

PUBLIC WATER AND SEWER PLANS SUMMER HAVEN

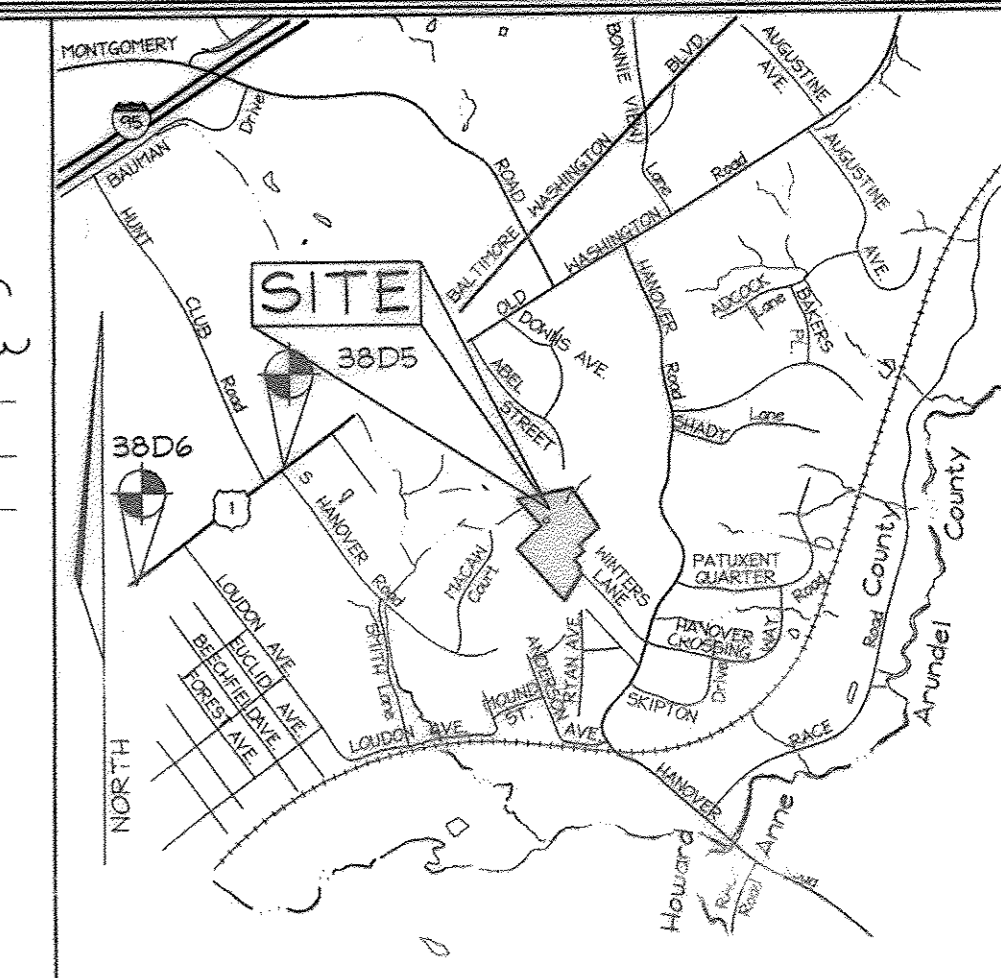
PHASE 1 & 2 HOWARD COUNTY, MARYLAND CONTRACT NO. 14-4265-D

WATER AS-BUILT DATA

FROM	TO	DIST (FT)	FROM	TO	DIST (FT)	FROM	TO	DIST (FT)
#3 WHC	SHC 3	10	#17 WHC	SHC 17	10	#28 WHC	WNC 31	30
"	CLINLET 33	29	"	WNC 22	29	#29 WHC	1/2 DRAIN	34
"	CLINLET 34	49	"	SHC 18	37	"	SMH 210	18
#4 WHC	FH VALVE	30	#18 WHC	SHC 18	10	"	WNC 30	31
"	SHC 4	29	"	SHC 17	57	#30 WHC	SMH 210	21
"	SD MH 3	35	"	WNC 21	30	"	1/2 DRAIN	9
#5 WHC	SHC 5	16	#19 WHC	SMH 207	29	"	SHC 30	12
"	SMH 205	48	"	1/2 DRAIN	16	#31 WHC	1/2 DRAIN	36
#6 WHC	SMH 205	95	"	SHC 19	9	"	SMH 210	46
"	SHC 6	16	#20 WHC	SHC 20	10	"	SHC 28	37
"	FH	70	"	1/2 DRAIN	34	#32 WHC	WNC 27	32
#7 WHC	SHC 7	11	"	SMH 207	40	"	SHC 32	11
"	FH	20	#21 WHC	WNC 18	30	"	SHC 27	35
"	SHC 11	34	"	SHC 20	57	#33 WHC	SHC 33	18
#8 WHC	SHC 8	11	"	SHC 21	11	"	SMH 209	95
"	SHC 9	35	#22 WHC	SHC 22	11	"	WNC 26	31
#9 WHC	ML VALVE	11	"	SHC 16	32	#34 WHC	SHC 34	11
"	1/2 DRAIN	41	#23 WHC	SHC 23	10	"	SMH 219	19
#10 WHC	ML VALVE	27	"	SHC 16	32	"	WNC 25	33
"	SMH 206	60	"	WNC 16	30	#35 WHC	INLET 13	24
"	SHC 10	9	"	#25 WHC	SMH 209	"	INLET 12	38
#11 WHC	FH	47	"	WNC 34	34	"	POLE	32
"	WNC 7	59	"	SHC 25	17	#36 WHC	POLE	31
"	SHC 11	12	"	#26 WHC	SMH 208	"	TEMP. BLE	13
#12 WHC	SHC 11	52	"	WNC 33	35	#37 WHC	WNC 36	60
"	FH	48	#27 WHC	WNC 26	71	"	ELEC. BOX	37
"	SHC 12	10	"	SHC 32	29	"	TEMP. POLE	47
#13 WHC	SHC 16	8	"	WNC 32	31	#38 WHC	ELEC. BOX	50
"	SHC 23	33	#28 WHC	SMH 210	51	"	WNC 39	43
"	WNC 23	30	"	1/2 DRAIN	52	"	POLE	47
"			#21 WHC	SHC 203	49	#39 WHC	WNC 38	43
"			#24 WHC	SHC 24	10	"	FH	20
"			#24 WHC	SMH 204	170.5'	"	MAIL BOX	33

LEGEND

- Existing Contour
- Proposed Contour
- Spot Elevation
- Direction of Flow
- Existing Trees to Remain
- Existing Stream Buffer
- Existing Wetland Buffer
- Existing Wetland
- Wetland
- Proposed Light Pole



VICINITY MAP
SCALE: 1"=2000'

BENCHMARKS

Sta. 38D5	N 170,194.1301	E 422,613.4088	EI: 59.0474 (meters)
Sta. 38D5	N 588,378.575	E 1,306,524.155	EI: 103.726 (feet)
Sta. 38D5	N 649,821.3237	E 422,146.4958	EI: 53.4097 (meters)
Sta. 38D6	N 557,155.459	E 1,384,992.262	EI: 175.228 (feet)
Sta. 38D6	N 557,155.459	E 1,384,992.262	EI: 175.228 (feet)

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.
- Topography is based on an Aerial Topographic Survey prepared by Wings Aerial Mapping Co., Inc. in 1993, and supplemented by field run topographic by FSH Associates on October, 2005.
- 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. 38D5 and No. 38D6.
 - All vertical controls are based on NAVD 88. Vertical controls provided on the drawings are Sta. 38D5 - Concrete Monument 3.5' SE of paving edge, 68.8' s of fire hydrant; Sta. 38D6 - Concrete Monument 4.8' E of paving edge, 2.5' s of C&P 178.
- 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 drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for 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 for Construction (Latest Edition). The contractor shall use the materials and methods specified in the Standard Specifications for Construction.
- Where test pits have been made on the drawing, a note of note concerning the results of the test pit or pits is included on the drawings. The contractor shall be responsible for any test work for which test pits have not been dug shall be 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 (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 410,571,5535
 - Verizon 1,800,745,0337 / 410,224,9210
- Trees and shrubs 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 the 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(a) of the Howard County Code.

