

SHEET INDEX

NO.	TITLE
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2	PLAN OF WATER & SEWER EXTENSIONS
3	PROFILES OF WATER EXTENSIONS
4	PROFILES OF SEWER EXTENSIONS

WATER AND SEWER EXTENSIONS EMERSON TOWNHOUSES

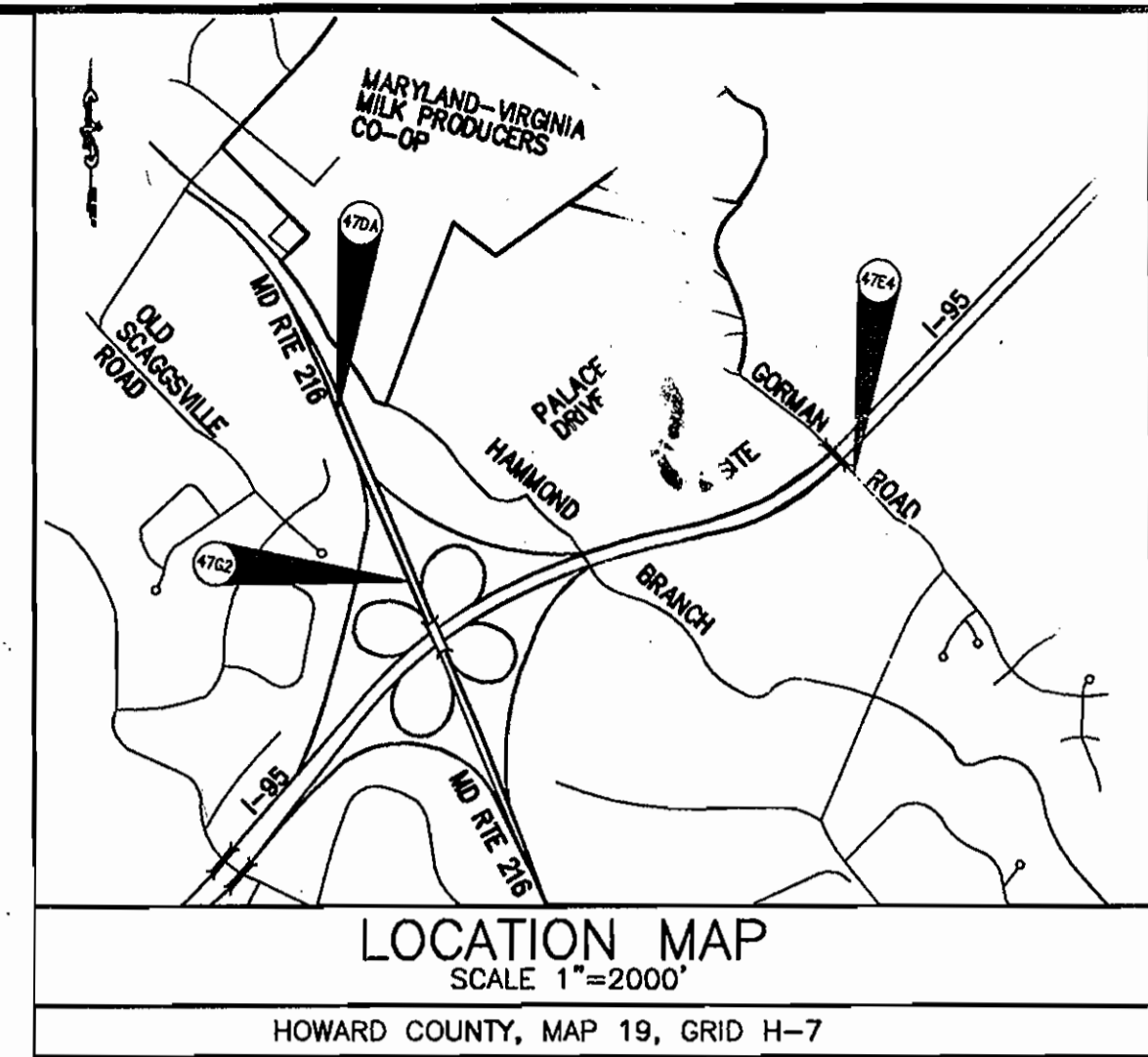
SECTION 2, PHASE 6A, LOTS 1-41

A RESUBDIVISION OF PARCEL 'A-1' and 'B-1'

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

CONTRACT NO. 24-4322-D



LOCATION MAP
SCALE 1"=2000'
HOWARD COUNTY, MAP 19, GRID H-7

GENERAL NOTES

- PART I**
- APPROXIMATE LOCATION 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 DECEMBER 2004 BY christopher consultants, ltd.
 - 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. 47DA, NO 47C AND NO. 47E4. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE STAMPED DISC ON TOP OF A CONCRETE COLLUM.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12". 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 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:

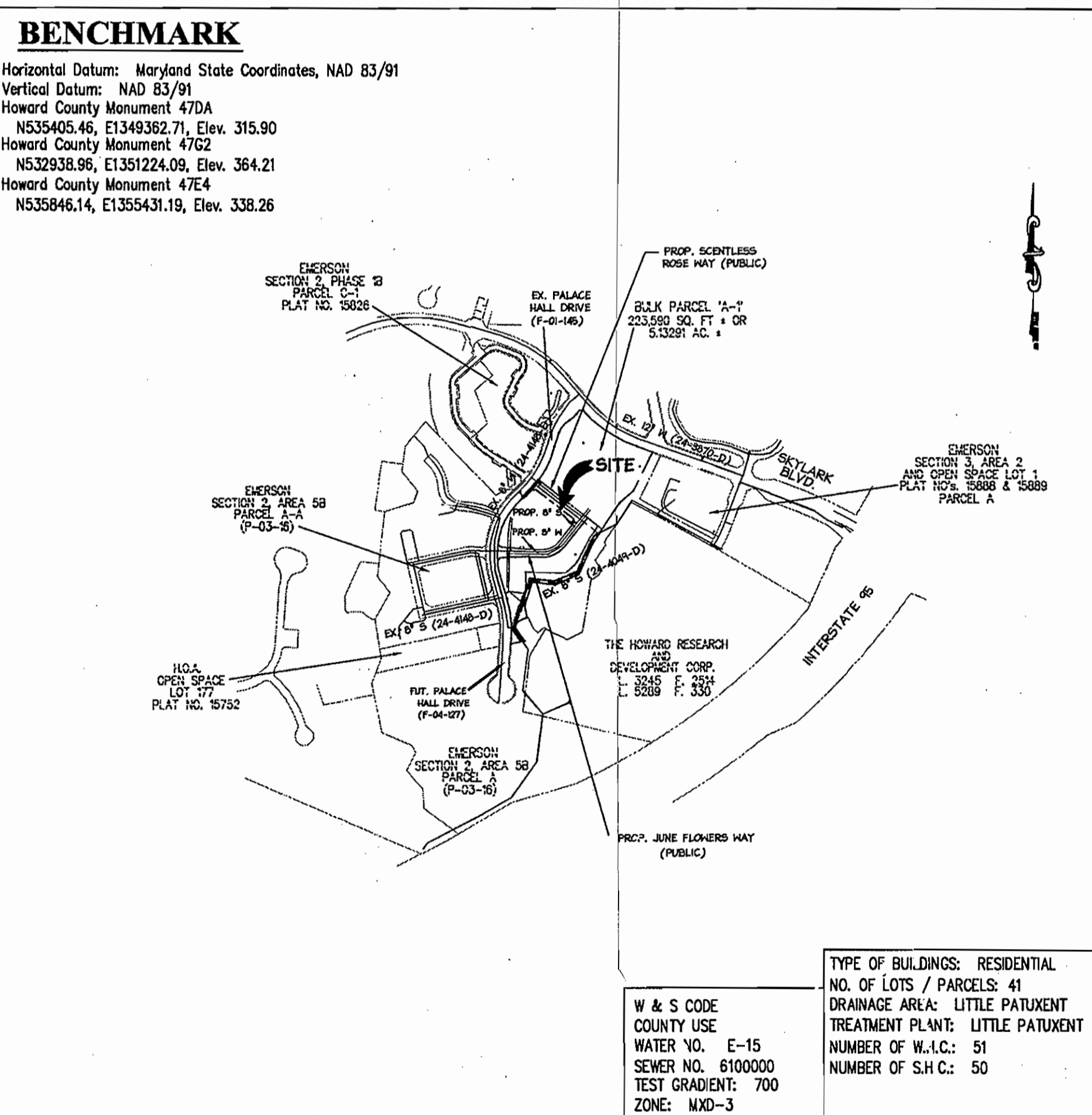
AT&T	1-800-292-1133
BCE (CONTRACTOR SERVICES)	410-950-1820
BCE (EMERGENCY)	410-685-1400
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-785-1390
MESS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5535
VERIZON	1-800-743-0033/410-224-9210
 - TREES AND SHRUBS ARE TO BE PROTECTED 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 (40) 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 (d) OF THE HOWARD COUNTY CODE.

- PART II - WATER**
- ALL WATER MAINS SHALL BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TREES SHALL BE STRAPPED TO TREES.
 - 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 SECTION 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- 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'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

QUANTITIES

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
8" WATER	914 LF	919 ± L.F.	D.I.P.	GRIFFIN PIPE
6" WATER	35 LF	35 L.F.	D.I.P.	GRIFFIN PIPE
4" WATER	380 LF	380 L.F.	D.I.P.	GRIFFIN PIPE
8" VALVE	4 EA	4 EA.	GATE VALVE	KENNEDY/SUPPLY
6" VALVE	2 EA	2 EA.	"	" / "
4" VALVE	2 EA	2 EA.	"	" / "
8" CAP	2 EA	2 EA.	D.I.P.	HARCO/SUPPLY
4" CAP	2 EA	2 EA.	"	" / "
8" 1/32 HB	1 EA	1 EA.	"	" / "
8" 1/16 HB	2 EA	2 EA.	"	" / "
8"x8" CROSS	1 EA	1 EA.	"	" / "
8"x4" REDUCER	2 EA	2 EA.	"	" / "
8" tee	2 EA	2 EA.	"	" / "
8"x6" FHT	2 EA	2 EA.	"	" / "
FIRE HYDRANT - 5.0'	1 EA	1 EA.	KENNEDY	KENNEDY/SUPPLY
FIRE HYDRANT - 6.5'	1 EA	1 EA.	"	" / "
1 1/2" WMC	404 LF	413 ± L.F.	COPPER	CAMBRIDGE/ "
1" WMC	417 LF	493 L.F.	"	" / "
8" SEWER	1,356 LF	1,356 ± L.F.	P.V.C. & D.I.P.	DIAMOND PLASTICS/GRIFFIN/FERGUSON
MANHOLES	8 EA	8 EA.	PRECAST	ATLANTIC MANHOLES
6" SHC	469 LF	469 ± L.F.	P.V.C. & D.I.P.	DIAMOND PLASTICS/GRIFFIN/FERGUSON
4" SHC	492 LF	492 ± L.F.	"	" / "
* 8" 1/4 VERT. BEND	2 EA.	2 EA.	D.I.P.	GRIFFIN PIPE

* 8" 1/4 VERT. BEND USED TO TIE IN NEW WATER LINE ON SCENTLESS ROSE WAY TO EXISTING 8" STUB FROM PLACE HALL DRIVE.



