

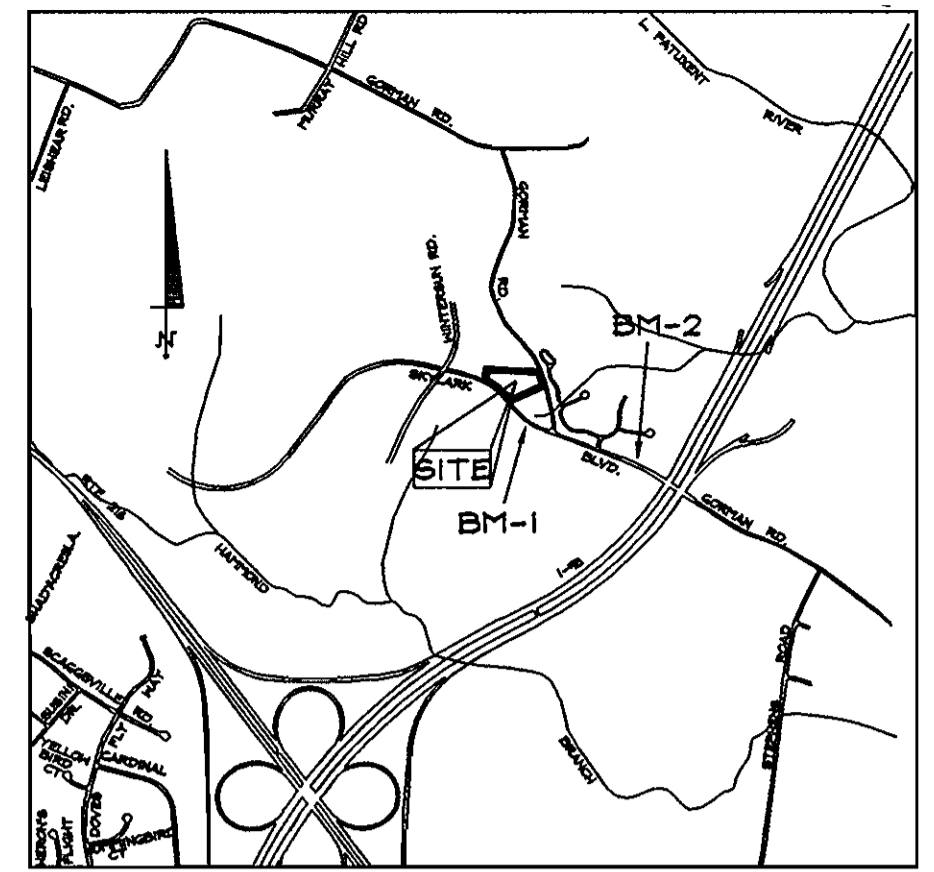
WATER AND SEWER CONSTRUCTION PLANS for EMERSON SECTION 2, PHASE 8A

