


GENERAL NOTES

PART I

- 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.
- AERIAL TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON MAY 15, 2009 BY POTOMAC AERIAL SURVEYS, INC.
- THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED MAY 2009.
- 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. 25A1 AND 25A2.
ALL VERTICAL CONTROLS ARE BASED ON NAVD '88.
VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE:
GEODETIC SURVEY CONTROL 25A1 (N 586,557.55, E 1366847.10)
CONCRETE MONUMENT
GEODETIC SURVEY CONTROL 25A2 (N 587502.73, E 1366556.38)
CONCRETE MONUMENT
- 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 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 (CONTRACTOR SERVICES) 410-637-8713
BGE (EMERGENCY) 410-685-0123
BUREAU OF UTILITIES 410-313-4900
COLONIAL PIPELINE COMPANY 410-795-1380
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(c) OF THE HOWARD COUNTY CODE.

PART II - WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 56 UNLESS OTHERWISE NOTED.
- THE MAXIMUM COVER FOR WATER MAINS SHALL BE 4 FEET PER DESIGN MANUAL W/AVR DATED AUGUST 5, 2011, BY THE DPW - BUREAU OF ENGINEERING.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE 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 INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL D.I.P. AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- ALL APARTMENTS SHALL HAVE A MINIMUM 4" WHC WITH A 2" INSIDE METER SETTING.
- FOR SPRINKLER SYSTEM FOR ALL TOWN HOMES OR MULTI-FAMILY DWELLING UNITS SHOULD HAVE A MINIMUM OF 1 1/2" CONNECTION WITH A 1" OUTSIDE METER.

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 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G.5.2. WHERE WATERTIGHT MANHOLES, 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 CELLAR CANNOT BE SERVED.

ADDRESSES TO BE OUT OF SERVICE DURING TIE-IN:

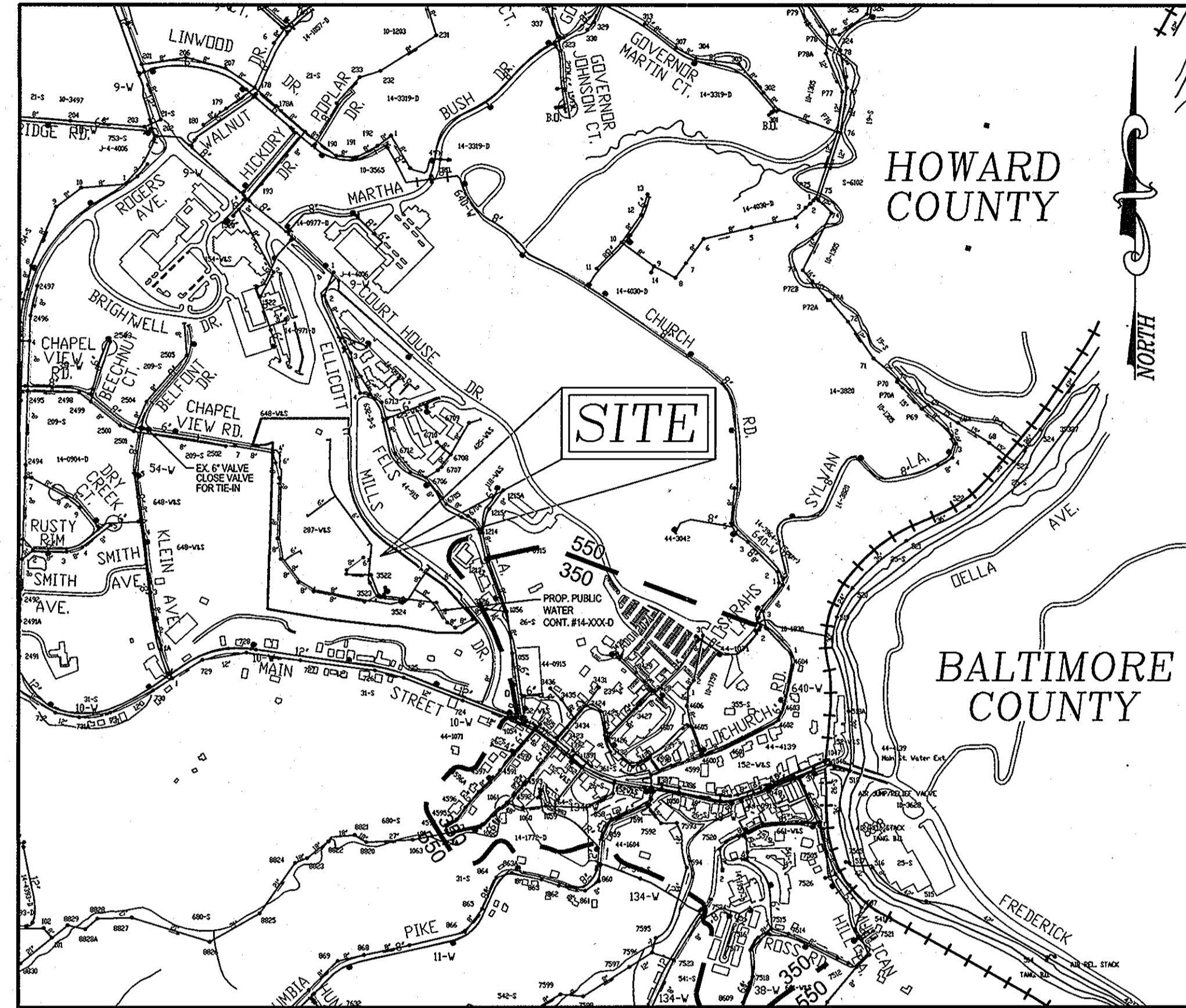
8501 CHAPEL VIEW ROAD
8502 CHAPEL VIEW ROAD
8508 CHAPEL VIEW ROAD
8507 CHAPEL VIEW ROAD
8511 CHAPEL VIEW ROAD
8514 CHAPEL VIEW ROAD
8515 CHAPEL VIEW ROAD
8519 CHAPEL VIEW ROAD
8523 CHAPEL VIEW ROAD
3525 NORTH BELFONTE DR.

