

# COMMERCIAL SITE DEVELOPMENT PLAN TOWN SQUARE AT TURF VALLEY PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5 TURF VALLEY PROFESSIONAL BUILDINGS

## GENERAL NOTES

1. THE SUBJECT PROPERTY IS ZONED PGCC PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LIFE ZONING REGULATION AMENDMENTS EFFECTIVE 7-28-2006.
2. THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004.
3. BOUNDARY IS BASED ON RECORD PLAT ENTITLED, "TURF VALLEY PROFESSIONAL BUILDINGS" PLAT NOS. 18696-18698, PREPARED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. AND RECORDED ON DECEMBER 15, 2006.
4. EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON AERIAL TOPOGRAPHIC SURVEY PERFORMED BY WINGS AERIAL MAPPING CO., INC. FLOWN ON OR ABOUT JANUARY, 2006.
5. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 16E1 AND 0012 WERE USED FOR THIS PROJECT.
6. EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM F-02-074, CONTRACT DRAWINGS #14-3724-D, #24-4045-D, #24-3447-D AND FIELD SURVEYED LOCATIONS. IF NECESSARY, CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH SDP GRAD.
7. STORMWATER MANAGEMENT FOR THIS SITE WAS PREVIOUSLY PROVIDED BY THE EXISTING EXTENDED DETENTION POND UNDER F-02-074. FOR THIS DEVELOPMENT, THAT POND IS BEING UTILIZED BUT HAS BEEN MODIFIED TO ACCOMMODATE A HIGHER CURVE NUMBER BASED ON COMMERCIAL ZONING. THIS POND REMAINS UNDER THE STORMWATER MANAGEMENT REQUIREMENTS IN EFFECT PRIOR TO THE ADOPTION OF THE MDE 2000 MANUAL. QUALITY AND QUANTITY CONTROL FOR THE REMAINDER OF THE SITE IS BEING PROVIDED IN SWM #2 (EXTENDED DETENTION WITH MICROPOOL) AND RECHARGE CHAMBER #1. THIS POND IS IN CONFORMANCE WITH THE MDE 2000 STORMWATER MANAGEMENT REGULATIONS. POND #1 IS PRIVATELY OWNED AND PRIVATELY MAINTAINED. POND #2 IS PRIVATELY OWNED AND JOINTLY MAINTAINED. SEE GENERAL NOTE 30.
8. THE GEOTECHNICAL REPORT WAS PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. ON OCTOBER 26, 2009.
9. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM, OR THEIR REQUIRED BUFFERS.
10. THERE IS NO 100-YEAR FLOODPLAIN LOCATED ON WITHIN THE BOUNDARIES OF TOWN SQUARE AT TURF VALLEY.
11. THERE ARE NO EXISTING STRUCTURES LOCATED ON THIS SITE.
12. THERE ARE NO CEMETERIES OR HISTORICAL STRUCTURES LOCATED ON THIS SITE.
13. A NOISE STUDY IS NOT REQUIRED FOR TOWN SQUARE AT TURF VALLEY.
14. THIS PROJECT IS SUBJECT TO THE TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, INC. WHICH WAS UPDATED JANUARY 7, 2005, AUGUST 11, 2006, AND LETTER DATED 11-9-2009. IT WAS APPROVED ON 12-10-2009. A LETTER DATED AUGUST 11, 2023 WAS PROVIDED TO SUPPORT THE CHANGE IN USE TO ANIMAL HOSPITAL FOR BUILDING 'C'.
15. THIS SITE IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
16. WATER IS PUBLIC. THE CONTRACT NUMBER IS 44-4653-D. THE DRAINAGE AREA IS "LITTLE PATUXENT".
17. SEWER IS PUBLIC. THE CONTRACT NUMBER IS 24-3447-D. THE DRAINAGE AREA IS "LITTLE PATUXENT".
18. THIS PROJECT IS EXEMPT FROM HOWARD COUNTY FOREST CONSERVATION REQUIREMENTS UNDER SECTION 16.120(b)(1)(iv) OF THE COUNTY CODE SINCE IT IS A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992.
19. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$30,210.00 (\$20,100.00 FOR 67 SHADE TREES, \$9,150.00 FOR 61 EVERGREEN TREES, AND \$960.00 FOR 32 SHRUBS).
20. HOWARD COUNTY FILE NUMBERS: S-88-013 (368), S-00-018, P-00-006, F-02-074, WP-12-129, WP-14-084, WP-15-111, WP-16-104, WP-17-111
21. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
22. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
23. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
24. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
25. ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993), ZONING SECTION 134 AND AS SHOWN ON THESE PLANS. ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING RESIDENTIAL PROPERTIES AND PUBLIC ROADS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
26. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
27. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
28. TRASH COLLECTION SHALL BE PROVIDED PRIVATELY.
29. PRIVATE ROAD 'A' AS SHOWN ON THIS SITE DEVELOPMENT PLAN SHALL BE A PRIVATE ROAD. HOWEVER, IT IS INTENDED TO BE DEDICATED TO HOWARD COUNTY AS A PUBLIC ROAD IN THE FUTURE. IT HAS BEEN DESIGNED PER DESIGN MANUAL VOLUME III STANDARDS AS A MAJOR COLLECTOR.
30. OPEN SPACE FOR THIS SUBDIVISION WAS PREVIOUSLY PROVIDED UNDER F-02-074. TOTAL AREA OF SUBDIVISION: 68.97 +/- ACRES. OPEN SPACE REQUIRED: 15% OF 68.97 ACRES OR 10.35 ACRES. OPEN SPACE PROVIDED: 24.33 ACRES (PARCELS K, L, N, O, & P) 13.98 ACRES OF WHICH IS TO BE CREDITED TOWARD FUTURE REQUIREMENTS.
31. PRIOR TO GRADING PERMIT APPLICATION, THIS PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 16.129 OF THE HOWARD COUNTY CODE.
32. KNOX BOX SHALL BE PLACED ON THE FRONT OF ALL BUILDINGS NO MORE THAN 6' TO THE RIGHT OF THE MAIN ENTRANCE AT A HEIGHT OF 4'-5". IT SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSSED (INTEGRATED WITH THE FIRE ALARM SYSTEM).
33. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
34. REDEVELOPMENT OF GOLF COURSE FEATURES ASSOCIATED WITH THIS PROJECT WILL BE OVERSEEN BY HOWARD COUNTY HEALTH DEPARTMENT FOR COMPLIANCE WITH SECTION 16.129. IF ANY "TILL" IS IMPORTED AS PART OF THE GRADING/DEVELOPMENT PROCESS, THAT FILL CANNOT BE FROM ANY PRIOR GOLF COURSE FEATURE UNLESS TESTED AND APPROVED UNDER THE PROVISIONS OF SECTION 16.129.
35. ADDITIONAL STORMWATER MANAGEMENT FOR BUILDING C IS PROVIDED VIA A FILTERED SYSTEM FOR COMPLIANCE WITH THE MDE "STORMWATER" MANUAL ACT OF 2007. A PO OF 10 INCH TO MEET WATER QUALITY REQUIREMENTS HAS BEEN PROVIDED.

## BULK REGULATIONS:

- PERMITTED USES:** ALL USES AS PER TURF VALLEY PGCC DISTRICT, MULTI-USE SUBDISTRICT FINAL DEVELOPMENT PLAN, SECOND AMENDMENT, PLATS 19578-19580. (48 USES OUTLINED FROM RESIDENTIAL USES TO SPECIALTY STORES)
- PROPOSED USE:** COMMERCIAL
- PERMITTED HEIGHT:** COMMERCIAL: 120 FEET  
ACCESSORY STRUCTURES: 15 FEET  
OTHER: 15 FEET
- PERMITTED SETBACKS:**
- FROM ARTERIAL ROADS:**  
RESIDENTIAL STRUCTURES: 50 FEET  
NON-RESIDENTIAL STRUCTURES: 30 FEET  
ACCESSORY USES: 30 FEET  
PARKING: 25 FEET
- FROM LOT LINES WITHIN PGCC MULTI-USE SUBDISTRICT:**  
ZERO LOT LINE AND ALL OTHER USES - 0 FEET  
A MINIMUM OF 15 FEET MUST BE PROVIDED BETWEEN STRUCTURES  
RESIDENTIAL - REAR: 20 FEET
- FROM COLLECTORS AND LOCAL STREETS:**  
RESIDENTIAL AND NON-RESIDENTIAL STRUCTURES  
30 FEET FROM A 60 FT. ROW  
20 FEET FROM A 50 FT. ROW
- FROM NON-PGCC ADJACENT PROPERTIES:**  
FROM RESIDENTIAL DISTRICTS: 75 FEET  
FROM ALL OTHER DISTRICTS: 30 FEET

BUILDING	STREET ADDRESS
A1	11105 RESORT ROAD
A2	11089 RESORT ROAD
A3	11099 RESORT ROAD
A4	11085 RESORT ROAD
A5	11095 RESORT ROAD
A6	11079 RESORT ROAD
B	11075 RESORT ROAD
C	11115 RESORT ROAD
D1	11125 RESORT ROAD
A7	11071 RESORT ROAD

PARKING CALCULATIONS		
BUILDING	TOTAL S.F.	# OF SPACES REQUIRED
A1	9,600	48
A1 outdoor dining	1,300	18
A2	9,600	48
A2 outdoor dining	0	0
A3	9,600	48
A3 outdoor dining	700	10
A4	9,600	48
A4 outdoor dining	732	10
A5	6,000	30
A5 mezzanine	178	1
A5 outdoor dining	700	10
A6	8,373	42
A6 mezzanine	1,150	6
A7	3,427	17
B	49,119	246
C	19,599	79
D1	3,647	13
<b>TOTAL PARKING REQUIRED*</b>		<b>674</b>
<b>TOTAL PARKING PROVIDED**</b>		<b>758</b>

\*Shared parking analysis reduces the number of required spaces to 601

Above chart based on 5 spaces per 1,000 s.f. of building space for shopping centers per Section 1.88.D.4.11 of zoning regulations.

Building C is calculated as a stand alone ANIMAL HOSPITAL AT 4 SPACES PER 1,000 SF. BUILDING D1 IS CALCULATED AS A STAND ALONE BANK AT 3-3 SPACES PER 1,000 SF.

HANDICAPPED PARKING CALCULATIONS		
BUILDING C		4
(2% of total w/ 501-1000 spaces per Maryland ADA Manual Sect. 4.1.2(5)(a))		14
<b>TOTAL HANDICAP PARKING REQUIRED</b>		<b>18</b>
<b>TOTAL HANDICAP PARKING PROVIDED</b>		<b>30</b>

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] 4/15/10

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] 4/15/10

DIRECTOR: [Signature] 4/15/10

APPROVED: PLANNING BOARD OF HOWARD COUNTY

DATE: 4/15/10  
[Signature]

NO.	DESCRIPTION
1	TITLE SHEET
2-5	SITE DEVELOPMENT AND GRADING PLAN
6	ROAD PROFILE AND DETAILS
7	STORM DRAIN DRAINAGE AREA MAP
8-10	STORM DRAIN PROFILES
11-12A	STORMWATER MANAGEMENT DETAILS
13-14	SEWER PROFILES
15-16	LANDSCAPE PLAN
17-18	SEDIMENT AND EROSION CONTROL PLANS
19	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
20	SOILS BORING PLAN AND DETAIL SHEET
21	SHOPPING CENTER LIGHTING PLAN
22	ROAD 'A' INTERIM STREET LIGHT AND STRIPING PLAN FOR STOP CONTROL
22A	ROAD 'A' ULTIMATE STREET LIGHT AND STRIPING PLAN FOR SIGNALIZATION
23-28	RETAINING WALL PLANS
29	ROOF LEADER MANIFOLD DETAILS
30-31	BUILDING 'C' BLUEPEARL PLANS

## SITE ANALYSIS DATA CHART

- A) TOTAL PROJECT AREA: 25.67 AC.
- B) AREA OF PLAN SUBMISSION: 25.67 AC.
- C) LIMIT OF DISTURBED AREA: 21.50 AC.
- D) PRESENT ZONING: PGCC (MULTI-USE SUBDISTRICT)
- E) PROPOSED USE OF SITE: COMMERCIAL
- F) FLOOR SPACE ON EACH LEVEL OF BLDG PER USE: N/A
- G) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLATS: N/A
- H) TOTAL NUMBER OF UNITS PROPOSED: N/A
- I) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE: N/A
- J) NUMBER OF PARKING SPACES REQUIRED BY HO. CO. ZONING REGS AND/OR FDP CRITERIA: SEE PARKING CALCS THIS SHEET
- K) NUMBER OF PARKING SPACES PROVIDED ONSITE (INCLUDES HANDICAPPED SPACES): SEE PARKING CALCS THIS SHEET
- L) OPEN SPACE ON-SITE: SEE GENERAL NOTE 30
- M) AREA OF RECREATIONAL OPEN SPACE REQUIRED: N/A  
AREA OF RECREATIONAL OPEN SPACE PROVIDED: N/A
- N) BUILDING COVERAGE OF SITE: 161,408 S.F.  
PERCENTAGE OF GROSS AREA: 14.43%
- O) APPLICABLE DPZ FILE REFERENCES: S-86-13 (PB368), S-00-018 P-00-006, F-02-074, WP-12-129

## PERMIT INFORMATION CHART

SUBDIVISION NAME:	SECTION/AREA:	LOT/PARCEL #
TURF VALLEY PROFESSIONAL BUILDINGS	NA	PARCELS 'J1' & 'J2' O.S. LOTS 4&5
PLAT NO. OR L/F	GRID NO.	ZONE
22078-22079	10	PGCC
	TAX MAP NO.	ELECTION DISTRICT
	15	3
	CENSUS TRAC	
	6030	

NO.	DATE	REVISION
11	9.26.23	REVISE BLDG C FOOTPRINT, UPDATE PARKING CALCS BASED ON CHANGE IN USE
10	9.4.22	ADJUST BLDG B SF AND PARKING CALC
9	1-3-2019	REVISE SHT INDEX FOR 30-31, REVISE TOTAL PARKING, REVISE SHT #, REVISE GEN NOTE #20

NO.	DATE	REVISION
8	9-10-2014	REVISE PARKING CALCS BASED ON REVISED BLDG D1 SF. ADD NEW BLDG D1 ELEVATION
7	7-9-2013	REVISE TOTAL PARKING PROVIDED IN PARKING CALCULATIONS TO '794'
6	1-11-2013	show R/W and parcels per plat 22079 in plan view, revise parking calculations.
5	9-7-2012	add sheet 12A to sheet index. Add ownership/maintenance to Gen Note 7.
4	3-26-2012	revise sheet index to add sheet 29, revise Total Parking provided.
3	12-2-2011	revise BLDG 'D2' to 'A7' and revise square footage and parking requirement.
2	9-21-2011	revise parking calculation based on revised BLDG 'A6' area. Revise height of bldgs A1-A4.
1	5-31-2011	revise parking calculation based on revised BLDG 'B' area. Revise 'N' in Site Analysis Chart

**BENCHMARK ENGINEERING, INC.**  
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(P) 410-465-6109 (F) 410-465-6444  
60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BEC-CIVILENGINEERING.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. 28559, Expiration Date: 7-22-2013.

[Signature] 11/3/20

**TOWN SQUARE AT TURF VALLEY**

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

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

PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

REVISED TITLE SHEET

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 1 OF 31

**BENCHMARK NAD'83 HORIZONTAL**

HO. CO. #16E1 (AKA: 3438001)  
STAMPED BRASS DISK SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE.  
N 593250.960' E 1340192.70' ELEVATION: 463.981'

HO. CO. #0012 (AKA: 3439001)  
STAMPED BRASS DISK SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE.  
N 596502.760' E 1340864.37' ELEVATION: 486.298'

VICINITY MAP SCALE: 1" = 2000'

**BUILDING D1 LEFT SIDE ELEVATION**

**BUILDINGS A1, A2, A3 & A4 FRONT ELEVATION**

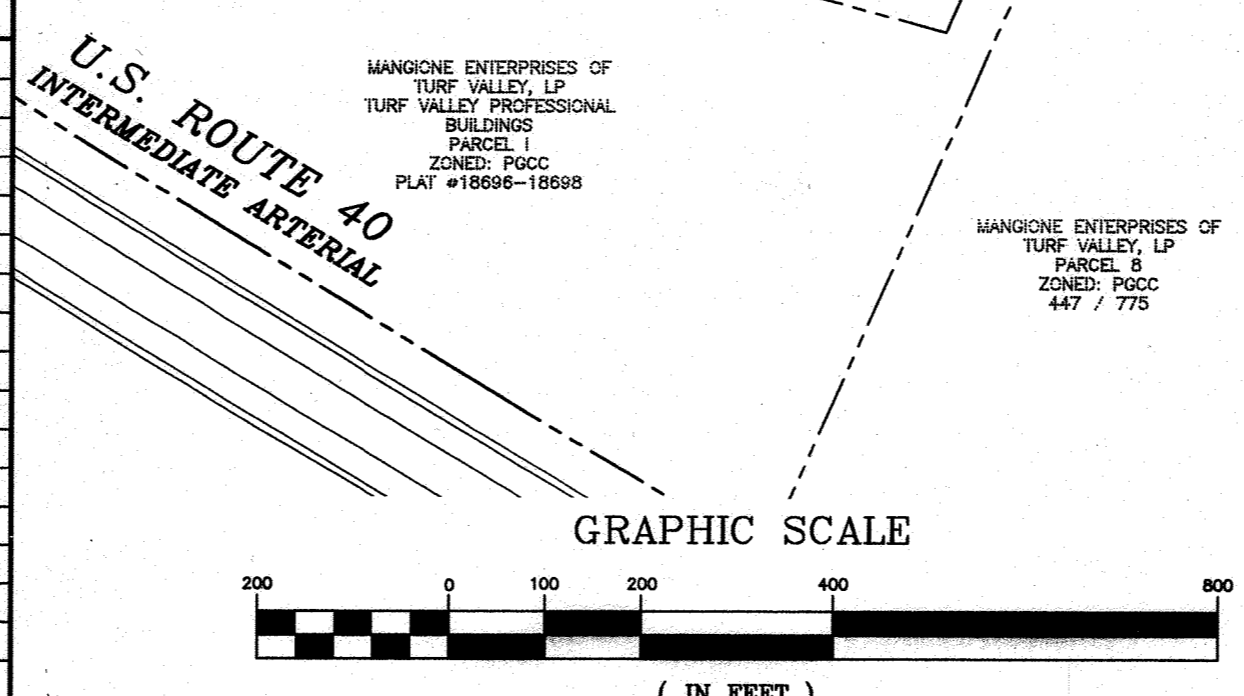
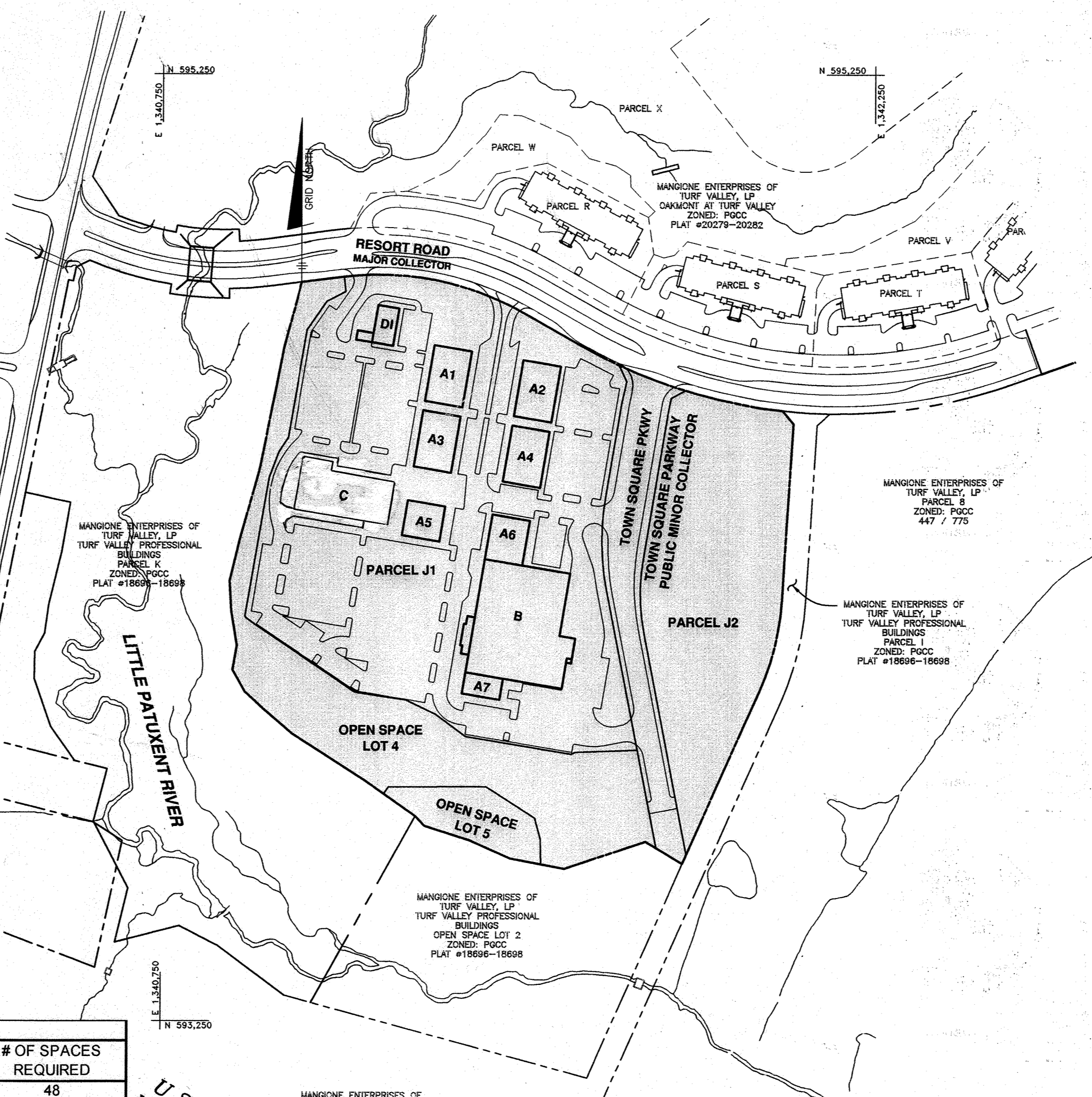
**BUILDINGS A7 FRONT ELEVATION**

**BUILDINGS A5 & A6 FRONT ELEVATION**

**BUILDINGS B (HARRIS TEETER) FRONT ELEVATION**

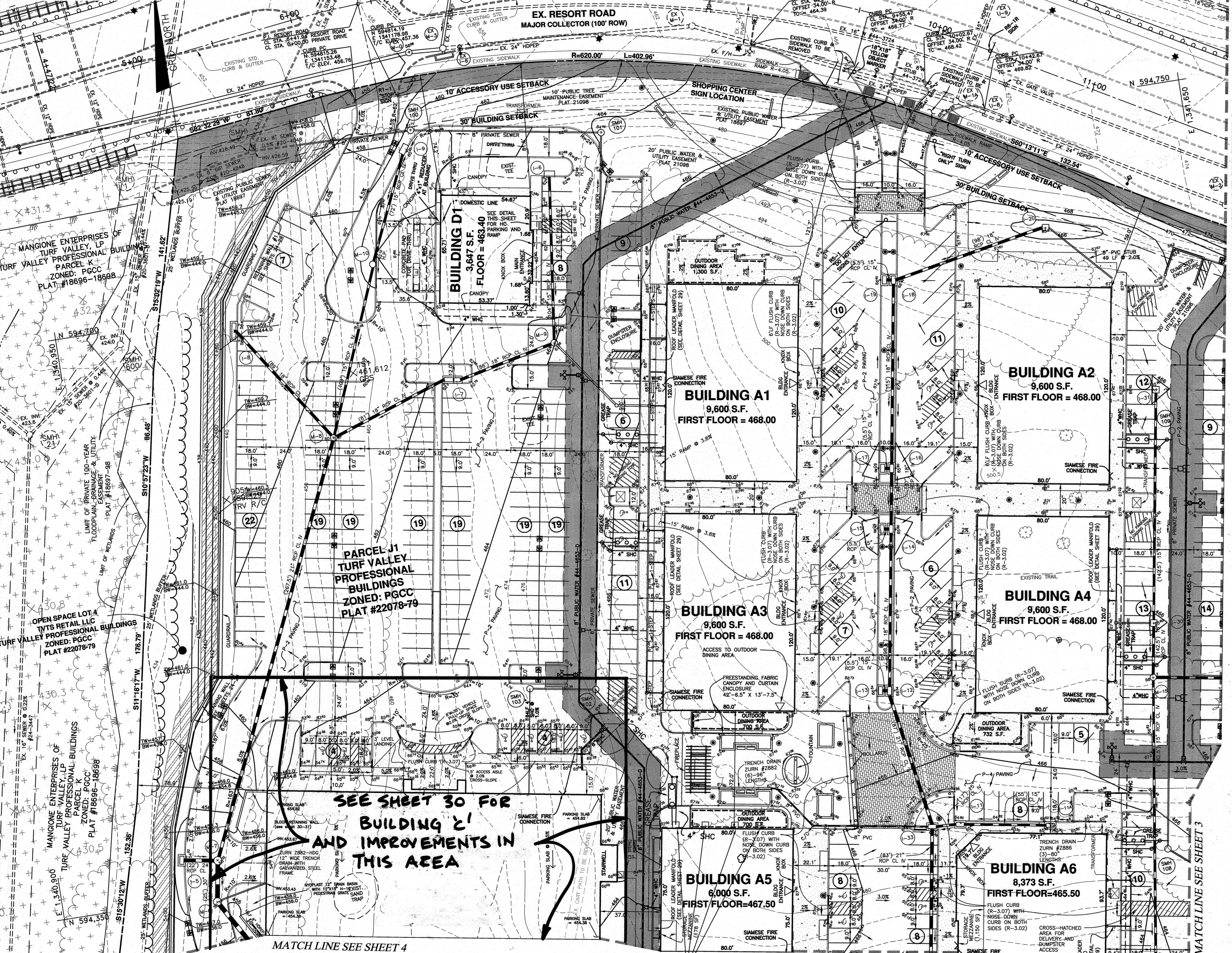
ELEVATIONS: 1"=30'

**NOTE: FOR BUILDING C ELEVATION VIEW SEE SHEET 30**



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE 1/18/19  
 DATE 1-22-19  
 DATE 1-22-19

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE 4/15/19



MATCH LINE SEE SHEET 3

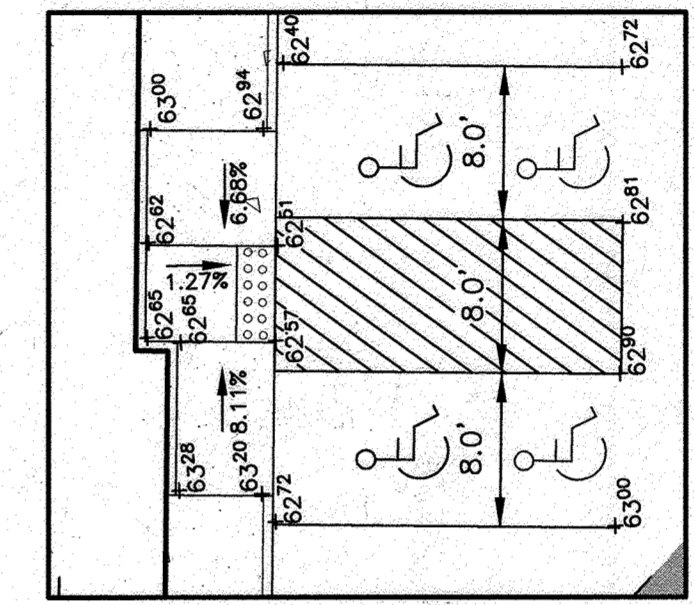
MATCH LINE SEE SHEET 3

MATCH LINE SEE SHEET 4

MATCH LINE SEE SHEET 5

**LEGEND**

- EXISTING CONTOURS AERIAL JAN. 2006
- EXISTING BRUSH
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING STREAM
- LIMIT OF WETLANDS
- LIMIT OF SUBMISSION
- PARKING SPACE COUNT
- STORM DRAIN PIPE
- SIDEWALK
- EXISTING STREET LIGHTS ALONG RESORT ROAD
- INTERNAL PARKING LOT LIGHT POLES
- FIRE HYDRANT
- 10' CONSTRUCTION/MAINTENANCE STRIP FOR RETAINING WALL
- EXISTING 100% FLOODPLAIN



**HANDICAP PARKING DETAIL FOR BUILDING D1**  
 SCALE: 1"=10'

**NOTES:**

1. ALL CURBING TO BE STANDARD 7" COMBINATION CURB AND GUTTER (H.O.C.O.STD.R-3.01) UNLESS OTHERWISE STATED.
2. ALL SPOT ELEVATION SHOWN WITHIN PARKING LOT ARE FLOWLINE/PAVEMENT ELEVATIONS.
3. ALL CURB FILLETS ARE 3' RADIUS UNLESS OTHERWISE STATED.
4. INSIDE METER SETTINGS SHALL BE USED FOR THE WATER.

THIS SHEET REPLACES PREVIOUS SHEET 2A SIGNED ON 1-24-2013 AND SHEET 2B SIGNED ON 9-24-2014

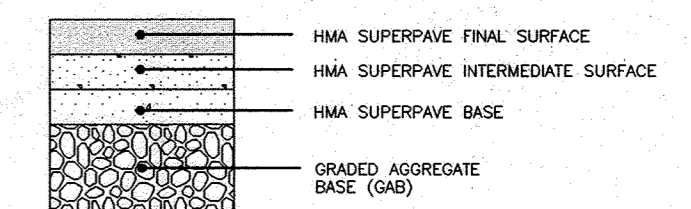
NO.	DATE	REVISION
11	9/26/2023	REMOVE GARAGE LEVEL PARKING DETAIL. REMOVE GREEN BUILDING PERMIT FROM TRIF. BUCK. REVISE BUILDING 'C'
10	1-3-2019	shift bldg 'C' 10 ft south, add retaining wall, revise front pull-up/drop off area, raise bldg C 0.6 feet, revise parking layout below bldg 'C'
9	5-15-2017	add canopy enclosure to BLDG A3
8	11-19-2014	add 4"x1" reducer on WHC to BLDG D1. Indicate 1" domestic line.
7	9-10-2014	revise existing curb lines along Resort Road stations 4+00 to 8+00, revise Building D1 footprint and associated grading, curb, and storm drain, & utilities
6	5-21-2014	added roll-a-cover temp enclosure conc. flgs at bldg A5 (by Judith Anne Carroll)
5	7-9-2013	add concrete area by eliminating 2 parking spaces at Building A-6 and add trench drain
4	1-11-2013	show plaza design, revised sidewalks, grading, parking spaces, WHC's for A2&A4, add 1-11A.
3	3-26-2012	add roof leader manifolds, show transformer locations, add shopping center sign location.
2	12-21-2011	revise main entrance location on BLDG A6, revise parking spaces and grades in that location.
1	9-21-2011	revise grading along fronts of A1 A2 A3 A4 A5 A6 to be continuous enclosure, revise A6 dimensions and area, revise 1-10, 1-11, 1-29, add 1-33, relocate WHC's for A1-A6.
1	5-31-2011	revise storm drain from M-15 to 1-29, revise grading in parking lot behind bldg A6

**BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS**  
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 www.be-civilengineering.com

<b>OWNER:</b> MANGIONE ENTERPRISES OF TURF VALLEY, LP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	<b>TOWN SQUARE AT TURF VALLEY</b> PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5 TURF VALLEY PROFESSIONAL BUILDINGS PLAT NOS. 22078-79
<b>DEVELOPER:</b> MANGIONE ENTERPRISES OF TURF VALLEY, LP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 5 ZONED: PGCC (MULTI-USE SUBDISTRICT) ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND
<b>REVISED SITE DEVELOPMENT AND GRADING PLAN</b>	
DATE: JANUARY, 2019	BEI PROJECT NO. 2208
SCALE: AS SHOWN	SHEET 2 OF 31

**RIGHT OF WAY ELEVATION CHART NAD 83**

R/W P.T. NO.	DESCRIPTION	ELEVATION
1926	REBAR & CAP	492.02'
1927	CONC. MON.	479.61'
1928	REBAR & CAP	477.87'
1929	REBAR & CAP	468.98'
1930	CONC. MON.	462.75'
1931	REBAR & CAP	424.72'
1932	REBAR & CAP	425.06'
1934	REBAR & CAP	466.23'
1935	REBAR & CAP	474.73'
1936	REBAR & CAP	477.11'
1937	REBAR & CAP	472.52'
1938	REBAR & CAP	476.43'
1932	REBAR & CAP	424.54'



**P-2 PAVING DETAIL**

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)			MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
		3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)			MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
		HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)			1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)			1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 1 (LOW ESAL)			2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)			8.0	4.0	3.0	4.0	4.0	4.0

**P-4 PAVING DETAIL**

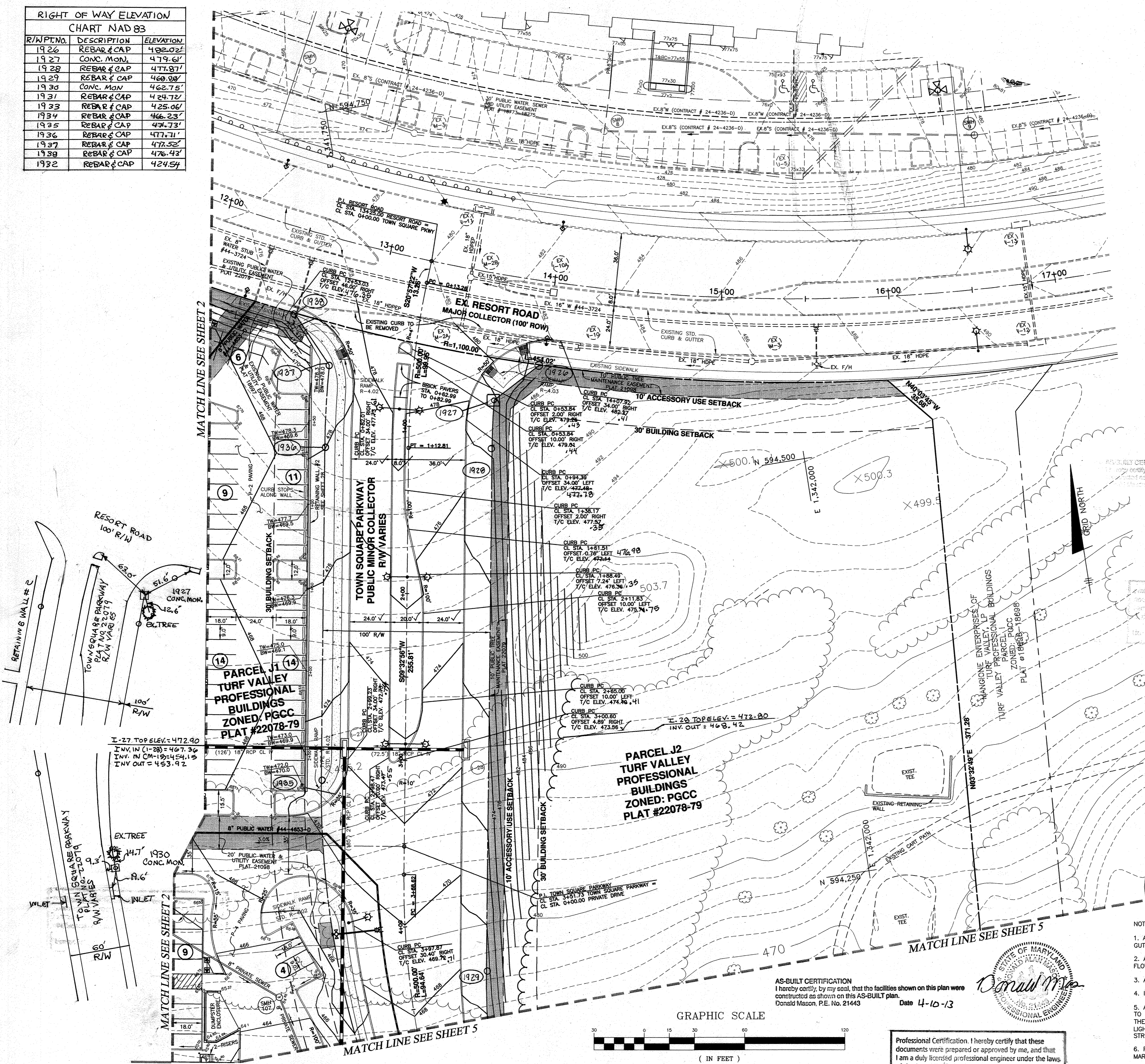
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)			MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
		3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
P-4	MINOR COLLECTORS: NON-RESIDENTIAL MAJOR COLLECTORS	PAVEMENT MATERIAL (INCHES)			MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
		HMA SUPERPAVE FINAL SURFACE 12.5 MM PG 64-22, LEVEL 2 (LOW ESAL)			2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM PG 64-22, LEVEL 2 (LOW ESAL)			2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 2 (LOW ESAL)			4.0	4.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)			13.0	7.0	4.0	6.0	6.0	6.0

**CENTER LINE CURVE DATA**

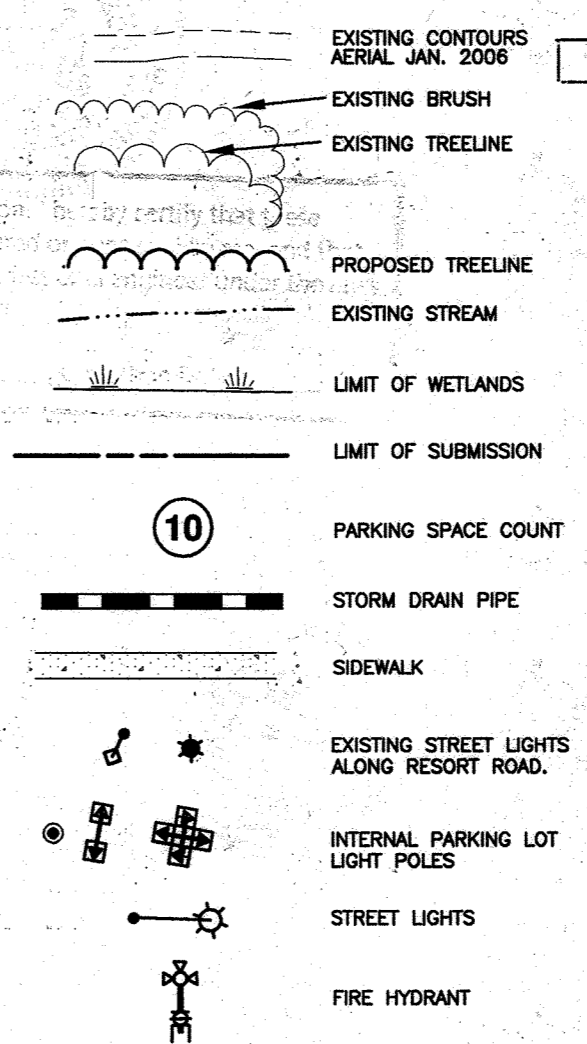
STREET NAME	STATION	RADIUS	ARC	DELTA	TANGENT	CHORD
TOWN SQUARE PARKWAY	0+13.86 TO 1+12.81	500.00'	99.55'	11°24'26"	49.94'	S15°15'09"W 99.38'
TOWN SQUARE PARKWAY	3+68.62 TO 5+47.99	500.00'	179.38'	20°33'18"	90.66'	S00°43'43"E 178.42'

**CENTERLINE CONTROL DATA**

STREET NAME	STATION	NORTH	EAST
TOWN SQUARE PARKWAY	0+00.00	594651.8233	1341798.3013
	0+13.86	594639.4388	1341793.5582
	1+12.81	594543.5580	1341767.4135
	3+68.62	594291.2944	1941724.9773
	5+47.99	594112.8930	1341727.2458
	9+75.00	593693.7386	1341808.7668



**LEGEND**



6 9-26-2023 REMOVING GREEN BUILDING PROJECT FROM TITLE BLOCK

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE: 4/15/10  
[Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] 1/16/13  
CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] 1/28/13  
DIRECTOR: [Signature] 1/24/10

NO.	DATE	REVISION
5	1-3-2019	REVISE TOTAL SHEET NUMBER
4	1-11-2013	show R/W dedication, parcels and BRLs per plat 22079, add dumpster for A6.
3	3-26-2012	revise radius of western edge of loading zone exit across from the 4 parking spaces to be 15'
2	9-21-2011	add 4 parking spaces behind fire hydrant by SMH107
1	5-31-2011	revise median island in Road 'A' at entrance to shopping center.

**BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS**  
ENGINEERS & PLANNERS, INC.  
8480 BALTIMORE NATIONAL PIKE SUITE 418A BELLCOTT CITY, MARYLAND 21043  
(P) 410-465-6100 (F) 410-465-6844  
60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland. License No. 26397, Expiration Date: 7-22-2013.

[Signature] 1/10/2013

**TOWN SQUARE AT TURF VALLEY**

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

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

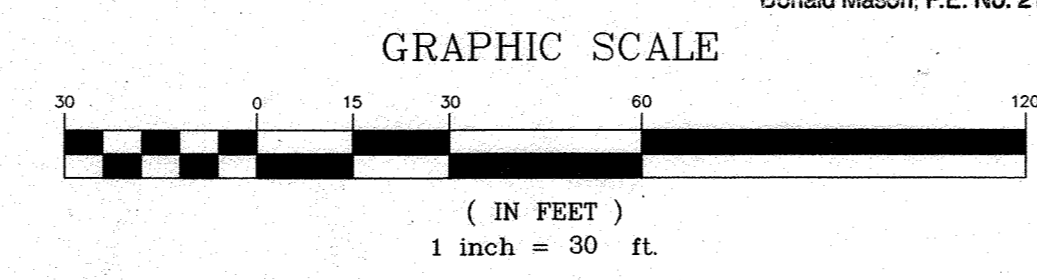
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

REVISED  
**SITE DEVELOPMENT AND GRADING PLAN**

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 3 OF 3!

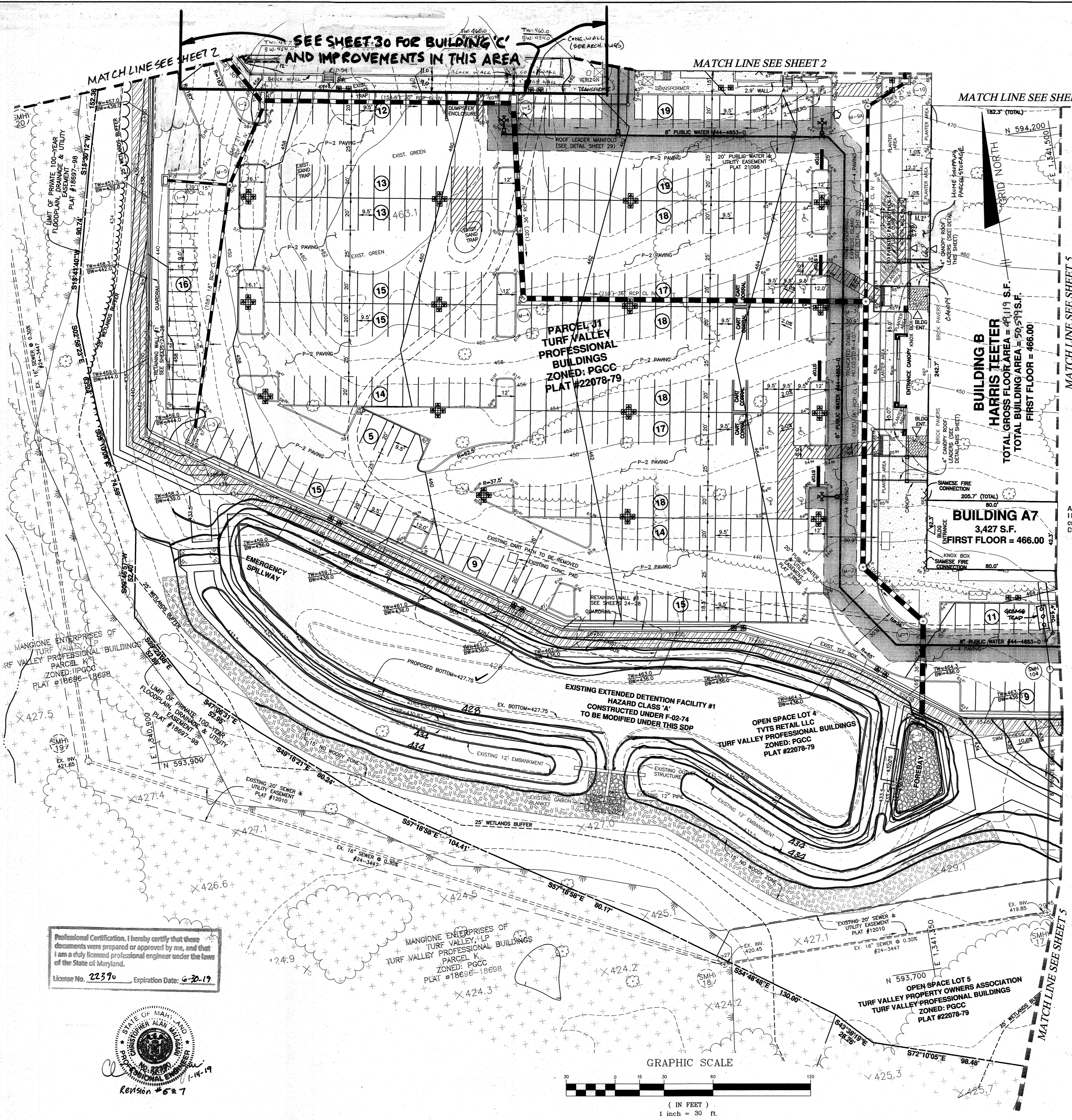
- NOTES:
- ALL CURBING TO BE STANDARD 7" COMBINATION CURB AND GUTTER (HO.CO.STD.R-3.01) UNLESS OTHERWISE STATED.
  - ALL SPOT ELEVATION SHOWN WITHIN PARKING LOT ARE FLOWLINE/PAVEMENT ELEVATIONS.
  - ALL CURB FILLETS ARE 3" RADIUS UNLESS OTHERWISE STATED.
  - INSIDE METER SETTINGS SHALL BE USED FOR THE WATER.
  - ALTHOUGH ROAD 'A' WILL BE PRIVATE INITIALLY, IT IS INTENDED TO BE DEDICATED TO HOWARD COUNTY AS A PUBLIC ROAD IN THE FUTURE (SEE GENERAL NOTE 29 ON SHEET 1). THE STREET LIGHTS ALONG ROAD 'A' SHALL BE TREATED AS FUTURE PUBLIC STREET LIGHTS AND THIS PAID FOR BY THE DEVELOPER.
  - REFER TO SHEET 22 FOR SIGNAGE, LIGHTING AND PAVEMENT MARKINGS FOR ROAD 'A'.



AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 4-10-13

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. 21443, Expiration Date: 12-21-14

[Signature]



**STUDY POINT #1**  
1-Year Discharge Comparison Table for

Existing 1-year Discharge	Developed 1-year Discharge	Notes
107.26 cfs	107.37 cfs	Developed is 0.11 cfs greater than existing

**SUMMARY TABLE**  
GENERAL STORAGE REQUIREMENTS FOR  
DRAINAGE AREA 3A

Pond #1	Existing under F-02-74	Proposed under this SDP
Summary Table		
2-yr discharge	0.19 cfs	0.28 cfs
10-yr discharge	4.68 cfs	3.91 cfs
100-yr discharge	45.34 cfs	57.00 cfs
2-yr WSEL	430.88	430.19
10-yr WSEL	432.03	430.87
100-yr WSEL	432.49	432.45
Drainage Area	10.7 acres	10.68 acres
RCN	80	92
TC	0.20 Hr	0.10 Hr
Lag Time	>29.5 hours	43.8 hours

SWM #1 was designed as an Extended Detention Facility under F-02-074 based on old SWM prior to the 2000 MDE guidelines. It has been modified to handle the increase in runoff due to the increase in impervious area from "Industrial" to "Commercial" under this SDP.

**SUMMARY TABLE**  
GENERAL STORAGE REQUIREMENTS FOR  
DRAINAGE AREA 3B

Requirement	Volume Required	Notes
Water Quality Volume (WQv)	0.5060 ac-ft 22040 cf	Provided in Pond #2
Recharge Volume (REV)	1.64 acres 5708 cf	Provided in offline recharge chamber in Pond #2
Channel Protection Volume (CPV)	0.8954 ac-ft 30292 cf	Provided in Pond #2
Overbank Flood Protection Volume (Qp)	NA	not required for this area
Extreme Flood Volume (Qf)	NA	not required for this area

SWM #2 (P-1 Micro-Pool Extended Detention Pond) and an offline recharge chamber are being provided to address the requirement for this drainage area.

**STUDY POINT #2**  
1-Year Discharge Comparison Table for

Existing 1-year Discharge	Developed 1-year Discharge	Notes
0.44 cfs	0.22 cfs	Developed is less than existing

**SUMMARY TABLE**  
GENERAL STORAGE REQUIREMENTS FOR  
DRAINAGE AREA 4

Requirement	Volume Required	Notes
Water Quality Volume (WQv)	0.0657 ac-ft 2861 cf	No new impervious
Recharge Volume (REV)	0.02 acres 744 cf	No new impervious
Channel Protection Volume (CPV)	0.0000	not required for this area
Overbank Flood Protection Volume (Qp)	NA	not required for this area
Extreme Flood Volume (Qf)	NA	not required for this area

A facility is not required for this drainage area as no new impervious areas are proposed.

- 9 9-26-2023 REMOVE BUILDING C AREA, DELETE DUMPMETER BY 1-4 REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
- 8 8-4-2022 ADD HOME SHIPPING PACE STORAGE AREA TO BUILDING 'B'
- 7 1-3-2019 REVISE BUILDING 'C'
- 6 7-9-2015 ADD GREASE TRAP FOR BUILDING A7

AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 10-28-13

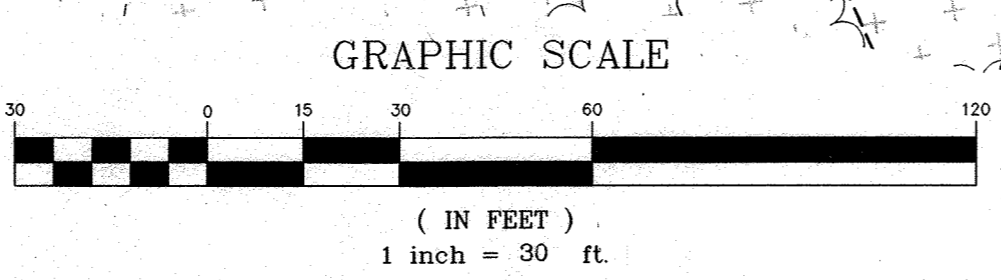


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443, Expiration Date: 12-21-14

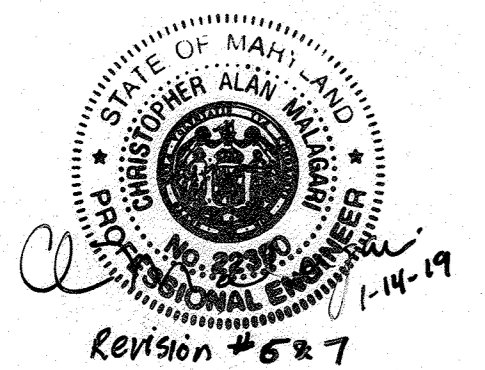
- NOTES:
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  - ALL CURB FILLETS ARE 3" RADIUS UNLESS OTHERWISE STATED.
  - INSIDE METER SETTINGS SHALL BE USED FOR THE WATER.

**LEGEND**

- EXISTING CONTOURS AERIAL JAN. 2008
- EXISTING BRUSH
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING STREAM
- LIMIT OF WETLANDS
- LIMIT OF SUBMISSION
- PARKING SPACE COUNT
- STORM DRAIN PIPE
- SIDEWALK
- INTERNAL PARKING LOT LIGHT POLES
- FIRE HYDRANT
- 10' CONSTRUCTION/MAINTENANCE STRIP FOR RETAINING WALL
- EXISTING 100YR FLOODPLAIN



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. 22390, Expiration Date: 6-30-19



APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 4/15/10  
[Signature]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
[Signature] 4/16/13  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
[Signature] 1/24/13  
CHIEF, DIVISION OF LAND DEVELOPMENT  
[Signature] 1/24/13  
DIRECTOR

- | NO. | DATE      | REVISION  |
|-----|-----------|---|
| 5   | 1-11-2013 | add dumpster south of bldg c, revise sdw area SE of A5.                                       |
| 4   | 3-26-2012 | delete drive-thru for BLDG A7, add transformers, add roof manifold for BLDG A5.               |
| 3   | 12-2-2011 | revise building 'D2' to 'A7', revise square footage, revise drive thru canopy.                |
| 2   | 8-29-2011 | revise front hardscape and front canopy drain manifolds of Building 'B', add manifold detail. |
| 1   | 5-31-2011 | revise front hardscape and area of Building 'B', handicap spaces, and match line.             |

**BENCHMARK**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
6480 BALTIMORE NATIONAL PIKE A SUITE 418 ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-6105 (F) 410-465-6644  
60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BEI-CIVILENGINEERING.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. 20559 (Exp. 7-2-2013)

**TOWN SQUARE AT TURF VALLEY**

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

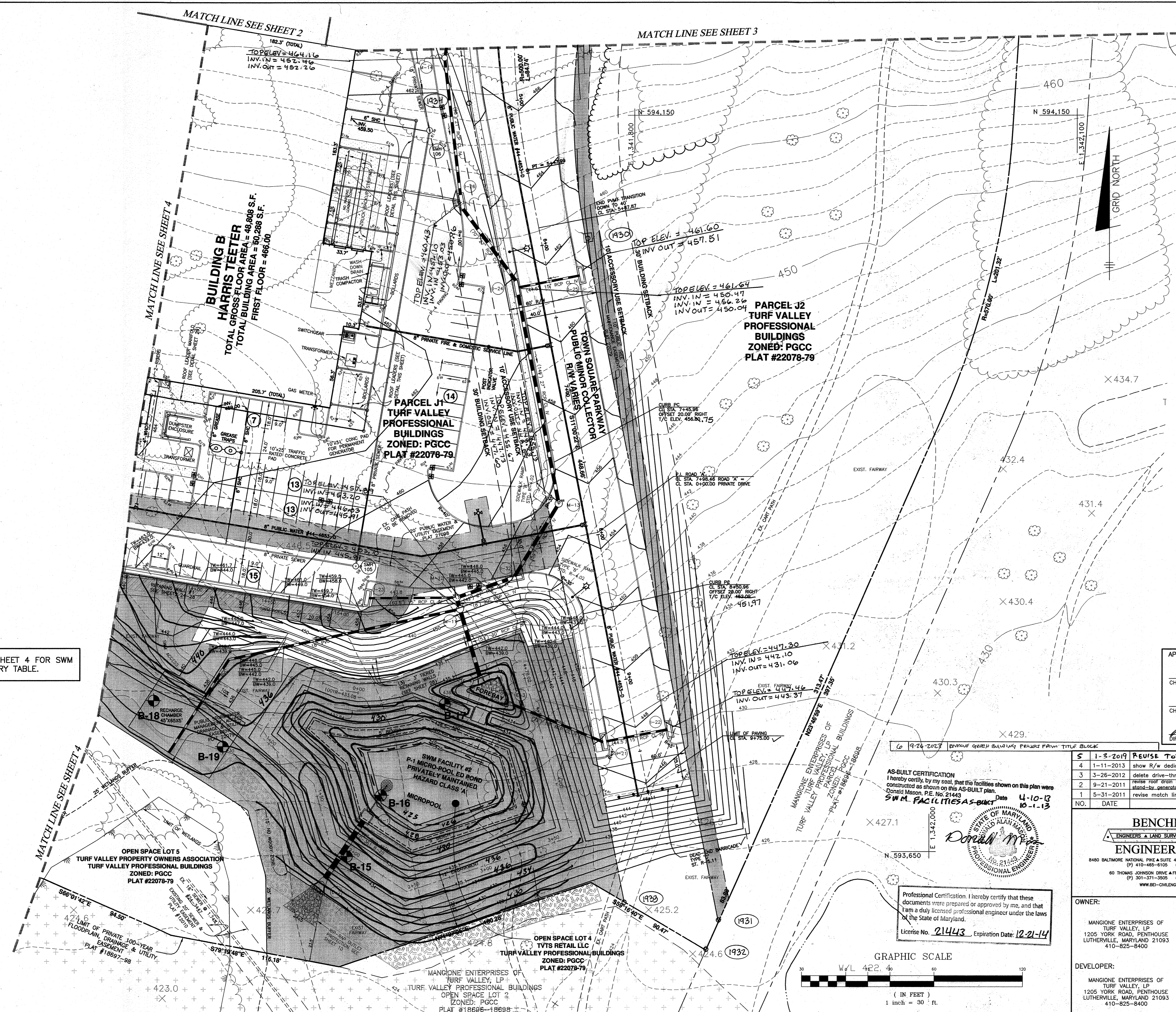
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

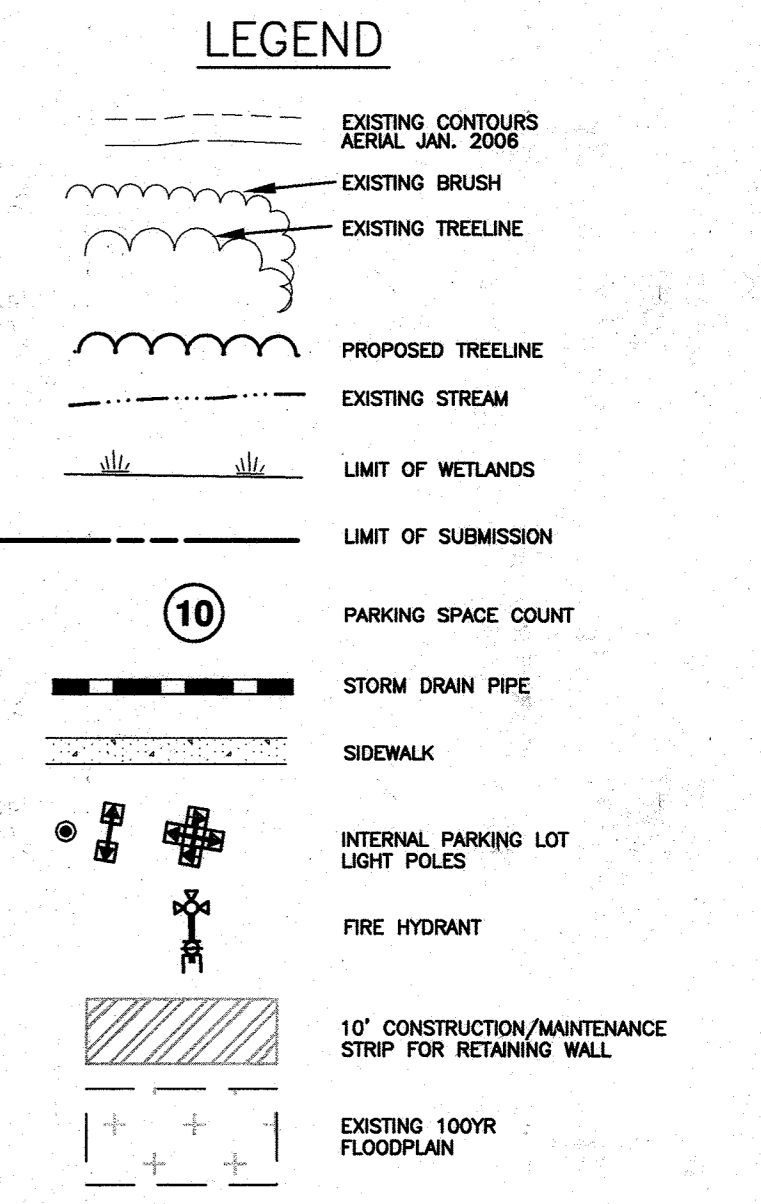
TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

REVISED  
**SITE DEVELOPMENT AND GRADING PLAN**

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 4 OF 31



- NOTES:
1. ALL CURBING TO BE STANDARD 7" COMBINATION CURB AND GUTTER (H.O.CO.STD.R-3.01) UNLESS OTHERWISE STATED.
  2. ALL SPOT ELEVATION SHOWN WITHIN PARKING LOT ARE FLOWLINE/PAVEMENT ELEVATIONS.
  3. ALL CURB FILLETS ARE 3' RADIUS UNLESS OTHERWISE STATED.
  4. INSIDE METER SETTINGS SHALL BE USED FOR THE WATER.
  5. ALTHOUGH ROAD 'A' WILL BE PRIVATE INITIALLY, IT IS INTENDED TO BE DEDICATED TO HOWARD COUNTY AS A PUBLIC ROAD IN THE FUTURE (SEE GENERAL NOTE 29 ON SHEET 1). THE STREET LIGHTS ALONG ROAD 'A' SHALL BE TREATED AS FUTURE PUBLIC STREET LIGHTS AND THUS PAID FOR BY THE DEVELOPER.
  6. REFER TO SHEET 22 FOR SIGNAGE, LIGHTING AND PAVEMENT MARKINGS FOR ROAD 'A'.



APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE 4/15/10  
DAAS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 1/16/13 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 1/24/13 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 1/27/13 DATE  
 DIRECTOR

NO.	DATE	REVISION
5	1-3-2019	REVISE TOTAL SHEET NUMBER
4	1-11-2013	show R/W dedication and parcel lines per plat 22079, revise FH location.
3	3-26-2012	delete drive-thru for BLDG A7, add transformers, add roof manifold for A7.
2	9-21-2011	revise roof drain manifolds for Bldg 'B' and add detail: add truck stripping in loading dock, add stand-by generator in rear of Bldg 'B'.
1	5-31-2011	revise match line, utilities and parking behind Building 'B'.

AS-BUILT CERTIFICATION  
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
 Donald Mason, P.E. No. 21443 Date 4-10-13  
 SWM FACILITIES AS-BUILT 10-1-13



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. 21443 Expiration Date: 12-21-14

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE & SUITE 415 & ELLICOTT CITY, MARYLAND 21043  
 (P) 410-455-4103 (F) 410-455-6844  
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
 (P) 301-371-3505 (F) 301-371-3506  
 WWW.BEI-CVLENGINEERING.COM

**TOWN SQUARE AT TURF VALLEY**

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

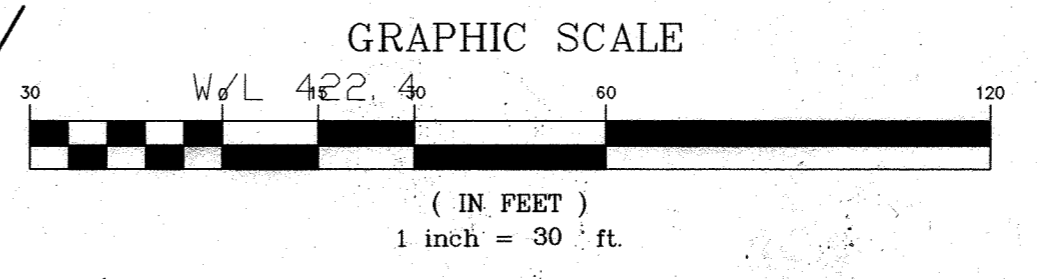
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079

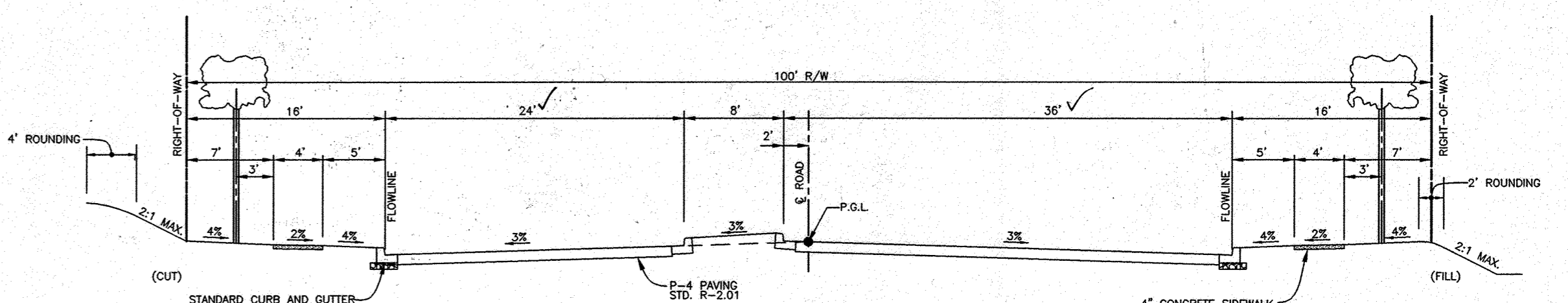
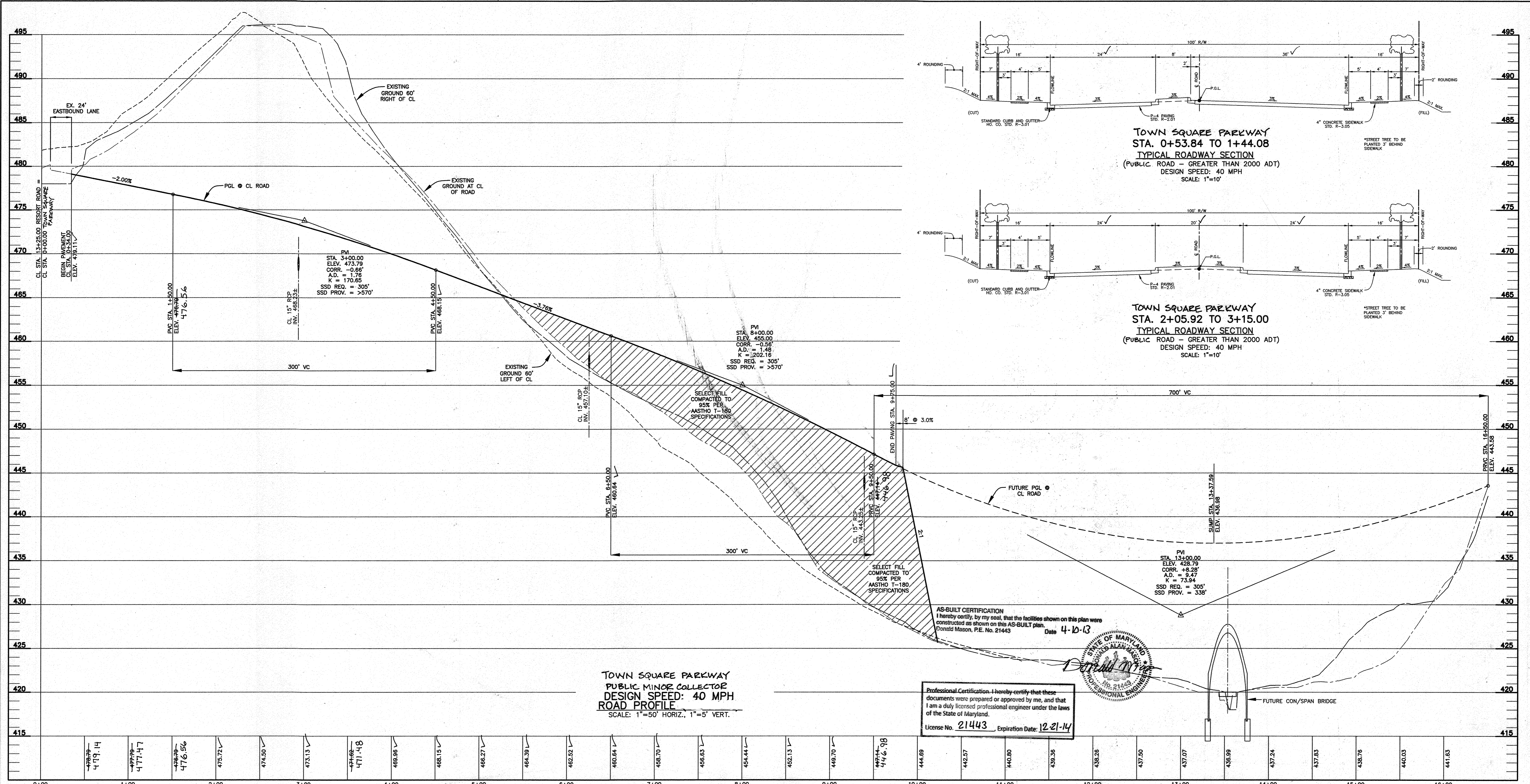
TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PGCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

REVISED  
**SITE DEVELOPMENT AND GRADING PLAN**

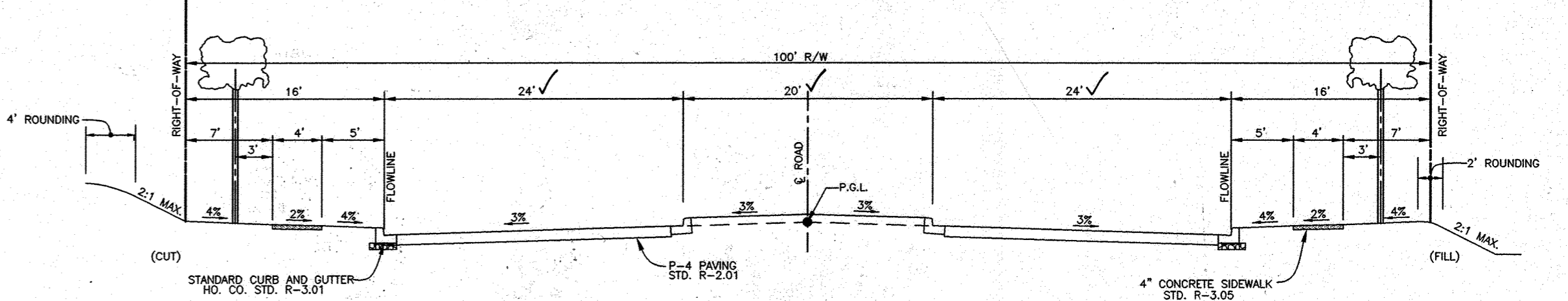
DATE: APRIL, 2010 BEI PROJECT NO. 2208  
 SCALE: AS SHOWN SHEET 5 OF 31



\*SEE SHEET 4 FOR SWM SUMMARY TABLE.



