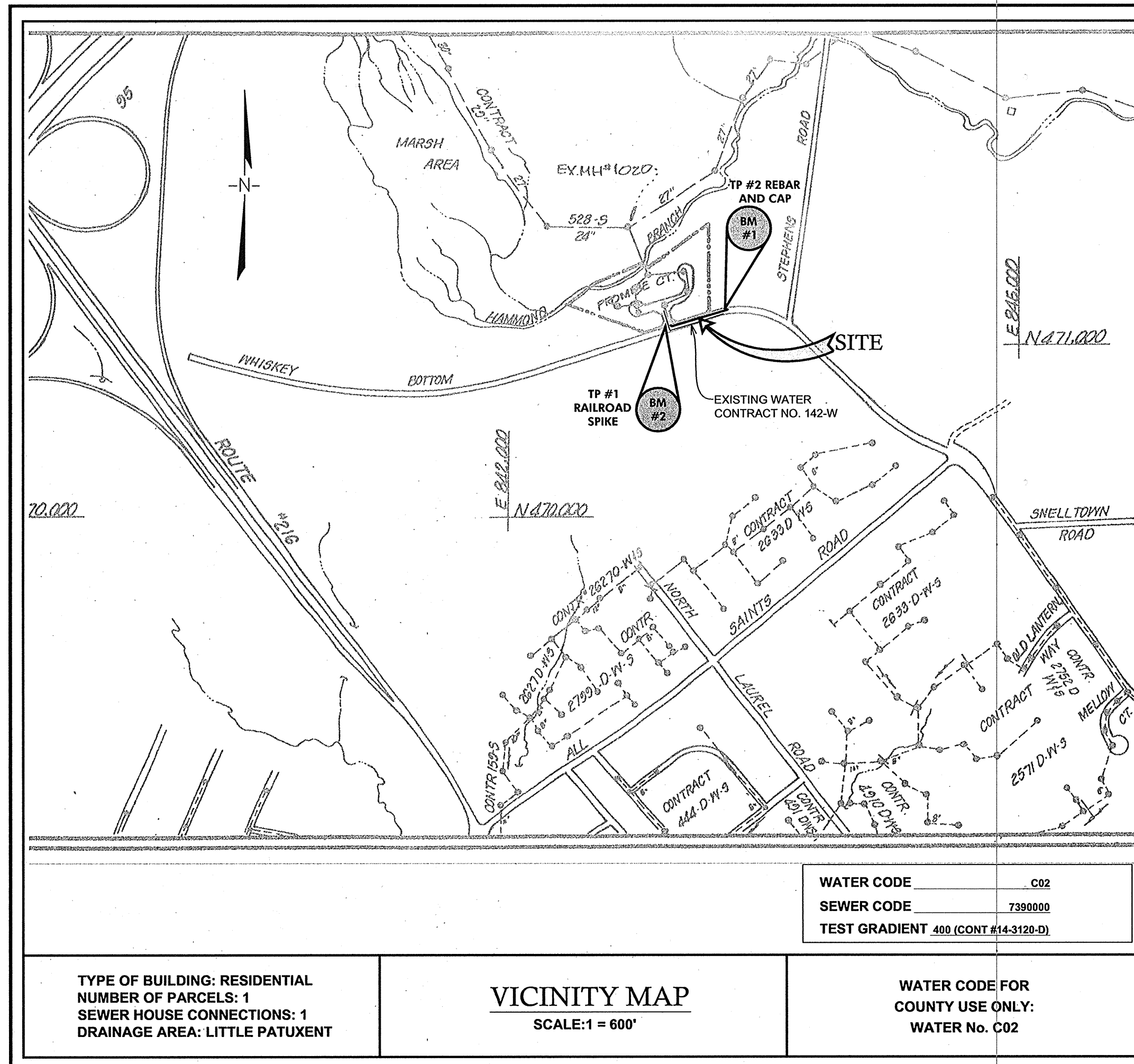


WHISKEY BOTTOM ROAD SEWER EXTENSION CAPITAL PROJECT S-6698 HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

ITEM	QUANTITIES		TYPE	SUPPLIER
	ESTIMATE	AS BUILT		
8-INCH DIAMETER GRAVITY SEWER	354 L.F.	346 L.F.	PVC	
STANDARD MANHOLE	2	2	PRECAST CONC.	
SEWER HOUSE CONNECTION	20 L.F.	24 L.F.	PVC	



GENERAL NOTES

- PART I
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. 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 83/91.
 - ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - 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 (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - 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 LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BCE (CONTRACTOR SERVICES)	410-850-4620
BCE (UNDERGROUND DAMAGE CONTROL)	410-787-9068
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033 / 410-224-9210
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE 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 LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OF ANY COUNTY ROAD 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.
 - CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- PART II - SEWER
- 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.
 - FORCE MAINS SHALL BE D.I.P. ONLY.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAILS G5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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."

Robert Depson DATE 11/14/03
SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATION

"I 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 COUNTY SOIL CONSERVATION DISTRICT."

