

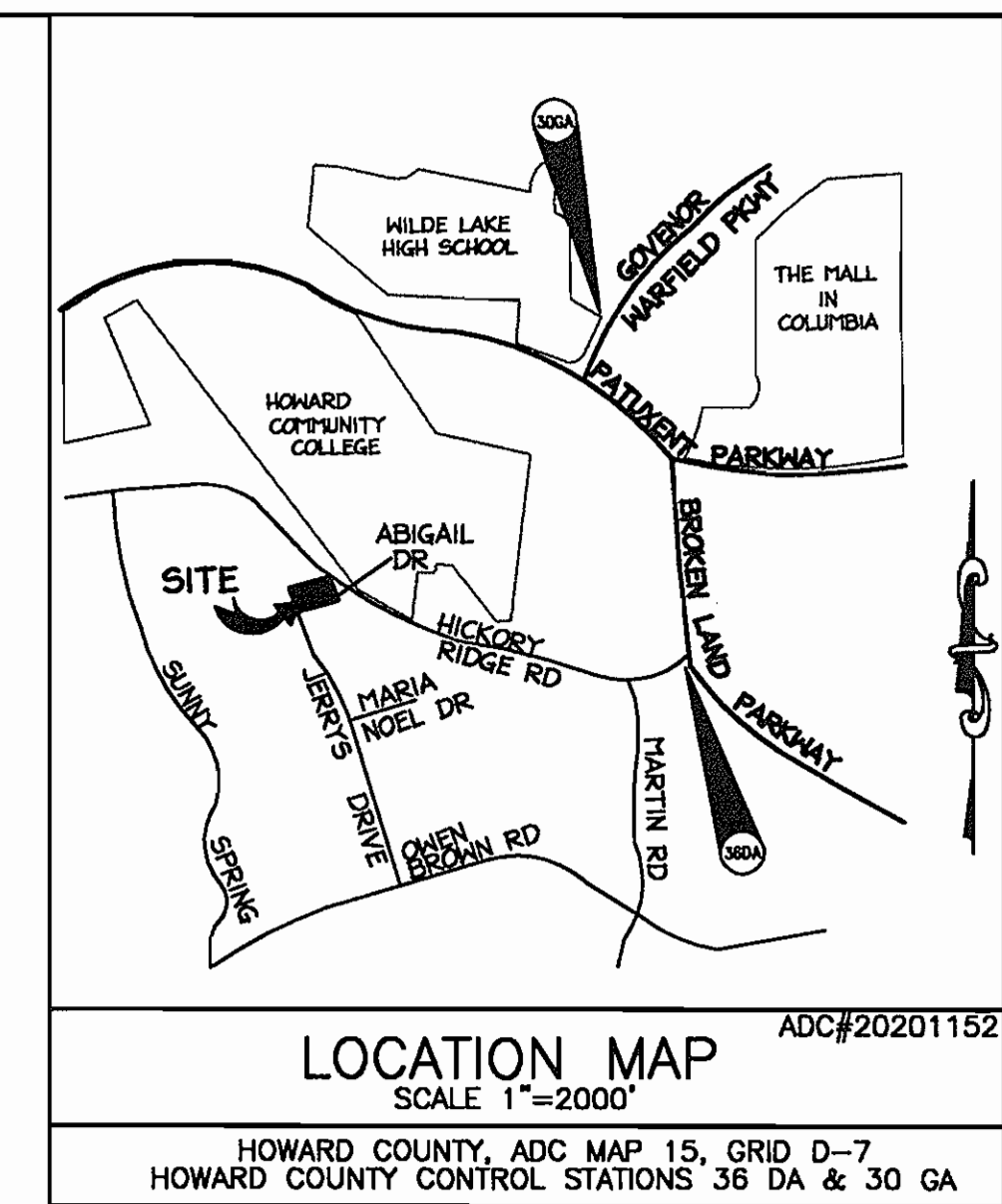
SHEET INDEX	
NO.	TITLE
1	TITLE SHEET
2	PLAN OF WATER & SEWER EXTENSIONS
3	PROFILES OF WATER & SEWER EXTENSIONS