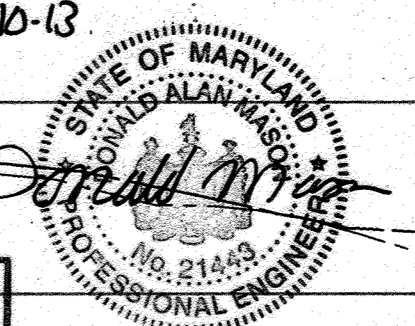
**TOWN SQUARE PARKWAY  
STA. 0+53.84 TO 1+44.08  
TYPICAL ROADWAY SECTION**  
(PUBLIC ROAD - GREATER THAN 2000 ADT)  
DESIGN SPEED: 40 MPH  
SCALE: 1"=10'



**TOWN SQUARE PARKWAY  
STA. 2+05.92 TO 3+15.00  
TYPICAL ROADWAY SECTION**  
(PUBLIC ROAD - GREATER THAN 2000 ADT)  
DESIGN SPEED: 40 MPH  
SCALE: 1"=10'

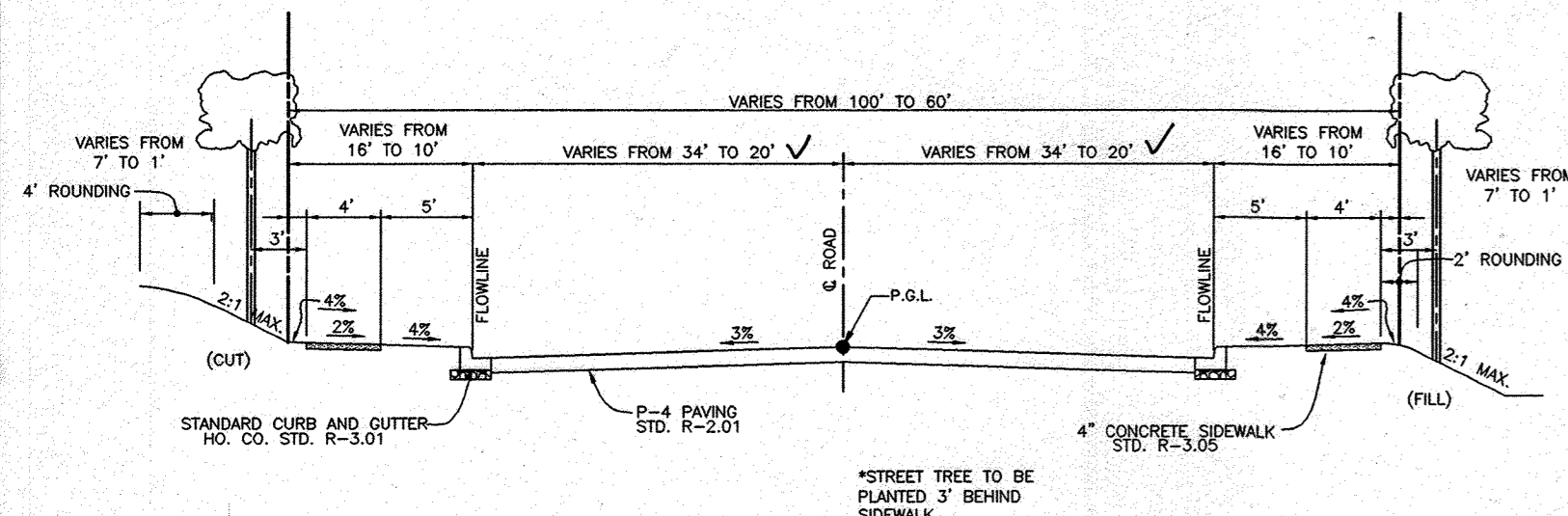
**TOWN SQUARE PARKWAY  
PUBLIC MINOR COLLECTOR  
DESIGN SPEED: 40 MPH  
ROAD PROFILE**  
SCALE: 1"=50' HORIZ., 1"=5' VERT.

AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 4-10-13

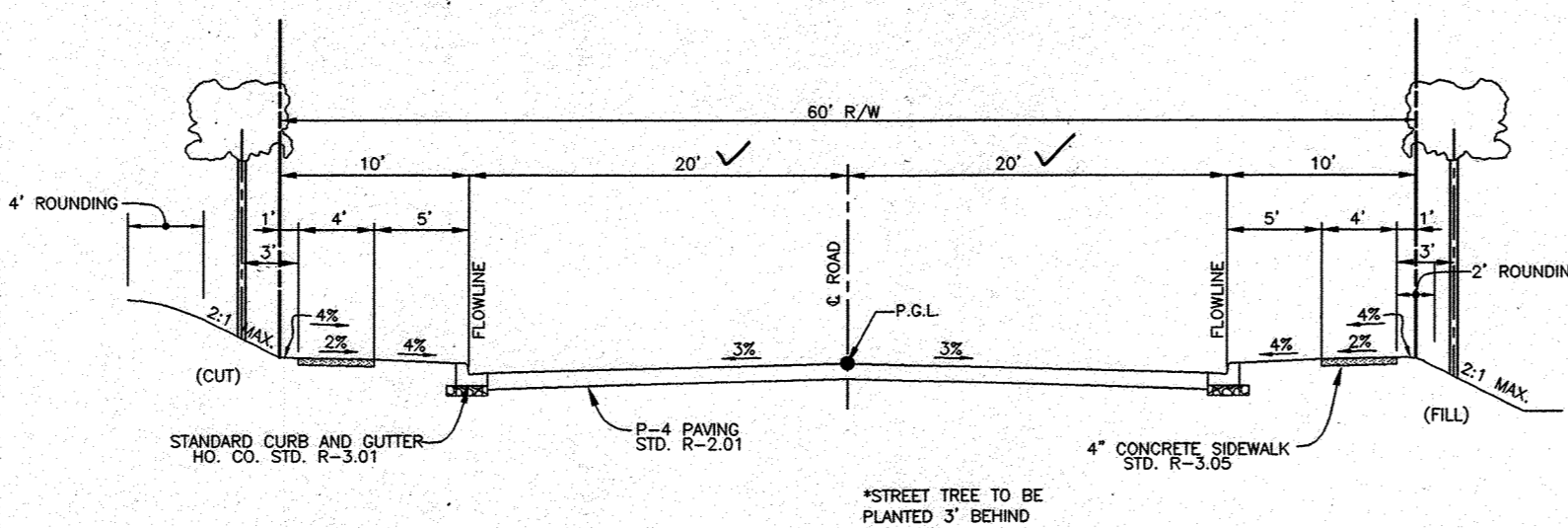


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 21443, Expiration Date: 12-21-14

0+00	476.79	479.14	477.79	477.47	476.56	475.72	474.50	473.13	471.48	469.98	468.15	466.27	464.39	462.52	460.64	458.70	456.83	454.44	452.13	449.70	447.14	444.89	442.57	440.80	439.35	438.26	437.50	437.07	436.99	437.24	437.83	438.76	440.03	441.83	443.58
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**TOWN SQUARE PARKWAY  
STA. 3+15.00 TO 5+87.87  
TYPICAL ROADWAY SECTION**  
(PUBLIC ROAD - GREATER THAN 2000 ADT)  
DESIGN SPEED: 40 MPH  
SCALE: 1"=10'



**TOWN SQUARE PARKWAY  
STA. 5+87.87 TO END  
TYPICAL ROADWAY SECTION**  
(PUBLIC ROAD - GREATER THAN 2000 ADT)  
DESIGN SPEED: 40 MPH  
SCALE: 1"=10'

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 4/15/10

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE 5/3/10  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE 4/2/10

**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 418  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-465-0105 FAX: 410-465-8644  
WWW.BEI-CVLENGINEERING.COM

**TOWN SQUARE AT TURF VALLEY**  
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS: 22076 - 22079  
TAX MAP: 16 - GRID: 10 - PARCEL: P/O B & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**ROAD PROFILE AND DETAILS**  
DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 6 OF 31

NO.	DATE	REVISION
4	9-26-2013	REMOVE GENERAL BUILDING PERMIT FROM TITLE BLOCK
3	1-3-2019	REVISE TOTAL SHT NUMBER
2	1-11-2013	REVISE ROAD 'A' TO BE TOWN SQUARE PARKWAY AND A PUBLIC ROAD
1	4-10-2012	REVISE TOTAL SHEET COUNT IN TITLE BLOCK

SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME
CgC2	B		CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT MODERATELY ERODED
CH2	B		CHESTER SILT LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
CH2	B		CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
CH2	B		CHESTER SILT LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Co	YES	C	CODRUS SILT LOAM
Co	B	C	CODRUS SILT LOAM
GD2	B	D	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
GD3	B	D	GLENELG LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
Hs	YES	D	HATBORO SILT LOAM
HsB2	B	B	MANOR GRAVELLY LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
MgC2	B	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
ME	B	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES

DRAINAGE AREA	ZONING (Z)	AREA (Ac) (A)	'C' FACTOR <25 YR (C)	% IMPERVIOUS (P)
I-1	PGCC	0.68	0.72	85
I-2	PGCC	1.05	0.72	85
I-3	PGCC	1.44	0.72	85
I-4	PGCC	0.39	0.72	85
I-5	PGCC	0.45	0.72	85
I-6	PGCC	0.13	0.72	85
I-7	PGCC	0.73	0.72	85
I-8	PGCC	1.03	0.72	85
I-9	PGCC	0.13	0.72	85
I-10	PGCC	0.13	0.72	85
I-11	PGCC	0.09	0.72	85
I-12	PGCC	0.08	0.72	85
I-13	PGCC	0.08	0.72	85
I-14	PGCC	0.09	0.72	85
I-15	PGCC	0.09	0.72	85
I-16	PGCC	0.09	0.72	85
I-17	PGCC	0.09	0.72	85
I-18	PGCC	0.23	0.72	85
I-19	PGCC	0.15	0.72	85
I-20	PGCC	0.21	0.72	85
I-21	PGCC	0.41	0.72	85
I-22	PGCC	0.21	0.72	85
I-23	PGCC	0.74	0.72	85
I-24	PGCC	0.22	0.72	85
I-25	PGCC	0.41	0.72	85
I-26	PGCC	0.78	0.72	85
I-27	PGCC	0.31	0.72	85
I-28	PGCC	0.72	0.72	85
I-29	PGCC	0.26	0.72	85
I-30	PGCC	0.46	0.72	85
I-31	PGCC	0.48	0.72	85
I-32	PGCC	0.32	0.72	85
I-33	PGCC	0.17	0.72	85
ROOF 'B'	PGCC	1.22	0.86	100
ROOF 'C'	PGCC	0.41	0.86	100
ROOF 'A1'	PGCC	0.22	0.86	100
ROOF 'A2'	PGCC	0.22	0.86	100
ROOF 'A3'	PGCC	0.22	0.86	100
ROOF 'A4'	PGCC	0.22	0.86	100
ROOF 'A5'	PGCC	0.14	0.86	100
ROOF 'A6'	PGCC	0.19	0.86	100
ROOF 'A7'	PGCC	0.08	0.86	100
ROOF 'D1'	PGCC	0.08	0.86	100
I-11A	PGCC	0.14	0.72	85
Trench Drain	PGCC	0.12	0.72	85

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 04/15/2010  
*[Signature]*

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 9/17/14  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 9/20/14  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* 7/15/14  
DIRECTOR

THIS MYLAR REPLACES SHEET  
PREVIOUSLY SIGNED ON ~~02/24/12~~

7 9-20-23 REVISION OF OPEN BUILDING PROJECT FROM TITLE BLOCK

NO.	DATE	REVISION	SHT #
6	1-3-2019		
5	9-10-2014	REVISE BLDG 'D1', REVISE ASSOCIATED CURB AND GRADING AND STORM DRAIN (RELOCATE I-9, ADD I-68, MOVE I-8, UPDATE SUMMARY, 1088)	
4	1-11-2013	ADD TRENCH DRAIN AND I-11A, REVISE DRAINAGE AREAS ACCORDINGLY, UPDATE CHART.	
3	4-10-2012	REVISE DRAINAGE AREAS BASED ON ROOF LEADER MATERIAL DESIGN, REVISE CHART, DELETE DRIVE-THRU AT BLDG 'A7' AND ADD PARKING, SHOW ADDITIONAL PARKING BEHIND BLDG 'A6'.	
2	9-21-2011	ADD I-33, REVISE DRAINAGE AREA FOR I-10 AND I-33	
1	5-31-2011	REVISE I-29 LOCATION AND ASSOCIATED PARKING LOT GRADING BEHIND BLDG 'A6'	

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS & LAND SURVEYORS & PLANNERS  
8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLCOTT CITY, MARYLAND 21043  
410-465-8105 (F) 410-465-8644  
WWW.BE-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland, License No. 15727, Expiration Date: 6-30-2015.  
*[Signature]* 9-11-14

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

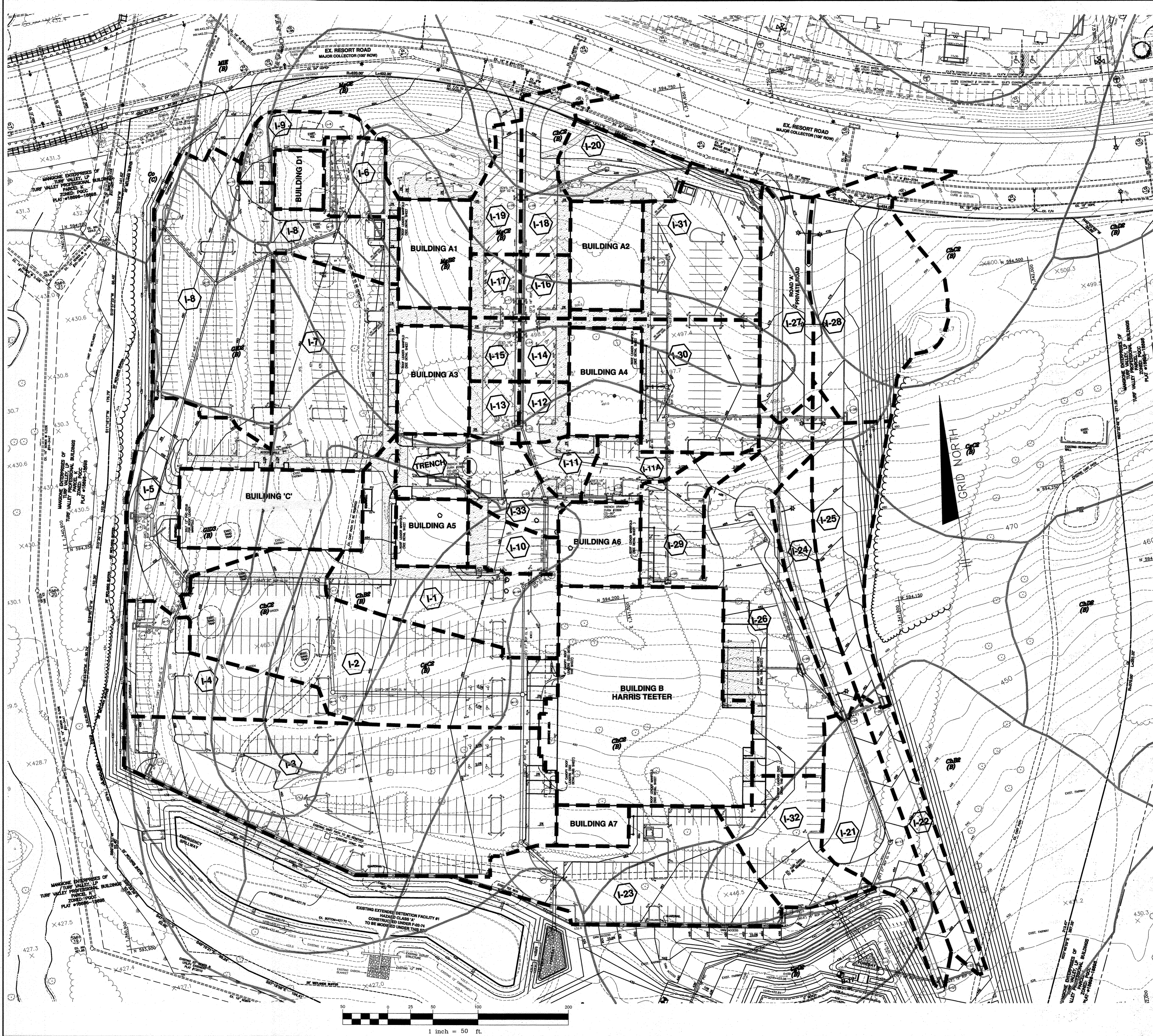
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
410-825-8400

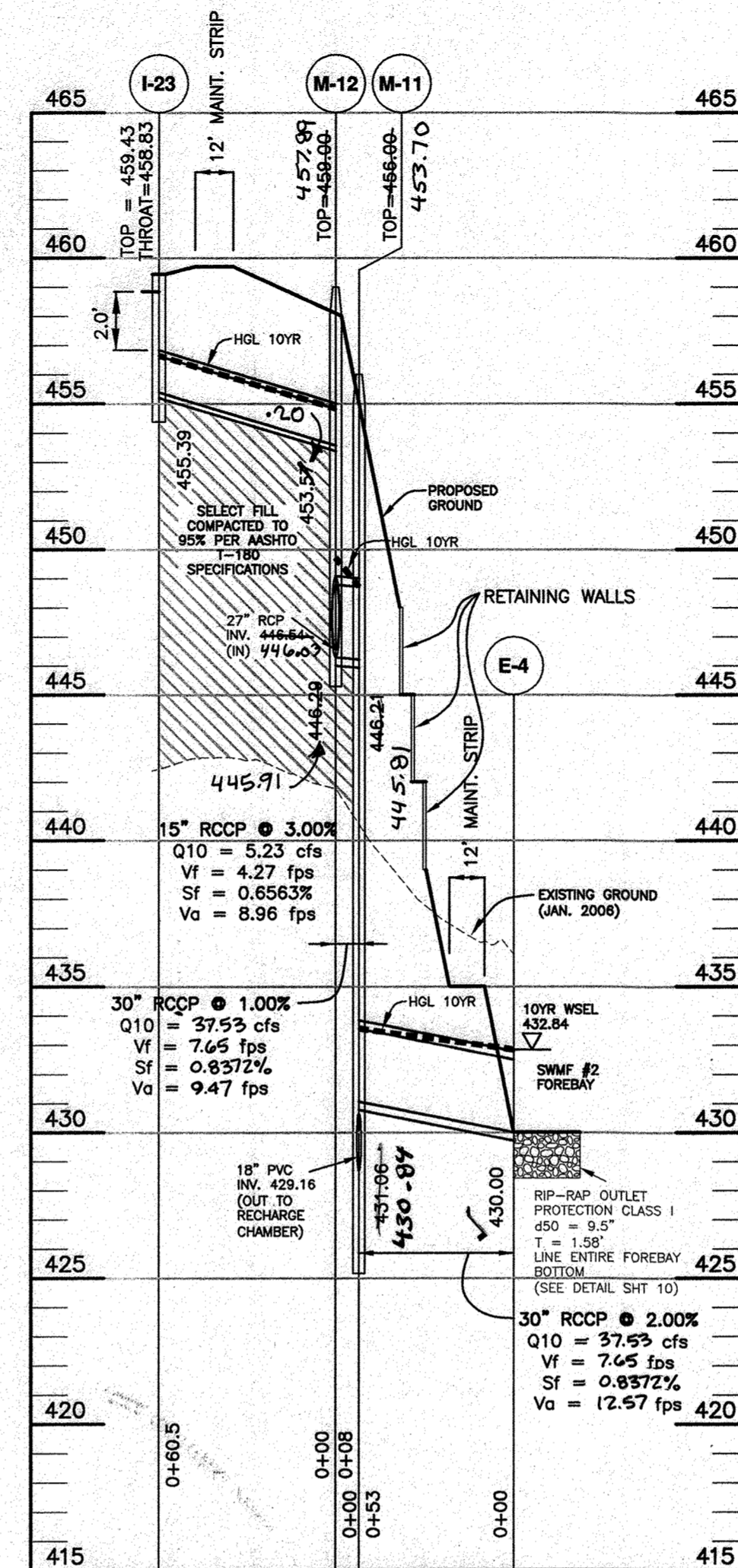
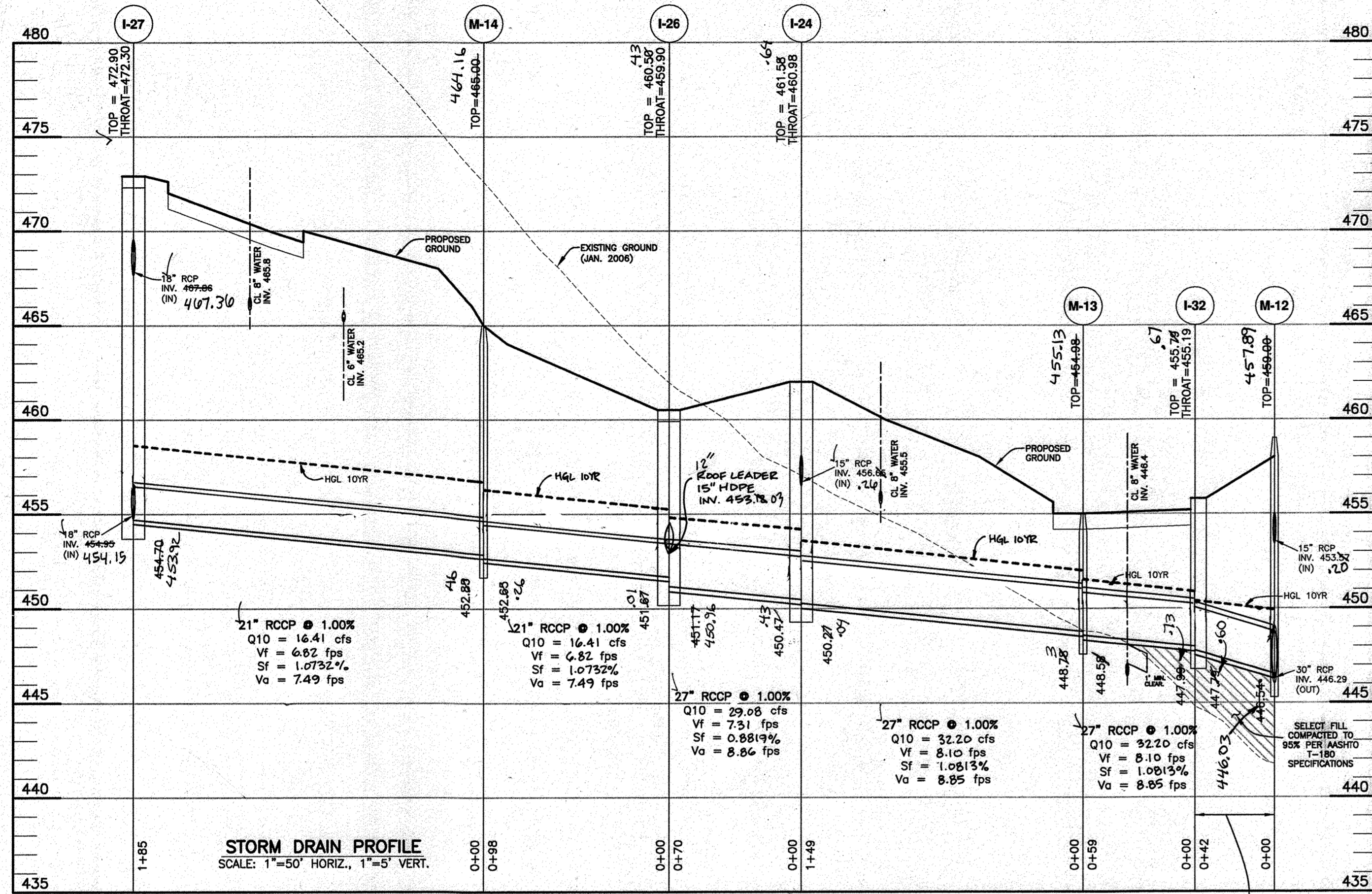
TOWN SQUARE AT TURF VALLEY  
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

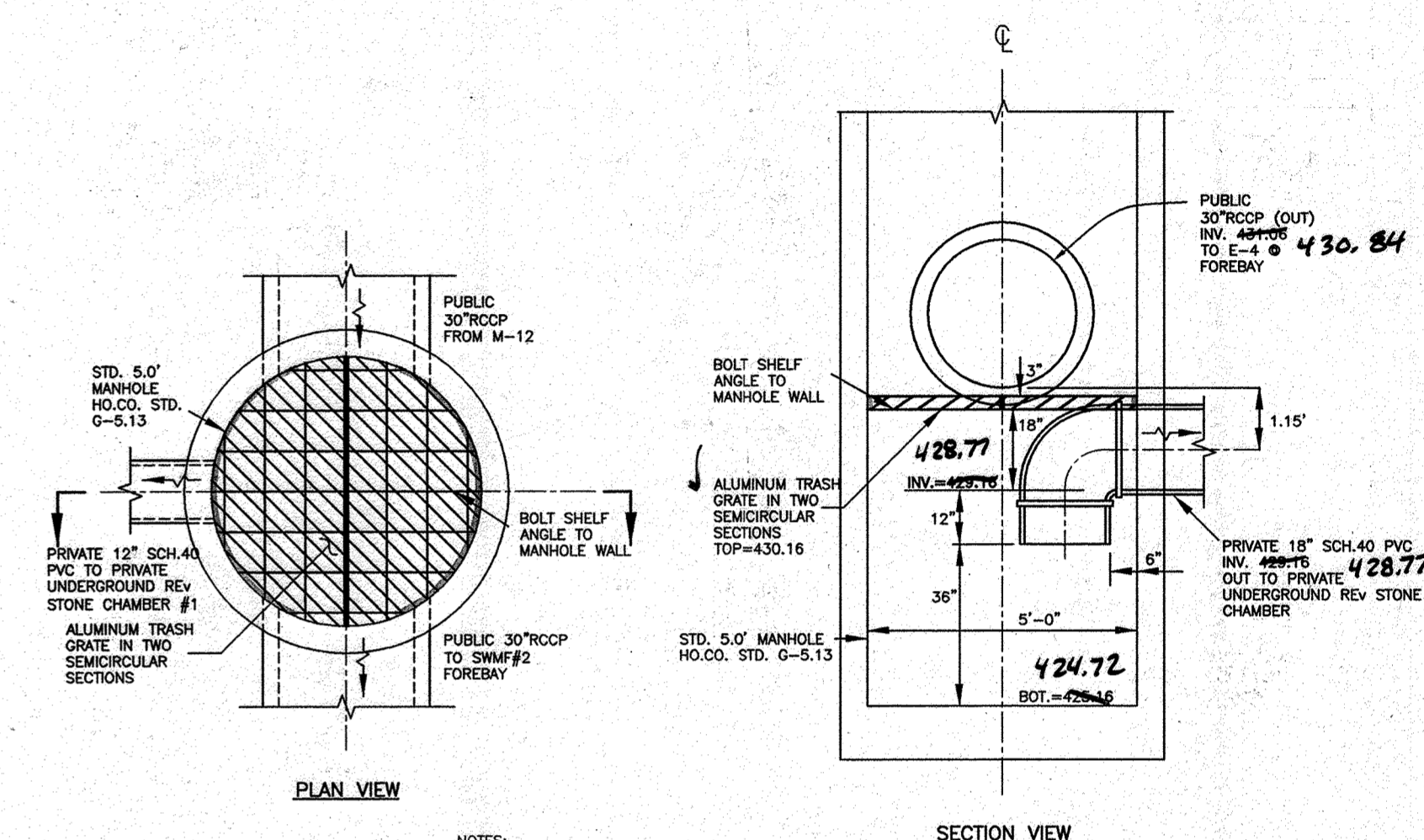
REVISED  
STORM DRAIN DRAINAGE AREA MAP

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 7 OF 31



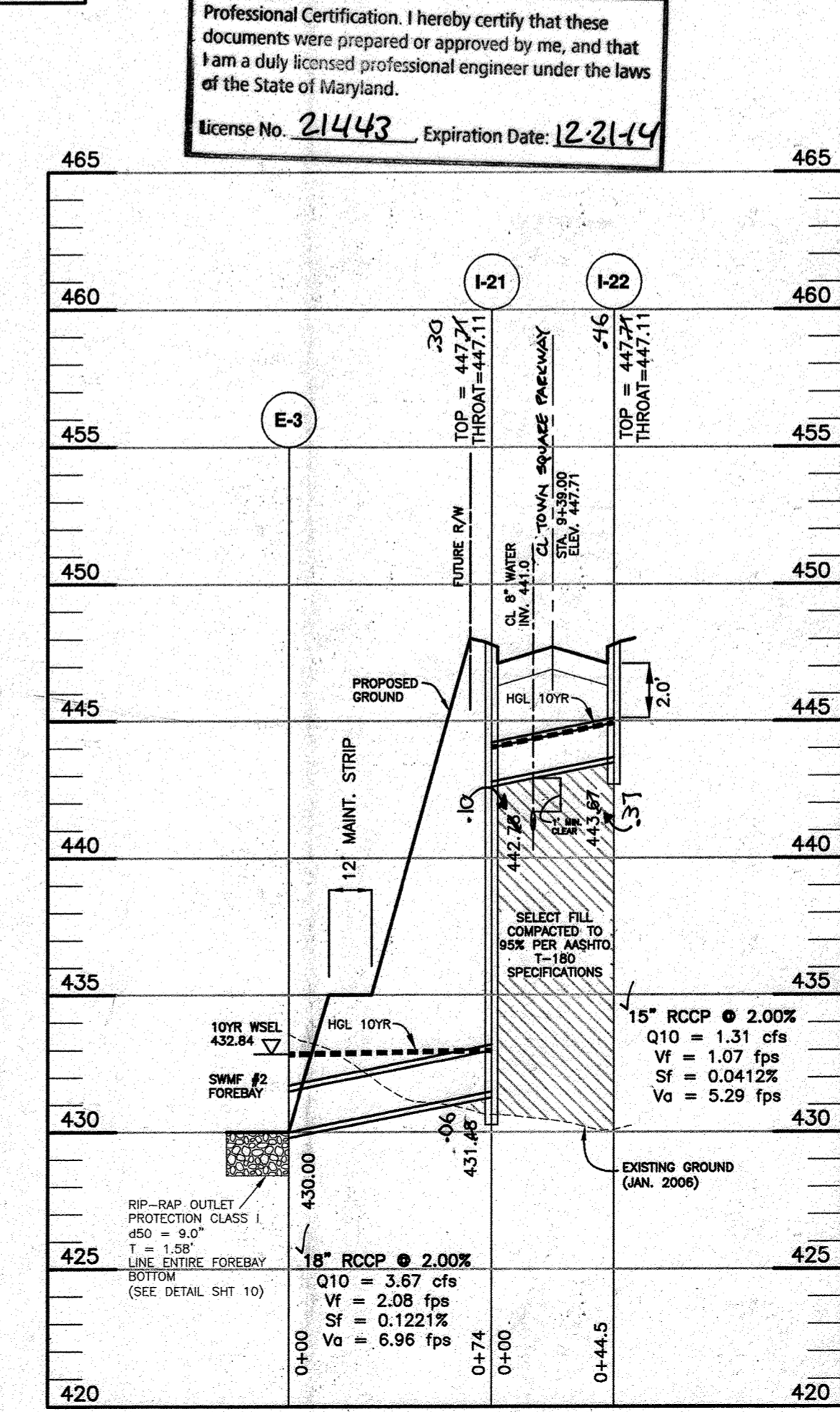
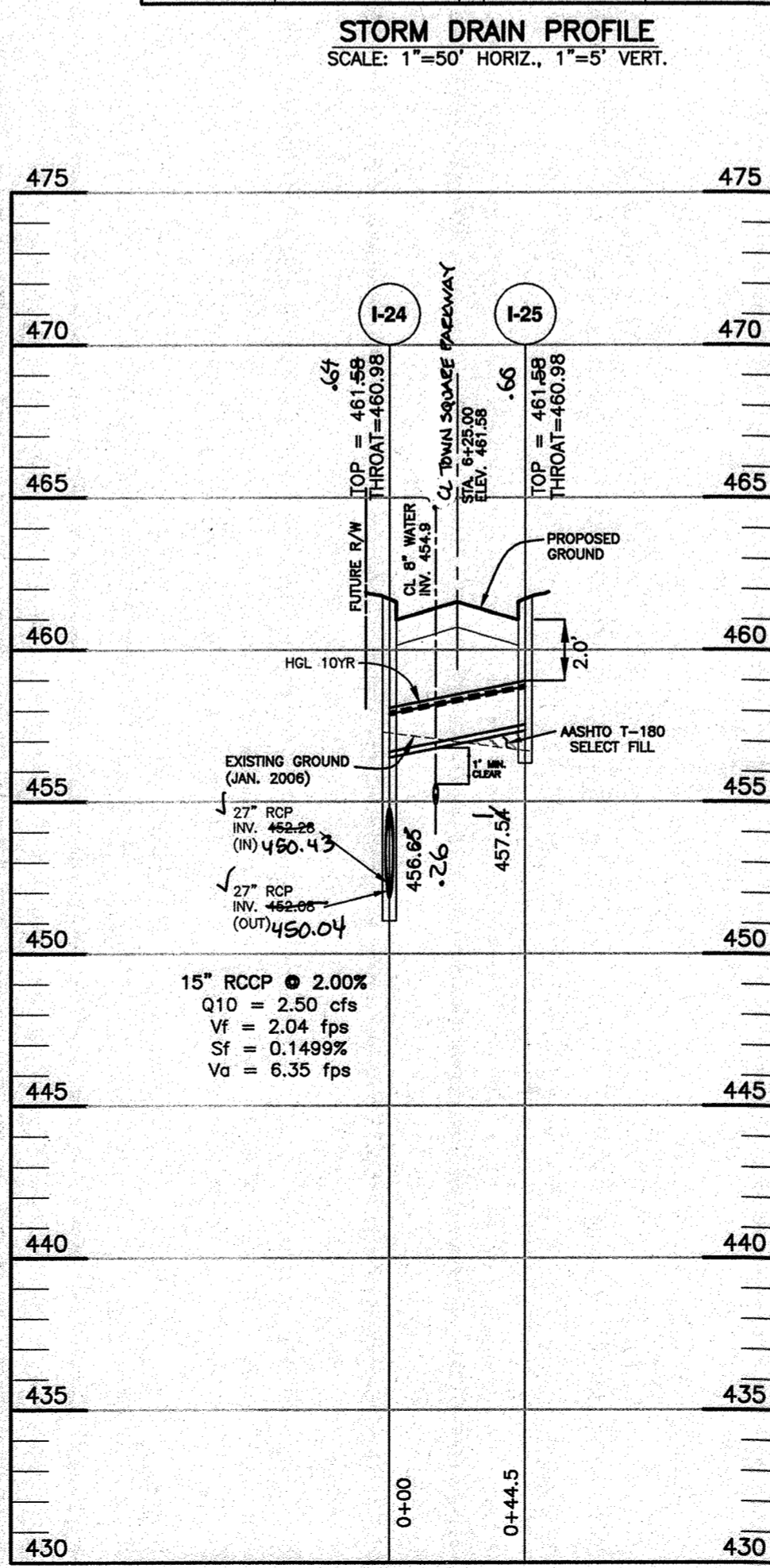
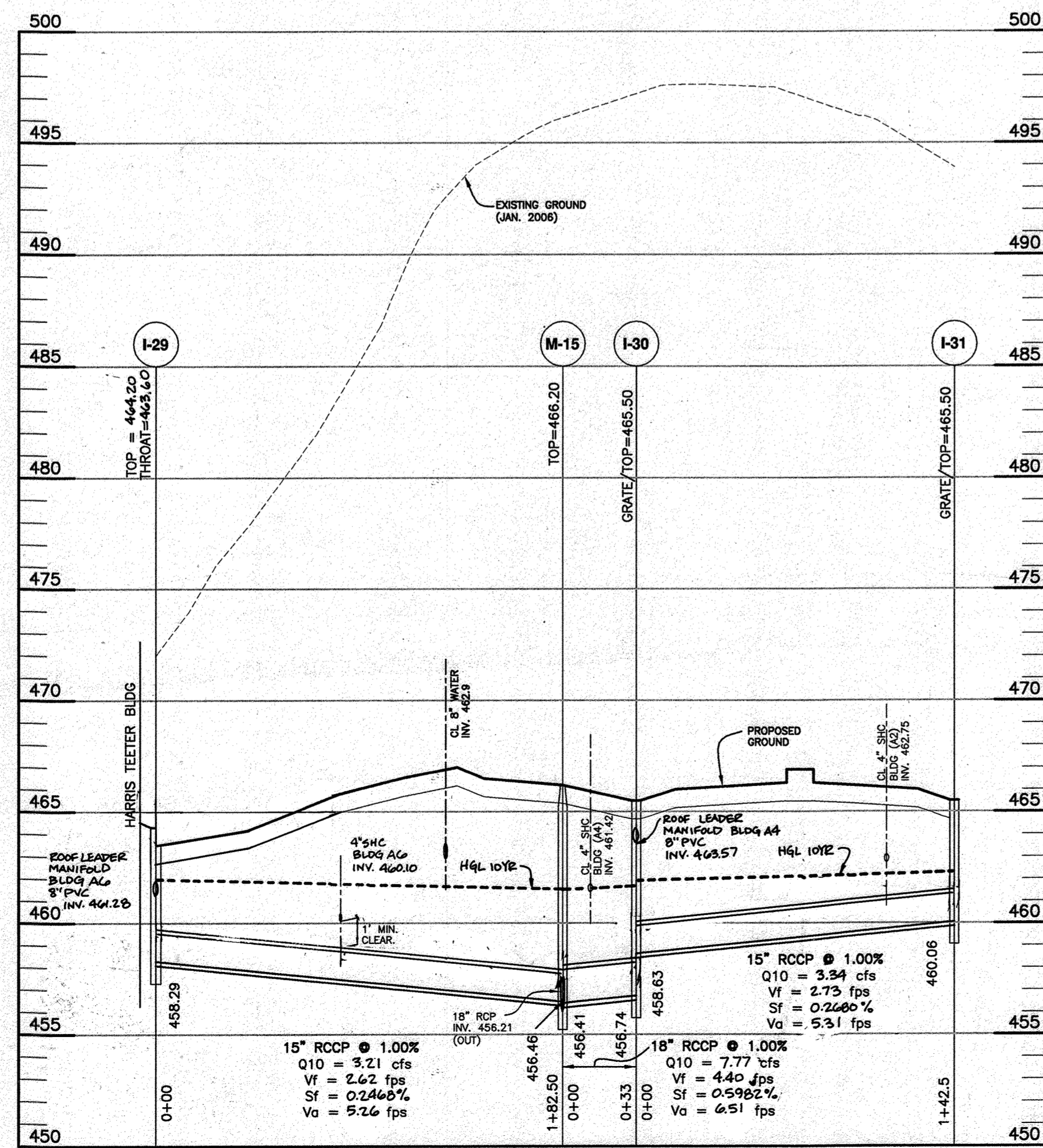
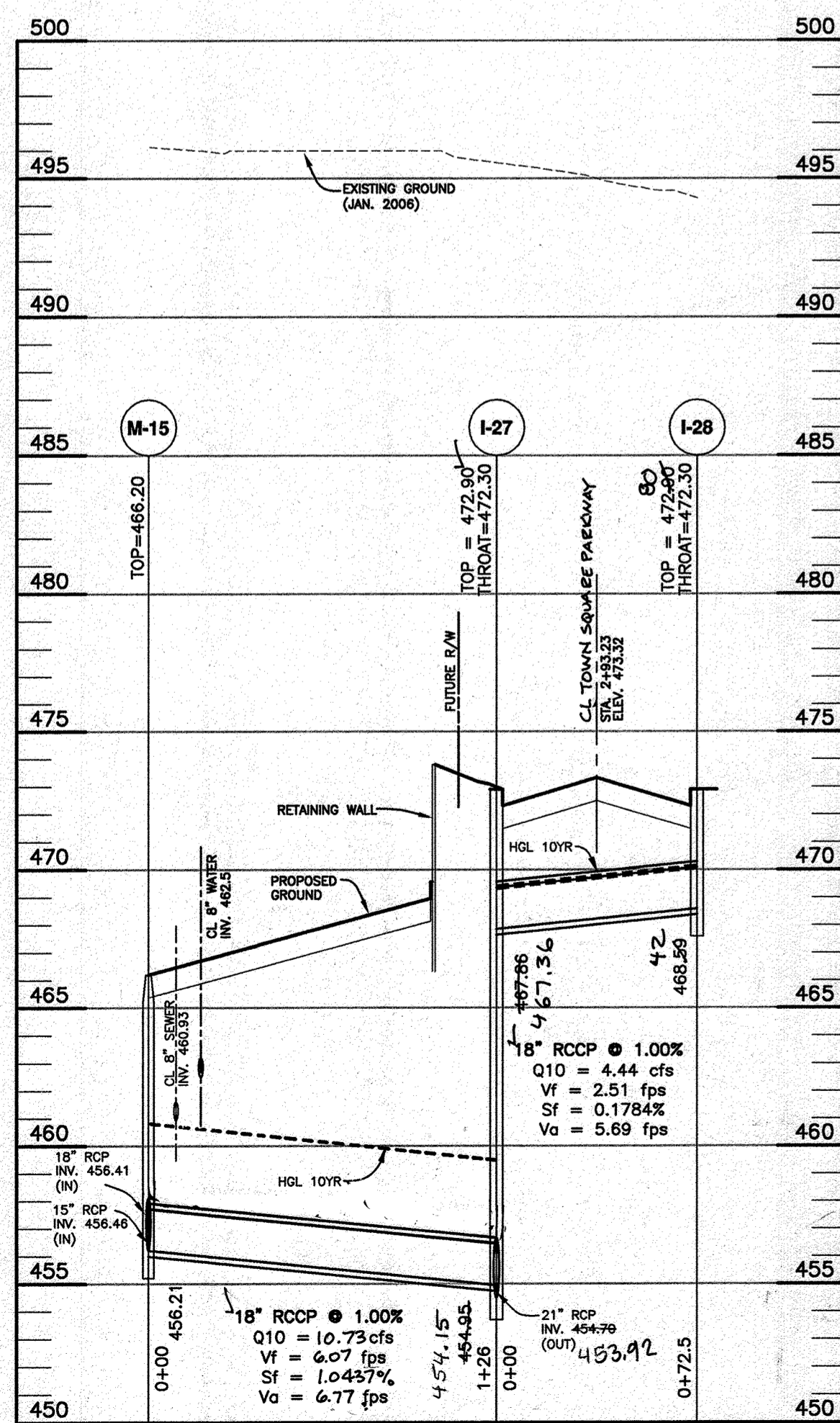


AS-BUILT CERTIFICATION  
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.  
Donald Mason, P.E. No. 21443 Date 4-10-13



NOTES:  
1. THIS STRUCTURE CONFORMS TO MDE APPENDIX D-8; DETAIL 6 AND HO. CO. STD. DETAIL G-5.13  
2. DIVERSION STRUCTURE SHALL BE PRIVATELY OWNED AND MAINTAINED

**DIVERSION STRUCTURE (M-11)**  
SCALE: 1" = 3'



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. 21443 Expiration Date: 12-31-14

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 4/15/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

1-3-2019 REVISE TOTAL SHT NUMBER  
4-11-2013 REVISE ROAD REFERENCES TO TOWN SQUARE FLYWAY, REVISE TITLE BLOCK  
3-10-2012 REVISE CONTS AND HGL BASED ON ROOF MANHOLE DESIGN  
2-9-21-2011 ADD ROOF LEADER INVERT C 1-26, REVISE THROAT/TOP ELEVATIONS OF I-29  
1-5-31-2011 revise storm drain run from I-32 to I-29 and from M-15 to I-31, update crossings.

**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLIOTT COTT, MARYLAND 21043  
90 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702

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. 28899 Expiration Date: 7-22-2011

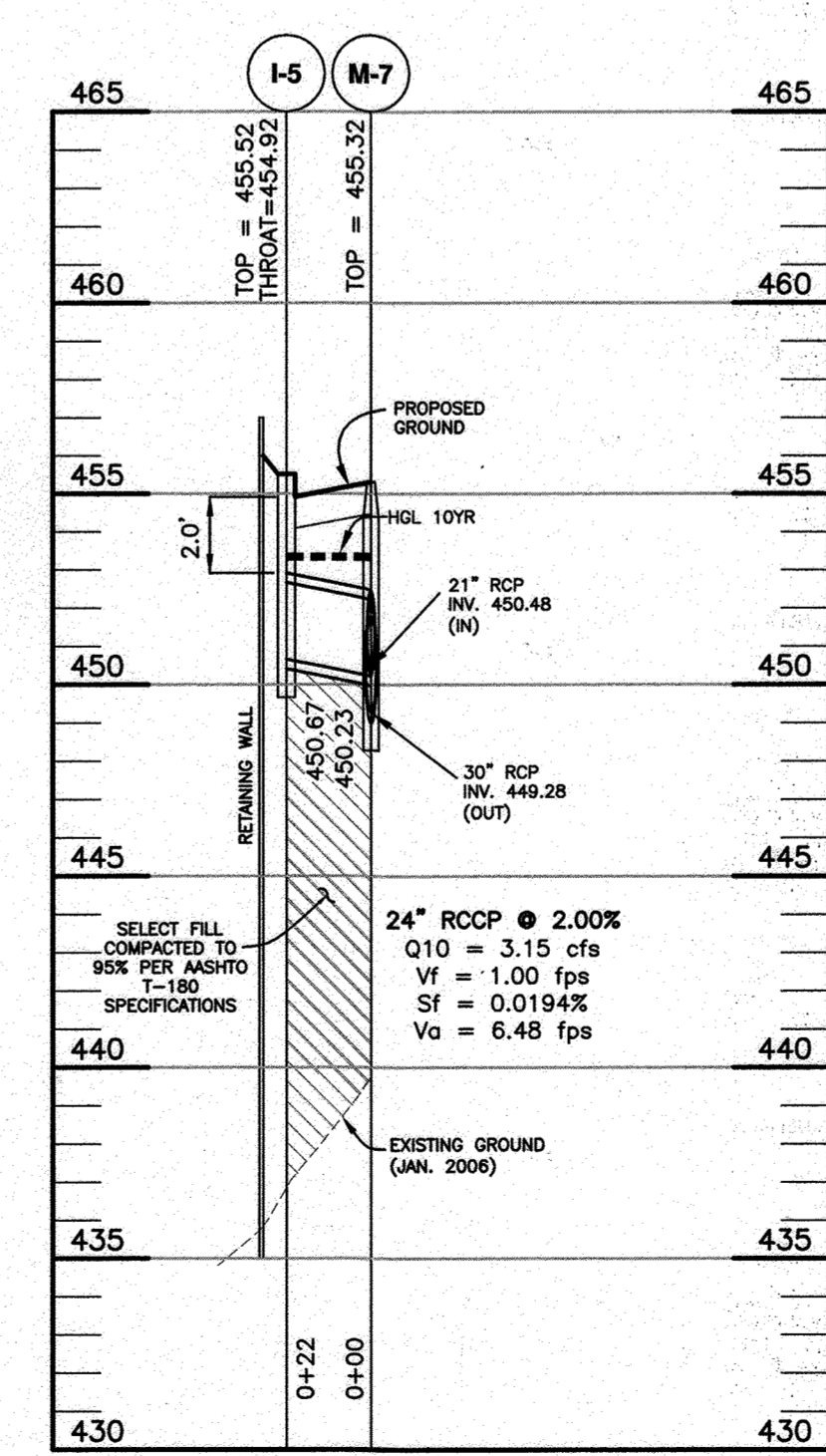
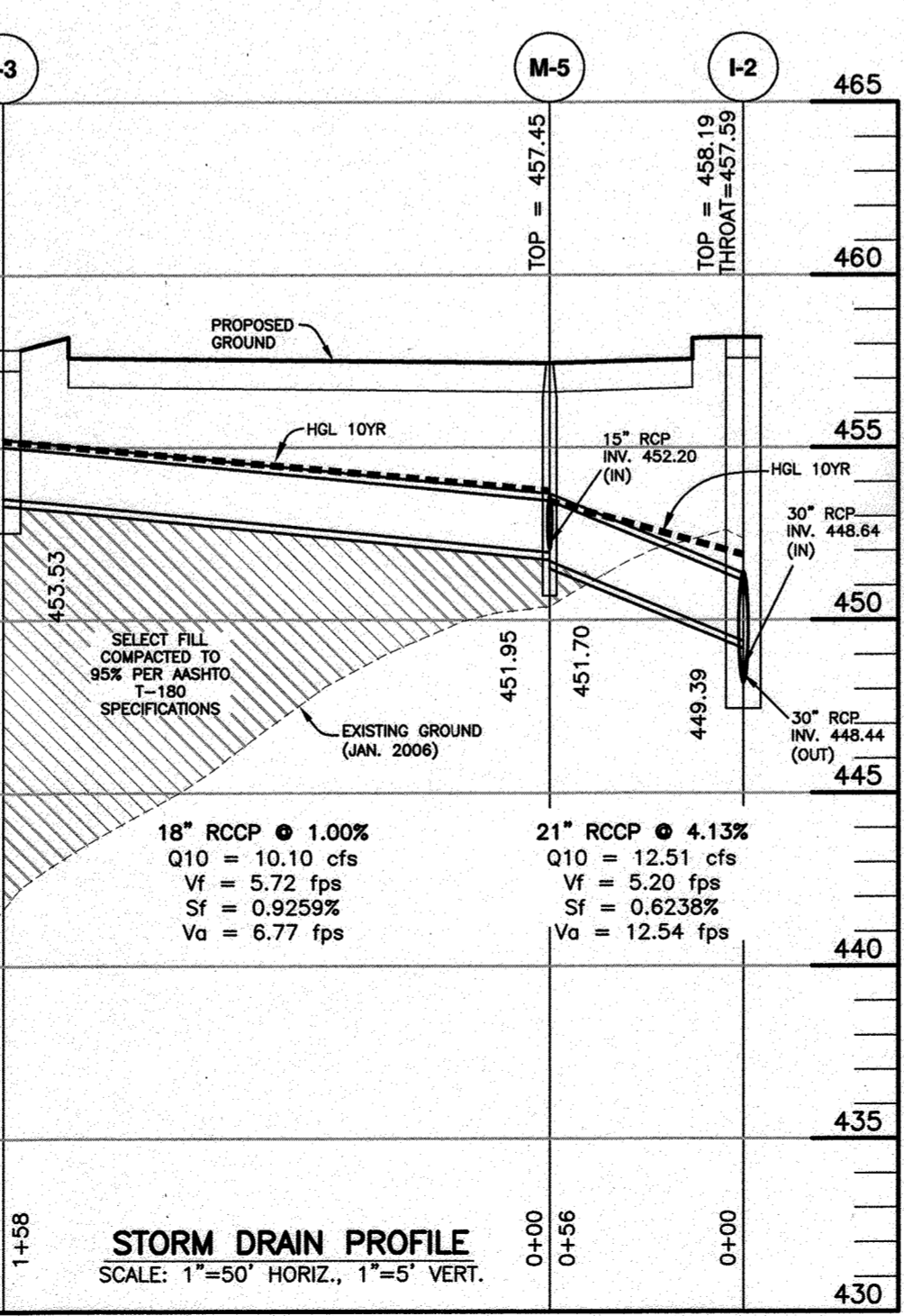
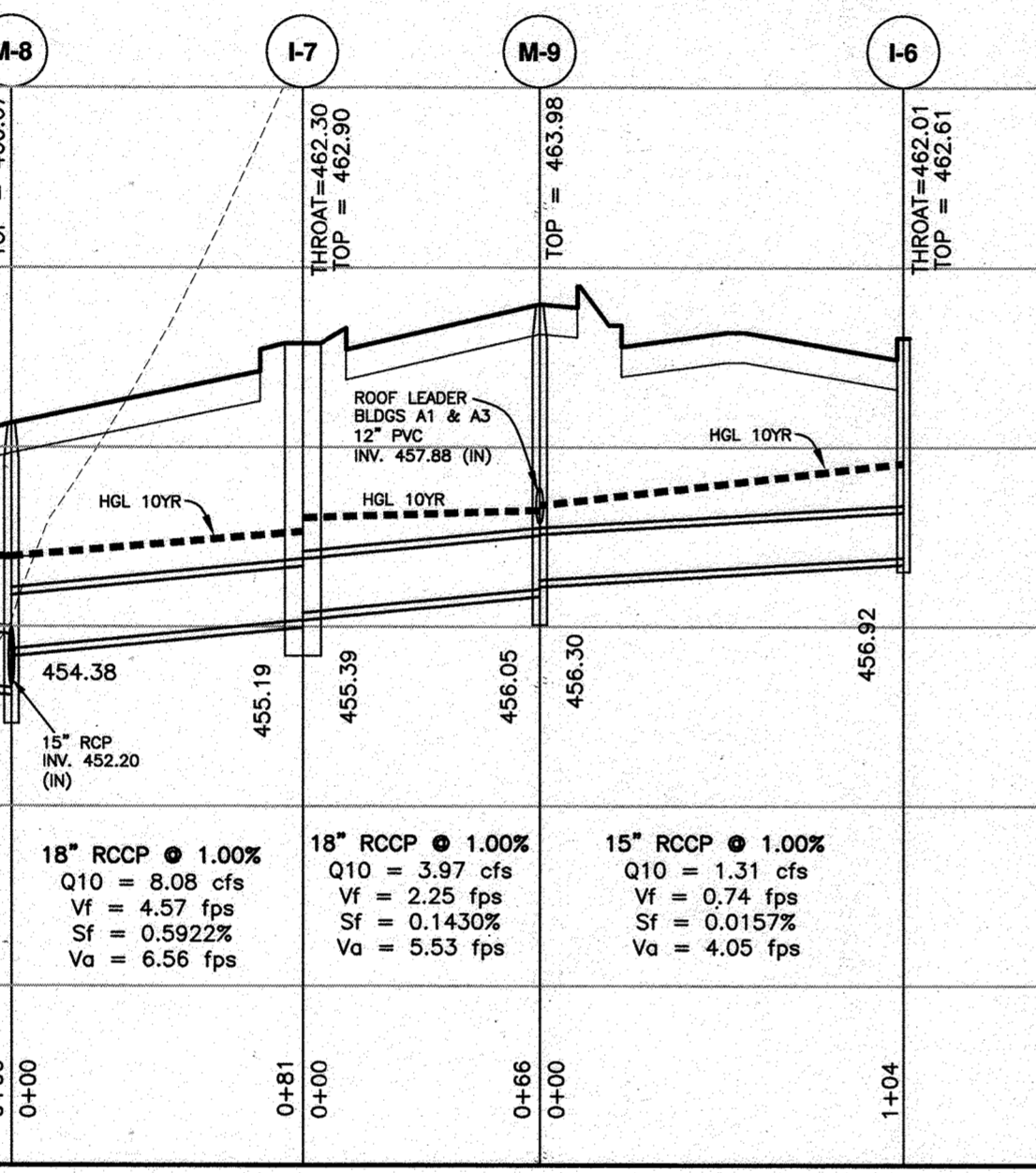
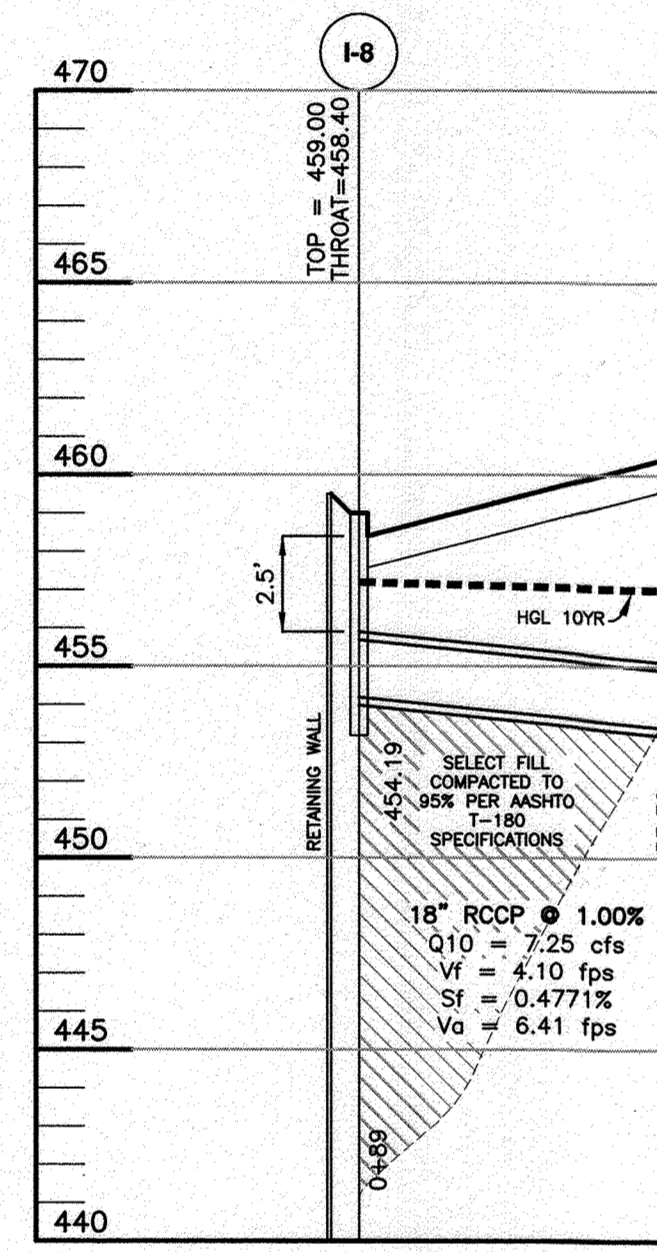
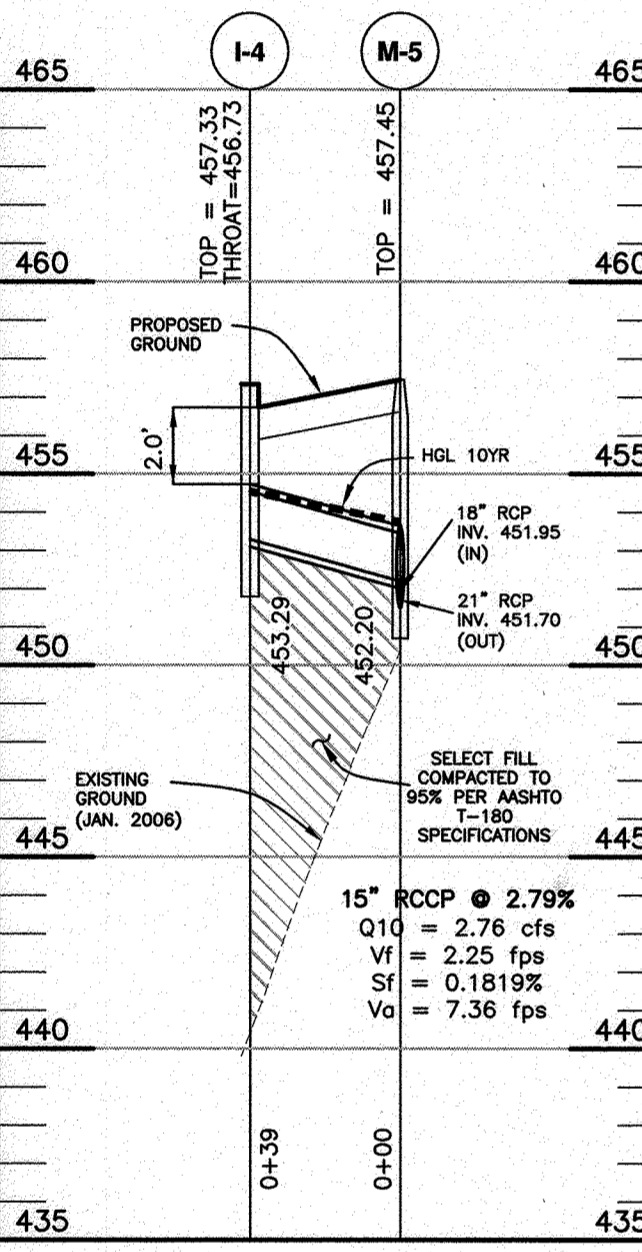
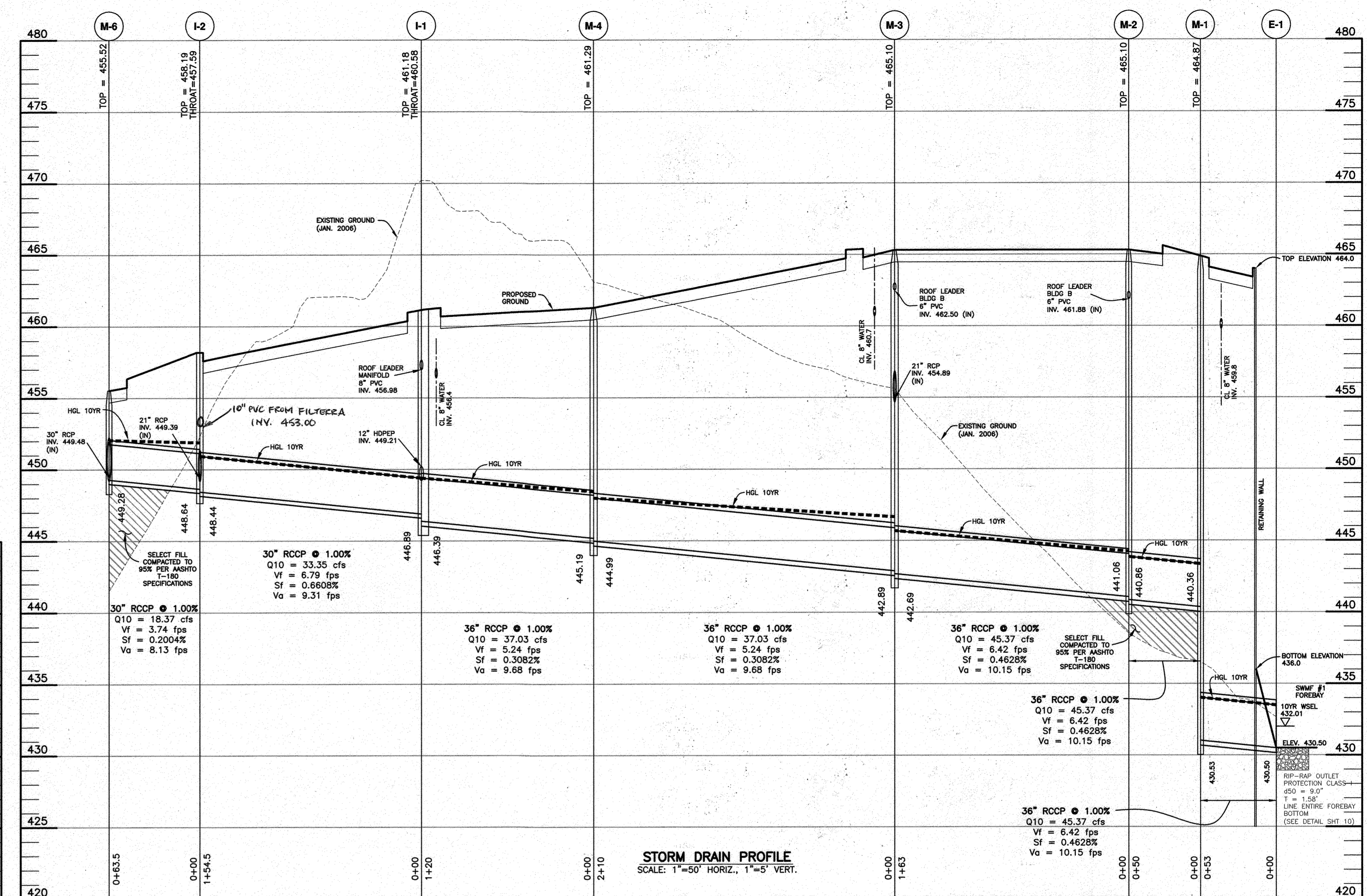
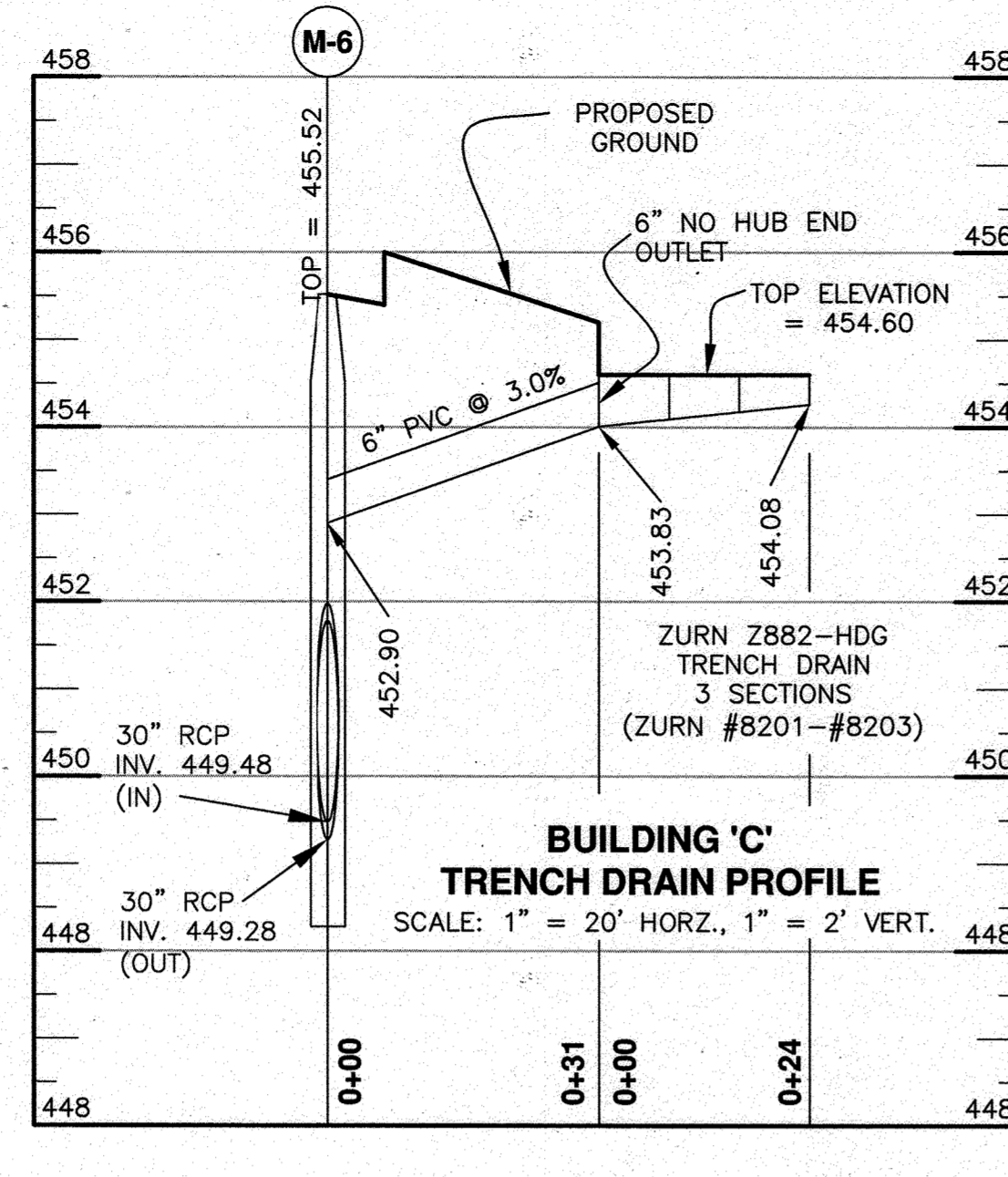
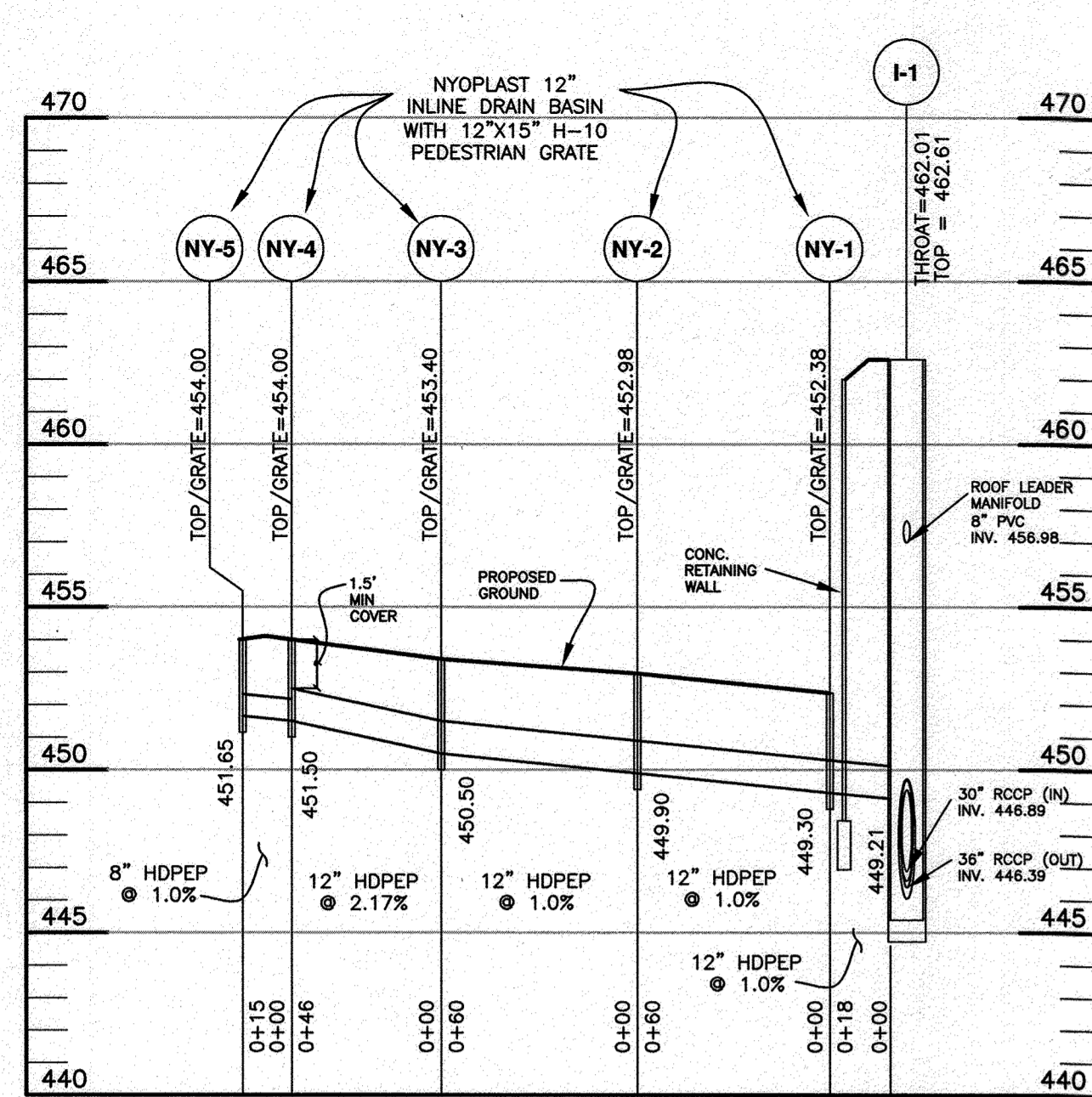
**TOWN SQUARE AT TURF VALLEY**  
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS A & B  
TURF VALLEY PROFESSIONAL BUILDINGS  
FLAT NOS. 2267B-2267F

TAX MAP: 16 - GRID: 10 - PARCEL: P/O B  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

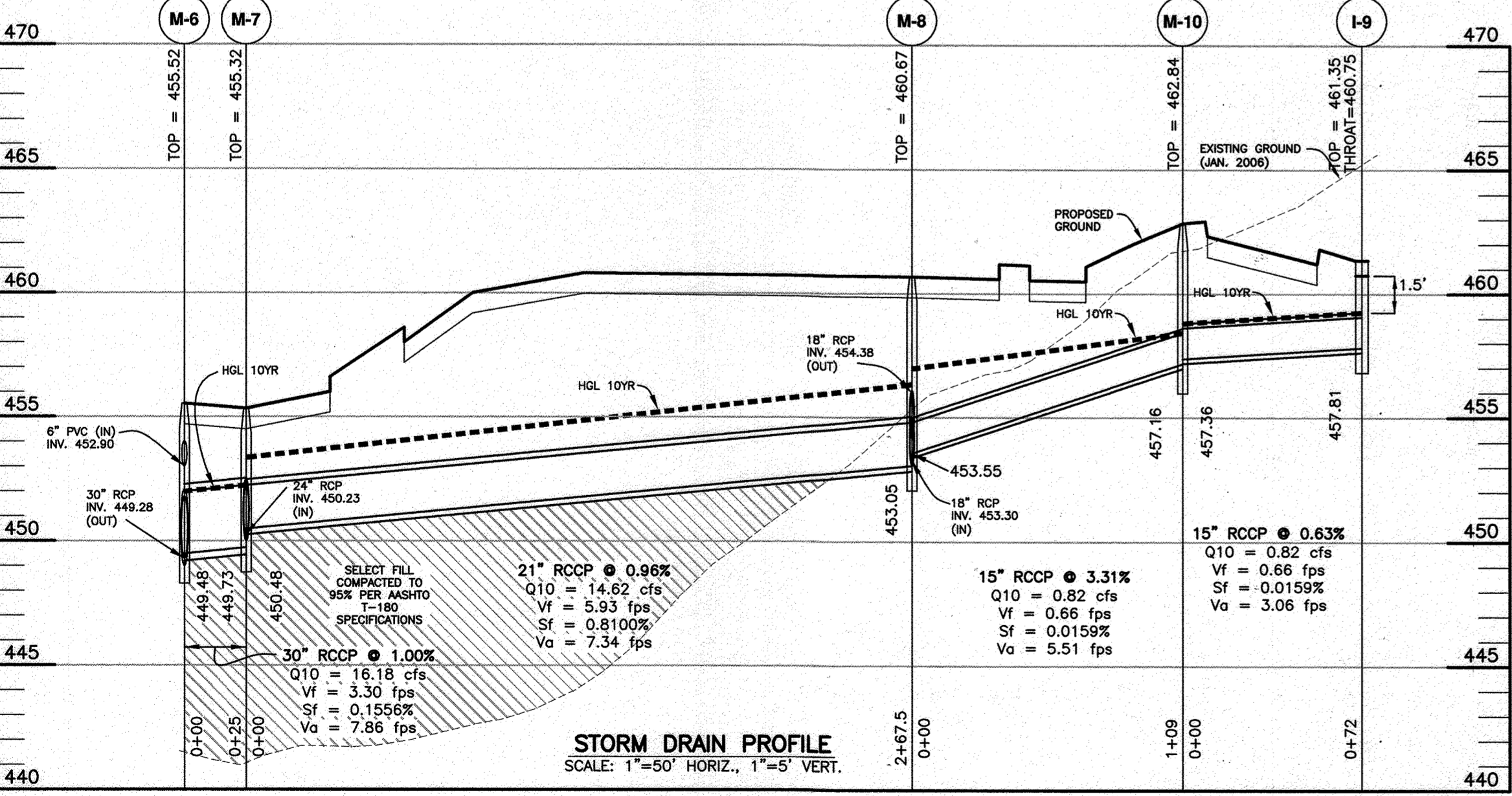
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 8 OF 31





THIS SHEET REPLACES PREVIOUS SHEET 9 SIGNED ON 9-24-2014



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

1/18/19

CHIEF, DIVISION OF LAND DEVELOPMENT

1/22/19

DIRECTOR

1-22-19

APPROVED

PLANNING BOARD OF HOWARD COUNTY

DATE 4/15/19

NO.	DATE	REVISION
7	9.26.2013	ADD INCOMING 10" PVC AT I-2. REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
6	1-3-2019	add trench drain profile and private drain at Building 'C' profile.
5	9-10-2014	revise profiles from M-8 to I-9 and from M-8 to I-6, revise comps down to E-1.
4	1-11-2013	revise comps from I-1 to E-1, revise title block.
3	4-10-2012	revise comps and HGL based on roof manifold design. add manifold inverts at M-6, M-9 & I-1
2	9-21-2011	add 6" roof drain manifold inverts at M-2 and M-3
1	5-31-2011	revise top of M-2 AND M-3, revise storm drain from M-8 to I-6.