TYPE OF BUILDINGS: RESIDENTIAL
NO. OF LOTS / PARCELS: 41
DRAINAGE AREA: LITTLE PATUXENT
TREATMENT PLANT: LITTLE PATUXENT
NUMBER OF W.L.C.: 51
NUMBER OF S.H.C.: 50

VICINITY MAP
SCALE: 1"=600'

AS BUILT
DATE: MAY 29, 2007

DEVELOPER
GOODIER BUILDERS
10705 CHARTER DRIVE, SUITE 320
COLUMBIA, MARYLAND 21044
TEL. (410) 997-7400
FAX (410) 997-6305

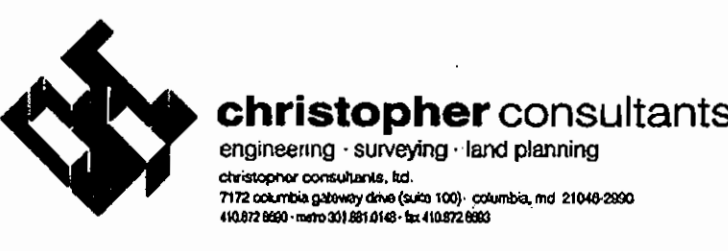


SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE SPECIFICATIONS AND AS SHOWN ON F-06-143

REVIEW FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Jim M... 10/23/06
THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
John R. ... 10/23/06

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Ruth B... 10-4-06
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 10/24/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION



DES: KWS			
DRN: AJK			
CHK: BAM			
DATE: SEPT. 2006	BY: NO.	REVISION	DATE

TITLE SHEET OF
WATER and SEWER EXTENSIONS
600 SCALE MAP NO. 47 BLOCK NO. 889

WATER and SEWER EXTENSION
A RESUBDIVISION OF PARCEL 'A' & 'B-1'
EMERSON
SECTION 2 PHASE 6A LOTS 1-41 OPEN SPACE LOTS 42-44
CONTRACT NO. 24-4322-D
TAX MAP 47 20' MXD-3
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN
EET
1 OF 4

WATER LINE DATA

ROAD	ROAD C. STATION	OFFSET (FT)	DESCRIPTION	REMARKS
JUNE FLOWERS WAY	0+86	6'L	8"X8" CROSS	
JUNE FLOWERS WAY	0+86	21'L	4" VALVE	
JUNE FLOWERS WAY	0+86	10'R	4" VALVE	
JUNE FLOWERS WAY	0+86	4'R	8"X4" R	
JUNE FLOWERS WAY	0+86	16'L	8"X4" R	
JUNE FLOWERS WAY	1+05	6'L	8"X6" FHT	
JUNE FLOWERS WAY	1+05	11'L	6" VALVE	
JUNE FLOWERS WAY	1+05	25'L	FIRE HYDRANT	
JUNE FLOWERS WAY	2+73	6'L	8" 1/2 BEND	
JUNE FLOWERS WAY	3+13	6'L	8" 1/16 BEND	
JUNE FLOWERS WAY	3+72	5'L	8" 1/16 BEND	
JUNE FLOWERS WAY	5+30	6'L	8"X6" FHT	
JUNE FLOWERS WAY	5+30	11'L	6" VALVE	
JUNE FLOWERS WAY	5+30	26'L	FIRE HYDRANT	
JUNE FLOWERS WAY	5+70	6'L	8" VALVE	
JUNE FLOWERS WAY	5+75	6'L	8"X8" TEE	
JUNE FLOWERS WAY	5+80	6'L	8" VALVE	
JUNE FLOWERS WAY	5+84	6'L	8" CAP & BUTRESS	
SCENTLESS ROSE WAY	0+41	11'L	8"X8" TEE	
SCENTLESS ROSE WAY	0+41	16'L	8" VALVE	
SCENTLESS ROSE WAY	0+41	25'L	8" CAP & BUTRESS	
SCENTLESS ROSE WAY	3+29	11'L	4" VALVE	
SWEET MAPLE LANE	0+50	4'R	PC	
SWEET MAPLE LANE	1+88	8'R	4" CAP & BUTRESS	
TWILIGHT BEECH LANE	0+74	6'L	PC	
TWILIGHT BEECH LANE	1+38	7'L	PT	
TWILIGHT BEECH LANE	1+91	5'L	4" CAP & BUTRESS	

SWEET MAPLE LANE

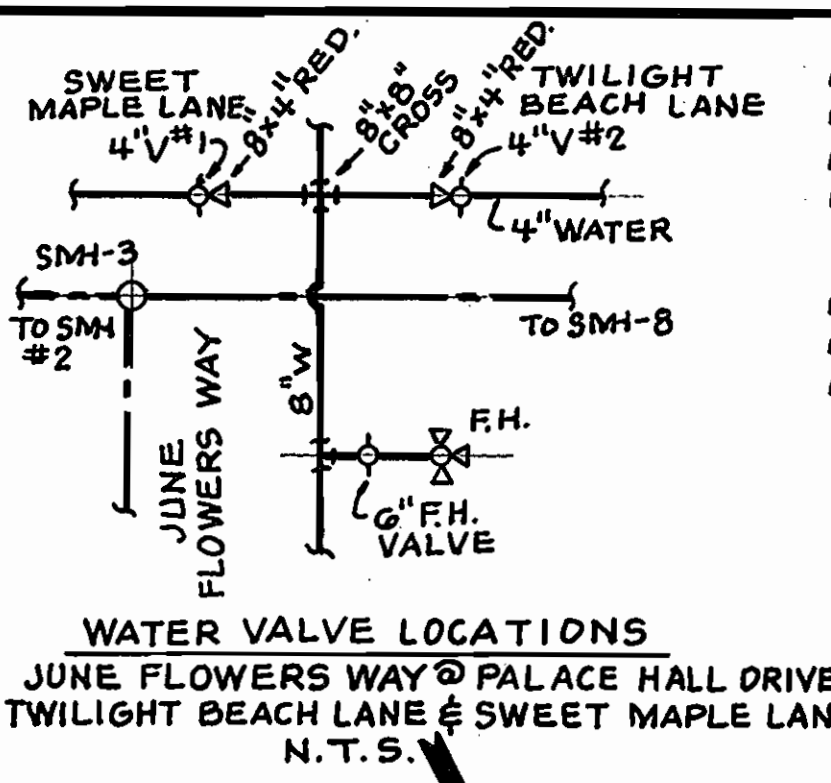
- LOT 1**
 SHC TO SMH-2 - 15.5'
 SHC TO WHC LOT 1 - 18.2'
 WHC TO SMH-2 - 30.5'
 WHC TO WHC LOT 2 - 7.7'
 SHC TO INLET, I-1 (M.L.I.D.) - 29.2'
 WHC TO INLET, I-1 (M.L.I.D.) - 29.0'
- LOT 2**
 WHC TO SHC LOT 2 - 37.7'
 WHC TO SMH-1 - 14.5'
 WHC TO INLET, I-1 (M.L.I.D.) - 32.5'
 SHC TO SMH-1 - 51.2'
 SHC TO SHC LOT 3 - 25.7'
 SHC TO INLET, I-1 (M.L.I.D.) - 41.1'
- LOT 3**
 SHC TO SMH-1 - 70.4'
 SHC TO SDMH-0 - 02.0'
 SHC TO WHC LOT 3 - 3.0'
 WHC TO WHC LOT 4 - 7.5'
 WHC TO SDMH-0 - 01.0'
 WHC TO SHC LOT 4 - 20.5'
- LOT 4**
 SHC TO SDMH-0 - 55.7'
 SHC TO SHC LOT 5 - 28.1'
 WHC TO SDMH-0 - 57.9'
 WHC TO SHC LOT 4 - 13.0'
 WHC TO SDMH-2 - 77.1'

TWILIGHT BEACH LANE

- LOT 36**
 SHC TO WHC LOT 36 - 20.8'
 SHC TO F.H. - 35.3'
 SHC TO 4" V (TWILIGHT BEACH LA.) - 57.0'
 WHC TO 4" V (TWILIGHT BEACH LA.) - 70.7'
 WHC TO WHC LOT 35 - 7.0'
 WHC TO SHC LOT 35 - 17.3'
- LOT 35**
 SHC TO SHC LOT 34 - 7.0'
 SHC TO WHC LOT 34 - 24.7'
 SHC TO 4" V (TWILIGHT BEACH LA.) - 100.7'
 WHC TO 4" V (TWILIGHT BEACH LA.) - 83.9'
 WHC TO SHC LOT 35 - 20.0' ±
- LOT 34**
 SHC TO WHC LOT 34 - 17.0'
 SHC TO 4" V (TWILIGHT BEACH LA.) - 95.1' ±
 SHC TO SMH-B - 70.4'
 WHC TO WHC LOT 35 - 0.8'
 WHC TO SMH-B - 52.9'
- LOT 33**
 WHC TO SHC LOT 33 - 20.3'
 WHC TO SMH-B - 40.4'
 SHC TO SHC LOT 32 - 5.0'
 SHC TO SMH-B - 27.9'
- LOT 32**
 SHC TO SMH-B - 22.7'
 SHC TO WHC LOT 32 - 5.4'
 SHC TO WHC LOT 31 - 17.7'
 WHC TO SMH-B - 11.1'
 WHC TO SHC LOT 31 - 0.7'
- LOT 31**
 WHC TO SMH-B - 11.5'
 WHC TO SHC LOT 31 - 22.1'
 SHC TO SMH-B - 28.8'
- LOT 30**
 SHC TO SMH-2 - 52.4'
 SHC TO WHC LOT 5 - 2.5'
 SHC TO SDMH-0 - 55.7'
 WHC TO SDMH-0 - 57.0'
 WHC TO WHC LOT 0 - 7.0'
 WHC TO SDMH-2 - 51.8'

