

CASCADE OVERLOOK SECTION III

PUBLIC WATER AND PUBLIC SEWER CONSTRUCTION PLANS

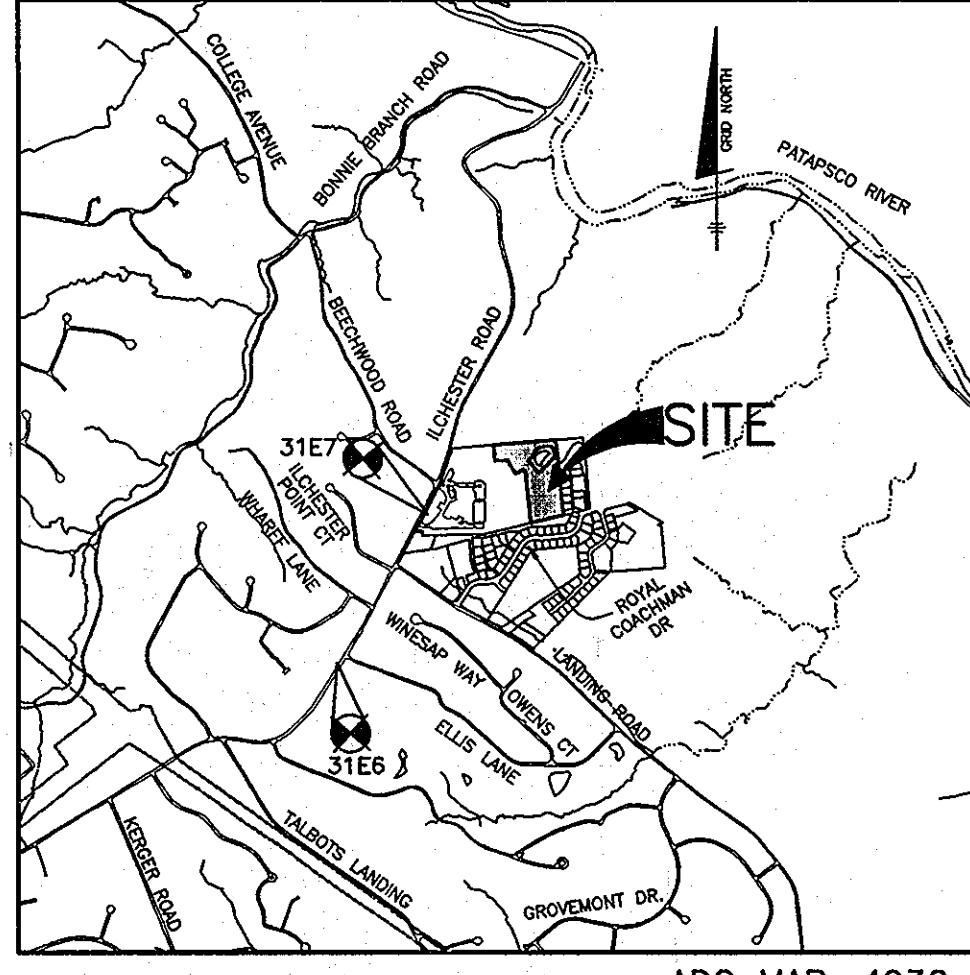
CONTRACT NO. 14-4290-D

BENCH MARKS NAD'83

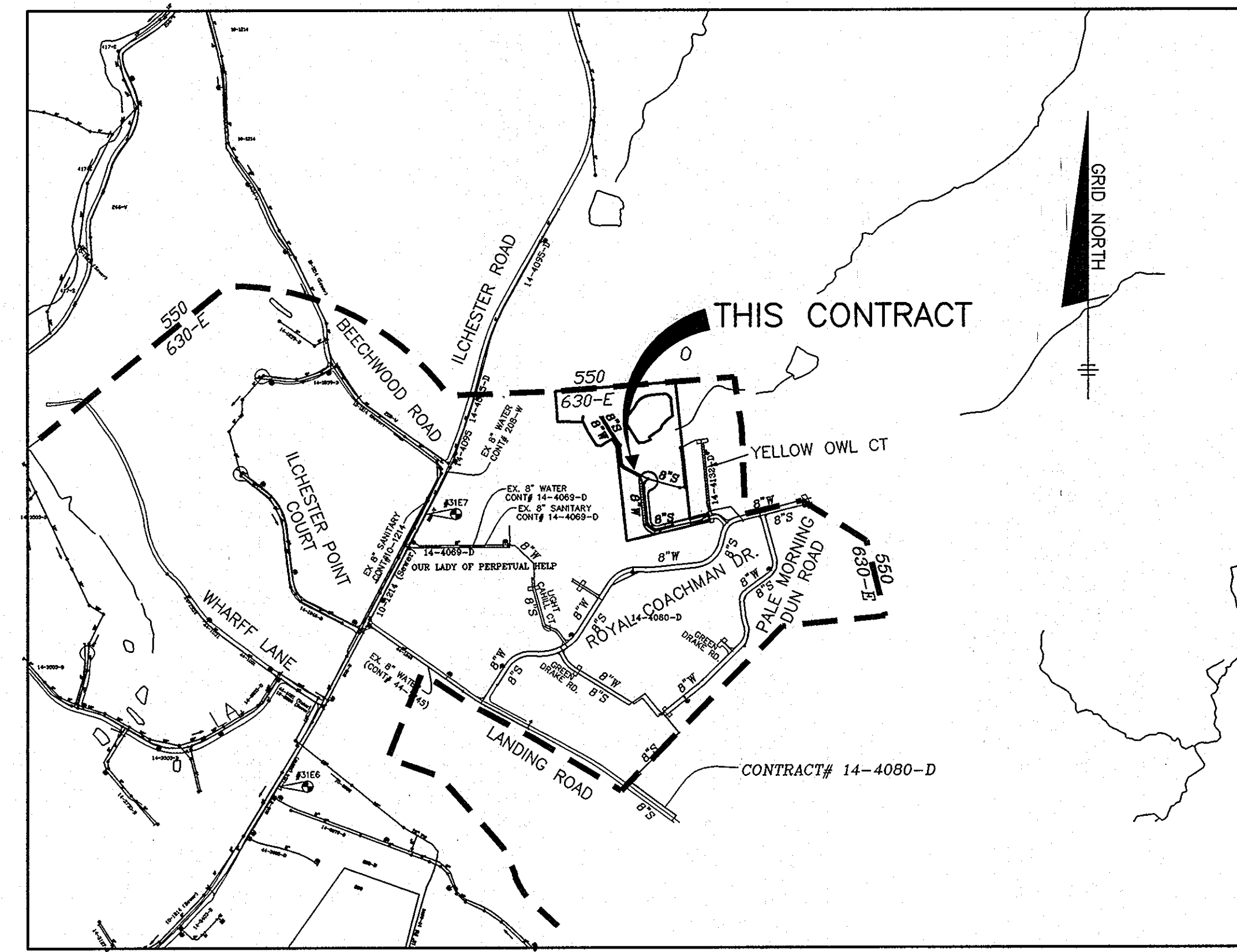
HO. CO. #3168
 3/4" REBAR 0.5' BELOW SURFACE
 5' SOUTHWEST OF ILCHESTER ROAD PAVING
 500'± WEST OF WHARF LANE.
 N 570852.3717' E 1376700.6467'

HO. CO. #3167
 3/4" REBAR 0.5' BELOW SURFACE
 9' SOUTHEAST OF ILCHESTER ROAD PAVING
 250'± WEST OF BEECHWOOD ROAD
 N 572335.3503' E 1377504.0332'

HO. CO. BM#2745004
 ELEV. 364.78'
 USED FOR VERTICAL CONTROL.