WATER AND SEWER EXTENSIONS

HICKORY GLEN, LOTS 1-7 AND OPEN SPACE LOT 8 OF THE EDWARD BASSLER SUBDIVISION

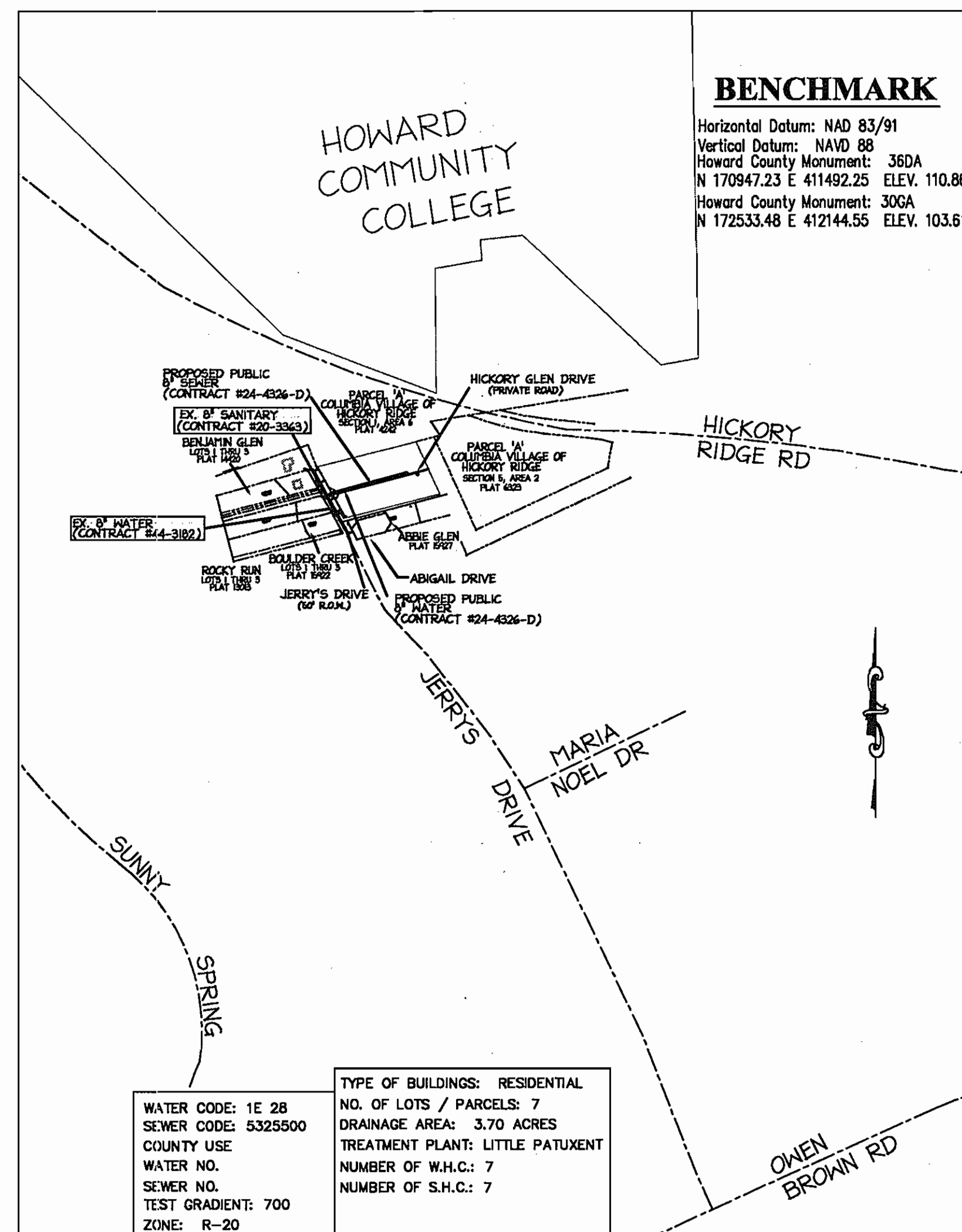
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CONTRACT NO. 24-4326-D



QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" WATER	495 LF	495 L.F.	DUCTILE IRON	GRIFFIN PIPE
6" WATER	16 LF	16 L.F.	DUCTILE IRON	GRIFFIN PIPE
1 1/2" WATER	301 LF	301 L.F.	1 1/2" COPPER	READING TUBE/BELAIR RD. SUPPLY
8" x 8" TS&V	1	1	STAINLESS STEEL	TS: ROMAC INDUSTRIES /BELAIR RD. SUPPLY V: MUELLER COMPANY
8" CAP & BUTTRESS	1	1	DUCTILE IRON	SIGMA CORR/BRS
1" METERS	7	7	METER SET	A.Y. McDONALD/BRS
8" VALVE	1	1	GATE VALVE	MUELLER COMPANY/BRS
6" VALVE	1	1	GATE VALVE	MUELLER COMPANY/BRS
FIRE HYDRANT	1	1	5-0 BURY	MUELLER COMPANY/BRS
4" SHC	295 LF	295 L.F.	PVC SDR-35	JMMP'G./BRS
8" SEWER	440 LF	440 L.F.	PVC SDR-35	JMMP'G./BRS
SEWER MANHOLES	3	3	PRECAST CONC.	ATLANTIC
CLEANOUTS	7	7		