**BENCHMARK ENGINEERING, INC.**

8400 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043  
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WWW.BE-ENGINTEERING.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. 15000 (Professional Engineer) 6-30-2019.

**TOWN SQUARE AT TURF VALLEY**

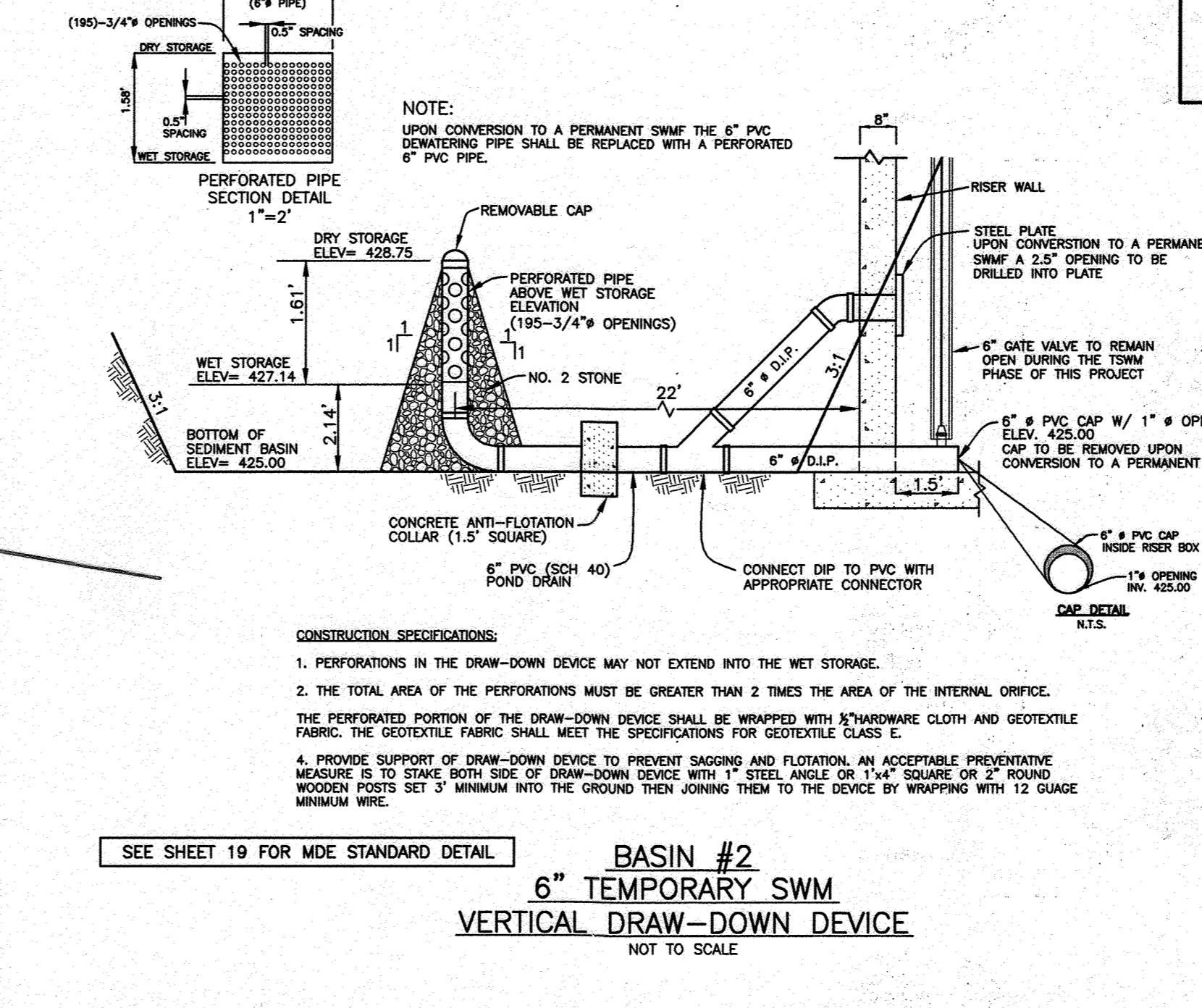
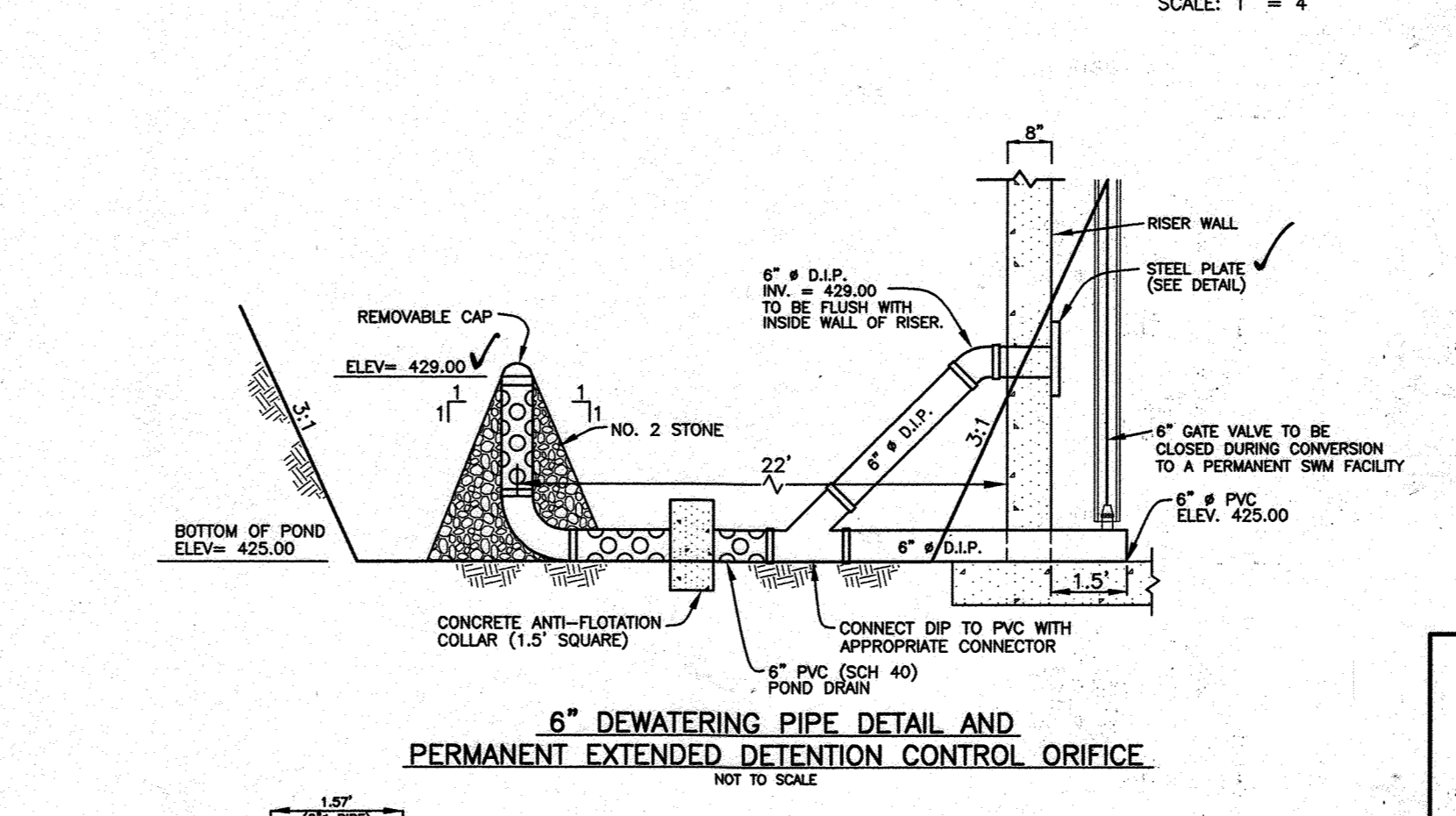
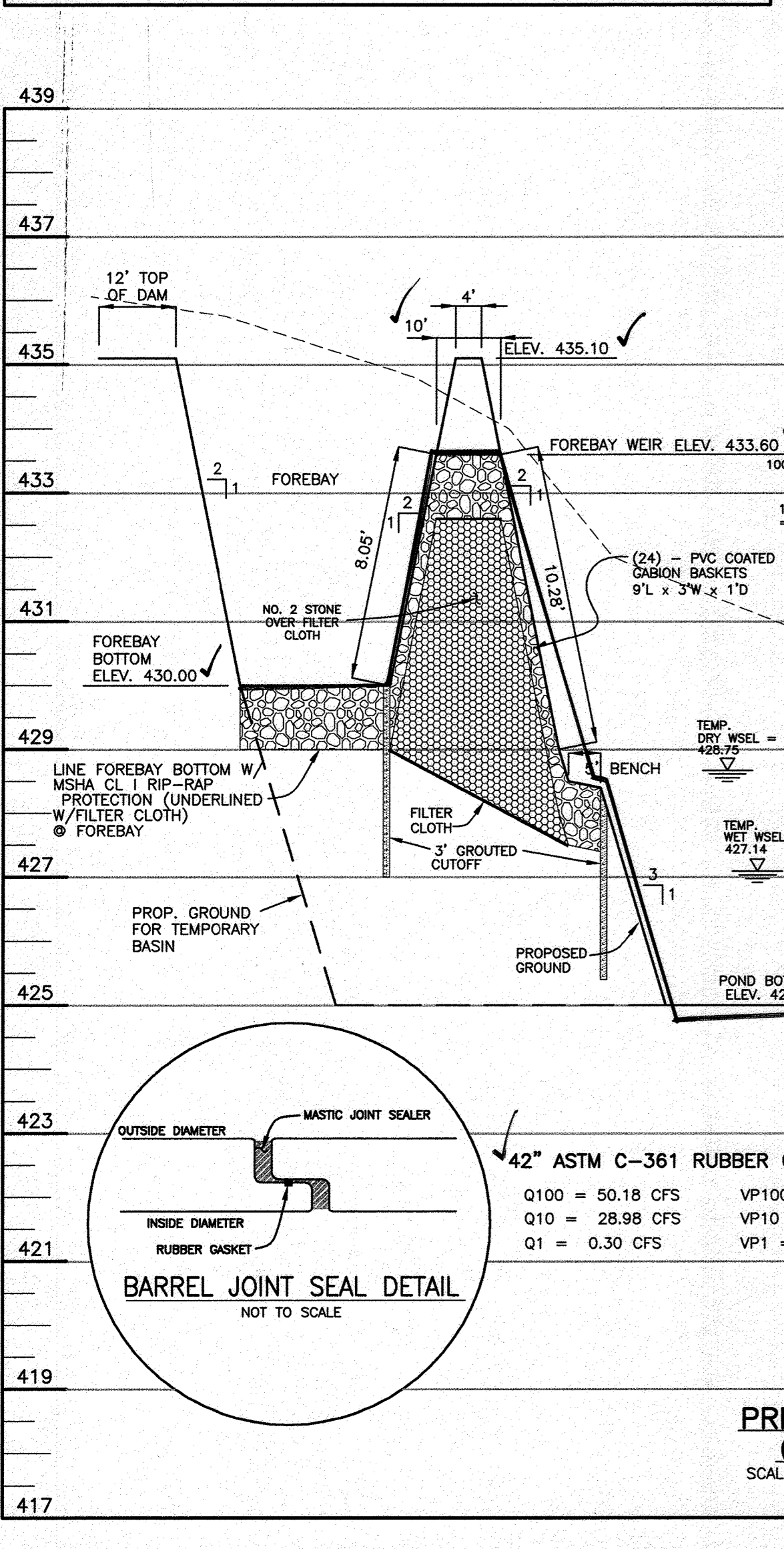
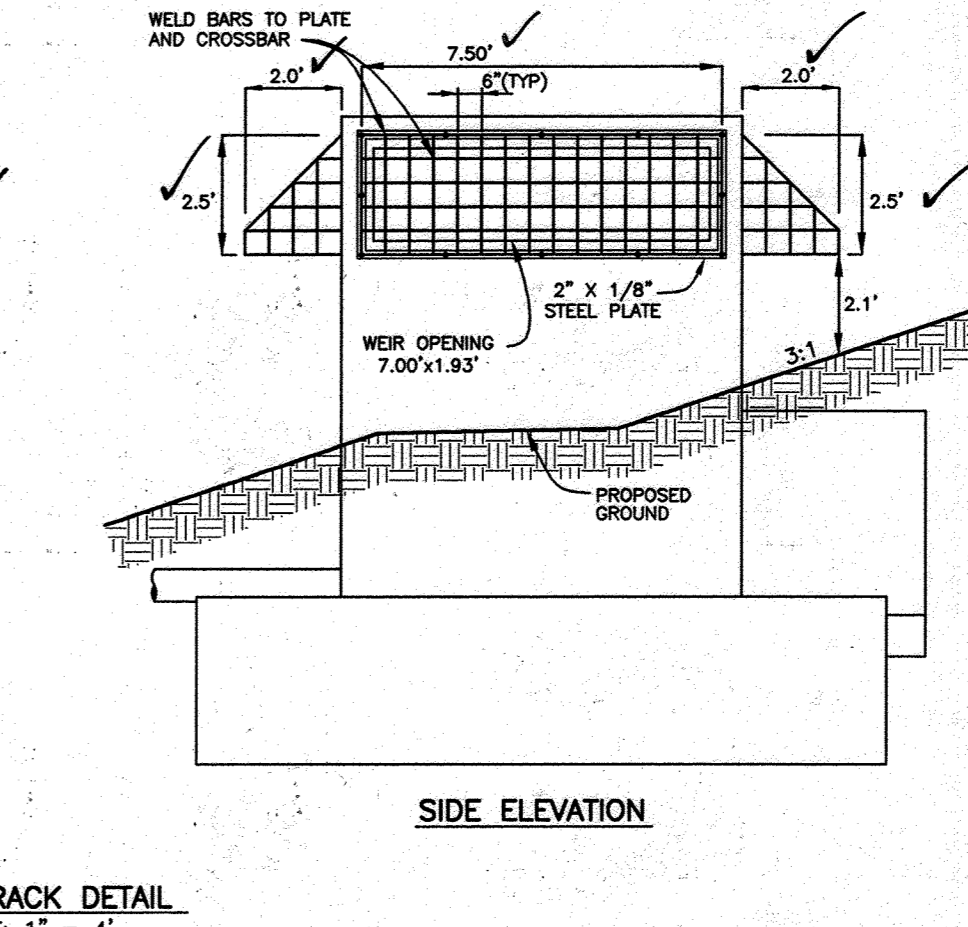
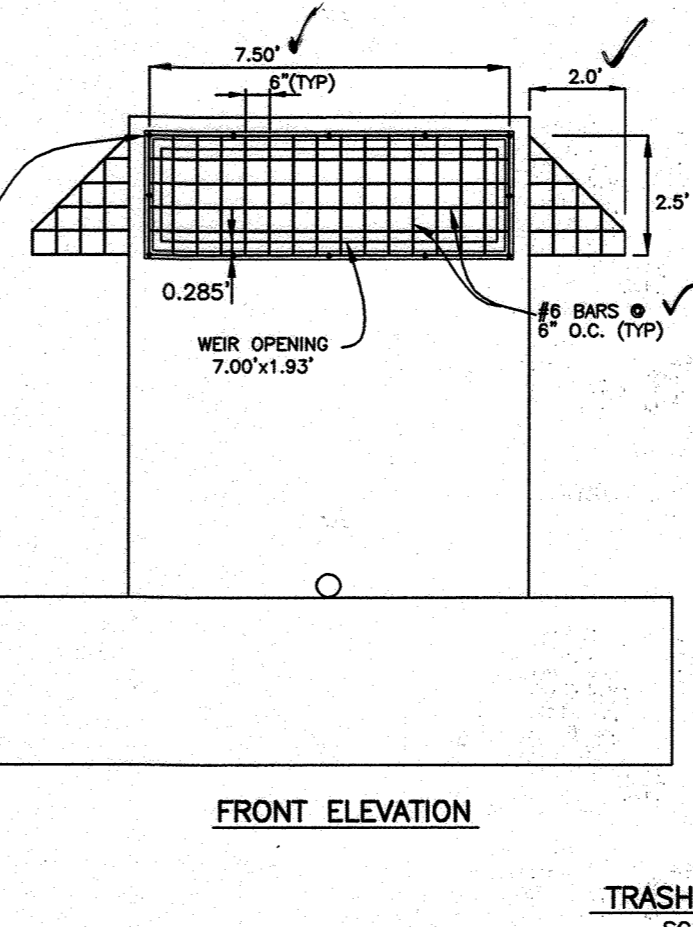
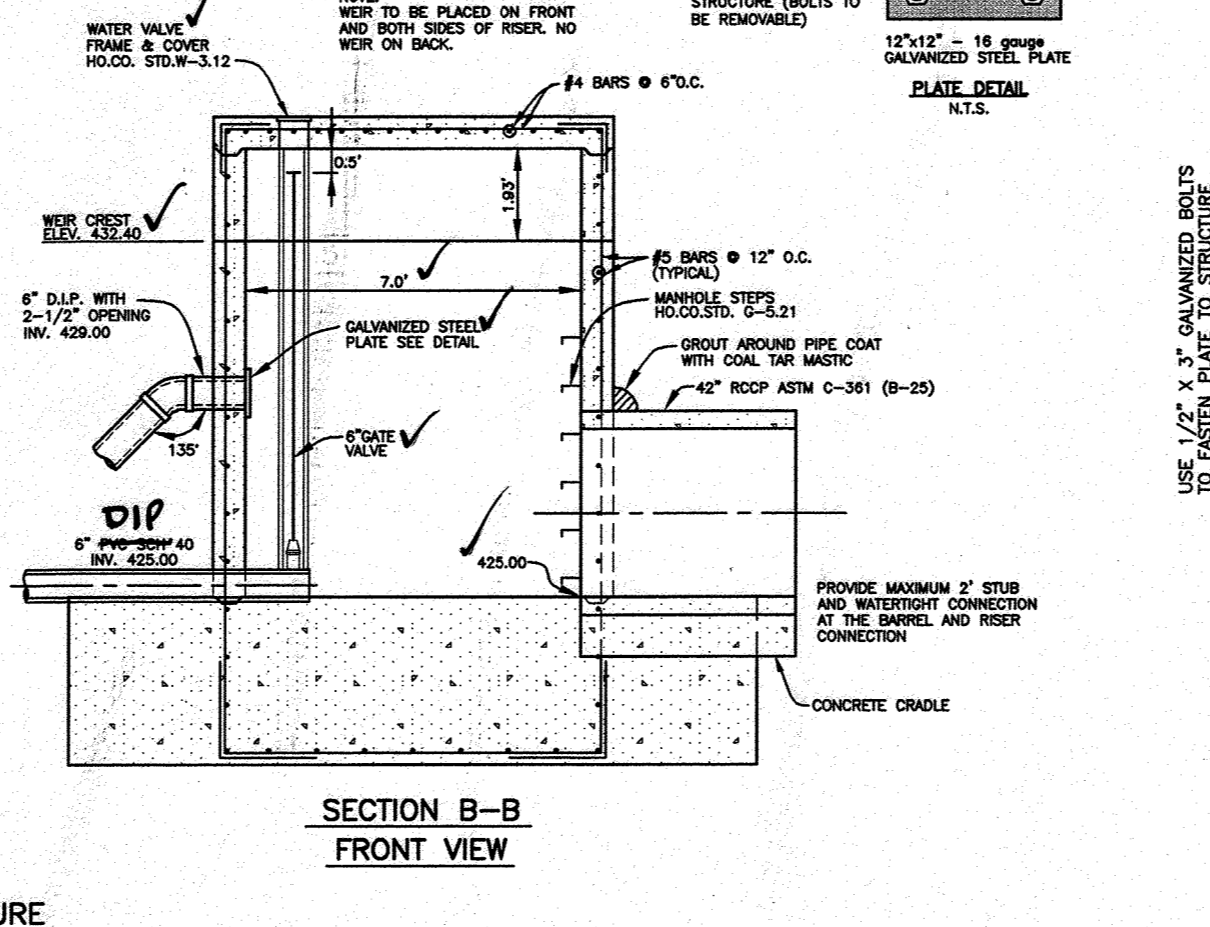
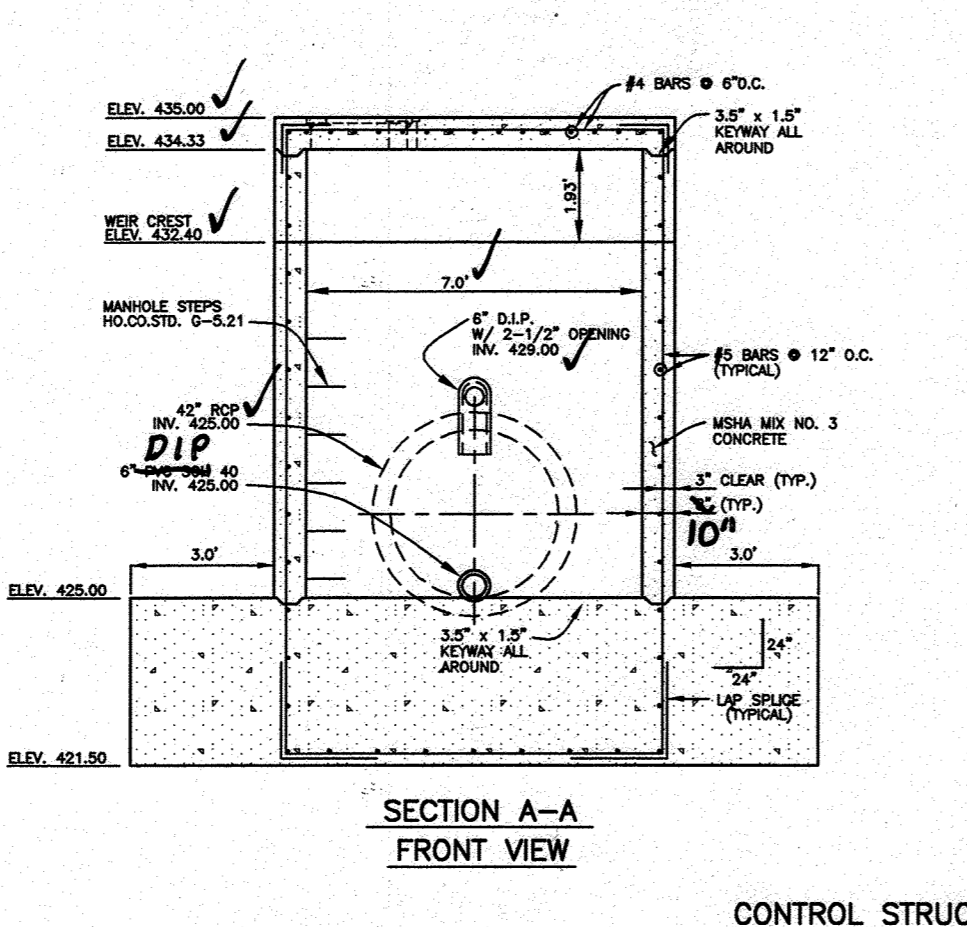
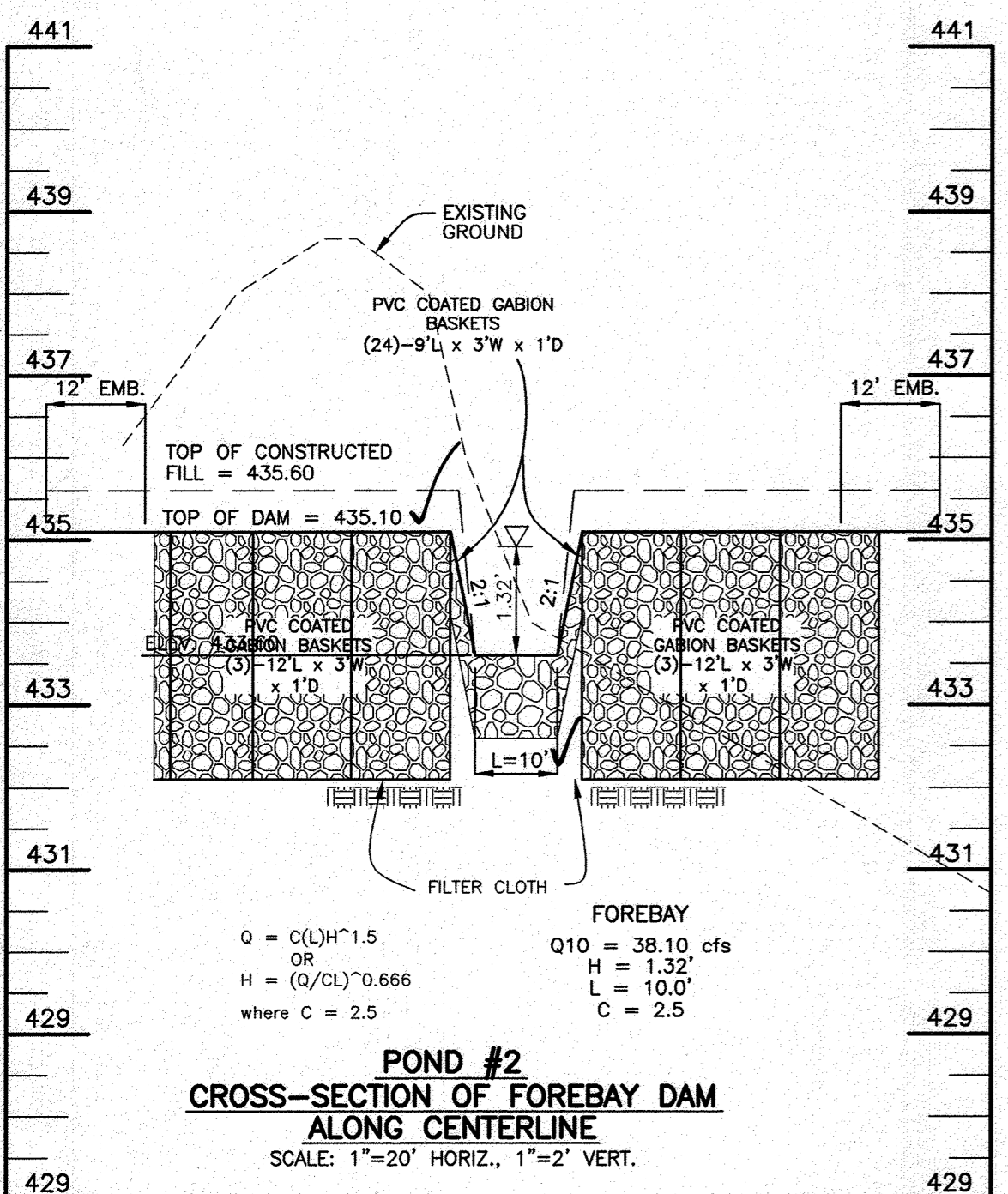
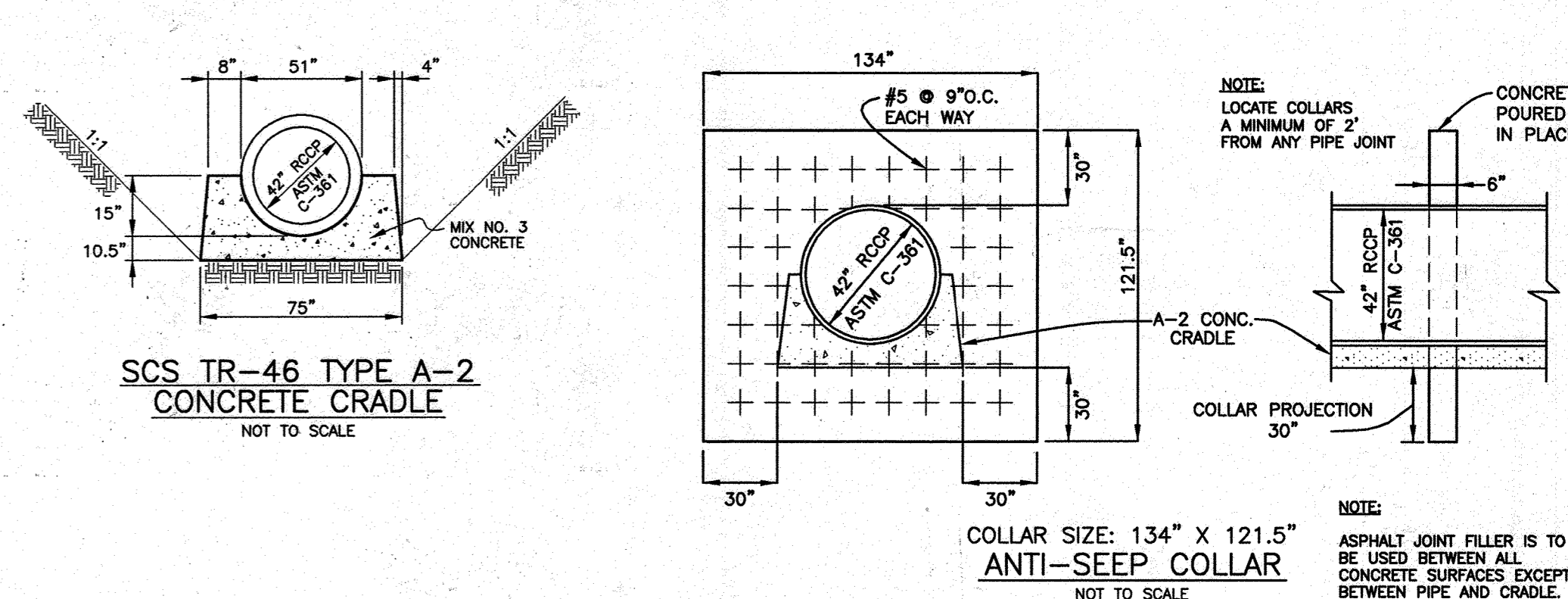
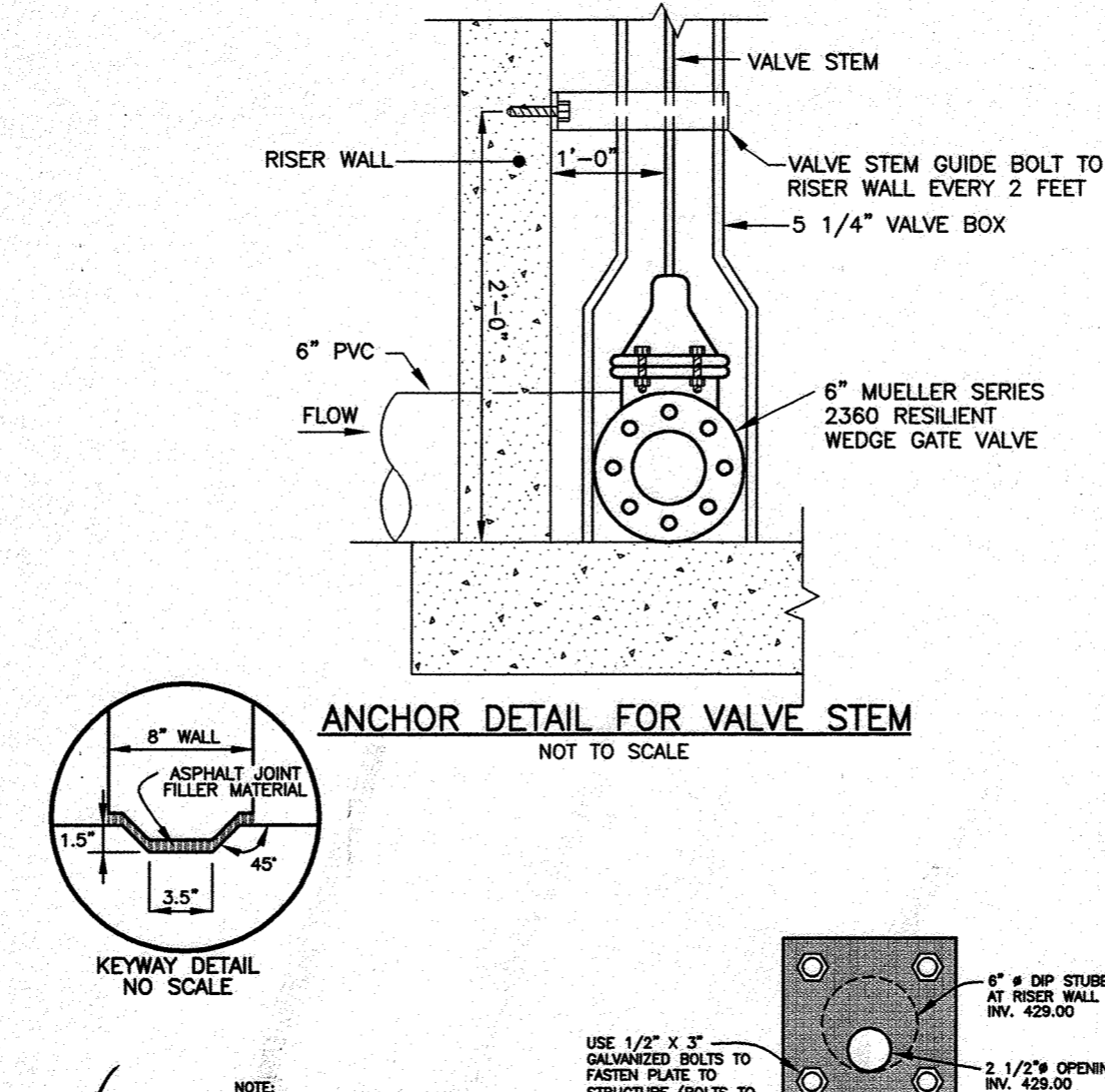
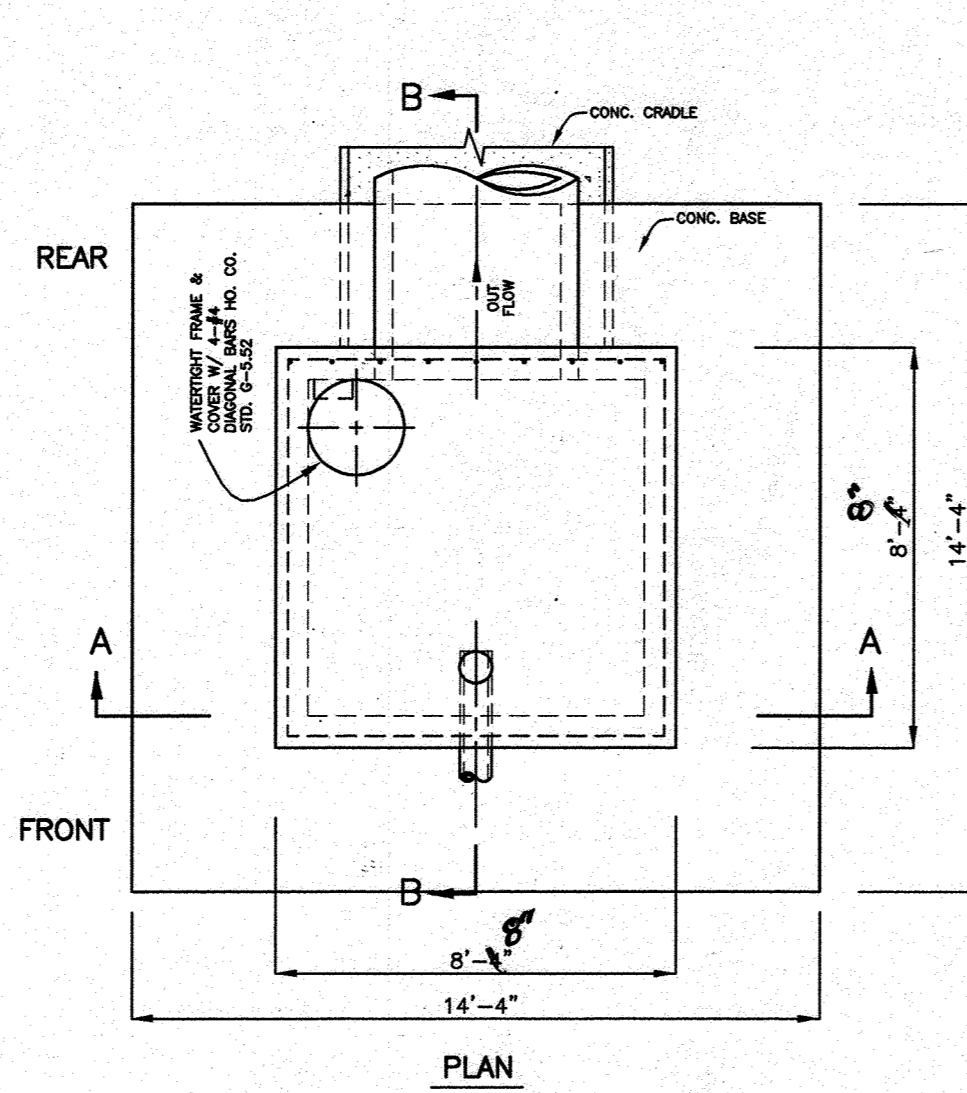
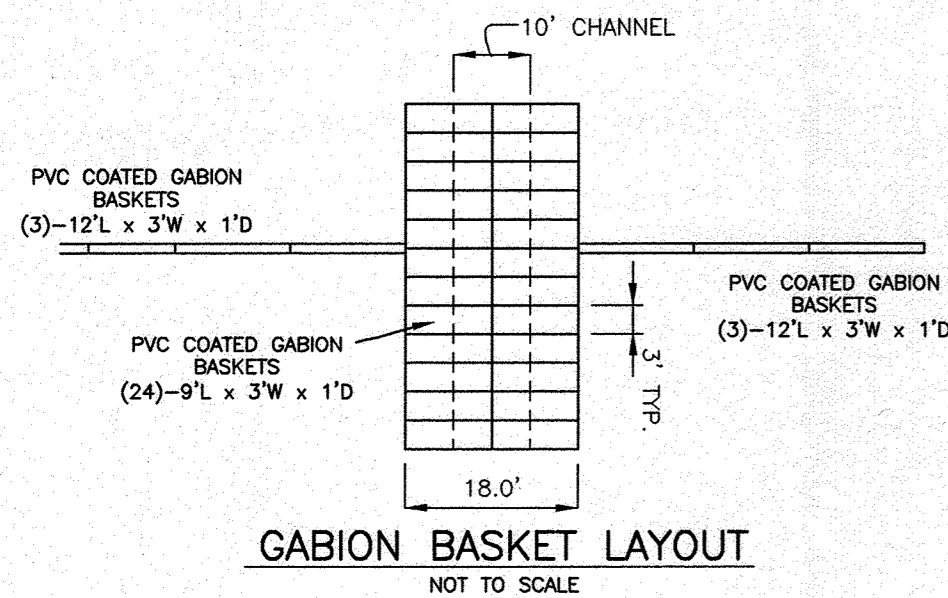
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/0 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**REVISED STORM DRAIN PROFILES AND DETAILS**

DATE: JANUARY, 2019 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 9 OF 31





**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. 21443 Expiration Date: 12-21-14

**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED REQUIREMENTS.  
 Donald Moran, ENGINEER - 21443, 10-28-13

**BY THE DEVELOPER:**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSON 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 CONSTRUCTION. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

**BY THE ENGINEER:**  
 I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**  
 DATE: 4/14/10  
 DATE: 4/14/2010  
 DATE: 4/27/10  
 DATE: 4/29/10  
 DATE: 5/3/10  
 DATE: 5/31/10

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE: 4/15/10

3	9-26-2023	REMOVE GREEN BUILDING PERMIT FROM TITLE BLOCK
4	1-3-2019	REVISE TOTAL SHT NUMBER
2	1-11-2015	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER IN TITLE BLOCK
NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**  
 6480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELICOTT CITY, MARYLAND 21043  
 (P) 410-465-4100 (F) 410-465-4104  
 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702  
 (P) 301-371-3505 (F) 301-371-3508  
 WWW.BEI-CIVILENGINEERING.COM

**TOWN SQUARE AT TURF VALLEY**  
 PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079  
 TAX MAP: 16 - GRID: 10 - PARCELS P/O 8 & 50  
 ZONED: PCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**OWNER:**  
 MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
 410-825-8400

**DEVELOPER:**  
 MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
 410-825-8400

**STORMWATER MANAGEMENT DETAILS POND #2**  
 DATE: APRIL, 2010 BEI PROJECT NO. 2208  
 SCALE: AS SHOWN SHEET 11 OF 31

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped to topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and shore breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, rubbish and other objectionable material unless otherwise designated on the plans. Fences, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable material. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be compacted over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway will be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of the embankment will be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a vibratory roller or roller compactor over the entire surface of the embankment. Sufficient moisture shall be added so that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, but will not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within ± 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and it to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be a least 24" below existing ground level. The side slopes shall be 1 to 1 or flatter. The trench shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.2, Structure, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and on the sides of the pipe. It only need to extend up to the spring line for rigid conduits. Average slump of the flowable fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating of the pipe. When using flowable fill, all metal pipe shall be lubricated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Couplings - All pipes shall be circular in cross section. Corrugated Metal Pipes - all of the following criteria shall apply for corrugated metal pipe: 1. Materials - (Polymer Coated Steel Pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both ends of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges. 2. Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soil under shall be between 4 and 9. 3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Simple bands are not considered to be watertight.

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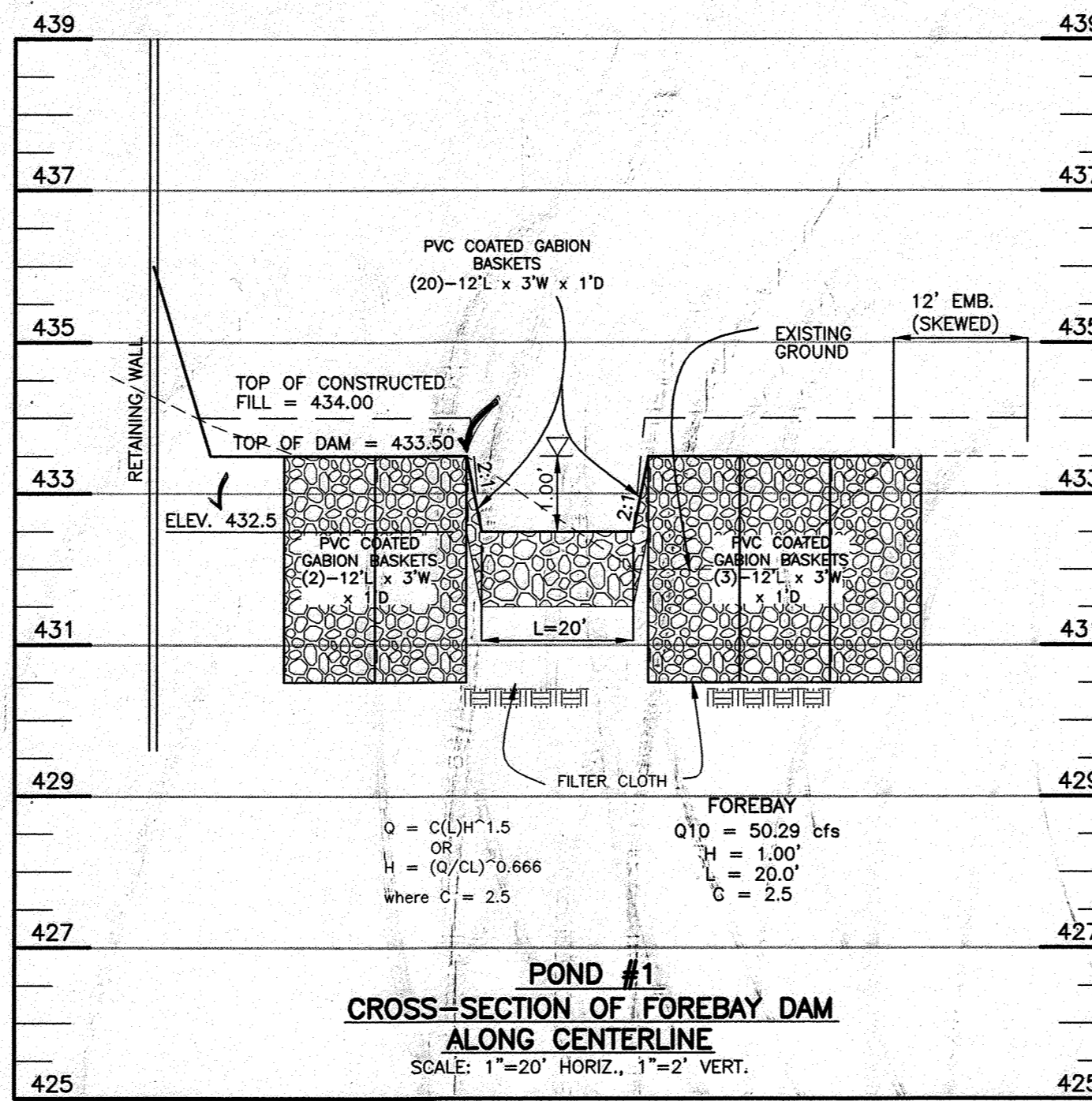
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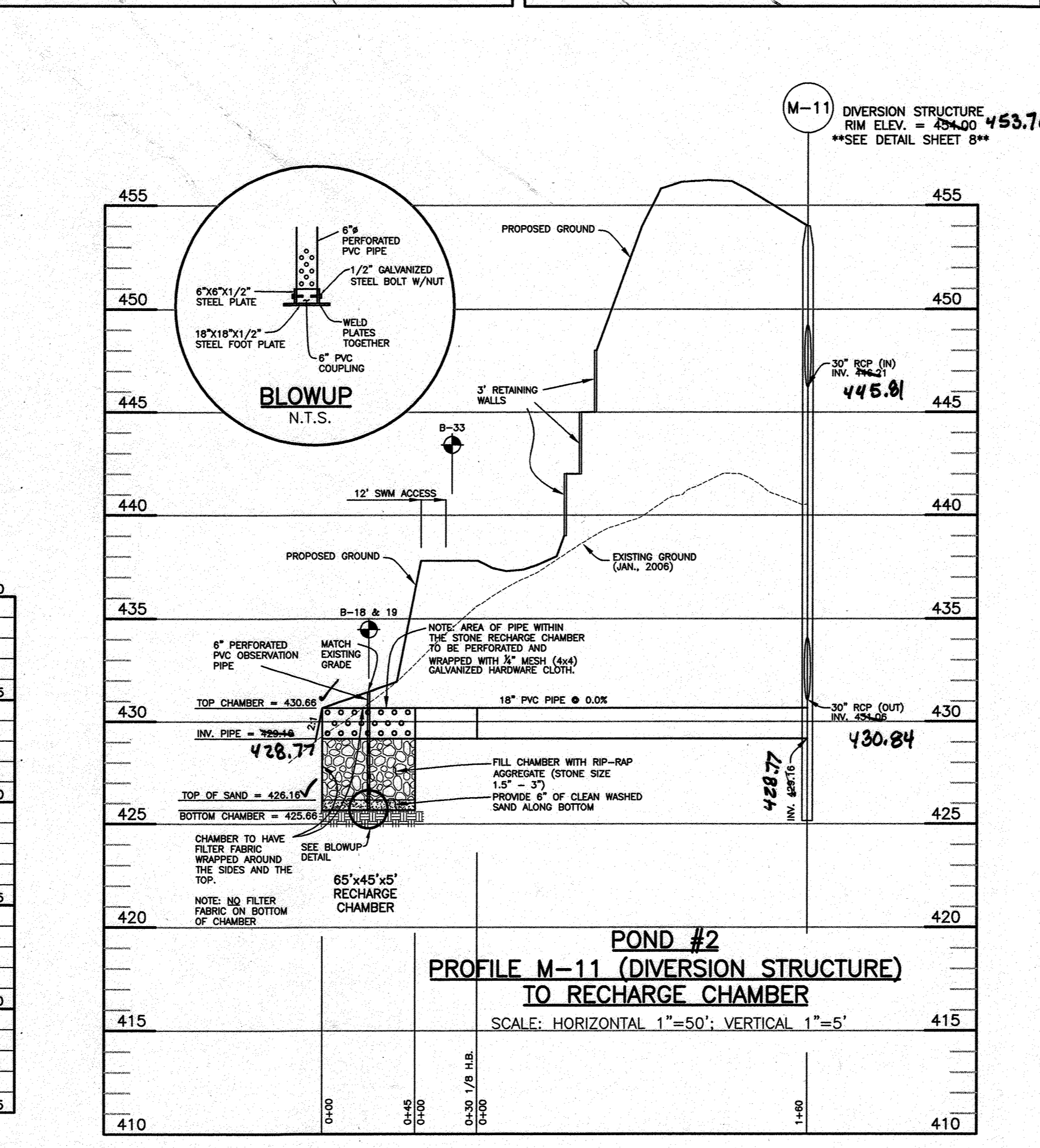
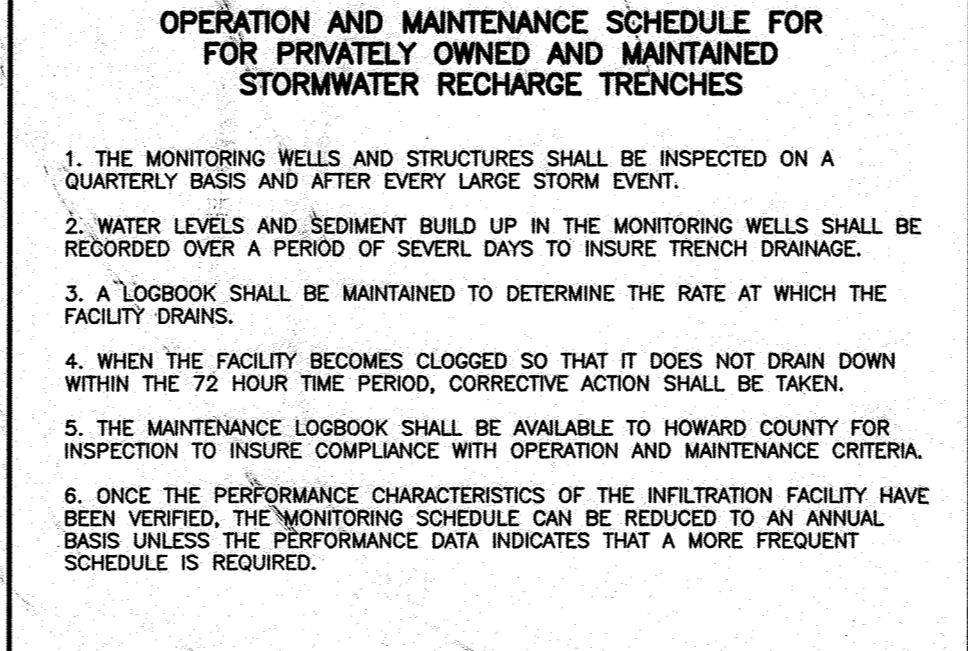
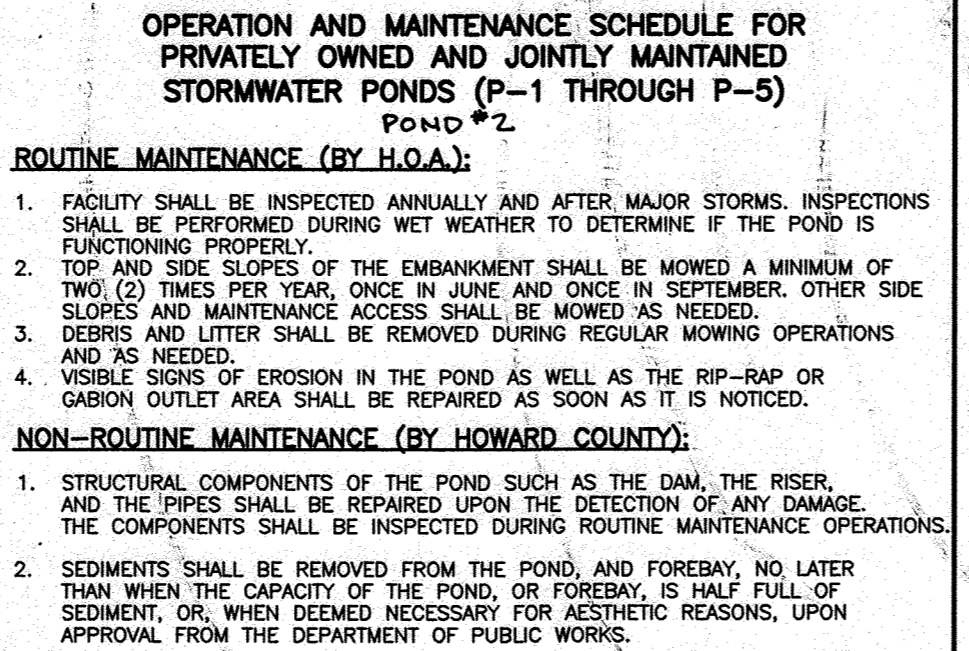
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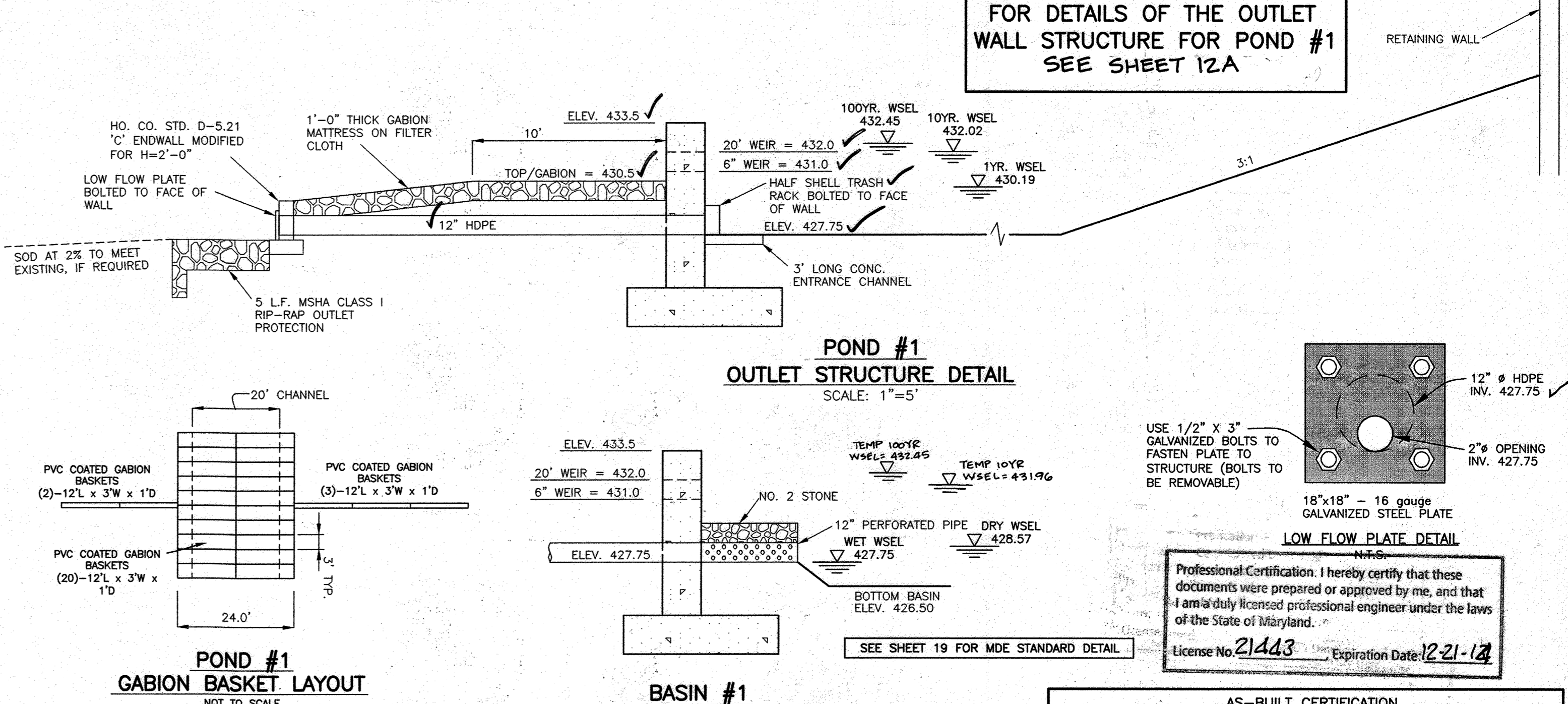
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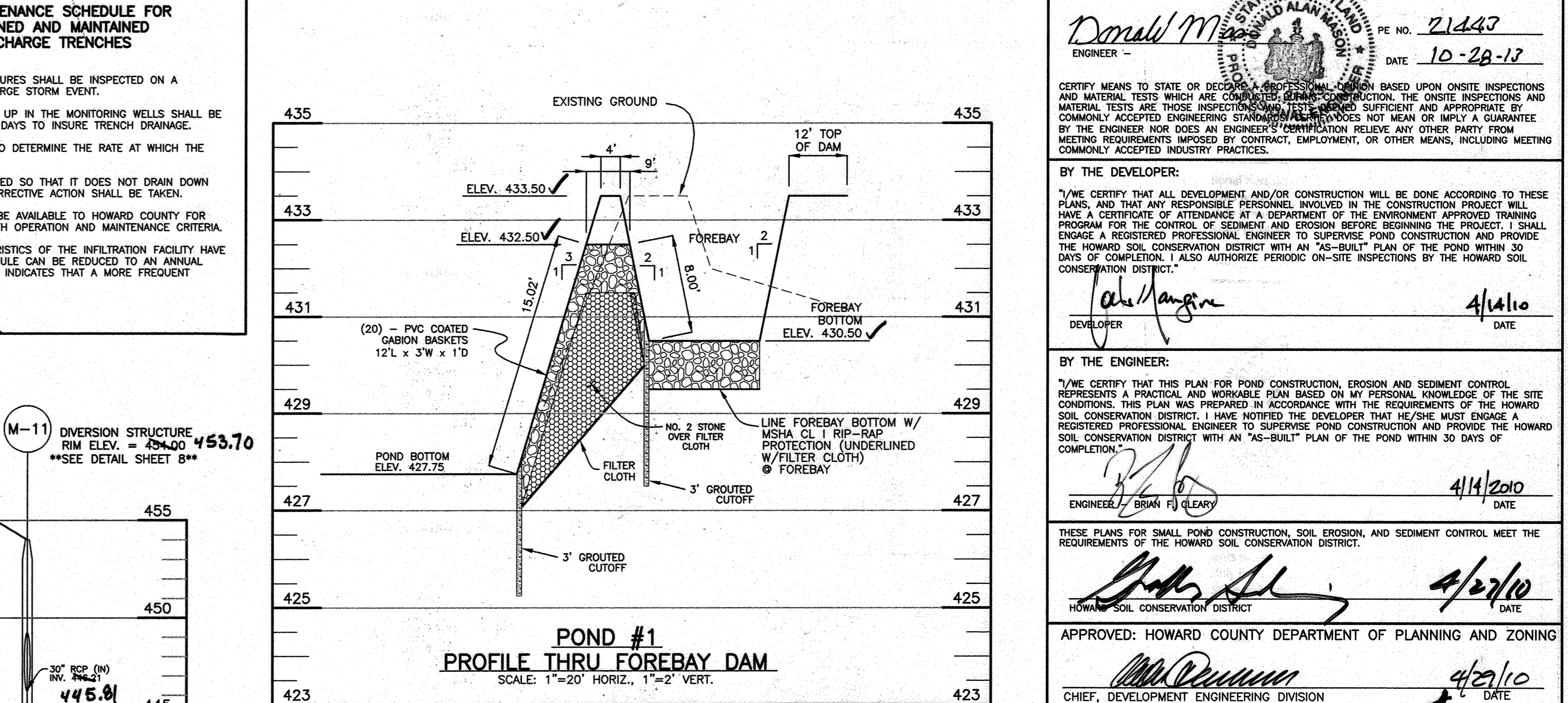
POND #1 CROSS-SECTION OF FOREBAY DAM ALONG CENTERLINE SCALE: 1"=20' HORIZ., 1"=2' VERT.