PART II - WATER

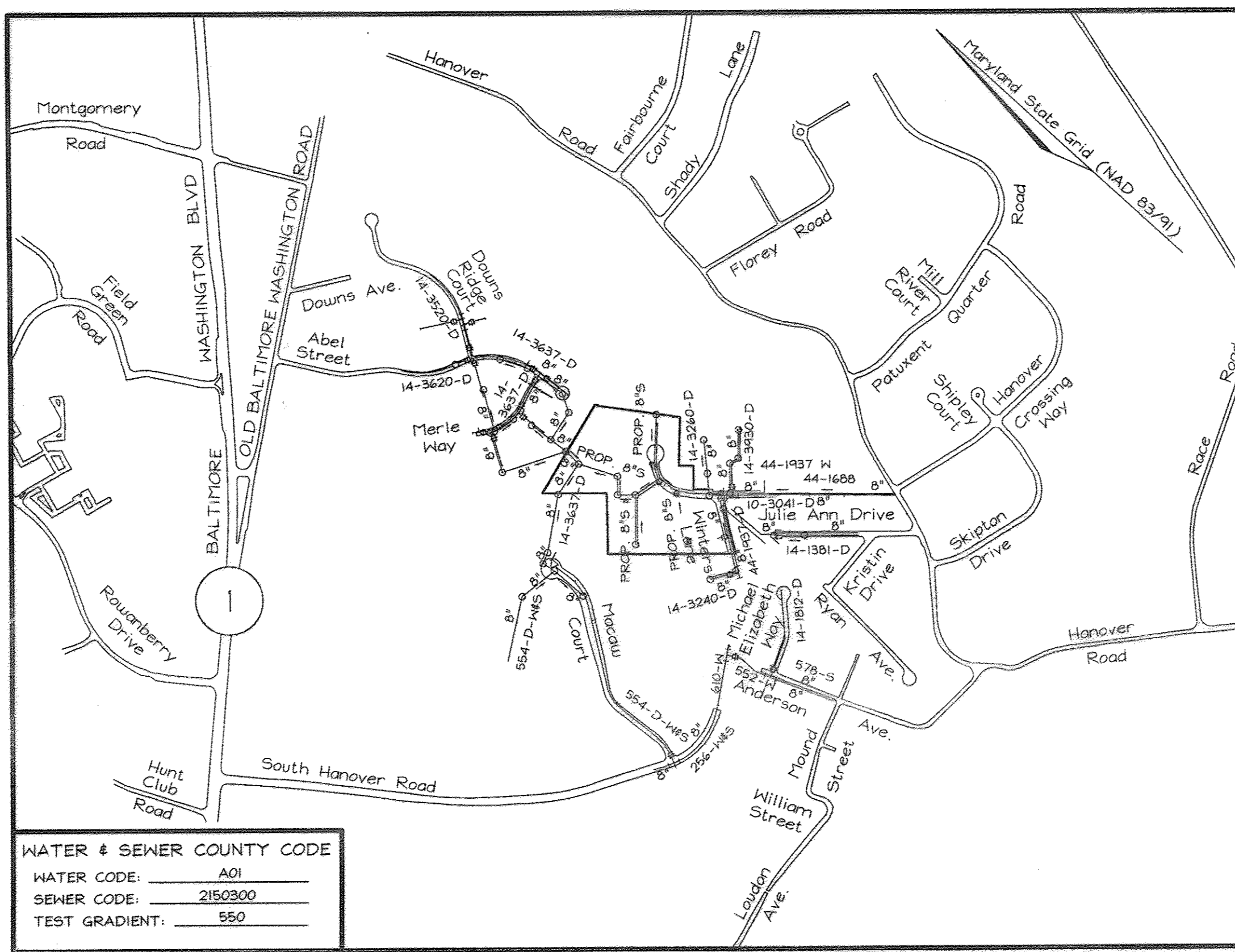
- Tops of all water mains shall have a minimum of 12" clearance from the ground.
- Valves adjacent to trees shall be strapped to trees.
- All fittings shall be buttressed or anchored with concrete in accordance with Standard Details unless otherwise provided for on the drawings.
- Fire hydrants shall be set to the bury line elevations shown on the drawings. Fire hydrants shall be installed in accordance with Standard Details. The fire hydrant shall be compacted in accordance with Standard Details 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'-0" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

PART II - WATER

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 OR POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900 DR18, PRESSURE CLASS 150 AND THE HOWARD COUNTY DESIGN MANUAL VOL. IX - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND SUBSEQUENT AMENDMENTS THERETO.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS.
- ALL DUCTILE IRON PIPES TO BE USED IN THE PUBLIC WATER SYSTEM SHALL BE CLASS 54, DUCTILE IRON FITTINGS SHALL MEET THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL VOL. IX - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND SHALL BE EXTERIOR EPOXY COATED IN ACCORDANCE WITH AWWA C-116.
- ALL WATER HOUSE CONNECTIONS SHALL BE COPPER MEETING THE REQUIREMENTS OF THE HOWARD COUNTY DESIGN MANUAL VOL. IX - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- ALL FIRE HYDRANT LEADS, INCLUDING THE TEE, SHALL BE DUCTILE IRON CLASS 54 MEETING THE REQUIREMENTS OF AND CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. IX - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
- THE FOLLOWING NOTE IS ADDED TO HOWARD COUNTY STANDARD DETAIL W-2.22, BUTTRESSES AND ANCHORAGES FOR VERTICAL BENDS "WHEN ANCHORING PVC PIPE, THE STRAPPING IN CONTACT WITH THE PIPE SURFACE SHALL BE 1/4" WIDE BY 1/4" INCH THICK STEEL. THE REMAINING PORTION OF THE WRAP SHALL BE REINFORCING BAR SIZE IN ACCORDANCE WITH THE PERTINENT CHART SHOWN ON THE DETAIL."



WATER & SEWER COUNTY CODE

WATER CODE:	AD1
SEWER CODE:	2150300
TEST GRADIENT:	550

LOCATION MAP

Scale: 1"=600'

TYPE OF BUILDING: RESIDENTIAL

NO. OF LOTS/PARCELS: 37

NO. OF WATER HOUSE CONNECTIONS: 33

NO. OF SEWER HOUSE CONNECTIONS: 34

DRAINAGE AREA: PATAPSCO

TREATMENT PLANT: PATAPSCO

QUANTITIES

NAME OF UTILITY CONTRACTOR: CALVERT UTILITIES
SURVEY AND DRAFTING DIVISION AS-BUILT DATE: 5-18-10

ITEMS	QUANTITIES ESTIMATED	AS-BUILT	
		QUANTITIES	TYPE MANUFACTURER/SUPPLIER
MANHOLE	13	13	48" PRECAST FREDERICK PRECAST CONCRETE, INC
8" SEWER	1774 LF	1770	SDR35 NORTH AMERICAN / HD SUPPLY
8" DI SEWER	85 LF	85	CL92 US PIPE / HD SUPPLY
4" SHC	670 LF	660	SDR35 NORTH AMERICAN / HD SUPPLY
8"x6" TEE	2	2	SIGMA / HD SUPPLY
FIRE HYDRANT	2	2	KENNEDY / HD SUPPLY
6" CAP & BUTTRESS	2	2	SIGMA / HD SUPPLY
8" CAP & BUTTRESS	1	1	SIGMA / HD SUPPLY
6" WATER	785 LF	825	C900 NORTH AMERICAN / HD SUPPLY
8" WATER	650 LF	670	C900 NORTH AMERICAN / HD SUPPLY
1" WHC	670 LF	700	K CERRA / HD SUPPLY
6" VALVE	3	4	KENNEDY / HD SUPPLY
8" VALVE	3	2	KENNEDY / HD SUPPLY
1/2" DRAIN	3	3	FORD / HD SUPPLY
1/2" COPPER	25	25	CERRA / HD SUPPLY

SEDIMENT CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE STANDARD SPECIFICATIONS AND WITH FINAL ROAD CONSTRUCTION PLANS F-06-008

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

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

John K. Plattsford 8/25/06 DATE
John K. Plattsford 8/25/06 DATE

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. 28659, Expiration Date: 7-22-13

NOTE: ALL WATER AND SEWER MAINS TO BE PVC UNLESS NOTED ON PLANS OTHERWISE

DEVELOPERS

JAMES L. NEWBURN 5570 Sterett Place Suite 201 Columbia, MD 21044 (410) 47-3815

B.Z. ENTERPRISES INC P.O. Box 68 Reisterstown, MD 21136 (410) 935-8887

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES DATE: 8-17-06

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 8/13/06

FSH Associates
Engineers Planners Surveyors
6339 Howard Lane Elkridge, MD 21075
Tel: 410-567-5200 Fax: 410-796-1562
E-mail: info@fsha.biz



DESIGN BY:	PS	KCP	G	AS-BUILT	12/29/13
DRAWN BY:	AY	KCL	4	ADD UTILITY CONNECTIONS FOR LOT 24	9-12-11
CHECKED BY:	ZYF	BEI	3	ASBUILT REVISIONS	7-7-10
DATE:	09-2008	BEI	2	ELIMINATE WATER NOTES 11 & 12	2/26/10
		BEI	1	REVISE WATER MAINS FROM D.I.P. TO PVC	10-28-09
		BY	NO.	MODIFY SEWER MAINS TO REDUCE DEPTH	1/22/09
				REVISION	

