

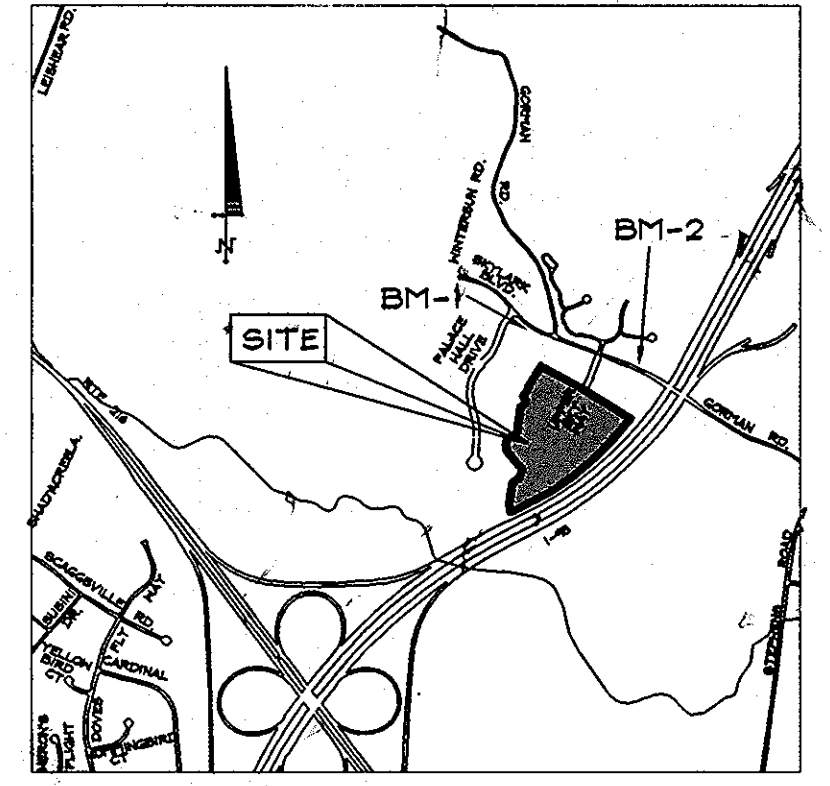
# FINAL WATER AND SEWER CONSTRUCTION PLANS

## for EMERSON SECTION 2, PHASE 8B

### CONTRACT NUMBER 24-4388-D

### 6TH ELECTION DISTRICT HOWARD COUNTY, MD

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



#### BENCHMARK DESCRIPTION

BENCHMARK #1	BENCHMARK #2
N. 536615.0157	N. 536212.7456
E. 193679.1226	E. 193483.6409
B.M. 47DC	B.M. 47EB
ELEV. 343.249	ELEV. 354.296