CONTRACTOR: CCS (CONSOLIDATED CONSTRUCTION SERVICES)
 AS-BUILT DATE: APRIL 30, 2007
 SURVEY AND DRAFTING DIVISION



WATER CODE: 1E 28
 SEWER CODE: 5325500
 COUNTY USE
 WATER NO.
 SEWER NO.
 TEST GRADIENT: 700
 ZONE: R-20

TYPE OF BUILDINGS: RESIDENTIAL
 NO. OF LOTS / PARCELS: 7
 DRAINAGE AREA: 3.70 ACRES
 TREATMENT PLANT: LITTLE PATUXENT
 NUMBER OF W.H.C.: 7
 NUMBER OF S.H.C.: 7

VICINITY MAP
SCALE: 1"=600'

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
UTILITY DESIGN DIVISION

GENERAL NOTES:

(TO BE PRINTED ON DRAWING NO. 1 OR 2 OF THE WATER AND/OR SEWER PLANS)

PART I, (TO BE PRINTED ON BOTH WATER AND SEWER PLANS)

1. 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.

2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON MAY 2005 BY christopher consultants, ltd.

3. 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 30 DA AND NO. 30 GA.

ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE christopher consultants (ENGINEERING/SURVEY FIRM SHALL PROVIDE DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC.)

4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

5. 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 CONTRACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR ADDITIONAL POLES. ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.

6. 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.

7. 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.

8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STATING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133	410-850-4620
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	1-800-257-7177	
STATE HIGHWAY ADMINISTRATION	410-531-5533	
VERIZON	1-800-743-0033/410-224-9210	

9. 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.

10. 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.

11. 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.

PART II WATER (TO BE PRINTED ON WATER PLANS ONLY)

1. ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.

2. TOPS OF ALL WATER MAINS SHALL HAVE MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.

3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.

4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.

5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.

6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

PART III SEWER (TO BE PRINTED ON SEWER PLANS ONLY)

1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.

2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.

3. FORCE MAINS SHALL BE D.I.P. ONLY.

4. MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.

5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER. STANDARD DETAIL CS.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1' - 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

6. HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

SITE ANALYSIS

- TOTAL AREA OF SITE: 161,172 SQ. FT. OR 3.70 ± AC.
- ZONING: R-20
- EXISTING USE: RESIDENTIAL
- PROPOSED USE: RESIDENTIAL
- BUILDING DATA: MAXIMUM BUILDING HEIGHT 34' FOR PRIMARY STRUCTURE, 15' FOR ACCESSORY STRUCTURE.
- PARKING DATA: N/A
- IMPERVIOUS AREA: 1.05 ACRES
- DEED REFERENCE: 2808/556, 870/263
- RELATED FILES FOR THIS SITE: SDP-05-158, F-05-193, WP-05-145
- ELECTION DISTRICT NO. 5, HOWARD COUNTY MARYLAND
- TAX MAP: 35, GRID: 12, PARCEL 179
- AREA OF DISTURBANCE: 3.70 ACRES.
- TOTAL AREA OF ROAD RIGHT OF WAY TO BE RECORDED 0.00 ACRES.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON SDP-05-158 & F-05-193.

REVIEW FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Jim Magnus 12/21/06
NATURAL RESOURCES CONSERVATION DISTRICT

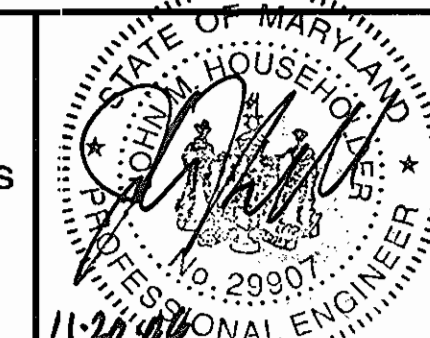
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts 12/21/06
HOWARD SOIL CONSERVATION DISTRICT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert B... 12-8-06
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 12/21/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION

christopher consultants
engineering - surveying - land planning
christopher consultants, llc
1177 coltsville gateway #104 Suite 100 Columbia, MD 21046-2900
410.255.8800 fax 410.255.8803



