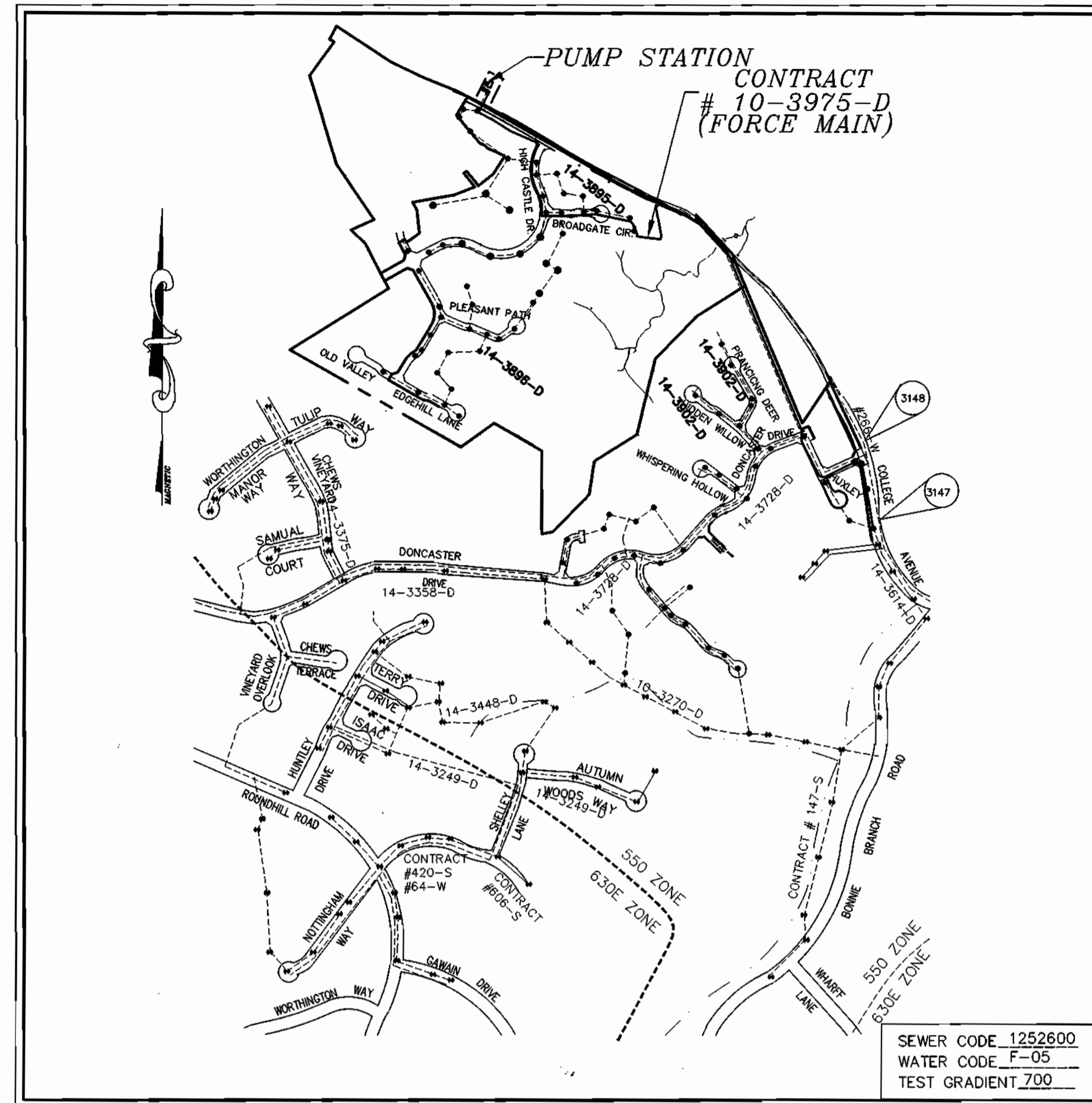


**QUANTITY TABLE**

ITEMS	QUANTITIES ESTIMATED	QUANTITIES		
		TYPE	MANUFACTURER/SUPPLIER	
8" D.I.P. FORCE MAIN	4,045 L.F.			
1/32 H.B. (8")	2 EACH			
1/16 H.B. (8")	3 EACH			
1/8 H.B. (8")	21 EACH			
AIR RELEASE MANHOLE	1 EACH			
BLOW OFF MANHOLE	2 EACH			
8" DIP SEWER MAIN	208 L.F.			
8" PVC SEWER MAIN	222 L.F.			
STD MH (AIR TIGHT COVER)	2 EACH			
TRANSITION MANHOLE (AIR TIGHT COVER)	1 EACH			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				



**VICINITY MAP**

SCALE: 1"=600'

DRAINAGE AREA BONNIE BRANCH, PATAPSCO  
TREATMENT PLANT PATAPSCO WASTEWATER  
TREATMENT PLANT, BALTIMORE

**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.
- COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3147 AND 3148.  
STA. 1347 N575598.0794, E1375801.7684, EL=335.987  
STA. 3148 N576015.4313, E1375770.4364, EL=379.248
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL 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:  
STATE HIGHWAY ADMINISTRATION (410) 531-5533  
BG & E CO. CONTRACTOR SERVICES (410) 850-4620  
BG & E CO. UNDERGROUND DAMAGE CONTROL (410) 787-9068  
MISS UTILITY 1-800-257-7777  
COLONIAL PIPELINE CO. (410) 795-1390  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS (410) 313-4900  
BUREAU OF UTILITIES (410) 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED OUTSIDE 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)313-2450 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 18.114(g) OF HOWARD COUNTY CODE.
- ALL FORCE MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- STATIONING SHOWN IS FORCE MAIN AND CENTER LINE STATIONING.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- STORM DRAIN, WATER & SEWER SYSTEMS INDICATED FOR INFORMATIONAL PURPOSES ONLY, SEE ROAD PLANS FOR CONSTRUCTION DATA.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.
- TOPS OF ALL FORCE MAINS TO HAVE 3'-1/2' COVER UNLESS OTHERWISE INDICATED.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED ON THE DRAWINGS.
- USE US PIPE FIELD LOK GASKETS OR MEGALUG FOR PIPE JOINT RESTRAINTS ON THE FOLLOWING PIPE SEGMENTS:  
STA. 0+00 - 25+00  
STA. 34+00 - 40+45

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.

*David R. Renner Jr.* 2/13/03  
DEVELOPER'S SIGNATURE DATE  
DEVELOPER'S NAME

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.

*John B. Mildenberg* 2/13/03  
ENGINEER'S SIGNATURE DATE  
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Murray* 2/13/03  
USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John L. Deaton* 2/13/03  
HOWARD SCD DATE

PLAN REFERENCE NUMBERS  
F-01-15  
F-01-23

CONTRACT NO.: 10-3975-D  
COLLEGE AVENUE PUMP STATION  
FORCE MAIN  
HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS

**INDEX OF DRAWINGS**

NO.	DESCRIPTION
1	TITLE SHEET
2	FORCE MAIN PLAN
3	FORCE MAIN PLAN
4	FORCE MAIN PROFILE
5	FORCE MAIN PROFILE
6	FORCE MAIN PROFILE
7	SEDIMENT CONTROL PLAN
8	SEDIMENT CONTROL PLAN
9	SEDIMENT CONTROL NOTES AND DETAILS

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*R. L. ...* 2-21-03  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*...* 3/1/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland 21142  
(410) 997-0296 Bal. (301) 621-5521 Wash. (410) 997-0298 Fax



engineering	SAA				
illustration	SAA				
approval	JBM				
project	0021				
date	FEB. 2003	BY	NO.	REVISION	DATE