DATE

McCRONE, INC.
20 RIDGELY AVENUE
ANNAPOLIS, MARYLAND 21401
(410) 267-8621

REVIEWED FOR HOWARD COUNTY S.C.D. MEETS TECHNICAL REQUIREMENTS

Jim Maxwell DATE 11/20/03
U.S. SOIL CONSERVATION SERVICE
THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.
John P. [Signature] DATE 11/20/03
APPROVED HOWARD S.C.D.

COORDINATE TABLE		
SEWER		
MANHOLE	NORTHING	EASTING
1	531826.8475	1355315.5160
2	531924.6191	1355642.9819
SHC	531936.2260	1355615.5243

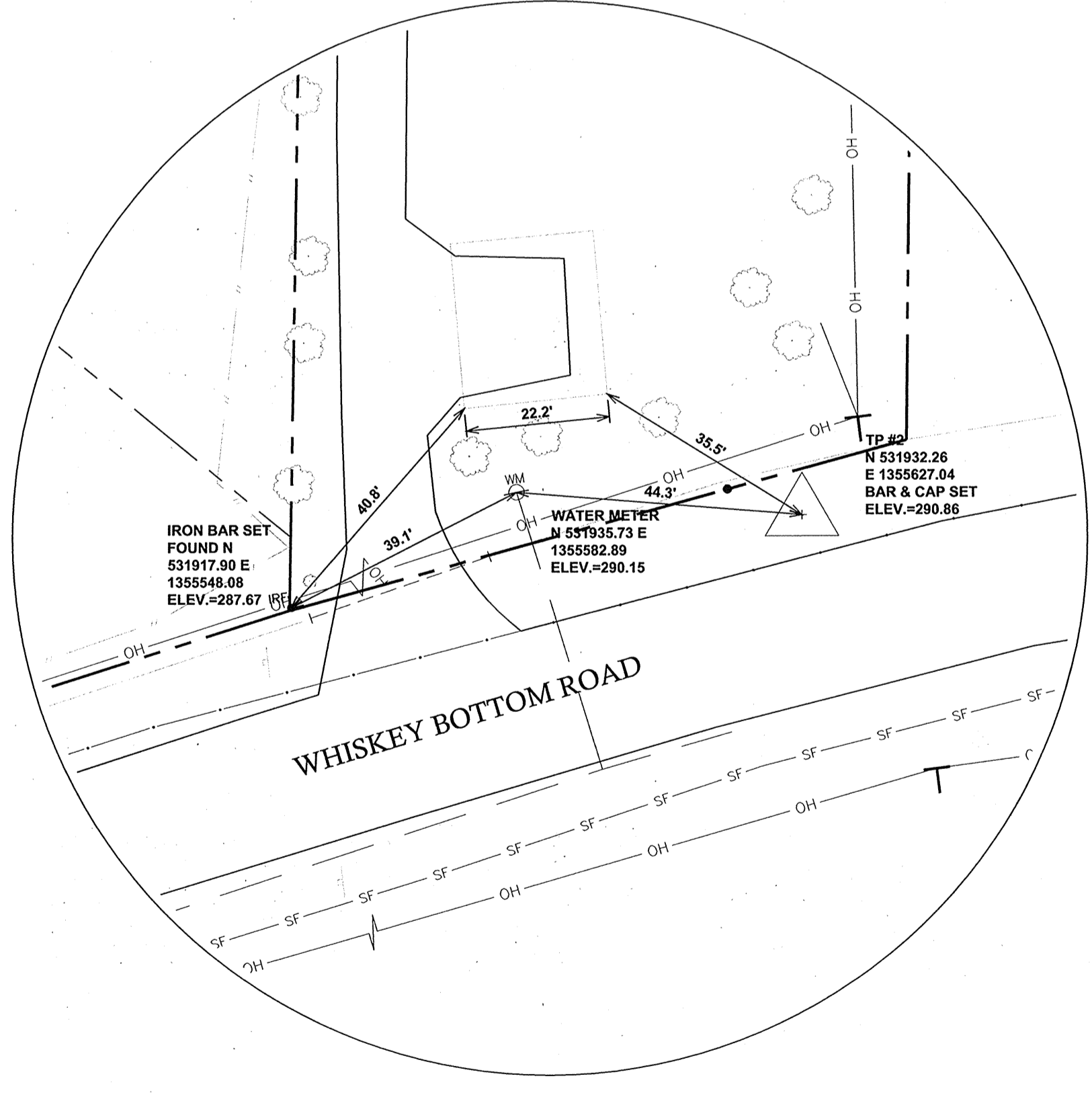
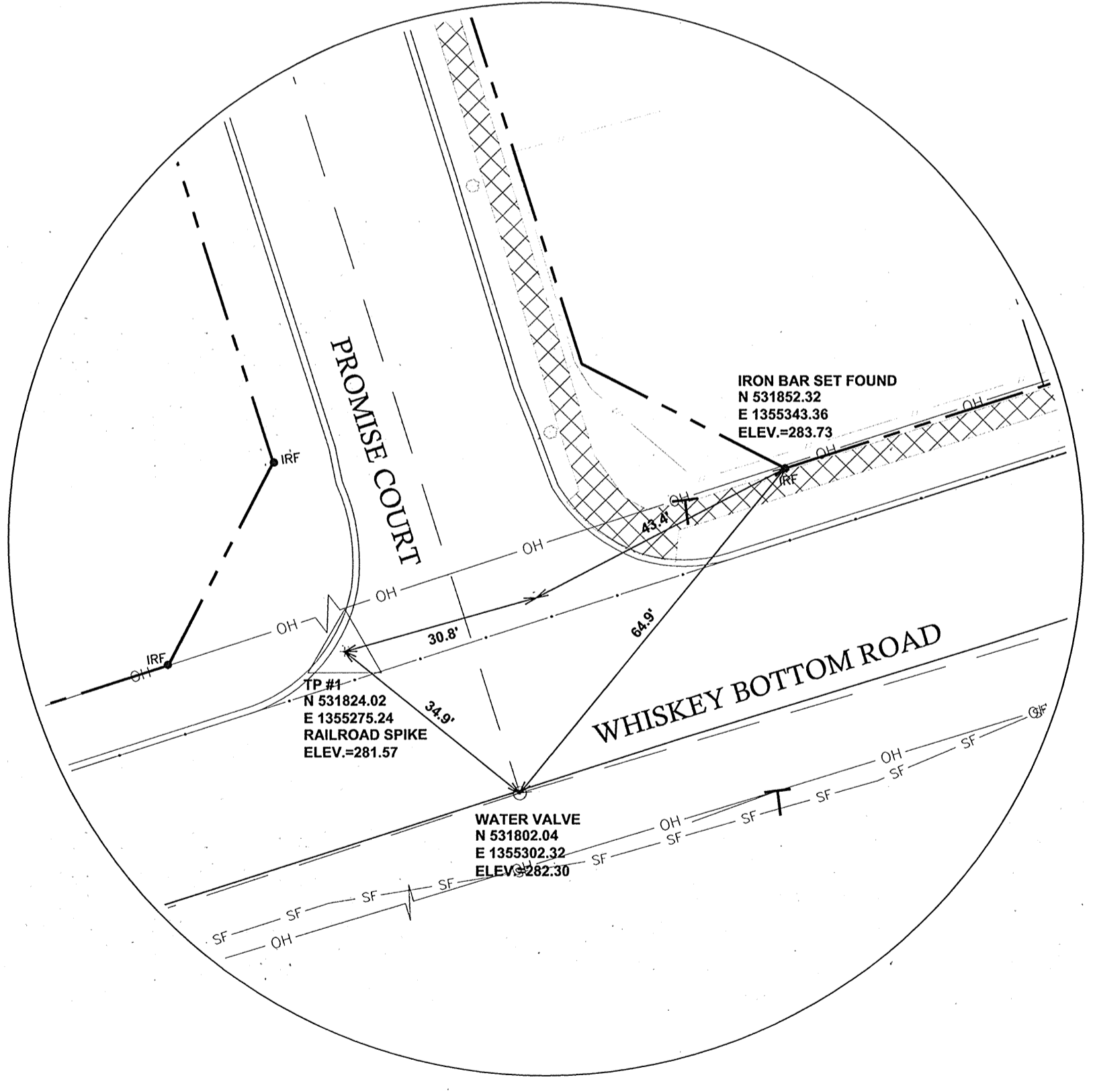
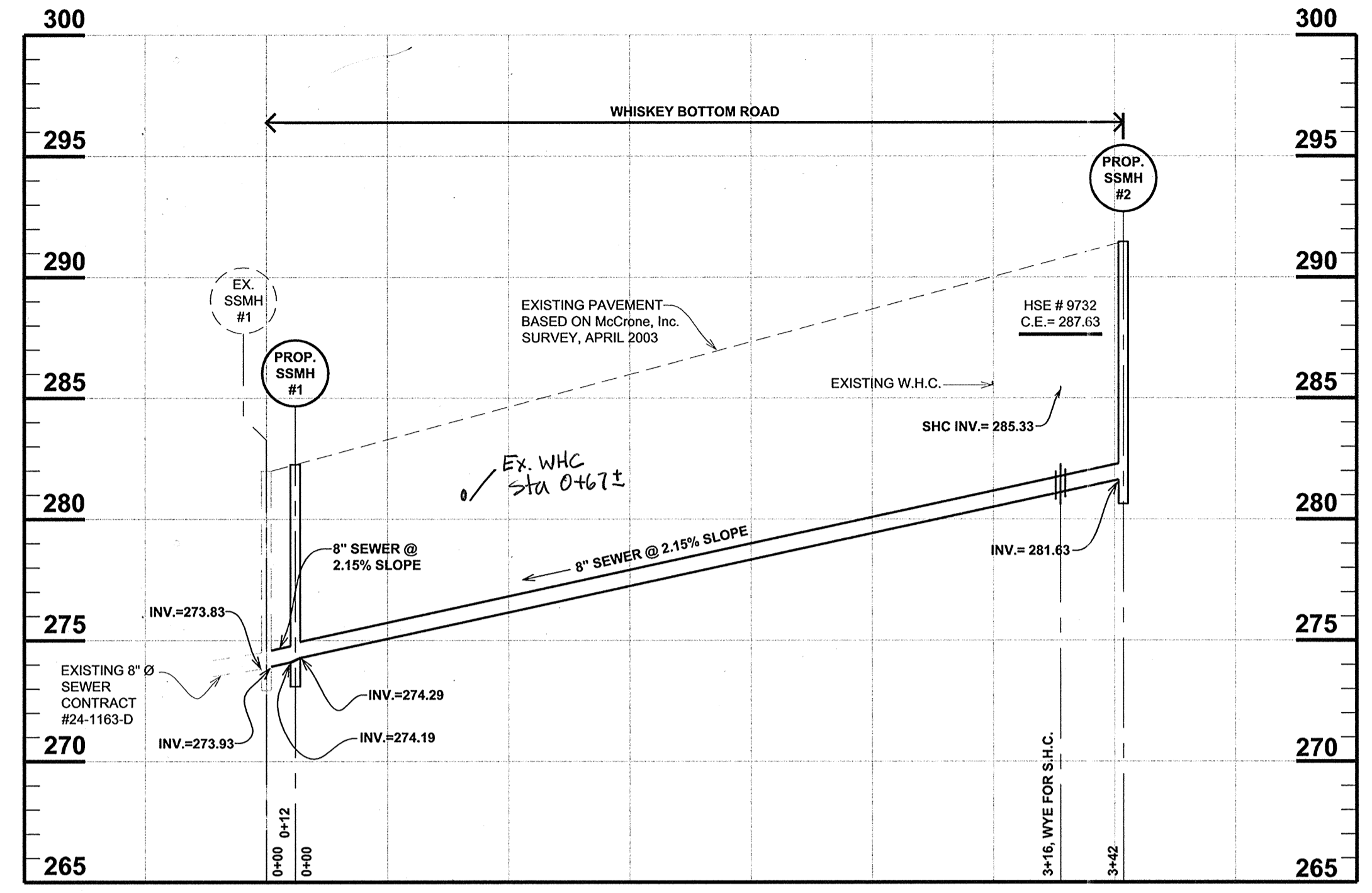
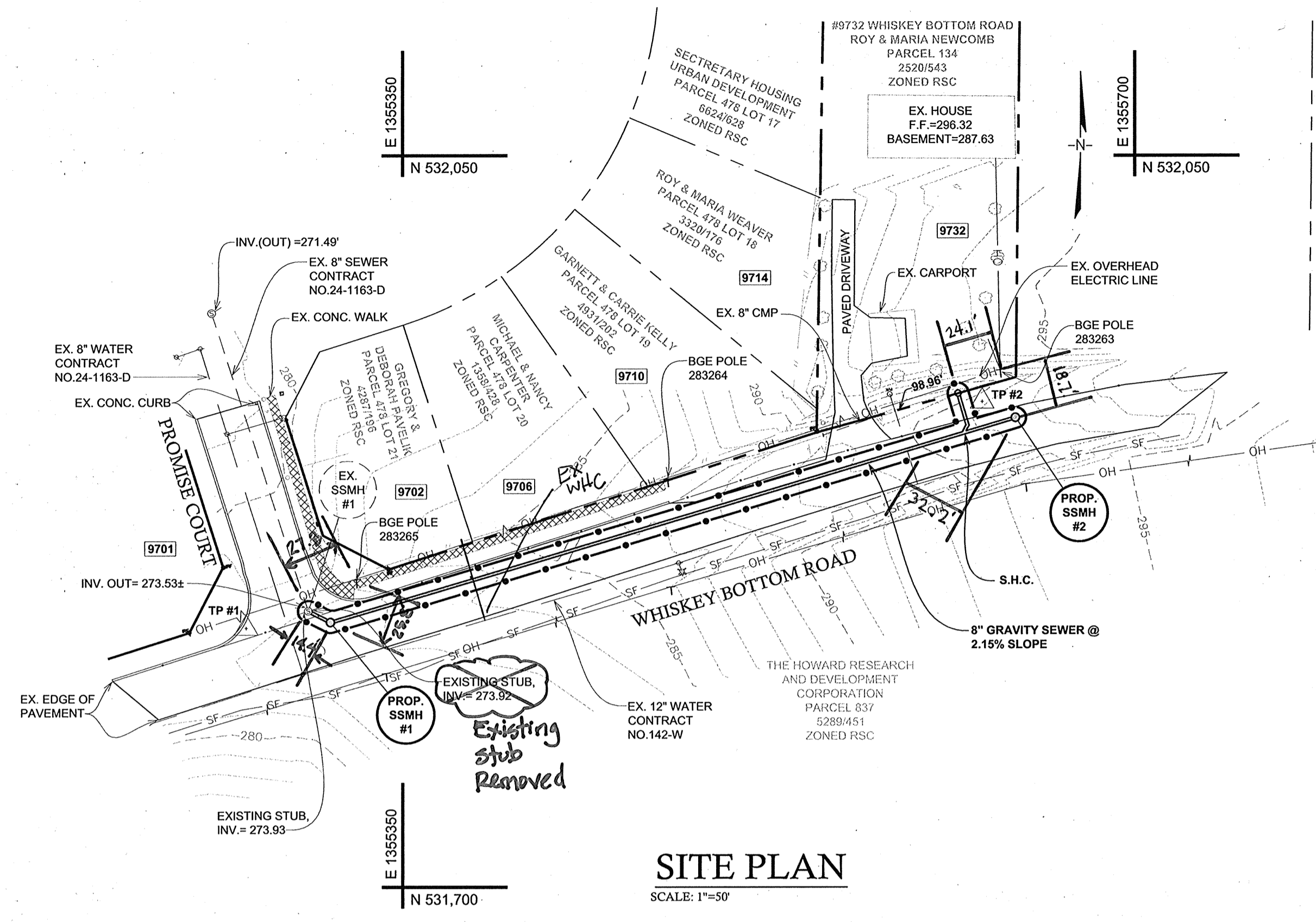
INDEX OF DRAWINGS	
SHEET NO:	DESCRIPTION
1	TITLE SHEET, INDEX OF DRAWINGS, GENERAL NOTES
2	SEWER PLAN & PROFILE
3	SEDIMENT CONTROL MEASURES

