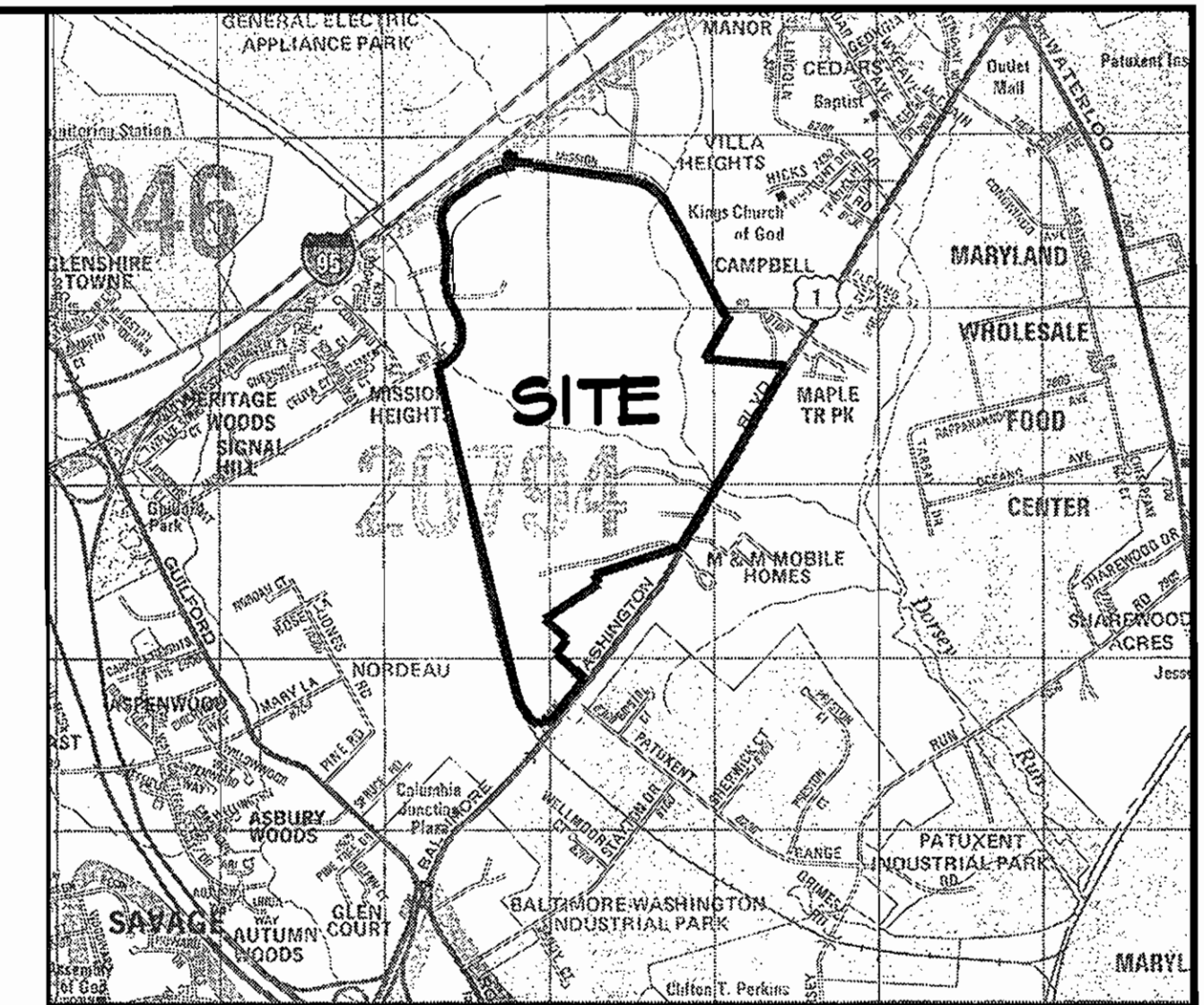


# SAVAGE QUARRY

HOWARD COUNTY, MARYLAND  
SEWER RELOCATION  
CONTRACT NO. 24-4615-D



