

GENERAL NOTES

- THE SUBJECT PROPERTIES ARE ZONED M-2 PER THE COMPREHENSIVE ZONING PLAN 02/02/004 AND THE COMP LITE ZONING AMENDMENTS DATED 7/28/06.
- 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 CONSTRUCTION INSPECTION DIVISION AT 410-513-1880 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 AND RECEIVE CONFORMATION THAT ALL UTILITIES HAVE BEEN MARKED BEFORE PROCEEDING WITH SITE WORK.
- ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- THE CONTOURS SHOWN HEREON HAVE BEEN TAKEN FROM FIELD RUN TOPOGRAPHIC SURVEYS AT 2' INTERVAL, PREPARED BY BENCHMARK ENGINEERING INC. DATED 12/06.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NOS. 48AB AND 47F5 WERE USED FOR THIS PROJECT.
- BOUNDARY IS BASED ON BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING INC. PERFORMED ON OR ABOUT 12/06.
- WATER AND SEWER FOR THIS SUBDIVISION IS PUBLIC AND LOCATED WITHIN THE MIDDLE PATUXENT DRAINAGE AREA. SEWER AND WATER CONTRACT NO. 558-D-W AND 234 W&S.
- THERE ARE NO WETLANDS OR FLOODPLAIN WITHIN THE AREA OF THIS PROPERTY.
- EXISTING UTILITIES WERE LOCATED FROM RECORD DRAWINGS AND FIELD RUN SURVEY.
- UNLESS NOTED AS "PRIVATE" ALL EASEMENTS ARE PUBLIC.
- CONTRACTOR SHALL ADJUST ALL UTILITIES, RIM ELEVATIONS AND INVERT ELEVATIONS AS NEEDED TO MATCH THIS PLAN.
- 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.
- 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 F.V., THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEPARTMENT OF PUBLIC WORKS DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$1,970.00.
- THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BECAUSE IT IS PART OF A PLANNED BUSINESS PARK GREATER THAN 75 ACRES THAT WAS RECORDED PRIOR TO DECEMBER 31, 1992.
- STORMWATER MANAGEMENT QUANTITY CONTROL FOR THIS PARCEL IS PROVIDED BY AN UNDER GROUND EXTENDED DETENTION FACILITY. WATER QUALITY IS PROVIDED BY ~~STORMWATER~~ ~~STORMWATER~~ AND CONSTRUCTED UNDER THIS SDP. THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP DATED MAY, 2007.
- THERE ARE NO 25% SLOPES OR GREATER AS DEFINED WITHIN THE SUBDIVISION REGULATION ON THIS SITE.
- ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING PUBLIC ROADS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.

SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA:	16.56 AC.±
B.) AREA OF PLAN SUBMISSION:	16.56 AC.±
C.) LIMIT OF DISTURBANCE AREA:	9.78 AC.±
D.) PRESENT ZONING:	M-2
E.) PROPOSED USES FOR SITE AND STRUCTURES:	OFFICE/WAREHOUSE BUILDING
F.) SQUARE FOOT AREA:	FLOOR AREAS
EXISTING MAIN OFFICE	30,530 S.F.
NEW ADDITION TO MAIN OFFICE	5,582 S.F.
TOTAL MAIN OFFICE AREA	36,112 S.F.
OFFICE IN NEW WAREHOUSE	
1ST FLOOR	2,515 S.F.
2ND FLOOR	2,515 S.F.
TOTAL OFFICE SPACE:	41,142 S.F.
EXISTING WAREHOUSE	189,034 S.F.
NEW WAREHOUSE (NOT INCLUDING TRUCK LOADING)	177,836 S.F.
EXISTING MEZZANINE USED FOR LIGHT STORAGE, CONVEYOR MERGE PLATFORM AND AIR HANDLING UNITS	18,023 S.F.
TOTAL WAREHOUSE	364,893 S.F.
G.) NUMBER OF PARKING SPACES REQUIRED BY HOWARD COUNTY ZONING REGULATIONS (PER SECTION 133.D OF THE ZONING REGULATIONS AT:	
1.) OFFICE:	41,142 S.F. @ 3.3/1000 = 136 SPACES
WAREHOUSE/MEZZANINE/MAINTENANCE:	364,893 S.F. @ 0.5/1000 = 183 SPACES
TOTAL:	319 SPACES
H.) NUMBER OF PARKING SPACES PROVIDED ON SITE: (INCLUDING 8 HANDICAPPED PARKING SPACES):	
TOTAL:	319
I.) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE:	N/A
J.) BUILDING COVERAGE OF SITE:	403,128 S.F. 56%
K.) APPLICABLE DPZ FILE REFERENCES:	SDP-73-80 F-73-037
L.) ANY OTHER INFORMATION WHICH MAY BE RELEVANT:	N/A
M.) NO CHANGE IN USE IS PERMITTED UNLESS IT COMPLIES WITH THE PARKING REQUIREMENTS OF ZONING SECTION 133 AND IS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.	

Summary of General Storage Requirement Drainage Area #1 Redevelopment area

Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	20% of 1.38 ac of impervious	1.38 ac of impervious treated within an existing stormceptor.
2.	Recharge Volume (Rev)	N/A	Not Required
3.	Channel Protection Volume (Cpv)	N/A	Not Required
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not Required

Summary of General Storage Requirement Drainage Area #2A Redevelopment area

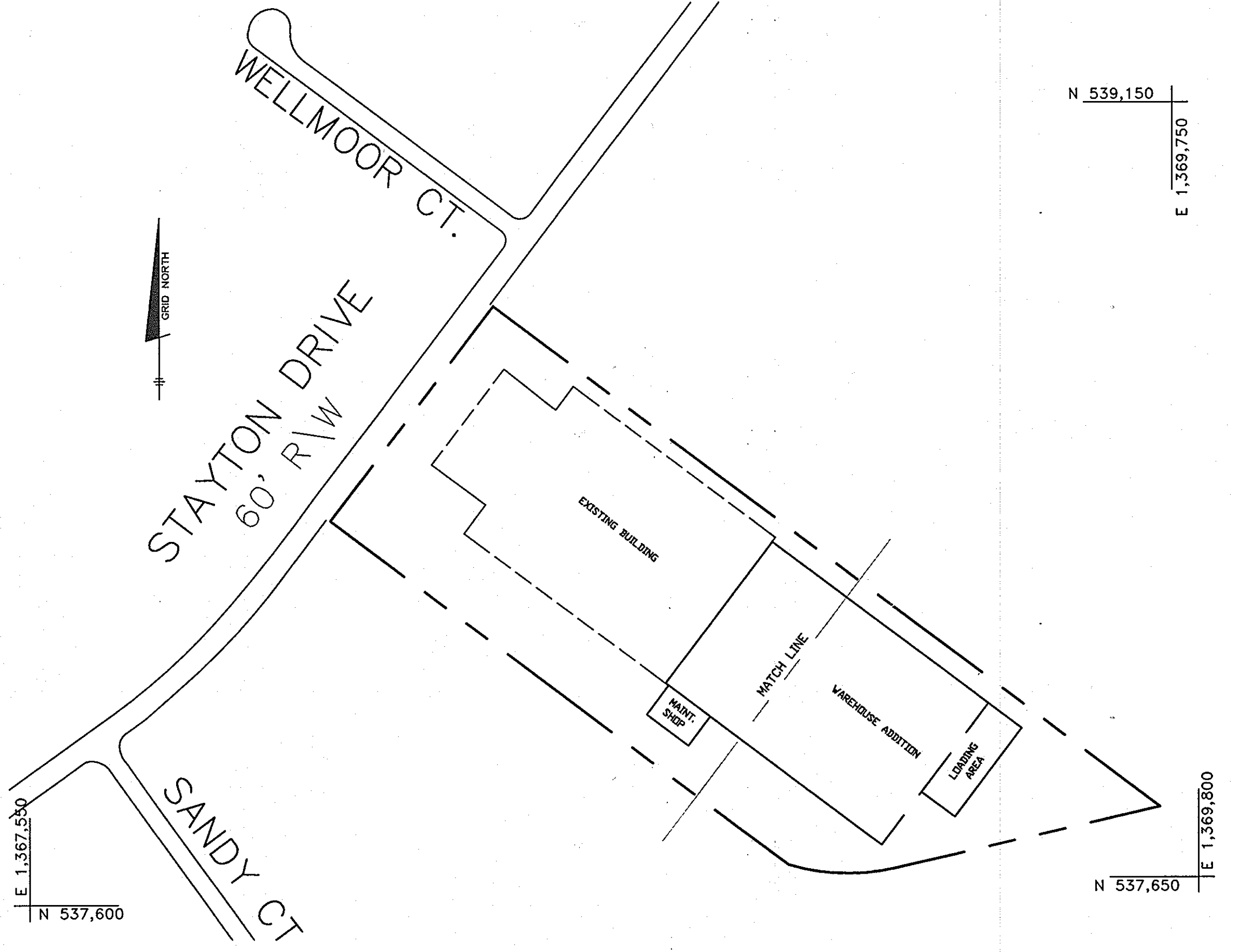
Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	20% of 1.14 ac of impervious	1.54 ac of impervious treated within stormceptor 1 & 2.
2.	Recharge Volume (Rev)	N/A	Not Required
3.	Channel Protection Volume (Cpv)	N/A	Not Required
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not Required

Summary of General Storage Requirement Drainage Area #2B New Development Area

Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	0.465 ac-ft (or 20269cf)	Provided within bay filter 1-4.
2.	Recharge Volume (Rev)	0.25 ac-ft (or 3.15 acres)	Provided within stone chamber surrounding underground facility.
3.	Channel Protection Volume (Cpv)	0.68 ac-ft	Provided within an underground extended detention facility.
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not Required

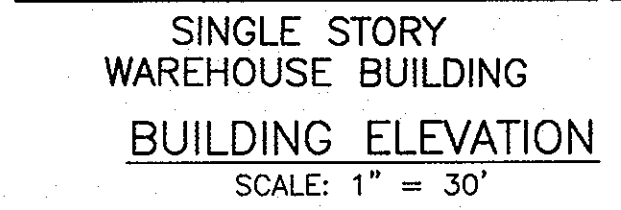
Summary of General Storage Requirement Drainage Area #3

Step	Requirement	Volume Required (ac-ft)	Notes
1.	Water Quality Volume (WQv)	0.00 ac-ft	No impervious is located within this drainage area.
2.	Recharge Volume (Rev)	0.00	No impervious is located within this drainage area.
3.	Channel Protection Volume (Cpv)	N/A	Run-off under developed conditions less than existing because of a reduction in area.
4.	Overbank Flood Protection Volume (Op)	N/A	Not required
5.	Extreme Flood Volume (Qf)	N/A	Not Required



PLAN
SCALE: 1" = 200'

NOTE: TRUCKS SHALL ONLY BE PARKED WITHIN AREAS OF THE PARKING LOT THAT WILL NOT IMPEDE ACCESS TO DESIGNATED PARKING SPACES FOR CARS AND SMALLER VEHICLES.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 J.R. DATE 7/25/08
 CINDY HANCOCK DATE 8/18/08
 DIRECTOR DATE 8/24/08

SITE DEVELOPMENT PLAN

BALTIMORE WASHINGTON INDUSTRIAL PARK

BLOCK C PARCEL C

REPUBLIC NATIONAL DISTRIBUTING CO.

6th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

BENCH MARKS NAD '83

HO. CO. 48AB	ELEV. 225.700
STAMPED DISC ON CONCRETE MONUMENT LOCATED ON THE SW CORNER OF ROUTE 1 AND GUILFORD ROAD.	
N 538384.453	E 1366415.81
HO. CO. 47F5	ELEV. 235.045
STAMPED DISC ON CONCRETE MONUMENT LOCATED IN THE ISLE BETWEEN RT. 32 AND SERV. RD. EAST OF RT. 1	
N 535985.024	E 1365653.51

ADC MAP 20 GRID F-6
VICINITY MAP
 SCALE: 1"=200'

LEGEND

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---999---
PROPOSED CONTOURS	---999---
EXISTING WOODS LINE	~~~~~
PROPOSED WOODS LINE	~~~~~
EXISTING STRUCTURE	[]
PROPOSED STRUCTURE	[]
SOIL BORING	B-1
LIMIT OF DISTURBANCE	--- ---

SHEET INDEX

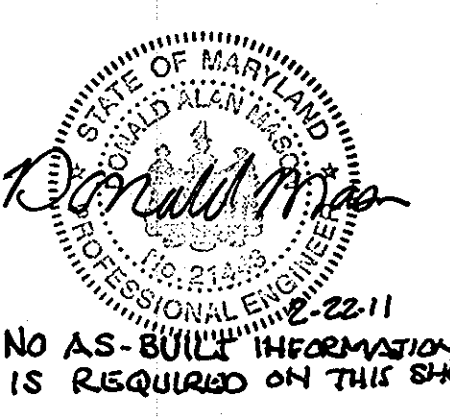
NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT AND GRADING PLAN
3	SEDIMENT AND EROSION CONTROL PLAN
4	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
5	STORMDRAIN DRAINAGE AREA MAP AND SOILS MAP
6	STORM DRAIN PROFILES AND BORING LOGS
7	UNDERGROUND SWM FACILITY PROFILES NOTES AND DETAILS
8	WATER QUALITY FACILITY, NOTES AND DETAILS
9	PERIMETER SAND FILTER DETAILS
10	LANDSCAPE PLAN NOTES AND DETAILS
11	

SOILS LEGEND

MAP SYMBOL	SOIL GROUP	SOIL TYPE
BsB2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BcC2	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
CiC3	B	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
CmB2	B	CHILLUM SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
*Gp	A	GRAVEL PITS AND QUARRIES
SD2	B	SASSAFRAS GRAVELLY SAND LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED

* INDICATES HYDRIC SOILS
 TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 34

SWM #1	Water Surface Elevation in Facility	Pre-developed Discharge (cfs)	Post-developed Discharge (cfs)
1 - Year Storm	243.3	9.03	0.39
10 - Year Storm	244.7	25.81	21.93
100 - Year Storm	245.8		46.60



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: 12-21-12

NO A.S.-BUILT INFORMATION IS REQUIRED ON THIS SHEET

ADDRESS CHART

PARCEL #	STREET ADDRESS
PARCEL C	8201 STAYTON DRIVE

PERMIT INFORMATION CHART

SUBDIVISION NAME:	SECTION/AREA:	LOT/PARCEL #
BALTIMORE WASHINGTON INDUSTRIAL PARK	BLOCK 'C'	PARCEL 'C'
PLAT No. PB 24,P. 94	GRID No. 1	ZONE M-2
TAX MAP 48	ELECTION DISTRICT 6th	CENSUS TRACT 6069.01
WATER CODE B02	SEWER CODE 4201900	

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 www.bel-civilengineering.com

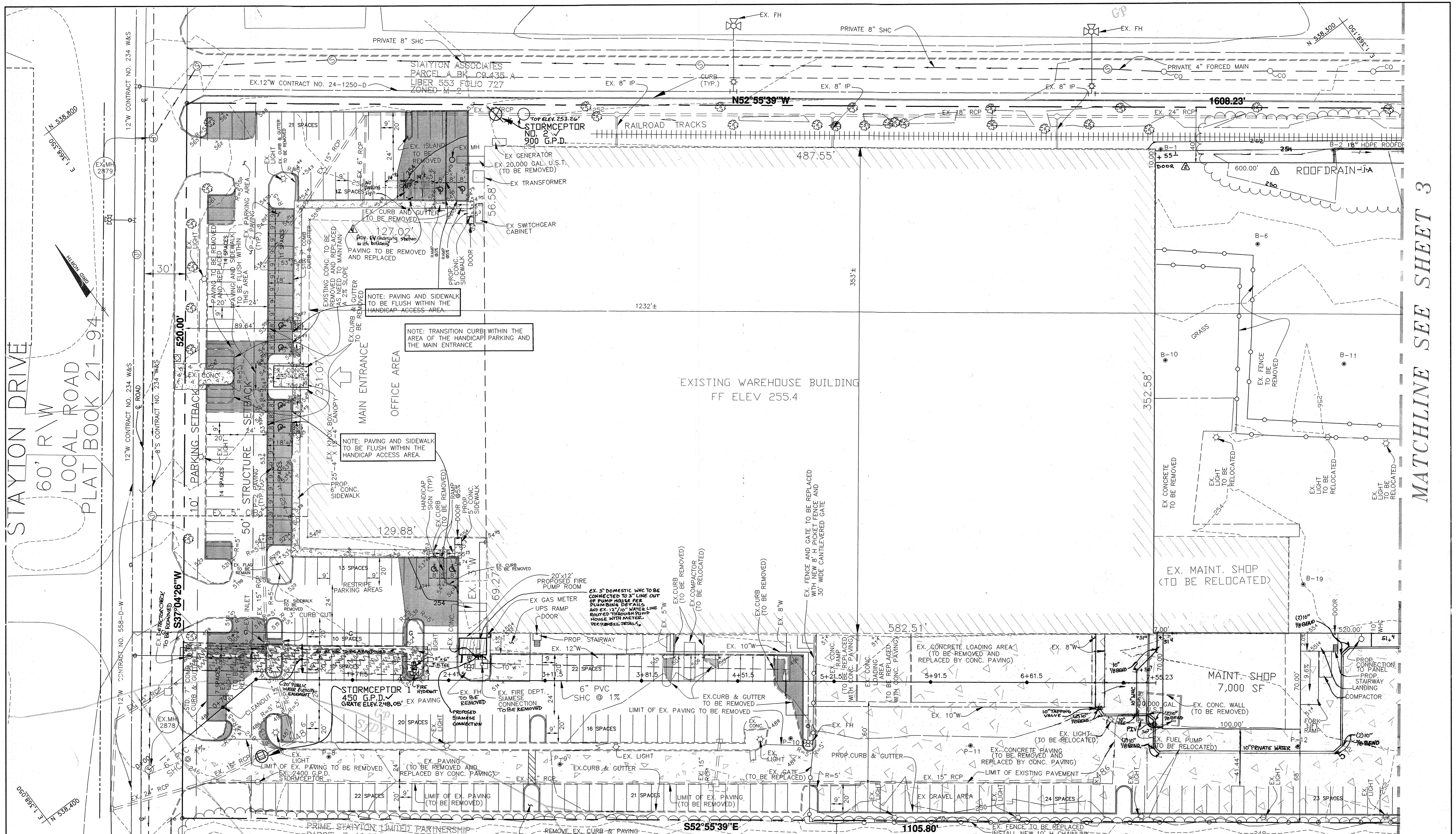
OWNER: 8201 ASSOCIATES, LLC
 REPUBLIC NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK
 BLOCK C, PARCEL C
 REPUBLIC NATIONAL DISTRIBUTING CO.
 WAREHOUSE ADDITION

LOCATION: TAX MAP 48 - GRID 1
 PARCEL 152 - PB24,P94
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: TITLE SHEET
 DATE: JUNE 2007
 AUGUST 2008 PROJECT NO. 1982
 SCALE: AS SHOWN DRAWING 1 OF 11
 Design: DAM/HPP Draft: EDD Check: DAM

AS-BUILT
 SDP-07-130



STAYTON DRIVE
60' R/W
LOCAL ROAD
PLAT BOOK 21-94

MATCHLINE SEE SHEET 3

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 8/16/08

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/15/08

 DIRECTOR
 DATE: 8/20/08

NOTES
 FIRE HYDRANT TO BE REMOVED
 WILL BE RETURNED TO DEPARTMENT
 OF PUBLIC WORKS
 (SEE) Restripe parking spaces to
 1-10-23 add EV charging station
 AS-BUILT 2-28-08
 8-19-09 REVISE PUBLIC PRIVATE WATER
 6-2-09 ADDED SPOT ELEVATION AT BACK OF PROPOSED ADDITION FOR ACCESS
 4-8-09 REVISE GRADING @ BACK OF PROP. ADDITION / CORRECTED SPOT ELEV.
 NO. DATE REVISION

LEGEND
 AbC1 EXISTING STRUCTURE
 PROPOSED STRUCTURE
 SOL BORING
 LIMIT OF DISTURBANCE
 P-2 PAVING (TYP.)
 CONCRETE PAVEMENT

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

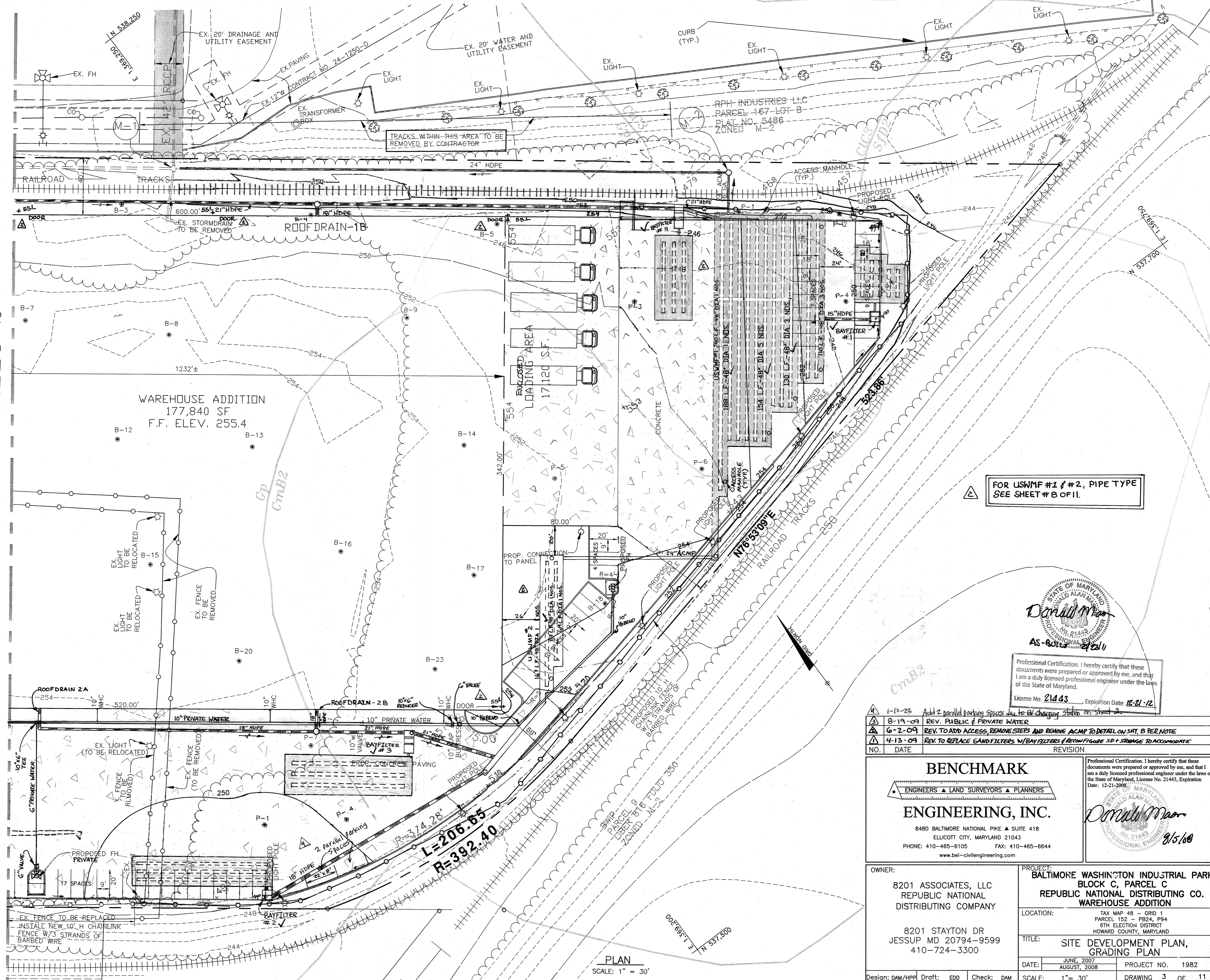
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21443, Expiration Date: 12-31-2008.

 8/5/08

OWNER:
 8201 ASSOCIATES, LLC
 REPUBLICAN NATIONAL
 DISTRIBUTING COMPANY
 8201 STAYTON DR
 JESSUP MD 20794-9599
 410-724-3300

PROJECT:
 BALTIMORE WASHINGTON INDUSTRIAL PARK
 BLOCK C, PARCEL C
 REPUBLICAN NATIONAL DISTRIBUTING CO.
 WAREHOUSE ADDITION
 LOCATION:
 TAX MAP 48 - GRID
 PARCEL 152 - PB24, P94
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 TITLE:
 SITE DEVELOPMENT PLAN,
 GRADING PLAN
 DATE:
 JUNE, 2007
 AUGUST, 2008
 PROJECT NO. 1982
 SCALE: 1" = 30'
 DRAWING 2 OF 11
 Design: DAM/HPP Draft: EDD Check: DAM
 SDP-07-130

MATCHLINE SEE SHEET 2



NOTE: TRUCKS SHALL ONLY BE PARKED WITHIN AREAS OF THE PARKING LOT THAT WILL NOT IMPEDE ACCESS TO DESIGNATED PARKING SPACES FOR CARS AND SMALLER VEHICLES.

LEGEND

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---999---
PROPOSED CONTOURS	---999---
EXISTING WOODS LINE	~~~~~
PROPOSED WOODS LINE	~~~~~
PROPOSED FENCE	—○—
EXISTING STRUCTURE	▭
PROPOSED STRUCTURE	▭
SOIL BORING	B-1 P-1
LIMIT OF DISTURBANCE	---
P-2 PAVING (TYP.)	▨
CONCRETE PAVEMENT	▨
UTILITY EASEMENT	▨
PROPOSED LIGHTING	☀

FOR USNMF #1 & #2, PIPE TYPE SEE SHEET #8 OF 11.



