

Construction Notes

1. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST 24 HOURS PRIOR TO STARTING ANY OF THE WORK SHOWN HEREON.
2. ALL AREAS NOT BEING PAVED OR RECEIVING BUILDING COVERAGE SHALL BE STABILIZED IN ACCORDANCE WITH THE PLANS APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
3. THE CONTRACTOR SHALL NOTE THAT IN CASE OF DISCREPANCY BETWEEN ANY SCALED DIMENSIONS AND THE FIGURED DIMENSIONS SHOWN ON THESE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
4. CONTRACTOR SHALL MEET ALL EXISTING IMPROVEMENTS SMOOTHLY FOR LINE, GRADE AND FINISH.
5. ALL WORK SHOWN ON THESE PLANS SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND OF THE MARYLAND STATE HIGHWAY ADMINISTRATION AND THE HOWARD COUNTY PLUMBING CODE, UNLESS OTHERWISE NOTED.
6. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM SUCH WORK. THE COST OF SUCH WORK SHALL BE INCLUDED IN THE BASE BID.
7. THE CONTRACTOR SHALL INSPECT THE SITE TO DETERMINE IF ANY TREES, PAVING, ETC. ARE TO BE REMOVED PRIOR TO PLACING A BID ON SUCH ITEMS.
8. THE LOCATIONS OF EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE LOCATIONS ARE TAKEN FROM LOCATIONS. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF 5 WORKING DAYS PRIOR TO DIGGING. THE CONTRACTOR SHALL CONFIRM TO HIS OWN SATISFACTION THE LOCATION OF ALL UTILITIES PRIOR TO ANY EXCAVATION OR PLACEMENT OF MATERIALS. IF ANY CONFLICT IS FOUND BETWEEN UNDERGROUND UTILITIES AND THE PROPOSED LOCATION OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT G. W. STEPHENS AND THE OWNER OF THE UTILITY IMMEDIATELY. ANY DAMAGE OR DISRUPTION OF SERVICE SHALL BE AT THE EXPENSE OF THE CONTRACTOR. RELOCATION OF ANY EXISTING UTILITIES, IF NECESSARY, SHALL BE AT THE EXPENSE OF THE OWNER. THE CONTRACTOR SHALL COORDINATE RELOCATION OF THESE FACILITIES, IF NECESSARY.
9. CONTRACTOR SHALL PROTECT ALL EXISTING TREES OUTSIDE THE LIMIT OF DISTURBANCE AT ALL TIMES DURING CONSTRUCTION.
10. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS NOT SCHEDULED FOR REMOVAL OR DEMOLITION. COST OF REPAIR TO EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE BASE BID. ALL EXISTING SITE FEATURES NOT BEING RETAINED SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED LOCATION. ANY DAMAGE TO OFFSITE ROADS, RIGHTS OF WAY, OR ADJACENT PROPERTY SHALL BE REPAIRED IMMEDIATELY AT THE EXPENSE OF THE CONTRACTOR.
11. THE CONTRACTOR SHALL CLEAR THE PROJECT SITE OF ALL TREES, PAVING, STRUCTURES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS OTHERWISE NOTED ON THE PLAN.
12. ONLY SUITABLE MATERIAL SHALL BE USED AS FILL AND ALL FILL SHALL BE PLACED AND COMPACTED AS SPECIFIED IN THE SOILS REPORT PREPARED FOR THIS SITE OR AS RECOMMENDED BY THE EXCEPTING THOSE ASSOCIATED WITH LANDSCAPE PERMING. ALL GRADING UNDER PROPOSED PAVING, AND ALL FILL AND COMPACTION SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
13. CONTRACTOR SHALL PROVIDE MINIMUM 4 FOOT BENCH AT EDGE OF PAVING IN FILL AREAS. MAXIMUM SLOPE OF BENCH SHALL BE 4:1 (V4 IN PER FOOT).
14. MAXIMUM SLOPE SHALL BE 2 HORIZONTAL TO 1 VERTICALLY.
15. CONTRACTOR SHALL PLACE 4" MINIMUM TOPSOIL IN LANDSCAPE AREAS.
16. CONTRACTOR SHALL PLACE A WITNESS POST AT THE TERMINUS OF ALL UTILITY STUBS.
17. CONTRACTOR SHALL PROVIDE A MINIMUM OF 1 FOOT OF PROTECTIVE FILL OVER STORM DRAIN PIPES DURING CONSTRUCTION.
18. ALL TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES." ALL STREET AND REGULATORY SIGNS SHALL BE INSTALLED PRIOR TO INSTALLATION OF FINISHED PAVING.
19. THE CONTRACTOR SHALL REPLACE ANY EXISTING BITUMINOUS PAVING OR SUB-BASE WHICH IS DAMAGED OR REMOVED DURING CONSTRUCTION. ALL EXCAVATED AREAS SHALL BE BACKFILLED AND IN ACCORDANCE WITH THE SOILS REPORT AND/OR AS DIRECTED BY GEOTECHNICAL ENGINEER. ANY AREAS TO BE PAVED WHICH EXHIBIT UNSTABLE SUBGRADE CONDITIONS SHALL BE EXCAVATED TO BEARING SOIL, REFIILLED AND COMPACTED.
20. IN AN AREA WHERE EXCAVATION IS NEEDED WITHIN THE ROAD RIGHT-OF-WAY, EXCAVATION MUST BE MADE WITHIN ONE (1) FOOT OF THE FINAL SUBGRADE.
21. WHERE FILL IS PROPOSED WITHIN THE ROAD RIGHT-OF-WAY, THE FILL SHALL BE A MINIMUM OF TWO (2) FEET BELOW THE FINAL ROAD SUBGRADE.
22. ALL LIGHTING TO COMPLY WITH ZONING REGULATION SPECIFICATIONS SECTION 154 OUTDOOR LIGHTING.
23. ALL STORM DRAINS TO BE RCPP OR HDPE UNLESS OTHERWISE NOTED.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTIONS DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. 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.
5. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY G. W. STEPHENS JR. & ASSOC. DATED MARCH 2004.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 48G4 AND 48G6 WERE USED FOR THIS PROJECT.
8. WATER IS PUBLIC.
9. SEWER IS PUBLIC AND LIMITED TO PARCEL 28.
10. WATER QUALITY IS PROVIDED BY SURFACE SAND FILTER FOREBAYS AND GRASS CHANNEL WHICH ARE PRIVATE AND TO BE MAINTAINED BY SCHUSTER CONCRETE. STORMWATER MANAGEMENT FACILITY IS EXTENDED DETENTION IS PRIVATE AND TO BE MAINTAINED BY SCHUSTER CONCRETE.
11. EXISTING UTILITIES ARE BASED ON CONTRACT NO. 682 W FOR WATER AND CONTRACT NO. 20-1776-D FOR SEWER.
12. THERE IS NO FLOOD PLAIN ON SITE.
13. THERE ARE NO WETLANDS ON SITE.
14. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC CONCEPTS, DATED AUGUST 2004 AND WAS APPROVED ON MARCH 01, 2005.
15. THIS SITE IS ZONED M-2 PER THE FEBRUARY 02, 2004 COMPREHENSIVE ZONING PLAN.
16. PREVIOUSLY APPROVED SDP NO. 86-104 AND SDP 01-125.
17. ALL EXTERIOR LIGHTING WILL BE DIRECTED / REFLECTED AWAY FROM ALL ADJACENT PUBLIC ROADS AND RESIDENTIAL ZONED DISTRICTS, IN ACCORDANCE WITH SECTION 154 OF THE ZONING REGULATIONS.
18. THERE ARE NO CEMETERIES OR BURIAL GROUNDS LOCATED ON THIS SITE.
19. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 161200 OF THE HOWARD COUNTY CODE FOR THE FOREST CONSERVATION BY PAYMENT OF THE FEE - IN - LIEU IS FOR 17 ACRES OF AFFORESTATION OBLIGATION IN THE AMOUNT OF \$ 37,026.00.
20. EXISTING BUILDINGS CAN NOT BE ENLARGED UNLESS IN COMPLIANCE WITH THE ZONING REGULATIONS.
21. LANDSCAPE SURETY AMOUNT IS \$ 24,000.00.
10. WATER QUALITY IS PROVIDED BY RECLAMATION OF THE RUNOFF AND IS TO BE MAINTAINED BY SCHUSTER CONCRETE. STORMWATER MANAGEMENT FACILITY IS EXTENDED DETENTION IS PRIVATE AND IS TO BE MAINTAINED BY SCHUSTER CONCRETE.

Site Data

1. TOTAL AREA TRACT PARCELS 28, 29, 32 AND 108 = 217,364.40 SQ.FT. OR 4.99 AC. +/-
2. EXISTING ZONING = M-2
3. PROPERTY REFERENCE = LIBER FOLIO
4. EXISTING USE = CONCRETE PLANT
5. PROPOSED USE = CONCRETE PLANT
6. BUILDING COVERAGE = 8,972 SQ. FT. OR 0.2060 AC.
7. % OF BUILDING COVERAGE = 4.13%
8. AREA TO BE PAVED PLUS BUILDING AREA = 135,036 SQ. FT. OR 3.10 AC.
9. NUMBER OF PARKING SPACES REQUIRED = 17
10. NUMBER OF PARKING SPACES PROVIDED = 18 INCLUDING 1 HANDICAPPED
11. AREA TO BE DISTURBED = 179,903 SQ. FT. OR 4.13 AC.
12. AREA TO BE VEGETATIVELY STABILIZED = 82,328.40 SQ. FT. OR 1.89 AC.

Parcel Information

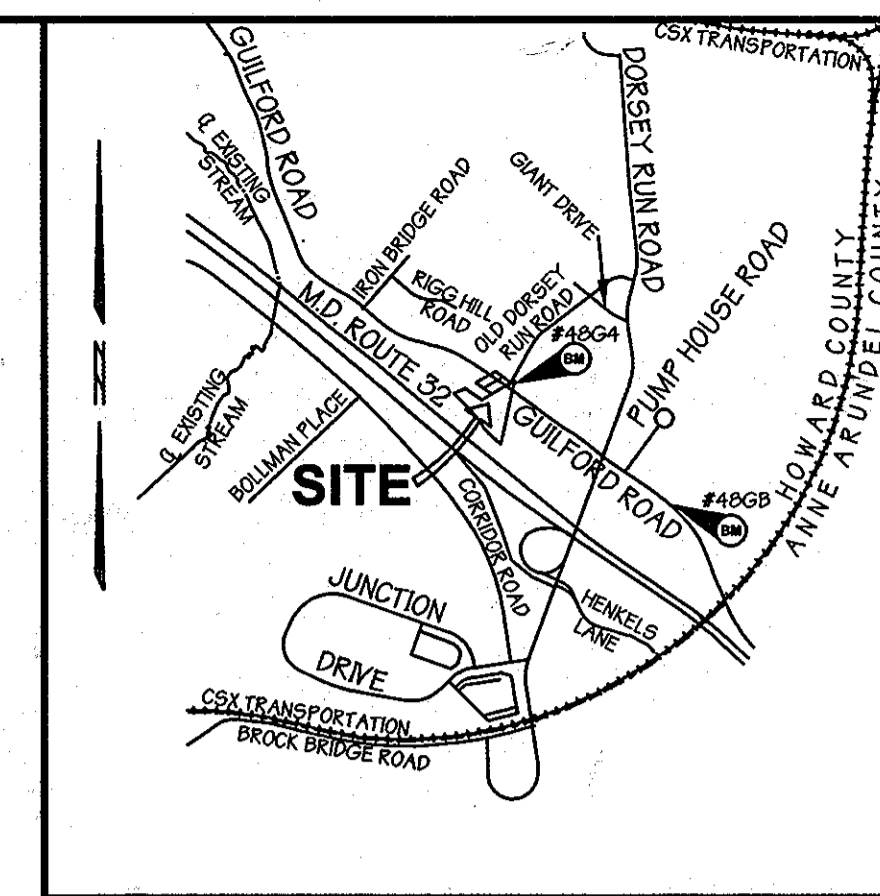
PARCEL 28	0.54 AC.	LIBER 5439 FOLIO 696
PARCEL 29	0.48 AC.	LIBER 5439 FOLIO 696
PARCEL 32	0.64 AC.	LIBER 8253 FOLIO 191
PARCEL 108	3.33 AC.	LIBER 5439 FOLIO 696
TOTAL	4.99 AC.	

BENCHMARKS

NOTE: HORIZONTAL AND VERTICAL DATUMS BASED ON (NAD 83) MARYLAND STATE COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.

BM #48G4 ELEVATION 228.58
NAD 83
BRASS OR ALUMINUM DISK SET
ON TOP CONCRETE COLUMN
N 532,530.28 E 1,370,623.78

BM #48G6 ELEVATION 206.63
NAD 83
BRASS OR ALUMINUM DISK SET
ON TOP CONCRETE COLUMN
N 531,519.241 E 1,371,653.84



Vicinity Map
SCALE: 1" = 2,000'

Revised Site Development Plans for SCHUSTER CONCRETE Parcels 28,29,32, & 108 Howard County, Maryland SDP-05 - 030

EROSION AND SEDIMENT CONTROL STATEMENT

THE ORIGINAL SEDIMENT CONTROL DEVICES SHALL BE USED IN THE SEQUENCE OF CONSTRUCTION FOR THIS REVISION.

PURPOSE STATEMENT FOR THE REVISION TO THE SITE DEVELOPMENT PLANS

These Site Development Plans were revised because the site is utilized as a concrete manufacturing plant and the process of manufacturing concrete by nature produces silt. This silt from the daily operation of the plant would have rendered the traditional design of a grass swale, forebay and sand filter infeasible. The grass swale, forebay and sand filter was replaced with a settling basin and the earthen embankment pond was replaced with a concrete stormwater management facility. The settling basin will remove the silt from the 1 year storm event and provide the owner with a cost effective way of maintaining the facility. The concrete stormwater management pond will then store the runoff of the 1 year storm event where it will be treated and recycled back into the manufacturing process. The required WQv, CPv and quantity management are still being met under the MDE 2000 guidelines and Howard County Regulations. The WQv and CPv volumes will be stored in the new concrete pond with no stormwater management discharge release on the 1 year storm frequency and 0.52 cfs discharge on the 10 year storm. The additional runoff volume storage was provided because the owner wishes to recycle as much storm water runoff as possible back into the manufacturing process.