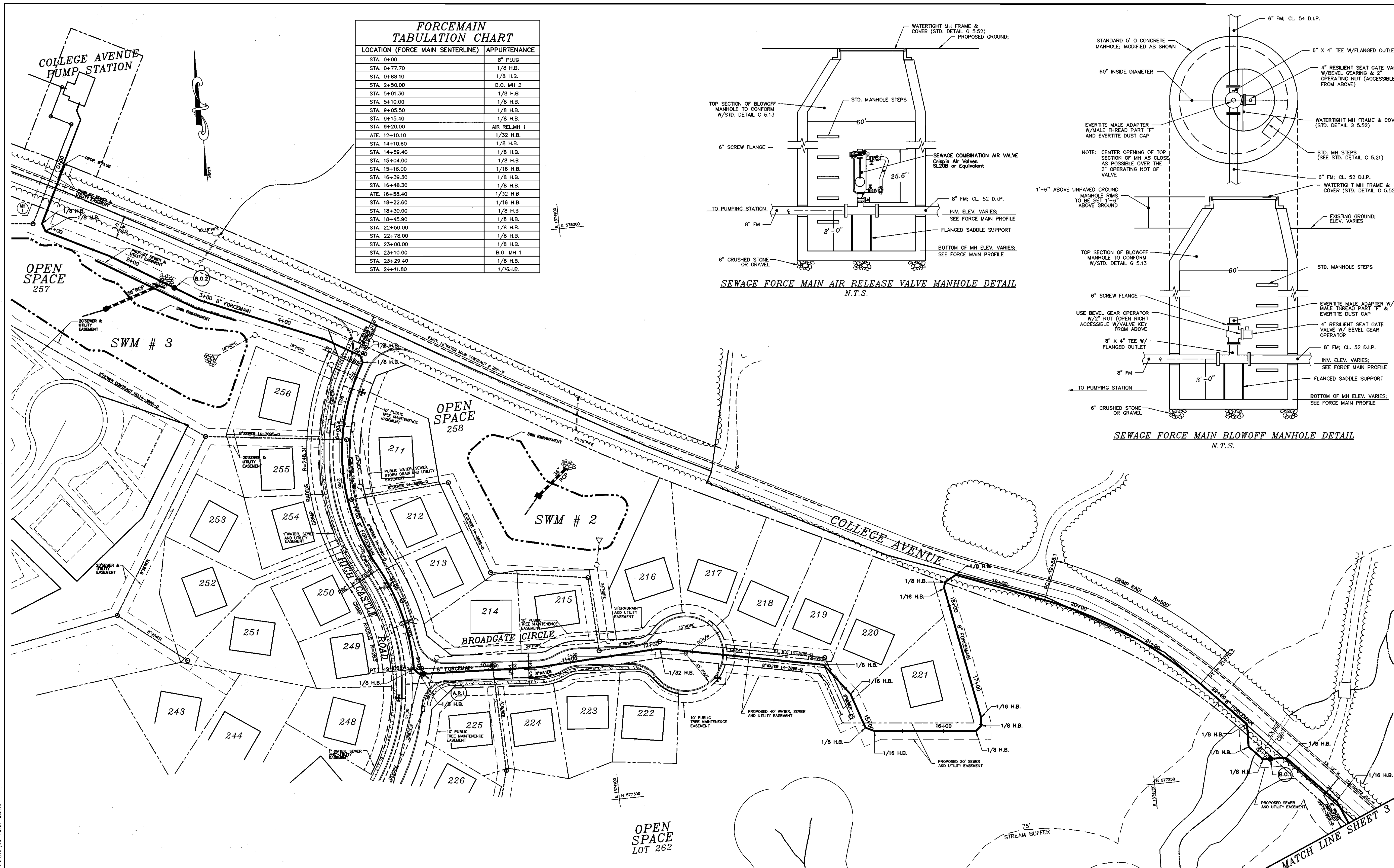
**8" FORCE MAIN  
TITLE SHEET**

600' SCALE MAP NO. 31 BLOCK NO. 3 & 4

**COLLEGE AVENUE PUMP STATION  
FORCE MAIN**

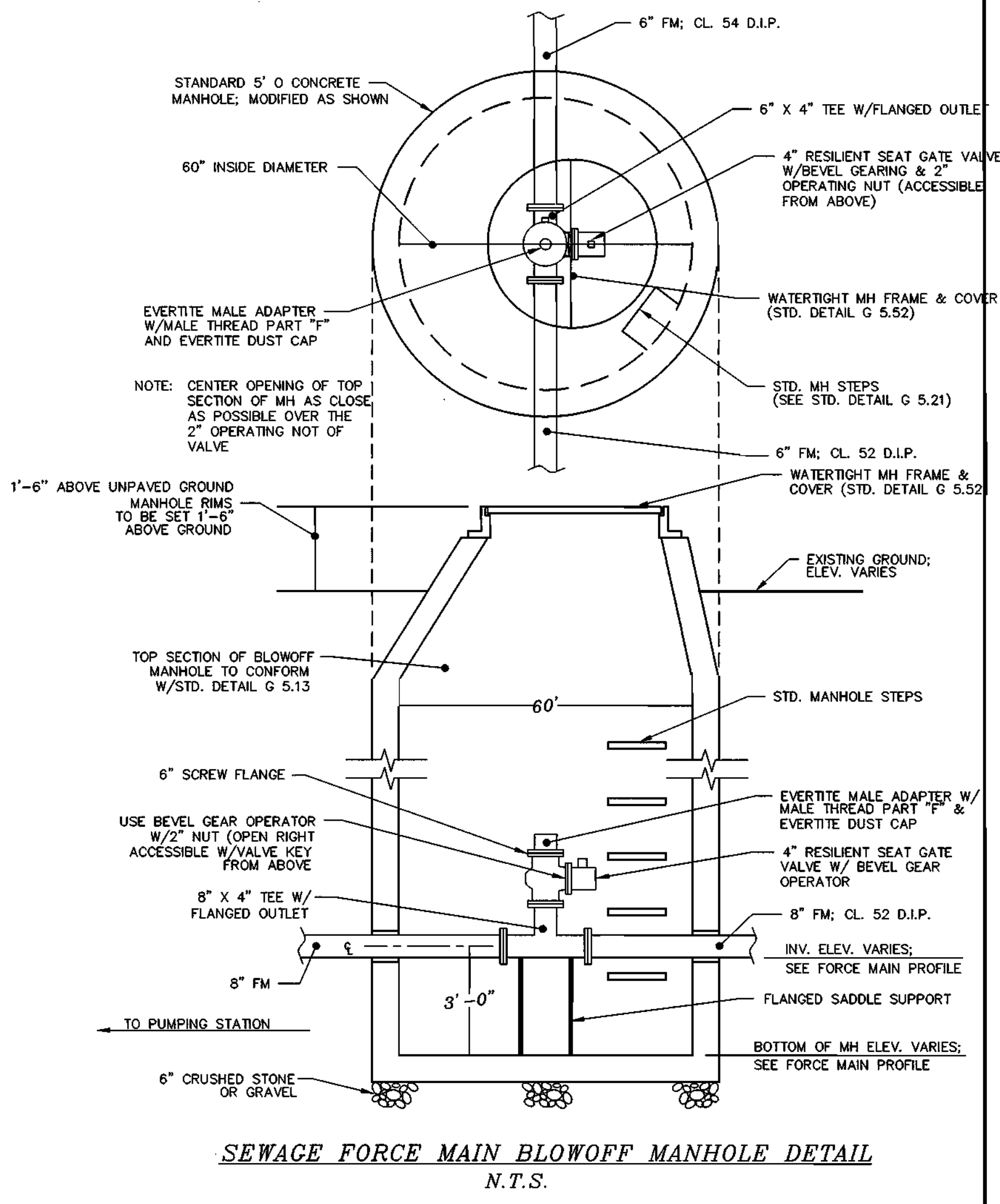
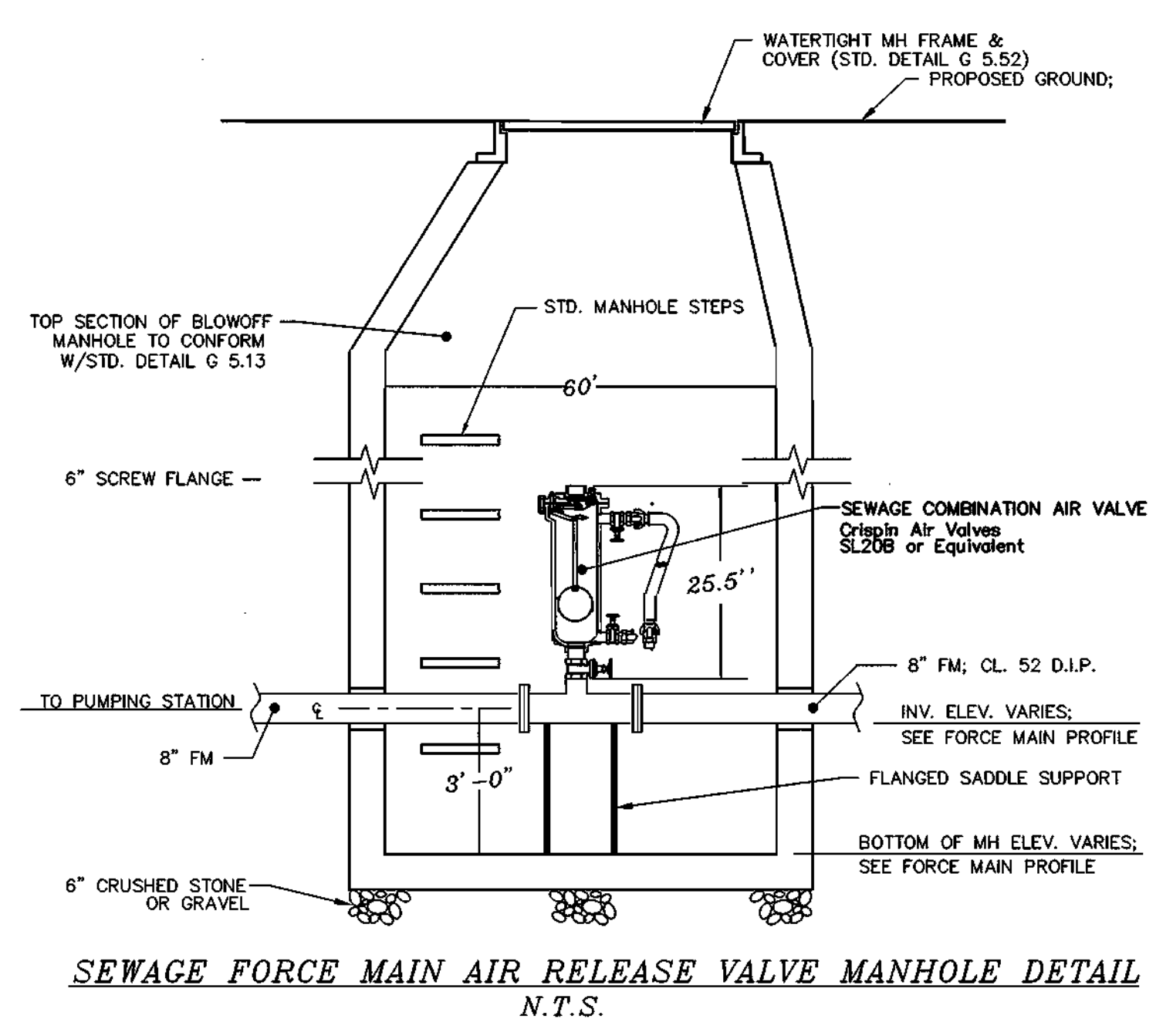
CONTRACT NO. 10-3975-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY

