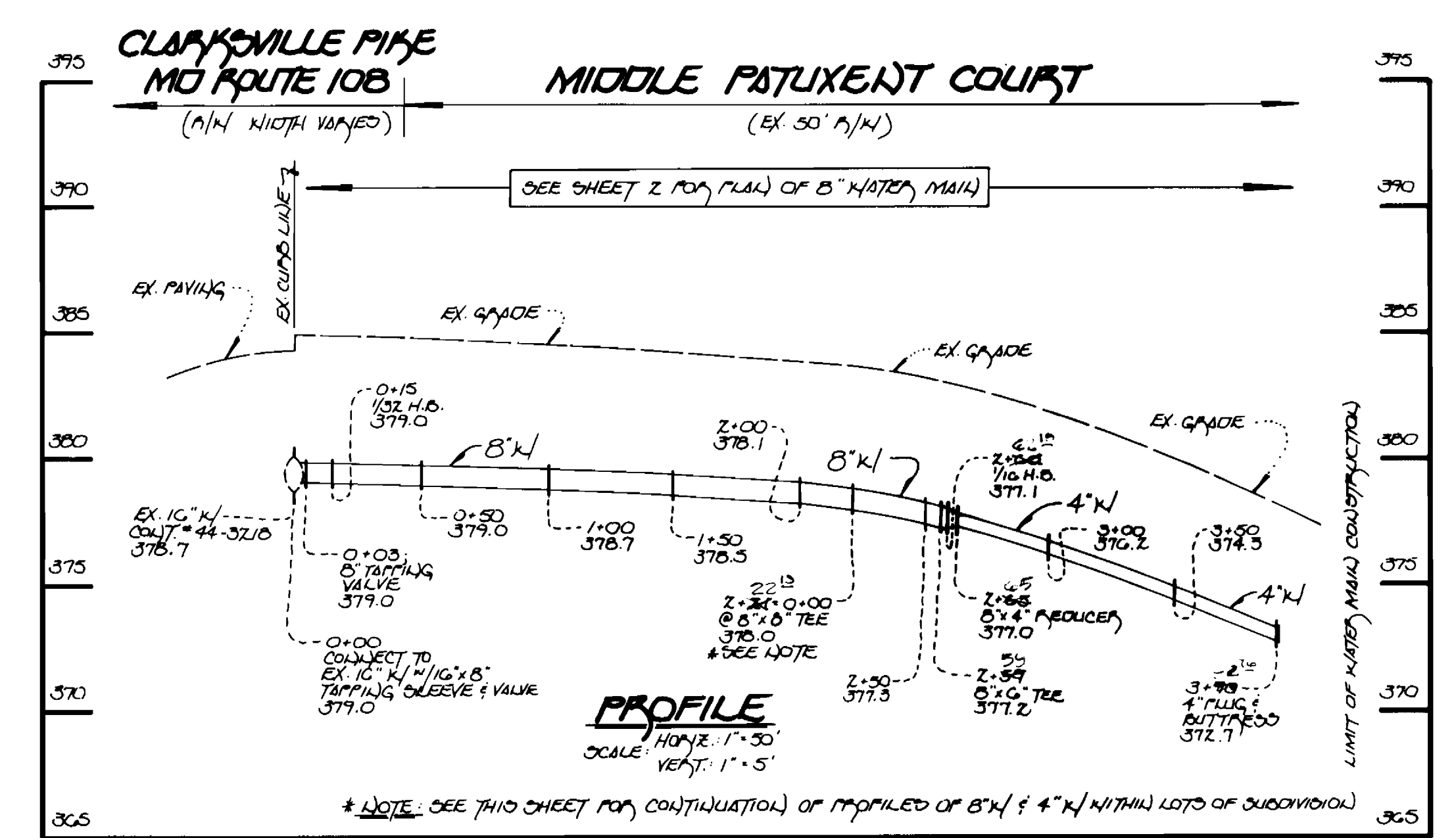
SCALE  
1" = 50'