600' SCALE MAP NO. 38 BLOCK NO. 14

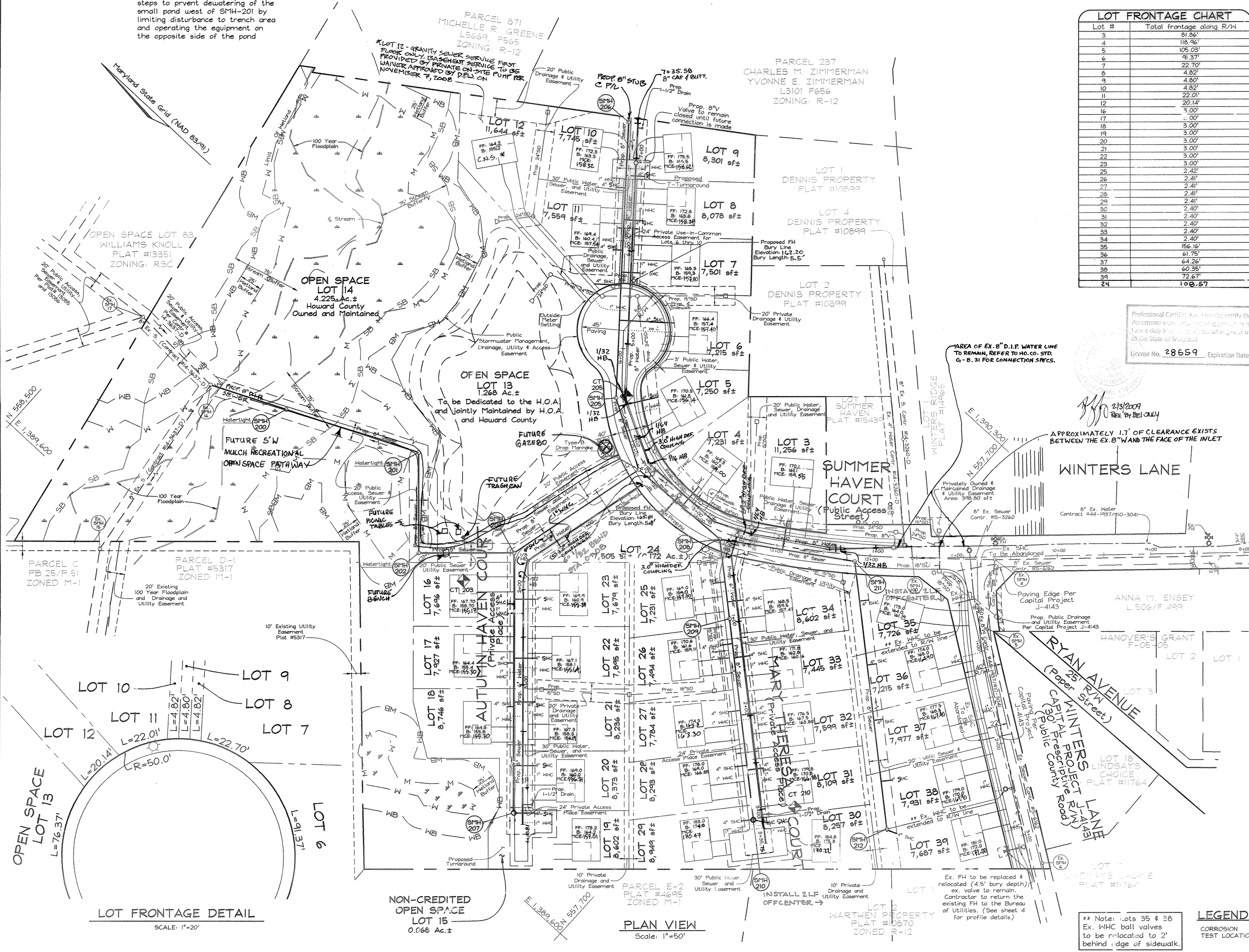
SUMMER HAVEN
Phase One and Two
LOTS 3 THRU 11, OPEN SPACE LOTS 12 THRU 15
AND LOTS 16 THRU 39
A Resubdivision of Summer Haven Lot 2, Plat #15439
CONTRACT NO. 14-4265-D

TAX MAP 38 GRID 14
1ST ELECTION DISTRICT

SCALE: As Shown

SHEET NO. 1 OF 5

NOTE: Contractor to take necessary steps to prevent dewatering of the small pond west of SMH-201 by limiting disturbance to trench area and operating the equipment on the opposite side of the pond



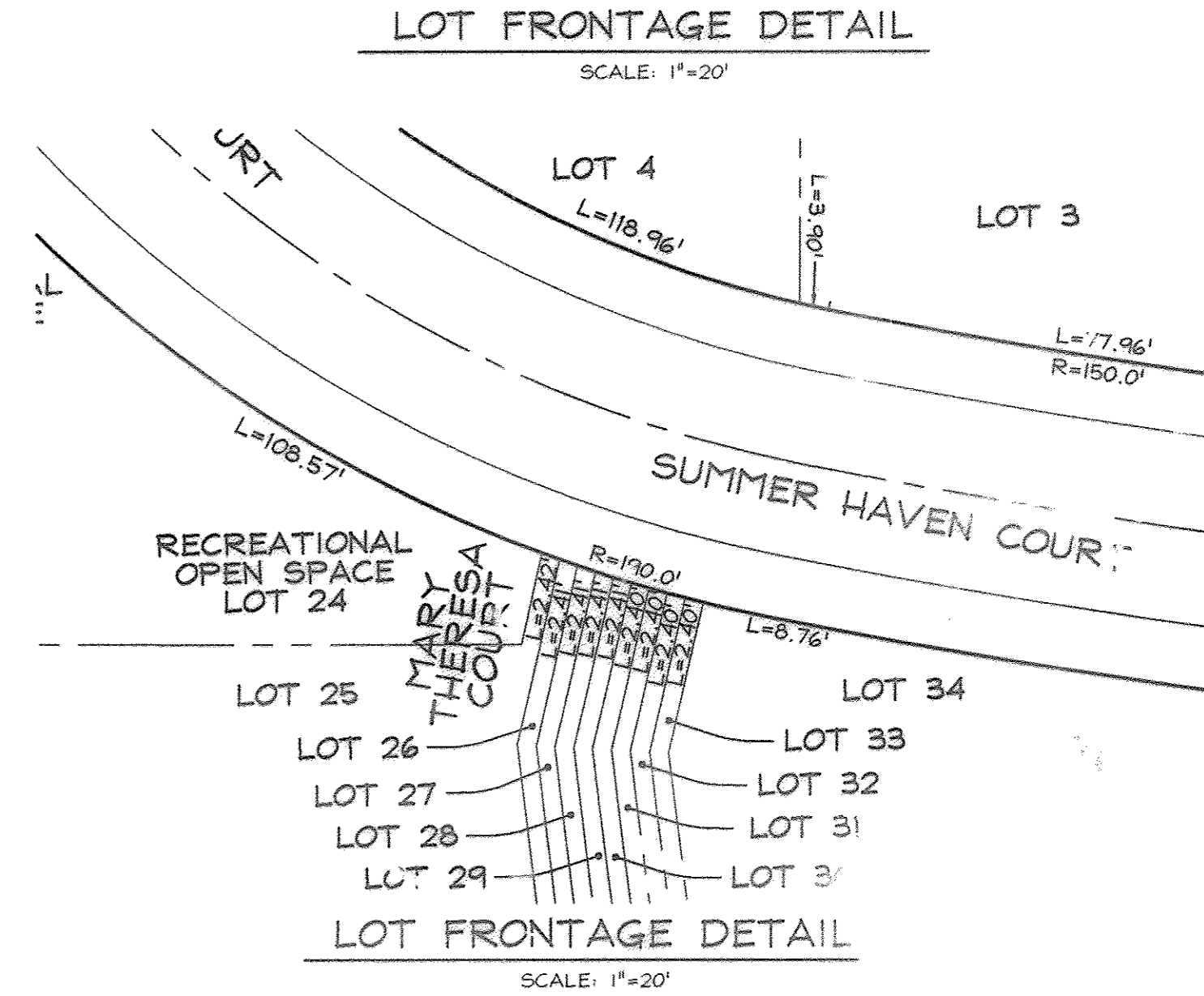
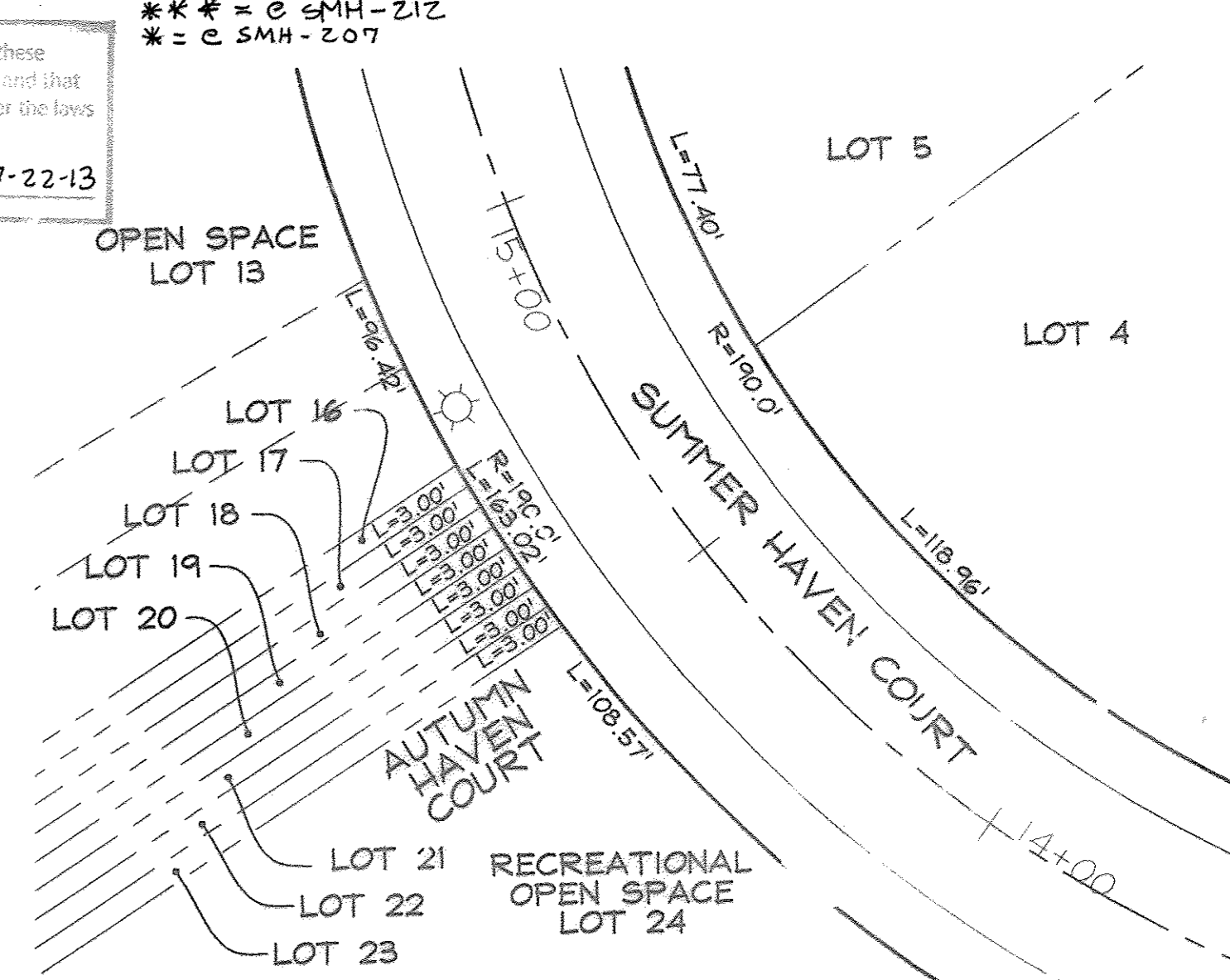
LOT FRONTAGE CHART