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: 12-21-12

NO.	DATE	REVISION
1-10-03		Add 2 parallel parking spaces due to EV charging station on Sheet 2.
8-19-09		REV. PUBLIC & PRIVATE WATER
6-2-09		REV. TO ADD ACCESS, REMOVE STEPS AND REMOVE ACMP TO DETAIL ON SHT. B PER NOTE
4-13-09		REV. TO REPLACE SAND FILTERS W/BAFFLE FILTERS & RECONFIGURE SDP STORAGE TO ACCOMMODATE

BENCHMARK ENGINEERS, LAND SURVEYORS & PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 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. 21443, Expiration Date: 12-21-2008.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

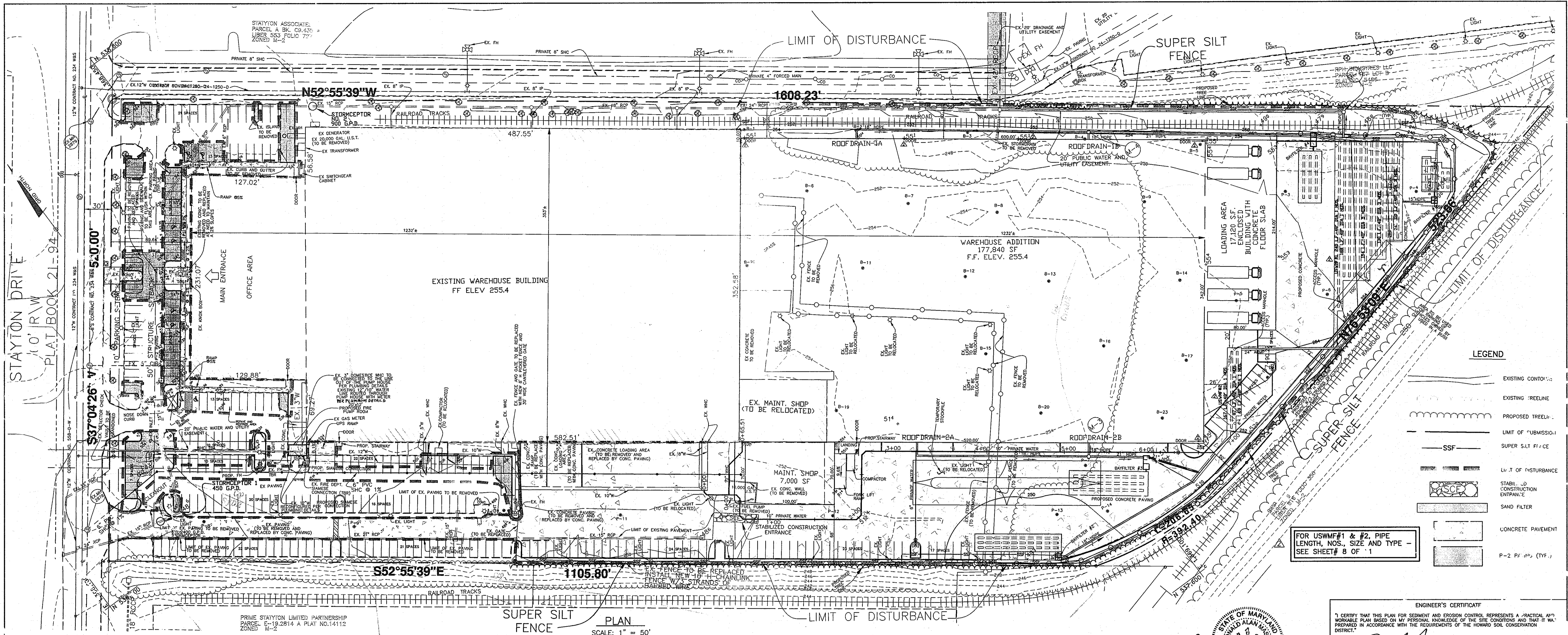
John P. ... 8/2/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P. DATE

Cindy ... 8/18/08
 CHIEF, DIVISION OF LAND DEVELOPMENT C.H. DATE

David ... 8/20/08
 DIRECTOR DATE

OWNER: 8201 ASSOCIATES, LLC REPUBLIC NATIONAL DISTRIBUTING COMPANY	PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK BLOCK C, PARCEL C REPUBLIC NATIONAL DISTRIBUTING CO. WAREHOUSE ADDITION
8201 STAYTON DR JESSUP MD 20794-9599 410-724-3300	LOCATION: TAX MAP 48 - GRID 1 PARCEL 152 - PB24, P94 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: JUNE, 2007 AUGUST, 2008	TITLE: SITE DEVELOPMENT PLAN, GRADING PLAN
Design: DAM/HPP Draft: EDD Check: DAM	PROJECT NO. 1982 SCALE: 1" = 30' DRAWING 3 OF 11

PLAN
SCALE: 1" = 30'



STAYTON DRIVE
10' R/W
PLAT BOOK 21-94

PRIME STAYTON LIMITED PARTNERSHIP
PARCEL # 19-2814 A PLAT NO. 14112
ZONED M-2

FOR USWM#1 & #2, PIPE LENGTH, NOS., SIZE AND TYPE - SEE SHEET# 8 OF 1

LEGEND

- EXISTING CONTORLINE
- EXISTING FREELINE
- PROPOSED TREELINE
- LIMIT OF SUBMISSION
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- STABILIZED CONSTRUCTION ENTRANCE
- SAND FILTER
- CONCRETE PAVEMENT
- P-2 PAVEMENT (TYPE)

PLAN
SCALE: 1" = 50'



NO AS-BUILT INFORMATION IS REQUIRED ON THIS 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. 21443 Expiration Date: 12/21/12

ENGINEER'S CERTIFICATE

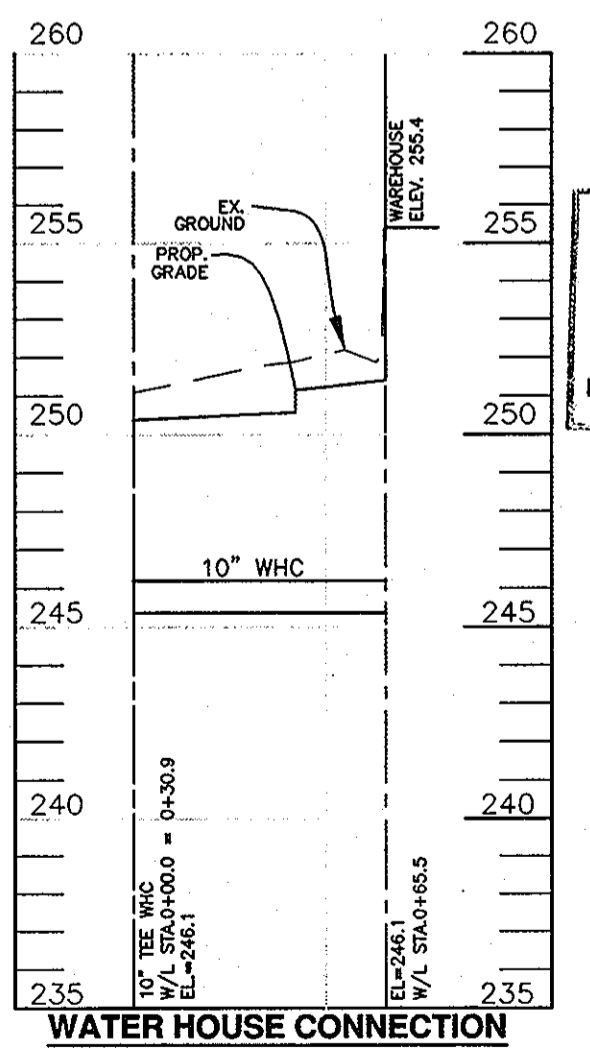
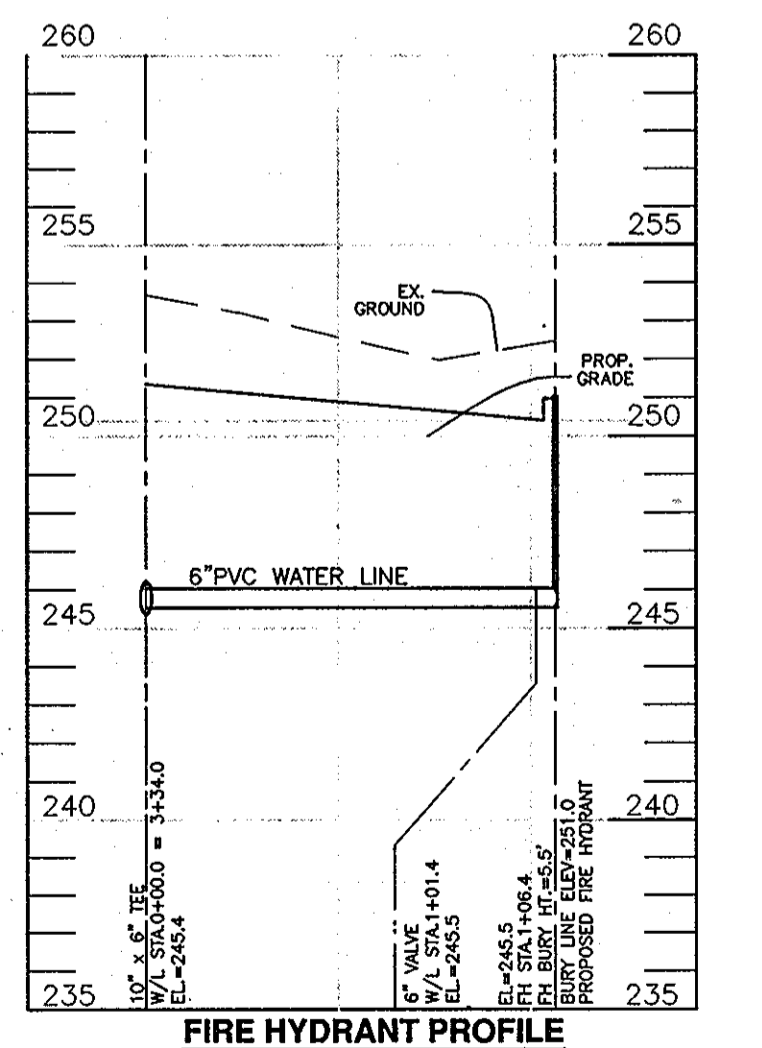
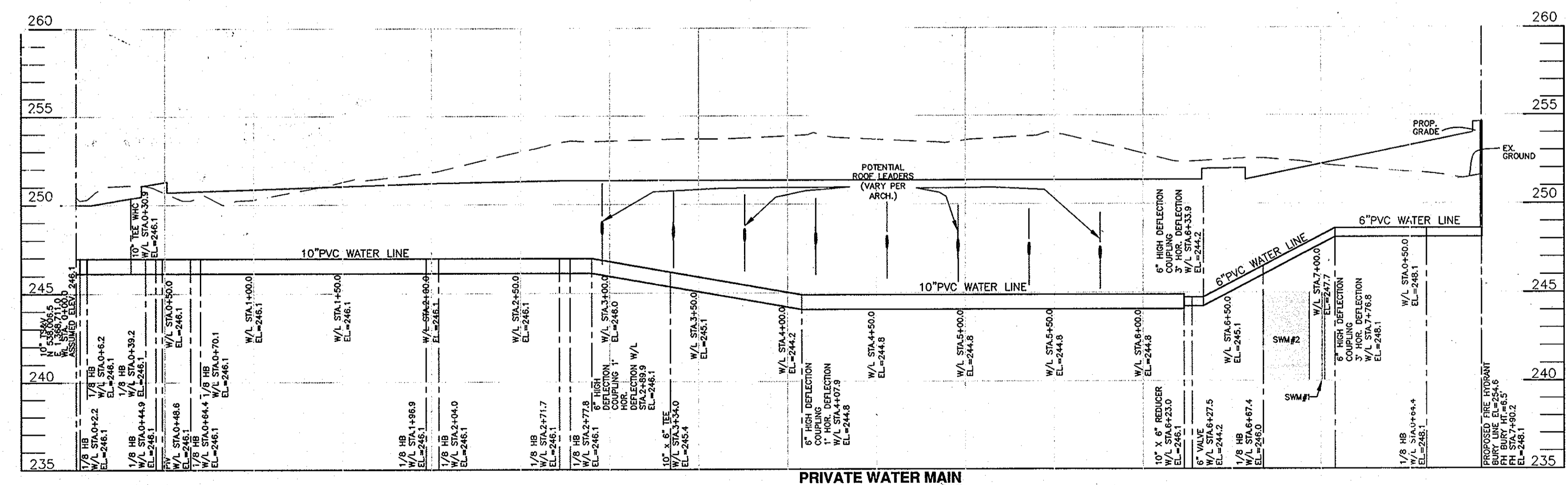
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

ENGINEER - BRIAN F. CLARY, P.E. #28559 DATE 8/21/09

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN 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 TO THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

8201 ASSOCIATES, LLC DATE 8/20/09



NO.	DATE	REVISION
1	7-00	REVISED PRIVATE MAIN, FH AND WHC AND PROVIDED ADDITIONAL PROFILES
2	5-11-09	REV. TO ADD ACCESS, REMOVE STEPS AND REMOVED ACMP TO DETAIL ON SHEET# 8 PER NOTE
3	4-13-09	REV. TO REPLACE SANDFILTERS W/BAYFILTERS & RECONFIGURE SD+STORAGE TO ACCOMMODATE

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bei-civilengineering.com

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

9/16/09 DATE

11/24/09 DATE

9/25/09 DATE

NOTES:
FIRE HYDRANT TO BE REMOVED WILL BE RETURNED TO DEPARTMENT OF PUBLIC WORKS.

NOTE: SILT FENCE IS TO BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR

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

9/16/09

THE PURPOSE OF THIS REVISION IS TO REVISE THE PRIVATE WATER LINES AND FIRE HYDRANTS. THIS SHEET SHALL REPLACE THE PREVIOUS SHEET 4 OF 11 IN FULL.

SOILS LEGEND

MAP SYMBOL	SOIL GROUP	SOIL TYPE
Beb2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
Bec2	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
Cic3	B	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
Cmb2	B	CHILLUM SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
*Gp	A	GRAVEL PITS AND QUARRIES
SD2	B	SASSAFRAS GRAVELLY SAND LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED

* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 34

OWNER: 8201 ASSOCIATES, LLC
REPUBLICAN NATIONAL DISTRIBUTING COMPANY

PROJECT: REVISED SITE DEVELOPMENT PLAN
BALTIMORE WASHINGTON INDUSTRIAL PARK
BLOCK C, PARCEL C
REPUBLICAN NATIONAL DISTRIBUTING CO.
WAREHOUSE ADDITION

LOCATION: PARCEL # 152 - PR24 - 294
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT AND EROSION CONTROL PLAN AND WHC PROFILE

DATE: JUNE 2007
MARCH 2008

DESIGN: DAM
DRAFT: EDD
CHECK: DAM

SCALE: 1" = 50'

AS-BUILT

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (511-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, 8 1/2 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOW MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOI (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
1. SITE ANALYSIS:
TOTAL AREA OF SITE (THIS SUBMISSION) 16.56 ACRES
AREA DISTURBED 9.78 ACRES
AREA TO BE ROOFED OR PAVED 9.36 ACRES
AREA TO BE VEGETATIVELY STABILIZED .42 ACRES
TOTAL CUT 5.965 CY
TOTAL FILL 13.203 CY
OFFSITE WASTE/BORROW AREA LOCATION *
BORROW TO BE TAKEN FROM A SITE WITH AN APPROVED SEDIMENT CONTROL PLAN
- 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 HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR 114" WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDED PREPARATIONS

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

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

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

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (3.07 LBS/1000 SQ FT). FOR PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITES BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOU.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (6 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

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

TOPSOIL SPECIFICATIONS

- Topsoil salvaged from the existing site may be used provided it meets that standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications – Soil to be used as topsoil must meet the following:
i. Topsoil shall be a loam, sandy loam, clay loam, silty loam, sandy clay loam, loamy sand. Other soils may be used if recommended by a geotechnical or soil scientist and approved by the appropriate authority. Regardless, topsoil shall not be a mixture of contrasting texture subsoils and structure and shall not contain rocks, cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

- For sites having disturbed areas under 5 acres:
i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section 1 – Vegetative Stabilization Methods and Materials.
ii. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
- For sites having disturbed areas over 5 acres:
i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
b. Organic content or topsoil shall be not less than 1.5 percent by weight.
d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section 1 – Vegetative Stabilization Methods and Materials.

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

Vegetative Stabilization – Section 1 – Vegetative Stabilization Methods and Materials.

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

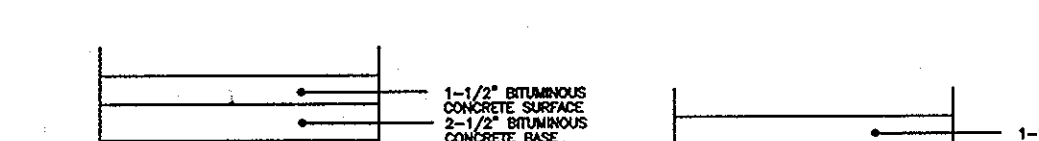
- Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
i. Composted Sludge Material for use as a soil conditioner for sites having distributed areas over 5 acres shall be tested to prescribe amendments and for sites having distributed areas under 5 acres shall be applied to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

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

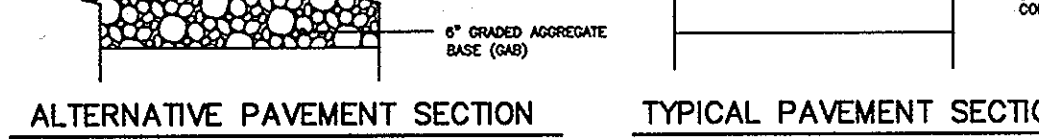
SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION
- DAY 1 – 1) OBTAIN GRADING PERMIT.
DAY 2-6 – 2) INSTALL SEDIMENT CONTROLS THAT ARE NOTED TO BE INSTALLED UNDER THIS SDP.
DAY 7-21 – 3) EXCAVATE FOR AND CONSTRUCT THE UNDERGROUND STORMWATER MANAGEMENT FACILITY AND WATER QUALITY FACILITIES, FENCE SUPER SILT FENCE ALONG THE UPHILL SIDE OF THE PERIMETER SAND FILTERS TO PREVENT SEDIMENT FROM ENTERING THE FACILITIES.
DAY 22-82 – 4) EXCAVATE FOR FOUNDATION AND COMMENCE BUILDING CONSTRUCTION, COMPLETE UTILITIES AND INSTALL CURBS AND GUTTER AND PAVING WITHIN THE AREA OF THE WAREHOUSE, ADDITION.
DAY 83-85 – 5) THE GRADE AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDED NOTES.
DAY 86-96 (6) WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, BEGIN TO REMOVE AND REPLACE CURBS AND GUTTER WITHIN THE AREA OF THE EXISTING PARKING IN ORDER TO ESTABLISH THE NEW PARKING AREA. LIMIT DISTURBANCE OF THE EXISTING PARKING LOT TO ONE AREA AT A TIME TO ALLOW FOR STABILIZING THE AREA BEFORE PROCEEDING TO THE NEXT AREA.
DAY 97-100 (7) WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.

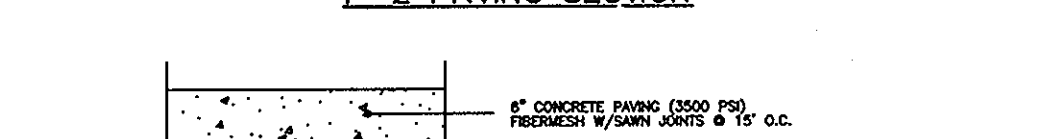
ALTERNATIVE PAVEMENT SECTION



TYPICAL PAVEMENT SECTION



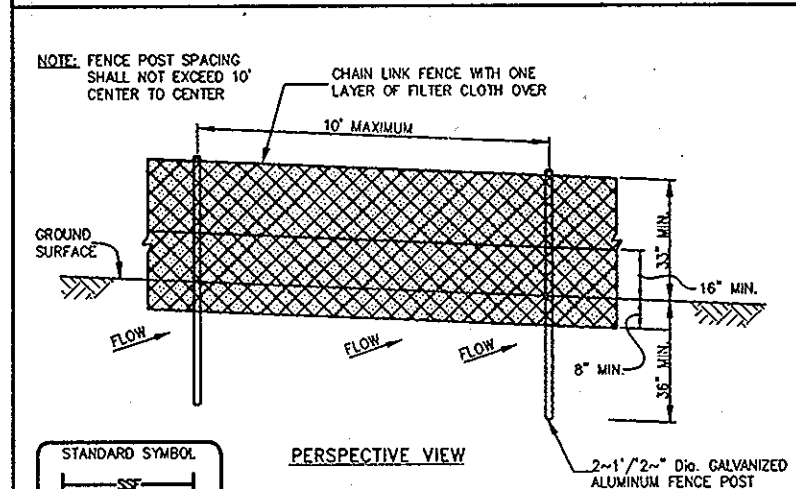
P-2 PAVING SECTION



CONCRETE PAVER SECTION



DETAIL 33 – SUPER SILT FENCE



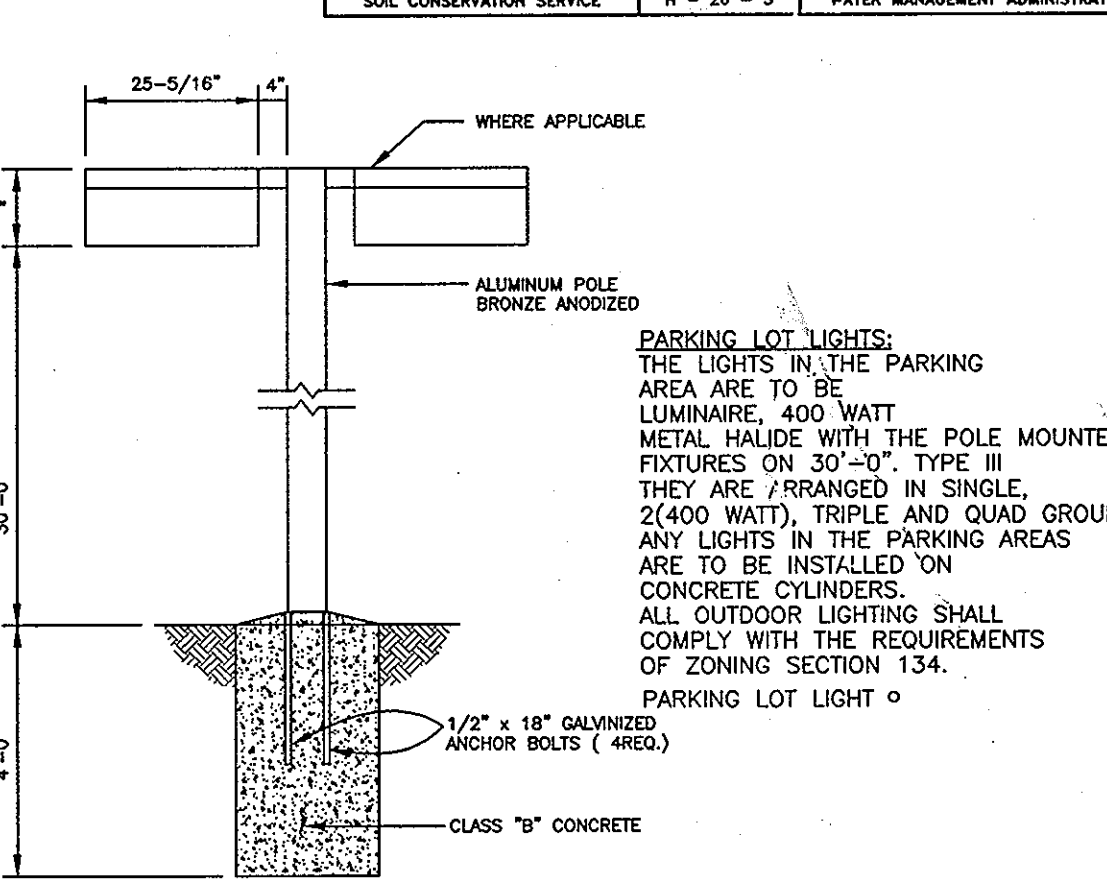
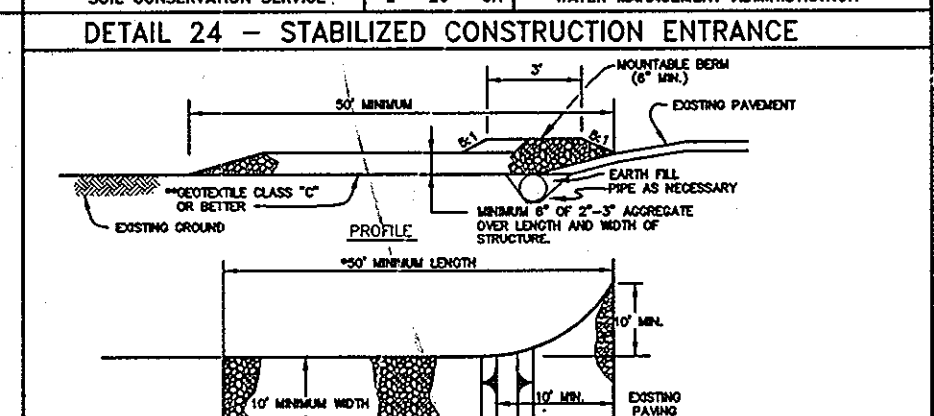
SUPER SILT FENCE

- CONSTRUCTION SPECIFICATIONS**
- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 8' length posts.
 - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, chain anchors and post caps are not required except at the ends of the fence.
 - Filter cloth shall be fastened securely to the chain link with ties spaced every 24" at the top and mid section.
 - Filter cloth shall be embedded a minimum of 8" into the ground.
 - When two sections of filter cloth abut each other, they shall be overlapped by 8" and fastened.
 - Maintenance shall be performed as needed and all buildings removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
 - Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F1:
- | | | |
|----------------------|------------------|----------------|
| Tensile Strength | 50 lbs/ft (min.) | Test: MSMT 509 |
| Tensile Modulus | 20 lb/ft (min.) | Test: MSMT 509 |
| Flow Rate | 100%/ft (min.) | Test: MSMT 522 |
| Filtering Efficiency | 75% (min.) | Test: MSMT 522 |

SUPER SILT FENCE DESIGN CRITERIA

Slope (Slopes)	Slope Length (Maximum)	Silt Fence Length (Minimum)
0 - 10%	0 - 101'	Undefined
10 - 20%	101 - 511'	200 feet
20 - 33%	511 - 311'	100 feet
33 - 50%	311 - 211'	50 feet
50% +	211 +'	25 feet

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



PARKING LOT LIGHTING DETAIL

CONCRETE FOOTING

CONCRETE CURB

CONCRETE FOUNDATION

CONCRETE SLAB

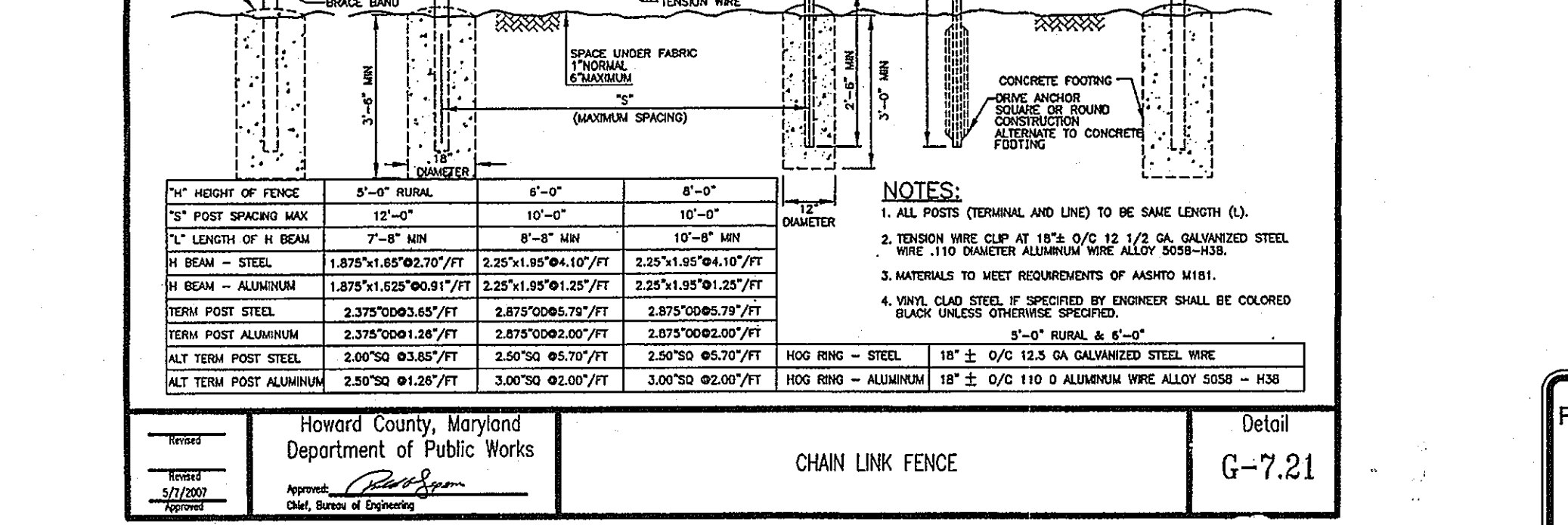
CONCRETE DRIVE ANCHOR

CONCRETE DRIVE ANCHOR

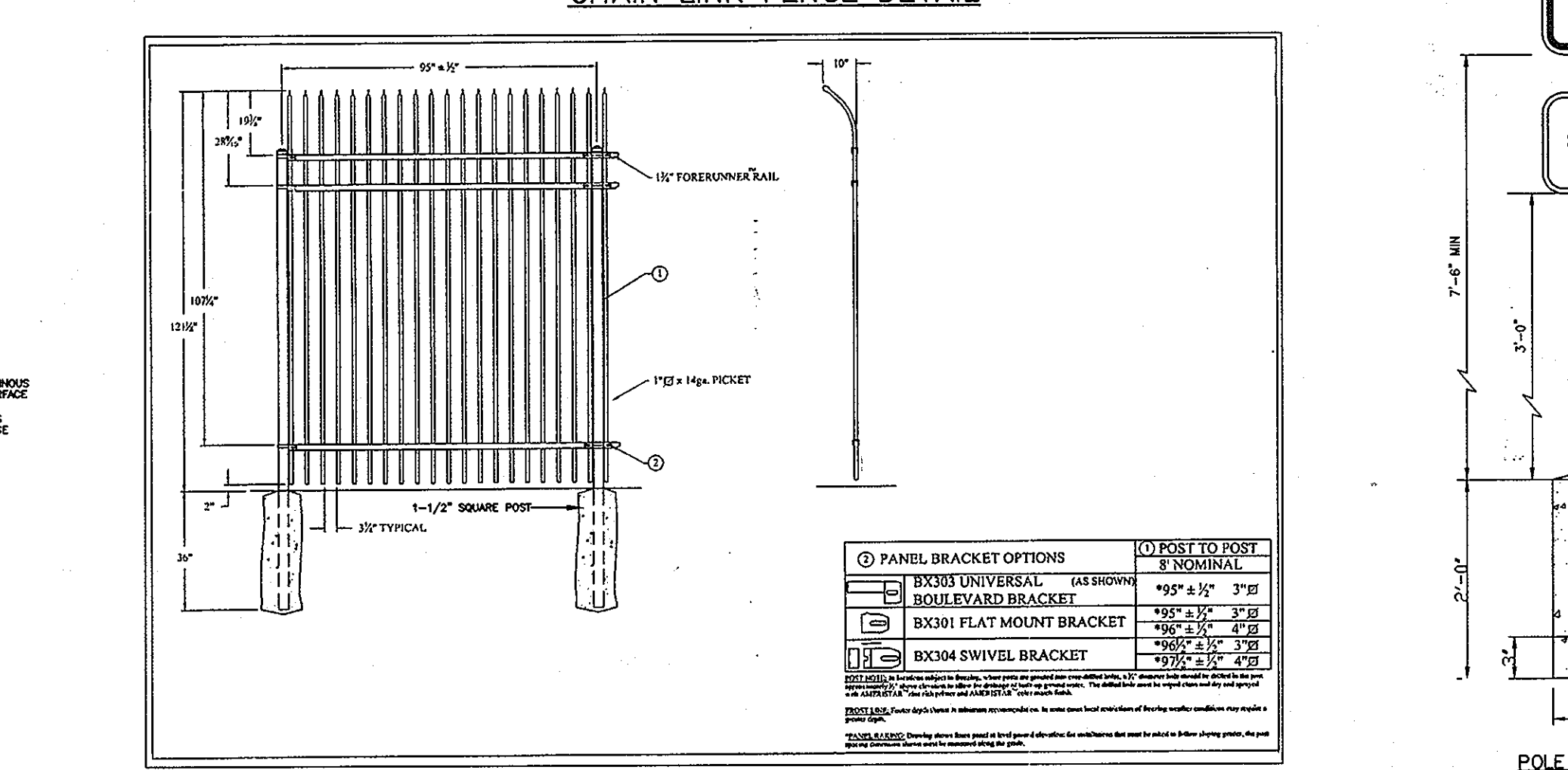
CONCRETE DRIVE ANCHOR

CONCRETE DRIVE ANCHOR

CONCRETE DRIVE ANCHOR



CHAIN LINK FENCE DETAIL

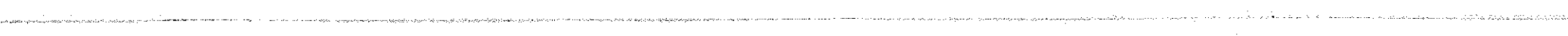


PICKET FENCE DETAIL

HANDICAP PARKING DETAILS



RESERVED PARKING



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.