CONTRACT NUMBER 34-4389-D 6TH ELECTION DISTRICT HOWARD COUNTY, MD

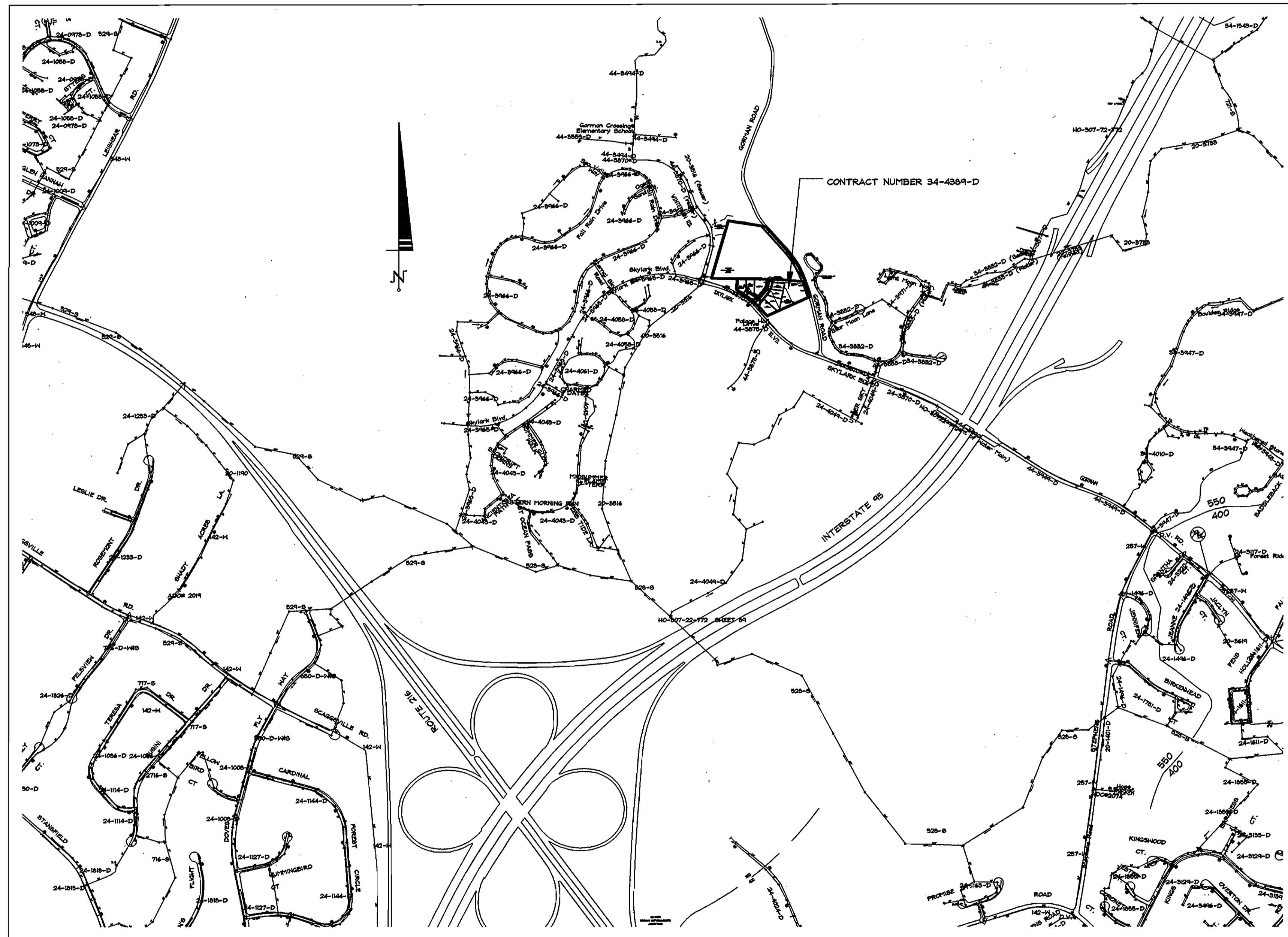
SHEET INDEX	
1	COVER SHEET
2	WATER AND SEWER PLAN AND PROFILE

BENCHMARK DESCRIPTION

BENCHMARK #1	
N.	536615.0187
E.	1393679.1226
B.M.	47DC
ELEV.	343.249
BENCHMARK #2	
N.	536212.7456
E.	1354833.6403
B.M.	47EB
ELEV.	354.296



VICINITY MAP
SCALE: 1"=2000'



WATER AND SEWER CODES
WATER NO.: E-15
SEWER NO.: 7390000
TEST GRADIENT: 700
ZONE: 550

LOCATION PLAN
SCALE: 1"=600'

TYPE OF BUILDING: RESIDENTIAL
DRAINAGE AREA: LITTLE PATUXENT
TREATMENT PLANT: LITTLE PATUXENT
WASTE WATER TREATMENT PLANT
NUMBER OF BUILDABLE LOTS: 7
NUMBER OF SHC: 7
NUMBER OF WHC: 7

GENERAL NOTES

- a. 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.
- b. Topographic field surveys were performed on March, 2006 by Demario Design Consultants, Inc.
- c. 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. 47DC & 47EB.
- d. All vertical controls are based on NAVD '88.
- e. All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- f. 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 by the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- g. 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.
- h. 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 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.
- i. 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 Company: 410-795-1390
Miss Utility: 1-800-257-7777
State Highway Administration: 410-531-5533
Verizon: 1-800-743-0033/410-224-9210
- j. 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.
- k. 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.
1. 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 DPH requirements per section 18.114(a) of the Howard County Code.