Lot #	Total Frontage along R/W
3	81.86'
4	118.96'
5	105.03'
6	91.37'
7	22.70'
8	4.82'
9	4.82'
10	4.82'
11	22.01'
12	20.14'
16	9.00'
17	2.00'
18	3.00'
19	3.00'
20	3.00'
21	3.00'
22	3.00'
23	3.00'
25	2.42'
26	2.41'
27	2.41'
28	2.41'
29	2.41'
30	2.40'
31	2.40'
32	2.40'
33	2.40'
34	2.40'
35	156.16'
36	61.75'
37	64.26'
38	60.35'
39	72.87'
24	100.57'

SEWER HOUSE CONNECTION CHART

Lot #	Inv. @ Main	Inv. @ PUE	Basement	MCE
3	154.12	154.12	161.10	159.88
4	152.02	152.58	160.30	156.71
5	151.35	152.23	161.50	156.14
6	152.70	153.10	157.40	157.80
7	151.20	153.50	159.30	157.80
8	153.43	153.83	163.80	158.24
9	153.37	154.17	166.50	158.62
10	153.64	153.84	163.30	158.22
11	153.20	153.40	160.40	157.84
12	153.00	153.60	155.20	154.50
16	150.70	151.08	159.70	155.12
17	151.20	151.34	155.40	155.30
18	151.60	151.74	155.80	155.30
19	152.30	152.70	164.20	157.01
20	152.00	152.88	160.00	156.71
21	151.50	152.07	158.30	156.19
22	151.17	151.63	158.10	155.64
23	150.73	151.17	160.70	155.24
25	152.73	152.41	159.00	157.00
26	154.23	154.94	161.60	159.11
27	158.80	156.06	165.30	163.30
28	162.15	162.45	169.00	166.85
29	165.50	165.16	174.00	170.84
30	165.90	165.84	175.50	170.22
31	162.48	162.82	170.80	166.88
32	155.20	155.54	167.50	162.32
33	155.55	155.93	162.80	160.16
34	152.89	153.23	159.90	157.47
35	150.70	150.40	164.00	161.90
36	160.80	161.00	165.00	164.90
37	165.10	165.30	168.50	167.40
38	165.80	165.70	170.00	169.40
39	167.40	167.64	172.00	172.00
24	149.81	150.38	160.63	154.88

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. 28659 Expiration Date: 7-22-13



LOT FRONTAGE DETAIL
SCALE: 1"=20'

NON-CREDITED OPEN SPACE LOT 15
0.066 Ac.±

PLAN VIEW
Scale: 1"=50'

LEGEND
CORROSION TEST LOCATION

DEVELOPERS
JAMES L. NEWBURN
5F.10 Silver Hill Place Suite 201
Columbia, MD 21044
(410) 997-3A14

B.Z. ENTERPRISES INC.
PO Box 68
Reisterstown, MD 21136
(410) 935-8887

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

2/11/10
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

8/17/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION

FSH Associates
Engineers Planners Surveyors
6338 Howard Lane Ellicott City, MD 21075
Tel: 410-567-5200 Fax: 410-796-1582
E-mail: info@fsha.biz



DESIGN BY: PS
DRAWN BY: AY
CHECKED BY: ZYF
DATE: Aug. 09, 2006

BY NO.	REVISION	DATE
BEI 6	REVISE LOCATION OF WNC-SMC LOT 24	12-22-11
BEI 5	ADD UTILITY CONNECTIONS FOR LOT 24	9-12-11
KCL 4	ASBUILT REVISIONS	7-7-10
BEI 3	ELIMINATE PROP. 8" W FROM STA 0+00 TO 0+27.87	2-26-10
BEI 2	REVISE WATER MAINS FROM D.I.P. TO PVC	10-28-09
BEI 1	MODIFY SEWER MAINS TO REDUCE DEPTH	1/22/09

FINAL WATER AND SEWER PLAN
600' SCALE MAP NO.: 38 BLOCK NO.: 14

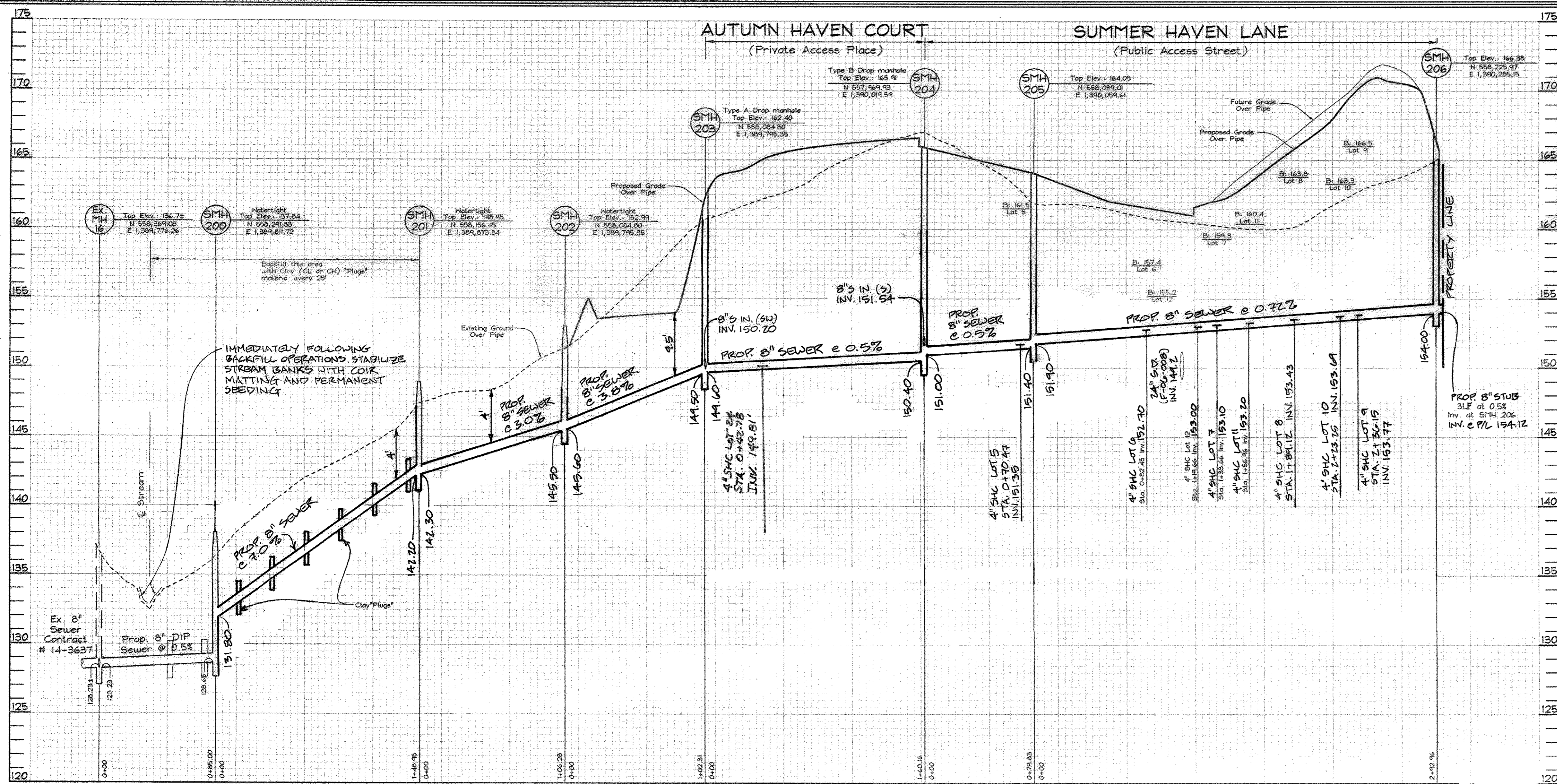
SUMMER HAVEN
Phase One - 1100
LOTS 3 THRU 11, OPEN SPACE LOTS 12 THRU 15
AND LOTS 16 THRU 39
A Resubdivision of Summer Haven Lot 2, Plat #15439
CONTRACT NO. 14-4265-D

