

**QUANTITIES TABLE**

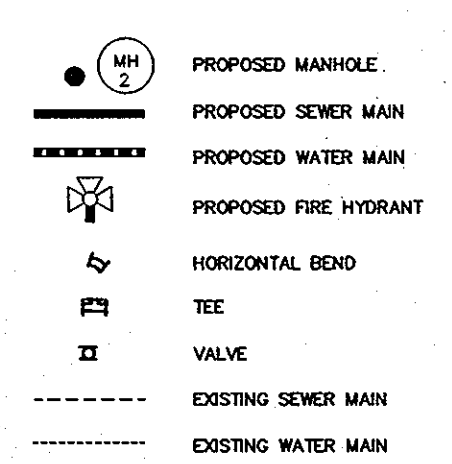
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
STANDARD MH (HO. CO. STD.G-5.12)	9 EACH	9	SMH	ATLANTIC CONC. PRODUCTS, INC.
8" SEWER MAIN	1,230 L.F.	1,196 L.F.	PVC	NORTH AMERICAN PIPE
4" SEWER HOUSE CONNECTION	400 L.F.	385 L.F.	PVC	NORTH AMERICAN PIPE
# 4" SEWER HOUSE CONNECTIONS	15 EACH	15		MULTI FITTINGS
8" WATER MAIN	1,300 L.F.	1,290 L.F.		ATLANTIC CONC. PRODUCTS, INC.
1" WATER HOUSE CONNECTION	340 L.F.	337 L.F.		MUELLER CO.
# 1" WATER HOUSE CONNECTIONS	15 EACH	15		DFW PLASTICS
4" CAP & BUTTRESS	1 EACH	1		TYLER/UNION FOUNDRY
8" x 12" TAPPING SLEEVE & VALVE	1 EACH	1		SMITH BLAIR
8" x 6" FHT & VALVE	2 EACH	2		MUELLER CO.
FIRE HYDRANT	2 EACH	2	FH	MUELLER CO.
1/8 HORIZONTAL BEND	3 EACH	3		TYLER/UNION FOUNDRY
1/16 HORIZONTAL BEND	5 EACH	5		TYLER/UNION FOUNDRY
8x4 REDUCER	1 EACH	1		TYLER/UNION FOUNDRY
8" VALVE	1 EACH	1		MUELLER CO.
3" BLOWOFF	1 EACH	1		KUPFERLE FOUNDRY
NAME OF UTILITY CONTRACTOR: C.C.S.				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				

**EROSION AND SEDIMENT CONTROL PROVIDED UNDER F-10-042**

**INDEX OF DRAWINGS**

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER & SEWER PLAN
3	WATER PROFILE
4	SEWER PROFILE

**LEGEND**



**OWNER/DEVELOPER**

BONNIE BRANCH WOODS DEVELOPMENT INC.  
C/O MILDENBERG, BOENDER AND ASSOC., INC.  
6800 DEERPATH ROAD, SUITE 150  
ELKBRIDGE, MARYLAND 21075  
410-997-0296

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.

*Michelle K. Peterson* 3/3/10  
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.