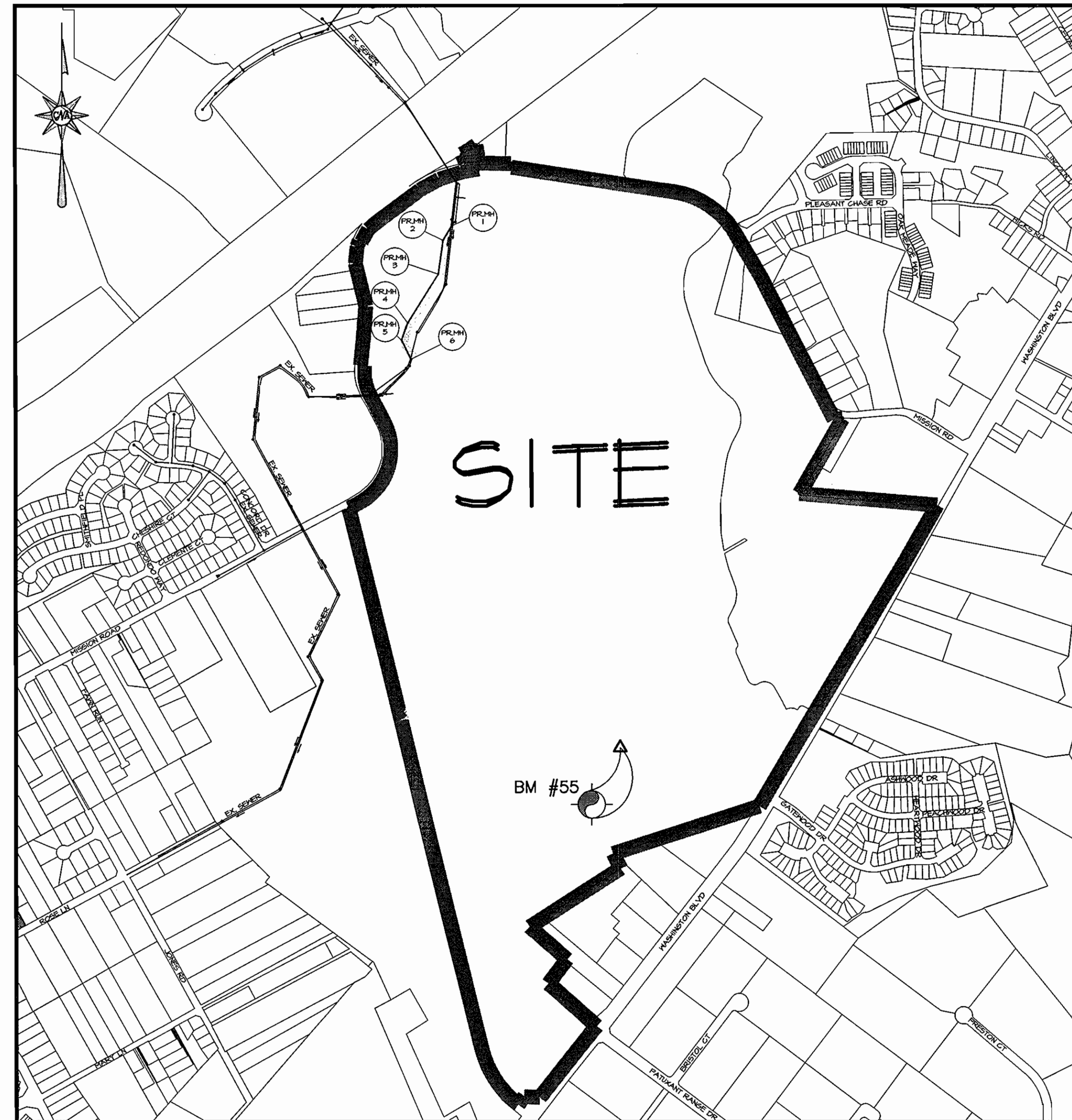
COPYRIGHT ADC THE MAP PEOPLE  
PERMITTED USE No. 20804125  
VICINITY  
1"=2,000'