#### GENERAL NOTES

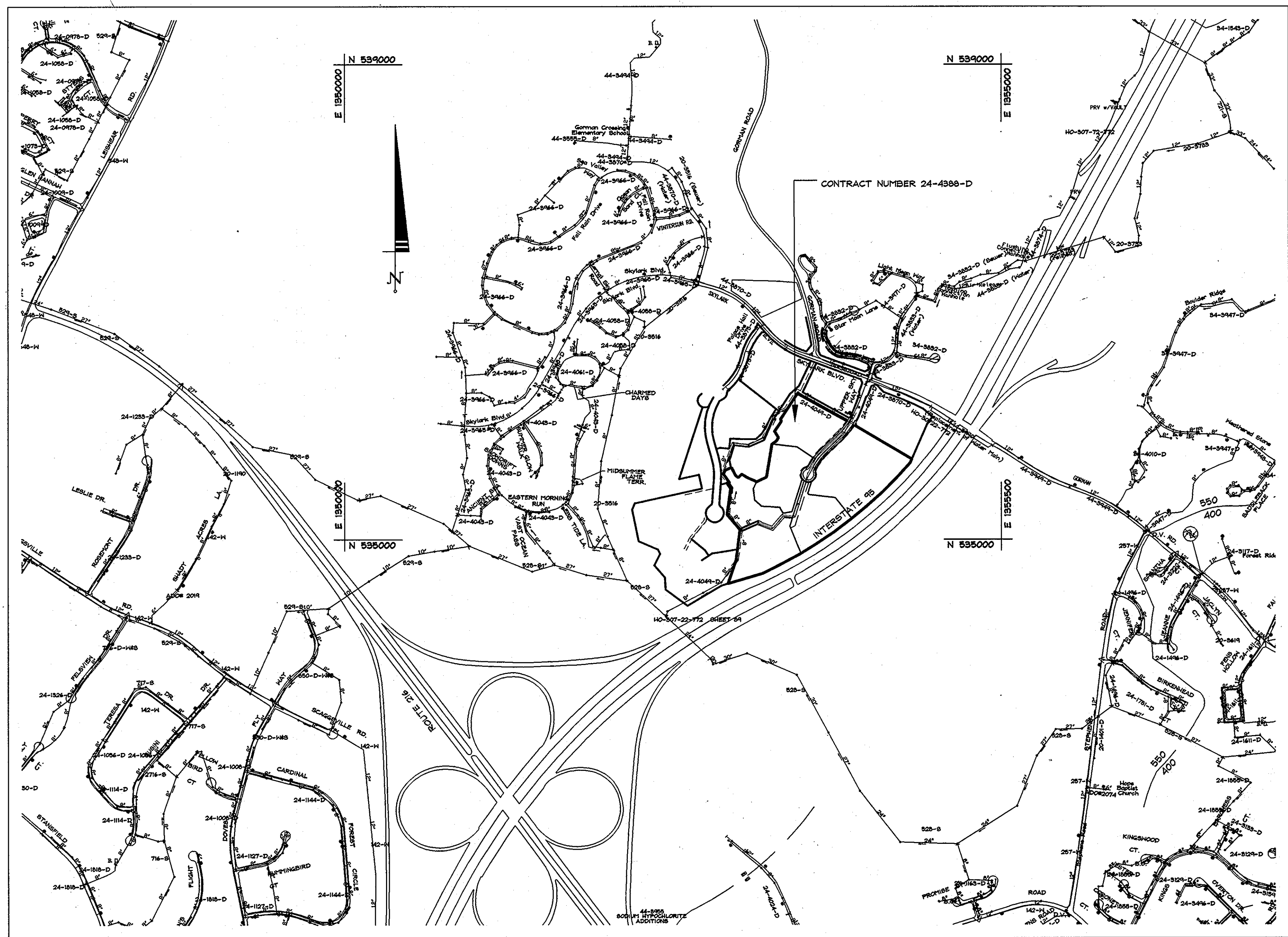
- Approximate locations of existing mains are shown. The contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the contractor's expense.
- Topographic field surveys were performed on March, 2006 by Demario Design Consultants, 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. 47DC & 47EB.
- All vertical controls are based on NAVD '88.
- All pipe elevations shown are invert elevations unless otherwise noted on the plans.
- 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.
- 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 pits 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.
- The contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:
  - AT & T: 1-800-252-1183
  - BGE (Construction Services): 410-850-4620
  - BGE (Emergency): 410-695-1400
  - 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
- 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 18.14(a) of the Howard County Code.

#### WATER GENERAL NOTES

- All water mains to be D.I.P. Class 54 unless otherwise noted.
- Tops of all water mains to 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 the Standard Details unless provided 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 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.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted a plans or in specifications.
- For sprinkler system for all town homes or multi-family dwelling units should have a minimum of 1' connection with a 3/4" meter.