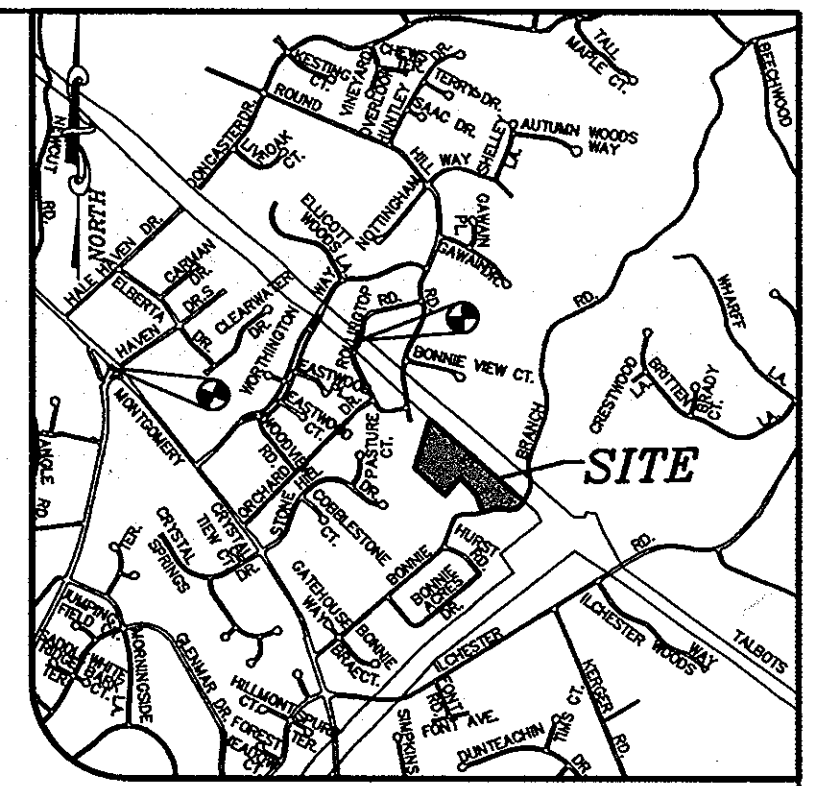
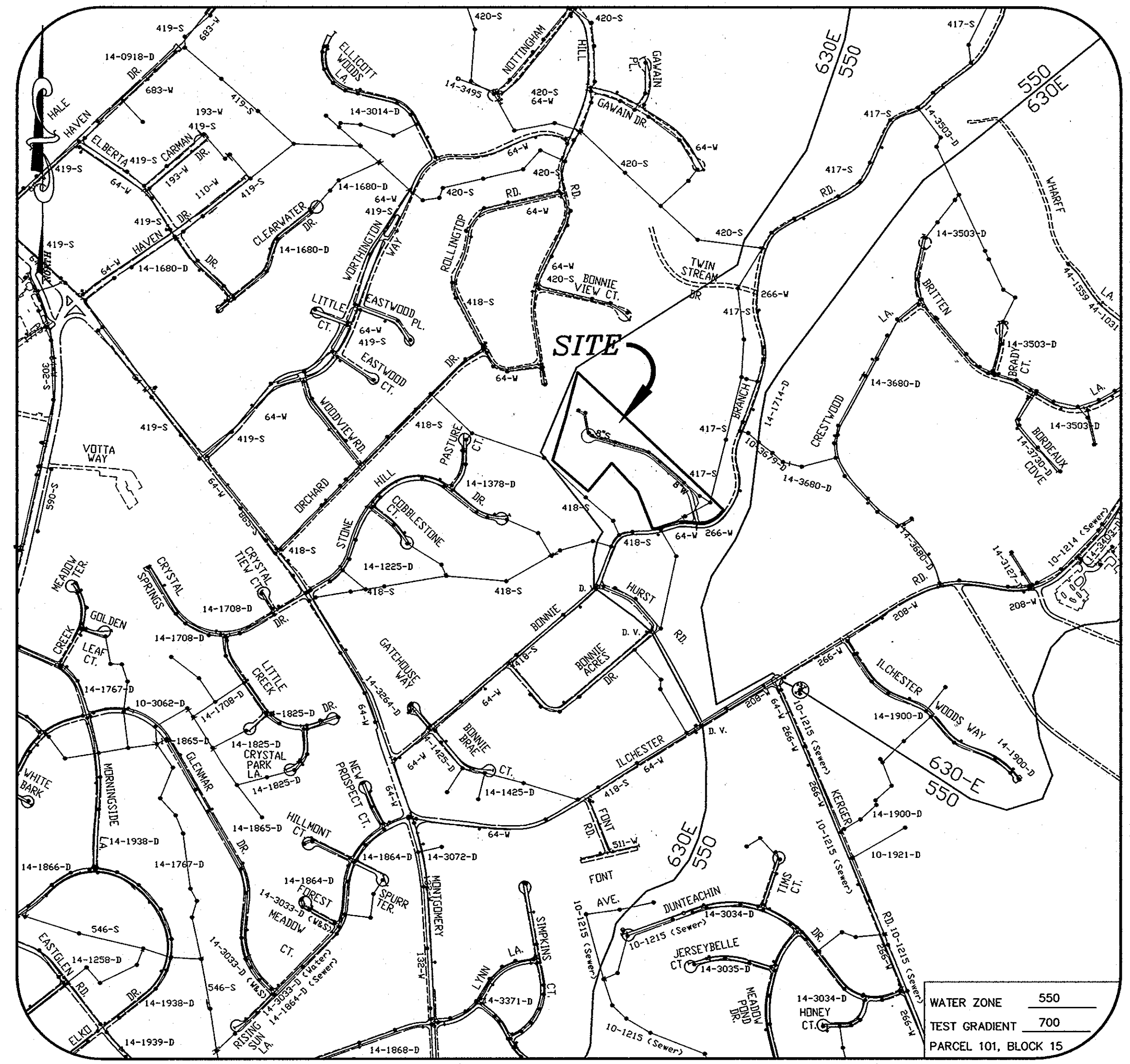
*R. Jacob Hikmat* 3/10/10  
ENGINEER'S SIGNATURE DATE