RESTORATION SCHEDULE		
LOCATION	LENGTH	MATERIAL
WHISKEY BOTTOM ROAD	353.69	PAVEMENT, FROM STA. 0+00 (EX. MH.) TO STA. 0+12 (SMH #1), FROM STA. 0+00 (SMH #1) TO STA. 3+42 (SMH #2)
WHISKEY BOTTOM ROAD	7.04	PAVEMENT, SHC
WHISKEY BOTTOM ROAD	13.18	GRASS, SHC

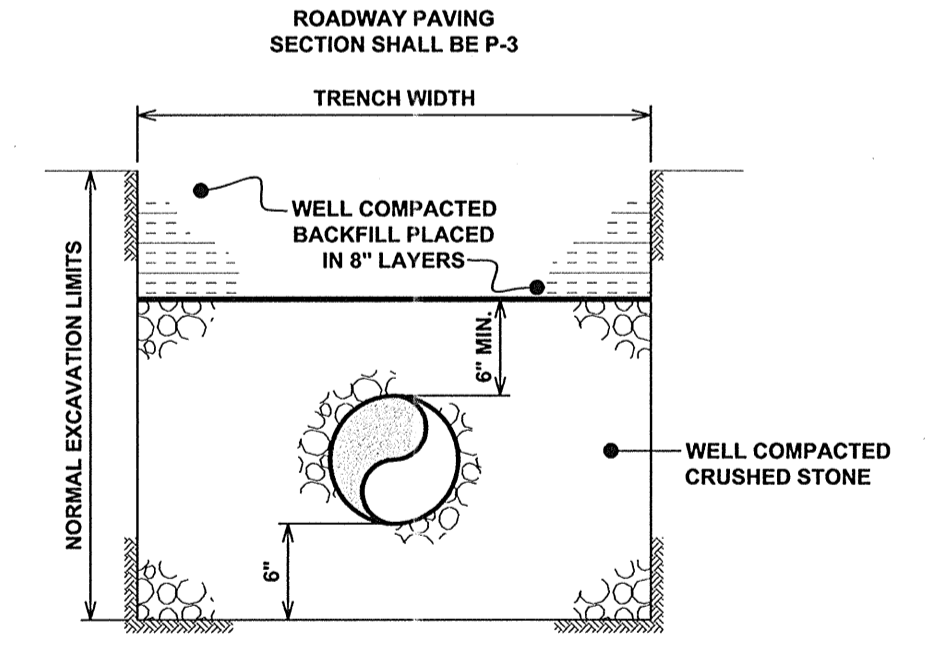
NOTE:
SEDIMENT CONTROL TO BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STDS. & SPECS. (VOL. IV) OF THE HOWARD COUNTY DESIGN MANUAL AND THESE PLANS.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>John P. [Signature]</i> 11/19/03 DIRECTOR OF PUBLIC WORKS DATE <i>Robert Depson</i> 11-18-03 CHIEF, BUREAU OF UTILITIES DATE	 ENGINEERING ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING CONSTRUCTION SERVICES 20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-8621 ANNAPOLIS-CENTREVILLE-EASTON-ELSTON-PRINCE FREDERICK		DES: J. SESLER DRN: J. SLENKER CHK: R. SELL DATE: 4/03	TITLE SHEET, INDEX OF DRAWINGS, GENERAL NOTES	WHISKEY BOTTOM ROAD SEWER EXTENSION CAPITAL PROJECT S-6698 CONTRACT No. 20-4155 ELECTION DISTRICT No. 3 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 1 OF 3
			BY No. REVISION DATE	600' SCALE MAP No. 47 BLOCK No. 15		

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- LEGEND**
- EXISTING GAS LINE
 - EXISTING SEWER LINE
 - EXISTING STORM DRAIN
 - EXISTING WATER LINE
 - EXISTING WOOD FENCE
 - SF- EXISTING SILT FENCE
 - OH- EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING SIDEWALK
 - PROPOSED SEWER LINE
 - LIMIT OF DISTURBANCE