DES:	DAM				
DRN:	DAM				
CHK:	JMH				
DATE:	NOV. 2006	BY	NO.	REVISION	DATE

TITLE SHEET OF
WATER and SEWER EXTENSIONS

600 SCALE MAP NO. 35 BLOCK NO. B

WATER and SEWER EXTENSIONS
HICKORY GLEN - LOTS 1-7
AND OPEN SPACE LOT 8
CONTRACT NO. 24-4326-D

TAX MAP 35 ZONE: R-20
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3

WATER LINE DATA

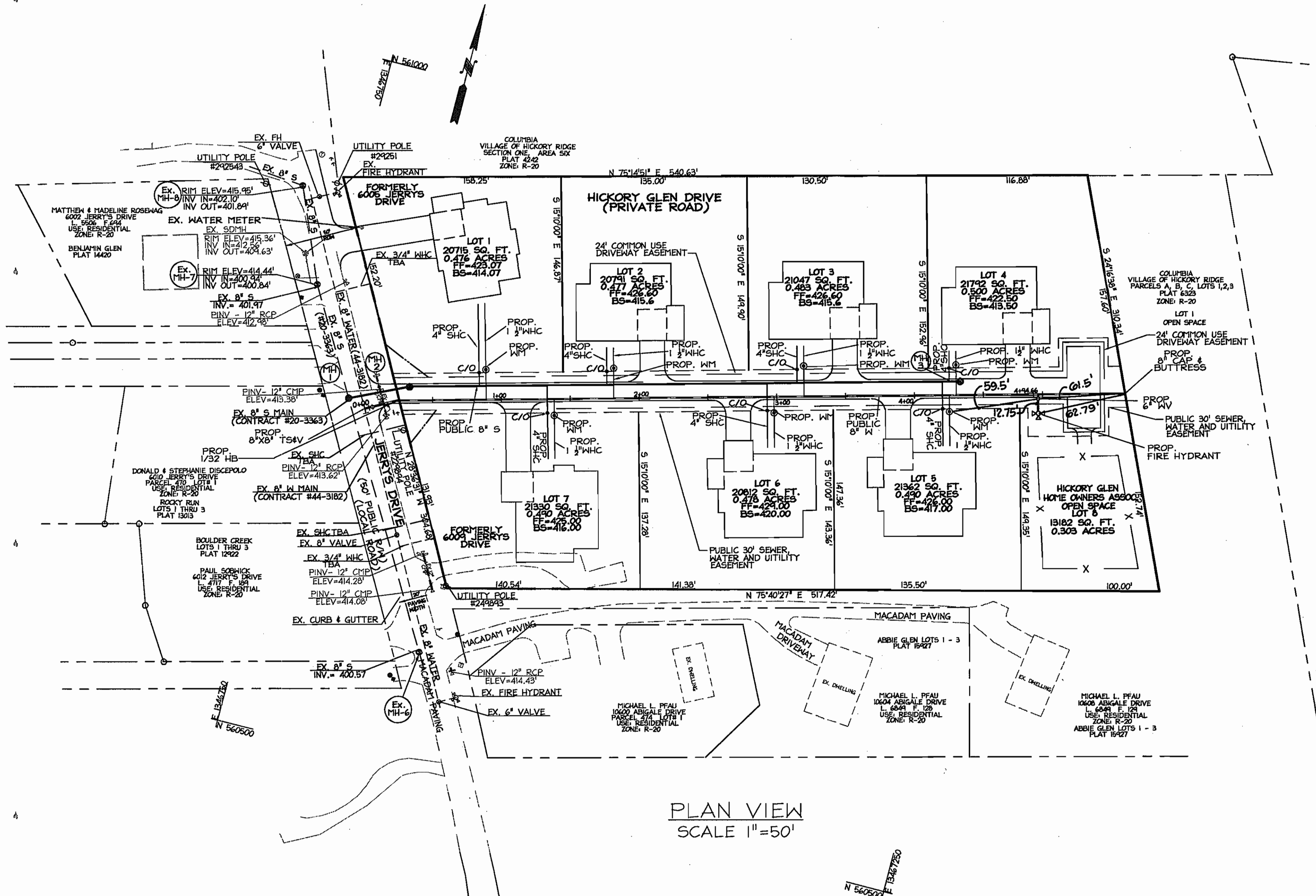
NO.	STATION	DESCRIPTION	NORTHING	EASTING	REMARKS
1	0+00	8"X8" T&V	560,758.15	1,346,790.42	HICKORY GLEN DRIVE
2	0+25	1/32 HORIZ. BEND	560,764.87	1,346,815.24	HICKORY GLEN DRIVE
3	0+44	1 1/2" WHC	560,777.11	1,346,879.60	HICKORY GLEN DRIVE
4	0+94	WATER METER	560,798.25	1,346,873.67	HICKORY GLEN DRIVE
5	1+55	1 1/2" WHC	560,792.92	1,346,937.95	HICKORY GLEN DRIVE
6	1+55	WATER METER	560,781.36	1,346,941.11	HICKORY GLEN DRIVE
7	2+25	1 1/2" WHC	560,816.87	1,347,007.36	HICKORY GLEN DRIVE
8	2+25	WATER METER	560,828.16	1,347,004.32	HICKORY GLEN DRIVE
9	3+00	1 1/2" WHC	560,836.51	1,347,079.93	HICKORY GLEN DRIVE
10	3+00	WATER METER	560,820.38	1,347,084.28	HICKORY GLEN DRIVE
11	3+50	1 1/2" WHC	560,850.82	1,347,132.81	HICKORY GLEN DRIVE
12	3+50	WATER METER	560,865.01	1,347,124.01	HICKORY GLEN DRIVE
13	4+20	1 1/2" WHC	560,864.96	1,347,204.16	HICKORY GLEN DRIVE
14	4+20	WATER METER	560,853.37	1,347,207.29	HICKORY GLEN DRIVE
15	4+30	1 1/2" WHC	560,866.27	1,347,208.82	HICKORY GLEN DRIVE
16	4+30	WATER METER	560,890.70	1,347,213.99	HICKORY GLEN DRIVE
17	4+90	6" WATER VALVE	560,878.69	1,347,267.27	HICKORY GLEN DRIVE
18	4+90	FIRE HYDRANT	560,868.29	1,347,270.03	HICKORY GLEN DRIVE
19	5+53.10	6" CAP BUTTRESS	560,898.38	1,347,327.42	HICKORY GLEN DRIVE