TAX MAP 38 GRID 14
1ST ELECTION DISTRICT

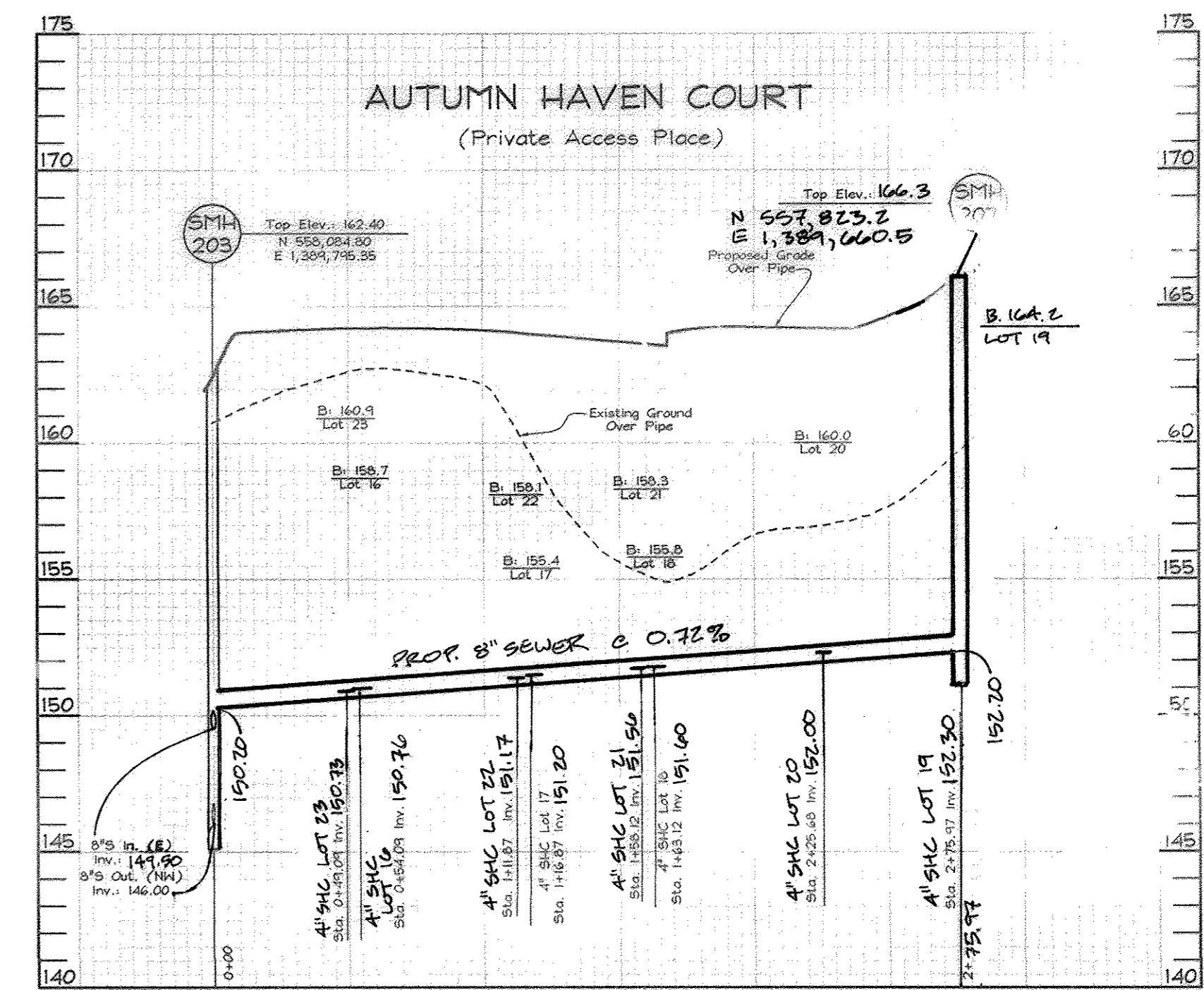
PARCELS 715, 721 & P/O 233
HOWARD COUNTY, MARYLAND

SCALE:
As Shown

SHEET NO.
2 OF 5



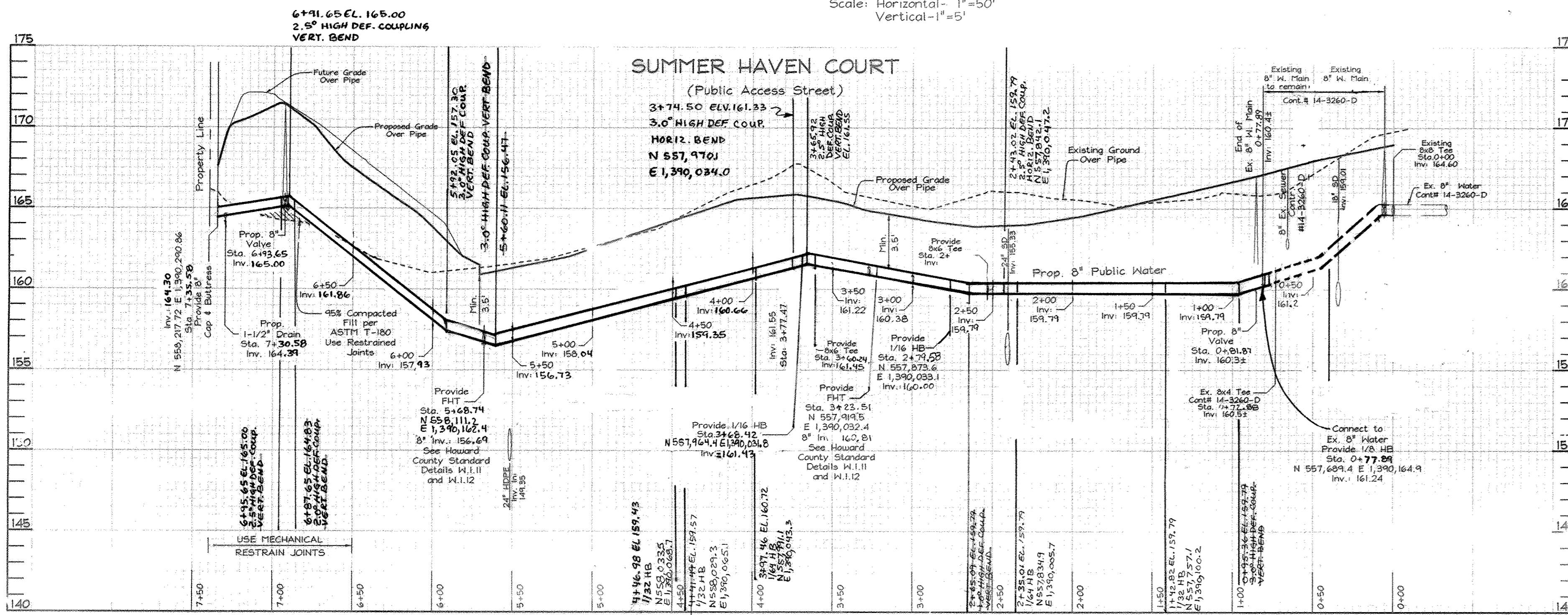
SEWER PROFILES
Scale: Horizontal- 1"=50'
Vertical- 1"=5'