R. JACOB HIKMAT  
ENGINEER'S NAME

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

*Shahid S. Khan* 4/6/10  
HOWARD SCD DATE

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. 17942, Exp Date 9/3/10



**VICINITY MAP**  
1" = 2000'  
ADC MAP 4936 (D4)

**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 IN JUNE 2008 BY WINGS AERIAL MAPPING, SUPPLEMENTED BY TOPOGRAPHIC SURVEY PERFORMED BY MILDENBERG & ASSOCIATES IN JUNE 2008.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 31D4 AND NO. 31D4. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS SHOWN ON THE DRAWINGS ARE HO.CO. GEODETIC CONTROL STA. 31D4 & 31D4.  
STA. No. 31D4 N 571,700.6512 E 1,369,606.3601 ELEV. 494.495  
STA. No. 31D4 N 571,982.6579 E 1,372,145.0738 ELEV. 481.637
- 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 THE 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 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.
- THE 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  
BGE(CONSTRUCTION SERVICES).....410-850-4620  
BGE(EMERGENCY).....410-685-1400  
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.
- 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(a) OF THE HOWARD COUNTY CODE.
- WETLANDS EXIST ON SITE. MDE TRACKING # 09-NI-0388/200963462.

**LOCATION MAP**

SCALE : 1" = 600'  
ADC MAP 4936 (D4)

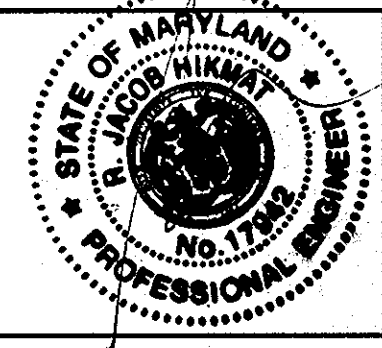
TYPE OF BUILDING	SFD
NO. OF UNITS	15
NO. OF WATER HOUSE CONNECTION	15
NO. OF SEWER HOUSE CONNECTIONS	15
DRAINAGE AREA	PATAPSCO
TREATMENT PLANT	PATAPSCO WWTP

**CONTRACT NO.: 14-4594-D**  
**BONNIE BRANCH WOODS**  
**LOTS 1 - 15 & OPEN SPACE LOTS 16 - 22**  
**WATER & SEWER MAIN EXTENSIONS**  
**HOWARD COUNTY, MARYLAND**  
**DEPARTMENT OF PUBLIC WORKS**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Shahid S. Khan* 3/23/10  
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*Michelle K. Peterson* 4/13/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
6800 Deerpath Rd., Suite 150, Elkridge, Maryland 21075  
(410) 997-0296 Ball. (410) 997-0298 Fax.