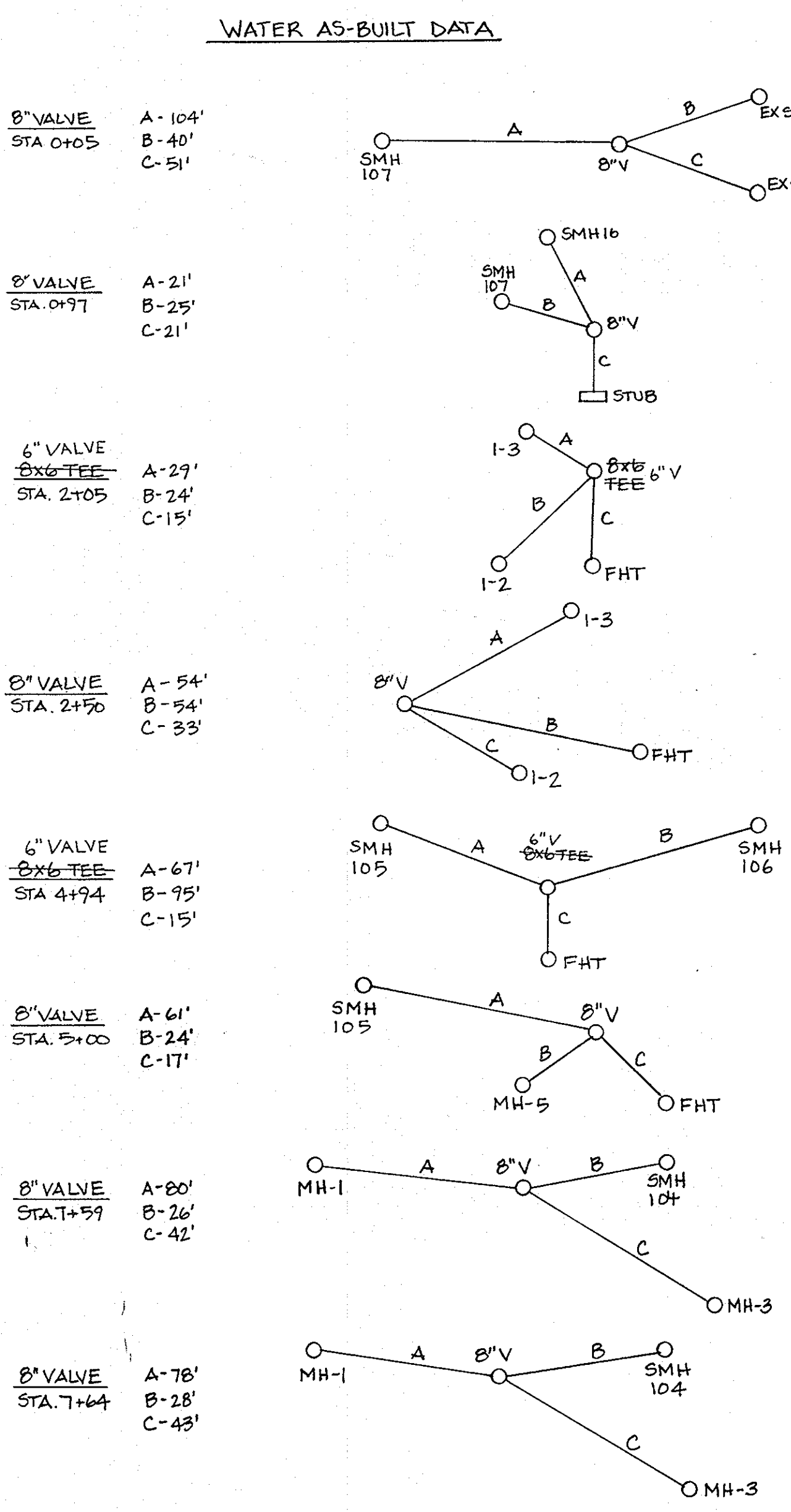
#### SEWER GENERAL NOTES

- All sewer mains shall be DIP 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 masonry only.
- 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.
- House (H) with the symbol "C.N.S." indicates that cellar cannot be served.



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

TYPE OF BUILDING: RESIDENTIAL  
 DRAINAGE AREA: LITTLE PATUXENT TREATMENT PLANT, LITTLE PATUXENT WASTE WATER TREATMENT PLANT  
 NUMBER OF BUILDABLE PARCELS: 4  
 NUMBER OF SHC: 0  
 NUMBER OF VHC: 0