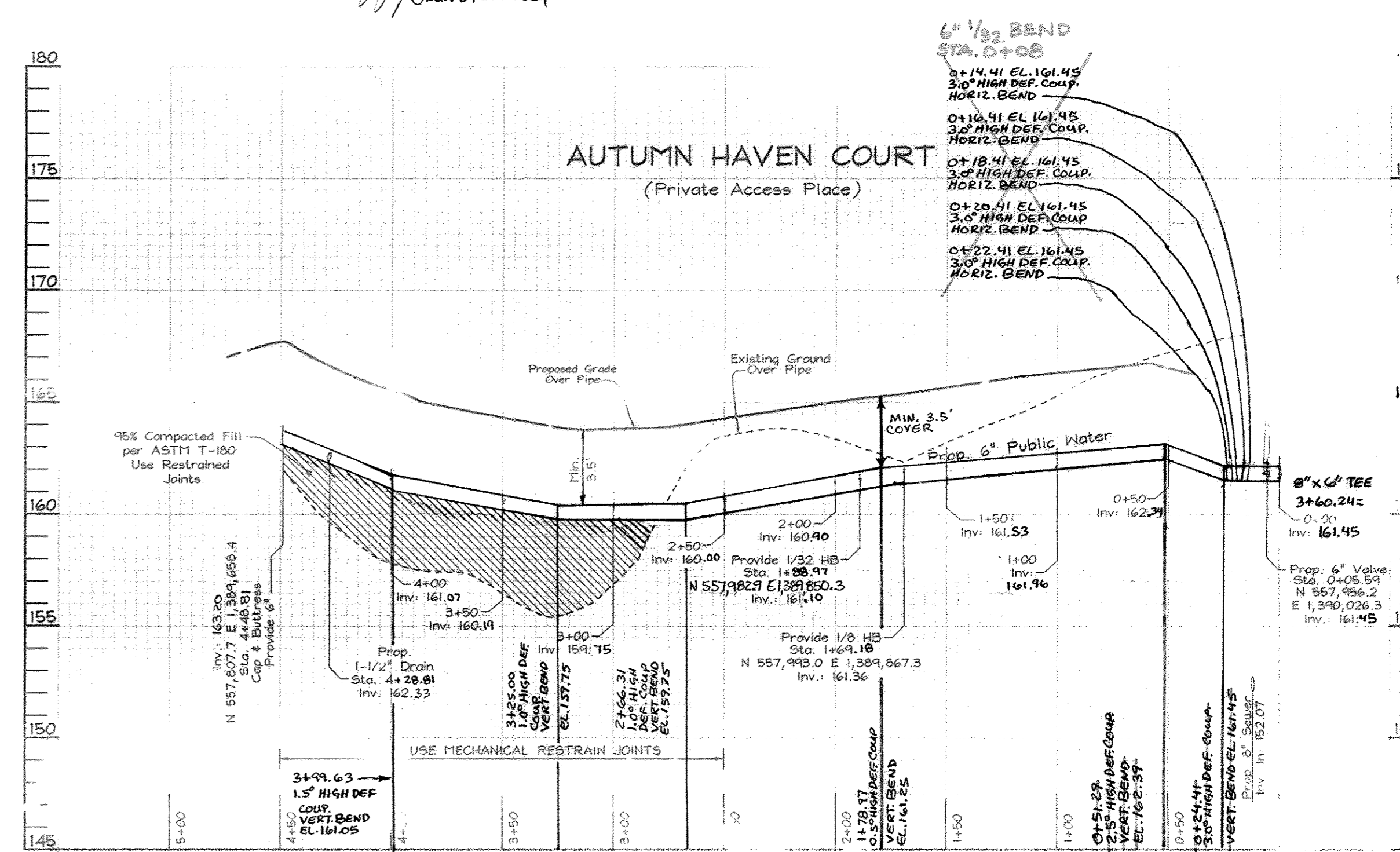
SEWER PROFILES
Scale: Horizontal- 1"=50'
Vertical- 1"=5'

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.
Release No. 28 659, Expiration Date: 7-22-13

2/3/2009
Rev. BY BEI/ULLY



WATER PROFILES
Scale: Horizontal- 1"=50'
Vertical- 1"=5'



WATER PROFILES
Scale: Horizontal- 1"=50'
Vertical- 1"=5'

DEVELOPERS

JAMES L. NEWBURN
5570 Stortett Place Suite 201
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(410) 997-7815

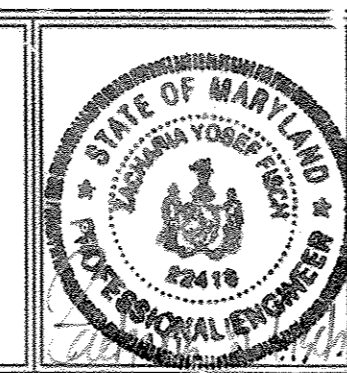
H Z ENTERPRISES INC.
PO Box 68
Reisterstown, MD 21136
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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

8-17-06

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

FSH Associates
Engineers Planners Surveyors
5339 Howard Lane Elkridge, MD 21075
Tel: 410-567-5200 Fax: 410-796-1582
E-mail: info@fsa.biz



DESIGN BY: PS
DRAWN BY: AY
CHECKED BY: ZYF
DATE: Aug. 09, 2006

BY NO.	REVISION	DATE
BEI 6	REVISE PROFILE TO SHOW NEW SHC ON LOT 24	12-22-11
BEI 5	ADD UTILITY CONNECTIONS FOR LOT 24	10-22-11
KCI 4	ASBUILT REVISIONS	9-7-10
BEI 3	ESTIMATE PROP. 8" DIA. FROM STA. 0+00 TO 0+77.89	2-26-10
BEI 2	REVISE WATER MAINS FROM D.I.P. TO PVC	10-29-09
BEI 1	MODIFY SEWER MAINS TO REDUCE DEPTH	11/21/09