SHEET  
2 of 4

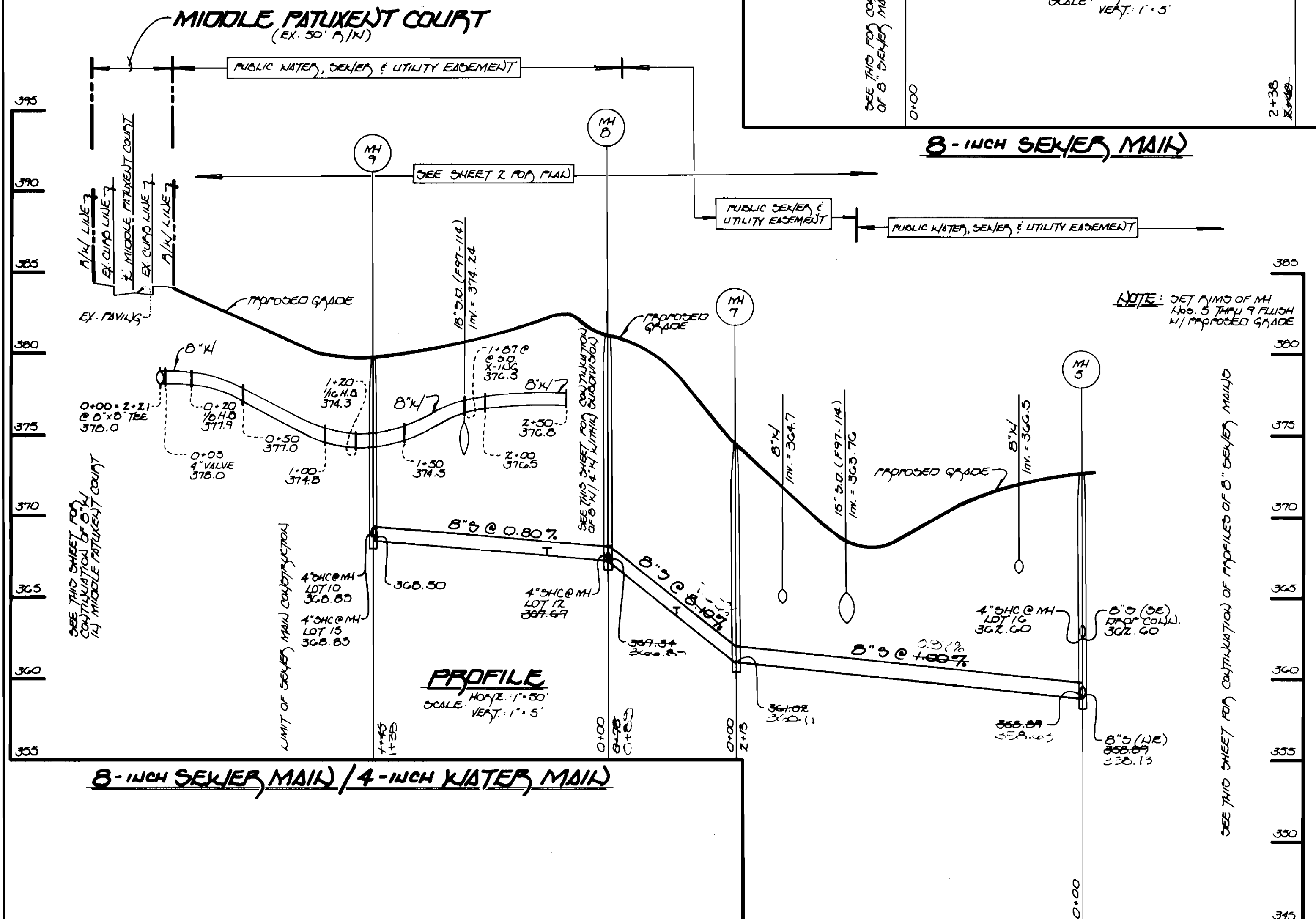




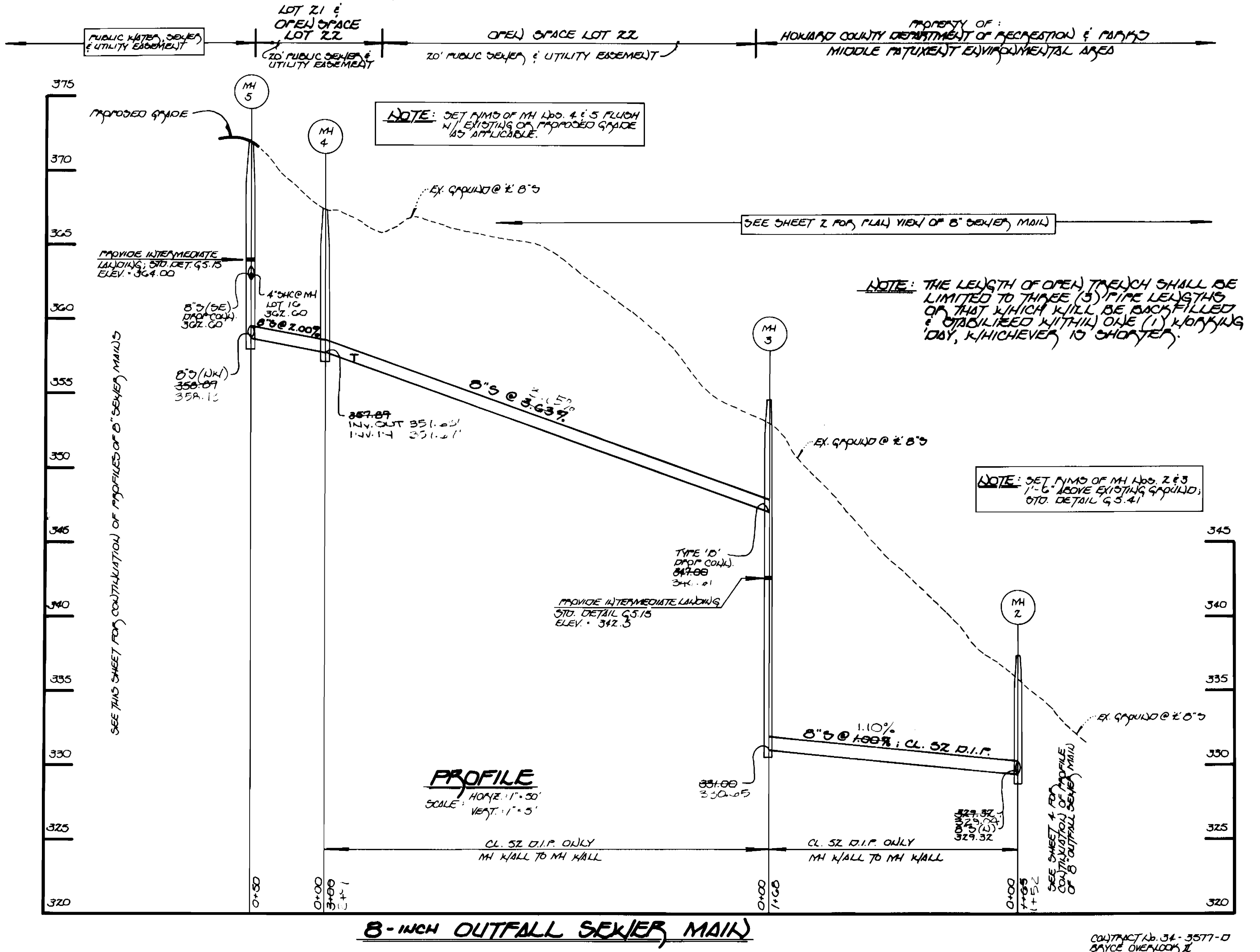
**8-INCH / 4-INCH WATER MAINS**



**8" & 4" WATER MAINS: MIDDLE PATUXENT COURT**



**8-INCH SEWER MAIN / 4-INCH WATER MAIN**

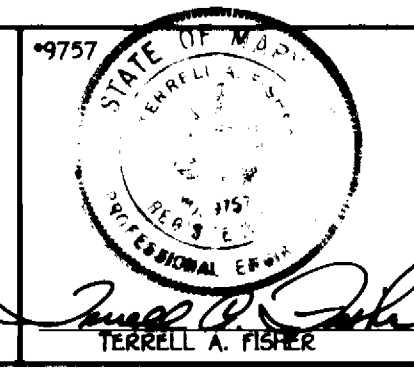


**8-INCH OUTFALL SEWER MAIN**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
8-13-97

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND  
8/13/97

Fisher, Collins & Carter, Inc.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK  
10272 Baltimore National Pike  
Ellicott City, Maryland 21042  
(410) 481-2885



|              |          |
|--------------|----------|
| DESIGNED BY: | H.J.M.   |
| DRAWN BY:    | J.H.M.   |
| CHECKED BY:  | P.W.K.   |
| DATE:        |          |
| BY NO.       | REVISION |
| DATE         |          |