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). SDP-11-051

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

John R. Robertson 8/19/12
HOWARD S.C.D. DATE

FINAL WATER PLAN HILLTOP REDEVELOPMENT PHASE 1C L. 477 / F. 718, L. 456 / F. 448, L. 448 / F. 46 CONT. #14-4754-D



VICINITY MAP
SCALE: 1"=600'

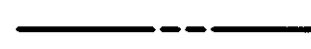
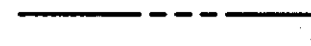

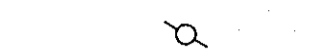
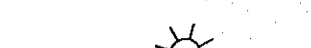
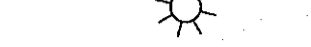

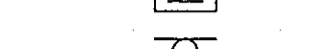

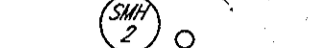
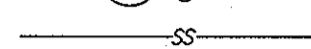

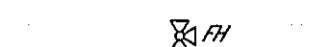
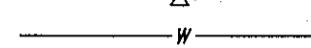
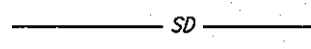

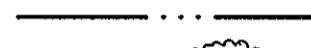



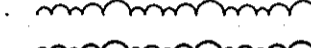

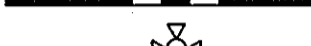

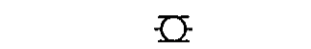






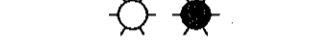
TYPE OF BUILDINGS:	MULTI-FAMILY APARTMENTS AND RECREATION CENTER
NO. OF LOTS/PARCELS:	2
NO. OF SINGLE WATER HOUSE CONNECTIONS:	12
NO. OF TWIN WATER HOUSE CONNECTIONS:	0
NO. OF SEWER HOUSE CONNECTIONS:	13
NO. OF TWIN SEWER HOUSE CONNECTIONS:	0
DRAINAGE AREA:	PATAPSCO RIVER
TREATMENT PLANT:	PATAPSCO RIVER
TOTAL NO. OF UNITS:	198
WATER ZONE:	550
TEST GRADIENT:	700

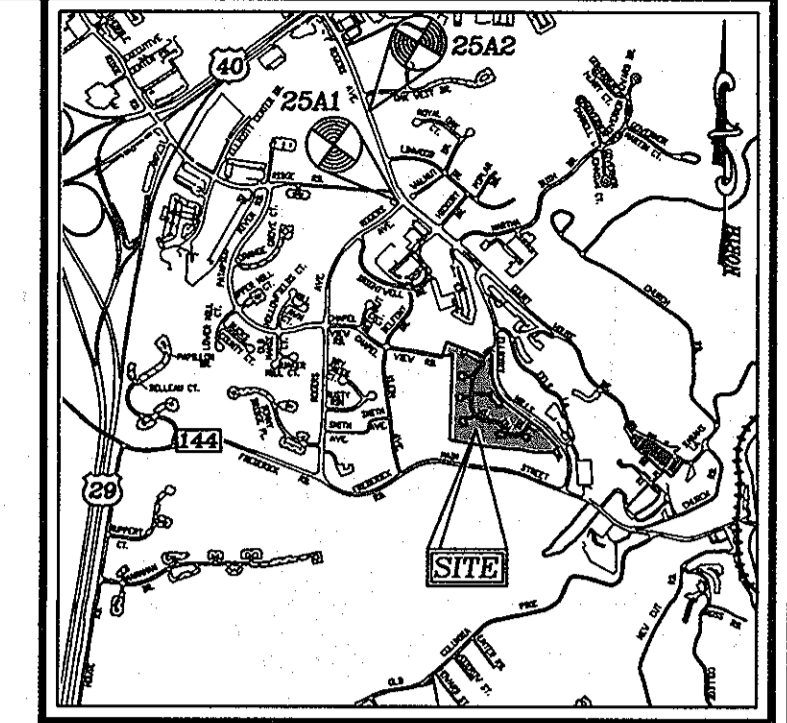
SEQUENCE OF CONSTRUCTION

**PHASE 1C
(PHASE 1A & 1B WILL CONTINUE)**

- WHEN ALL THE REMAINING APARTMENTS (BUILDINGS 11, 12 & 13) BECOME VACANT, THEY CAN BE DEMOLISHED AND PHASE 1C CAN BEGIN.
- THE SEWER BYPASS (EX SMH 3526 - SMH 33) FOR THIS PHASE MUST BE CONSTRUCTED SO THE REMAINING EXISTING SEWER IN THIS PHASE CAN BE REMOVED. SERVICE FOR ALL UPSTREAM RESIDENTS MUST BE MAINTAINED DURING CONSTRUCTION. (2 WEEKS)
- REMOVE REMAINING WATER TO BE REMOVED FOR THIS PHASE. (1 WEEK)
- BUILD THE 8" WATER LINE SERVING BUILDINGS M5, M6 AND T4. (2 WEEKS)