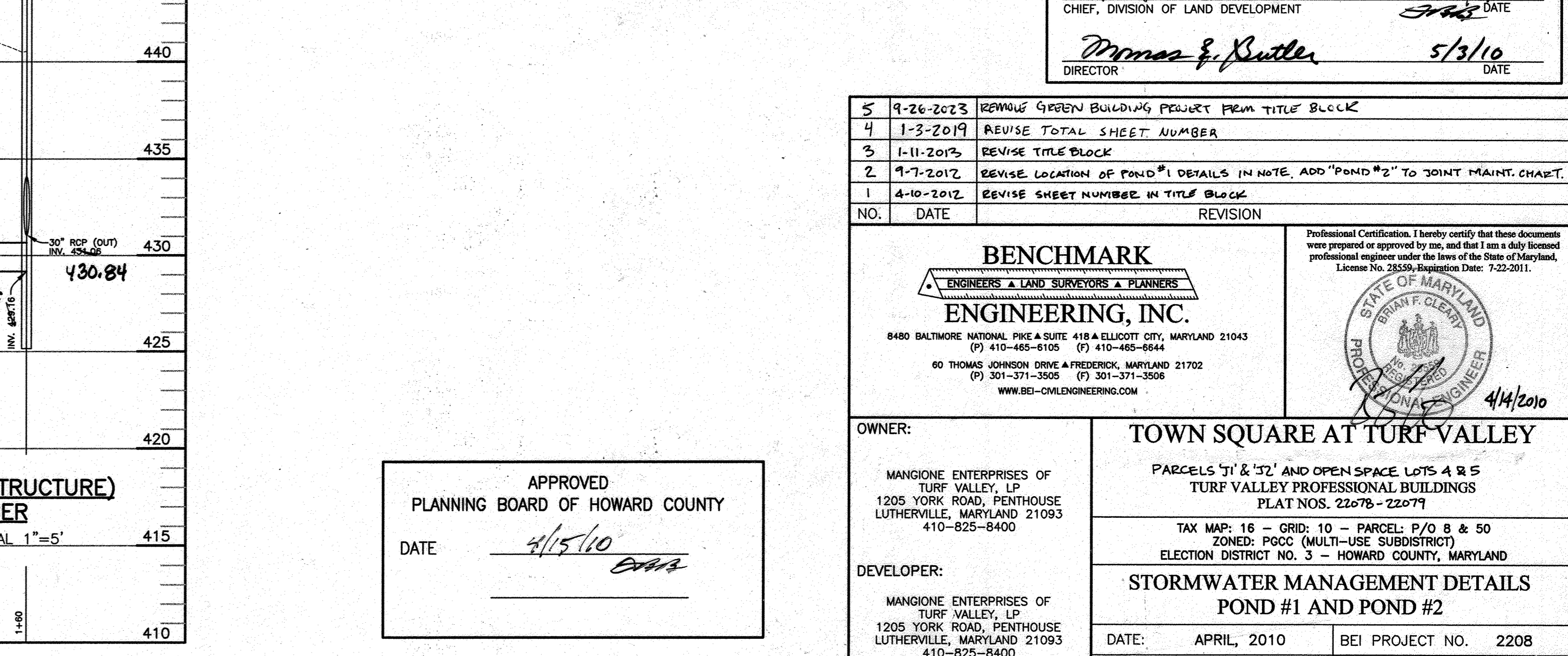
POND #2 PROFILE M-11 (DIVERSION STRUCTURE) TO RECHARGE CHAMBER SCALE: HORIZONTAL 1"=50'; VERTICAL 1"=5'



POND #1 OUTLET STRUCTURE DETAIL SCALE: 1"=5'



BASEIN #1 TEMPORARY HORIZONTAL DRAW-DOWN DETAIL SCALE: 1"=5'



POND #1 PROFILE THRU FOREBAY DAM SCALE: 1"=20' HORIZ., 1"=2' VERT.

FOR DETAILS OF THE OUTLET WALL STRUCTURE FOR POND #1 SEE SHEET 12A

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am duly licensed professional engineer under the laws of the State of Maryland. License No. 21443 Expiration Date: 12-21-13

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN IN THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPLICABLE SPECIFICATIONS. PE No. 21447 DATE 10-28-17

CERTIFY MEANS TO STATE OR DECIDE AS A PROFESSIONAL ENGINEER BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED IN THE CONSTRUCTION OF THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS AND PRACTICES. DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER: [Signature] 4/14/10 DATE
BY THE ENGINEER: [Signature] 4/14/2010 DATE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 4/29/10 DATE
[Signature] 5/3/10 DATE
[Signature] 5/3/10 DATE

REVISION TABLE:
5 9-26-2023 REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
4 1-3-2019 REVISE TOTAL SHEET NUMBER
3 1-11-2017 REVISE TITLE BLOCK
2 7-7-2017 REVISE LOCATION OF POND #1 DETAILS IN NOTE. ADD "POND #2" TO JOINT MAINT. CHART.
1 4-10-2017 REVISE SHEET NUMBER IN TITLE BLOCK

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE A SUITE 418 BELLINGHAM CITY, MARYLAND 21043
(410) 465-6105 (F) 410-465-6944
60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
(301) 371-3505 (F) 301-371-3506
WWW.BED-ONLINEENGINEERING.COM

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

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

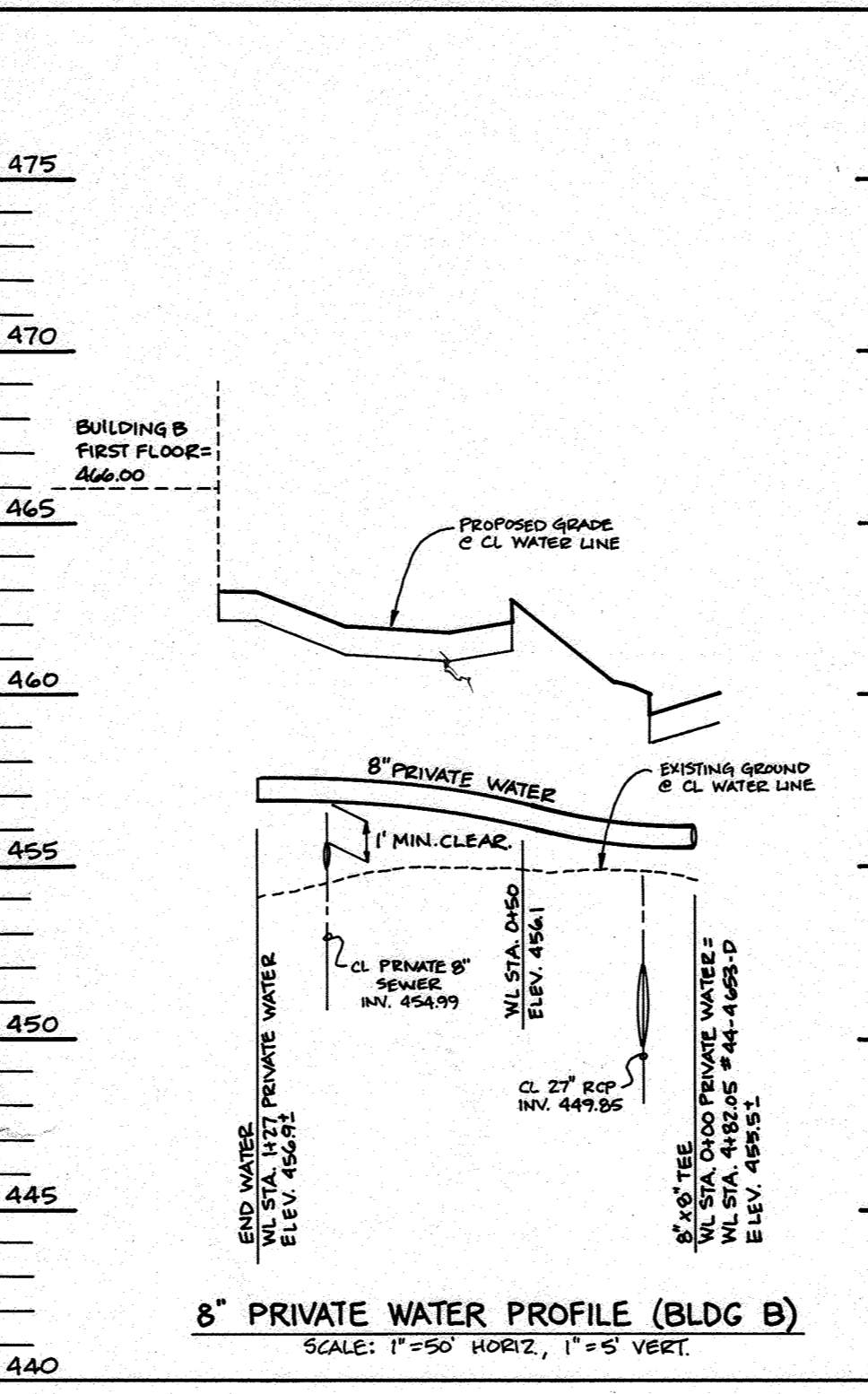
TOWN SQUARE AT TURF VALLEY
PARCELS 'J' & 'K' AND OPEN SPACE LOTS A & B
TURF VALLEY PROFESSIONAL BUILDINGS
PLAT NO. 22078 - 22079
TAX MAP: 16 - GRID: 10 - PARCEL: P/O B & 50
ZONED: PCCC (MULTI-USE SUBDISTRICT)
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT DETAILS
POND #1 AND POND #2
DATE: APRIL 2010 BEI PROJECT NO. 2208
SCALE: AS SHOWN SHEET 12 OF 31

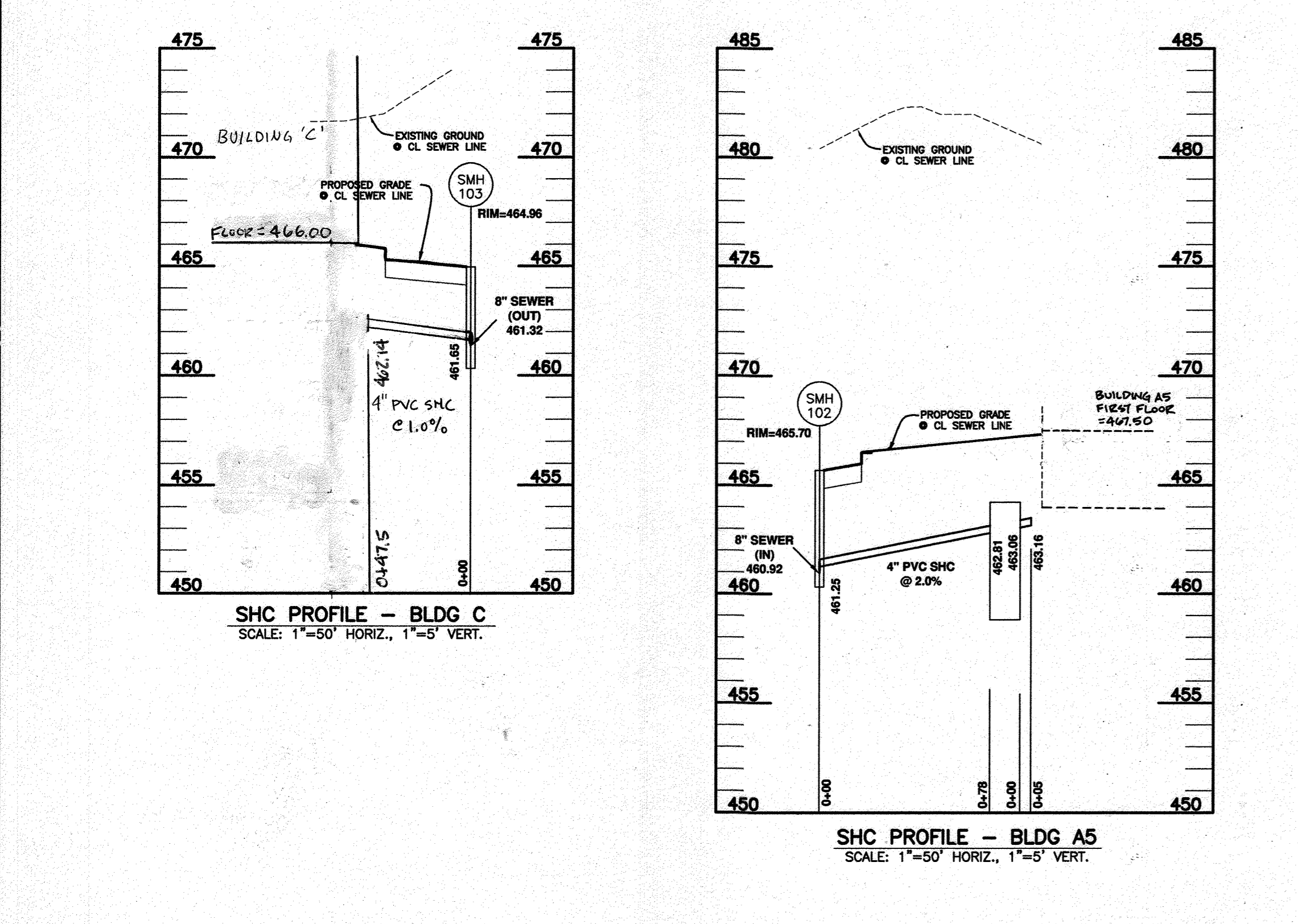
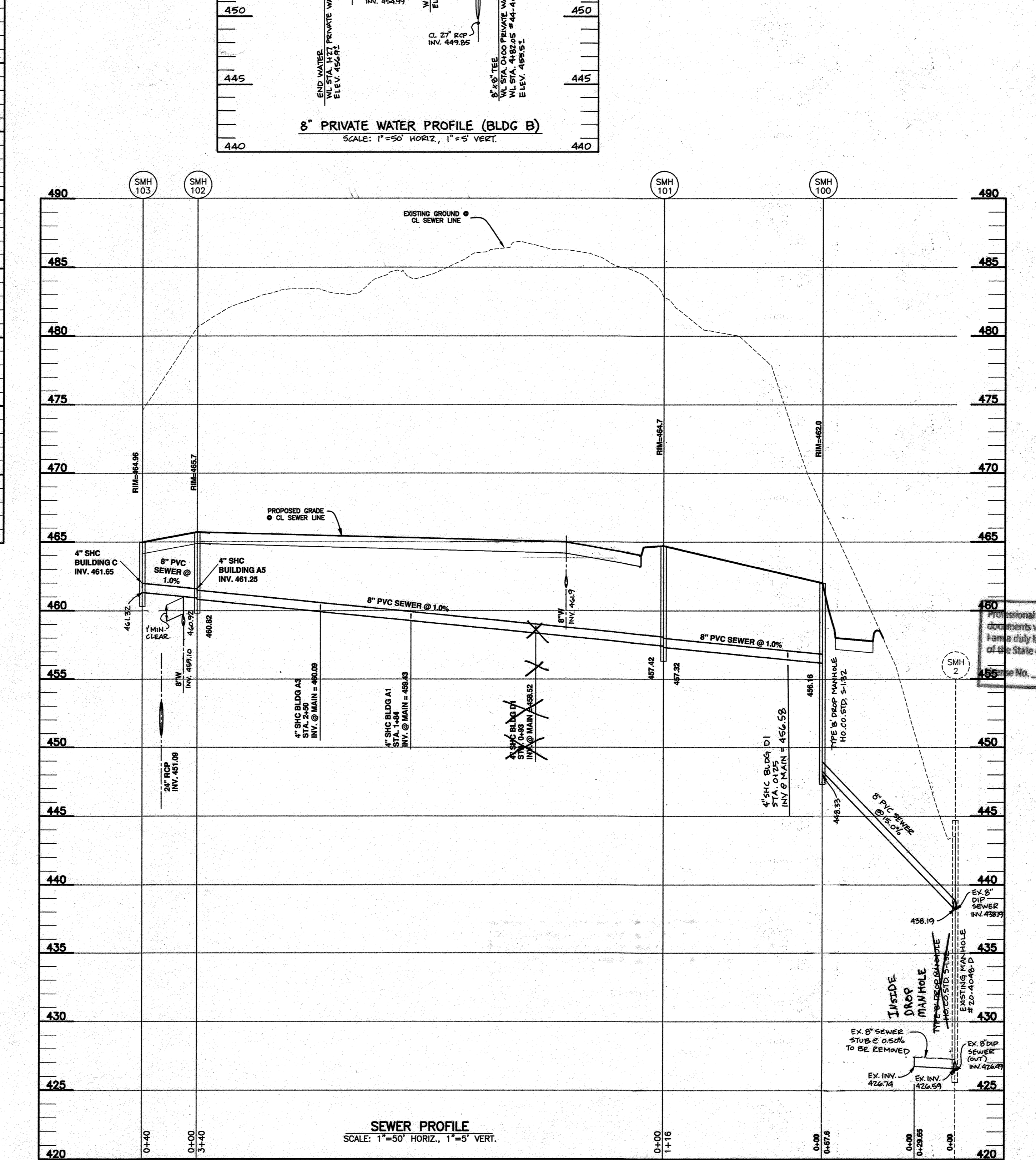
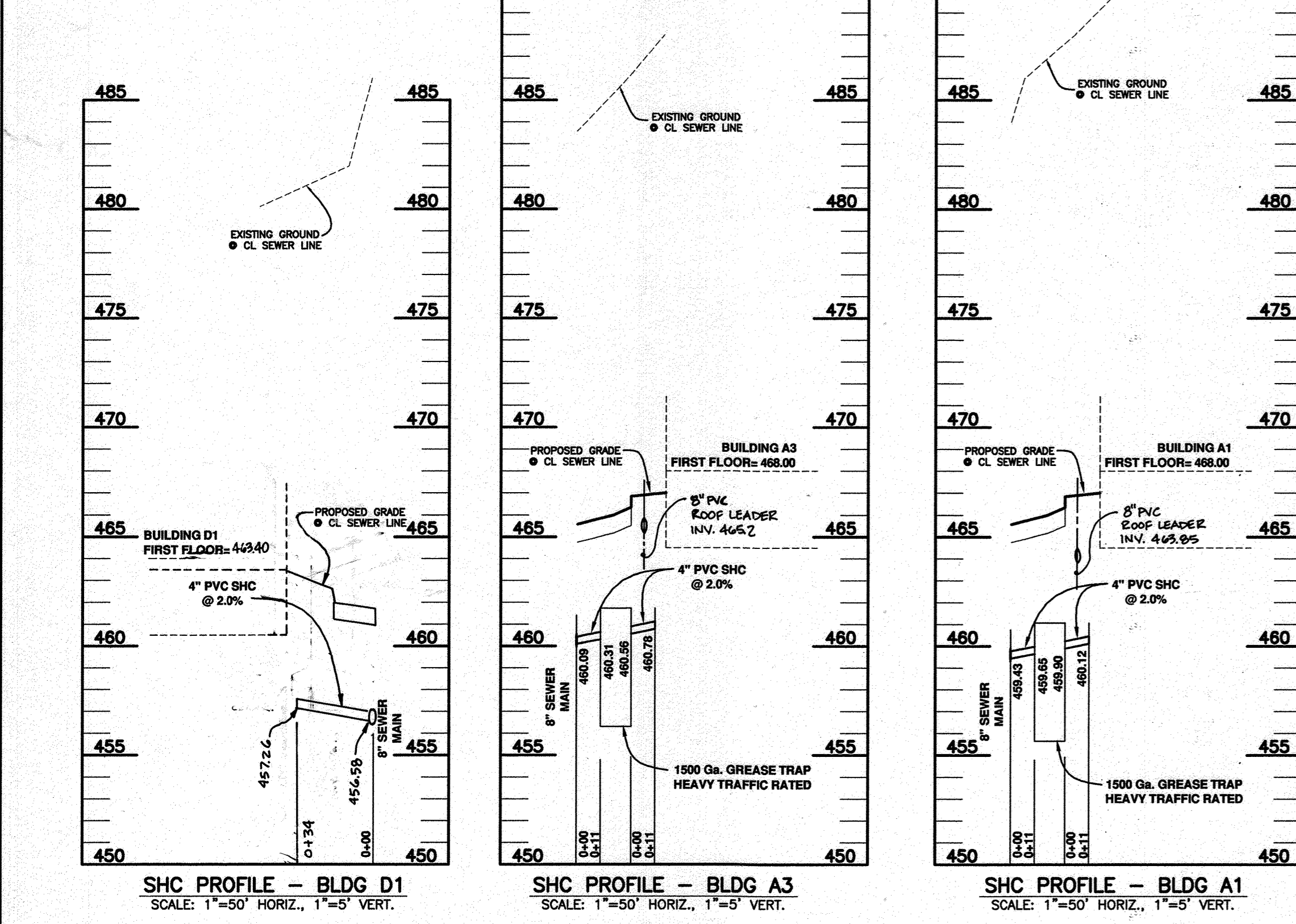
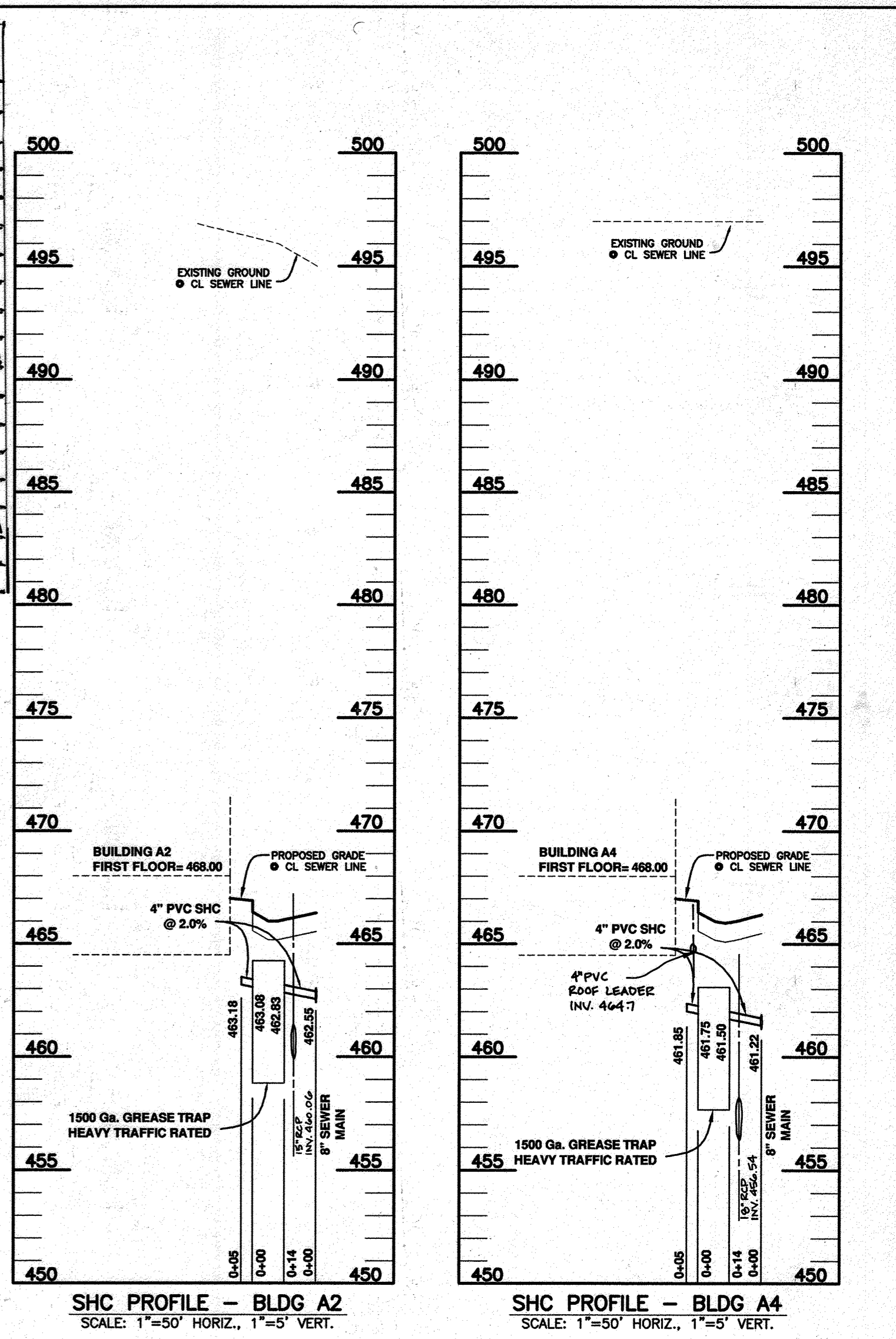


6" VALVE on G.U. TO BUILDING A-2		FIRE HYDRANT @ STA. 2+12 ROAD 'A'	
6" VALVE to SMH 107	25'	F.H. to 6" F.H. VALVE	25'
6" VALVE to F.H. (STA. 1+77.77)	21.5'	F.H. to 5" MH 107	50.5'
F.H. (STA. 1+77.77) to 6" F.H. VALVE	6.5'	F.H. to 5" MH-14	74'
F.H. 6" VALVE to SMH 107	45.5'	6" F.H. VALVE to SMH 107	68.5'
F.H. (STA. 1+77.77) to SMH 107	47.5'	6" F.H. VALVE to 5" MH-14	79.0'
6" VALVE on 6" W to BUILDING A-4		9" WATER to BUILDING B	
6" V to 5" MH	22.5'	8" VALVE to S.D. INLET I-24	38.5'
6" V to 8" VALVE (STA. 0+45.8)	26'	8" VALVE to S.D. INLET MH I-25	47'
6" V to F.H. (STA. 0+02.0)	52.5'	8"x8" TEE @ STA. 6+08.3 ± 0+00	
8" VALVE STA. 0+45.8 on 8" WATER		8" VALVE @ 6+08.3 to S.D. MH M-13	24.2'
8" VALVE to SMH 108	35.5'	8" VALVE 0+00 to S.D. MH M-13	21.0'
8" VALVE to 6" F.H. V @ STA. 0+02	43.5'	8" V to 8" V	3.5'
8" VALVE to S.D. MH	52.5'	8" V (0+00) to F.H.	71.8'
8" VALVE to F.H. STA. 0+02	44.5'	8" V (6+08.3) to F.H.	74.8'
FIRE HYDRANT @ STA. 0+02		FIRE HYDRANT @ 8"x6" TEE STA. 0+70.2	
F.H. to F.H. VALVE	7.5'	F.H. to 6" F.H. VALVE	21.2'
F.H. to 6" VALVE to BUILDING 'B'	12.5'	F.H. to 5" MH 13	58.0'
6" F.H. VALVE to 6" VALVE to BUILDING 'B'	7.5'	F.H. to 5" MH 12	59.7'
6" VALVE (BUILDING B) to SMH 108	57'	6" F.H.V. to 5" MH 13	60'
6" F.H. VALVE to SMH 108	63'	6" F.H.V. to 5" MH 12	41'
F.H. to SMH 100	68.5'		

TOWN SQUARE @ TURF VALLEY AS-BUILTS	44-4653-D
6" WATER VALVE 6" W to BUILDING 'B'	
6" VALVE to SMH 104	18.0'
6" VALVE to SMH 105	19.0'
6" VALVE to 5" MH 1	87.1'
F.H. @ 8"x6" TEE STA. 5+20.2	
F.H. to 6" F.H. VALVE	10'
F.H. to 5" MH-2	49.4'
6" F.H. VALVE to 5" MH-2	45.0'
5" MH-2 to 6" F.H.V.	12.7'
F.H. @ 8"x6" TEE STA. 7+49.3	
F.H. to 6" F.H. VALVE	7.7'
F.H. to S.D. MH-9A	29.4'
6" F.H. VALVE to 5" MH-9A	36.7'
6" F.H. VALVE to INLET COVER I-10	58'
F.H. to INLET F & COVER I-10	54'



TOWN SQUARE @ TURF VALLEY - AS BUILTS FOR WATERLINE		
6" VALVE AT STA. 9+44.4 (F.H. VALVE):		
6.5' to F.H.	8.5' to TEST STA.	68.5' to 8" V @ STA. 8+74
8" VALVE AT STA. 8+74.4 / 6+84.6:		
68.5' to 6" V @ STA. 9+44	63' to 6" V to BUILDING A5	68.5' to F.H. @ STA. 9+44
6" VALVE to BUILDING A5:		
63' to 8" V @ STA. 8+74	81.5' to F.H. @ STA. 9+44	56' to SHC @ BUILDING A5
8" VALVE to BUILDING C:		
24' to SMH-102	35.5' to 6" F.H. VALVE	40' to F.H.
6" VALVE at STA. 4+60.0 (F.H. VALVE):		
9' to F.H.	35' to 8" V to BUILDING C	27.5' to 6" V to BUILDING A3
6" VALVE to BUILDING A3:		
27.5' to 6" F.H. VALVE 29' to F.H.		37' to SMH-102
6" VALVE to BUILDING A1:		
4' to 6" F.H. VALVE	12.5' to F.H.	40.5' to WHC @ BUILDING A1
6" VALVE at STA. 2+77.0 (F.H. VALVE):		
4' to 6" V to BUILDING A1	9.5' to F.H.	50.5' to 6" VALVE @ BUILDING A1
6" VALVE to BUILDING D1:		
51' to F.H.	50.5' to 6" F.H. VALVE	8.5' to WHC @ BUILDING D1



8 [9-26-2013] REVISE BLDG C SHC PROFILE. REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK

APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE: 4/15/10

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.  
Revision #7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
Chief, Development Engineering Division  
Chief, Division of Land Development

NO.	DATE	REVISION
7	1-3-2019	REVISE BUILDING 'C' SHC
6	9-10-2014	REVISE SHC PROFILE FOR BLDG D1
5	1-11-2013	REVISE TITLE BLOCK
4	7-10-2012	AS-BUILT
3	4-10-2012	ADD ROOF LEADER CROSSING FOR BLDG A1, A3, A4
2	9-21-2011	REVISE FF OF BLDG A5
1	5-31-2011	ADD 8" PRIVATE WHC PROFILE. UPDATE UTILITY CROSSING ON SEWER PROFILES. REVISE SEWER FROM SMH100 TO EX. SMH 2.

**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE SUITE 416 & ELLICOTT CITY, MARYLAND 21043  
60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702

OWNER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP

TOWN SQUARE AT TURF VALLEY  
PARCELS 'S1' & 'S2' AND OPEN SPACE LOTS A-R5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

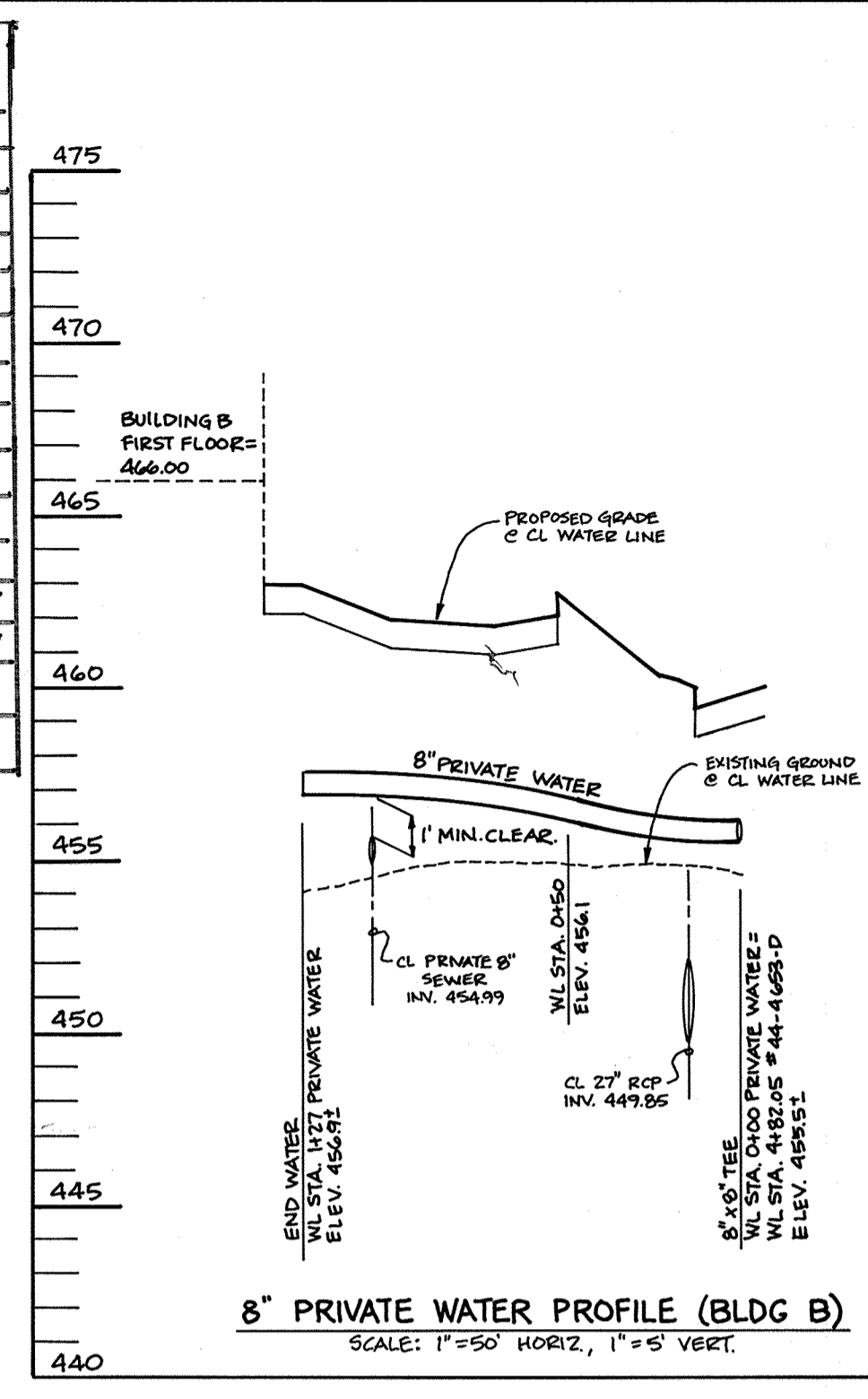
TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

SEWER PROFILES AND DETAILS  
DATE: APRIL, 2010  
SCALE: AS SHOWN  
BEI PROJECT NO. 2208  
SHEET 14 OF 31

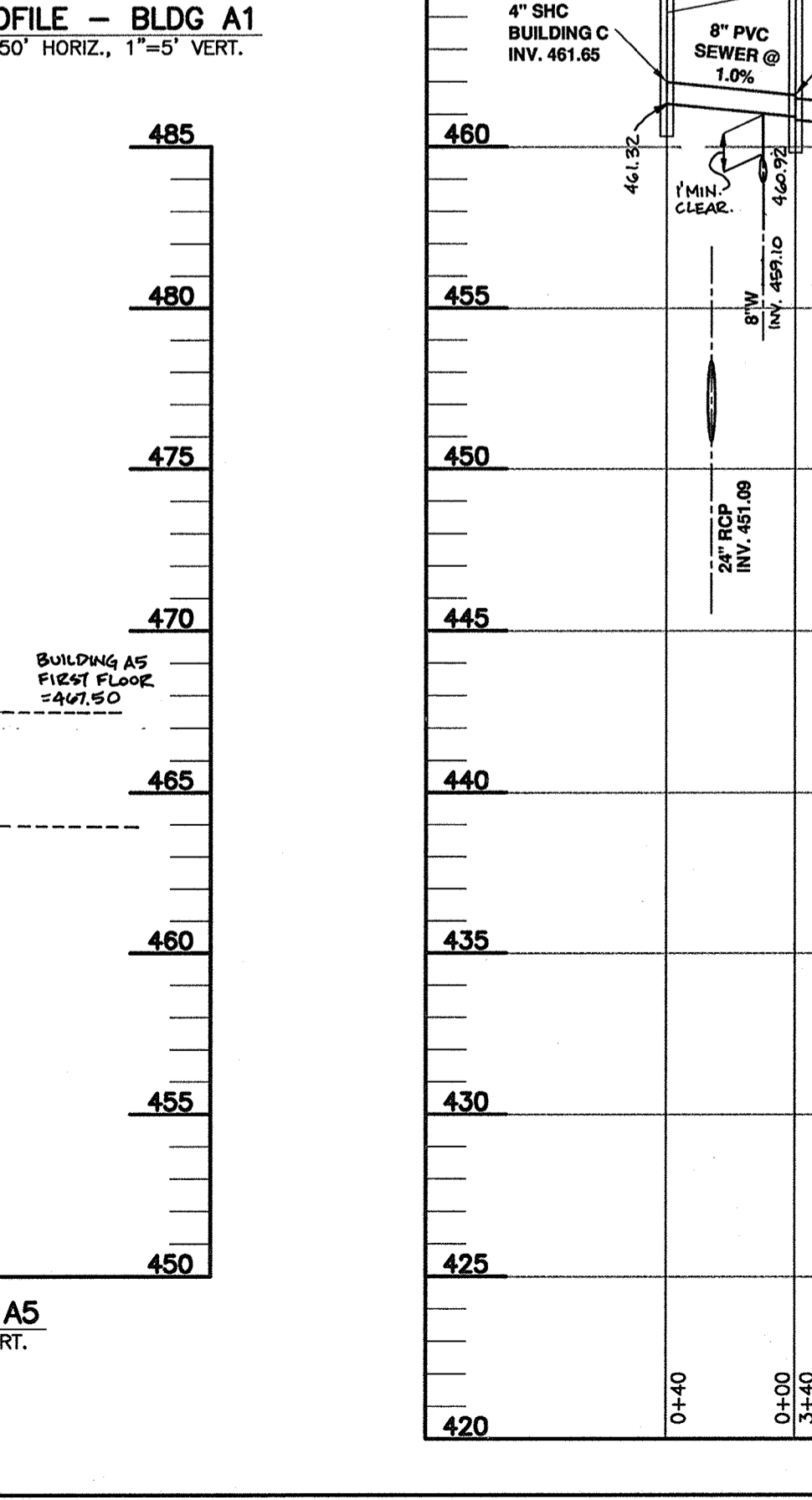
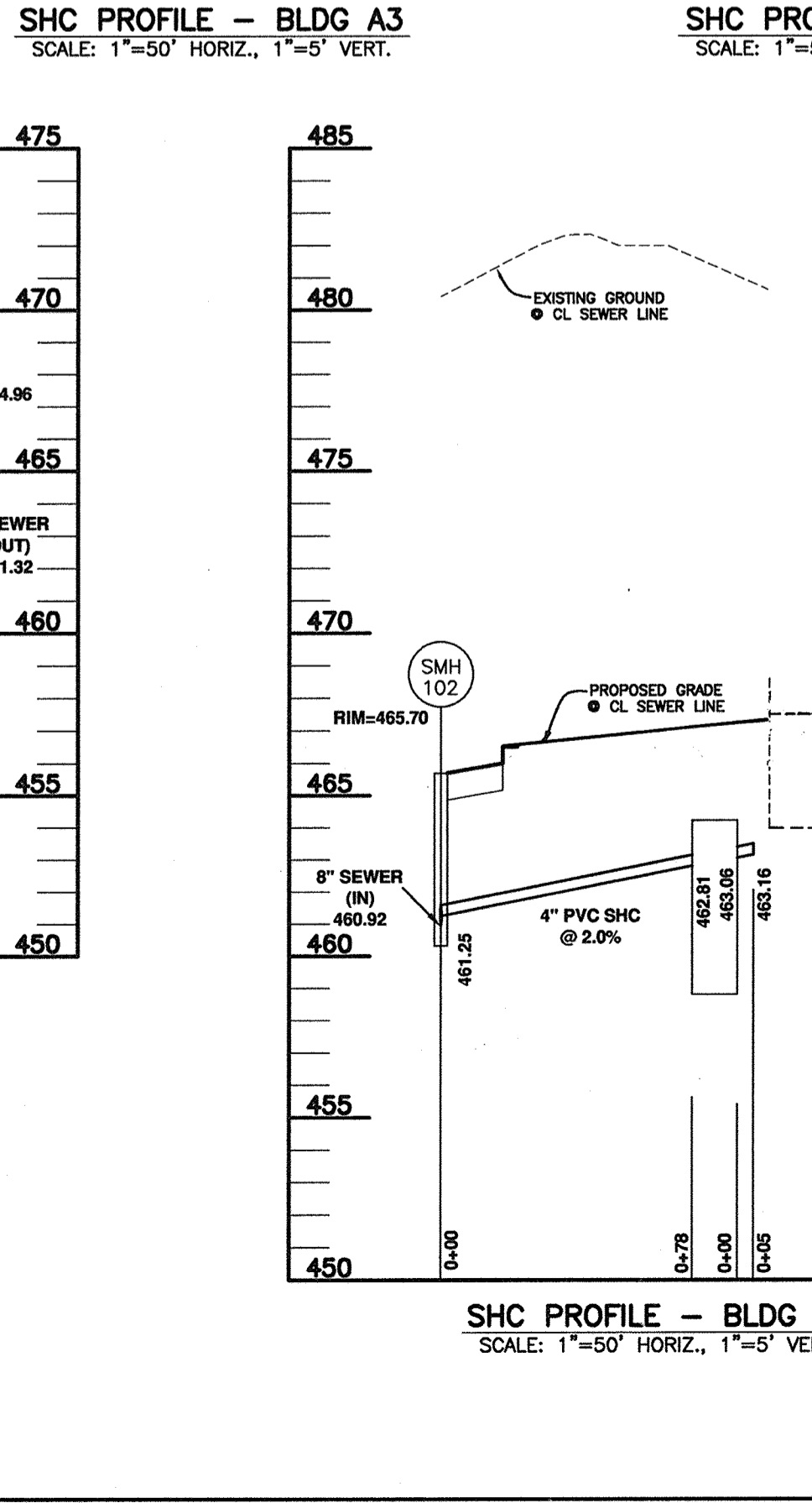
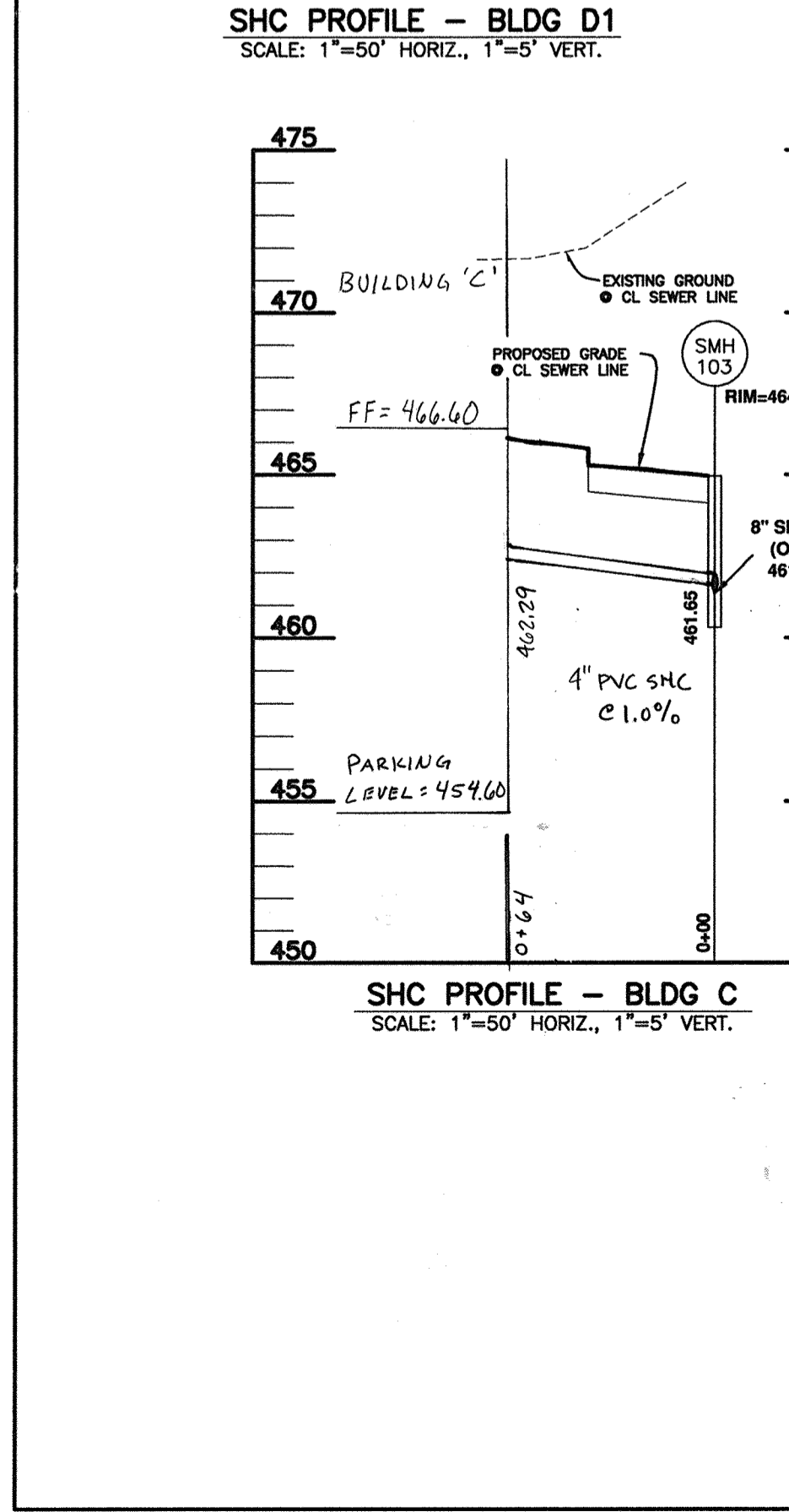
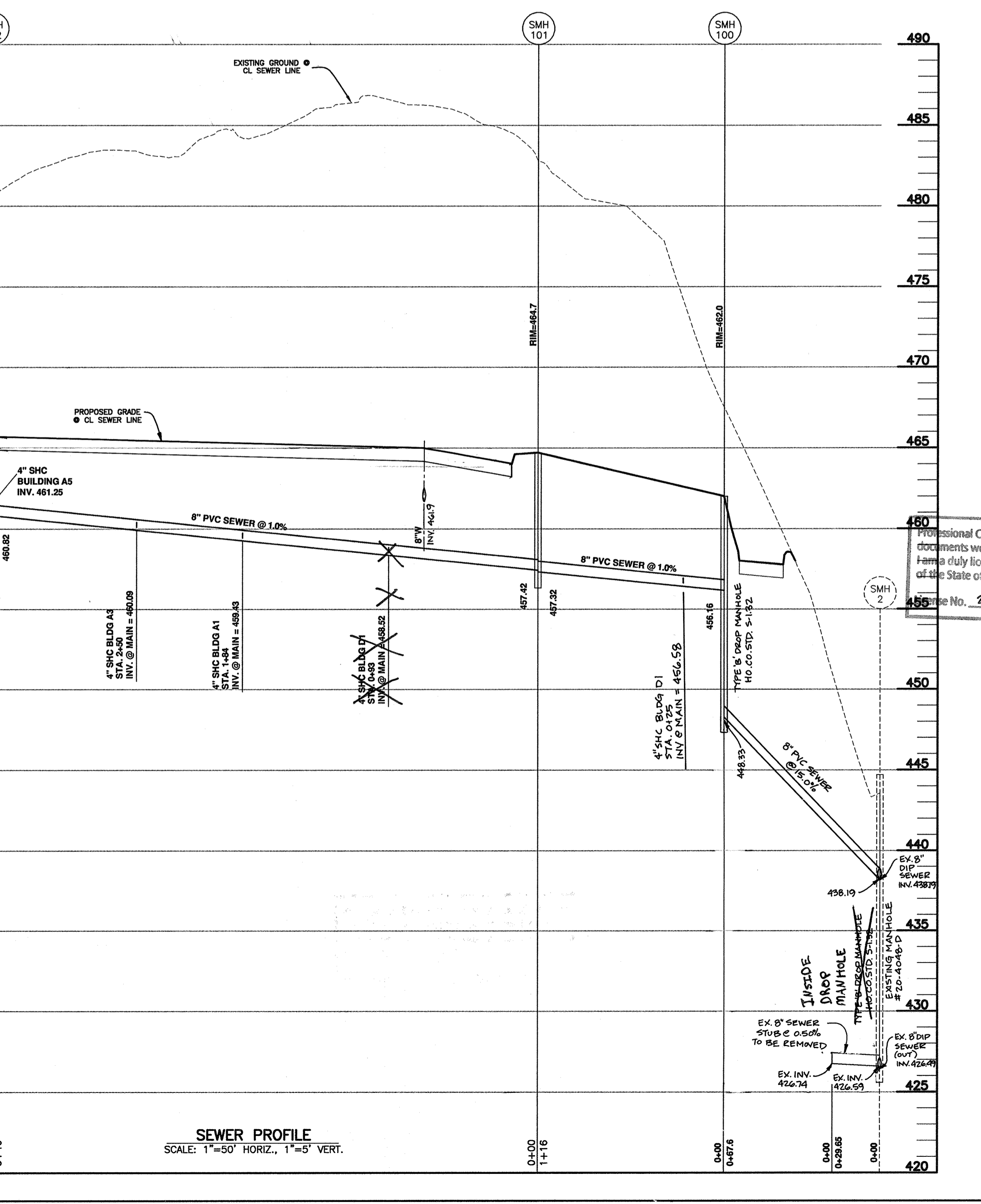
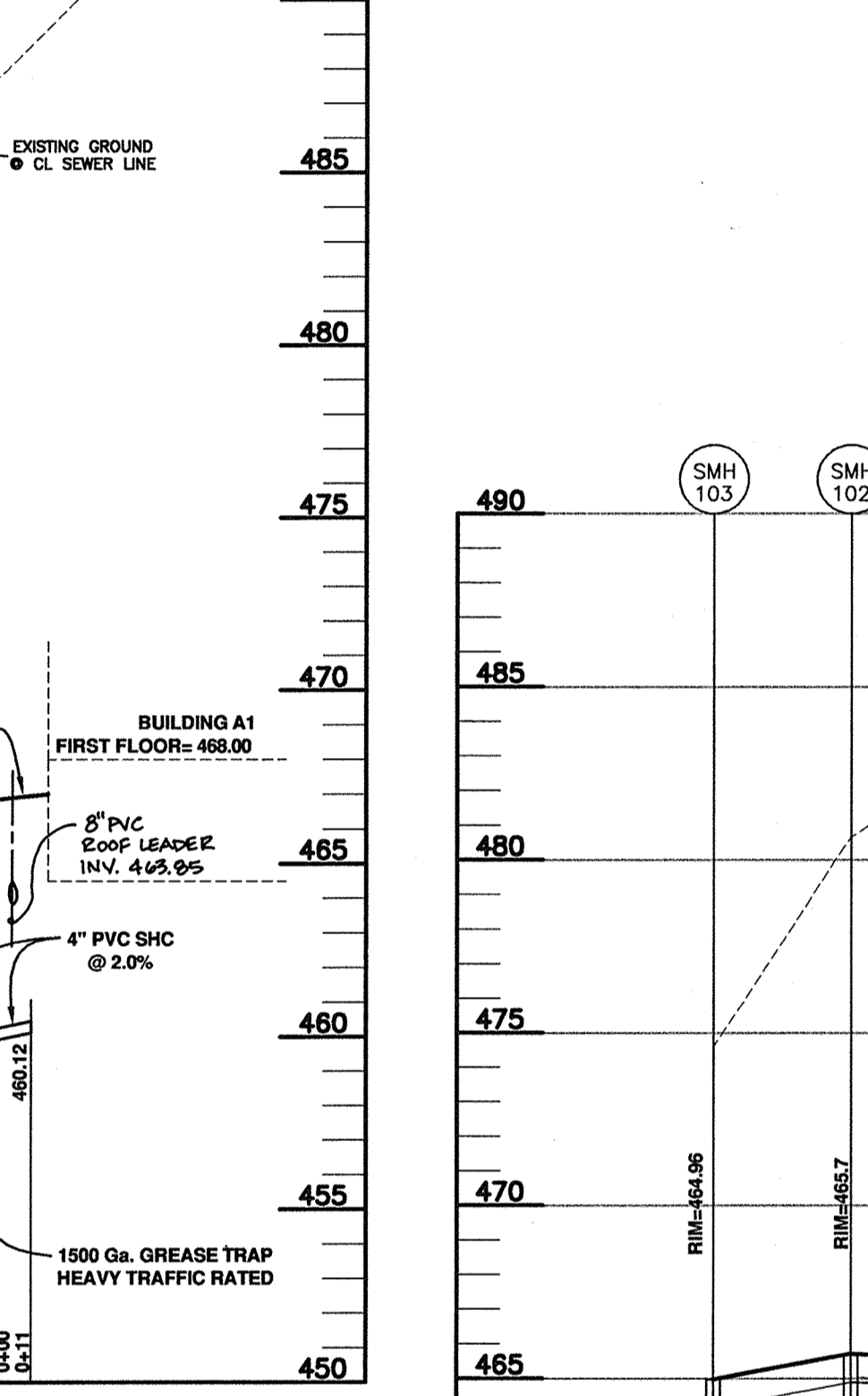
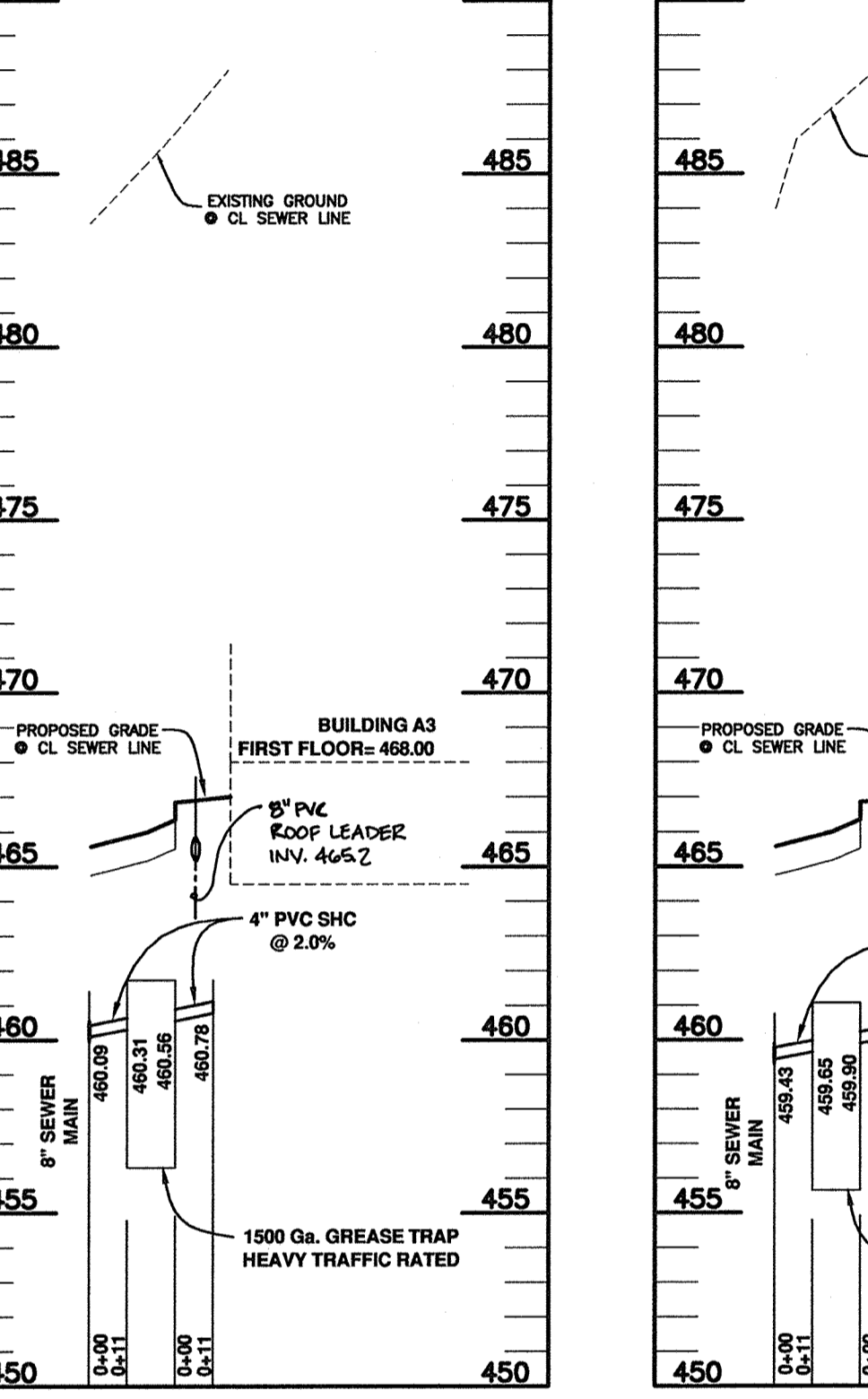
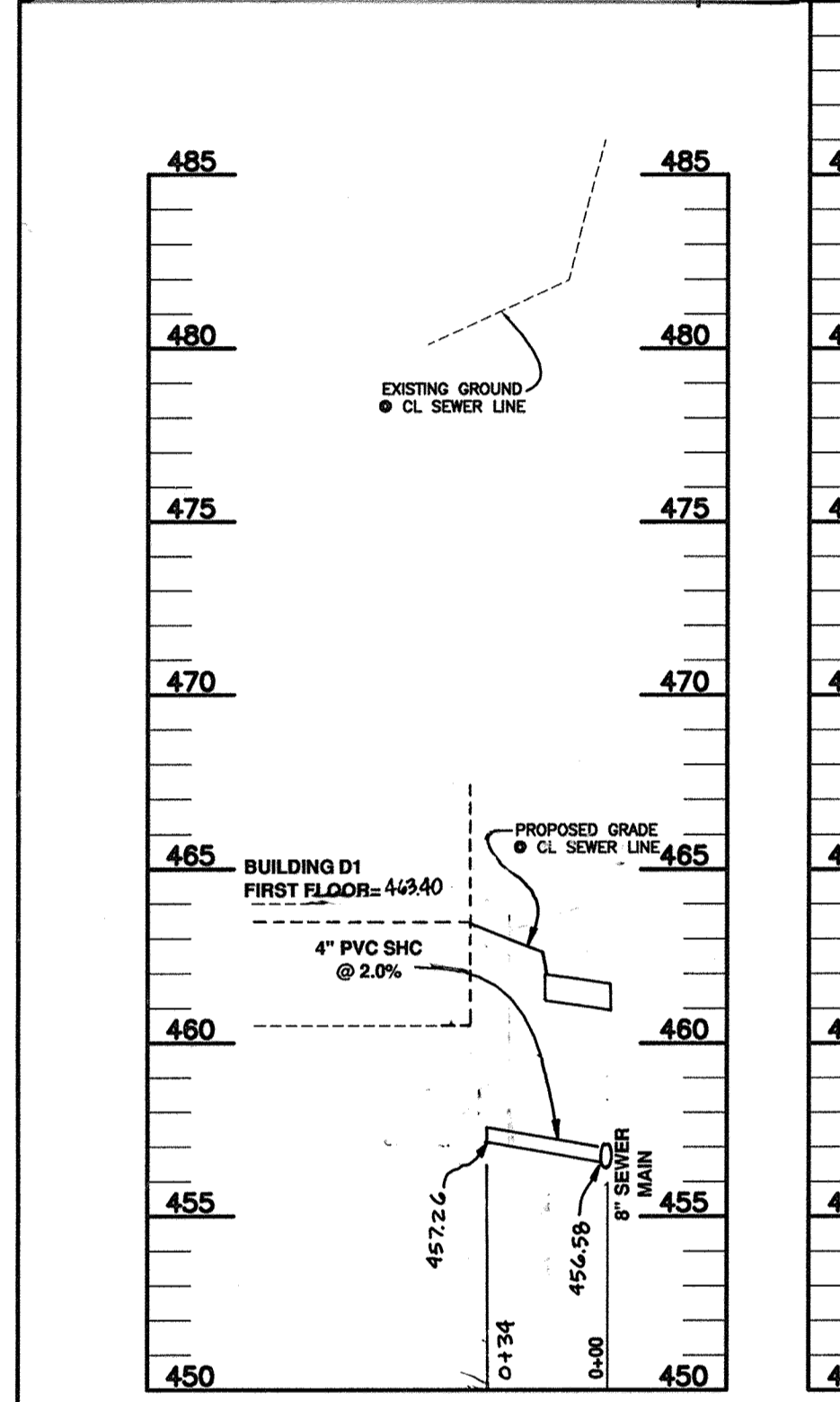
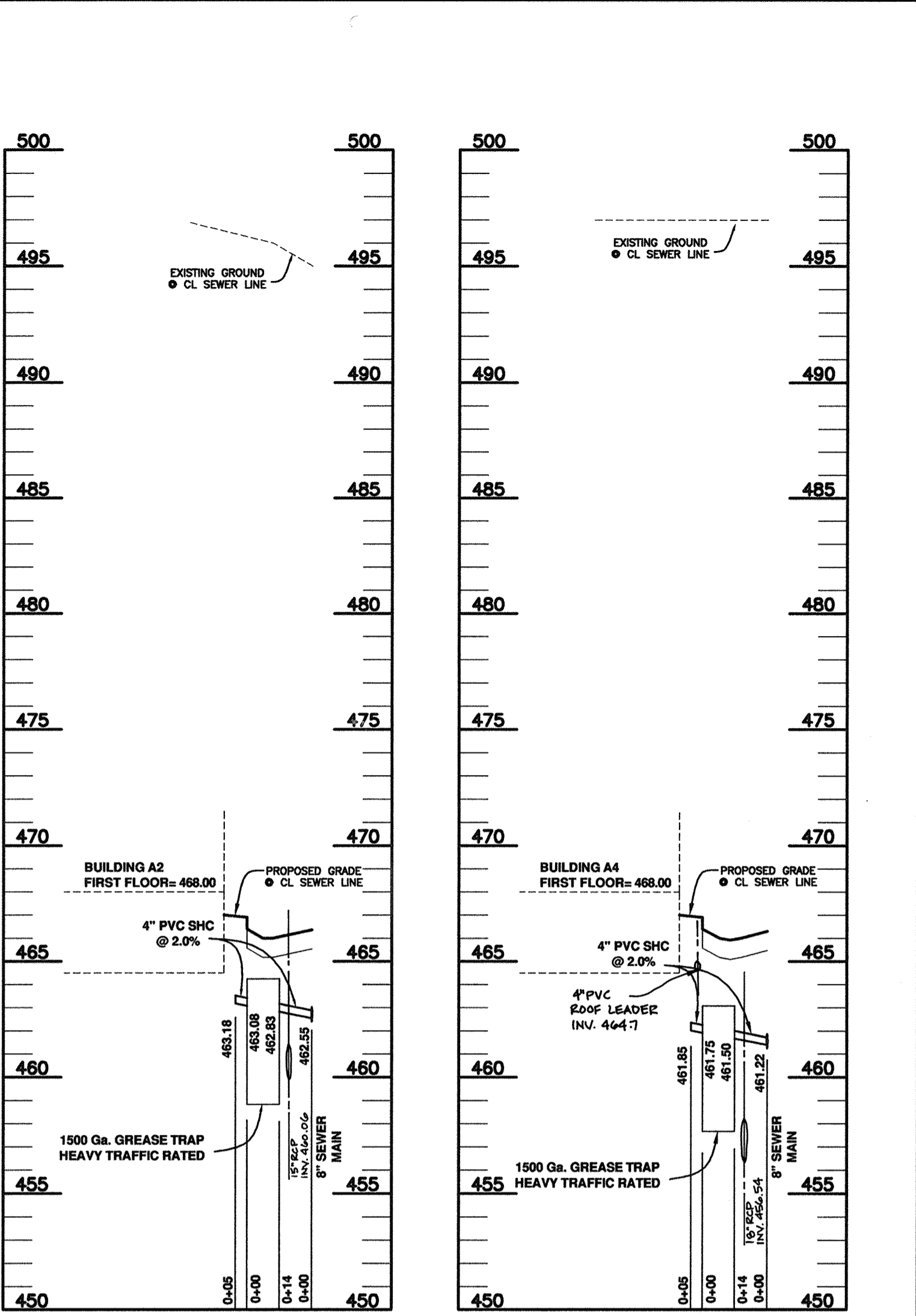
6" VALVE ON G'U TO BUILDING A-2	
6" VALVE TO SMH 109	25'
6" VALVE TO F.H. (STA. 1+77.77)	21.5'
F.H. (STA. 1+77.77) TO 6" F.H. VALVE	6.5'
F.H. 6" VALVE TO SMH 109	45.5'
F.H. (STA. 1+77.77) TO SMH 109	47.5'
6" VALVE ON G'U TO BUILDING A-4	
6" V TO SDMH	22.5'
6" V TO 8" VALVE (STA. 0+45.8)	36'
6" V TO F.H. (STA. 0+02.0)	52.5'
8" VALVE STA. 0+45.8 ON 8" WATER	
8" VALVE TO SMH 108	55.5'
8" VALVE TO 6" F.H. V @ STA. 0+02	43.5'
8" VALVE TO S.D. MH	52.5'
8" VALVE TO F.H. STA. 0+02	44.5'
FIRE HYDRANT @ STA. 0+02	
F.H. TO F.H. VALVE	7.5'
F.H. TO 6" VALVE TO BUILDING 'B'	12.5'
6" F.H. VALVE TO 6" VALVE TO BUILDING 'B'	7.5'
6" VALVE (BUILDING 'B') TO SMH 108	57'
6" F.H. VALVE TO SMH 108	63'
F.H. TO SMH 100	68.5'

FIRE HYDRANT @ STA. 2+12 ROAD 'A'	
F.H. TO 6" F.H. VALVE	25'
F.H. TO S.D. MH 107	50.5'
F.H. TO S.D. MH 104	74'
6" F.H. VALVE TO SMH 107	68.5'
6" F.H. VALVE TO S.D. MH 104	79.0'
8" WATER TO BUILDING B	
8" VALVE TO S.D. INLET I-24	38.5'
8" VALVE TO S.D. INLET MH I-25	47'
8" x 8" TEE @ STA. 0+08.3 TO 0+00	
8" VALVE @ 0+08.3 TO S.D. MH M-13	24.2'
8" VALVE @ 0+00 TO S.D. MH M-12	21.0'
8" V TO 8" V	3.5'
8" V (0+00) TO F.H.	71.8'
8" V (4+08.3) TO F.H.	74.8'
FIRE HYDRANT @ 8" x 6" TEE STA. 0+70	
F.H. TO 6" F.H. VALVE	21.2'
F.H. TO S.D. MH 13	58.0'
F.H. TO S.D. MH 12	59.7'
6" F.H.V. TO S.D. MH 13	60'
6" F.H.V. TO S.D. MH 12	41'

TOWN SQUARE @ TURF VALLEY AS-BUILTS 44-4653-D	
6" WATER VALVE G'U TO BUILDING 'B'	
6" VALVE TO SMH 104	18.0'
6" VALVE TO SMH 105	159.0'
6" VALVE TO S.D. MH 1	81.1'
F.H. @ 8" x 6" TEE STA. 5+20.2	
F.H. TO 6" F.H. VALVE	10'
F.H. TO S.D. MH-2	49.4'
6" F.H. VALVE TO S.D. MH-2	45.0'
S.D. MH 2 TO 6" F.H.V.	12.7'
F.H. @ 8" x 6" TEE STA. 7+49.3	
F.H. TO 6" F.H. VALVE	7.7'
F.H. TO S.D. MH-9A	29.4'
6" F.H. VALVE TO S.D. MH-9A	36.7'
6" F.H. VALVE TO INLET COVER I-10	58'
F.H. TO INLET F & COVER I-10	54'



TOWN SQUARE @ TURF VALLEY - AS BUILTS FOR WATERLINE		
6" VALVE AT STA. 9+44.4 (F.H. VALVE):		
6.5' TO F.H.	8.5' TO TEST STA.	68.5' TO 8" V @ STA. 8+74
8" VALVE AT STA. 8+74.4 / 6+84.6:		
68.5' TO 6" V @ STA. 9+44	63.5' TO 6" V TO BUILDING A5	68.5' TO F.H. @ STA. 9+44
6" VALVE TO BUILDING A5:		
63' TO 8" V @ STA. 8+74	81.5' TO F.H. @ STA. 9+44	56' TO SHC @ BUILDING A5
8" VALVE TO BUILDING C:		
24' TO SMH-102	35.5' TO 6" F.H. VALVE	40' TO F.H.
6" VALVE AT STA. 4+60.0 (F.H. VALVE):		
9' TO F.H.	35' TO 8" V TO BUILDING C	27.5' TO 6" V TO BUILDING A3
6" VALVE TO BUILDING A3:		
27.5' TO 6" F.H. VALVE	29' TO F.H.	37' TO SMH-102
6" VALVE TO BUILDING A1:		
4' TO 6" F.H. VALVE	12.5' TO F.H.	40.5' TO WHC @ BUILDING A1
6" VALVE AT STA. 2+77.0 (F.H. VALVE):		
4' TO 6" V TO BUILDING A1	9.5' TO F.H.	50.5' TO 6" VALVE @ BUILDING A1
6" VALVE TO BUILDING D1:		
51' TO F.H.	50.5' TO 6" F.H. VALVE	8.5' TO WHC @ BUILDING D1



APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE: 4/15/10

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.  
Signature: [Signature]  
Title: [Title]

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
Signature: [Signature]  
Title: [Title]

REVISIONS:

NO.	DATE	REVISION
7	1-3-2019	REVISE BUILDING C SHC
6	9-10-2014	REVISE SHC PROFILE FOR BLDG D1
5	1-11-2013	REVISE TITLE BLOCK
4	7-10-2012	AS-BUILT
3	4-10-2012	ADD ROOF LEADER CROSSING FOR BLDGS A1, A3, A4
2	9-21-2011	REVISE FF OF BLDG A5
1	5-31-2011	ADD 8\"/>

**BENCHMARK ENGINEERING, INC.**  
840 BALTIMORE NATIONAL PIKE SUITE 418 ELICOTT CITY, MARYLAND 21043  
(P) 410-465-6105 (F) 410-465-6644  
60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BEI-CIVILENGINEERING.COM

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

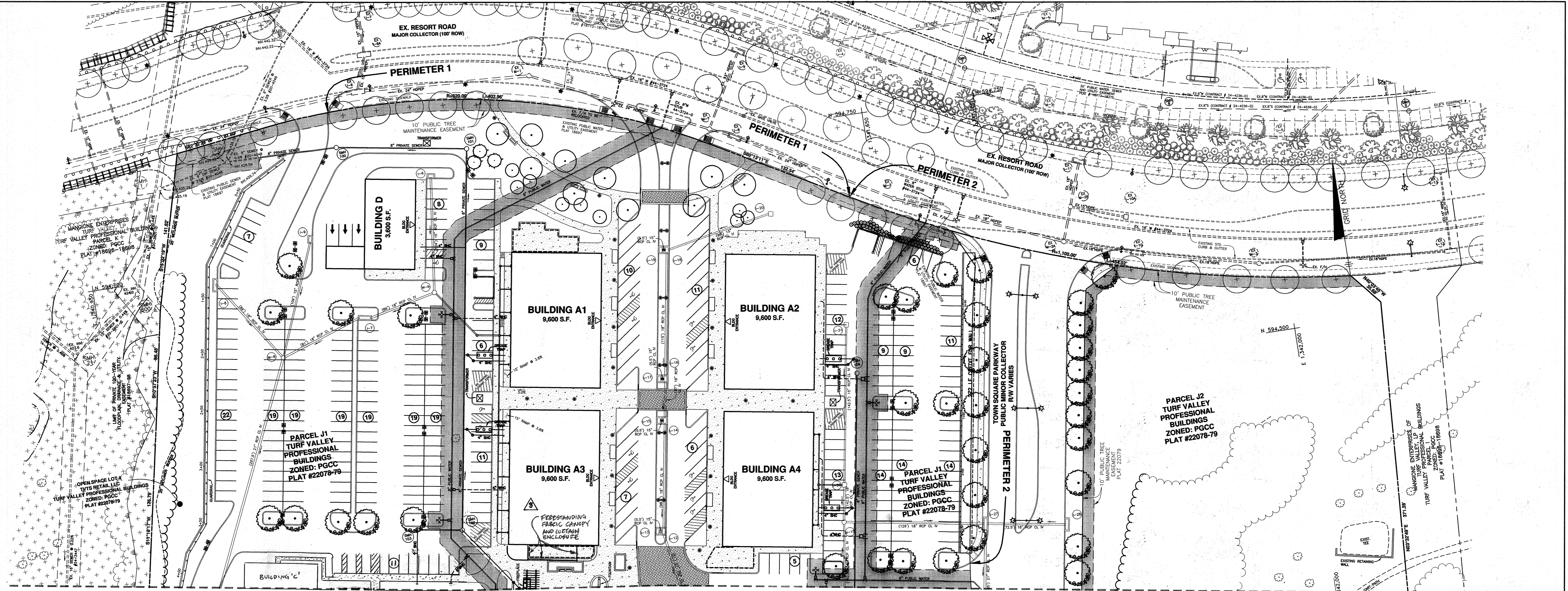
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

TOWN SQUARE AT TURF VALLEY  
(CERTIFIED LEVEL RATED GREEN BUILDING PROJECT)  
PARCELS 51 & 52 AND OPEN SPACE LOTS 4, 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O B & 50  
ZONED: POCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

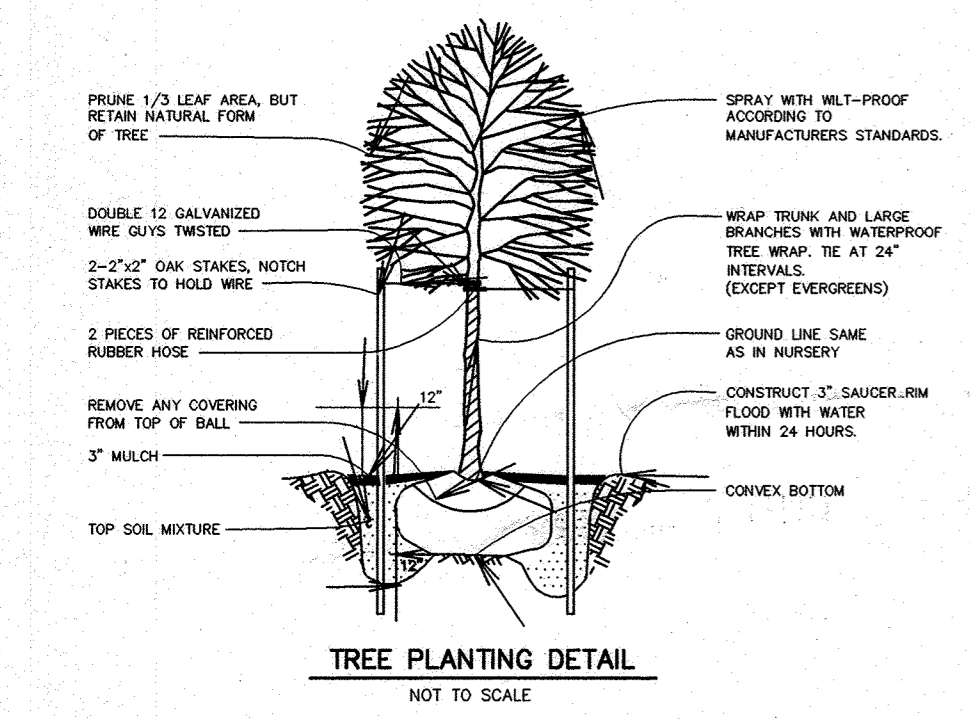
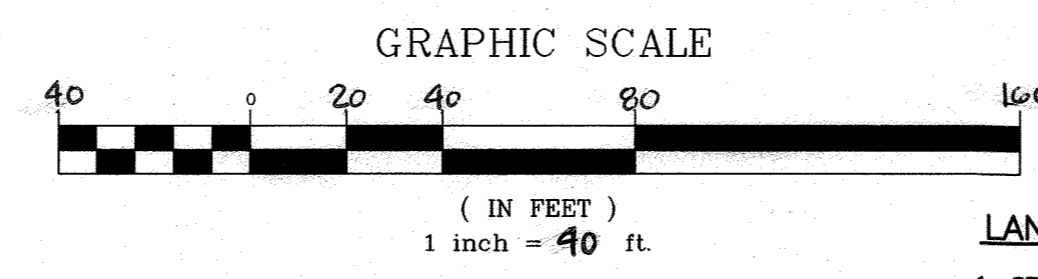
SEWER PROFILES AND DETAILS

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 14 OF 31



MATCH LINE SEE SHEET 16

MATCH LINE SEE SHEET 16



STREET TREE SCHEDULE			
ROAD NAME	PERIMETER	TREES REQ.	SIZE
TOWN SQUARE PARKWAY	1816'	45	LARGE

STREET TREE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
(Symbol)	45	TULIA CORBATA GREENSPICE (Greenspire Littleleaf Linden)	2 1/2" - 3" col.	TO BE PLANTED ALONG TOWN SQUARE PARKWAY

STREET TREES TO BE PROVIDED BY THE DEVELOPER

EXISTING STREET TREE (ACER RUBRUM) PLANTED UNDER F-02-074 & F-02-082.

LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
(Symbol)	41	TULIA CORBATA GREENSPICE (Greenspire Littleleaf Linden)	2.5" - 3" col. 10'-12' HT.	SHADE TREES LOCATED WITHIN LANDSCAPED ISLANDS TO BE PROVIDED BY THE DEVELOPER
(Symbol)	10	ACER RUBRUM 'RED SUNSET'	3.0" - 3.5" col. 12'-14' HT.	SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
(Symbol)	7	PLATANUS X ACERFOLIA 'BLOODGOOD'	2.5" - 3" col. 10'-12' HT.	SHADE TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
(Symbol)	29	ILEX X NELLIE R STEVENS' NELLIE R STEVENS HOLLY	8"-10" HT. 8&B, FULL	EVERGREENS PLANTED ALONG PERIMETER. TO BE PROVIDED BY THE DEVELOPER
(Symbol)	15	PIZZA ARIES NORWAY SPRUCE	8"-10" HT. 8&B, FULL	EVERGREENS PLANTED ALONG PERIMETER. TO BE PROVIDED BY THE DEVELOPER
(Symbol)	41	MALUS SARGENTI SARGENT CRAB APPLE	7" HT. 8&B, FULL	ORNAMENTAL TREES ALONG PERIMETER TO BE PROVIDED BY THE DEVELOPER
(Symbol)	62	VIBURNUM CARLESSI KOREANSPIRICE VIBURNUM	24"-30" HT. FULL, 36" O.C.	SHRUBS PLANTED ALONG PERIMETER. TO BE PROVIDED BY THE DEVELOPER
(Symbol)	8	ILEX X NELLIE R STEVENS' NELLIE R STEVENS HOLLY	8"-10" HT. 8&B, FULL	EVERGREEN TREES ALONG SWMF PERIMETER TO BE PROVIDED BY THE DEVELOPER
(Symbol)	6	QUERCUS PHellos WILLOW OAK	2.5" - 3" col. 10'-12' HT.	SHADE TREES ALONG SWMF PERIMETER TO BE PROVIDED BY THE DEVELOPER

LANDSCAPE NOTES:

- STREET TREES ALONG ROAD 'A' TO BE LOCATED 3 FEET BEHIND SIDEWALK. STREET TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A DRAIN INLET, 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR TO FEET OF A DRIVEWAY.
- SEE TREE PLANTING DETAIL - THIS SHEET.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$30,210.00 (\$20,100.00 FOR 67 SHADE TREES, \$9,150.00 FOR 61 EVERGREENS, AND \$960.00 FOR 32 SHRUBS)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

SCHEDULE A PERIMETER LANDSCAPE EDGE				
CATEGORY	NON-RES SIDE TO ROADWAY	PARKING TO ROADWAY	NON-RES REAR-LOAD TO ROADWAY	TOTALS
	1	2	3	
LANDSCAPE TYPE	B	E	D	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	479'	398'	411'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES, WALL 272'	NO	
NUMBER OF PLANTS REQUIRED	10	3	7	20
SHADE TREES	12	-	41	53
EVERGREEN TREES	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	32	-	32
SHRUBS	-	-	-	-
NUMBER OF PLANTS PROVIDED	10	0	7	17
SHADE TREES	12	-	41	53
EVERGREEN TREES	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	62*	-	62
SHRUBS	-	-	-	-

\*30 SHRUBS WERE SUBSTITUTED FOR THE REQUIRED 3 SHADE TREES

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	796
NUMBER OF TREES REQUIRED	40
NUMBER OF TREES PROVIDED	41
SHADE TREES	0
SMALL DECIDUOUS OR EVERGREEN TREES (2:1 RATIO)	0

SCHEDULE D SWM AREA LANDSCAPING		
LINEAR FEET OF PERIMETER BUFFER TYPE	SWMF1	SWMF2
	575'	438'
1:50 shade	1:50 shade	1:50 shade
1:40 evergreen	1:40 evergreen	1:40 evergreen
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	YES, WALL	YES, WALL
NUMBER OF TREES REQUIRED	0 L.F.	300 L.F.
SHADE TREES	0	6
EVERGREEN TREES	0	8
NUMBER OF TREES PROVIDED	0	6
SHADE TREES	0	6
EVERGREEN TREES	0	8

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. 22390, Expiration Date: 6/2017

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE: 4/15/10  
 [Signature]

[Signature] 5/15/17  
 Revision #3

DEVELOPER'S/BUILDER'S CERTIFICATE  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
 [Signature] DATE: 1/11/2013

NO.	DATE	REVISION
5	9-20-2013	REVISE BUILDING AND PARKING, REMOVE GREEN BUILDING POWER FROM THIS BLOCK
4	1-3-2019	REVISE TOTAL SHT NUMBER
3	5-6-2017	ADD CANOPY TO BUILDING A3
2	1-11-2013	update tree species and locations, show R/W dedication and parcels per plat 22078-79.
1	3-26-2012	ADD TRANSFORMERS AND ROOF LEADER MANIFOLDS

**BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS**  
 ENGINEERS, INC.  
 8480 BALTIMORE NATIONAL PIKE SUITE 415 & ELLOTT CITY, MARYLAND 21043  
 (P) 410-465-8100 (F) 410-465-8844  
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
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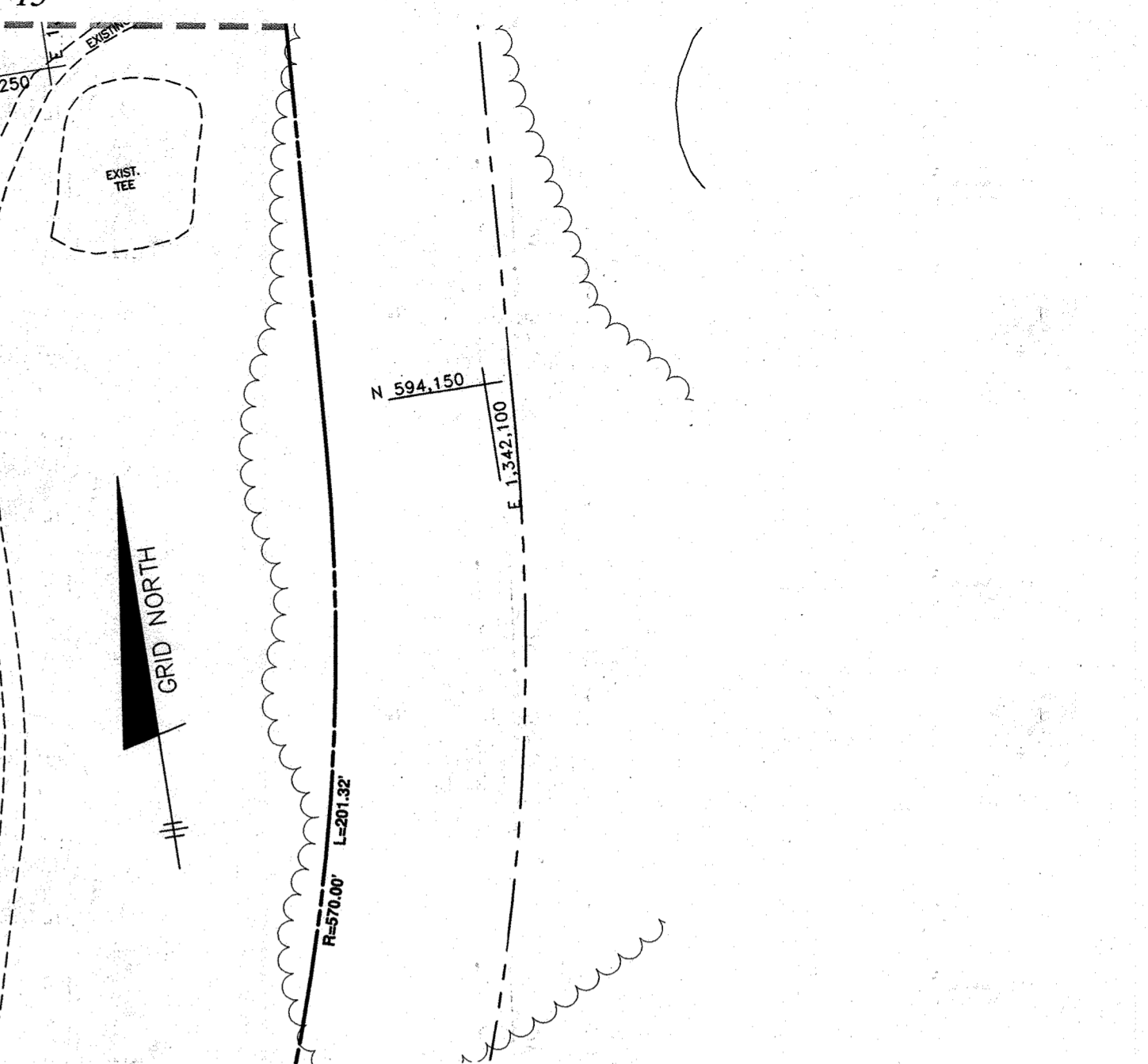
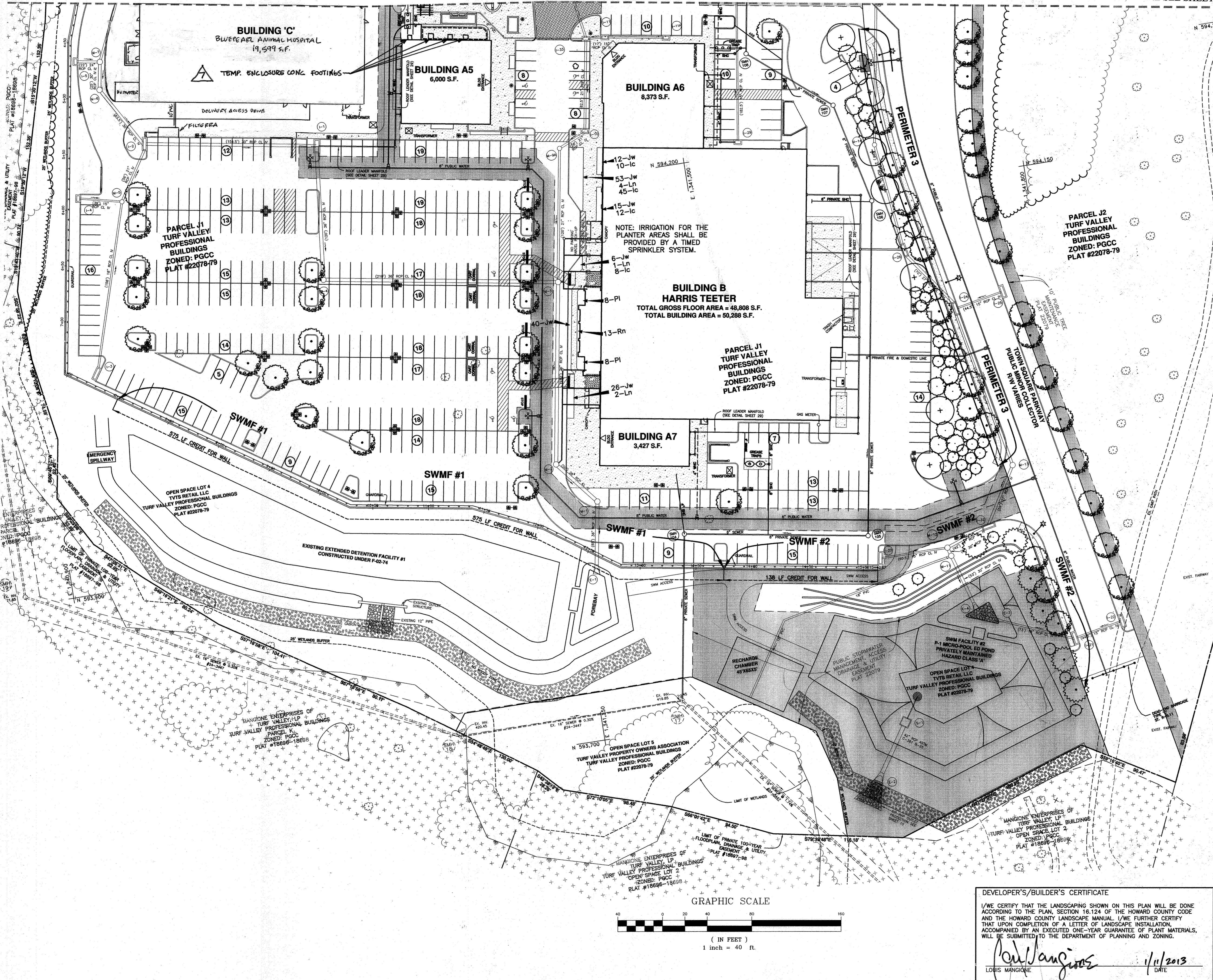
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 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
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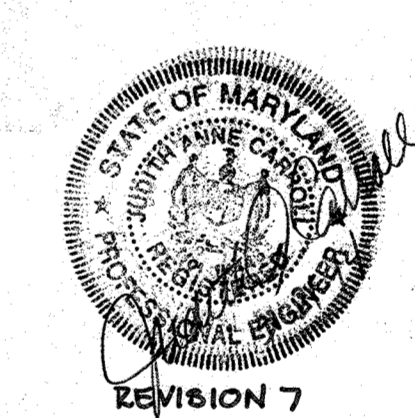
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 PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079  
 TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PGCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

REVISED LANDSCAPE PLAN  
 DATE: APRIL, BEI PROJECT NO. 2208  
 SCALE: AS SHOWN SHEET 15 OF 31





- 9 9-26-2013 REVISION: REMOVE BUILDING C FOOTINGS. DELETE DUMPSTER. REMOVE GREEN BUILDING PERMIT FROM TITLE BLOCK.



APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 4/15/10  
EMR

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Michael J. ...* 1/16/13  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kat ...* 1/24/13  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*Paul ...* 1/24/13  
DIRECTOR

- 8 1-5-2019 REVISION: CHIT #
- 7 5-21-2014 ADDED ROLL-A-COVER TEMP. ENCLOSURE CONCL. FOOTINGS AT BLDG A5
- 5 1-11-2013 update tree species and locations. show R/W dedication and parcels per plot 22078-79.
- 4 3-26-2012 delete drive-thru for BLDG A7, revise parking, add transformers, add roof leader manifolds.
- 3 12-2-2011 revise bldg D2 to A7, revise SF and drive thru canopy, revise entrance location BLDG A6, revise plan scale.
- 2 9-21-2011 add planting types for the front of Bldg 'B', revise storm drain in front of BLDG A6, revise BLDG A6, show 4 parking spaces by SMH 107.
- 1 5-31-2011 revise front hardscape of Bldg 'B' and associated utilities. Revise 1-29.

**BENCHMARK**  
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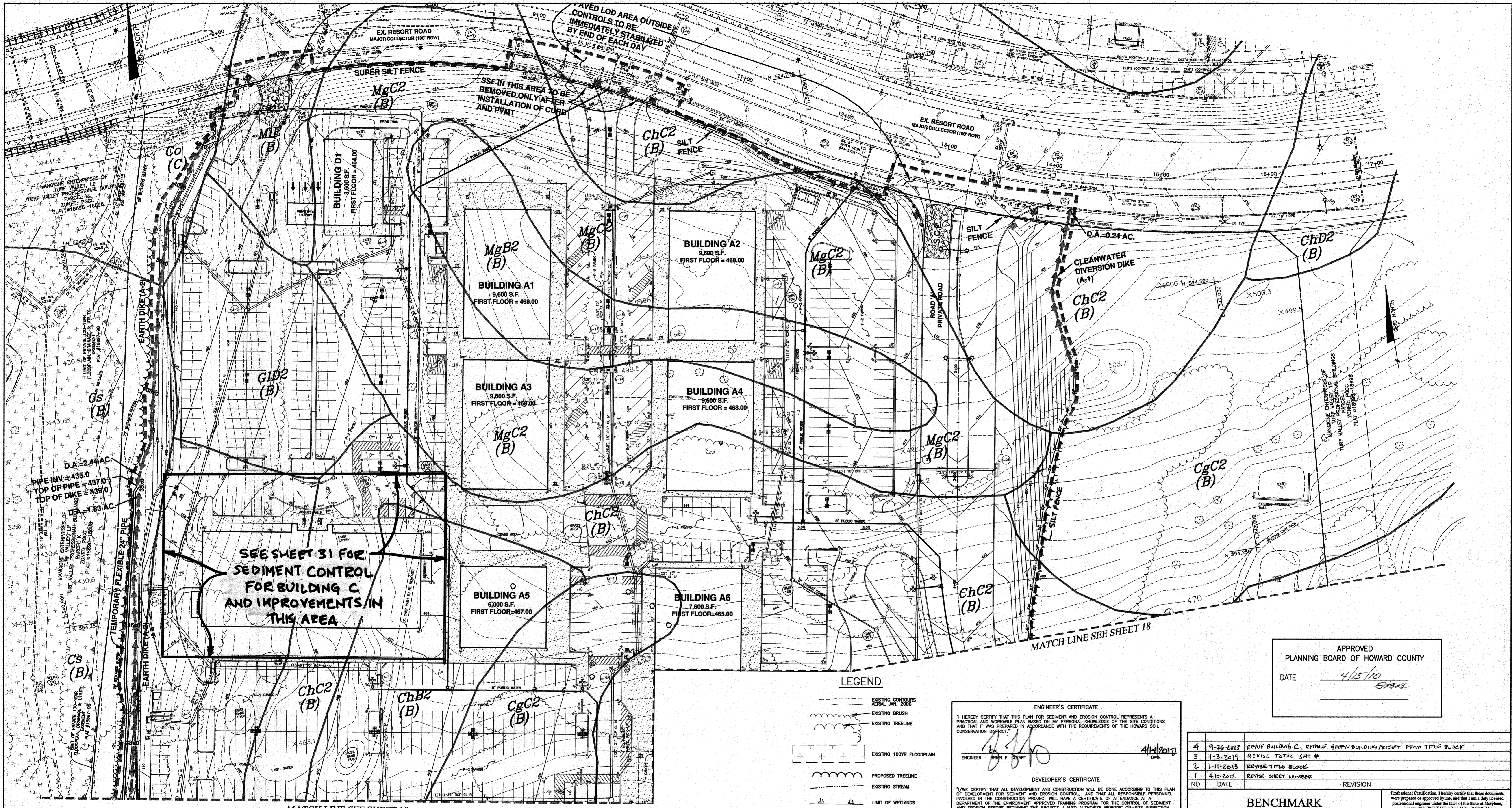
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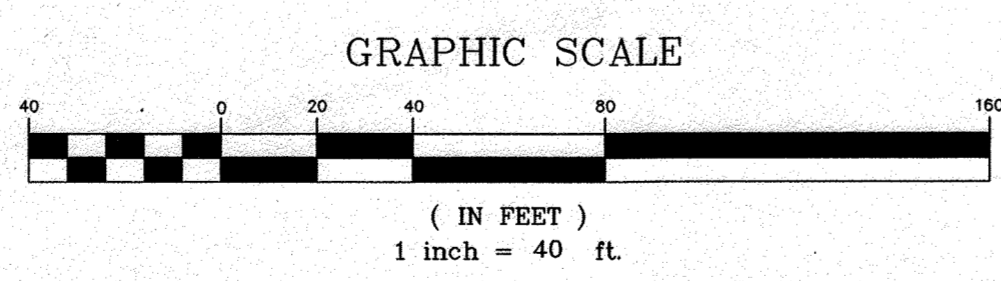
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TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

REVISED LANDSCAPE PLAN  
DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 16 OF 31

DEVELOPER'S/BUILDER'S CERTIFICATE  
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
*Paul Mangione* 1/1/2013  
LOUIS MANGIONE DATE



SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND, ISSUED JULY, 1968 PAGES 9 AND 15		
SYMBOL	HYDRIC	HYDROLOGIC GROUP NAME
CgC2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT MODERATELY ERODED
ChB2	B	CHESTER SILT LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
ChC2	B	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
ChD2	B	CHESTER SILT LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
Co	YES	CODORUS SILT LOAM
Cs	B	COMUS SILT LOAM
GID2	B	GLENEIG LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED
GID3	B	GLENEIG LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED
Hs	YES	HATBORO SILT LOAM
MgB2	B	MANOR GRAVELLY LOAM, 3 TO 8 PERCENT, MODERATELY ERODED
MgC2	B	MANOR GRAVELLY LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
MIe	B	MANOR LOAM, 25 TO 45 PERCENT SLOPES



**THIS PLAN IS FOR  
SEDIMENT AND EROSION  
CONTROL ONLY**

- LEGEND**
- EXISTING CONTOURS
  - EXISTING BRUSH
  - EXISTING TREELINE
  - EXISTING 100YR FLOODPLAIN
  - PROPOSED TREELINE
  - EXISTING STREAM
  - LIMIT OF WETLANDS
  - LIMIT OF SUBMISSION
  - LIMIT OF DISTURBANCE
  - SILT FENCE
  - SUPER SILT FENCE
  - TREE PROTECTION FENCE
  - STABILIZED CONSTRUCTION ENTRANCE
  - EROSION CONTROL MATTING
  - SOILS TYPE
  - SOILS DELINEATION LINE

**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.  
ENGINEER - BRIAN F. CLEARY  
DATE 4/14/2010

**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.  
DEVELOPER  
DATE 4/14/10

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE 4/29/10  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE 5/3/10  
DIRECTOR  
DATE 5/3/10

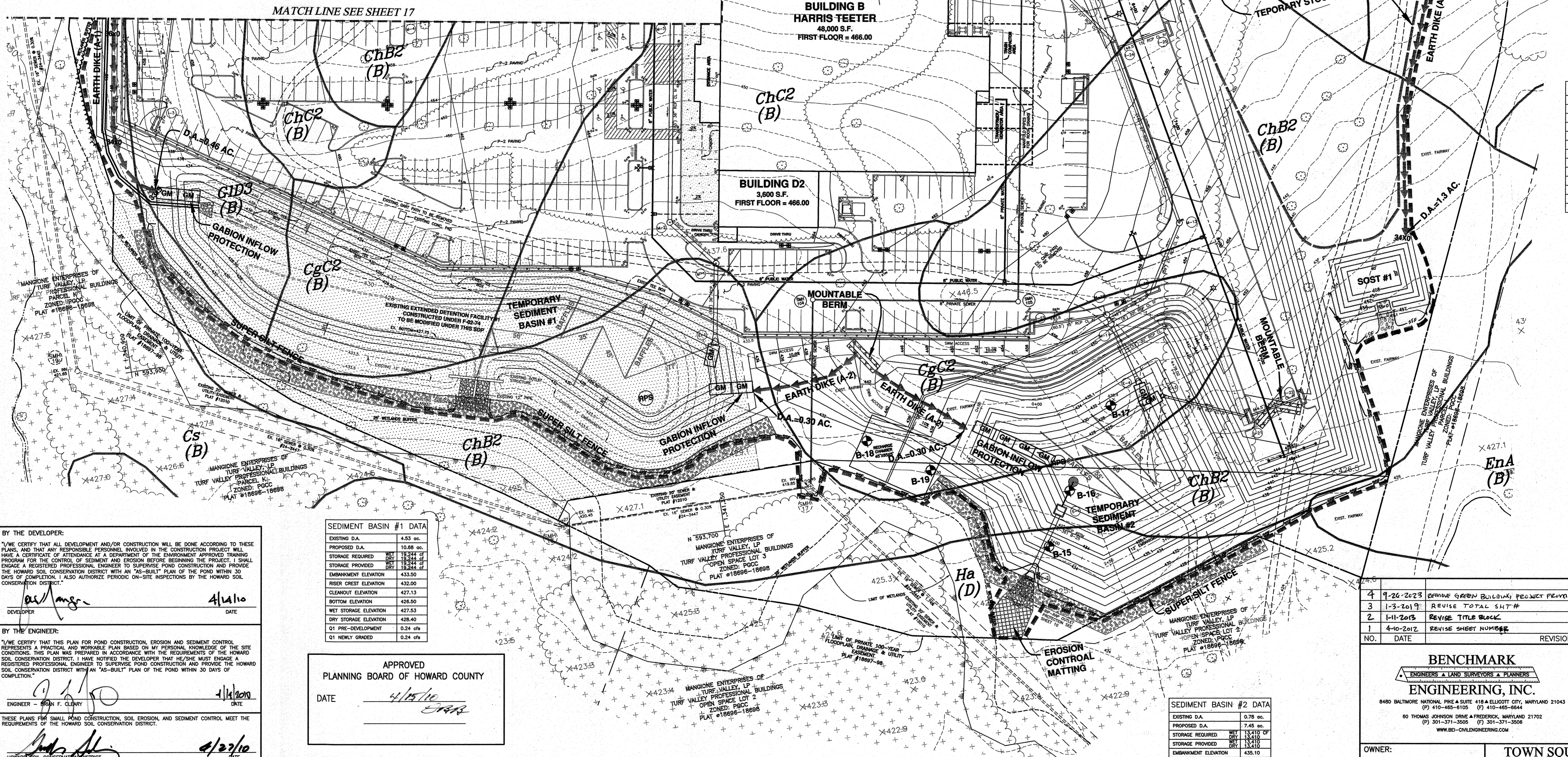
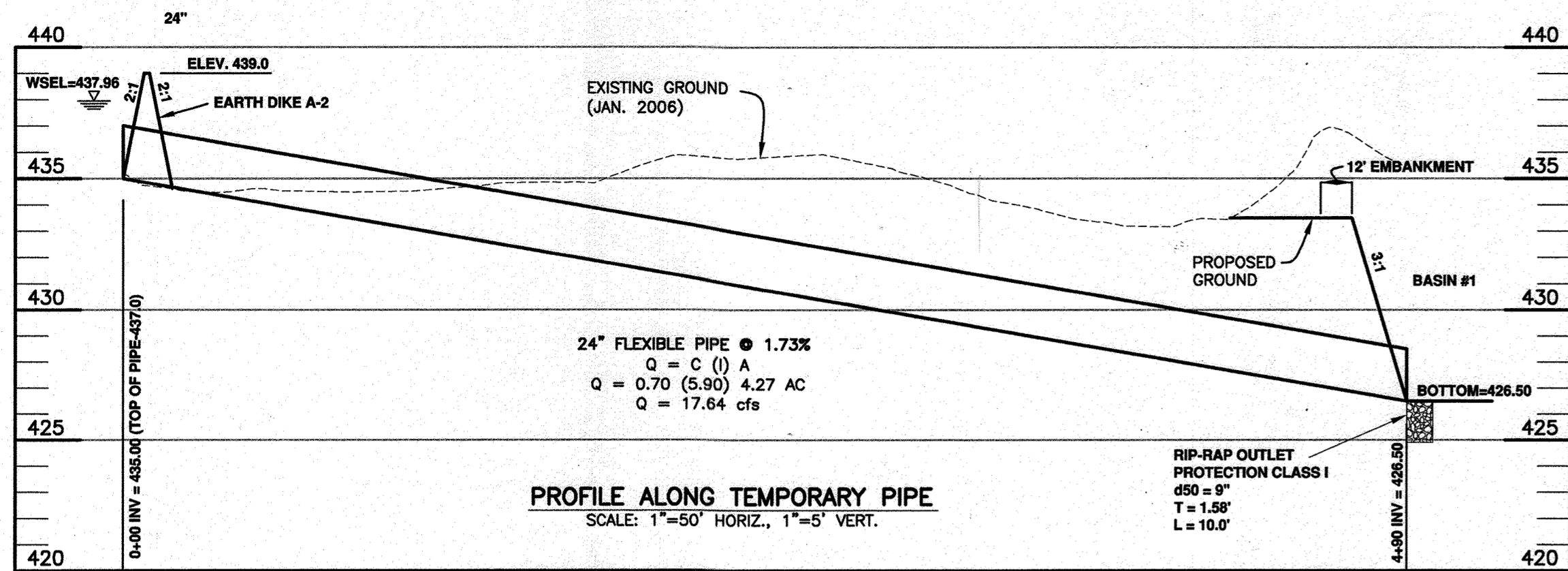
APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 4/15/10  
EPB/AS

NO.	DATE	REVISION
4	9-26-2003	REVISE BUILDING C, REYNE GREEN BUILDING PERMIT FROM TITLE BLOCK
3	1-3-2019	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER

**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE SUITE 418 A ELICOTT CITY, MARYLAND 21043  
(P) 410-465-8100 (F) 410-465-8644  
60 THOMAS JOHNSON DRIVE AFFERDICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BE-ENGINEERING.COM

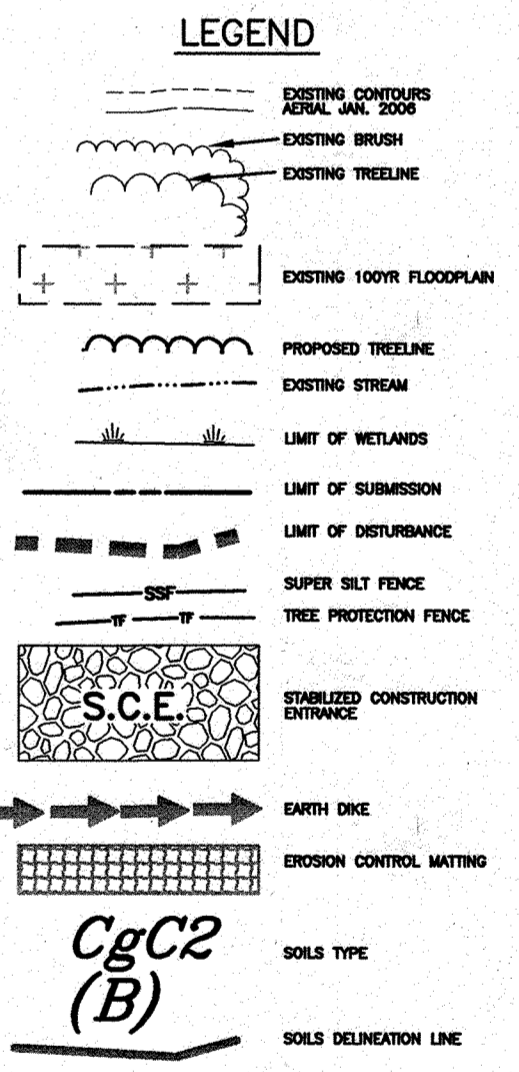
**TOWN SQUARE AT TURF VALLEY**  
PARCELS '31' & '32' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 2207B-22079  
TAX MAP: 16 - GRID: 10 - PARCEL P/O 8 & 50  
ZONED: PCCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**SEDIMENT AND EROSION CONTROL PLAN**  
DATE: APRIL, 2010  
SCALE: AS SHOWN  
BEI PROJECT NO. 2208  
SHEET 17 OF 31



**SOFT #1**

TYPE	ST-#
EXISTING D.A.	1.4 AC.
PROPOSED D.A.	0.4 AC.
STORAGE REQUIRED	2,300 CF
STORAGE PROVIDED	2,300 CF
WET STORAGE ELEV.	431.00
DRY STORAGE ELEV.	435.00
EMBANKMENT ELEVATION	434.00
EMBANKMENT WIDTH	4 FEET
WEIR CREST ELEVATION	433.00
WEIR CREST LENGTH	4 FEET
CLEANOUT ELEVATION	429.17
CLEANOUT ELEVATION	428.00
BOTTOM DIMENSION	40'



**BY THE DEVELOPER:**

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY 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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/14/10  
DEVELOPER DATE

**BY THE ENGINEER:**

I/WE CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*[Signature]* 4/14/10  
ENGINEER - BRIAN F. CLEARY DATE

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

*[Signature]* 4/23/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5/3/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5/3/10  
DIRECTOR DATE

**SEDIMENT BASIN #1 DATA**

EXISTING D.A.	4.53 ac.
PROPOSED D.A.	10.68 ac.
STORAGE REQUIRED	NET 19,244 CF
STORAGE PROVIDED	NET 19,244 CF
EMBANKMENT ELEVATION	433.50
RISER CREST ELEVATION	432.00
CLEANOUT ELEVATION	427.13
BOTTOM ELEVATION	426.50
WET STORAGE ELEVATION	427.53
DRY STORAGE ELEVATION	428.40
Q1 PRE-DEVELOPMENT	0.24 cfs
Q1 NEWLY GRADED	0.24 cfs

**APPROVED**  
**PLANNING BOARD OF HOWARD COUNTY**

DATE 4/15/10

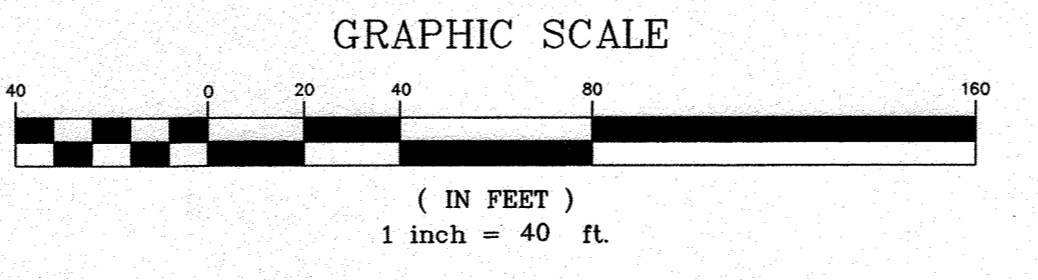
**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PE NO. \_\_\_\_\_ DATE \_\_\_\_\_

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER. NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.



**THIS PLAN IS FOR  
SEDIMENT AND EROSION  
CONTROL ONLY**

**SEDIMENT BASIN #2 DATA**

EXISTING D.A.	0.78 ac.
PROPOSED D.A.	7.45 ac.
STORAGE REQUIRED	NET 13,410 CF
STORAGE PROVIDED	NET 13,410 CF
EMBANKMENT ELEVATION	435.10
RISER CREST ELEVATION	432.40
CLEANOUT ELEVATION	428.16
BOTTOM ELEVATION	425.00
WET STORAGE ELEVATION	427.14
DRY STORAGE ELEVATION	428.75
Q1 PRE-DEVELOPMENT	0.08 cfs
Q1 NEWLY GRADED	0.05 cfs

4	9-26-2013	EMMINE GREEN BUILDING PROJECT FLYD TITLE BLOCK
3	1-3-2013	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER

**BENCHMARK ENGINEERING, INC.**  
8480 BALTHORE NATIONAL PIKE SUITE 418A ELLOTT CITY, MARYLAND 21043  
(P) 410-465-8105 (F) 410-465-8644  
60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BC-CIVILENGINEERING.COM

**TOWN SQUARE AT TURF VALLEY**  
PARCELS 'JY 'JZ' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

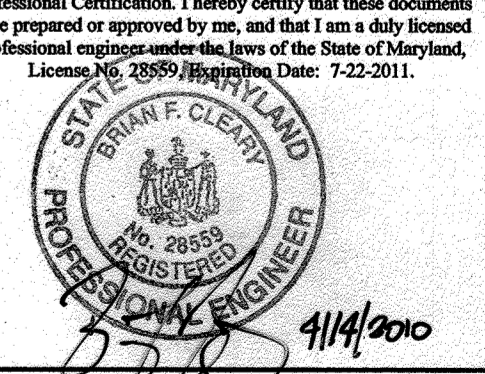
**SEDIMENT AND EROSION CONTROL PLAN**

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

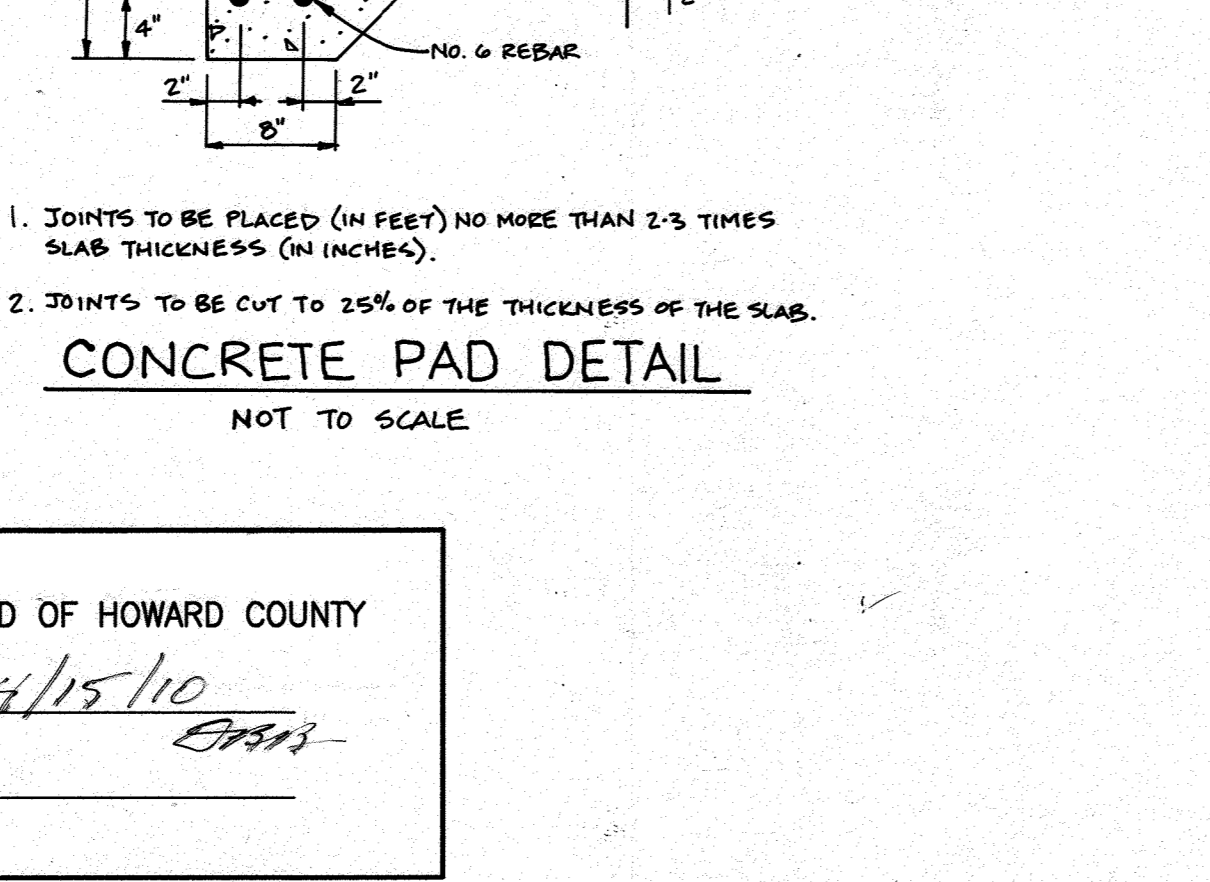
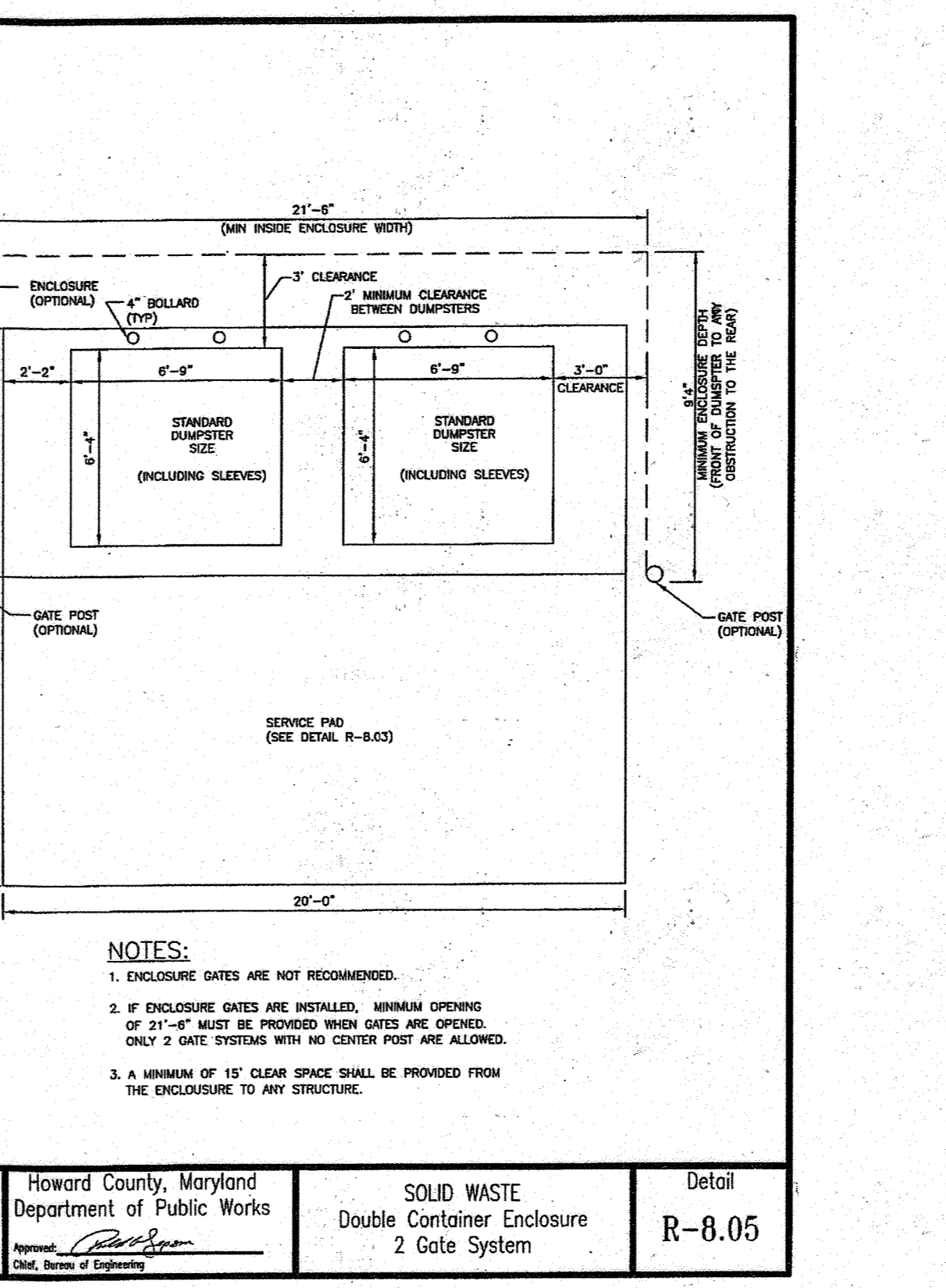
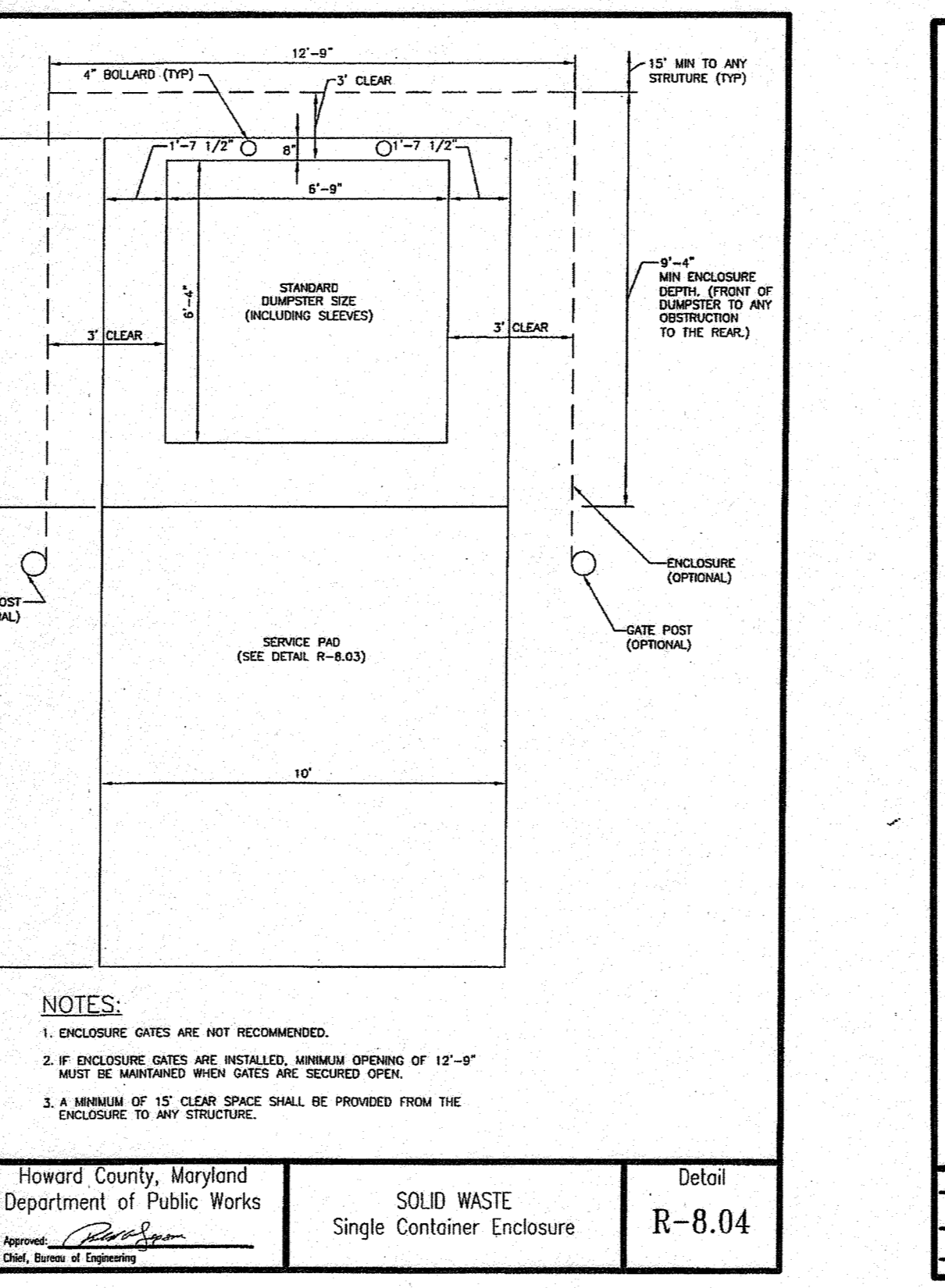
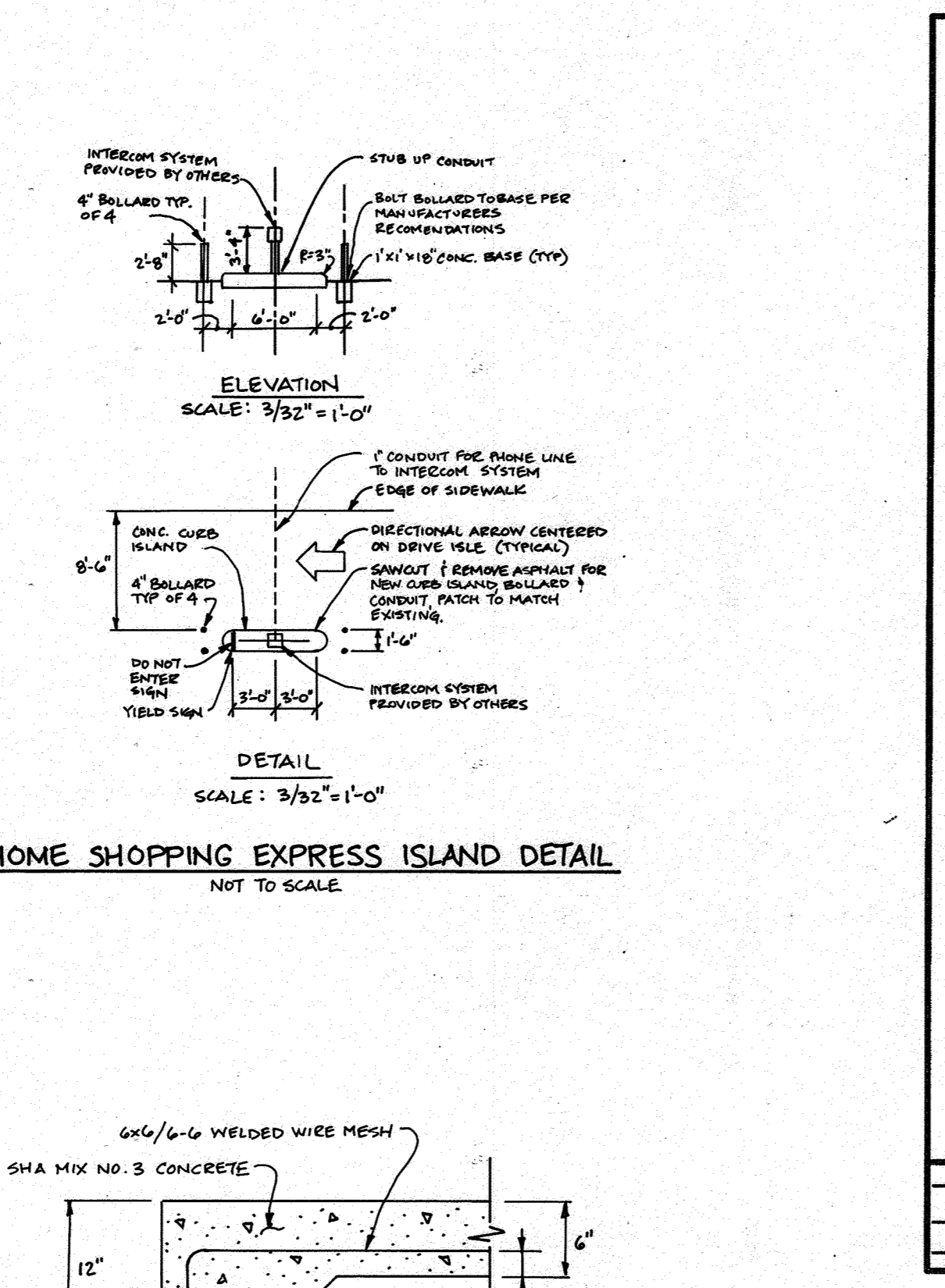
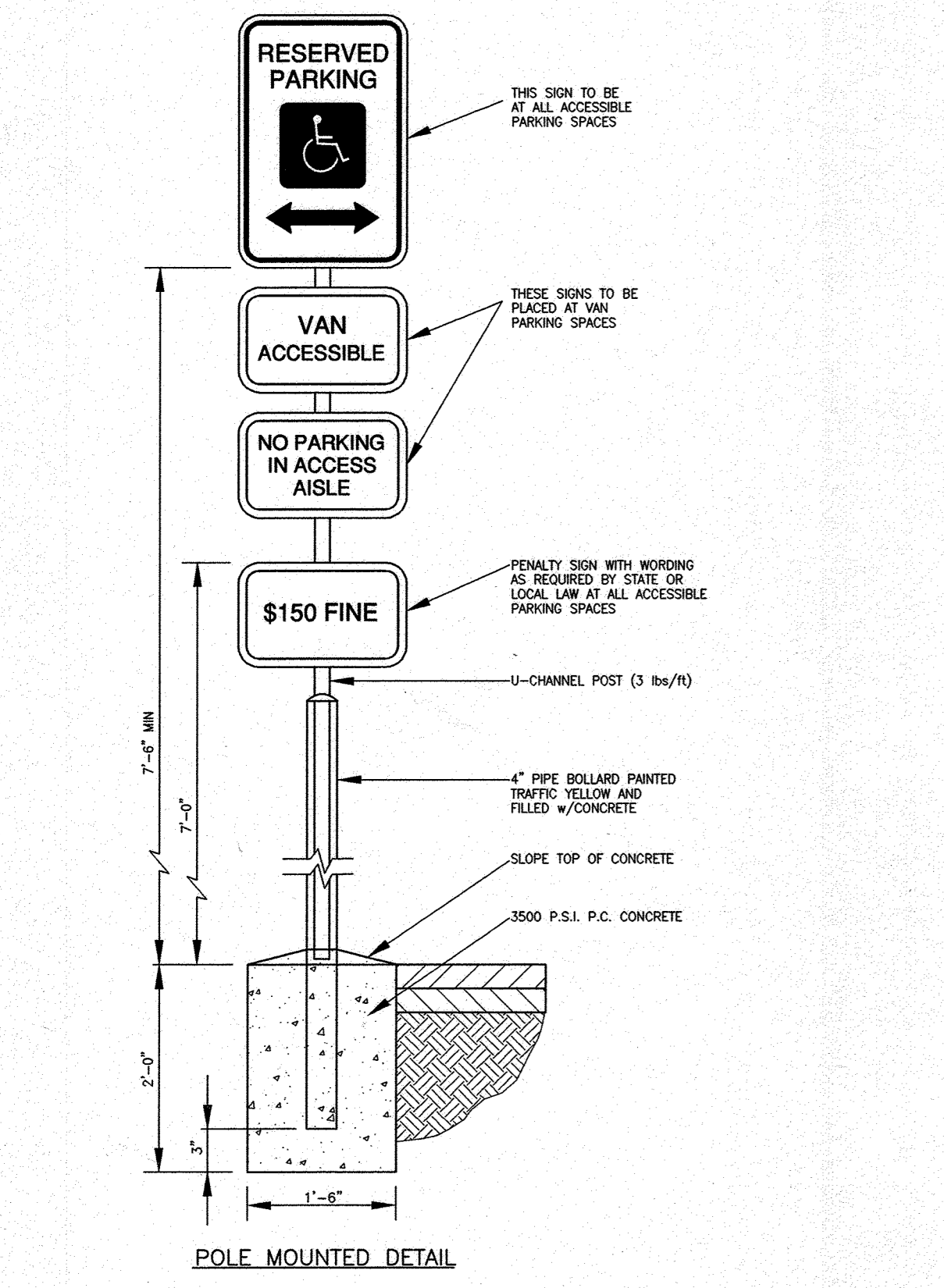
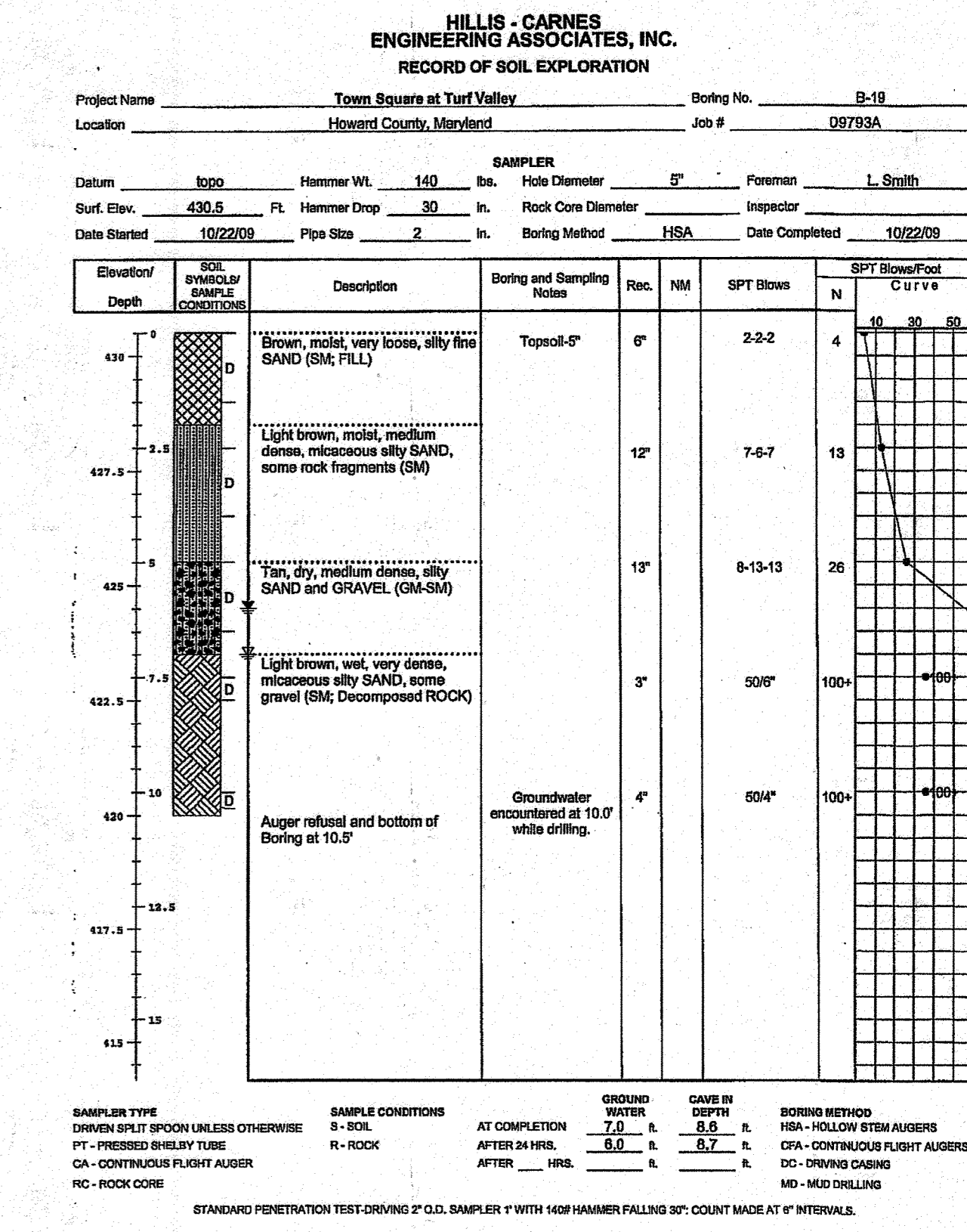
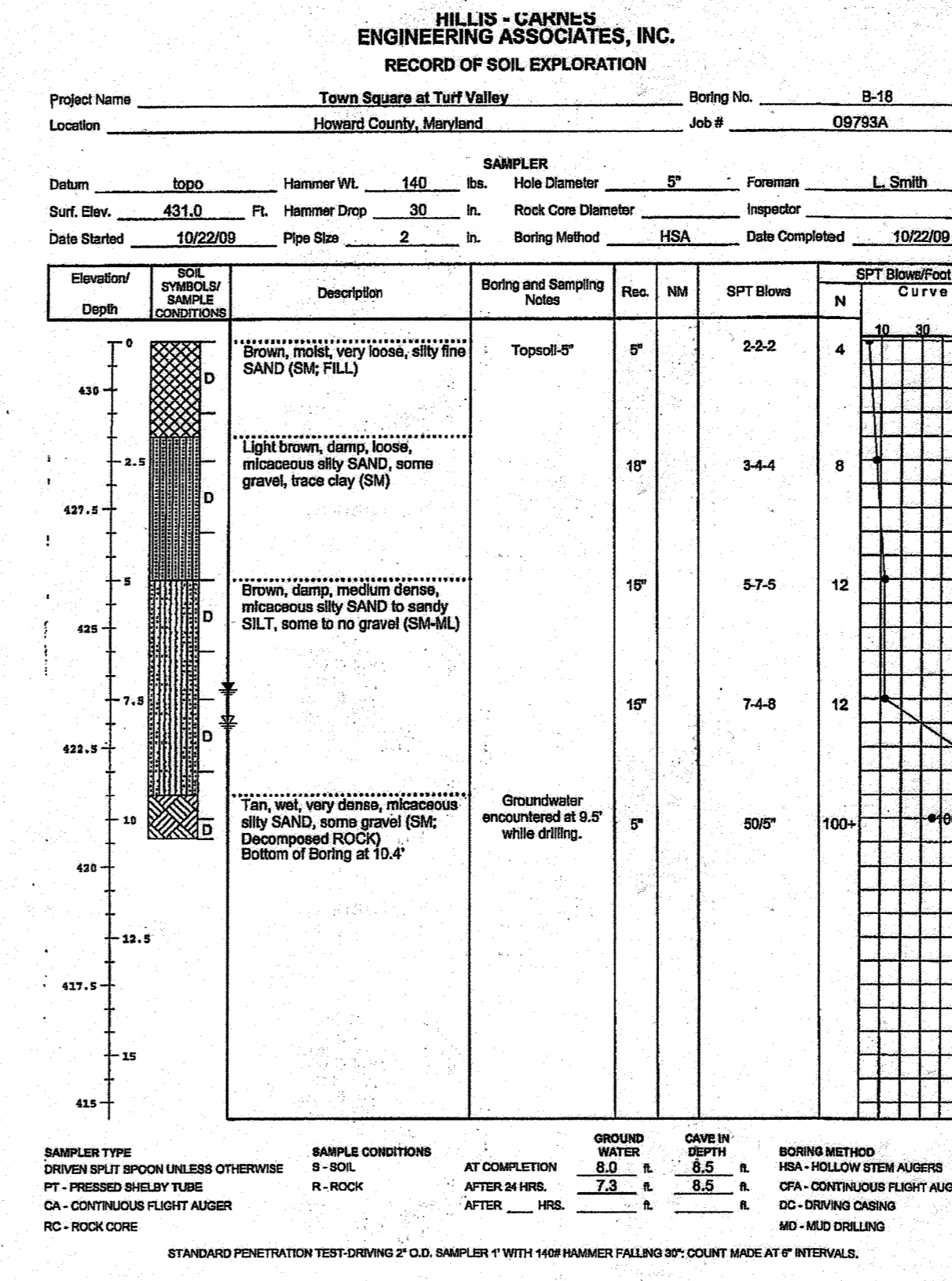
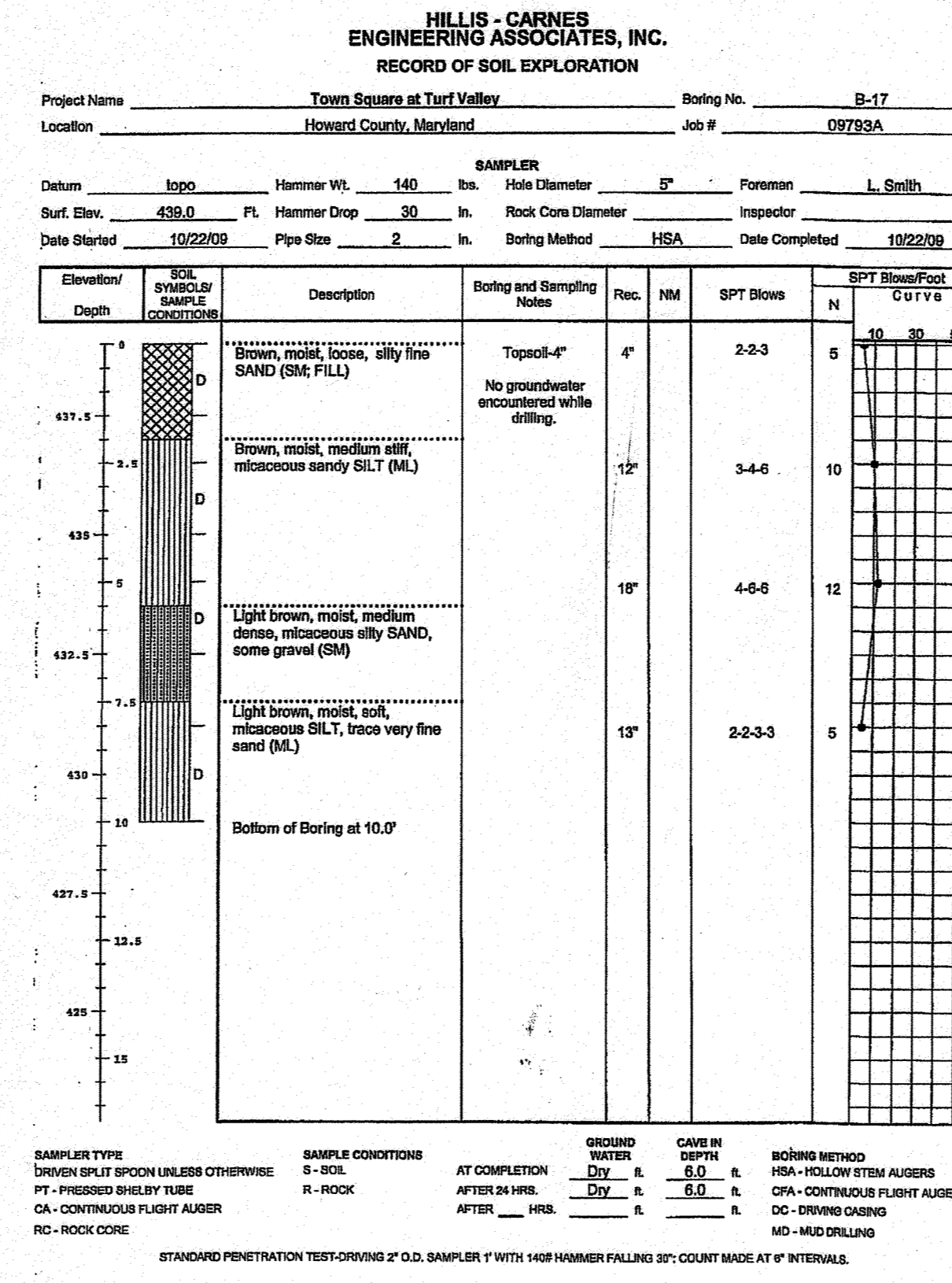
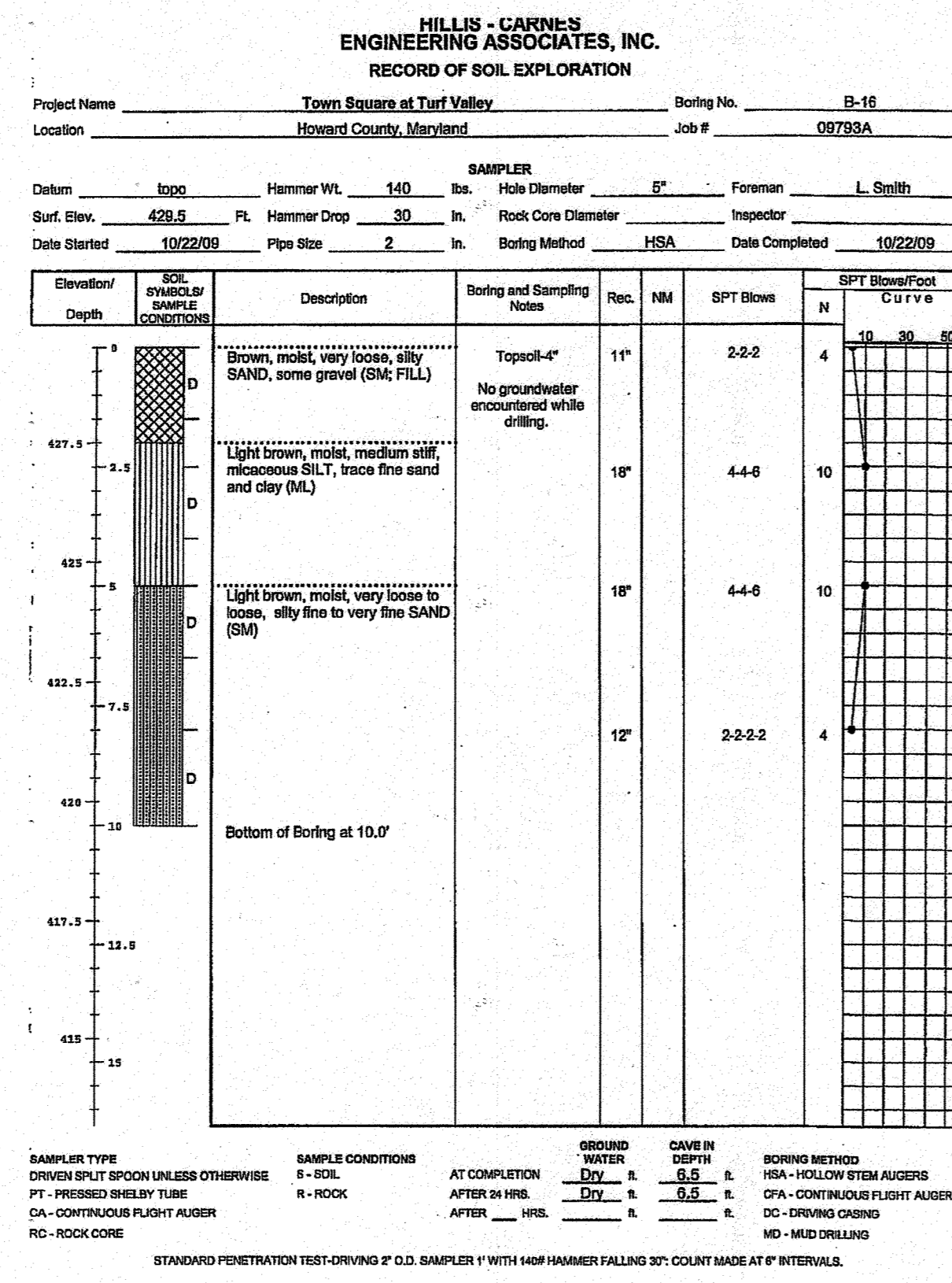
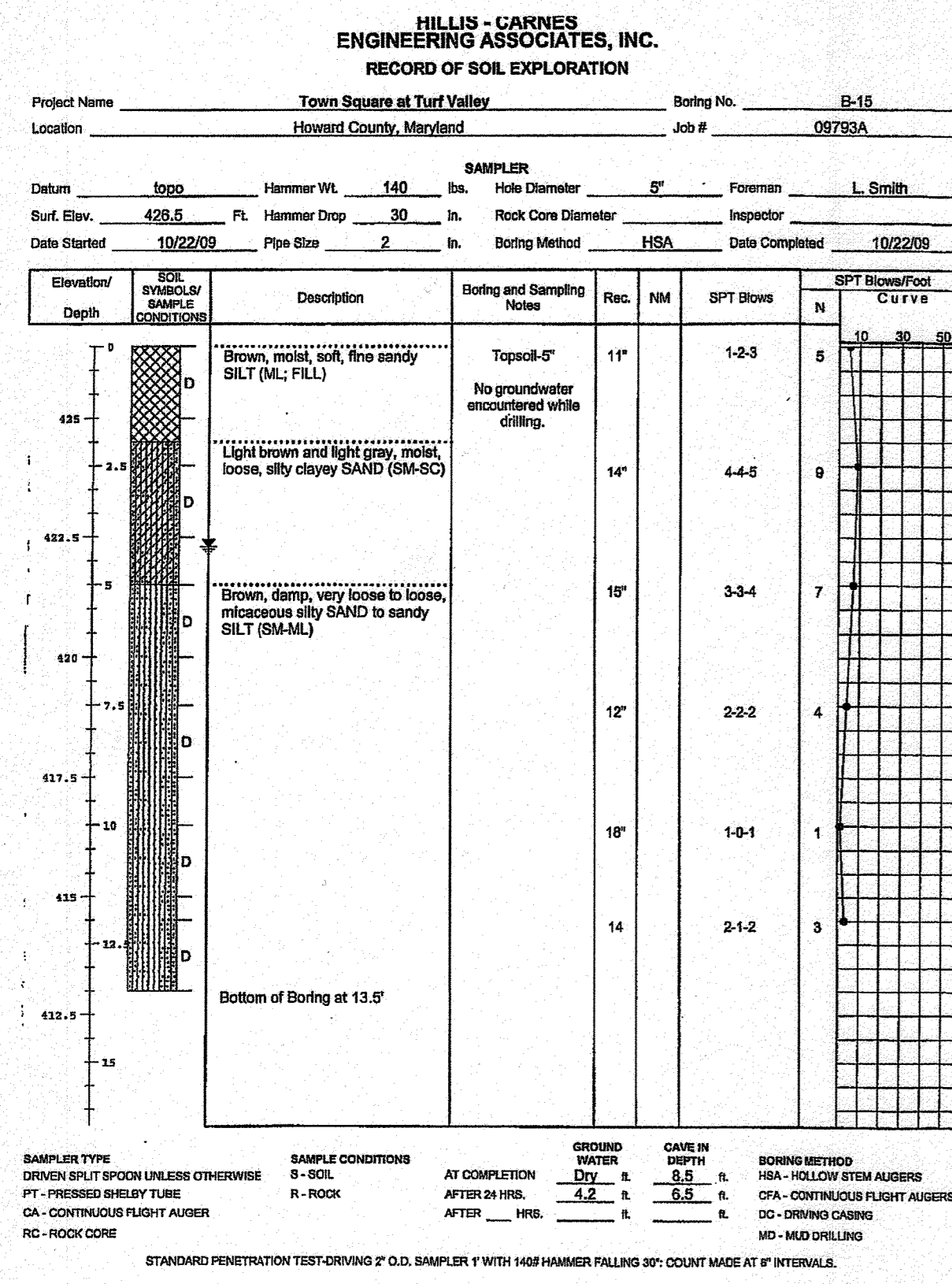
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
410-825-8400