**OWNER/DEVELOPER:**  
 EMERSON LAND BUSINESS TRUST  
 10275 LITTLE PATUXENT PKWY  
 COLUMBIA, MD 21044  
 410-992-6000

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON F-07-141

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

NATURAL RESOURCES CONSERVATION SERVICE DATE

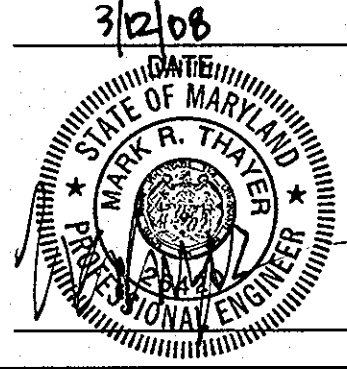
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard Soil Conservation District 3/27/09 DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Chief, Bureau of Utilities

DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY, MARYLAND  
 Chief, Development Engineering Division

**DeMario Design Consultants, Inc.**  
 192 E. Main Street  
 Westminster, MD 21157  
 Phone: (410) 386-0590  
 Fax: (410) 386-0564  
 eMail: dco@demariodesign.com

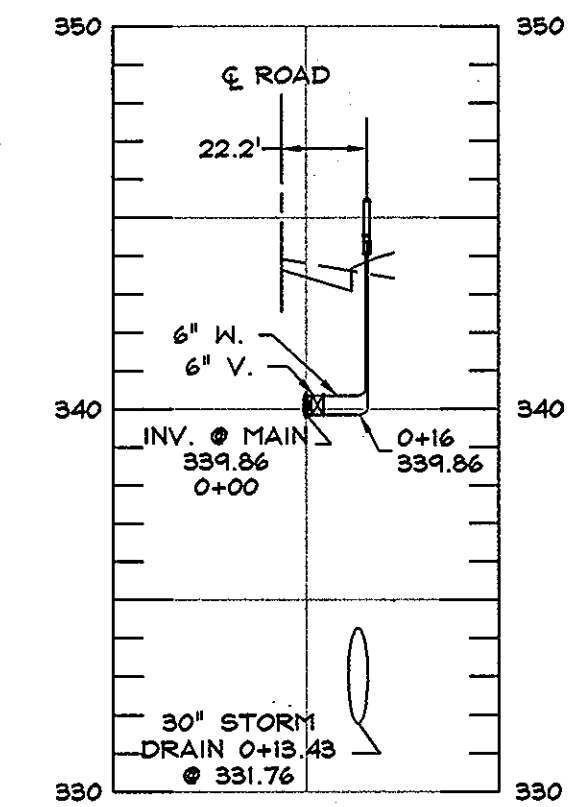
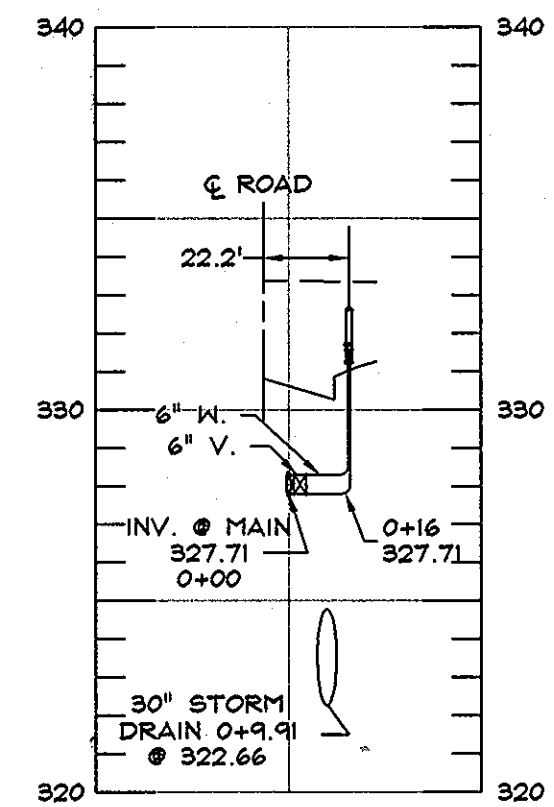
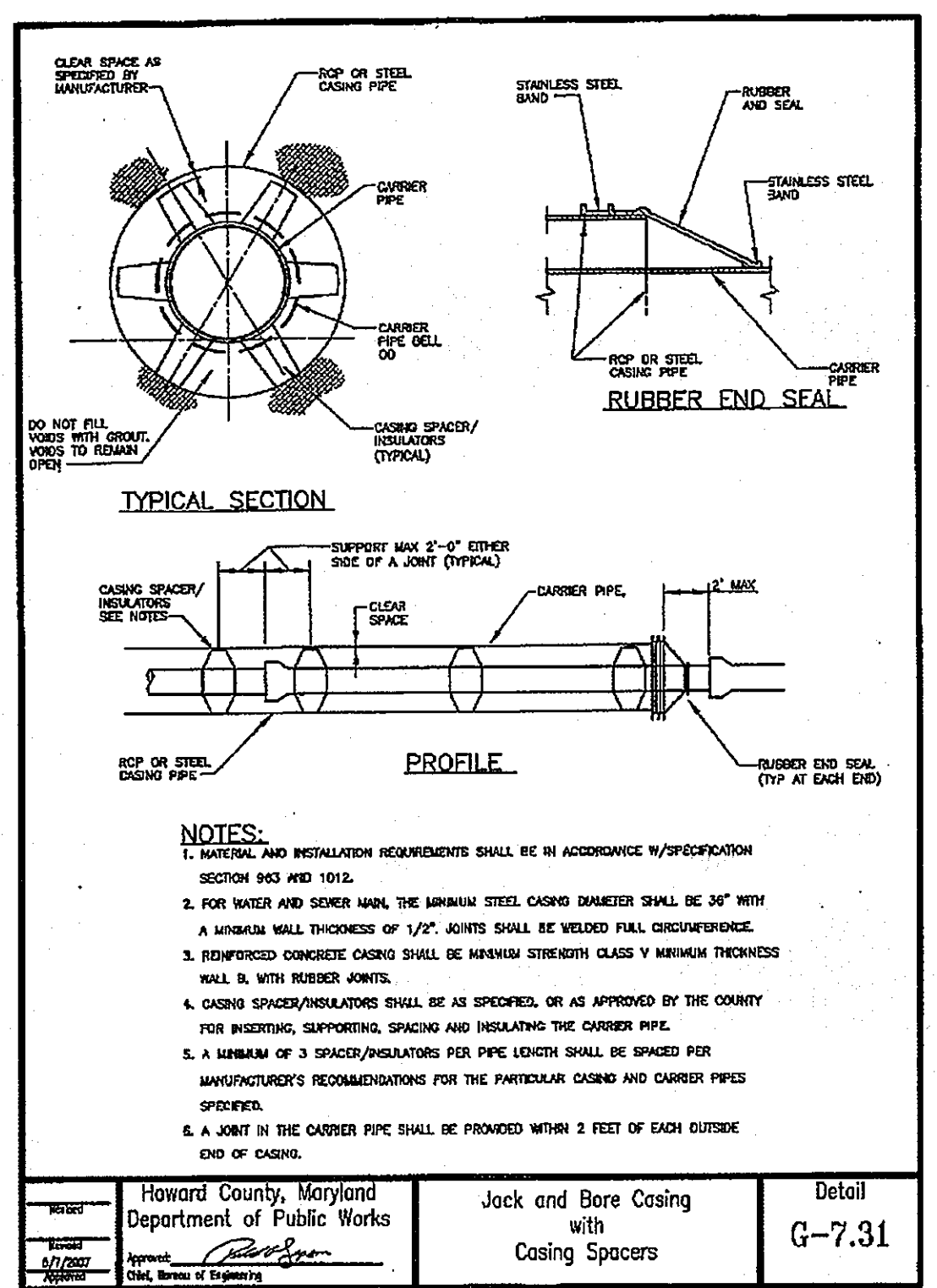
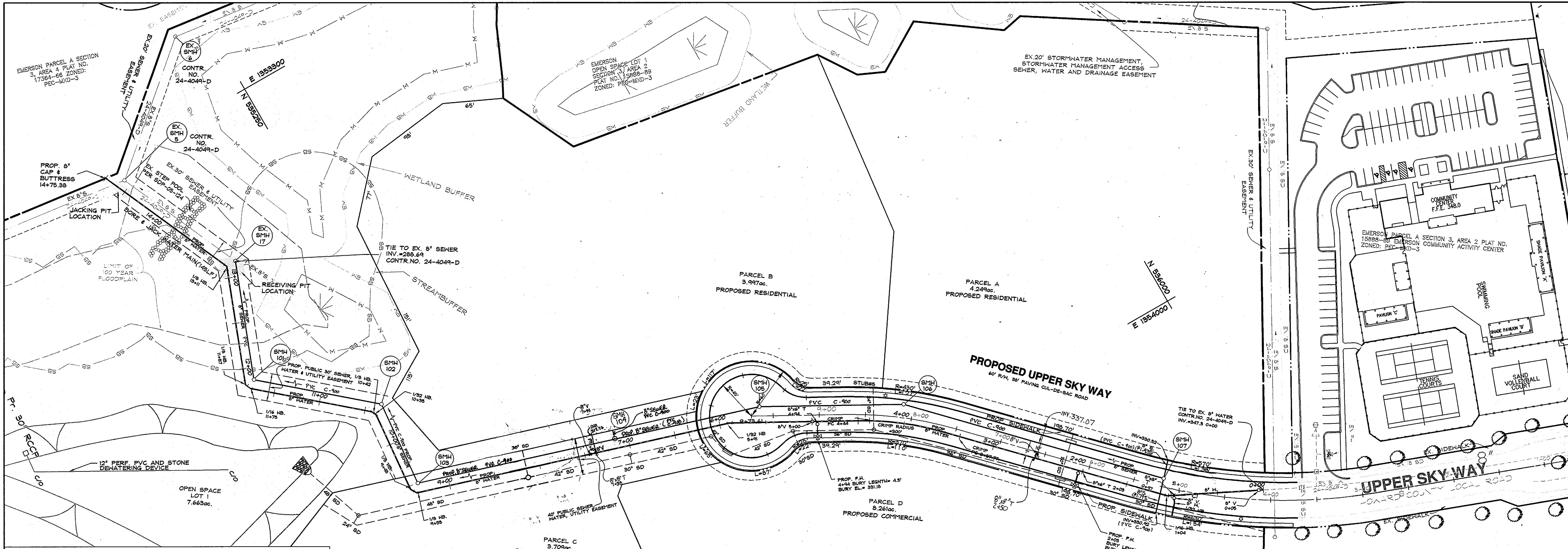