## INDEX OF DRAWINGS

SHEET 1	TITLE SHEET
SHEET 2	SEWER PLAN
SHEET 3	SEWER PROFILE
SHEET 4	SECTIONS AND DETAILS

## GENERAL NOTES

- APPROXIMATE LOCATIONS 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.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OCTOBER 2008 BY CME ENGINEERING, LLC.
- HORIZONTAL AND VERTICAL CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD83(91) AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 43GA AND NO. 43GB.  
ALL VERTICAL CONTROLS ARE BASED ON NGVD88. VERTICAL CONTROL PROVIDED ON THE DRAWINGS IS A REBAR AND CAP #55, N:481803.692, E:855942.252, ELEV:218.396.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. 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 MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, 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 LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:  
AT&T.....800-252-1133  
BOE (CONSTRUCTION SERVICES).....410-850-4820  
BOE (EMERGENCY).....410-885-1400  
BUREAU OF UTILITIES.....410-313-4900  
COLONIAL PIPELINE CO.....410-795-1390  
MISS UTILITY.....800-257-7777  
STATE HIGHWAY ADMINISTRATION.....410-531-5533  
VERIZON.....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.
- THE 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.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT 410-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING 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(c) OF THE HOWARD COUNTY CODE.
- ALL SEWER MAINS SHALL BE RESTRAINED JOINT DUCTILE IRON PIPE CLASS 54, UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE D.METER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE DUCTILE IRON PIPE 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 DETAIL 05.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS 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.



LOCATION MAP  
1"=600'

## LEGEND

	PROPERTY LINE
	UTILITY EASEMENT
	EX. 2' CONTOUR
	EX. 10' CONTOUR
	PROP. 2' CONTOUR
	PROP. 10' CONTOUR
	EX. SANITARY SEWER
	EX. SANITARY MANHOLE
	PROP. SANITARY SEWER
	PROP. SANITARY MANHOLE

## BILL OF MATERIALS

ITEM	QUANTITY	AS-BUILT QUANTITY
SEWER		
16" RESTRAINED JOINT C-900 SEWER	1090 L.F.	
48" SANITARY MANHOLE	6 EA.	

## SEQUENCE OF CONSTRUCTION

- CONTINUE THE BYPASS PUMPING OPERATION BETWEEN EXISTING MANHOLE 4395B AND EXISTING MANHOLE 4395A THAT IS CURRENTLY IN PLACE.
- CONSTRUCT THE PROPOSED RELOCATED SEWER MAIN AND MANHOLES.
- TIE INTO EXISTING MANHOLE 4395A INVERT OUT AND EXISTING MANHOLE 4394A INVERT IN, MATCHING THE EXISTING INVERTS.
- CONTRACTOR SHALL ENSURE A WATERTIGHT CONNECTION TO THE EXISTING MANHOLES USING THE EXISTING INTEGRALLY CAST RUBBER GASKET PROVIDED THEY ARE IN SERVICEABLE CONDITION. IF EXISTING GASKETS ARE MISSING OR DAMAGED, USE STAINLESS STEEL INTERNAL EXPANSION BAND AND EXTERNAL PIPE CLAMP SEALS IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATION SECTION 962, PARAGRAPH 962.01(c).
- CONTRACTOR SHALL PERFORM PIPE TESTING IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS SECTION 1009.03.04-ACCEPTANCE TESTING.
- UPON SATISFACTORY TESTING AND INSPECTOR APPROVAL, CONTRACTOR SHALL REMOVE TEMPORARY PLUGS AND BYPASS PUMPING SYSTEM.

SOIL CONSERVATION DISTRICT  
HOWARD COUNTY, MARYLAND  
PLAN NO. GP-04-11 ESTABLISHES  
EROSION AND SEDIMENT CONTROL

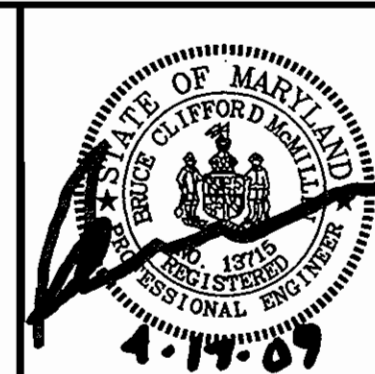
*[Signature]* 5/11/09  
APPROVED DATE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 13715, EXPIRATION DATE: 11/17/2009.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