SITE USE AND PARKING TABULATION

A. EXISTING USE :		
EXISTING STEEL BLDG. WAREHOUSE / MANUFACTURING	-----	4,000 SQ. FT.
EXISTING OFFICE BUILDING	-----	936 SQ. FT.
EXISTING DWELLING	-----	936 SQ. FT.
EXISTING TRAILER OFFICE	-----	240 SQ. FT.
EXISTING TRAILER OFFICE	-----	400 SQ. FT.
B. PROPOSED USE		
PROP. CONCRETE PLANT	-----	1,216 SQ. FT.
PROP. 2 STORY BATCH	-----	560 SQ. FT.
FUTURE PARTS SHOP	-----	360 SQ. FT.
C. MAXIMUM NO. OF EMPLOYEES ON SITE		
EXIST. OFFICE BLDG. - VACANT (PER SDP 01-125)		
EXIST. DWELLING - VACANT (PER SDP 01-125)		
EXIST. STEEL BLDG. - NO FULL TIME EMPLOYEES (PER SDP-125)		
EXIST. TRAILER OFFICE-1		
EXIST. TRAILER OFFICE-1		
D. NUMBER OF PARKING SPACES REQUIRED		
EXIST. OFFICE BLDG. 3.3 SP. / 1000 SQ. FT. X 936 SQ. FT.	-----	NON REQUIRED (PER SDP 01-125)
EXIST. DWELLING (936 SQ. FT.) 2 SPACE DWELLING	-----	NON REQUIRED (PER SDP 01-125)
EXIST. STEEL BLDG. WAREHOUSE MANUFACTURING	-----	
2 SP. / 1000 SQ. FT. X 4000 SQ. FT.	-----	8 SPACES REQ'D
RELOCATED TRAILER - OFFICE 3.3 SP. / 1000 SQ. FT. X 240 SQ. FT.	-----	1 SPACE REQ'D
RELOCATED TRAILER - OFFICE 3.3 SP. / 1000 SQ. FT. X 400 SQ. FT.	-----	2 SPACES REQ'D
PROP. CONCRETE PLANT 2 SP. / 1000 SQ. FT. 1216 SQ. FT.	-----	3 SPACES REQ'D
PROP. 2 STORY BATCH BLDG. 2 SP. / 1000 SQ. FT. X 560 SQ. FT.	-----	1 SPACE REQ'D
FUTURE PARTS STORE 2 SP. / 1000 SQ. FT. X 360 SQ. FT.	-----	1 SPACE REQ'D
TOTAL NUMBER OF SPACE REQUIRED	-----	16 SPACES REQ'D
E. NUMBER OF PARKING SPACES PROVIDED 32 INCLUDING 1 HANDICAPPED PARKING SPACE		

SEPTIC SYSTEM ABANDONMENT SCHEDULE	
PARCEL 28	EXISTING SEPTIC SYSTEM TO BE ABANDONED ONCE PUBLIC SEWER IS IN PLACE
PARCEL 29	NO SEPTIC FIELD ON SITE
PARCEL 32	NO SEPTIC FIELD ON SITE
PARCEL 108	NO SEPTIC FIELD ON SITE

NOTE: NO WELLS EXIST ON ANY OF THE PARCELS

Index of Sheets (Continued)

SHEET NO. 16 - SEDIMENT BASIN PROFILE AND DETAILS
SHEET NO. 17 - STORMWATER MANAGEMENT DETAILS
SHEET NO. 18 - STORMWATER MANAGEMENT DETAILS
SHEET NO. 19 - SWM FACILITY PLANS AND SECTIONS
SHEET NO. 20 - SETTLING BASIN PLANS AND SECTIONS
SHEET NO. 21 - SWM VAULT PLANS AND SECTIONS
SHEET NO. 22 - NOTES AND TYPICAL DETAILS

Index of Sheets

- SHEET NO. 1 - COVER SHEET
- SHEET NO. 2 - EXISTING CONDITIONS PLAN
- SHEET NO. 3 - SITE PLAN
- SHEET NO. 4 - SITE PLAN DETAILS
- SHEET NO. 5 - UTILITY PROFILES
- SHEET NO. 6 - EXISTING AND PROPOSED DRAINAGE AREA MAPS
- SHEET NO. 7 - SEDIMENT EROSION CONTROL PLAN
- SHEET NO. 8 - SEDIMENT EROSION CONTROL NOTES & DETAILS
- SHEET NO. 9 - SEDIMENT BASIN PLAN & PROFILES
- SHEET NO. 10 - SEDIMENT BASIN NOTES & DETAILS
- SHEET NO. 11 - WATER QUALITY PLAN & PROFILES
- SHEET NO. 12 - STORMWATER MANAGEMENT PLAN & PROFILES
- SHEET NO. 13 - STORMWATER MANAGEMENT DETAILS
- SHEET NO. 14 - FOREST STAND DELINEATION & FOREST CONSERVATION PLAN
- SHEET NO. 15 - LANDSCAPE PLAN & DETAILS

APPROVED: Howard County Department of Planning and Zoning

[Signature] 11/16/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 11/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 11/16/11
DIRECTOR DATE

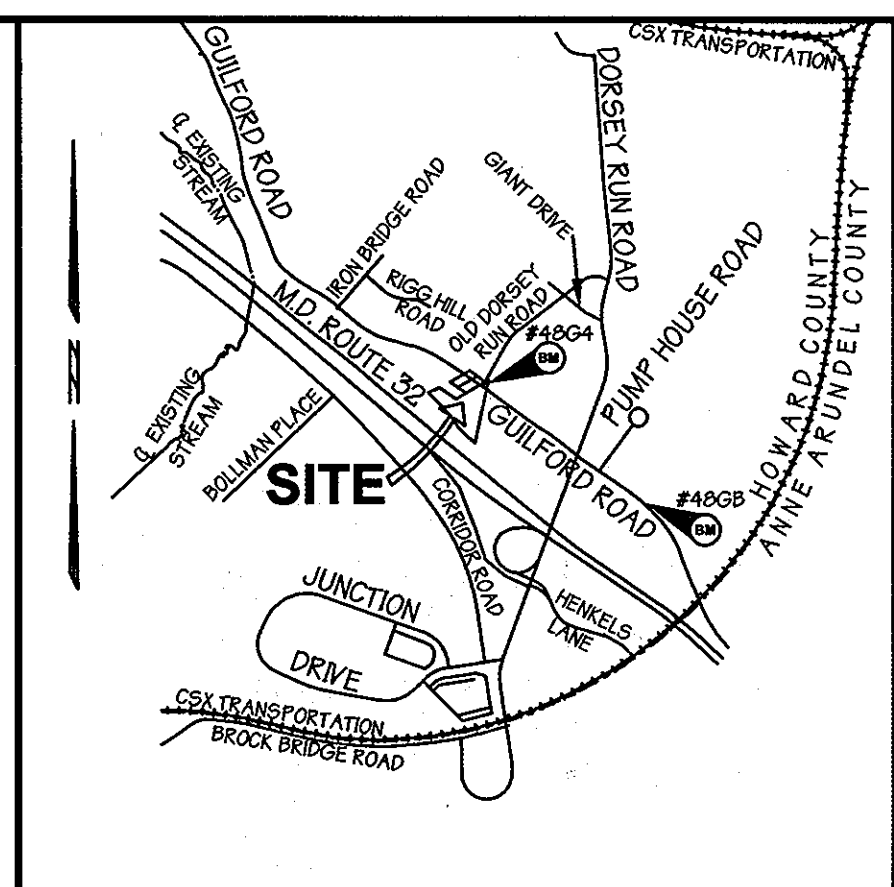
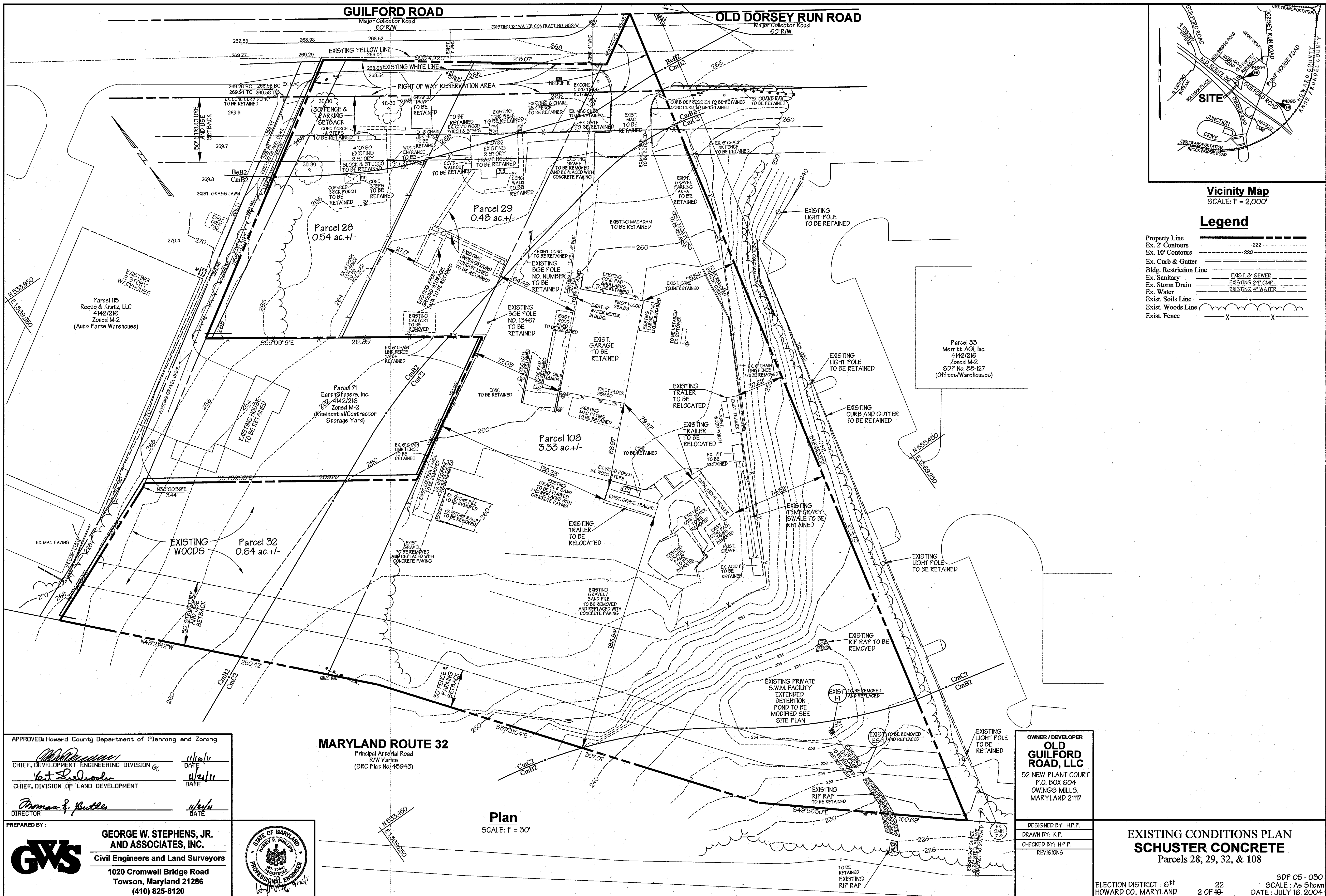
PREPARED BY:

GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120



NOTE: The owner shall provide a separate and independent sewer connection for each tenant or occupant of any building shown on this site development plan who will discharge non-domestic waste to the public sewerage system if each separate and independent sewer connection shall include a standard manhole and other waste treatment devices as required and approved by Howard County. Waste lines on the interior of the building shall be designed, constructed or modified such that non-domestic waste will be discharged to the separate and independent sewer connection. No tenant or occupant of any building shown on this site development plan shall discharge regulated non-domestic waste to the public sewerage system prior to installation of the separate and independent sewer connection and related interior waste lines. The above statement shall apply to all initial and future occupants or tenants.

OWNER / DEVELOPER OLD GUILFORD ROAD, LLC 52 NEW PLANT COURT P.O. BOX 604 OWINGS MILLS, MARYLAND 21117	ADDRESS CHART	
	PARCEL NO.	STREET ADDRESS
	PARCEL 28	10760 GUILFORD ROAD
	PARCEL 29	10782 GUILFORD ROAD
	PROJECT NAME	SECTION NAME
	SCHUSTER CONCRETE	
	LIBER / FOLIO / GRID	ZONE / ZONE MAP
	5495 / 696 / 13 / 25	M-2 / 46
	WATER CODE	SEWER CODE
	B-02	4020000
DESIGNED BY: H.P.P.	Cover Sheet	
DRAWN BY: K.P.	SCHUSTER CONCRETE	
CHECKED BY: H.P.P.	Parcels 28, 29, 32, & 108	
REVISIONS	PREVIOUS FILE NO.'S : SDP 86-104, SDP 01-125	
REVISION SHEET INDEX, ADDED NOTES AND REVISED TITLE	SDP 05 - 030	
	ELECTION DISTRICT : 6 th	22
	HOWARD CO., MARYLAND	SHT. 1 OF 15
	DATE : JULY 16, 2004	SCALE : As Shown
	SDP 05 - 030	FN : 10-1042 File Name : 1042coversheet.s01



Vicinity Map
SCALE: 1" = 2,000'

Legend

Property Line	---
Ex. 2' Contours	---222---
Ex. 10' Contours	---220---
Ex. Curb & Gutter	---
Bldg. Restriction Line	---
Ex. Sanitary	---EXIST. 8" SEWER---
Ex. Storm Drain	---EXISTING 24" CMP---
Ex. Water	---EXISTING 4" WATER---
Exist. Soils Line	---
Exist. Woods Line	---
Exist. Fence	---X---X---

APPROVED: Howard County Department of Planning and Zoning

[Signature] 11/20/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 11/21/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 11/21/11
DIRECTOR DATE

MARYLAND ROUTE 32
Principal Arterial Road
R/W Varies
(SRC Plat No. 45943)

Plan
SCALE: 1" = 30'

OWNER / DEVELOPER
OLD GUILFORD ROAD, LLC
52 NEW PLANT COURT
P.O. BOX 604
OWINGS MILLS,
MARYLAND 21117

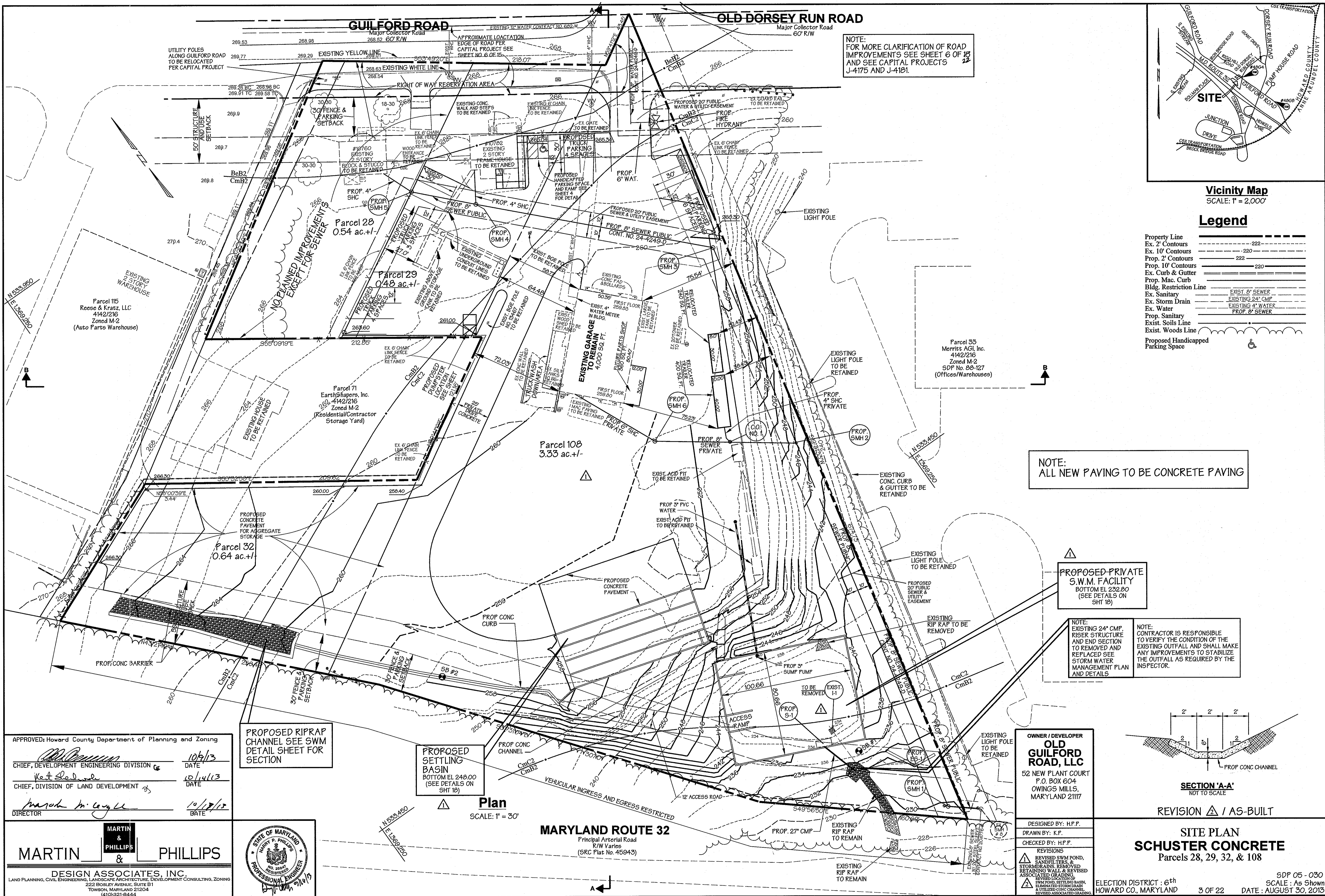
DESIGNED BY: H.P.P.
DRAWN BY: K.P.
CHECKED BY: H.P.P.
REVISIONS

