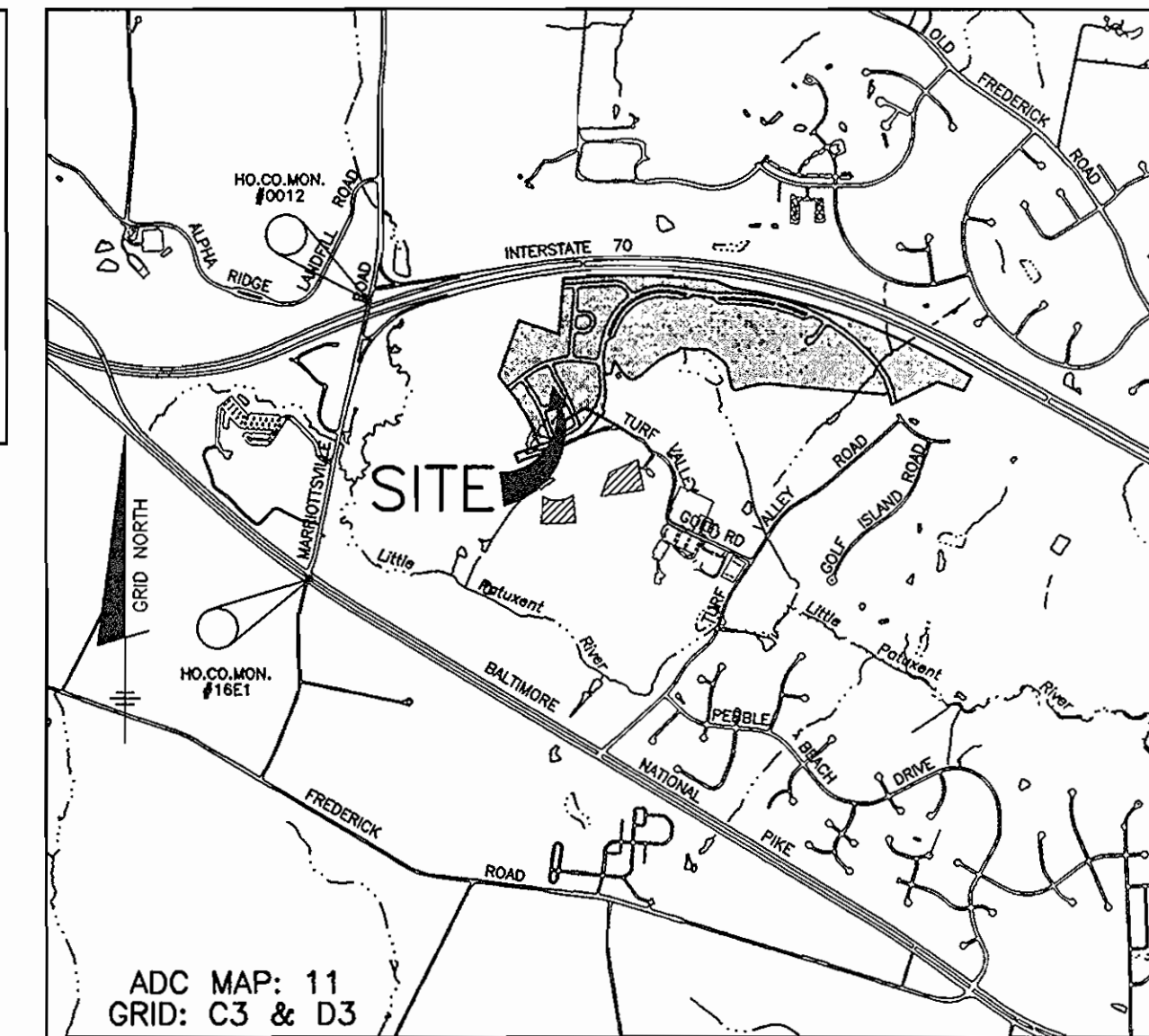


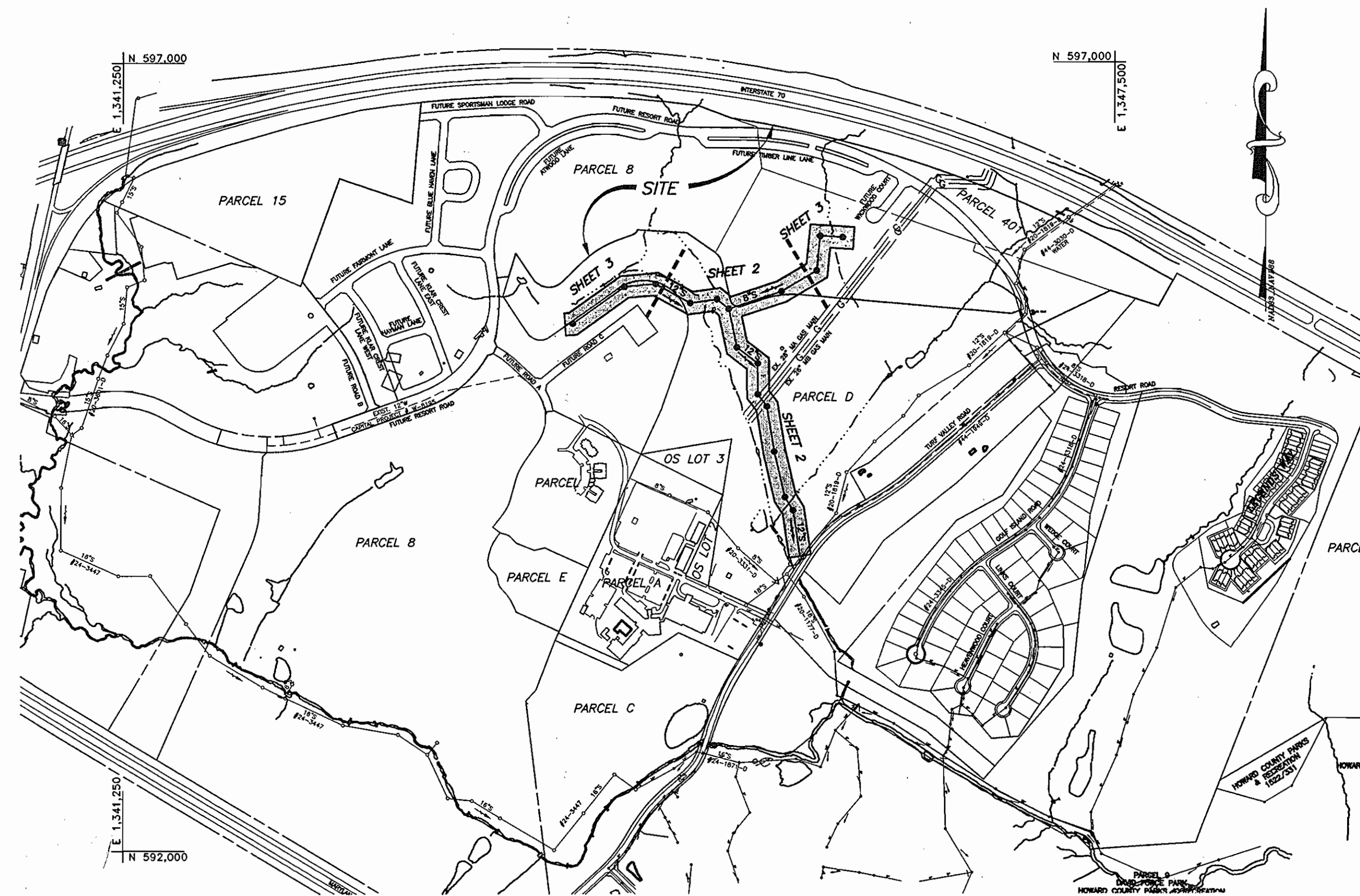
VILLAGES AT TURF VALLEY

CONTRACT NO. 20-4489-D

BENCH MARKS
 HORIZONTAL: MARYLAND NAD83
 VERTICAL: NAVD88
 HO. CO. #0012
 STAMPED DISC SET ON TOP OF 3" DEEP
 CONCRETE MONUMENT AT NORTHWEST CORNER
 OF MARROTSVILLE ROAD AND I-70 10.6' FROM
 X-CUT IN TOP OF GUARDRAIL POST.
 N 596502.760 E 1340884.370
 ELEV. 466.298'
 HO. CO. #16E1
 STAMPED DISC SET ON TOP OF 3" DEEP
 CONCRETE MONUMENT AT MEDIAN OF ROUTE 40
 AT INTERSECTION WITH MARROTSVILLE ROAD 8.6'
 FROM E/W OF EAST ROAD LINES.
 N 593250.960 E 1340192.700
 ELEV. 463.981'



ADC MAP: 11
 GRID: C3 & D3
VICINITY MAP
 SCALE: 1" = 2000'



QUANTITIES				
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	AS-BUILT	
			TYPE	MANUF./SUPPLIER
12" PVC SEWER	1294 LF	1206	SDR 35	NORTHAMERICAN PIPES/CONCRETE
12" D.I.P. SEWER	1516 LF	1515	NSF 61	GRIFFIN PIPE PROD.
8" PVC SEWER	436 LF	437	SDR 25	NORTHAMERICAN PIPES/CONCRETE
8" D.I.P. SEWER	493 LF	490	NSF 61	GRIFFIN PIPE PROD.
MANHOLES	17 EA	17	PRE-CAST CONCRETE	ATLANTIC CONCRETE
VERT. FEET OF MANHOLES	180 FT			
NAME OF UTILITY CONTRACTOR: CCS, INC.				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE:				

(FOR COUNTY USE ONLY)	TYPE OF BUILDING: _____ N/A
WATER AND SEWER COUNTY CODE	NO. OF LOTS/PARCELS/UNITS: _____ 0
WATER CODE: HOG	NUMBER OF SHC'S: _____ 0
SEWER CODE: 5992000	NUMBER OF WHC'S: _____ 0
TEST GRADIENT: 630W	AREA OF COMMERCIAL LOT/PARCEL: _____ N/A
	SEWER SHED: _____ LITTLE PATUXENT WRP
