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SITE DEVELOPMENT PLAN

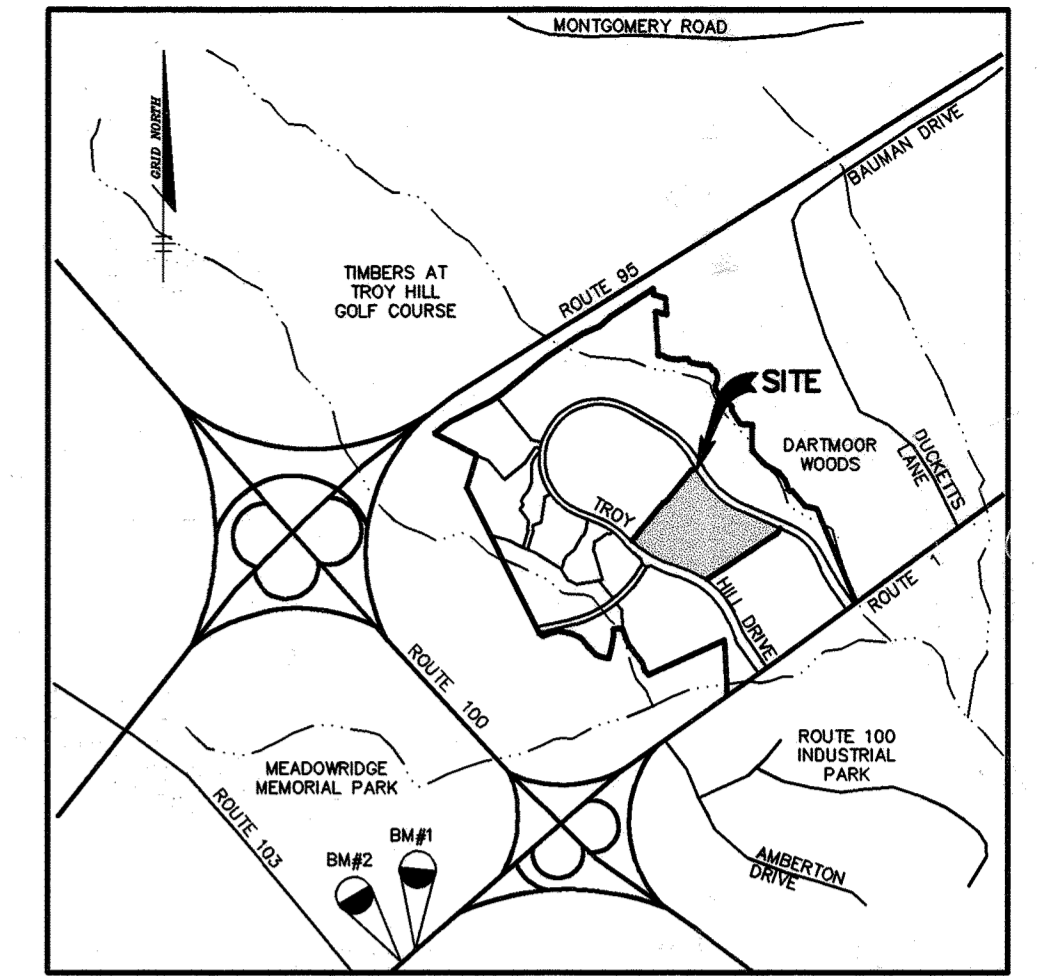
TROY HILL CIRCLE

TROY HILL CORPORATE CENTER

PARCEL A-25

1st ELECTION DISTRICT

HOWARD COUNTY, MARYLAND



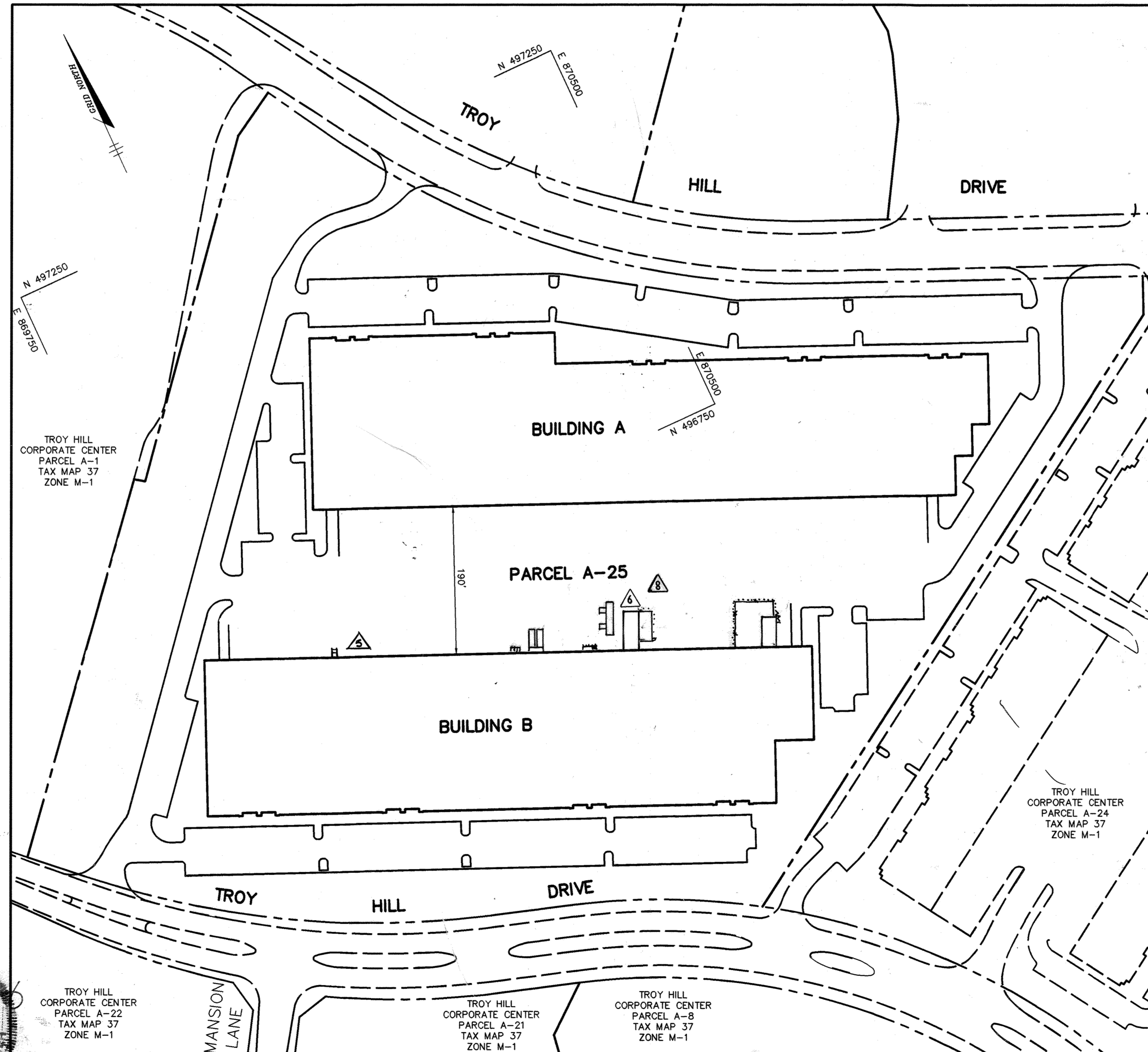
VICINITY MAP
SCALE: 1" = 2000'

BENCHMARKS

BMP#1 ELEV. 172.646
HOWARD COUNTY SURVEY CONTROL - 2445000
N 444804.822 E 264841.614
BMP#2 ELEV. 159.344
HOWARD COUNTY SURVEY CONTROL - 2445000
N 443050 E 266100
(COORDINATES ARE NAD27)

SITE ANALYSIS

AREA OF PARCEL	21.737 ACRES (946,760 SF)
DISTURBED AREA	20.8 ACRES
PRESENT ZONING	M-1
PROPOSED USE	2 OFFICE/WAREHOUSE FACILITIES (ONE STORY)
BUILDING COVERAGE	
BUILDING-A	166,223 SF (17.6% OF GROSS AREA)
BUILDING-B	152,138 SF (16.1% OF GROSS AREA)
TOTAL AREA	318,361 SF
# OF PARKING SPACES REQUIRED	
BUILDING COVERAGE @ 0.5 SP/1000:	
BUILDING A COVERAGE	166,223 SF x 0.5 SPACES/1000 SF = 83 SPACES
BUILDING B COVERAGE	152,138 SF x 0.5 SPACES/1000 SF = 76 SPACES
TOTAL	159 SPACES
# OF TOTAL PARKING SPACES PROVIDED	159 SPACES
# OF PARKING SPACES PROVIDED	446 ^{98%} SPACES (INCLUDING 14 HC) ^Δ
APPLICABLE REFERENCES:	S-90-05, P-90-23, F-91-24, F-96-136, F-01-77, F-98-169, SDP-98-149, ZB-1009M



- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY LEO W. RADER, APRIL, 2000.
 - 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. 2445004 AND 2445005 WERE USED FOR THIS PROJECT.
 - WATER IS PUBLIC. CONTRACT NO. 44-3941-D
 - SEWER IS PUBLIC. SEWER DRAINAGE AREA: SHALLOW RUN CONTRACT NO.14-3070-D
 - THE STORMWATER MANAGEMENT FACILITIES PROPOSED FOR THIS SITE ARE FOUR PRIVATE WATER QUALITY BAYSAYERS. QUANTITY MANAGEMENT EXISTS AND IS PROVIDED BY DETENTION BASINS UNDER SDP-98-149 AND F-96-136.
 - APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
 - A 100- YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - THERE ARE NO WETLANDS ONSITE AS OF DECEMBER, 2000. PREVIOUS WETLANDS INDICATED ON PLATS 11812 AND 13841 WERE REMOVED PER PERMIT NO. 199866879/90-WC-0647/91-WO-0326.
 - THE OWNER OF ANY LOT OR PARCEL AT TROY HILL CORPORATE CENTER SHALL SUBMIT A TRAFFIC ENGINEER'S ESTIMATE OF PEAK HOUR VEHICULAR SITE TRIP GENERATION WITH EACH RESUBDIVISION PLAT OR SITE DEVELOPMENT PLAN IT FILES WITH THE COUNTY FOR APPROVAL. THE SUBMISSION OF ANY RESUBDIVISION PLAT OR SITE DEVELOPMENT PLAN THAT RESULTS IN A TOTAL AGGREGATE PEAK HOUR PROJECTED TRIP VOLUME FROM TROY HILL OF AT LEAST 1746 VEHICLES PER PEAK HOUR ON A TYPICAL WEEKDAY SHALL REQUIRE THAT THE OWNER OF SUCH PLAN MUST APPLY FOR THE CONSTRUCTION OF THE U.S. ROUTE 1, PHASE III, TRAFFIC IMPROVEMENTS AND MUST COMPLETE CONSTRUCTION OF SUCH IMPROVEMENTS WITHIN THREE YEARS AFTER PLAN APPROVAL IN ACCORDANCE WITH THE ADEQUATE PUBLIC FACILITIES AGREEMENT F-91-24.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - A GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT IS NOT REQUIRED FOR THIS PROJECT.
 - THE BOUNDARY FOR THIS PROJECT IS BASED ON PLAT F-01-77 PREPARED BY LEO W. RADER, DATED AUGUST, 2000.
 - SUBJECT PROPERTY ZONED M-1 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
 - ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
 - SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S. S-90-05, P-90-23, F-91-24, F-96-136, F-01-77, F-98-169, SDP-98-149, ZB-1009M
 - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
 - PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
 - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
 - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT \curvearrowright ELEVATIONS.
 - STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
 - PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
 - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
 - ZB-1009M, ZONING BOARD CASE TO REVISE ZONING FROM B-2 TO M-1 WAS APPROVED. DECISION AND ORDER DATED DECEMBER 22, 2000 HAS BEEN SIGNED.
 - THIS PARCEL IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BECAUSE THE SITE RECEIVED PRELIMINARY APPROVAL AUGUST 9, 1991 (P-90-23). SEE SECTION 16.1202(b)(1)(v).
 - STORM WATER MANAGEMENT FOR ADDITIONAL PARKING IS PROVIDED BY A MICRO-BIOPRETENTION FACILITY AS PART OF REVISION 7.
 - A BUILDING PERMIT FOR THE PROPOSED BUILDING ADDITION SHALL BE APPLIED FOR WITHIN 1 YEAR MEASURED FROM THE DATE APPROVAL LETTER FOR THIS REVISION IS ISSUED.
 - THE INCREASE IN IMPERVIOUS AREA AMOUNTS TO 895 S.F. AND LESS THAN 5,000 S.F. OF DISTURBANCE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 2/22/01
DIRECTOR DATE

[Signature] 2/22/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/22/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

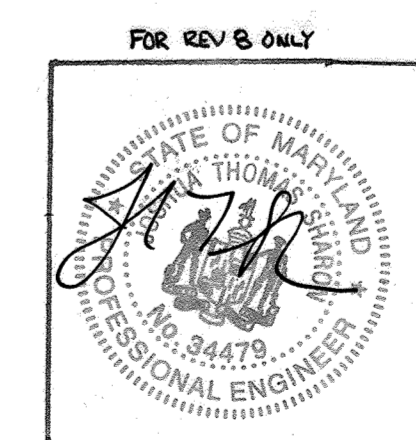
6-28-07 5 ADDD STAIRS TO BLDG. B
9-17-02 1 REV. SITE ANALYSIS (PARKING SPACES PROVIDED)
DATE NO. REVISION

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
c/o MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

PROJECT
TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
TITLE SHEET



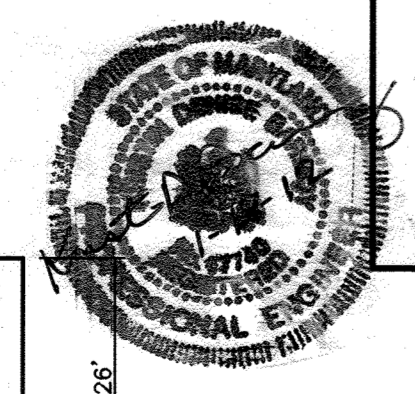
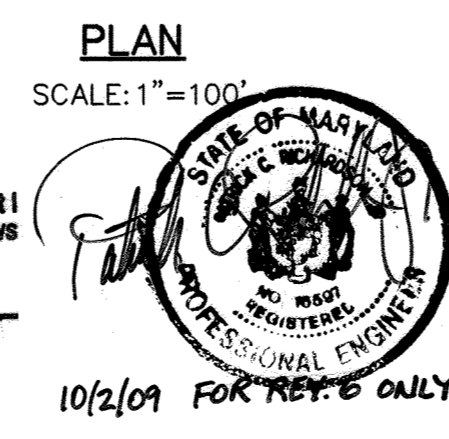
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 34479, EXPIRATION DATE: 6/21/2022.

ADDRESS CHART

BUILDING	STREET ADDRESS
A	7030 TROY HILL DRIVE
B	7150 TROY HILL DRIVE

SUBDIVISION NAME: TROY HILL CORPORATE CENTER		SECT./AREA: -	PARCEL: A-25
PLAT #:	BLOCK #:	ZONE:	TAX MAP NO.:
14619	18	M-1	37
WATER CODE: A-03		SEWER CODE: 2152200	

DATE	NO.	REVISION
4/7/2011	8	ADDED 36 PARKING SPACES, INTERCOURT TANK COOLERS, TRASH COMPACTOR, AND STORAGE CONTAINER
1/18/12	7	ADDED 26 PARKING SPACES
10/2/09	6	ADDED DRIVE IN RAMP TO BUILDING B



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THE PORTION OF THESE DOCUMENTS PERTAINING TO REVISION 7 WAS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 17740, EXPIRATION DATE 4/1/2012.

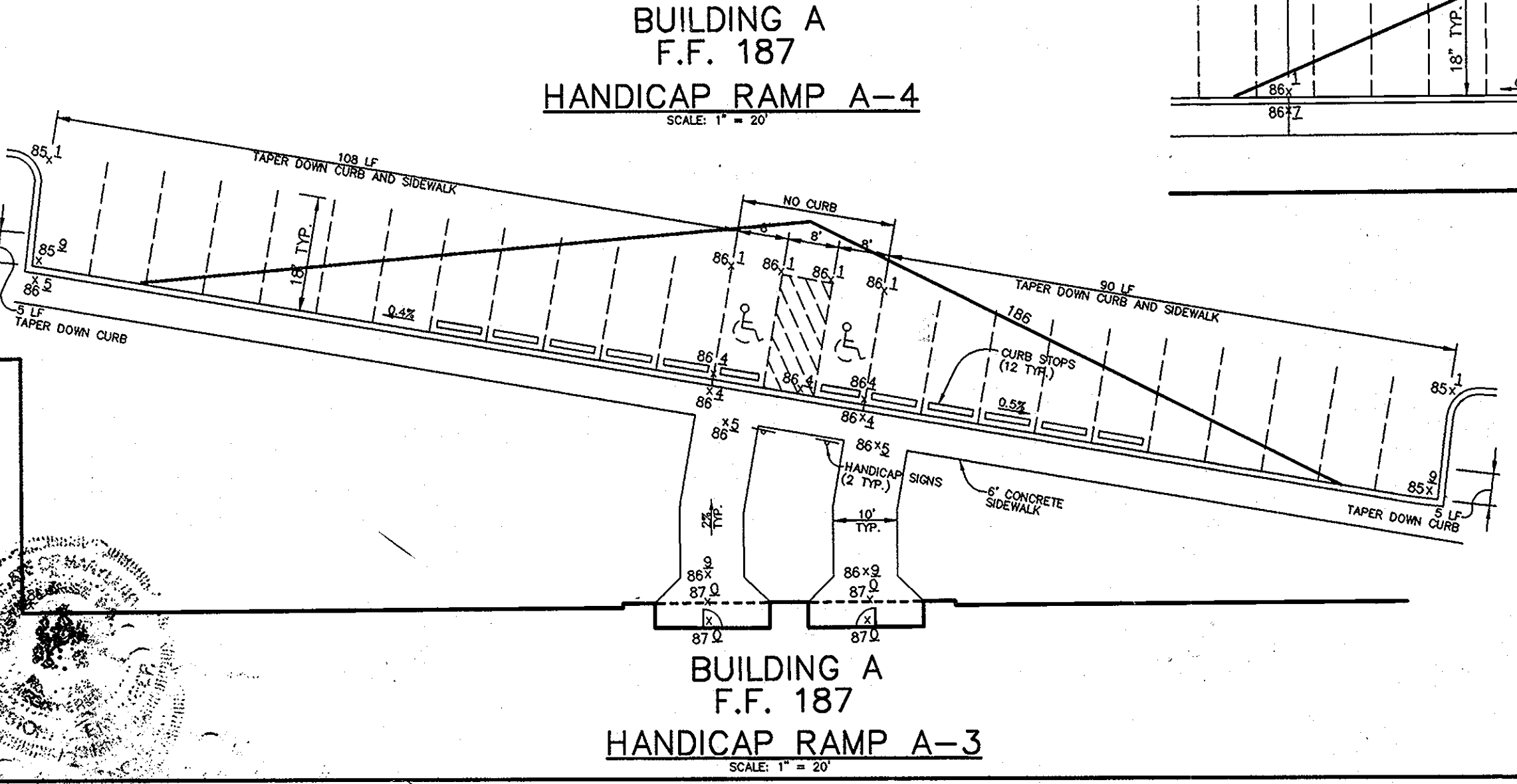
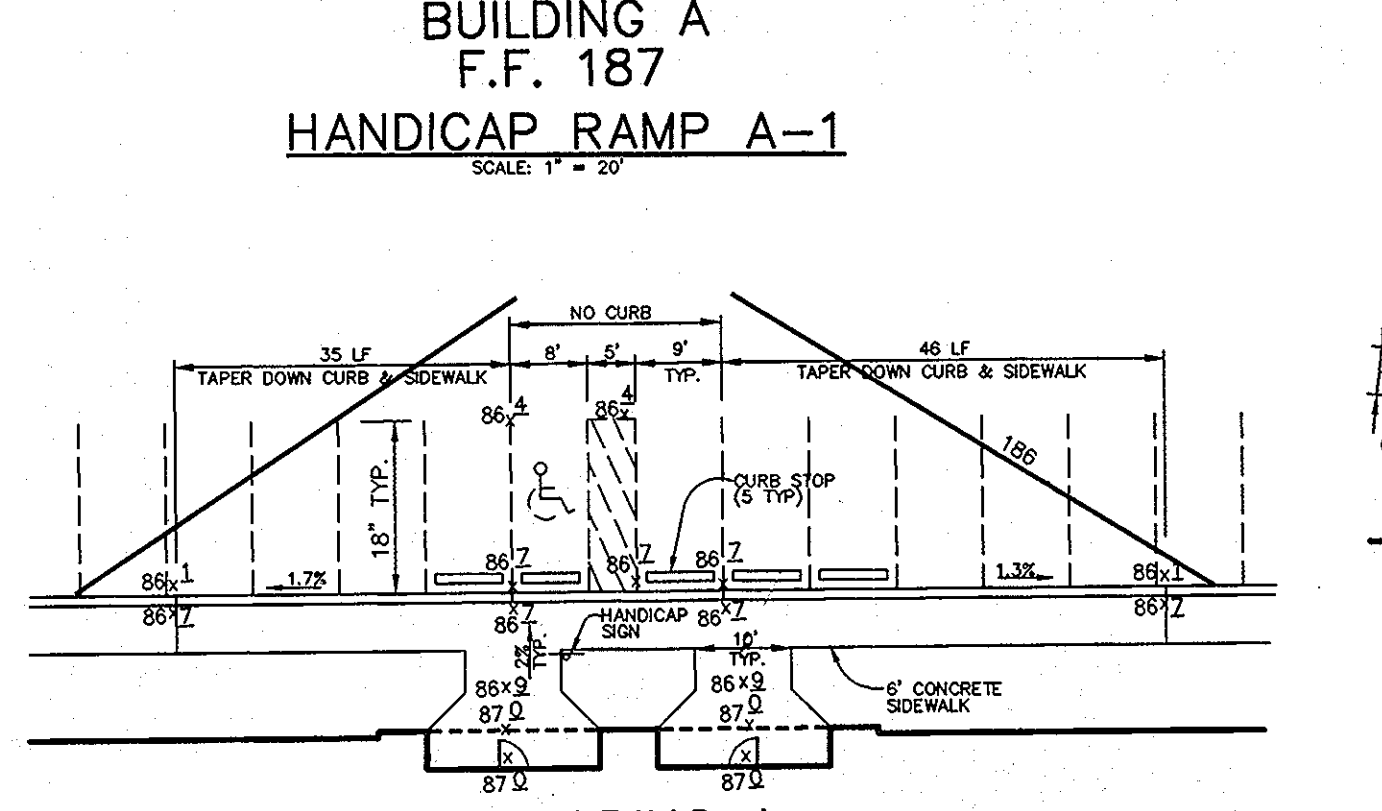
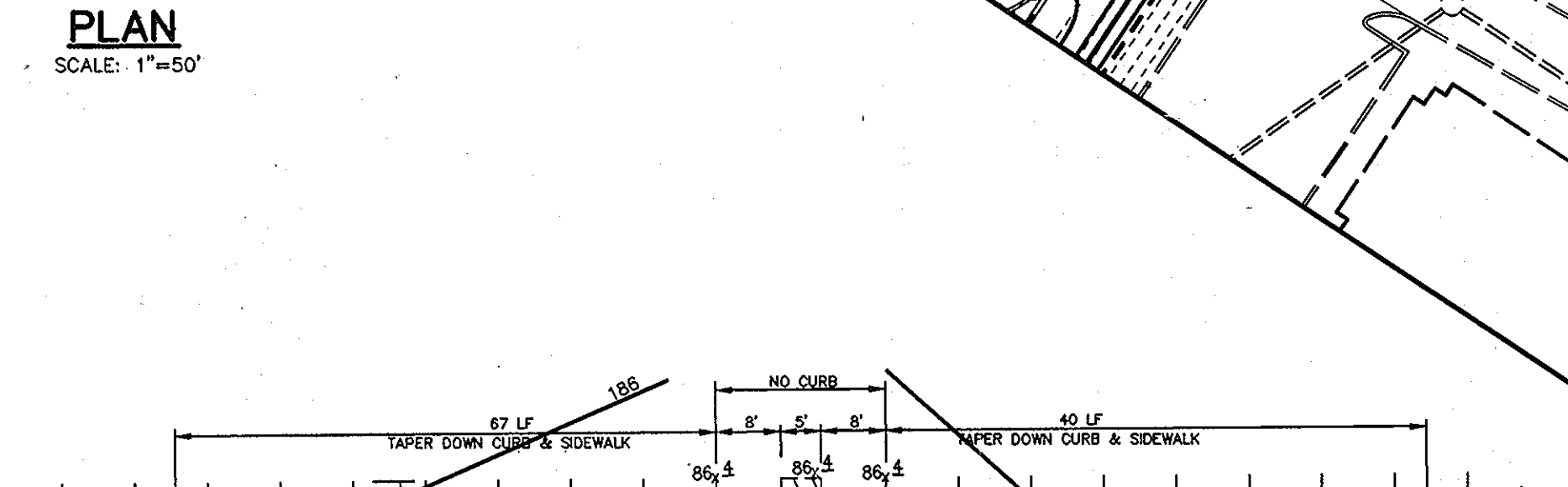
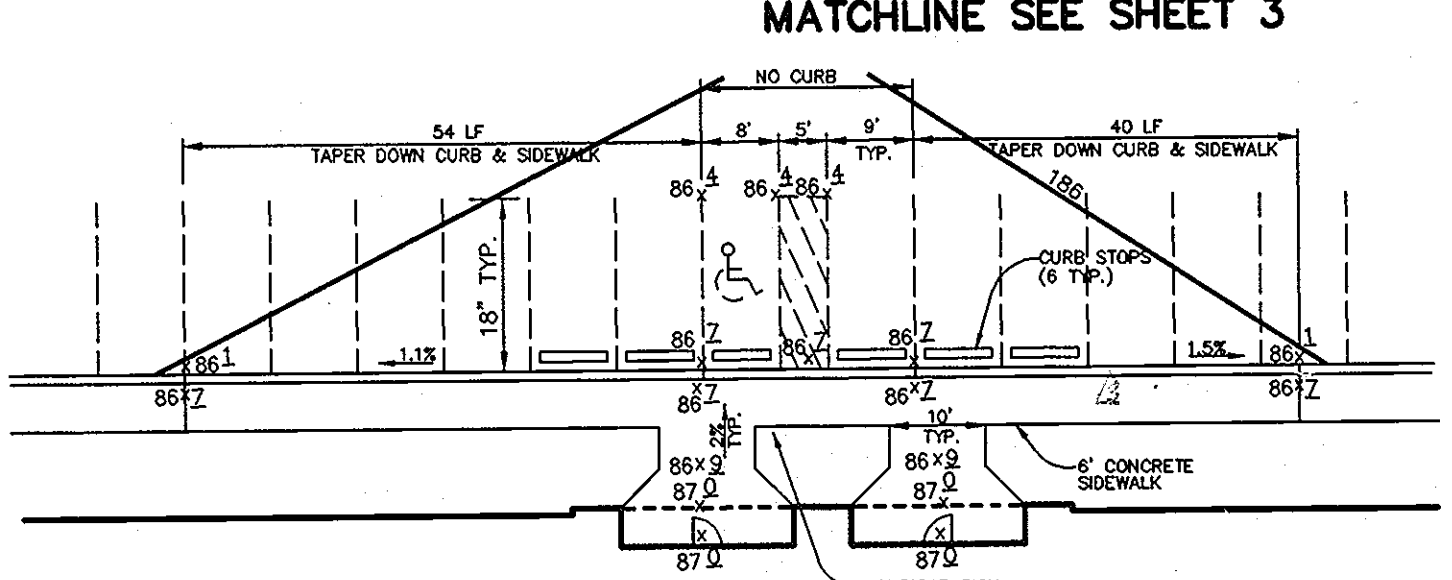
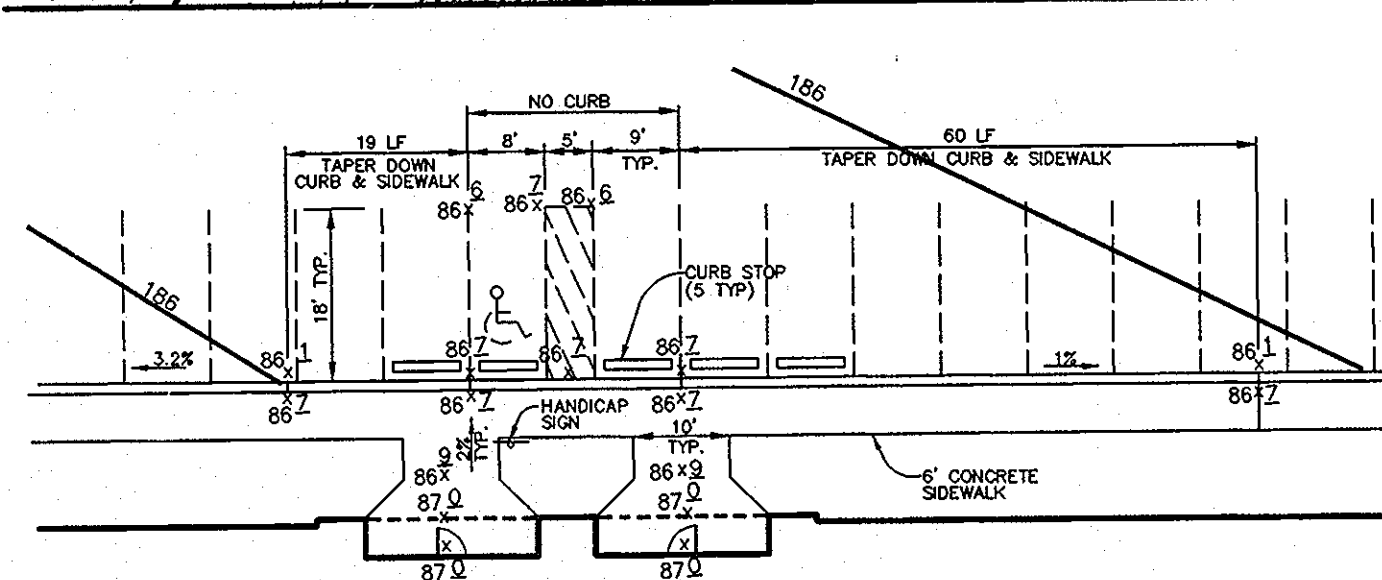
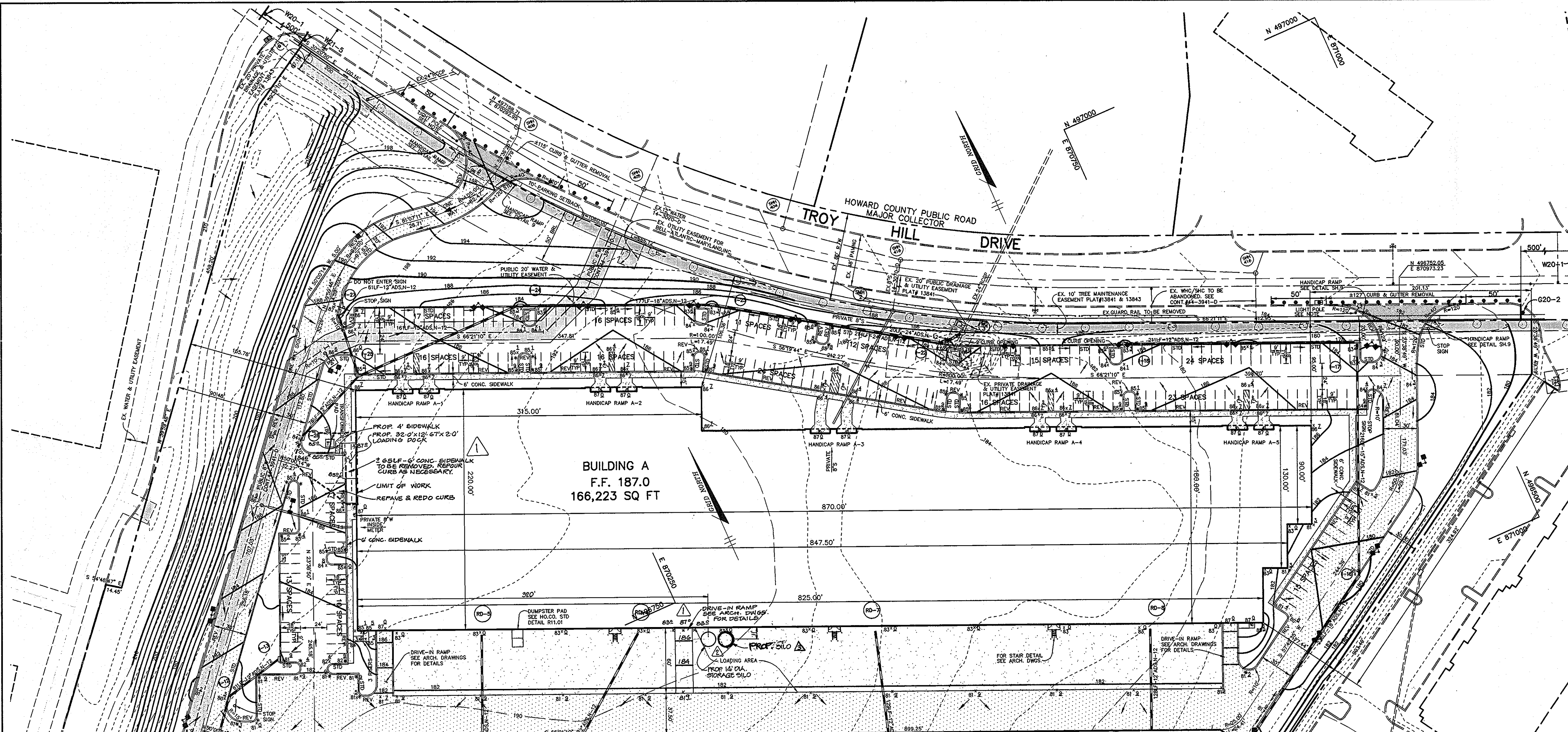
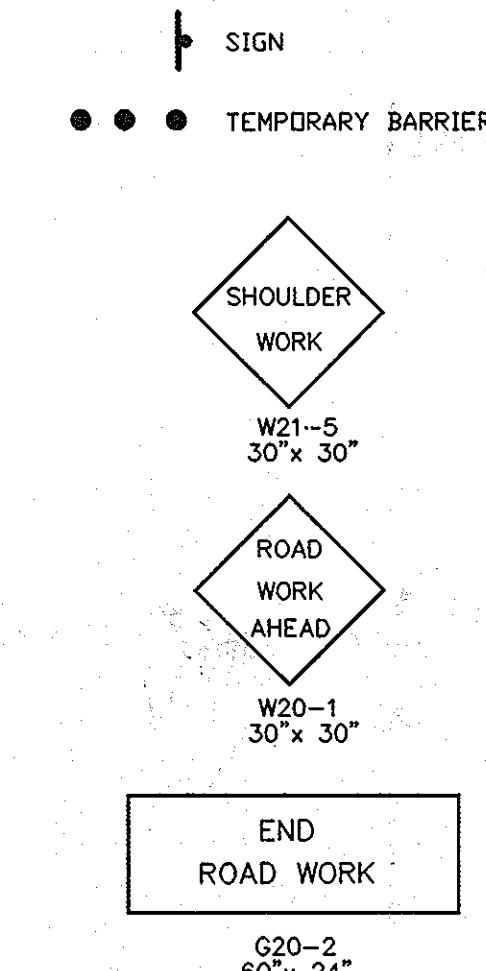
BUILDINGS A AND B ELEVATION
NO SCALE