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Jan P. de...</i> 11/14/03 DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Ruth Berman</i> 11-18-03 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>MICRONE</p> <p>ENGINEERING - ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING - CONSTRUCTION SERVICES</p> <p>20 RIDGELY AVENUE ANNAPOLIS, MARYLAND 21401 (410) 267-9921 Fax (410) 267-9922</p>	<p>DES: J. SESLER</p> <p>DRN: J. SLENKER</p> <p>CHK: R. SELL</p> <p>DATE: 4/03</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>BY</th> <th>No.</th> <th>REVISION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	BY	No.	REVISION	DATE					<p>SEWER PLAN & PROFILE</p>	<p>WHISKEY BOTTOM ROAD SEWER EXTENSION CAPITAL PROJECT S-6698 CONTRACT No. 20-4155 ELECTION DISTRICT No. 3 HOWARD COUNTY, MARYLAND</p>	<p>SCALE AS SHOWN</p> <p>SHEET 2 OF 3</p>
BY	No.	REVISION	DATE											

As-Built

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SEDIMENT CONTROL NOTES

- 1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (AIC-25B-1055B).
2. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within (2) calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater than 3:1, (3) 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 7, HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding and temporary seeding and mulching (Sec. 6). Temporary stabilization with mulch alone shall 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 0.04 Ac.
Area Disturbed 0.04 Ac.
Area to be roofed or paved 0.00 Ac.
Area to be vegetatively stabilized 0.00 Ac.
Total Cut 0.00 C.Y.
Total Fill 0.00 C.Y.
Offsite waste/borrow area location 0.00 C.Y.
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 controls 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, 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 boring 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.

Construction and Material Specifications

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
1. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting bedrock substrates and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 and 1/2" in diameter.
2. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
3. Where the subsoil is either highly acidic or composed of heavy clay, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
III. For sites having disturbed areas under 5 acres:
1. Place topsoil (if required) and apply soil amendments as specified in 202-O Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
II. For sites having disturbed areas over 5 acres:
1. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.3 or higher.
b. Organic content of topsoil shall be not less than 15 percent by weight.
c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
d. No seed or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (4 days min) to permit dissipation of phytotoxic materials.
NOTE: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
III. Place topsoil (if required) and apply soil amendments specified in 202-O Vegetative Stabilization-Section I-Vegetative Stabilization Methods and Materials.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.)
SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual ryegrass (3.2 lbs./1000 sq.ft.) For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (2.1 lbs./1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
MULCHING: Apply 1 1/2 to 2 tons per acre (10 to 40 lbs./1000 sq.ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 21B gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 3 feet or higher, use 34B gallons per acre (5 gal/1000 sq.ft.) for anchoring.