VICINITY MAP
 ADC MAP: 4936
 SCALE: 1"=2000'
 GRID: H2

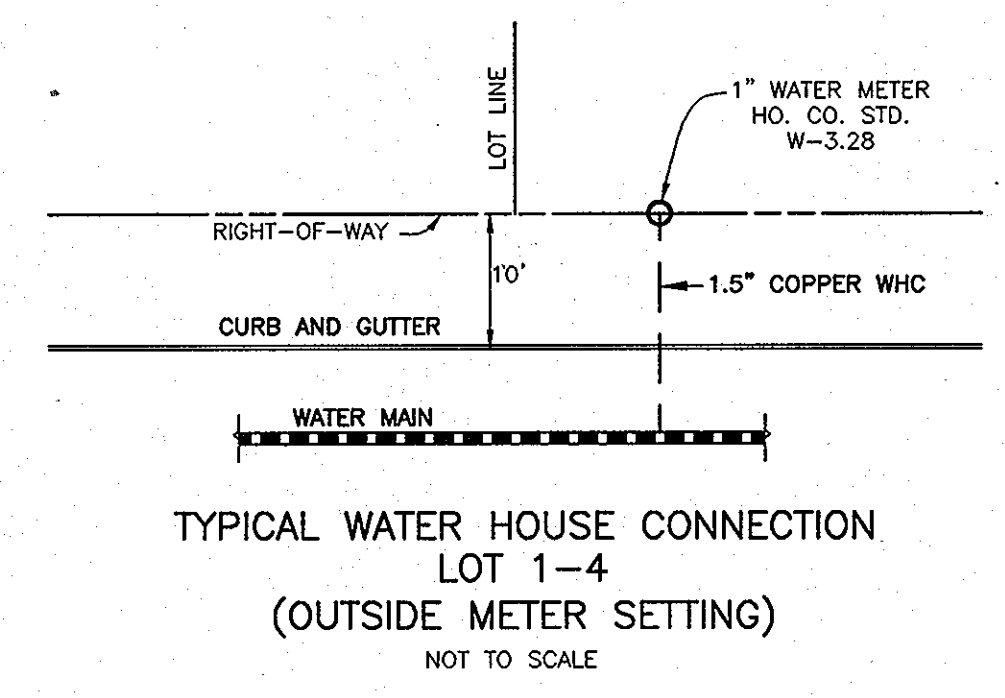
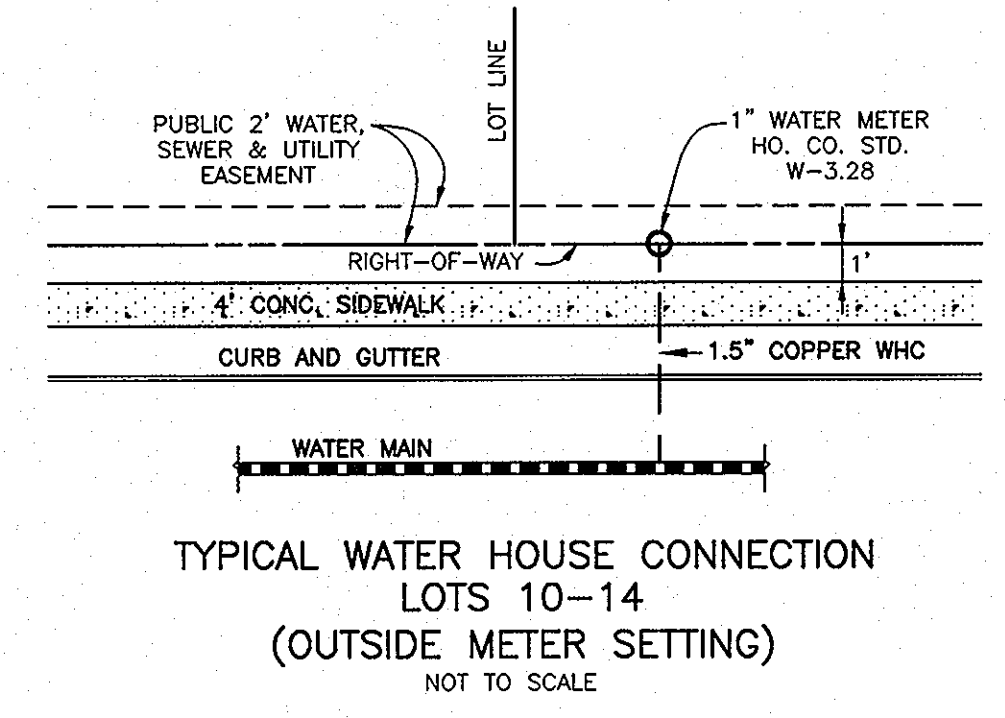


VICINITY MAP
 SCALE: 1" = 600'