NOTES:

1. ALL RADII ARE 5' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB OR BUILDING UNLESS OTHERWISE NOTED.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL LIGHTING IS TO BE DIRECTED/REFLECTED AWAY FROM ADJACENT PUBLIC ROADS AND RESIDENTIALLY ZONED PROPERTIES, AND BE IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
5. * STD/REV STANDARD TO REVERSE CURB TRANSITION.
6. [Symbol] P-2 PAVING
7. [Symbol] P-3 PAVING
8. [Symbol] P-5 PAVING
9. [Symbol] CONCRETE
10. STREET LIGHTS TO BE 250 HPS FIXTURE MOUNTED ON 30" BRONZE FIBERGLASS POLE WITH 12" ARM RADIAL TO CURB FILLET DENOTED AS [Symbol]

- 400W SINGLE HEAD METAL HALIDE SET ON 30" HIGH SQUARE STRAIGHT STEEL w/DARK BRONZE POLYESTER POWER COAT FINISH FULL CUTOFF FIXTURE.
- 400W DOUBLE HEAD METAL HALIDE SET ON 30" HIGH SQUARE STRAIGHT STEEL w/DARK BRONZE POLYESTER POWER COAT FINISH FULL CUTOFF FIXTURE.
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TRAFFIC CONTROL SIGNAGE LEGEND



4-20-03 ADDED STORAGE SILO AT BLDG. A

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James A. Rueff 2/22/01
DIRECTOR DATE

Carol Hanover 2/20/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Carol Hanover 2/22/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

1-D-03 2 ADDED STORAGE SILO AT BUILDING A
 1-17-02 MODIFIED SIDEWALK & PARKING SPACES; REPAVED & REPAVED CURB; ADDED LOADING DOCK & DRIVE-IN RAMP.

DATE	NO.	REVISION

OWNER / DEVELOPER
 TROY HILL CORPORATE CENTER PROPERTY LLC
 C/O MANEKLIN LLC
 7061 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046
 410-290-1400

PROJECT
TROY HILL CIRCLE
 TROY HILL CORPORATE CENTER
 PARCEL A-25

AREA
 TAX MAP 37 ZONE: M-1 PLAT No. 14619
 1st. ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
SITE DEVELOPMENT PLAN

RIEMER MUEGGE
 a division of
Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 8818 Centro Park Drive, Columbia, MD 21046 • tel 410.997.8900 fax 410.997.9282

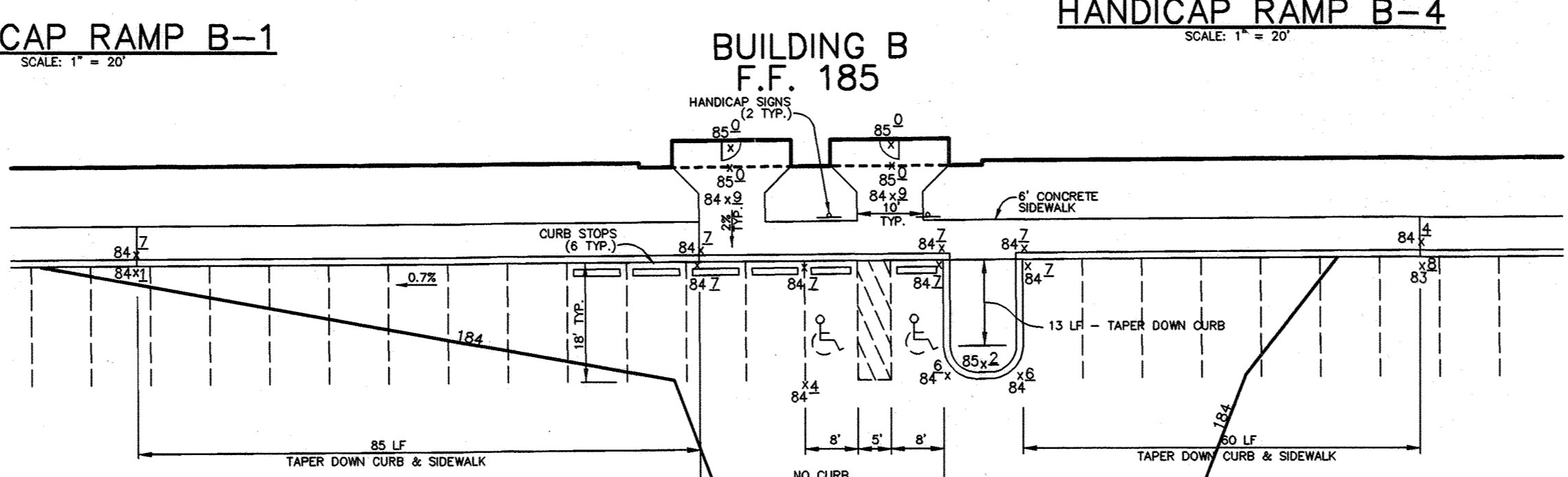
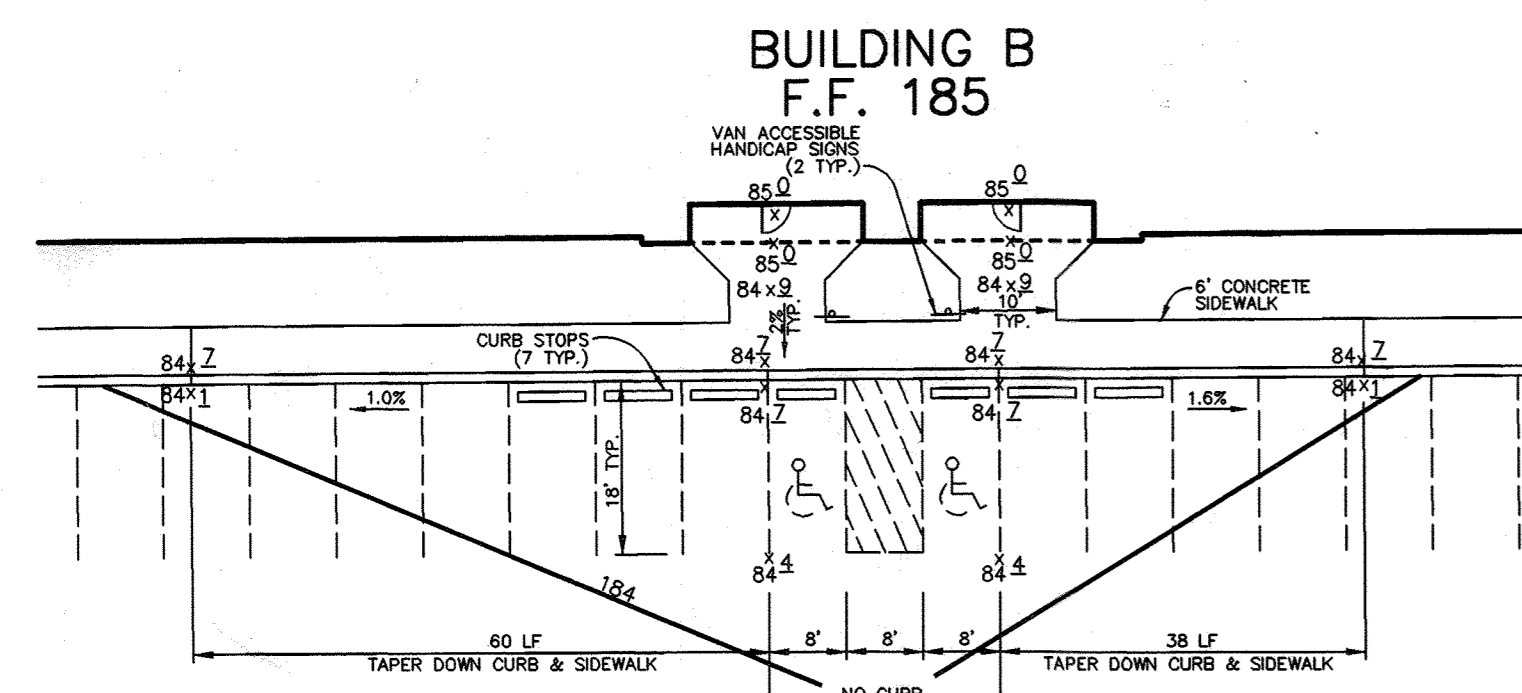
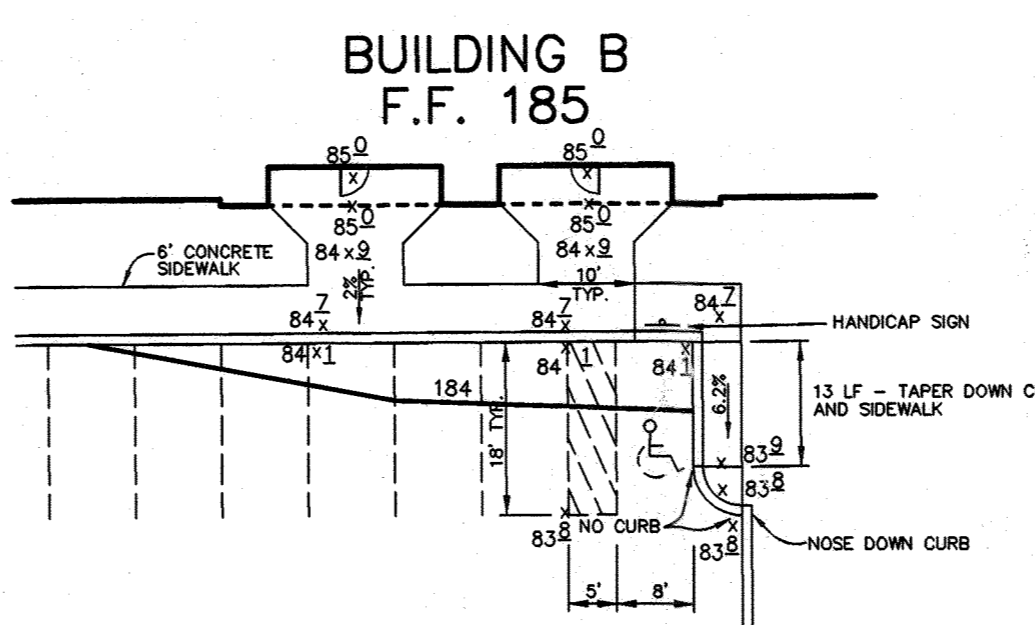
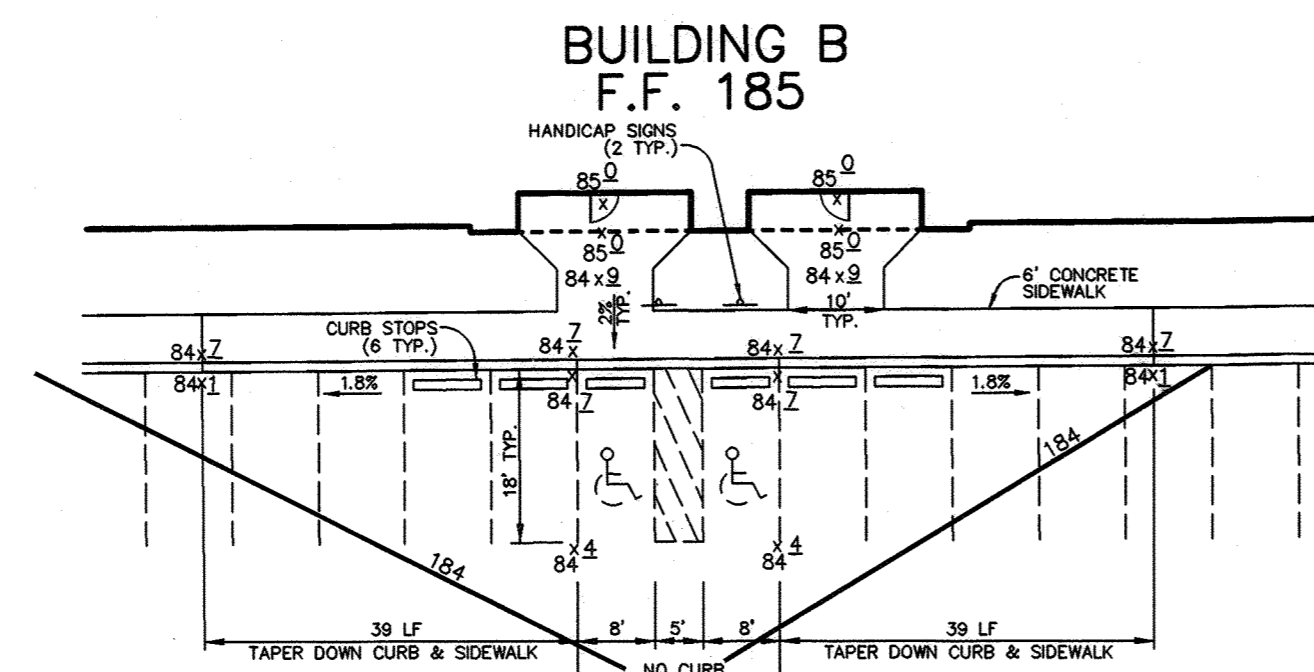
DATE _____

DESIGNED BY: C.J.R.
 DRAWN BY: MAD
 PROJECT NO: 00239/
 SDP2.DWG
 DATE: _____
 SCALE: AS SHOWN
 DRAWING NO. 2 OF 2

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 JAMES A. RUEFF #21774

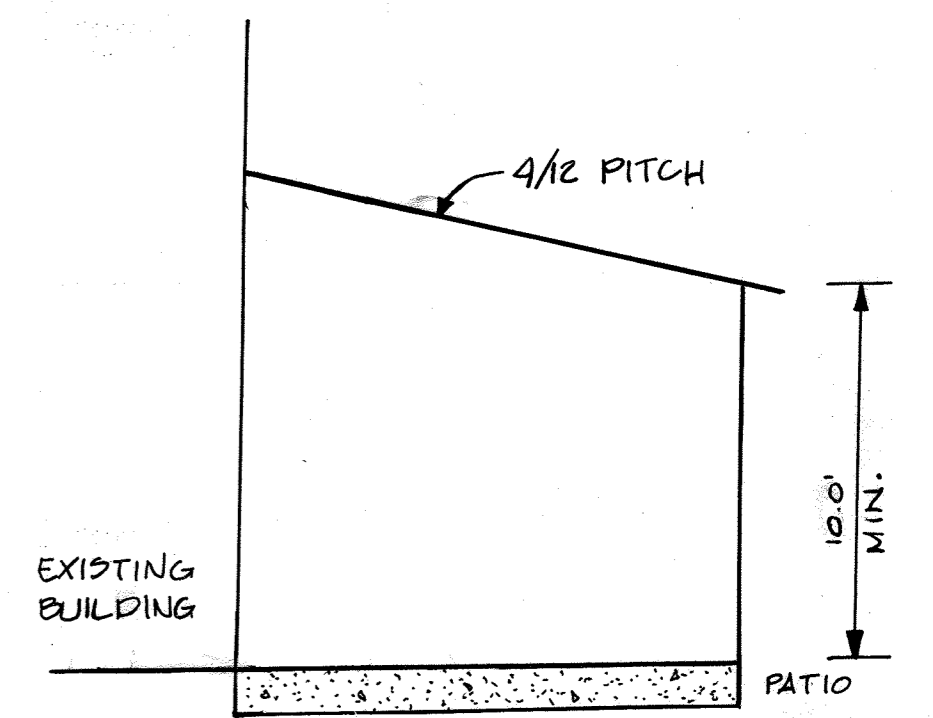
STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 ARTHUR E. MUEGGE #8707

F:\PROJECT\00239\SDP2.DWG Mon Feb 05 14:44:07 2001 RIEMER MUEGGE & ASSOCIATES, INC.



NOTES:

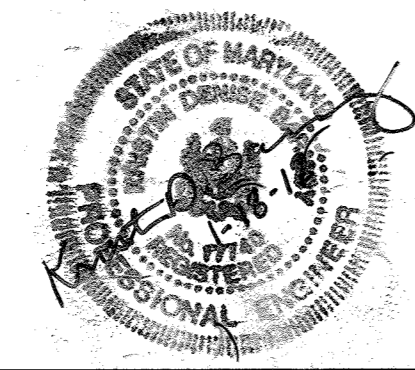
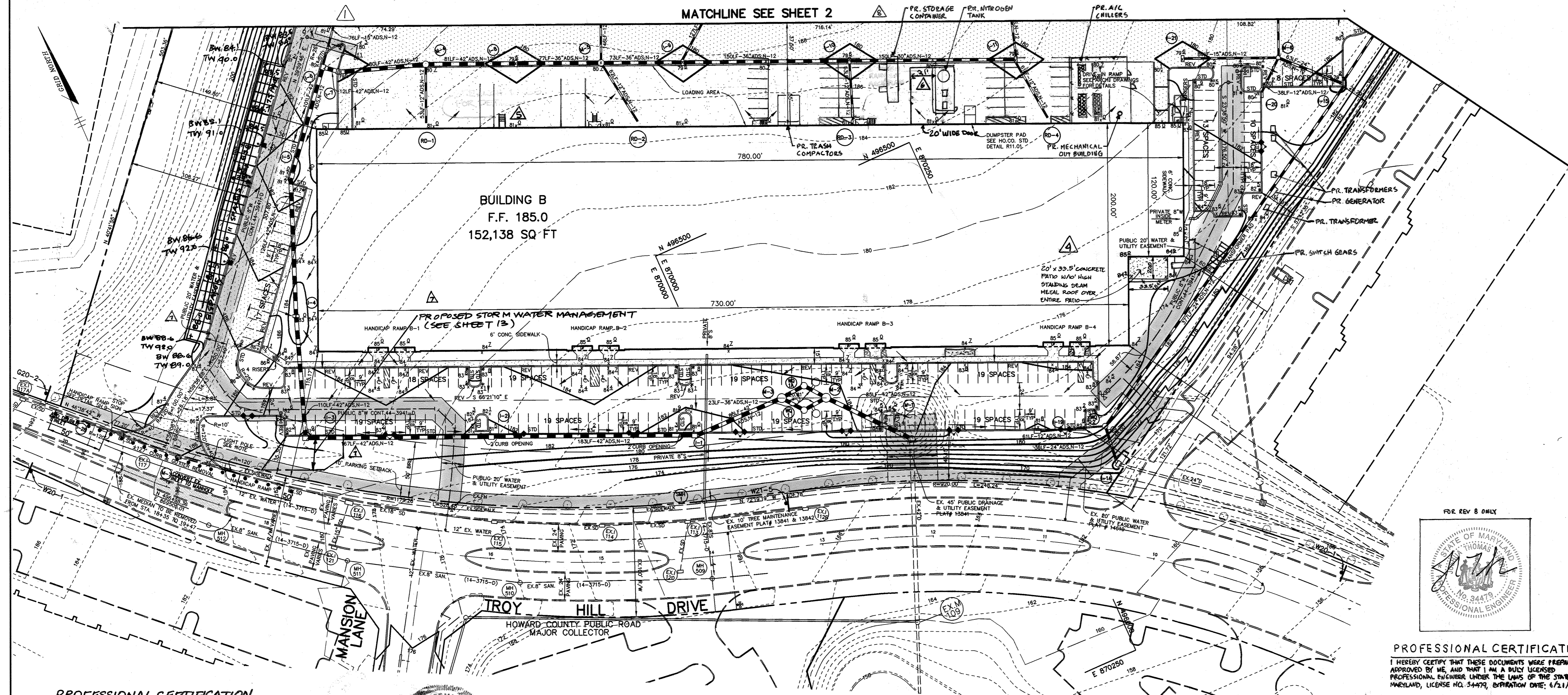
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9. CONCRETE
10. STREET LIGHTS TO BE 250 HPS FIXTURE MOUNTED ON 30' BRONZE FIBERGLASS POLE WITH 12' ARM RADIAL TO CURB FILLET DENOTED AS



PATIO ROOF ELEVATION
NTS

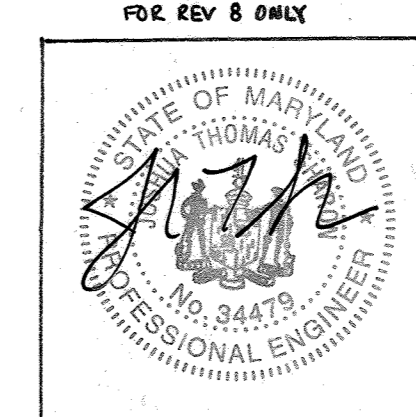
TRAFFIC CONTROL SIGNAGE LEGEND

- SIGN
- TEMPORARY BARRIER
- SHOULDER WORK
W20-5
30' x 30'
- ROAD WORK AHEAD
W20-1
30' x 30'
- END ROAD WORK
G20-2
60' x 24'



PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THE PORTION OF THESE DOCUMENTS PERTAINING TO RED-LINE REVISIONS 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. 17140 EXPIRATION DATE 4/1/12.

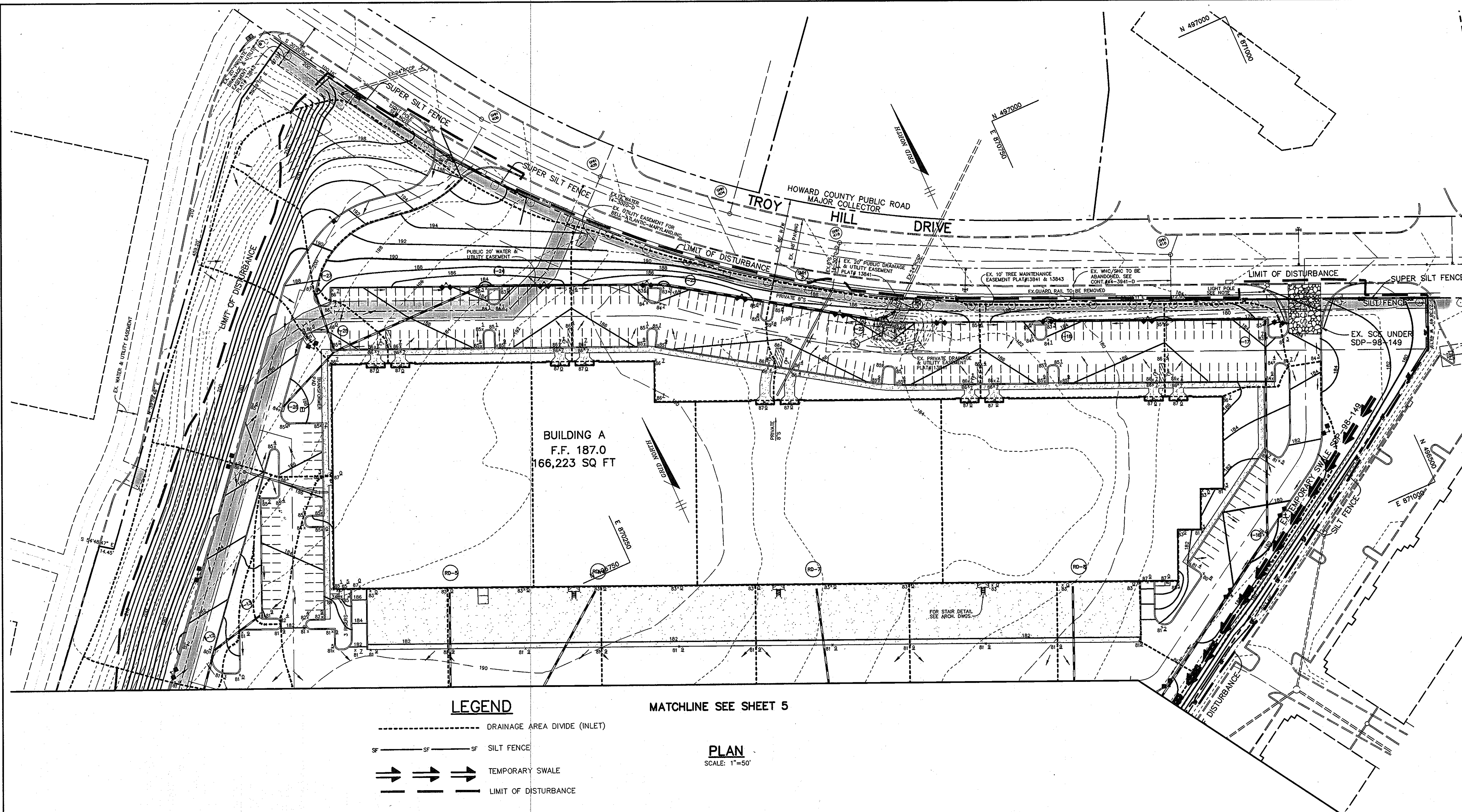
PLAN
SCALE: 1"=50'



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. 34479, EXPIRATION DATE: 4/1/2022.

DATE	NO.	REVISION
4/7/2011	8	ADDED 36 PAVING SPACES, NITROGEN TANK, COILERS, TRAILER COMPACTOR, AND STORAGE CONTAINER
1/18/12	7	ADDED 26 PARKING SPACES
10/2/09	6	ADDED DRIVE IN RAMP TO BLDG. B
6-28-07	5	ADDED STAIRS TO BLDG. B
	NO.	