DATE: APRIL, 2010  
SCALE: AS SHOWN

BEI PROJECT NO. 2208  
SHEET 18 OF 31







APPROVED: DEPARTMENT OF PLANNING & ZONING  
5/3/10  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
5/3/10  
4/28/10

APPROVED: PLANNING BOARD OF HOWARD COUNTY  
DATE: 4/15/10

6	9-26-2023	REMOVE GREEN BOLLARDS, REVERT FROM TITLE BLOCK
5	1-3-2019	REVISE TOTAL SHT #
4	1-11-2013	REVISE TITLE BLOCK
3	4-10-2012	REVISE SHEET NUMBER
2	9-21-2011	DELETE PARKING LOT LIGHT DETAIL
1	5-31-2011	ADD HOME SHOPPING EXPRESS ISLAND DETAIL AND CONCRETE PAD DETAIL.
NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS & LAND SURVEYORS & PLANNERS

9480 BALTIMORE NATIONAL FIRE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-8105 (F) 410-465-8644

60 THOMAS JOHNSON DRIVE A/FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BE-CIVILENGINEERING.COM

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

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

TOWN SQUARE AT TURF VALLEY  
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 425  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 2207B-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

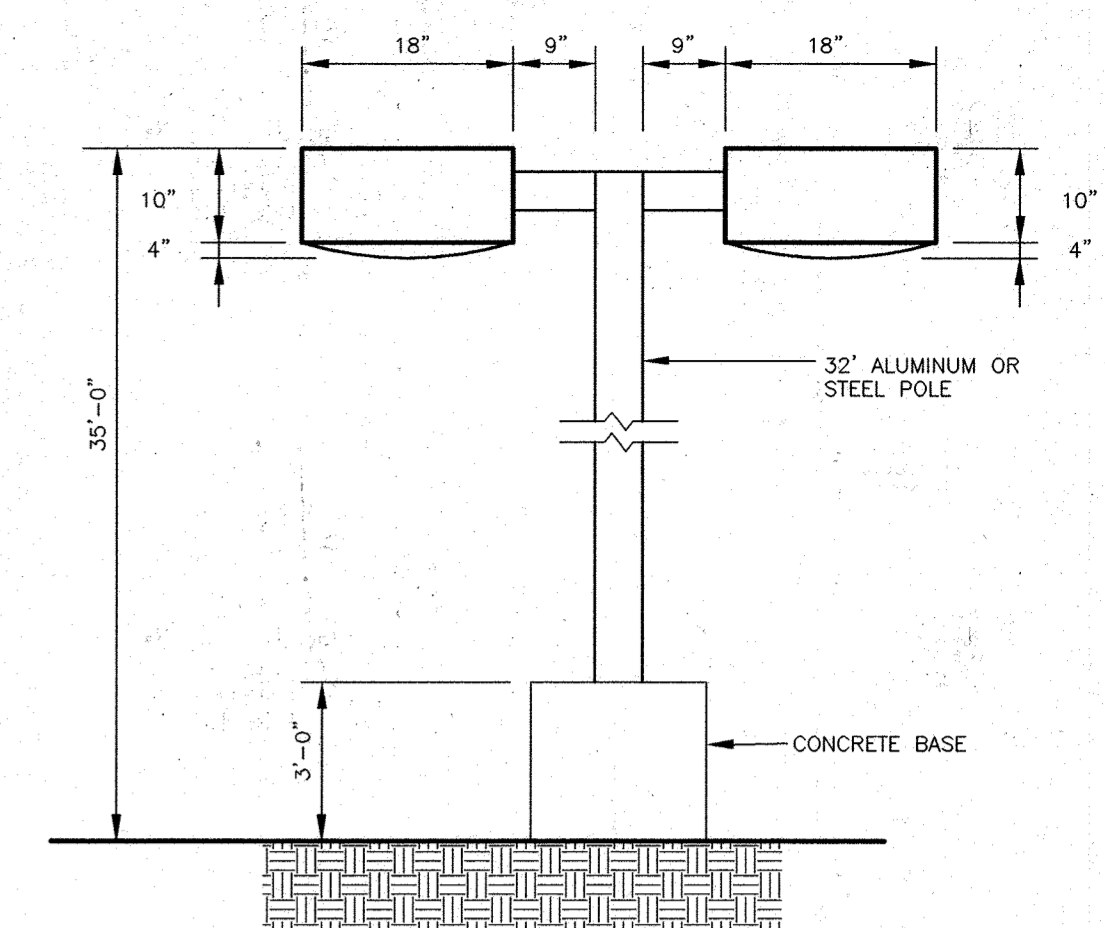
SOILS BORING PLAN AND DETAIL SHEET

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
SCALE: AS SHOWN SHEET 20 OF 31

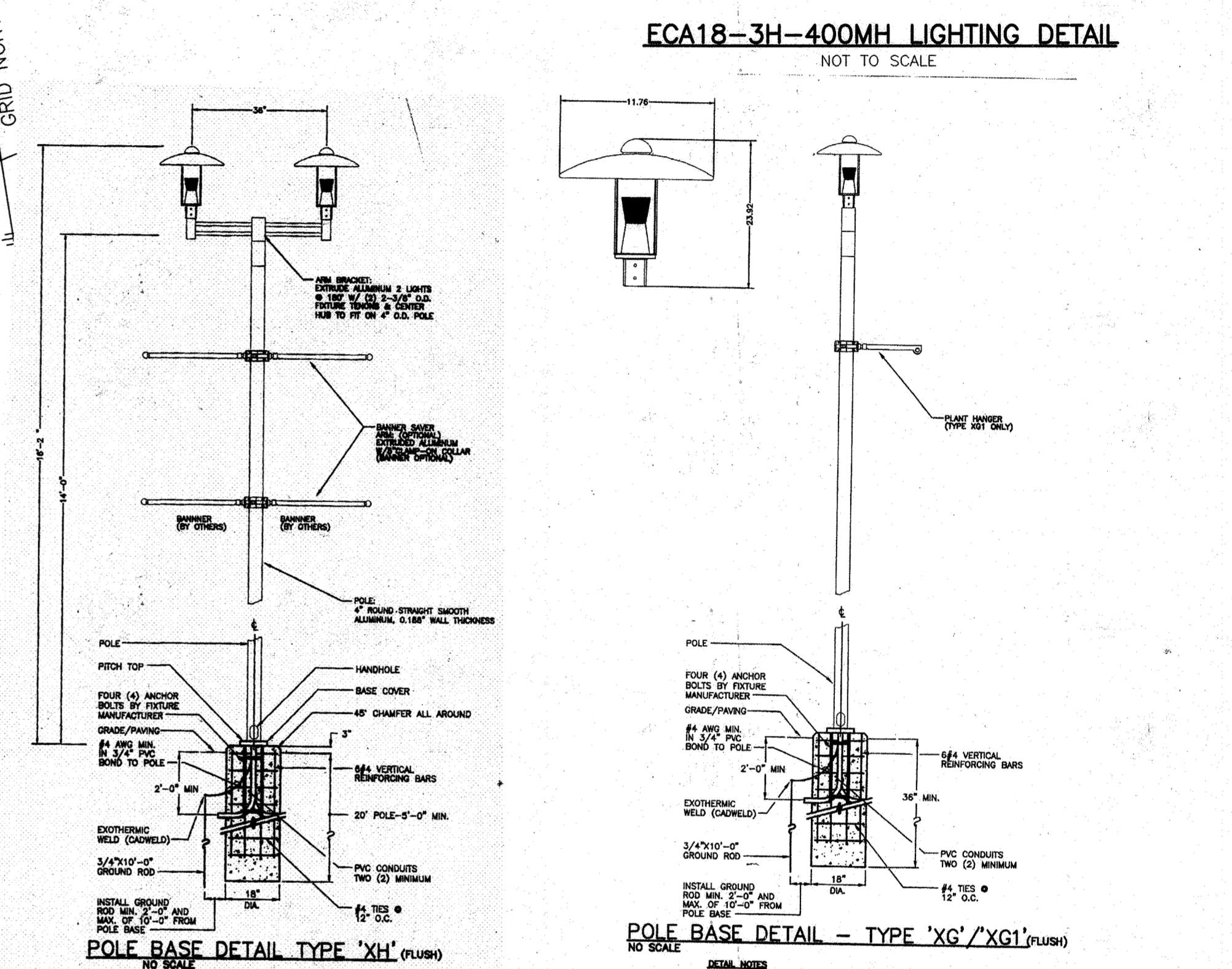
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
15	15	Quad	BACK-BACK	40000	0.800	ECA18-3H-400MH
15	15	Twiss	4 @ 90 DEGREE TT	40000	0.800	ECA18-3H-400MH
31	31	6 alt	STROBE	42000	0.750	CS-105-P4-RD-A-R5-D-10H
6	6	alt	BACK-BACK	14000	0.750	CS-105-P4-RD-A-R5-D-150H

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcType	illum	fc	3.11	18.4	0.0	N.A.	N.A.
Harris Teeter	illum	fc	11.72	18.4	7.6	1.54	2.42



NOTES:  
 1. THE STREET LIGHTS ALONG TOWN SQUARE PARKWAY SHALL BE TREATED AS PUBLIC STREET LIGHTS AND THUS PAID FOR BY THE DEVELOPER.  
 2. REFER TO SHEET 22 FOR ROAD 'A' STREET LIGHTING PLACEMENT AND TYPE.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

NO.	DATE	REVISION
5	9-26-2013	RENAME GARDEN BUILDING PROJECT FROM TITLE BLOCK
4	1-3-2014	REVISE TOTAL SHEET #
3	1-11-2013	REVISED PHOTOMETRIC PLAN BASED ON NEW LIGHT POLE LOCATIONS AND TYPE.
2	4-10-2012	REVISE SHEET NUMBER
1	9-21-2011	REVISED PHOTOMETRIC PLAN BASED ON 8-FOOT CANDLE MINIMUM.

**BENCHMARK ENGINEERS & PLANNERS**  
 ENGINEERING, INC.  
 8480 BALTIMORE NATIONAL FIRE & SURETY AVE. ELLOTT CITY, MARYLAND 21043  
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 60 THOMAS JOHNSON DRIVE, FREDERICK, MARYLAND 21702  
 (P) 301-371-3505 (F) 301-371-3506  
 WWW.BEI-ENGINEERING.COM

APPROVED  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE: 4/15/10

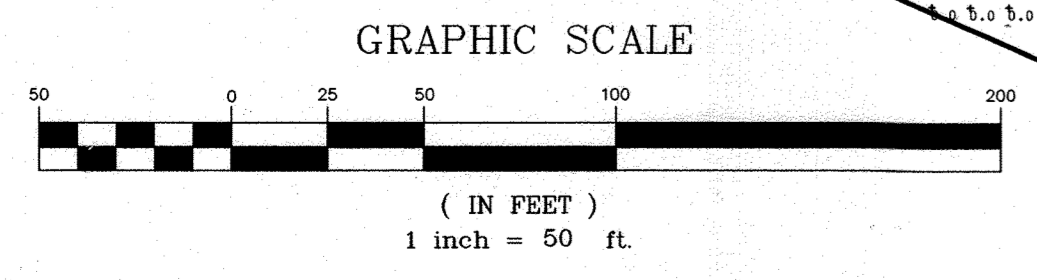
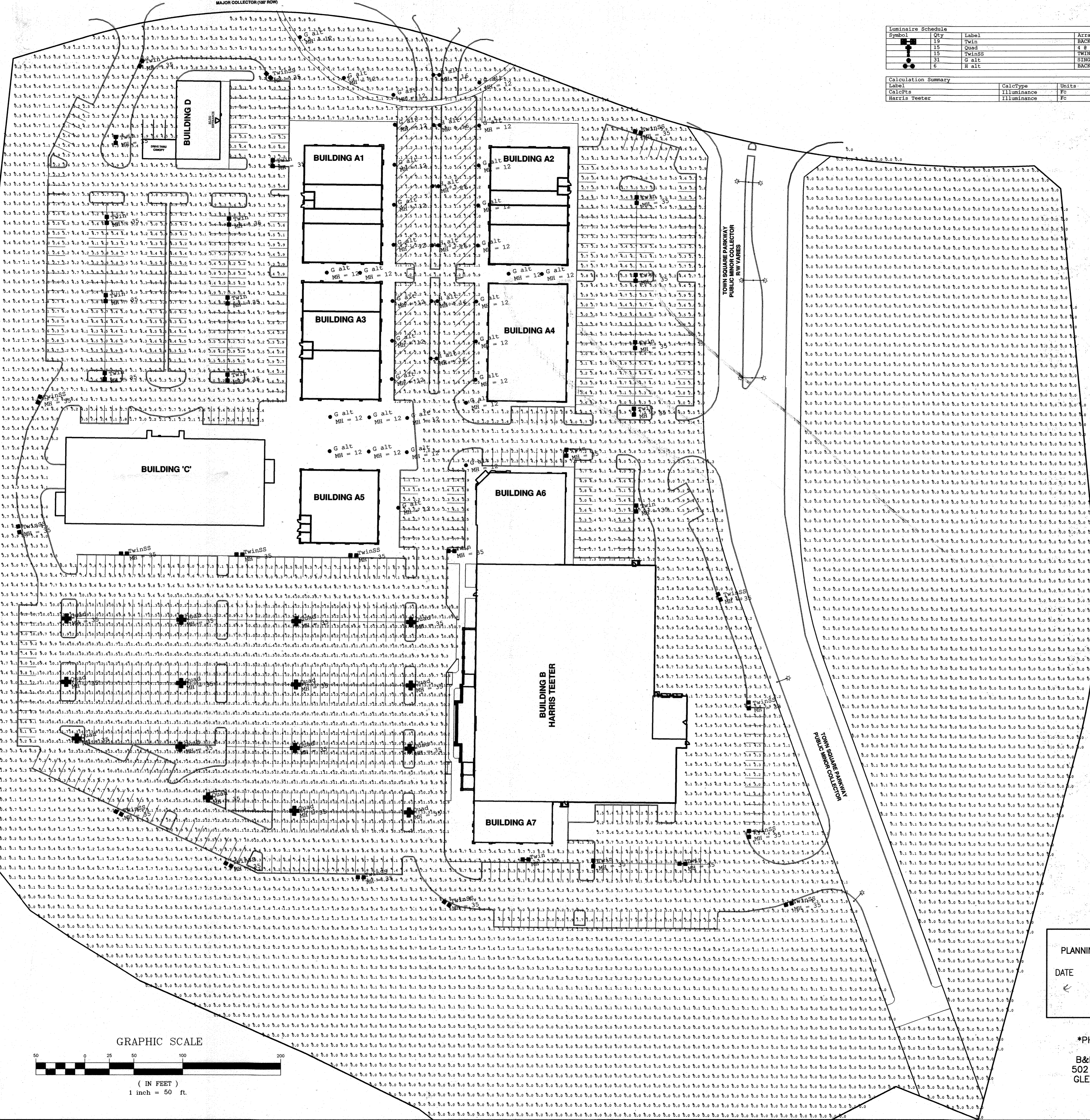
\*PHOTOMETRICS DESIGNED BY:  
 B&R CONSTRUCTION SERVICES,  
 502 MCCORMICK DRIVE, SUITE M  
 GLEN BERNIE, MARYLAND 21061  
 410-761-9600

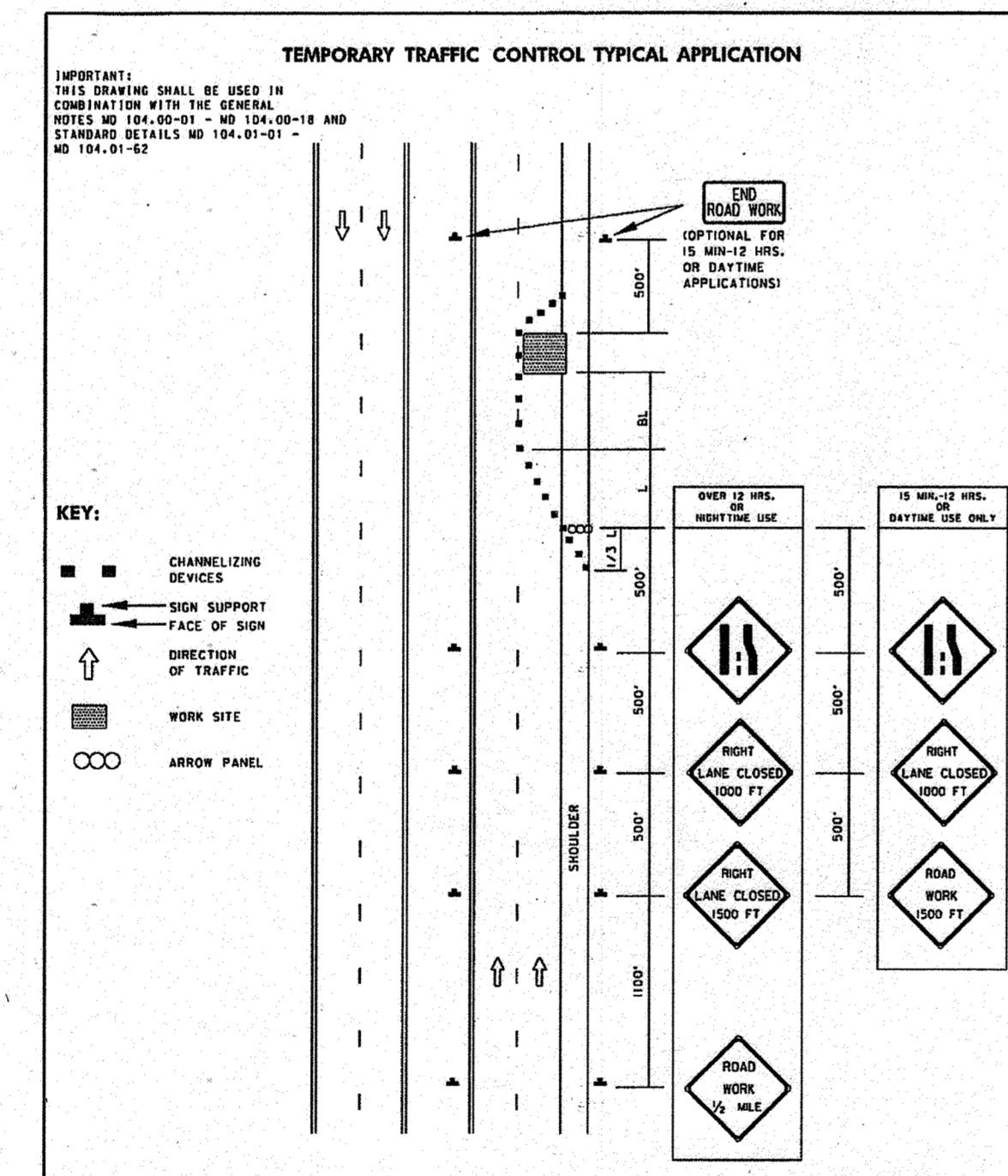
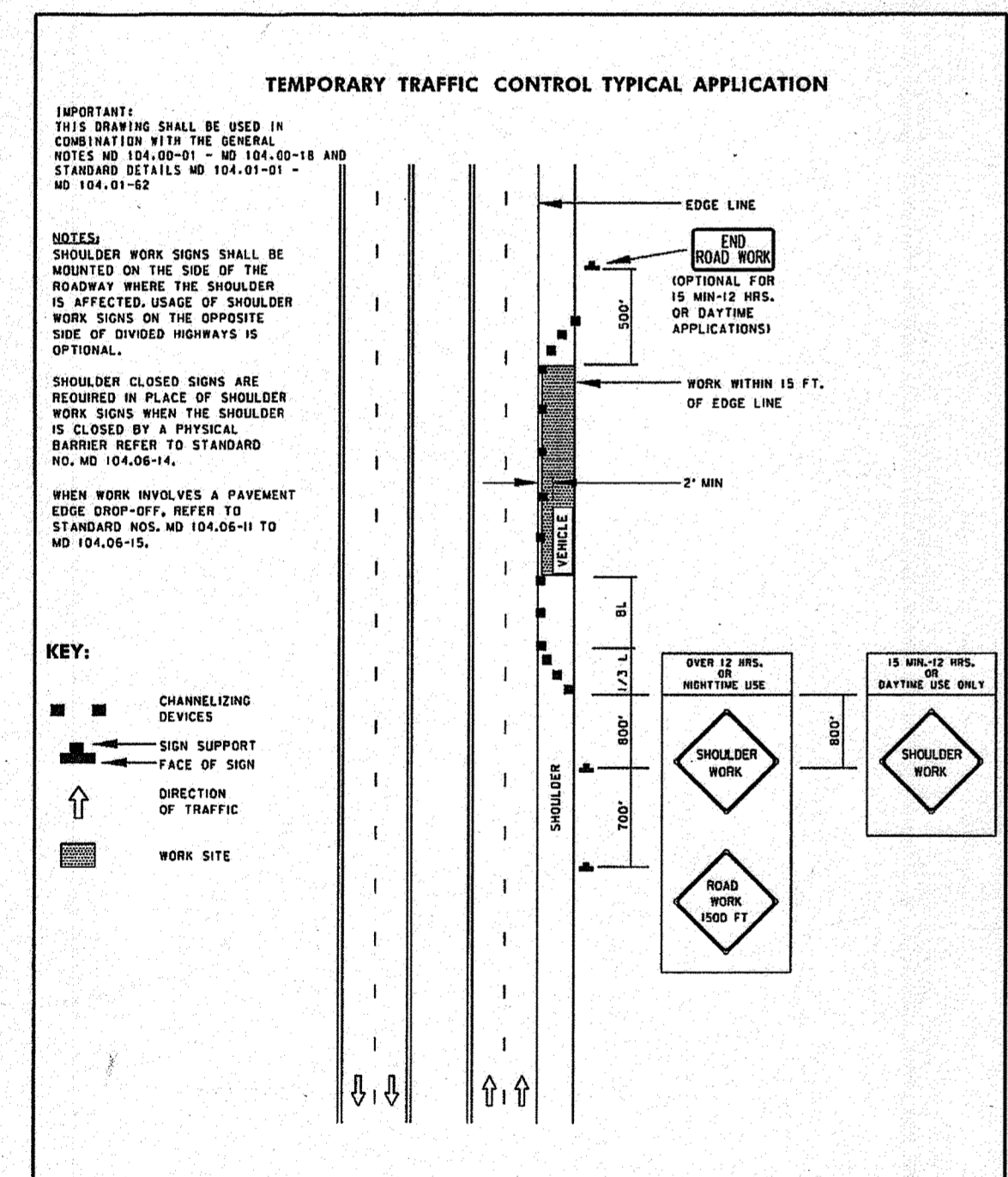
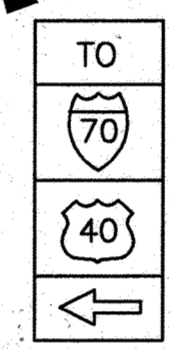
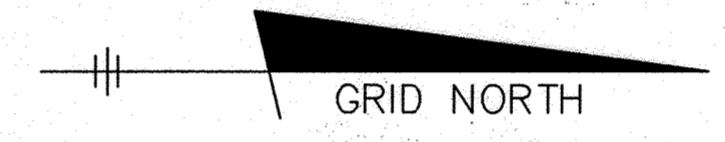
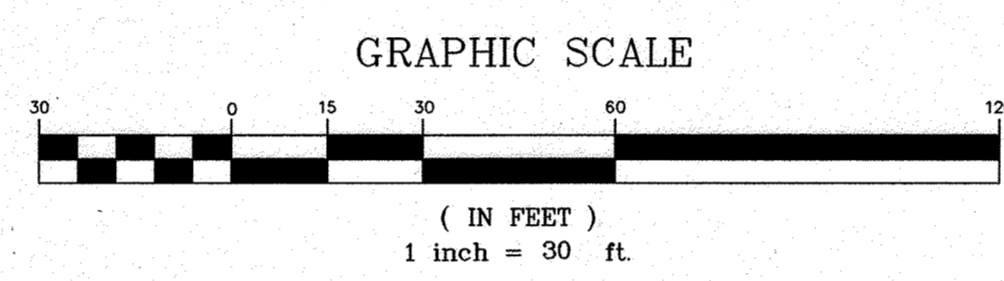
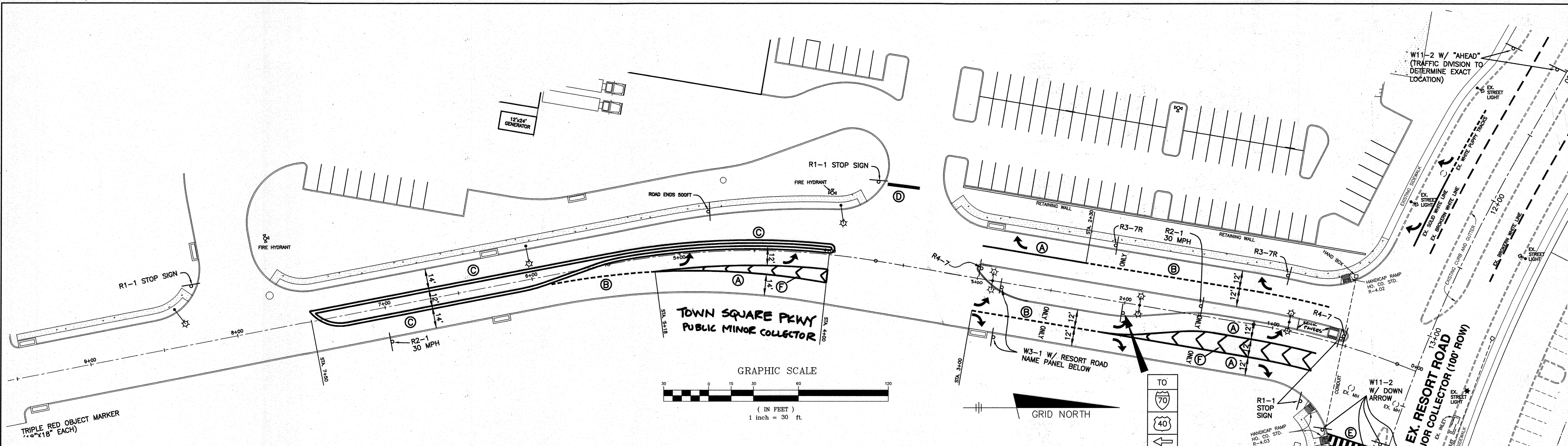
**TOWN SQUARE AT TURF VALLEY**  
 PARCEL 'J' AND OPEN SPACE LOT 3 OF TURF VALLEY PROFESSIONALS BUILDINGS PLAT NOS. 18696-18698  
 TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PGCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

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

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

REVISED SHOPPING CENTER LIGHTING PLAN  
 DATE: APRIL, 2010  
 BEI PROJECT NO. 2208  
 SCALE: AS SHOWN  
 SHEET 21 OF 31





**SIGN POSTS:**

ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

**CABLE PULLS:**

ALL 4" PVC CABLE PULLS TO HAVE ENDS IDENTIFIED BY BGE LOCATORS.

STREET LIGHT SCHEDULE		
SYMBOL	LOCATION	DESCRIPTION
	TOWN SQUARE PKWY STA. 0+90 RIGHT	2-250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING TWIN 6" ARMS
	TOWN SQUARE PKWY STA. 2+90 CENTER	250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12" ARM
	TOWN SQUARE PKWY STA. 3+95 RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12" ARM
	TOWN SQUARE PKWY STA. 6+00 RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12" ARM
	TOWN SQUARE PKWY STA. 8+38 RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12" ARM

**STRIPING LEGEND**

- (A) 5" WIDE WHITE SOLID LINE
- (B) 5" WIDE WHITE "PUPPY TRACKS" (2' SPACE, 6" PAINT, 2' SPACE)
- (C) 5" WIDE DOUBLE YELLOW LINE
- (D) 24" WIDE WHITE SOLID LINE FOR STOP BAR THERMOPLASTIC OR HEAT APPLIED PREFORMED TAPE
- (E) ALTERNATE 2' WIDE BLACKTOP AND 2' WIDE WHITE THERMOPLASTIC OR HEAT APPLIED PREFORMED TAPE SIDES TO BE 1' WIDE WHITE THERMOPLASTIC OR HEAT APPLIED PREFORMED TAPE.
- (F) 10" WIDE WHITE SOLID LINE SPACED 25'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 4/2/10

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 5/3/10

DIRECTOR

DATE: 5/3/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

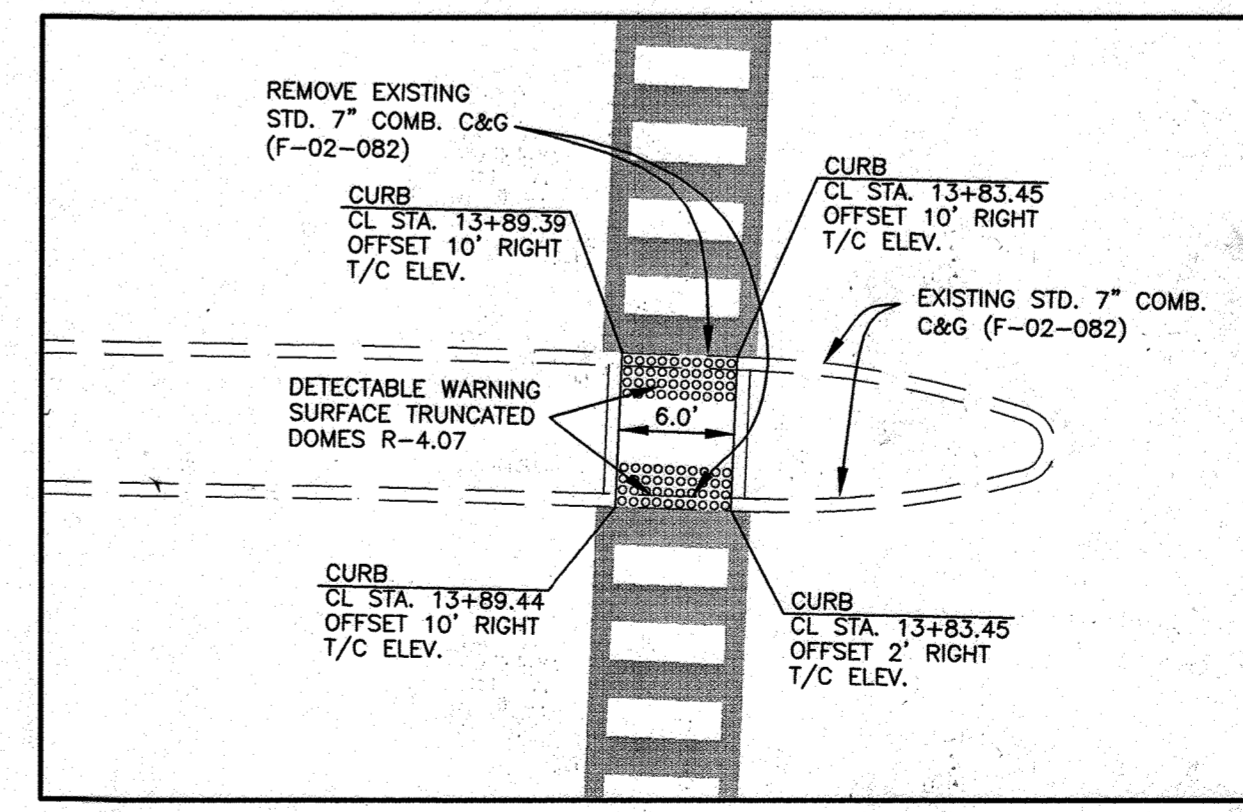
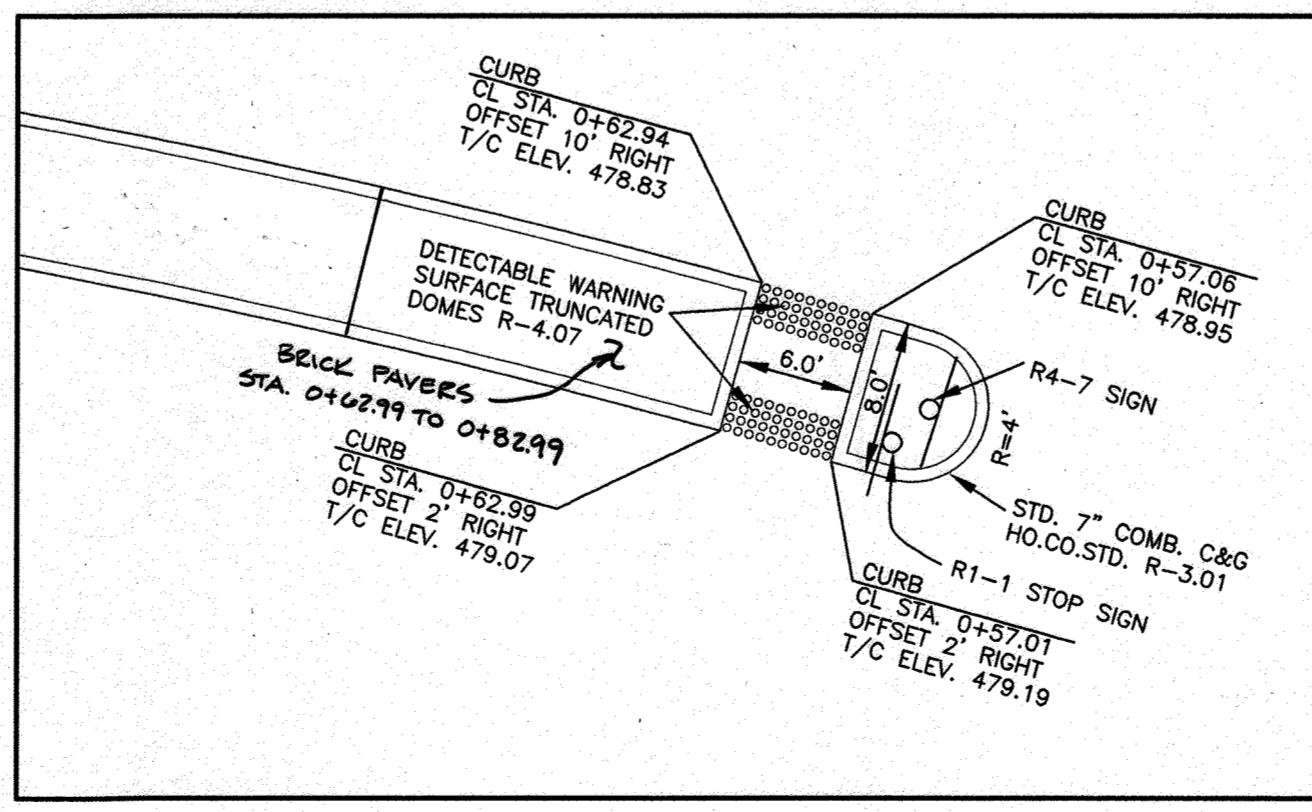
DATE: 4/2/10

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 5/3/10

DIRECTOR

DATE: 5/3/10



NO.	DATE	REVISION
5	9-24-2023	REMOVE GREEN BUILDING PERMIT FROM TITLE BLOCK
4	1-3-2019	REVISE TOTAL SHEET #
3	1-11-2013	REVISE ROAD 'A' TO TOWN SQUARE PARKWAY, REVISE TITLE BLOCK
2	4-10-2012	REVISE SHEET NUMBER
1	5-31-2011	REVISE ISLAND IN ROAD 'A' AT STATION 3+00.

**BENCHMARK ENGINEERING, INC.**

ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE SUITE 418 & ELLICOTT CITY, MARYLAND 21043  
 (P) 410-485-6105 (F) 410-485-6844

60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702  
 (P) 301-371-3505 (F) 301-371-3506  
 WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland. License No. 20889, Expiration Date: 7-22-2011.

4/14/2010

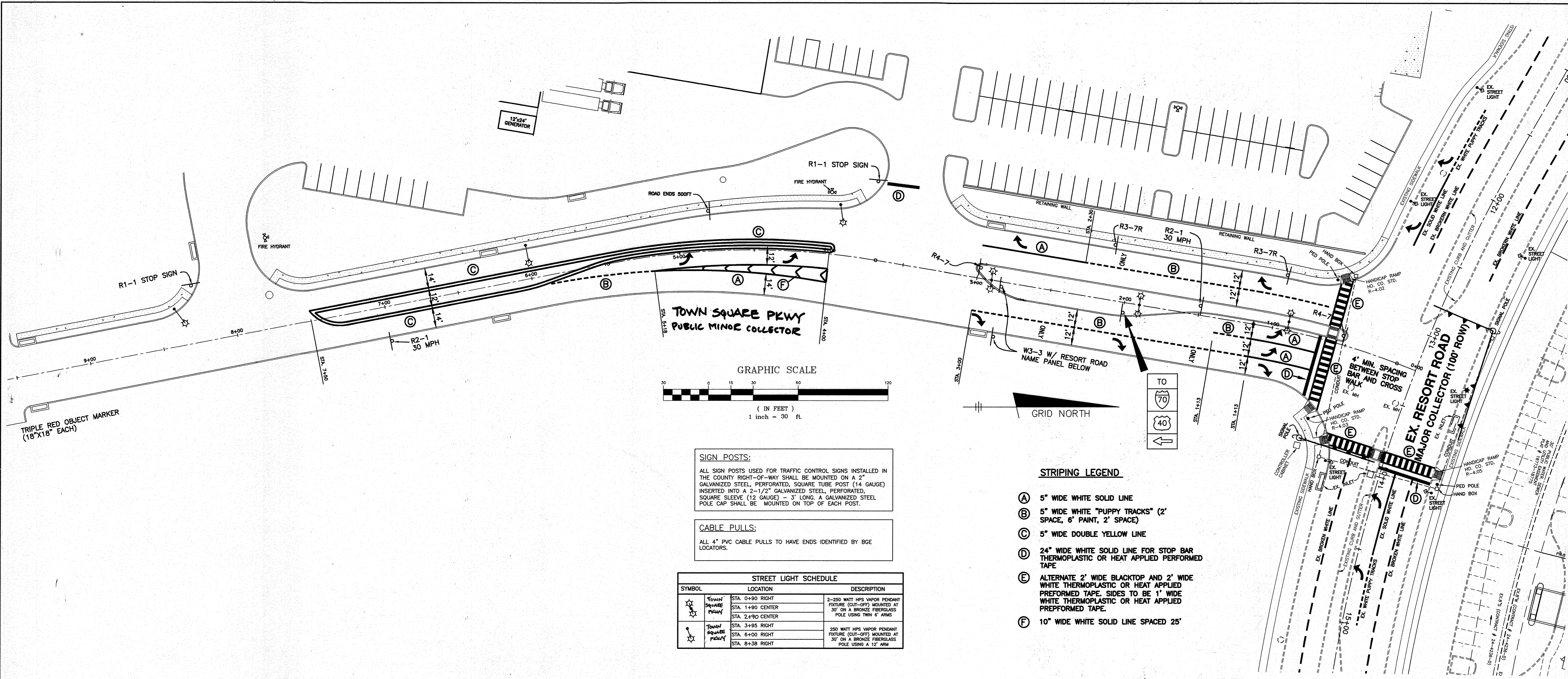
**TOWN SQUARE AT TURF VALLEY**

PARCELS 'J' & 'K' AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078 - 22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PGCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**ROAD 'A' INTERIM STREET LIGHT AND STRIPING PLAN FOR STOP CONTROL**

DATE: APRIL, 2010 BEI PROJECT NO. 2208  
 SCALE: AS SHOWN SHEET 22 OF 31

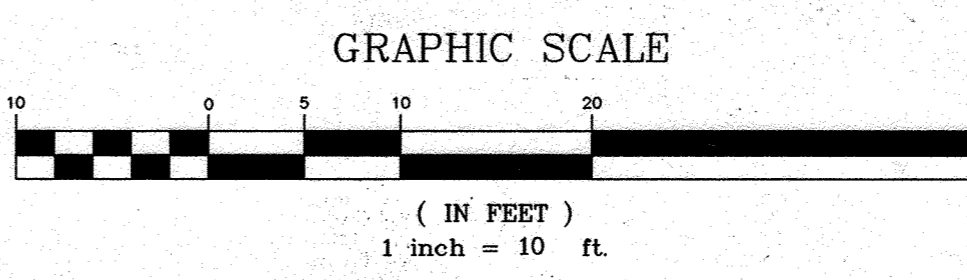
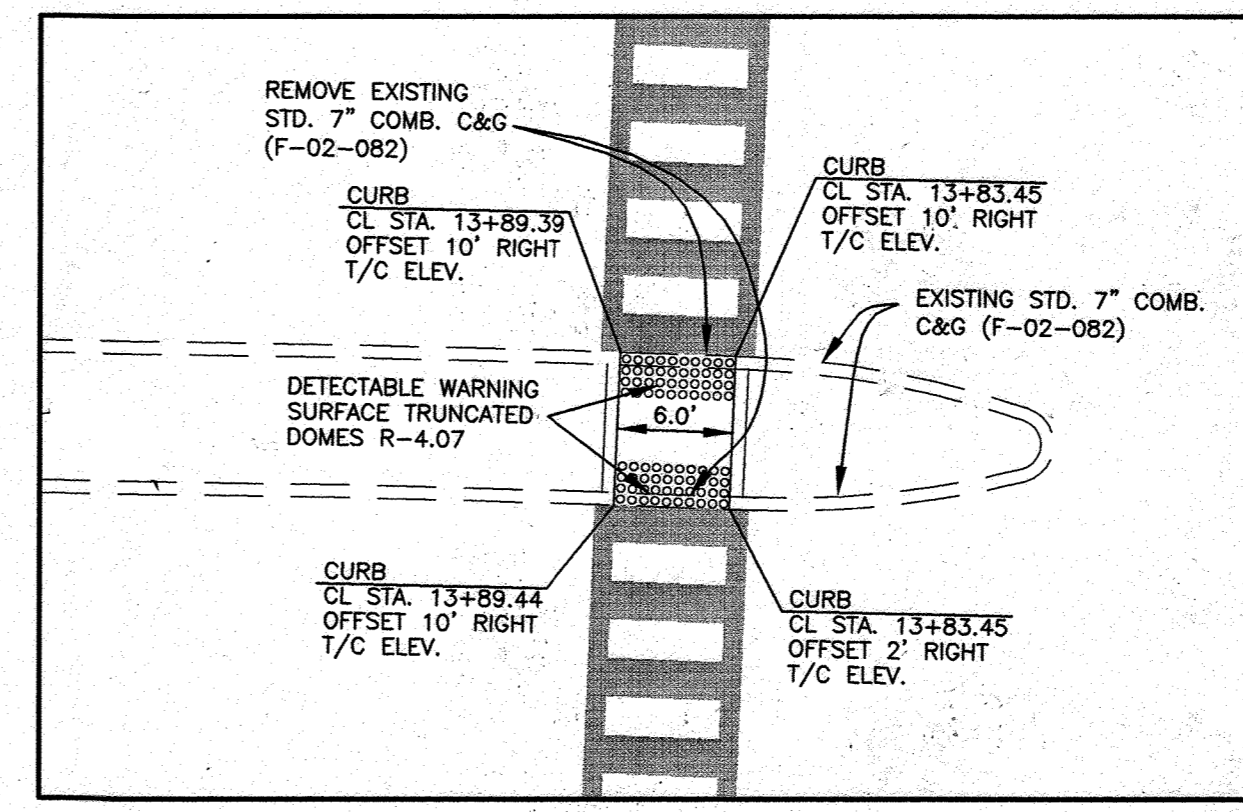
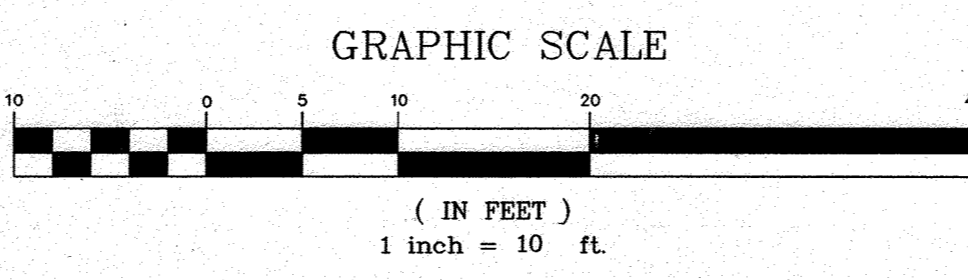
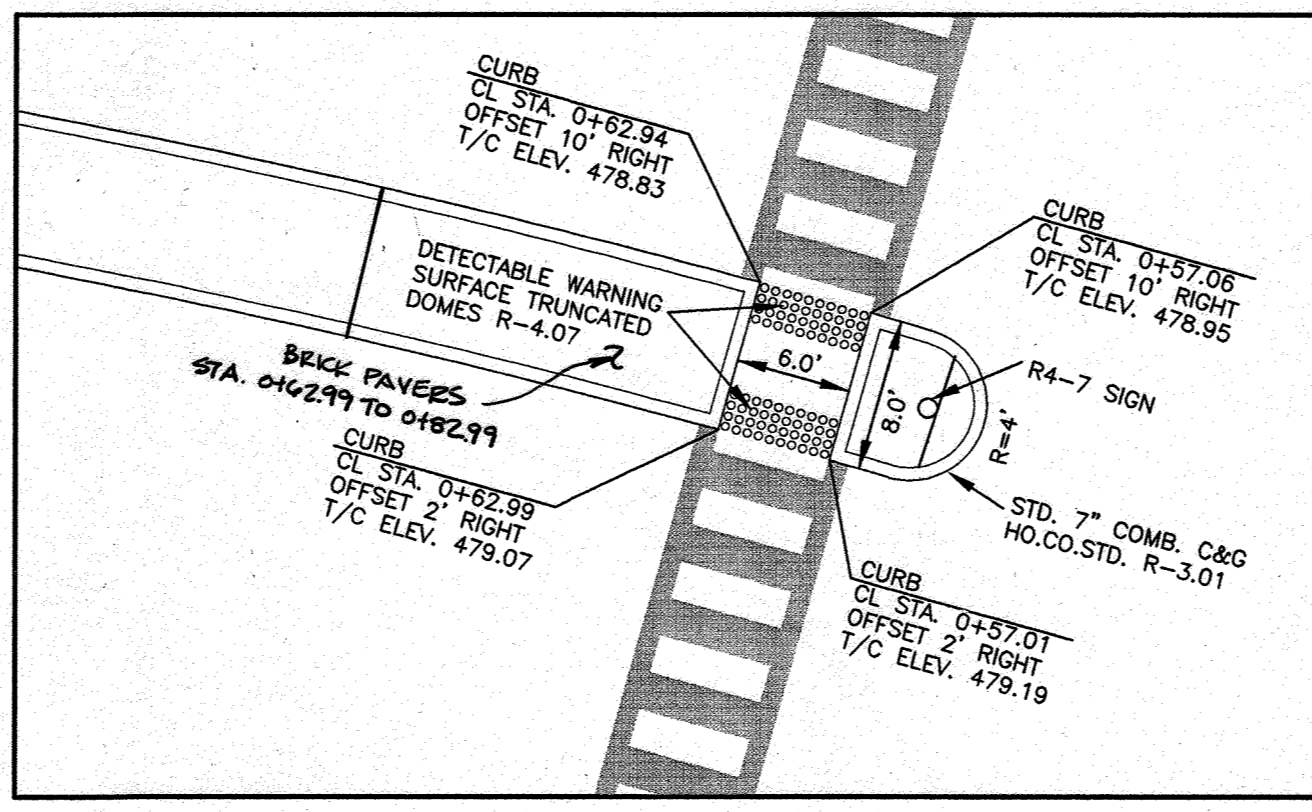


**SIGN POSTS:**  
ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

**CABLE PULLS:**  
ALL 4" PVC CABLE PULLS TO HAVE ENDS IDENTIFIED BY BGE LOCATORS.

STREET LIGHT SCHEDULE		
SYMBOL	LOCATION	DESCRIPTION
☼	Town Square Pkwy STA. 0+90 RIGHT	2-250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING TWIN 6' ARMS
	Town Square Pkwy STA. 1+90 CENTER	
	Town Square Pkwy STA. 2+90 CENTER	
☼	Town Square Pkwy STA. 3+95 RIGHT	250 WATT HPS VAPOR PENDANT FIXTURE (CUT-OFF) MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE USING A 12' ARM
	Town Square Pkwy STA. 6+00 RIGHT	
	Town Square Pkwy STA. 8+38 RIGHT	

- STRIPING LEGEND**
- (A) 5" WIDE WHITE SOLID LINE
  - (B) 5" WIDE WHITE "PUPPY TRACKS" (2' SPACE, 6" PAINT, 2' SPACE)
  - (C) 5" WIDE DOUBLE YELLOW LINE
  - (D) 24" WIDE WHITE SOLID LINE FOR STOP BAR THERMOPLASTIC OR HEAT APPLIED PERFORMED TAPE
  - (E) ALTERNATE 2' WIDE BLACKTOP AND 2' WIDE WHITE THERMOPLASTIC OR HEAT APPLIED PERFORMED TAPE, SIDES TO BE 1' WIDE WHITE THERMOPLASTIC OR HEAT APPLIED PERFORMED TAPE.
  - (F) 10" WIDE WHITE SOLID LINE SPACED 25'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

DIRECTOR

DATE: 4/29/10

DATE: 5/3/10

DATE: 5/3/10

APPROVED

PLANNING BOARD OF HOWARD COUNTY

DATE: 4/15/10

5	9-24-2023	REVISE GREEN BUILDING PROJECT FROM TITLE BLOCK
4	1-3-2019	REVISE TOTAL SHT #
3	1-11-2013	REVISE ROAD 'A' TO TOWN SQUARE PKWY, REVISE TITLE BLOCK
2	4-10-2012	REVISE SHEET NUMBER
1	5-31-2011	REVISE ISLAND IN ROAD 'A' AT STATION 3+00
NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**

ENGINEERS & LAND SURVEYORS & PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-5105 (F) 410-465-5644

60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BE-CIVILENGINEERING.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. 22849-Expiration Date: 7-22-2011.

STATE OF MARYLAND  
BRIAN F. CLEARY  
Professional Engineer  
4/14/2010

**TOWN SQUARE AT TURF VALLEY**

PARCELS 'J' & 'K' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

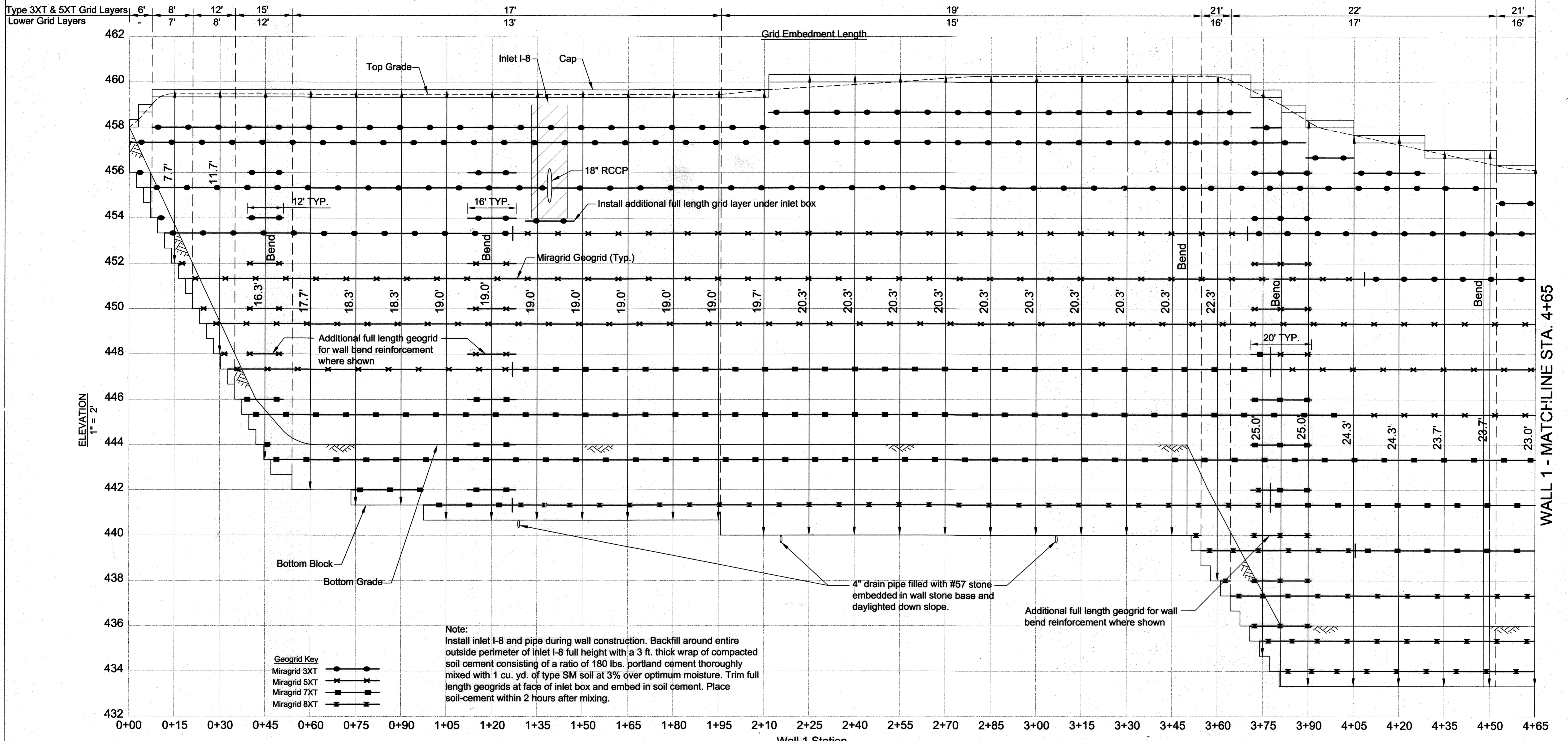
TAX MAP: 16 - GRID: 10 - PARCEL: P/0 8 & 50  
ZONED: PCCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**ROAD 'A' ULTIMATE STREET LIGHT AND STRIPING PLAN WITH SIGNALIZATION**

DATE: APRIL, 2010 BEI PROJECT NO. 2208

SCALE: AS SHOWN SHEET 22A OF 31





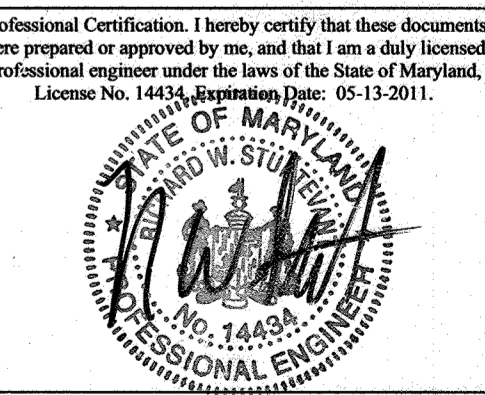
**Geogrid Key**

Miragrid 3XT	●
Miragrid 5XT	×
Miragrid 7XT	■
Miragrid 8XT	+

**Note:**  
 Install inlet I-8 and pipe during wall construction. Backfill around entire outside perimeter of inlet I-8 full height with a 3 ft. thick wrap of compacted soil cement consisting of a ratio of 180 lbs. portland cement thoroughly mixed with 1 cu. yd. of type SM soil at 3% over optimum moisture. Trim full length geogrids at face of inlet box and embed in soil cement. Place soil-cement within 2 hours after mixing.

NO.	DATE	REVISION
1	9-26-2023	REVERSE GREEN BUILDING PROJECT FROM TITLE BLOCK
3	1-3-2019	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER

**HILLIS-CARNES**  
 ENGINEERING ASSOCIATES  
 10975 Guilford Road, Suite A Annapolis Junction, MD  
 (410) 880-4788 Fax: (410) 880-4098



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Howard County Department of Planning and Zoning*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 4/25/10

*Keith Sheelwood*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5/3/10

*Morgan P. Suttles*  
 DIRECTOR  
 DATE: 5/3/10

APPROVED:  
 PLANNING BOARD OF HOWARD COUNTY

DATE: 4/15/10  
*ETSA*

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

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

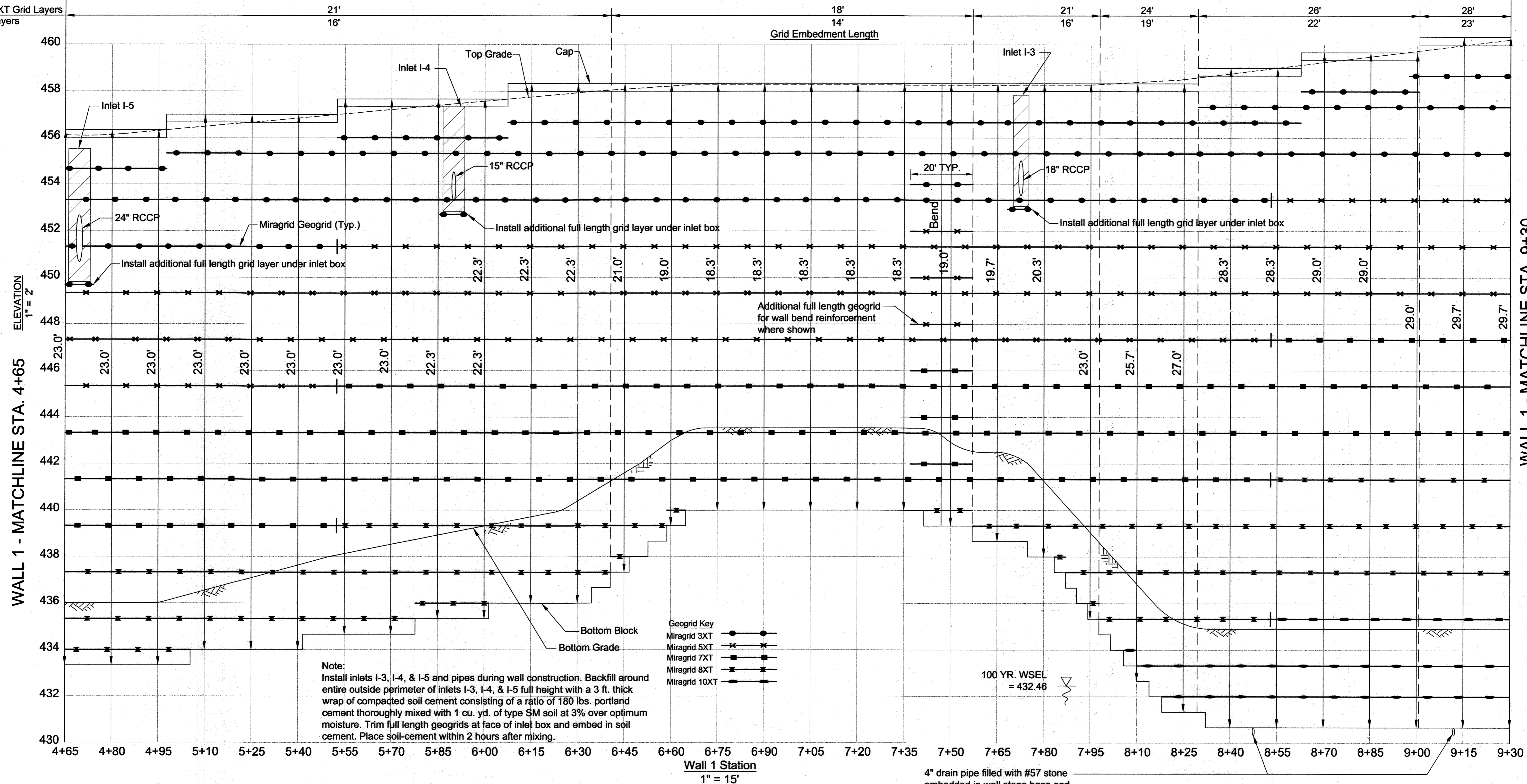
TOWN SQUARE AT TURF VALLEY  
 PARCELS 31 & 32 AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PCCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

WALL 1 ELEVATION - STA. 0+00 TO 4+65

DATE: APRIL, 2010 HCEA PROJECT NO. 08209-D  
 SCALE: AS SHOWN SHEET 23 OF 31

Type 3XT & 5XT Grid Layers  
Lower Grid Layers



Note:  
Install inlets I-3, I-4, & I-5 and pipes during wall construction. Backfill around entire outside perimeter of inlets I-3, I-4, & I-5 full height with a 3 ft. thick wrap of compacted soil cement consisting of a ratio of 180 lbs. portland cement thoroughly mixed with 1 cu. yd. of type SM soil at 3% over optimum moisture. Trim full length geogrids at face of inlet box and embed in soil cement. Place soil-cement within 2 hours after mixing.