- 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. Dimple bands are not considered to be watertight.
- All connection shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled on adequate number of corrugations to accommodate the bandwidth. The following pipe connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard top type band with 12-inch wide by 3/8-inch thick closed cell neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Gaskets 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.
- Helically corrugated pipe shall have either continuously welded seams or have lock seam; with internal caulking or a neoprene bead.
- Bedding – The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

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 continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portion of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Materials – 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 #20 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.

Construction – The movement of the hauling and spreading equipment over the fill shall be controlled so that the density with which the fill shall be placed will not exceed the maximum dry density of the fill as determined by the proctor test. The maximum dry density shall be achieved by a minimum of four complete passes of a tracked roller, rubber tire roller, or wheel roller, or other equipment which will provide sufficient moisture such 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, yet 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 92% maximum dry density of the fill as determined by the proctor test. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer or a registered professional engineer. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench – The cutoff trench shall be excavated into the embankment 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 minimum width of the trench shown on the plans. The depth shall be a least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill 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 core shall extend the entire length of the embankment. 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.

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material of each 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 materials used to fill completely all spaces under and adjacent to the pipe, and between pipes, shall be approved by the reviewing agency. The fill shall be placed in layers not to exceed four inches in thickness, to any part of a structure. Under no circumstances shall equipment be driven over any part of concrete structure or pipe. Backfill material shall be placed perpendicular to the outside of the pipe of under (bedding), unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure Backfill may be allowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have 100-200 psi 28 day concrete compressive strength. The allowable 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 inches (measured perpendicular to the outside of the pipe of under (bedding), over and, on the side of the pipe, it will not extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (wood boxes, etc.) to prevent flooding the pipe. When using flowable fill, all metal pipe shall be bluntened coated. 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 structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material shall be placed perpendicular to the outside of the pipe of under (bedding), unless there is a compacted fill of 24" or greater over the structure or pipe.

Pipe Conduits
All pipes shall be circular in cross section.

Corrugated Metal Pipe – all of the following criteria shall apply for corrugated metal pipe:
1. Materials – (Polymer Coated Steel Pipe) – Steel pipes with polymer coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides 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 bluntened coated. The requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with aluminum coating compound applied with a brush. Aluminum surfaces that are in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.
3. Materials – (Aluminum Pipe) – This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 or M-211 with watertight coupling bands or flanges. Aluminum Pipe when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bluntened coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dipped galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 8.

Stabilization
All borrow areas shall be graded to provide proper drainage and left in a smooth condition. All exposed surfaces of the embankment, alleyway, spoil and borrow areas, or berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resource Conservation Service Standards and Specifications – Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. Such a local water conservation pollution abatement will be followed. Construction plans shall be a revision and sediment control measures.

RESERVED PARKING

THIS SIGN AT ALL ACCESSIBLE PARKING SPACES

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bai-civilengineering.com

OWNER: 8201 ASSOCIATES, LLC
REPUBLICAN NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK, B.W.I.P. BLOCK C, PARCEL C
REPUBLICAN NATIONAL DISTRIBUTING CO. WAREHOUSE ADDITION

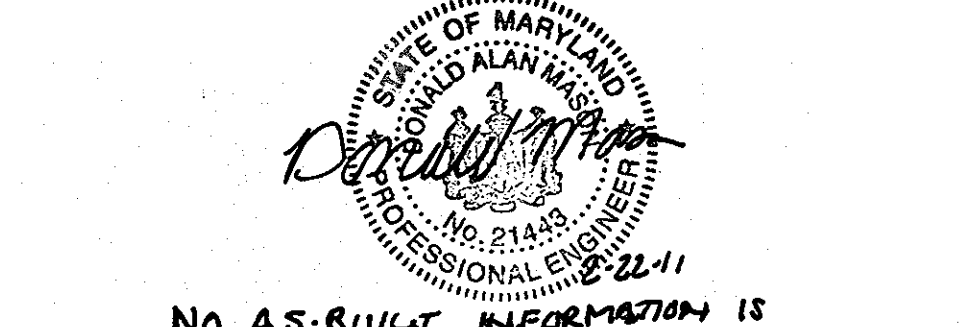
LOCATION: TAX MAP 48 - GRID PARCEL 152 - PB24, P94 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT AND EROSION CONTROL PLAN, NOTES AND DETAILS

DATE: JUNE 2007 DRAWING NO. 1982
JUNE 2008

DESIGN: DAM/HPF DRAFT: EDD CHECK: DAM SCALE: AS SHOWN DRAWING 5 OF 11

AS-BUILT SDP-07-130



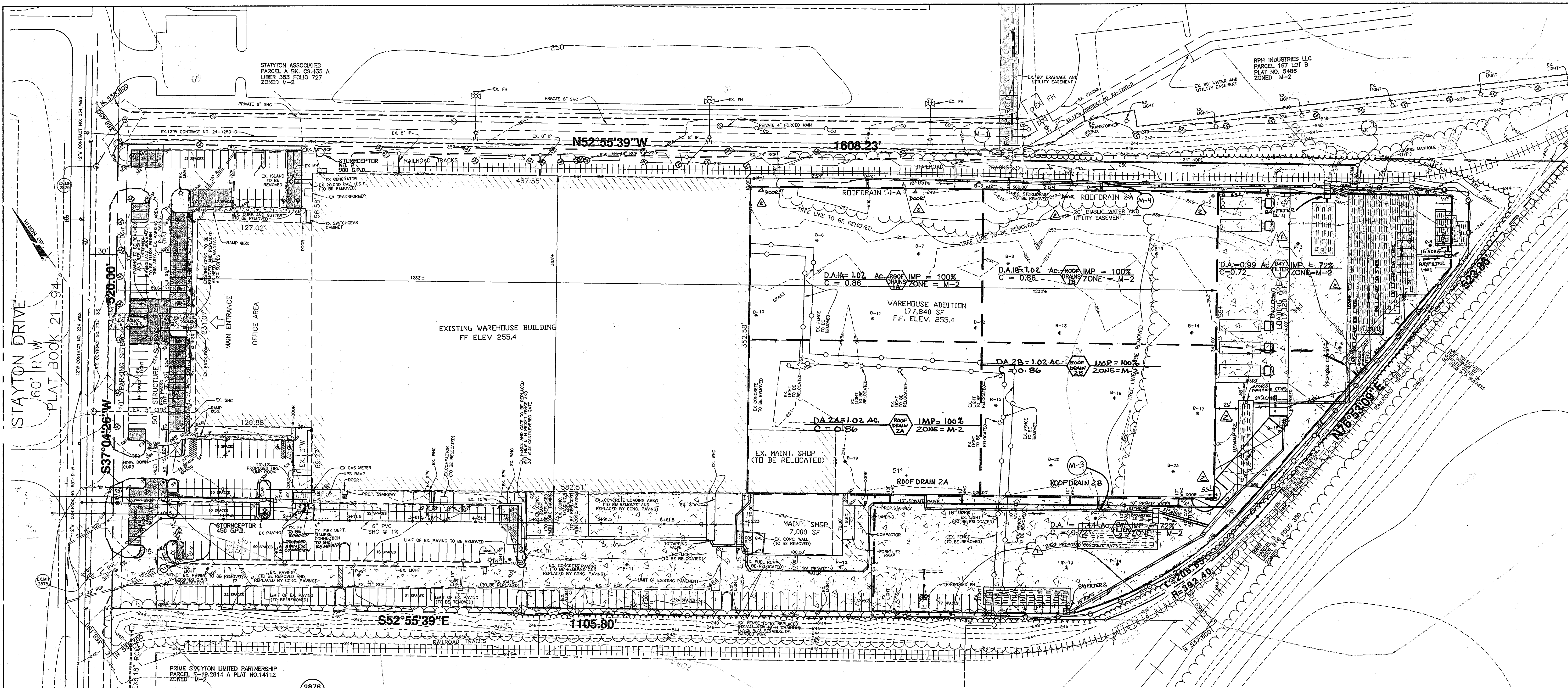
No AS-BUILT INFORMATION IS REQUIRED ON THIS SHEET

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. 21443, Expiration Date 12/21/12

ENGINEER'S CERTIFICATE
I 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 COUNTY CONSERVATION DISTRICT.
Donall Mason 6-22-08
ENGINEER - DONALD A. MASON, P.E. # 21443 DATE

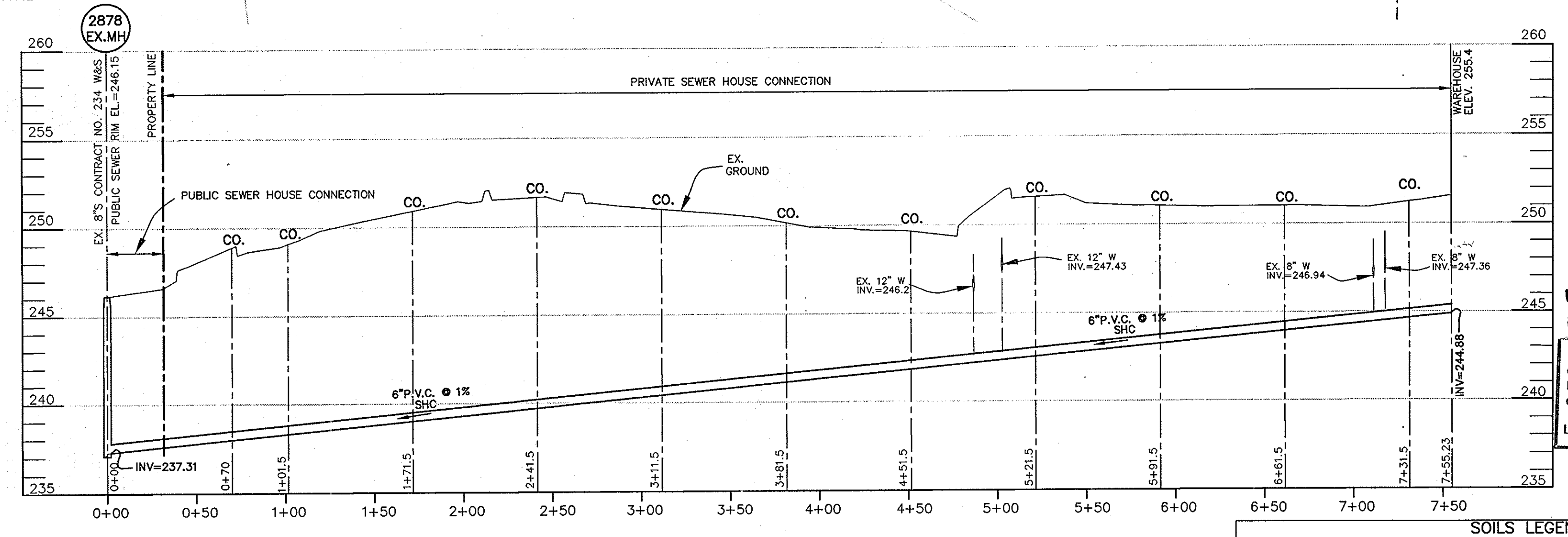
DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBILITY FOR THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINS THE PROJECT. I ALSO AUTHORIZE FURTHER ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT.
8201 ASSOCIATES, LLC
8/10/08
6/24/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
8/24/08
5/10/08
6/24/12



PLAN
SCALE: 1" = 50'

NOTE:
FIRE HYDRANT TO BE REMOVED
WILL BE RETURNED TO DEPARTMENT
OF PUBLIC WORKS



PRIVATE SEWER HOUSE CONNECTION PROFILE

HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

MAP SYMBOL	SOIL GROUP	SOIL TYPE
BaB2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BcC2	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
CiC3	B	CHILLUM GRAVELLY LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED
CmB2	B	CHILLUM SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
*Gp	A	GRAVEL PITTS AND QUARRIES, 1 TO 15 PERCENT SLOPES, MODERATELY ERODED
SD2	B	SASSAFRAS GRAVELLY SAND LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED

* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 34

FOR USWMF #1 & #2, PIPE LENGTH, SIZE, NOS. AND TYPE SEE SHEET B OF II.

NO.	DATE	REVISION
1	8-19-09	REV. PUBLIC & PRIVATE WATER
2	6-2-09	REV. TO ADD ACCESS, REMOVE STEPS AND REMOVE ACMP TO DETAIL ON SHIT. B PER NOTE
3	4-13-04	REV. WQV FACILITIES, SD, STORAGE & SPLIT ROOF RUNOFF TO FRONT & BACK



NO AS-BUILT INFORMATION IS REQUIRED ON THIS 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. 21443, Expiration Date: 12-21-12

BENCHMARK ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
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. 21443, Expiration Date: 12-21-2008.

Donald M. Allen
No. 21443
Professional Engineer
8/15/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Howard J. P. 8/12/08
DATE

John A. ... 8/15/08
DATE

Donald M. Allen 8/12/08
DATE

OWNER: 8201 ASSOCIATES, LLC
REPUBLIC NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK
BLOCK C, PARCEL C
REPUBLIC NATIONAL DISTRIBUTING CO.
WAREHOUSE ADDITION

LOCATION: PARCEL 152 - PB24, PP4
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

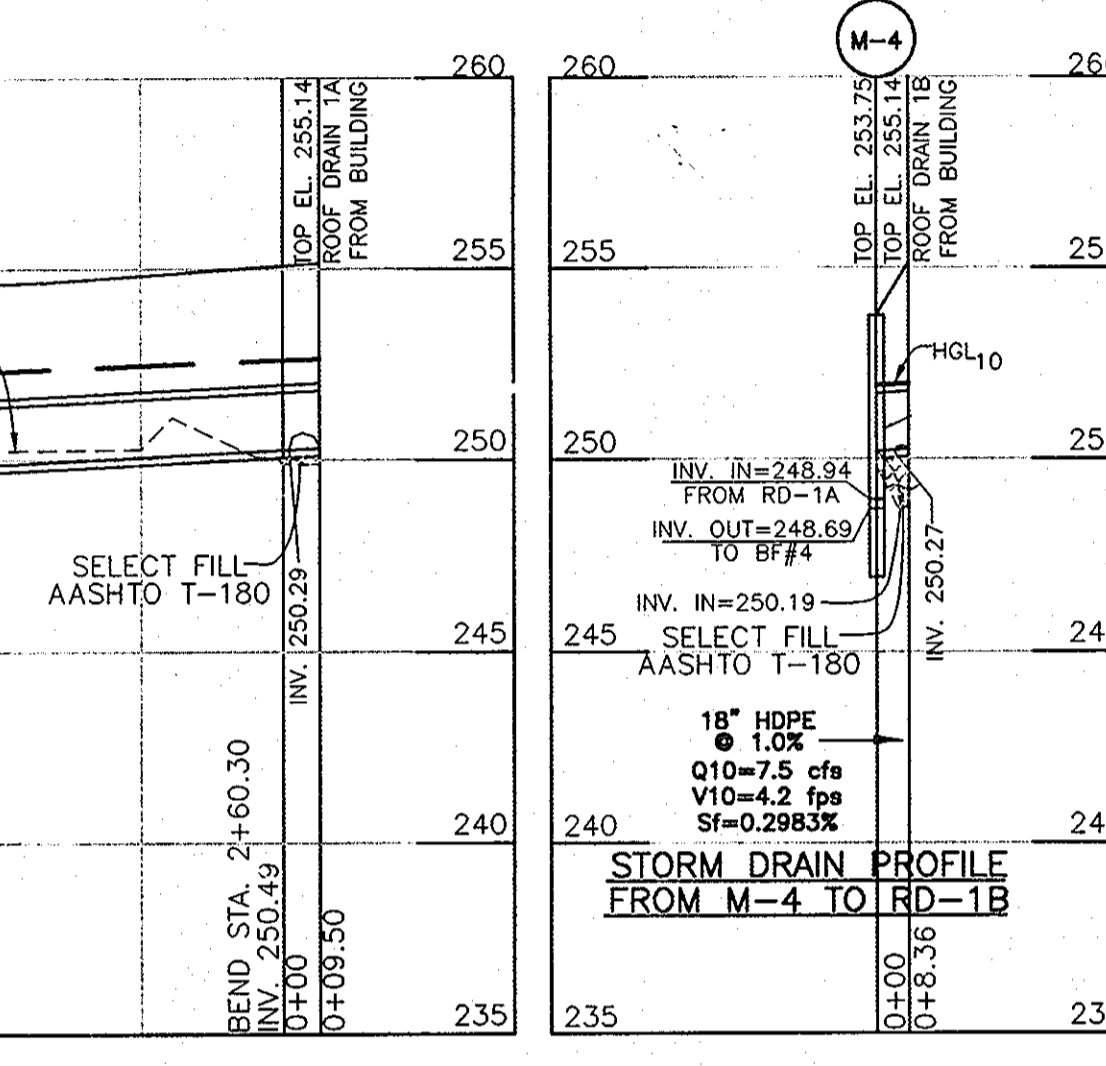
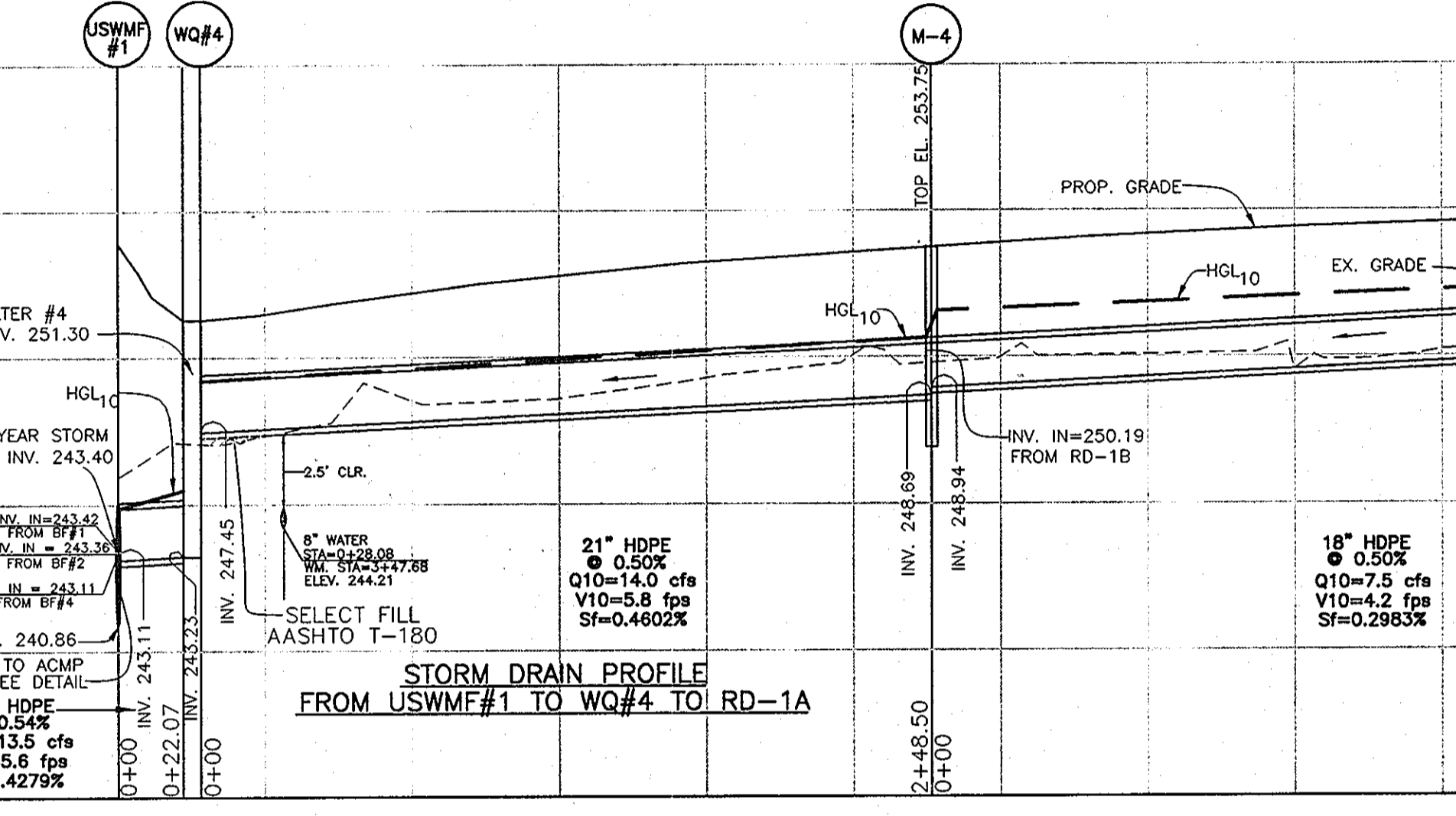
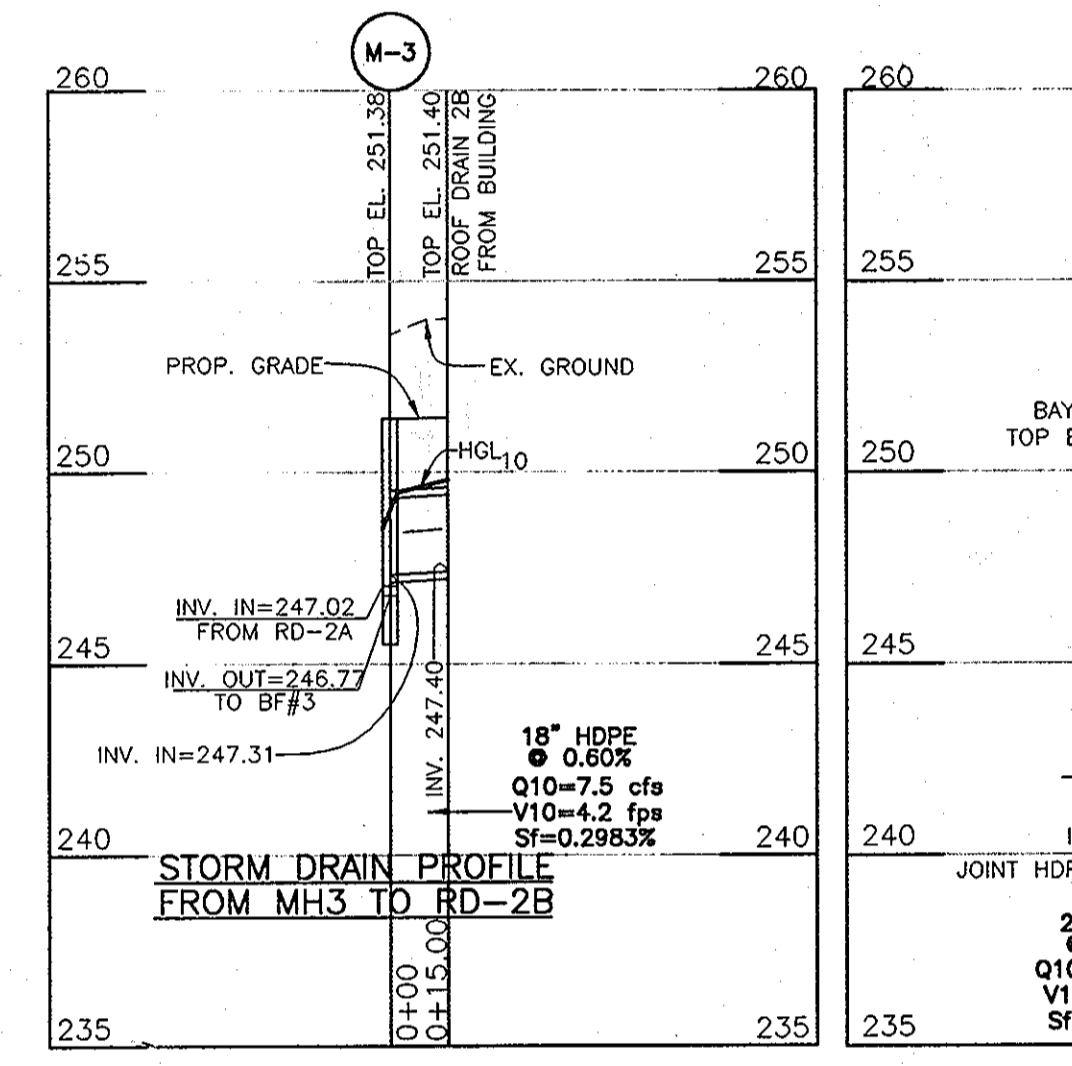
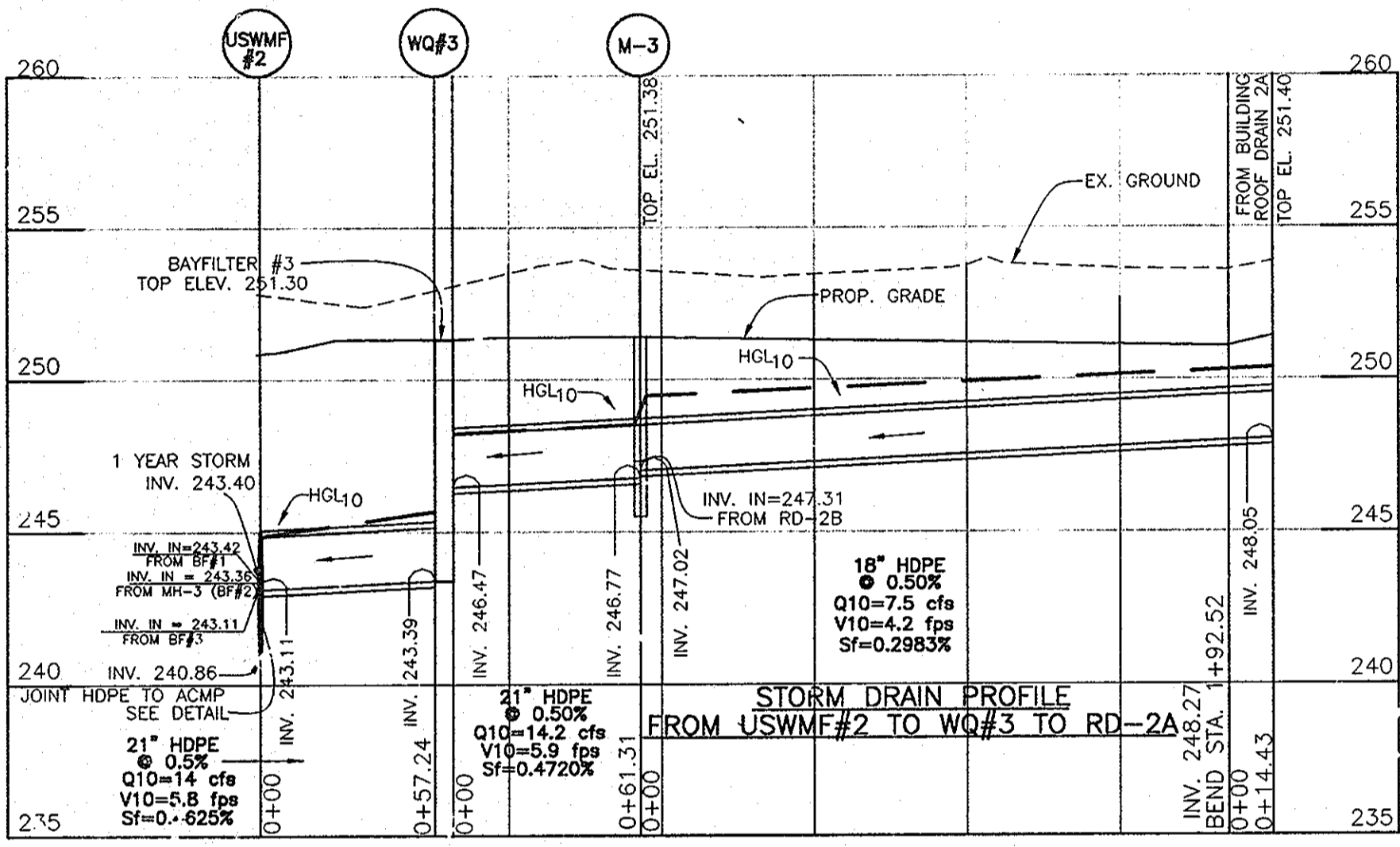
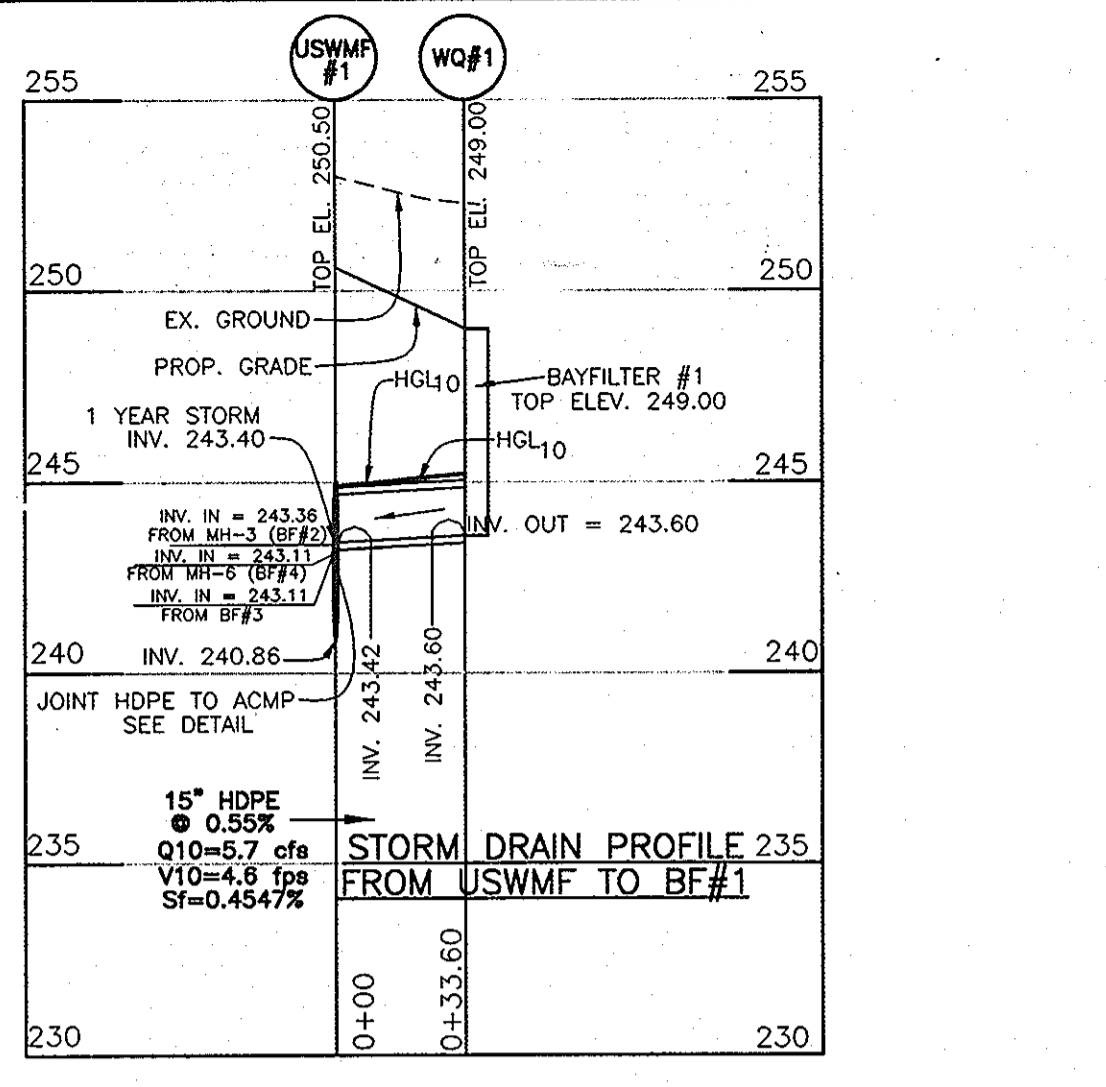
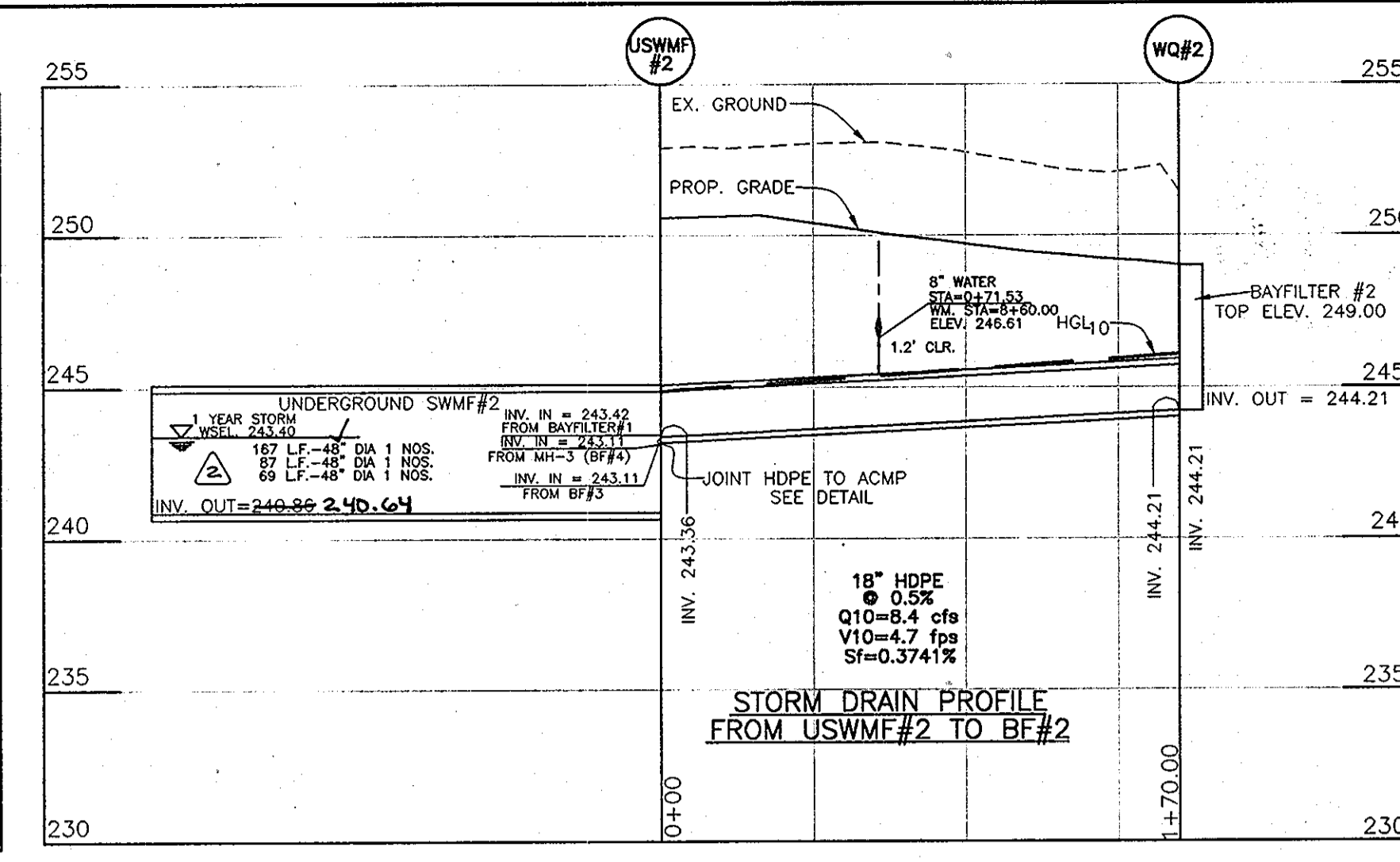
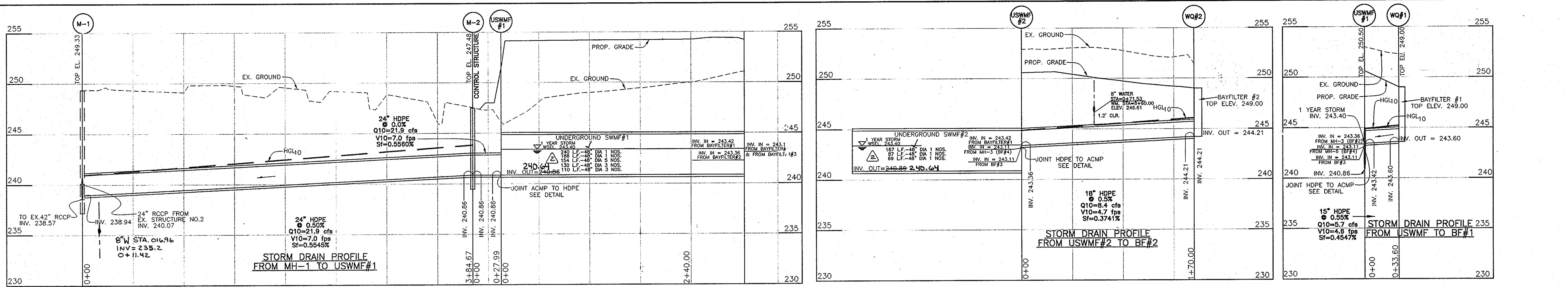
TITLE: STORMDRAIN DRAINAGE AREA MAP,
SOILS MAP AND SHC PROFILE