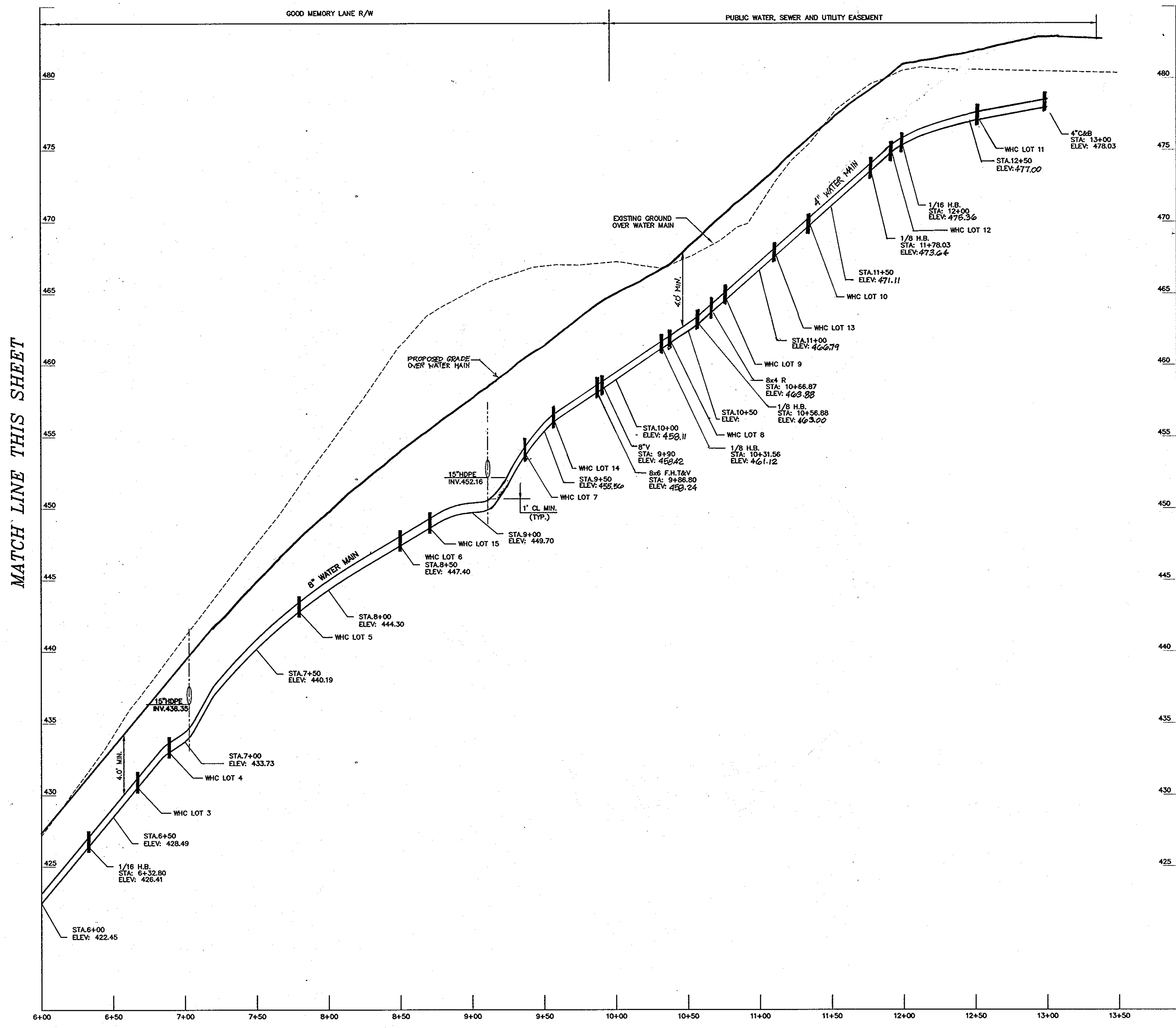
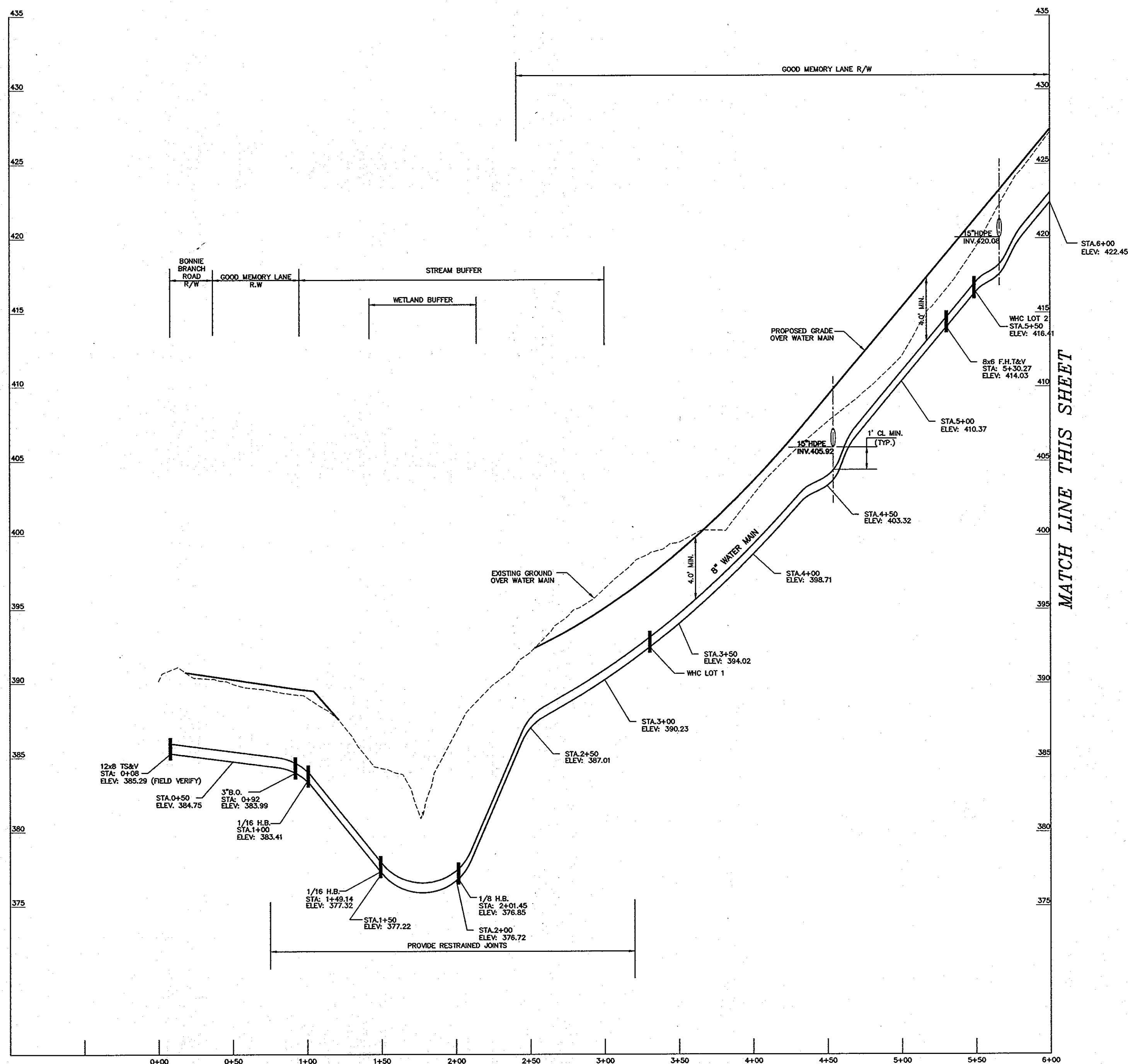
engineering	MMM				
illustration	MMM				
approval	RJH				
project	2008-007	19/01	1	06/11	07/10
date	FEB.2010	BY	NO.	REVISION	DATE