EXISTING CONDITIONS PLAN
SCHUSTER CONCRETE
Parcels 28, 29, 32, & 108

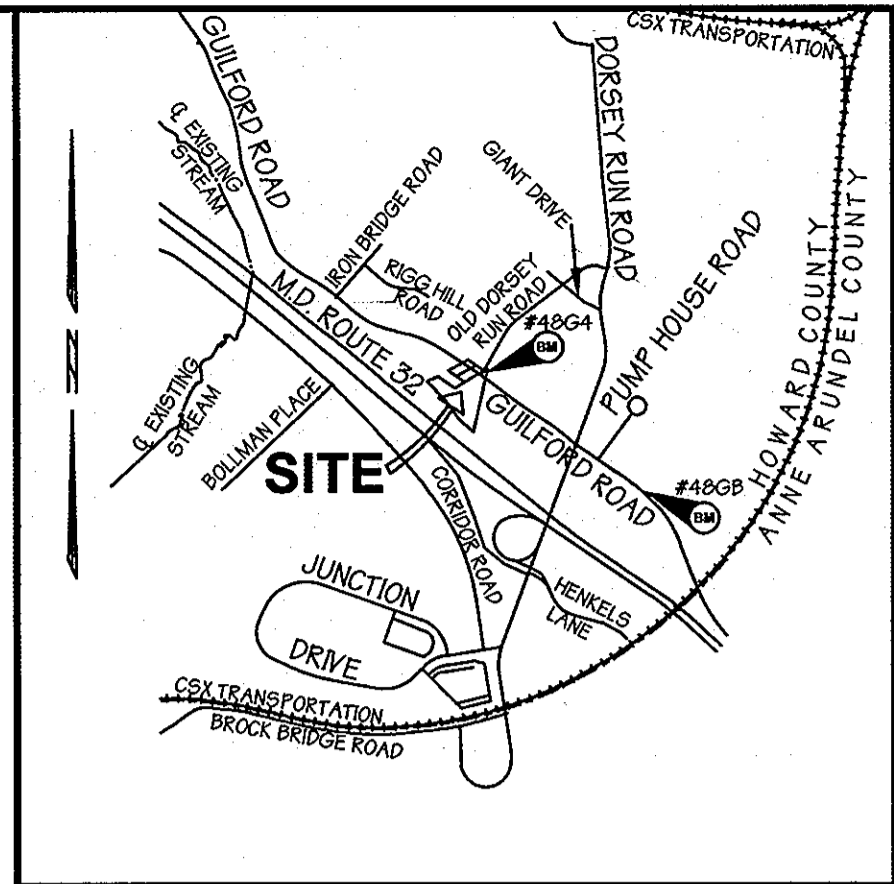
ELECTION DISTRICT: 6th
HOWARD CO., MARYLAND
SDP 05 - 030
2 OF 10
DATE: JULY 16, 2004
SDP 05 - 030
FN: 10-10142

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120





NOTE:
FOR MORE CLARIFICATION OF ROAD
IMPROVEMENTS SEE SHEET 6 OF 13
AND SEE CAPITAL PROJECTS
J-4175 AND J-4181.



Vicinity Map
SCALE: 1" = 2,000'

Legend

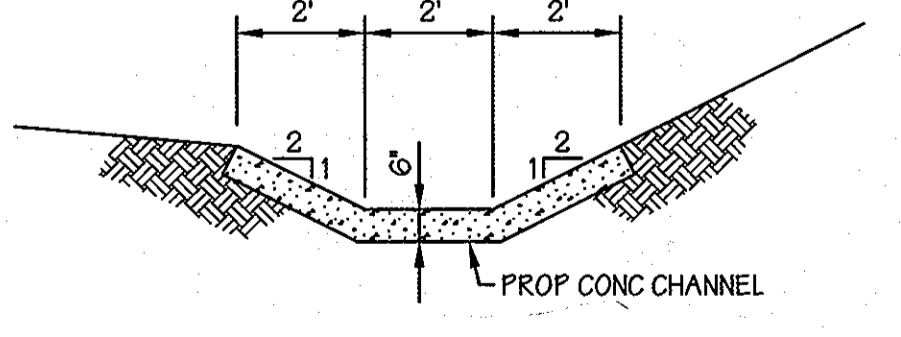
Property Line	---
Ex. 2' Contours	---222---
Ex. 10' Contours	---220---
Prop. 2' Contours	---222---
Prop. 10' Contours	---220---
Prop. Curb & Gutter	=====
Prop. Mac. Curb	=====
Bldg. Restriction Line	=====
Ex. Sanitary	---
Ex. Storm Drain	---
Ex. Water	---
Prop. Sanitary	---
Exist. Soils Line	---
Exist. Woods Line	---
Proposed Handicapped Parking Space	---

NOTE:
ALL NEW PAVING TO BE CONCRETE PAVING

PROPOSED PRIVATE
S.W.M. FACILITY
BOTTOM EL 232.80
(SEE DETAILS ON
SHT 1B)

NOTE:
EXISTING 24" CMP,
RISER STRUCTURE
AND END SECTION
TO BE REMOVED AND
REPLACED SEE
STORM WATER
MANAGEMENT PLAN
AND DETAILS

NOTE:
CONTRACTOR IS RESPONSIBLE
TO VERIFY THE CONDITION OF THE
EXISTING OUTFALL AND SHALL MAKE
ANY IMPROVEMENTS TO STABILIZE
THE OUTFALL AS REQUIRED BY THE
INSPECTOR.



SECTION 'A-A'
NOT TO SCALE

REVISION Δ / AS-BUILT

APPROVED: Howard County Department of Planning and Zoning
 [Signature] 10/9/13 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 10/14/13 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 10/17/13 DATE
 DIRECTOR

PROPOSED RIPRAP
CHANNEL SEE SWM
DETAIL SHEET FOR
SECTION

PROPOSED
SETTLING
BASIN
BOTTOM EL 248.00
(SEE DETAILS ON
SHT 1B)

Plan
SCALE: 1" = 30'

MARYLAND ROUTE 32
Principal Arterial Road
R/W Varies
(SRC Plat. No. 45943)