FINAL WATER AND SEWER PROFILE

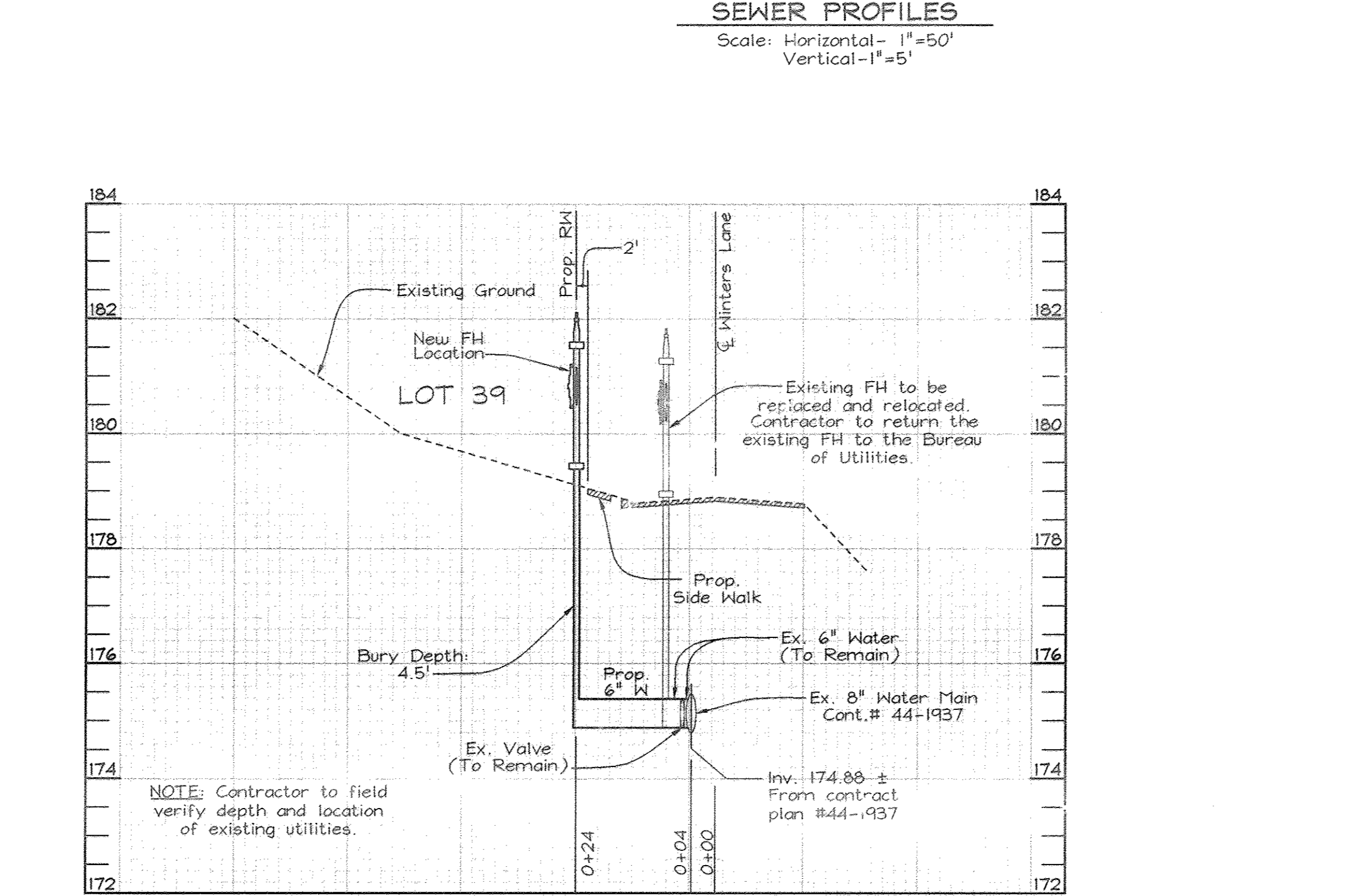
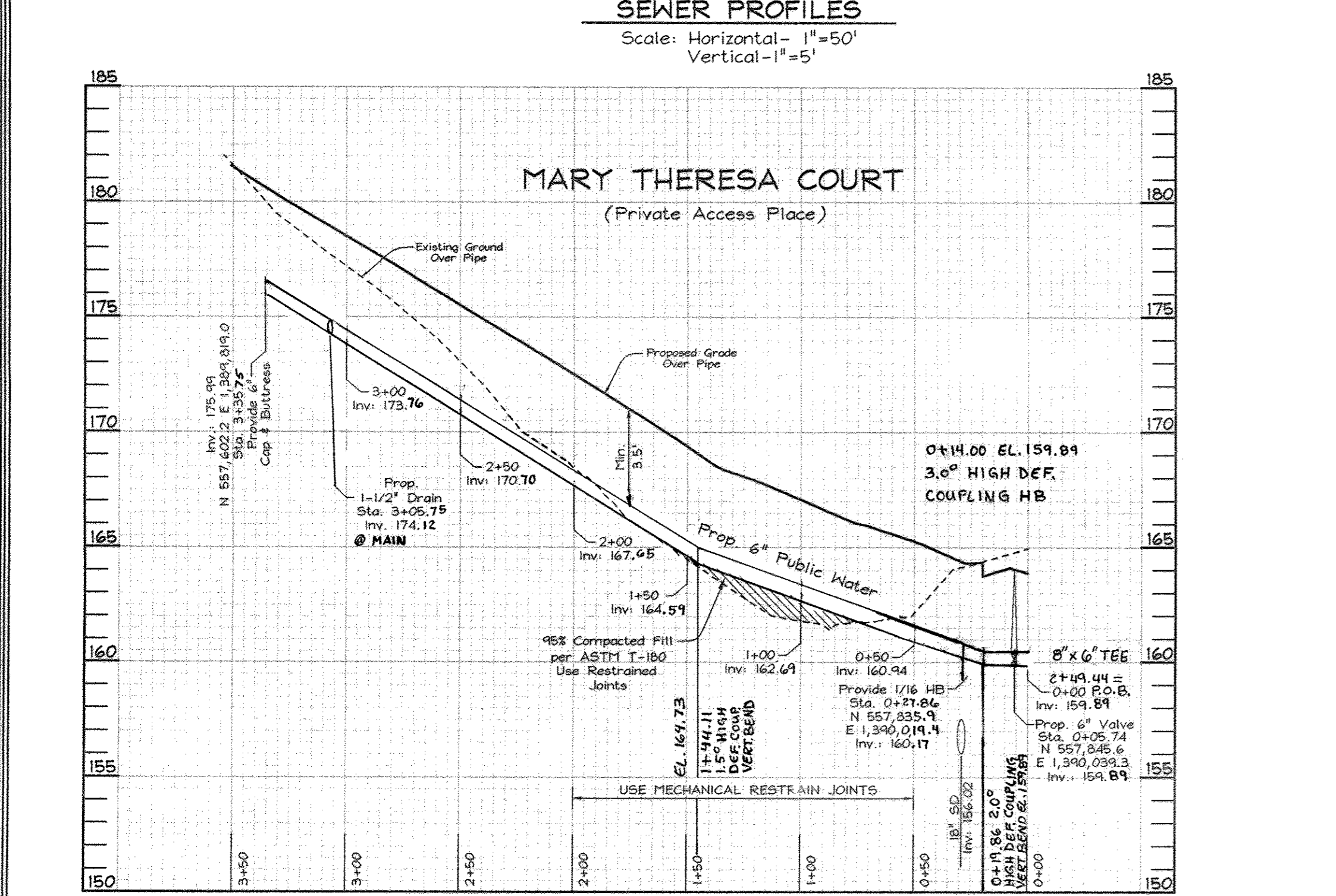
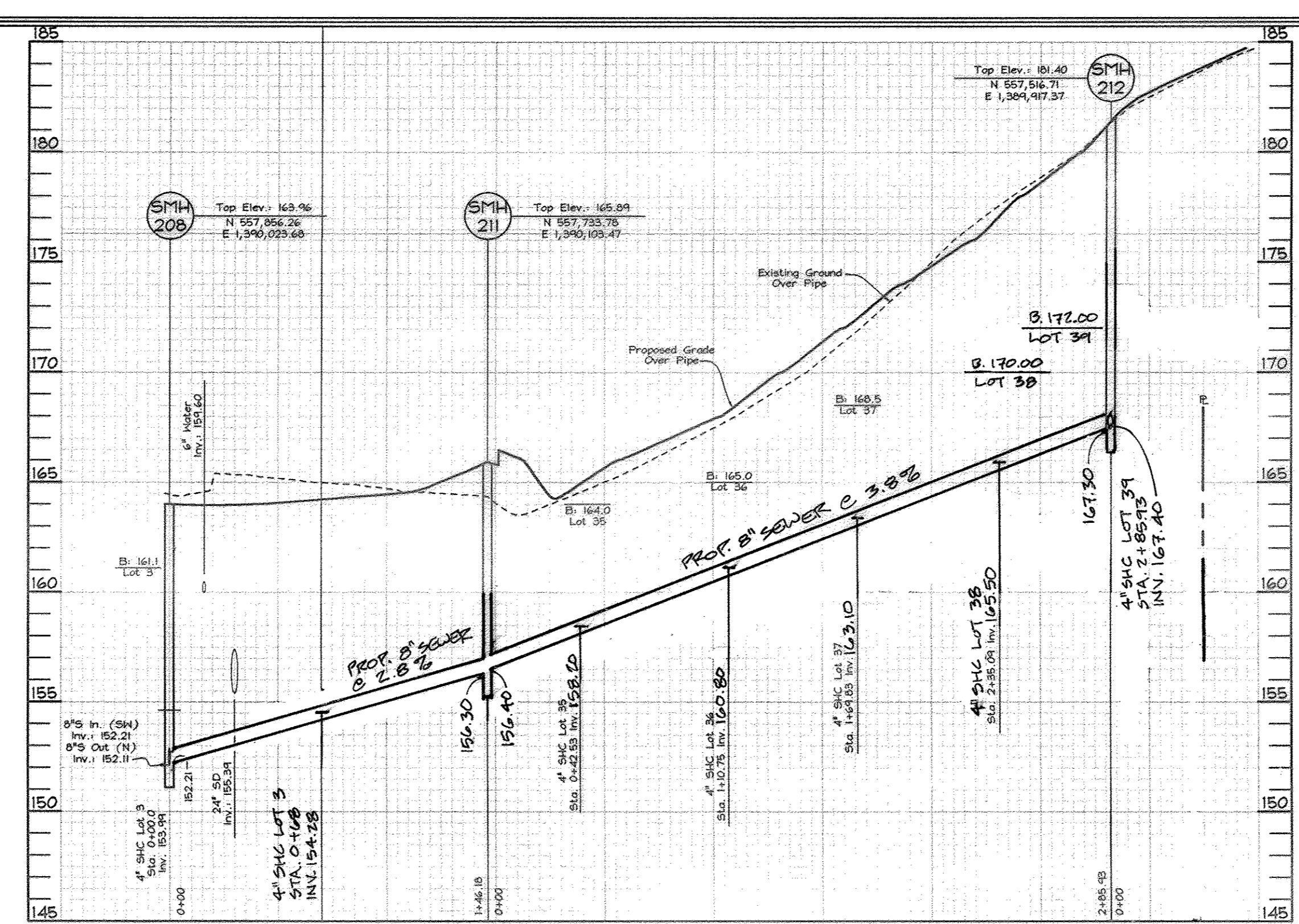
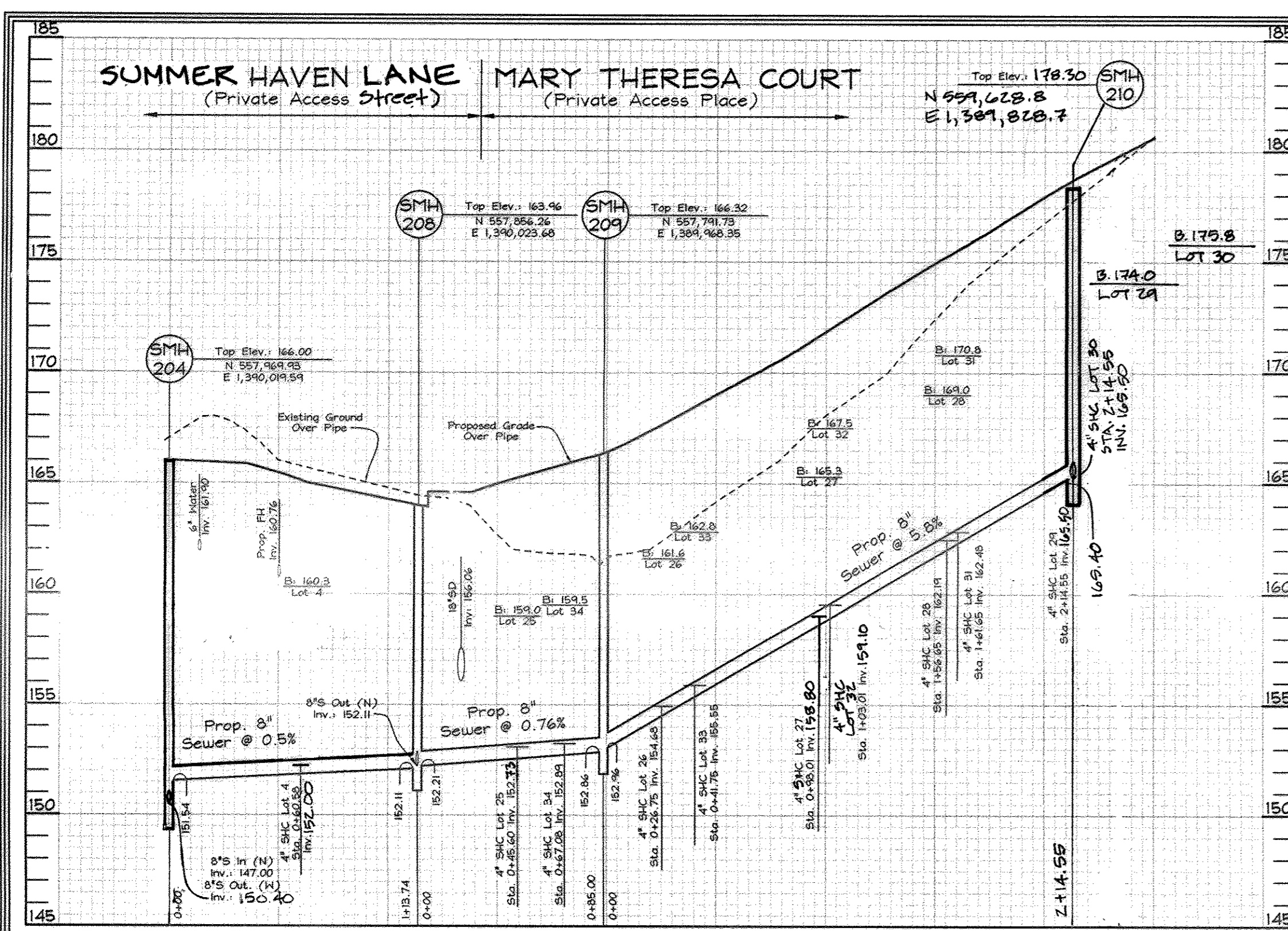
600' SCALE M.P. NO.: 3 BLOCK NO.: 14