**TITLE SHEET**  
600' SCALE MAP NO. 31 BLOCK NO. 15

**BONNIE BRANCH WOODS**  
**LOTS 1 - 15 & OPEN SPACE LOTS 16 - 22**  
CONTRACT NO. 14-4594-D  
TAX MAP 31 PARCEL 101  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
scale AS SHOWN  
1 of 4







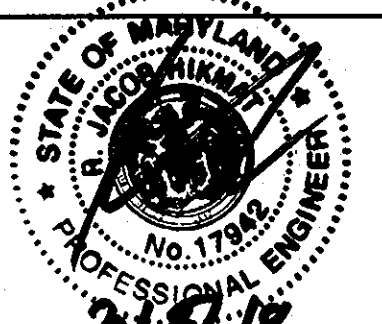
**WATER MAIN TABULATION CHART**

APPURTENANCE	LOCATION	OFFSET
8x8 TS&V	N 507,282.9 E 1,373,683.0	
8" - 1/16 H.B.	GOOD MEMORY LANE STA. 0+85.41	9.85 RT.
3" - B.O.	GOOD MEMORY LANE STA. 0+80.25	8.29 RT.
8" - 1/16 H.B.	GOOD MEMORY LANE STA. 1+29.55	36.84 RT.
8" - 1/8 H.B.	GOOD MEMORY LANE STA. 1+79.38	45.03 RT.
8"x6" F.H.T&V	GOOD MEMORY LANE STA. 4+91.54	5.00 LT.
8" PRESSURE V.	GOOD MEMORY LANE STA. 5+61.52	4.00 LT.
8" - 1/16 H.B.	GOOD MEMORY LANE STA. 5+94.31	0.89 RT.
8"x6" F.H.T&V	GOOD MEMORY LANE STA. 9+48.54	5.00 LT.
8" V	GOOD MEMORY LANE STA. 9+51.54	5.00 LT.
8" - 1/8 H.B.	GOOD MEMORY LANE STA. 9+93.30	5.00 LT.
8" - 1/16 H.B.	N 570,895.3 E 1,372,970.7	
8"x4" R	N 570,905.2 E 1,372,968.9	
4" - 1/8 H.B.	N 571,014.5 E 1,372,948.9	
4" - 1/16 H.B.	N 571,028.0 E 1,372,932.1	
4" - C&B	N 571,062.8 E 1,372,836.9	

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Stephen C. Carr*  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
*Michael J. ...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
6800 Deerpath Rd., Suite 150, Elkridge, Maryland 21075  
(410) 997-0286 Fax (410) 997-0288 Fax



engineering	MMM				
illustration	MMM				
approval	RJH				
project	2008-007	KC1	2	AS-BUILT REVISIONS	06/11
date	FEB.2010	MM	1	REV. FINISHED GRADE AND VERT. ALIGNMENT OF WATER MAIN. CHANGE OWNERS NAME	07/10
BY	NO.			REVISION	DATE