LOT NO.	MIN. CELLAR ELEV.	SHC INV. @ ROW/EAS/INT.	HO. CO. DETAIL NO.	SLOPE (%)
1	314.98	313.77	S2.12 (TYPE 'A')	
2	316.31	315.12	S2.12 (TYPE 'A')	
3	316.98	315.83	S2.12 (TYPE 'A')	
4	318.31	317.12	S2.12 (TYPE 'A')	
5	319.65	318.50	S2.12 (TYPE 'A')	
6	320.31	319.07	S2.12 (TYPE 'A')	
7	320.97	319.64	S2.12 (TYPE 'A') W/TWIN	
8	320.98	319.74	S2.12 (TYPE 'A') W/TWIN	
9	320.30	319.03	S2.12 (TYPE 'A') W/TWIN	
10	320.31	319.06	S2.12 (TYPE 'A') W/TWIN	
11	319.48	318.12	S2.11 W/TWIN	
12	319.65	318.27	S2.11 W/TWIN	
13	318.68	316.98	S2.12 (TYPE 'A') W/TWIN	
14	318.98	317.02	S2.12 (TYPE 'A') W/TWIN	
15	318.31	316.99	S2.12 (TYPE 'A')	
16	317.63	314.84	S2.11 W/TWIN	4.50%
17	317.65	314.92	S2.11 W/TWIN	4.50%
18	317.47	315.04	S2.11 W/TWIN	4.10%
19	317.65	315.19	S2.11 W/TWIN	4.10%
20	318.31	315.38	S2.11 W/TWIN	5.00%
21	318.49	315.50	S2.11 W/TWIN	5.00%
22	319.65	318.45	S2.11	
23	326.59 (C.N.S.)	323.64	S2.11 W/TWIN	5.00%
24	328.38 (C.N.S.)	325.38	S2.11 W/TWIN	5.00%
25	328.40 (C.N.S.)	325.50	S2.11 W/TWIN	5.00%

- LOT 9**
 WHC TO SHC LOT 9 - 18.9'
 WHC TO 4" INLET I-4 - 00.7' (M.L.I.D.)
 WHC TO SMH-4 - 58.5'
 SHC TO SMH-4 - 7.0'
 SHC TO SHC LOT 10 - 40.9'
- LOT 10**
 SHC TO WHC LOT 10 - 21.0'
 SHC TO SMH-4 - 34.7'
 WHC TO SMH-4 - 17.2'
 WHC TO WHC LOT 11 - 4.4'
 WHC TO SDMH-3 - 55.0'
- LOT 11**
 WHC TO SMH-4 - 14.3'
 WHC TO SDMH-3 - 52.1'
 WHC TO SHC LOT 11 - 19.0'
 SHC TO SMH-4 - 20.0'
 SHC TO SDMH-3 - 47.9'
 SHC TO SHC LOT 12 - 7.0'
- LOT 12**
 SHC TO SMH-4 - 19.2'
 SHC TO SDMH-3 - 41.8'
 SHC TO WHC LOT 12 - 19.0'
 WHC TO WHC LOT 13 - 4.0'
 WHC TO SMH-4 - 33.4'
 WHC TO SDMH-3 - 30.3'
- LOT 13**
 WHC TO SHC LOT 13 - 15.0'
 WHC TO SMH-4 - 30.9'
 WHC TO SDMH-3 - 30.4'
 SHC TO SHC LOT 14 - 0.0'
 SHC TO SMH-4 - 40.9'
 SHC TO SMH-5 - 37.4'
- LOT 14**
 WHC TO WHC LOT 14 - 9.0'
 SHC TO SMH-4 - 55.0'
 SHC TO SMH-5 - 32.9'
 WHC TO SHC LOT 15 - 11.3'
 WHC TO SMH-5 - 25.4'
- LOT 15**
 SHC TO SMH-5 - 15.7'
 SHC TO WHC LOT 15 - 23.3'
 SHC TO SMH-4 - 40.2'
 WHC TO WHC LOT 16 - 0.1'
 WHC TO SMH-5 - 17.2'



- SWEET MAPLE LANE**
 4" VALVE #1 TO 4" VALVE #2 - 7.8'
 4" VALVE #1 TO 6" F.H. VALVE - 20.5'
 4" VALVE #1 TO 4" SMH-3 - 11.8'
 4" VALVE #1 TO 6" F.H. - 31.0'
- TWILIGHT BEACH LANE**
 4" VALVE #2 TO 6" F.H. VALVE - 19.9'
 4" VALVE #2 TO 6" F.H. - 25.5'
 4" VALVE #2 TO 4" SMH-3 - 18.0'
- JUNE FLOWERS WAY**
 6" F.H. VALVE TO FIRE HYDRANT - 19.0'
 6" F.H. VALVE TO SMH-3 - 20.1'
 FIRE HYDRANT TO SMH-3 - 30.3'

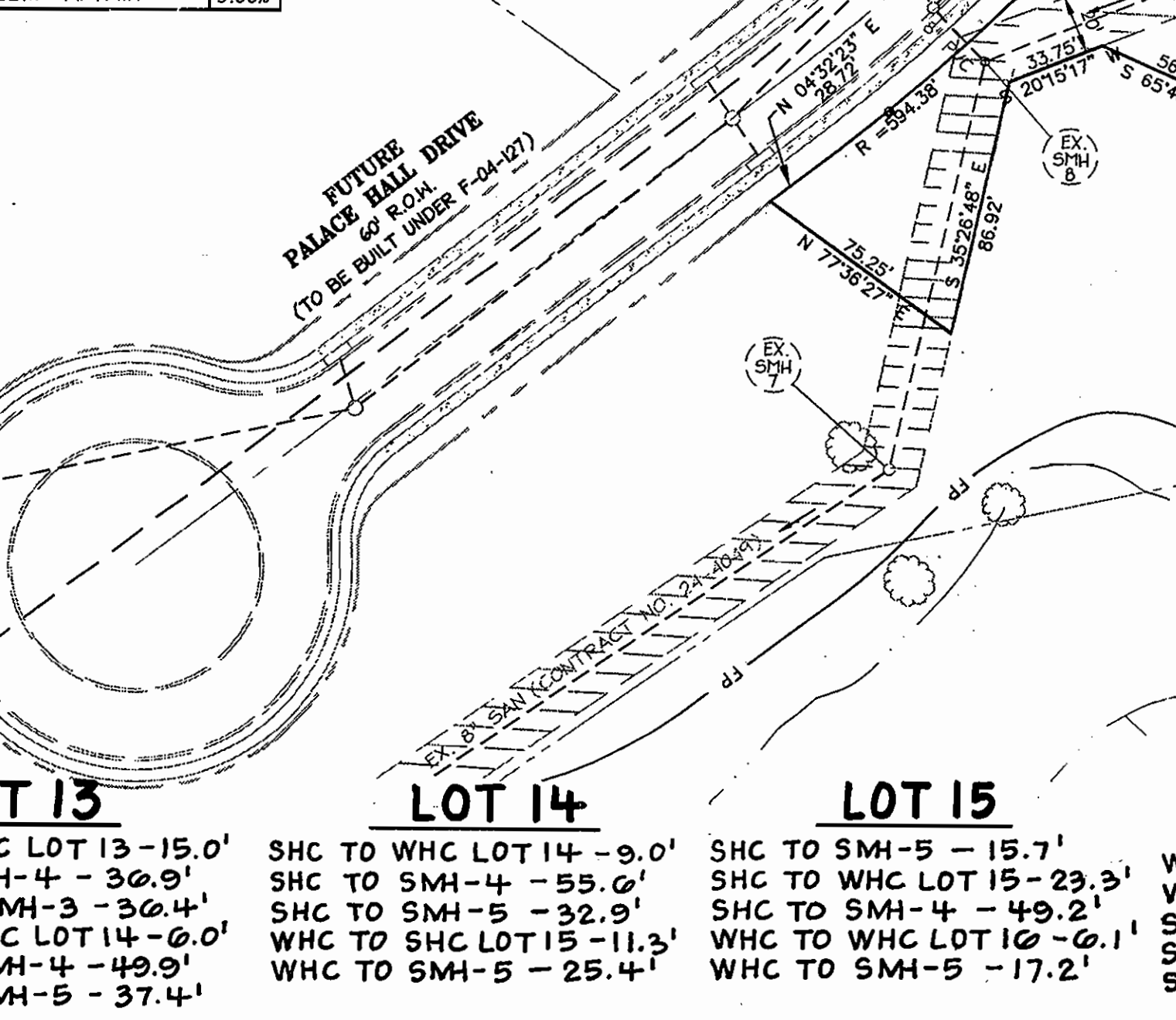
- LEGEND**
 SHC - SANITARY HOUSE CONNECTION
 WHC - WATER HOUSE CONNECTION
 SMH - SANITARY MANHOLE
 (M) - STORMDRAIN INLET
 (M) - STORMDRAIN MANHOLE
 V - WATER VALVE
 F.H. - FIRE HYDRANT
- 8" VALVE TO STUB LINE TO CONTRACT #24-4318-D MOSSY BARK
 8" VALVE TO SMH-7 - 28.1'
 8" VALVE TO 1" WHC LOT 78 - 28.0'
 8" VALVE TO EX. VALVE - 48.4'