WATER GENERAL NOTES

- a. All water mains to be D.I.P. Class 52 unless otherwise noted.
- b. Tops of all water mains to have a minimum of 3' - 6" of cover unless otherwise noted.
- c. Valves adjacent to tees shall be strapped to tees.
- d. All fittings shall be buttressed or anchored with concrete in accordance with the Standard Details unless provided on the drawings.
- e. Fire hydrants shall be set to the bury line elevations shown on the drawings. All fire hydrants shall be restrained and buttressed with concrete in accordance with the Standard Details. The soil around the fire hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard Specifications.
- f. The contractor shall not operate any water main valves on the existing water system.
- g. All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- h. For sprinkler system for all town homes or multi-family dwelling units should have a minimum of 1' connection with a 3/4" meter.

SEWER GENERAL NOTES

- a. All sewer mains shall be DIP or P.V.C unless otherwise noted.
- b. All manholes shall be 4' - 0" inside diameter unless otherwise noted.
- c. Force mains shall be D.I.P. only.
- d. Manholes shown with 12" and 16" walls are for brick manholes only.
- e. Manholes designated W.T. in plan and profile shall have watertight frame and covers, Standard Detail G5.52. Where watertight frame and cover is used, set top of frame 1" - 6" above finished grade unless otherwise noted on the drawings.
- f. House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

AS BUILT
DATE: SEPTEMBER 2008

ITEMS	QUANTITIES ESTIMATED	QUANTITIES AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" SEWER MAIN	213	213 L.F.	DIP, CL. 54	GRIFFIN PIPE
SEWER MANHOLE	3	3 E.A.	PRECAST CONC.	AMERICAST
4" SHC/DHC	166	164 L.F.	DIP, CL. 54	GRIFFIN PIPE
8" WATER MAIN	254	254 L.F.	DIP, CL. 54	GRIFFIN PIPE
8"x12" T.S.&V.	1	1 E.A.	DIP, STAINLESS	JCM INDUSTRIES
1" WHC	173	173 L.F.	COPPER	READING TUBE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON F-07. **128**

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

NATURAL RESOURCES CONSERVATION SERVICE DATE: **11/19/07**

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

John R. Robertson 11/19/07
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Richard A. Swainville 11/08/07
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Michael J. Swainville 11/21/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DeMario Design Consultants, Inc.

192 East Main Street
Westminster, MD 21157

Phone: (410) 388-1500
Fax: (410) 388-1504
eMail: ddc@demariodesign.com

Professional Certification:
I hereby certify that these documents were prepared and approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 215988, Expiration Date: 6.6.08.