- Geogrid Key
- Miragrid 3XT
  - Miragrid 5XT
  - Miragrid 7XT
  - Miragrid 8XT
  - Miragrid 10XT

100 YR. WSEL  
= 432.46

4" drain pipe filled with #57 stone  
embedded in wall stone base and  
daylighted down slope.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 4/21/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 5/3/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 5/3/10  
DIRECTOR DATE

APPROVED:  
PLANNING BOARD OF HOWARD COUNTY

DATE 4/15/10  
*[Signature]*

4	9-26-2013	REVISE GREEN BUILDING PROJECT FROM TITLE BLOCK
3	1-3-2013	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER
NO.	DATE	REVISION

**HILLIS-CARNES**  
ENGINEERING ASSOCIATES

10975 Guilford Road, Suite A Annapolis Junction, MD  
(410) 880-4788 Fax: (410) 880-4098

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. 14424 (Expiring Date: 05-15-2011).

OWNER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

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

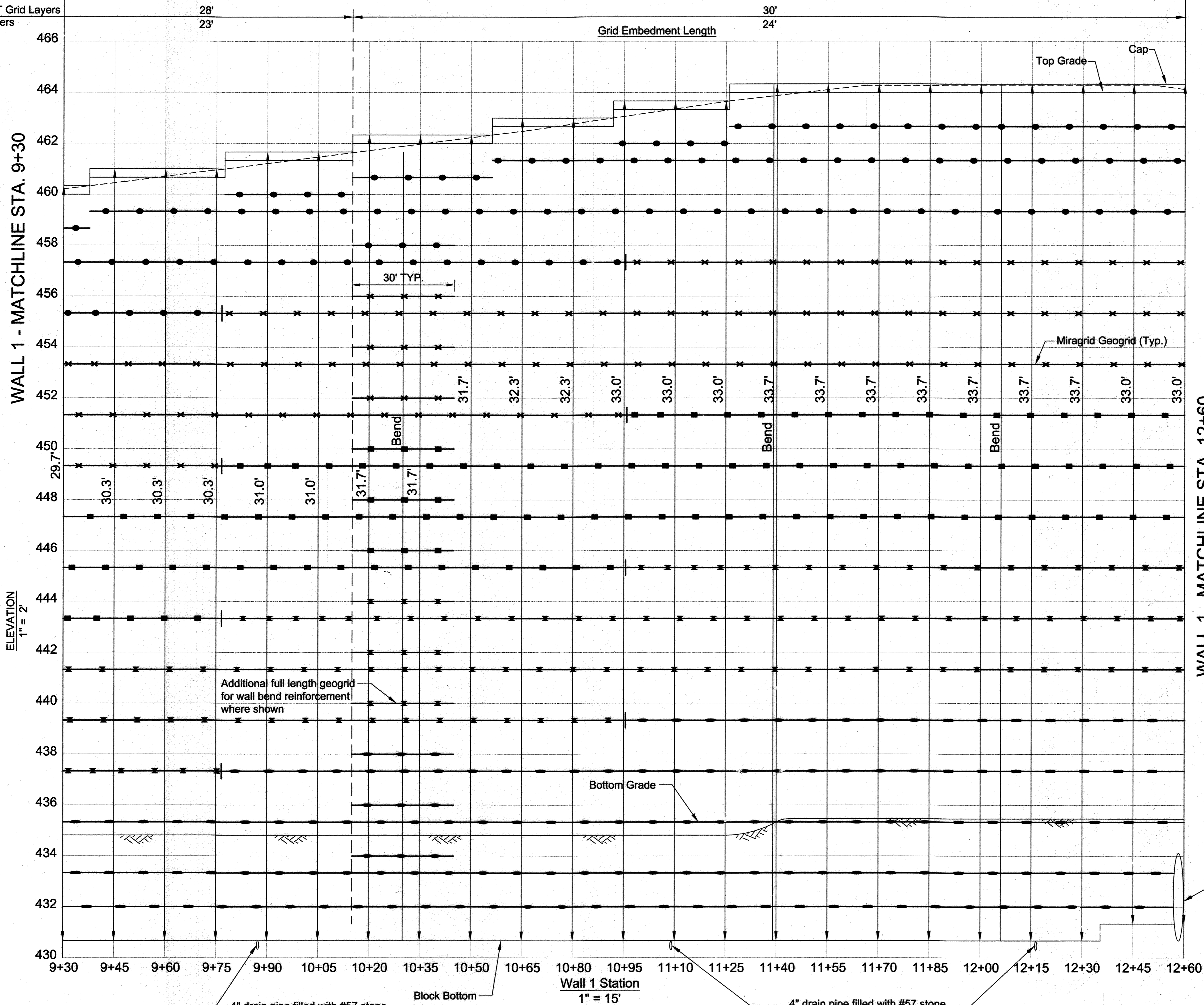
TOWN SQUARE AT TURF VALLEY  
PARCELS '31' & '32' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PCCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

WALL 1 ELEVATION - STA. 4+65 TO 9+30

DATE: APRIL, 2010 HCEA PROJECT NO. 08209-D  
SCALE: AS SHOWN SHEET 24 of 31

Type 3XT & 5XT Grid Layers  
Lower Grid Layers



Note:  
Slope top geogrid layers as needed to allow water line installation above top grid layer without conflict.

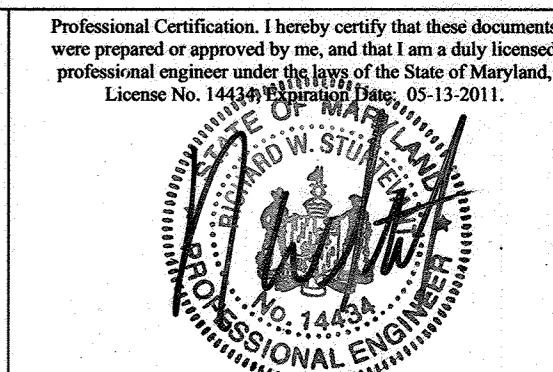
Geogrid Key

Miragrid 3XT	●
Miragrid 5XT	×
Miragrid 7XT	■
Miragrid 8XT	+
Miragrid 10XT	○

Note:  
Install pipe during wall construction. Trim block to within 1" of pipe face. Pack block voids around pipe with 2000 psi strength mortar.

NO.	DATE	REVISION
4	9-26-2023	REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
3	1-3-2019	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER

**HILLIS-CARNES**  
ENGINEERING ASSOCIATES  
10975 Guilford Road, Suite A Annapolis Junction, MD  
(410) 880-4788 Fax: (410) 880-4098



OWNER: MANGIONE ENTERPRISES OF TURF VALLEY, LP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	TOWN SQUARE AT TURF VALLEY PARCELS '3' & '32 AND OPEN SPACE LOTS 4 & 5 TURF VALLEY PROFESSIONAL BUILDINGS PLAT NOS. 2207B-22079 TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50 ZONED: PGCC (MULTI-USE SUBDISTRICT) ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400	WALL 1 ELEVATION - STA 9+30 TO 12+60 DATE: APRIL, 2010 HCEA PROJECT NO. 08209-D SCALE: AS SHOWN SHEET 25 OF 31

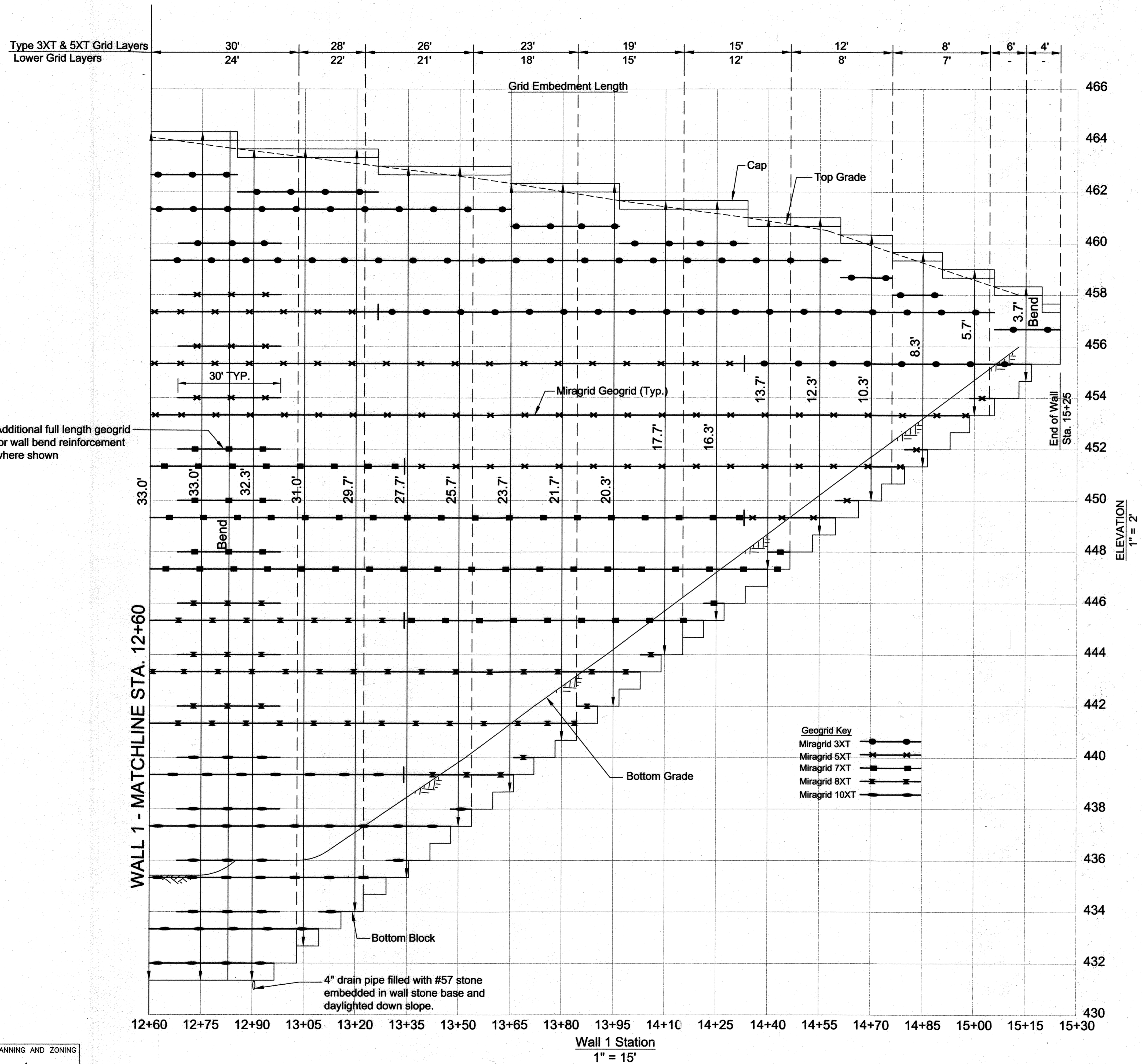
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
  
 DIRECTOR

APPROVED:  
PLANNING BOARD OF HOWARD COUNTY  
 DATE 4/15/10

4" drain pipe filled with #57 stone embedded in wall stone base and daylighted down slope.

Block Bottom

4" drain pipe filled with #57 stone embedded in wall stone base and daylighted down slope.

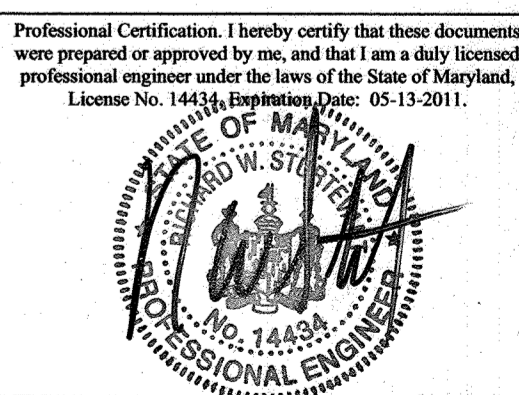


Additional full length geogrid for wall bend reinforcement where shown

WALL 1 - MATCHLINE STA. 12+60

NO.	DATE	REVISION
4	9-26-2023	REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
3	1-3-2019	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER

**HILLIS-CARNES**  
ENGINEERING ASSOCIATES  
10975 Guilford Road, Suite A Annapolis Junction, MD  
(410) 880-4788 Fax: (410) 880-4098



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Adrian...* 4/21/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Kurt...* 5/3/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Dianne...* 5/3/10  
 DIRECTOR

APPROVED:  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE 4/15/10  
*...*

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

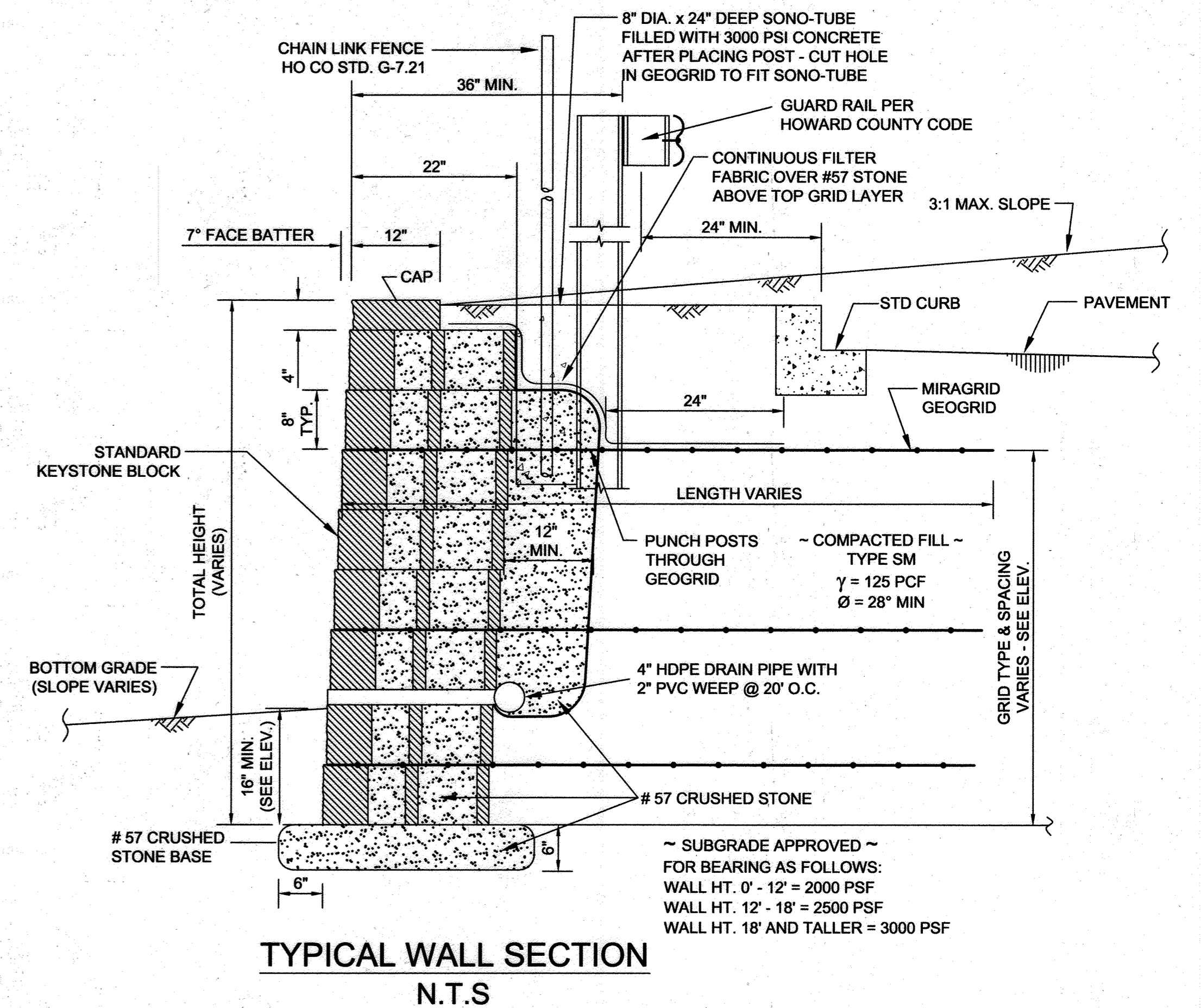
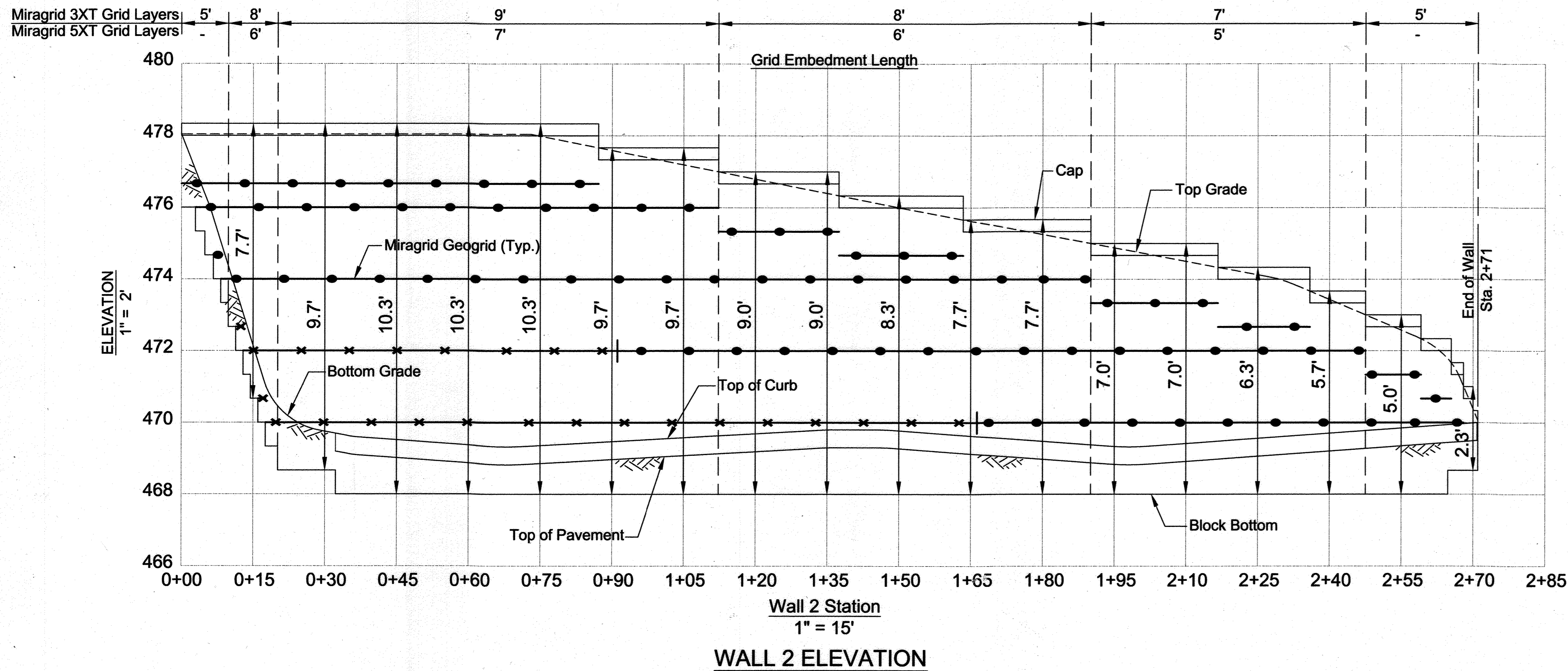
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
 410-825-8400

TOWN SQUARE AT TURF VALLEY  
 PARCELS '3' & '5' AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PGCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

WALL 1 ELEVATION - STA. 12+60 TO 15+25

DATE: APRIL, 2010 HCEA PROJECT NO. 08209-D  
 SCALE: AS SHOWN SHEET 26 OF 31



**SPECIFICATIONS**

**KEYSTONE MODULAR CONCRETE BLOCK RETAINING WALL**

**PART 1: GENERAL**

- 1.01 Description
  - A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
  - B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
  - C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

- 1.02 Delivery, Storage and Handling
  - A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
  - B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

**PART 2: PRODUCTS**

- 2.01 Modular Concrete Retaining Wall Units
  - A. Modular concrete units shall conform to the following architectural requirements:
    - face color - concrete gray - standard manufacturers' color may be specified by the Owner.
    - face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner.
    - bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.
  - B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
  - C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
    - compressive strength = 3000 psi minimum;
    - absorption = 8% maximum (6% in northern states) for standard weight aggregates;
    - dimensional tolerances = ± 1/8" from nominal unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
    - unit size - 8" (H) x 16" (W) x 22" (D) minimum;
    - unit weight - 100 lbs/unit minimum for standard weight

- aggregates; inter-unit shear strength - 1000 pif minimum at 2 psi normal pressure; geogrid/unit peak connection strength - 1000 pif minimum at 2 psi normal force.
- D. Modular concrete units shall conform to the following constructability requirements:
  - vertical setback = 1/8"± per course (near vertical) or 1"± per course per the design;
  - alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
  - maximum horizontal gap between erected units shall be 1/2 inch.

- 2.02 Shear Connectors
  - A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protuded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.
  - B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

- 2.03 Base Leveling Pad Material
  - A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

- 2.04 Unit Drainage Fill
  - A. Unit drainage fill shall consist of #57 crushed stone

- 2.05 Reinforced Backfill
  - A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:
 

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-60
No. 200	0-35

 Plasticity Index (PI) <15 for walls shorter than 12 ft. and <10 for wall taller than 12ft. and Liquid Limit <40 per ASTM D-4318.
  - B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (thin plastic clays or organic soils) shall not be used in the reinforced soil mass.

- 2.06 Geogrid Soil Reinforcement

- A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.

- 2.07 Drainage Pipe
  - A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

**PART 3 EXECUTION**

- 3.01 Excavation
  - A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

- 3.02 Base Leveling Pad
  - A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.
  - B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

- 3.03 Modular Unit Installation
  - A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.
  - B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
  - C. Install shear/connecting devices per manufacturer's recommendations.
  - D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
  - E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

- 3.04 Structural Geogrid Installation
  - A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
  - B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
  - C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to

- backfill placement on the geogrid.
- D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

- 3.05 Reinforced Backfill Placement
  - A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
  - B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.
  - C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by T-99 for walls up to 12 ft. tall and 98% for walls taller than 12 ft. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 2% to - 2% of optimum.
  - D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.
  - E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
  - F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
  - G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from adjacent areas to enter the wall construction site.

- 3.06 Cap Installation
  - A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

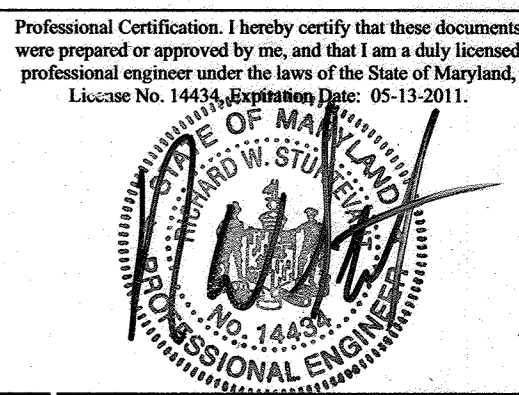
- 3.07 Field Quality Control
  - A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.
  - B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.

**NOTES:**

1. No trees shall be planted within 10 feet of the top of the retaining wall.
2. Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
3. One soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
4. The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
5. The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
6. Walls shall not be constructed on uncertified fill materials.
7. Walls shall not be constructed within a Howard Co. right-of-way or easement.

NO.	DATE	REVISION
1	9-16-2013	REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
3	1-3-2019	REUSE TOTAL SHT ##
2	1-11-2013	REUSE TITLE BLOCK
1	4-10-2012	REUSE SHEET NUMBER

**HILLIS-CARNES**  
ENGINEERING ASSOCIATES  
10975 Gullford Road, Suite A  
(410) 880-4788



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 4/25/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] 5/3/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 5/3/10  
 DIRECTOR

APPROVED:  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE 4/25/10  
 [Signature]

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

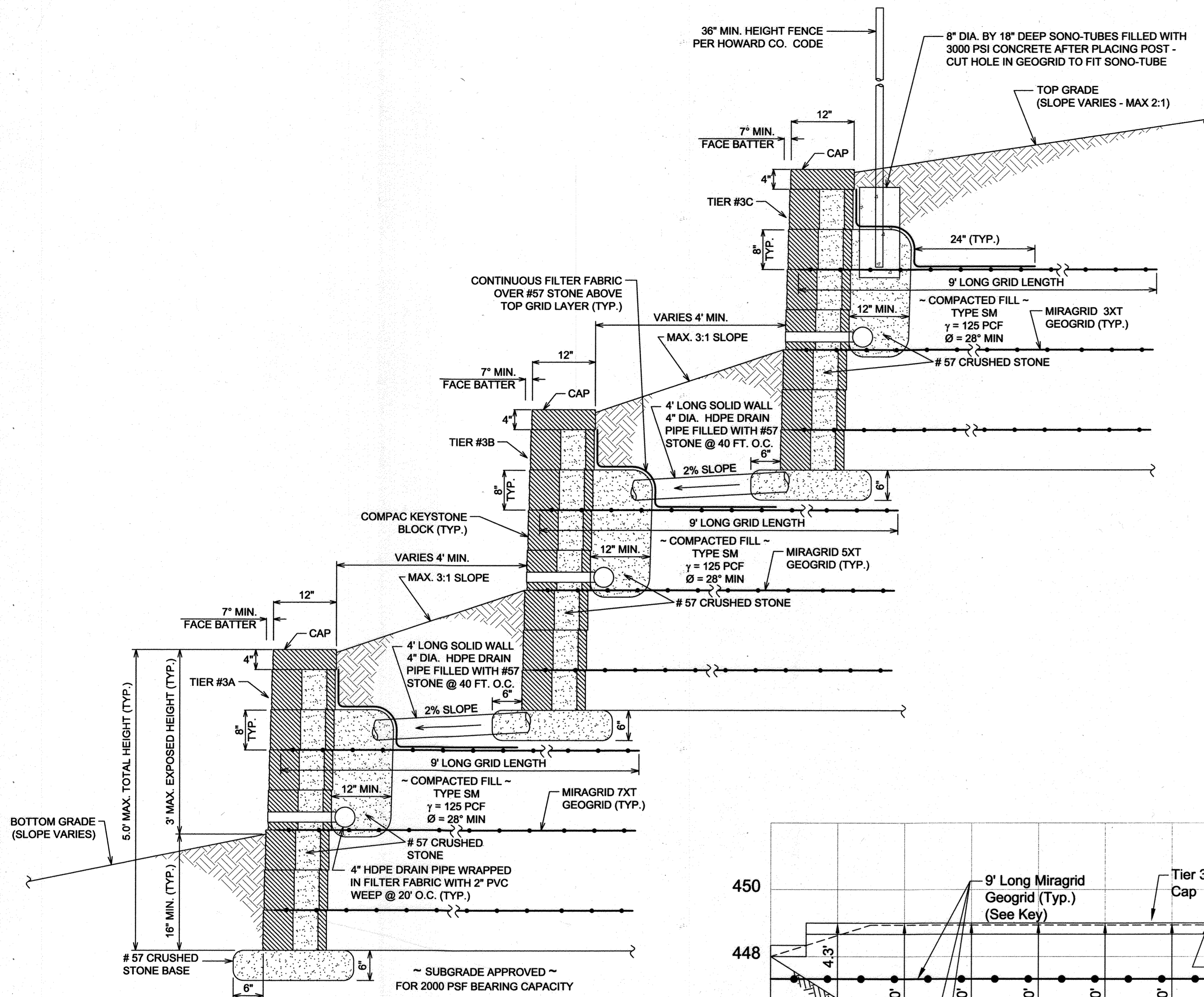
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

TOWN SQUARE AT TURF VALLEY  
 PARCELS J1\*J2 AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079

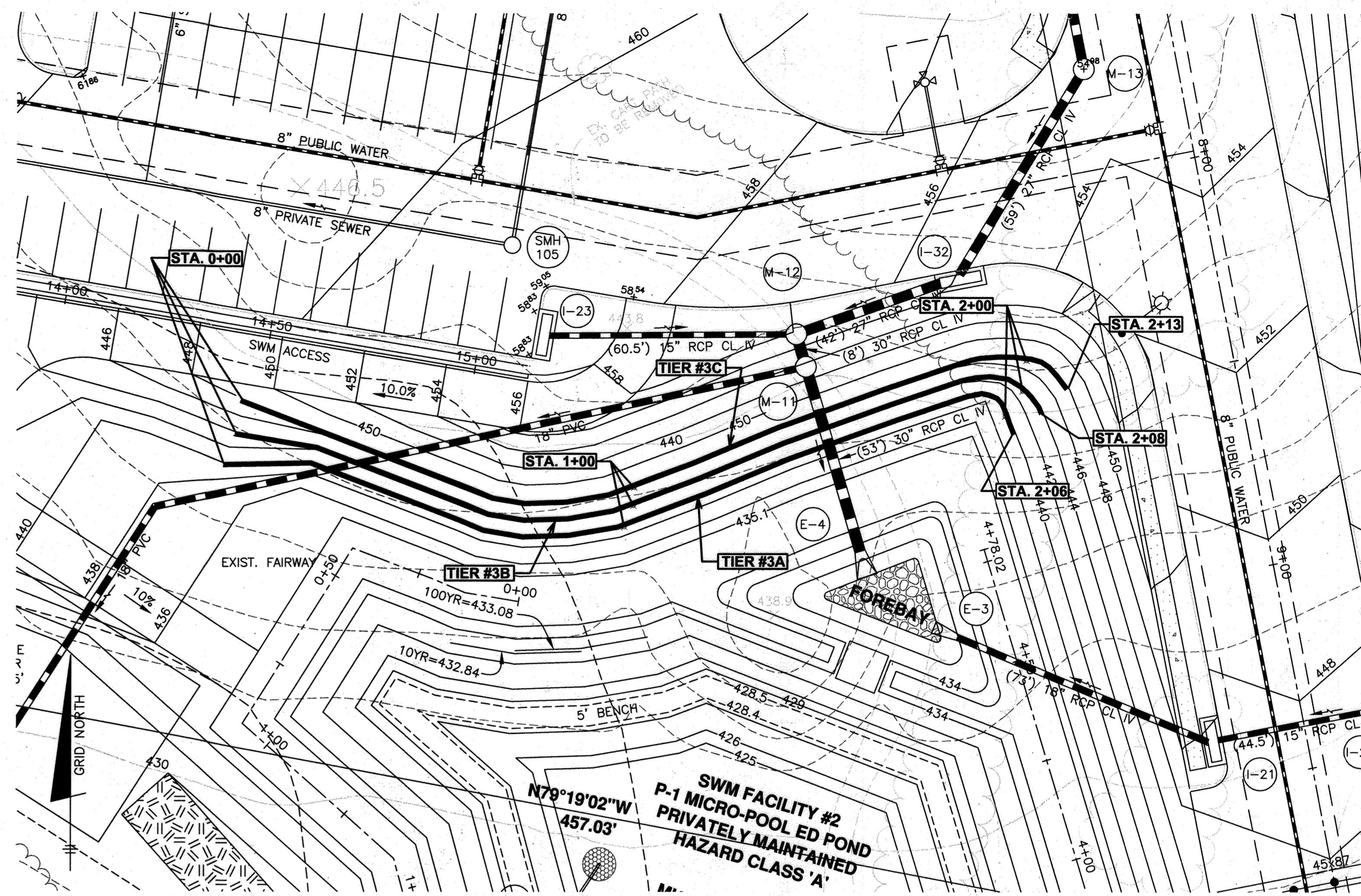
TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
 ZONED: PCCC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

WALL 2 ELEVATION  
 AND CONSTRUCTION DETAILS

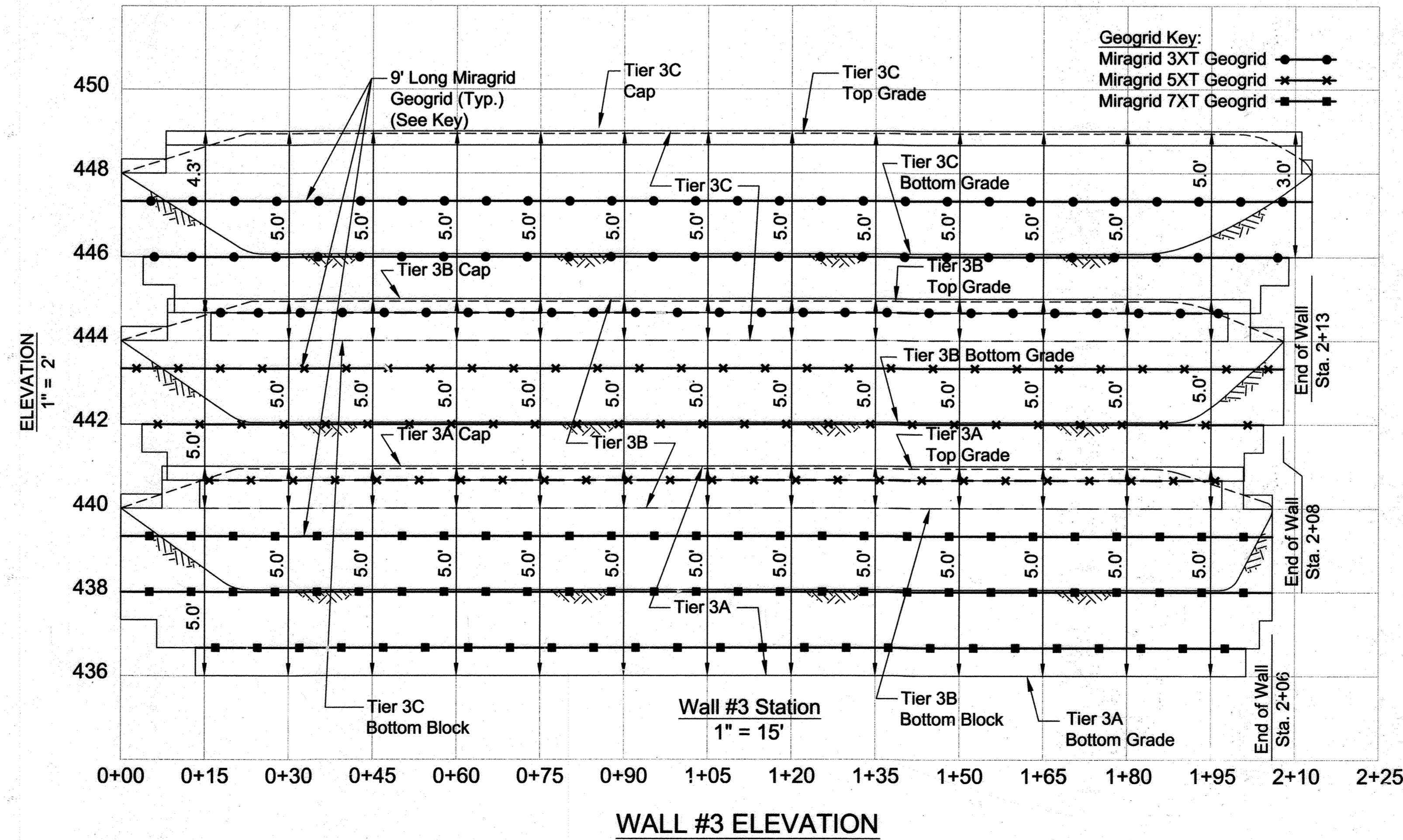
DATE: APRIL, 2010 HCEA PROJECT NO. 08209-D  
 SCALE: AS SHOWN SHEET 27 OF 31



**TYPICAL MAX 3' TALL TIERED WALL SECTION**  
N.T.S.



**WALL #3 PLAN**  
1" = 20'



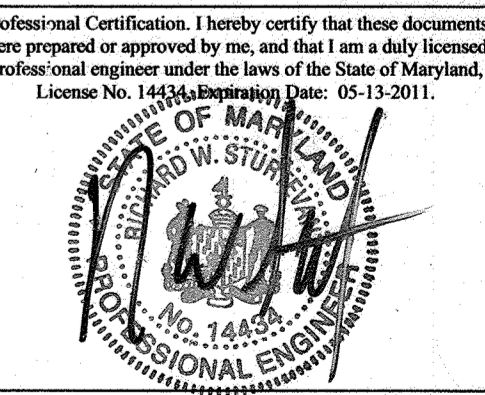
**WALL #3 ELEVATION**  
1" = 15'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Michael J. ...* 4/29/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Keith ...* 5/3/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Thomas J. ...* 5/3/10  
 DIRECTOR

APPROVED:  
 PLANNING BOARD OF HOWARD COUNTY  
 DATE 4/15/10

NO.	DATE	REVISION
4	9-20-2023	REMOVE GREEN BUILDING PROJECT FROM TITLE BLOCK
3	1-3-2019	REVISE TOTAL SHT #
2	1-11-2013	REVISE TITLE BLOCK
1	4-10-2012	REVISE SHEET NUMBER

**HILLIS-CARNES**  
 ENGINEERING ASSOCIATES  
 10975 Cullford Road, Suite A Annapolis Junction, MD  
 (410) 880-4788 Fax: (410) 880-4099



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

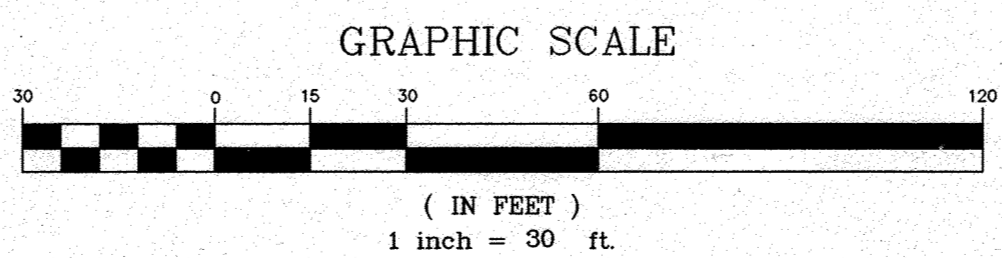
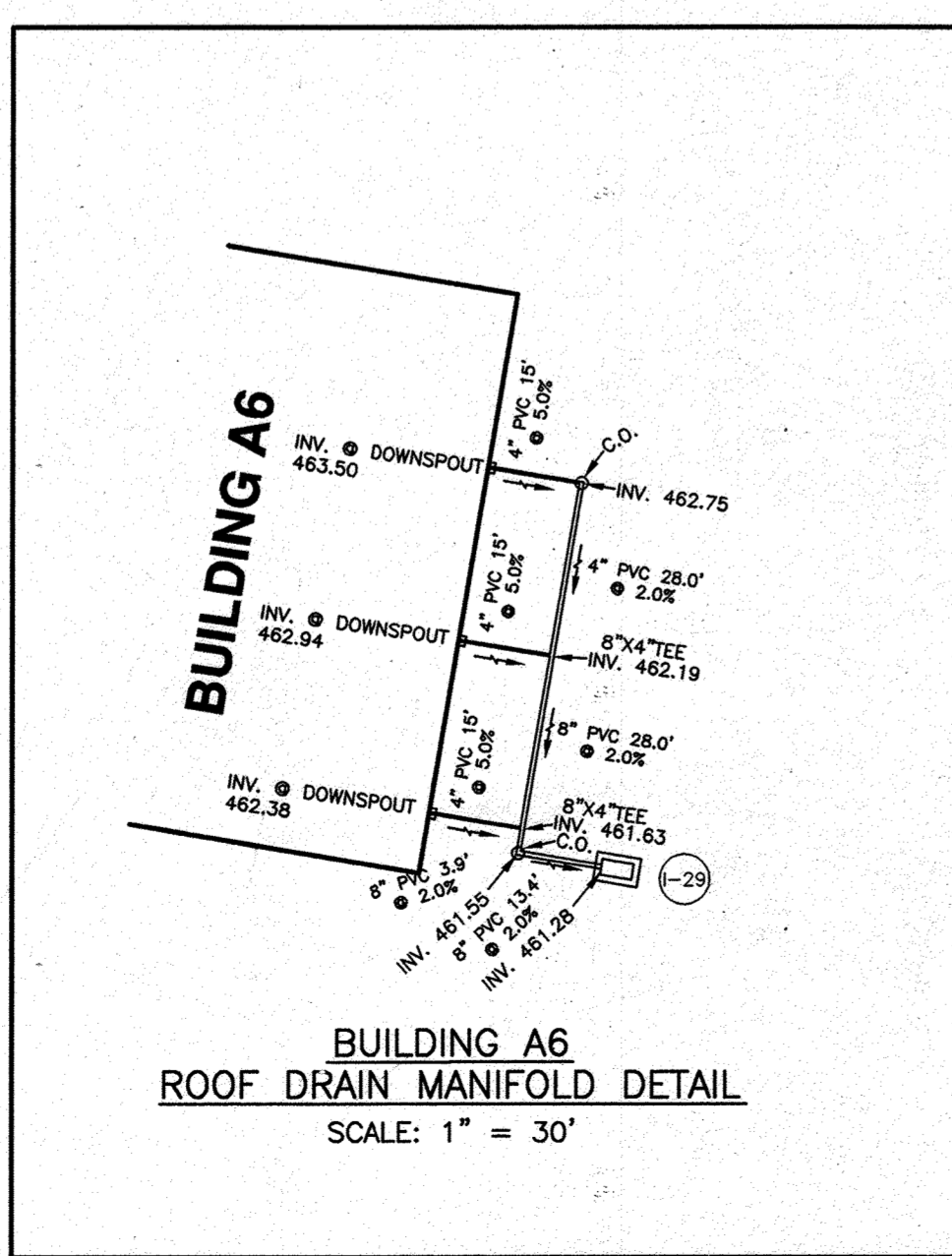
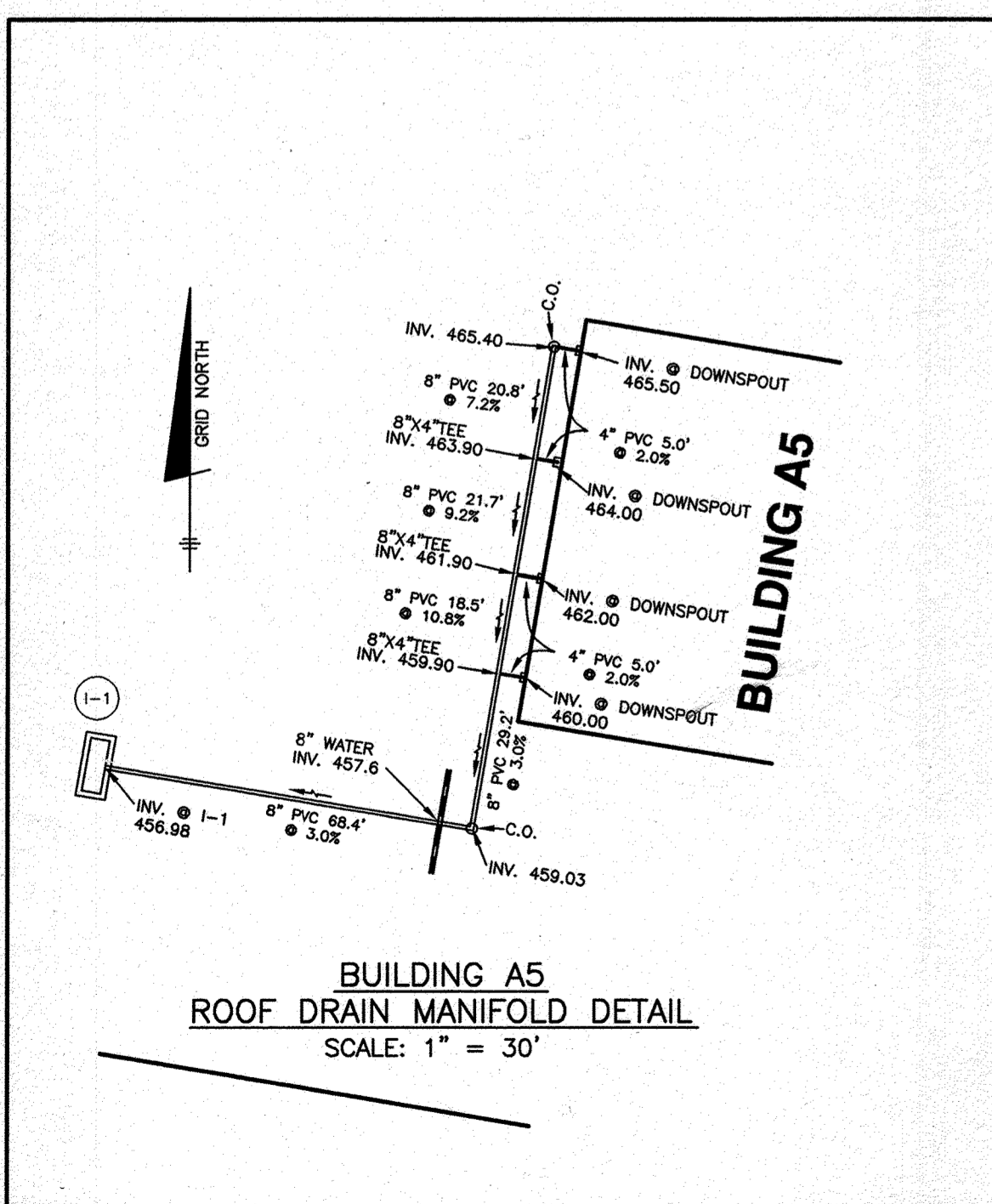
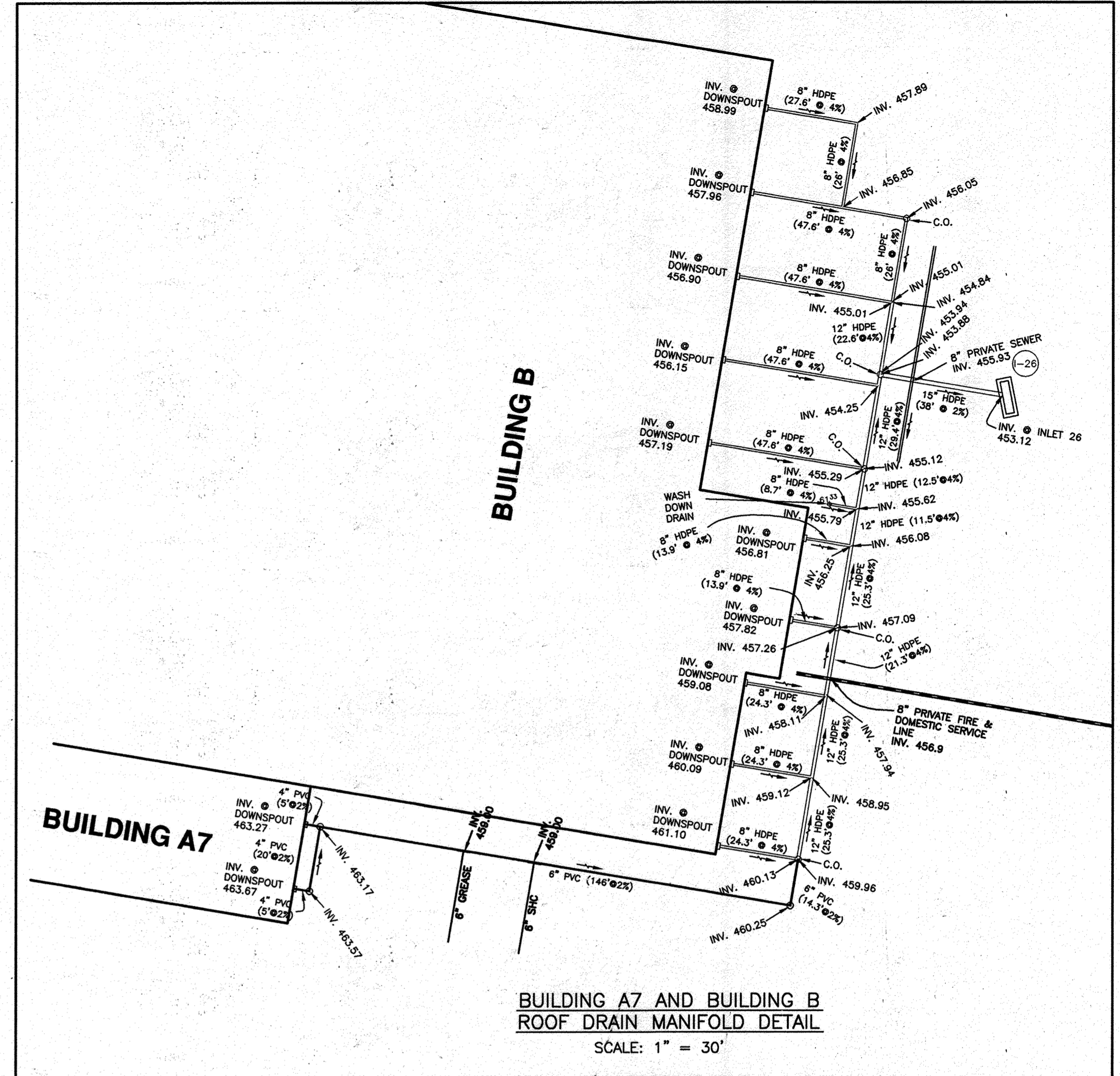
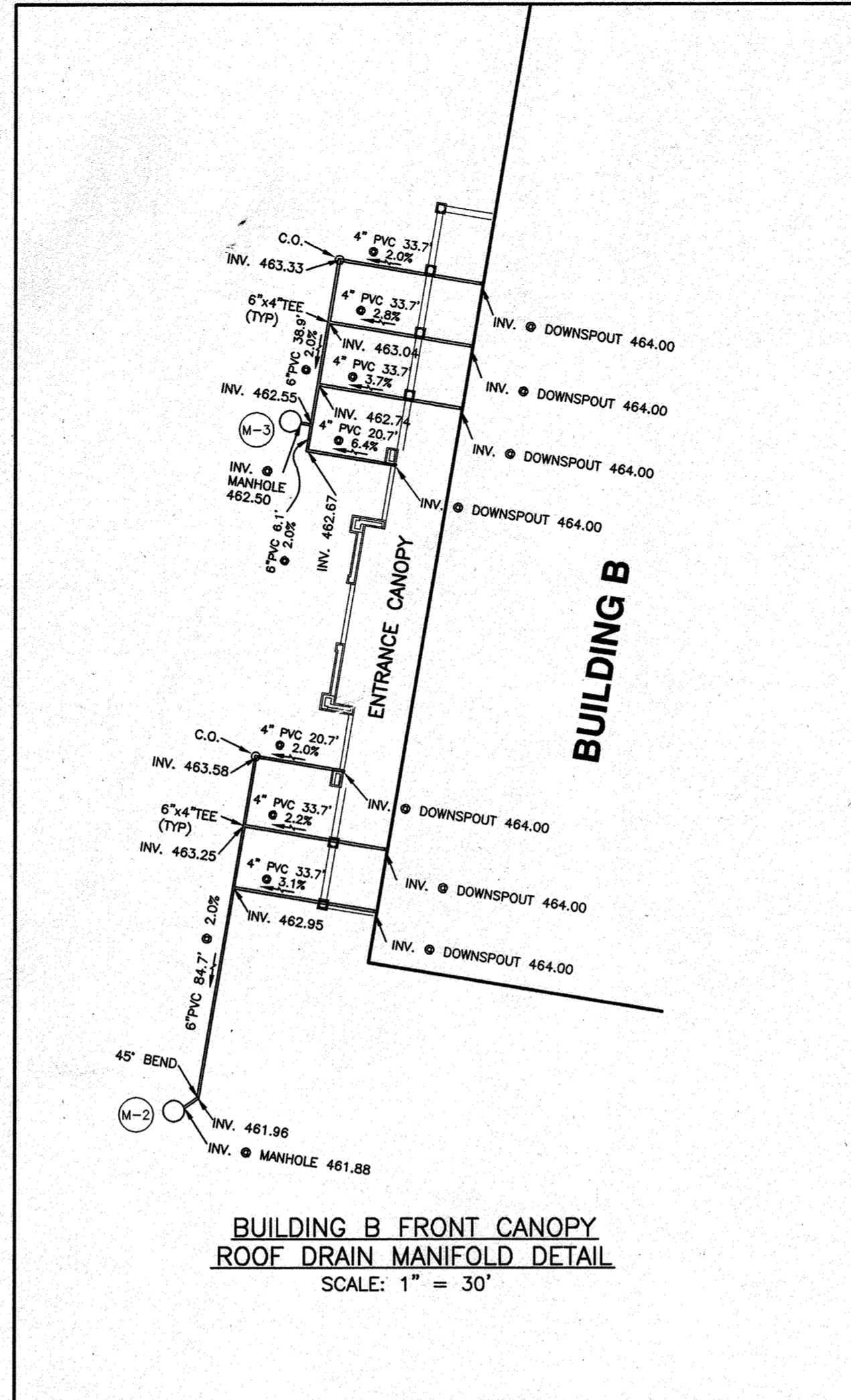
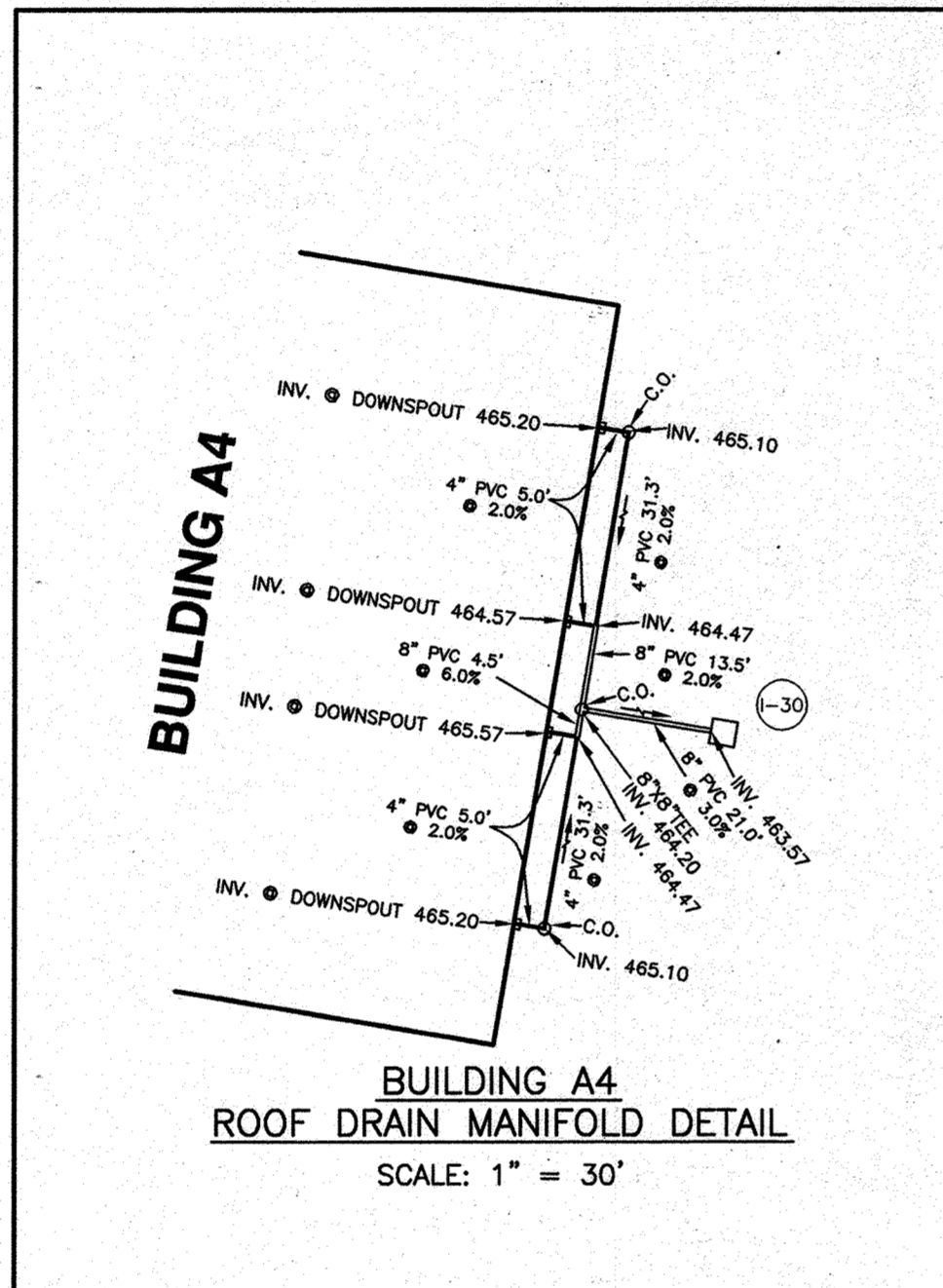
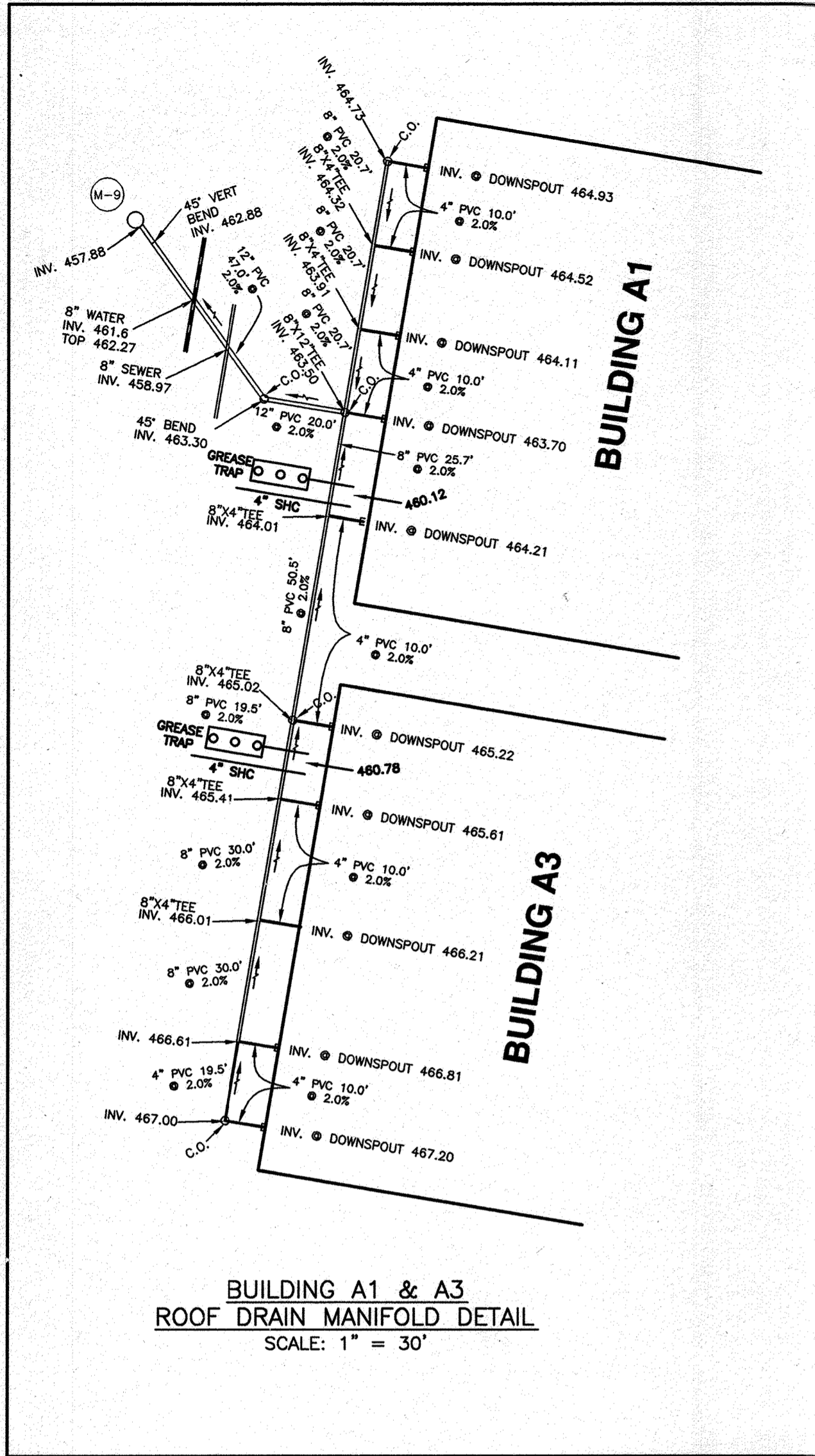
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
 410-825-8400

TOWN SQUARE AT TURF VALLEY  
 PARCELS 51'4'32" AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 10 - PARCEL: P/O B & 50  
 ZONED: POC (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

TIERED WALL 3 PLAN AND DETAILS

DATE: APRIL, 2010 HCEA PROJECT NO. 08209-D  
 SCALE: AS SHOWN SHEET 28 OF 31



APPROVED  
PLANNING BOARD OF HOWARD COUNTY  
DATE 4/15/10  
*J. M. B.*

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 4/19/12  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*[Signature]* 4/24/12  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* 4/24/12  
 DIRECTOR

NO.	DATE	REVISION
3	9-26-2013	REMOVE GREEN BUILDING PERMIT FROM TITLE BLOCK
2	1-3-2019	REVISE TOTAL SHT #
1	1-11-2013	REVISE TITLE BLOCK

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 6480 BALTIMORE NATIONAL PIKE SUITE 418 • ELLICOTT CITY, MARYLAND 21043  
 (P) 410-485-8105 (F) 410-485-8644  
 60 THOMAS JOHNSON DRIVE • FREDERICK, MARYLAND 21702  
 (P) 301-371-3505 (F) 301-371-3506  
 WWW.BE-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 in the State of Maryland, License No. 13697, expiring 12/31/2013.