LEGEND

- PROPERTY LINE 
- RIGHT-OF-WAY LINE 
- ADJACENT PROPERTY LINE 
- EXISTING CURB AND GUTTER 
- EXISTING UTILITY POLE 
- EXISTING LIGHT POLE 
- EXISTING MAILBOX 
- EXISTING SIGN 
- EXISTING SANITARY MANHOLE 
- EXISTING SANITARY LINE 
- EXISTING CLEANOUT 
- EXISTING FIRE HYDRANT 
- EXISTING WATER LINE 
- EXISTING STORM DRAIN 
- EXISTING FENCE 
- CENTERLINE OF EXISTING STREAM 
- EXISTING TREES (FIELD LOCATED) 
- EXISTING TREETRUNK 
- PROPOSED TREETRUNK 
- PROPOSED WATER MAIN 
- FIRE HYDRANT 
- PROPOSED VALVE 
- PROPOSED TEE 
- PROPOSED STORM DRAIN 
- PROPOSED SEWER 
- WATER HOUSE CONNECTION 
- SEWER HOUSE CONNECTION 
- PROPOSED SIGN 
- PROPOSED LIGHT 
- PROPOSED STORMDRAIN INLET 
- PROPOSED SIDEWALK 
- PROPOSED CURB 



LOCATION MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 4816 / 87

BENCHMARKS

HOWARD COUNTY BENCHMARK 25A1	N 586,557.546	E 1,366,847.098	ELEV.: 396.343'
HOWARD COUNTY BENCHMARK 25A2	N 587502.729	E 1,366556.377	ELEV.: 348.145'

QUANTITIES				
NAME OF UTILITY CONTRACTOR :				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE :				
ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
WATER				
8" WATER (DIP) (CLASS 56)	189 LF			
6" WATER (DIP) (CLASS 56)				
4" WATER (DIP) (CLASS 56)				
4" WHC	40 LF			
12"x8" TAPPING SLEEVE				
6"x6" TAPPING SLEEVE				
8"x8" TEE				
8"x8" TEE				
8"x4" TEE				
6"x6" TEE				
8" VALVE				
6" VALVE				
4" VALVE	3 EA			
FIRE HYDRANT	1 EA			
8"x6" REDUCER				
8"-1/32 HORIZ. BEND				
8"-1/16 HORIZ. BEND				
8"-1/8 HORIZ. BEND				
6"-1/16 HORIZ. BEND				
6"-1/8 HORIZ. BEND				
4"-1/16 HORIZ. BEND				
8"-CAP AND BUTTRISS	1 EA			
6"-CAP AND BUTTRISS				
SEWER				
8" SEWER (PVC)	297 LF			
6" SEWER (PVC)				
4" SEWER (PVC)				
STANDARD MANHOLES	3 EA			
TYPE 'A' DROP MANHOLES				
TYPE 'B' DROP MANHOLES				
4" SHC	40 LF			

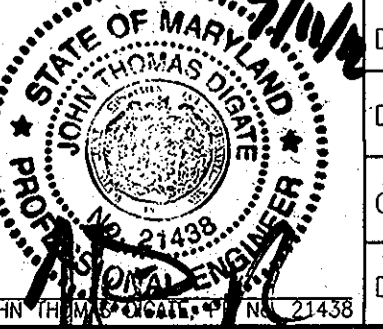
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve C. ... 8/19/12
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

... 8/19/12
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7866
ELLCITY, MD 21043 FAX: 410.461.8981