	PUMPING STATION: _____ ROUTE 108 PS

LOCATION MAP
 SCALE: 1" = 600'

HOWARD SOIL CONSERVATION DISTRICT:
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT
 AND MEETS TECHNICAL REQUIREMENTS

Jim Meyer 8/21/07
 NATURAL RESOURCES CONSERVATION DISTRICT DATE

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

John K. Robertson 8/21/07
 HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED
 IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD
 SPECIFICATIONS AND AS PER THESE CONTRACT DRAWINGS.

OWNER/DEVELOPER:
 MANGIONE ENTERPRISES AT TURF VALLEY, LP
 1205 YORK ROAD, PENTHOUSE
 LUTHERVILLE, MARYLAND 21093
 410-825-8400

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELIJACOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bel-civilengineering.com

Donnell Moore 8/6/07
 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. 21443, Expiration Date: 12-31-2008.

DESIGN: DBT			
DRAFT: DBT			
CHK: DAM	KCI	AS-BUILT DATA ADDED	4-13-09
	DBT	REUSE QUANTITIES BASED ON RELOCATION OF SHN 115 & 116	2-19-09
	DBT	DELETE SEWER FROM SHN 112 TO 114, DELETE SHN 113 & 114	2-14-08
	BY NO.	ADJUST QUANTITIES TABLE	
DATE: 08/2007		REVISIONS	DATE

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET PUBLIC SEWER MAINS
2	PLAN VIEW OF PUBLIC SEWER MAINS
3	PLAN VIEW OF PUBLIC SEWER MAINS
4	PROFILES OF PUBLIC SEWER MAINS
5	PROFILES OF PUBLIC SEWER MAINS
6	SEDIMENT AND EROSION CONTROL PAN PUBLIC SEWER MAINS
7	SEDIMENT AND EROSION CONTROL PAN, NOTES AND DETAILS PUBLIC SEWER MAINS