LOT NO.	SHC INV. PROPERTY LINE	HO. CO. DETAIL NO.	SLOPE# (%)	MIN. CELLAR ELEVATION
1	407.80	DETAIL S2.12	2	410.23
2	408.48	DETAIL S2.12	2	410.13
3	409.48	DETAIL S2.12	2	411.12
4	410.37	DETAIL S2.12	2	411.39
5	410.53	DETAIL S2.12	2	412.34
6	409.52	DETAIL S2.12	2	411.33
7	408.37	DETAIL S2.12	2	410.38

* SLOPE FROM ROAD TO PROPERTY LINE

NOTES:

- ALL 1 1/2" WHC SHALL HAVE AN OUTSIDE 1" METER SETTING AT THE RIGHT-OF-WAY OR EASEMENTS LINE. REFER TO HOWARD COUNTY DETAIL W3.33 FOR MORE INFORMATION.
- ALL SHC CLEANOUT ARE STD. 4" CLEANOUTS.
- ALL SHC'S ARE DESIGNED FOR 2% GRADE UNLESS OTHERWISE NOTED.
- ALL WATER METERS WILL BE 1" METERS. THE METERS WILL BE INSTALLED IN OUTSIDE METER BOXES, LOCATED WITHIN A GRASSY AREA INSIDE THE PUBLIC EASEMENT.
- ALL WATERLINES SHALL BE DUCTILE IRON PIPE (D.I.P.).
- ANY AND ALL EXISTING WATER HOUSE CONNECTIONS AND SEWER HOUSE CONNECTIONS TO 6005 AND 6009 JERRYS DRIVE SHALL BE ABANDONED AT THE MAIN LINE, AND THE MAIN PLUGGED.
- FOR FIRE HYDRANT SETTINGS AND INSTALLATION REFER TO HOWARD COUNTY DETAIL W1.11.



LEGEND

- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING WATER
- EXISTING FIRE HYDRANT
- EXISTING UTILITY POLE
- EXISTING TRANSFORMER
- EXISTING TELEPHONE MANHOLE
- PROPERTY LINE
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED WATER & SEWER EASEMENT
- PROPOSED COMMON ACCESS EASEMENT
- TO BE ABANDONED

WATER HOUSE CONNECTION (WATER METER)

WM @ LOT #1 TO WM @ LOT #7	-59'
WM @ LOT #1 TO SHC @ LOT #1	-5'
WM @ LOT #1 TO SHC @ LOT #2	-94'
WM @ LOT #2 TO WM @ LOT #7	-51'
WM @ LOT #2 TO SHC @ LOT #2	-4'
WM @ LOT #2 TO SHC @ LOT #7	-53'
WM @ LOT #3 TO WM @ LOT #4	-37'
WM @ LOT #3 TO SHC @ LOT #3	-4'
WM @ LOT #3 TO WM @ LOT #6	-37'
WM @ LOT #4 TO MH #3	-11'
WM @ LOT #4 TO FIRE HYDRANT	-62.7'
WM @ LOT #4 TO SHC @ LOT #4	-4.5'
WM @ LOT #5 TO FIRE HYDRANT	-59.5'
WM @ LOT #5 TO SHC @ LOT #4	-13'
WM @ LOT #5 TO SHC @ LOT #5	-5'
WM @ LOT #6 TO WM @ LOT #6	-37'
WM @ LOT #6 TO SHC @ LOT #6	-6'
WM @ LOT #6 TO SHC @ LOT #3	-37'
WM @ LOT #7 TO SHC @ LOT #7	-51'
WM @ LOT #7 TO SHC @ LOT #2	-51'
WM @ LOT #7 TO WM @ LOT #2	-53'