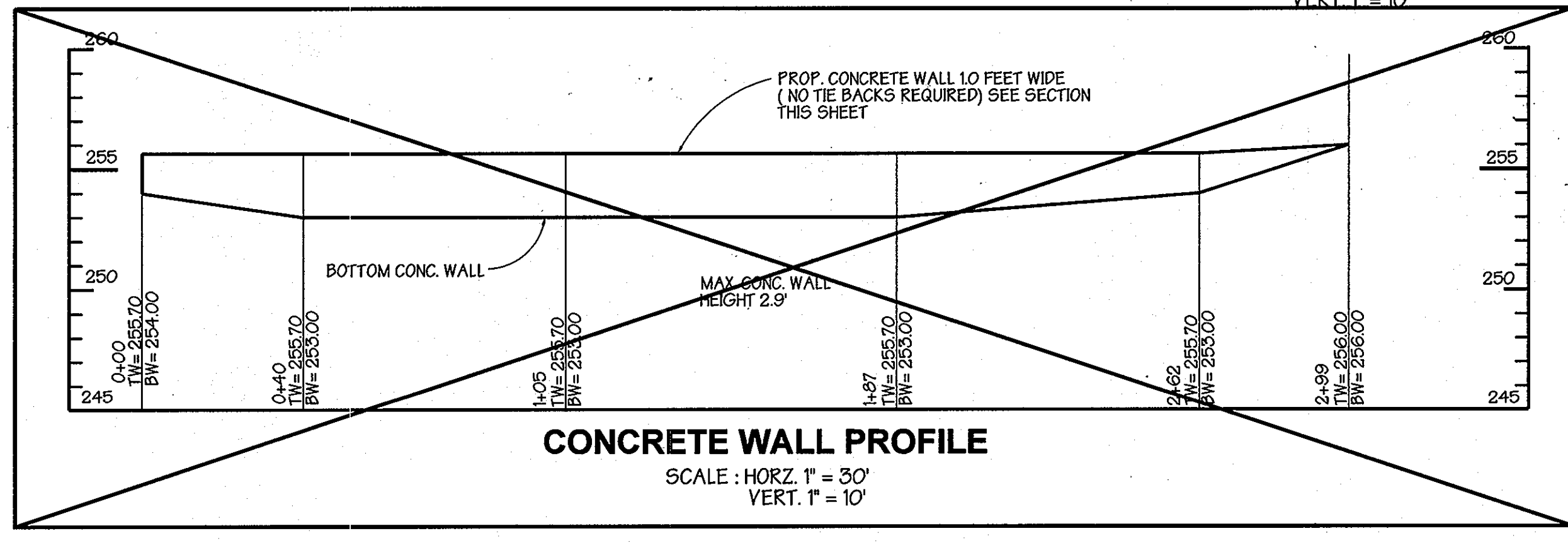
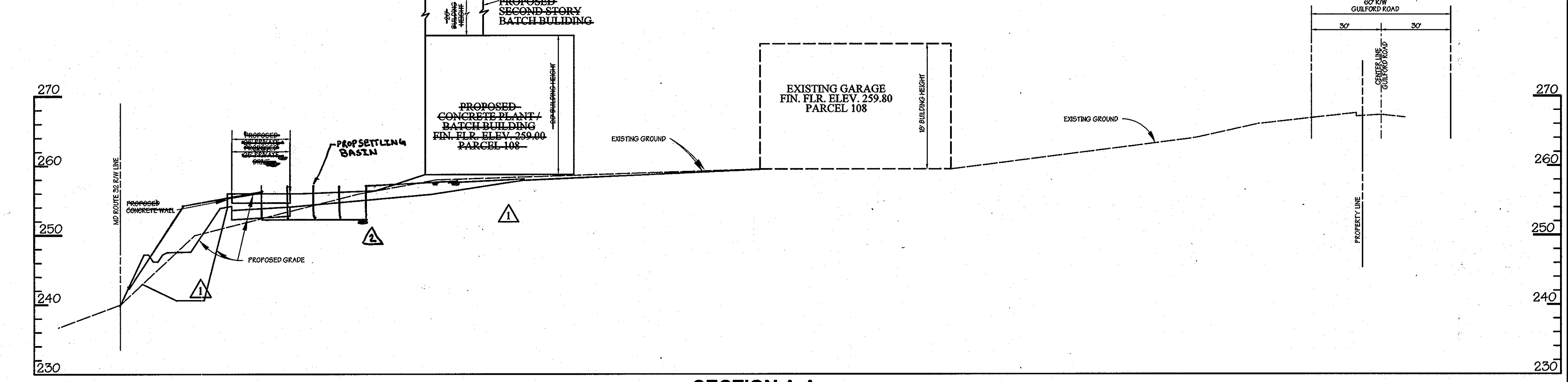
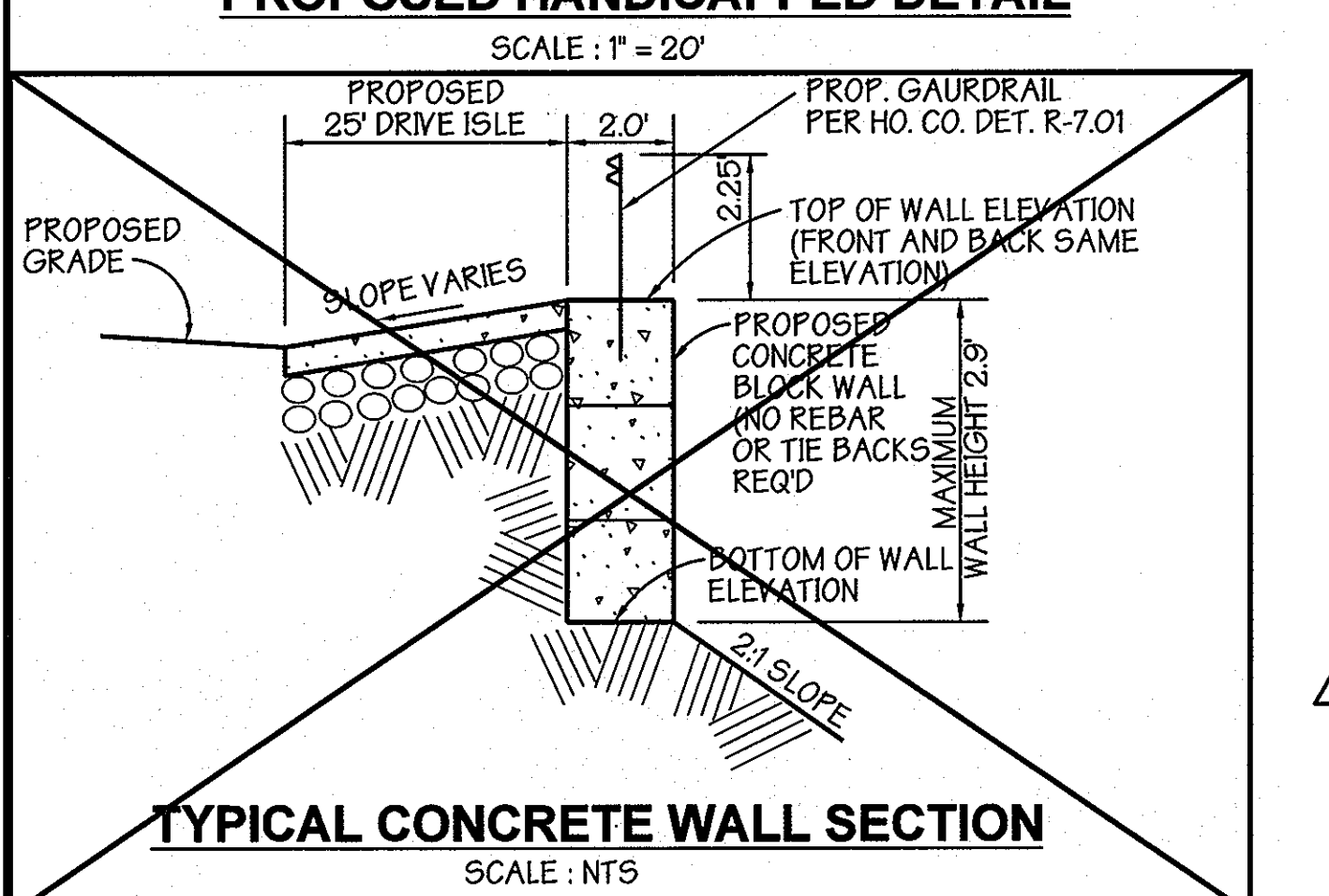
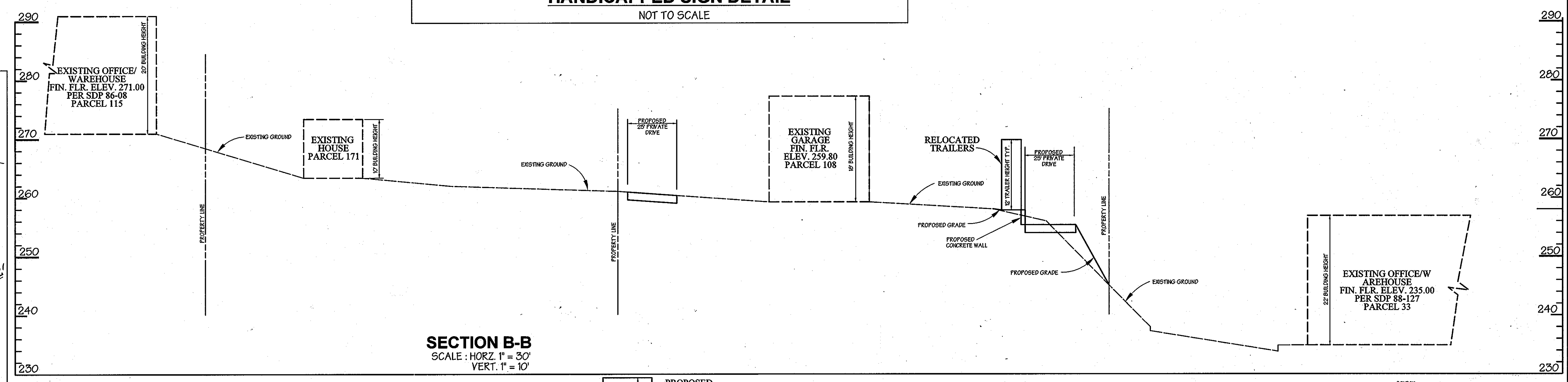
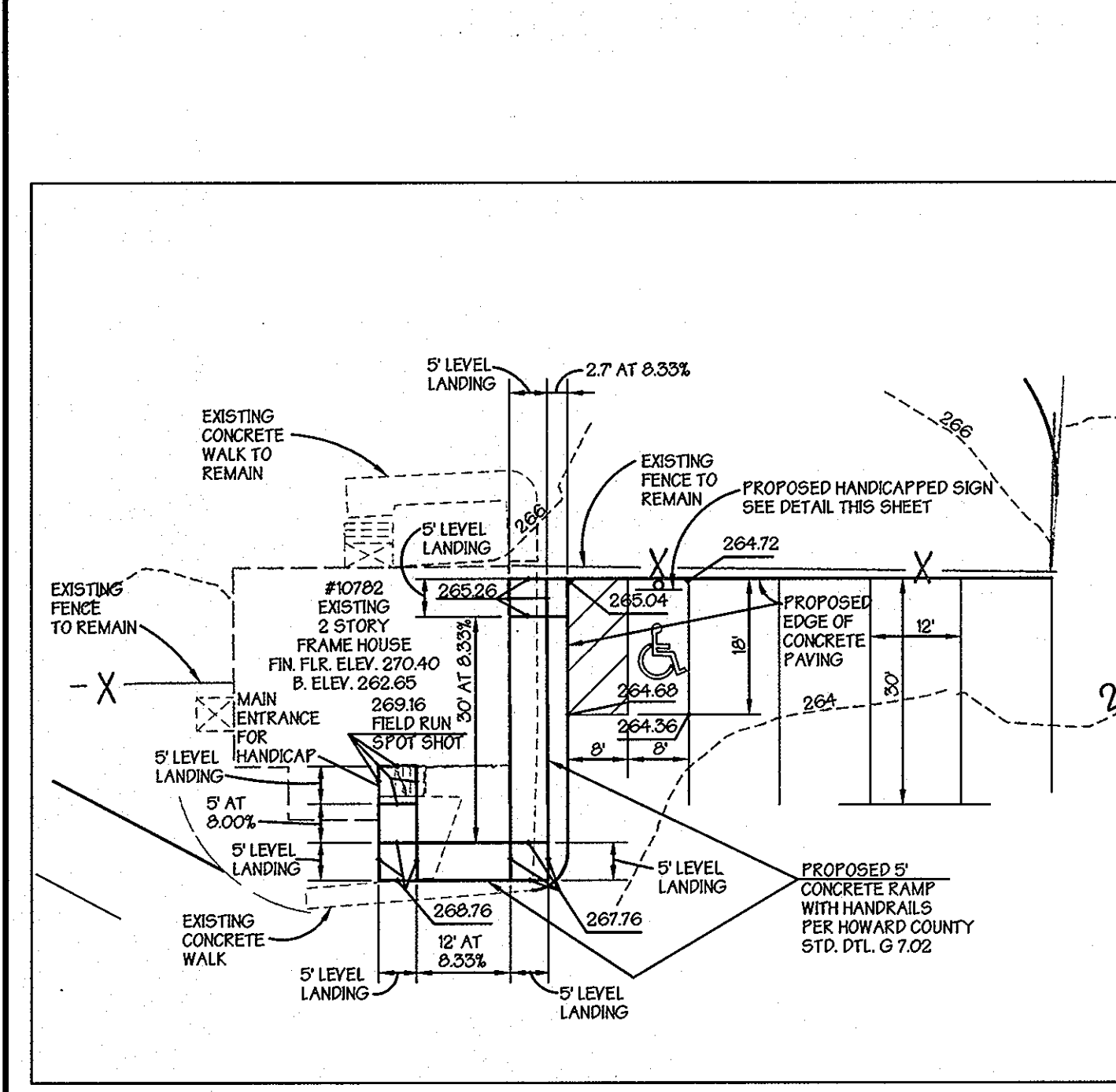
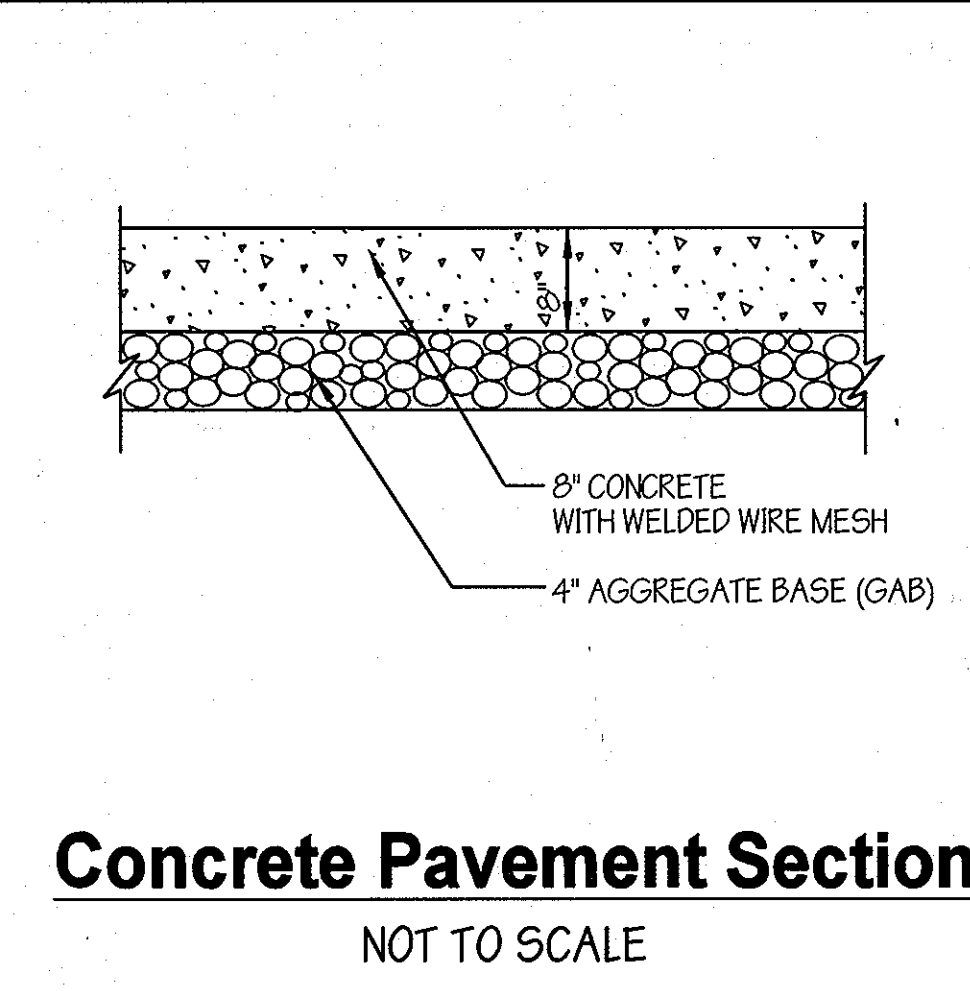
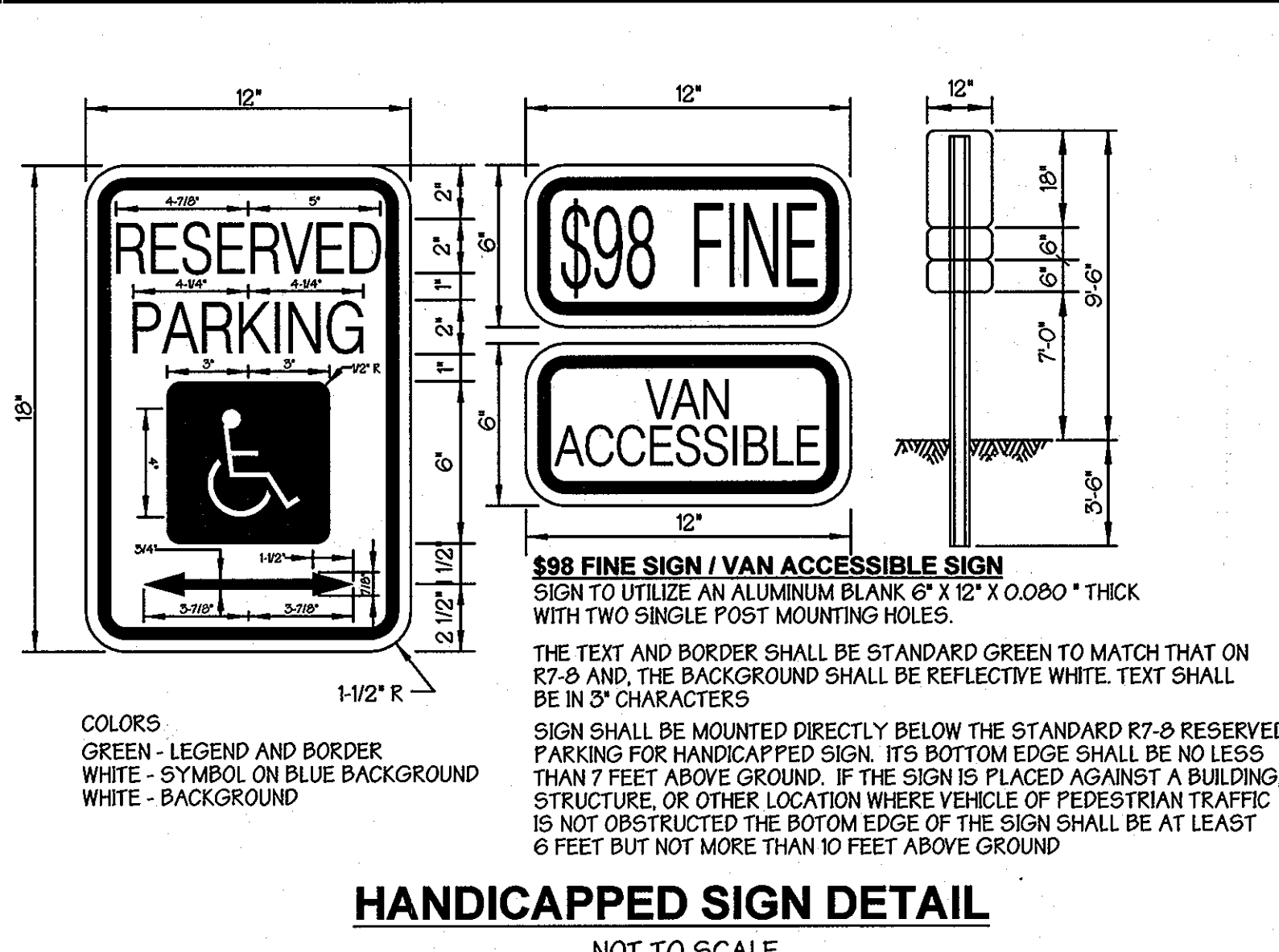
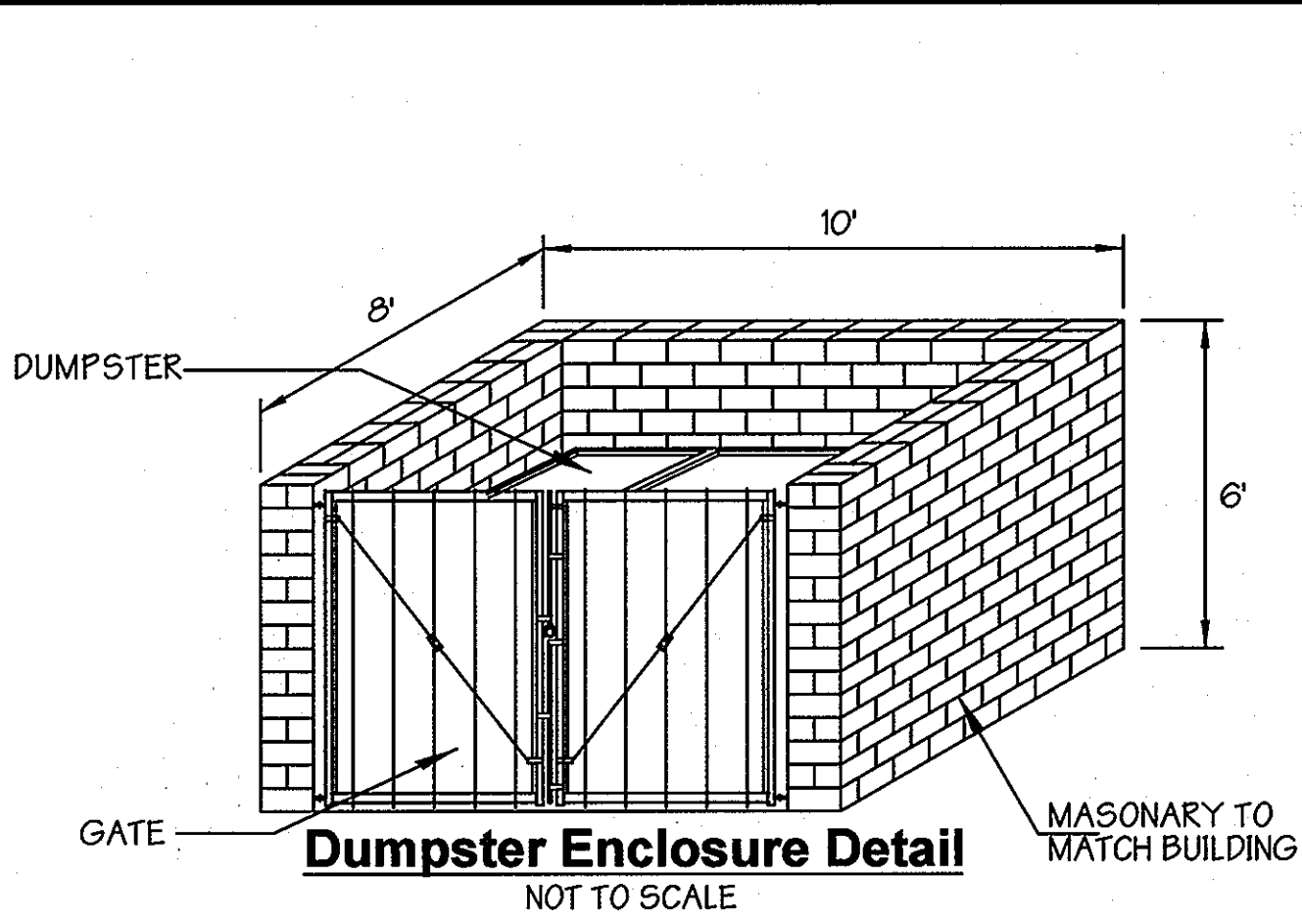
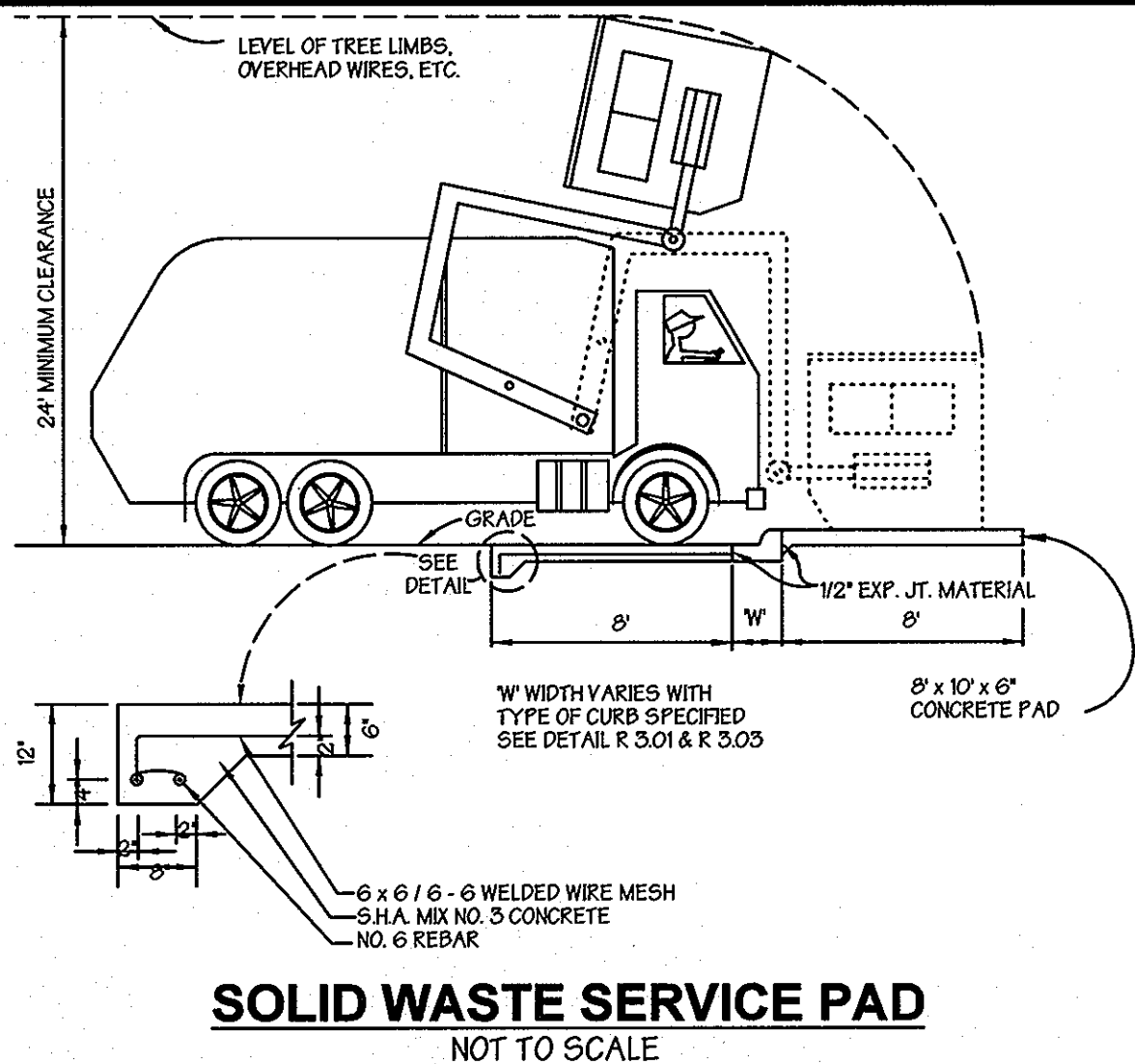
OWNER / DEVELOPER
**OLD
GUILFORD
ROAD, LLC**
52 NEW PLANT COURT
P.O. BOX 604
OWINGS MILLS,
MARYLAND 21117