DATE: JUNE, 2007
AUGUST, 2008

PROJECT NO. 1982

Design: DAM/HPP Draft: EDD Check: DAM SCALE: AS SHOWN DRAWING 6 OF 11

AS-BUILT SDP-07-130



STORM DRAIN PROFILE
SCALE: HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: National Distributing Company Expansion
Location: Howard County, Maryland

Station	Depth	Description	Soils	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Penetration (lb/in)	SPT Blows
0+00	0-12"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	12-24"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	24-36"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	36-48"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	48-60"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	60-72"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	72-84"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	84-96"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	96-108"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	108-120"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: National Distributing Company Expansion
Location: Howard County, Maryland

Station	Depth	Description	Soils	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Penetration (lb/in)	SPT Blows
0+00	0-12"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	12-24"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	24-36"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	36-48"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	48-60"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	60-72"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	72-84"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	84-96"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	96-108"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	108-120"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: National Distributing Company Expansion
Location: Howard County, Maryland

Station	Depth	Description	Soils	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Penetration (lb/in)	SPT Blows
0+00	0-12"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	12-24"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	24-36"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	36-48"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	48-60"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	60-72"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	72-84"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	84-96"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	96-108"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	108-120"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: National Distributing Company Expansion
Location: Howard County, Maryland

Station	Depth	Description	Soils	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Penetration (lb/in)	SPT Blows
0+00	0-12"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	12-24"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	24-36"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	36-48"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	48-60"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	60-72"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	72-84"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	84-96"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	96-108"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	108-120"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: National Distributing Company Expansion
Location: Howard County, Maryland

Station	Depth	Description	Soils	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Penetration (lb/in)	SPT Blows
0+00	0-12"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	12-24"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	24-36"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	36-48"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	48-60"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	60-72"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	72-84"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	84-96"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	96-108"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	108-120"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

Project Name: National Distributing Company Expansion
Location: Howard County, Maryland

Station	Depth	Description	Soils	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Penetration (lb/in)	SPT Blows
0+00	0-12"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	12-24"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	24-36"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	36-48"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	48-60"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	60-72"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	72-84"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	84-96"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	96-108"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10
0+00	108-120"	Light gray, silty, medium sand (SM)	SP-1	18	2.65	110	10	10

FOR USWMF #1 & #2, PIPE LENGTH, SIZE, NOS. AND TYPE, SEE SHEET # 8 OF 11.

THE PURPOSE OF THIS REVISION IS TO REVISE THE STORMDRAIN PROFILES TO REFLECT THE REPLACEMENT OF THE WATER QUALITY FACILITIES WITH BAY FILTERS AND CHANGES TO THE STORMDRAIN ALIGNMENTS. THIS SHEET SHALL REPLACE THE PREVIOUS SHEET 7 OF 11 IN FULL.

6-2-09 REV. TO REMOVE ACMP TO DETAIL ON SHT. B PER NOTE
4-8-09 PROFILES REVISED TO SHOW REPLACEMENT WQ FACILITIES AND NEW STORMDRAIN CHANGES

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bel-civilengineering.com

Professional Certification: I, *[Signature]*, 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: 7-22-2009

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature]
DIRECTOR, DEP.

4/2/09
5/4/09
5/11/09

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	THROAT INV.	INVERT IN	INVERT OUT	TOP ELEV.	HO. CO. STD.	REMARKS
MH-1		N 538,151.74 E 1,369,231.73	238.94	240.07	238.57	249.33	Ho.Co.Std. G-5.12	
MH-2		N 537,919.57 E 1,369,538.43		240.86	240.86	247.48	SEE DETAIL SHEET	CONTROL STRUCTURE CENTER OF STRUCTURE
MH-3		N 537,779.18 E 1,369,078.45	247.31	247.02	246.77	251.38	Ho.Co.Std. G-5.12	
MH-4		N 538,072.29 E 1,369,296.57	248.94	248.69	248.69	253.75	Ho.Co.Std. G-5.12	

PIPE SCHEDULE

SIZE	LENGTH	TYPE & CLASS
24"	413'	HDPE HI-Q
21"	384'	HDPE HI-Q
18"	670'	HDPE HI-Q
15"	34'	HDPE HI-Q

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: 12-21-12

OWNER: 8201 ASSOCIATES, LLC
REPUBLIC NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK BLOCK C, PARCEL C
REPUBLIC NATIONAL DISTRIBUTING CO. WAREHOUSE ADDITION