DES: JTD			
DRN: JMR			
CHK: JTD			
DATE: JUNE 2012			
BY NO.		REVISION	DATE

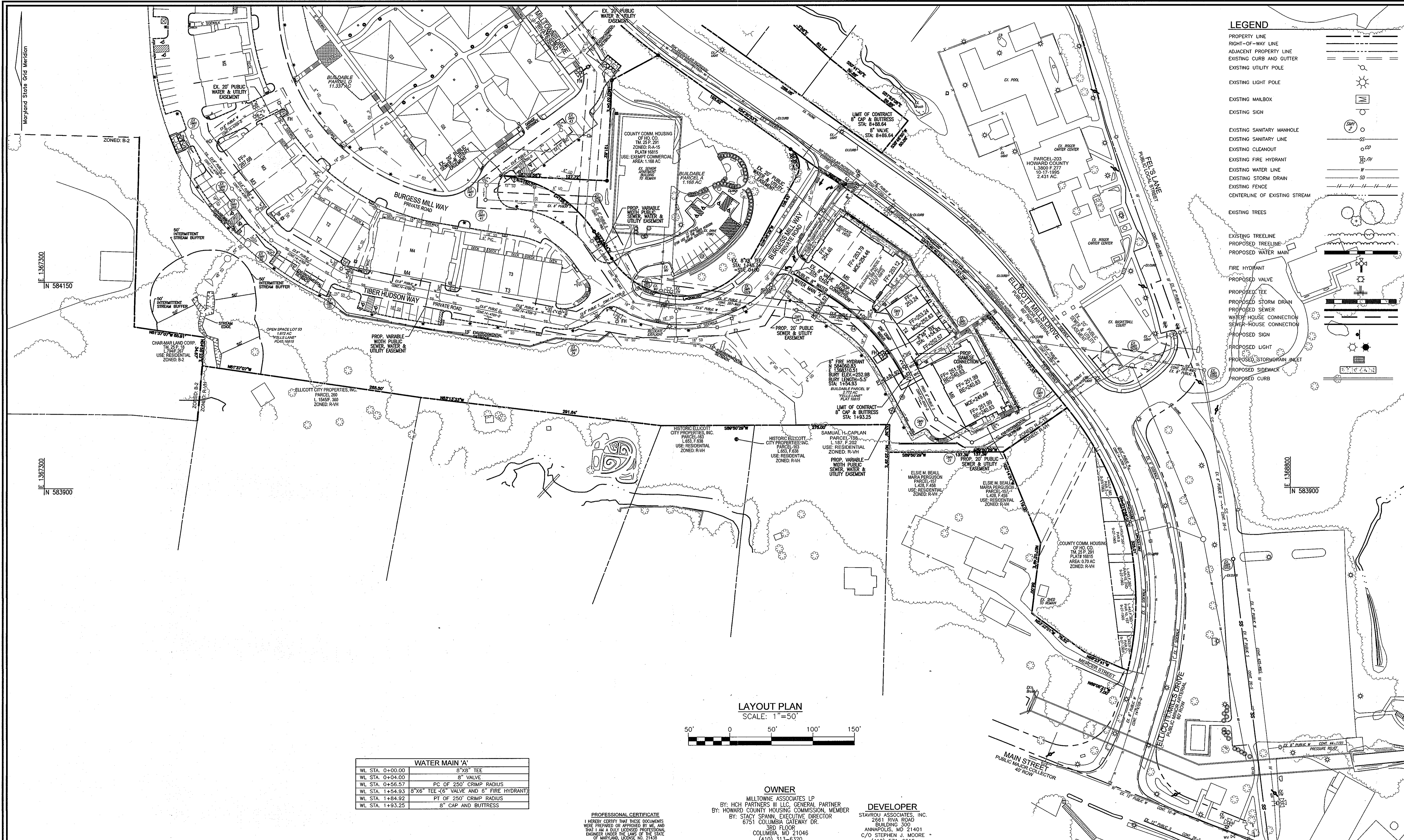
FINAL WATER & SEWER PLAN
COVER SHEET

600' SCALE MAP NO. 25 BLOCK NO. 7

HILLTOP REDEVELOPMENT
PHASE 1C
L. 477 / F. 718, L. 456 / F. 448, L. 448 / F. 46
CONTRACT #14-4754-D

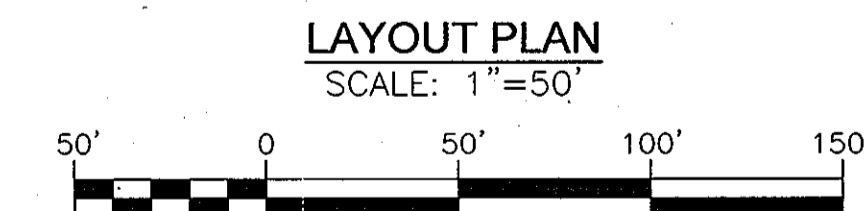
ZONING: R-HV, R-A-15, & POR TAX MAP: 25 GRID: 07
DPZ REF'S: ECP-11-051, F-12-008, SDP-11-051 PARCELS: 12 & 291
F-68-092, SDP-77-013, SDP-04-027 2ND ELECTION DISTRICT
26-S, 287 W&S, SDP-75-61, F-66-017 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 3



LEGEND

PROPERTY LINE	---
RIGHT-OF-WAY LINE	---
ADJACENT PROPERTY LINE	---
EXISTING CURB AND GUTTER	---
EXISTING UTILITY POLE	○
EXISTING LIGHT POLE	☀
EXISTING MAILBOX	M
EXISTING SIGN	○
EXISTING SANITARY MANHOLE	SM
EXISTING SANITARY LINE	SS
EXISTING CLEANOUT	CD
EXISTING FIRE HYDRANT	FH
EXISTING WATER LINE	W
EXISTING STORM DRAIN	SD
EXISTING FENCE	---
CENTERLINE OF EXISTING STREAM	---
EXISTING TREES	○
EXISTING TREELINE	---
PROPOSED TREELINE	---
PROPOSED WATER MAIN	---
FIRE HYDRANT	○
PROPOSED VALVE	○
PROPOSED TEE	+
PROPOSED STORM DRAIN	---
PROPOSED SEWER	---
WATER HOUSE CONNECTION	---
SEWER HOUSE CONNECTION	---
PROPOSED SIGN	○
PROPOSED LIGHT	○
PROPOSED STORM DRAIN INLET	○
PROPOSED SIDEWALK	---
PROPOSED CURB	---