7-27-04	A	ADDED CONCRETE PATIO AND ELEVATION
12-30-00	AD	MOVED DRIVE-IN RAMP, ADDED FENCE TO BLDG. B
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>David R. Rantz</i>	2/22/01	DATE
DIRECTOR		
<i>John J. Hester</i>	2/22/01	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION		
<i>David Hester</i>	2/22/01	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		
11-20-00	AD	ADDED DRIVE-IN RAMP TO BLDG. B
11-29-01	AD	RELOCATED FH AT BLDG. B DRIVE-IN RAMP, MODIFIED CURB
DATE	NO.	REVISION
OWNER / DEVELOPER		
TROY HILL CORPORATE CENTER PROPERTY LLC c/o MANEKIN LLC 7061 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 410-290-1400		
PROJECT		
TROY HILL CIRCLE TROY HILL CORPORATE CENTER PARCEL A-25		
AREA		
TAX MAP 37 ZONE: M-1 PLAT No. 14619 1st. ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
SITE DEVELOPMENT PLAN		
RIEMER MUEGGE a division of: Patton Harris Rust & Associates, pc ENGINEERS & SURVEYORS & PLANNERS LANDSCAPE ARCHITECTS & ENVIRONMENTAL SPECIALISTS 8816 Centre Park Drive, Columbia, MD 21046 • tel 410.987.8900 fax 410.987.8922		
DATE	DESIGNED BY:	C.J.R.
	DRAWN BY:	MAD
	PROJECT NO.:	00239/ SDP3.DWG
	DATE:	
	SCALE:	AS SHOWN
	DRAWING NO.:	3 OF 12
ARTHUR E. MUEGGE #8707		



LEGEND

- DRAINAGE AREA DIVIDE (INLET)
- SF ----- SF ----- SF SILT FENCE
- ==> ==> ==> TEMPORARY SWALE
- LIMIT OF DISTURBANCE

MATCHLINE SEE SHEET 5

PLAN
SCALE: 1"=50'

DRAINAGE DATA			
INLET NOS.	AREA IN ACRES	'C' FACTOR	PERCENT IMPERVIOUS
12	0.63	0.36	25
13	0.13	0.71	77
16	0.65	0.58	58
17	0.23	0.69	74
18	0.38	0.67	71
22	0.49	0.61	63
23	0.57	0.53	51
24	0.83	0.44	37
25	0.30	0.41	33
26	0.59	0.39	31
27	0.39	0.41	32
RD-5	0.98	0.86	100
RD-6	0.77	0.86	100
RD-7	0.99	0.86	100
RD-8	1.06	0.86	100

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL SILT FENCE, SUPER SILT FENCE, TEMPORARY SWALES AND MAINTAIN ANY EXISTING CONTROLS PREVIOUSLY INSTALLED UNDER SDP-98-149. (1 WEEK)
3. BEGIN BUILDING CONSTRUCTION.
4. INSTALL STORM DRAINAGE, WATER AND SEWER AS SUBGRADE ELEVATIONS ARE ACHIEVED. INSTALL INLET PROTECTION AS NECESSARY. (6 WEEKS)
5. INSTALL CURB AND GUTTER THEN PROCEED WITH CONCRETE POUR FOR TRUCK SETDOWN PAD AND ASPHALT PAVING. (6 WEEKS)
6. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)
7. PERFORM FINE GRADING, LANDSCAPING, LIGHTING, SIDEWALK, AND COMPLETE BUILDING CONSTRUCTION. (3 MONTHS)
8. UPON APPROVAL OF DLP SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

David E. Manion 2/15/01
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Neil Muegge 2-7-01
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Meyer 2/20/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Klabutsky 2/20/01
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James H. Smith 2/22/01
DIRECTOR DATE

[Signature] 2/24/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hamrick 2/25/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
c/o MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

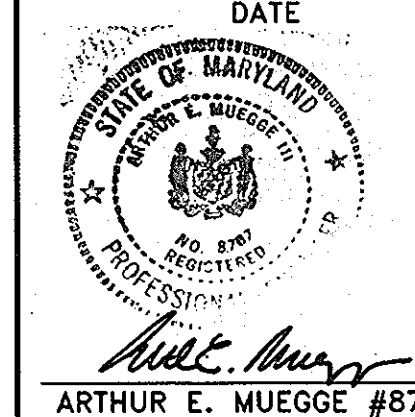
PROJECT
TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

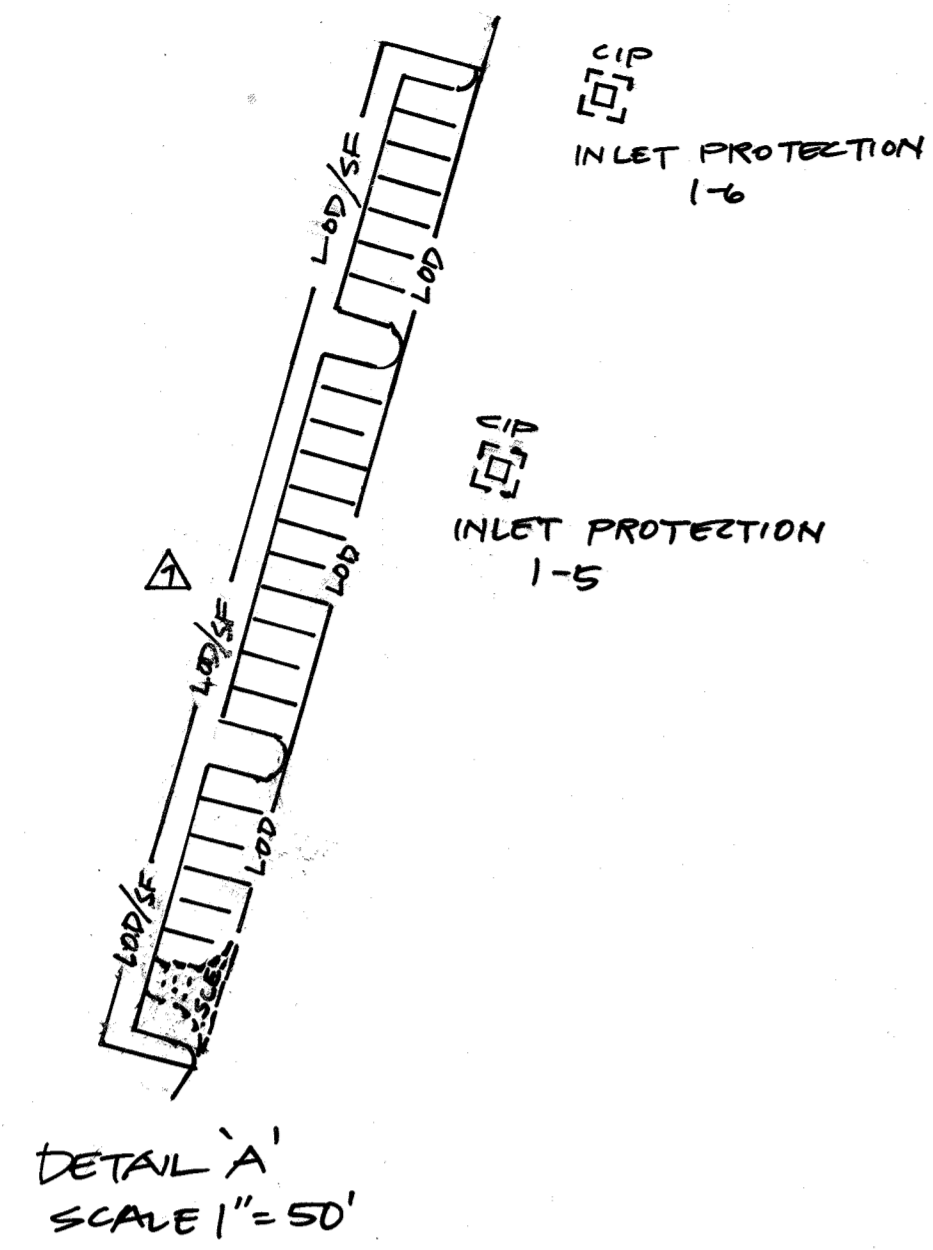
AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
GRADING, SEDIMENT CONTROL
AND DRAINAGE AREA MAP

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8800 fax 410.997.9282

DATE
DESIGNED BY : C.J.R.
DRAWN BY: MAD
PROJECT NO : 00239/
SDP4.DWG
DATE :
SCALE : AS SHOWN 1/4
DRAWING NO. 4 OF 12





LEGEND

----- DRAINAGE AREA DIVIDE (INLET)

SF ----- SF SILT FENCE

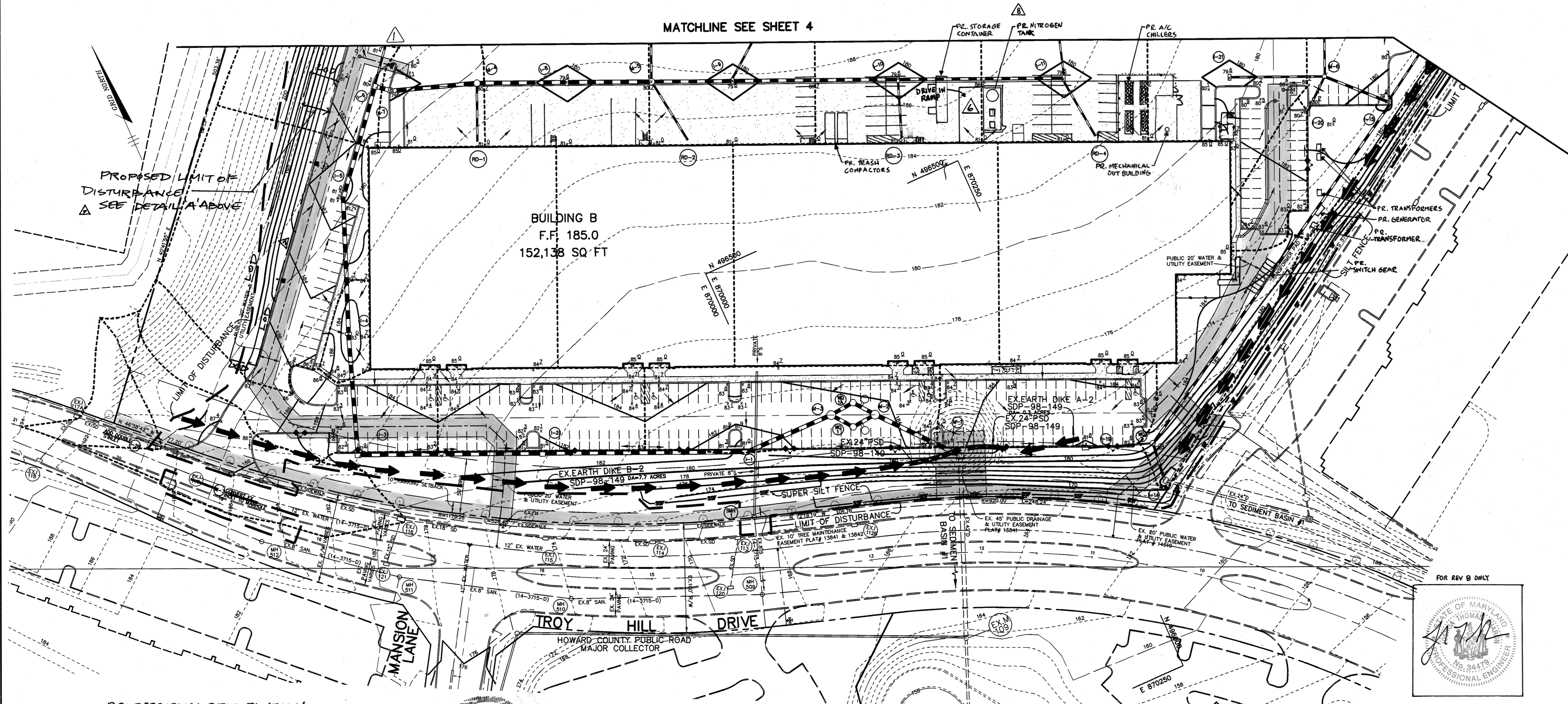
==>==>==> TEMPORARY SWALE

==>==>==> TEMPORARY EARTH DIKE*

----- LIMIT OF DISTURBANCE

*NOTE: EARTH DIKE TO BE REPAIRED AND OR REPLACED IMMEDIATELY IF DISTURBED DURING CONSTRUCTION.

DRAINAGE DATA			
INLET NOS.	AREA IN ACRES	"C" FACTOR	PERCENT IMPERVIOUS
1	0.47	0.76	85
2	0.33	0.78	88
3	0.38	0.54	53
4	0.07	0.20	1
5	0.78	0.40	32
6	0.29	0.35	24
7	0.29	0.74	83
8	0.75	0.82	95
9	0.65	0.86	100
10	0.65	0.86	100
11	0.65	0.86	100
14	0.31	0.19	0
15	0.50	0.59	60
19	0.34	0.76	85
20	0.14	0.72	79
21	0.63	0.82	94
RD-1	0.78	0.86	100
RD-2	0.73	0.86	100
RD-3	1.10	0.86	100
RD-4	0.87	0.86	100



BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, 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 ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

David E. Muegge 2/15/01
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT 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.

Arthur E. Muegge 2-7-01
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Mays 2/13/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Robertson 2/20/01
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Joseph R. Rutz 2/22/01
DIRECTOR DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION &
CHIEF, DIVISION OF LAND DEVELOPMENT

Cynthia Hunter 2/23/01
DATE

10/2/01 6 ADDED DRIVE IN RAMP TO BUILDING B
11-29-01 1 RELOCATED FH AT BLDG. B DRIVE-IN RAMP, MODIFIED CURB.

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
c/o MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

PROJECT TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE GRADING, SEDIMENT CONTROL
AND DRAINAGE AREA MAP

RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS & SURVEYORS & PLANNERS
LANDSCAPE ARCHITECTS & ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.987.8800 fax 410.987.8282

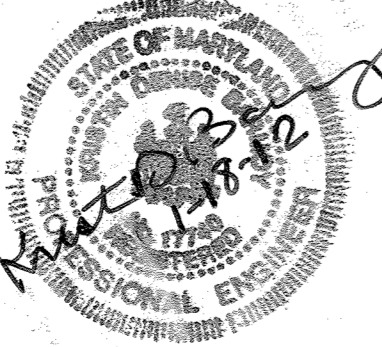
DATE
DESIGNED BY : C.J.R.
DRAWN BY : MAD
PROJECT NO. : 00239/
SDP5.DWG
DATE :
SCALE : AS SHOWN
DRAWING NO. 5 OF 12

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. 34479, EXPIRATION DATE: 6/21/2022.

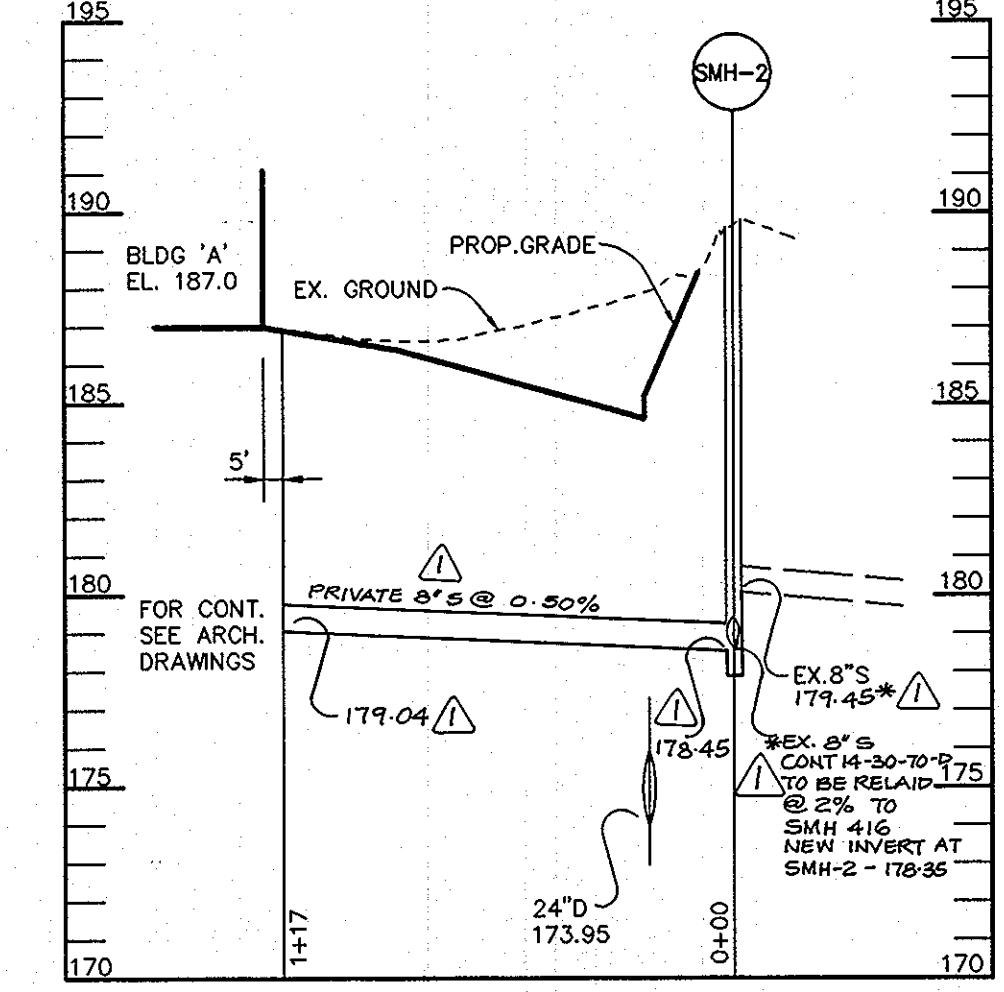
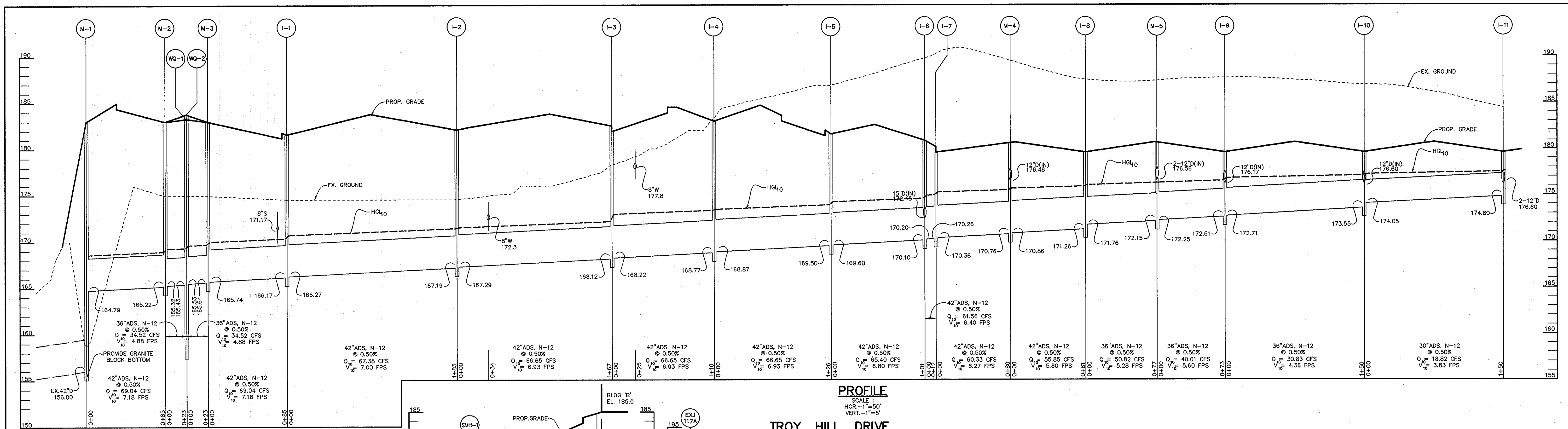
4/11/2021 8 ADDED 36 PARKING SPACES, NITROGEN TANK, COOLERS, TRASH COMPACTOR, STORAGE CONTAINER
1/18/12 7 ADDED 26 PARKING SPACES

Arthur E. Muegge #8707

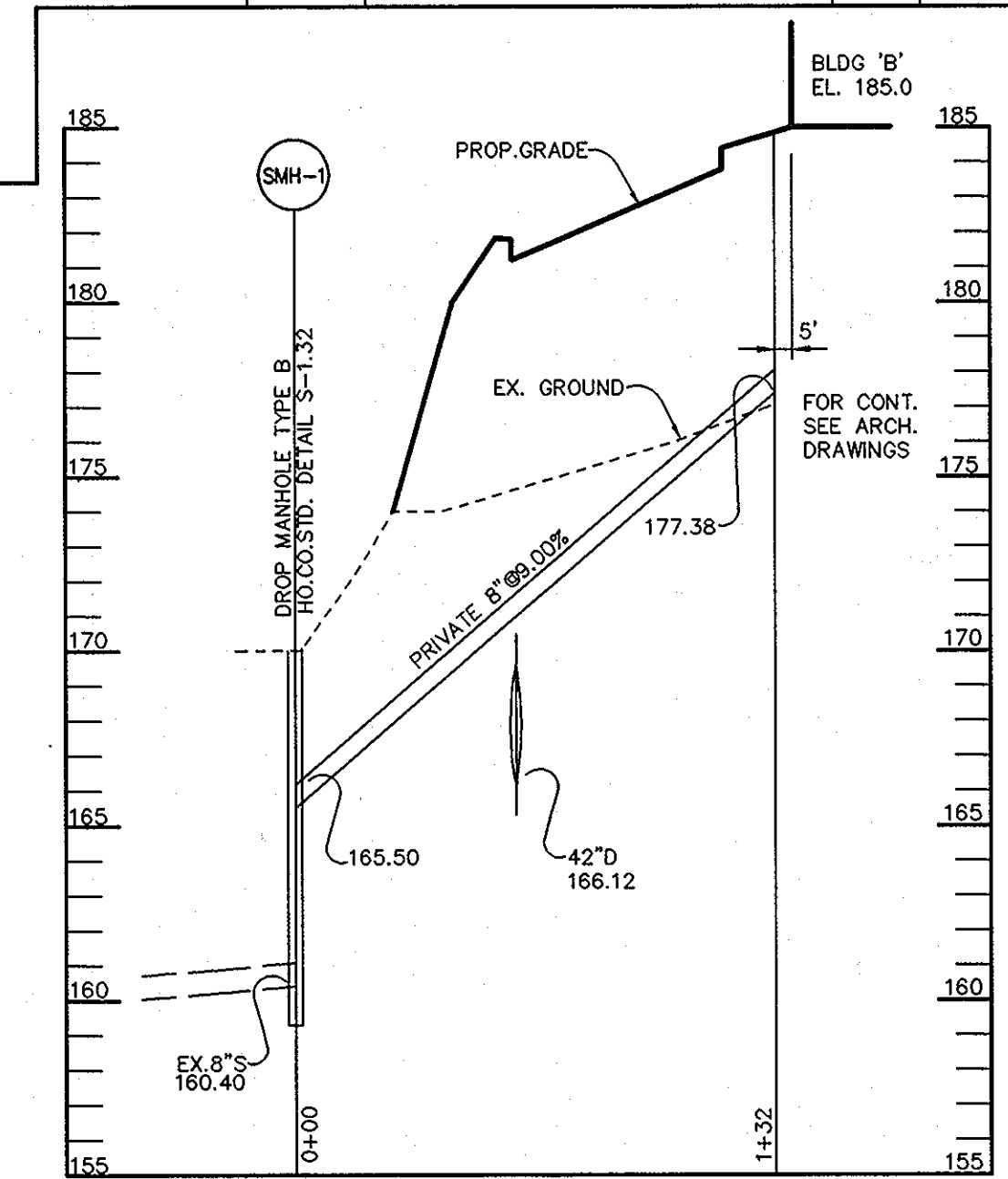
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THE PORTION OF THESE DOCUMENTS PERTAINING TO RED-LINE REVISIONS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17740, EXPIRATION DATE: 4-1-2012.



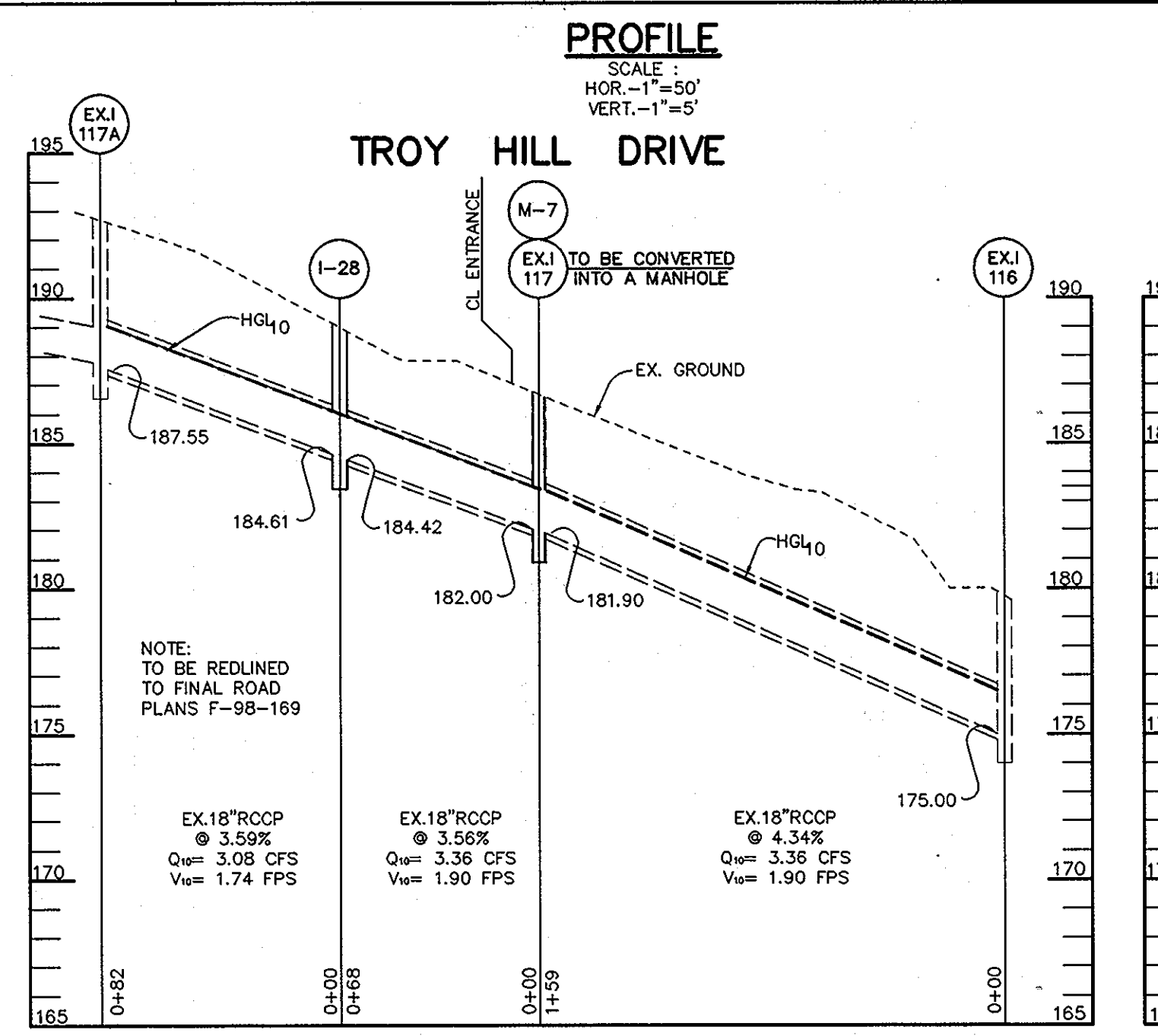
PLAN
SCALE: 1"=50'



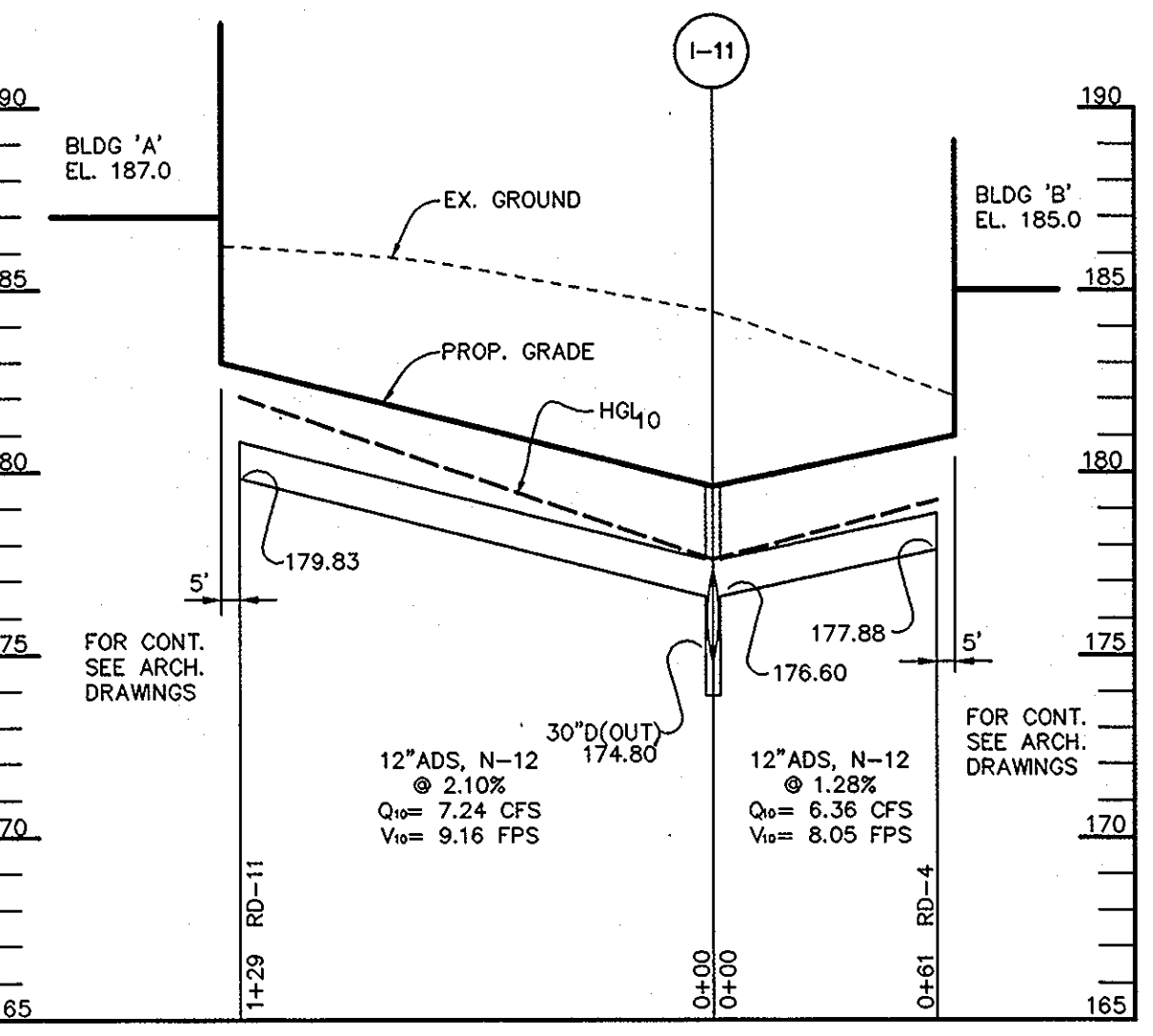
PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