GP-07-64

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.
 - TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED IN FEBRUARY, 2003 BY BENCHMARK ENGINEERING, 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 W.A. 0012 AND W.C. 16E1.
 - ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE 0012 AND 16E1.
 - 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 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 DIG 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 (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T.....1-800-252-1133
 BGE (CONSTRUCTION SERVICES).....410-850-4620
 BGE (EMERGENCY).....410-856-1400
 BUREAU OF UTILITIES.....410-313-4900
 COLONIAL PIPELINE CO.....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 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 (5) 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 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 FRAMES AND COVER, STANDARD DETAIL 05.52. 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 CELLAR CANNOT BE SERVED.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Michael A. Gorman 9-13-07
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND
[Signature] 9/16/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

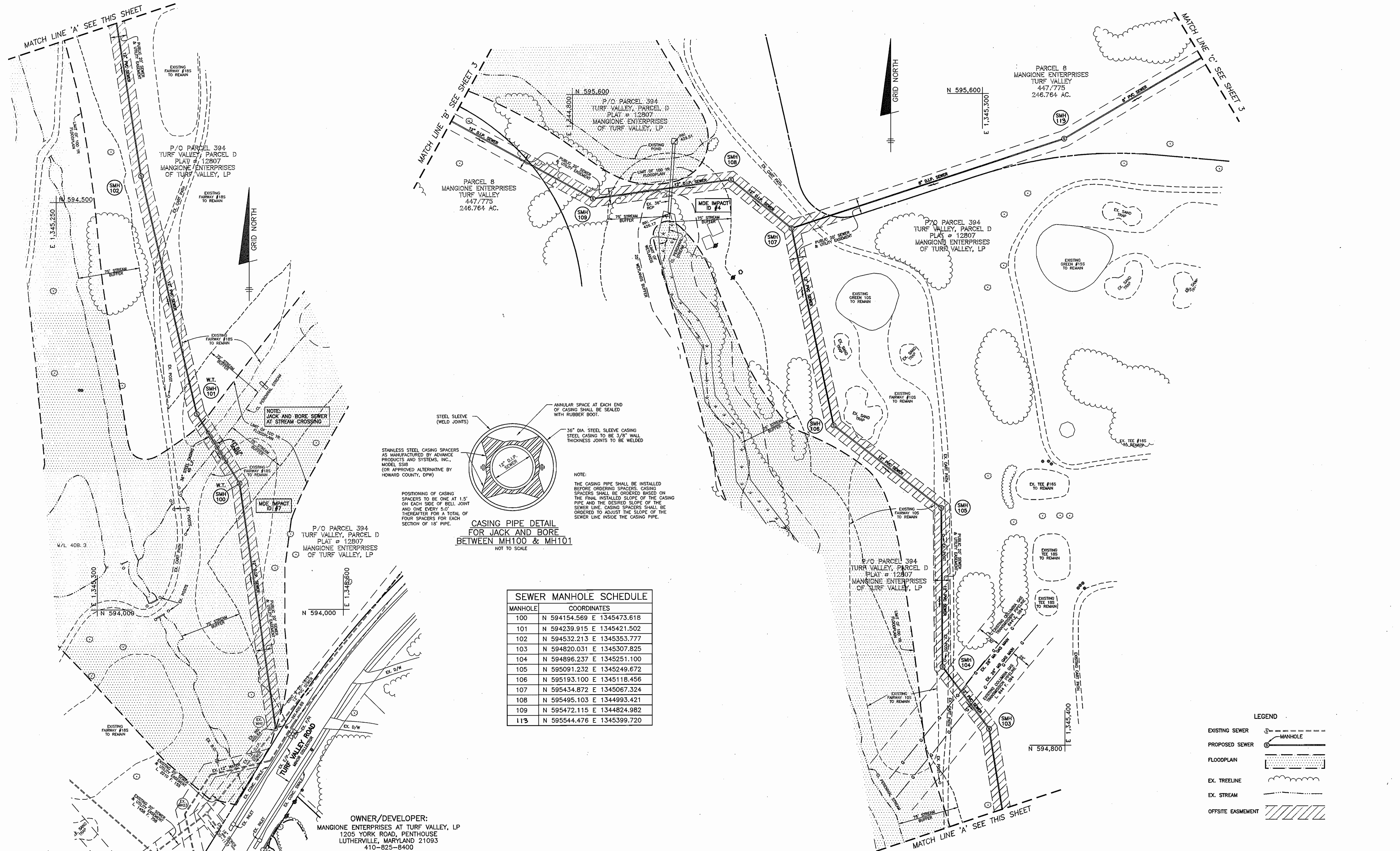
BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
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 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELIJACOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bel-civilengineering.com

Donnell Moore 8/6/07
 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. 21443, Expiration Date: 12-31-2008.

DESIGN: DBT			
DRAFT: DBT			
CHK: DAM	KCI	AS-BUILT DATA ADDED	4-13-09
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TITLE SHEET
PUBLIC SEWER MAINS
 600 SCALE MAP: 16 BLOCK: 10 200 SCALE MAP: 146

VILLAGES AT TURF VALLEY
 TAX MAP: 16 GRID: 17 PARCEL: 8 ZONED: PGCC
CONTRACT NO. 20-4489-D
 SCALE: AS SHOWN
 SHEET NO. 1 OF 7



SEWER MANHOLE SCHEDULE

MANHOLE	COORDINATES	
100	N 594154.569	E 1345473.618
101	N 594239.915	E 1345421.502
102	N 594532.213	E 1345353.777
103	N 594820.031	E 1345307.825
104	N 594896.237	E 1345251.100
105	N 595091.232	E 1345249.672
106	N 595193.100	E 1345118.456
107	N 595434.872	E 1345067.324
108	N 595495.103	E 1344993.421
109	N 595472.115	E 1344824.982
113	N 595544.476	E 1345399.720

OWNER/DEVELOPER:
 MANGIONE ENTERPRISES AT TURF VALLEY, LP
 1205 YORK ROAD, PENTHOUSE
 LUTHERVILLE, MARYLAND 21093
 410-825-8400

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Michael A. DiStasio
 CHIEF, BUREAU OF UTILITIES
 9-13-07

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

[Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 9/13/07

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
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 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.benchmark-engineering.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. 12-21-0004. Expiration Date: 12-31-2008.