TYPE OF BUILDING: SFD
 NO. OF LOTS/PARCELS/UNITS: 14
 NUMBER OF SHC'S: 14
 NUMBER OF WHC'S: 14
 DRAINAGE AREA: PATAPSCO
 TREATMENT PLANT: PATAPSCO WASTEWATER TREATMENT PLANT
 WATER ZONE: 630-E
 TEST GRADIENT: 780

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUF./SUPPLIER
8" PVC C900 DE-18 WATER	1046 LF			
FIRE HYDRANTS (INCL. 8"x6" TEE & VALVE)	2 EACH			
1.5" WHC	325 LF			
DEFLECTION COUPLINGS	12 EA			
8" VALVE	1 EA			
8" PVC SEWER	1281 LF			
MANHOLES	11 EACH			
V.F. OF MANHOLES (total)	116 VF			
4" SHC	247 LF			
TYPE 'A' DROP HOUSE CONN.	6 EA			

NAME OF UTILITY CONTRACTOR:
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE:



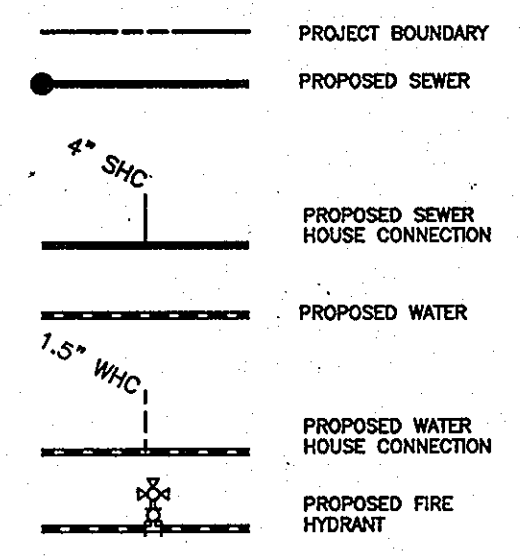
GENERAL NOTES

- PART I - GENERAL**
- 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 FEBRUARY, 2003 BY BENCHMARK ENGINEERING, INC.
 - 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. 0012 AND NO. 16E1.
 - ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 0012 AND 16E1.
 - 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 [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 (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T.....1-800-252-1133
 BGE (CONSTRUCTION SERVICES).....410-850-4620
 BGE (EMERGENCY).....410-885-1400
 BUREAU OF UTILITIES.....410-313-6900
 COLONIAL PIPELINE CO.....410-795-1390
 MISS UTILITY.....1-800-257-7777
 STATE HIGHWAY ADMINISTRATION.....410-331-5533
 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 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 (5) 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 DPM REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.

- PART II - WATER**
- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED OR ANCHORED IN CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1100 AND SECTION 1105 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
 - TEE/CROSS WELDS AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HO. CO. DESIGN MANUAL.

- PART III - 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 DETAIL 65.52, WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-8" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

LEGEND



SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET PUBLIC WATER & SEWER MAINS
2	PLAN VIEW PUBLIC WATER & SEWER MAINS
3	PROFILES PUBLIC WATER & SEWER MAINS

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

John R. Robertson
 HOWARD SOIL CONSERVATION DISTRICT
 DATE: 6/14/11

OWNER/DEVELOPER:
 SECURITY DEVELOPMENT, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

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. 38559, Expiration Date: 7-22-2011.

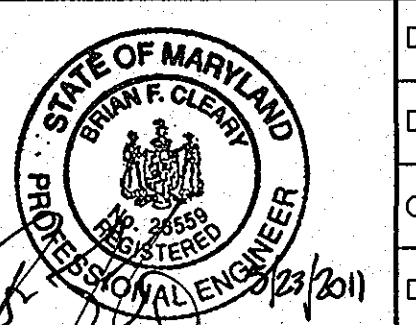
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Silvia Chen
 CHIEF, BUREAU OF UTILITIES
 DATE: 6/14/11

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

Michael J. ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/14/11

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
 ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8100 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BE-CIVILENGINEERING.COM



DES: BFC/DBT				
DRAFT: DBT				
CHK: BFC				
DATE: 5/2011	BE1	1	REVISE WATER MAIN TO BE PVC C900 DE-18	9-15-2011
BY NO.			REVISIONS	DATE