**WATER & SEWER MAINS PROFILES**  
600' SCALE MAP NO. 29 BLOCK NO. 14  
F.C.C. WORK ORDER NO. 0110

WATER & SEWER AS-BUILTS  
**BRUCE OVERLOOK II**  
LOTS 10 THRU 23  
CONTRACT NO. 34-3577-D  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SCALE AS SHOWN  
SHEET 3 OF 4



**SECTION 20 :  
STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

**DEFINITION**  
Vegetative stabilization is the use of plants to stabilize soil. It is a process that causes erosion to be controlled by the growth 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 runoff to downstream areas, and improving wildlife habitat and visual resources.

**APPLICABLE AREAS**  
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 stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas of final grade, former stockpiles 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.

**SEEDING METHODS AND MATERIALS**

- A. Site Preparation**
1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
  2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
  3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- B. Soil Amendments (Fertilizer and Lime Specifications)**
1. 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 samples 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 analysis.
  2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Fertilizers shall be delivered to the site fully abated according to the applicable state fertilizer law and shall have the name, trade name or manufacturer and weight of the producer.
  3. 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.
  4. Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
- C. Seeding Preparation**
1. Temporary Seeding
    - a. Seeded 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. Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
  2. Permanent Seeding
    - a. Minimum soil conditions required for permanent vegetative establishment:
      1. Soil shall be between 60 and 70%.
      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 (silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loess or loesslike soils are 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.
    - b. 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.
    - c. Apply soil amendments as per soil test or as included on the plans.
    - d. Mix soil amendments into the top 3-5" of topsoil by diking or other suitable means. Lawn areas should be rolled 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 seeded 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 doker leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-2" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

3. Seed Specifications
  - a. 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.
  - b. Seed that will be made available to the inspector to verify type and rate of seed used.
  - c. Incubant - The incubant for testing purposes used in the seed laboratory shall be a pure culture of *Heterosporium* or *Aspergillus* spores. The incubant shall be used within the date indicated on the container. Add fresh incubant as directed on package. Use four times the recommended rate when hydroseeding. It is very important to keep incubant as cool as possible until used. Temperature above 70 degrees F. can weaken bacteria and make the incubant less effective.
4. Methods of Seeding
  - a. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
  - b. 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 phosphorus 200 lbs. ac; K2O potassium 200 lbs/acre.
  - c. 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.
  - d. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
5. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
  - a. Seed spreader shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Schedules or Tables 20-1 or 20-2. The seed shall be applied 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.
6. Drill or Cultipacker Seeding - Mechanized seeders that apply and cover seed with soil.
  - a. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seed 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.

7. Mutch Specifications (in order of preference)
  - a. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be overly moist, chaffed, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  - b. Wood Cellulose Fiber Mutch (WCFM)
    - i. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - ii. WCFM shall be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniform spread slurry.
    - iii. WCFM, including dye, shall contain no petroleum or growth inhibiting factors.
    - iv. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The slurry shall form a better-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.
    - v. WCFM material shall contain no noxious or petroleum concentration areas that will be phytotoxic.
    - vi. 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 10% maximum and water holding capacity 20% minimum.
8. Mutching Seeded Areas - Mutch shall be applied to all seeded areas immediately after seeding.
  - a. If grading is completed outside of the seeding season, mutch being applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
  - b. When straw mutch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mutch shall be applied to a uniform loose depth of between 1" and 2". Mutch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mutch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
  - c. Wood cellulose fiber used as a mutch 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.
  - d. Securing Straw Mutch Anchoring - Mutch anchoring shall be performed immediately following mutch 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 mutch anchoring tool is a tractor drawn implement designed to punch and anchor mutch into the soil. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping areas, this practice should be used on the contour if possible.
    - ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 100 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 mutch, such as in dikes and ditch walls. The remainder of area should be treated with uniform fiber binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petrosel, Terra Tex II, Terra Tack AK or other approved equal may be used at rates recommended by the manufacturer to anchor mutch.
    - iv. Lightweight plastic netting may be applied over the mutch 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**