Donald M. Mason
 PROFESSIONAL ENGINEER
 01/07

DESIGN:	DBT		
DRAFT:	DBT		
CHK:	DAM		
DATE:	08/2007		
PBT:	1	RENUMBER SMH 115 TO 113	2-14-08
BY:	NO.	REVISIONS	DATE

**PLAN VIEW
 PUBLIC SEWER MAINS**

600 SCALE MAP: 16 BLOCK: 10 200 SCALE MAP: 146

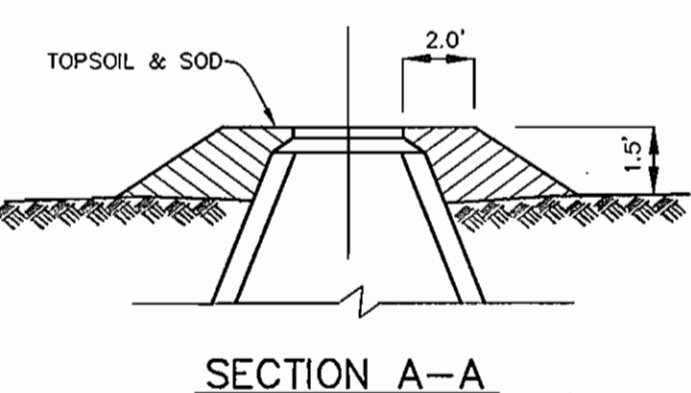
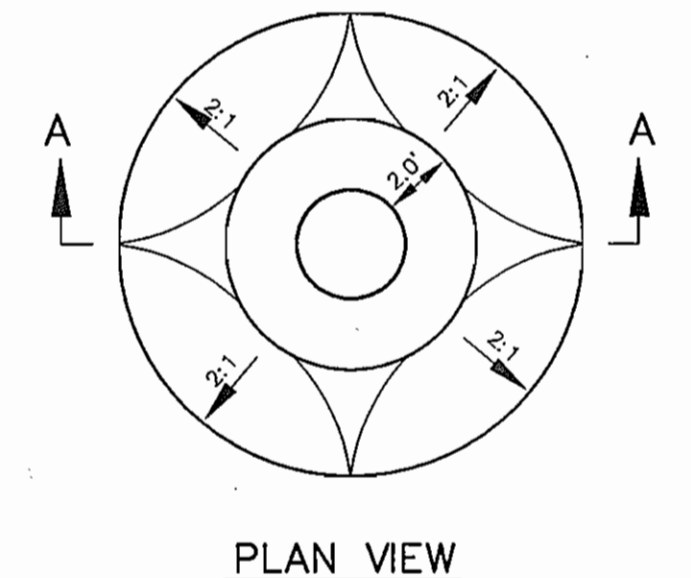
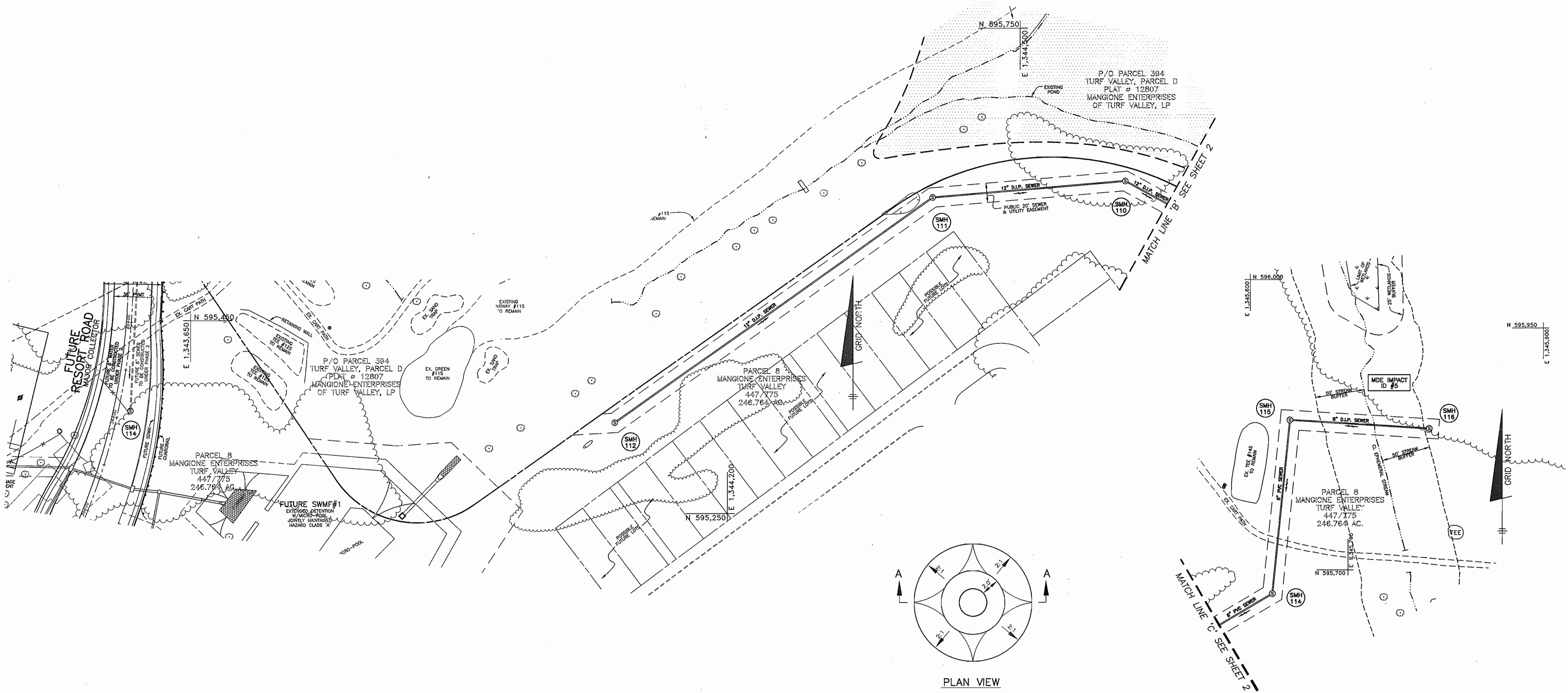
VILLAGES AT TURF VALLEY