PERMANENT SEEDING NOTES

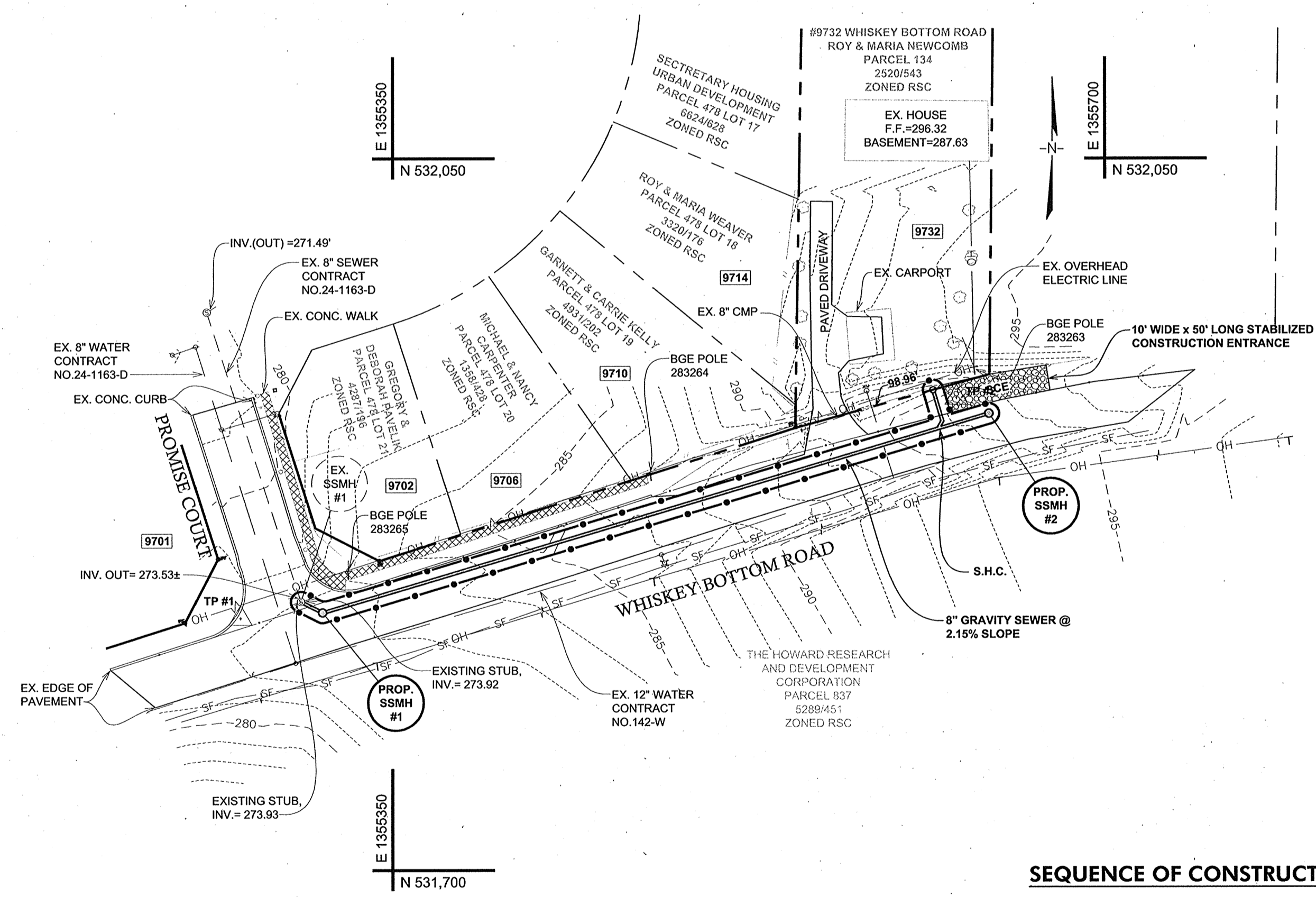
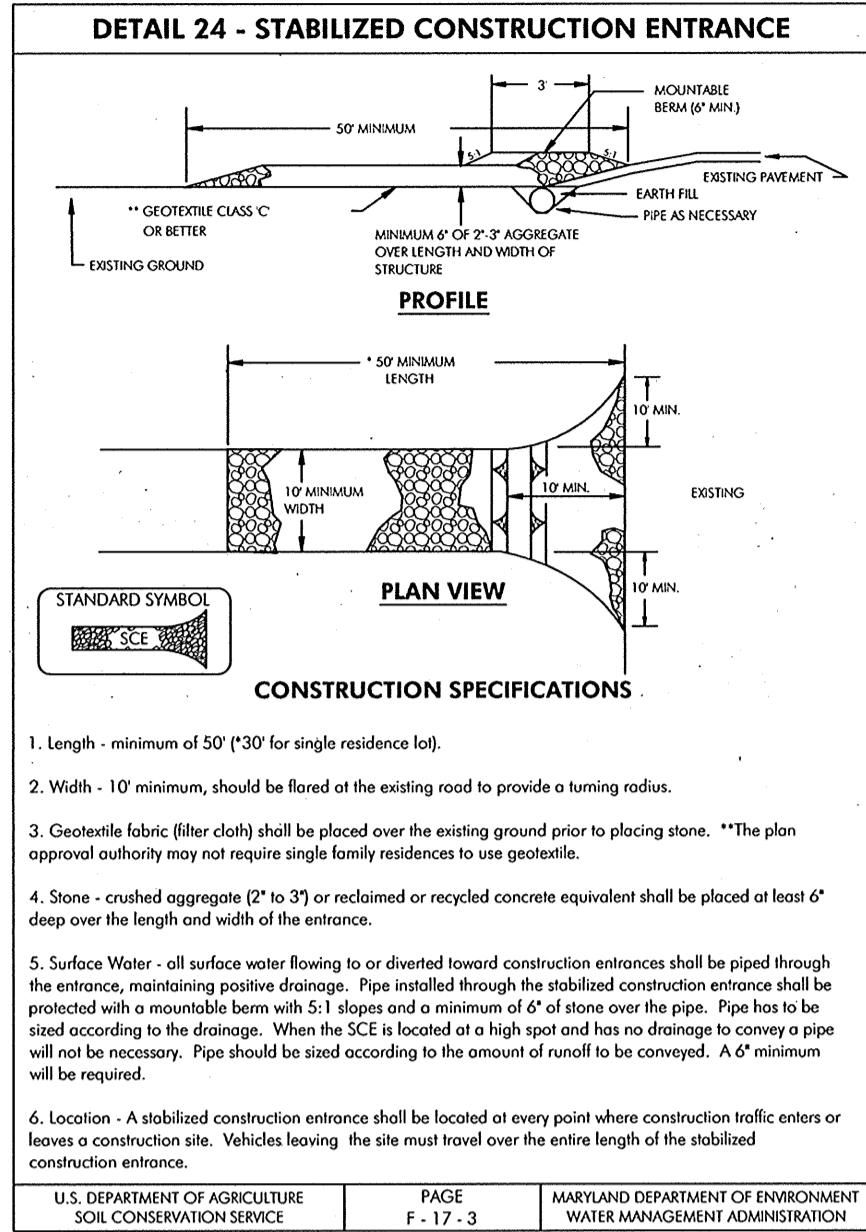
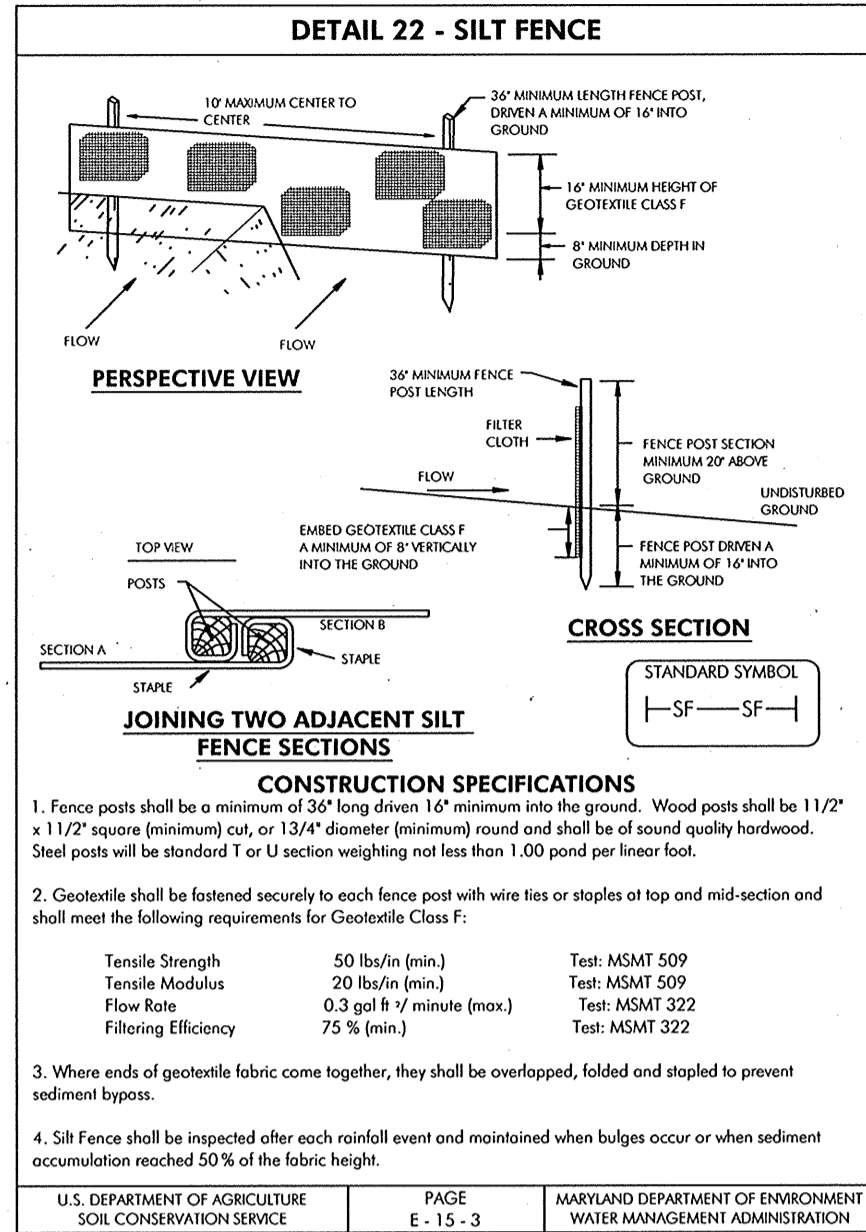
APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
SEEDBED PREPARATION: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:
1) Preferred-Apply 2 tons per acre dolomitic limestone (42 lbs./100 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 50-0-0 ureaform fertilizer (4 lbs./1000 sq.ft.)
2) Acceptable-Apply 2 tons per acre dolomitic limestone (42 lbs./100 sq.ft.) and apply 1000 lbs. per acre 10-10-10 fertilizer (28 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.
SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (28 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) 2 tons per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
MULCHING: Apply 1 1/2 to 2 tons per acre (10 to 40 lbs./1000 sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 21B gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 3 feet or higher, use 34B gallons per acre (5 gal/1000 sq.ft.) for anchoring.
MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition: Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
Purpose: To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- I. This practice is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.