TITLE SHEET
 PUBLIC WATER & SEWER MAINS

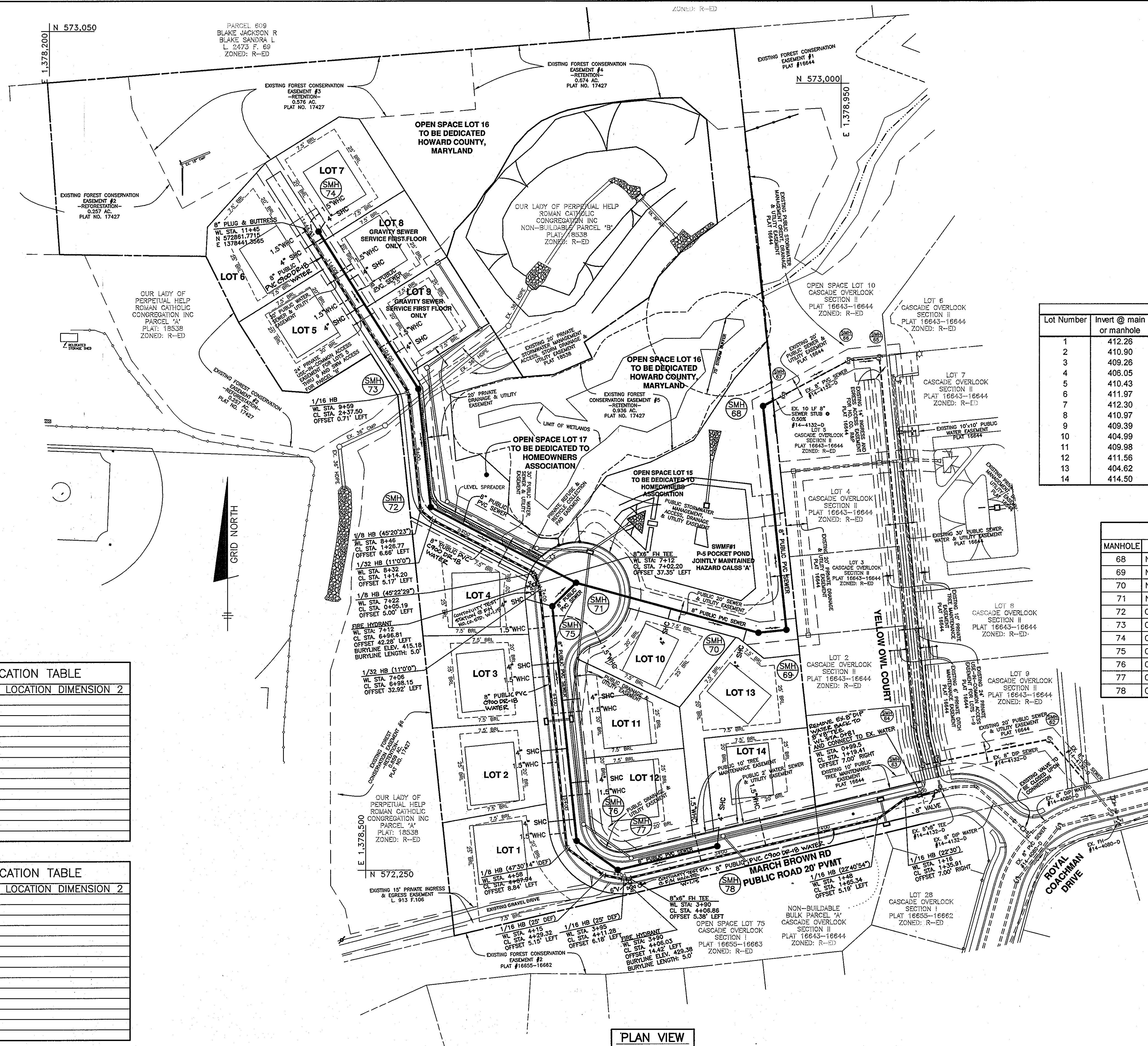
600 SCALE MAP NO. 31 BLOCK: 10 200 SCALE MAP NO. 25