TAX MAP: 16 GRID: 17 PARCEL: 8 ZONED: PGCC

CONTRACT NO. 20-4489-D

SCALE:
 1" = 50'

SHEET NO.
 2 OF 7



MANHOLE	COORDINATES
110	N 595592.468 E 1344607.815
111	N 595575.635 E 1344410.419
112	N 595343.588 E 1344084.607
114	N 595675.716 E 1345622.607
115	N 595854.786 E 1345640.585
116	N 595846.007 E 1345783.021

- NOTES:
- 1.) ALL MANHOLE FRAME AND COVERS SHALL BE FLUSH WITH GRADE EXCEPT WHEN SHOWN ON PROFILE TO BE SET HIGHER THAN GRADE.
 - 2.) MANHOLE FRAME AND COVERS TO BE SET HIGHER THAN GRADE SHALL BE SET IN ACCORDANCE WITH THIS DETAIL.

FILL AROUND MANHOLE
NOT TO SCALE

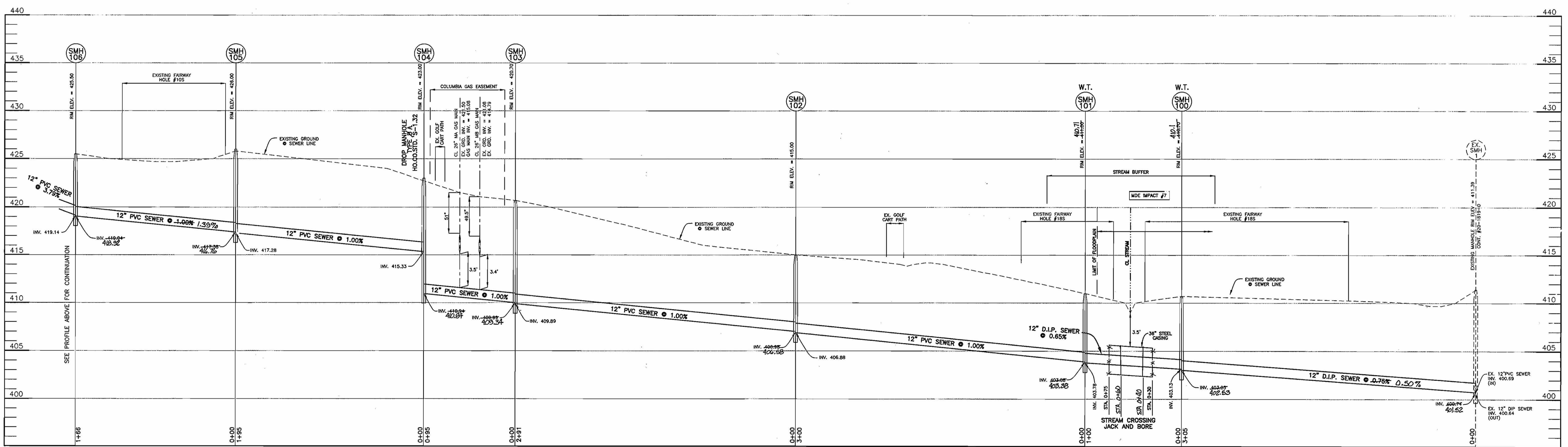
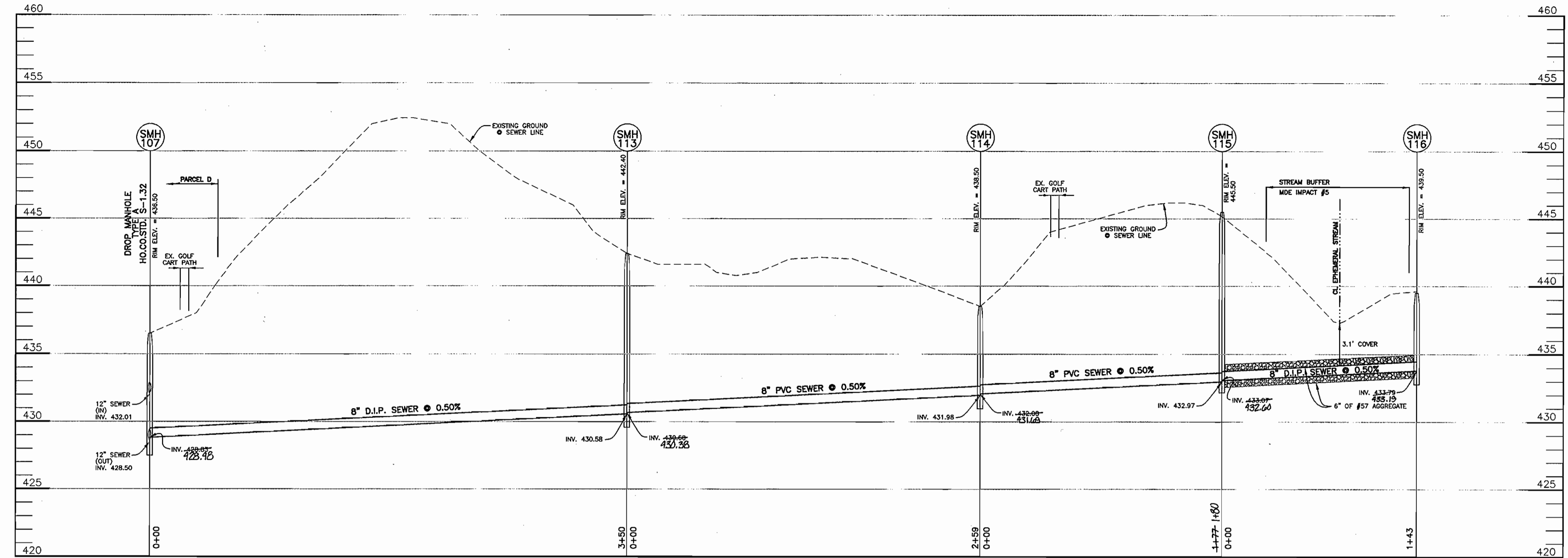
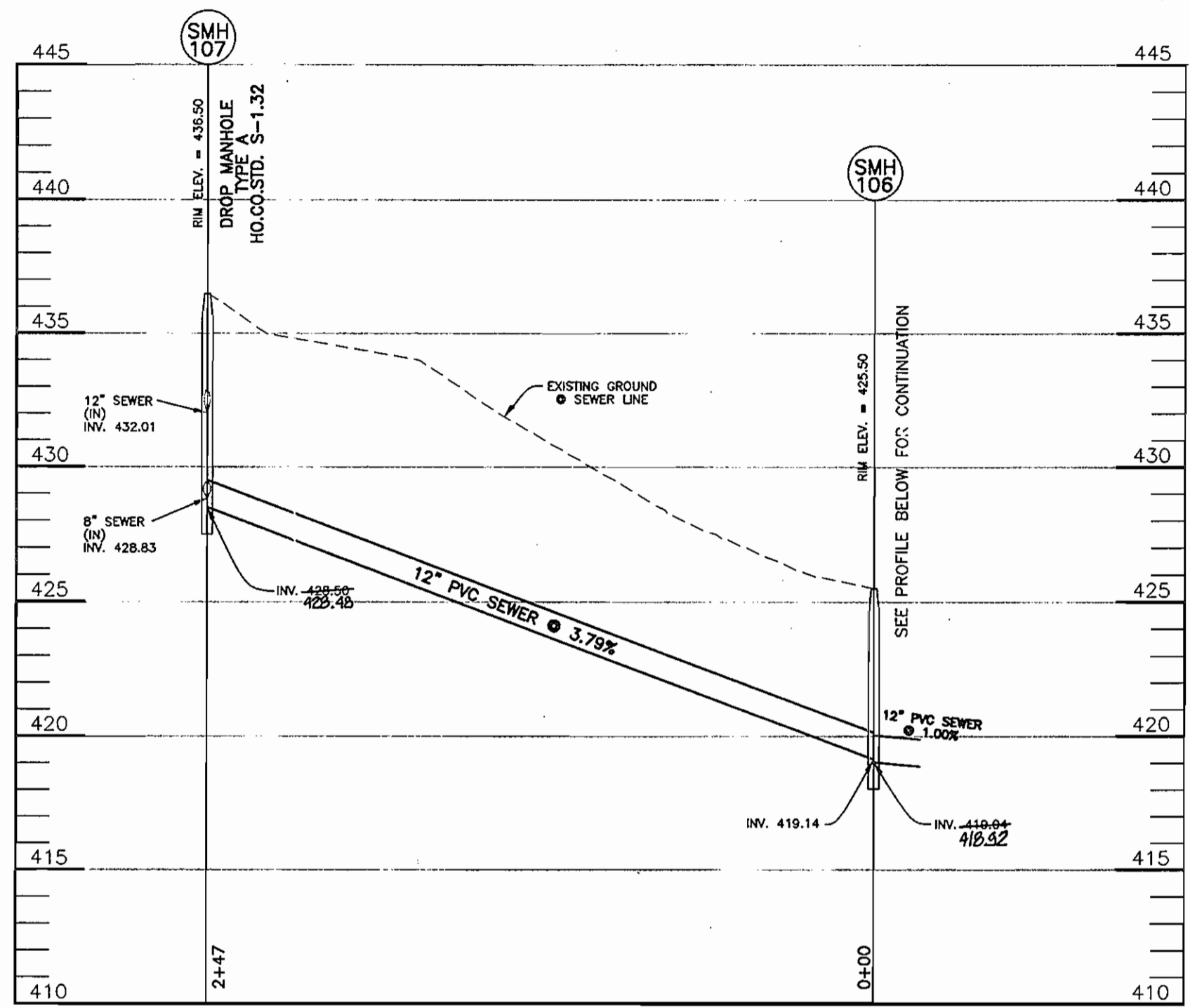
LEGEND