WATER MAIN 'A'

WL STA. 0+00.00	8"X8" TEE
WL STA. 0+04.00	8" VALVE
WL STA. 0+56.57	PC OF 250' CRIMP RADIUS
WL STA. 1+54.93	8"X6" TEE (6" VALVE AND 6" FIRE HYDRANT)
WL STA. 1+84.92	PT OF 250' CRIMP RADIUS
WL STA. 1+93.25	8" CAP AND BUTTRISS

PROFESSIONAL CERTIFICATE
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. 21438 EXPIRATION DATE: 12/15/12

OWNER
MILTOWNE ASSOCIATES LP
BY: HCH PARTNERS III LLC, GENERAL PARTNER
BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
BY: STACY SPANN, EXECUTIVE DIRECTOR
6751 COLUMBIA GATEWAY DR.
3RD FLOOR
COLUMBIA, MD 21046
(410) 313-6320

DEVELOPER
STAVROU ASSOCIATES, INC.
2861 RIVA ROAD
BUILDING 300
ANNAPOLIS, MD 21401
C/O STEPHEN J. MOORE
(410) 571-6610

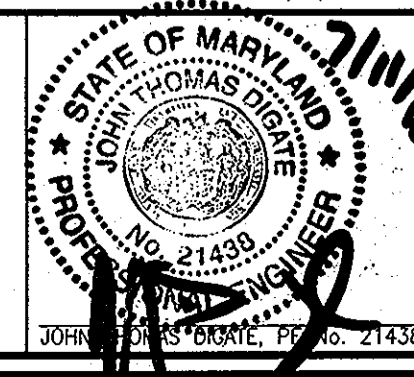
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Silvia C. Green 02/12
CHIEF, BUREAU OF UTILITIES

Robert H. Vogel 2/15/12
CHIEF, DEVELOPMENT ENGINEERING DIVISION

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.6661



DES:	JTD				
DRN:	JMR				
CHK:	JTD				
DATE:	JUNE 2012	BY NO.		REVISION	

FINAL WATER & SEWER PLAN
LAYOUT PLAN

600' SCALE MAP NO. 25
BLOCK NO. 7

HILLTOP REDEVELOPMENT PHASE 1C
L. 477 / F. 718, L. 456 / F. 448, L. 448 / F. 46

CONTRACT #14-4754-D

ZONING: R-HV, R-A-15, & POR
DPZ REF'S: ECP-11-051, F-12-008, SDP-11-051
F-68-092, SDP-77-013, SDP-04-027
26-S, 287 W&S, SDP-75-61, F-66-017

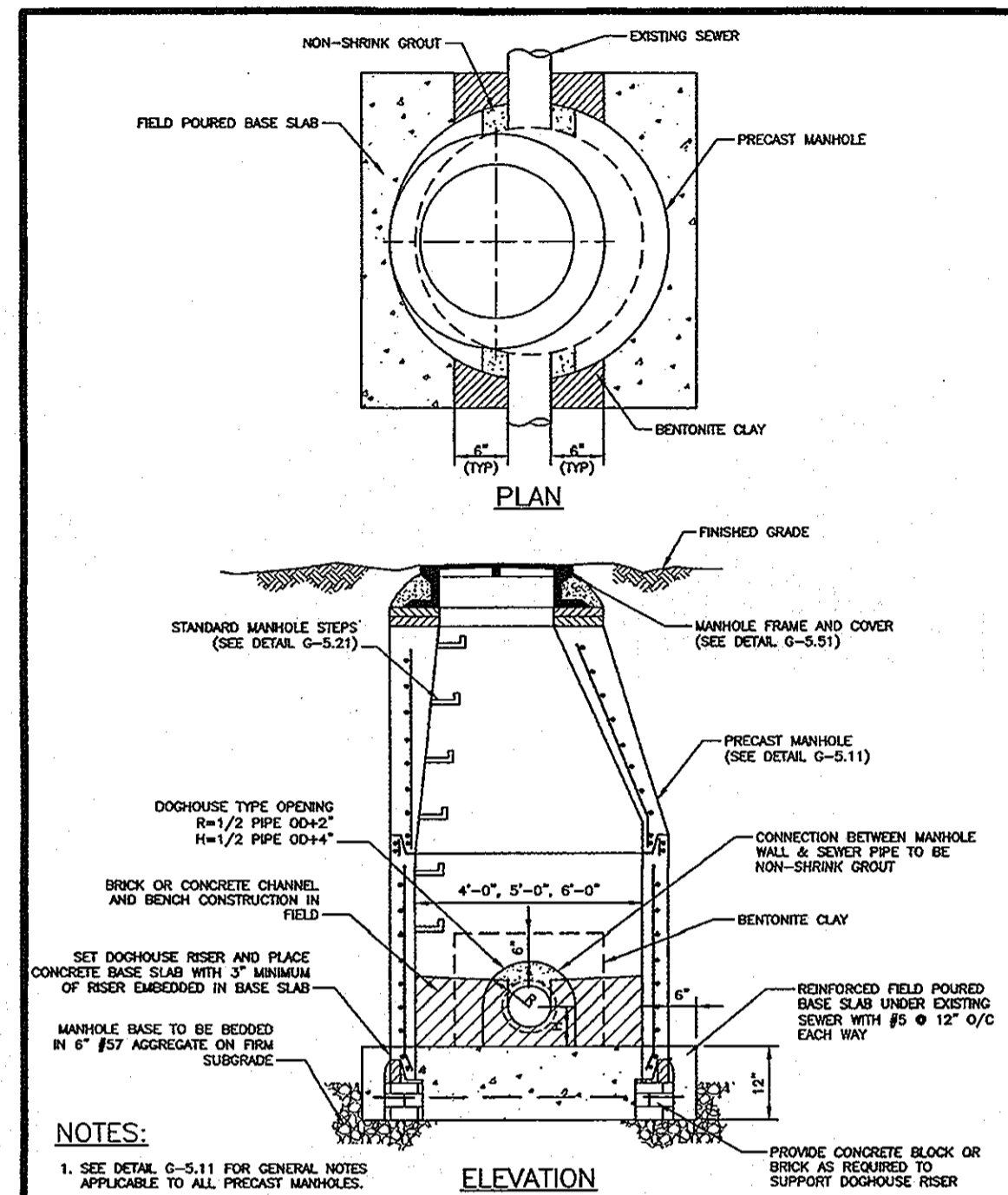
TAX MAP: 25 GRID: 07
PARCELS: 12 & 291
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 2 OF 3