DES. BY: JCO				
DRN. BY: SDS				
CHK. BY: WRD				
DATE: 09.25.07				

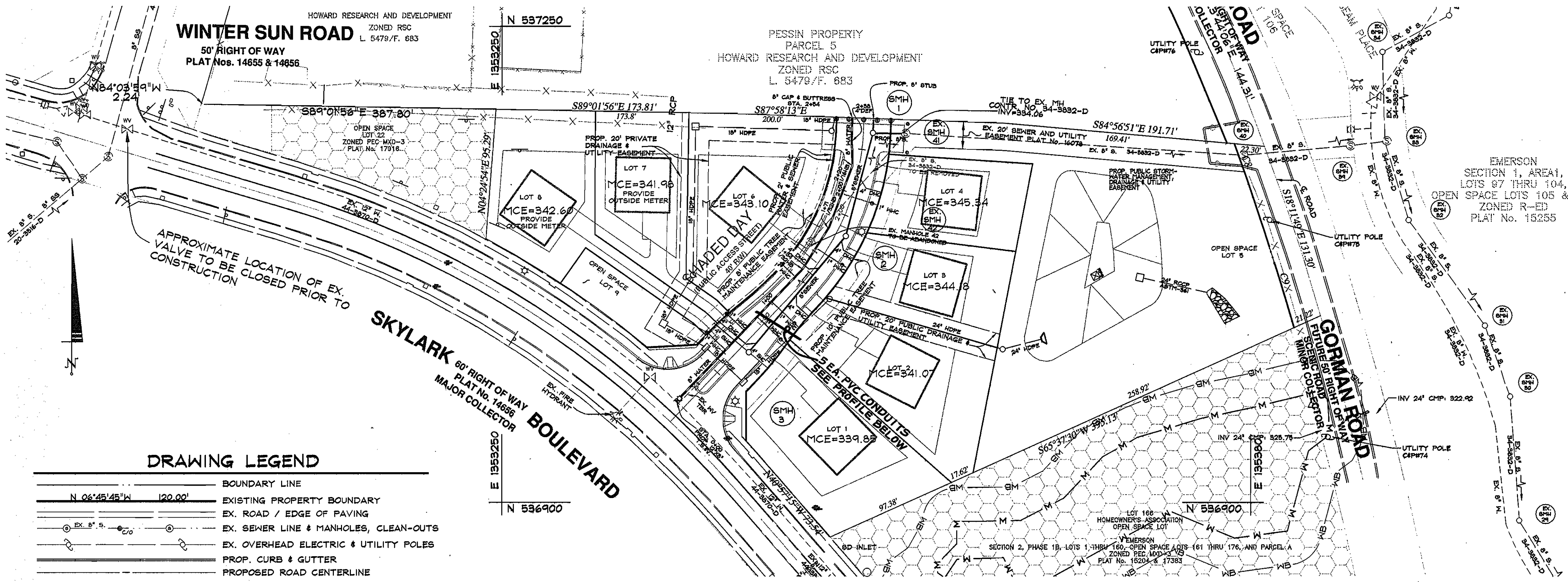
NO.	REVISIONS	DRN.	DATE

COVER SHEET

WATER & SEWER CONSTRUCTION PLANS
EMERSON
SECTION 2, PHASE 8A
LOTS 1-4, 6-8 & OPEN SPACE LOTS 5 & 9
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CONTRACT NO. 34-4389-D