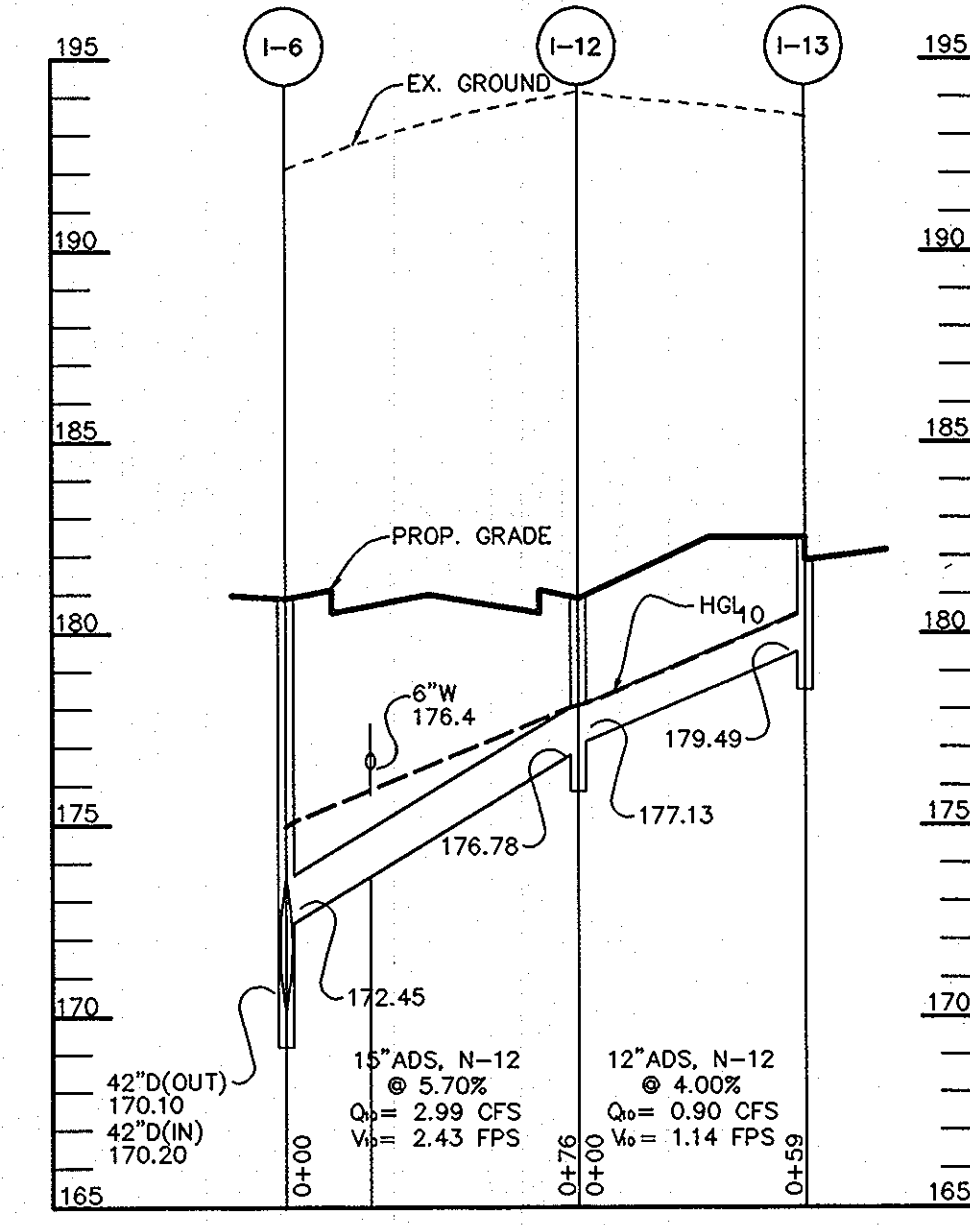
PROFILE
SCALE:
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VERT.-1"=5'



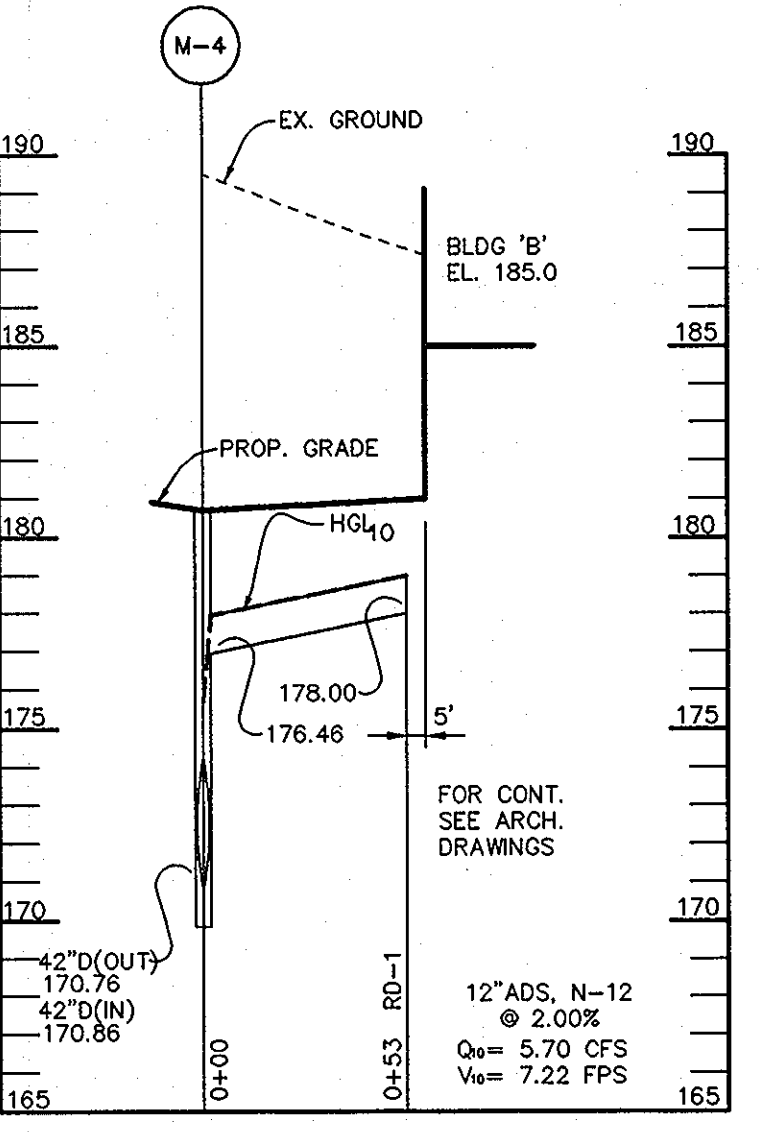
PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



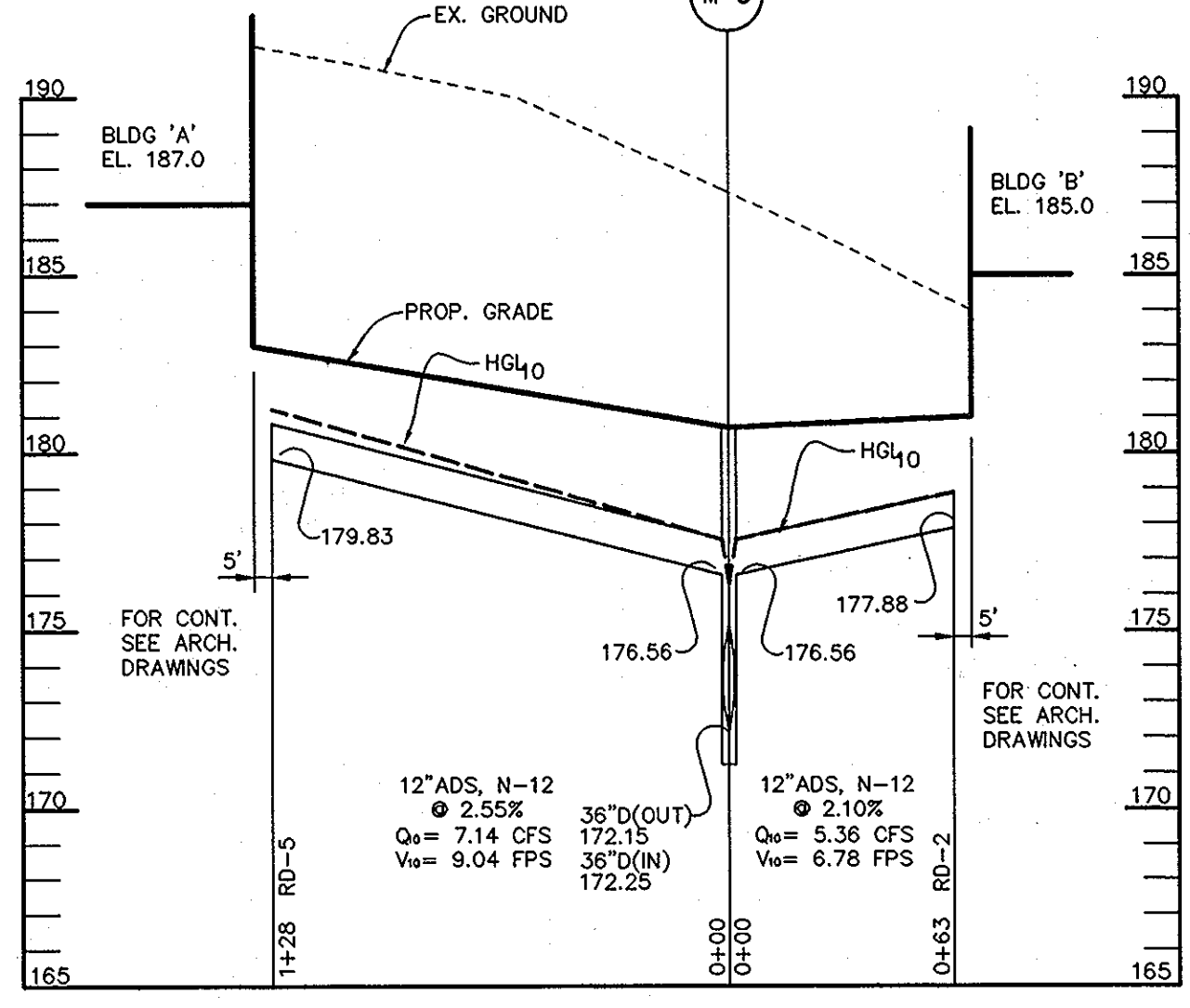
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SCALE:
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VERT.-1"=5'



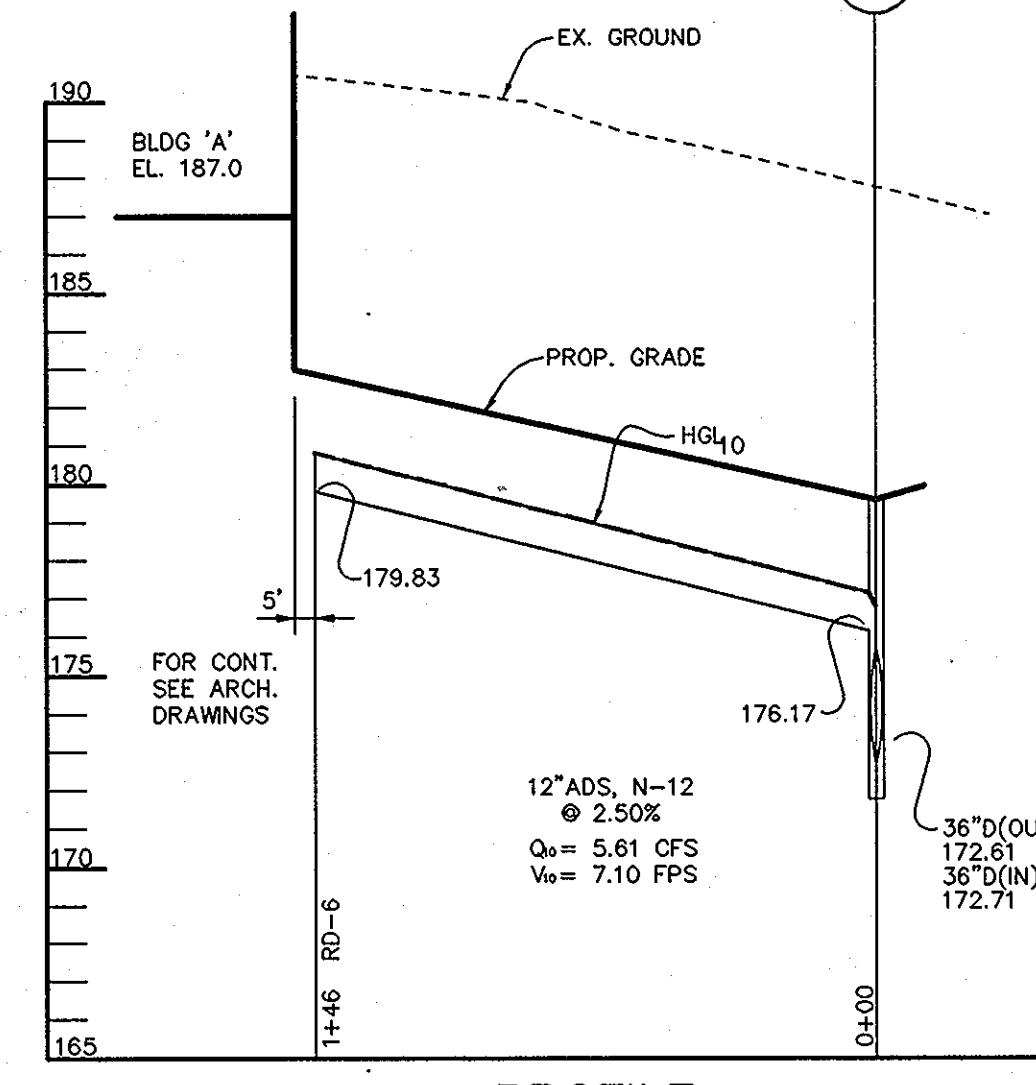
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SCALE:
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VERT.-1"=5'



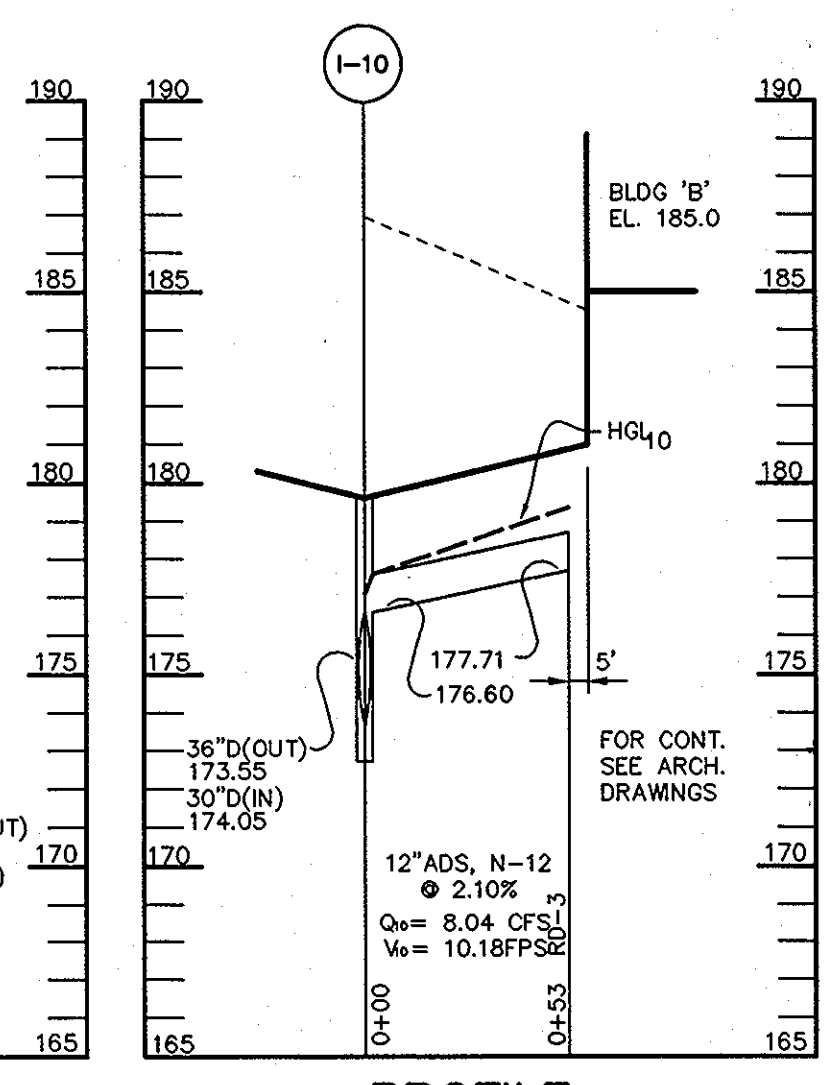
PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Director: *[Signature]* 2/22/01 DATE
 Chief, Development Engineering Division: *[Signature]* 2/22/01 DATE
 Chief, Division of Land Development: *[Signature]* 2/22/01 DATE

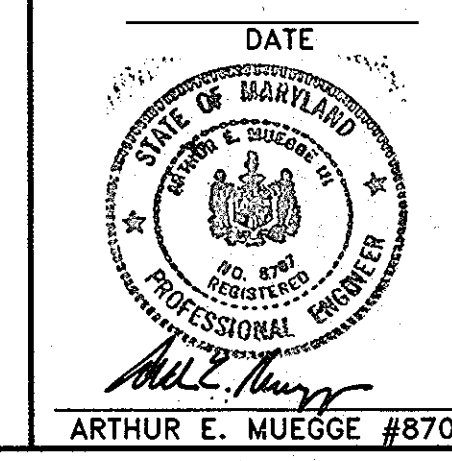
9-17-01	REVISED SEWER PROFILE BLDG A
DATE	REVISION
OWNER / DEVELOPER	
TROY HILL CORPORATE CENTER PROPERTY LLC c/o MANEKIN LLC 7061 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 410-290-1400	

PROJECT TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25
AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