LOT NO.	MIN. CELLAR ELEV.	SHC INV. @ ROW/EAS/INT.	HO. CO. DETAIL NO.	SLOPE (%)
1	314.98	313.77	S2.12 (TYPE 'A')	
2	316.31	315.12	S2.12 (TYPE 'A')	
3	316.98	315.83	S2.12 (TYPE 'A')	
4	318.31	317.12	S2.12 (TYPE 'A')	
5	319.65	318.50	S2.12 (TYPE 'A')	
6	320.31	319.07	S2.12 (TYPE 'A')	
7	320.97	319.64	S2.12 (TYPE 'A') W/TWIN	
8	320.98	319.74	S2.12 (TYPE 'A') W/TWIN	
9	320.30	319.03	S2.12 (TYPE 'A') W/TWIN	
10	320.31	319.06	S2.12 (TYPE 'A') W/TWIN	
11	319.48	318.12	S2.11 W/TWIN	
12	319.65	318.27	S2.11 W/TWIN	
13	318.68	316.98	S2.12 (TYPE 'A') W/TWIN	
14	318.98	317.02	S2.12 (TYPE 'A') W/TWIN	
15	318.31	316.99	S2.12 (TYPE 'A')	
16	317.63	314.84	S2.11 W/TWIN	4.50%
17	317.65	314.92	S2.11 W/TWIN	4.50%
18	317.47	315.04	S2.11 W/TWIN	4.10%
19	317.65	315.19	S2.11 W/TWIN	4.10%
20	318.31	315.38	S2.11 W/TWIN	5.00%
21	318.49	315.50	S2.11 W/TWIN	5.00%
22	319.65	318.45	S2.11	
23	326.59 (C.N.S.)	323.64	S2.11 W/TWIN	5.00%
24	328.38 (C.N.S.)	325.38	S2.11 W/TWIN	5.00%
25	328.40 (C.N.S.)	325.50	S2.11 W/TWIN	5.00%

- NOTES:**
 1. ALL 1" WHC'S AND 1 1/2" TWIN WHC'S SHALL HAVE 1" BALL VALVE'S INSTALLED AT RIGHT OF WAY OR EASEMENT LINE. ALL WHC'S SHALL HAVE 3/4" INSIDE METERS.
 2. ALL SHC CLEANOUT ARE STD 4" CLEANOUTS.
 3. ALL SHC'S ARE DESIGNED FOR 2% GRADE UNLESS OTHERWISE NOTED.
 4. ALL WHC BALL VALVES AND SHC CLEANOUTS SHOULD BE INSTALLED WITH A GRASSY AREA, OUTSIDE THE PAVED DRIVENAYS WHENEVER POSSIBLE.

- JUNE FLOWERS WAY**
- LOT 7**
 WHC TO SDMH-5 - 11.8'
 WHC TO SHC LOT 7 - 21.8'
 WHC TO 4" INLET I-4 - 35.0' (M.L.I.D.)
 SHC TO SHC LOT 8 - 5.5'
 SHC TO SDMH-5 - 30.0'
 SHC TO 4" INLET I-4 - 43.9' (M.L.I.D.)
- LOT 8**
 SHC TO 4" INLET I-4 - 40.0' (M.L.I.D.)
 SHC TO SDMH-5 - 30.3'
 SHC TO WHC LOT 8 - 22.5'
 WHC TO WHC LOT 9 - 4.2'
 WHC TO 4" INLET I-4 - 03.0' (M.L.I.D.)

- LOT 9**
 WHC TO SHC LOT 9 - 18.9'
 WHC TO 4" INLET I-4 - 00.7' (M.L.I.D.)
 WHC TO SMH-4 - 58.5'
 SHC TO SMH-4 - 7.0'
 SHC TO SHC LOT 10 - 40.9'
- LOT 10**
 SHC TO WHC LOT 10 - 21.0'
 SHC TO SMH-4 - 34.7'
 WHC TO SMH-4 - 17.2'
 WHC TO WHC LOT 11 - 4.4'
 WHC TO SDMH-3 - 55.0'
- LOT 11**
 WHC TO SMH-4 - 14.3'
 WHC TO SDMH-3 - 52.1'
 WHC TO SHC LOT 11 - 19.0'
 SHC TO SMH-4 - 20.0'
 SHC TO SDMH-3 - 47.9'
 SHC TO SHC LOT 12 - 7.0'
- LOT 12**
 SHC TO SMH-4 - 19.2'
 SHC TO SDMH-3 - 41.8'
 SHC TO WHC LOT 12 - 19.0'
 WHC TO WHC LOT 13 - 4.0'
 WHC TO SMH-4 - 33.4'
 WHC TO SDMH-3 - 30.3'
- LOT 13**
 WHC TO SHC LOT 13 - 15.0'
 WHC TO SMH-4 - 30.9'
 WHC TO SDMH-3 - 30.4'
 SHC TO SHC LOT 14 - 0.0'
 SHC TO SMH-4 - 40.9'
 SHC TO SMH-5 - 37.4'
- LOT 14**
 WHC TO WHC LOT 14 - 9.0'
 SHC TO SMH-4 - 55.0'
 SHC TO SMH-5 - 32.9'
 WHC TO SHC LOT 15 - 11.3'
 WHC TO SMH-5 - 25.4'
- LOT 15**
 SHC TO SMH-5 - 15.7'
 SHC TO WHC LOT 15 - 23.3'
 SHC TO SMH-4 - 40.2'
 WHC TO WHC LOT 16 - 0.1'
 WHC TO SMH-5 - 17.2'



- LOT 17**
 SHC TO SMH-5 - 45.9'
 SHC TO 4" INLET I-3 - 19.5' (M.L.I.D.)
 SHC TO WHC LOT 17 - 9.9'
 WHC TO WHC LOT 18 - 19.0'
 WHC TO 4" INLET I-3 - 10.9' (M.L.I.D.)
- LOT 18**
 WHC TO 4" INLET I-3 - 12.9' (M.L.I.D.)
 WHC TO SHC LOT 18 - 9.5'
 WHC TO SMH-5 - 83.5'
 SHC TO SHC LOT 19 - 0.9'
 SHC TO 4" INLET I-3 - 22.2' (M.L.I.D.)
- LOT 19**
 SHC TO 4" INLET I-3 (M.L.I.D.) - 28.0'
 SHC TO WHC LOT 19 - 21.9'
 SHC TO SMH-5 - 90.2'
 WHC TO 4" INLET I-3 (M.L.I.D.) - 49.5'
 WHC TO WHC LOT 20 - 4.5'
 WHC TO 4" SMH-0 - 70.0'
- LOT 20**
 WHC TO SHC LOT 20 - 23.0'
 WHC TO SMH-0 - 00.3'
 WHC TO 6" F.H. VALVE - 40.5'
 SHC TO 6" F.H. VALVE - 29.0'
 SHC TO SMH-0 - 43.8'
 SHC TO SHC LOT 21 - 5.0'
- LOT 21**
 SHC TO 6" F.H. VALVE - 27.4'
 SHC TO WHC LOT 21 - 17.8'
 SHC TO SMH-0 - 20.9'
 WHC TO 6" F.H. VALVE - 28.1'
 WHC TO SMH-0 - 23.0'
 WHC TO WHC LOT 22 - 4.8'

- LOT 22**
 WHC TO SHC LOT 22 - 14.7'
 WHC TO SMH-0 - 18.8'
 WHC TO 6" F.H. V. - 28.1'
 SHC TO SMH-0 - 12.5'
 SHC TO SHC LOT 45 - 44.5'
- LOT 45 (CONT. #24-4318-D)**
 SHC TO 8" VALVE #3 - 35.1'
 SHC TO WHC LOT 45 - 24.0'
 SHC TO SMH-0 - 40.0'
 WHC TO WHC LOT 40 - 7.0'
 WHC TO SMH-0 - 09.8'
 WHC TO 8" VALVE #3 - 53.2'

NOTE: SEE SHEET 3 OF 4 FOR REMAINDER OF LOT HOUSE CONNECTION LOCATIONS

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 11305 CHARTER DRIVE, SUITE 320
 COLUMBIA, MARYLAND 21144
 TEL: (410) 997-7400
 FAX: (410) 997-6305

AS BUILT
 DATE: MAY 29, 2007

DEVELOPER
 HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 11305 CHARTER DRIVE, SUITE 320
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 TEL: (410) 997-7400
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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert Berman 10-4-06
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

Christopher Consultants
 engineering - surveying - land planning
 christopher consultants, inc.
 7170 oakdale parkway, suite 100
 columbia, md 21046-3800
 (410) 270-2000 • fax (410) 270-2001

DES:	DRN:	CHK:	DATE:	BY:	NO.	REVISION	DATE:
KWS	AJK	BAM	SEPT. 2006				

PLAN OF WATER AND SEWER EXTENSIONS

600 SCALE MAP NO. 47 BLOCK NO. 889

WATER AND SEWER EXTENSIONS
 A RESUBDIVISION OF PARCEL 'A-1' AND 'B-1'

EMERSON
 SECTION 2 PHASE 6A LOTS 1-41, OPEN SPACE LOTS 42-44
 CONTRACT NO. 24-4322-D

TAX MAP 47
 8th ELECTION DISTRICT

SCALE: 1"=50'
 SHEET: 2 OF 4
 ZONE: MXD-3
 HOWARD COUNTY, MARYLAND

AS-BUILT HOUSE LOCATIONS

SCENTLESS ROSE WAY

- LOT 23**
SHC TO 8" VALVE #1 - 69.3'
SHC TO WHC LOT 23 - 21.0'
SHC TO F.H. - 41.7'
WHC TO WHC LOT 24 - 9.0'
WHC TO INLET I-6 - 40.8'
(M.H.L.D.)
WHC TO 8" VALVE #1 - 88.8'
WHC TO F.H. - 02.8'
- LOT 24**
WHC TO 8" VALVE #1 - 97.2'
WHC TO SHC LOT 24 - 17.0'
WHC TO SHC LOT 71 - 51.2'
SHC TO SHC LOT 25 - 7.5'
SHC TO SHC LOT 72 - 50.8'
SHC TO SHC LOT 71 - 53.8'
WHC TO INLET I-6 - 55.7'
(M.H.L.D.)
- LOT 25**
SHC TO WHC LOT 25 - 18.0'
SHC TO SHC LOT 72 - 54.3'
SHC TO WHC LOT 72 - 50.4'
WHC TO WHC LOT 26 - 8.5'
WHC TO SHC LOT 73 - 50.1'
- LOT 26**
WHC TO SHC LOT 26 - 18.0'
WHC TO WHC LOT 74 - 53.8'
WHC TO SHC LOT 74 - 49.9'
SHC TO SHC LOT 27 - 5.8'
SHC TO WHC LOT 74 - 52.4'
- LOT 27**
SHC TO WHC LOT 27 - 18.0'
SHC TO SHC LOT 75 - 53.2'
SHC TO WHC LOT 75 - 52.5'
WHC TO WHC LOT 28 - 8.4'
WHC TO SHC LOT 76 - 49.8'
WHC TO WHC LOT 76 - 58.0'
- LOT 28**
WHC TO SHC LOT 76 - 53.2'
WHC TO SHC LOT 28 - 13.0'
WHC TO WHC LOT 76 - 54.0'
SHC TO SHC LOT 29 - 19.0'
SHC TO SMH 7 - 33.3'
SHC TO WHC LOT 76 - 52.0'
- LOT 29**
SHC TO WHC LOT 29 - 12.2'
SHC TO SMH 7 - 05.0'
WHC TO SMH 7 - 53.0'
WHC TO WHC LOT 30 - 9.0'
SHC TO 8" VALVE #1 - 84.5'
WHC TO 8" VALVE #1 - 73.3'
* 8" VALVE TO CONT. #24-4318-D
- LOT 30**
WHC TO SHC LOT 30 - 10.0'
WHC TO SMH 7 - 44.7'
WHC TO 8" VALVE #1 - 05.0'
SHC TO SMH 7 - 31.9'
SHC TO 8" VALVE #1 - 50.0'