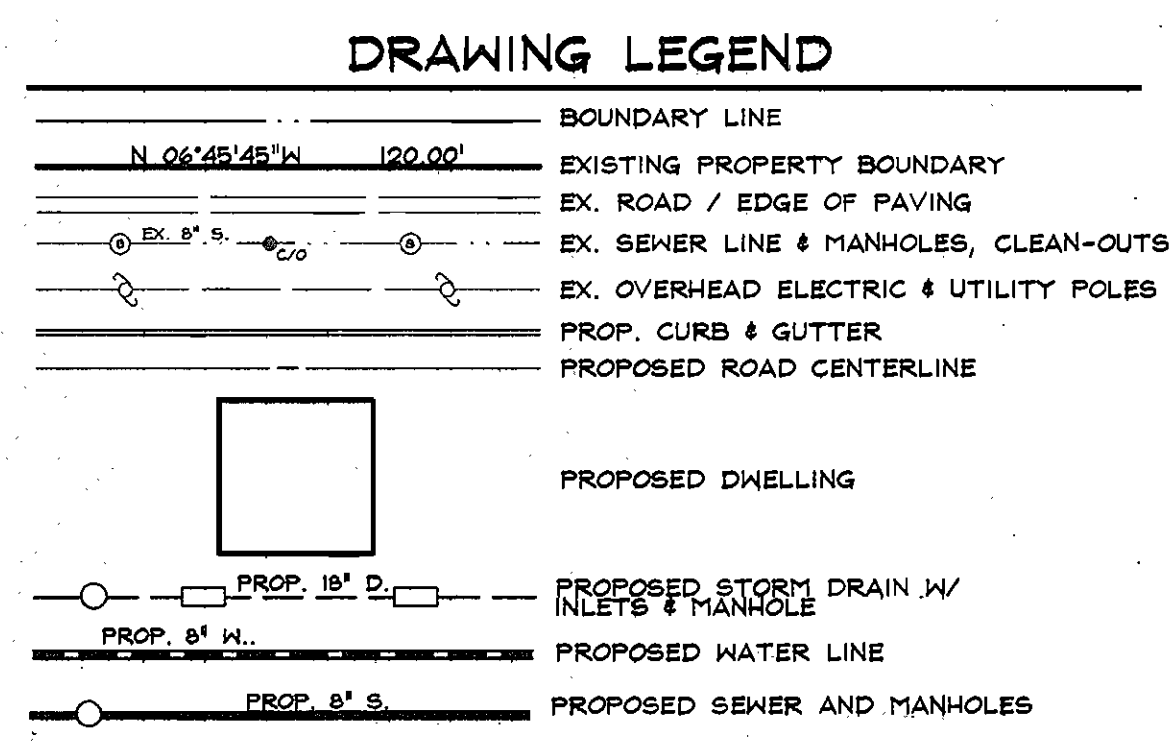
SCALE:
AS SHOWN

SHEET
1 OF 2

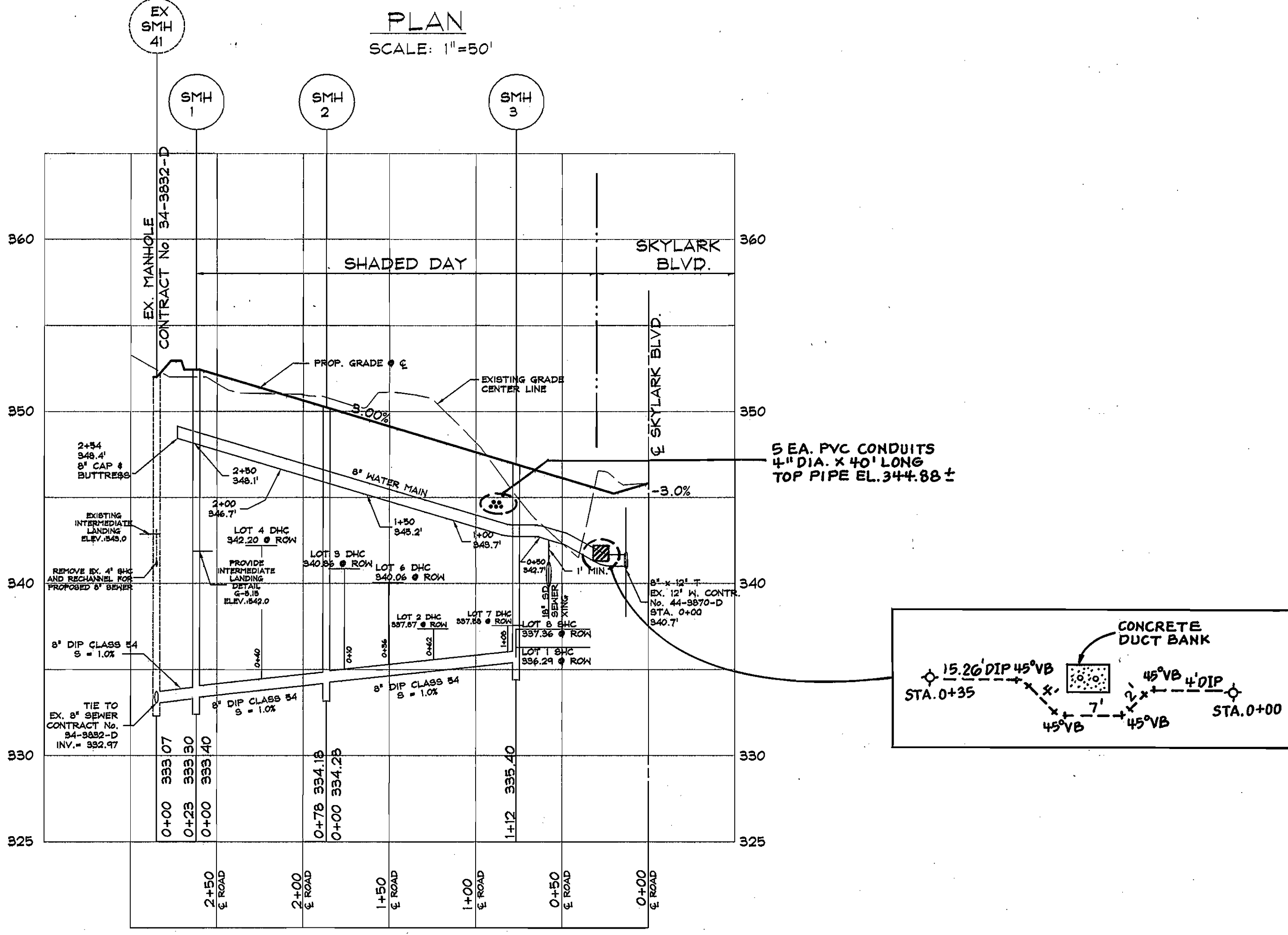


SEWER STRUCTURE SCHEDULE						
STRUCTURE NO.	TYPE	DETAIL NO.	INV. IN	INV. OUT	RIM ELEV.	LOCATION
SMH-1	4' MANHOLE	G-5.12	333.40	333.30	352.31	SHADED DAY STA. 2+62.5, 7'R
SMH-2	4' MANHOLE	G-5.12	334.28	334.18	350.03	SHADED DAY STA. 1+86.6, 7'R
SMH-3	4' MANHOLE	G-5.12	-	335.40	346.76	SHADED DAY STA. 0+76.8, 6.5'R
EX. SMH 41	4' MANHOLE	-	333.07	EX. 332.97	SEE NOTE	SHADED DAY STA. 2+62.3, 29.5'R