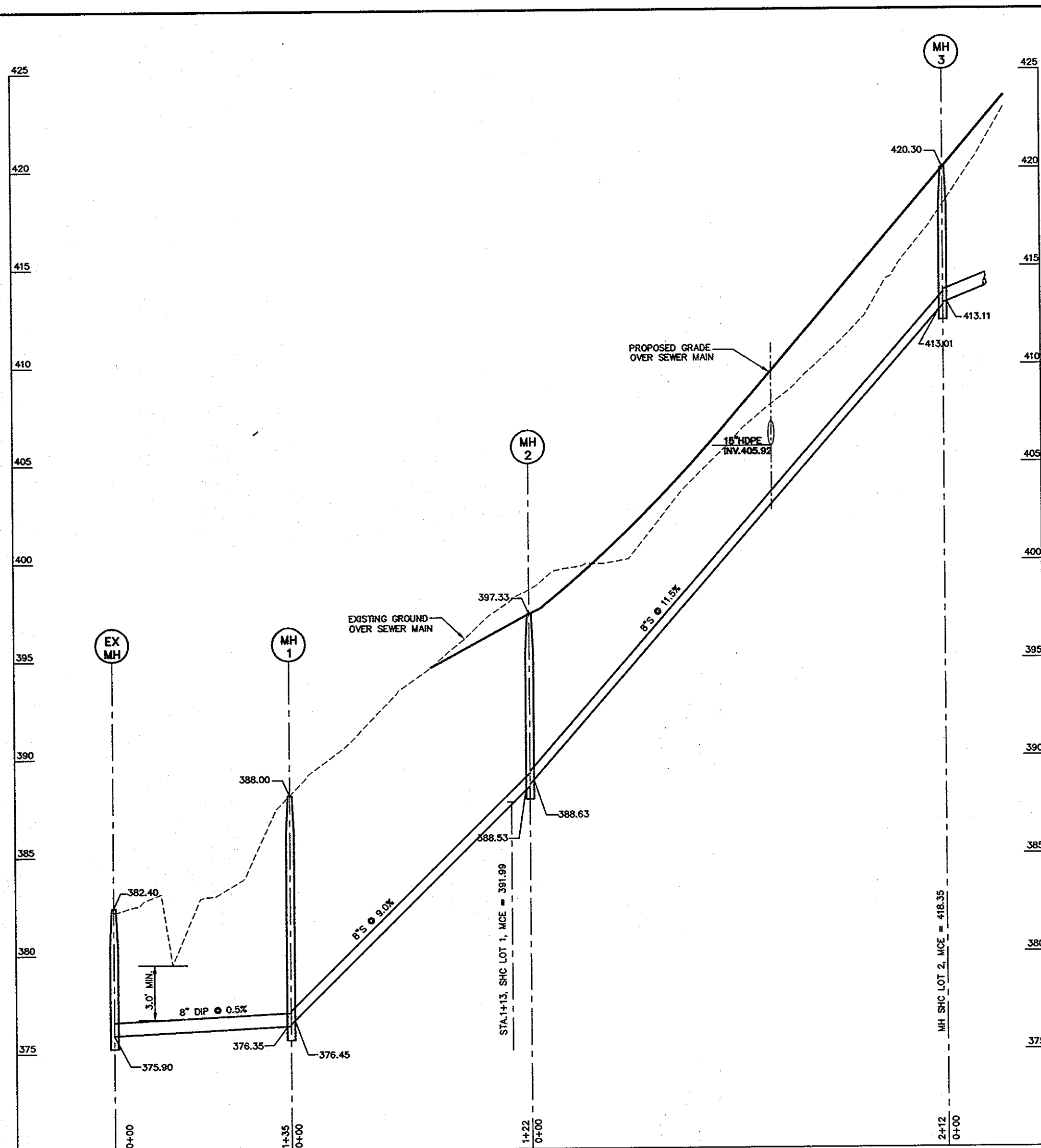
**WATER PROFILE**

600' SCALE MAP NO. 31 BLOCK NO. 15

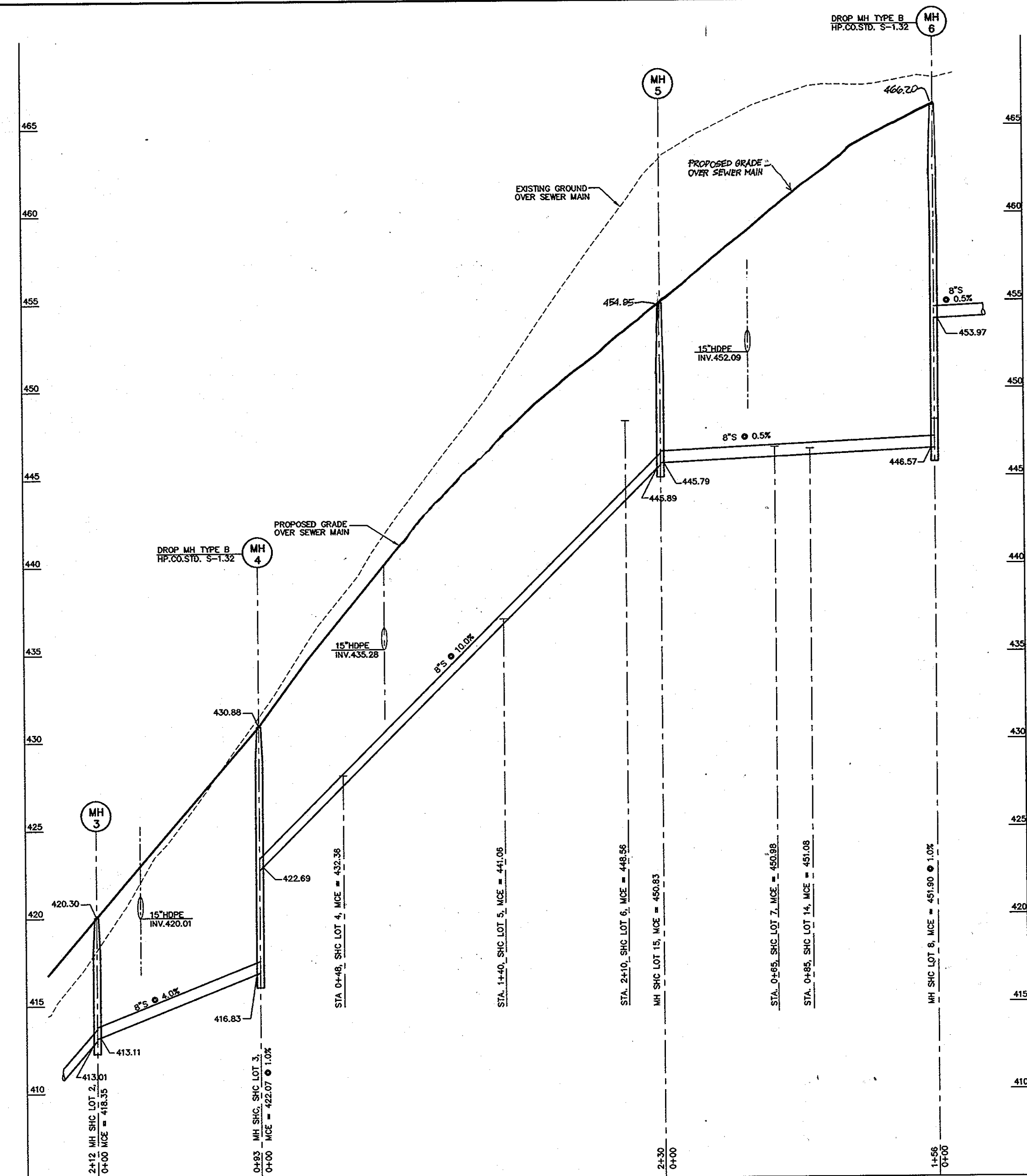
**OWNER/DEVELOPER**  
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6800 DEERPATH ROAD, SUITE 150  
ELKRIDGE, MARYLAND 21075  
410-997-0296

**BONNIE BRANCH WOODS**  
LOTS 1 - 15 & OPEN SPACE LOTS 18 - 22  
CONTRACT NO. 14-4594-D  
TAX MAP 31 PARCEL 101  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