LOCATION: TAX MAP 48 - GRID 1
PARCEL 152 - P29.4, P34
6TH ELECTION DISTRICT
HOWARD CO., MARYLAND

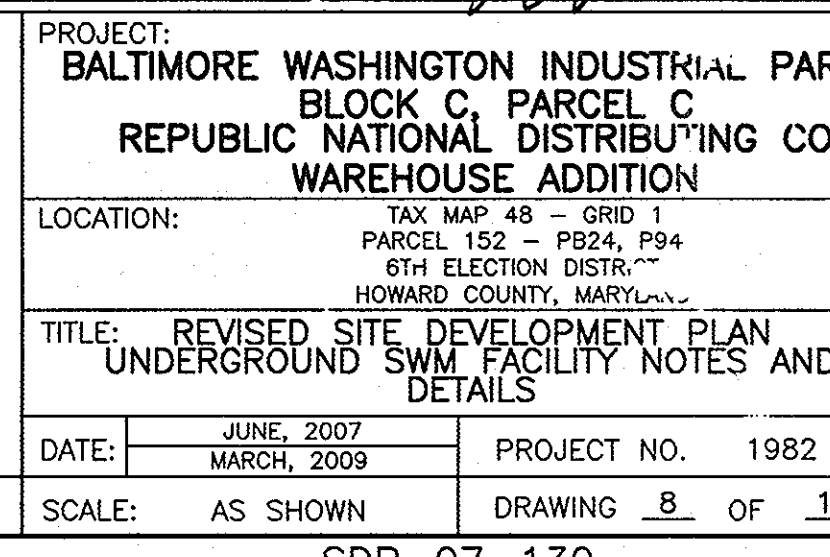
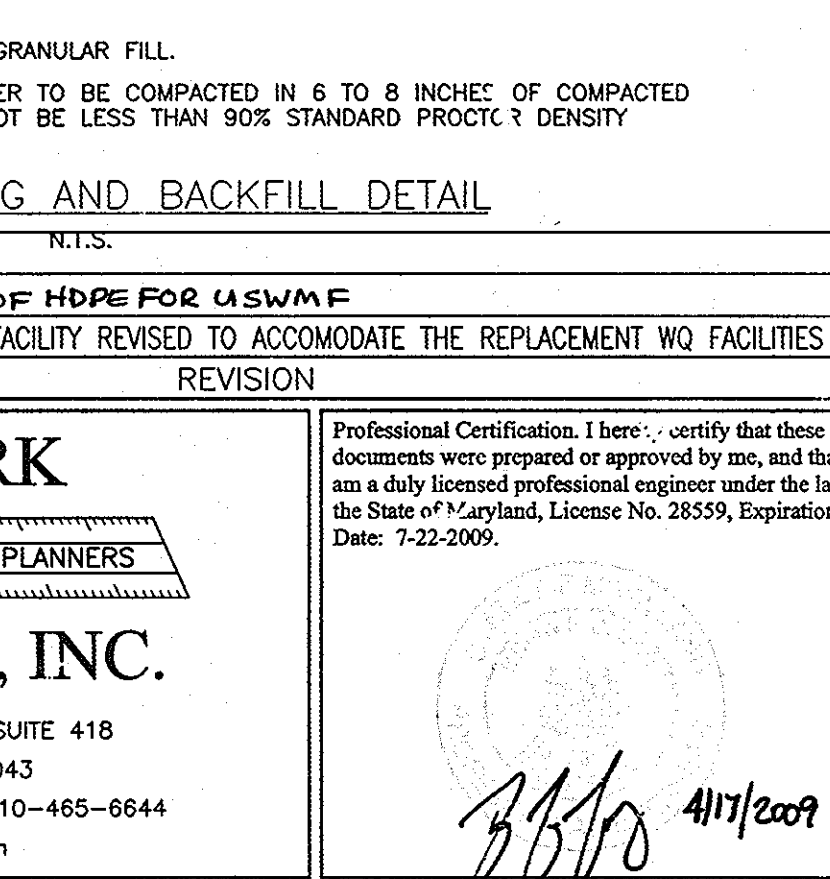
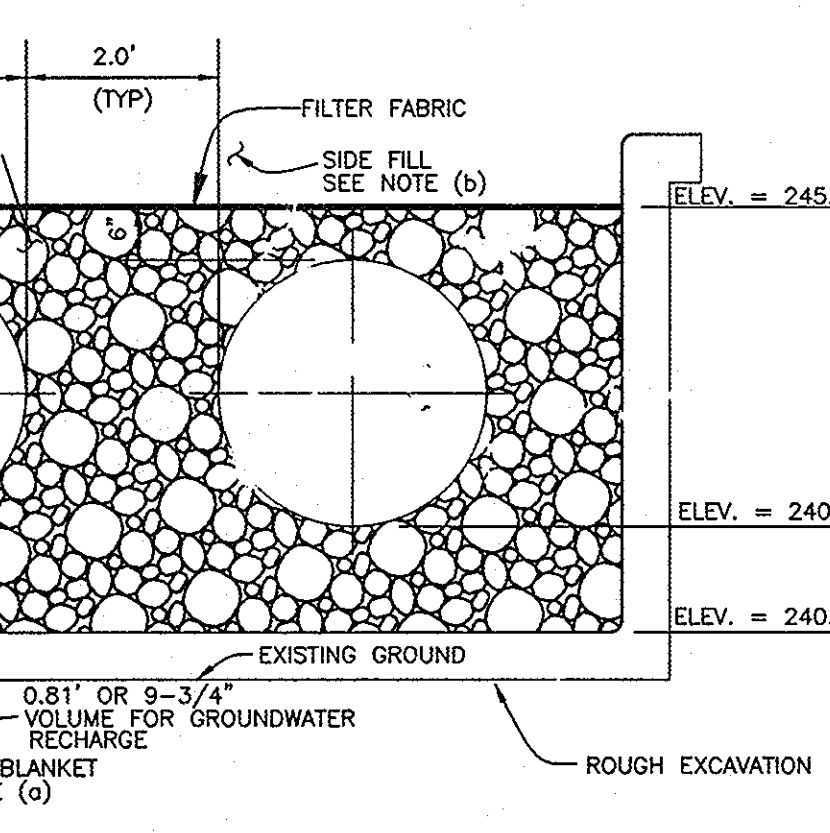
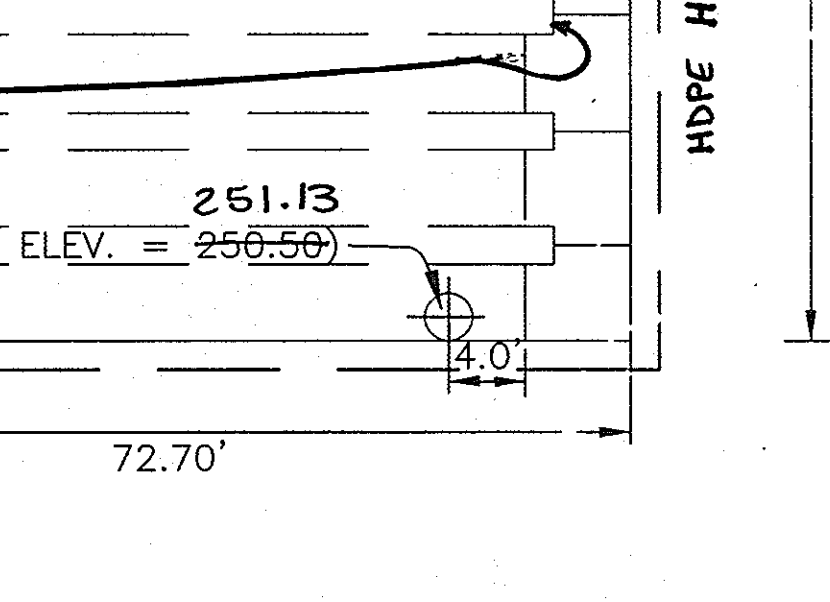
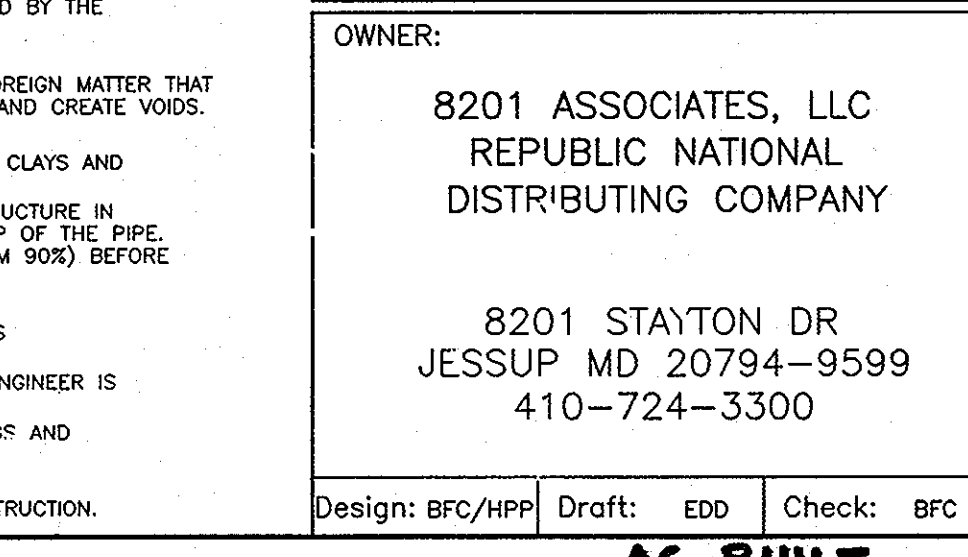
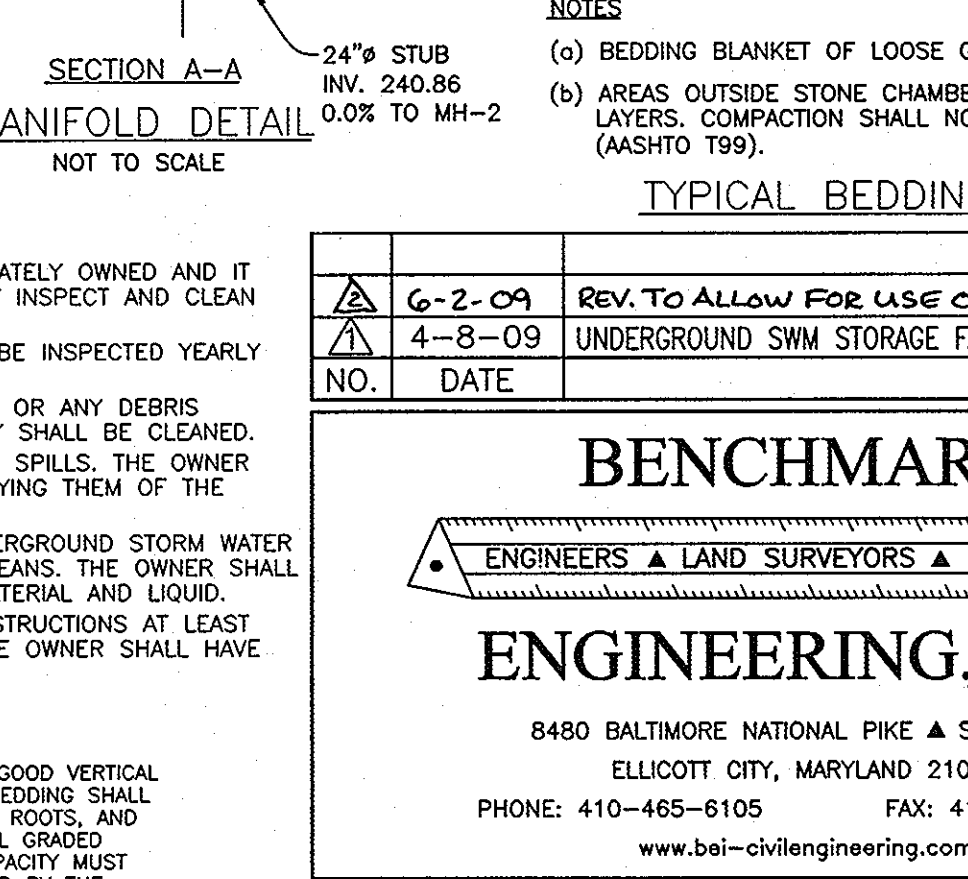
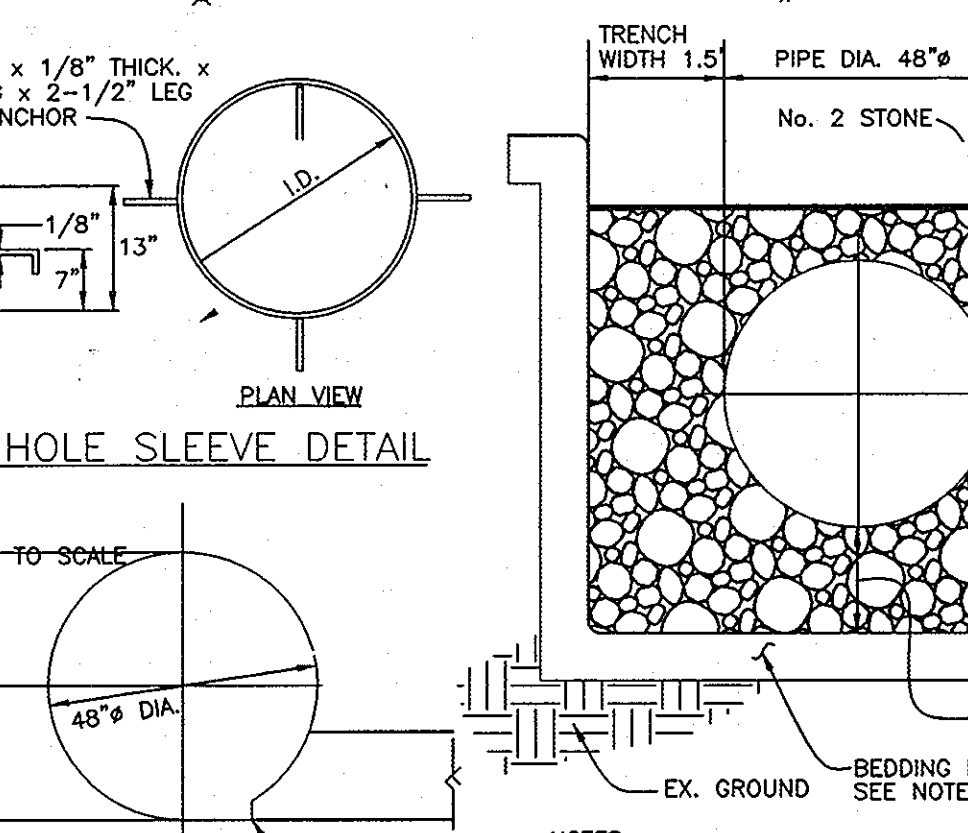
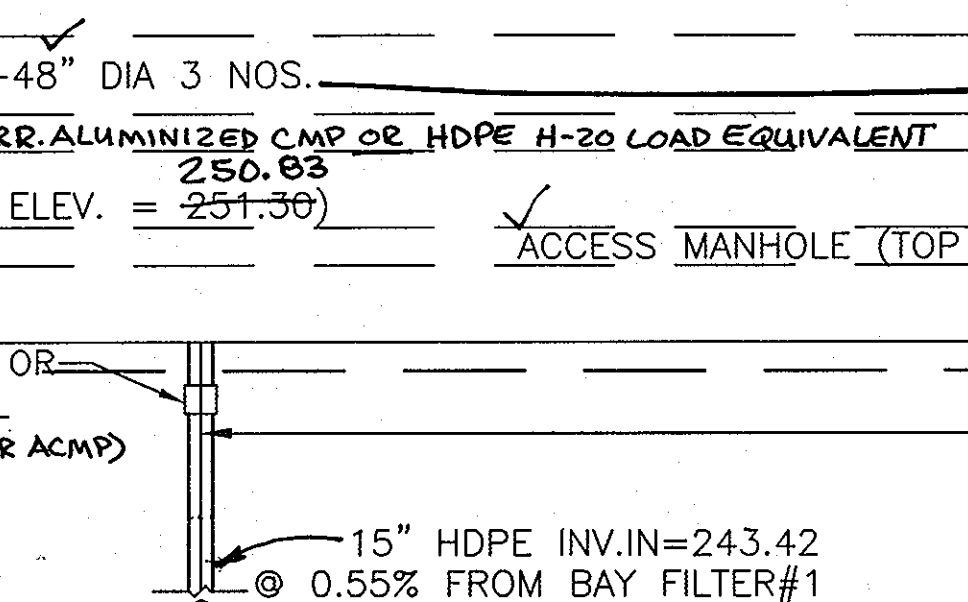
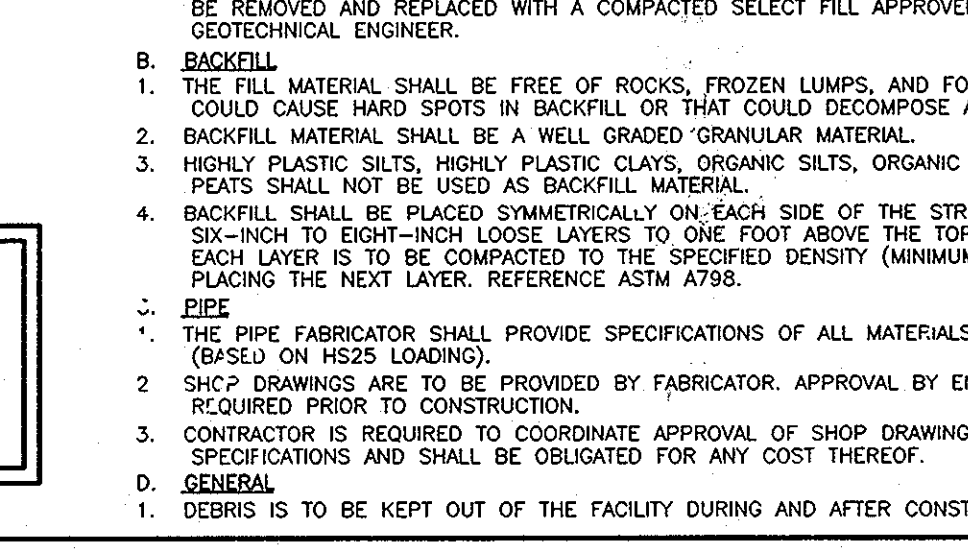
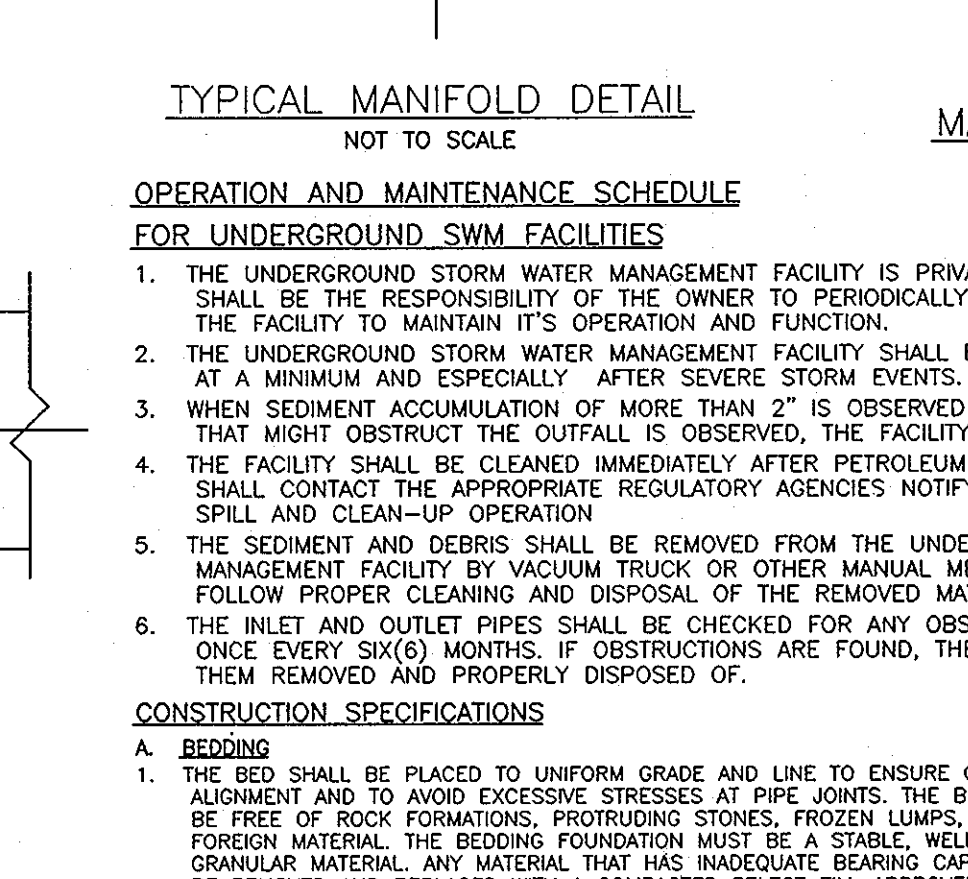
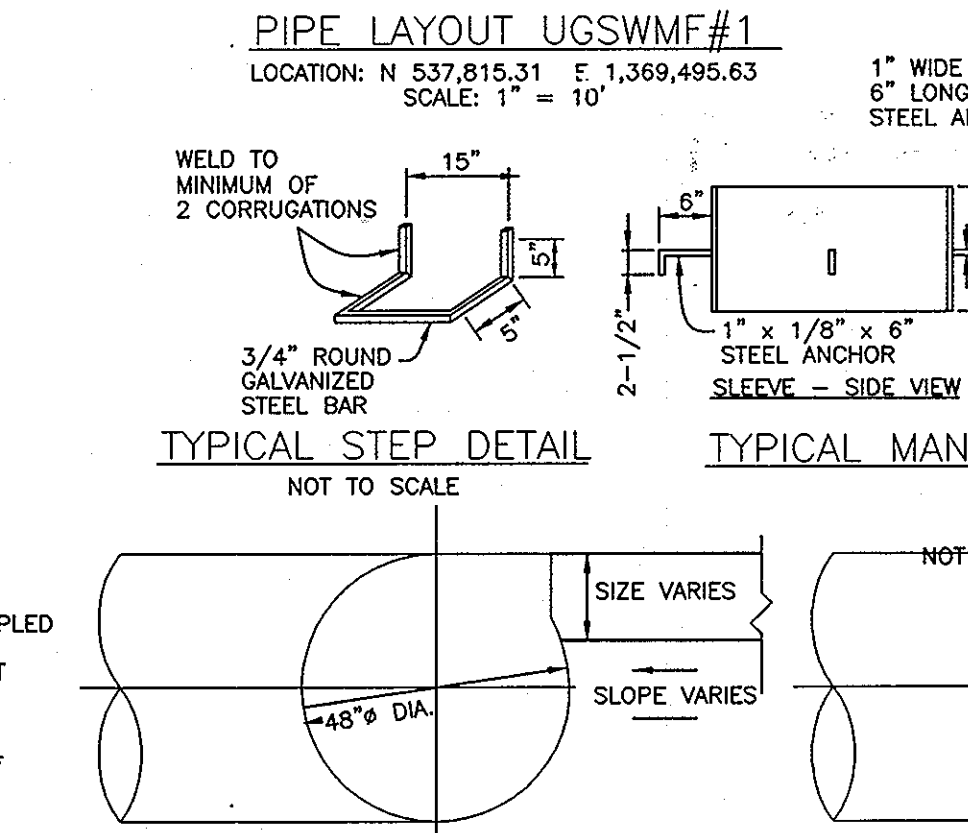
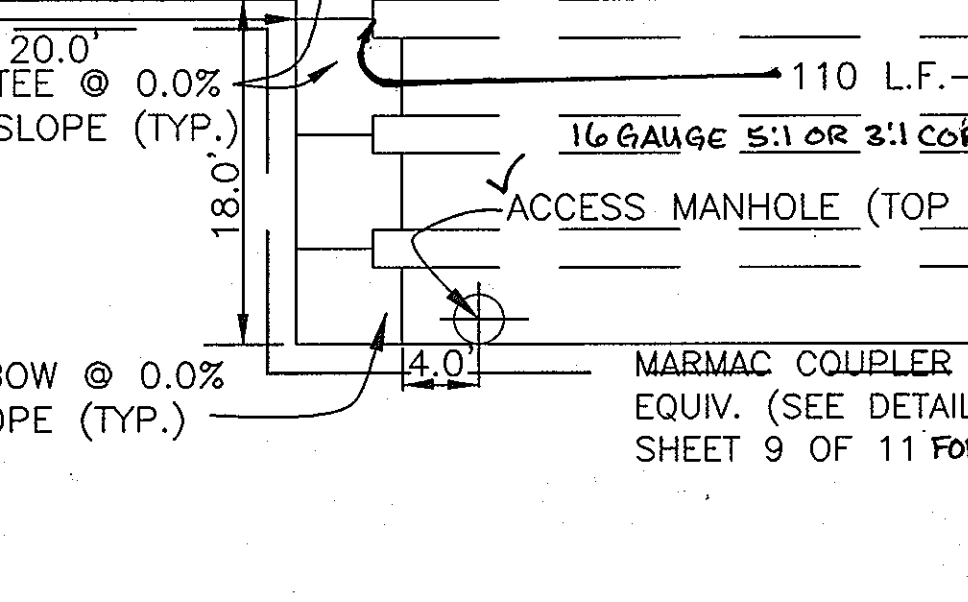
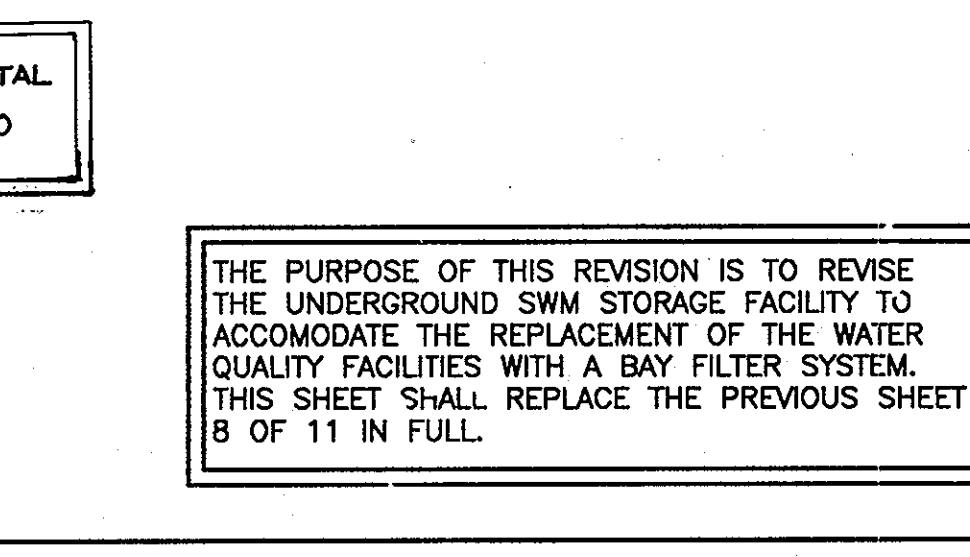
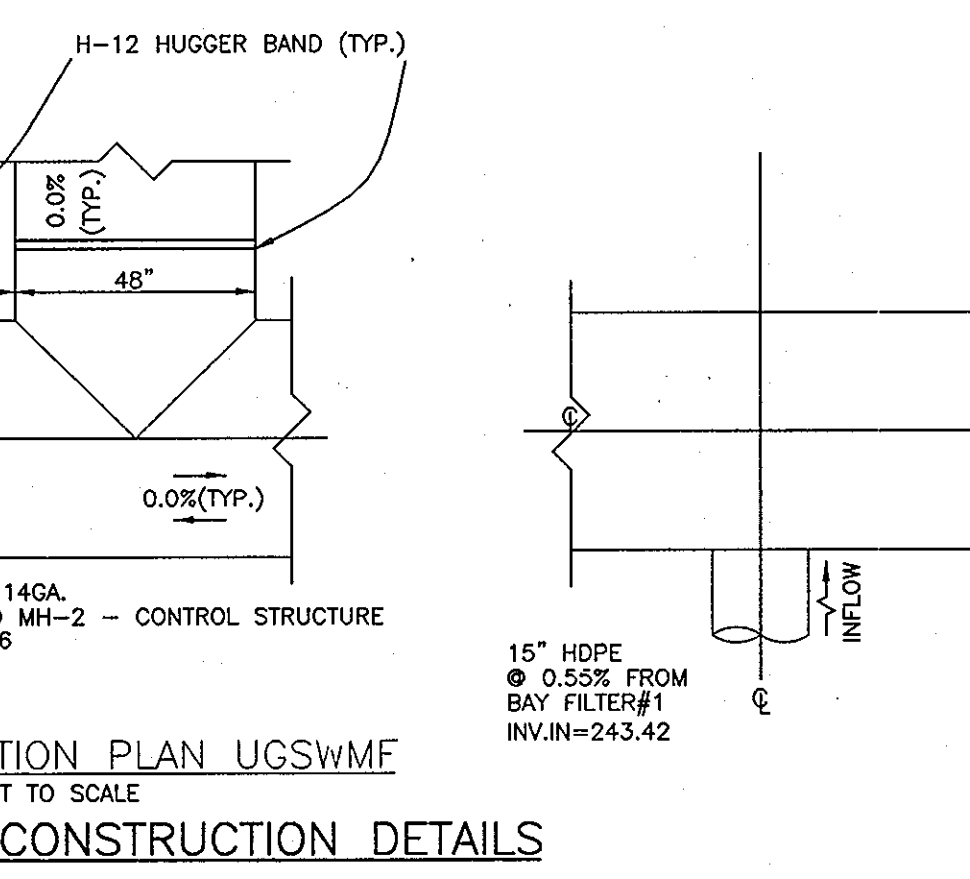
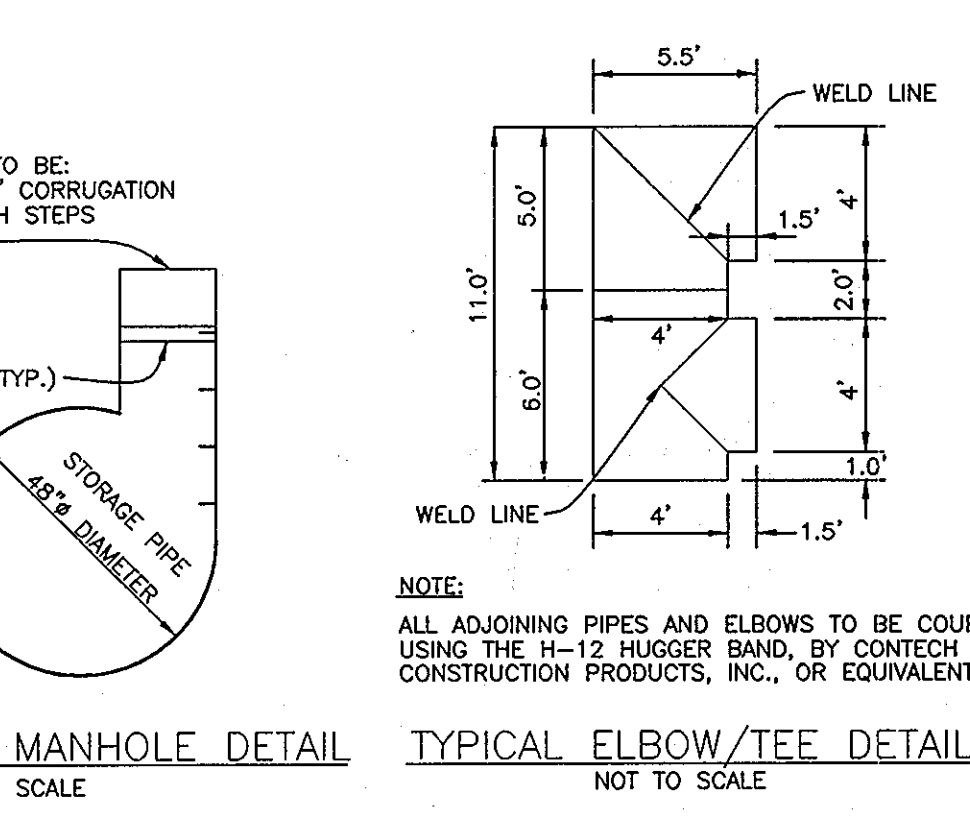
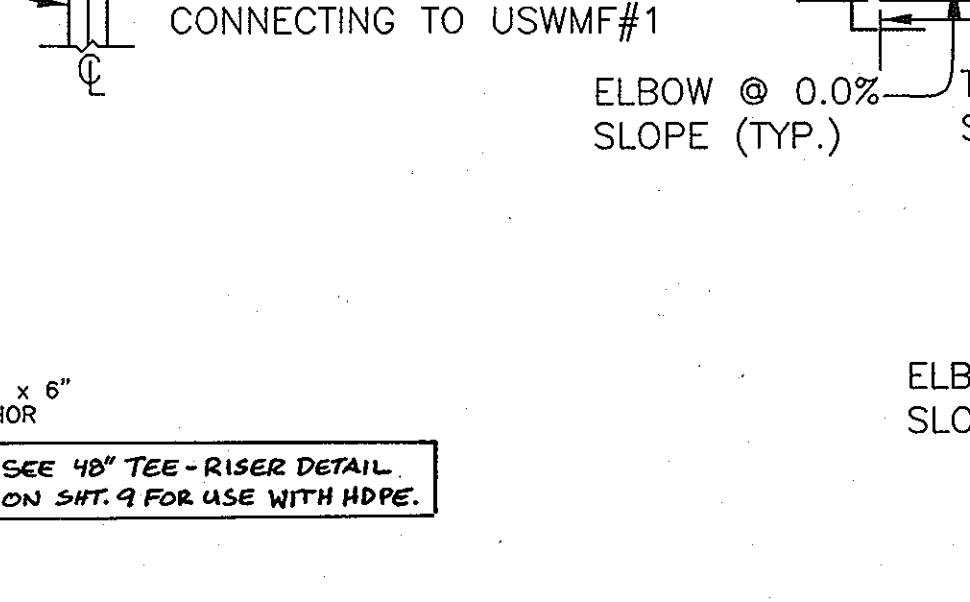
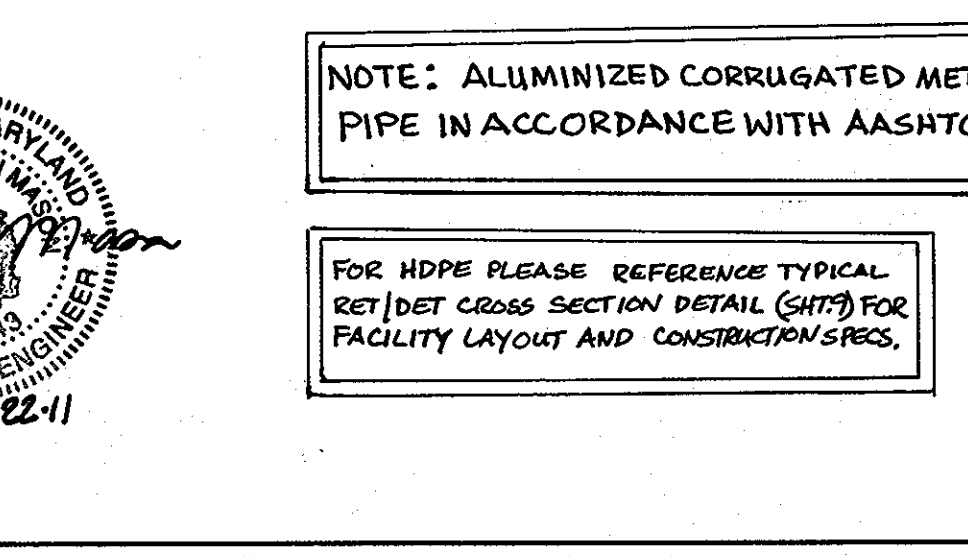
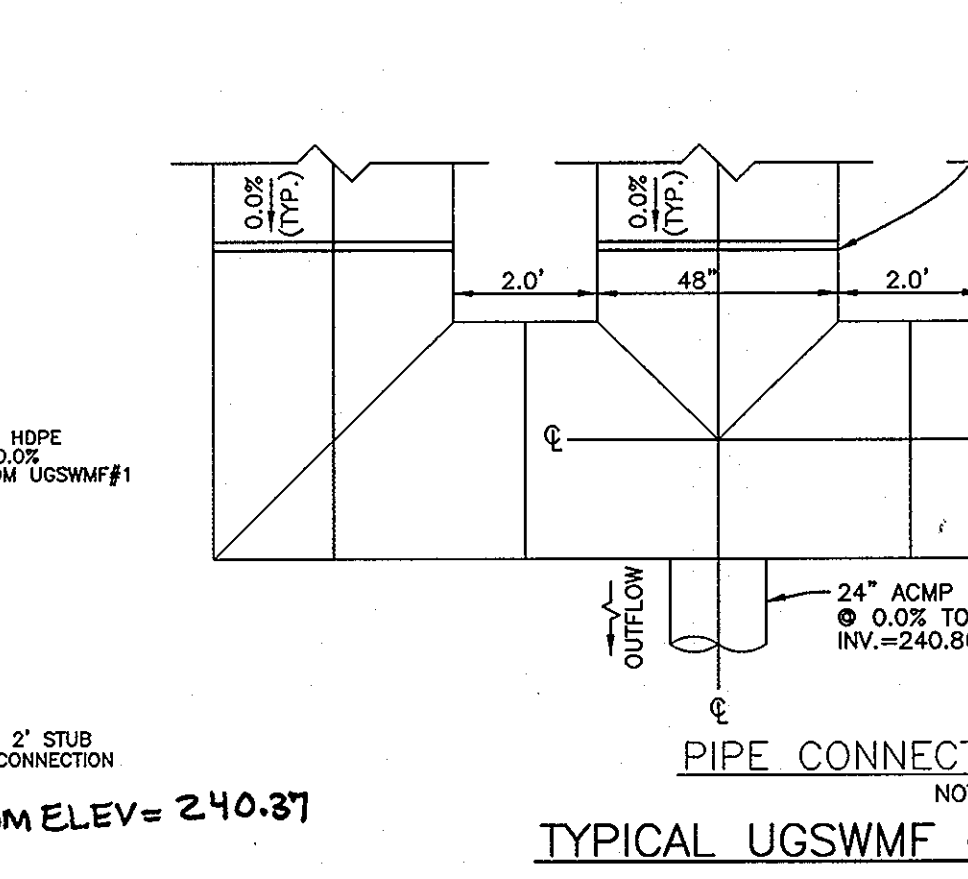
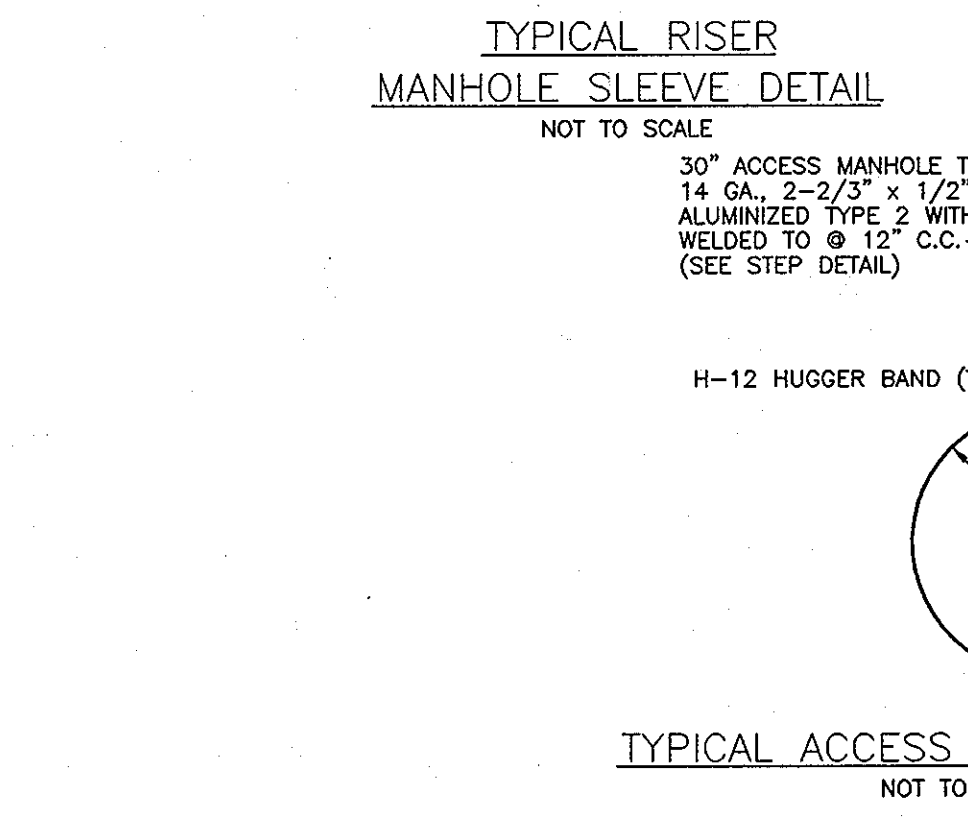
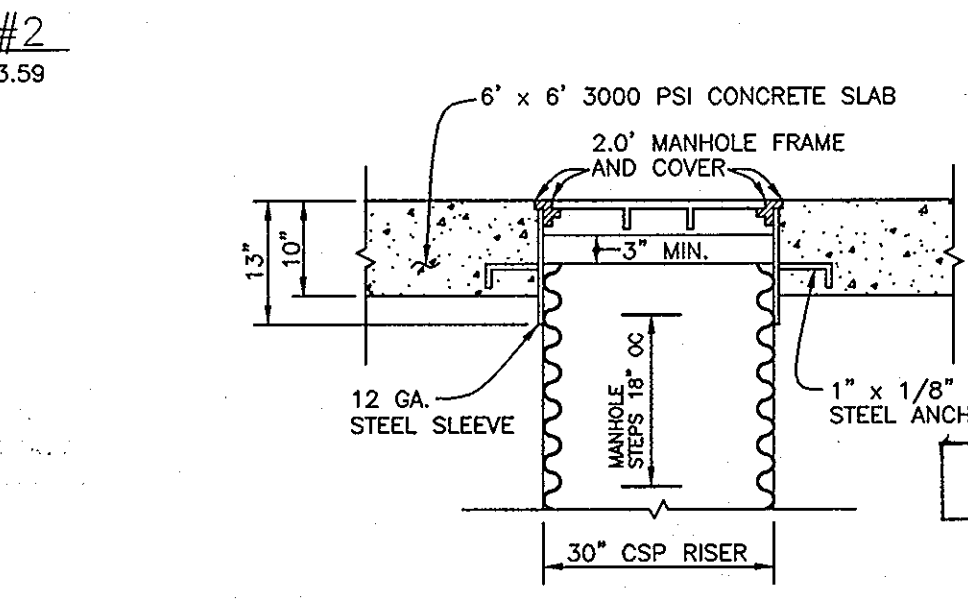
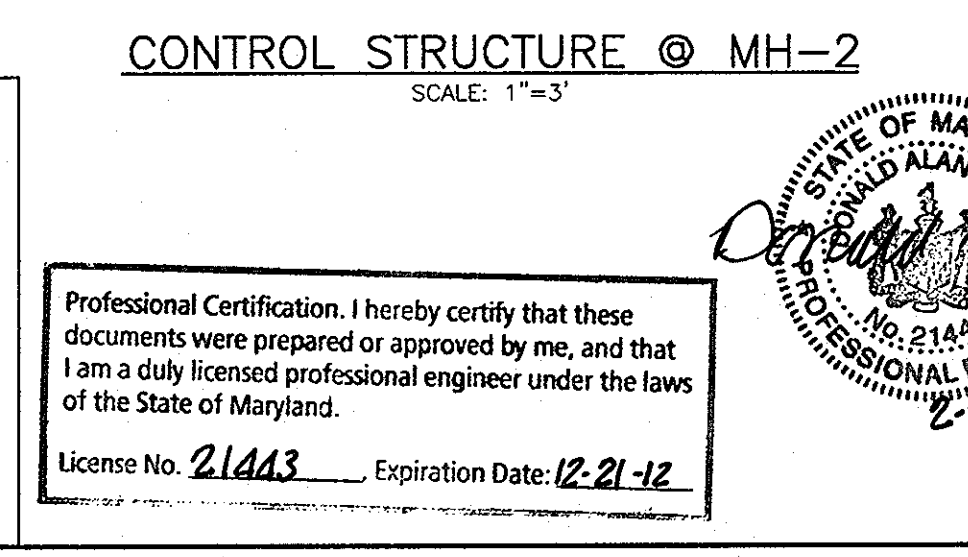
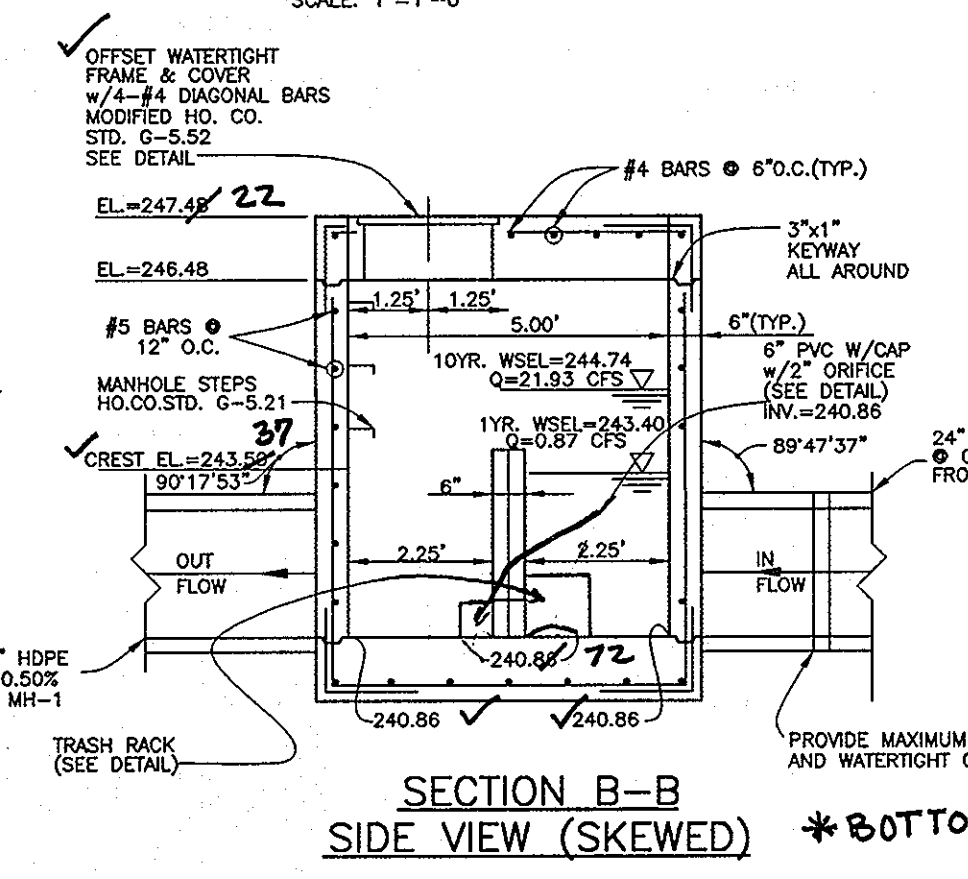
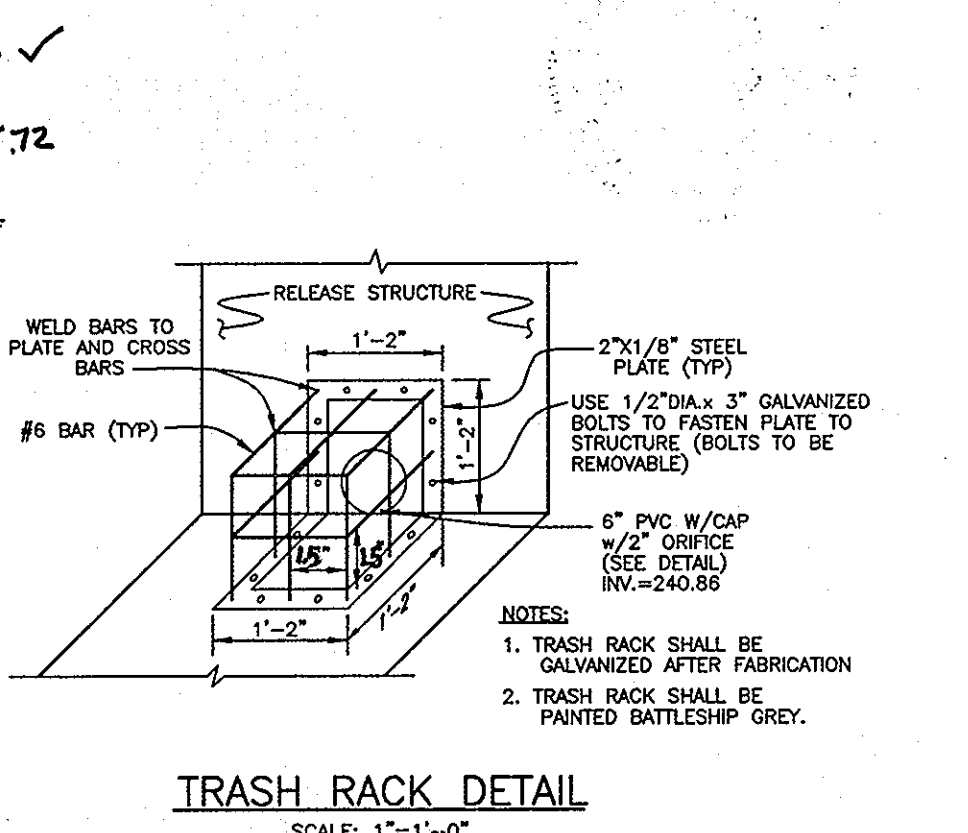
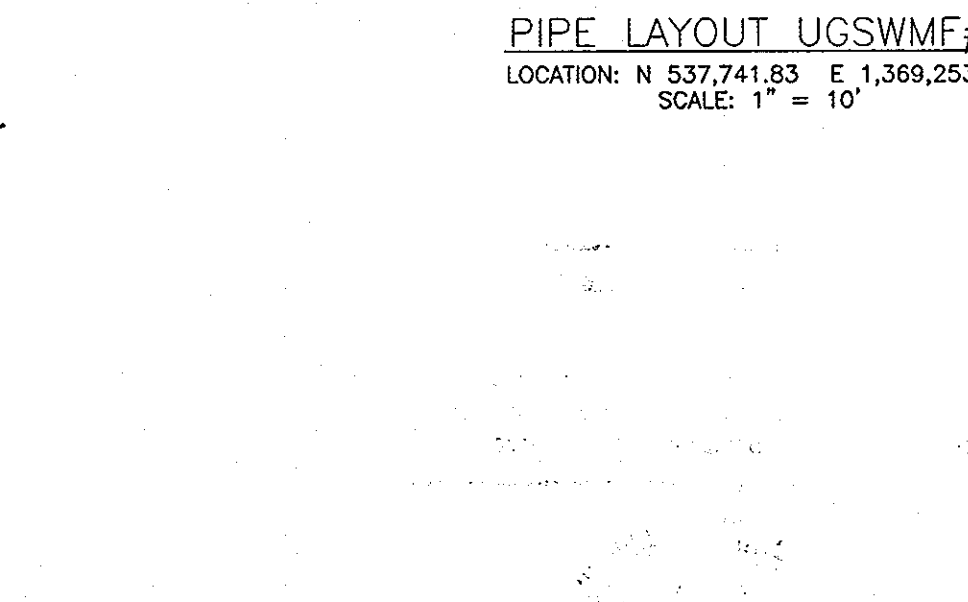
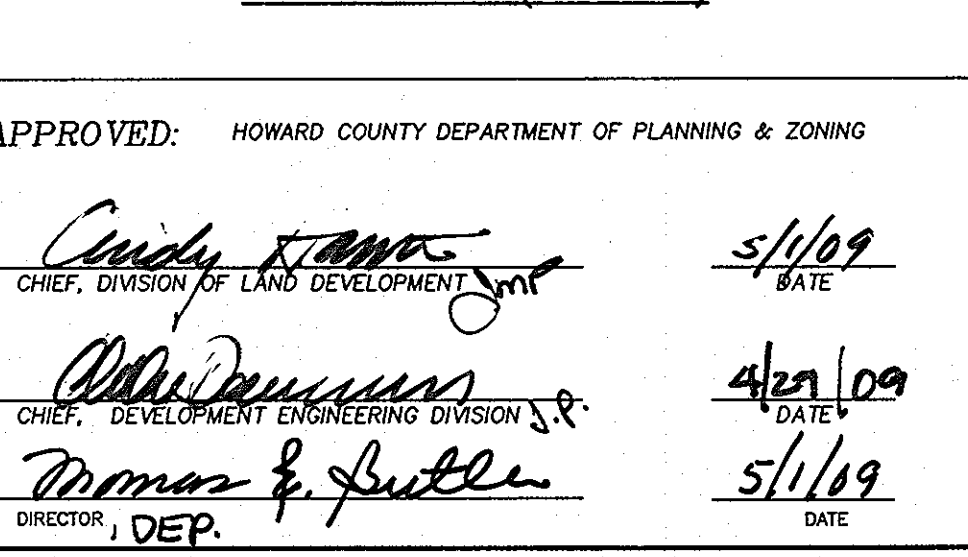
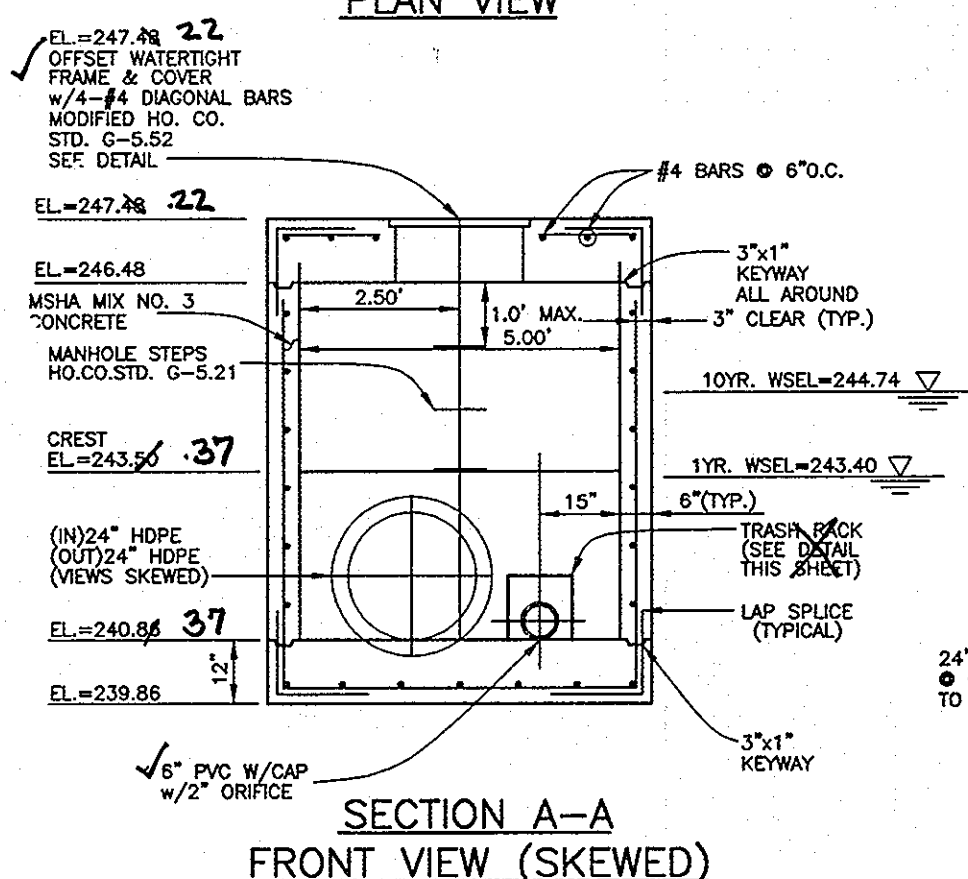
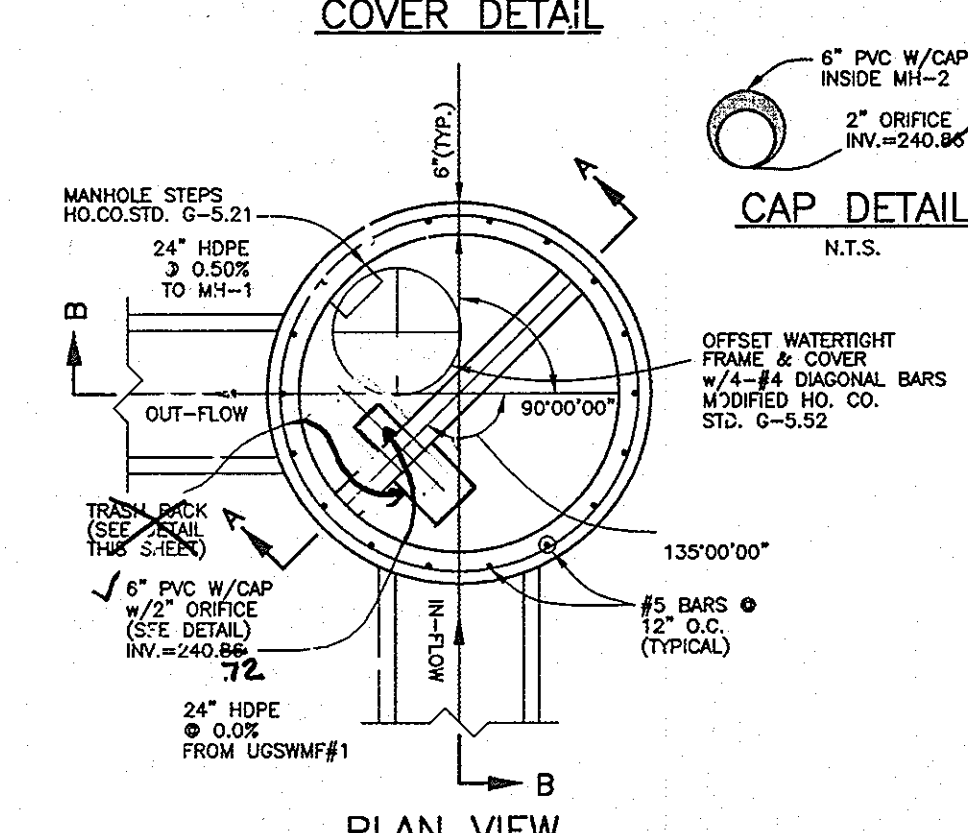
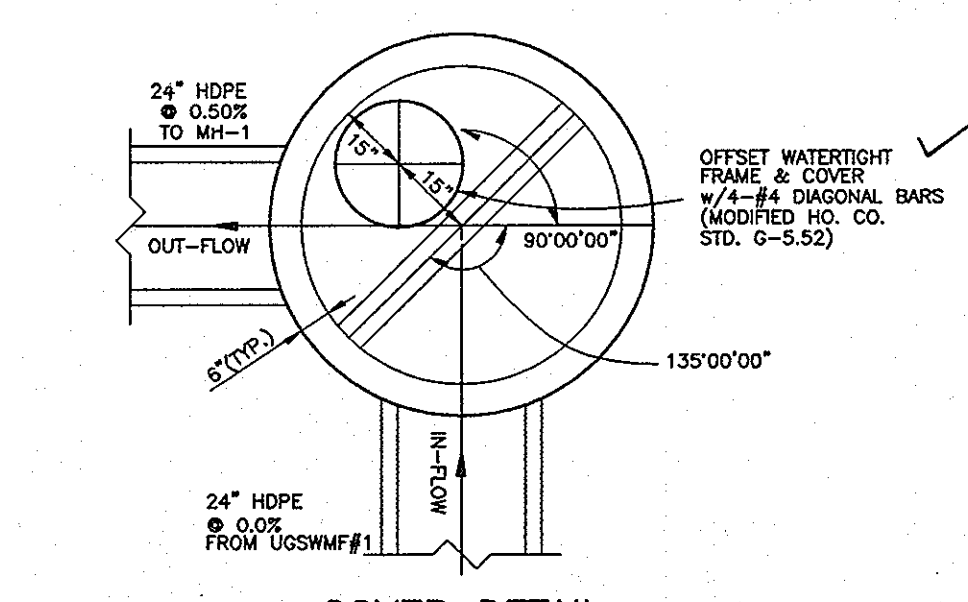
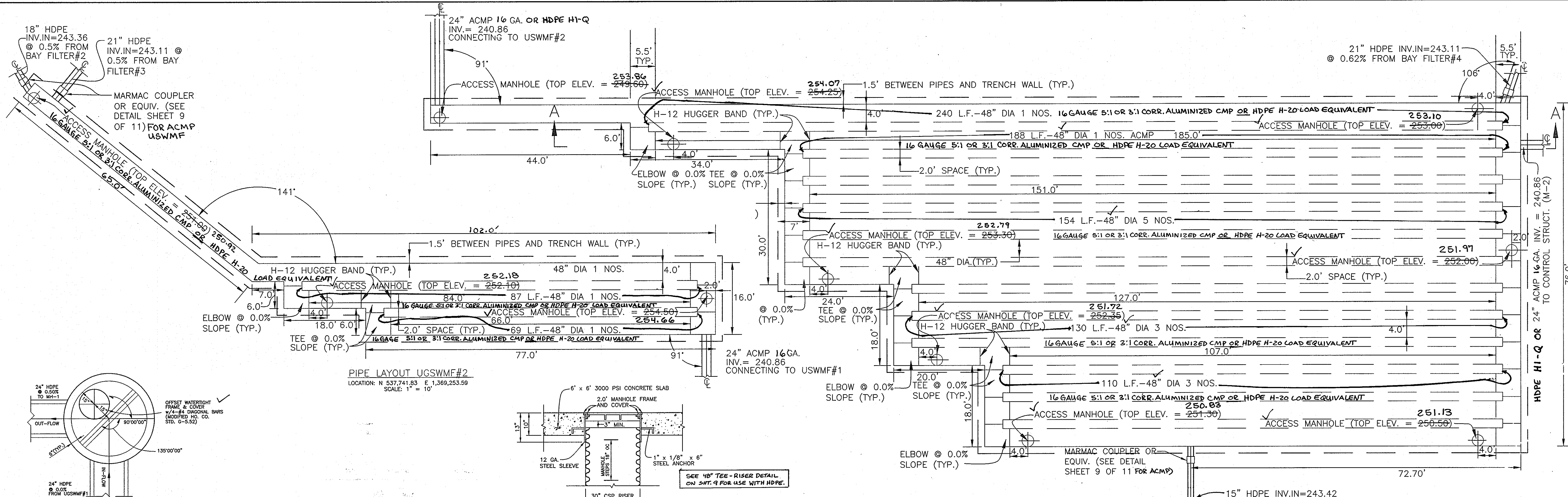
TITLE: REVISED SITE DEVELOPMENT PLAN
STORM DRAIN PROFILES AND BORING LOGS