CASCADE OVERLOOK SECTION III
 LOTS 1 thru 14
 OPEN SPACE LOTS 15 thru 17
 CONTRACT NO. 14-4290-D

TAX MAP: 31 - BLOCK: 10 - PARCEL: 260 - ZONED: R-ED - ELECTION DISTRICT: 1

SCALE:
 AS SHOWN

SHEET NO.
 1 OF 3



SHC CHART						
Lot Number	Invert @ main or manhole	Drop House	Invert @ top of standpipe	Invert @ R/W or esmt	Minimum Cellar	Notes
1	412.26	YES, Type A	418.28	418.56	422.60	SHC @ 2.0%
2	410.90	YES, Type A	415.90	416.20	420.22	SHC @ 2.0%
3	409.26	No		409.56	413.54	SHC @ 2.0%
4	406.05	No		406.59	410.47	SHC @ 2.0%
5	410.43	No		410.83	414.73	SHC @ 2.0%
6	411.97	YES, Type A	415.97	416.37	420.11	SHC @ 2.0%
7	412.30	YES, Type A	415.79	416.01	419.93	SHC @ 2.0%
8	410.97	No		411.17	414.89	SHC @ 2.0%
9	409.39	No		409.59	413.35	SHC @ 2.0%
10	404.99	No		405.19	409.01	SHC @ 2.0%
11	409.98	YES, Type A	412.98	413.32	417.24	SHC @ 2.0%
12	411.56	YES, Type A	414.56	414.90	418.82	SHC @ 2.0%
13	404.62	No		404.86	408.92	SHC @ 2.0%
14	414.50	No		414.86	419.28	SHC @ 2.0%

SEWER MANHOLE SCHEDULE			
MANHOLE	LOCATION		RIM ELEVATION
68	N 572691.6165	E 1378876.3270	406.50
69	N 572478.3162	E 1378898.5272	409.00
70	N 572475.5594	E 1378872.0405	410.50
71	N 572523.2427	E 1378699.3022	414.29
72	CL STA. 1+23.41	OFFS. 2.90' RIGHT (USE-IN-COMMON DR)	415.38
73	CL STA. 2+37.50	OFFS. 9.56' RIGHT (USE-IN-COMMON DR)	414.43
74	CL STA. 4+13.00	OFFS. 8.00' RIGHT (USE-IN-COMMON DR)	424.07
75	CL STA. 6+91.00	OFFS. 14.81' LEFT (MARCH BROWN ROAD)	415.67
76	CL STA. 4+69.95	OFFS. 2.54' RIGHT (MARCH BROWN ROAD)	428.11
77	CL STA. 4+17.18	OFFS. 2.54' RIGHT (MARCH BROWN ROAD)	428.87
78	CL STA. 3+19.24	OFFS. 5.00' RIGHT (MARCH BROWN ROAD)	427.44

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	4915 MARCH BROWN ROAD		
2	4919 MARCH BROWN ROAD		
3	4923 MARCH BROWN ROAD		
4	4927 MARCH BROWN ROAD		
5	4945 MARCH BROWN ROAD		
6	4949 MARCH BROWN ROAD		
7	4948 MARCH BROWN ROAD		
8	4944 MARCH BROWN ROAD		
9	4940 MARCH BROWN ROAD		
10	4926 MARCH BROWN ROAD		
11	4922 MARCH BROWN ROAD		
12	4918 MARCH BROWN ROAD		
13	4914 MARCH BROWN ROAD		
14	4910 MARCH BROWN ROAD		

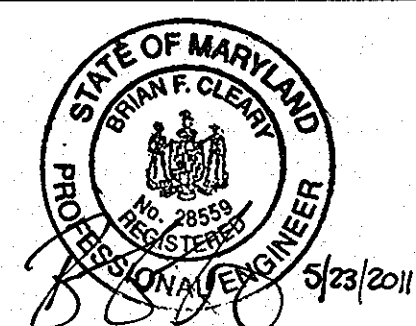
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9	4940 MARCH BROWN ROAD		
10	4926 MARCH BROWN ROAD		
11	4922 MARCH BROWN ROAD		
12	4918 MARCH BROWN ROAD		
13	4914 MARCH BROWN ROAD		
14	4910 MARCH BROWN ROAD		

PLAN VIEW
SCALE: 1" = 50'

OWNER/DEVELOPER:
SECURITY DEVELOPMENT, LLC
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

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. 28559, Expiration Date: 7-22-2011.