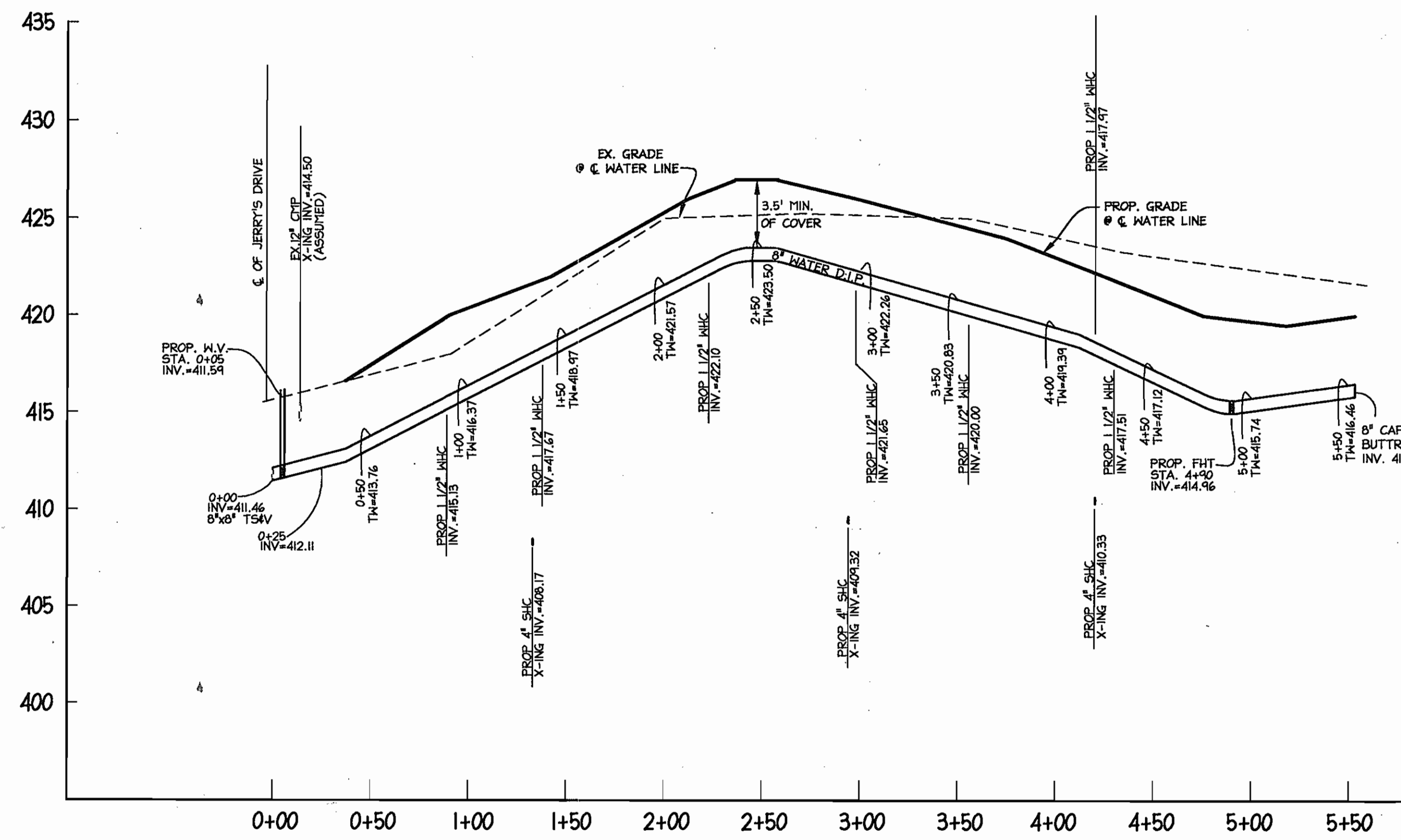
FLAG STEM LOT DETAIL SCALE 1"=10'

SANITARY HOUSE CONNECTIONS

MH #1 TO SHC LOT #1	-103'
MH #2 TO SHC LOT #1	-57'
WM @ LOT #1 TO SHC LOT #1	-5'
SHC @ LOT #2 TO WM @ LOT #7	-53'
SHC @ LOT #2 TO WM @ LOT #1-94'	
SHC @ LOT #2 TO WM @ LOT #2-4'	
SHC @ LOT #3 TO WM @ LOT #0-37'	
SHC @ LOT #3 TO SHC @ LOT #0-40'	
SHC @ LOT #3 TO WM @ LOT #3-4'	
SHC @ LOT #4 TO WM @ LOT #5-30'	
SHC @ LOT #4 TO WM @ LOT #5-32'	
SHC @ LOT #4 TO SMH #3	-11'
SHC @ LOT #5 TO FH VALVE	-59.5'
SHC @ LOT #5 TO SMH #3	-22'
SHC @ LOT #5 TO FIRE HYDRANT	-60'
SHC @ LOT #6 TO SHC @ LOT #3-37'	
SHC @ LOT #6 TO WM @ LOT #3-37'	
SHC @ LOT #6 TO WM @ LOT #6-5'	
SHC @ LOT #7 TO SHC @ LOT #2-53'	
SHC @ LOT #7 TO WM @ LOT #2-51'	
SHC @ LOT #7 TO WM @ LOT #7-5'	