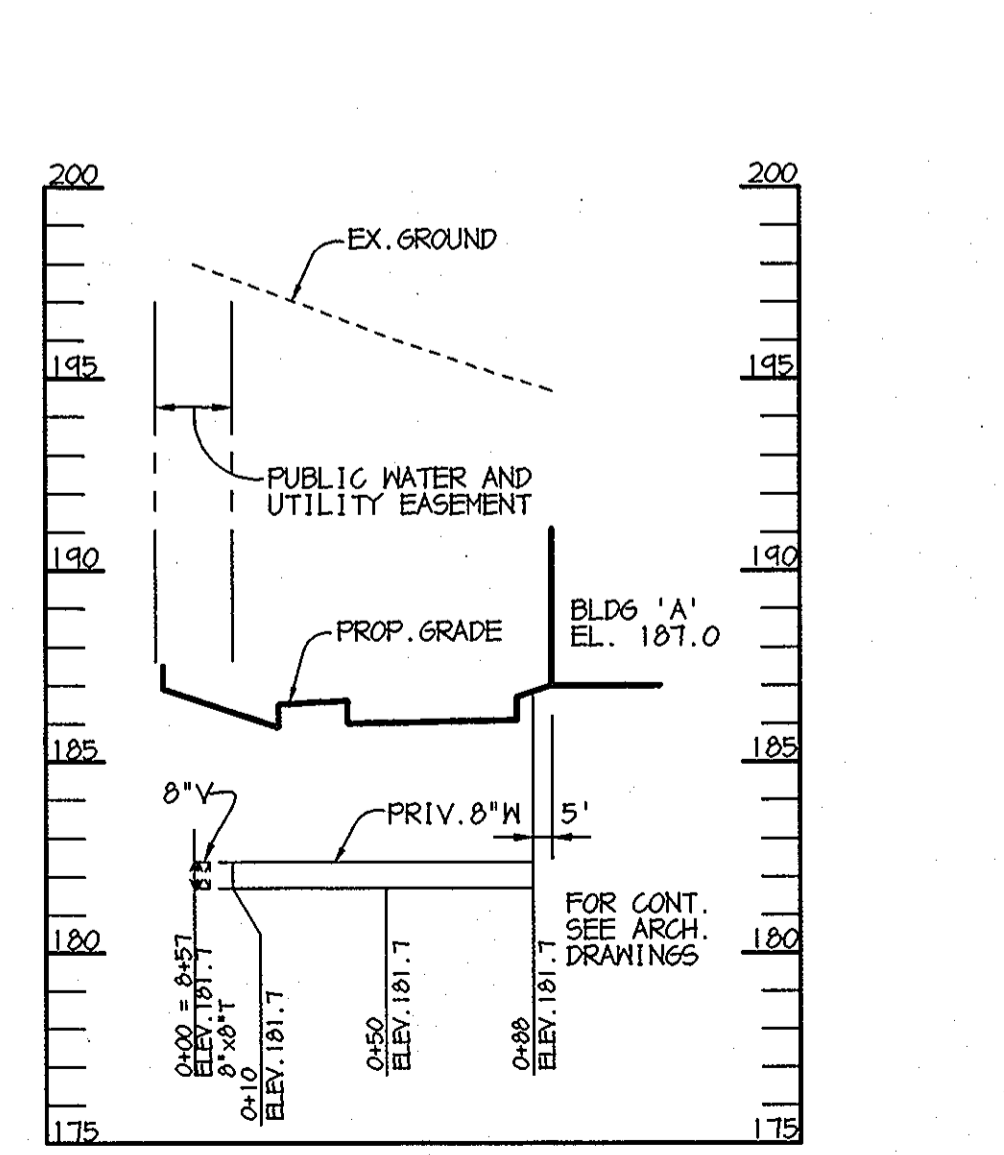
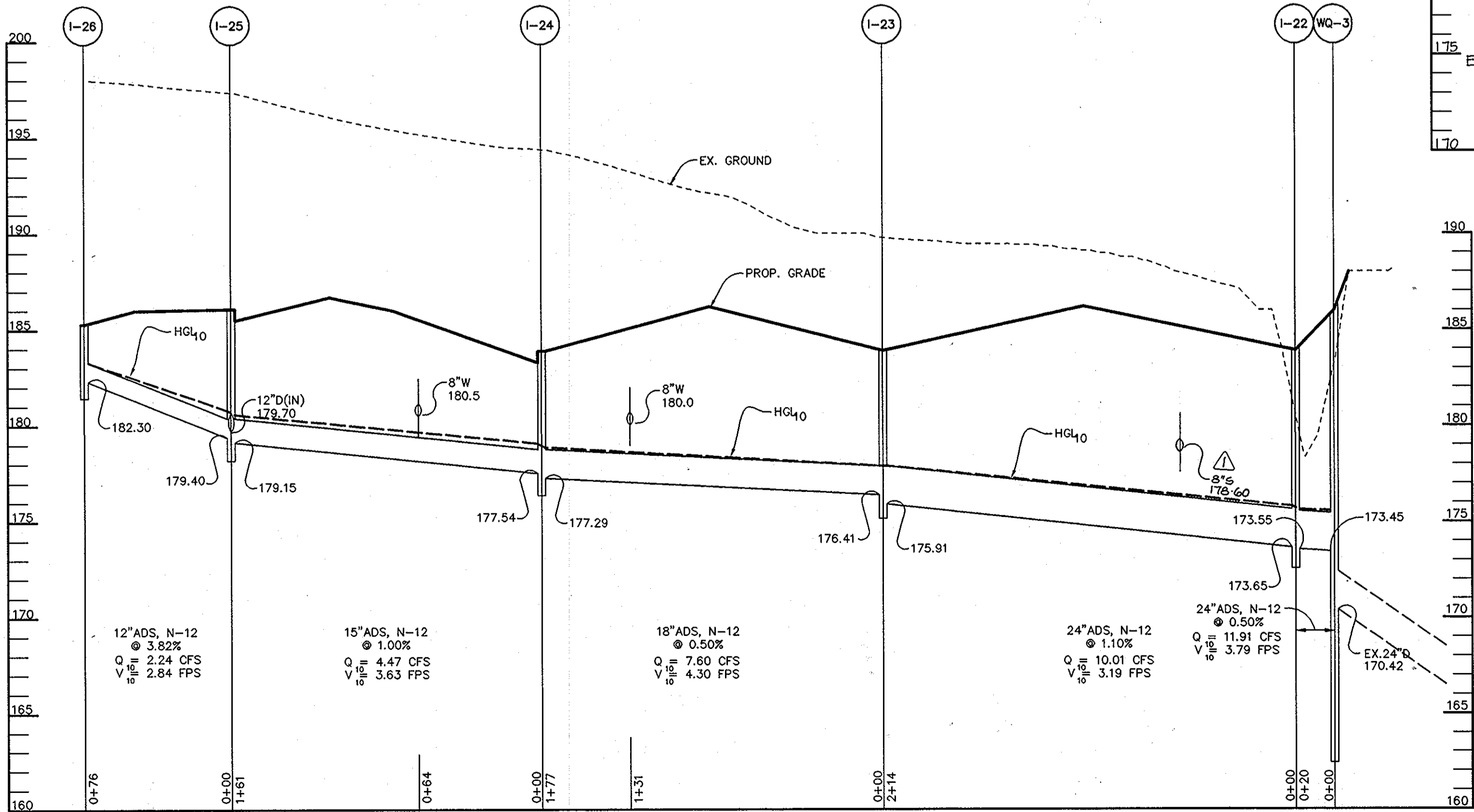
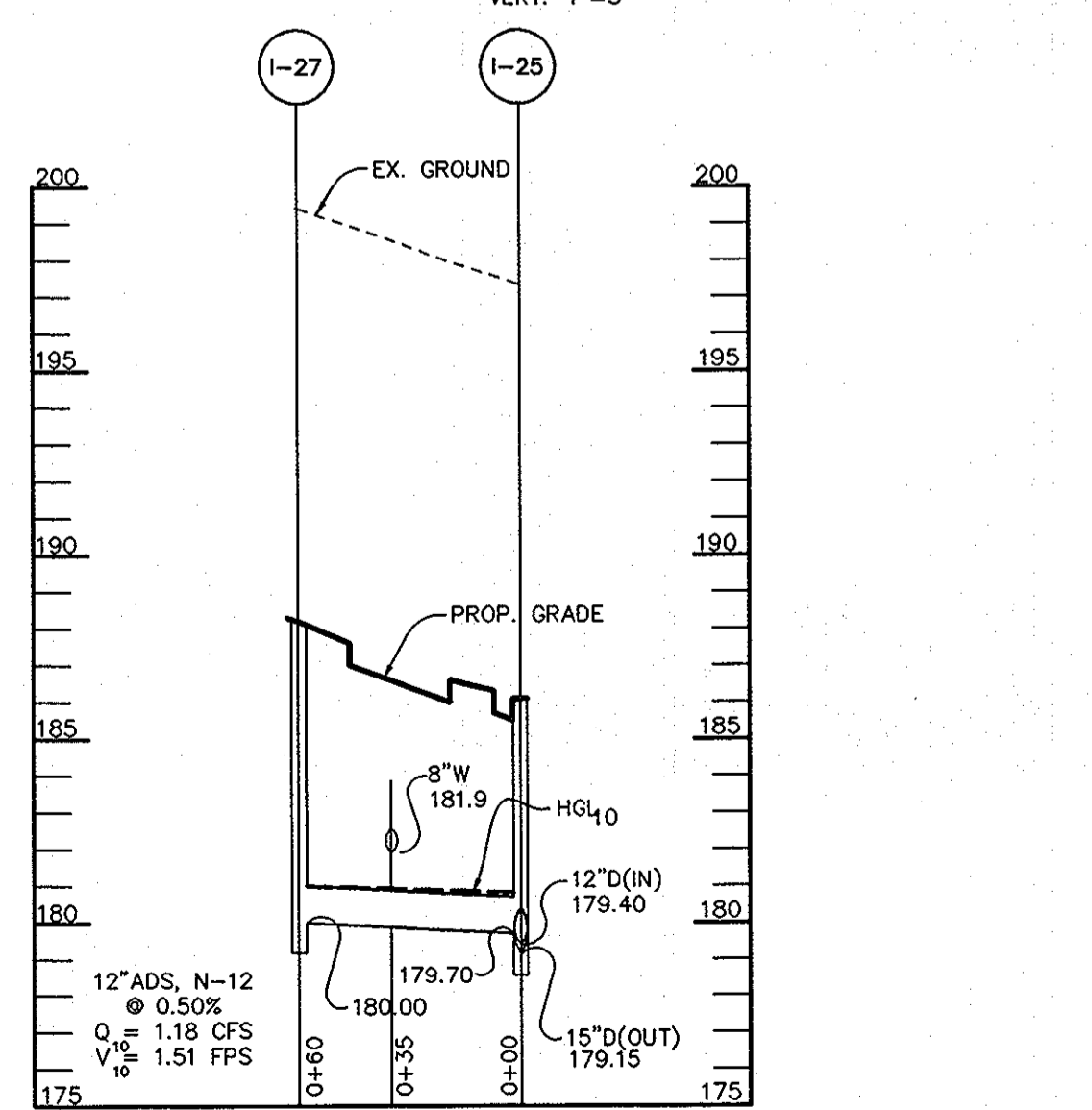
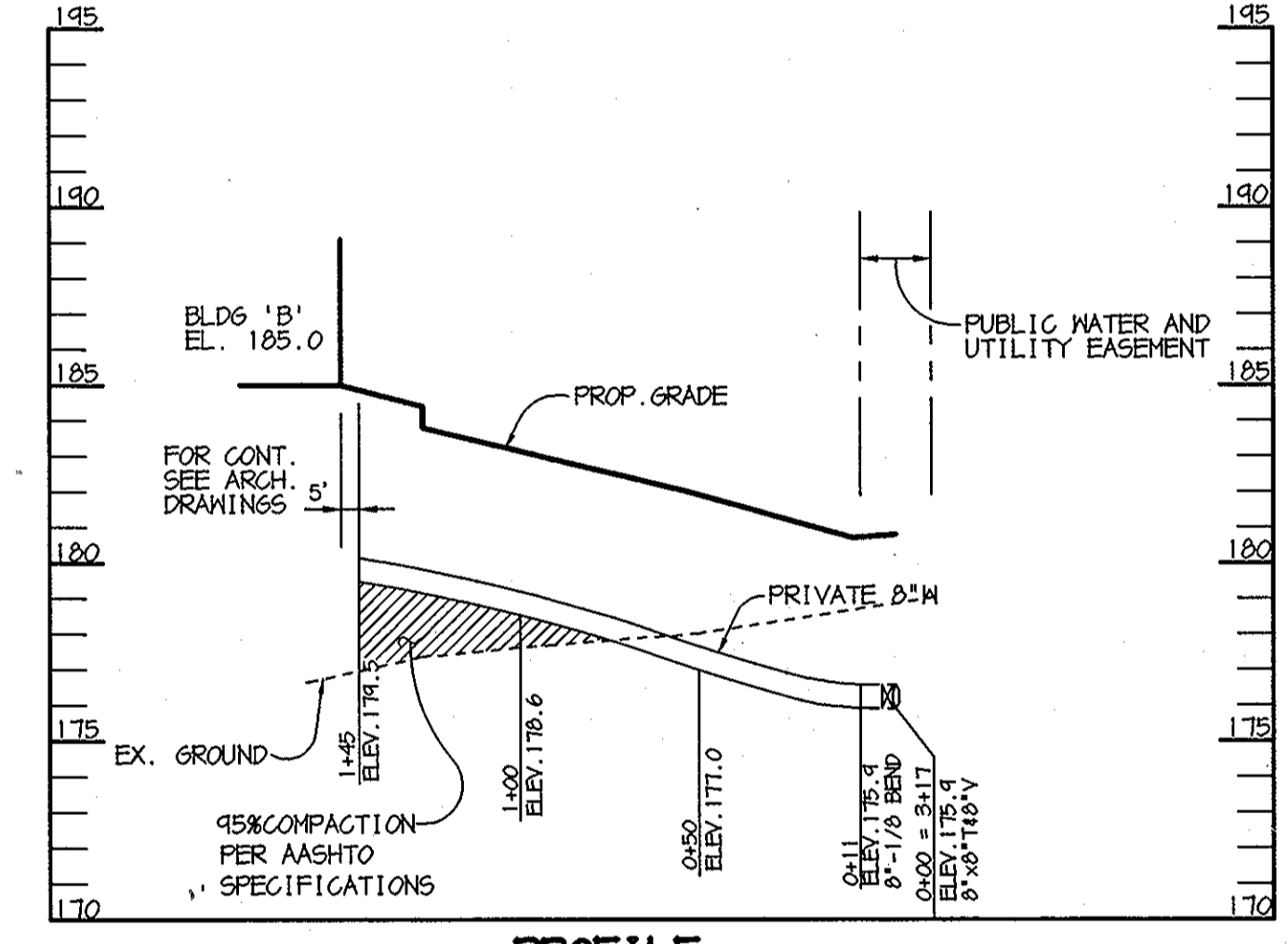
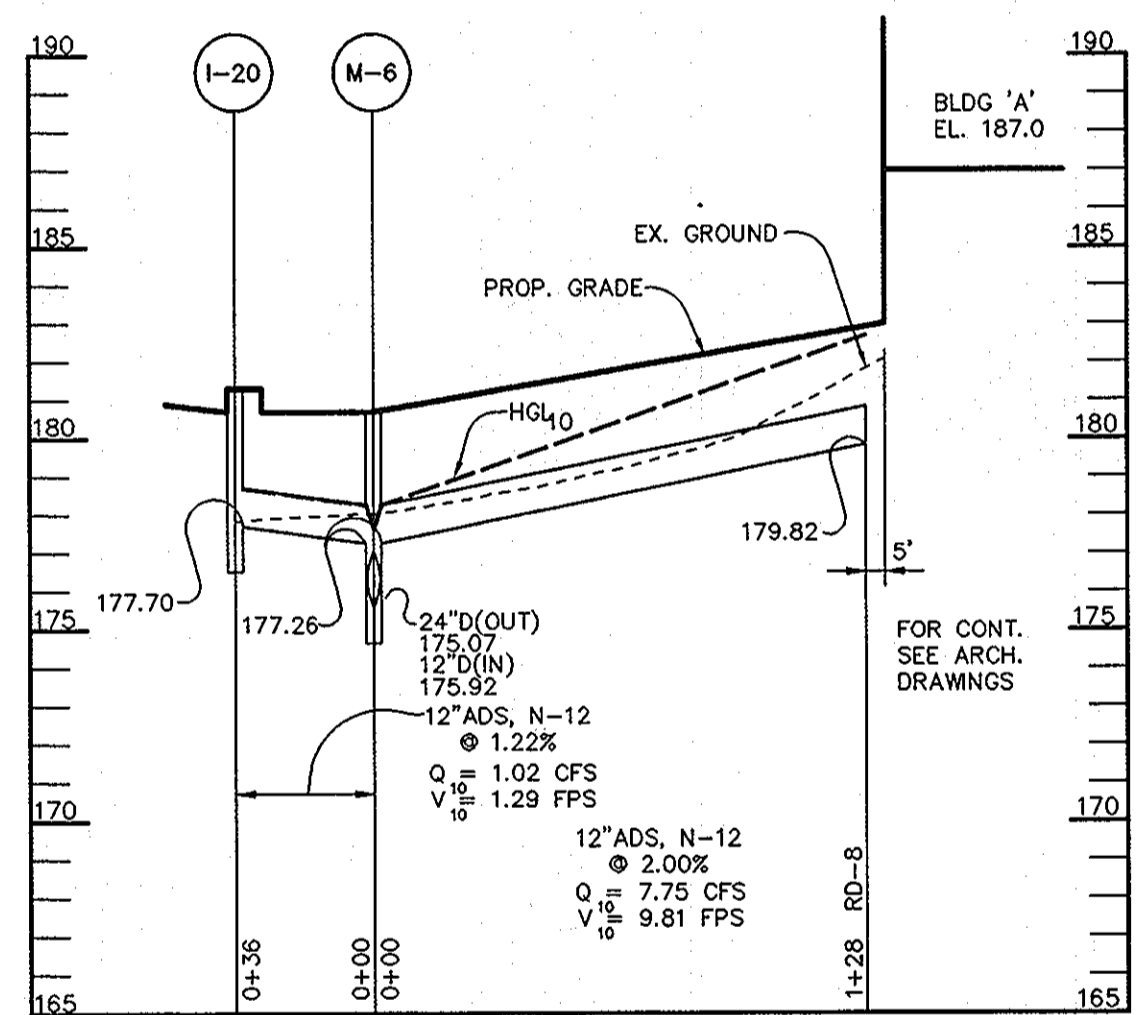
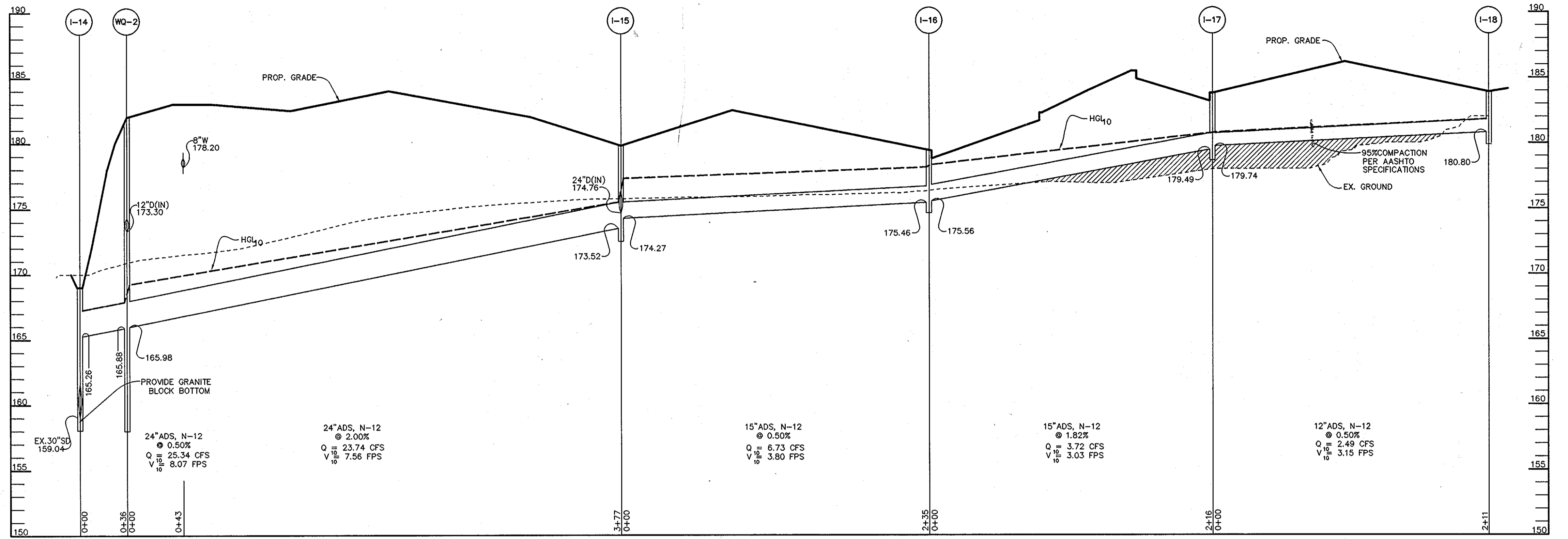
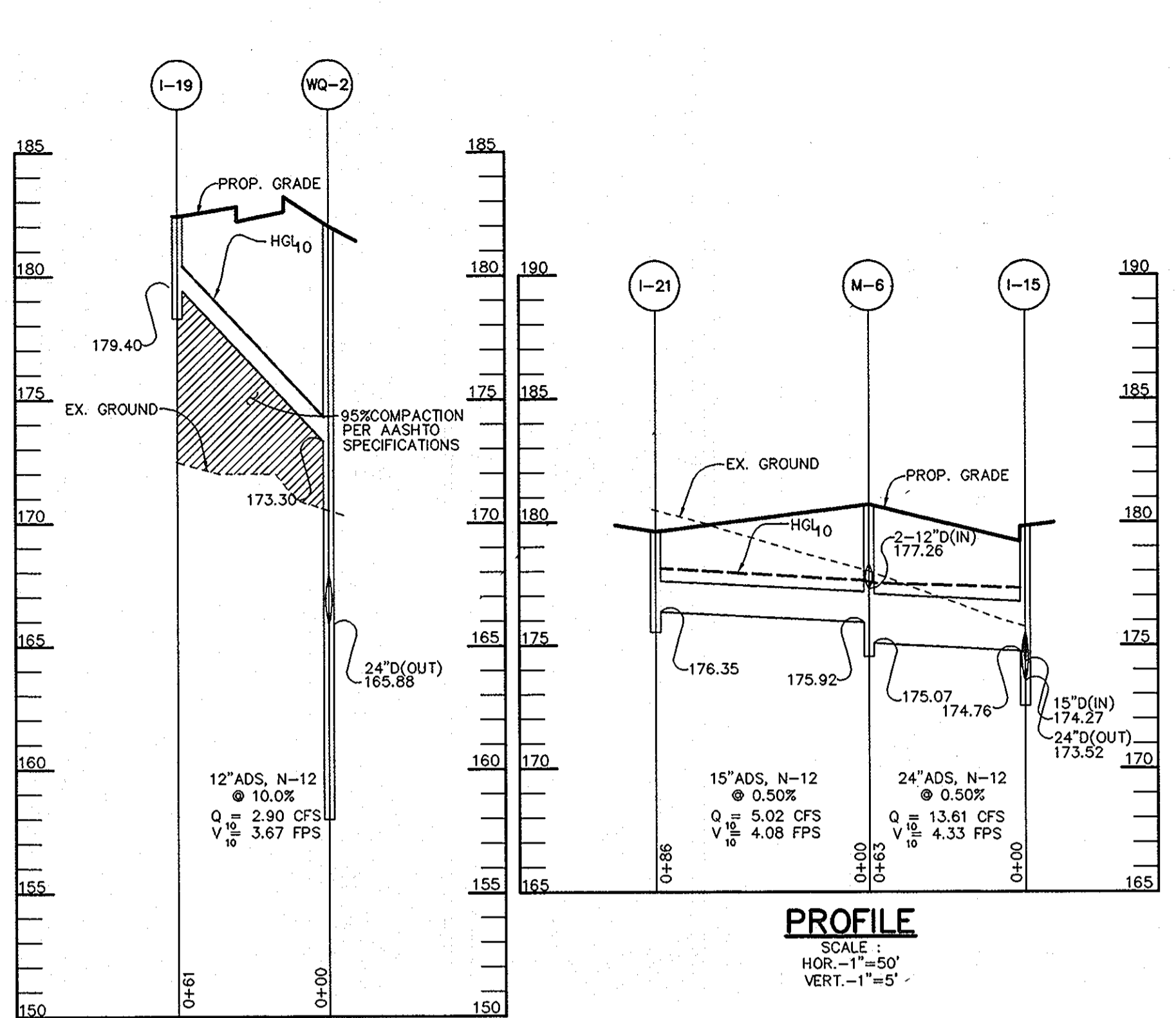
TITLE PROFILES

RIEMER MUEGGE
 Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 8816 Centre Park Drive, Columbia, MD 21046 • tel 410.997.8900 fax 410.997.9282

DATE: _____
 DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 00239/
 PROFILE1.DWG
 DATE: _____
 SCALE: AS SHOWN
 DRAWING NO. 7 OF 12



P:\PROJECTS\00239\PROFILE1.dwg Mon Feb 05 15:04:35 2001 RIEMER MUEGGE & ASSOCIATES, INC.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 2/23/01
DIRECTOR DATE

[Signature] 2/23/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/23/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

9-17-01 **REVISED STORM DRAIN CROSSING**

DATE	NO.	REVISION

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
C/O MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

PROJECT
TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

AREA
TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PROFILES

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centro Park Drive, Columbia, MD 21046 • tel 410.997.8800 fax 410.997.8282

DATE _____

DESIGNED BY: C.J.R.

DRAWN BY: DAM

PROJECT NO: 00239/
PROFILE2.DWG

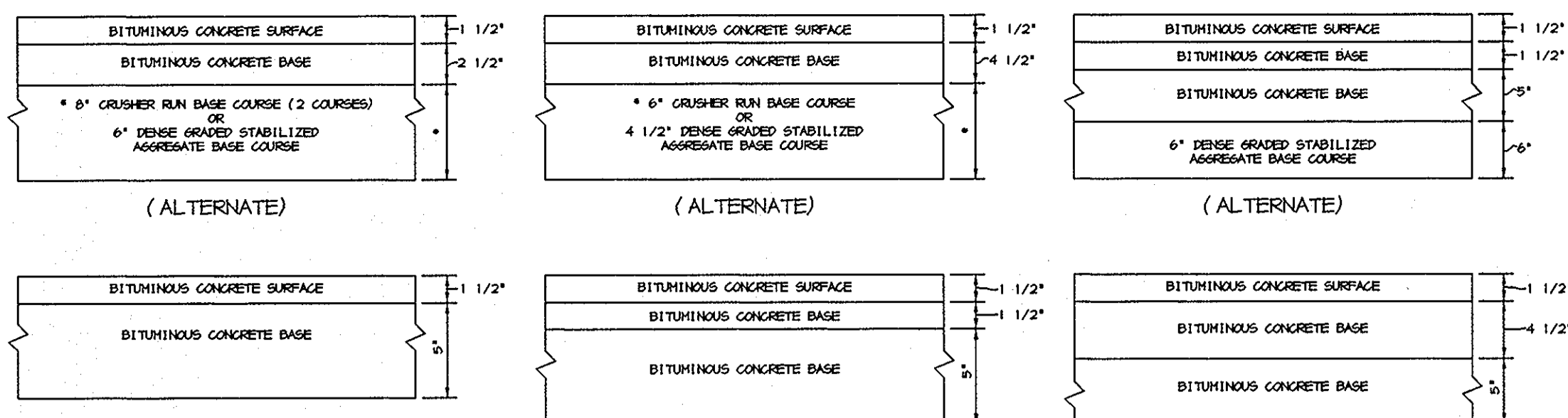
DATE: _____

SCALE: AS SHOWN

DRAWING NO. 8 OF 12

ARTHUR E. MUEGGE #8707

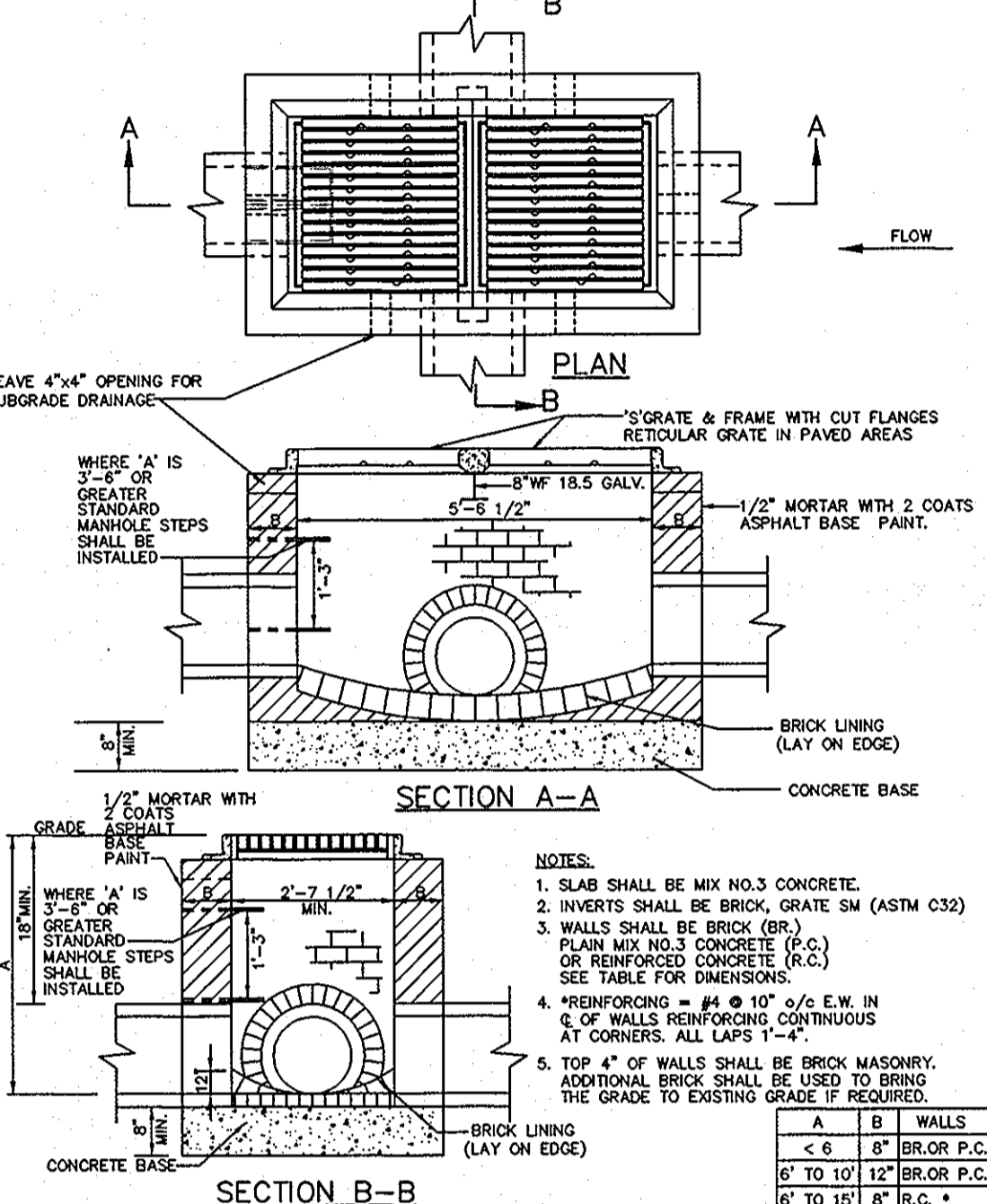
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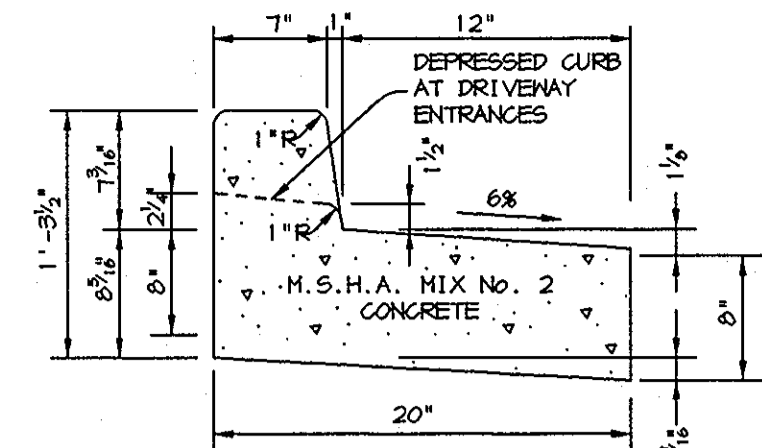
P-2 PAVING
NO SCALE

P-3 PAVING
NO SCALE

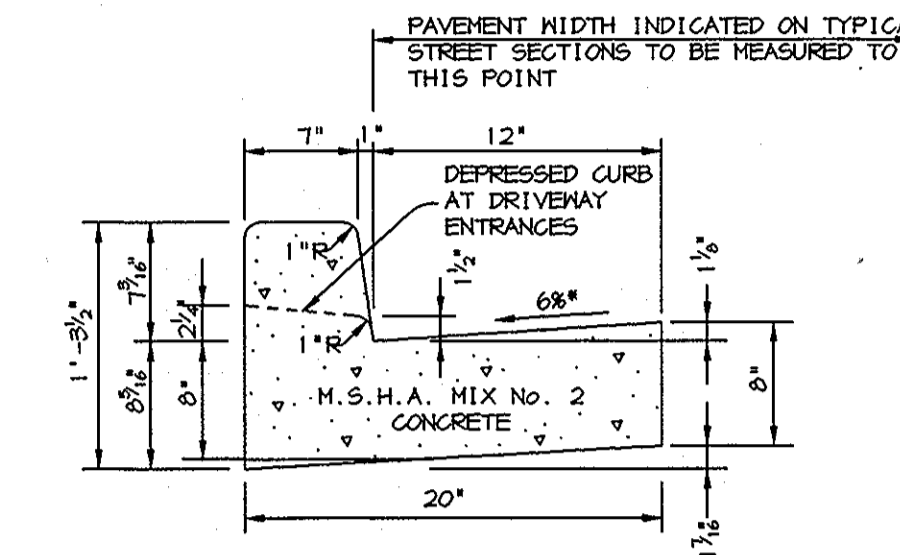
P-5 PAVING
NO SCALE



MODIFIED DOUBLE 'S' INLET
NO SCALE



REVERSE 7" COMBINATION CURB AND GUTTER
NO SCALE



STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE

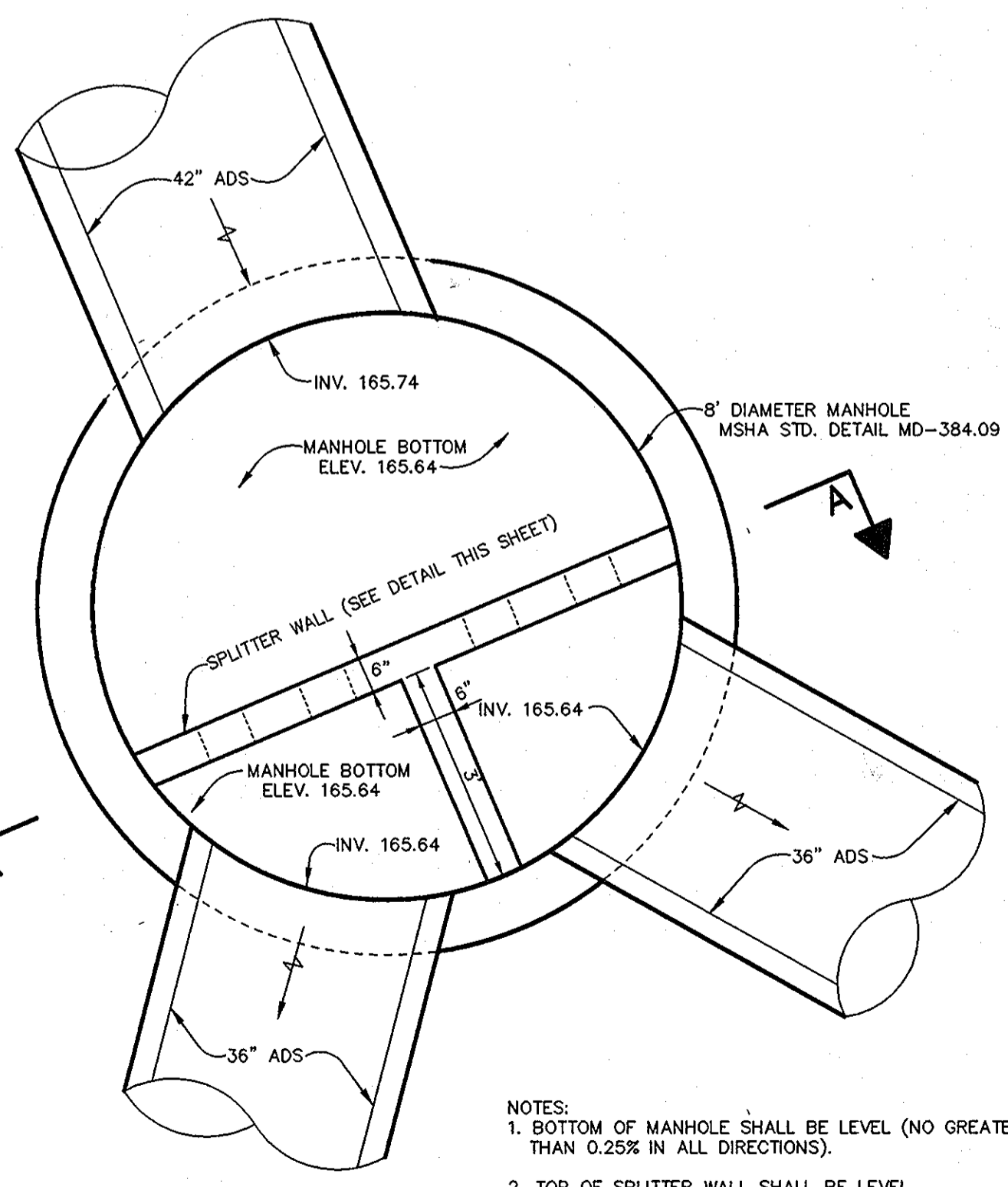
PIPE SCHEDULE

PIPE LENGTH	SIZE	TYPE
1450	42"	ADS, N-12
315	36"	ADS, N-12
554	30"	ADS, N-12
1024	24"	ADS, N-12
413	18"	ADS, N-12
76	15"	ADS, N-12
1267	12"	ADS, N-12