DESIGNED BY: H.F.P.
DRAWN BY: K.P.
CHECKED BY: H.F.P.
REVISIONS
REVISED SWM POND,
SAND FILTERS, &
STORMDRAINS, REMOVED
RETAINING WALL & REVISED
ASSOCIATED GRADING
REMOVED STORM DRAIN
SWM POND, SETTLING BASIN,
ELIMINATED STORM DRAIN
& UTILIZED CONC CHANNEL
REVISED ASSOCIATED GRADING

SITE PLAN
SCHUSTER CONCRETE
Parcels 28, 29, 32, & 108

ELECTION DISTRICT : 6th
HOWARD CO., MARYLAND
SDP 05 - 030
3 OF 22 DATE : AUGUST 30, 2013
SCALE : As Shown
SDP 05 - 030
PIN: 10-1042

MARTIN & PHILLIPS
DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOOLEY AVENUE, SUITE B1
TOWSON, MARYLAND 21284
(410) 321-8444



APPROVED: Howard County Department of Planning and Zoning

[Signature] DATE 11/16/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] DATE 11/24/11
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] DATE 11/16/11
 DIRECTOR

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
 Civil Engineers and Land Surveyors
 1020 Cromwell Bridge Road
 Towson, Maryland 21286
 (410) 825-8120

OWNER / DEVELOPER
OLD GUILFORD ROAD, LLC
 52 NEW PLANT COURT
 P.O. BOX 604
 OWINGS MILLS,
 MARYLAND 21117

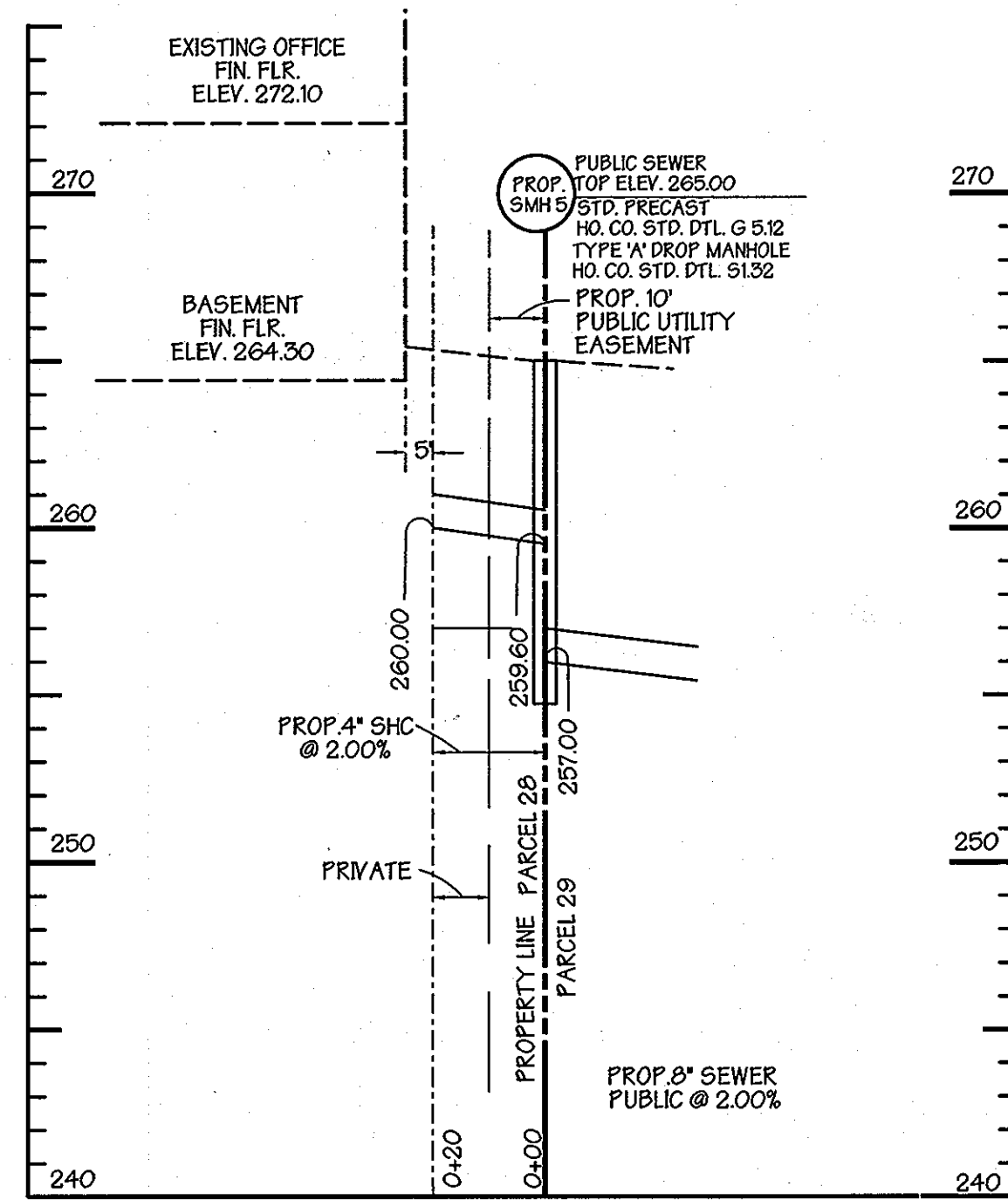
DESIGNED BY: H.P.P.
 DRAWN BY: K.P.
 CHECKED BY: H.P.P.

REVISIONS
 A- A REVISED SECTION A-A AND REMOVED WALL SECTION AND PROFILE

REVISION **A** / FINAL AS-BUILT CONDITION

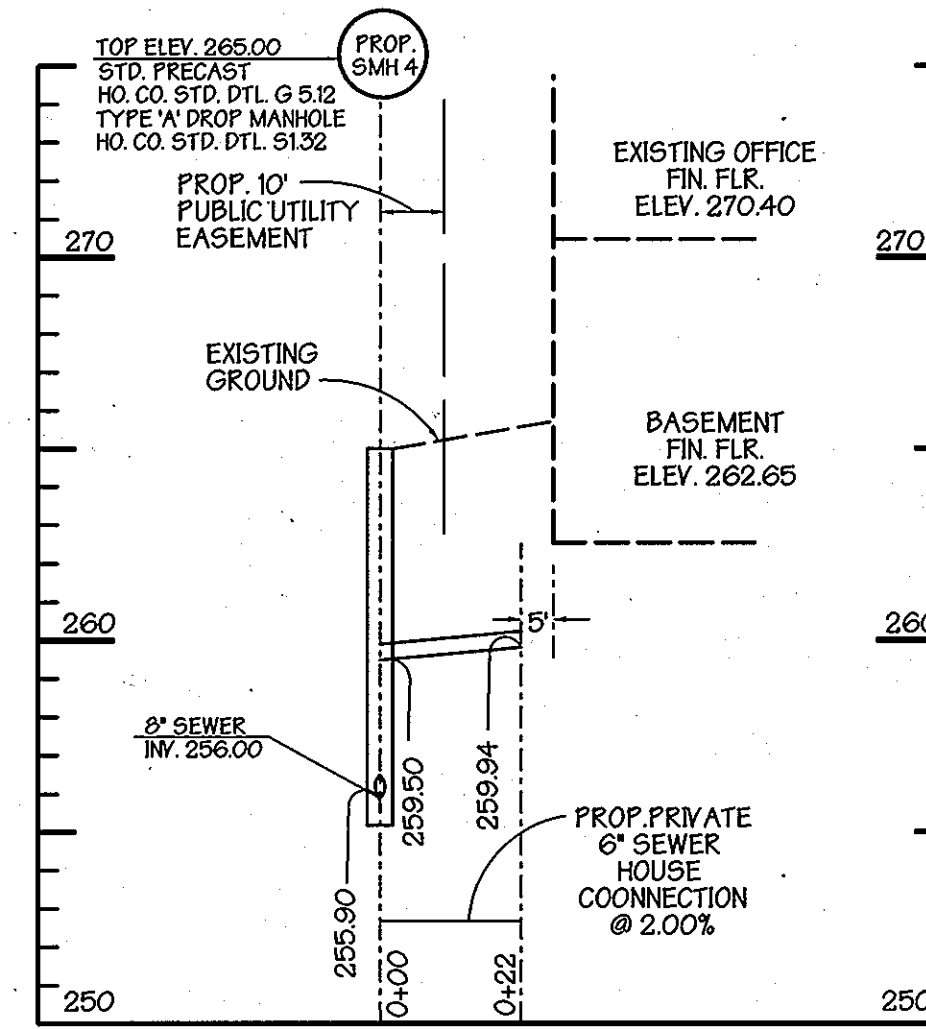
Site Plan Details
SCHUSTER CONCRETE
 Parcels 28, 29, 32, & 108

ELECTION DISTRICT: 6th HOWARD CO., MARYLAND
 SDP 05 - 030
 22 OF 45
 DATE: JULY 16, 2004
 SCALE: As Shown
 SDP 05 - 030
 FIN: 10-1042