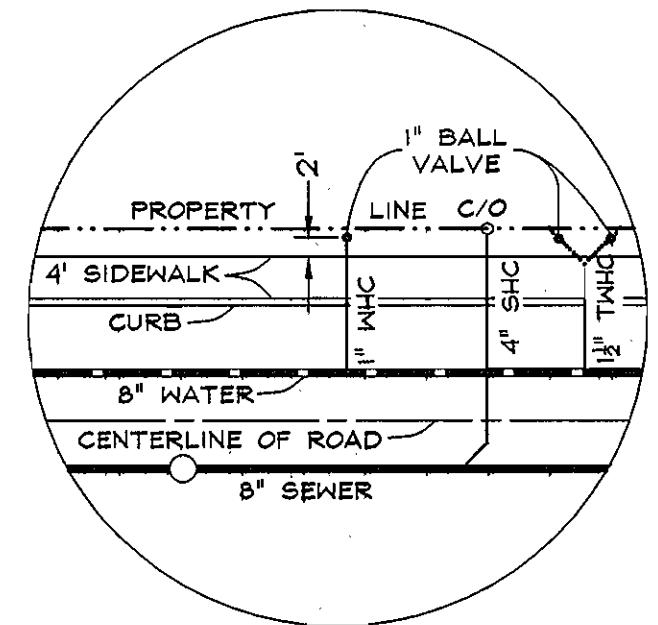
SEWER CONNECTION CHART						
LOCATION	LOT NO.	INV @ MAIN	INV @ R/W	INV @ HOUSE	MCE	FRONT DIST. @ ROW
0+00	LOT 1 SHC	335.91	336.29	335.79	339.85	42.90'
0+62	LOT 2 DHC	337.03	337.37	335.57	341.07	40.50'
0+10	LOT 3 DHC	340.56	340.86	341.68	344.18	57.00'
0+40	LOT 4 DHC	341.86	342.20	342.84	345.34	60.10'
0+37	LOT 6 DHC	339.60	340.06	340.60	343.10	167.00'
1+08	LOT 7 DHC	336.98	337.58	339.48	341.98	11.80'
0+00	LOT 8 SHC	336.76	337.36	340.10	342.60	12.10'