1. A minimum of 48 hours notice must be given to the HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (33-1059).
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 THEREOF.
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 16 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 1996 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. FOR PERMANENT SEEDING (SEC. 30, 500 (SEC. 34), TEMPORARY SEEDING (SEC. 30, AND MULCHING (SEC. 32), 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:
  - TOTAL AREA OF SITE: 6,320 ACRES (TOTAL AREA OF SUBDIVISION)
  - AREA DISTURBED: 0.23 ACRES (OFF-SITE SEWER MAIN)
  - AREA TO BE ROOFED OR PAVED: 0.00 ACRES
  - AREA TO BE VEGETATIVELY STABILIZED: 0.23 ACRES (OFF-SITE SEWER MAIN)
  - TOTAL CUT: 0.23 ACRES
  - TOTAL FILL: 0.23 ACRES (NOT APPLICABLE)
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MEASURES MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, THE APPROVAL OF THE INSPECTION AGENCY SHALL BE OBTAINED 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:
- SEEDING 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 30-0-20 UREAFORM FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE 0.15 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 80 LBS./ACRE (1.8 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WHEATGRASS LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 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 SOIL OPTION 13 - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELLS ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEED.
- MULCHING**  
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE 15 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 0 FEET OR HIGHER USE 340 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.
- MAINTENANCE**  
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

**TEMPORARY SEEDING NOTES**

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.
- SEEDING 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 (14 LBS./1,000 SQ.FT.)
- SEEDING**  
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 15 BUSHELS PER ACRE OF ANNUAL RYE (32 LBS./ACRE) OF WEEPING LOVEGRASS (07 LBS./1,000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELLS ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOIL.
- MULCHING**  
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 210 GALLONS PER ACRE IS (15 GAL./1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 0 FEET OR HIGHER, USE 340 GALLONS PER ACRE (8 GAL./1,000 SQ.FT.) FOR ANCHORING.
- REFER TO THE 1996 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

**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 2% BY VOLUME OF CHANGES, GRAVEL, STONES, ROOTS, TRASH, OTHER MATERIALS LARGER THAN 1" IN DIAMETER. D.TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". E.AVOID SURFACE IRREGULARITIES. F.PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN "STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION". G.TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.
4. APPLICATION:

**SEQUENCE OF CONSTRUCTION**

1. OBTAIN THE REQUIRED GRADING PERMIT.
2. NOTIFY MISS UTILITY 48 HOURS BEFORE BEGINNING ANY WORK (1-800-257-7777). NOTIFY HOWARD COUNTY CONSTRUCTION/INSPECTION DIVISION 24 HOURS BEFORE STARTING ANY WORK (410)333-0700.
3. INSTALL THE REQUIRED SEDIMENT AND EROSION CONTROL DEVICES, AS INDICATED ON SHEET 2 OF THIS CONTRACT (2 DAYS).
4. CLEAR AND GRUB AS NECESSARY; ONLY AS REQUIRED FOR EXCAVATION AND INSTALLATION OF THE WATER AND SEWER MAINS, AND ONLY WITHIN THE DESIGNATED WATER, SEWER AND UTILITY EASEMENTS (3 DAYS).
5. NOTE: THE LENGTH OF OPEN WATER AND 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.
6. CONSTRUCT THE SEWER MAIN AND APPURTENANCES (2 DAYS).
7. STABILIZE SEED AND MULCH ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES SHOWN ON THIS SHEET (3 DAYS).
8. 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 (2 DAYS).