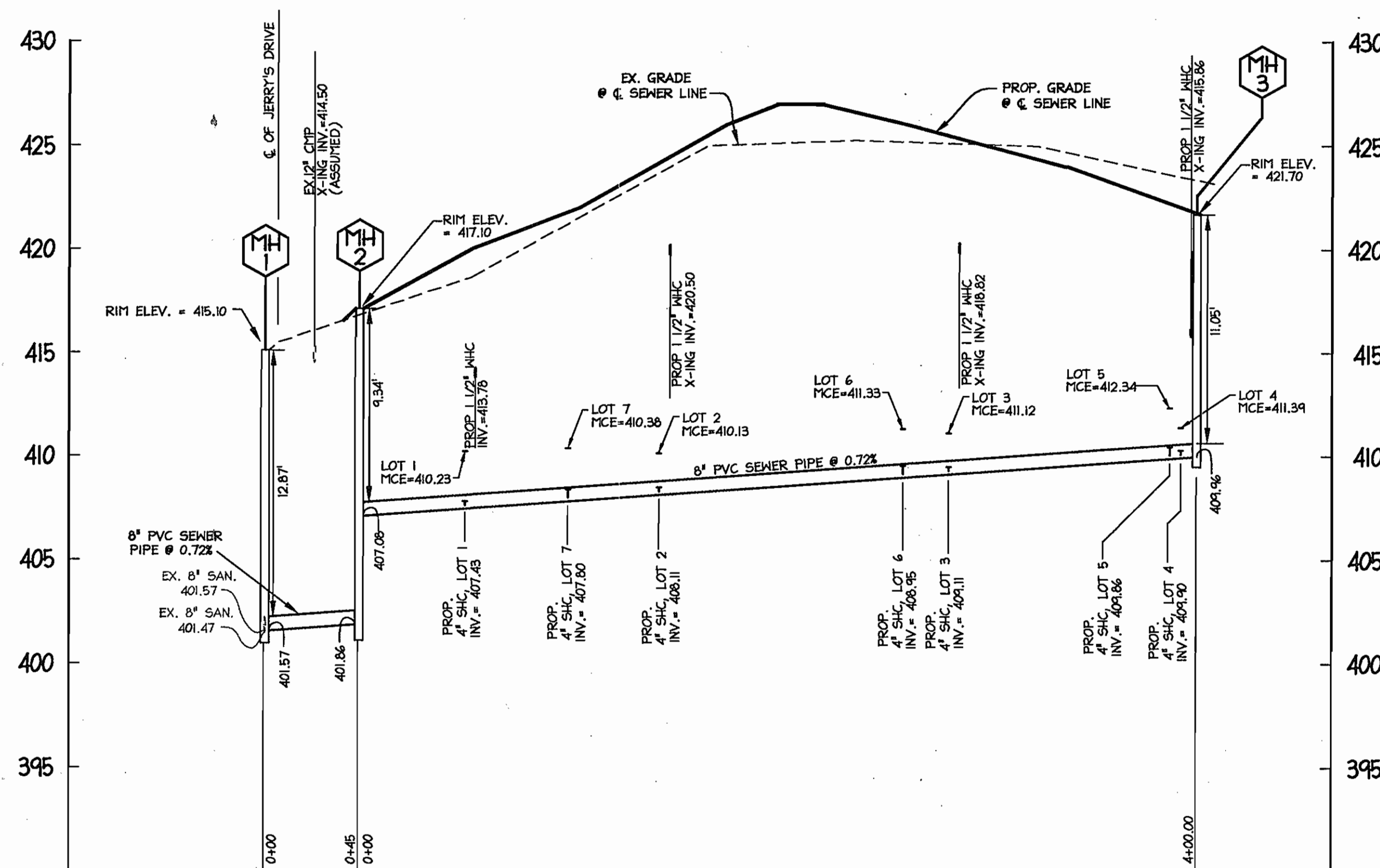
AS BUILT
DATE: APRIL 30, 2007

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Robert B. Bunch 12-8-06 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND Christopher Consultants engineering - surveying - land planning christopher consultants, llc 7172 columbia gateway drive suite 100 columbia, md 21046-9990 410.730.0000 www.cc-llc.com (410)730.0000	STATE OF MARYLAND HOUSEHOLD PLANNING PROFESSIONAL ENGINEER No. 29907 11/20/2006	DES: JMB/DAM DRN: DAM CHK: JMH DATE: Nov. 2006	PLAN OF WATER and SEWER EXTENSIONS	WATER and SEWER EXTENSIONS HICKORY GLEN - LOTS 1-7 AND OPEN SPACE LOT 8 CONTRACT NO. 24-4326-D TAX MAP 35, ZONE: R-20 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE 1"=50' SHEET 2 OF 3
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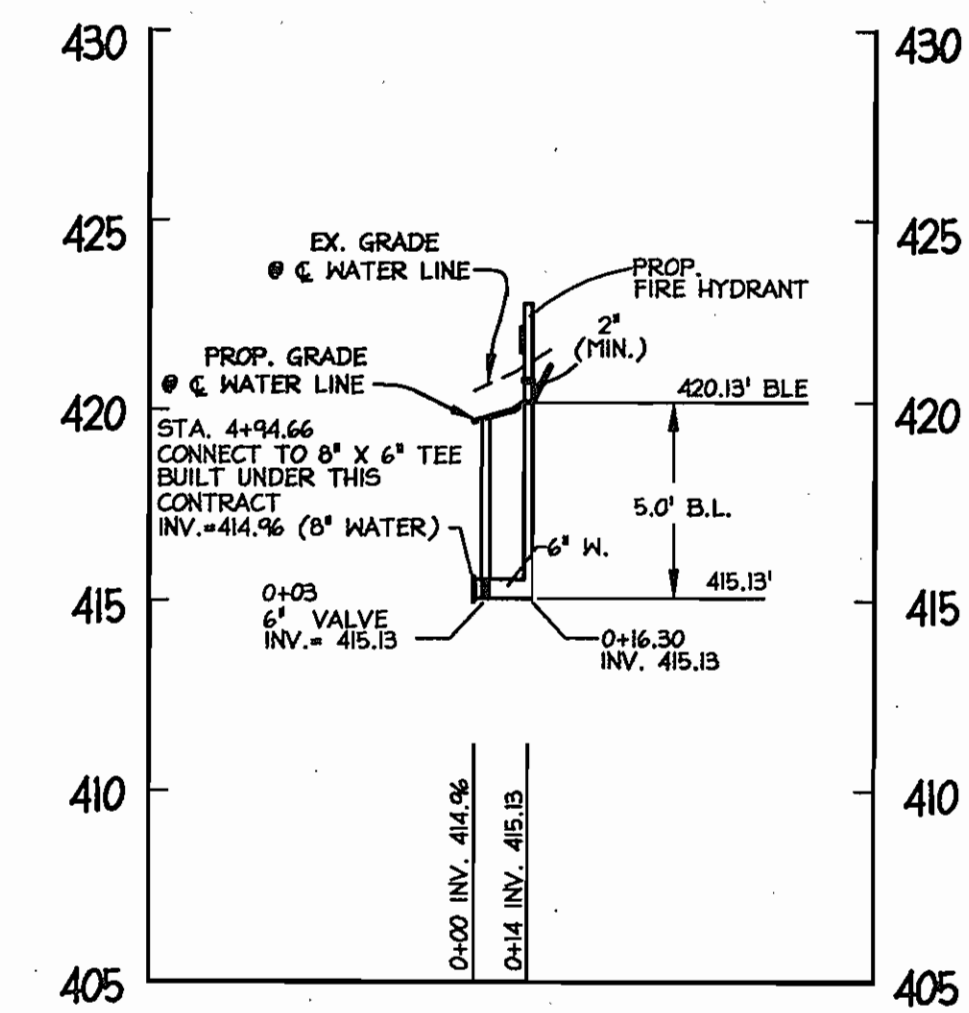


PROPOSED PUBLIC 8" WATER PROFILE
SCALE HORIZ: 1"=50'
VERT: 1"=5'

SEWER MANHOLE NO.	HO. CO. DETAIL NO.
1	DETAIL G5.14 PRECAST CONCRETE MANHOLE BUILT OVER EXISTING SEWER