DES. BY:	JCO	DRN. BY:	SDS	CHK. BY:	WRD	JOB#:	05104.2	DATE:	05.07.07
AS-BUILT REVISIONS									
REMOVE 8" VALVE AT STA 14+70									
UPDATE FOR PIPE MATERIAL									
RELOCATE 8" WATER TO PARCELS A & B									
RELOCATE SMH-104 AND 8" SEWER TO PARCEL B									

COVER SHEET  
 600 SCALE MAP NO.: 47  
 BLOCK NO.: 8

**EMERSON SECTION 2, PHASE 8B**  
 6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT NO. 24-4388-D

SCALE: AS SHOWN  
 SHEET 1 OF 3



**DRAWING LEGEND**

	BOUNDARY LINE
	EXISTING PROPERTY BOUNDARY
	EX. ROAD / EDGE OF PAVING
	EX. SEWER LINE & MANHOLES, CLEAN-OUTS
	EX. OVERHEAD ELECTRIC & UTILITY POLES
	PROP. CURB & GUTTER
	PROPOSED ROAD CENTERLINE
	PROPOSED STORM DRAIN W/ INLETS & MANHOLE
	PROPOSED WATER LINE
	PROPOSED SEWER AND MANHOLES

**OWNER/DEVELOPER:**  
EMERSON LAND BUSINESS TRUST  
10275 LITTLE PATUXENT PKWY  
COLUMBIA, MD 21044  
410-992-6000

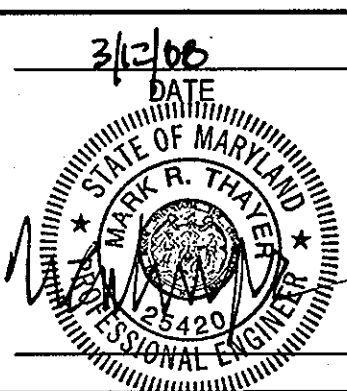
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Chief, Bureau of Utilities: *Shelli C. Coe*

DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY, MARYLAND

Chief, Development Engineering Division: *John J. ...*

**DeMario Design Consultants, Inc.**  
192 E. Main Street  
Westminster, MD 21157  
Phone: (410) 386-0500  
Fax: (410) 386-0504  
eMail: ddc@demariodesign.com



DES. BY: JCO			
DRN. BY: SDS	4	AS-BUILT REVISIONS	KCI 4-22-11
CHK. BY: WRD	3	REMOVE 6" VALVE AT STA 14+70	L-28-11
	2	UPDATE FOR FIRE MATERIAL	KG 11-18-2008
JOB#: 05104.2	1	RELOCATE 6" WATER TO PARCELS A & B	CB-26-09
		RELOCATE SMH 104 AND 6" SEWER TO PARCEL B	
DATE: 05.07.07	NO.	REVISIONS	DRN. DATE

**WATER AND SEWER PLAN**

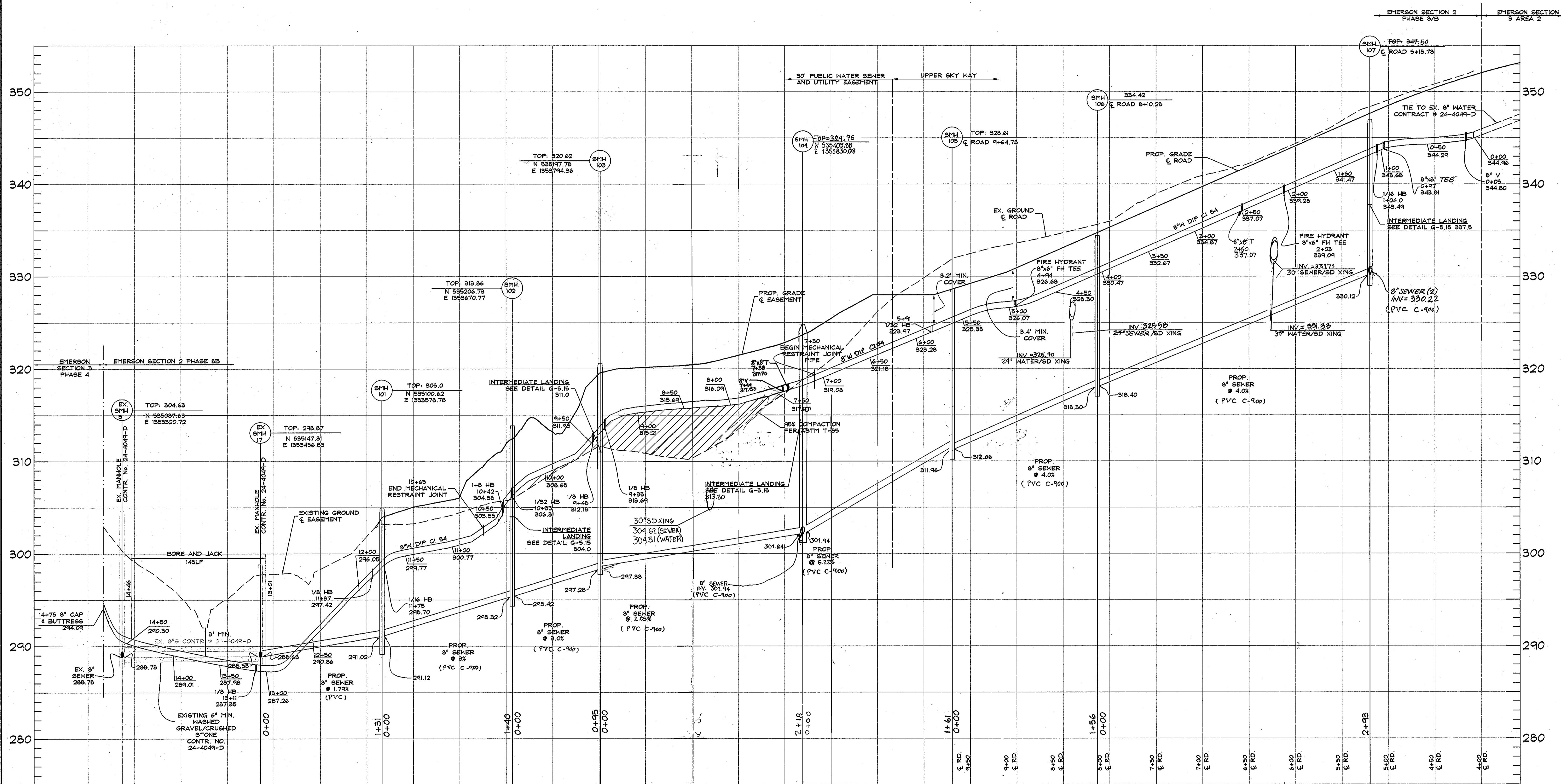
600 SCALE MAP NO.: 47      BLOCK NO.: 8

**EMERSON SECTION 2, PHASE 8B**  
6th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CONTRACT NO. 24-4388-D

SCALE: 1"=50'  
SHEET 2 OF 3

SEWER STRUCTURE SCHEDULE						SEWER STRUCTURE SCHEDULE							
STRUCTURE NO.	TYPE	DETAIL NO.	INV. IN	INV. OUT	RIM ELEV	LOCATION	STRUCTURE NO.	TYPE	DETAIL NO.	INV. IN	INV. OUT	RIM ELEV	LOCATION
SMH-101	4' MANHOLE	G-5.12	291.02	291.12	305.00	N 535100.62 E 1353578.78	SMH-106	4' MANHOLE	G-5.12	318.30	318.40	335.74	Q ROAD: 8+10.28, 14.85' R
SMH-102	4' MANHOLE	G-5.12	295.32	295.42	315.86	N 535206.78 E 1353470.77	SMH-107	4' MANHOLE	G-5.12	330.12	-	347.50	Q ROAD: 8+10.28, 14.85' R
SMH-103	4' MANHOLE	G-5.12	297.28	297.38	320.62	N 535197.78 E 1353794.36	EX. SMH-5	4' MANHOLE	G-5.12	-	287.84	304.63	N 535147.81 E 1353456.83