EXISTING SEWER	
PROPOSED SEWER	
FLOODPLAIN	
EX. TREELINE	
EX. STREAM	
OFFSITE EASEMENT	

OWNER/DEVELOPER:
MANGIONE ENTERPRISES AT TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

**THIS SHEET REPLACES THE SHEET SIGNED BY BUREAU OF UTILITIES ON 9-13-07.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND CHIEF, BUREAU OF UTILITIES DATE: 2/16/09	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 3/11/09	BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 418 ELICOTT CITY, MARYLAND 21043 PHONE: 410-465-8105 FAX: 410-465-8644 www.bei-civilengineering.com PROFESSIONAL ENGINEER No. 21443 DATE: 4/17/09	DESIGN: DBT DRAFT: DBT CHK: DAM DATE: 02/20/09 BY NO. REVISIONS DATE DBT 2 RELOCATE SMH 115 & 116, DELETE JACK AND BORE AND CASING 2-17-09 DBT 1 DELETE SEWER AND EASEMENT FROM SMH 112 TO 114, DELETE SMH'S 113 & 114, RENUMBER SMH'S 116-118 TO 114-116 2-14-08	PLAN VIEW PUBLIC SEWER MAINS 600 SCALE MAP: 16 BLOCK: 10 200 SCALE MAP: 146	VILLAGES AT TURF VALLEY TAX MAP: 16 GRID: 17 PARCEL: 8 ZONED: PGCC CONTRACT NO. 20-4489-D	SCALE: 1" = 50' SHEET NO. 3 OF 7
--	--	---	---	--	---	---



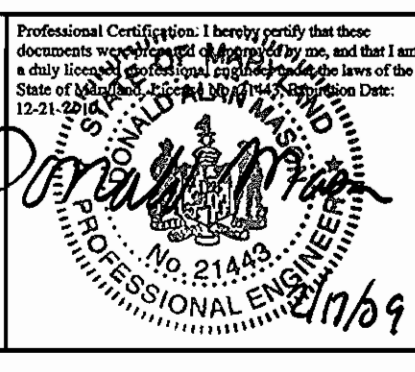
OWNER/DEVELOPER:
 MANGIONE ENTERPRISES AT TURF VALLEY, LP
 1205 YORK ROAD, PENTHOUSE
 LUTHERVILLE, MARYLAND 21093
 410-825-8400