**CNA**  
engineers, surveyors & landscape architects



Date:	3/3/09
Drawn By:	NJS
Design By:	NJS
Review By:	BCM

Date	Revisions

*[Signature]* 5/11/09  
CHIEF, BUREAU OF UTILITIES DATE

*[Signature]* 5/11/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

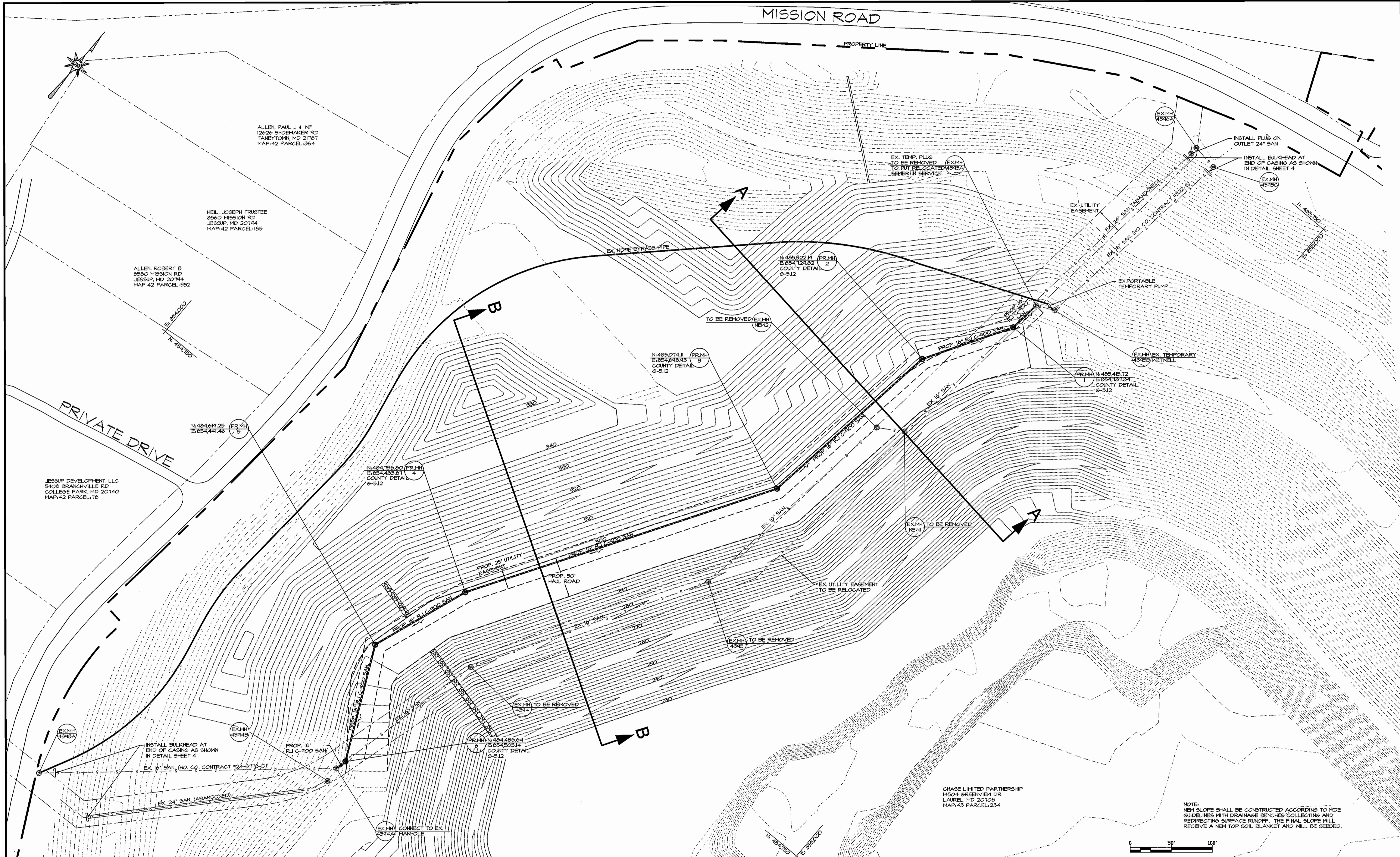
Civil Engineers Land Surveyors Landscape Architects  
Planners Geotechnical Engineers Environmental Engineers  
1667 Knecht Avenue - Suite A  
Baltimore, Maryland 21227  
Phone (410) 242-1549 Fax (410) 242-1745  
E-mail: cnamail@cna-engineers.com

TITLE SHEET

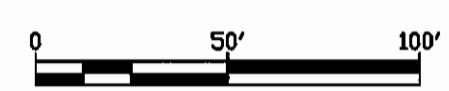
SAVAGE QUARRY  
SEWER RELOCATION  
CONTRACT NO. 24-4615-D  
  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