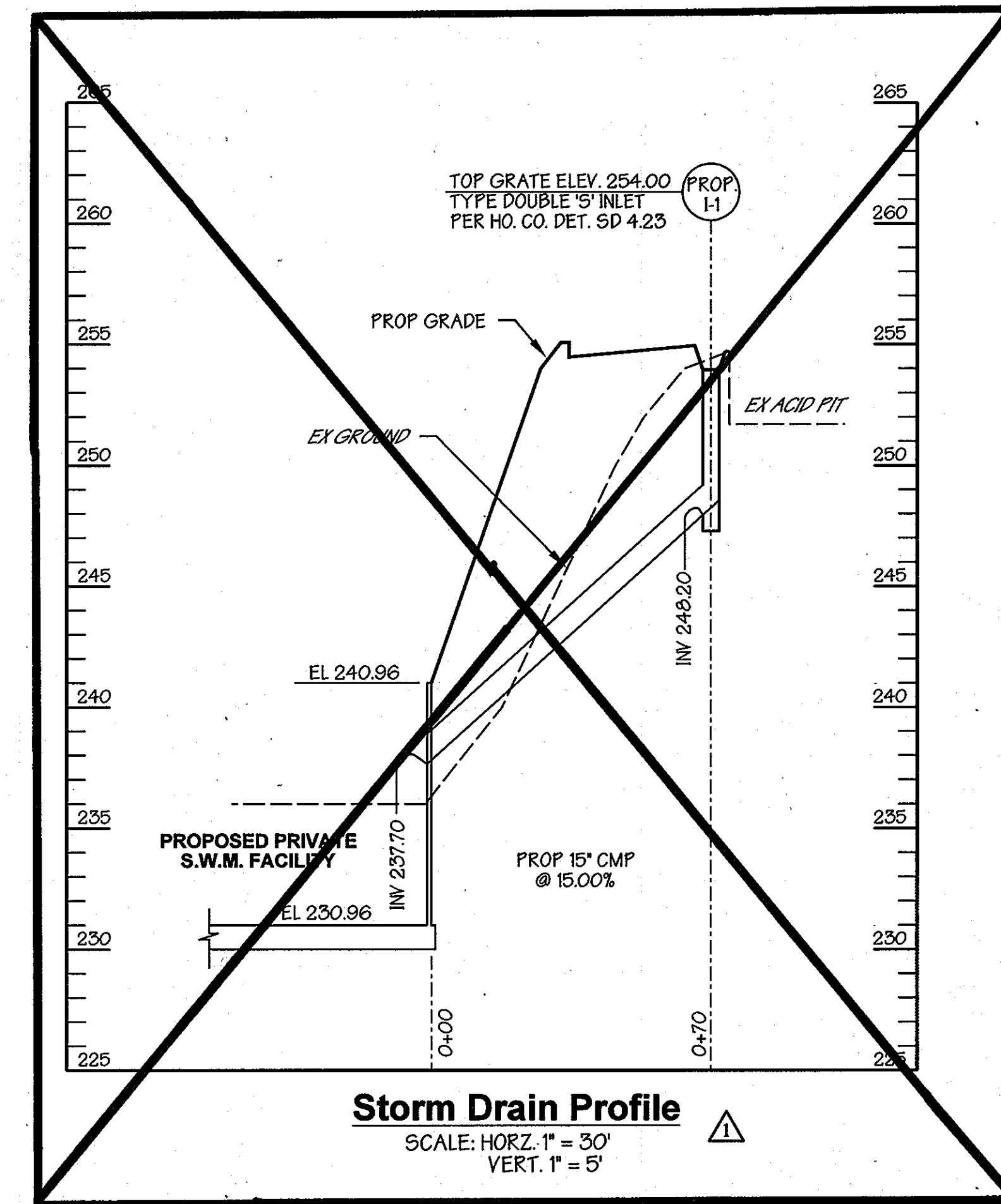
Sanitary Sewer Profiles

SCALE: HORZ. 1" = 30'
 VERT. 1" = 5'



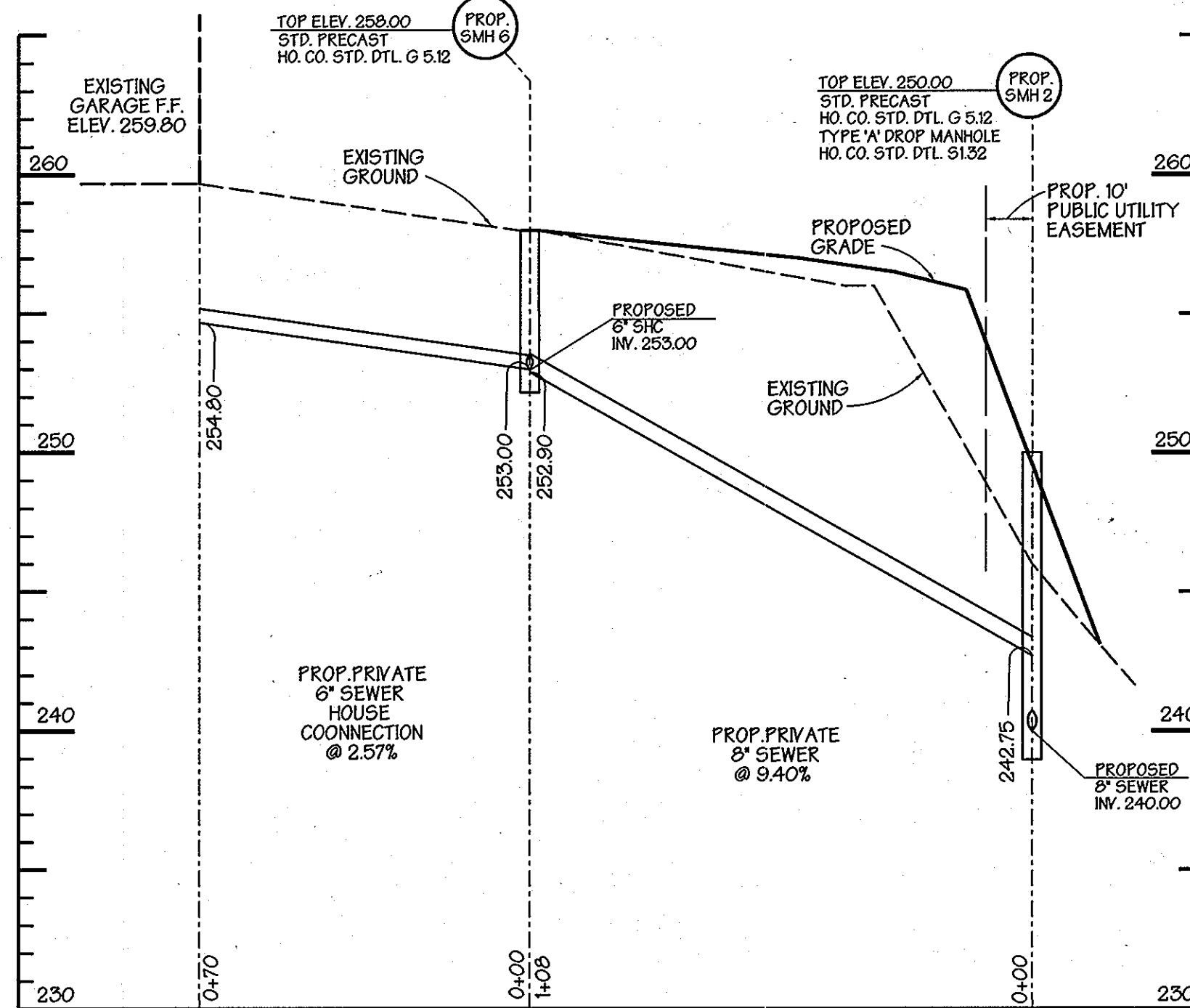
Sanitary Sewer Profiles

SCALE: HORZ. 1" = 30'
 VERT. 1" = 5'



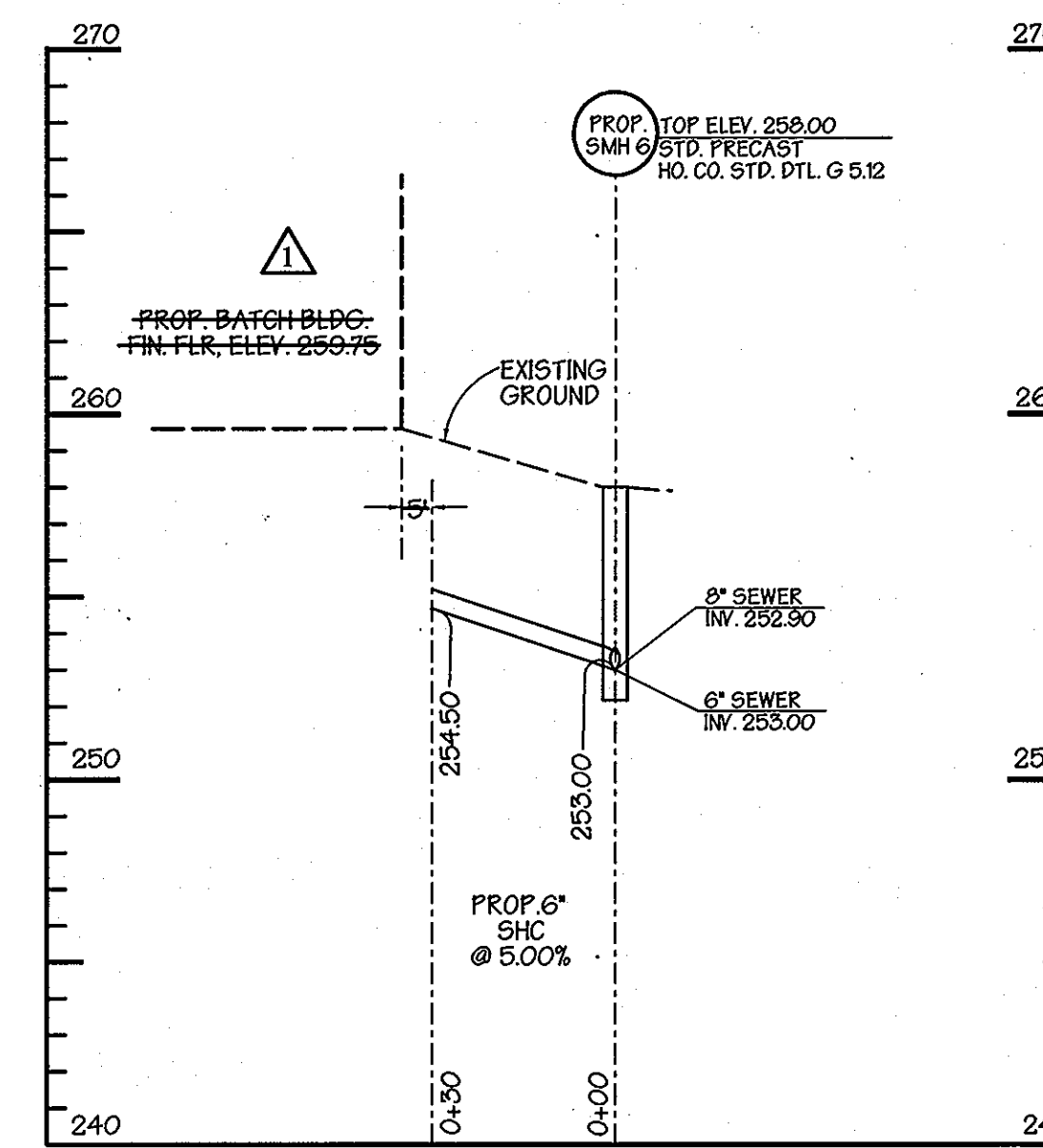
Storm Drain Profile

SCALE: HORZ. 1" = 30'
 VERT. 1" = 5'



Sanitary Sewer Profiles


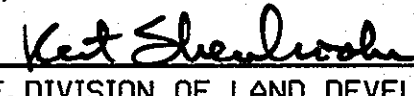
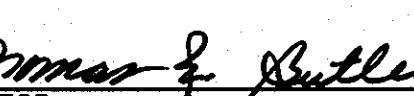
SCALE: HORZ. 1" = 30'
 VERT. 1" = 5'



Sanitary Sewer Profiles

SCALE: HORZ. 1" = 30'
 VERT. 1" = 5'

APPROVED: Howard County Department of Planning and Zoning

 11/21/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 11/21/11
 CHIEF, DIVISION OF LAND DEVELOPMENT
 11/21/11
 DIRECTOR

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
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 Towson, Maryland 21286
 (410) 825-8120



OWNER / DEVELOPER
OLD GUILFORD ROAD, LLC
 52 NEW PLANT COURT
 P.O. BOX 604
 OWINGS MILLS,
 MARYLAND 21117
 DESIGNED BY: H.P.P.
 DRAWN BY: K.P.
 CHECKED BY: H.P.P.
 REVISIONS
 A ELIMINATED STORM DRAIN PROFILE

REVISION A / FINAL AS-BUILT CONDITION

UTILITY PROFILES
SCHUSTER CONCRETE
 Parcels 28, 29, 32, & 108

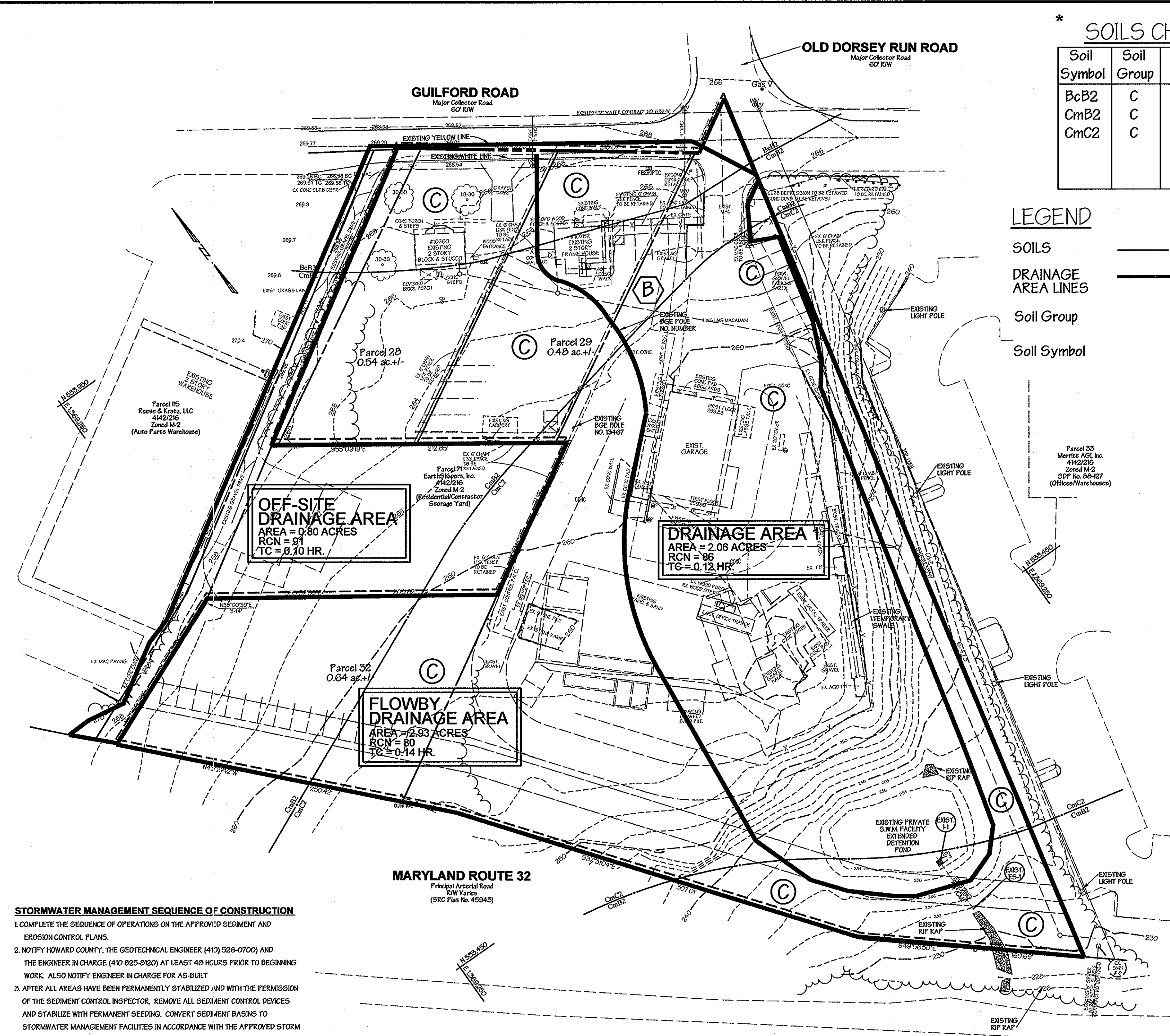
ELECTION DISTRICT: 6th
 HOWARD CO., MARYLAND
 SDP 05 - 030
 22 OF 45
 DATE: JULY 16, 2004
 SCALE: As Shown
 P/N: 10-10142