scale  
NTS  
1 OF 9



**FORCE MAIN  
TABULATION CHART**

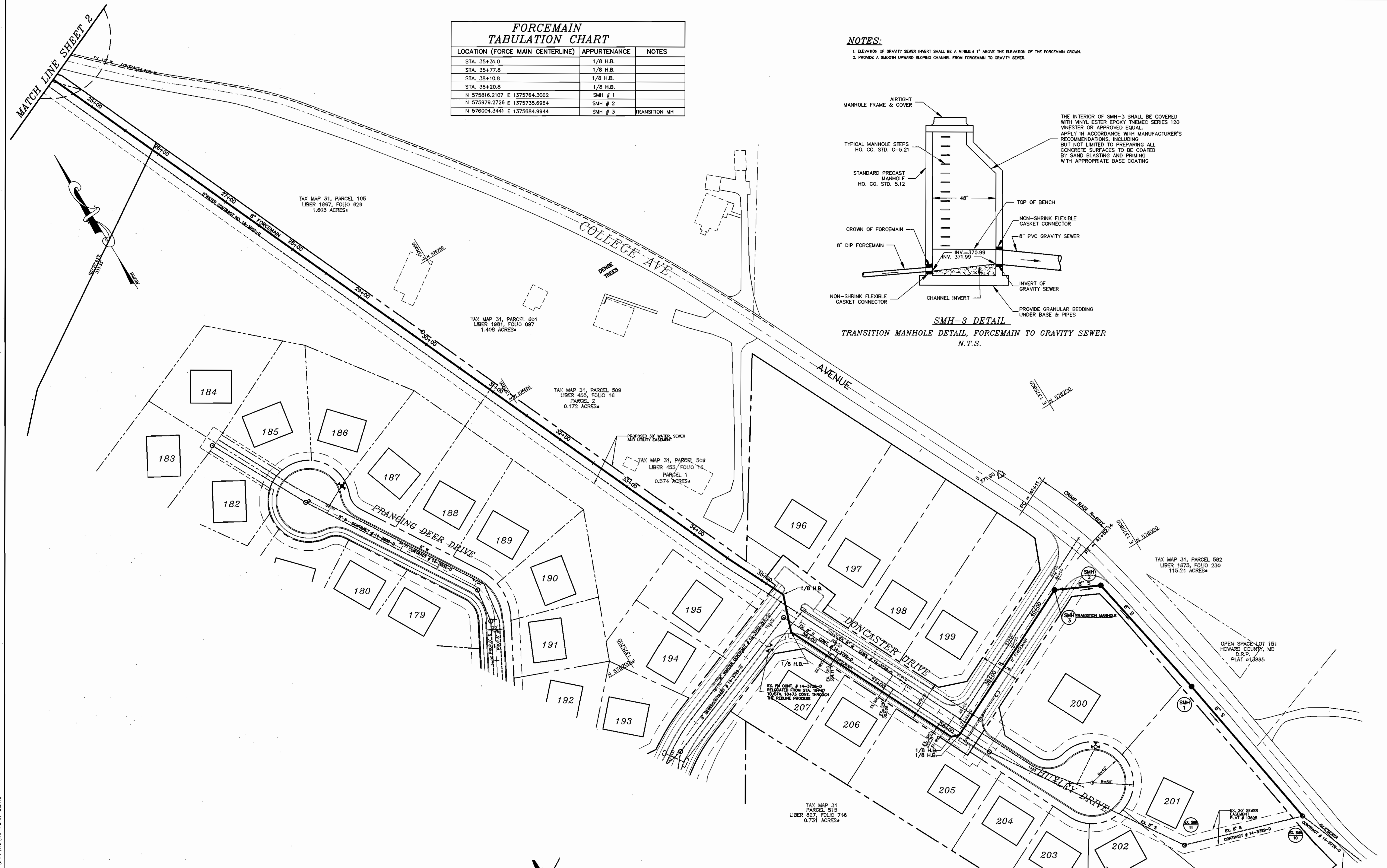
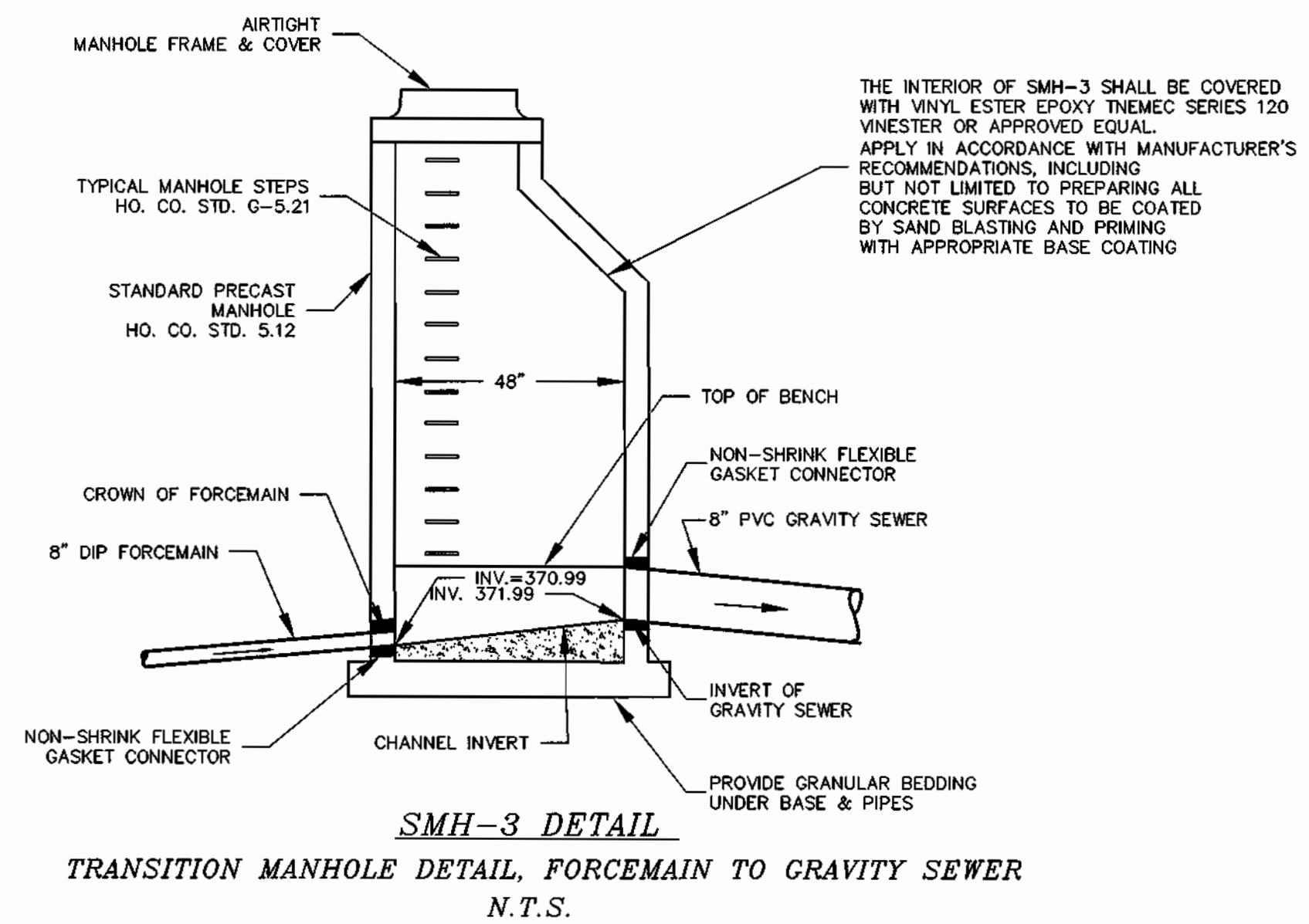
LOCATION (FORCE MAIN CENTERLINE)	APPURTENANCE
STA. 0+00	8" PLUG
STA. 0+77.70	1/8 H.B.
STA. 0+88.10	1/8 H.B.
STA. 2+50.00	B.O. MH 2
STA. 5+01.30	1/8 H.B.
STA. 5+10.00	1/8 H.B.
STA. 9+05.50	1/8 H.B.
STA. 9+15.40	1/8 H.B.
STA. 9+20.00	AIR REL MH 1
ATE. 12+10.10	1/32 H.B.
STA. 14+10.60	1/8 H.B.
STA. 14+59.40	1/8 H.B.
STA. 15+04.00	1/8 H.B.
STA. 15+16.00	1/16 H.B.
STA. 16+39.30	1/8 H.B.
STA. 16+48.30	1/8 H.B.
ATE. 16+58.40	1/32 H.B.
STA. 18+22.60	1/16 H.B.
STA. 18+30.00	1/8 H.B.
STA. 18+45.90	1/8 H.B.
STA. 22+50.00	1/8 H.B.
STA. 22+78.00	1/8 H.B.
STA. 23+00.00	1/8 H.B.
STA. 23+10.00	B.O. MH 1
STA. 23+29.40	1/8 H.B.
STA. 24+11.80	1/16 H.B.