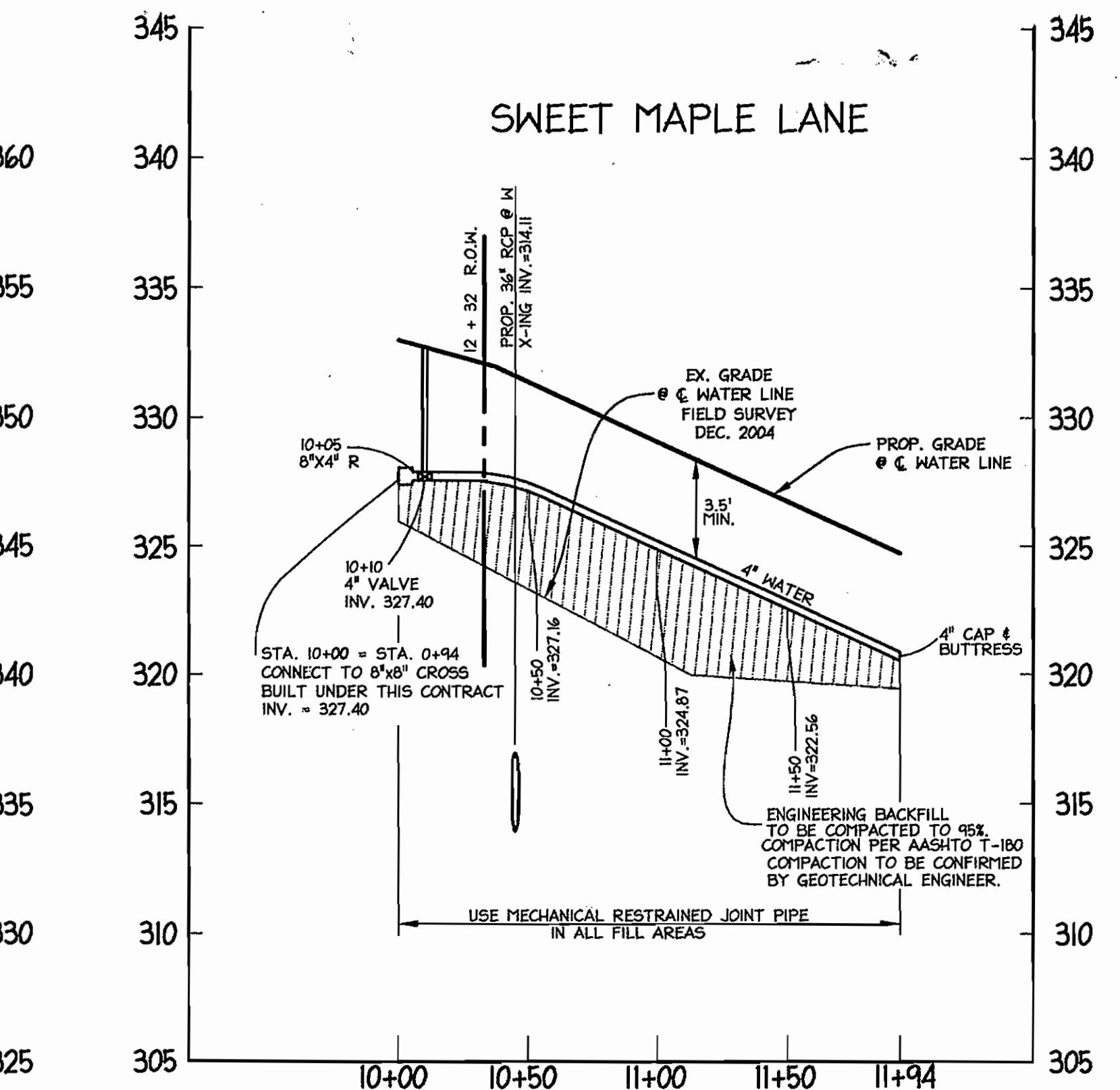
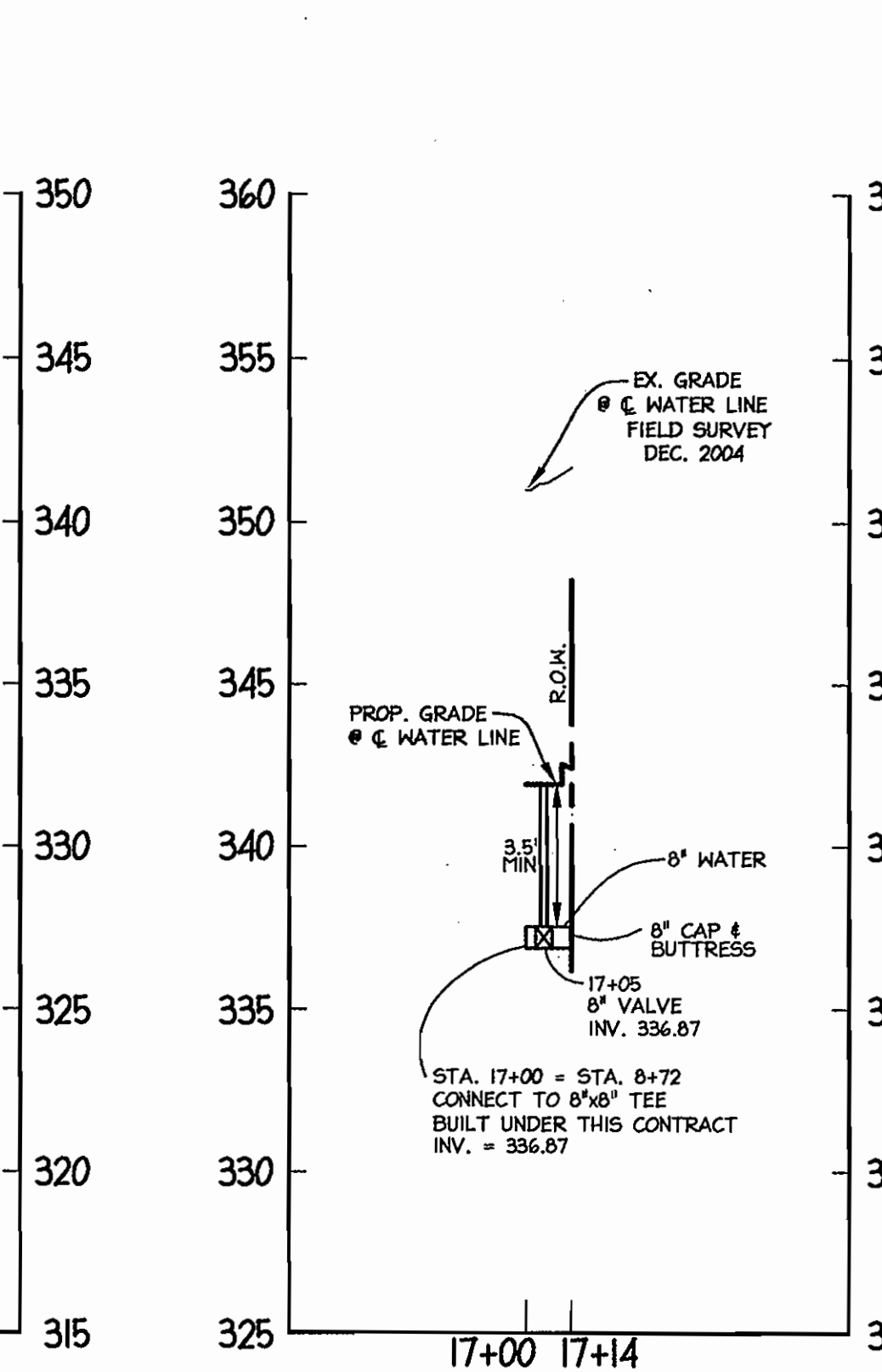
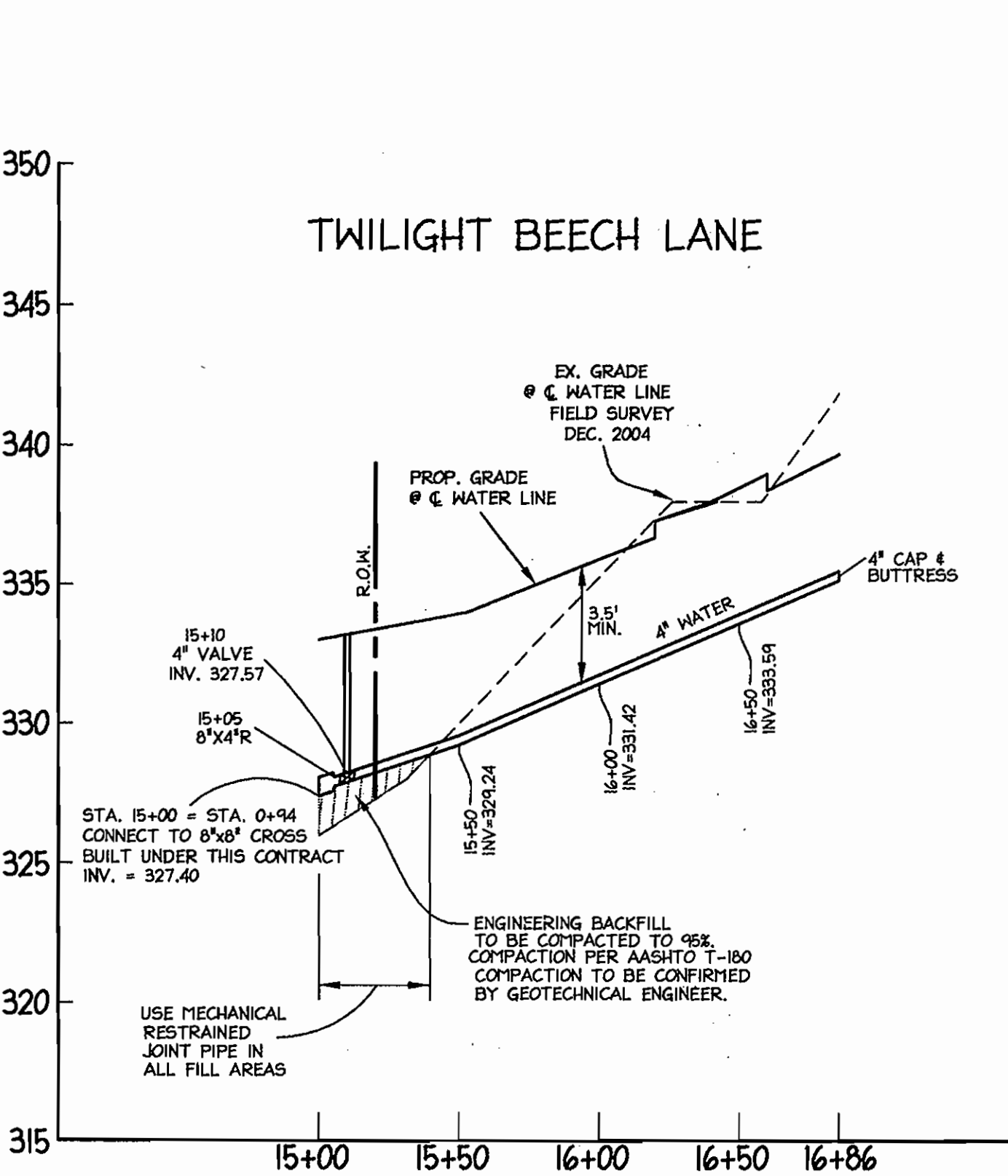
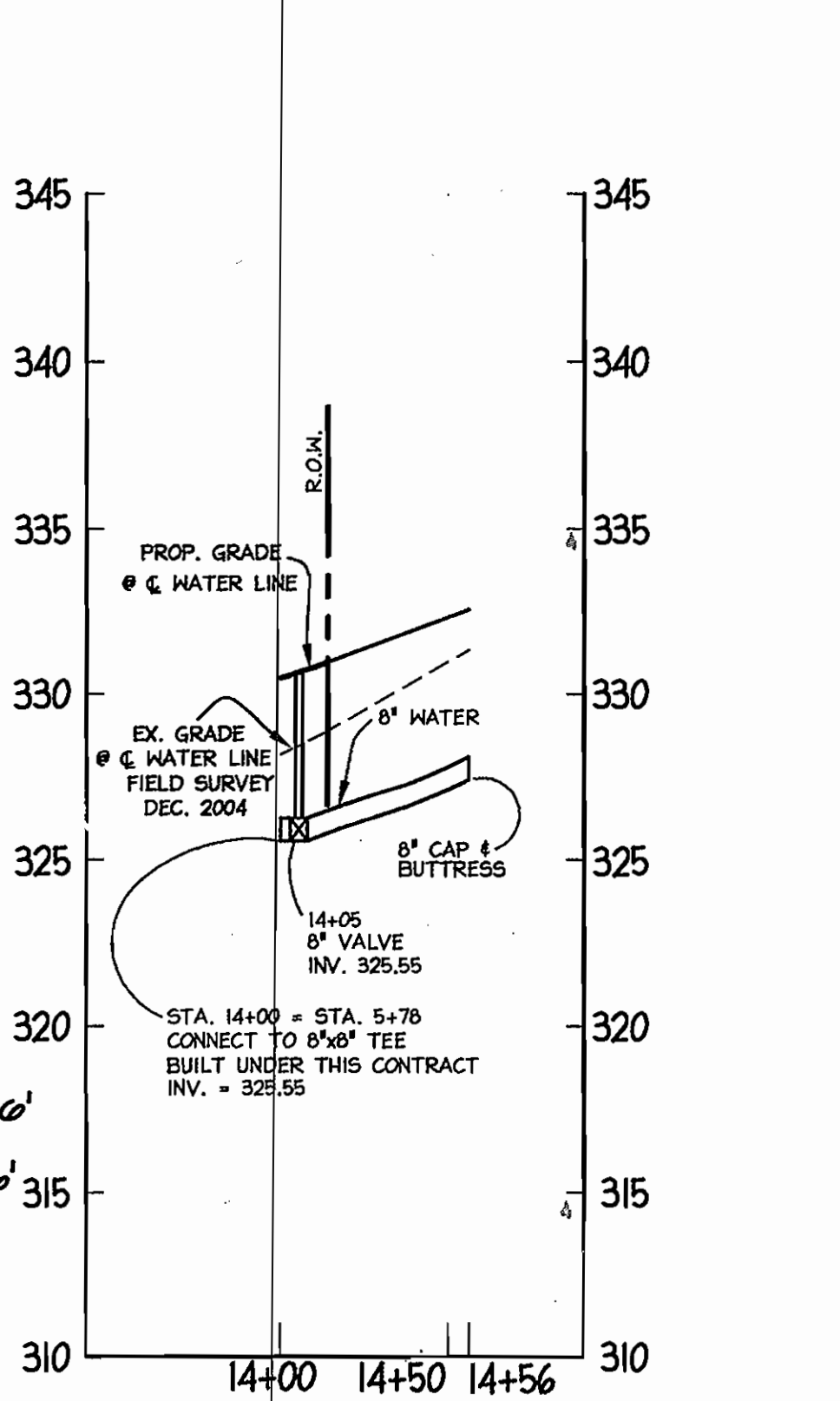
NOTE: LOTS 71 TO 78 ARE IN CONTRACT #24-4318-D BUT CONNECTIONS ARE UNDER THIS CONTRACT.