**DEVELOPER'S CERTIFICATION**

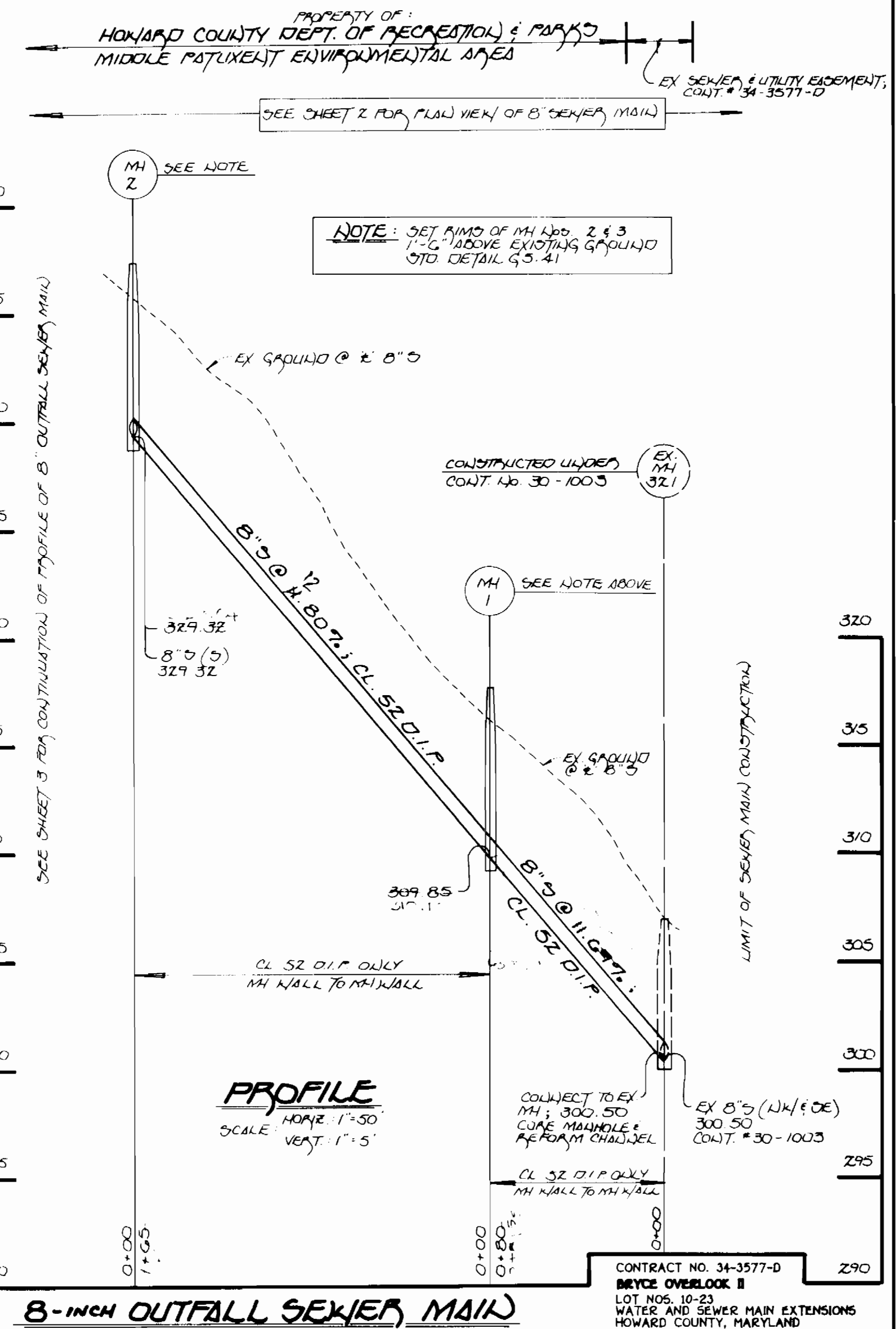
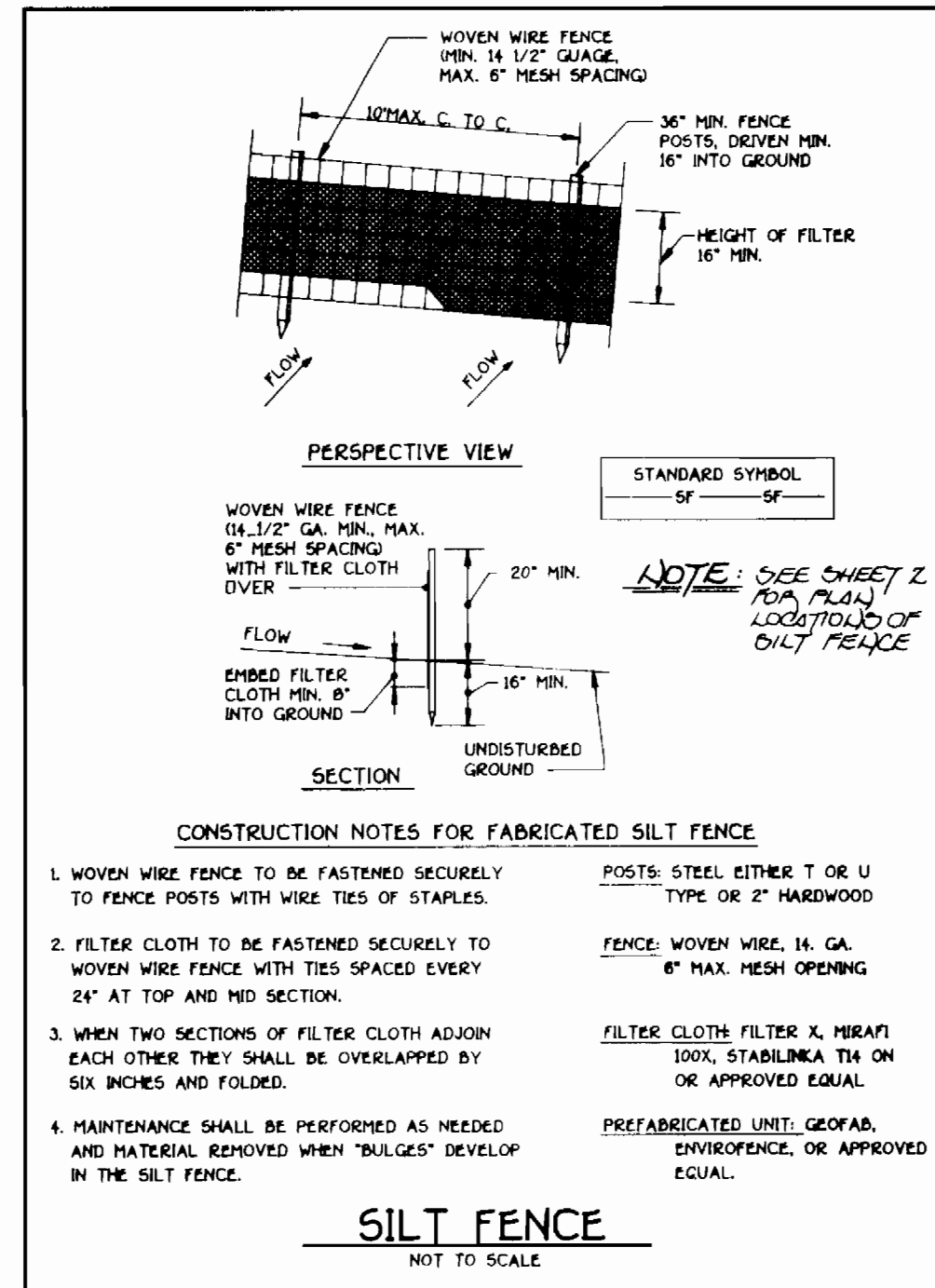
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED 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 DEEMED NECESSARY.

SIGNATURE OF DEVELOPER: DONALD R. REINWICZ, JR.  
DATE: July 7, 1997

**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.

SIGNATURE OF ENGINEER: Paul W. K...  
DATE: June 04, 1997



**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND

**DEPARTMENT OF PLANNING AND ZONING**  
HOWARD COUNTY, MARYLAND

DATE: 8-13-97

DATE: 8/16/97

**Fisher, Collins & Carter, Inc.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK  
10772 Baltimore National Pike  
Ellicott City, Maryland 21042  
(410) 481-2885

DESIGNED BY: H.J.M.  
DRAWN BY: H.J.M./J.M.H.  
CHECKED BY: P.W.K.  
DATE: 6-5-97

BY NO. REVISION

**8-INCH SEWER MAIN PROFILE**  
SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

600' SCALE MAP NO. 29 BLOCK NO. 11

F.C.C. WORK ORDER NO. 5118

FILE NAME: G/DRAWING/8111/

**BRYCE OVERLOOK II**  
LOT NOS. 10 - 23  
CONTRACT NO. 34-3577-D  
FIFTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 4 OF 4