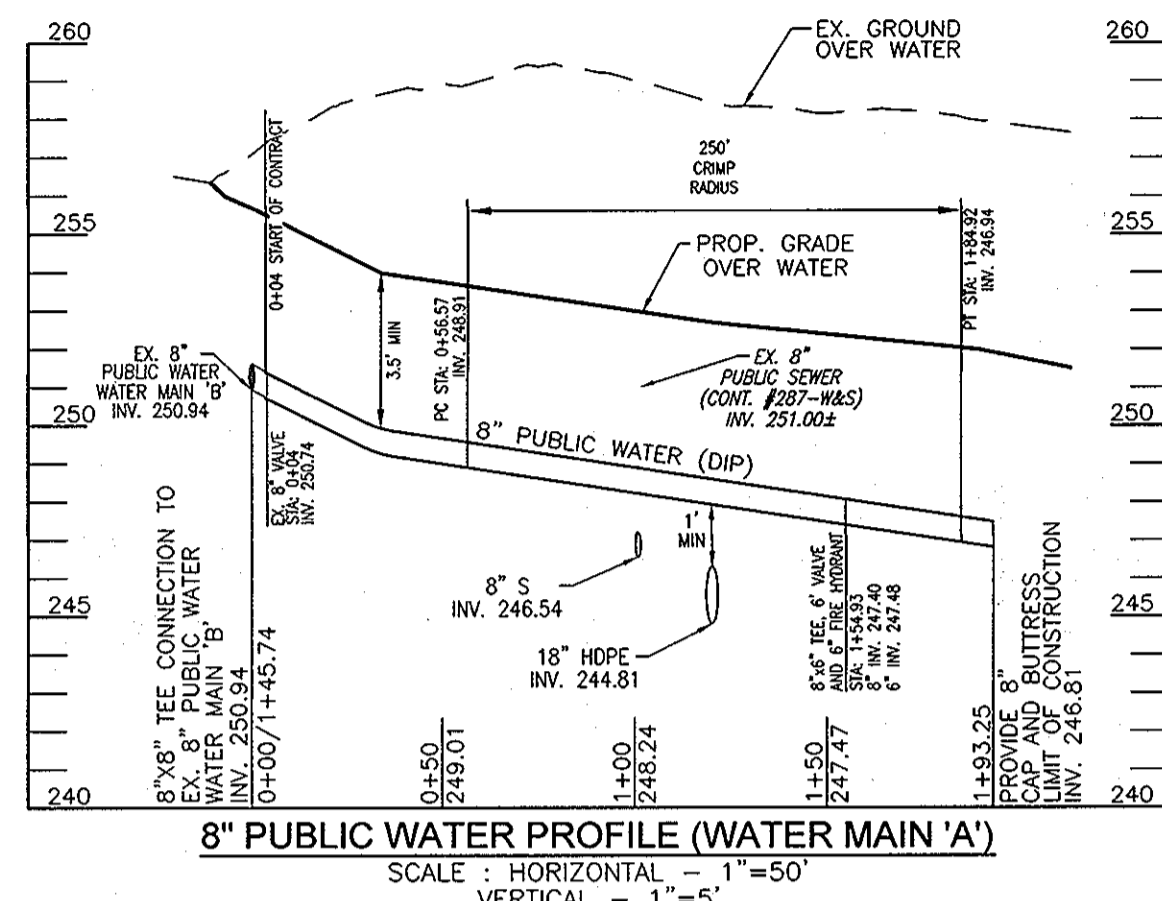
SEWER MANHOLE SCHEDULE

NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.
SMH 31	PRECAST MH HO. CO. STD. DET. G-5.12	N 583954.94 E 1368416.89	251.04	245.26	245.16
SMH 32	PRECAST MH HO. CO. STD. DET. G-5.12	N 583982.80 E 1368373.70	250.90	245.62	245.52
SMH 33	PRECAST MH HO. CO. STD. DET. G-5.12	N 584101.38 E 1368309.82	252.95	249.02	246.29
SMH 34	PRECAST MH HO. CO. STD. DET. G-5.14	N 584115.36 E 1368205.71	258.00	252.61	246.91