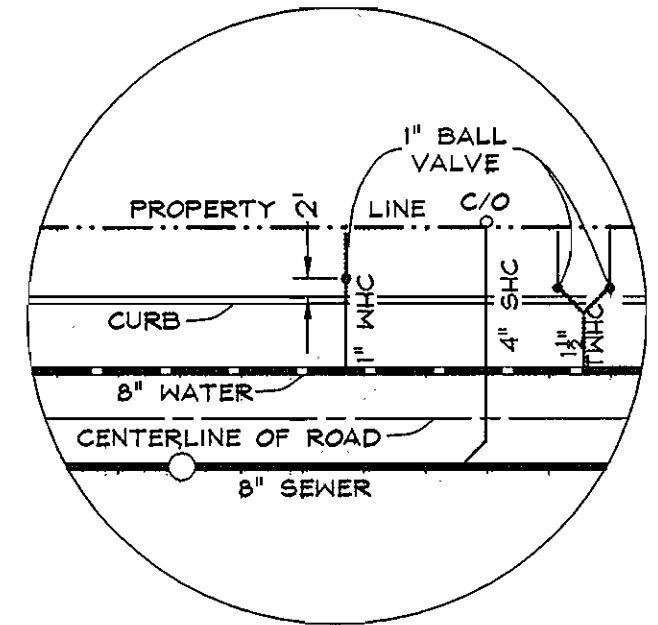
PLAN
SCALE: 1"=50'



WATER & SEWER PROFILE
SCALE - HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



HOUSE CONNECTION
PLACEMENT DETAIL
W/ SIDEWALK
NTS



HOUSE CONNECTION
PLACEMENT DETAIL
NO SIDEWALK
NTS

Water and Sewer As Builts		
From	To	Distance
8" TSV Sta. 0+00	SMH 3	60.6'
8" TSV Sta. 0+00	Inlet 1	46.6'
8" TSV Sta. 0+00	Inlet 2	44.4'
Inlet 1	SMH 3	23.1'
Inlet 2	SMH 3	30.8'
SMH 3	Lot 1 Water	26.8'
SMH 3	Lot 1 Sewer	18.3'
Lot 1 Water	Lot 1 Sewer	23.3'
SMH 3	Lot 8 Water	35.1'
SMH 3	Lot 8 Sewer	33.6'
Lot 8 Water	Lot 8 Sewer	9.5'
SMH 3	Lot 7 Water	33.7'
SMH 3	Lot 7 Sewer	34.8'
Lot 7 Water	Lot 7 Sewer	9.2'
Lot 7 Sewer	Lot 8 Sewer	2.1'
SMH 3	Lot 2 Water	41.0'
SMH 3	Lot 2 Sewer	53.0'
Lot 2 Water	Lot 2 Sewer	12.0'
SMH 2	Lot 6 Water	52.2'
SMH 2	Lot 6 Sewer	44.6'
Lot 6 Water	Lot 6 Sewer	9.5'
SMH 2	Lot 4 Water	34.9'
SMH 2	Lot 4 Sewer	41.8'
Lot 4 Water	Lot 4 Sewer	12.8'
SMH 41	SMH 2	86.7'
SMH 41	Lot 4 Sewer	45.9'
SMH 41	Lot 4 Water	56.6'
SMH 1	Lot 4 Water	55.2'
SMH 1	Lot 4 Sewer	42.5'
SMH 2	Lot 3 Water	22.2'
SMH 2	Lot 3 Sewer	16.7'
Lot 3 Water	Lot 3 Sewer	10.3'
SMH 1	SMH 41	24.0'

AS BUILT
DATE: SEPTEMBER 2008

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 11/21/07 CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND 11/21/07 CHIEF, DEVELOPMENT ENGINEERING DIVISION	 192 East Main Street Westminster, MD 21157 Phone: (410) 335-0550 Fax: (410) 388-0564 Email: ddc@demariodesign.com 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. 21966, Expiration Date: 6.6.08.	DES. BY: JCO DRN. BY: SDS CHK. BY: WRD DATE: 10.31.07	WATER AND SEWER PLAN AND PROFILE	WATER & SEWER CONSTRUCTION PLANS EMERSON SECTION 2, PHASE 8A LOTS 1-4, 6-8 & OPEN SPACE LOTS 5 & 9 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 34-4384-D	SCALE: AS SHOWN SHEET 2 OF 2
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