Scale:  
AS SHOWN  
Job No:  
05055  
Sheet:  
1 of 4

600 SCALE MAP No. 43 BLOCK No. 19



NOTE:  
NEW SLOPE SHALL BE CONSTRUCTED ACCORDING TO MDE  
GUIDELINES WITH DRAINAGE BENCHES COLLECTING AND  
REDIRECTING SURFACE RUNOFF. THE FINAL SLOPE WILL  
RECEIVE A NEW TOP SOIL BLANKET AND WILL BE SEEDED.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Silva C...*  
CHIEF, BUREAU OF UTILITIES

*Stacy*  
DATE

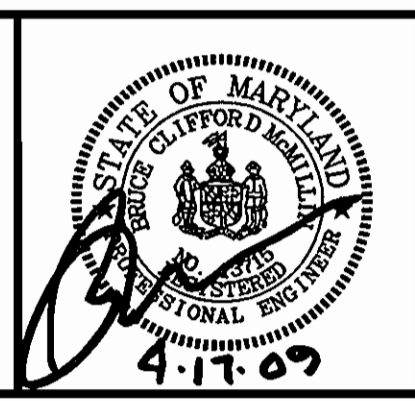
DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*Chad...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Silva*  
DATE

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E-mail: cenamail@cna-engineers.com



Date:	3/3/09
Drawn By:	NJS
Design By:	NJS
Review By:	BCM
Date	Revisions

SANITARY SEWER  
PLAN

600 SCALE MAP No. 43 BLOCK No. 19

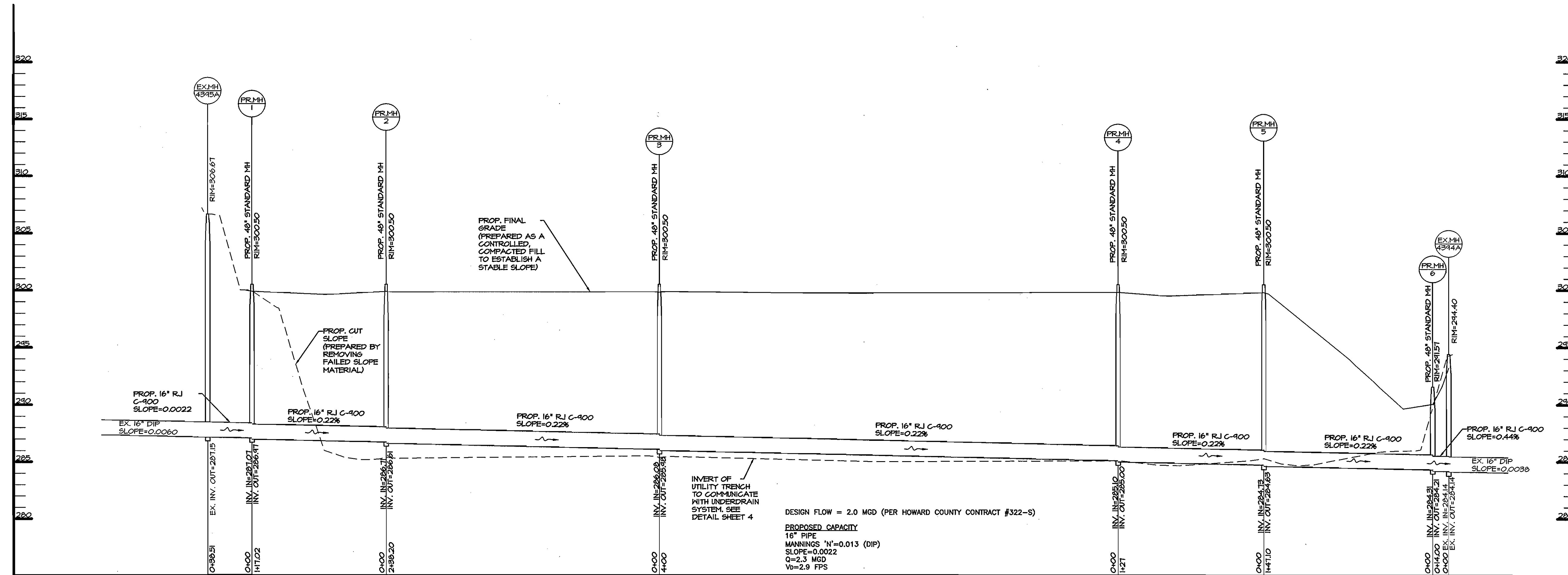
SAVAGE QUARRY  
SEWER RELOCATION  
CONTRACT NO. 24-4615-D