- LOT 71**
WHC TO INLET I-7 - 23.7'
(M.H.L.D.)
WHC TO SHC LOT 71 - 27.3'
WHC TO 8" VALVE #1 - 57.5'
SHC TO SHC LOT 72 - 5.3'
SHC TO INLET I-7 - 49.5'
(M.H.L.D.)
SHC TO 8" VALVE #1 - 84.4'
- LOT 72**
SHC TO WHC LOT 72 - 19.0'
SHC TO 8" VALVE #1 - 89.3'
SHC TO INLET I-7 - 54.3'
(M.H.L.D.)
WHC TO WHC LOT 73 - 5.0'
WHC TO INLET I-7 - 73.2'
(M.H.L.D.)
SHC TO 8" VALVE #1 - 84.4'

- LOT 73**
WHC TO SHC LOT 73 - 19.0'
WHC TO INLET I-7 - 78.3'
(M.H.L.D.)
SHC TO SHC LOT 74 - 0.3'
SHC TO WHC LOT 25 - 50.0'
SHC TO WHC LOT 26 - 51.2'
- LOT 74**
SHC TO WHC LOT 74 - 10.3'
SHC TO WHC LOT 26 - 49.7'
SHC TO WHC LOT 26 - 52.0'
WHC TO WHC LOT 75 - 8.0'
WHC TO SHC LOT 26 - 51.0'

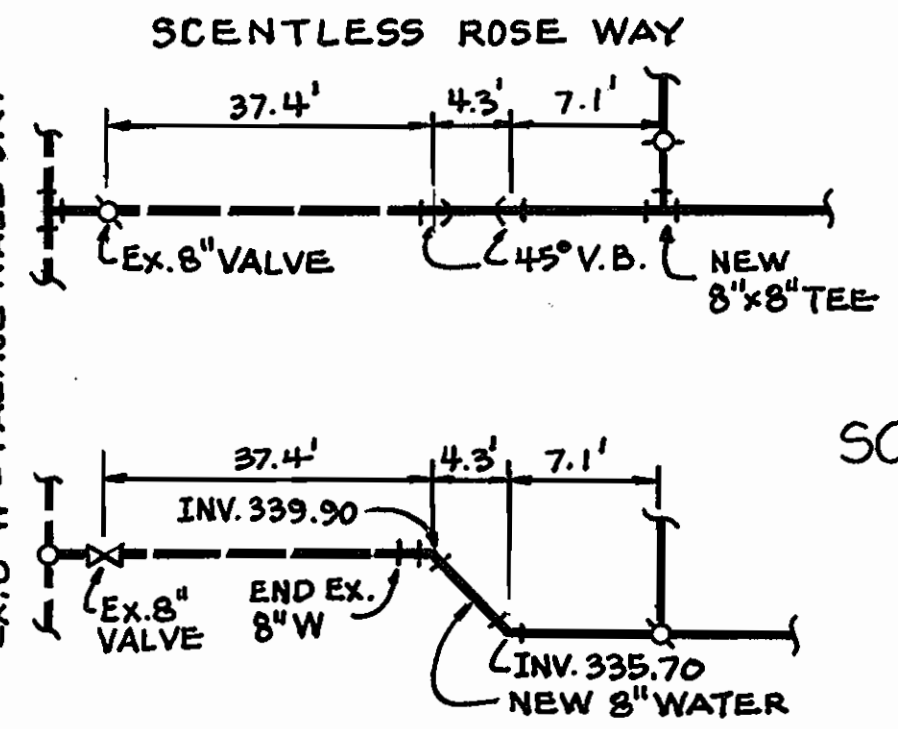
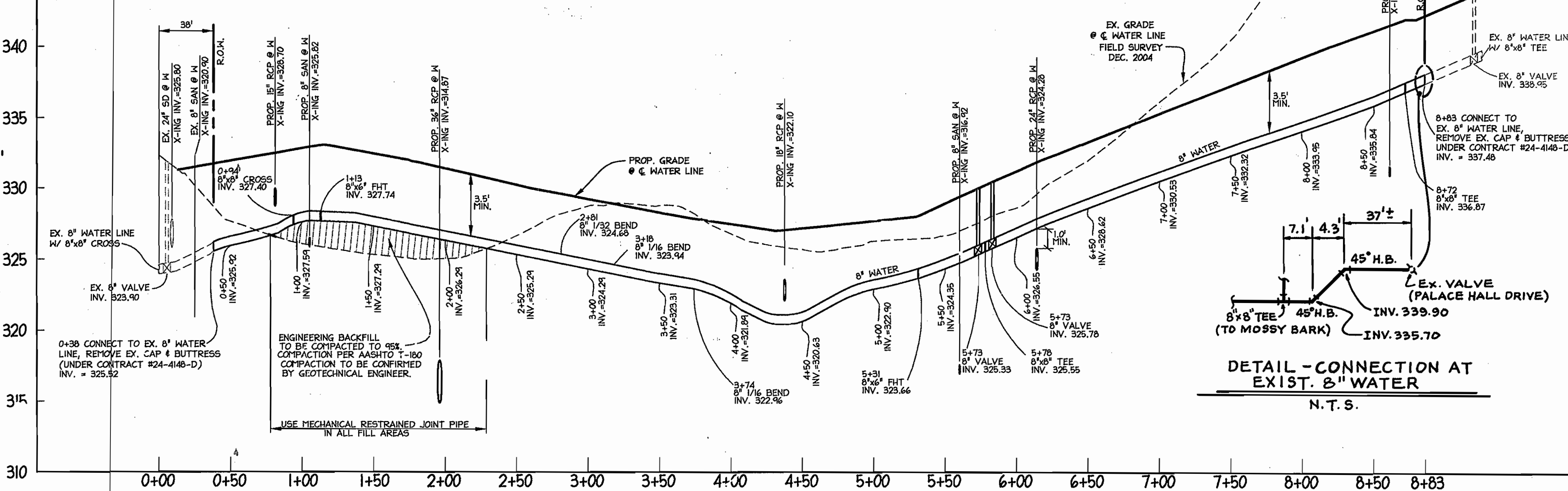
- LOT 75**
WHC TO SHC LOT 75 - 19.0'
WHC TO WHC LOT 27 - 53.3'
SHC TO SHC LOT 76 - 4.5'
SHC TO WHC LOT 28 - 51.2'
- LOT 76**
SHC TO WHC LOT 76 - 22.5'
SHC TO WHC LOT 28 - 49.0'
WHC TO WHC LOT 77 - 5.9'
WHC TO SMH 7 - 83.4'
WHC TO 8" VALVE #1 - 84.0'
* 8" V TO CONT. #24-4318-D