*** SOILS CHART**

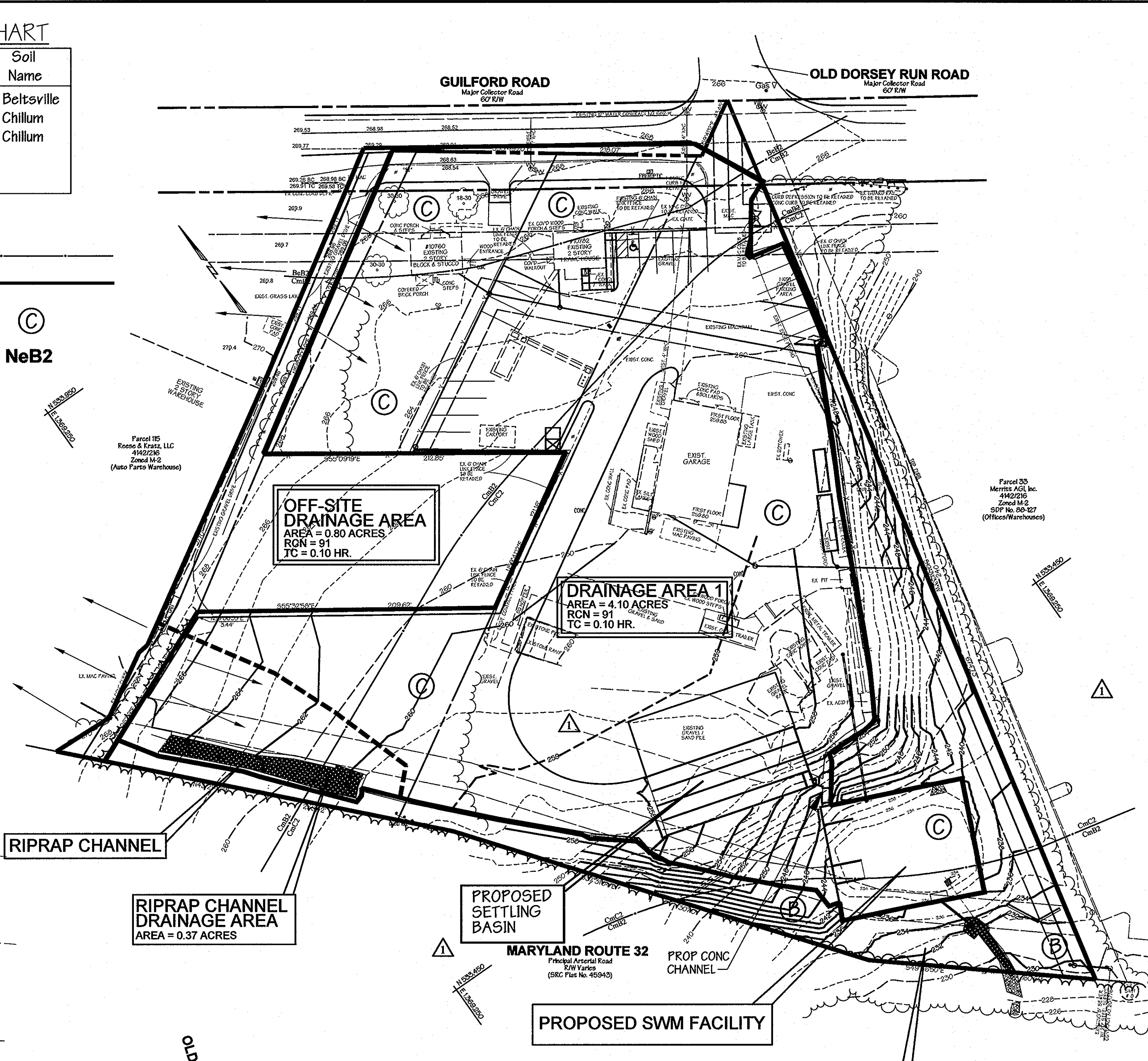
Soil Symbol	Soil Group	Soil Name
BcB2	C	Beltsville
CmB2	C	Chillum
CmC2	C	Chillum

LEGEND

- SOILS
- DRAINAGE AREA LINES
- Soil Group
- Soil Symbol



EXISTING DRAINAGE AREA MAP
SCALE: 1" = 50'



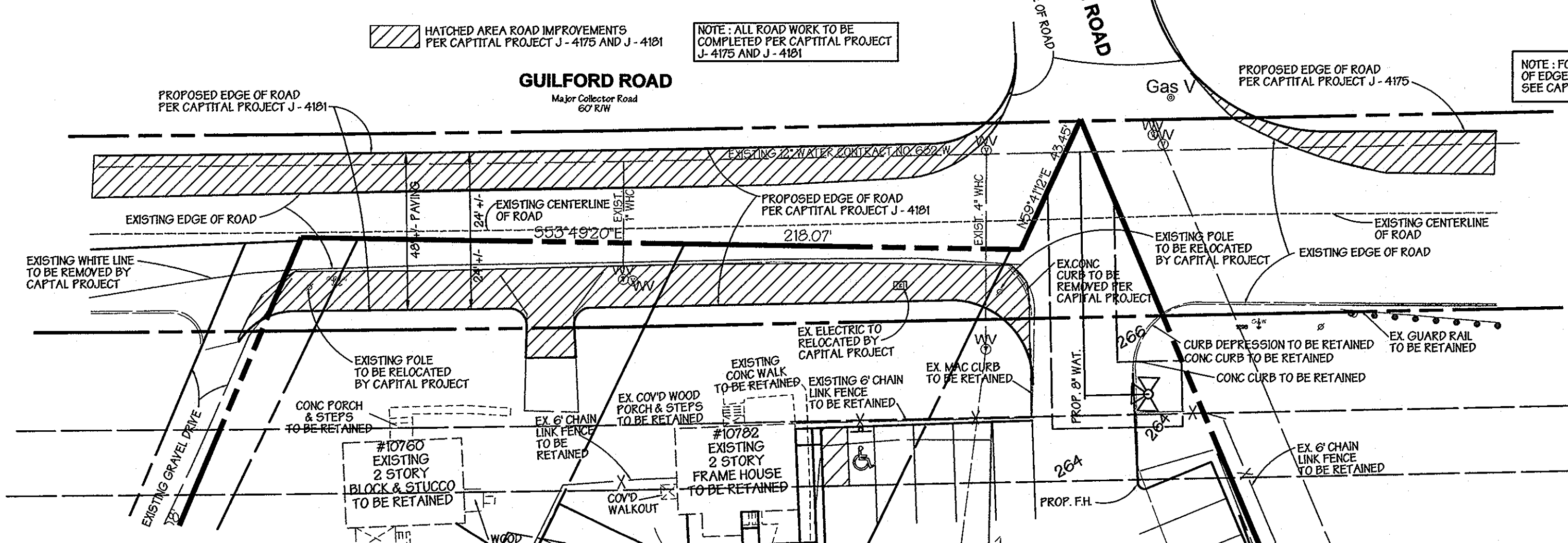
PROPOSED DRAINAGE AREA MAP
SCALE: 1" = 50'

STORMWATER MANAGEMENT SEQUENCE OF CONSTRUCTION

1. COMPLETE THE SEQUENCE OF OPERATIONS ON THE APPROVED SEDIMENT AND EROSION CONTROL PLANS.
2. NOTIFY HOWARD COUNTY, THE GEOTECHNICAL ENGINEER (417) 526-0700 AND THE ENGINEER IN CHARGE (410) 925-0202 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. ALSO NOTIFY ENGINEER IN CHARGE FOR AS-BUILT.
3. AFTER ALL AREAS HAVE BEEN PERMANENTLY STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE WITH PERMANENT SEEDING. CONVERT SEDIMENT BASINS TO STORMWATER MANAGEMENT FACILITIES IN ACCORDANCE WITH THE APPROVED STORM WATER MANAGEMENT PLANS.
 - A. CLEAN OUT BASINS
 - B. MAKE NECESSARY CHANGES TO RELEASE STRUCTURE
 - C. REPLACE SEDIMENT BASIN DEWATERING DEVICE WITH EXTENDED DETENTION DEWATERING DEVICE / AND/OR LOW FLOW PIPE.
4. COMPLETE AS-BUILT SURVEYS AND STUDIES AND SUBMIT TO APPROPRIATE AGENCIES WITHIN 30 DAYS OF COMPLETION OF INSTALLATION.

(*) CONSTRUCT THE SEDIMENT BASINS PER THE SPECIFICATIONS SHOWN ON THE SEDIMENT CONTROL PLAN FOR INITIAL CONSTRUCTION CONTACT THE ENGINEER IN CHARGE @ (410) 925-0202 OR THE GEOTECHNICAL INSPECTOR SO THEY CAN INSPECT THE INSTALLATION OF THE FOLLOWING:

- THE CONCRETE GRADE.
- THE OUTFALL PIPE.
- THE DEWATERING DEVICE.
- THE CONCRETE END SECTION AND OUTLET PROTECTION.



ROAD IMPROVEMENT PLAN PER CAPITAL PROJECTS J-4175 AND J-4181
SCALE: 1" = 30'

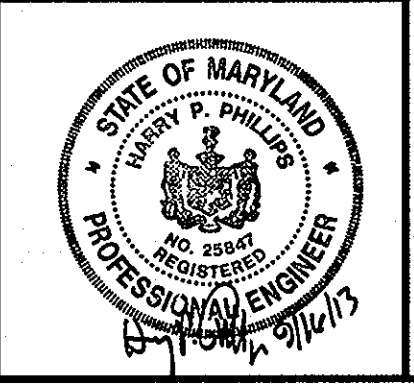
APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION **10/13/13** DATE

 CHIEF, DIVISION OF LAND DEVELOPMENT **10/14/13** DATE

 DIRECTOR **10/17/13** DATE

MARTIN & PHILLIPS
 DESIGN ASSOCIATES, INC.
 LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
 222 BOSLEY AVENUE, SUITE B1
 TOWSON, MARYLAND 21204
 (410) 321-8444



OWNER / DEVELOPER
OLD GUILFORD ROAD, LLC
 52 NEW PLANT COURT
 P.O. BOX 604
 OWINGS MILLS,
 MARYLAND 21117

I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.

HARRY P. PHILLIPS, PE No. 228547 DATE OF AS-BUILT: 3/25/13

REVISION Δ / AS-BUILT

DESIGNED BY: H.P.P.
 DRAWN BY: K.P.
 CHECKED BY: H.P.P.

REVISIONS
 Δ REVISED SWM POND, SANDFILTERS, & STORMDRAINS. REMOVED RETAINING WALL & REVISED ASSOCIATED GRADING. REVISED PROPOSED DRAINAGE ARE.

EXISTING AND PROPOSED DRAINAGE AREA MAPS

SCHUSTER CONCRETE
 Parcels 28, 29, 32, & 108

ELECTION DISTRICT: 6th
 HOWARD CO., MARYLAND
 SDP 05 - 030
 SCALE: As Shown
 DATE: AUGUST 30, 2013
 6 OF 22
 P/N: 10-1042

Stabilization Specifications

Section I - Vegetative Stabilization Methods and Materials

A. Site Preparation

- Install erosion and sediment control structures (either temporary or permanent) such as diversion, grade stabilization structures, berms, waterways, or sediment control basins.
- Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
- Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

- Soil tests must be performed to determine the exact ratios and application rates for both line and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples may be taken for engineering purposes may also be used for chemical analysis.
- Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate authority. Fertilizers shall be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranties of the producer.
- Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 90% total calcium (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #200 mesh sieve.
- Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seeded Preparation

- Temporary Seeding
 - Seeded preparation shall consist of loosening soil to a depth of suitable agricultural or construction equipment, such as disc harrow or chisel plow or ripper mounted on construction equipment. After the soil is loosened it should be rolled or dragged smooth by left to the right of the harrow. Slopes greater than 3:1 should not be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
- Permanent Seeding
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soil salinity shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay (by weight the graded material (> 20% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is for legumes or serotia leopolda to be planted, then a sandy soil (< 20% silt plus clay) will be acceptable.
 - Soil shall contain 1% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
 - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bedding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as included on the plans.

D. Seed Specifications

- Seed specifications shall be as follows:
 - Soil pH shall be between 6.0 and 7.0.
 - Soil salinity shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay (by weight the graded material (> 20% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is for legumes or serotia leopolda to be planted, then a sandy soil (< 20% silt plus clay) will be acceptable.
 - Soil shall contain 1% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

E. Methods of Seeding

- Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cutspreader seeder.
- For fertilizer to be applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total soluble nitrogen; P2O5 (phosphorus): 200 lbs./ac.; K2O (potassium): 200 lbs./ac.
- Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

F. Fertilizer Rates

- For sites having disturbed areas over 5 acres, the rates shown in this table shall be deleted and the rates recommended by the testing agency shall be written in.
- For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/ac.) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

G. Temporary Seeding

- For sites having disturbed areas over 5 acres, the rates shown in this table shall be deleted and the rates recommended by the testing agency shall be written in.
- For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/ac.) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

H. Permanent Seeding

- Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally requires low maintenance.
- Seed Mixtures - Permanent Seeding
 - Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plan and completed, then Table 25 must be put on the plan. Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 242 - Critical Area Planting. For special low maintenance areas, see Sections V Soil and Turfgrass.

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L. Fertilizer Rates

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- For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/ac.) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

M. Temporary Seeding

- For sites having disturbed areas over 5 acres, the rates shown in this table shall be deleted and the rates recommended by the testing agency shall be written in.
- For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/ac.) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

d. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

e. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summary or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

f. Drill or Cutspreader Seeding: Mechanized seeders shall apply and cover seed with soil.

g. Outplanting seeders are required to bury the seed in a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.

h. Where practical, seed shall be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

i. Mulch Specifications (In order of preference)

- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably light in color, and shall not be musty, moldy, caked, decayed, or excessively dry and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
- Wood Cellulose Fiber Mulch (WCFM)
 - WCWM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCWM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniform spread dry.
 - WCWM including dye, shall contain no germination or growth inhibiting factors.
- WCWM materials shall be manufactured and processed in a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with soil, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a biodegradable cover on, during application, having moisture absorption and penetration properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- WCWM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
- WCWM must conform to the following physical requirements: fiber length to approximately 10 mm, diameter approximately 1 mm, pH range of 4.0 to 8.5, ash content of 16% maximum and water holding capacity of 90% minimum.

NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

g. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

h. If grading to completed outside of the seeding season, mulch shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.

i. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If such anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.

ii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lb. of wood cellulose fiber per 100 gallons of water.

iii. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch. Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (based on preference), depending upon site conditions and erosion hazard:

- A mulch anchoring tool is a tractor draw implement designed to punch and anchor mulch into the soil surface a minimum of 1/2 inch. This practice is most effective on large areas, and is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
- Wood cellulose fiber may be used for anchoring straw. The fiber blower shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and on the crests of banks. The remainder of area should cover uniform after binder application. Synthetic binders - such as Acrylic DLR (Aqua-Tek), DCA-70, Petrosert, Terra Tax II, Terra Tack AF or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
- Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 1' to 12' wide and 300 to 3000 feet long.