DATE: JUNE, 2007
MARCH, 2009

PROJECT NO. 1982

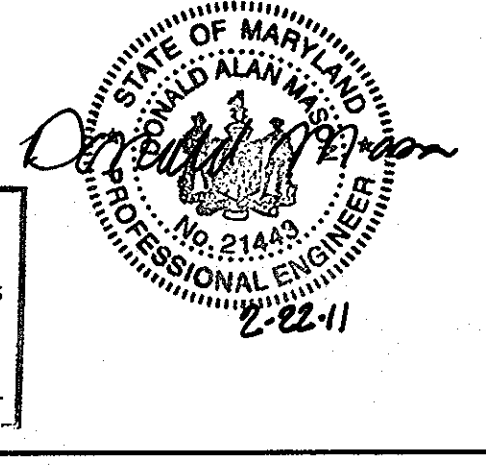
Design: BFC/HPP Draft: EDD Check: BFC SCALE: AS SHOWN DRAWING 7 OF 11

AS-BUILT SDP-07-130



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division
 Director, DEP

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: 12-21-12



NOTE: ALUMINIZED CORRUGATED METAL PIPE IN ACCORDANCE WITH AASHTO

FOR HDPE PLEASE REFERENCE TYPICAL RET/DET CROSS SECTION DETAIL (SHT) FOR FACILITY LAYOUT AND CONSTRUCTION SPEC.

THE PURPOSE OF THIS REVISION IS TO REVISE THE UNDERGROUND SWM STORAGE FACILITY TO ACCOMMODATE THE REPLACEMENT OF THE WATER QUALITY FACILITIES WITH A BAY FILTER SYSTEM. THIS SHEET SHALL REPLACE THE PREVIOUS SHEET 8 OF 11 IN FULL.

- OPERATION AND MAINTENANCE SCHEDULE FOR UNDERGROUND SWM FACILITIES**
1. THE UNDERGROUND STORM WATER MANAGEMENT FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
 2. THE UNDERGROUND STORM WATER MANAGEMENT FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND ESPECIALLY AFTER SEVERE STORM EVENTS.
 3. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES NOTIFYING THEM OF THE SPILL AND CLEAN-UP OPERATION.
 4. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND STORM WATER MANAGEMENT FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
 5. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.
- CONSTRUCTION SPECIFICATIONS**
- A. BEDDING**
 1. THE BED SHALL BE PLACED TO UNIFORM GRADE AND LINE TO ENSURE GOOD VERTICAL ALIGNMENT AND TO AVOID EXCESSIVE STRESSES AT PIPE JOINTS. THE BEDDING SHALL BE FREE OF ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS, AND FOREIGN MATERIAL. THE BEDDING FOUNDATION MUST BE A STABLE, WELL GRADED GRANULAR MATERIAL. ANY MATERIAL THAT HAS INADEQUATE BEARING CAPACITY MUST BE REMOVED AND REPLACED WITH A COMPACTED SELECT FILL APPROVED BY THE GEOTECHNICAL ENGINEER.
 - B. BACKFILL**
 1. THE FILL MATERIAL SHALL BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATTER THAT COULD CAUSE HARD SPOTS IN BACKFILL OR THAT COULD DECOMPOSE AND CREATE VOIDS.
 2. BACKFILL MATERIAL SHALL BE A WELL GRADED GRANULAR MATERIAL.
 3. HIGHLY PLASTIC SILTS, HIGHLY PLASTIC CLAYS, ORGANIC SILTS, ORGANIC CLAYS AND PEATS SHALL NOT BE USED AS BACKFILL MATERIAL.
 4. BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN SIX-INCH TO EIGHT-INCH LOOSE LAYERS TO ONE FOOT ABOVE THE TOP OF THE PIPE. EACH LAYER IS TO BE COMPACTED TO THE SPECIFIED DENSITY (MINIMUM 90%) BEFORE PLACING THE NEXT LAYER. REFERENCE ASTM A785.
 - C. PIPE**
 1. THE PIPE FABRICATOR SHALL PROVIDE SPECIFICATIONS OF ALL MATERIALS (BASED ON HSS'S LOADINGS).
 2. SHOP DRAWINGS ARE TO BE PROVIDED BY FABRICATOR. APPROVAL BY ENGINEER IS REQUIRED PRIOR TO CONSTRUCTION.
 3. CONTRACTOR IS REQUIRED TO COORDINATE APPROVAL OF SHOP DRAWINGS AND SPECIFICATIONS AND SHALL BE OBLIGATED FOR ANY COST THEREOF.
 - D. GENERAL**
 1. DEBRIS IS TO BE KEPT OUT OF THE FACILITY DURING AND AFTER CONSTRUCTION.

NO.	DATE	REVISION
6-2-09		REV. TO ALLOW FOR USE OF HDPE FOR USWWM
4-8-09		UNDERGROUND SWM STORAGE FACILITY REVISED TO ACCOMMODATE THE REPLACEMENT WQ FACILITIES

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

OWNER: 8201 ASSOCIATES, LLC
 REPUBLICAN NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK BLOCK C, PARCEL C REPUBLICAN NATIONAL DISTRIBUTING CO. WAREHOUSE ADDITION

LOCATION: TAX MAP 48 - GRID 1 PARCEL 152 - PB24, P94 6TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

TITLE: REVISED SITE DEVELOPMENT PLAN UNDERGROUND SWM FACILITY NOTES AND DETAILS

DATE: JUNE, 2007 MARCH, 2009 PROJECT NO. 1982

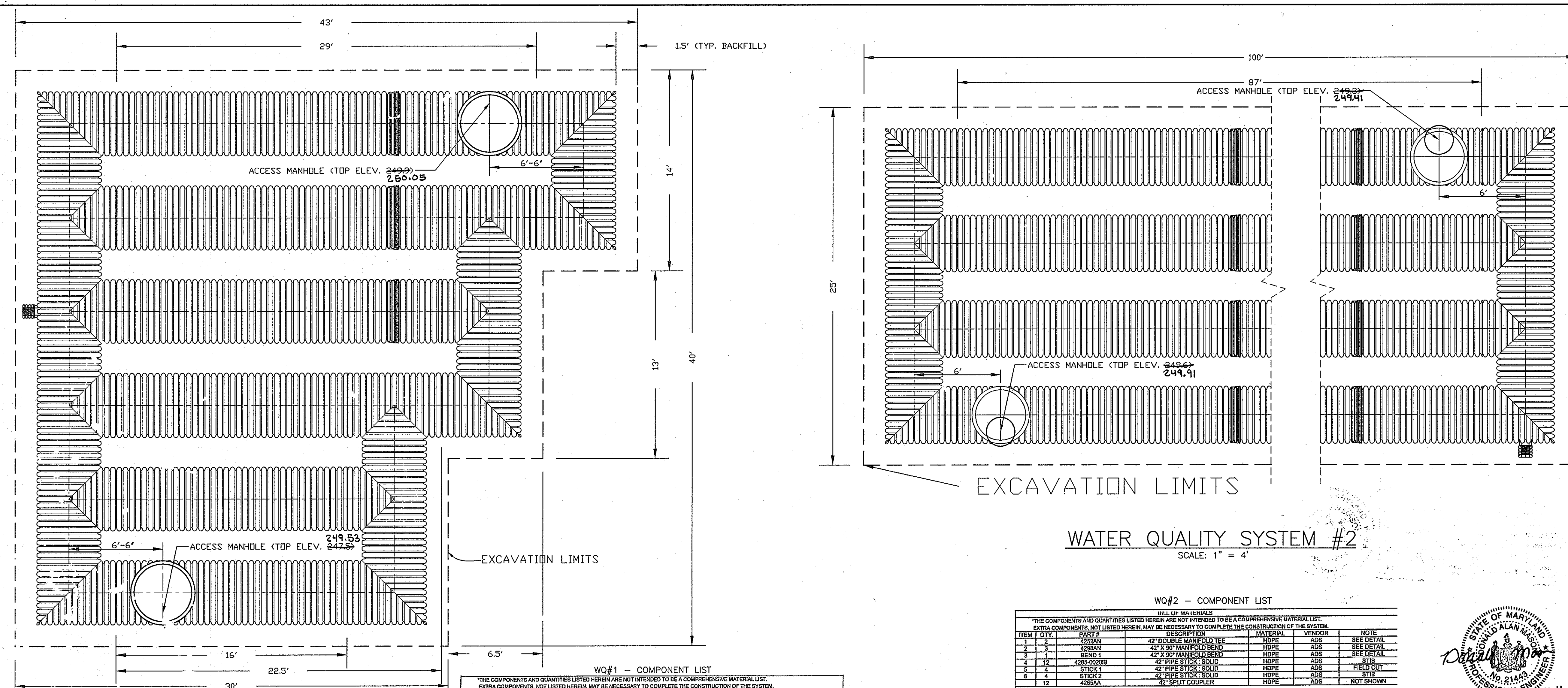
SCALE: AS SHOWN DRAWING 8 OF 11

Design: BFC/HPP Draft: EDD Check: BFC

AS-BUILT SDP-07-130

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS (WQ#1, WQ#2)

- The BaySaver water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the BaySaver unit yearly at a minimum, utilizing the BaySaver Inspection/Monitoring Form. Inspections shall be done by using a Grade Stick or similar device. When the sediment depths exceed 2 feet, the unit must be cleaned.
- The BaySaver water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
- The maintenance of the BaySaver unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the BaySaver unit shall be repaired as needed.
- The owner shall retain and make the BaySaver Inspection/Monitoring Forms available to the Howard County officials upon their request.



WATER QUALITY SYSTEM #1
SCALE: 1" = 4'

WATER QUALITY SYSTEM #2
SCALE: 1" = 4'

WQ#1 - COMPONENT LIST

THE COMPONENTS AND QUANTITIES LISTED HEREIN ARE NOT INTENDED TO BE A COMPREHENSIVE MATERIAL LIST. EXTRA COMPONENTS, NOT LISTED HEREIN, MAY BE NECESSARY TO COMPLETE THE CONSTRUCTION OF THE SYSTEM.