SUMMER HAVEN
Phase One and Two
LOTS 3 THRU 11, OPEN SPACE LOTS 12 THRU 15
AND LOTS 16 THRU 39
A Resubdivision of Summer Haven Lot 2, Plat #15439
CONTRACT NO. 14-4265-D

TAX MAP: 38 GRID 14
1ST ELECTION DISTRICT

PARCELS 718, 721 & 723
HOWARD COUNTY, MARYLAND

SCALE: As Shown
SHEET NO. 3 OF 5



BEST MANAGEMENT PRACTICES

FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NON-TIDAL WETLAND BUFFERS, WATERWAYS, OR 100 YEAR FLOODPLAIN.
- PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
- PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- REPAIR AND MAINTAIN ANY SERVICABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES:
 - ANNUAL RYE GRASS (*Lolium multiflorum*)
 - MILLET (*Setaria Italica*)
 - BARLEY (*Hordeum sp.*)
 - CATS (*Ustilgo sp.*)
 - RYE (*Sesuaiu carolinse*)

THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE

ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM

USE OF WATERS IN STREAM WORK SHALL BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

DETAIL 1.2: PUMP-AROUND PRACTICE

PLAN VIEW

CROSS SECTION A-A

MGMC 2.1: Pump-Around Practice

REVISIONS

NO.	DATE	DESCRIPTION
1	11/15/2000	ORIGINAL
2	11/15/2000	REVISED

WATER PROFILES
 Scale: Horizontal-1"=50'
 Vertical-1"=5'

NOTE: Ductile iron pipe with restrained joints shall be used for all sections of water mains in fill areas.

EX. FH RELOCATION & REPLACEMENT PROFILE
 Scale: Horizontal-1"=20'
 Vertical-1"=2'

NOTE: See Ho. Co. Std. Detail W 1.11 for more details.

SEQUENCE OF CONSTRUCTION FOR SEWER

- Obtain grading permit and MDE Nontidal Wetlands and Waterways Permit (200663194/06NT-3126) and contact Howard County Sediment Control Inspector and MDE Inspector to arrange a pre-construction meeting. Re-use and repair as necessary any sediment control devices installed under F-06-00B within the water and sewer construction area.
- Clear for and install silt fence and pump around practice (2 days).
- Install Sewer Manhole 200 and 8" DIP Sewer from Existing Sewer Manhole 16 to Sewer Manhole 200, use Utility Crossing detail, this sheet, for stream crossing. (1 week)
- Stabilize stream banks with permanent wetland seed mix and coir matting. Proceed with remaining sewer construction (2 weeks).
- Stabilize all disturbed areas with permanent seeding mix.

SEQUENCE OF CONSTRUCTION FOR WATER

- All work to be done within existing LOD per road construction drawings F-06-00B. Connect to existing 8" water. Replace existing 8" water from Sta. 0+05.72 to Sta. 0+09.27. Reconnect to existing 8" water at Sta. 0+49.22. Existing 8" water to remain from Sta. 0+49.22 to Sta. 0+81. Prop. 8" valve at Sta. 0+90 to remain closed during construction.
- Proceed with remaining water construction.

Note: Following initial soil disturbance or any redistribution, permanent or temporary stabilization shall be completed within:

- 7 calendar days for all perimeter sediment control structures, dikes, swales and all slopes greater than 3:1.
- 14 calendar days for all other disturbed areas.

DETAIL 22 - SILT FENCE

CONSTRUCTION SPECIFICATIONS

- Fence posts shall be a minimum of 36" long, driven 10" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" (minimum) oak, or 1 1/2" diameter (minimum) round and that of good quality hardwood. Steel posts shall be standard T or U section weighing not less than 100 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: PSMT 508
Tensile Flexibility	20 lbs/in (min.)	Test: PSMT 508
Flow Rate	0.3 gal./ft ² /minute (max.)	Test: PSMT 522
Filtration Efficiency	75% (min.)	Test: PSMT 522
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt fence shall be installed at a height of 18" above ground level.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND R. J. BUNN CHIEF, BUREAU OF UTILITIES	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND DATE: 9-17-06	FSH Associates Engineers Planners Surveyors 6339 Howard Lane Elkridge, MD 21075 Tel: 410-587-5200 Fax: 410-796-1582 E-mail: info@fsha.biz		DESIGN BY: PS DRAWN BY: AY CHECKED BY: ZTF DATE: Aug. 09, 2006	<table border="1"> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td>2</td> <td>REVISE WATER MAINS FROM D.I.P TO PVC</td> <td>10-28-09</td> </tr> <tr> <td>1</td> <td>MODIFY SEWER MAINS TO REDUCE DEPTH</td> <td>1/22/09</td> </tr> </table>	NO.	REVISION	DATE	2	REVISE WATER MAINS FROM D.I.P TO PVC	10-28-09	1	MODIFY SEWER MAINS TO REDUCE DEPTH	1/22/09	FINAL WATER AND SEWER PROFILE AND DETAILS 600' SCALE MAP NO.: 38 BLOCK NO.: 14	SUMMER HAVEN Phase One and Two LOTS 3 THRU 11, OPEN SPACE LOTS 12 THRU 15 AND LOTS 16 THRU 39 A Resubdivision of Summer Haven Lot 2, Plat #15439 CONTRACT NO. 14-4265-D TAX MAP 38 GR. 14 1ST ELECTION DISTRICT	SCALE: As Shown SHEET NO. 4 OF 5
NO.	REVISION	DATE															
2	REVISE WATER MAINS FROM D.I.P TO PVC	10-28-09															
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DEVELOPERS

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