**THIS SHEET REPLACES THE SHEET SIGNED BY
 BUREAU OF UTILITIES ON 9-13-07.

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

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

BENCHMARK
 ENGINEERS • LAND SURVEYORS • PLANNERS
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 8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bei-civilengineering.com



DESIGN:	DBT		
DRAFT:	DBT		
CHK:	DAM	AS-BUILT DATA ADDED	4/3/09
DATE:	02/2009	REVISION SEWER PROFILE FROM SMH 114 TO 116 PER NEW LOCATION OF SMH 115 & 116. REVISE RISE ELEV'S SMH 100, 101, 107, 113 & 114	2-17-09
		RENUMBER SMH'S 115-118 TO 113-116	2-14-08
BY:	NO.	REVISIONS	DATE

**PLAN VIEW
 PUBLIC SEWER MAINS**

600 SCALE MAP: 16 BLOCK: 10 200 SCALE MAP: 146

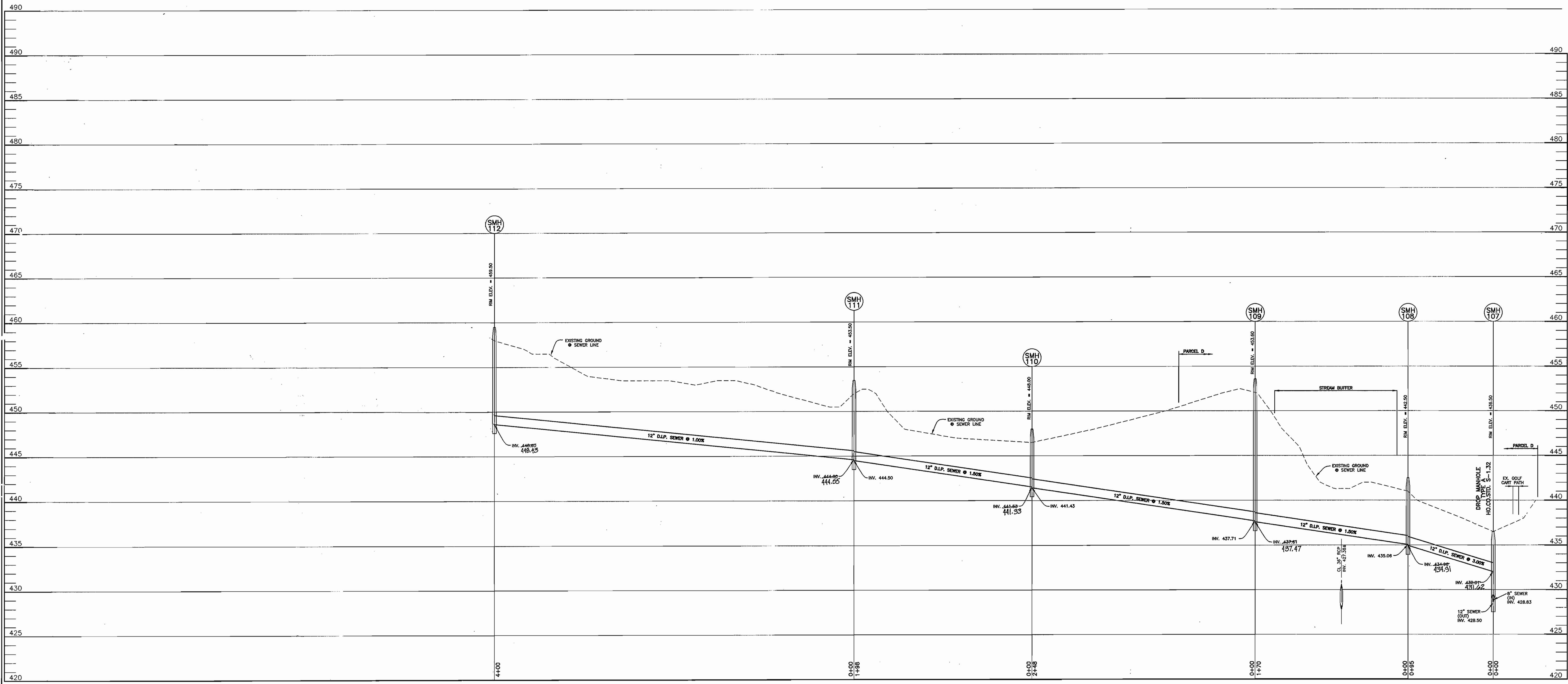
VILLAGES AT TURF VALLEY

TAX MAP: 16 GRID: 17 PARCEL: 8 ZONED: PGCC

CONTRACT NO. 20-4489-D

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

SHEET NO.
 4 OF 7

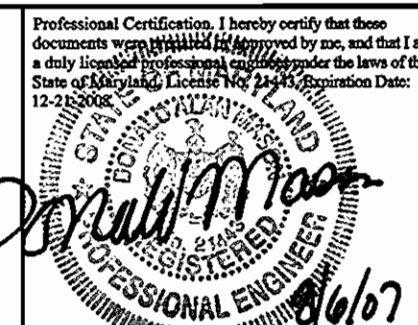


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DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

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DESIGN:	DBT			
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CHK:	DAM	KCI	AS-BUILT DATA ADDED	4-13-09
DATE:	08/2007	DBT	1 DELETE SEWER FROM SMH 112 TO 114, DELETE SMHS 113 & 114	2-14-08
BY:	NG.	REVISIONS		DATE

PLAN VIEW
 PUBLIC SEWER MAINS

VILLAGES AT TURF VALLEY

TAX MAP: 16 GRID: 17 PARCEL: 8 ZONED: PGCC

CONTRACT NO. 20-4489-D

SCALE:
 1"=50' HORIZ.
 1"=5' VERT.
 SHEET NO.
 5 OF 7

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL REVISIONS THERE TO.
- FOLLOWING: FINAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, FURROW SLOPES AND ALL SLOPES OF GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS OF PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:

TOTAL AREA OF SITE	NA	ACRES
AREA DISTURBED	1.90	ACRES
AREA TO BE ROOFED OR PAVED	0.00	ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.90	ACRES
TOTAL CUT	NA	CY
TOTAL FILL	NA	CY
OFFSITE WASTE AREA LOCATION	NA	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL STRUCTURES. BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

TRENCHES FOR THE CONSTRUCTION OF UTILITIES LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

T.M. TEMPORARY SEEDBED PREPARATIONS

APPLY TO GRAD-LO OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: F.O. PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15. SEED WITH 1-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF KEEPING LOVEGRASS (0.7 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING TON PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 2 FT OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDBED PREPARATIONS

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

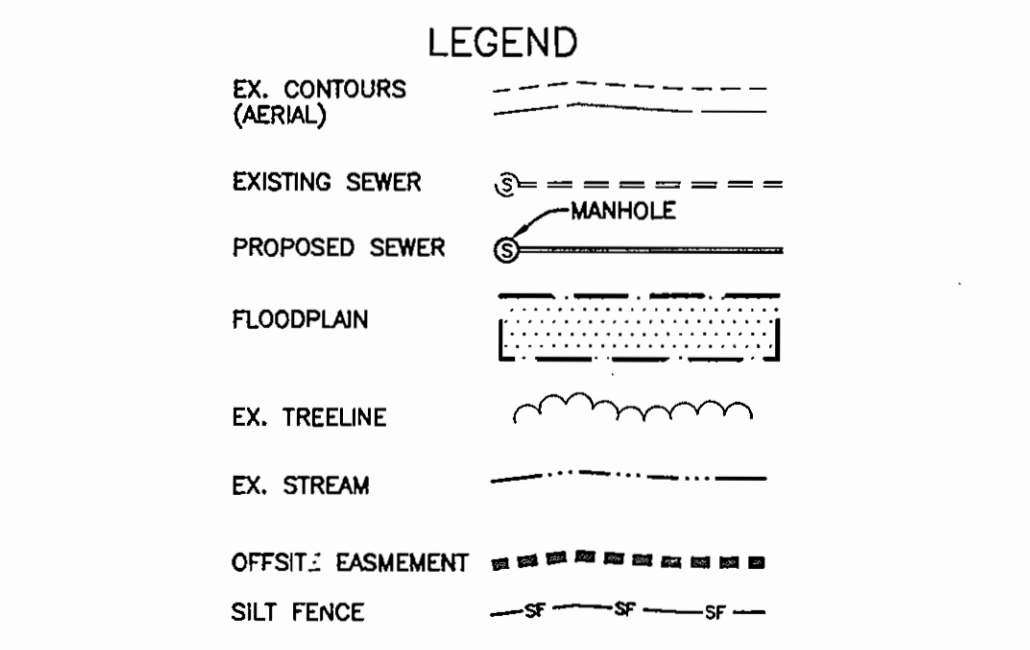
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING SCHEDULES:

- REFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING. APPLY 400 LBS PER ACRE 30-0-0-0 AERIFORM FERTILIZER (9 LBS/1000 SQ FT).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.5 LBS/1000 SQ FT) OF KEEPING LOVEGRASS DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28. PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 2 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.



TOPSOIL SPECIFICATIONS

1. Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.

2. Topsoil Specifications - Soil to be used as topsoil must meet the following:

- Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by a geologist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting texture materials and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
- Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.
- Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

3. For sites having disturbed areas under 5 acres:

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

4. For sites having disturbed areas over 5 acres:

- On well meeting topsoil specifications, obtain test results indicating fertilizer and lime amendments required to bring into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content or topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No soil or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

5. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

6. Topsoil Application

- When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or sodding can proceed with a minimum of additional soil preparation and tilling. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

7. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or company that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 25.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guidelines Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT.
- INSTALL SILT FENCING.
- INSTALL SEWER MAINS. LIMIT CONSTRUCTION TO WHAT CAN BE BACKFILLED AT THE END OF EACH DAY.



ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Donald Maas 8/6/07
ENGINEER DATE

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

John Meyer 8/21/07
DEVELOPER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

John Meyer 8/21/07
USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Meyer 8/21/07
HOWARD SCD DATE

OWNER/DEVELOPER:
MANGIONE ENTERPRISES AT TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410-825-8400

DETAIL 22 - SILT FENCE

SILT FENCE DESIGN CRITERIA

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 5:1	unlimited	unlimited
5:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- Fence posts shall be a minimum of 3/4" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 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: MMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MMT 509
Flow Rate	0.5 gal 1/1" minute (max.)	Test: MMT 522
Filtration Efficiency	70% (min.)	Test: MMT 522
- Where ends of geotextile fabric come together, they shall be overlapped, folded and applied to prevent sediment bypass.
- Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE PAGE 15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE PAGE 15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael A. Dornan 9-13-07
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

John Meyer 9/14/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLSWORTH CITY, MARYLAND 21043
PHONE: 410-485-8105 FAX: 410-485-6644
www.bci-civilengineering.com

Donald Maas 8/6/07
PROFESSIONAL ENGINEER DATE

Professional Certification: I hereby certify that these documents represent the work of me, and I am a duly licensed Professional Engineer under the laws of the State of Maryland.

Donald Maas 8/6/07
PROFESSIONAL ENGINEER DATE

DESIGN: DBT					
DRAFT: DBT					
CHK: DAM	DBT	2	REVISE LOCATION OF SWM 115 AND 116	2-19-09	
DATE: 08/20/07	DBT	1	DELETE SWM# FROM SWM 112 TO 114, DELETE SWM# 113 & 114	2-14-08	
	BY	NO.	REVISIONS	DATE	

SEDIMENT AND EROSION CONTROL PLAN, NOTES & DETAILS PUBLIC SEWER MAINS

600 SCALE MAP: 16 BLOCK: 10 200 SCALE MAP: 146

VILLAGES AT TURF VALLEY

SCALE: 1" = 50'

SHEET NO. 7 OF 7

CONTRACT NO. 20-4489-D

TAX MAP: 16 GRID: 17 PARCEL: 8 ZONED: PGCC