SMH-104	4' MANHOLE	G-5.12	301.94	301.84	314.75	N 535105.88 E 1353830.08	EX. SMH-17	4' MANHOLE	G-5.12	288.58	285.68	298.87	N 535087.63 E 1353320.72
SMH-105	4' MANHOLE	G-5.12	311.96	312.06	328.61	Q ROAD: 9+64.78							

SEWER CONNECTION CHART					
LOCATION	LOT NO.	INV @ MAIN	INV @ R/W	INV @ HOUSE	MCE
0+40	LOT 4	334.47	334.79	335.79	338.29
0+10	LOT 5	334.50	334.80	335.00	336.50
0+62	LOT 2	334.90	335.25	335.75	339.25
0+00	LOT 1	335.40	335.79	337.18	339.68
0+37	LOT 6	334.65	335.11	336.11	338.61
1+08	LOT 7	335.36	336.00	338.30	340.80
0+00	LOT 8	335.40	335.76	339.06	341.56



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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Steve Chen</i> CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>John J. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	<b>DeMario Design Consultants, Inc.</b> 192 E. Main Street Westminster, MD 21157 Phone: (410) 386-6000 Fax: (410) 386-6064 eMail: ddc@demariodesign.com	DES. BY: JCO DRN. BY: SDS CHK. BY: WRD JOB#: 05104.2 DATE: 05.07.07	3/12/08 STATE OF MARYLAND PROFESSIONAL ENGINEER No. 13420	REVISIONS 1 AS-BUILT REVISIONS 2 REMOVE 8" VALVE AT STA 19+70 3 UPDATE FOR PIPE MATERIAL 4 RELOCATE 8" WATER TO PARCELS A & B 5 RELOCATE SMH-104 AND 8" SEWER TO PARCEL B	NO. 47 REVISIONS DRN. DATE 600 SCALE MAP NO.: 47 BLOCK NO.: 8	<b>EMERSON SECTION 2, PHASE 8B</b> 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 24-4388-D	SCALE: AS SHOWN SHEET 3 OF 3
			WATER AND SEWER PLAN AND PROFILE		EMERSON SECTION 2, PHASE 8B			