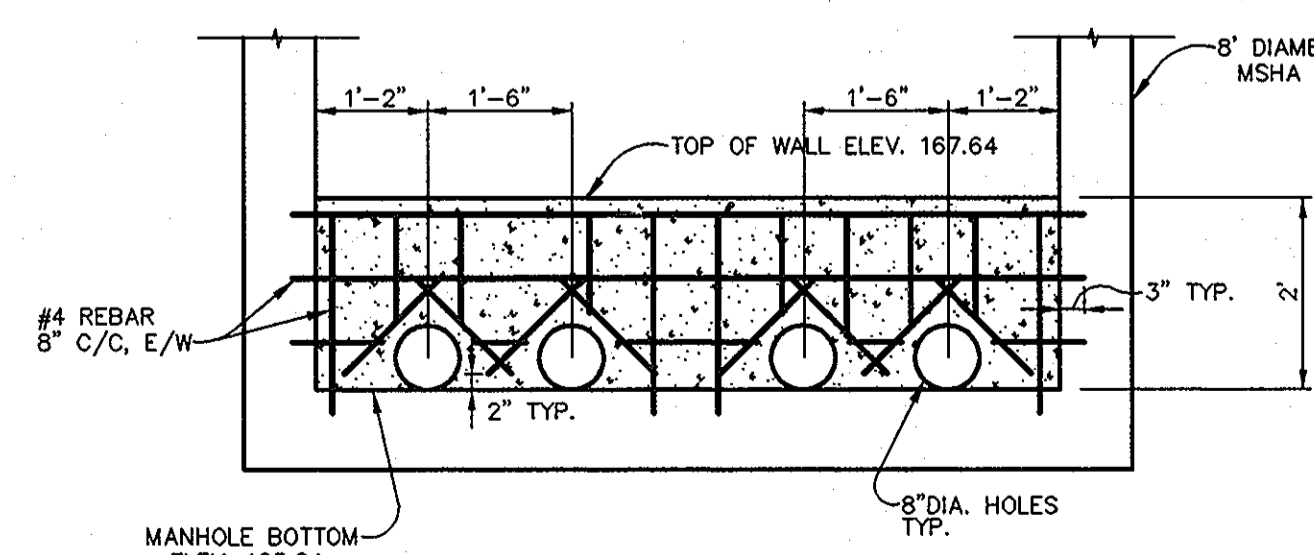
STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	INSIDE DIMENSIONS	REMARKS
I-1	A-5	N 496340.97 E 869467.41	166.27	166.17	181.58	5'x5'	HOGO STD. DETAIL SD 4.40
I-2	A-5	N 496414.37 E 869494.77	167.24	167.14	182.08	5'x5'	HOGO STD. DETAIL SD 4.40
I-3	A-5	N 496481.56 E 869464.34	168.22	168.12	182.48	5'x5'	HOGO STD. DETAIL SD 4.40
I-4	DOUBLE S	N 496582 E 869482	168.87	168.77	183.0	-	HOGO STD. DETAIL SD 4.23
I-5	A-5	N 496701.34 E 869472.23	169.60	169.50	181.58	5'x5'	HOGO STD. DETAIL SD 4.40
I-6	A-5	N 496778.44 E 869493.33	170.20 (42") 172.48 (15")	170.10	180.88	5'x5'	HOGO STD. DETAIL SD 4.40
I-7	A-5	N 496767.55 E 869487.26	170.36	170.26	180.18	5'x5'	HOGO STD. DETAIL SD 4.40
I-8	DOUBLE S	N 496704 E 869495	171.76	171.26	174.6	-	HOGO STD. DETAIL SD 4.23
I-9	DOUBLE S	N 496644 E 870093	176.17 (12") 172.71 (36")	172.61	174.6	-	HOGO STD. DETAIL SD 4.23
I-10	DOUBLE S	N 496584 E 870230	176.60 (12") 174.08 (30")	173.55	174.6	-	HOGO STD. DETAIL SD 4.23
I-11	DOUBLE S	N 496528.84 E 870367.46	176.60 (12") 174.08 (30")	174.80	174.6	-	HOGO STD. DETAIL SD 4.23
I-12	A-5	N 496837.04 E 869482.03	177.13	176.78	180.88	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-13	A-5	N 496844.71 E 869491.26	-	174.44	182.48	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-14	DOUBLE S	N 496154.08 E 870304.06	165.26	159.04	169.0	-	HOGO STD. DETAIL SD 4.23 AND GRANITE BLOCK BOTTOM
I-15	A-5	N 496384.70 E 870627.75	174.76 (24") 174.27 (15")	173.52	174.78	5'x4'	HOGO STD. DETAIL SD 4.40
I-16	A-5	N 496517.72 E 870825.84	175.56	175.46	174.38	5'x3'	HOGO STD. DETAIL SD 4.40
I-17	A-5	N 496712.64 E 870413.53	174.74	174.44	183.78	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-18	A-5	N 496747.33 E 870120.25	-	180.80	183.88	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-19	A-5	N 496217.13 E 870250.23	-	174.40	182.38	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-20	A-5	N 496410.16 E 870556.04	-	177.70	181.28	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-21	DOUBLE S	N 496468 E 870505	-	176.35	174.6	-	HOGO STD. DETAIL SD 4.23
I-22	A-5	N 496864.51 E 870570.76	173.65	173.55	183.88	5'x3'	HOGO STD. DETAIL SD 4.40
I-23	A-5	N 496933.67 E 870391.61	176.41	175.41	183.88	5'x3'	HOGO STD. DETAIL SD 4.40
I-24	A-5	N 497054.86 E 870231.81	177.54	177.24	183.88	5'x3'	HOGO STD. DETAIL SD 4.40
I-25	A-5	N 497054.27 E 870072.17	174.40 (12") 174.70 (12")	174.15	186.08	5'x3'	HOGO STD. DETAIL SD 4.40
I-26	A-5	N 497021.37 E 870001.72	-	182.30	185.28	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-27	A-5	N 497118.43 E 870078.54	-	180.00	188.08	5'x2'-6"	HOGO STD. DETAIL SD 4.40
I-28	DOUBLE S COMB.	N 496560.34 E 869484.04	HOLD EX. PIPE ELEV. 4 CURB ELEVATION	-	-	-	HOGO STD. DETAIL SD 4.34
M-1	5' MH	N 496255 E 870143	164.74	156.00	183.2	-	HOGO STD. DETAIL 6 5.13 AND GRANITE BLOCK BOTTOM
M-2	8' MH	N 496320 E 870087	165.32	165.22	183.7	-	MSHA STD DETAIL MD-384.04
M-3	8' MH	N 496336 E 870051	165.74	165.64	183.2	-	MSHA STD DETAIL MD-384.04
M-4	5' MH	N 496741 E 869481	170.88 (42") 176.46 (12")	170.76	180.7	-	HOGO STD. DETAIL 6 5.13
M-5	5' MH	N 496678 E 870025	176.56 (12") 172.25 (36")	172.15	180.7	-	HOGO STD. DETAIL 6 5.13
M-6	5' MH	N 496434 E 870584	177.26 (12") 175.42 (15")	175.07	180.5	-	HOGO STD. DETAIL 6 5.13
M-7	4' MH	EX. INLET	-	-	-	-	HOGO STD. DETAIL 6 5.12
MQ-1	5K	N 496318 E 870065	165.53	165.43	183.7	-	SEE SHEET 10
MQ-1A	5K	N 496334 E 870074	165.53	165.43	183.2	-	SEE SHEET 10
MQ-2	3K	N 496194 E 870306	165.98 (24") 173.30 (12")	165.88	182.0	-	SEE SHEET 10
MQ-3	3K	N 496868 E 870584	173.45	170.42	186.0	-	SEE SHEET 10
SMH-1	4' MH	N 496412 E 870534	165.50	160.40	EX. GR.	-	HOGO STD DETAIL 6 5.12
SMH-2	4' MH	N 496280 E 869450	178.45	178.35	EX. GR.	-	HOGO STD DETAIL 6 5.12

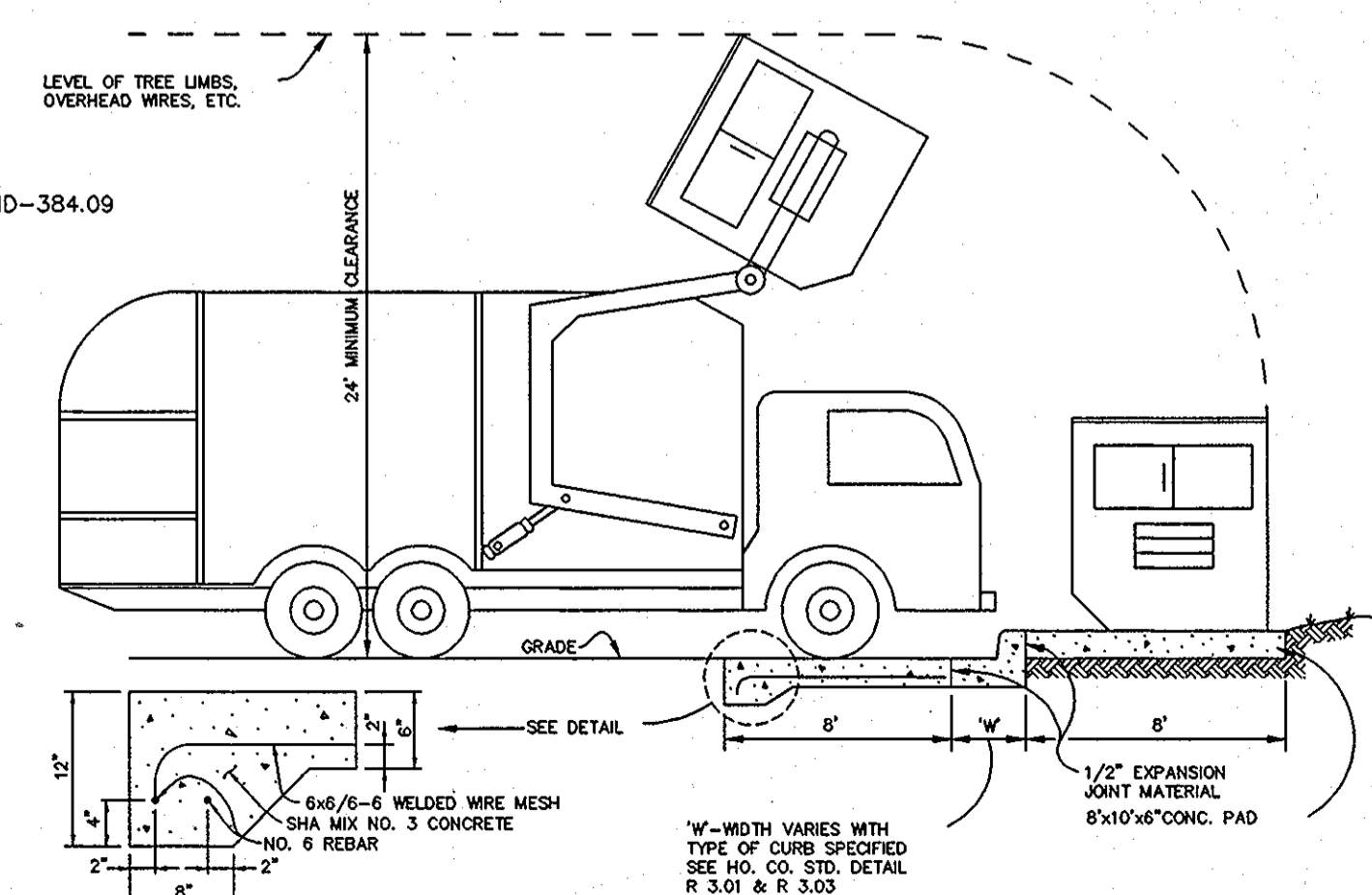
NOTES: LOCATION OF "S" TYPE INLETS AND MANHOLES IS AT CENTER OF TOP COVER OR CENTER OF STRUCTURE; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB. TOP ELEVATION IS TOP OF CURB FOR "A" INLETS. TOP ELEVATION IS TOP OF GRATE FOR "S" INLETS. TOP ELEVATION IS TOP OF RIM FOR MANHOLES.



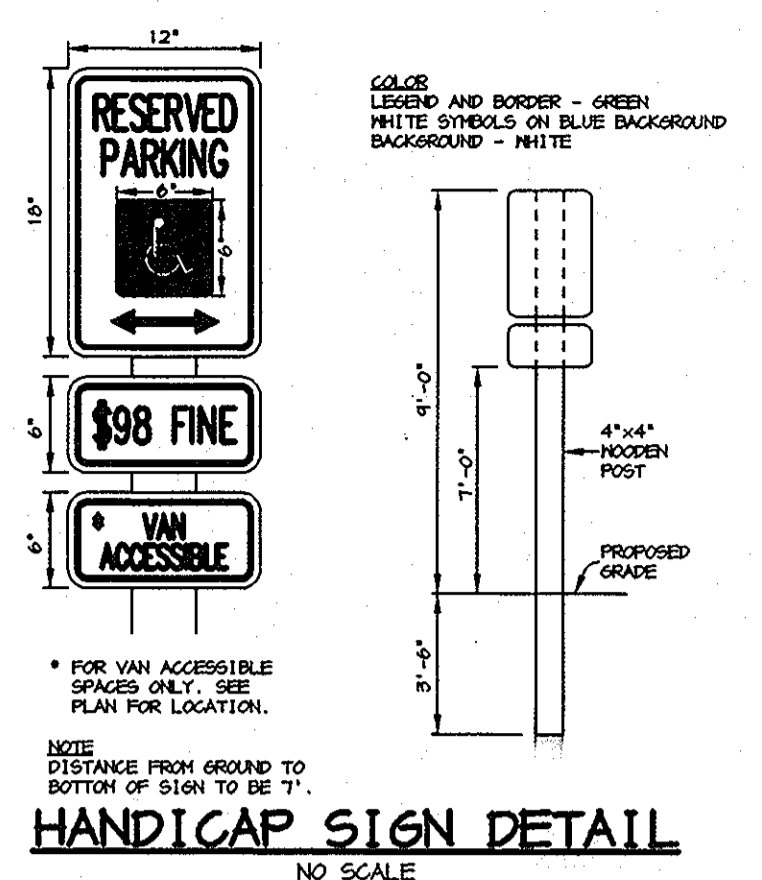
FLOW SPLITTER M-3
SCALE: 1" = 2"



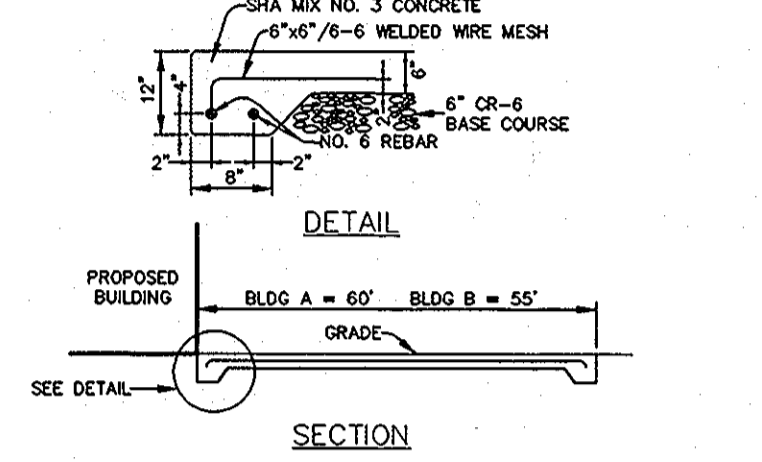
SECTION A-A
SCALE: 1" = 2"



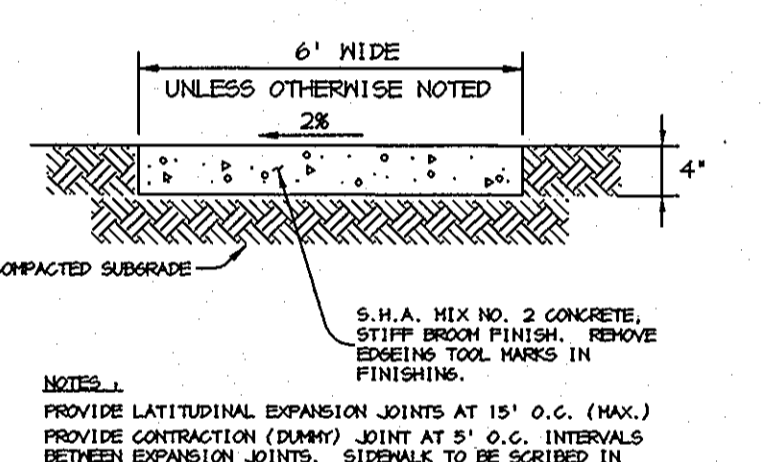
DUMPSTER PAD
NO SCALE



HANDICAP SIGN DETAIL
NO SCALE



LOADING AREA CONCRETE PAVING
NO SCALE



SIDEWALK DETAIL
NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 2/23/01
DIRECTOR DATE

[Signature] 2/24/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/28/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

9-17.01 REVISD STRUCTURE SCHEDULE

DATE	NO.	REVISION

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
c/o MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

PROJECT
TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

AREA
TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
DETAILS AND STRUCTURE SCHEDULE

RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.597.8200 fax 410.597.8282

DATE
DESIGNED BY: C.J.R.
DRAWN BY: DAM
PROJECT NO: 00239/
DATE: AS SHOWN
DRAWING NO. 9 OF 14

ARTHUR E. MUEGGE #8707

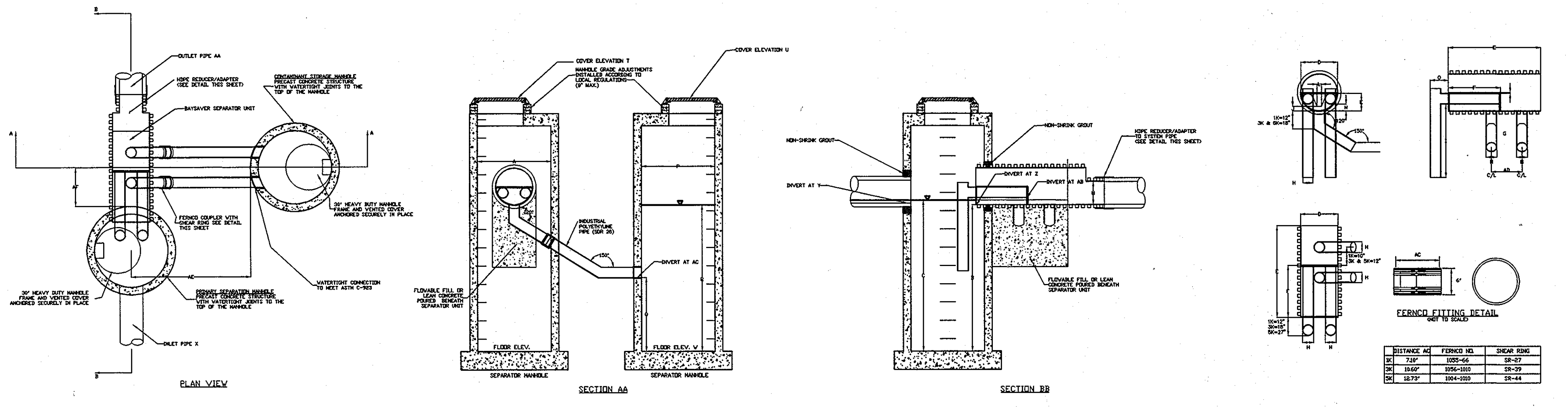
SEQUENCE OF CONSTRUCTION AND INSPECTOR'S CHECK-OFF LIST FOR DUAL MANHOLE SEPARATORS

Stage (X = Approval Required)	Developer's/Engineer Approval		Inspector		Geotechnical Engineer	
	Initials	Date	Initials	Date	Initials	Date
1. Pre-Construction Meeting.	X		X		X	
2. Install Manholes and associated storm drainage:						
a. Obtain approval of subgrade from Geotechnical Engineer. (Subgrade to have a minimum of 95% compaction)					X	
b. Installation of precast base, lower tank and lower piping.	X		X			
c. Backfill and min. 95% compaction around lower tank and lower piping.					X	
d. Installation of precast middle section(s) with separator unit and remaining piping.	X		X			
e. Installation of precast top slab.	X		X			
f. Installation of adjustment rings and frame and cover.	X		X			
g. Installation of flowable fill or concrete backfill.					X	
3. Backfilling operation and compaction.					X	
4. Site is permanently stabilized. Sediment control measures removed and all sediment and debris removed from dual manhole separators.			X			
5. Final inspection.			X			

Baysaver Separator Unit	Baysaver Manhole Sizes (prim. x stor.)	Maximum Treatment (cfs)*1	Maximum Treatment (gpm)*1	Impervious Area (acres)
1K Baysaver Separator	48x48	2.4	1076	1.2
	48x50	2.4	1076	1.4
	48x72	2.4	1076	1.6
3K Baysaver Separator	60x60	7.2	3231	3.6 WQ263
	60x72	7.2	3231	4.1
	60x84	7.2	3231	4.6
5K Baysaver Separator	72x72	11.1	4981	5.5
	72x84	11.1	4981	6.5 WQ-1/2
	72x96	11.1	4981	8.0

NOTE:
BAYS SAVERS ARE TO BE INSTALLED WITH THE STORM DRAIN SYSTEM AND WILL FUNCTION AS SECONDARY SEDIMENT CONTROL DEVICES. UPON COMPLETION OF SITE STABILIZATION, EACH BAYS SAVER SYSTEM SHALL BE FLUSHED CLEAN & THE MANHOLES CLEANED OUT AND REFILLED WITH CLEAN WATER.

NOTE: DIMENSIONAL SHOP DRAWINGS ARE TO BE APPROVED BY THE DESIGN ENGINEER



BAYS SAVER SYSTEM DIMENSIONS

DESCRIPTION	1K SYSTEM	3K SYSTEM	5K SYSTEM
SEPARATOR MANHOLE DIMENSIONS			
A PRIMARY MANHOLE DIAMETER	48"	60"	72"
B MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"	8' - 0"
C MINIMUM FLUID DEPTH	8' - 3"	8' - 4 1/2"	8' - 6"
STANDARD SEPARATOR UNIT DIMENSIONS			
D SEPARATOR UNIT ID	24"	36"	48"
E SEPARATOR UNIT LENGTH	60"	78.2"	75.4"
F BYPASS PLATE LENGTH	34"	45"	45"
G WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"	3/4"
H ELBOW AND CONNECTING PIPE OD	7.125"	10.75"	12.75"
I ELBOW LENGTH	48"	48"	48"
J WEIR HEIGHT ABOVE INVERT	12"	4"	6"
K BYPASS PLATE HEIGHT ABOVE INVERT	3"	4 1/2"	24"
L WIDTH OF WEIR AT BASE	3"	4 1/2"	6"
M OUTLET PIPE DIAMETER	M	M	M
N ELBOW INVERT HEIGHT ABOVE UNIT INVERT	4 1/2"	7 1/2"	11"
O ELBOW PIPE OVERHANG	12"	18"	24"
STORAGE MANHOLE DIMENSIONS			
P STORAGE MANHOLE DIAMETER	48"	60"	72"
Q MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"	48"
R FLUID DEPTH	8' - 0"	8' - 0"	8' - 0"
S TOTAL STORAGE VOLUME	200 CF	300 CF	450 CF
SYSTEM DIMENSIONS AND ELEVATIONS			
T SEPARATOR MANHOLE COVER ELEVATION	T	T	T
U STORAGE MANHOLE COVER ELEVATION	U	U	U
V SEPARATOR MANHOLE FLOOR ELEVATION	V	V	V
W STORAGE MANHOLE FLOOR ELEVATION	W	W	W
X INLET PIPE ID AND MATERIAL	X1 X2	X1 X2	X1 X2
Y INLET PIPE INVERT	Y1 Y2	Y1 Y2	Y1 Y2
Z SEPARATOR UNIT INVERT	Z	Z	Z
AA OUTLET PIPE ID AND MATERIAL	AA	AA	AA
AB ELBOW INVERT ELEVATION	AB	AB	AB
AC CONNECTING PIPE INVERT ELEVATION	AC	AC	AC
AD CONNECTION PIPE SPACING	20"	24"	24"
AE STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"	72 ± 6"
AF STORAGE MANHOLE DOWNSTREAM OFFSET	23"	31"	25"

BAYS SAVER MAINTENANCE
BAYS SAVER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE SEDIMENT DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYS SAVER.

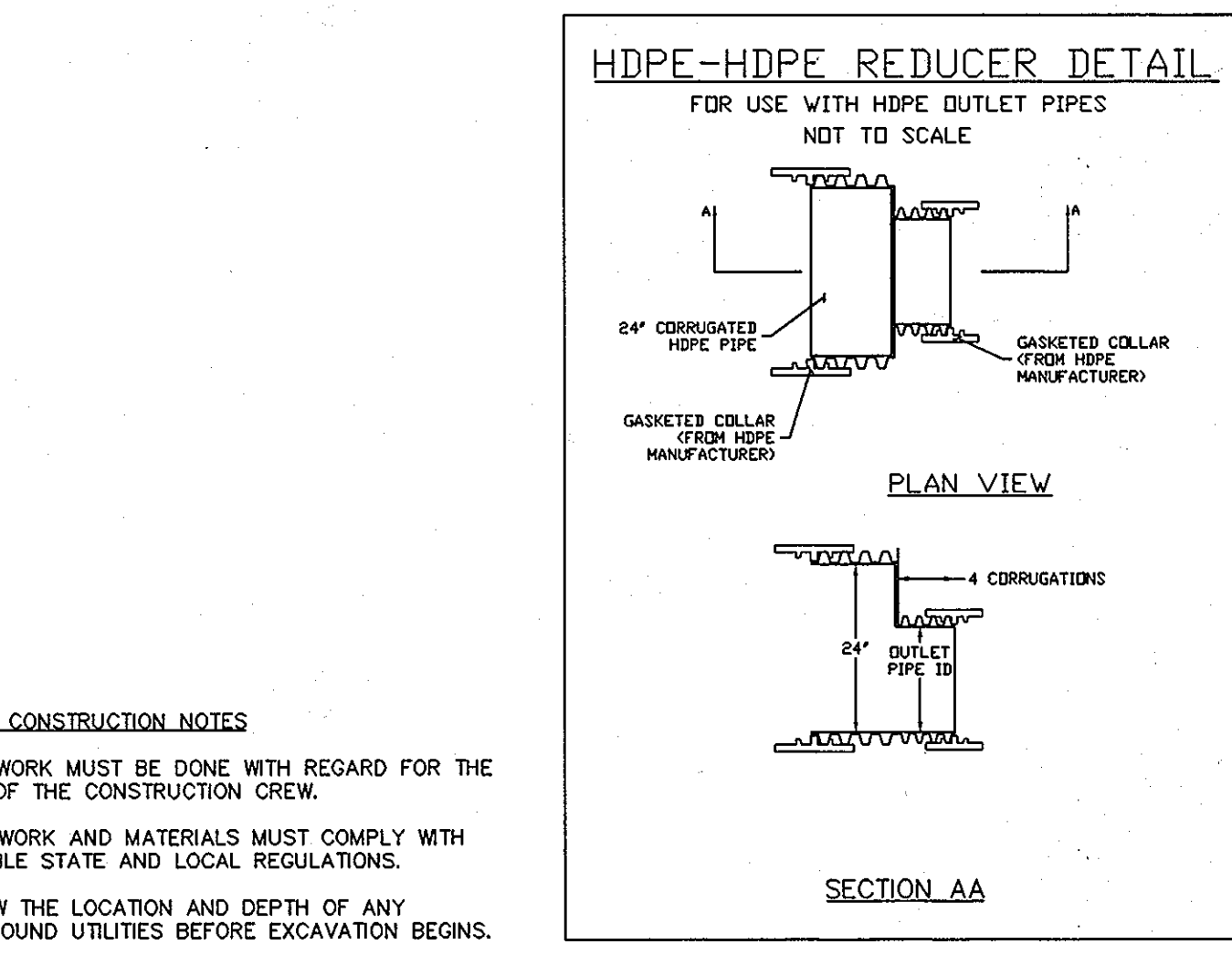
MAINTENANCE CONSISTS OF THE FOLLOWING:

A. CONTAMINANT STORAGE MANHOLE

1. REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
2. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.

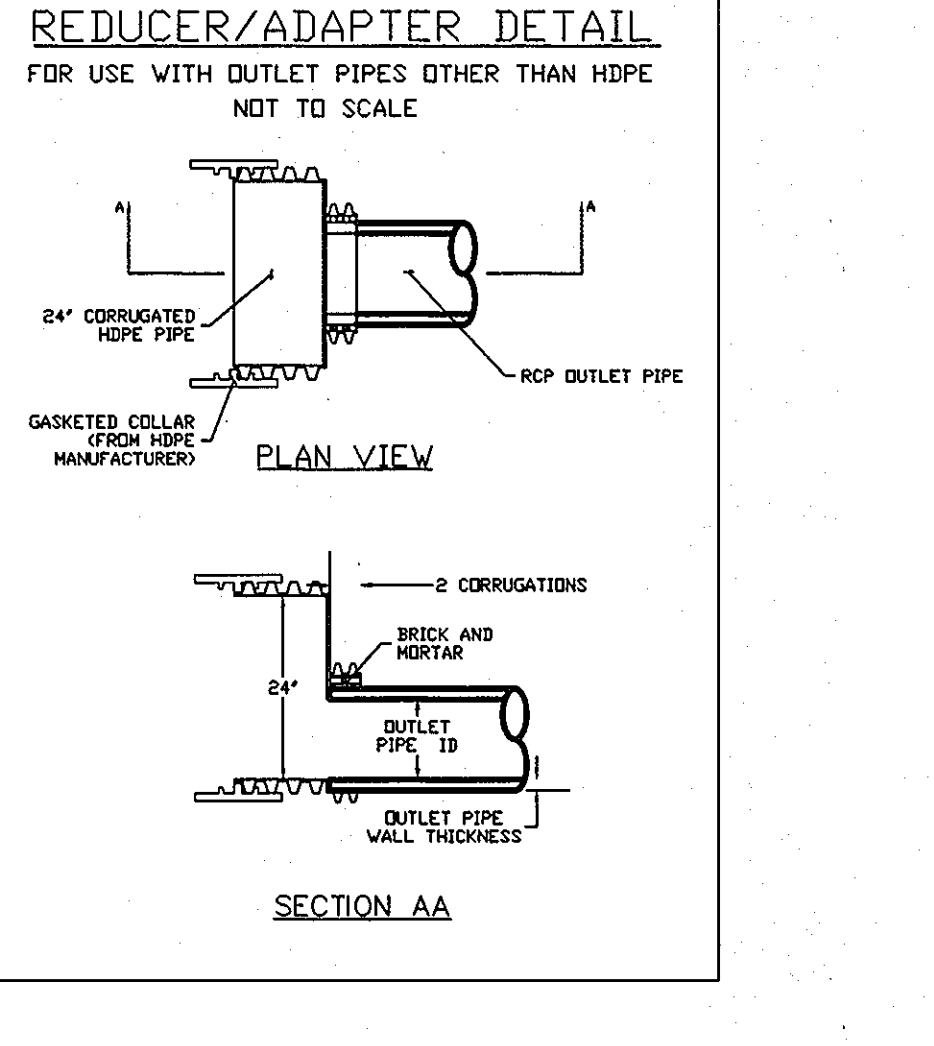
B. PRIMARY SEPARATION MANHOLE

1. USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.
2. REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.
3. CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
4. CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.



BAYS SAVER INSTALLATION INSTRUCTIONS

1. EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYS SAVER UNIT. INSTALL PRECAST DROOP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.
2. VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
3. MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT. INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
4. BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL, BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
5. INSTALL BAYS SAVER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.
6. BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
7. INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
8. INSTALL AND SET MANHOLE FRAME AND COVER UNITS.



Project: TROY HILL PARCEL A-25 Designer: RIEMER MUEGGE, PHRIA
Address: TROY HILL DRIVE Contact: CHRIS REID, P.E.
Phone: 410-997-8400
Fax: 410-997-4282

Delivery Date: _____

Owner: TROY HILL CORP. CENTER Contractor: _____
C/O MANEKIN Address: _____
Address: 1060 COLUMBIA GATEWAY DR. Address: _____
COLUMBIA, MD 21046 Contact: _____
Phone: _____
Fax: _____

Project: TROY HILL PARCEL A-25 Designer: RIEMER MUEGGE, PHRIA
Address: TROY HILL DRIVE Contact: CHRIS REID, P.E.
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C/O MANEKIN Address: _____
Address: 1060 COLUMBIA GATEWAY DR. Address: _____
COLUMBIA, MD 21046 Contact: _____
Phone: _____
Fax: _____

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Chris Reid 2/24/01 DATE
DIRECTOR

Chris Reid 2/24/01 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Chris Reid 2/24/01 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE NO. _____ REVISION _____

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
c/o MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

PROJECT TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
BAYS SAVER DETAILS AND NOTES

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21046 • tel 410.997.8800 fax 410.997.8282

DATE _____

DESIGNED BY : C.J.R.