FORCEMAIN TABULATION CHART			
LOCATION (FORCE MAIN CENTERLINE)	APPURTENANCE	NOTES	
STA. 35+31.0	1/8 H.B.		
STA. 35+77.8	1/8 H.B.		
STA. 38+10.8	1/8 H.B.		
STA. 38+20.8	1/8 H.B.		
N 575816.2107 E 1375764.3062	SMH # 1		
N 575979.2726 E 1375735.6964	SMH # 2		
N 576004.3441 E 1375684.9944	SMH # 3	TRANSITION MH	

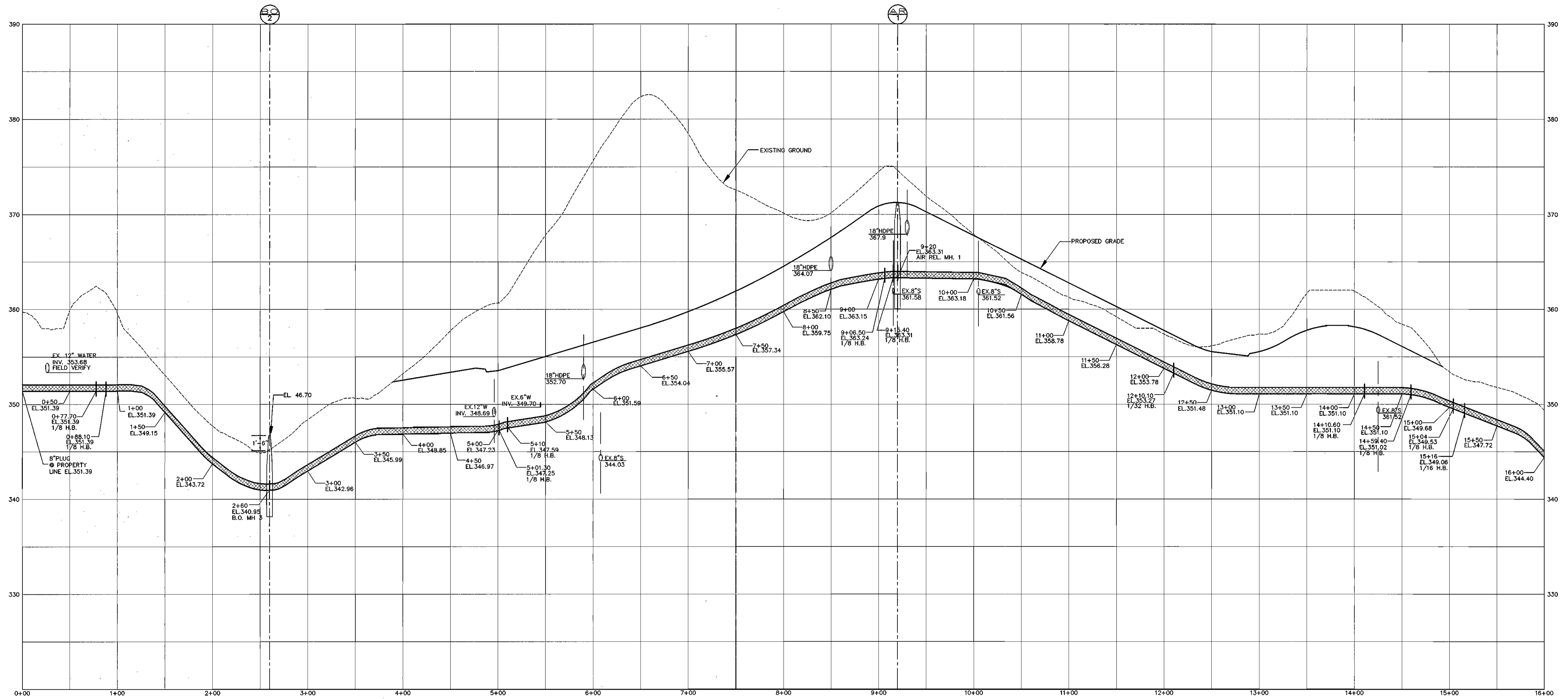
**NOTES:**

- ELEVATION OF GRAVITY SEWER INVERT SHALL BE A MINIMUM 1" ABOVE THE ELEVATION OF THE FORCEMAIN CROWN.
- PROVIDE A SMOOTH UPWARD SLOPING CHANNEL FROM FORCEMAIN TO GRAVITY SEWER.



DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND R. J. ... CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND ... CHIEF, DEVELOPMENT ENGINEERING DIVISION	<b>MILDENBERG, BOENDER &amp; ASSOC., INC.</b> Engineers Planners Surveyors 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042 (410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0288 Fax.	engineering SAA illustration SAA approval JBM project 00-021 date FEB. 2003	BY NO. _____ REVISION _____ DATE _____	<b>8" FORCE MAIN PLAN</b> 600' SCALE MAP NO. 31 BLOCK NO. 3 & 4	<b>COLLEGE AVENUE PUMP STATION FORCE MAIN</b> CONTRACT # 10-3975-D SECOND ELECTION DISTRICT HOWARD COUNTY	scale 1"=50' 3 OF 9
			2-21-07 DATE	3/1/03 DATE	FEB. 2003	31	3 & 4

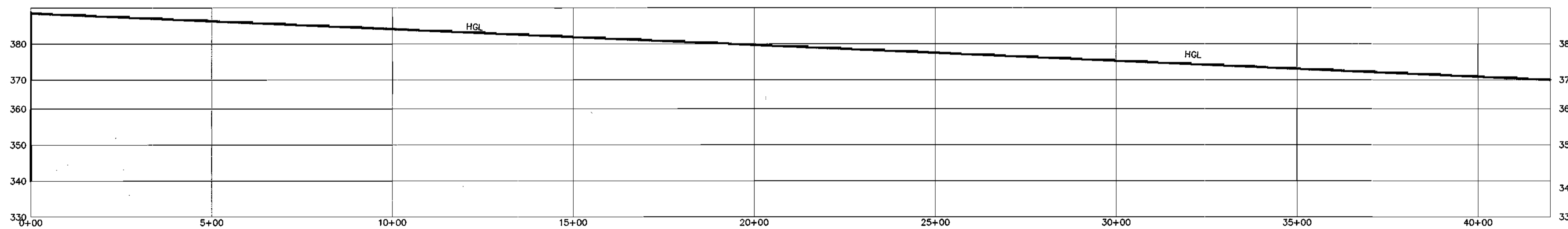
99072\PHASE-1\DWG\MS-PLAN-2.DWG



**8" SEWER FORCE MAIN PROFILE**

SCALE: HOR: 1"=50'  
VER: 1"=5'

 DENOTES THE USE OF RESTRAINED JOINTS IN THIS PIPE SEGMENT



**HYDRAULIC GRADE LINE ALONG THE FORCE MAIN**

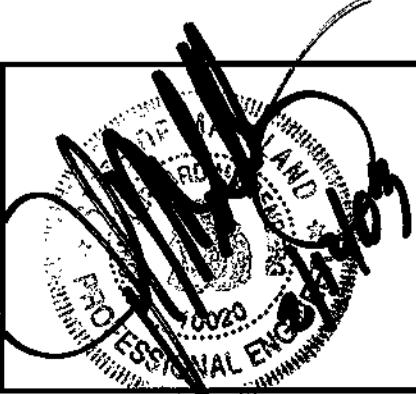
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VER: 1"=20'

98072 PHASE - 1.DWG\MS-PLAN-2.DWG

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*R. J. B...*  
2-21-03  
DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*M. J. ...*  
2/19/03  
DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0286 Balt. (301) 621-5521 Wash. (410) 997-0286 Fax