SEQUENCE OF CONSTRUCTION

Table with 2 columns: Activity and Duration. Activities include: 1. OBTAIN GRADING PERMIT (1 DAY), 2. INSTALL SEDIMENT CONTROL DEVICES (1 DAY), 3. INSTALL SEWER MAIN (2 WEEKS), 4. BACKFILL TRENCH AND RESTABILIZE (2 WEEKS), 5. CLEAN UP CONSTRUCTION SITE (2 DAYS), 6. REMOVE SEDIMENT CONTROL DEVICES (2 DAYS).

NOTE: CONSTRUCTION IS TO BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH DAY.

GRADING PLAN

SCALE: 1"=50'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

MCRONE CORPORATION ENGINEERING & ENVIRONMENTAL SCIENCES LAND PLANNING & SURVEYING & CONSTRUCTION SERVICES



Table with columns: DRN, DES, CHK, DATE, BY, No., REVISION, DATE. Entries include: DRN: J. Slenker, DES: J. Slesler, CHK: R. Sell, DATE: 4/03.

SEDIMENT CONTROL MEASURES

WHISKEY BOTTOM ROAD SEWER EXTENSION CAPITAL PROJECT S-6698 CONTRACT No. 24-4155 ELECTION DISTRICT No. 3 HOWARD COUNTY, MARYLAND