6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

Scale:  
1"=50'

Job No:  
05055

Sheet:  
2 of 4



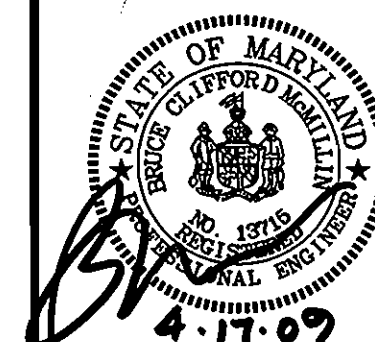
**PROFILE**  
HORIZ: 1"=50'  
VERT: 1"=5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
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Date:  
3/3/09

Drawn By:  
NJS

Design By:  
NJS

Review By:  
BCM

Date Revisions

SANITARY SEWER  
PROFILE AND DETAILS

600 SCALE MAP No. 43 BLOCK No. 19

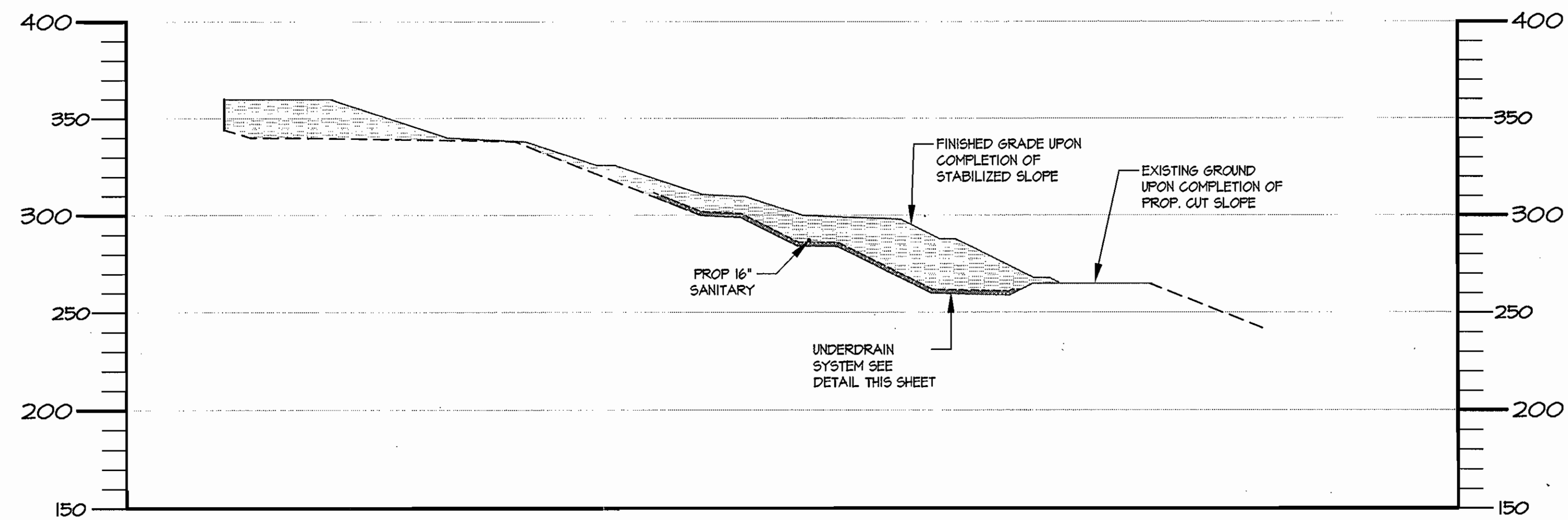
SAVAGE QUARRY  
SEWER RELOCATION  
CONTRACT NO. 24-4615-D