DRAWN BY: DAM

PROJECT NO. 00239/
DETAILS3.DWG

DATE : _____

SCALE : AS SHOWN 1/4"

DRAWING NO. 10 OF 12

ARTHUR E. MUEGGE #8707

Separator Unit Model:

1K

3K

5K

Circle system orientation above

Separator Unit Model:

1K

3K

5K

Circle system orientation above

Separator Unit Model:

1K

3K

5K

Circle system orientation above

Separator Unit Model:

1K

3K

5K

Circle system orientation above

Manhole Specifications:

Primary Manhole Diameter: 60 inches
Storage Manhole Diameter: 60 inches

Floor Elevations:
Primary Manhole 162.42
Storage Manhole 157.82

Primary Manhole Inverts:
Separator Unit 170.42
Inlet Pipe(s) 173.45 (24" IN)
170.42 (24" OUT)

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 186.00
Storage Manhole 181.00

WQ-3

Manhole Specifications:

Primary Manhole Diameter: 60 inches
Storage Manhole Diameter: 60 inches

Floor Elevations:
Primary Manhole 157.80
Storage Manhole 157.80

Primary Manhole Inverts:
Separator Unit 165.43
Inlet Pipe(s) 165.43 (24" IN)
173.30 (12" IN)
165.80 (24" OUT)

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 182.00
Storage Manhole 181.00

WQ-2

Manhole Specifications:

Primary Manhole Diameter: 72 inches
Storage Manhole Diameter: 84 inches

Floor Elevations:
Primary Manhole 157.43
Storage Manhole 157.43

Primary Manhole Inverts:
Separator Unit 165.43
Inlet Pipe(s) 165.53 (36" IN)
165.43 (36" OUT)

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 183.20
Storage Manhole 183.40

WQ-1

Manhole Specifications:

Primary Manhole Diameter: 72 inches
Storage Manhole Diameter: 84 inches

Floor Elevations:
Primary Manhole 157.43
Storage Manhole 157.43

Primary Manhole Inverts:
Separator Unit 165.43
Inlet Pipe(s) 165.53 (36" IN)
165.43 (36" OUT)

Please show orientation (including angle), size and material of inlet pipes above.

Cover Elevations:
Primary Manhole 183.70
Storage Manhole 183.90

WQ-1A

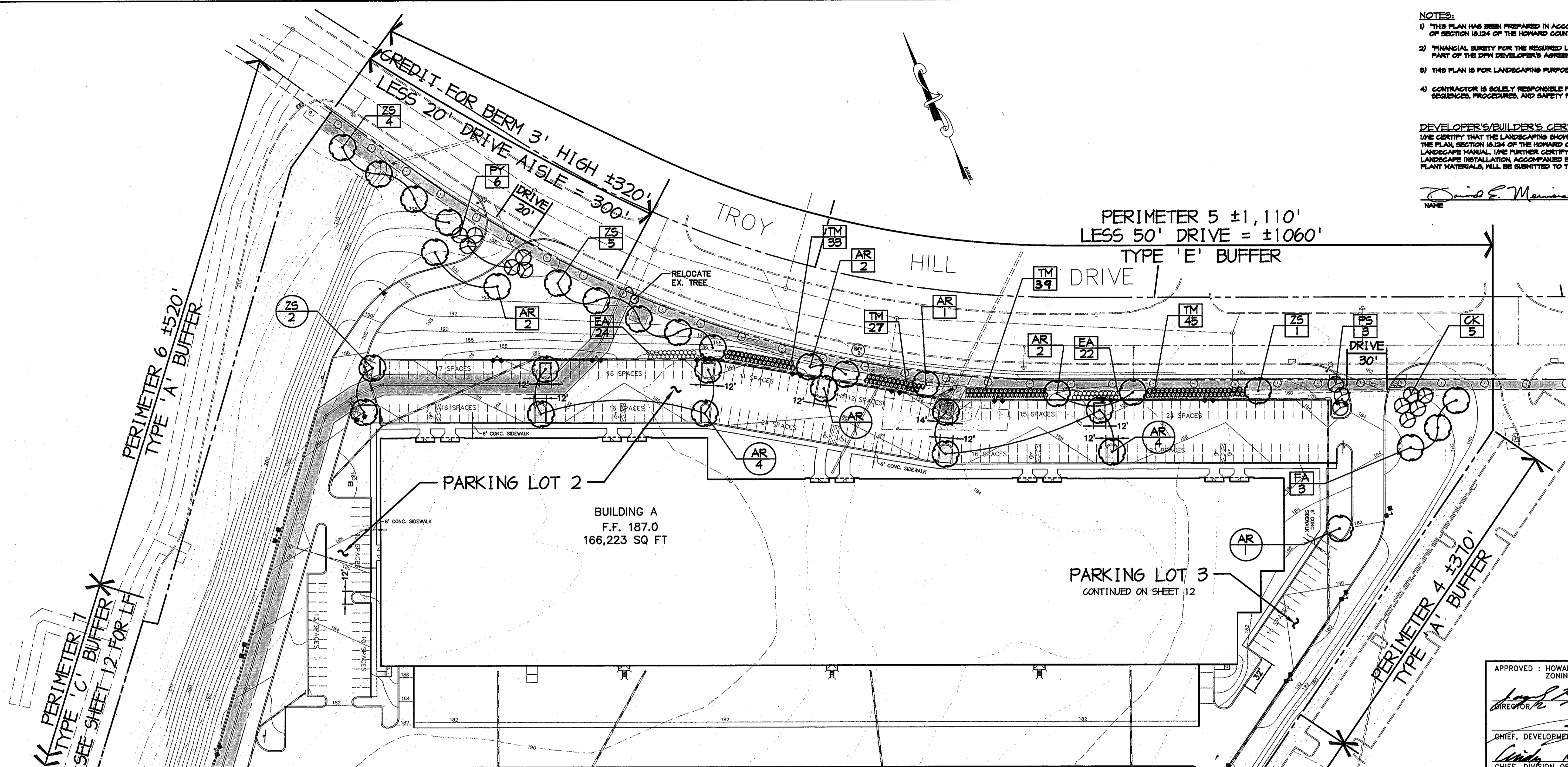
This order can be faxed to Bay Saver, Inc. at (301) 829-3747

NOTES:

- 1) THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 2) FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DFW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$ 55,820.00.
- 3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- 4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

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 A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

David E. Manning
 NAME DATE 2/15/01



PLANTING SPECIFICATIONS

1. Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.
2. All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, distorting roots, excessive injuries, diseases of the bark, plant disease, insect pest eggs, borers and all forms of insect infestation or objectionable infestations. Plant material that is dead, or which has been cut back from larger grades to meet specified requirements will not be accepted. Trees with forked leaders will not be accepted. All B&B plants shall be freshly dug, no headed-in plants or plants from cold storage will be accepted.
3. Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects, latest edition, including all addenda.
4. Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
5. Contractor shall be responsible for notifying utility companies, utility contractors and "the Utility" a minimum of 48 hours prior to beginning any work. Contractor may note minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
6. Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the strip line, see detail.
7. Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Plus shrubs or Xylocopa species between November 15 and March 15.
8. Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
9. Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
10. All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified. (See Specification 12) Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch.
11. Positive drainage shall be maintained in planting beds (minimum 2 percent slope).
12. Bed preparation shall be as follows: Till into a minimum depth of 4" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 1 lb of standard 0-10-5 fertilizer per cubic yard of planting mix and 1 lb of slow release plants (Azaleas, rhododendrons, etc.) top dress after planting with iron sulfate or comparable product according to package directions. Toss bocatta Repandera (English weeping yew). Top dress other planting with 1/4 to 1/2 cup lime each.
13. Planting mix: For trees set in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
14. Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical label to assure its adaptability to the specific groundcover to be treated.
15. Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. As a minimum, water uninstalled plant material daily.
16. All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.
17. This plan is intended for landscape use only. See other plan sheets for more information on grading, utilities, sediment control, layout, etc.

NOTE: CONTRACTOR TO REGRADE, SOO, HYDROSEED, OR SEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY GROSSER VILDS, CO-DOMINANT LEADS, INWARD THINGS AND LATERAL BRANCHES. MAY BE PRUNED, HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. SEE STAKE DETAIL.

DO NOT PLANTING HOLE TWICE AS WIDE AS TOP OF ROOT BALL.

APPLY A PRE-EMERGENT ON TOP OF SOIL WITH WATER FIRST WITHIN 24 HOURS.

CONSTRUCT 5" SAUCER RIM ALL AROUND PLANT WITH WATER TRICE WITHIN 24 HOURS.

BACKFILL WITH PLANTING MIX SEE PLANTING SPECIFICATIONS.

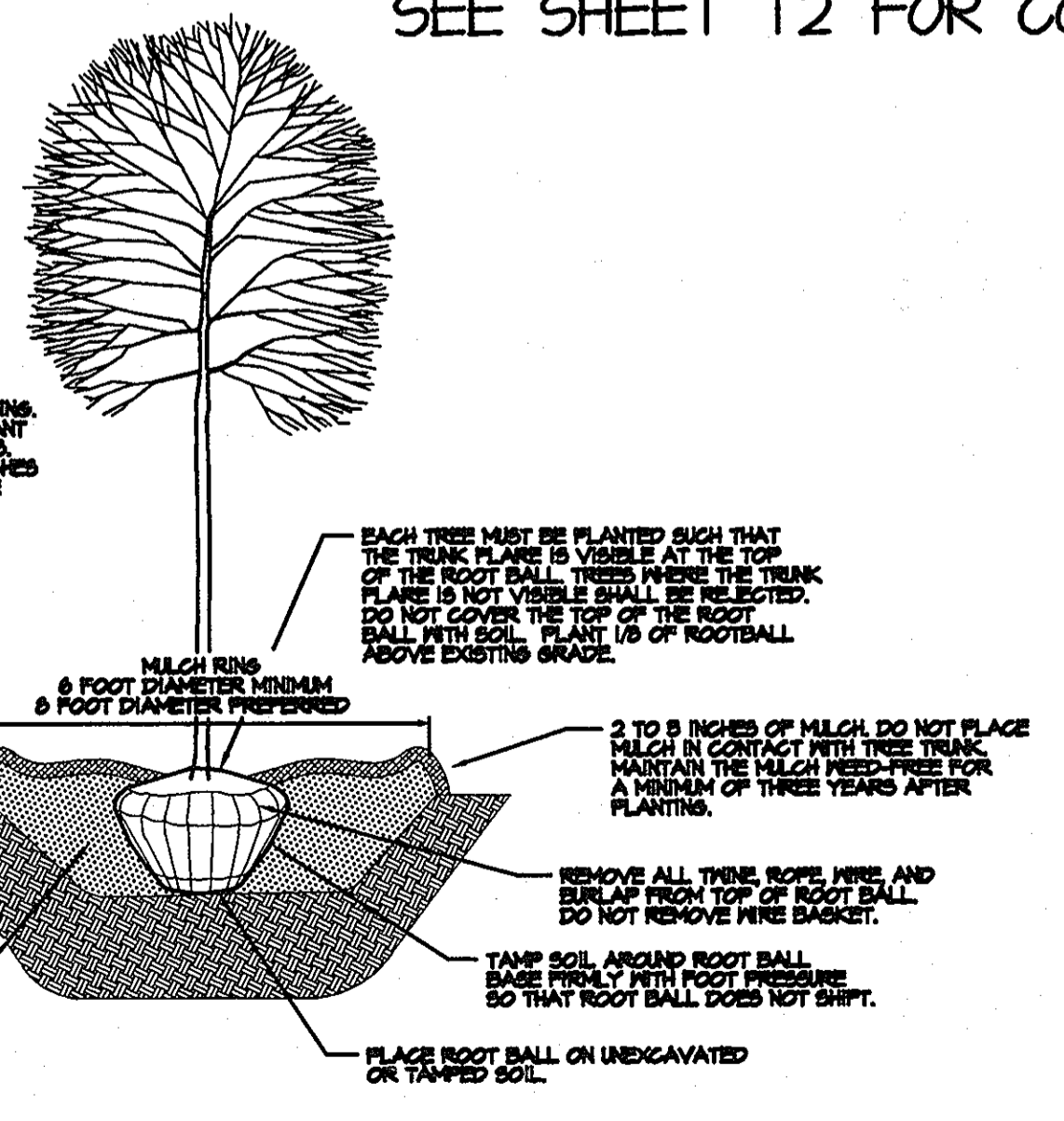
PLANTING MIX: For trees set in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.

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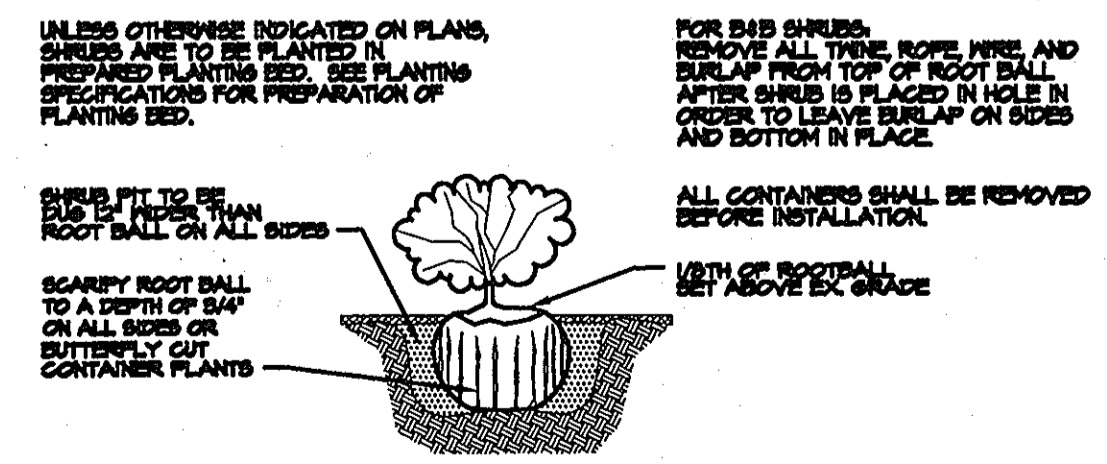
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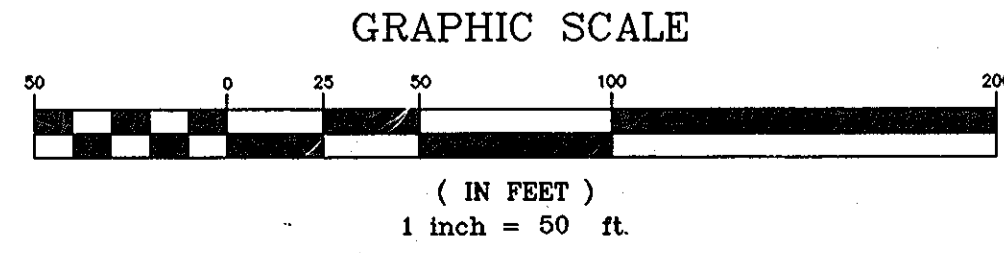
TREE PLANTING DETAIL - B&B TREES IN ALL SOIL TYPES
 NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 8 FEET SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.



SHRUB PLANTING DETAIL - B&B AND CONTAINER SHRUBS
 NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 4 FEET SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.

LEGEND

EX. SHADE TREE APPROVED PER F-48-164	○
PROP. FLOWERING TREE	⊗
PROP. SHADE TREE	⊙
PROP. EVG. SHRUB MASS	⊞
PROP. DEC. SHRUB MASS	⊞
PARKING LOT LANDSCAPE REQUIREMENT	⊗
PERIMETER LANDSCAPE REQUIREMENT	⊗
PARKING LOT LANDSCAPE ISLAND	⊗



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: [Signature] DATE: 2/22/01

Chief, Development Engineering Division: [Signature] DATE: 2/20/01

Chief, Division of Land Development: [Signature] DATE: 2/22/01

DATE NO. REVISION

OWNER / DEVELOPER
 TROY HILL CORPORATE CENTER PROPERTY LLC
 c/o MANEKIN LLC
 7061 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MARYLAND 21046
 410-290-1400

PROJECT
 TROY HILL CIRCLE
 TROY HILL CORPORATE CENTER
 PARCEL A-25

AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
 1st. ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
 LANDSCAPE PLAN

RIEMER MUEGGE
 a division of
 Patton Harris Rust & Associates, pc
 ENGINEERS & SURVEYORS & PLANNERS
 LANDSCAPE ARCHITECTS & ENVIRONMENTAL SPECIALISTS
 8818 Centro Park Drive, Columbia, MD 21045 • tel 410.997.8800 fax 410.997.8282

DATE: 2/16/01

DESIGNED BY: D.M.D.

DRAWN BY: G.T.H.

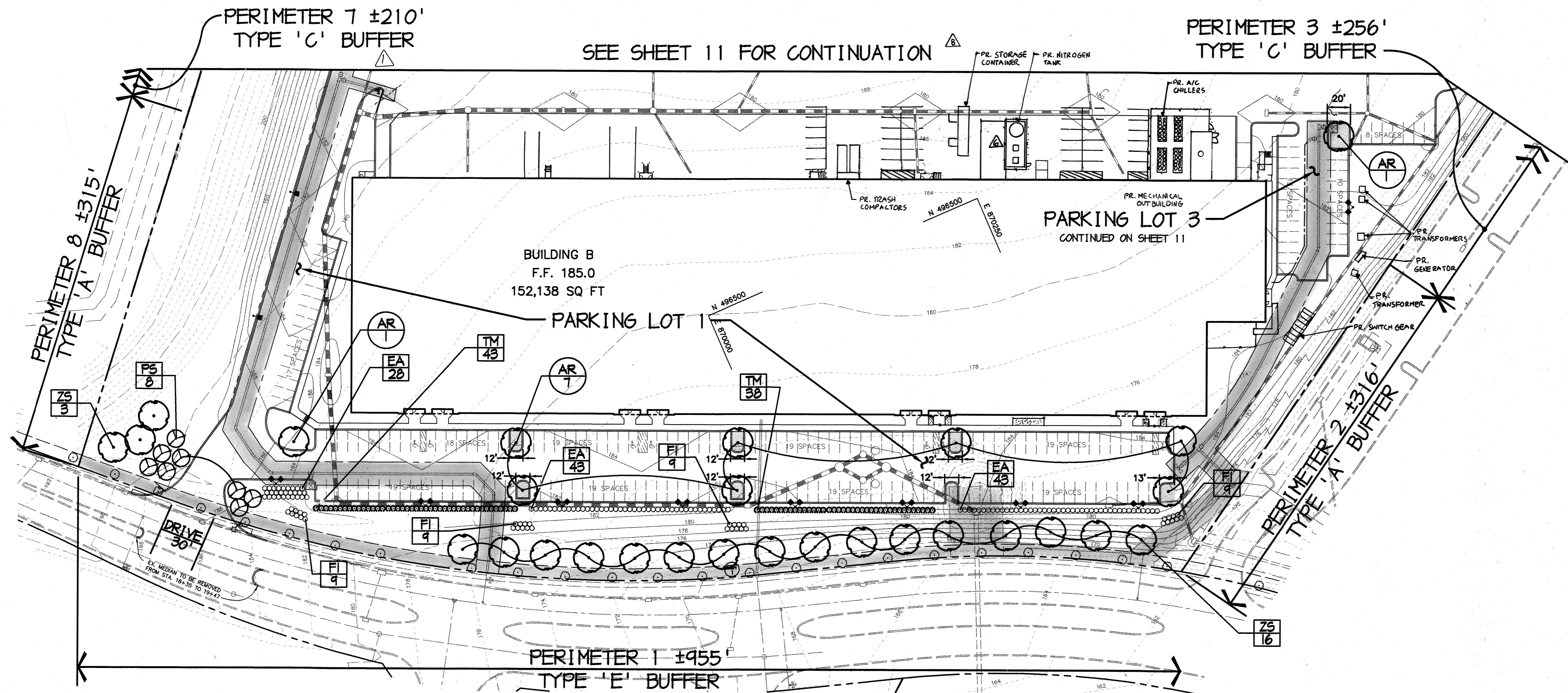
PROJECT NO: 00239/
 LSCP1.DWG

DATE:

SCALE: AS SHOWN

DRAWING NO. 11 OF 12

DAVID T. DOWS #830



SEE SHEET 11 FOR CONTINUATION

PERIMETER 3 ±256'
TYPE 'C' BUFFER

PERIMETER 8 ±1315'
TYPE 'A' BUFFER

PERIMETER 2 ±1316'
TYPE 'A' BUFFER

PERIMETER 1 ±955'
TYPE 'E' BUFFER

PERIMETER	ADJACENT TO PERIMETER PROPERTIES						ADJACENT TO ROADWAYS	
	2*	3*	4*	6*	7*	8*	1	5
LANDSCAPE TYPE	A	C	A	A	C	A	E	E
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	±	±	±	±	±	±	±955'	±1,110'
CREDIT FOR EXISTING VEGETATION (YES/NO/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	-	-	-	-	-	-	NO	NO
CREDIT FOR DRIVE AISLE (YES/NO/LINEAR FEET)	-	-	-	-	-	-	YES 30'	YES 50'
LINEAR FEET REMAINING	±	±	±	±	±	±	± 925'	± 1,060'
CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET)	-	-	-	-	-	-	NO	YES ±900'
NUMBER OF PLANTS REQUIRED							23	27
SHADE TREES							23	27
EVERGREEN TREES								
SHRUBS							19	20
NUMBER OF PLANTS PROVIDED							19	20
SHADE TREES							19	20
EVERGREEN TREES								
SMALL FLOWERING TREES							1	1
SHRUBS							23	19

SCHEDULE 'A' NOTES:

- REGULATIONS DO NOT REQUIRE LANDSCAPE EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT. (PAGE 17 OF THE HO. CO. LANDSCAPE MANUAL)
- A BERM THAT IS A MINIMUM OF 3' HIGH OR A CHANGE IN GRADE THAT CAUSES A PARKING LOT TO BE LOCATED LOWER THAN THE ADJACENT ROADWAY BY 3' OR MORE, MAY BE SUBSTITUTED FOR SHRUB PLANTING IN A TYPE 'E' LANDSCAPE BUFFER. (PAGE 24 OF THE HO. CO. LANDSCAPE MANUAL)

SUBSTITUTION NOTES:

PERIMETER 1: (8) FLOWERING TREES WERE SUBSTITUTED FOR (4) SHADE TREES

PERIMETER 2: (14) FLOWERING TREES WERE SUBSTITUTED FOR (7) SHADE TREES

PARKING LOT	SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING		
	1	2	3
NUMBER OF PARKING SPACES	168	223	46
NUMBER OF SHADE TREES REQUIRED (1/20 SPACES)	8	11	2
NUMBER OF TREES PROVIDED SHADE TREES	8	11	2
NUMBER OF ISLANDS REQUIRED	8	11	2
NUMBER OF ISLANDS PROVIDED (1.20 MIN. 200 SQ. FT.)	8*	9**	5***

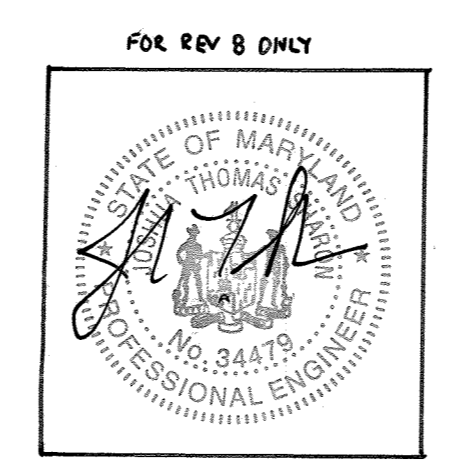
SCHEDULE 'B' NOTES:

SUBSTITUTE 3 EXTRA LANDSCAPE ISLANDS FROM PARKING LOT 3 FOR 2 MISSING LANDSCAPE ISLANDS IN PARKING LOT 2.

- 1512 SQ. FT. / 200 = 8 ISLANDS
- 1800 SQ. FT. / 200 = 9 ISLANDS
- 1016 SQ. FT. / 200 = 5 ISLANDS

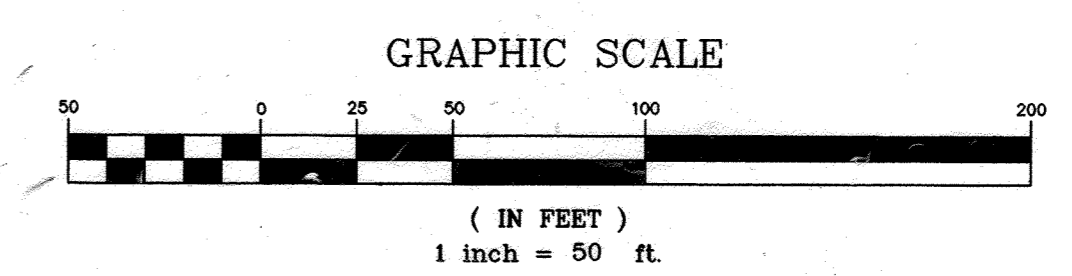
PLANT LIST					
KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	SPACING
MAJOR DECIDUOUS TREES					
AR	26	Acer rubrum 'Red Sunset' Red Sunset maple	2 1/2" - 3" Cal.	B & B	Space as shown
FA	3	Fraxinus americana White ash	2 1/2" - 3" Cal.	B & B	Space as shown
ZS	31	Zelkova serrata 'Green Vase' Japanese zelkova	2 1/2" - 3" Cal.	B & B	Space as shown
MINOR DECIDUOUS TREES					
CK	5	Cornus kousa Kousa dogwood	8" - 10" Ht.	B & B	Min. spacing 15' o.c.
PS	11	Prunus serrulata 'Kwanan' Kwanan cherry	1 1/2" - 2" Cal.	B & B	Min. spacing 15' o.c.
PY	6	Prunus xyadensis Yoshino cherry	1 1/2" - 2" Cal.	B & B	Min. spacing 15' o.c.
SHRUBS (TO BE PLANTED IN MULCHED BED)					
EA	160	Euonymus alatus 'Compacta' Dwarf winged euonymus	24" - 30" Ht.	B & B	Plant 4' o.c.
FI	36	Forsythia xintermedia Border forsythia	36" - 48" Ht.	B & B	Plant 7' o.c.
TH	225	Taxus xmedia 'Densiformis' Densiformis yew	30" - 36" Ht.	B & B	Plant 4 1/2' o.c.

1/7/2014 8 ADDED 36 PARKING SPACES, NITROGEN TANK, COOLERS, TRASH COMPACTOR, AND STORAGE CONTAINER



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. 34478, EXPIRES DATE: 6/21/2022.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *[Signature]* 2/23/01 DATE

Chief, Development Engineering Division: *[Signature]* 2/23/01 DATE

Chief, Division of Land Development: *[Signature]* 2/23/01 DATE

11-29-01 RELOCATED FH AT BLDG. 'B' DRIVE-IN RAMP, MODIFIED CURB.

DATE NO. REVISION

OWNER / DEVELOPER
TROY HILL CORPORATE CENTER PROPERTY LLC
c/o MANEKIN LLC
7061 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046
410-290-1400

PROJECT
TROY HILL CIRCLE
TROY HILL CORPORATE CENTER
PARCEL A-25

AREA TAX MAP 37 ZONE: M-1 PLAT No. 14619
1st. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
LANDSCAPE PLAN

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21046 • tel 410.997.8800 fax 410.997.9282

DATE: 2/18/01

DESIGNED BY: D.M.D.

DRAWN BY: G.T.H.

PROJECT NO: 00239/
LSCP2.DWG

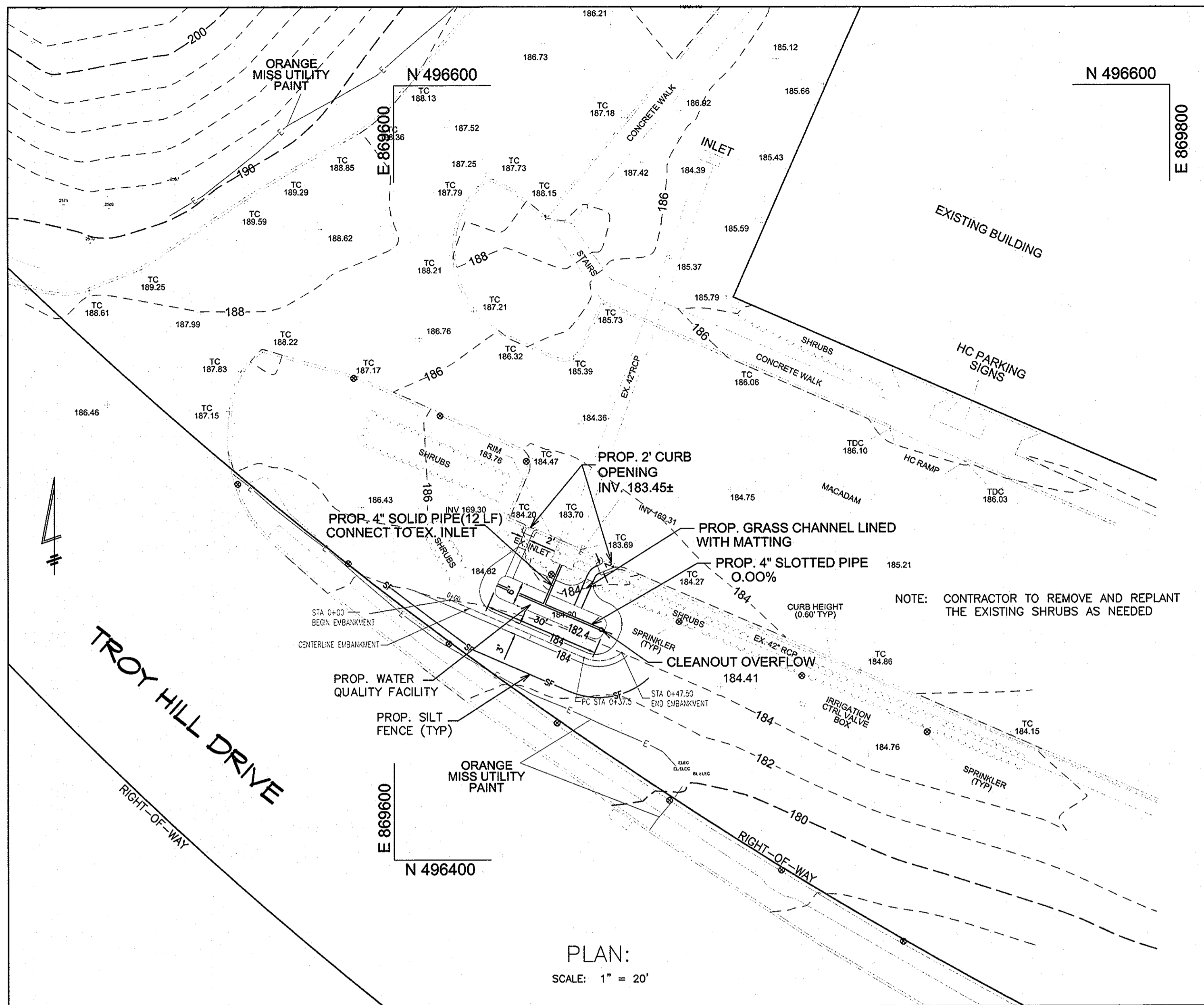
DATE:

SCALE: AS SHOWN 1/4"

DRAWING NO. 12 OF 12

DAVID T. DOWS #830

SDP-01-82



PLAN:
SCALE: 1" = 20'

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED FACILITY

1. THE FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP.
7. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
8. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

WATER QUALITY FACILITY PLANTING SCHEDULE

QTY.	SYMBOL	BOTANICAL/COMMON NAME	SIZE
2 EA		ACER RUBRUM RED MAPLE	2" CAL. (B&B)
5 EA		VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	2 1/2' - 3' HT
8 EA		VIBURNUM DENTATUM ARROWWOOD VIBURNUM	2 1/2' - 3' HT
15 EA		ANDROPOGON VIRGINICUS / BROOMSEDGE EUPATORIUM PERPURA / JOEY PYE WEED PANICUM VIRGATUM / SWITCHGRASS	1 QT. CLUMP 18" O/C

SITE STORMWATER MANAGEMENT SUMMARY TABLE

CENTROID OF FACILITY	N496466 E869642
DRAINAGE AREA TO FACILITY	0.28± ac
IMPERVIOUS AREA FOR MANAGEMENT	4680 S.F.
WATER QUALITY VOLUME (ESDv)	REQUIRED: 346 C.F. PROVIDED: 385 C.F.