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DESIGN:	DBT				
DRAFT:	DBT				
CHK:	BFC				
DATE:	5/2011	BE1	1	REVISE WATER MAIN TO BE PVC C900 DR-18	9-15-2011
BY:	NO.			REVISIONS	DATE

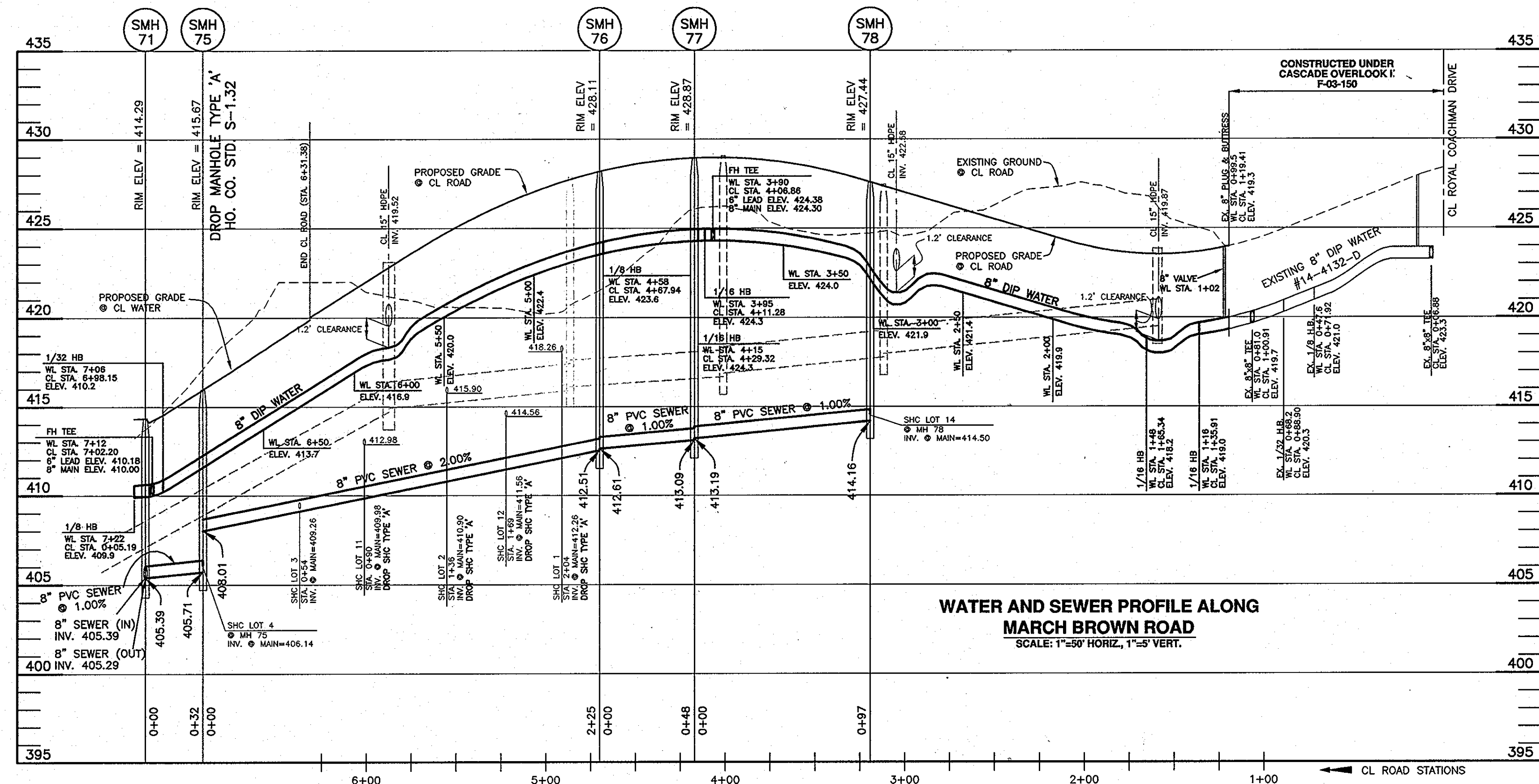
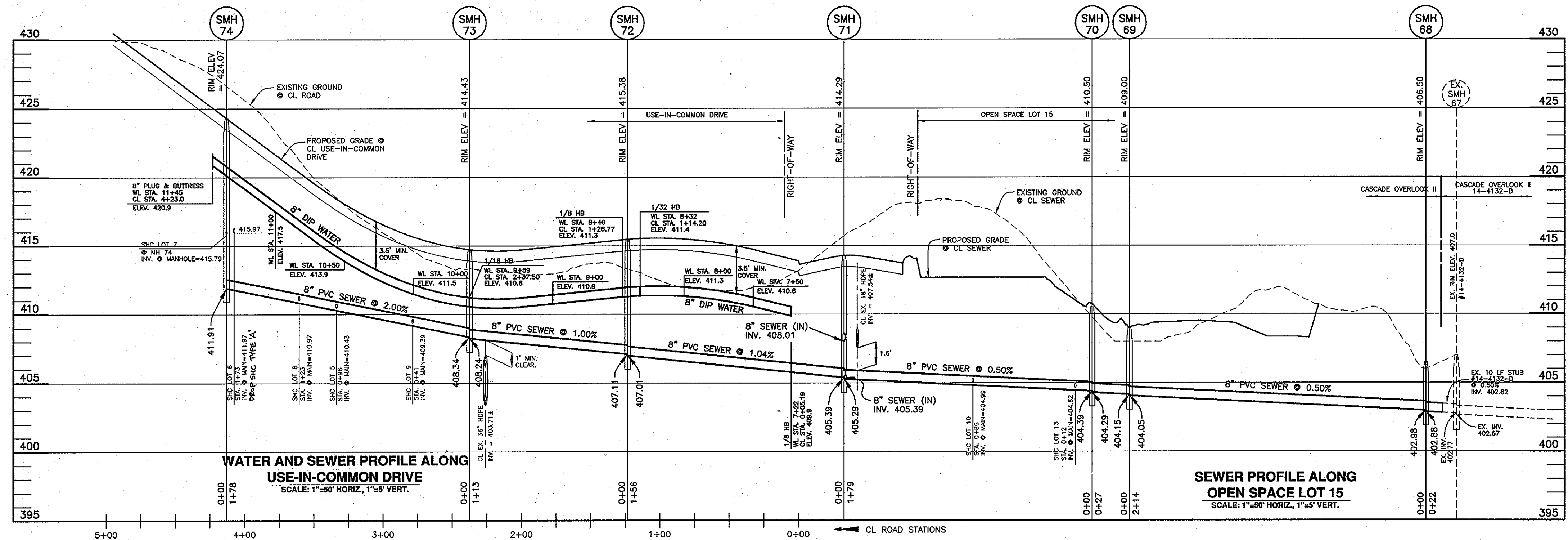
PLAN VIEW
PUBLIC WATER & SEWER MAINS
600 SCALE MAP NO. 31 BLOCK: 10 200 SCALE MAP NO. 25

CASCADE OVERLOOK SECTION III
LOTS 1 thru 14
OPEN SPACE LOTS 15 thru 17
TAX MAP: 31 - BLOCK: 10 - PARCEL: 260 - ZONED: R-ED - ELECTION DISTRICT: 1
CONTRACT NO. 14-4290-D

SCALE:
AS SHOWN
SHEET NO.
2 OF 3

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

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
DATE: 6/22/11



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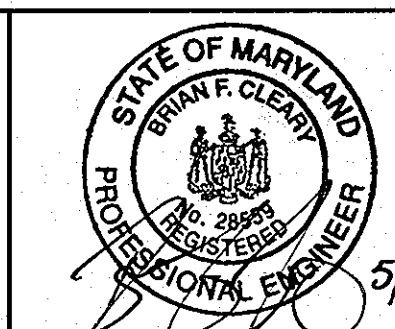
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Allen C. Coon
CHIEF, BUREAU OF UTILITIES

John P. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION

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DESIGN: DBT					
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PROFILE VIEW
PUBLIC WATER & SEWER MAINS

600 SCALE MAP NO. 31 BLOCK: 10 200 SCALE MAP NO. 25

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3 OF 3