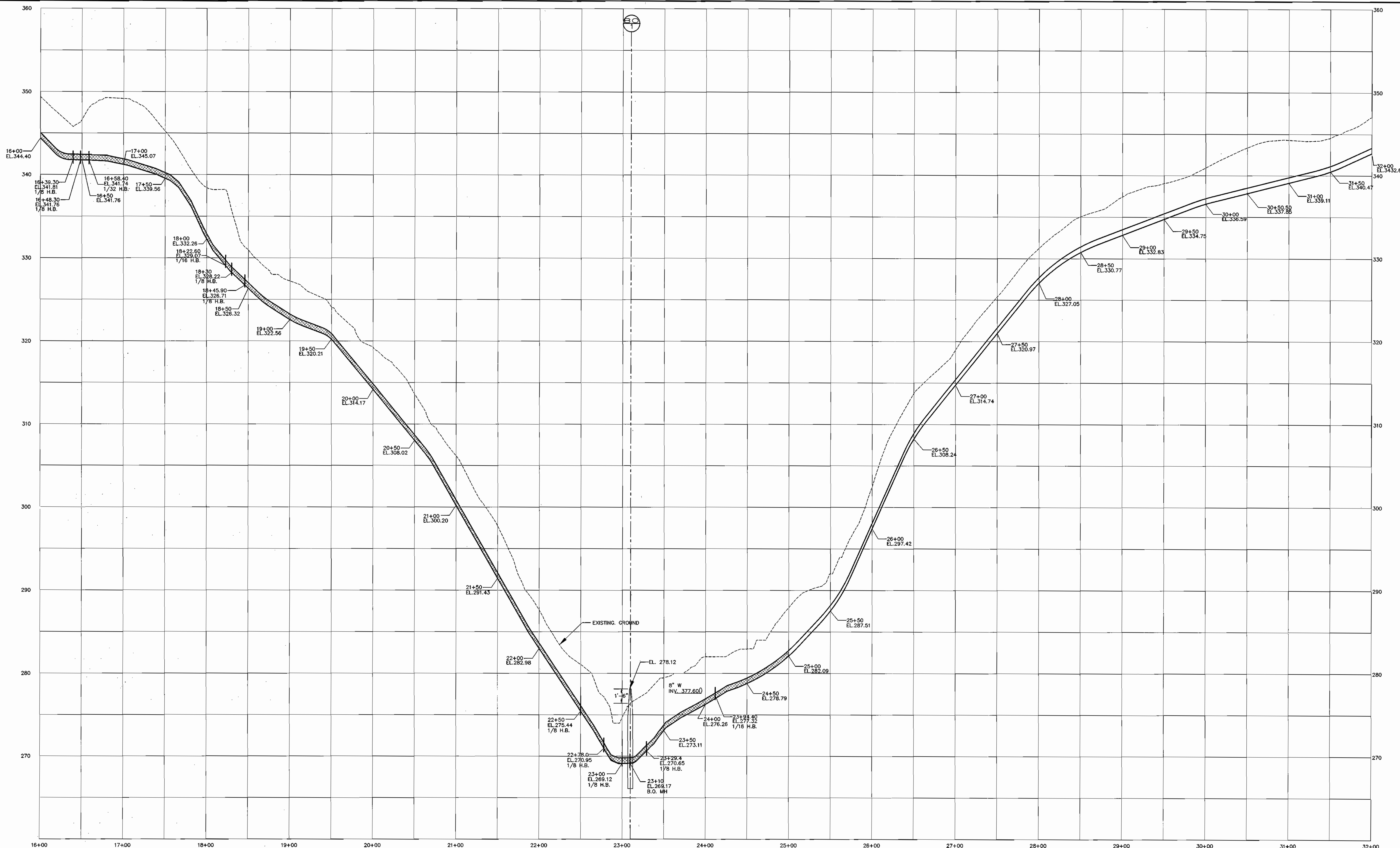


engineering	SAA				
illustration	SAA				
approval	JBM				
project	00+21				
date	FEB. 2003	BY	NO.	REVISION	DATE

**8" FORCE MAIN PROFILE**  
600' SCALE MAP NO. 31 BLOCK NO. 3 & 4

**COLLEGE AVE. PUMP STATION  
8" SEWER FORCE MAIN**  
CONTRACT # 10-3975-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY

scale  
1"=50'  
4 OF 9



**8" SEWER FORCE MAIN PROFILE**

SCALE: HOR: 1"=50'  
VER: 1"=5'

■ DENOTES THE USE OF RESTRAINED JOINTS IN THIS PIPE SEGMENT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*R. L. ...* 2-21-03  
CHIEF, BUREAU OF UTILITIES DATE

*...* 2/17/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors

5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21043  
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax

*[Signature]*

engineering	SAA			
illustration	SAA			
approval	JBM			
project	00-021			
date	FEB. 2003	BY	NO.	REVISION

**8" FORCE MAIN PROFILE**

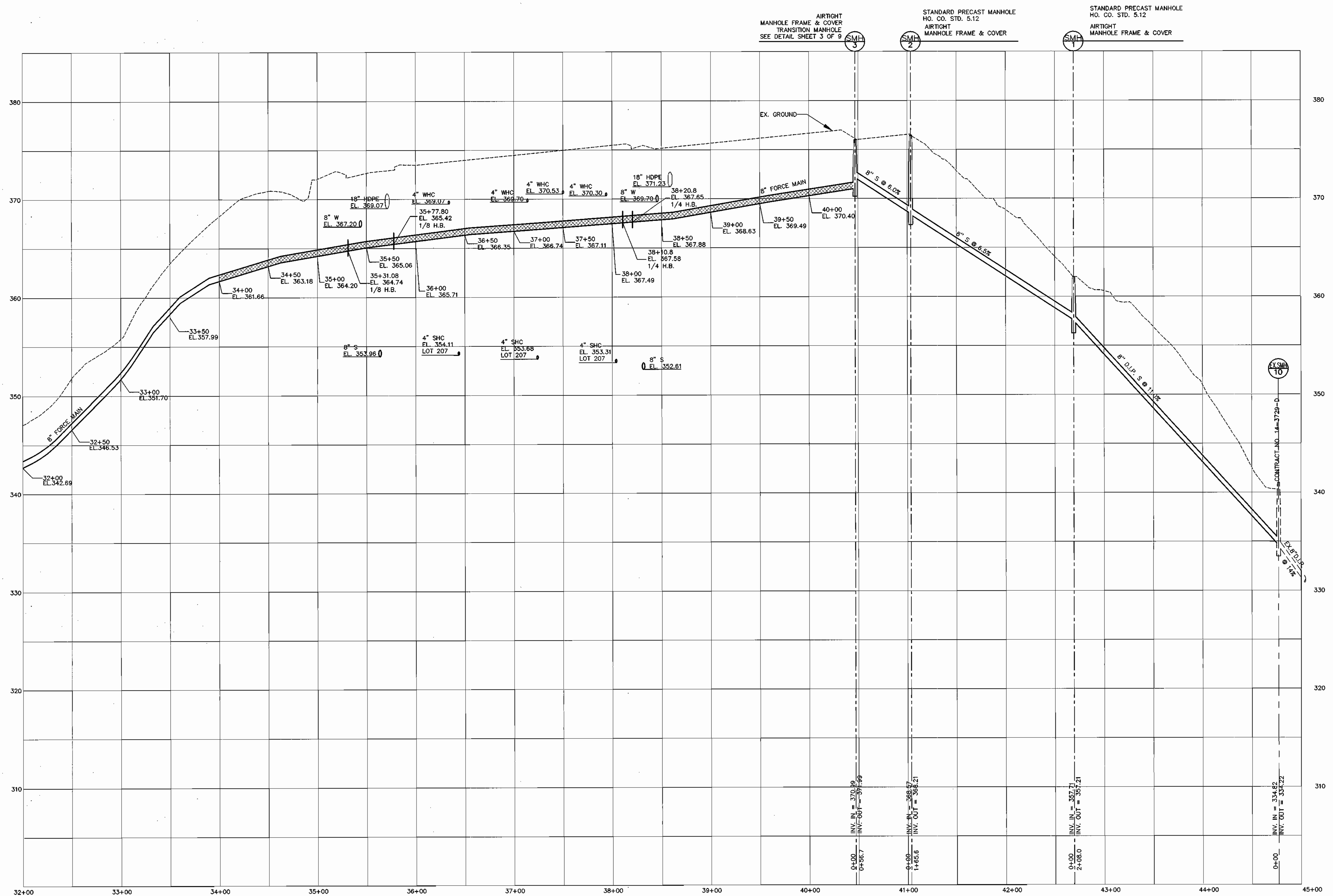
600' SCALE MAP NO. 31 BLOCK NO. 3 & 4

**COLLEGE AVENUE PUMP STATION FORCE MAIN**

CONTRACT # 10-3975-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY

scale 1"=50'  
5 OF 9

99072\PHASE-1\DWG\MS\MS-PLAN-2.DWG



**8" SEWER FORCE MAIN PROFILE**

SCALE: HOR: 1"=50'  
VER: 1"=5'

DENOTES THE USE OF RESTRAINED JOINTS IN THIS PIPE SEGMENT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*R. H. ...*  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

*M. ...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**MILDENBERG,  
BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Pz.

*[Handwritten Signature]*

engineering	SAA				
illustration	SAA				
approval	JBM				
project	00-021				
date	FEB. 2003	BY	NO.	REVISION	DATE