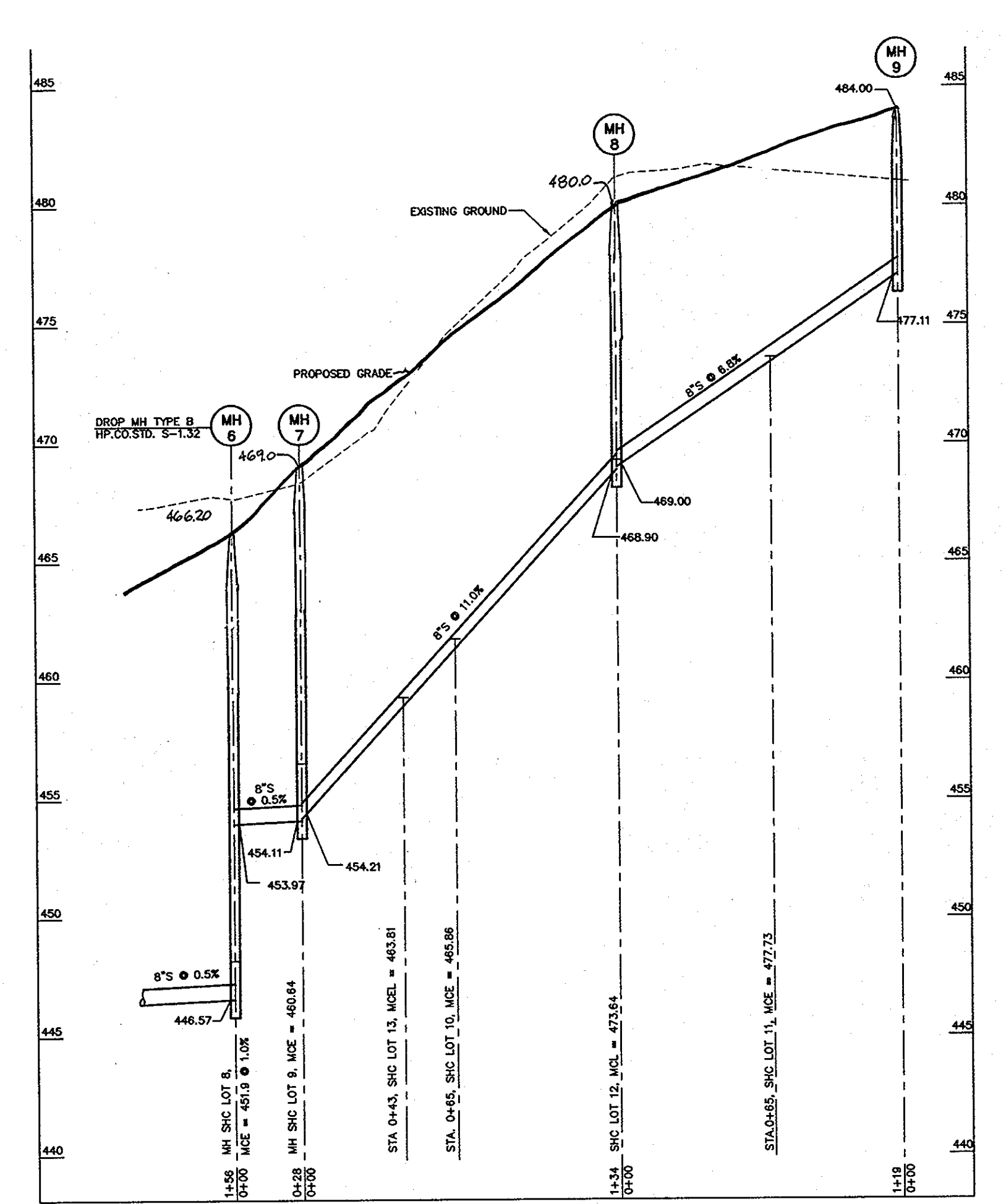




**SEWER PROFILE (EX MH TO MH-3)**  
SCALE: HOR. 1"=50'  
VER. 1"=5'



**SEWER PROFILE (MH-3 TO MH-6)**  
SCALE: HOR. 1"=50'  
VER. 1"=5'



**SEWER PROFILE (MH-6 TO MH-9)**  
SCALE: HOR. 1"=50'  
VER. 1"=5'

SEWER MANHOLES TABULATION CHART		
MANHOLE #	LOCATION	OFFSET
MH 1	N 570,484.9 E 1,373,705.9	
MH 2	GOOD MEMORY LANE STA. 2+91.75	7.58 RT.
MH 3	GOOD MEMORY LANE STA. 5+02.21	5.00 RT.
MH 4	GOOD MEMORY LANE STA. 5+94.00	10.56 RT.
MH 5	GOOD MEMORY LANE STA. 8+22.27	5.00 RT.
MH 6	GOOD MEMORY LANE STA. 9+78.00	5.00 RT.
MH 7	N 570,898.5 E 1,372,980.3	
MH 8	N 571,029.8 E 1,372,356.3	
MH 9	N 571,070.7 E 1,372,844.3	

**EROSION AND SEDIMENT CONTROL NOTES  
FOR UTILITY CONSTRUCTION  
IN ENVIRONMENTALLY SENSITIVE AREAS**

- (WATER AND SEWER CONSTRUCTION PLAN CONTRACT # 14-4594-D)
- ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 202 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.
  - 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 ENSURE 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.

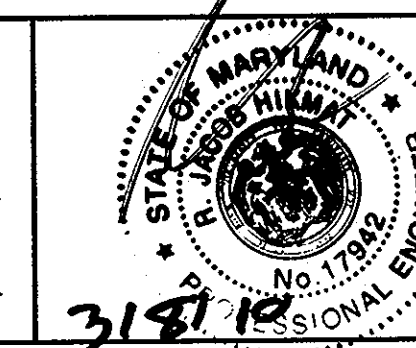
SEWER HOUSE CONNECTION TABLE			
LOT #	% SLOPE	INV. @ R.O.W.	MIN. CELLAR ELEV.
1	2	387.49	391.99
2	2	413.85	418.35
3	1	417.57	422.07
4	2	428.06	432.36
5	2	436.98	441.08
6	2	444.26	448.56
7	2	448.68	450.98
8	2	448.20	451.90
9	1	456.54	460.64
10	2	461.76	435.86
11	2	473.63	477.73
12	2	469.54	473.64
13	2	459.31	463.81
14	2	446.58	451.08
15	2	446.33	450.83

**OWNER/DEVELOPER**  
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ELKRIDGE, MARYLAND 21075  
410-997-0298

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
S. C. ...  
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING  
HOWARD COUNTY, MARYLAND  
...  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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engineering	MMM				
illustration	MMM				
approval	RJH				
project	KC1	2	AS-BUILT REVISIONS	06/11	
date	2008-007		REV. FINISHED GRADE AND TOP OF MH B. CHANGE OWNER'S NAME	07/10	
		BY	NO.	REVISION	DATE

**SEWER PROFILE**  
600' SCALE MAP NO. 31 BLOCK NO. 15

**BONNIE BRANCH WOODS**  
LOTS 1 - 15 & OPEN SPACE LOTS 16 - 22  
CONTRACT NO. 14-4594-D  
TAX MAP 31 PARCEL 101  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

scale  
AS SHOWN  
4 OF 4