STRUCTURAL CLASSIFICATION: NON MD-378 DAM

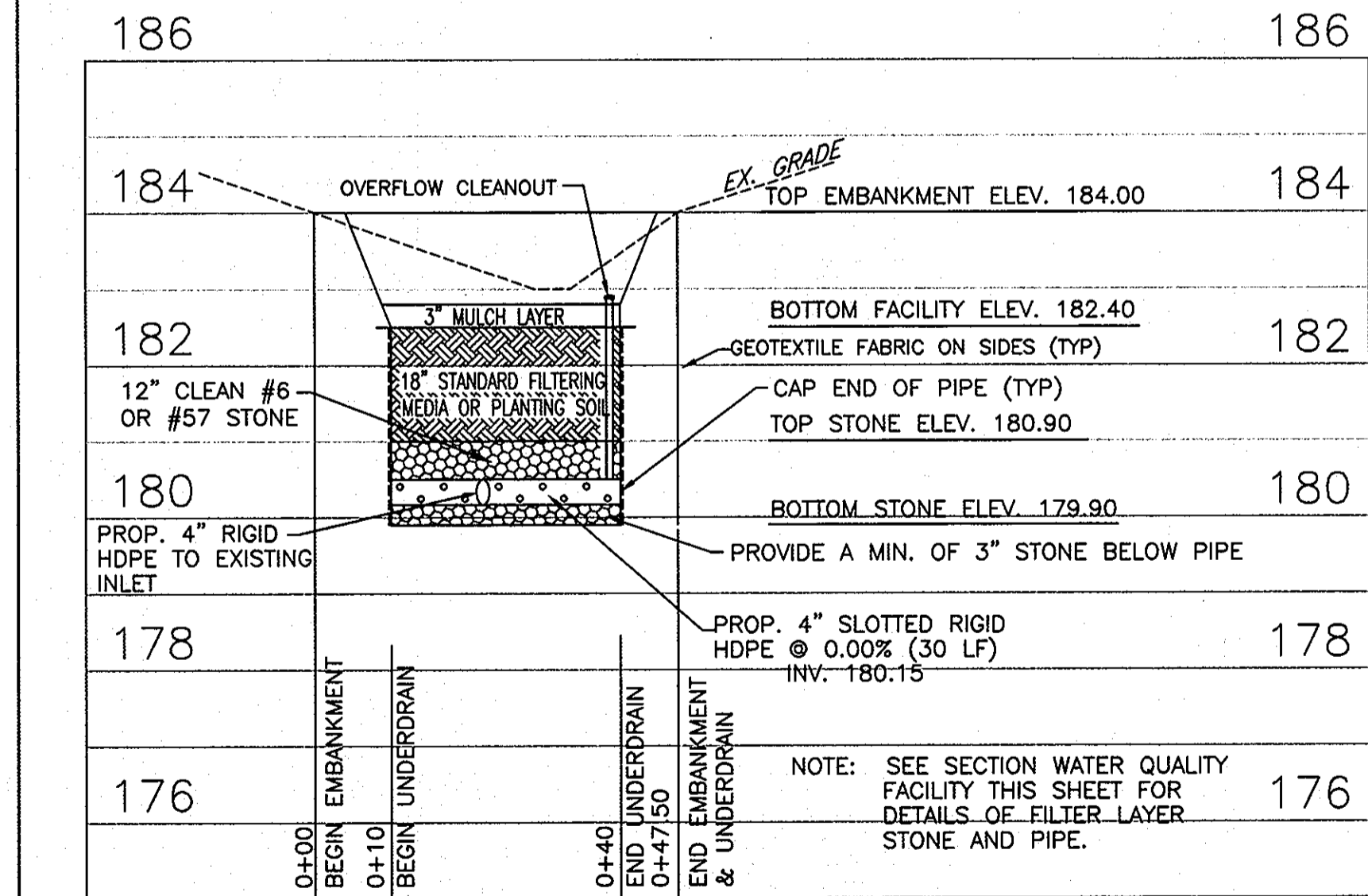
INSPECTION CHART FOR STORMWATER FACILITY CONSTRUCTION

STAGE	INITIALS	DATE
1. CLEARING AND GRUBBING.		
2. EXCAVATE FACILITY TO SUBGRADE.		
3. PLACE STONE AND PERFORATED PIPE AS SHOWN IN BOTTOM OF FACILITY.		
4. CAP END OF OUTLET PIPE. CONNECT TO EXISTING INLET.		
5. INSTALL SAND/LOAM LAYER. STABILIZE WITH SEED AND MATTING.		
6. SUBMIT STORMWATER MANAGEMENT AS-BUILT MYLARS TO HOWARD CARROLL.		

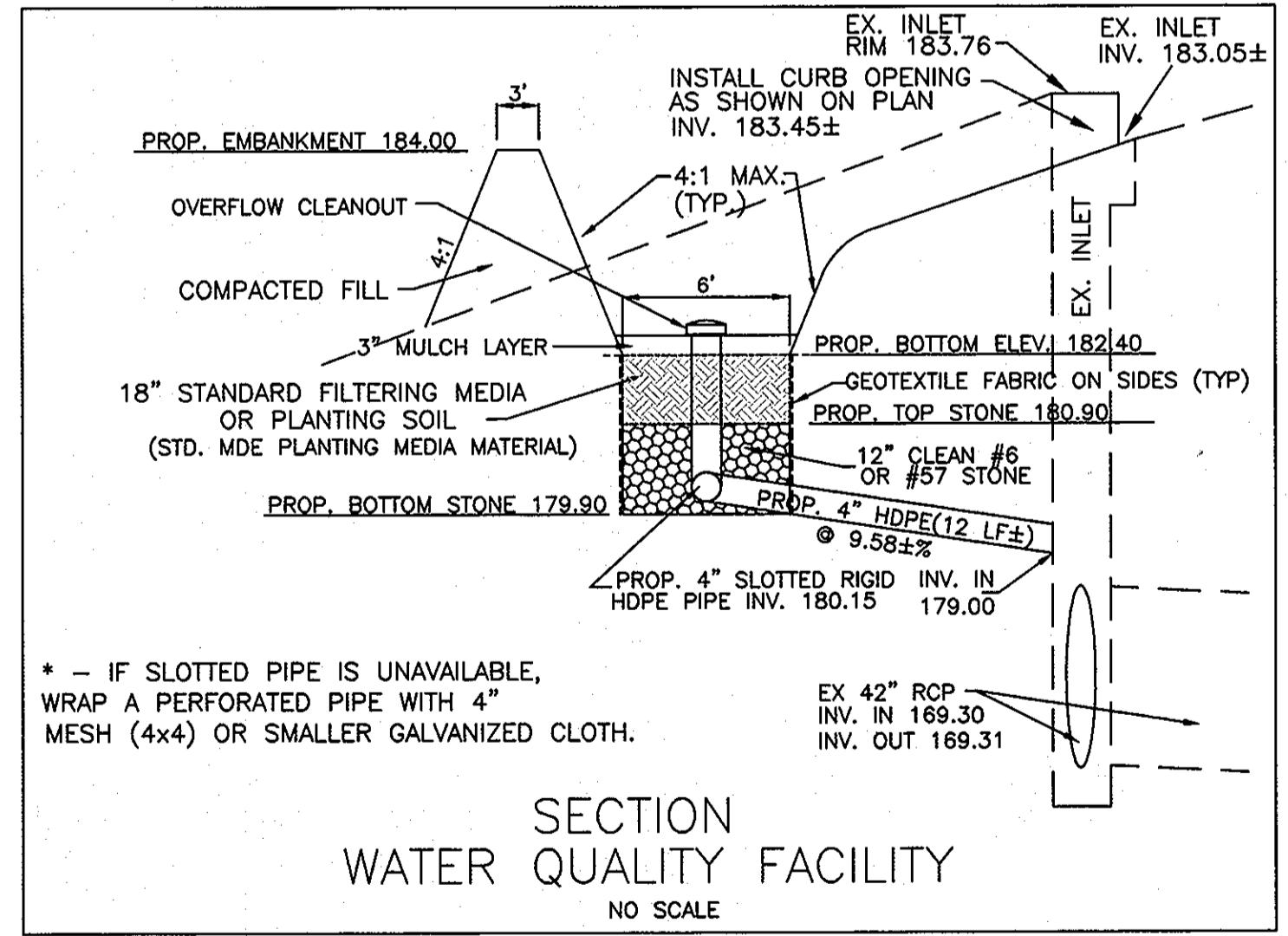
1.) SEE CONSTRUCTION SPECIFICATIONS AND STANDARDS FOR CLARIFICATION.
PLEASE NOTIFY CERTIFYING ENGINEER 48 HOURS PRIOR TO COMMENCING CONSTRUCTION

GENERAL NOTES:

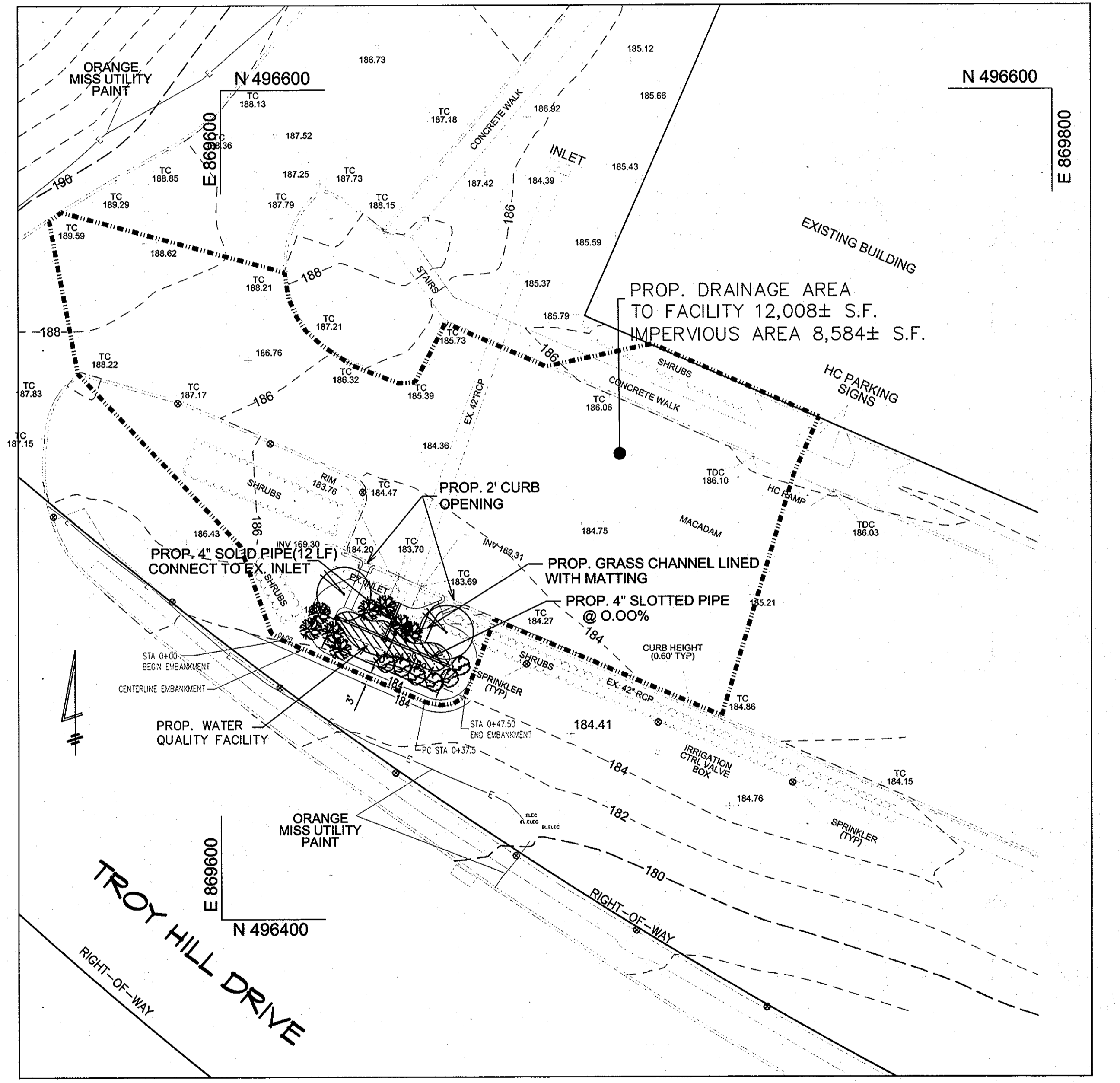
- 1) CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST THREE (3) WORKING DAYS PRIOR TO START OF WORK.
- 2) CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES TO HIS OWN SATISFACTION.



PROFILE ALONG TOP EMBANKMENT
WATER QUALITY FACILITY
SCALE: 1" = 2' VERT.
1" = 20' HORIZ.



SECTION
WATER QUALITY FACILITY
NO SCALE



PLAN: PROPOSED DRAINAGE AREA MAP/PLANTING PLAN
SCALE: 1" = 20'

APPROVED: Howard County Department of Planning and Zoning

Chad Edwards 9-12-13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kevin Schuler 9-13-13
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

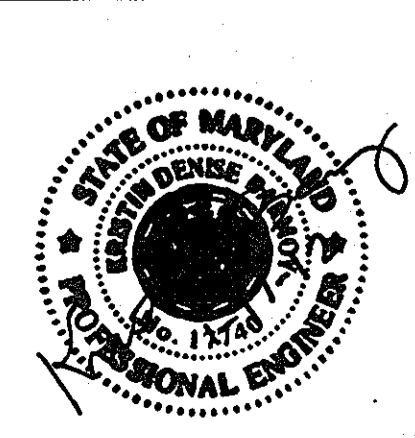
Mark A. Gyle
DIRECTOR DATE

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17740, EXPIRATION DATE: 4/01/2012.

Kristin D. Barmoy
KRISTIN D. BARMOY, P.E.

OWNER:
TROY HILL CORPORATE CENTER III, LLC
C/O CUSHMAN & WAKEFIELD
500 EAST PRATT STREET
SUITE 500
BALTIMORE, MD 21201
ATTN: ADRIENNE LEE
(410) 685-9595



SFM CONSULTANTS, LLC
ENGINEERING, SURVEYING, LAND PLANNING
(A MFCM ENTERPRISES COMPANY)
249 FAIRMOUNT AVENUE SUITE 100 BALTIMORE, MD 21206
229 EAST MAIN STREET SUITE B WESTMINSTER, MD 21157
PH: 410-876-4112 FAX: 410-876-8273

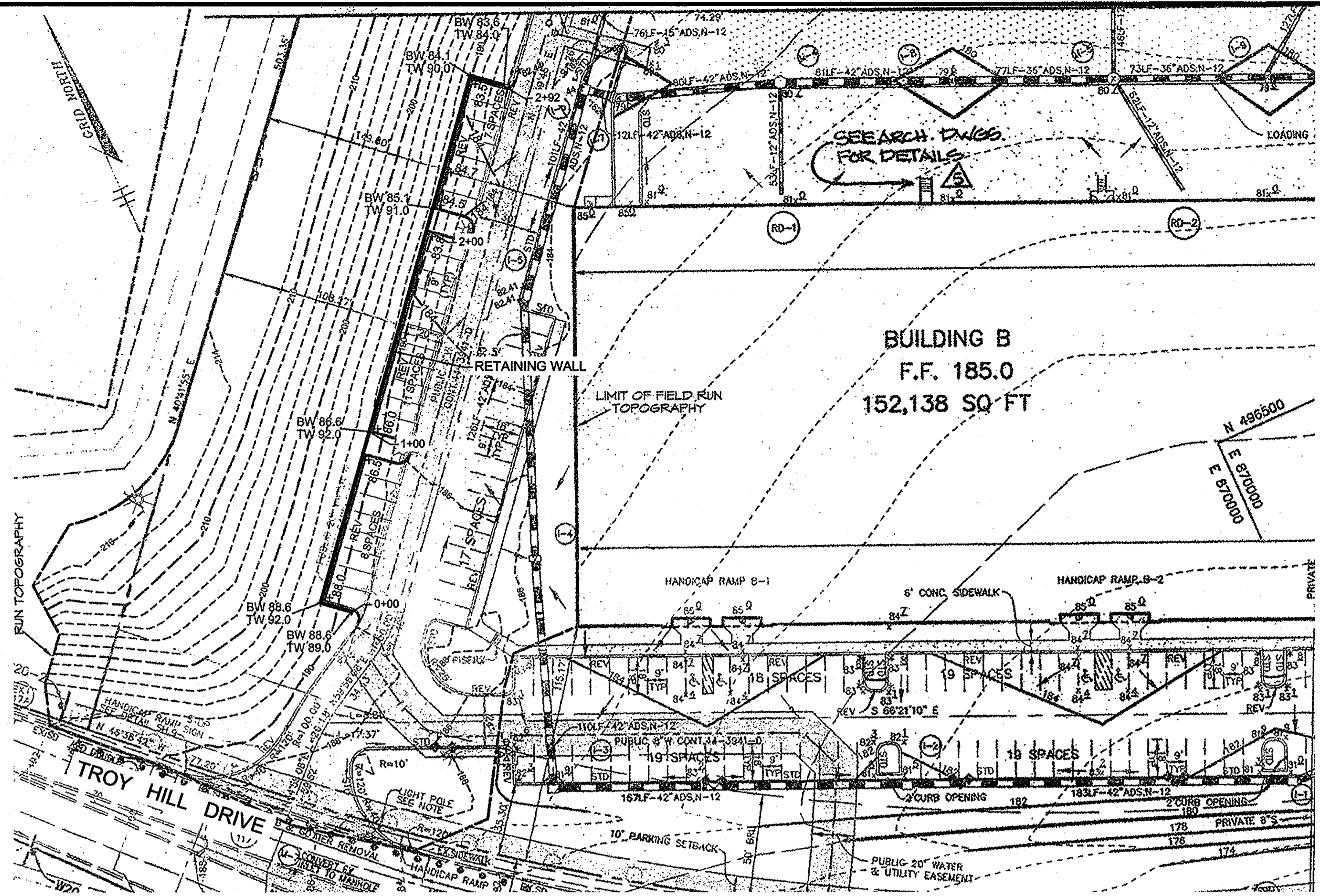
REVISIONS:
6 1-10-12 ADDED SHEET FOR SWM DETAILS

SCALE AS SHOWN

WATER QUALITY FACILITY FOR ADDITIONAL PARKING AREAS
PARCEL A-25
A RESUBDIVISION OF PARCEL A-14
TROY HILL CORPORATE CENTER
PARCELS A-23, A-24 AND A-25
LOCATED ON TROY HILL DRIVE
FIRST ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
PLAT 14619

DRAWN BY DAB
CHECKED BY KDB
DATE 10-25-2011
SHEET NO. 13 OF 14
PROJECT NO. 20100687

SDP-01-82



WALL LOCATION PLAN
1" = 20'

SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

- 1.01 Description**
A. Work shall consist of furnishing and construction of a Modular 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 - color may be specified by the Owner;
 face finish - sculptured rock face in angular tri-planer 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.
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 18" (W) x 12" (D) minimum;
 unit weight - 75 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: (if applicable)
 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 (if applicable)**
A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protected 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	0-40

Plasticity Index (PI) <10 and Liquid Limit <35 per ASTM D-4318.
B. 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**
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. Rubber fired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
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.

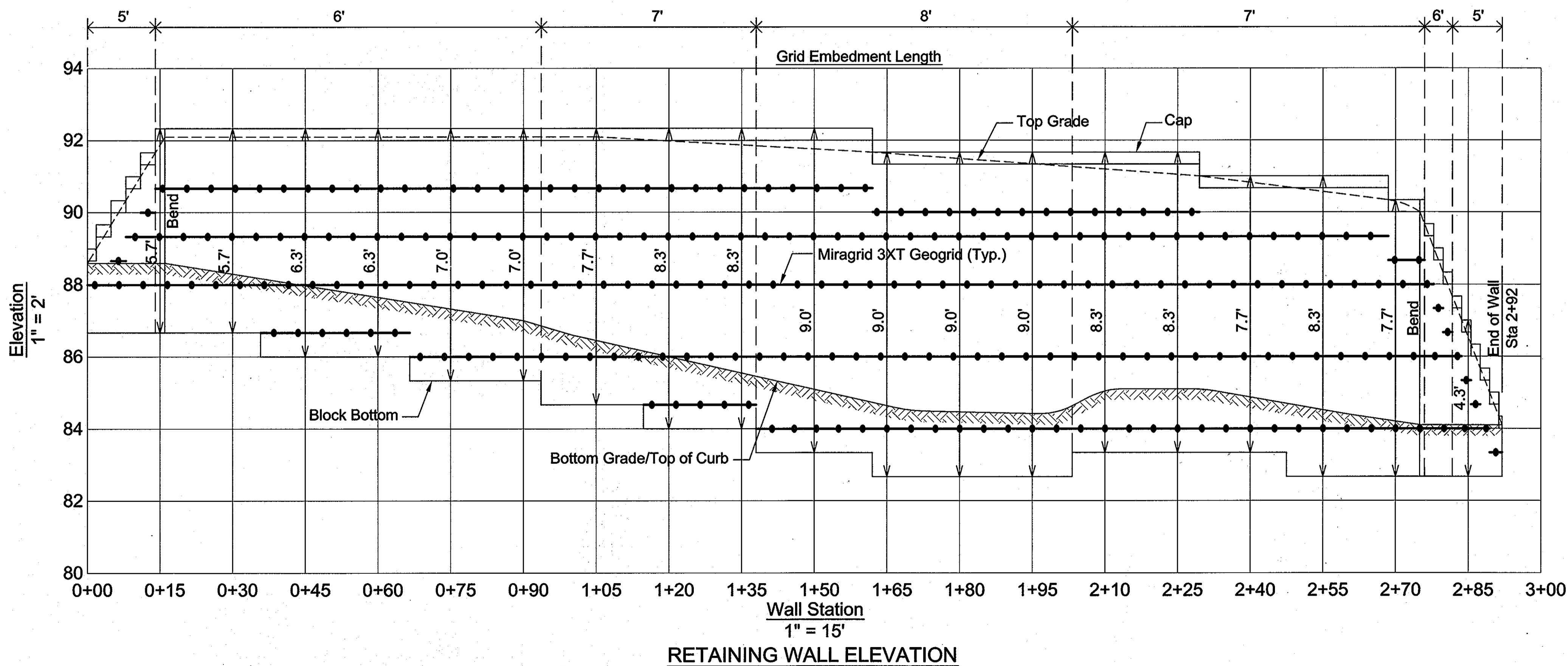
- 3.04 Structural Geogrid Installation**
A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
C. The 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.

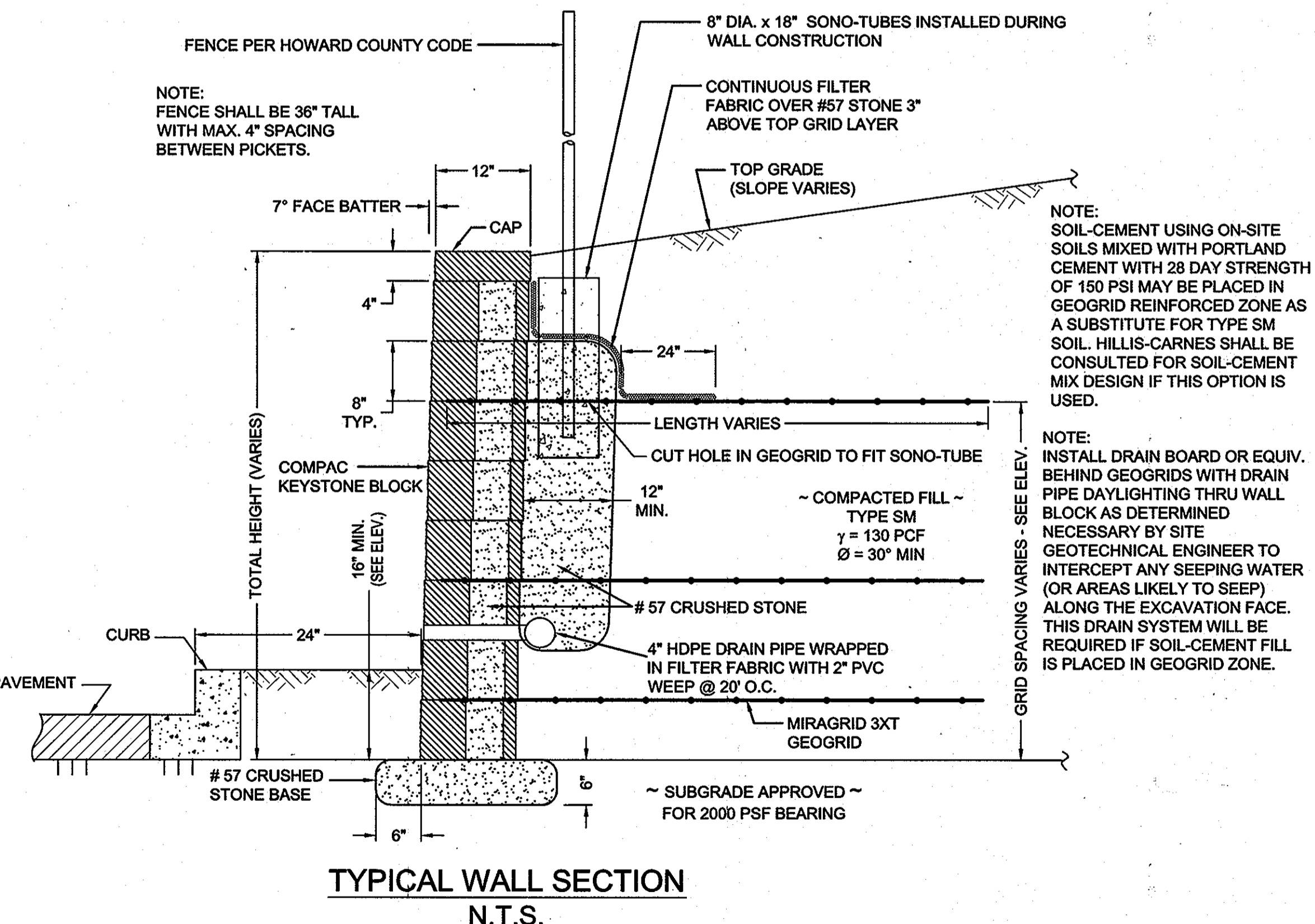
- 3.05 Reinforced Backfill Placement**
A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction 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 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.
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 fired 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 wall face. The Contractor shall not allow surface runoff 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.



RETAINING WALL ELEVATION
1" = 15'



TYPICAL WALL SECTION
N.T.S.

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

RETAINING WALL CONSTRUCTION DETAILS
C/O CUSHMAN & WAKEFIELD
500 EAST PRATT STREET SUITE 500
BALTIMORE, MD 21201
ATTN: ADRIENNE LEE
(410) 685-9585

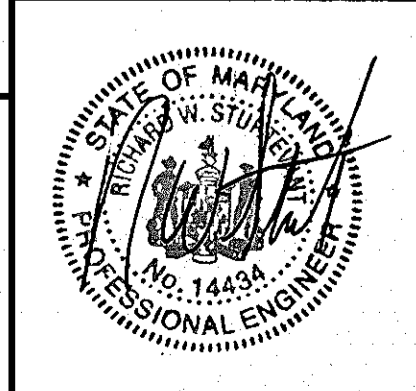
REV. NO.	DATE	DESCRIPTION
#6	01-10-12	ADDED SHEET FOR RETAINING WALL

OWNER:
TROY HILL CORPORATE CENTER III, LLC
C/O CUSHMAN & WAKEFIELD
500 EAST PRATT STREET SUITE 500
BALTIMORE, MD 21201
ATTN: ADRIENNE LEE
(410) 685-9585

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chad Edmondson
Chief, Development Engineering Division
Kevin Schuler
Chief, Division of Land Development
Frank L. Goyette
Director

Date: 9-12-13
Date: 9-13-13
Date: 9/13/12

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE PLANS 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. 14433, EXPIRATION DATE: 05/13/13.



DESIGNED BY: HM
 DRAWN BY: HM
 PROJECT NO: 11216-Z
 DATE: 12/06/11
 SCALE: AS SHOWN
 DRAWING NO: 14 OF 14