ITEM #	QTY	PART #	DESCRIPTION	MATERIAL	VENDOR	NOTE
1	1	4851AN	48" SINGLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
2	1	4852AN	48" DOUBLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
3	1	MANIFOLD 1	48" DOUBLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
4	8	4853AN	48" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
5	3	STICK 1	48" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
6	1	STICK 2	48" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
7	3	STICK 3	48" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
8	3	STICK 4	48" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
9	2	4855AA	48" SPLIT COUPLER	HDPE	ADS	NOT SHOWN

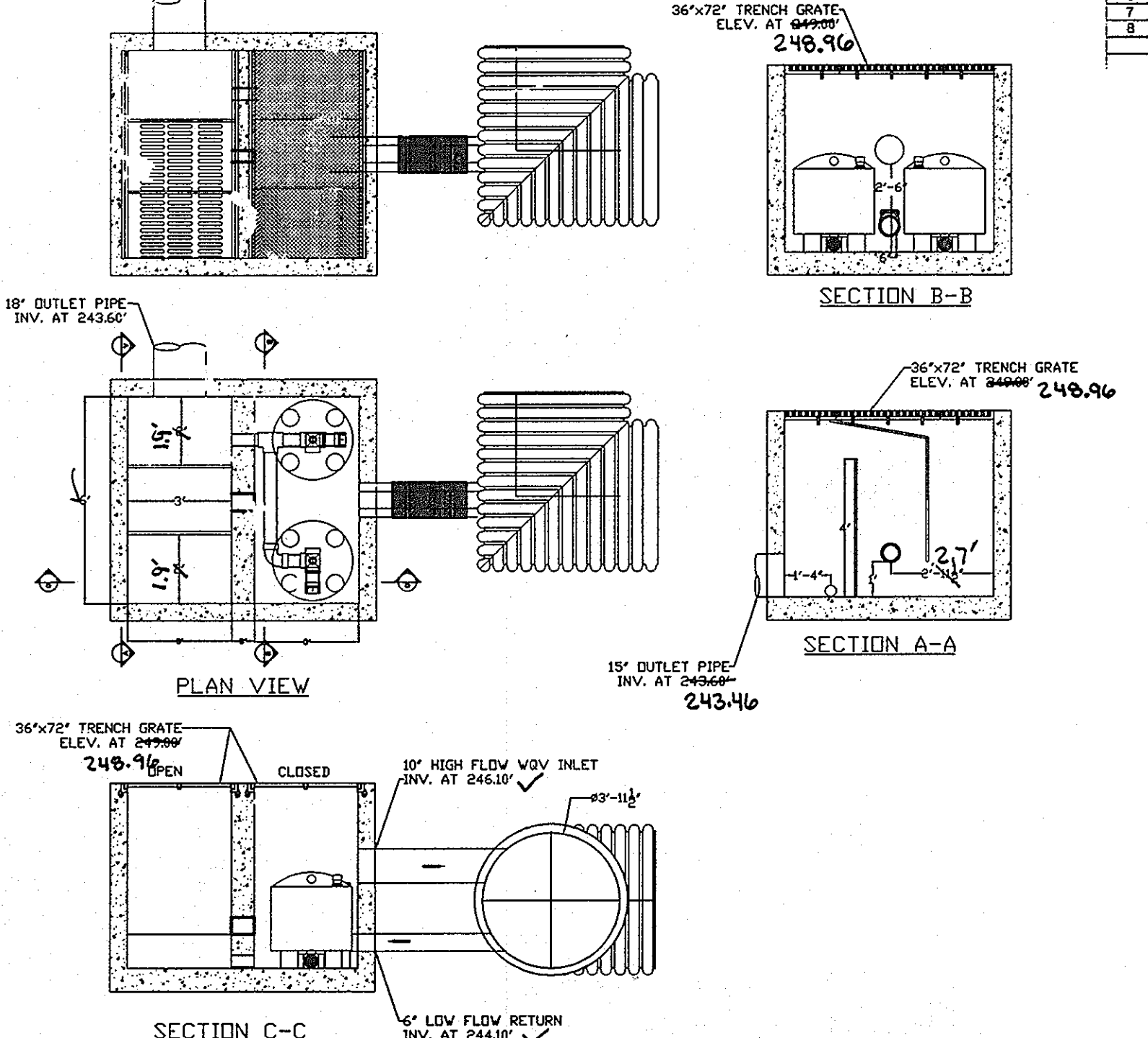
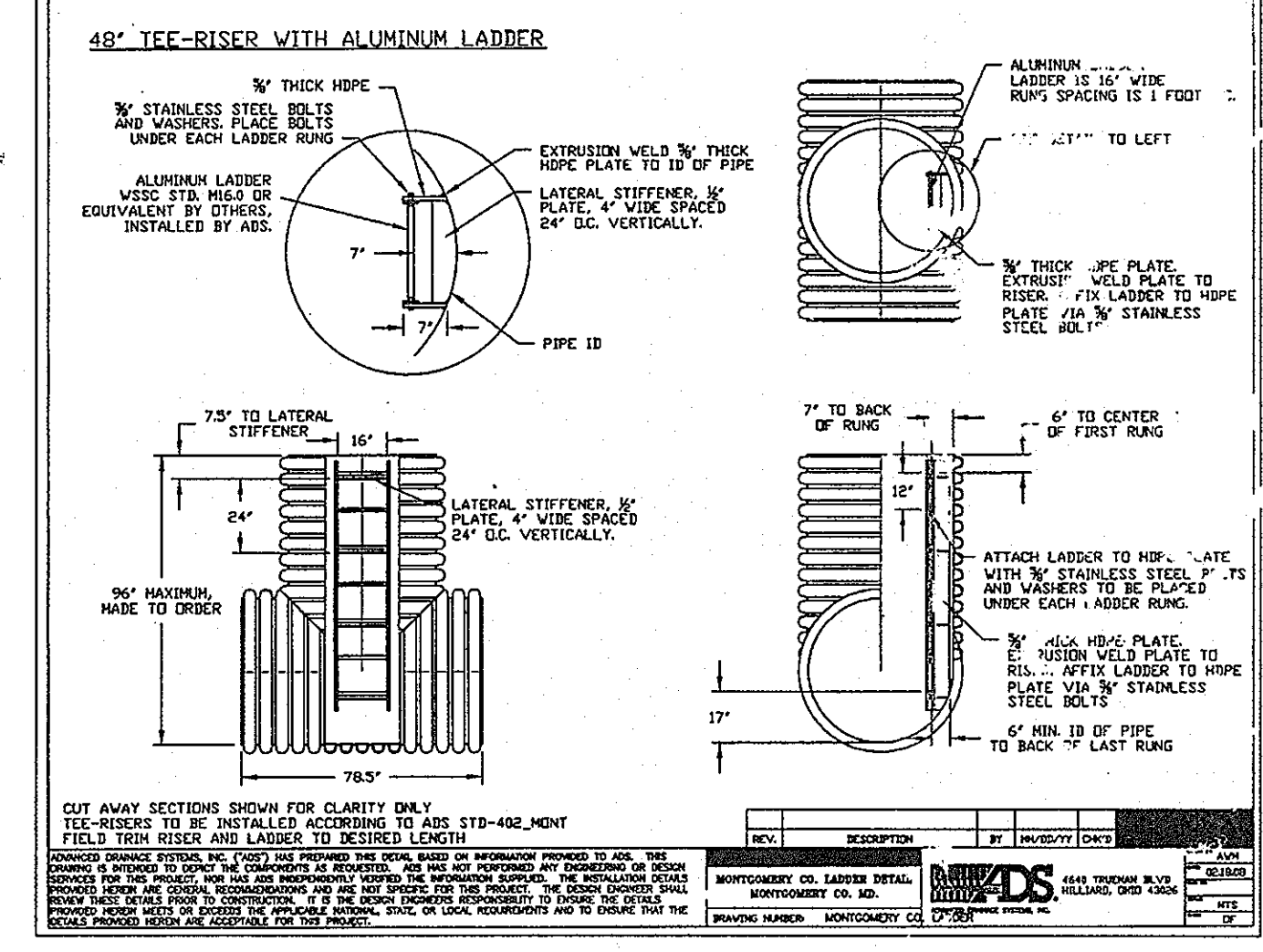
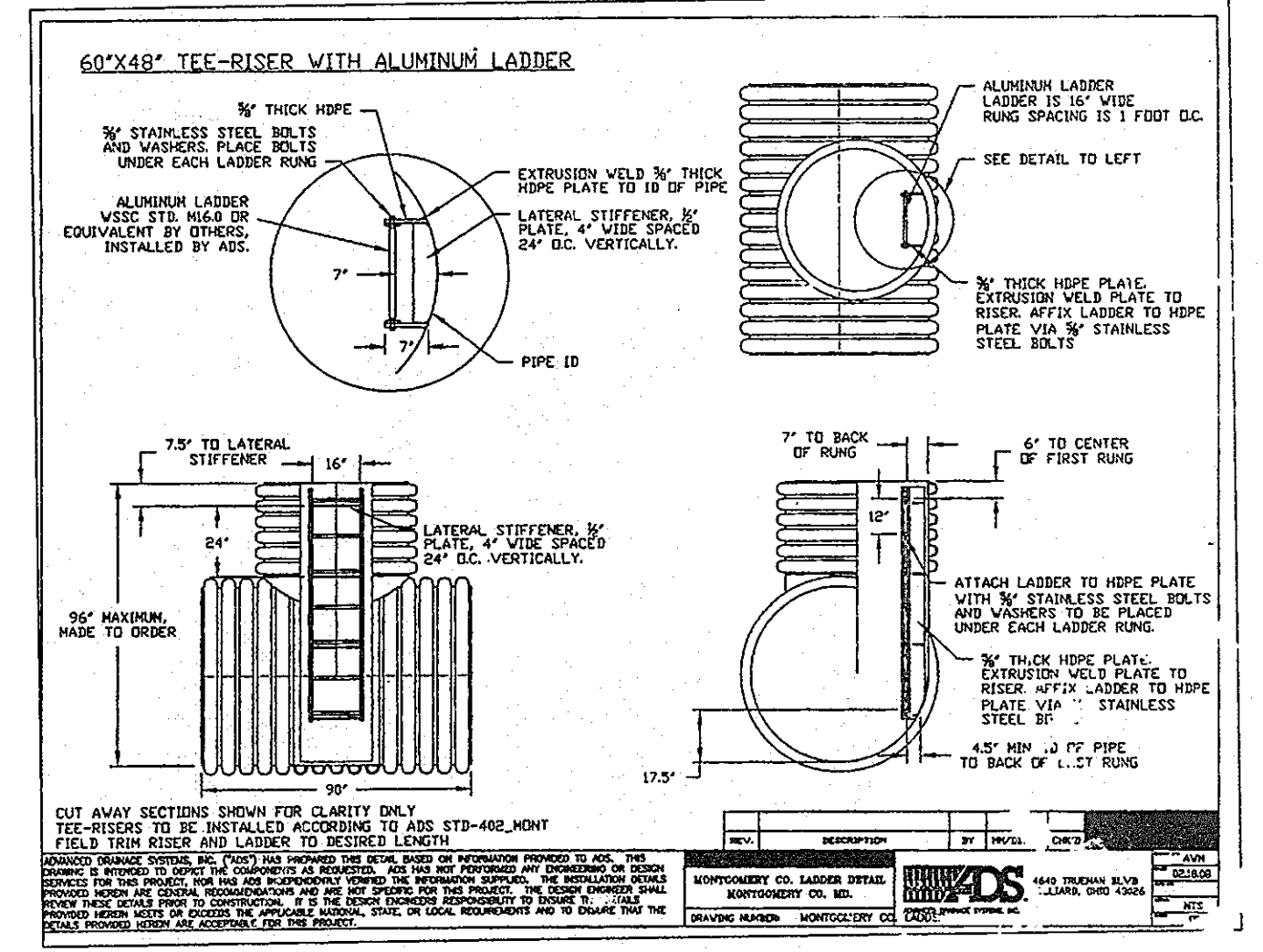
WQ#2 - COMPONENT LIST

THE COMPONENTS AND QUANTITIES LISTED HEREIN ARE NOT INTENDED TO BE A COMPREHENSIVE MATERIAL LIST. EXTRA COMPONENTS, NOT LISTED HEREIN, MAY BE NECESSARY TO COMPLETE THE CONSTRUCTION OF THE SYSTEM.

ITEM #	QTY	PART #	DESCRIPTION	MATERIAL	VENDOR	NOTE
1	2	4252AN	42" DOUBLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
2	3	4253AN	42" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
3	1	BEND 1	42" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
4	12	4285-0000B	42" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
5	4	STICK 1	42" PIPE STICK - SOLID	HDPE	ADS	ST1B
6	4	STICK 2	42" PIPE STICK - SOLID	HDPE	ADS	ST1B
12	1	4285AA	42" SPLIT COUPLER	HDPE	ADS	NOT SHOWN



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: 12-21-12

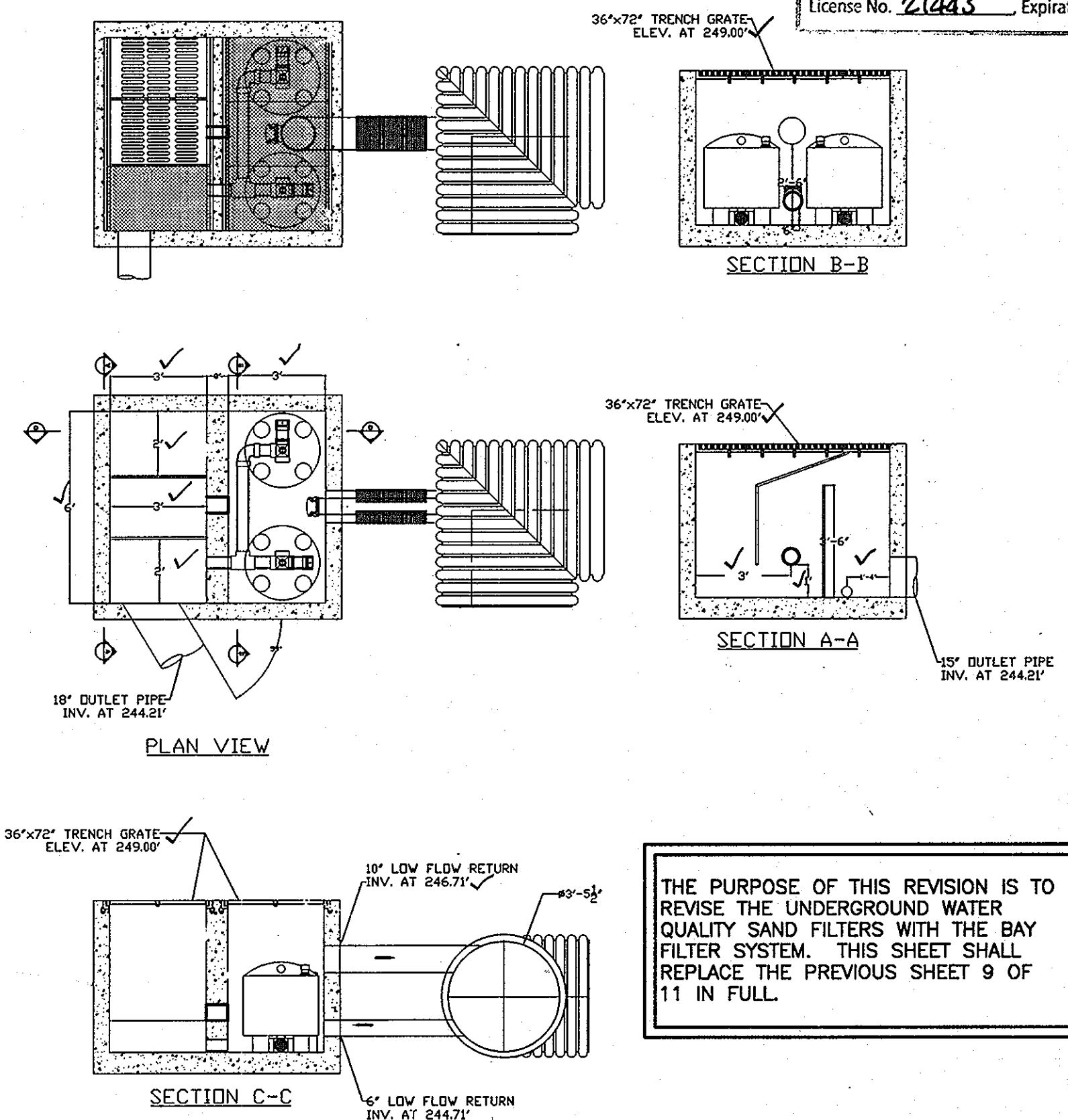


FILTER AND DIVERSION STRUCTURE #1
SCALE: 1" = 4'

GENERAL NOTES FOR WATER QUALITY SYSTEMS:

- ALL REFERENCES TO CLASS I OR MATERIAL ARE PER ASTM D321 "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS" LATEST EDITION.
- ALL RETENTION AND DETENTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D321, LATEST EDITION AND THE MANUFACTURER'S PUBLISHED INSTALLATION GUIDELINES.
- MEASURES SHOULD BE TAKEN TO PREVENT THE MIGRATION OF NATIVE PIPES INTO THE BACKFILL MATERIAL, WHEN REQUIRED. SEE ASTM D321.
- FILTER FABRIC: A GEOTEXTILE FABRIC MAY BE USED AS SPECIFIED BY THE ENGINEER TO PREVENT THE MIGRATION OF PIPES FROM THE NATIVE SOIL INTO THE SELECT BACKFILL MATERIAL.
- FOUNDATION: WHERE THE TRENCH BOTTOMS UNDEVELOP, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm) 6" (150mm) FOR 24" (600mm-900mm).
- BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM COVER SHALL BE 18" (450mm) OVER THE TOP OF PIPE. THE COVER SHOULD BE MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
- MINIMUM COVER: MINIMUM COVER OVER ALL RETENTION/DETENTION SYSTEMS IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE) SHALL BE 18" (450mm) UNLESS OTHERWISE NOTED BY THE ENGINEER. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION FOR TRAFFIC APPLICATIONS. MINIMUM COVER IS 18" (450mm) OVER THE TOP OF PIPE. THE COVER SHOULD BE MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

NOMINAL DIAMETER	TYPICAL SPACING	TYPICAL SIDE WALL	H (NON-TRAFFIC)	H (TRAFFIC)
12" (300 MM)	14.5" (370 MM)	25.5" (650 MM)	12"	12"
15" (375 MM)	18" (450 MM)	32.5" (830 MM)	12"	12"
18" (450 MM)	21" (530 MM)	39.5" (1000 MM)	12"	12"
24" (600 MM)	28" (710 MM)	46.5" (1180 MM)	12"	12"
30" (750 MM)	36" (900 MM)	54.5" (1390 MM)	12"	12"
36" (900 MM)	42" (1050 MM)	61.5" (1560 MM)	12"	12"
42" (1050 MM)	48" (1200 MM)	68.5" (1740 MM)	12"	12"
48" (1200 MM)	54" (1350 MM)	75.5" (1910 MM)	12"	24"
60" (1500 MM)	66" (1650 MM)	87.5" (2220 MM)	12"	24"



FILTER AND DIVERSION STRUCTURE #2
SCALE: 1" = 4'

THE PURPOSE OF THIS REVISION IS TO REVISE THE UNDERGROUND WATER QUALITY SAND FILTERS WITH THE BAY FILTER SYSTEM. THIS SHEET SHALL REPLACE THE PREVIOUS SHEET 9 OF 11 IN FULL.

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

5/1/09 DATE
 4/29/09 DATE
 5/1/09 DATE

4-8-09 DATE
 4-8-09 DATE

REPLACED WATER QUALITY SAND FILTERS W/ BAYFILTER REVISION

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE A SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-6844
 www.bei-civilengineering.com

OWNER: 8201 ASSOCIATES, LLC
 REPUBLICAN NATIONAL DISTRICTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK BLOCK C, PARCEL C
 REPUBLICAN NATIONAL DISTRICTING CO. WAREHOUSE ADDITION

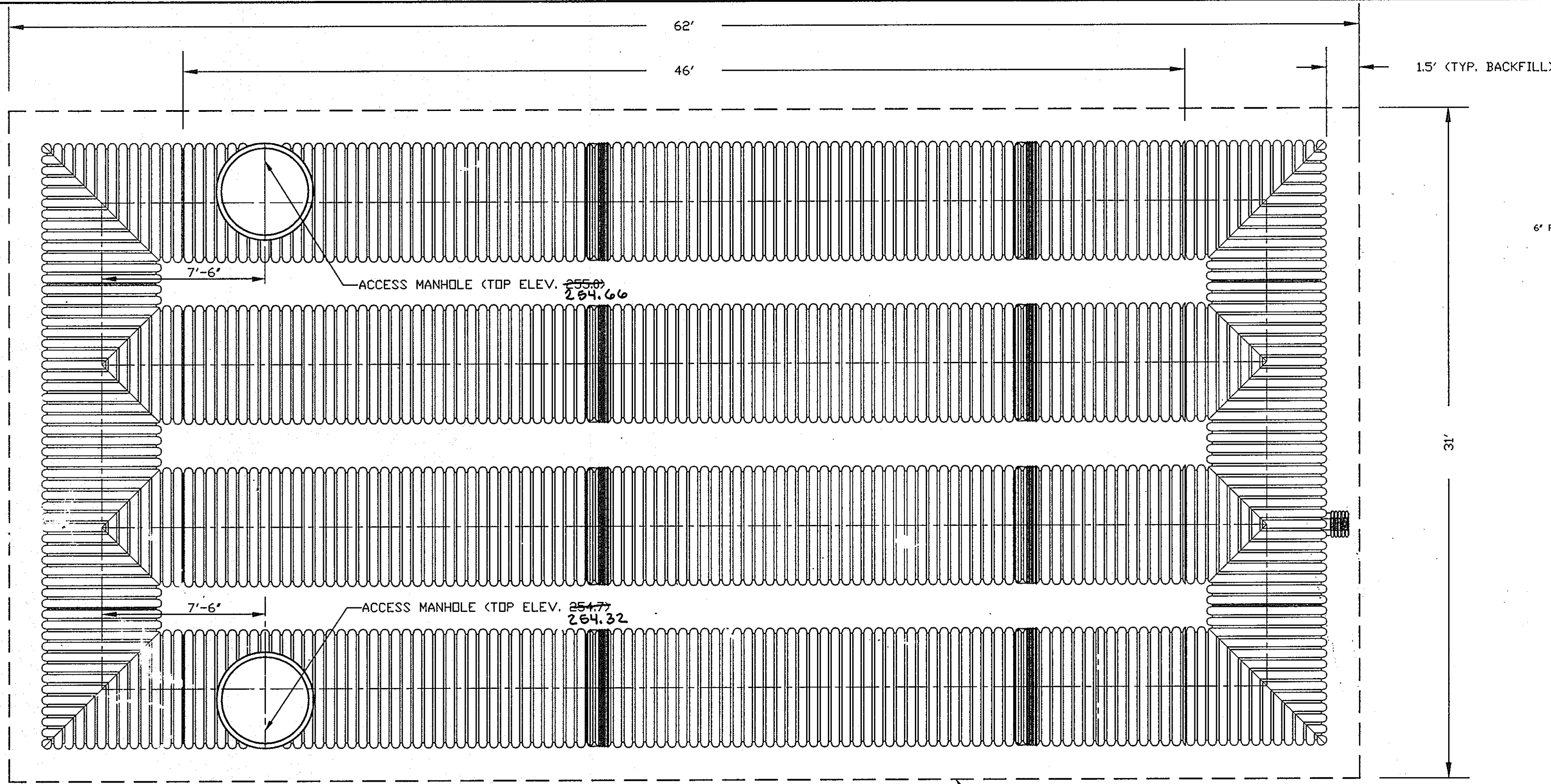
LOCATION: TAX MAP 48 - GRID PARCEL 152 - PB24, P94
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: REVISED SITE DEVELOPMENT PLAN WATER QUALITY #1 AND #2 NOTES AND DETAILS

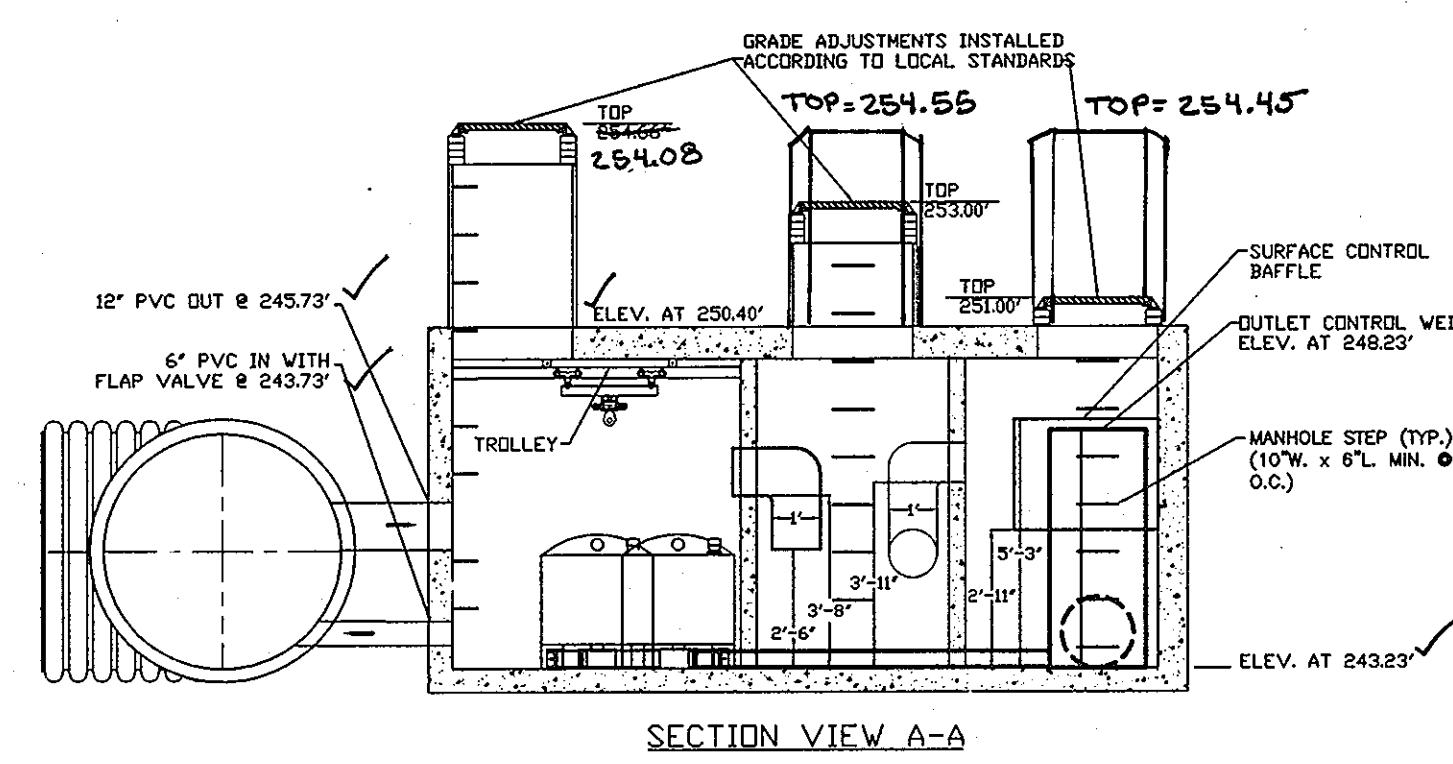
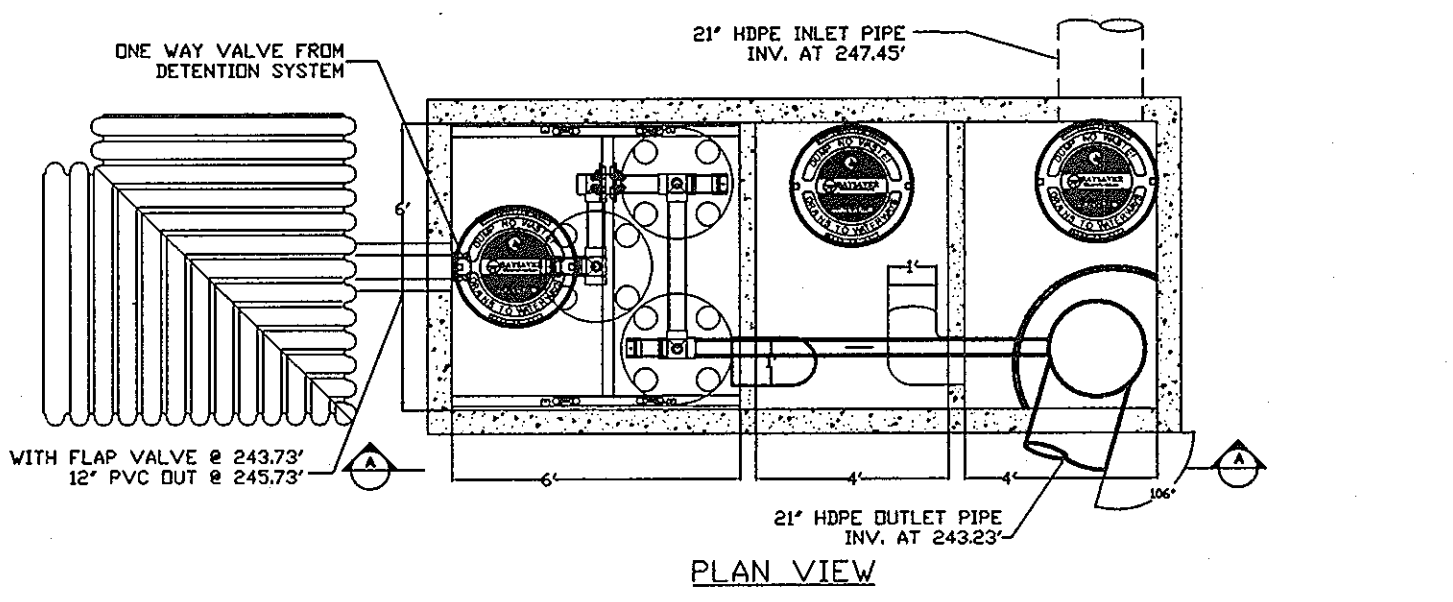
DATE: JUNE, 2007 PROJECT NO. 1982
 MARCH, 2009

Design: DAM/HFPF Draft: EDD Check: DAM SCALE: AS SHOWN DRAWING 9 OF 11

AS-BUILT SDP-07-130



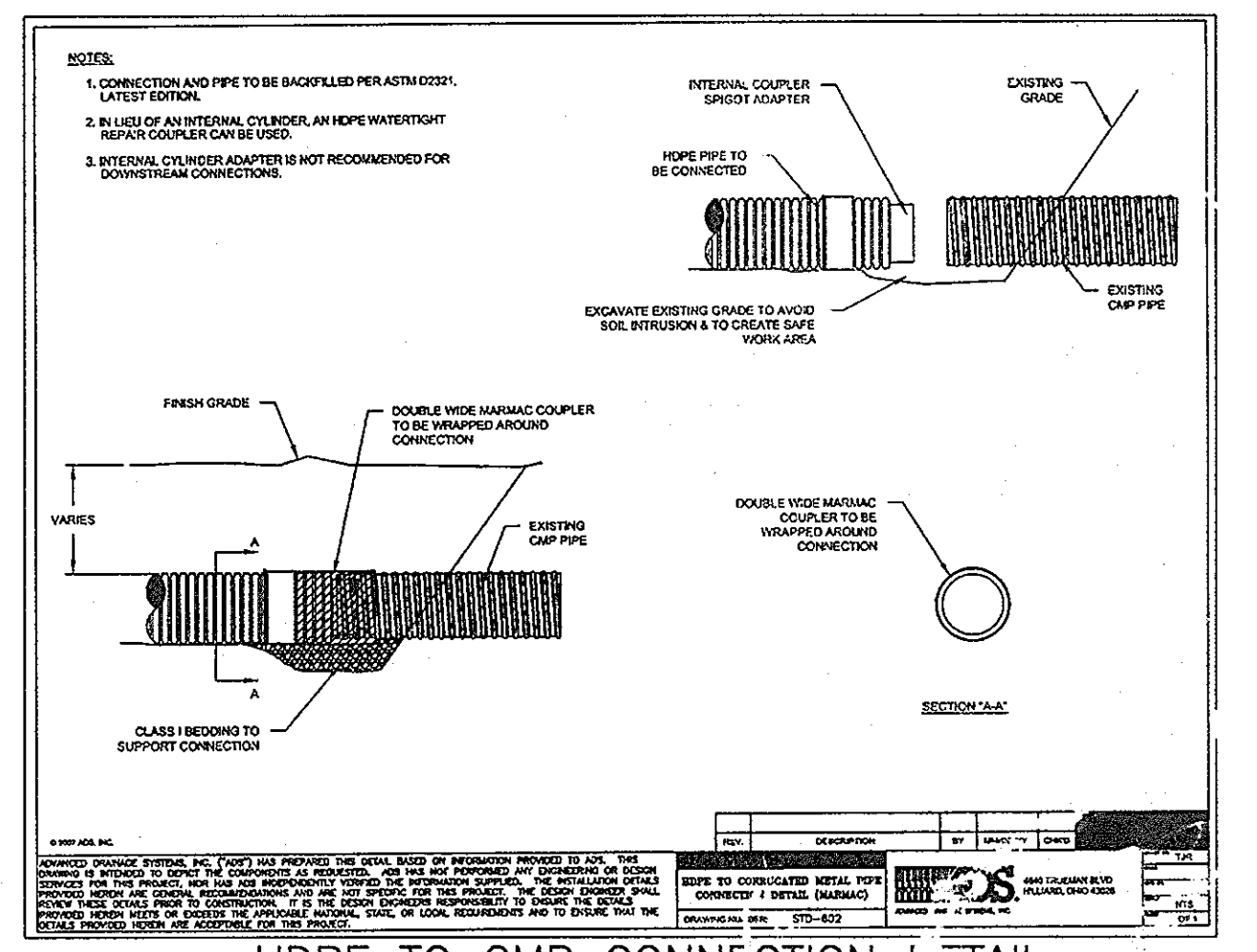
WATER QUALITY SYSTEM #4
SCALE: 1" = 4'



FILTER AND DIVERSION STRUCTURE #4
SCALE: 1" = 4'

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS (WQv#3, WQv#4)

- The BaySaver water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the BaySaver unit yearly at a minimum, utilizing the BaySaver Inspection/Monitoring Form. Inspections shall be done by using a Grade Stick or similar device. When the sediment depths exceed 2 feet, the unit must be cleaned.
- The BaySaver water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
- The maintenance of the BaySaver unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
- The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the BaySaver unit shall be repaired as needed.
- The owner shall retain and make the BaySaver Inspection/Monitoring Forms available to the Howard County officials upon their request.