6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

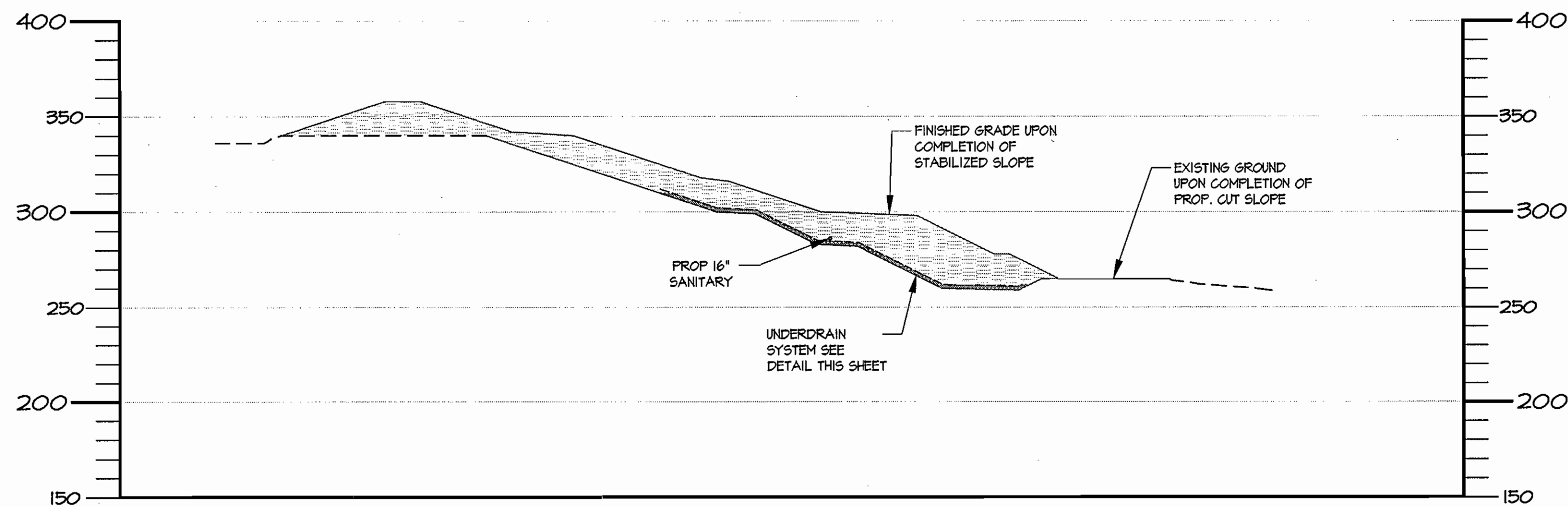
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HORIZ: 1"=50'  
VERT: 1"=5'

Job No:  
05055

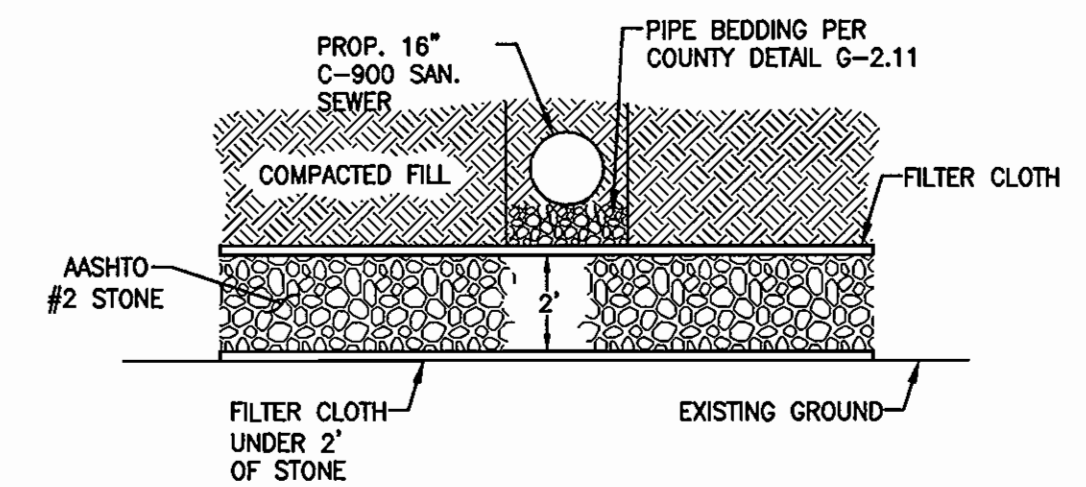
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3 of 4