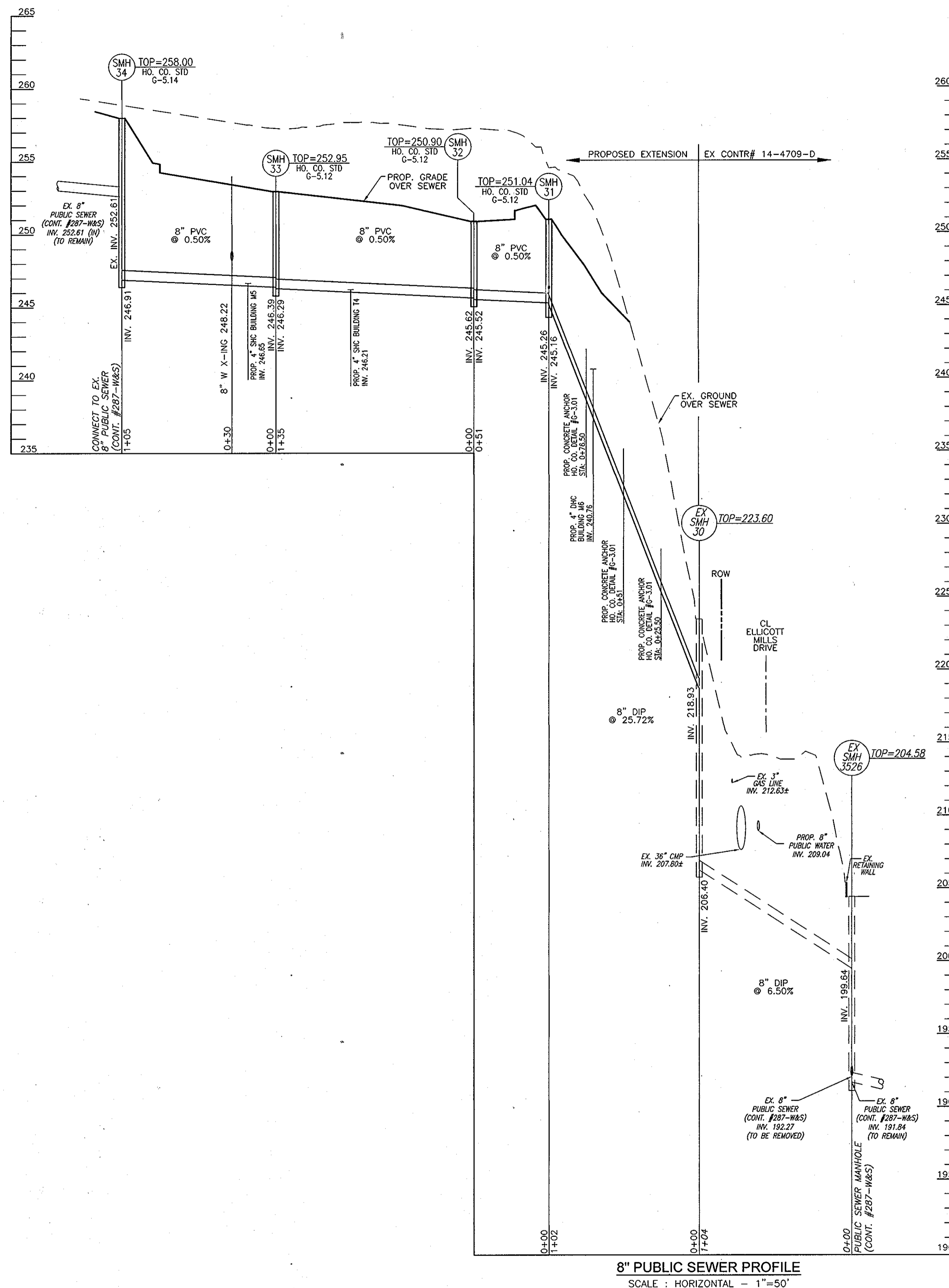


NOTES:
 1. SEE DETAIL G-5.11 FOR GENERAL NOTES APPLICABLE TO ALL PRECAST MANHOLES.
 2. SEE DETAIL G-5.13 FOR MANHOLE DETAILS FOR PIPES 27 INCHES TO 36 INCHES.