2	DETAIL S1.32 TYPE 'B' DROP MANHOLE
3	DETAIL G5.12



PROPOSED 8" PUBLIC SANITARY PROFILE
SCALE HORIZ: 1"=50'
VERT: 1"=5'



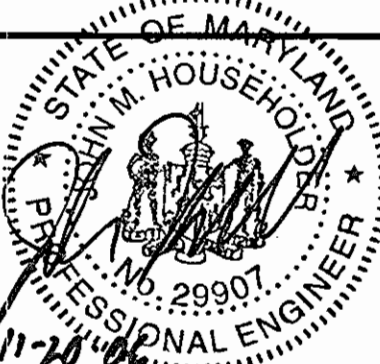
PROPOSED 6" FIRE HYDRANT PROFILE
SCALE HORIZ: 1"=50'
VERT: 1"=5'

AS BUILT
DATE: APRIL 30, 2007

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Rodney Bennett 12-8-06
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION

christopher consultants
engineering - surveying - land planning
christopher consultants, inc.
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410.312.9800 • fax: 410.312.9801 • www.cristopher.com



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PROFILES OF
WATER and SEWER EXTENSIONS
600 SCALE MAP NO. 35 BLOCK NO. B

WATER and SEWER EXTENSIONS
**HICKORY GLEN - LOTS 1-7
AND OPEN SPACE LOT 8**
CONTRACT NO. 24-4326-D
TAX MAP 35 ZONE: R-20
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 3 OF 3

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