- LOT 77**
WHC TO SHC LOT 77 - 20.0'
WHC TO SMH 7 - 78.1'
WHC TO 8" VALVE #1 - 78.9'
SHC TO SHC LOT 78 - 3.2'
SHC TO 8" VALVE #1 - 59.0'
SHC TO SMH 7 - 00.4'
* 8" VALVE TO CONTRACT #24-4318-D (R/W) (MOSSY BARK LANE)
- LOT 78**
SHC TO WHC LOT 78 - 29.0'
SHC TO SMH 7 - 57.3'
WHC TO 8" VALVE #1 - 57.5'
WHC TO 8" VALVE #1 - 28.0'
WHC TO SMH 7 - 37.9'



- LOT 37**
SHC TO INLET I-4 - 11.0'
(M.H.L.D.)
SHC TO SDMH M-5 - 51.0'
SHC TO WHC LOT 37 - 18.0'
WHC TO WHC LOT 38 - 7.0'
WHC TO INLET I-4 - 27.8'
(M.H.L.D.)
WHC TO S.D. M-5 - 58.5'
- LOT 39**
SHC TO SMH-4 - 01.4'
SHC TO WHC LOT 39 - 21.4'
SHC TO INLET I-4 - 57.5'
(M.H.L.D.)
WHC TO WHC LOT 40 - 4.0'
WHC TO SMH 4 - 42.2'
- LOT 41**
SHC TO WHC LOT 41 - 28.1'
SHC TO SDMH M-3 - 21.9'
SHC TO SMH-4 - 28.0'
WHC TO SMH-4 - 47.0'
WHC TO SDMH M-3 - 9.3'
WHC TO SMH-4 - 44.3'

- LOT 38**
WHC TO SHC LOT 38 - 18.8'
WHC TO SDMH M-5 - 03.3'
WHC TO INLET I-4 - 34.0'
(M.H.L.D.)
SHC TO SHC LOT 39 - 4.3'
SHC TO SMH-4 - 04.7'
SHC TO INLET I-4 - 53.1'
(M.H.L.D.)
- LOT 40**
WHC TO SHC LOT 40 - 19.0'
WHC TO SMH-4 - 39.2'
WHC TO SDMH M-3 - 49.7'
SHC TO SHC LOT 41 - 8.7'
SHC TO SMH-4 - 31.1'
SHC TO SDMH M-3 - 31.2'



- 8" VALVE #2 TO 8" VALVE #1 - 3.5'
 - 8" V #2 TO SMH-0 - 22.3'
 - 8" V #2 TO 8" V #3 - 4.8'
 - 8" V #3 TO SMH-0 - 20.1'
 - 8" V #3 TO 8" V #1 - 3.3'
 - 8" V #1 TO F.H. - 50.4'
 - 8" V #1 TO SMH-0 - 25.4'
 - 8" V #1 TO 0" F.H. VALVE - 40.7'
- N.T.S.
- F.H. TO 0" F.H. VALVE - 22.0'
 - F.H. TO SMH-0 - 44.1'
 - F.H. TO 8" V #2 - 49.2'
 - 0" F.H. VALVE TO SMH-0 - 30'
 - 0" F.H. VALVE TO 8" V #2 - 44.3'

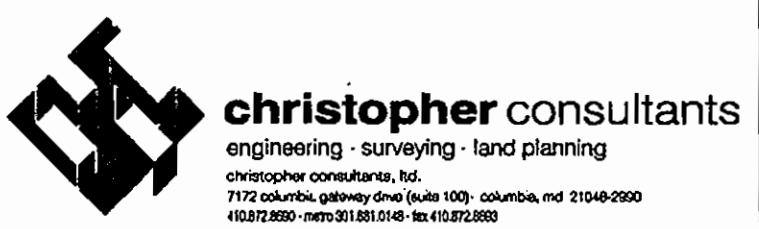


AS BUILT
DATE: MAY 29, 2007

PROFILE
SCALE HORIZ: 1"=50'
VERT: 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