HDPE TO CMP CONNECTION L-TAIL
N.T.S.

WQ#4 - COMPONENT LIST

*THE COMPONENTS AND QUANTITIES LISTED HEREIN ARE NOT INTENDED TO BE A COMPREHENSIVE MATERIAL LIST. EXTRA COMPONENTS, NOT LISTED HEREIN, MAY BE NECESSARY TO COMPLETE THE CONSTRUCTION OF THE SYSTEM.

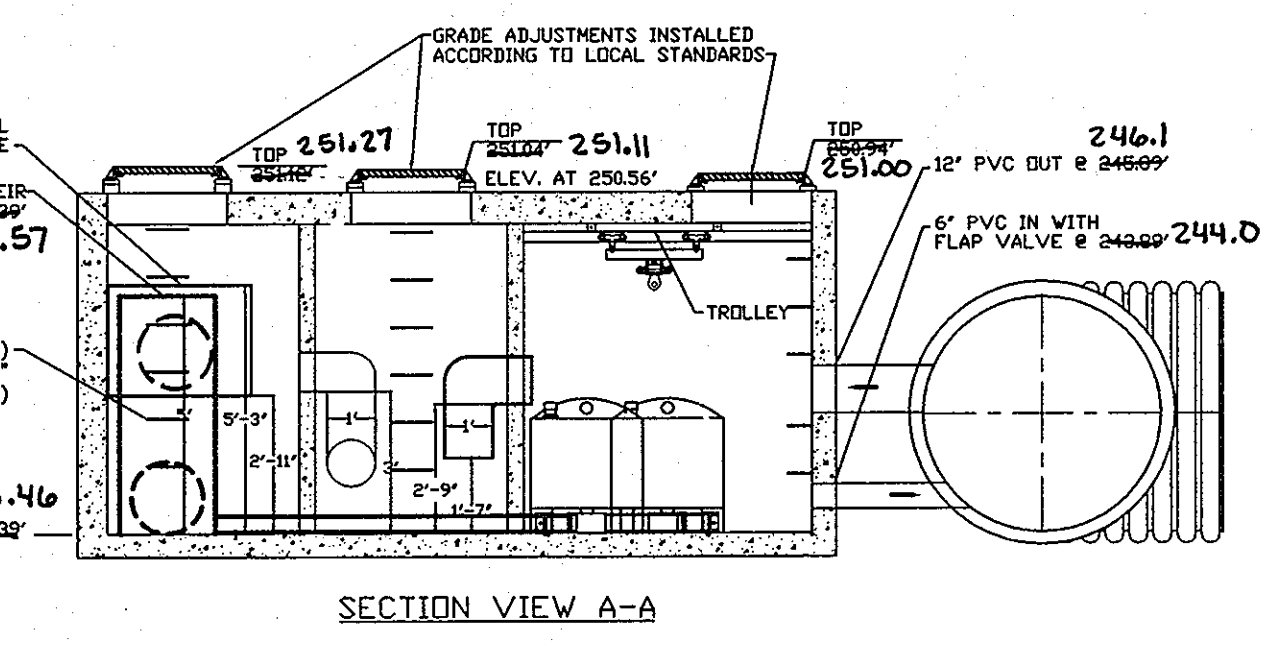
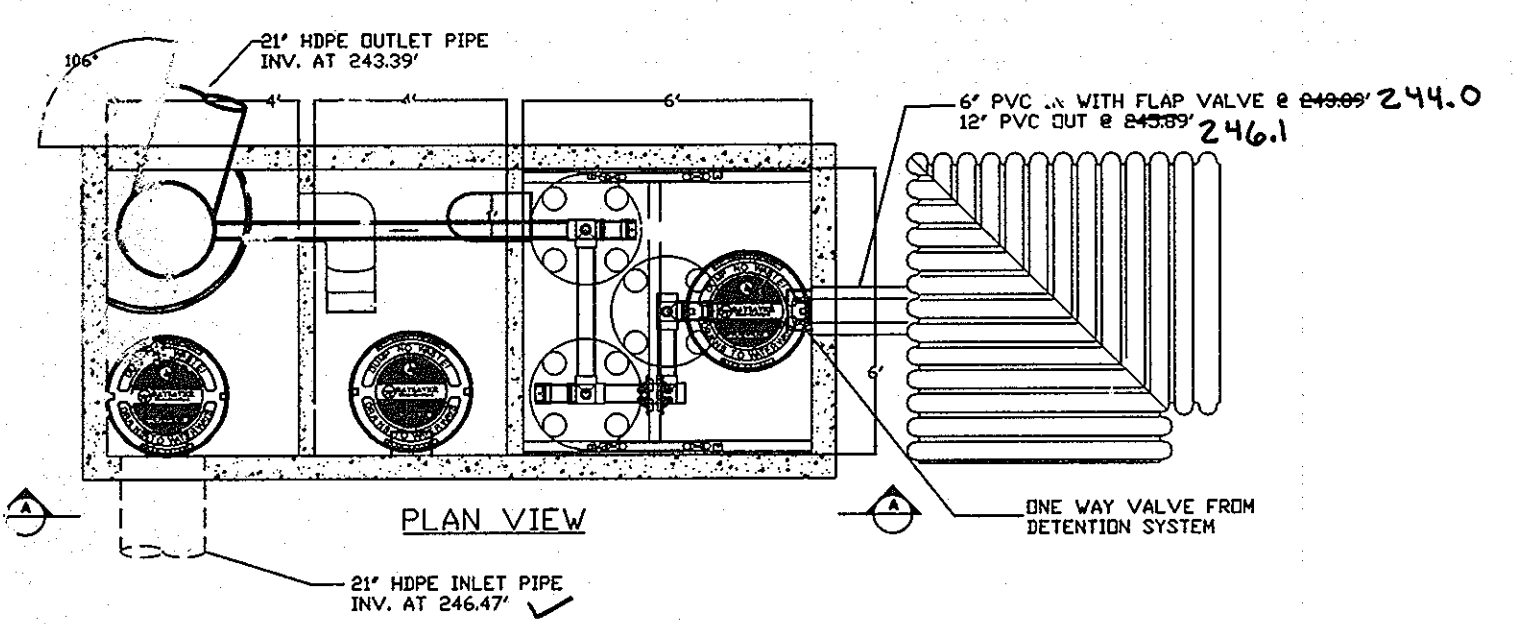
ITEM	QTY	PART #	DESCRIPTION	MATERIAL	VENDOR	NOTE
1	1	6022AN	60" DOUBLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
2	1	6022AN	60" DOUBLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
3	4	6022AN	60" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
4	4	6022AN	60" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
5	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
6	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
7	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
8	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
9	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
10	1	6065AA	60" SPLIT COUPLER	HDPE	ADS	NOT SHOWN

WQ#3 - COMPONENT LIST

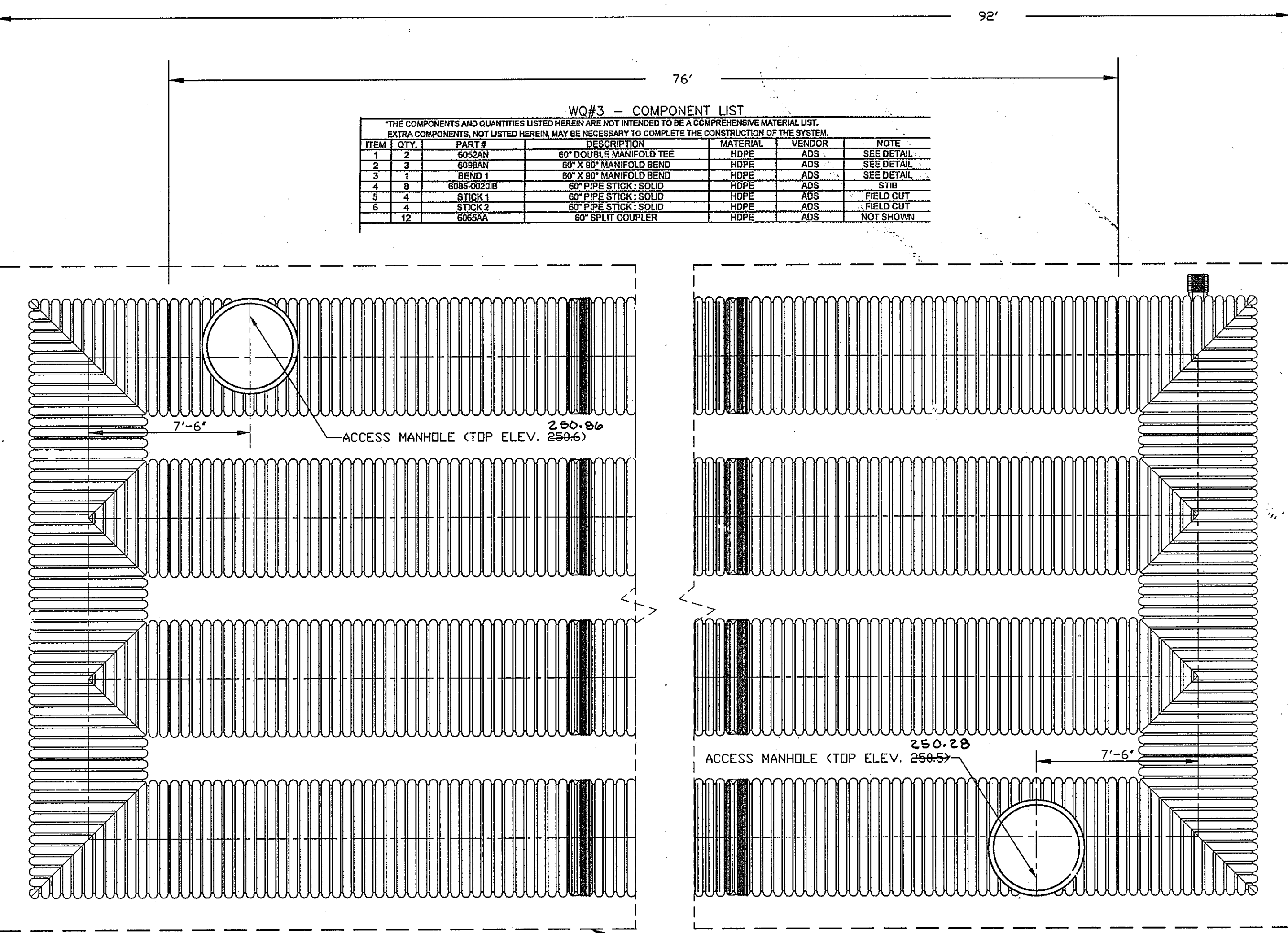
*THE COMPONENTS AND QUANTITIES LISTED HEREIN ARE NOT INTENDED TO BE A COMPREHENSIVE MATERIAL LIST. EXTRA COMPONENTS, NOT LISTED HEREIN, MAY BE NECESSARY TO COMPLETE THE CONSTRUCTION OF THE SYSTEM.

ITEM	QTY	PART #	DESCRIPTION	MATERIAL	VENDOR	NOTE
1	2	6022AN	60" DOUBLE MANIFOLD TEE	HDPE	ADS	SEE DETAIL
2	3	6022AN	60" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
3	1	6022AN	60" X 90" MANIFOLD BEND	HDPE	ADS	SEE DETAIL
4	8	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
5	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
6	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
7	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
8	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
9	4	6022AN	60" PIPE STICK - SOLID	HDPE	ADS	FIELD CUT
10	1	6065AA	60" SPLIT COUPLER	HDPE	ADS	NOT SHOWN

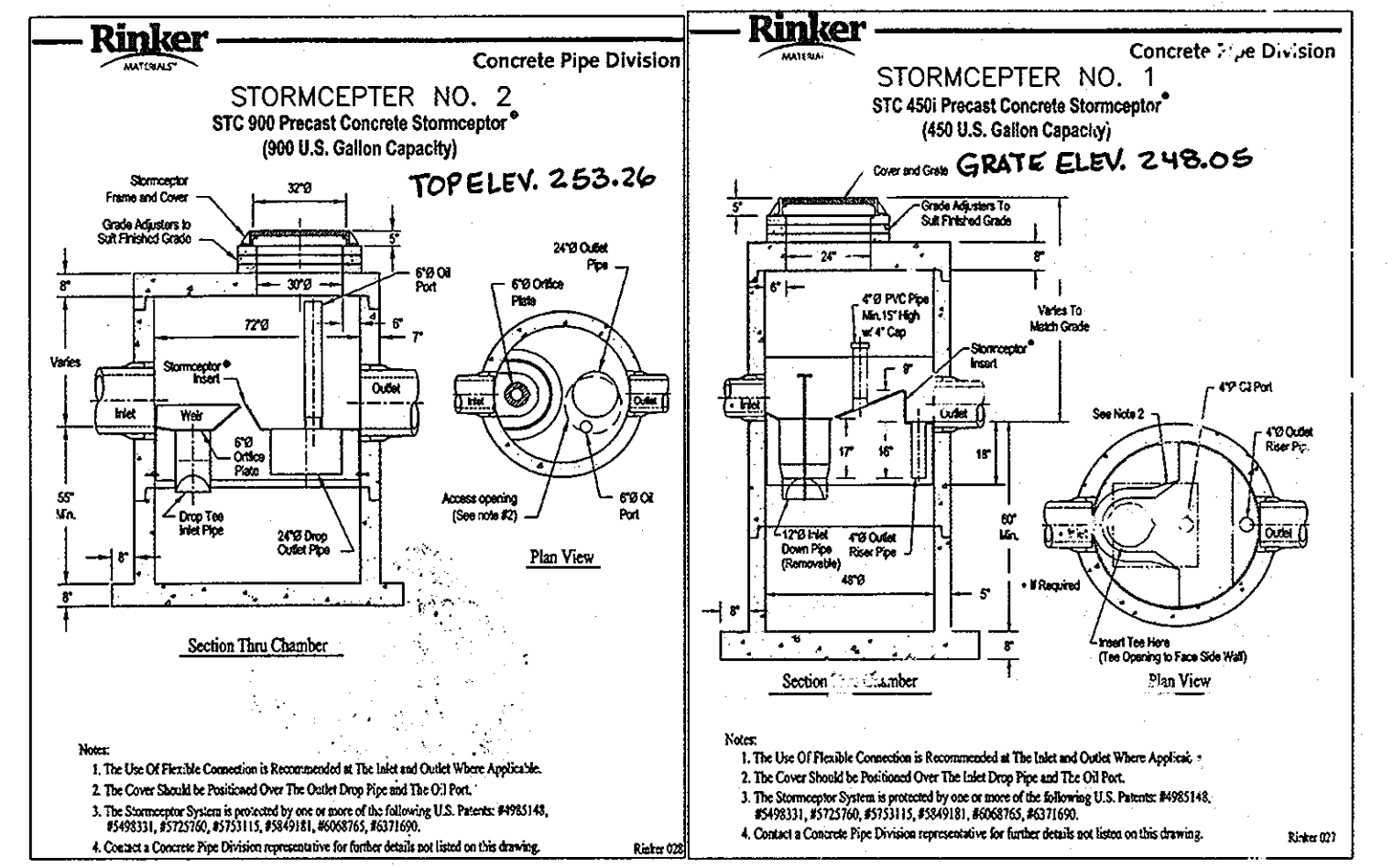
NOTE: THE INCOMING PIPE TO THE FACILITIES SHALL BE CAPPED OFF UNTIL THE CONTRIBUTING AREAS HAVE BEEN STABILIZED



FILTER AND DIVERSION STRUCTURE #3
SCALE: 1" = 4'



WATER QUALITY SYSTEM #3
SCALE: 1" = 4'



STORMCEPTER DETAIL
N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chris Ham
CHIEF, DIVISION OF LAND DEVELOPMENT

Alan Dammann
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Dennis J. Smith
DIRECTOR, DEP.

5/1/07 DATE

4/26/09 DATE

5/1/09 DATE

THE PURPOSE OF THIS REVISION IS TO REVISE THE UNDERGROUND WATER QUALITY SAND FILTERS WITH THE BAY FILTER SYSTEM. THIS SHEET SHALL REPLACE THE PREVIOUS SHEET 10 OF 11 IN FULL.

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. 21423, Expiration Date: 12-21-12

NO.	DATE	REVISION
4-8-09		REPLACED WATER QUALITY SAND FILTERS W/ BAYFILTER

BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
www.bei-civilengineering.com

OWNER: 8201 ASSOCIATES, LLC
REPUBLICAN NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK
BLOCK C, PARCEL C
REPUBLICAN NATIONAL DISTRIBUTING CO.
WAREHOUSE ADDITION

LOCATION: TAX MAP 48 - GRID 1
PARCEL 152 - PB24, P94
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

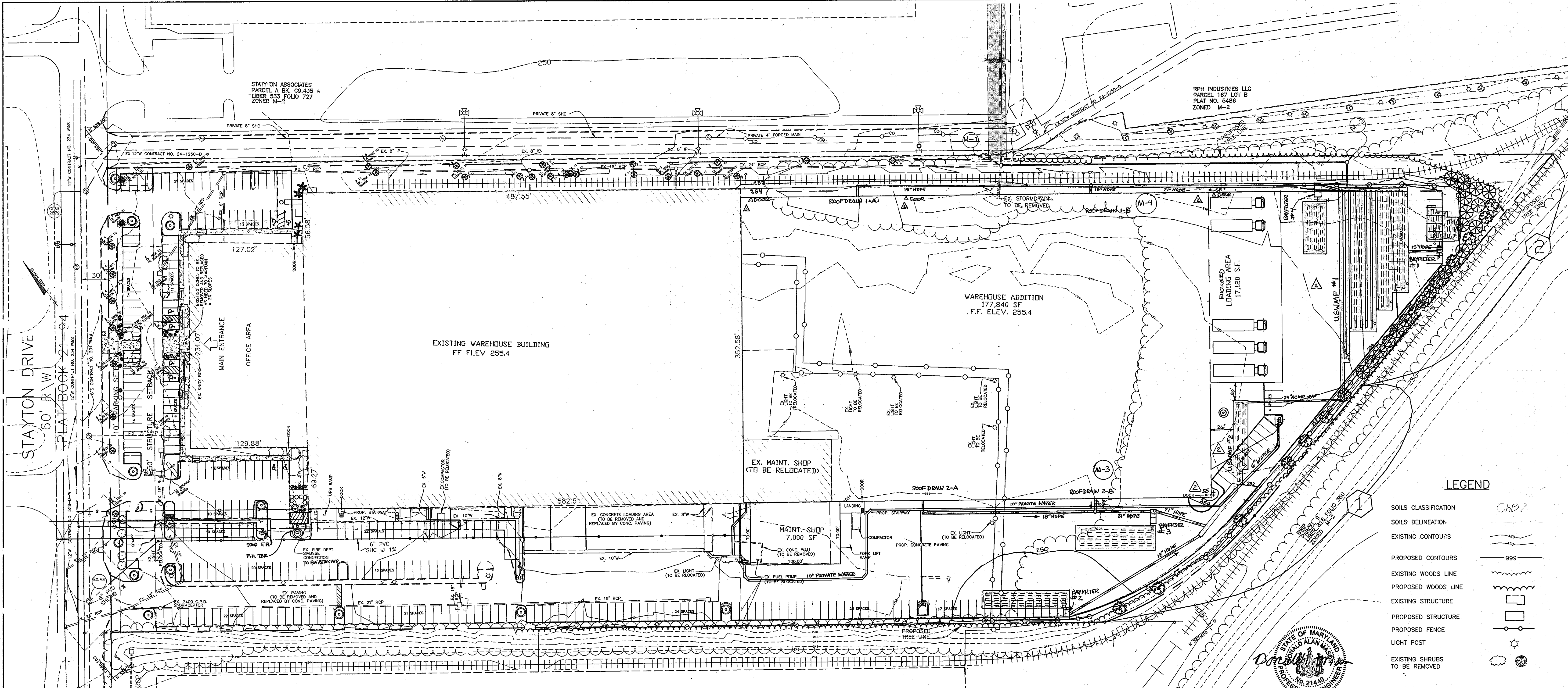
TITLE: REVISED SITE DEVELOPMENT PLAN
WATER QUALITY #3 AND #4 NOTES AND
DETAILS

DATE: JUNE, 2007
MARCH, 2009

PROJECT NO. 1982

Design: DAM/HPP Draft: EDD Check: DAM SCALE: AS SHOWN DRAWING 10 OF 11

AS-BUILT SDP-07-130



LEGEND

- SOILS CLASSIFICATION
- SOILS DELINEATION
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING WOODS LINE
- PROPOSED WOODS LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- PROPOSED FENCE
- LIGHT POST
- EXISTING SHRUBS TO BE REMOVED



NO AS-BUILT INFORMATION IS REQUIRED ON THIS SHEET

PLAN SCALE: 1" = 50'

NO.	TYPE	SYMBOL	CONDITION
1	EUONYMUS FORUNEI		GOOD
2	COMMON JUNIPER		GOOD
3	AZALEA		GOOD
4	EUROPEAN LINDEN		GOOD
5	PRUNUS CHERRY		GOOD
6	ELM		GOOD
7	CEDAR		GOOD
8	HEMLOCK		GOOD
9	WHITE PINE		GOOD
10	HOLLY		GOOD
11	LONDON PLANETREE		GOOD
12	WHITE ASH		GOOD
13	AMERICAN MOUNTAIN ASH		GOOD
14	WASHINGTON HAW. YORN		GOOD
15	BOXWOOD		GOOD
16	BARBERRY		GOOD
17	YEW		GOOD

FOR USWMF #1 & #2, PIPE LENGTH, SIZE, NOS. AND TYPE, SEE SHEET #8 OF 11.

NOTE: 15 LANDSCAPE ISLAND AND TREES ARE PROPOSED. 1 SHADE TREE PLUS 4 SHRUBS ARE PROVIDED BETWEEN THE PARKING AND THE RIGHT-OF-WAY AS A SUBSTITUTION OF THE 16" PARKING LOT TREE.

CATEGORY	SCHEDULE A PERIMETER LANDSCAPE EDGE	
	ADJ. TO PERIMETER PROP. (1)	ADJ. TO PERIMETER PROP. (2)
LANDSCAPE TYPE	A	C
LINEAR FEET OF PERIMETER OR ROADWAY FRONTAGE	394	337
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO
NUMBER OF PLANTS REQUIRED/PROVIDED	7	8
SHADE TREES	-	-
EVERGREEN TREES	-	17
OTHER TREES (2:1 SUBSTITUTE)	-	-
SHRUBS	-	-

PERIMETER LIST			
SYMBOL	QUANTITY	NAME	REMARKS
	15	TILIA CORDATA 'GREENSPRING' (Greenspire Littleleaf Linden)	2 1/2" MIN. CAL. B&B FULL HEAD
	17	CEGDAR CEDAR CEDRUS DEODARA (ROXB.) G. DON. T.	5' - 6' HT.

PARKING LOT LIST			
SYMBOL	QUANTITY	NAME	REMARKS
	16	ACER RUBRUM 'RED SUNSET' (Red Sunset Red Maple)	2-1/2" - 3" cal.
	4	JUNIPERUS CHINENSIS 'PYRAMIDALIS' COMPACT PYRIZER JUNIPER	2-1/2" - 3" ht.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING		
NUMBER OF PARKING SPACES EXISTING	319	
NUMBER OF TREES REQUIRED	319PU	20 SPACES x = 16
NUMBER OF TREES PROVIDED	16	
SHADE TREES		
OTHER TREES (2:1 SUBSTITUTE)	0	

- LANDSCAPE NOTES:**
- TREES SHOULD BE PLANTED A MINIMUM OF 6 FEET FROM THE EDGE OF PAVING AND MUST BE A MINIMUM OF 5 FEET FROM ANY STORM DRAIN.
 - TREES MUST BE PLANTED A MINIMUM OF 5 FEET FROM AN OPEN SPACE ACCESS STRIP AND 10 FEET FROM 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.
 - FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$11,970.00 (\$4,500 FOR 15 PERIMETER SHADE TREES, \$2,550 FOR 17 EVERGREEN TREES, \$4,920 FOR 16 PARKING LOT INTERNAL TREES AND \$120.00 FOR 4 SHRUBS)

NOTE: FIRE HYDRANT TO BE REMOVED WILL BE RETURNED TO THE DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Cindy Hester, 5/18/08
 Chief, Division of Land Development
 David L. Wynn, 6/23/08
 Chief, Development Engineering Division
 Director

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.
 BUILDER: 8201 ASSOCIATES, LLC
 DATE: 6/23/08

NOTE: 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.

8-19-09	REV. PUBLIC & PRIVATE WATER	
6-2-09	REV. TO REMOVE STEPS AT BUILDING ACCESS	
4-13-09	REV. TO REPLACE SAND FILTER WITH FILTERS & RECONFIGURE SDI STORAGE TO ACCOMMODATE	
NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6644
 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. 21443, Expiration Date: 12-31-2008.

OWNER: 8201 ASSOCIATES, LLC
 REPUBLIC NATIONAL DISTRIBUTING COMPANY

PROJECT: BALTIMORE WASHINGTON INDUSTRIAL PARK BLOCK C, PARCEL C
 REPUBLIC NATIONAL DISTRIBUTING CO. WAREHOUSE ADDITION

LOCATION: TAX MAP 48 - GRID 1
 PARCEL 152 - P824, P824
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN
 NOTES AND DETAILS

DATE: JUNE 2007 PROJECT NO. 1982
 AUGUST 2008

Design: DAM/HPP Draft: EDD Check: DAM SCALE: 1" = 50' DRAWING 11 OF 11