**SECTION A-A**  
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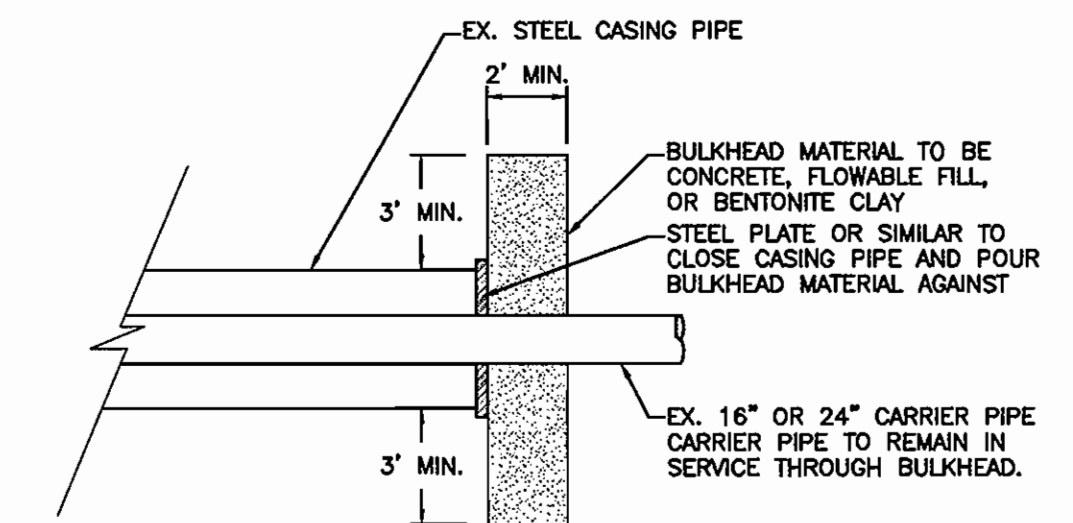


**SECTION B-B**  
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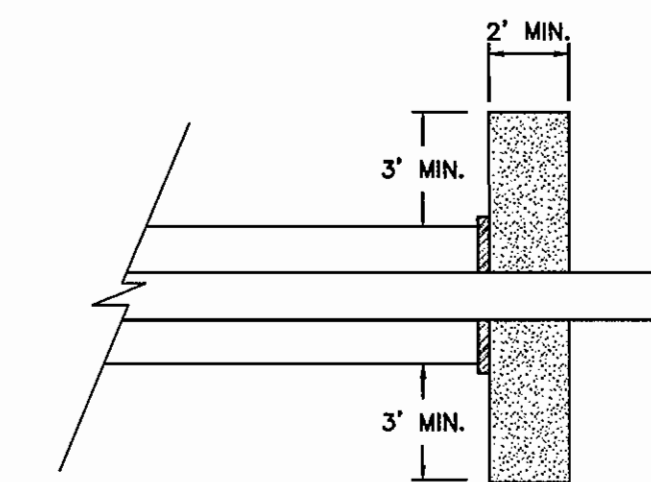


1. FILL SHOULD CONSIST OF SOIL CLASSIFIED AS SM (OR BETTER). WEATHERED GREENISH SILT SHOULD NOT BE USED AS FILL. FILL SHOULD BE PLACED IN LEVEL LIFTS NOT EXCEEDING 12-INCH LOOSE THICKNESSES AND COMPACTED TO A MINIMUM OF 95% OF THE ASTM D 1557 (MODIFIED PROCTOR) MAXIMUM DRY DENSITY.
2. FILTER CLOTH SHALL BE U.S. FABRICS 160 NONWOVEN, OR EQUIVALENT.

**UNDERDRAIN SYSTEM DETAIL**  
NOT TO SCALE



**PLAN**



**PROFILE**  
**BULKHEAD DETAIL**  
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

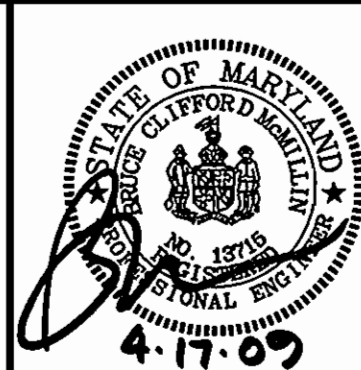
*John Chen*  
CHIEF, BUREAU OF UTILITIES  
DATE: 5/17/09

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*John Chen*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
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Date: 3/3/09

Drawn By: NUS  
Design By: NUS  
Review By: BCM

Date Revisions

SANITARY SEWER  
PROFILE AND DETAILS

600 SCALE MAP No. 43 BLOCK No. 19

SAVAGE QUARRY  
SEWER RELOCATION  
CONTRACT NO. 24-4615-D

6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

Scale: AS SHOWN

Job No: 05055

Sheet: 4 of 4