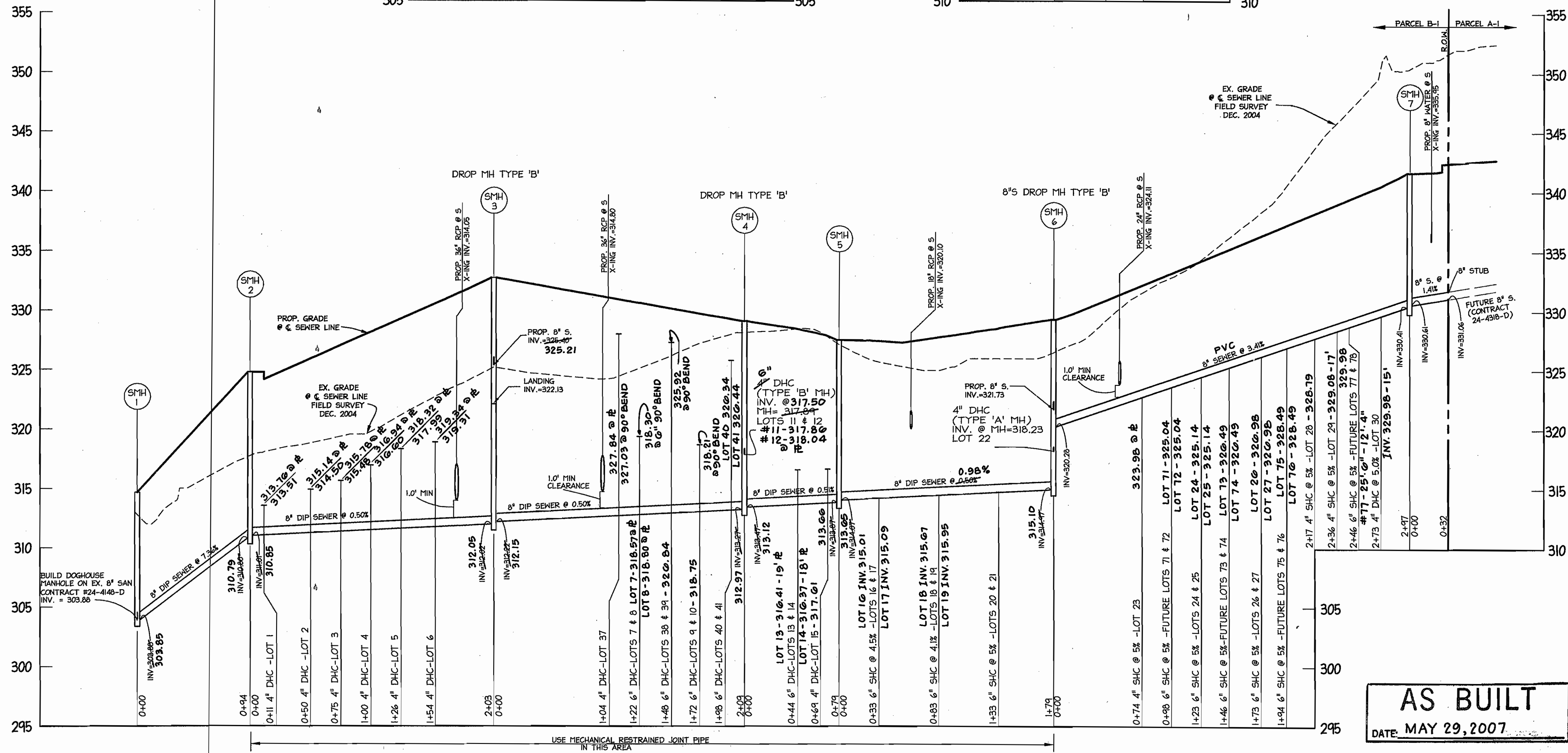
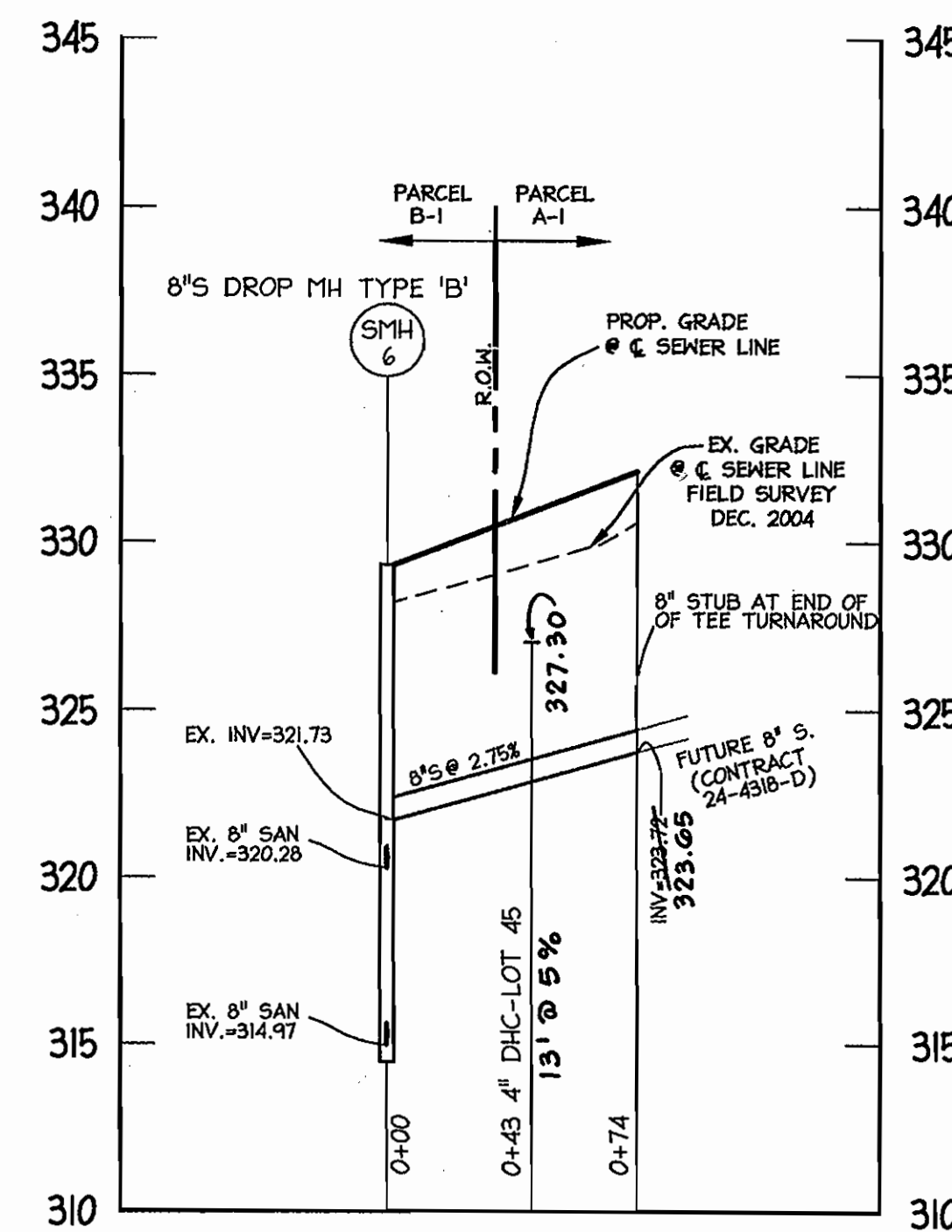
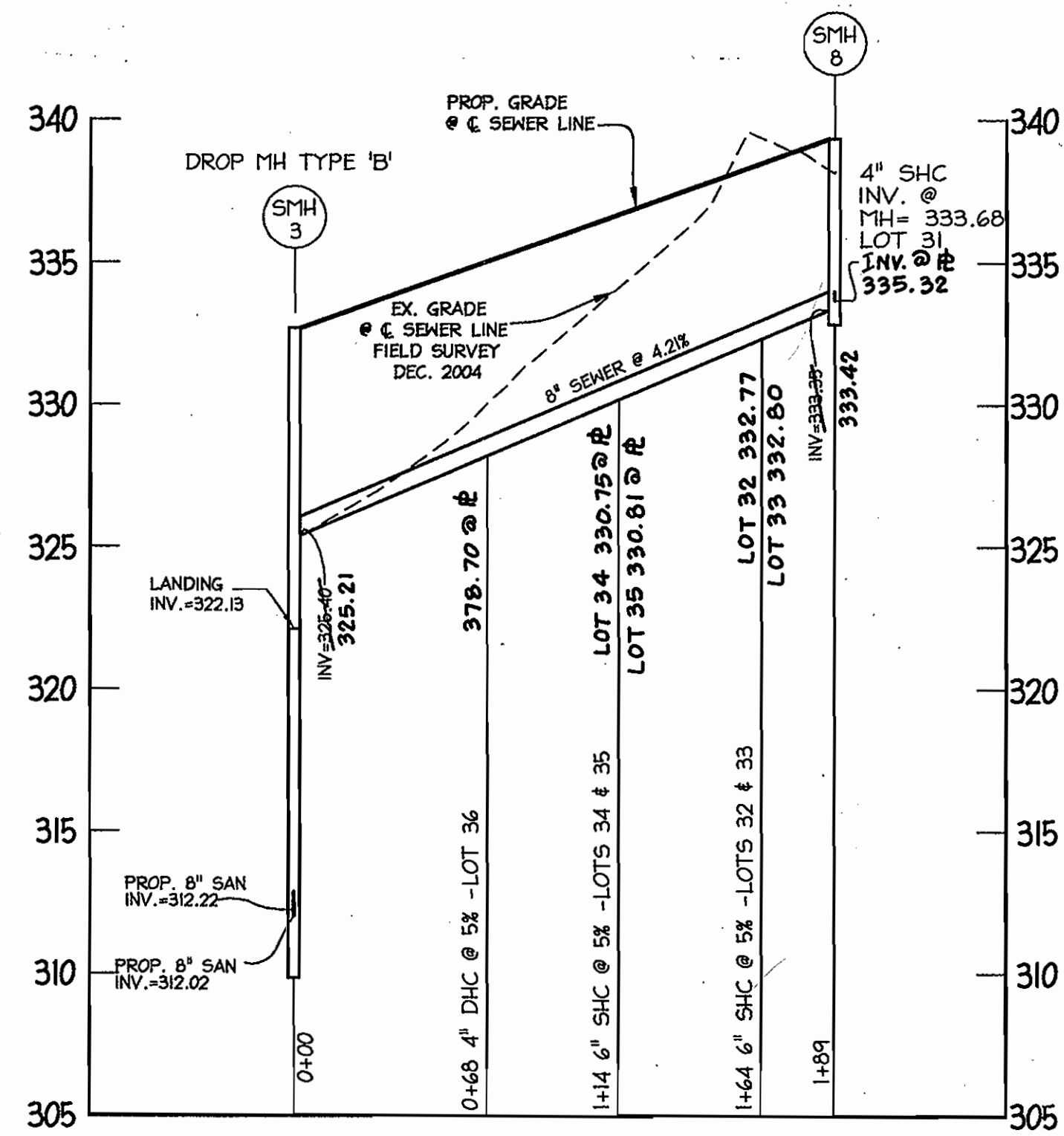


DES: KWS			
DRN: AJK			
CHK: BAM			
DATE: SEPT. 2008	BY	NO.	REVISION

PROFILES OF
WATER EXTENSIONS

WATER and SEWER EXTENSIONS
A RESUBDIVISION OF PARCEL A-1 and B-1
EMERSON
SECTION 2 PHASE 6A LOTS 1-41, OPEN SPACE LOTS 42-44
CONTRACT NO. 24-4322-D
T-4 MAP 47
6th ELECTION DISTRICT
ZONE: MXD-3
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET
3 OF 4

STRUCTURE SCHEDULE					
STRUCTURE	TYPE	NORTHING	EASTING	TOP	REMARKS
SMH 1	4'-0" DIA. MANHOLE	N 535,685.87	E 1,353,209.91	314.66 SLOPE=0.0%	HOCO STD MANHOLE DETAIL NO. G5.14 (DOGHOUSE)
SMH 2	4'-0" DIA. MANHOLE	N 535,751.25	E 1,353,134.30	324.75 SLOPE=0.0%	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 3	4'-0" DIA. MANHOLE	N 535,949.92	E 1,353,140.91	332.77 SLOPE=3.00%	HOCO STD MANHOLE TYPE 'B' & HOCO STD G5.15
SMH 4	4'-0" DIA. MANHOLE	N 535,947.11	E 1,353,349.9	329.15 SLOPE=3.0%	HOCO STD MANHOLE DETAIL NO. S132 TYPE 'B'
SMH 5	4'-0" DIA. MANHOLE	N 535,967.8	E 1,353,416.09	327.55 SLOPE=3.0%	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 6	4'-0" DIA. MANHOLE	N 536,129.10	E 1,353,582.14	329.31 SLOPE=3.0%	HOCO STD MANHOLE DETAIL NO. S132 TYPE 'B'
SMH 7	4'-0" DIA. MANHOLE	N 536,313.63	E 1,353,295.64	341.66 SLOPE=4.0%	HOCO STD MANHOLE DETAIL NO. G5.12
SMH 8	4'-0" DIA. MANHOLE	N 536,136.62	E 1,353,156.96	339.35 SLOPE=4.0%	HOCO STD MANHOLE DETAIL NO. G5.12



AS BUILT
DATE: MAY 29, 2007



PROFILE
HORIZ: 1"=50'
VERT: 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert M. Benning 10-4-06
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Christopher Consultants
CHIEF, DEVELOPMENT ENGINEERING DIVISION



DES:	KWS		
DRN:	AJK		
CHK:	BAM		
DATE:	SEPT. 2008		
BY:	NO.	REVISION	DATE

PROFILES OF
SEWER EXTENSIONS
600 SCALE MAP NO. 47 BLOCK NO. 883

WATER and SEWER EXTENSIONS
A RESUBDIVISION OF PARCEL 'A-1' and 'B-1'
EMERSON
SECTION 2 PHASE 6A LOTS 1-41 OPEN SPACE LOTS 42-44
CONTRACT NO. 24-4322-D
TA: MAP 47
8th ELECTION DISTRICT
ZONE: MXD-3
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 4 OF 4