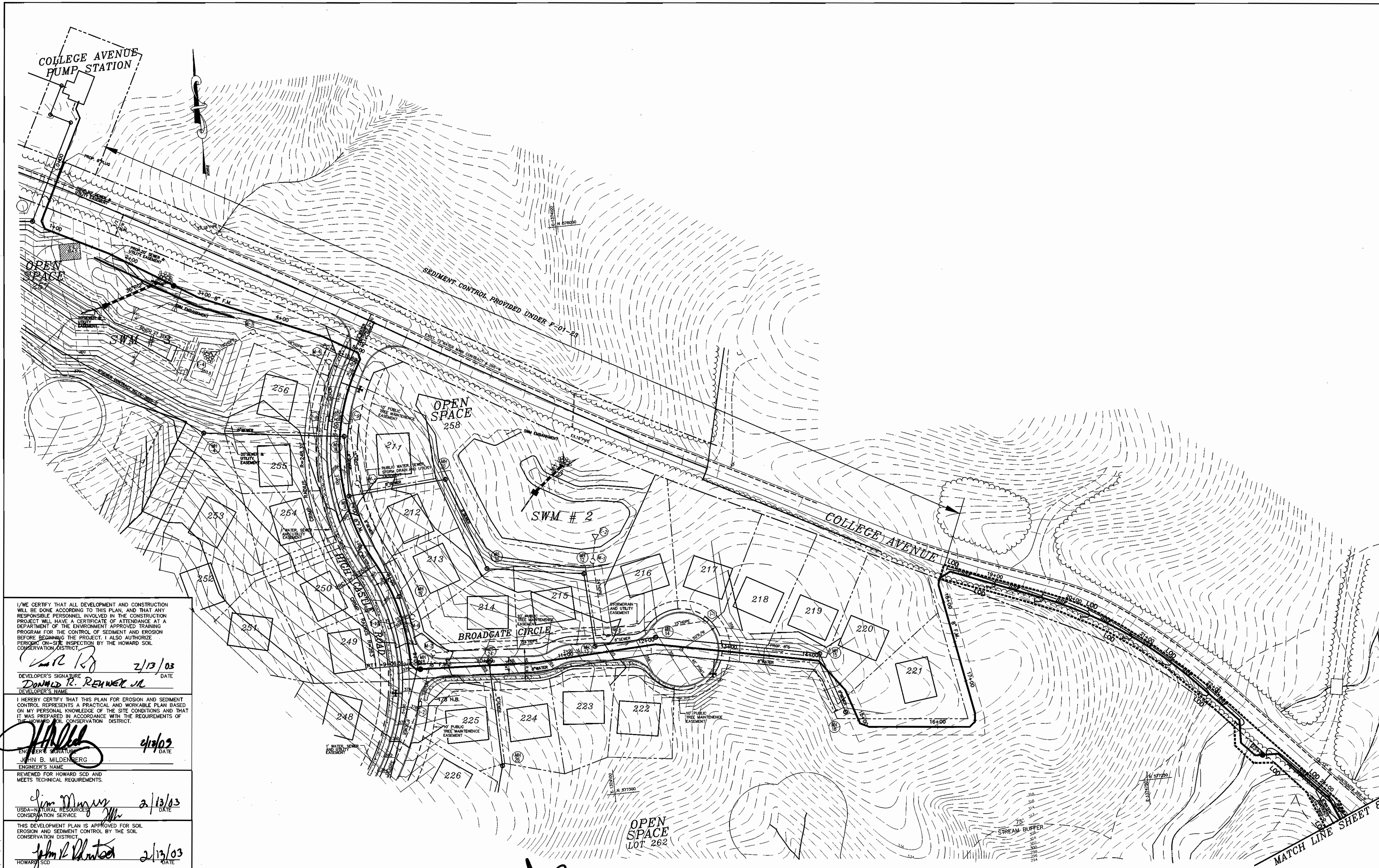
**8" FORCE MAIN  
PROFILE**

60' SCALE MAP NO. 31 BLOCK NO. 3 & 4

**COLLEGE AVENUE PUMP STATION  
FORCE MAIN**  
CONTRACT # 10-3975-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY

scale  
1"=50'  
**6 OF 9**

89021\PHASE-1\DWG\WS-PLAN-2.DWG



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.

*DR* 2/13/03  
 DEVELOPER'S SIGNATURE DATE  
**DONALD R. REHWER, JR.**  
 DEVELOPER'S NAME

*JBM* 4/13/03  
 ENGINEER'S SIGNATURE DATE  
**JOHN B. MILDENBERG**  
 ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 2/13/03  
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John R. Hunter* 2/13/03  
 HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John R. Hunter* 2-21-03  
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

*John B. Mildenberg* 2/13/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21043  
 (410) 997-0286 Balt. (301) 821-5521 Wash. (410) 997-0288 Pa.

*JBM*  
 PROFESSIONAL ENGINEER  
 100221

engineering	SAA				
illustration	SAA				
approval	JBM				
project	00-021				
date	MAR. 2002	BY	NO.	REVISION	DATE

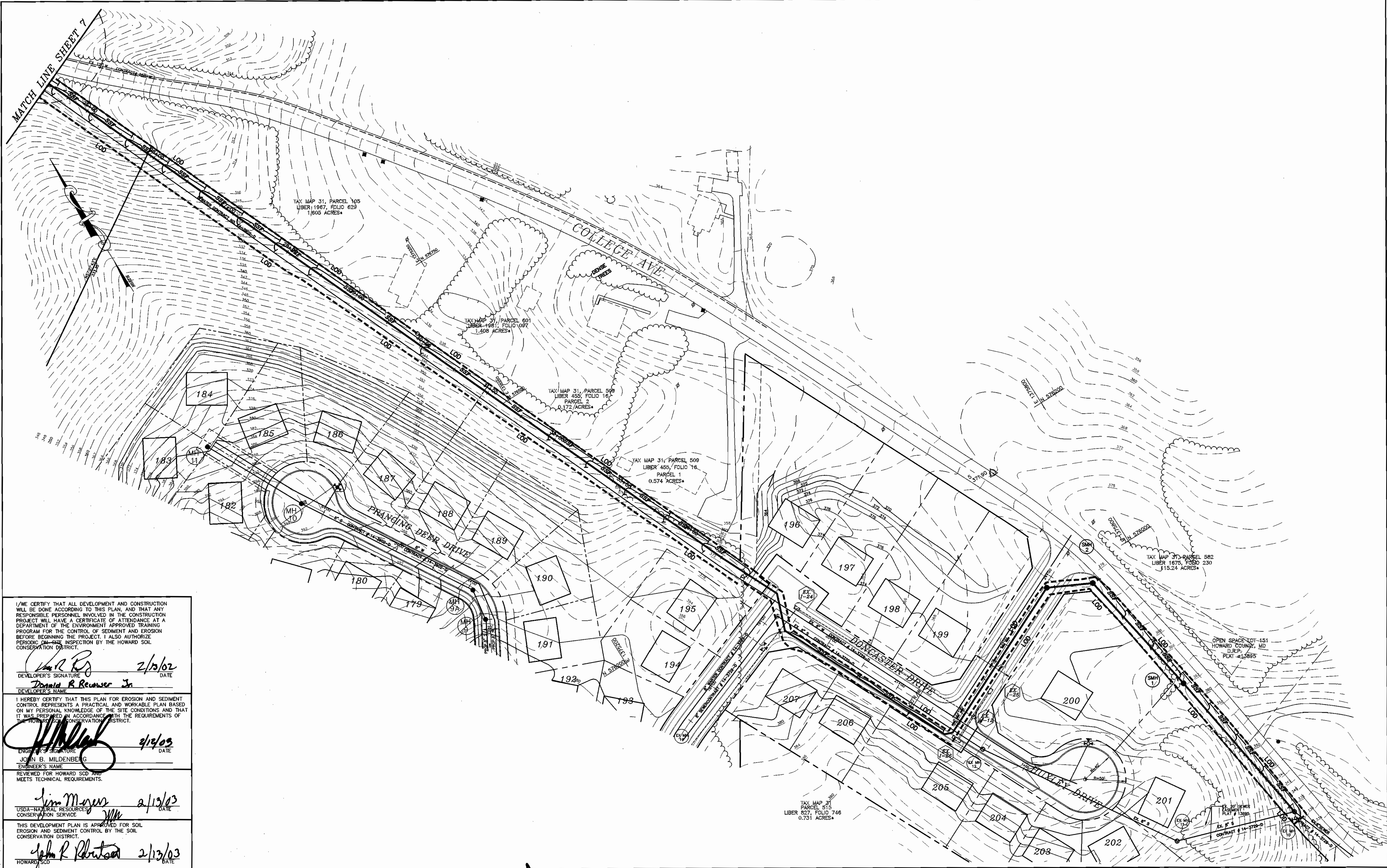
**SEDIMENT CONTROL PLAN**

600' SCALE MAP NO. 31 BLOCK NO. 3 & 4

**COLLEGE AVENUE PUMP STATION FORCE MAIN**  
 CONTRACT # 10-3975-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY

scale  
 1"=50'  
 7 OF 9

990721PHASE-1, UMG, VMS-PLAN-2.DWG



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.

*Donald B. Reuser Jr.* 2/13/02  
 DEVELOPER'S SIGNATURE DATE  
 DONALD B. REUSER JR.  
 DEVELOPER'S NAME

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.

*John B. Mildenberg* 2/13/03  
 ENGINEER'S SIGNATURE DATE  
 JOHN B. MILDENBERG  
 ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Myers* 2/13/03  
 USDA-NATURAL RESOURCES SERVICE  
 CONSERVATION SERVICE

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

*John R. Brantson* 2/13/03  
 HOWARD SCD

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND

*Rita Brantson* 2-21-03  
 CHIEF, BUREAU OF UTILITIES DATE

*John Brantson* 2/13/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21142  
 (410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0296 Fax.

engineering	SAA			
illustration	SAA			
approval	JBM			
project	00-021			
date	FEB. 2003	BY	NO.	REVISION

**SEDIMENT CONTROL PLAN**

DATE 600' SCALE MAP NO. 31 BLOCK NO. 3 & 4

**COLLEGE AVENUE PUMP STATION FORCE MAIN**  
 CONTRACT # 10-3975-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY

scale  
 1"=50'  
 8 OF 9

99072 PHASE-1 (DMS) W/S V/S-PLAN-2.DWG



**HOWARD SOIL CONSERVATION DISTRICT**

**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:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK 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 (.05 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 OF 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 (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, 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 OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 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 (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

**STANDARD 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. (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 14 DAYS 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.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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:	2.00 ACRES
AREA DISTURBED:	2.00 ACRES
AREA TO BE ROOFED OR PAVED:	0.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	2.00 ACRES
TOTAL CUT:	N/A CU. YDS.
TOTAL FILL:	N/A CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	N/A

THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITY MEASUREMENTS.

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL 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 DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION 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 CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

**STANDARD 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 VEGETATIVE 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**

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
  - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
  - 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.
  - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
  - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- 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.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. 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.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
  - 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 SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF COM-TRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
  - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
  - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 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.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
  - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
  - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
    - PH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
    - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
    - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
    - NO SOD 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 (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC 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.