*[Signature]* 4/19/2012  
 PROFESSIONAL ENGINEER

**TOWN SQUARE AT TURF VALLEY**  
 PARCELS 17 & 12 AND OPEN SPACE LOTS 4 & 5  
 TURF VALLEY PROFESSIONAL BUILDINGS  
 PLAT NOS. 22078-22079

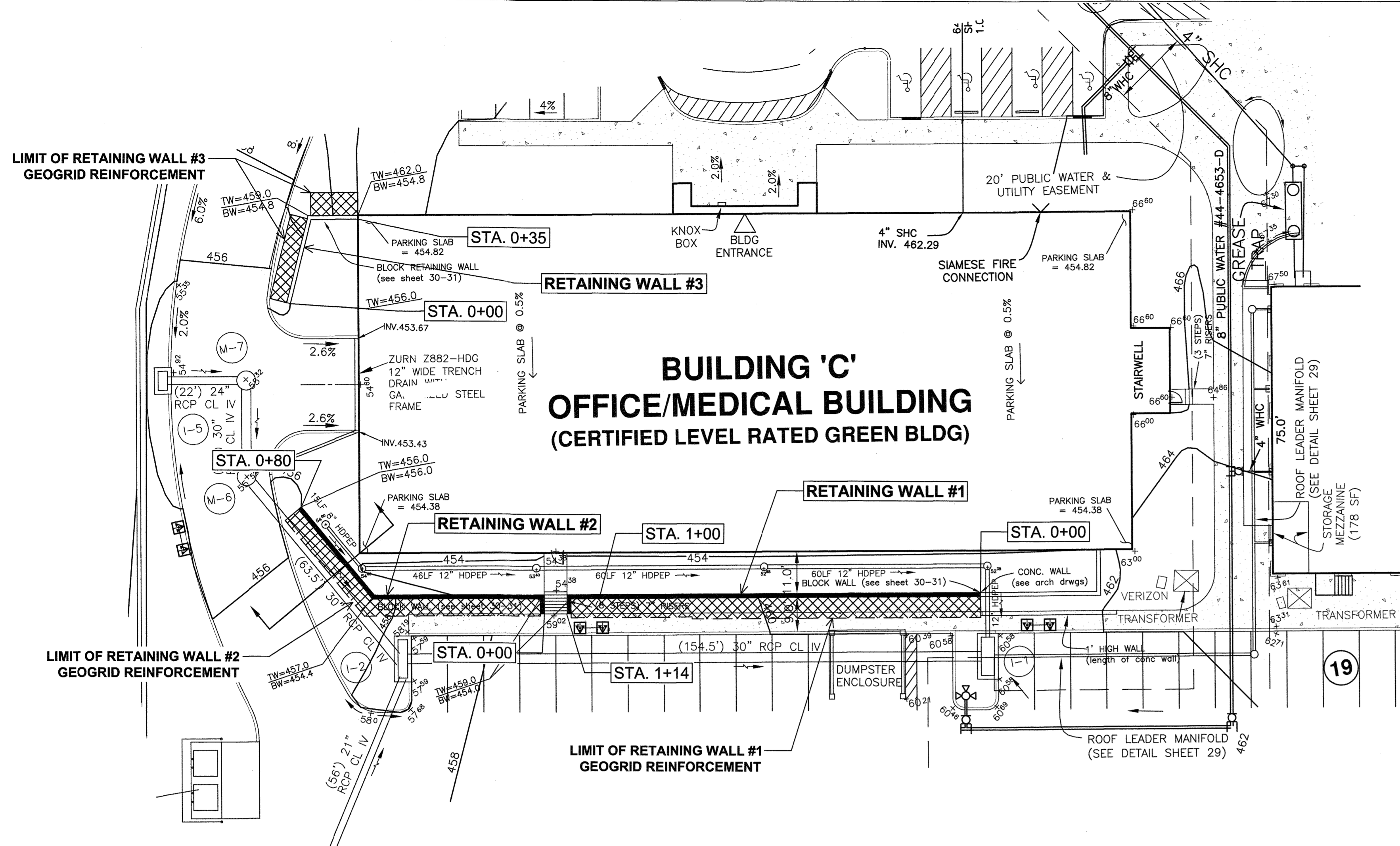
TAX MAP: 16 - GRID: 10 - PARCEL: 9/3 B & 50  
 ZONED: PCCG (MULTI-USE SUBDISTRICT)  
 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**ROOF MANIFOLD DETAILS**

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

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

DATE: MARCH, 2012 BEI PROJECT NO. 2208  
 SCALE: AS SHOWN SHEET 29 OF 31



**BUILDING 'C'  
OFFICE/MEDICAL BUILDING  
(CERTIFIED LEVEL RATED GREEN BLDG)**

**WALL LOCATION PLAN  
1" = 20'**

**SPECIFICATIONS  
MODULAR CONCRETE BLOCK RETAINING WALL**

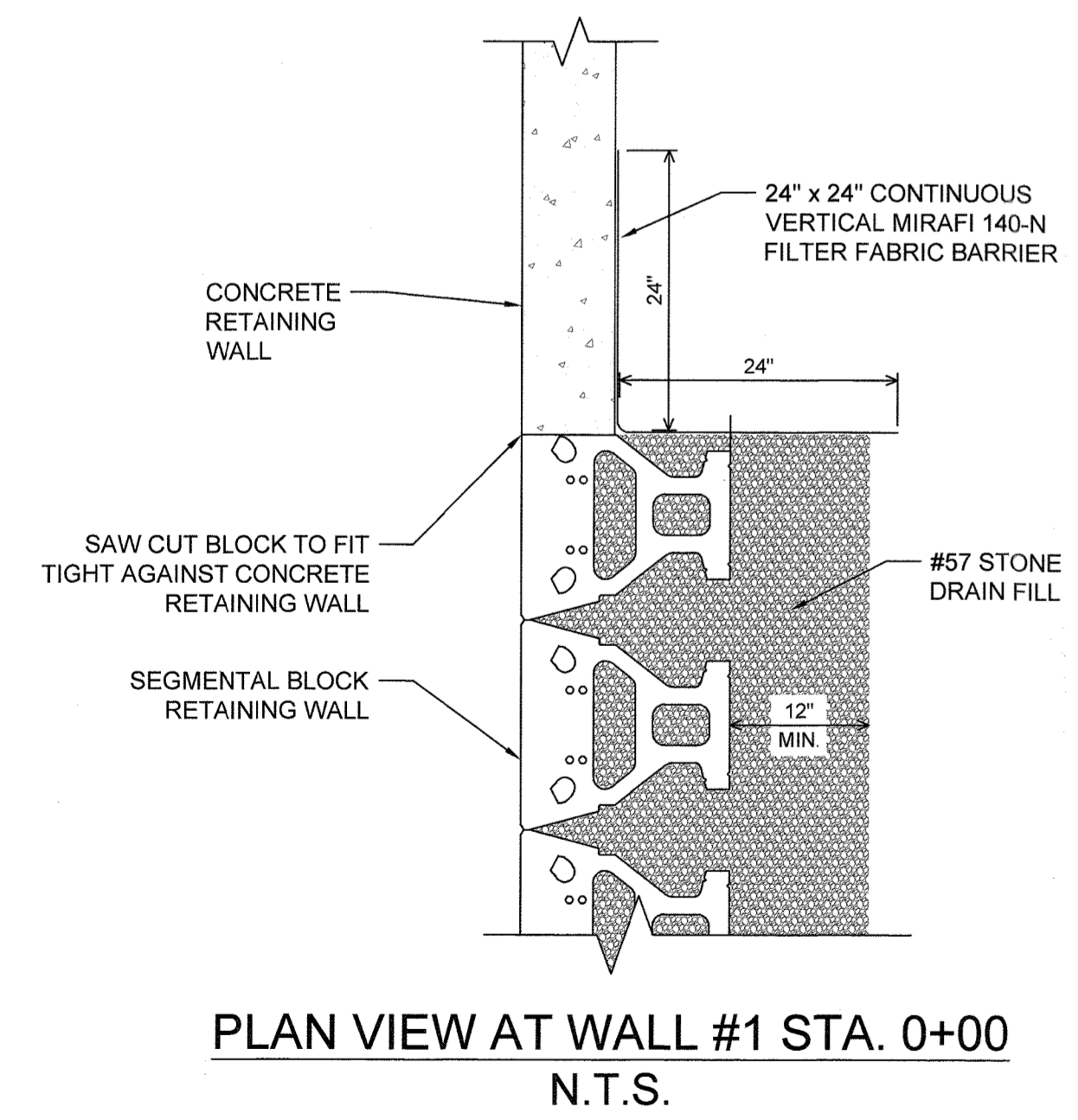
- PART 1: GENERAL**
- 1.01 DESCRIPTION**
- WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTION OF A MODULAR RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLE CLOSE CONFORMANCE WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS.
  - WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
  - WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS DESIGNATED ON THE CONSTRUCTION DRAWINGS.
- 1.02 DELIVERY, STORAGE AND HANDLING**
- CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAS BEEN RECEIVED.
  - CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOB SITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.
- PART 2: PRODUCTS**
- 2.01 MODULAR CONCRETE RETAINING WALL UNITS**
- MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:  
FACE COLOR - COLOR MAY BE SPECIFIED BY THE OWNER.  
FACE FINISH - SCULPTURED ROCK FACE IN ANGULAR TRI-PLANNER OR FLAT CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.  
BOND CONFIGURATION - RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND CURVED ALIGNMENTS.  
EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.
  - MODULAR CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.
  - MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH APPROPRIATE REFERENCES:  
COMPRESSIVE STRENGTH = 3000 PSI MINIMUM;  
ABSORPTION = 8% MAXIMUM (8% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES.  
DIMENSIONAL TOLERANCES = ±1/8" FROM NOMINAL UNIT DIMENSIONS NOT INCLUDING ROUGH SPLIT FACE, ±1/16"  
UNIT HEIGHT - TOP AND BOTTOM PLANES; UNIT SIZE - 8" (H) x 16" (W) x 2" (D) MINIMUM.
- 2.02 SHEAR CONNECTORS**
- SHEAR CONNECTORS SHALL BE 1/2 INCH DIAMETER THERMOSET ISOPHTHALIC POLYESTER RESIN-PROTRUDED FIBERGLASS REINFORCEMENT RODS OR EQUIVALENT TO PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTALLY ADJACENT UNITS. STRENGTH OF SHEAR CONNECTORS BETWEEN VERTICAL ADJACENT UNITS SHALL BE APPLICABLE OVER A DESIGN TEMPERATURE OF 10 DEGREES F TO +100 DEGREES F. B. SHEAR CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION DURING GRID PRE-TENSIONING AND BACKFILLING.
- 2.03 BASE LEVELING PAD MATERIAL**
- MATERIAL SHALL CONSIST OF A COMPACTED #57 CRUSHED STONE BASE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- 2.04 UNIT DRAINAGE FILL**
- UNIT DRAINAGE FILL SHALL CONSIST OF #57 CRUSHED STONE.
- 2.05 REINFORCED BACKFILL**
- REINFORCED BACKFILL SHALL BE TYPE SM, BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D422 AND MEET OTHER PROPERTIES SHOWN ON THE PLAN:  

SIEVE SIZE	PERCENT PASSING
2 INCH	100-75
3/4 INCH	100-75
NO. 40	0-60
NO. 200	0-35

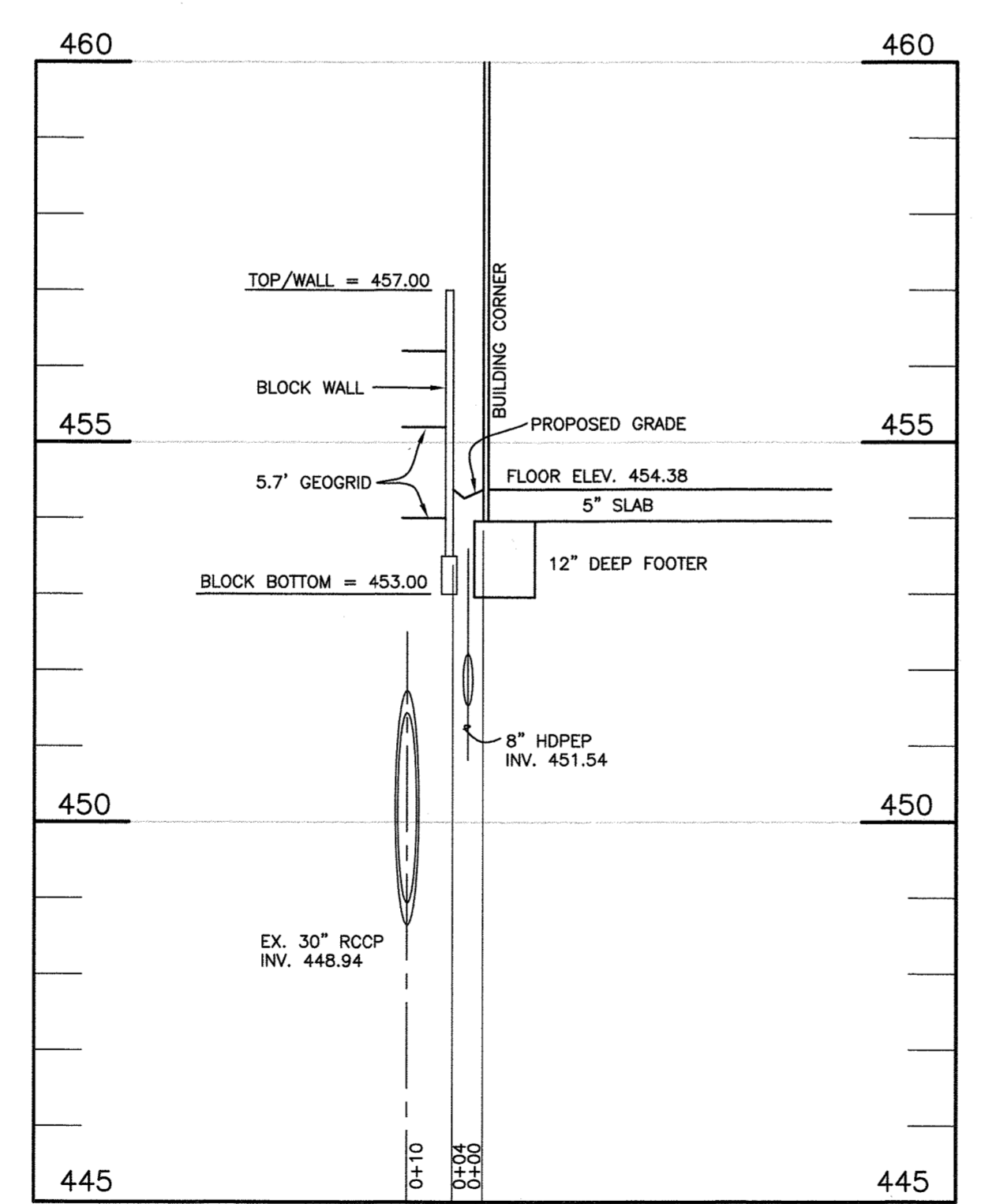
 PLASTICITY INDEX (PI) < 10 AND LIQUID LIMIT < 35 PER ASTM D4218.  
  - MATERIAL CAN BE SITE EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET. UNSUITABLE SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS) SHALL NOT BE USED IN THE REINFORCED SOIL MASS.
- 2.06 GEOGRID SOIL REINFORCEMENT**
- GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL

- REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN.
- 2.07 DRAINAGE PIPE**
- THE DRAINAGE PIPE SHALL BE PERFORATED CORRUGATED HOPE PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-1248.
- PART 3: EXECUTION**
- 3.01 EXCAVATION**
- CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE EXCAVATION PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS.
- 3.02 BASE LEVELING PAD**
- LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS, TO A MINIMUM THICKNESS OF 8 INCHES AND EXTEND LATERALLY A MINIMUM OF 6" IN FRONT AND BEHIND THE MODULAR WALL UNIT.
  - LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.
- 3.03 MODULAR UNIT INSTALLATION**
- FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.
  - PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS. LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
  - INSTALL SHEARCONNECTING DEVICES PER MANUFACTURER'S RECOMMENDATIONS.
  - PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL. FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE BACKFILL.
  - MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED THREE COURSES.
- 3.04 STRUCTURAL GEOGRID INSTALLATION**
- GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.
  - GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.
  - THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE MODULAR WALL UNITS. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.
- 3.05 REINFORCED BACKFILL PLACEMENT**
- REINFORCED BACKFILL SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS BETWEEN ADJACENT PIECES OF GEOGRID ARE NOT PERMITTED.
  - REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES WHERE HAND COMPACTION IS USED, OR 8-10 INCHES WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY AS REQUIRED.
  - REINFORCED BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE 3% TO - 3% OF OPTIMUM.
  - ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET FROM THE TAIL OF THE MODULAR CONCRETE UNIT.
  - TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM DISPLACING THE FILL AND DAMAGING THE GEOGRID.
  - RUBBER Tired EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.
  - AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.
- 3.06 CAP INSTALLATION**
- CAP UNITS SHALL BE GLOUED TO UNDERLYING UNITS WITH AN ALL-WEATHER ADHESIVE RECOMMENDED BY THE MANUFACTURER.
- 3.07 FIELD QUALITY CONTROL**
- THE OWNER SHALL ENGAGE INSPECTION AND TESTING SERVICES, INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION.
  - AS A MINIMUM, QUALITY ASSURANCE TESTING SHOULD INCLUDE FOUNDATION SOIL INSPECTION, SOIL AND BACKFILL TESTING, VERIFICATION OF DESIGN PARAMETERS, AND OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS AND SPECIFICATIONS.

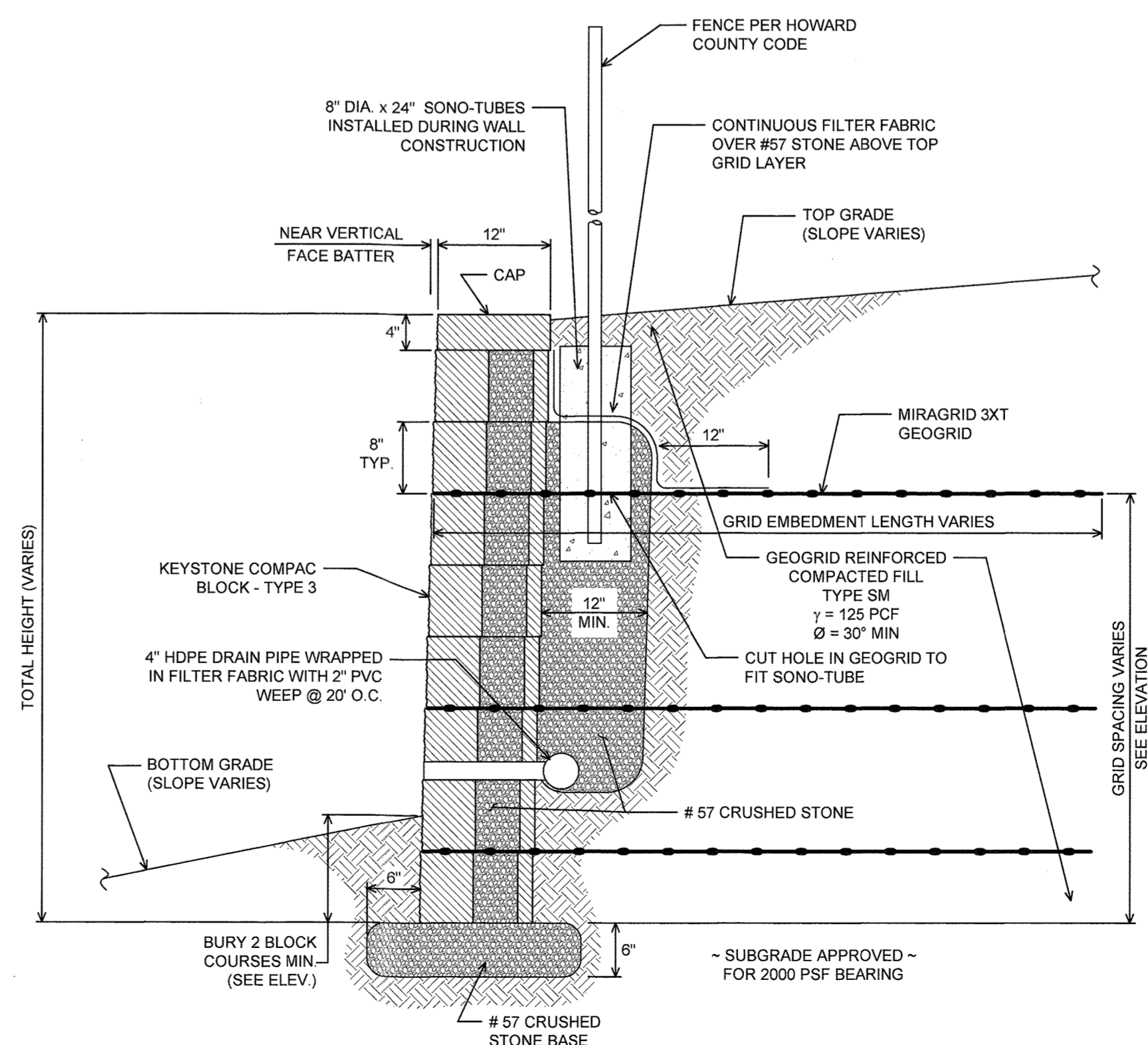
- HOWARD COUNTY NOTES:**
- NO TREES SHALL BE PLANTED WITHIN 10 FEET OF THE TOP OF THE RETAINING WALL.
  - RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
  - THE REQUIRED BEARING PRESSURE BENEATH THE WALL SYSTEM SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION MUST BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO START OF CONSTRUCTION. THE REQUIRED BEARING TEST SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM S1P-399.
  - THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH LIFT MUST BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
  - WALLS SHALL NOT BE CONSTRUCTED ON UNCERTIFIED FILL MATERIALS.
  - WALLS SHALL NOT BE CONSTRUCTED WITHIN A HOWARD COUNTY RIGHT-OF-WAY OR EASEMENT.



**PLAN VIEW AT WALL #1 STA. 0+00  
N.T.S.**



**CROSS SECTION AT SOUTHWEST CORNER OF BLDG  
SCALE: 1"=20' HORIZ., 1"=2' VERT.**



**SEGMENTAL BLOCK WALL  
TYPICAL SECTION  
N.T.S.**

NEW SHEET ADDED ON  
JANUARY 3, 2019

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

1/18/19  
1/23/19  
1-22-19

NO.	DATE	REVISION

**HILLIS-CARNES  
ENGINEERING ASSOCIATES**

10975 GUILFORD ROAD, SUIT A ANNAPOLIS JUNCTION, MARYLAND  
(410) 880-4788 WWW.HCEA.COM FAX: (410) 880-4098

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

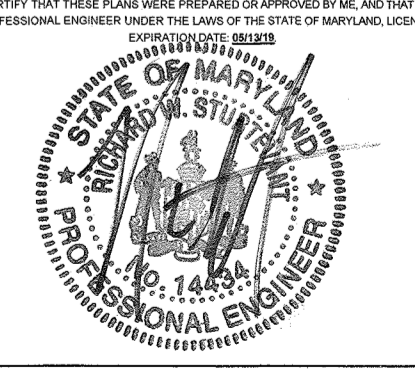
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

**TOWN SQUARE AT TURF VALLEY  
(CERTIFIED LEVEL RATED GREEN BUILDING PROJECT)  
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079**

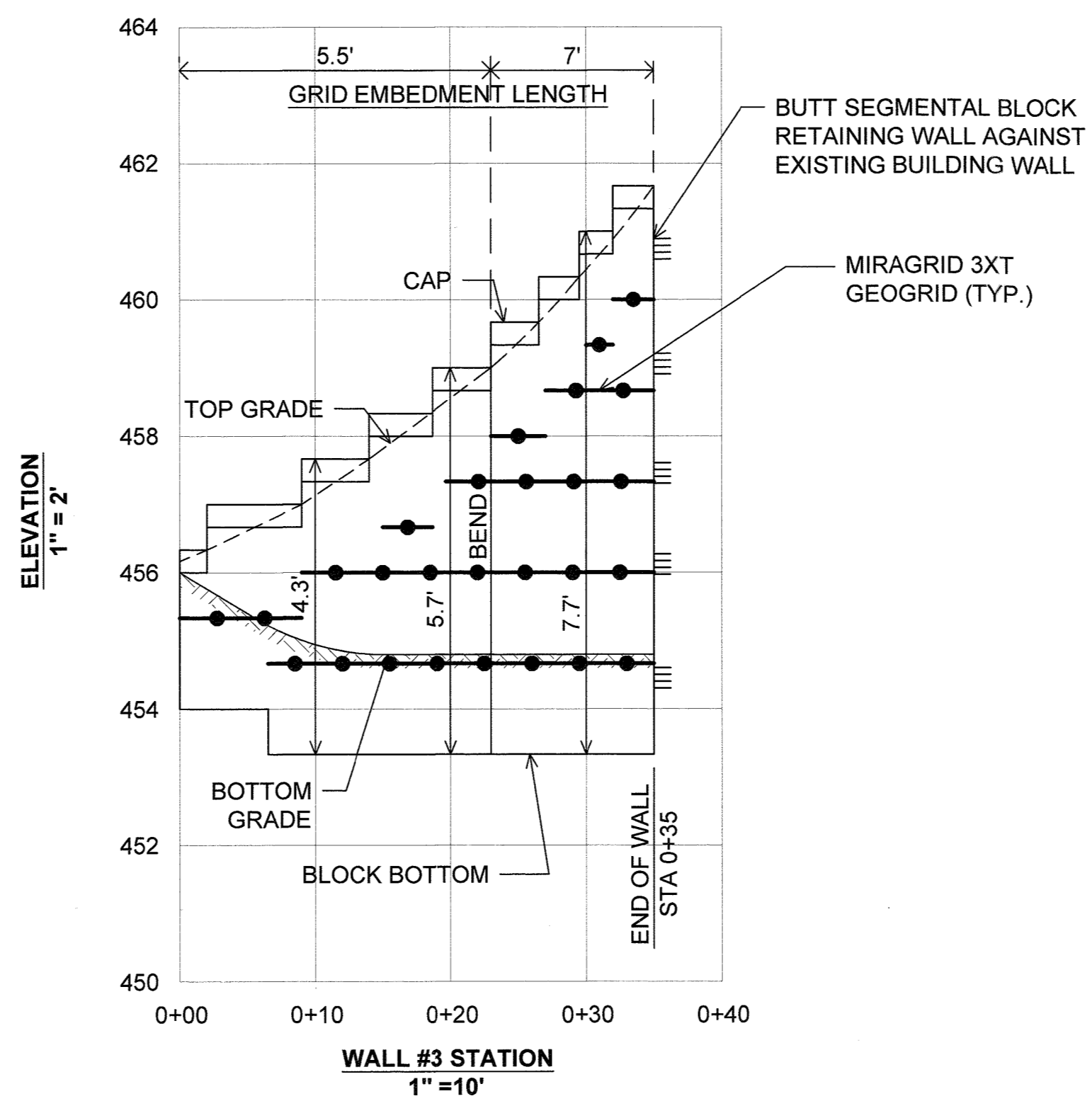
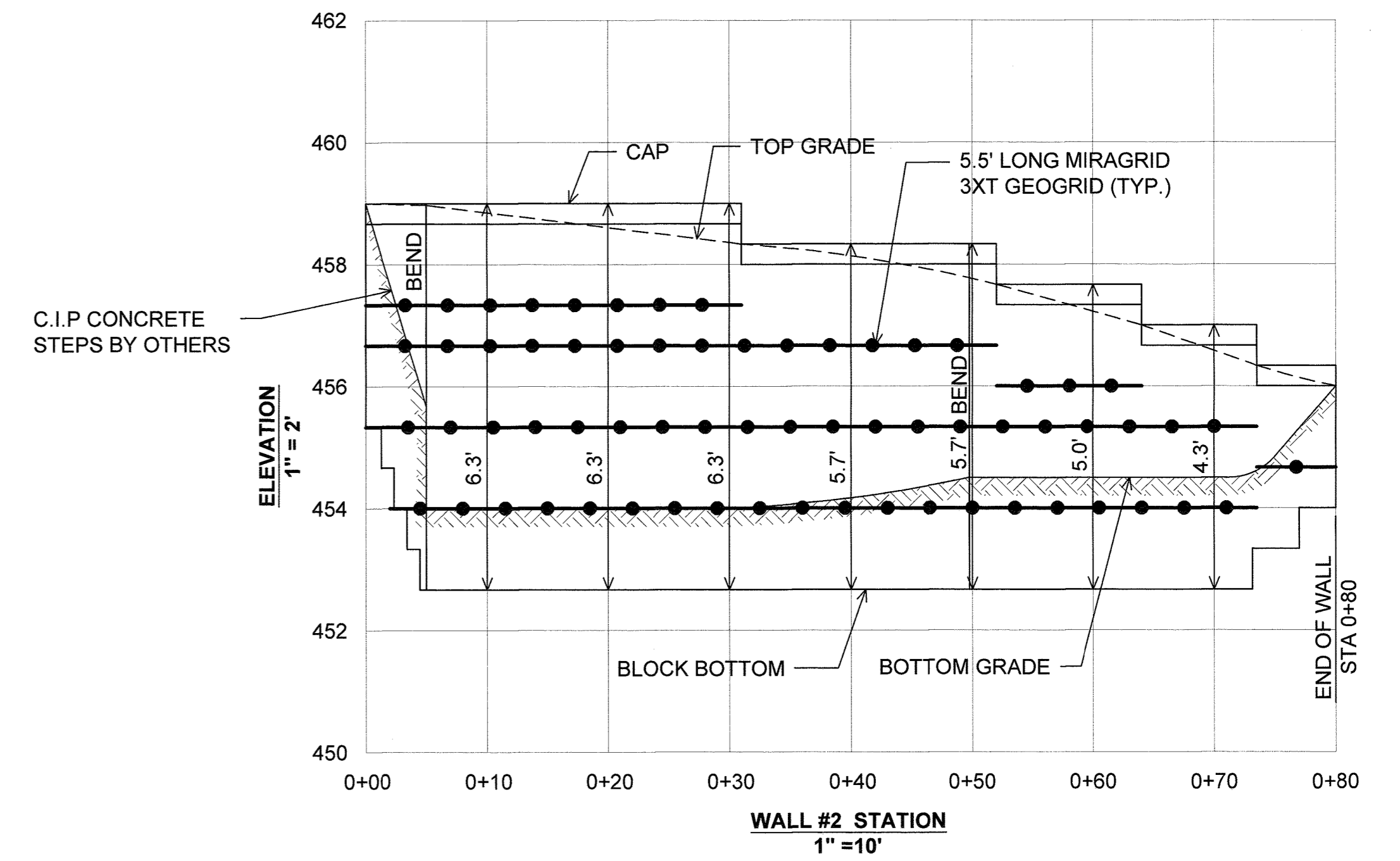
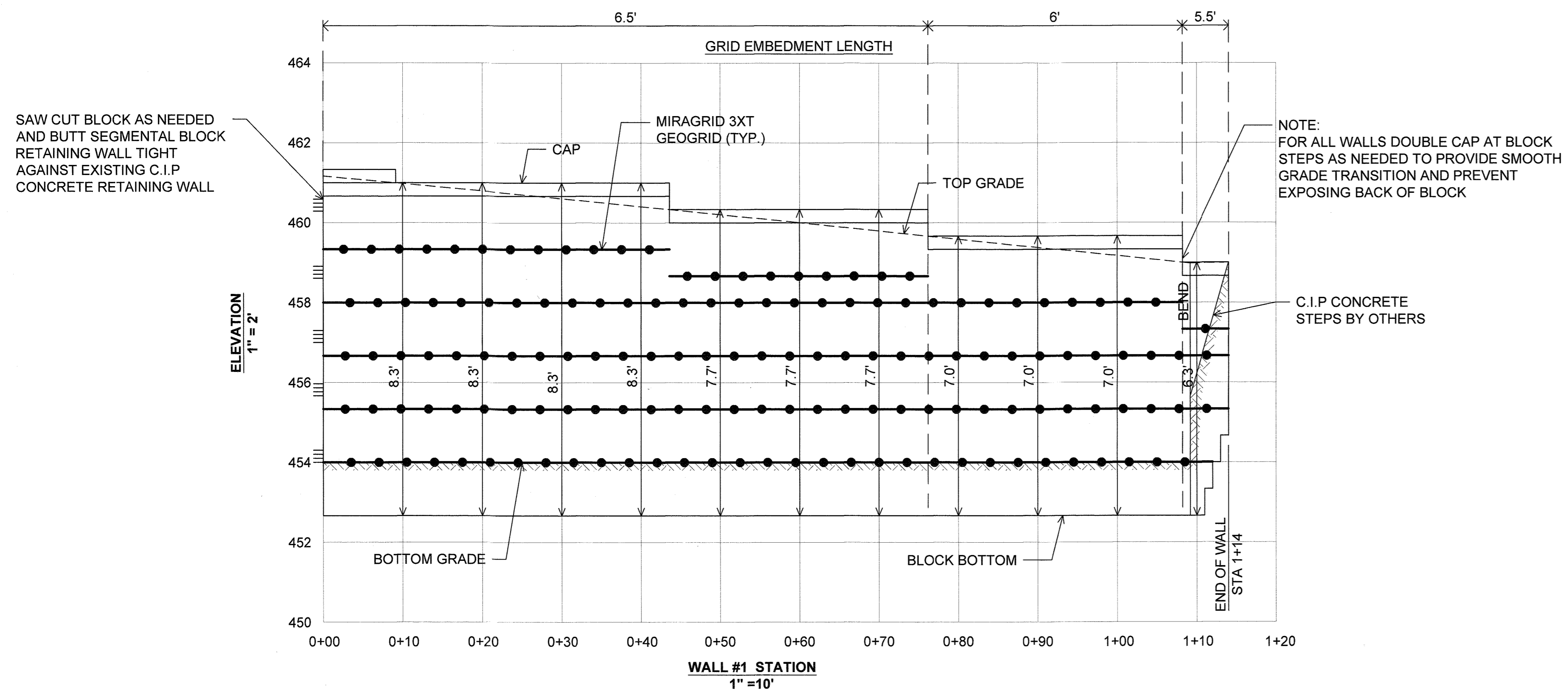
TAX MAP: 16 - GRID: 10 - PARCEL: P/O B & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**BUILDING 'C' SEGMENTAL BLOCK RETAINING WALL DETAILS**

DATE: JANUARY, 2019 HCEA PROJECT NO. 18274A  
SCALE: AS SHOWN SHEET 30 OF 31







NEW SHEET ADDED ON JANUARY 3, 2019

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 1/18/19 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 1/22/19 DATE

DIRECTOR *[Signature]* 1-22-19 DATE

NO.	DATE	REVISION

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR SUPERVISED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 14484

**HILLIS-CARNES ENGINEERING ASSOCIATES**  
10975 GUILDFORD ROAD, SUIT A ANNAPOLIS JUNCTION, MARYLAND  
(410) 880-4788 WWW.HCEA.COM FAX: (410) 880-4098

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

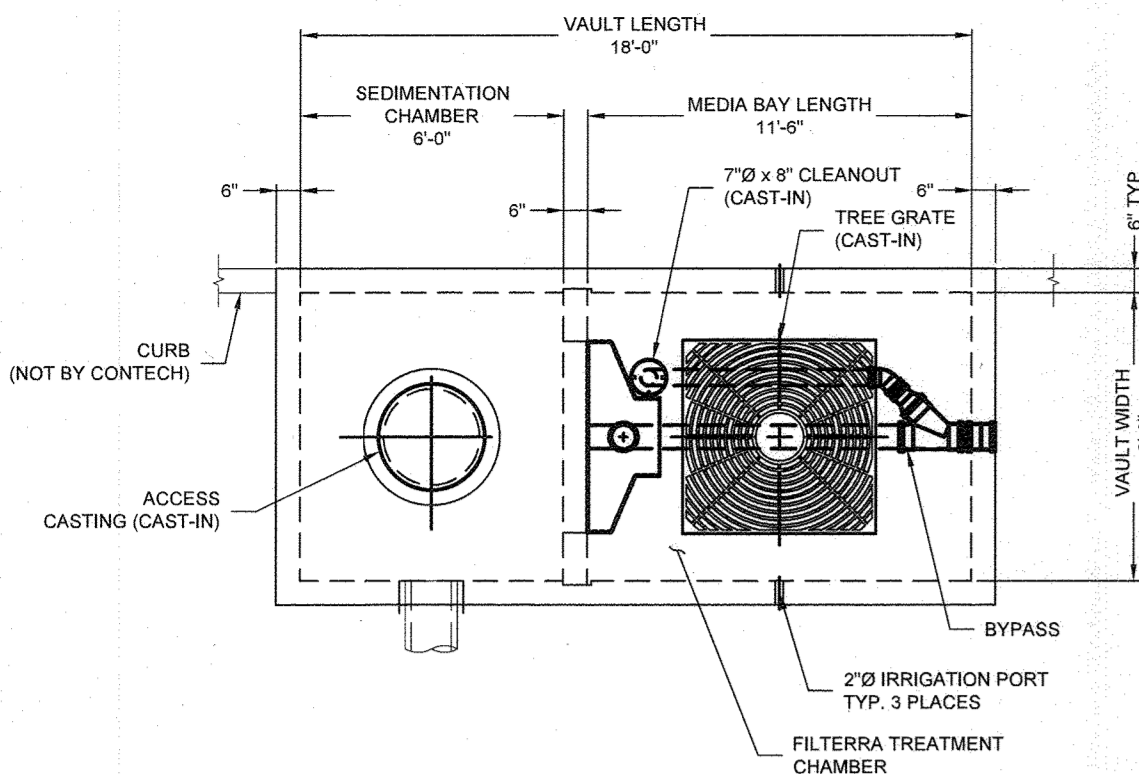
DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY, LP  
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093  
410-825-8400

TOWN SQUARE AT TURF VALLEY  
(CERTIFIED LEVEL RATED GREEN BUILDING PROJECT)  
PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

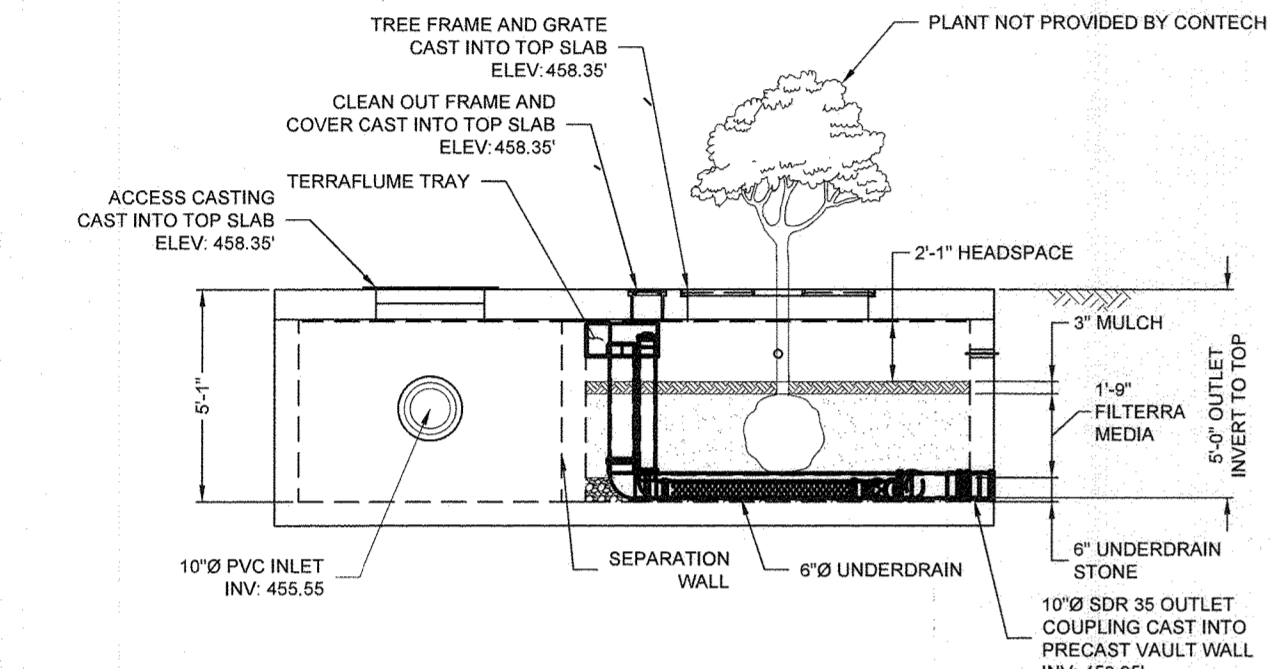
TAX MAP: 16 - GRID: 10 - PARCEL: P/O 8 & 50  
ZONED: PGCC (MULTI-USE SUBDISTRICT)  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**BUILDING 'C' SEGMENTAL BLOCK RETAINING WALL DETAILS**

DATE: JANUARY, 2019 HCEA PROJECT NO. 18274A  
SCALE: AS SHOWN SHEET 31 OF 31



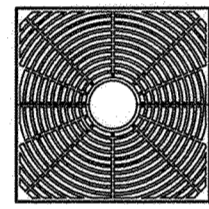
PLAN VIEW



ELEVATION VIEW

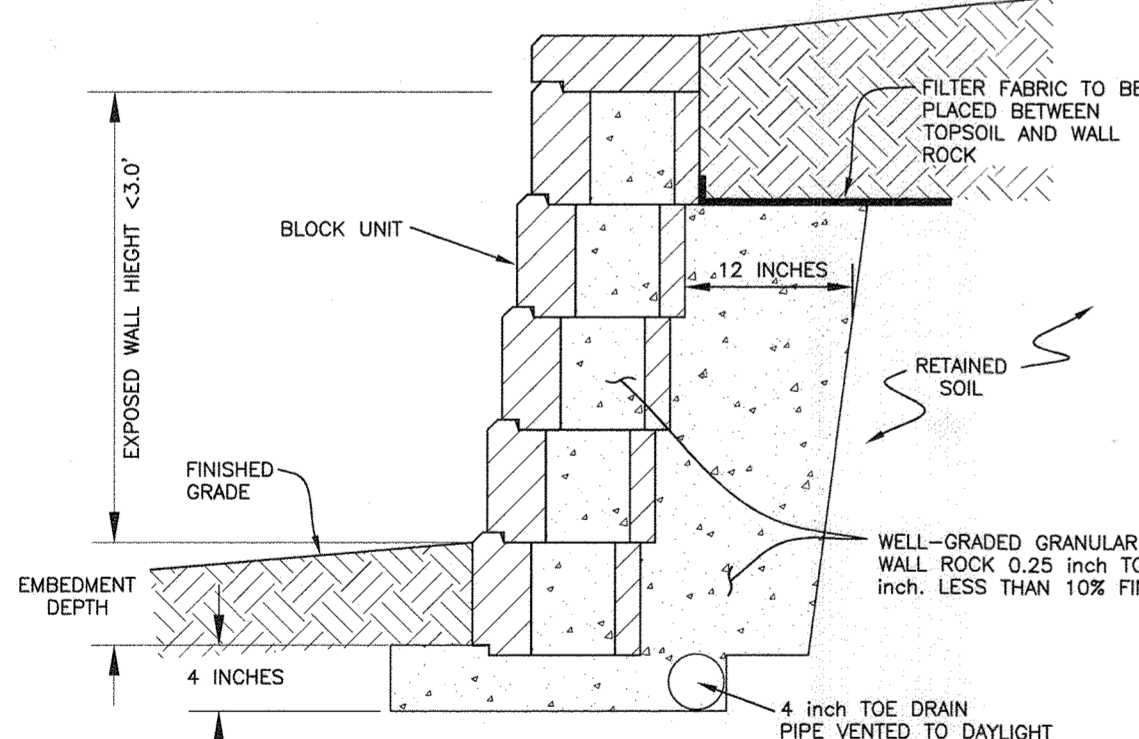


FRAME AND COVER (DIAMETER VARIES)

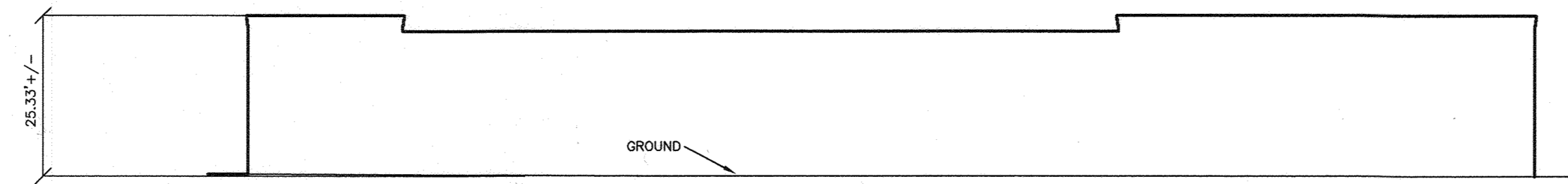


TREE GRATE 36" x 36" OR 48" x 48" (ACTUAL PRODUCT MAY VARY)

FILTERRA DETAILS NOT TO SCALE

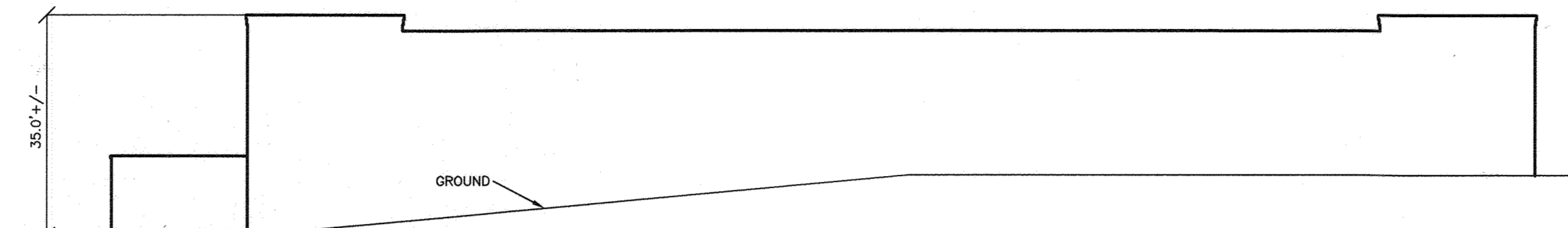


TYPICAL RETAINING WALL SECTION (LESS THAN 3') NOT TO SCALE



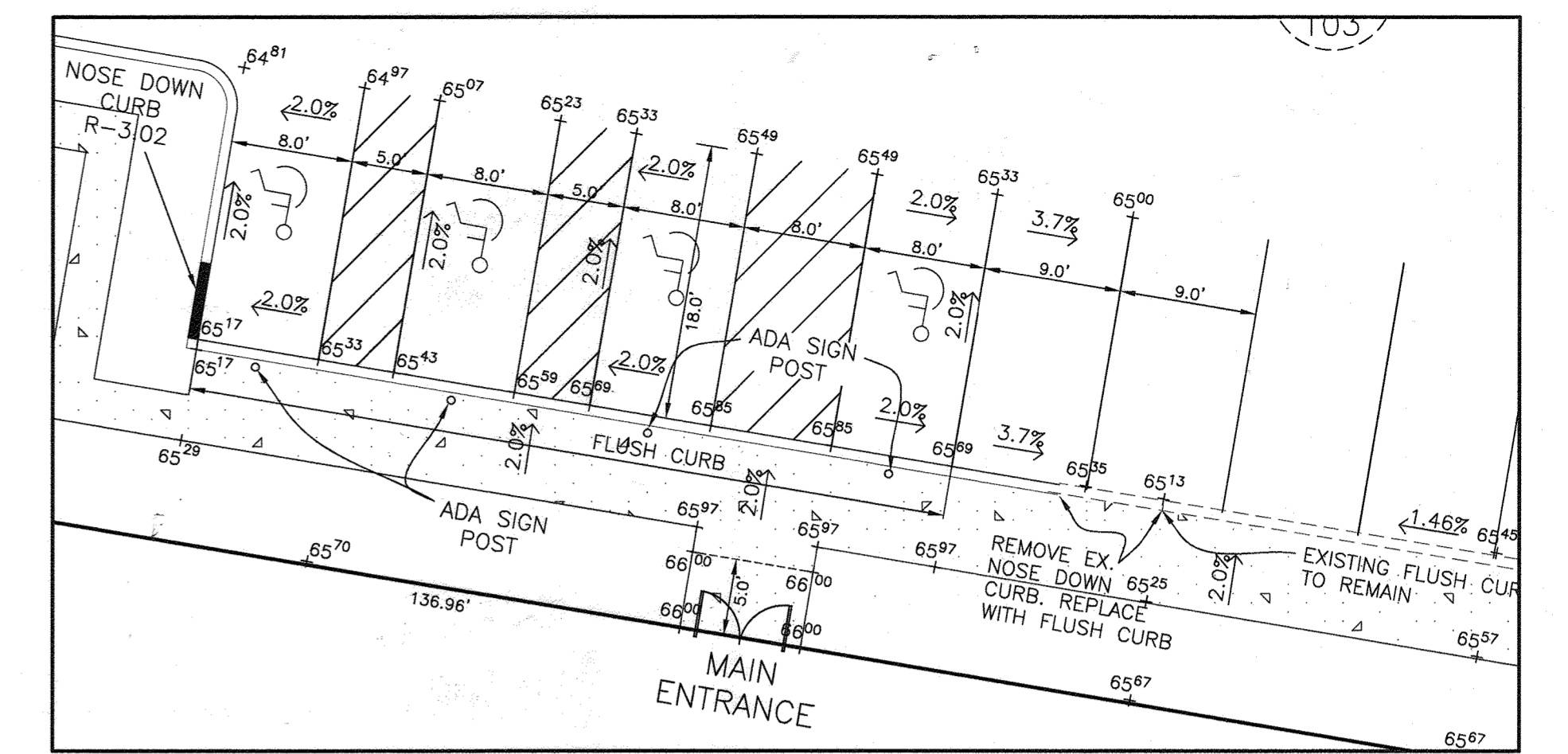
BUILDING FRONT ELEVATION

1 inch = 20 ft.



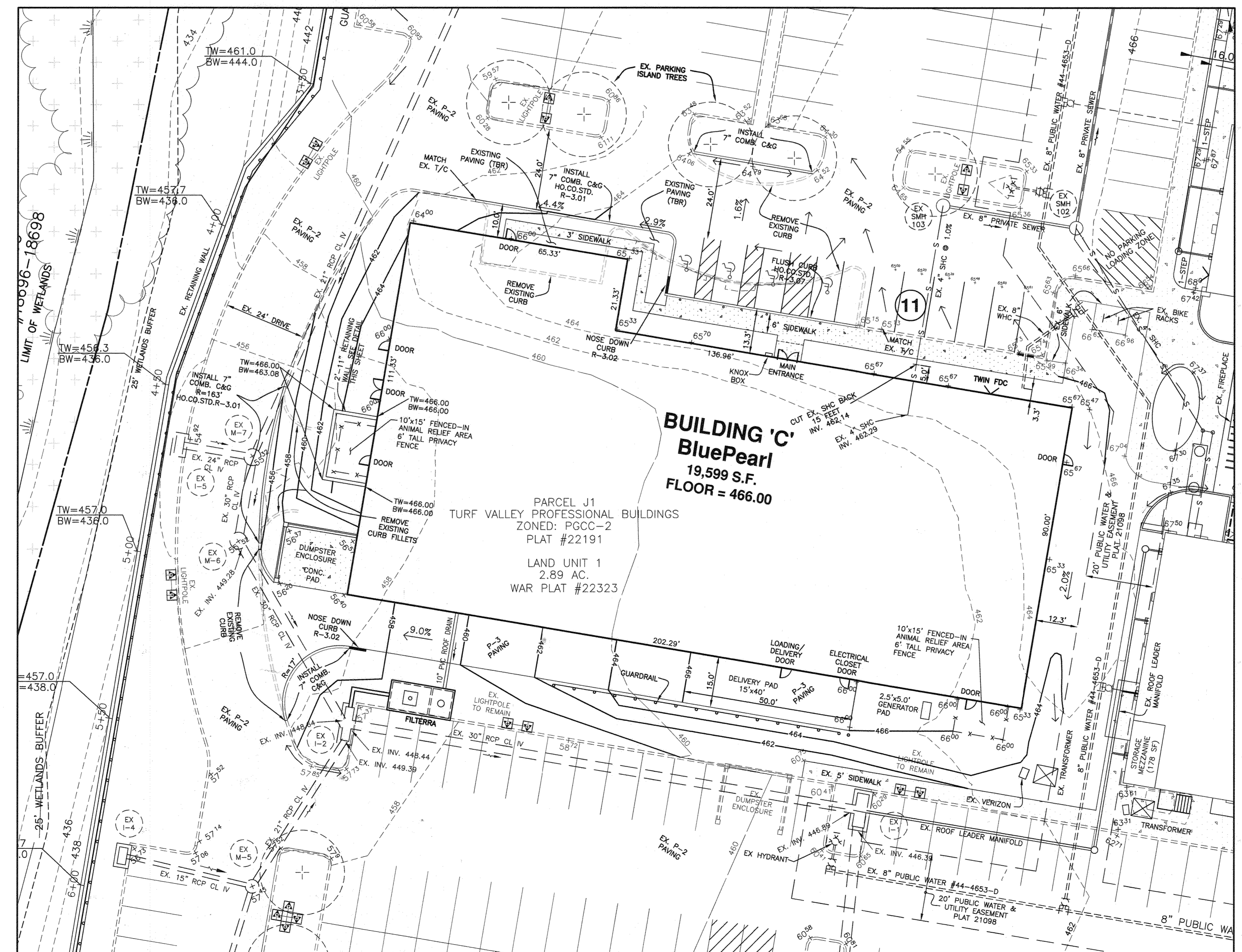
BUILDING REAR ELEVATION

1 inch = 20 ft.



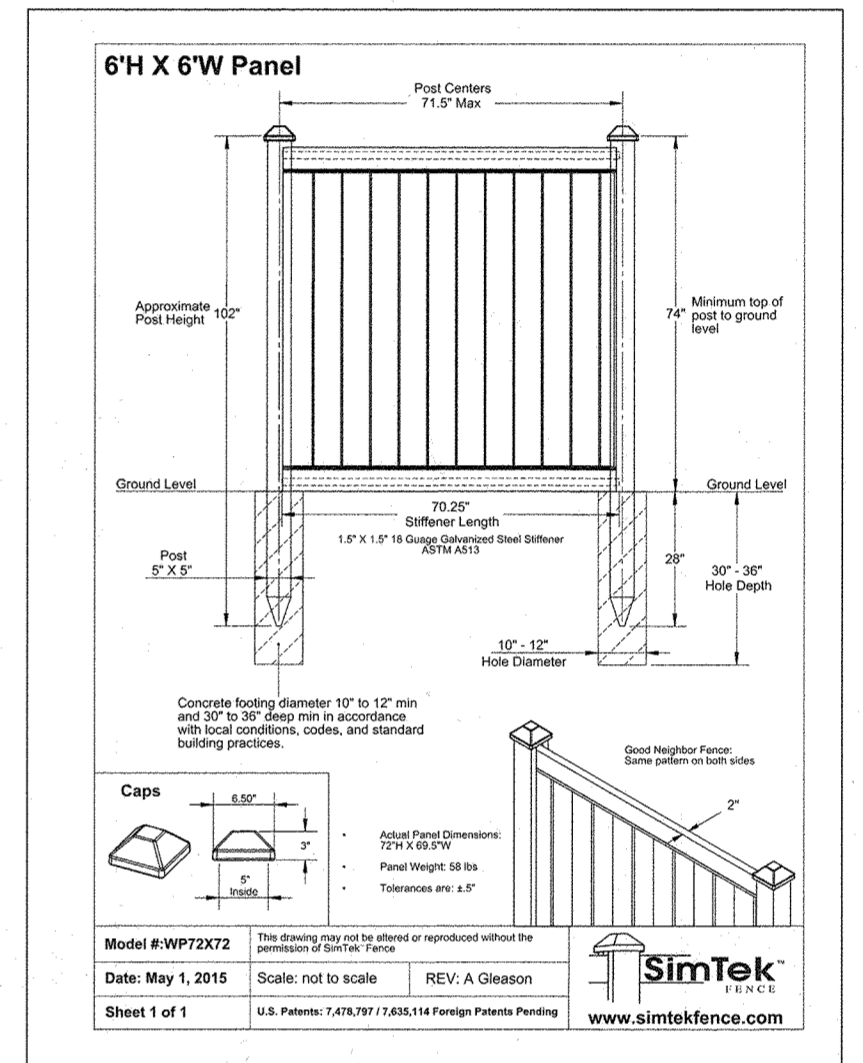
ADA COMPLIANCE AND MAIN ENTRANCE GRADING DETAIL

1 inch = 10 ft.



BUILDING 'C' SITE DEVELOPMENT AND GRADING PLAN

1 inch = 20 ft.



ANIMAL RELIEF AREA FENCE DETAIL (OR EQUIVALENT)

- NOTES:
1. ALTERNATIVE COMPLIANCE REQUEST VP-24-032 TO SECTION 16.156(o)(1)(ii) AND SECTION 16.156(o)(1)(ii) WAS APPROVED ON NOVEMBER 7, 2023 SUBJECT TO THE FOLLOWING COMMENTS:
    - 1. THE DEADLINE TO APPLY FOR THE BUILDING PERMITS FOR BUILDING C UNDER SDP-10-027 SHALL BE EXTENDED 6 MONTHS FROM THE DATE OF APPROVAL OF THE REDLINE TO SDP-10-027 (ON OR BEFORE MARCH 21, 2024).
    - 2. INCLUDE THE ALTERNATIVE COMPLIANCE NUMBER, DESCRIPTION, AND CONDITIONS IMPOSED ON FUTURE SUBMITTED PLANS AND PERMITS.
  2. EXISTING TOPOGRAPHY AND SURROUNDING CURB LINE SHOWN IS BASED ON FIELD SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. IN JUNE, 2023.
  3. EXISTING UTILITIES SHOWN ARE BASED ON SDP-10-027 AND CONTRACT DRAWING NO. 44-4653-D

NO.	DATE	REVISION
1	9.25.2023	REPLACEMENT SHEET. REVISE BUILDING 'C' FOOTPRINT, GRADING, UTILITIES. ADD FILTERRA DETAILS. ADD GRADING DETAIL FOR ADA PARKING. DELETE RETAINING WALL NOTES AND DETAILS

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 3300 NORTH RIDGE ROAD & SUITE 140 A ELLOTT CITY, MARYLAND 21043  
 (P) 410-465-0105 (F) 410-465-6644  
 WWW.BE-CIVILENGINEERING.COM

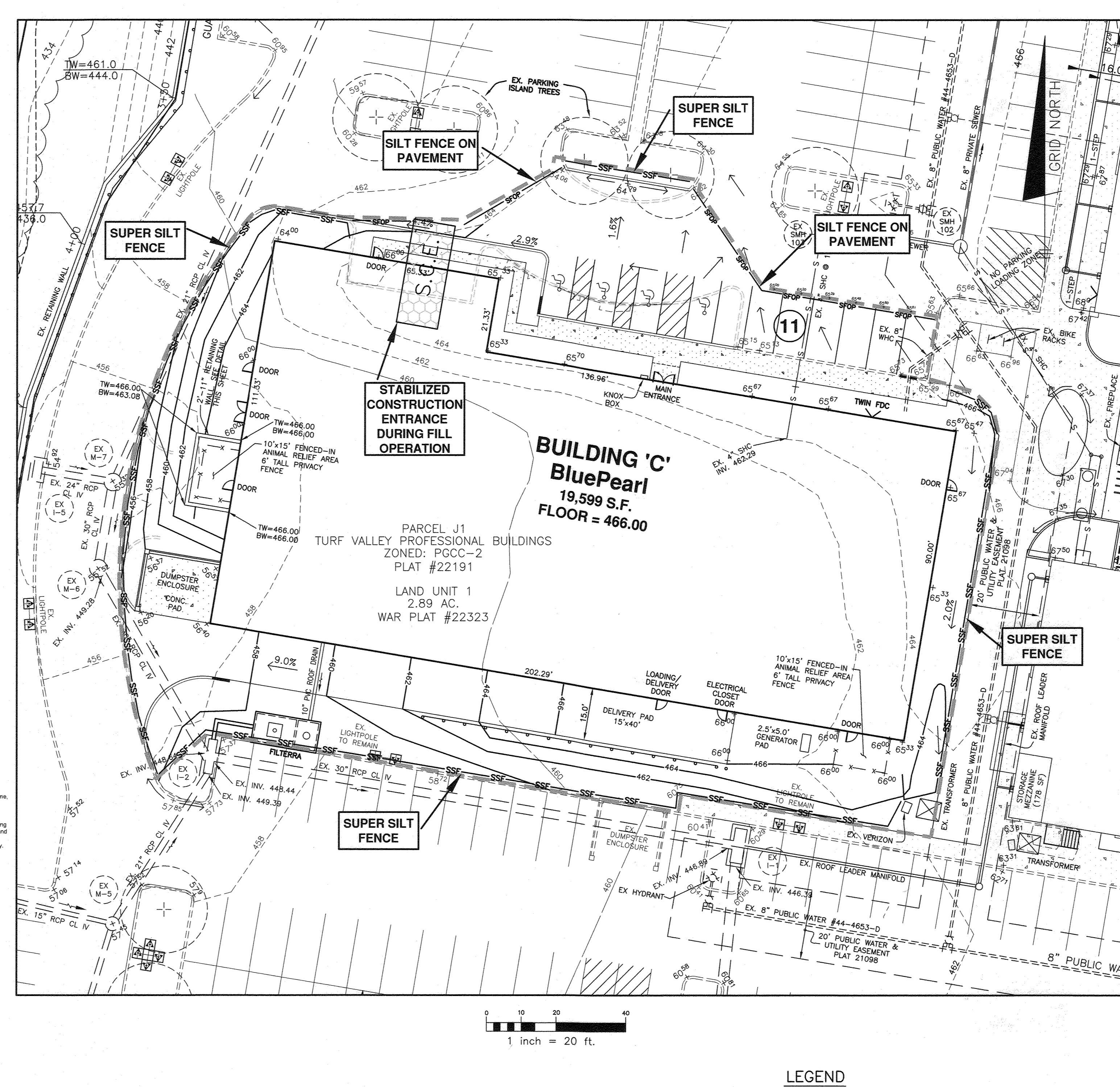
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the authority of the State of Maryland, License No. 22904. **Clayton A. Gibson** 9-26-23

OWNER: GG TURF VALLEY LLC 10096 RED RUN BOULEVARD SUITE 100 OWINGS MILLS, MD 21117	TOWN SQUARE AT TURF VALLEY PARCELS 'J1' & 'J2' AND OPEN SPACE LOTS 4 & 5 TURF VALLEY PROFESSIONAL BUILDINGS PLAT NO. 22078-22079 TAX MAP: 16 - GRID: 19 - PARCEL: p/o 8 ZONED: PGCC-2 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND
DEVELOPER: GREENBERG GIBBONS 3904 BOSTON ST., SUITE 402 BALTIMORE, MARYLAND 21224 443-213-0743	BUILDING 'C' BLUEPEARL PLAN DATE: SEPTEMBER 25, 2023 SCALE: AS SHOWN DESIGN: DBT CHECK: CAM
BEI PROJECT NO. 3162 SHEET 30 OF 31	SDP-10-027

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Howard County* 10/24/23 DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Lynde Esenberg* 11/15/23 DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR



**HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES**

- Pre-construction meeting shall occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:
  - Prior to the start of earth disturbance.
  - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
  - Prior to the start of another phase of construction or opening of another grading unit.
  - Prior to the removal or modification of sediment control practices.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
  - Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and all disturbed areas to all other disturbed areas on the project site except for those areas under active grading.
  - All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-6) or mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if ground is frozen. Incremental stabilization (Sec. B-4-8) specifications shall be enforced in areas with 15' of cut and/or fill. Sloopsides (Sec. B-4-8) in height of 20 feet must be benched with stable outer soil. Concentrated flow, steep slopes, and highly erodible areas shall receive soil stabilization (Sec. B-4-6).
- 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 CID.

**Site Analysis:**

Total Area of Site:	25.67 Acres
Area Disturbed:	0.84 Acres
Area to be roofed or paved:	0.62 Acres
Area to be vegetatively stabilized:	0.22 Acres
Total cut:	0 Cu Yds
Total fill:	4,355 <sup>±</sup> Cu Yds
Off-site waste/borrow area location:	SITE WITH AN ACTIVE GRADING PERMIT

**\*CUT/FILL NUMBERS ARE ROUGH ESTIMATE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR TO VERIFY.**

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
  - Additional sediment control must be provided, if deemed necessary by the CID. The site and erosion control plan must be revised by the contractor, made available upon request, is part of every construction and should include:
    - Inspection date
    - Inspection type (routine, pre-storm event, during rain event)
    - Name and title of inspector
    - Weather information (current conditions as well as time and amount of last recorded precipitation)
    - Brief description of project's status (e.g. percent complete) and/or current activities
    - Evidence of sediment discharges
    - Identification of plan deficiencies
    - Identification of sediment controls that require maintenance
    - Identification of missing or improperly installed sediment controls
    - Completion status regarding the sequence of construction and stabilization requirements
    - Photographs
    - Monitoring/sampling
    - Maintenance and/or corrective action performed
    - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
- Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back filled and stabilized by the end of each work day, whichever is shorter.
  - Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
- Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 20 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved wash-out structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution to final grade.
- All silt fence and super silt fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled up by 2' in elevation.
- Stream channels must not be disturbed during the following restricted time periods (Inclusive):
  - Use I and IP March 1 - June 15
  - Use III and IP October 1 - April 30
  - Use IV March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

**B-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION**

**PURPOSE:** To stabilize disturbed soils with permanent vegetation.

**CONDITIONS WHERE PRACTICE APPLIES:** Exposed soils where ground cover is needed for a period of 6 months or more.

- General Use:
  - Select one or more of the species or seed mixtures listed in Table B-4-3 for the appropriate Plant Hardiness Zone (from Figure 8.1), and based on the site analysis or purpose from Table 8.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary.
  - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area.
  - For sites having disturbed areas for less than 5 acres and showing the recommended seeding mixtures, use the seed mixtures and application rates listed in the Permanent Seeding Summary.
  - For sites having disturbed areas greater than 5 acres, apply use form fertilizer (48-0-0) at 1/4 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in Table B-4-4 and Section B-4-5.
- Turfgrass Mixtures:
  - Apply turfgrass mixtures to level areas, lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the job.
  - Kentucky Bluegrass - Full Sun Mixture:** For use in areas that receive intensive maintenance. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture.
  - Kentucky Bluegrass/Perennial Ryegrass - Full Sun Mixture:** For use in full sun areas where rapid establishment is required. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 2.0 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 30 percent of the total mixture. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 2.0 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 30 percent of the total mixture. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 2.0 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 30 percent of the total mixture.
  - Tall Fescue/Kentucky Bluegrass - Full Sun Mixture:** For use in drought prone areas or for areas receiving low to medium maintenance. Recommended mixtures include: Certified Tall Fescue Cultivars 90 to 100 percent, Certified Kentucky Bluegrass Cultivars 10 to 10 percent. Seeding Rate: 3.0 to 3.5 pounds per 1000 square feet. One or more cultivars may be selected.
  - Kentucky Bluegrass/Tall Fescue - Shade Mixture:** For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed golf courses. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Tall Fescue and 60 to 70 percent. Seeding Rate: 1.5 to 3.0 pounds per 1000 square feet.
  - Notes:** Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Manual: Turfgrass Culture Recommendations for Maryland. Choose certified material. Certified material is the best guarantee of culture purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assurance of quality.
  - Local Fertilizer for Turf Grass Mixture:**
    - Use fertilizer containing 15-0-15 (Nitrogen Phosphate Potassium) 15-0-15.
    - Apply fertilizer to the soil immediately preceding the date of seeding. See Table B-4-5 for application rates.
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**B-4 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING**

**PURPOSE:** To protect disturbed soils from erosion during and at the end of construction.

**CONDITIONS WHERE PRACTICE APPLIES:** To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

- Application of seed and mulch to be installed vegetative cover:
  - Apply seed and mulch to the surface of all perimeter controls, slopes, and any disturbed area not under active grading.
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- Temporary Stabilization - Fill Slopes:
  - Excavate and stabilize all slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
  - Stabilize slopes immediately when the vertical height of a cut reaches 15 feet, or when the grading operation ceases as indicated.
  - At the end of each day, install temporary water conveyance practices, as necessary, to intercept surface runoff and convey it to an erosive margin.
  - Place Phase 1 silt fence, prepare seedbed, and stabilize.
  - Place Phase 2 silt fence, prepare seedbed, and stabilize.
  - Place Phase 3 silt fence, prepare seedbed, and stabilize.
  - Place Phase 4 silt fence, prepare seedbed, and stabilize.
  - Place Phase 5 silt fence, prepare seedbed, and stabilize.
  - Place Phase 6 silt fence, prepare seedbed, and stabilize.
  - Place Phase 7 silt fence, prepare seedbed, and stabilize.
  - Place Phase 8 silt fence, prepare seedbed, and stabilize.
  - Place Phase 9 silt fence, prepare seedbed, and stabilize.
  - Place Phase 10 silt fence, prepare seedbed, and stabilize.
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  - Place Phase 100 silt fence, prepare seedbed, and stabilize.

**B-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION**

**PURPOSE:** To stabilize disturbed soils with temporary vegetation.

**CONDITIONS WHERE PRACTICE APPLIES:** Exposed soils where ground cover is needed for a period of 90 days or less.

- General Use:
  - Select one or more of the species or seed mixtures listed in Table B-4-3 for the appropriate Plant Hardiness Zone (from Figure 8.1), and enter them in the Temporary Seeding Summary along with application rates, seeding dates and seeding depths as applicable. See the Permanent Seeding Summary for additional planting specifications. For sites having disturbed areas for less than 5 acres and showing the recommended seeding mixtures, use the seed mixtures and application rates listed in the Temporary Seeding Summary.
  - For sites having disturbed areas greater than 5 acres, apply use form fertilizer (48-0-0) at 1/4 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in Table B-4-4 and Section B-4-5.
- Turfgrass Mixtures:
  - Apply turfgrass mixtures to level areas, lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
  - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Temporary Seeding Summary. The summary is to be placed on the job.
  - Kentucky Bluegrass - Full Sun Mixture:** For use in areas that receive intensive maintenance. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture.
  - Kentucky Bluegrass/Perennial Ryegrass - Full Sun Mixture:** For use in full sun areas where rapid establishment is required. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 2.0 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 30 percent of the total mixture. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 2.0 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 30 percent of the total mixture.
  - Tall Fescue/Kentucky Bluegrass - Full Sun Mixture:** For use in drought prone areas or for areas receiving low to medium maintenance. Recommended mixtures include: Certified Tall Fescue Cultivars 90 to 100 percent, Certified Kentucky Bluegrass Cultivars 10 to 10 percent. Seeding Rate: 3.0 to 3.5 pounds per 1000 square feet. One or more cultivars may be selected.
  - Kentucky Bluegrass/Tall Fescue - Shade Mixture:** For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed golf courses. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Tall Fescue and 60 to 70 percent. Seeding Rate: 1.5 to 3.0 pounds per 1000 square feet.
  - Notes:** Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Manual: Turfgrass Culture Recommendations for Maryland. Choose certified material. Certified material is the best guarantee of culture purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assurance of quality.
  - Local Fertilizer for Turf Grass Mixture:**
    - Use fertilizer containing 15-0-15 (Nitrogen Phosphate Potassium) 15-0-15.
    - Apply fertilizer to the soil immediately preceding the date of seeding. See Table B-4-5 for application rates.
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**DESIGN CERTIFICATION**

I, *Christopher A. Malagari*, CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.\*

*C. Malagari* ENGINEER  
CHRISTOPHER A. MALAGARI

DATE: 9-26-23  
MD REGISTRATION NO. 22390  
(E) R.L.S., OR R.L.A. (circle one)

---

**OWNERS/DEVELOPERS CERTIFICATION**

I, *Eric Allen*, WE CERTIFY THAT THIS CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN INCLUDING PREVENTING AND MAINTAINING CONTROL, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

*Eric Allen*  
ERIC ALLEN, GG TURF VALLEY LLC

DATE: 10/18/23  
DATE: 11/14/23  
DATE: 11/15/23

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

DIRECTOR

**DETAIL B-1: STABILIZED CONSTRUCTION ENTRANCE**

**DETAIL E-3: SUPER SILT FENCE**

**DETAIL E-2: SILT FENCE ON PAVEMENT**

**CONSTRUCTION SPECIFICATIONS**

- INSTALL 26 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED IN FURTHER THAN 10 FEET APART. PLACE SOLE TO FEET MINIMUM.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (26 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURED TO THE STEEL POSTS WITH WIRE TIES OR HUSK RINGS.
- FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS SECURELY TO THE UPSIDE OF CHAIN LINK FENCE WITH THIS SPACED EVERY 24 INCHES AT THE TOP AND MID AND EXTEND OUTSIDE THE CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BYPASS.
- EXTEND ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPFIELD AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM COMING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/DEFERENTIAL AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE FENCE AND GEOTEXTILE IF UNDERRUNNING OCCURS.
- REINSTATE CHAIN LINK FENCING AND GEOTEXTILE.

**SEQUENCE OF CONSTRUCTION**

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK

- Obtain grading permit. Notify C.I.D. at 410-313-1880 at least 24 hours before starting any work. Day 1
- Hold on-site pre-construction meeting. Day 2
- Upon approval from the Howard County Sediment Control Inspector, clear and grub as necessary in order to install perimeter controls. (i.e. SCE's, SSF, SFOP). Day 3
- Begin grading/fill operation to bring pad to subgrade. Pour foundation. Remove portions of curb and pavement that are designated to be removed. Pour new curb and base pave. Install Filterra. Once building is under roof, connect the roof leader to the Filterra. Stabilize in accordance with the temporary seedbed notes. Utilize dust control methods. Day 4-8
- Upon approval from the Howard County Sediment Control Inspector, remove sediment control devices and stabilize in accordance with the permanent seedbed notes. Day 9-10

**LEGEND**

- SSF - SUPER SILT FENCE
- SFOP - SILT FENCE ON PAVEMENT

NO.	DATE	REVISION
1	9.25.2023	REPLACEMENT SHEET. DELETE RETAINING WALL DETAILS. ADD BUILDING 'C' SEDIMENT CONTROL PLAN. ADD SEDIMENT CONTROL NOTES, DETAILS

**BENCHMARK ENGINEERING, INC.**  
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**TOWN SQUARE AT TURF VALLEY**

GG TURF VALLEY LLC  
10096 RUD BULLWOOD  
SUITE 100  
OWINGS MILLS, MD 21117

PARCELS J1 & J2 AND OPEN SPACE LOTS 4 & 5  
TURF VALLEY PROFESSIONAL BUILDINGS  
PLAT NOS. 22078-22079

TAX MAP: 16 - GRID: 19 - PARCEL: p/o 8  
ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND

**BUILDING 'C' BLUEPEARL SEDIMENT AND EROSION CONTROL PLAN**

DATE: SEPTEMBER 25, 2023 | BEI PROJECT NO. 3162  
DESIGN: DBT | CHECK: CAM | SCALE: AS SHOWN | SHEET 31 OF 31