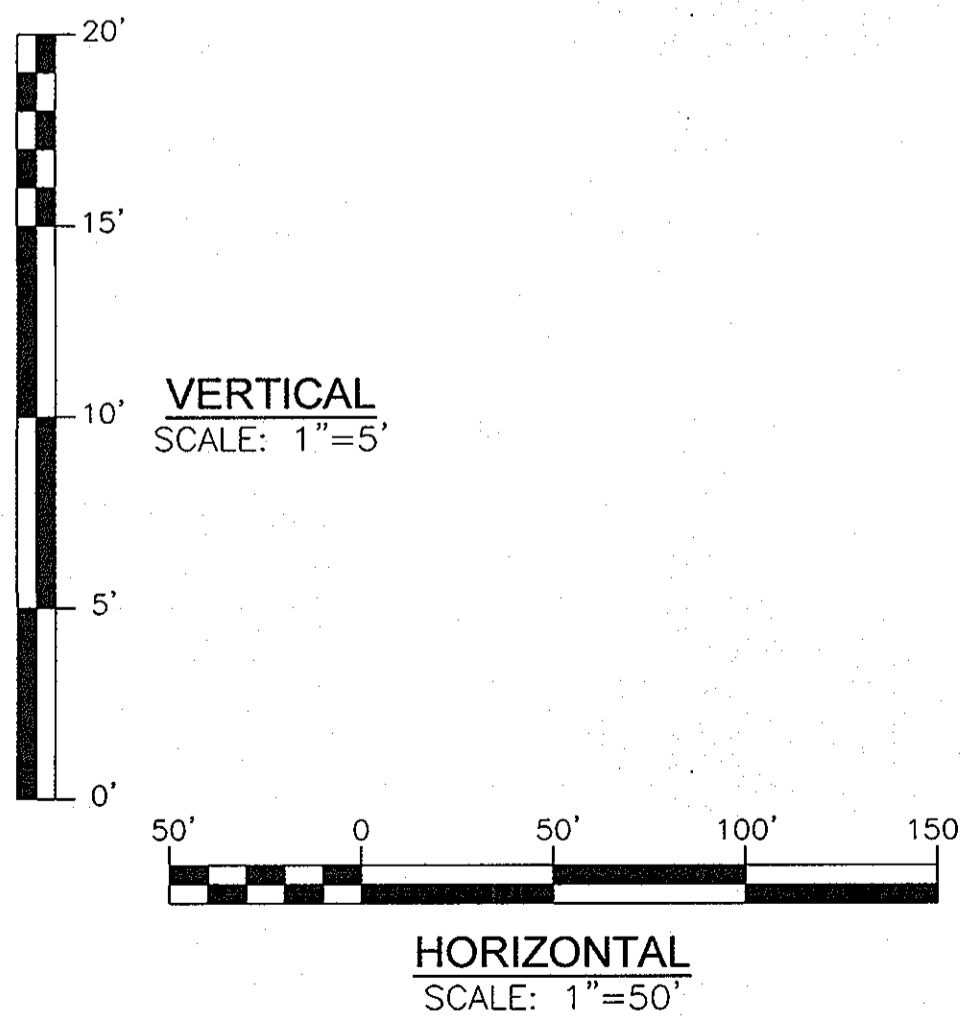
Howard County, Maryland
 Department of Public Works
 PRECAST MANHOLE
 Doghouse Over Existing Sewer
 24" Pipe and smaller
 Detail
 G-5.14



8" PUBLIC WATER PROFILE (WATER MAIN 'A')
 SCALE: HORIZONTAL - 1"=50'
 VERTICAL - 1"=5'



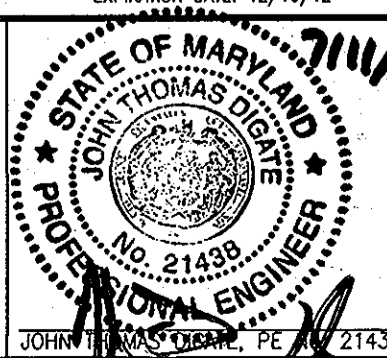
8" PUBLIC SEWER PROFILE
 SCALE: HORIZONTAL - 1"=50'



OWNER
 MIDDLETON ASSOCIATES LP
 BY: HCH PARTNERS III LLC, GENERAL PARTNER
 BY: HOWARD COUNTY HOUSING COMMISSION, MEMBER
 BY: STACY SPANN, EXECUTIVE DIRECTOR
 6751 COLUMBIA GATEWAY DR.
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DEVELOPER
 STARVOU ASSOCIATES, INC.
 2661 RIVA ROAD
 BUILDING 300
 ANNAPOLIS, MD 21401
 C/O STEPHEN J. MOORE
 (410) 571-6610

PROFESSIONAL CERTIFICATE
 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. 21438
 EXPIRATION DATE: 12/16/12



ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DES:	JTD				
DRN:	JMR				
CHK:	JTD				
DATE:	JUNE 2012				
BY NO.		REVISION		DATE	

FINAL WATER & SEWER PLAN
 LAYOUT PLAN

HILLTOP REDEVELOPMENT
 PHASE 1C
 L. 477 / F. 718, L. 456 / F. 448, L. 448 / F. 46
 CONTRACT #14-4754-D
 ZONING: R-HV, R-A-15, & POR TAX MAP: 25 GRID: 07
 DPZ REF'S: ECP-11-051, F-12-008, SDP-11-051 PARCELS: 12 & 291
 F-68-092, SDP-77-013, SDP-04-027 2ND ELECTION DISTRICT
 26-S, 287 W&S, SDP-75-61, F-66-017 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 3 OF 3

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 Chief, Bureau of Utilities
 Chief, Development Engineering Division