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- TOPSOIL APPLICATION
  - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
  - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
  - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SOODING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
  - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
  - COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
    - COMPOSTED SLUDGE SHALL BE SUPPLIED BY OR ORIGINATE FROM A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
    - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOURUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
    - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
  - COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

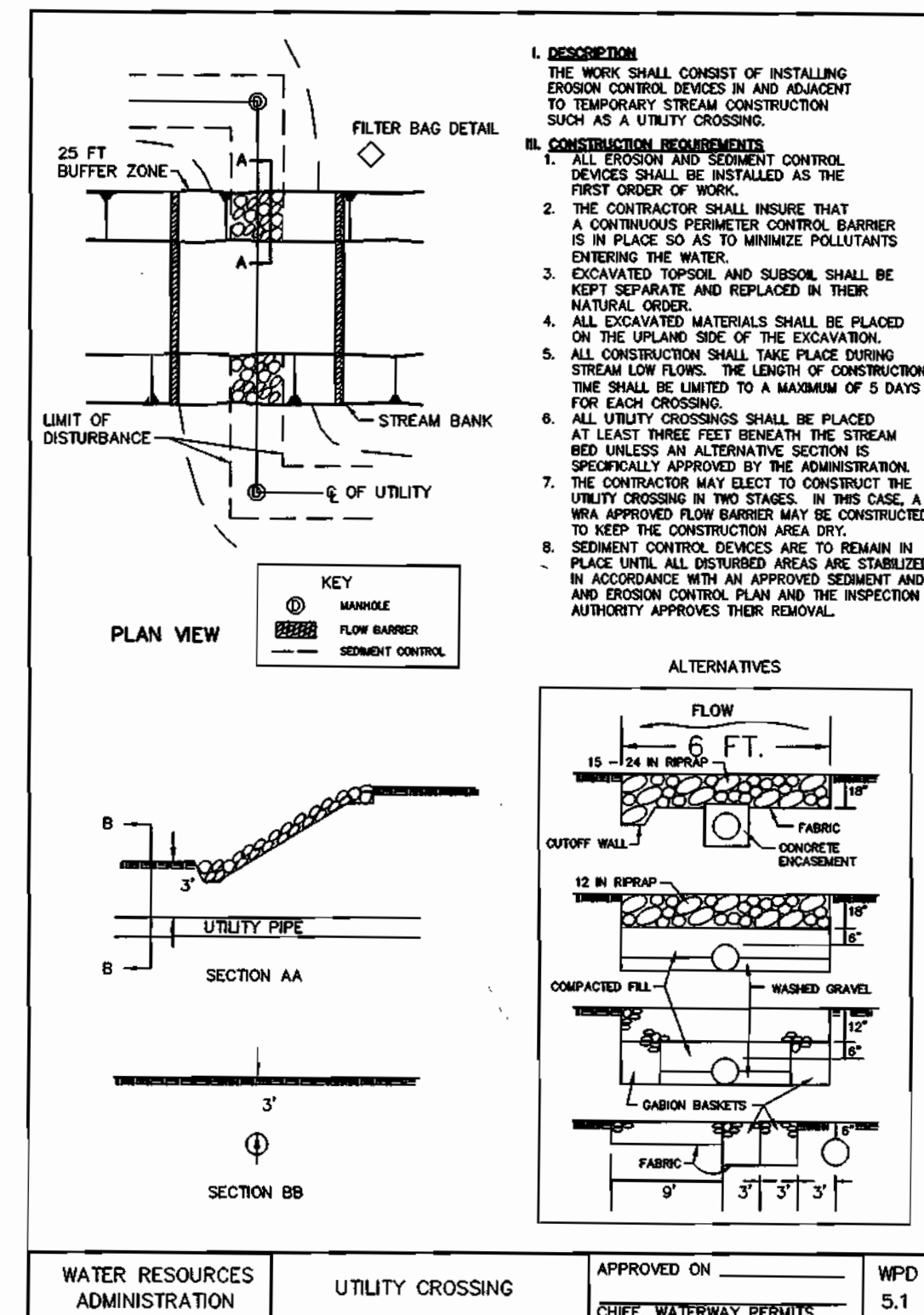
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SOODING. MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT. (1 DAY)
- FOR WATER AND SEWER CONSTRUCTION ALL WORK SHALL CONFORM TO THE FOLLOWING:
  - CLEAR AND GRUB FOR SILT FENCES. (2 DAYS)
  - INSTALL SILT FENCES AS INDICATED. (3 DAYS)
  - EXCAVATION SHALL BE LIMITED TO THE AMOUNT OF TRENCH WHICH CAN BE COMPLETED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
  - REPAIR AND/OR REPLACE ANY DISTURBED SILT FENCES AT END OF EACH WORKING DAY.
- CROSSING OF STREAM AT FORCE MAIN STATION 22+95 +/- SHALL CONFORM TO THE FOLLOWING:
  - TEMPORARILY SANDBAG STREAM AND PUMP AROUND CONSTRUCTION AREA.
  - CONSTRUCT FORCE MAIN ACROSS STREAM AREA AND BACKFILL TRENCH.
  - STABILIZE TRENCH AREA.
  - REMOVE SANDBAG DIVERSION.
  - ALL WORK ASSOCIATED WITH STREAM CROSSING MUST BE COMPLETED WITHIN ONE WORKING DAY.
  - ALL WORK ASSOCIATED WITH STREAM CROSSING MUST BE COMPLETED IN ACCORDANCE WITH APPLICABLE MDE PERMITS.
- UPON STABILIZATION OF AREA, AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS.

**EROSION AND SEDIMENT CONTROL NOTES**

- ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
- ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
- EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
- IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
- THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
- ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



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.

DEVELOPER'S SIGNATURE: *Donald R. Revisor Jr* DATE: 2/13/03

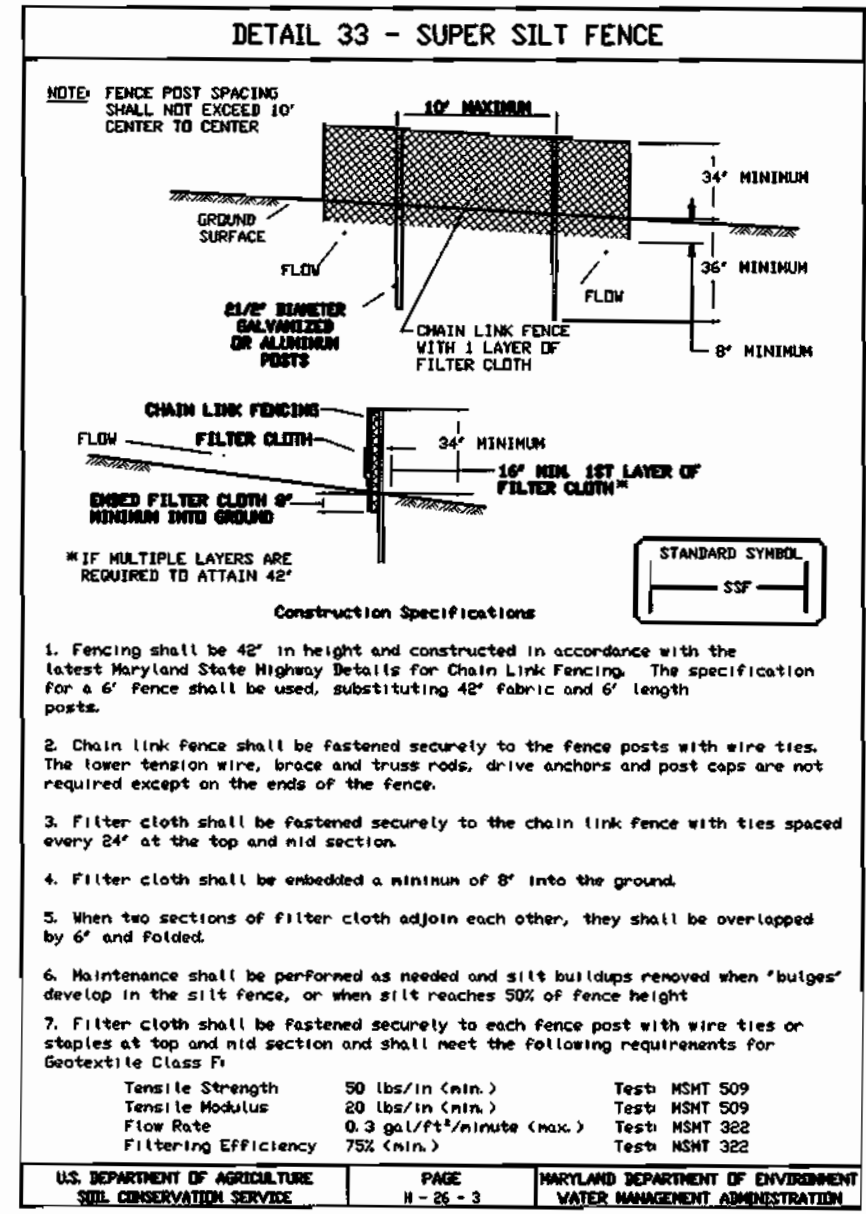
ENGINEER'S SIGNATURE: *John B. Mildenberg* DATE: 2/13/03

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE: *Jim Murray* DATE: 2/13/03

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

HOWARD SCD: *John R. Hartson* DATE: 2/13/03



**SUPER SILT FENCE**

Design Criteria

Slope	Slope Steepness	Slope Length (Maximum)	Silt Fence Length (Maximum)
0 - 10%	0 - 1:1	Unlimited	Unlimited
10 - 20%	1:1 - 1.5:1	200 Feet	1,500 Feet
20 - 30%	1.5:1 - 2:1	100 Feet	1,000 Feet
30 - 50%	2:1 - 3:1	100 Feet	500 Feet
50% +	3:1 +	50 Feet	250 Feet

Construction Specifications

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 4' fence shall be used, substituting 42" fabric and 4' length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 36" at the top and mid section.
- Filter cloth shall be embedded a minimum of 6" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bumps" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth 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 MDT 509
Tensile Modulus	80 lbs/in (min.)	Test MDT 509
Flow Rate	0.2 g/30s/15cm (max.)	Test MDT 302
Filtering Efficiency	75% (min.)	Test MDT 302

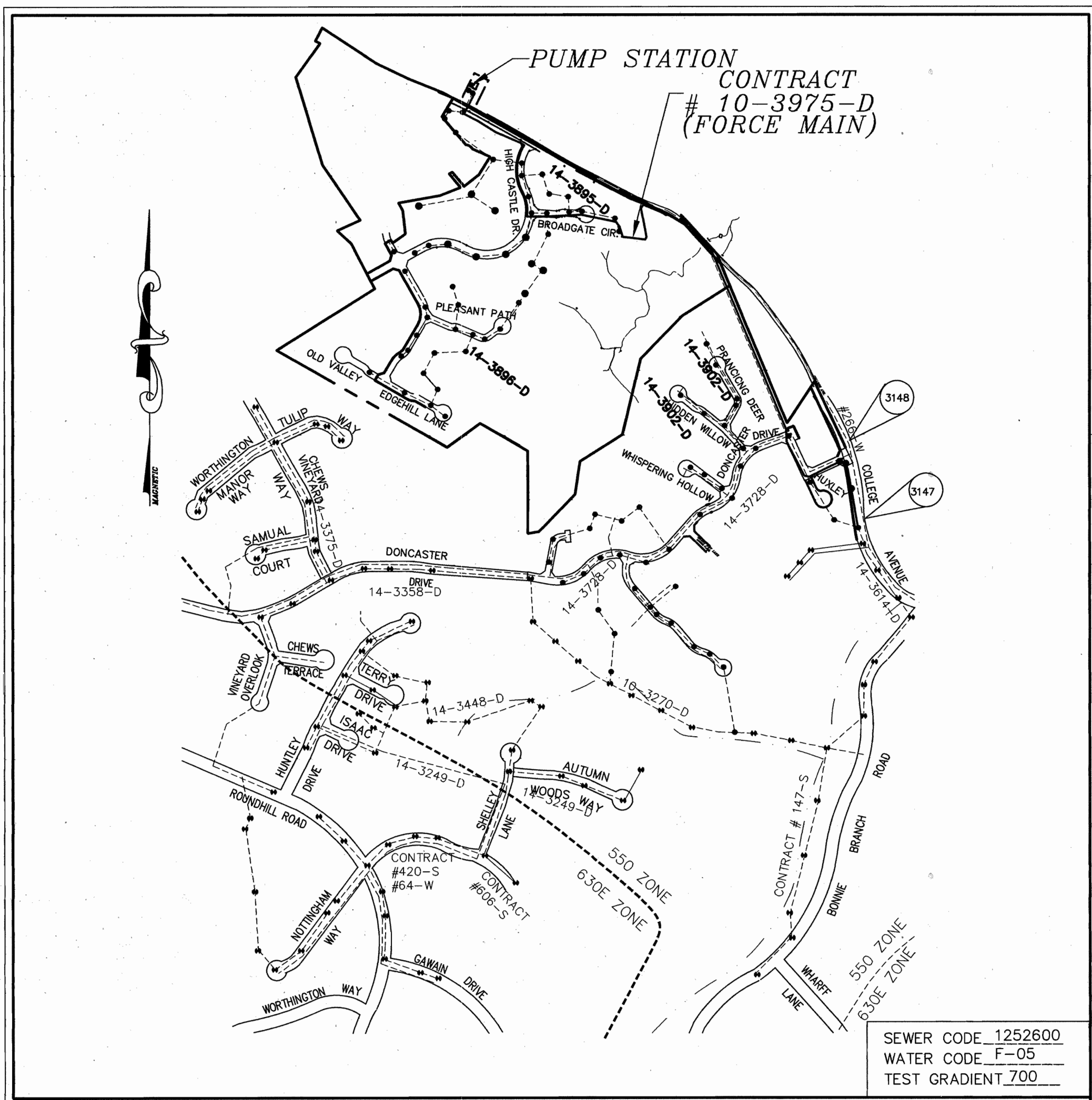
US DEPARTMENT OF AGRICULTURE, NATIONAL SERVICE, PAGE 1-25-3, MARYLAND DEPARTMENT OF ENVIRONMENT AND GENERAL SERVICES, WATER MANAGEMENT ADMINISTRATION, PAGE 1-25-3

00-021.DWG (WS FORCEMAIN WS - SEDIM)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND	<b>MILDENBERG, BOENDER &amp; ASSOC., INC.</b> Engineers Planners Surveyors 5072 Dorsey Hill Drive, Suite 202, Elkridge City, Maryland 21042 (410) 897-0286 Fax. (301) 821-5521 Wash. (410) 897-0286 Fax.	engineering M.P. illustration M.P. approval J.M. project 00-021 date MAR. 2002	BY NO. REVISION	DATE	600' SCALE MAP NO. 31	BLOCK NO. 3 & 4	<b>SEDIMENT CONTROL</b>	<b>COLLEGE AVENUE PUMP STATION</b>	scale 1"=50'
<i>R. B. ...</i> 2-21-03 CHIEF, BUREAU OF UTILITIES	<i>John R. Hartson</i> 2/13/03 CHIEF, DEVELOPMENT ENGINEERING DIVISION							<b>NOTES AND DETAILS</b>	<b>FORCE MAIN</b>	9 of 9
									CONTRACT # 10-3975-D	
									SECOND ELECTION DISTRICT	
									HOWARD COUNTY	

**QUANTITY TABLE**

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" D.I.P. FORCE MAIN	4,045 L.F.	4194	DIP	GRIFFIN BELAIR RD.
1/32 H.B. (8")	2 EACH	1		J.M. MANUF "
1/16 H.B. (8")	3 EACH	3		" "
1/8 H.B. (8")	21 EACH	20		" "
AIR RELEASE MANHOLE	1 EACH	1EA	PRECAST	ATLANTIC "
BLOW OFF MANHOLE	2 EACH	2EA	"	" "
8" DIP SEWER MAIN	208 L.F.	204	DIP	GRIFFIN "
8" PVC SEWER MAIN	222 L.F.	215	PVC	J.M. MANUF. "
STD MH (AIR TIGHT COVER)	2 EACH	2 EA		EAST JORDAN "
TRANSITION MANHOLE (AIR TIGHT COVER)	1 EACH	1 EA		" "
NAME OF UTILITY CONTRACTOR: C.C.S.				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE 04/04				



**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.
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3147 AND 3148.  
STA. 1347 N575598.0794, E1375801.7684, EL=335.987  
STA. 3148 N576015.4313, E1375770.4364, EL=379.248
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL 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:  
STATE HIGHWAY ADMINISTRATION (410) 531-5533  
BG & E CO. CONTRACTOR SERVICES (410) 850-4620  
BG & E CO. UNDERGROUND DAMAGE CONTROL (410) 787-9068  
MISS UTILITY 1-800-257-7777  
COLONIAL PIPELINE CO. (410) 795-1390  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES (410) 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED OUTSIDE 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) 313-2450 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 18.114(a) OF HOWARD COUNTY CODE.
- ALL FORCE MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- STATIONING SHOWN IS FORCE MAIN AND CENTER LINE STATIONING.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- STORM DRAIN, WATER & SEWER SYSTEMS INDICATED FOR INFORMATIONAL PURPOSES ONLY, SEE ROAD PLANS FOR CONSTRUCTION DATA.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.
- TOPS OF ALL FORCE MAINS TO HAVE 3-1/2" COVER UNLESS OTHERWISE INDICATED.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED ON THE DRAWINGS.
- USE US PIPE FIELD LOK GASKETS OR MEGALUG FOR PIPE JOINT RESTRAINTS ON THE FOLLOWING PIPE SEGMENTS:  
STA. 0+00 - 25+00  
STA. 34+00 - 40+45

**VICINITY MAP**

SCALE: 1"=600'

DRAINAGE AREA BONNIE BRANCH, PATAPSCO  
TREATMENT PLANT PATAPSCO WASTEWATER  
TREATMENT PLANT, BALTIMORE

**CONTRACT NO.: 10-3975-D**  
**COLLEGE AVENUE PUMP STATION**  
**FORCE MAIN**  
**HOWARD COUNTY, MARYLAND**  
**DEPARTMENT OF PUBLIC WORKS**

**INDEX OF DRAWINGS**

NO.	DESCRIPTION
1	TITLE SHEET
2	FORCE MAIN PLAN
3	FORCE MAIN PLAN
4	FORCE MAIN PROFILE
5	FORCE MAIN PROFILE
6	FORCE MAIN PROFILE
7	SEDIMENT CONTROL PLAN
8	SEDIMENT CONTROL PLAN
9	SEDIMENT CONTROL NOTES AND DETAILS

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.

DEVELOPER'S SIGNATURE DATE 2/13/03  
**DAVID R. REUTER JR.**  
 DEVELOPER'S NAME

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.

ENGINEER'S SIGNATURE DATE 2/13/03  
**JOHN B. MILDENBERG**  
 ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USA NATURAL RESOURCES CONSERVATION SERVICE DATE 2/13/03

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

HOWARD SCD DATE 2/13/03

PLAN REFERENCE NUMBERS  
F-01-15  
F-01-23

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dersy Hall Drive, Suite 202, Ellicott City, Maryland 21122  
 (410) 997-0296 Bal. (301) 621-5521 Wash. (410) 997-0288 Md.

engineering	SAA			
illustration	SAA			
approval	JBM			
project	0021	KCI	1	ASBUILT DATA ADDED TO PLAN (ALL SHEETS)
date	FEB. 2003	BY	NO.	REVISION

8" FORCE MAIN  
TITLE SHEET

COLLEGE AVENUE PUMP STATION  
FORCE MAIN

CONTRACT NO.: 10-3975-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY

scale  
NTS  
1 OF 9

0021.DWG W5.FINAL 10021-SF.DWG