Section II - Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Permanent Seeding

- Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plan and completed, then Table 25 must be put on the plan. Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 242 - Critical Area Planting. For special low maintenance areas, see Sections V Soil and Turfgrass.
- For sites having disturbed areas over 5 acres, the rates shown in this table shall be deleted and the rates recommended by the testing agency shall be written in.
- For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/ac.) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Section III - Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally requires low maintenance.

A. Seed Mixtures - Permanent Seeding

- Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plan and completed, then Table 25 must be put on the plan. Additional planting specifications for exceptional sites such as shorelines, streambanks, dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 242 - Critical Area Planting. For special low maintenance areas, see Sections V Soil and Turfgrass.
- For sites having disturbed areas over 5 acres, the rates shown in this table shall be deleted and the rates recommended by the testing agency shall be written in.
- For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/ac.) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

vi. Site Preparation: Fertilizer and Lime application rates will be determined by soil test. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime may be applied in amounts shown under vii, below.

a. Prior to seeding, the surface will be cleared of all trash, debris, and of all roots, brush, wire, grade stakes and other objects that would interfere with planting, fertilizing, and moisture operations.

b. Where soil is acid or composition of heavy clays, ground limestone will be spread at the rate of 2 tons per acre (100 lbs. / 1000 sq. ft.) in all soils 100 lbs. per acre (25 lbs. / 1000 sq. ft.) of 10-10-10 fertilizer or equivalent will be uniformly applied and mixed into the top three inches of soil with the required time.

c. All areas receiving soil will be uniformly graded. Hard packed earth will be scarified prior to placement of soil.

B. Sod Installation

- During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
- The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and slightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are tested tight in order to prevent voids which would cause drying of the roots.
- Whenever possible, sod shall be laid with the long edges parallel to the contour and with staggered joints. Sod shall be rolled and tamped, edged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
- Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below are both thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- After the first week, sod watering is required as necessary to maintain adequate moisture content.
- The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf should be removed by the initial cutting or subsequent cuts. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section II - Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which require a medium to high level of maintenance. Areas to receive sod shall be tilled by disking or other approved methods to a depth of 2 to 4 inches, leveled and rolled to prepare a proper seedbed. Stones and debris over 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future seeding of grasses will pose no difficulty.

NOTE: Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of cultivar control and assures a pure genetic line.

A. Turfgrass Mixtures

- Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and eastern shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 15 to 20 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Rye/Cultivars Seeding Rate: 15 to 20 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought prone areas and/or for areas receiving low maintenance in full sun to medium shade. Recommended certified cultivars: Certified Tall Fescue Cultivars 95-100%, certified Kentucky Bluegrass Cultivars 0-5%. Seeding rate 5 to 8 lbs/1000 square feet. One or more cultivars may be blended.
- Kentucky Bluegrass/Fine Fescue - Shade Mixture - For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: certified Kentucky Bluegrass Cultivars 50-60%, certified Fine Fescue and 50-70%. Seeding rate: 11/2 - 3 lbs/1000 square feet. A minimum of 3 Kentucky Bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 25% of the mixture by weight.

NOTE: Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Fact Sheet #77, "Turfgrass Cultivar Recommendations for Maryland".

B. Ideal times of seeding

Western MD: March 15-June 1, August 1-October 1 (Hardiness Zones - 6a, 6b)
 Central MD: March 1-May 15, August 15-October 15 (Hardiness Zones - 6b)
 Southern MD, Eastern Shore: March 1-May 15, August 15-October 15 (Hardiness Zones - 7a, 7b)

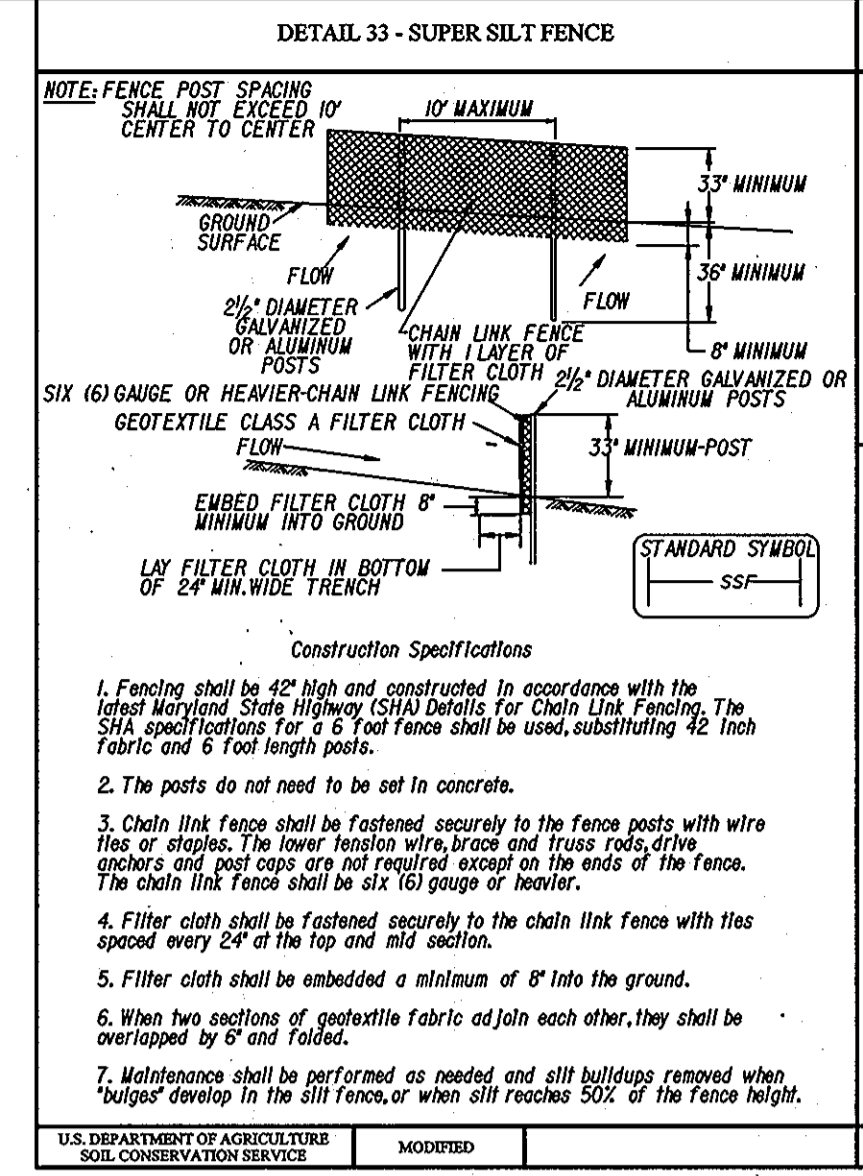
C. Irrigation

If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance

Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedsings with the species used.

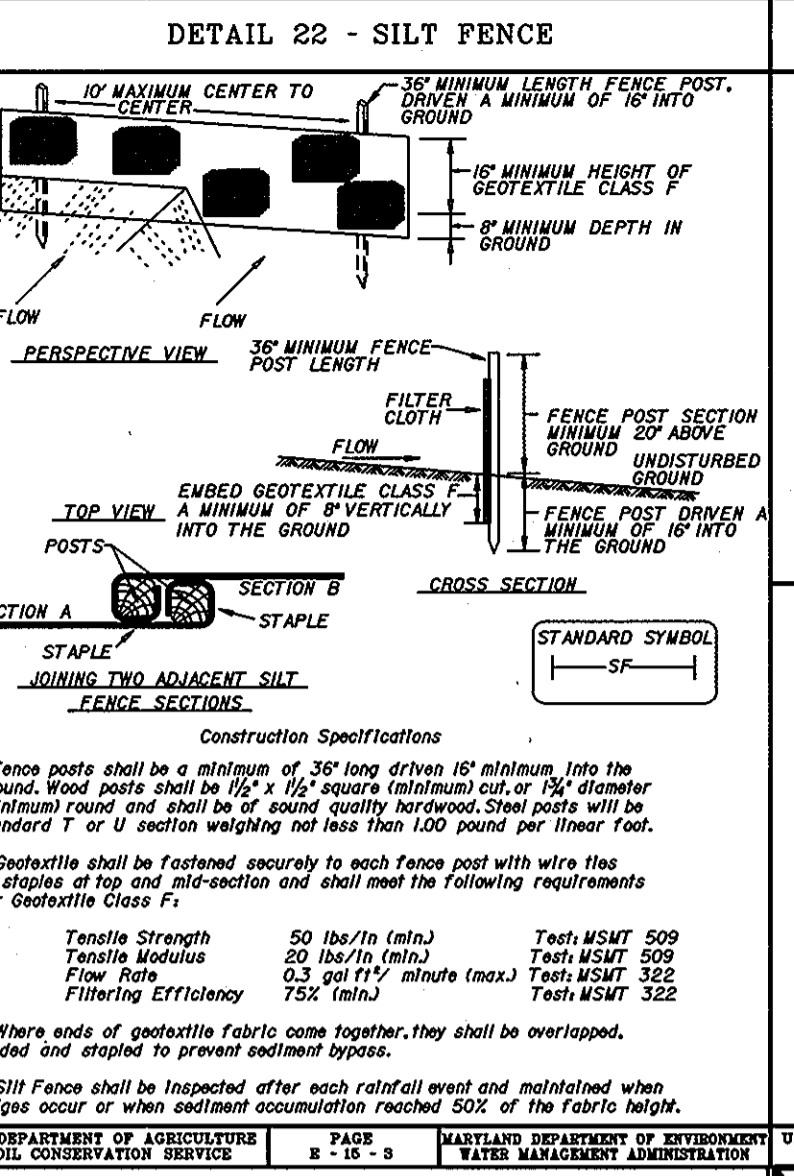
- Once the vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.
- If the stand provides less than 40% ground coverage, reestablish following original line, fertilizer, seedbed preparation and seeding recommendations.
- If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.
- Maintenance fertilizer rates for permanent seedings are shown in Table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication "Lawn Care in Maryland" Bulletin No. 171.



SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
0 - 10%	0 - 10%	unlimited	unlimited
10 - 20%	10 - 5%	200 feet	1500 feet
20 - 33%	5 - 3%	100 feet	1000 feet
33 - 50%	3 - 2%	100 feet	500 feet
50% +	2 - 1%	50 feet	250 feet



SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 5:1	unlimited	unlimited
5:1 to 10:1	125 feet	1000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Notes in areas of less than 2% slope and sandy soils (USDA general classification) silt fence shall have a maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

Sediment Control Notes

Table 25 - Permanent Seeding for Low Maintenance Areas

PLANT SPECIES	PLANTING DATE	PLANTING RATE	PLANTING METHOD	PLANTING DATE	PLANTING RATE	PLANTING METHOD	PLANTING DATE	PLANTING RATE	PLANTING METHOD
1. KENTUCKY BLUEGRASS (KENT)	15	20	DRY	15	20	DRY	15	20	DRY
2. PERENNIAL RYEGRASS (PER)	15	20	DRY	15	20	DRY	15	20	DRY
3. TALL FESCUE (TAL)	15	20	DRY	15	20	DRY	15	20	DRY
4. FINE FESCUE (FIN)	15	20	DRY	15	20	DRY	15	20	DRY
5. CRYSTAL BERMUDA (CRY)	15	20	DRY	15	20	DRY	15	20	DRY
6. ST. AUGUSTINE GRASS (STA)	15	20	DRY	15	20	DRY	15	20	DRY
7. BAHIA GRASS (BAH)	15	20	DRY	15	20	DRY	15	20	DRY
8. CAROLINA SHEEPGRASS (CAR)	15	20	DRY	15	20	DRY	15	20	DRY
9. FLORIDA BROOMSEDGE (FLB)	15	20	DRY	15	20	DRY	15	20	DRY
10. COMMON BROOMSEDGE (COM)	15	20	DRY	15	20	DRY	15	20	DRY
11. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
12. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
13. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
14. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
15. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
16. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
17. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
18. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
19. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY
20. COMMON SPARGANGLER (COM)	15	20	DRY	15	20	DRY	15	20	DRY

Table 26 - Temporary Seeding Rates, Depths, and Dates

SPECIES	MINIMUM SEEDING RATE	PLANTING DATE	SEEDING DEPTH	SEEDING DATE	SEEDING RATE	SEEDING DEPTH	SEEDING DATE
1. KENTUCKY BLUEGRASS (KENT)	15	15	1/2"	15	20	1/2"	15
2. PERENNIAL RYEGRASS (PER)	15	15	1/2"	15	20	1/2"	15
3. TALL FESCUE (TAL)	15	15	1/2"	15	20	1/2"	15
4. FINE FESCUE (FIN)	15	15	1/2"	15	20	1/2"	15
5. CRYSTAL BERMUDA (CRY)	15	15	1/2"	15	20	1/2"	15
6. ST. AUGUSTINE GRASS (STA)	15	15	1/2"	15	20	1/2"	15
7. BAHIA GRASS (BAH)	15	15	1/2"	15	20	1/2"	15
8. CAROLINA SHEEPGRASS (CAR)	15	15	1/2"	15	20	1/2"	15
9. FLORIDA BROOMSEDGE (FLB)	15	15	1/2"	15	20	1/2"	15
10. COMMON BROOMSEDGE (COM)	15	15	1/2"	15	20	1/2"	15
11. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
12. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
13. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
14. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
15. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
16. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
17. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
18. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
19. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15
20. COMMON SPARGANGLER (COM)	15	15	1/2"	15	20	1/2"	15

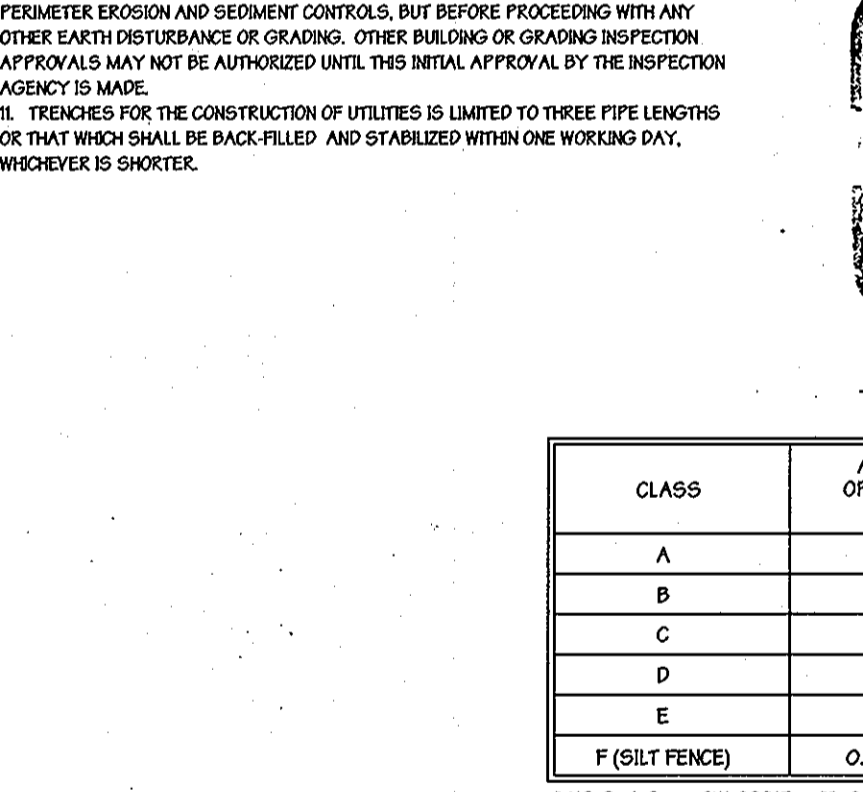
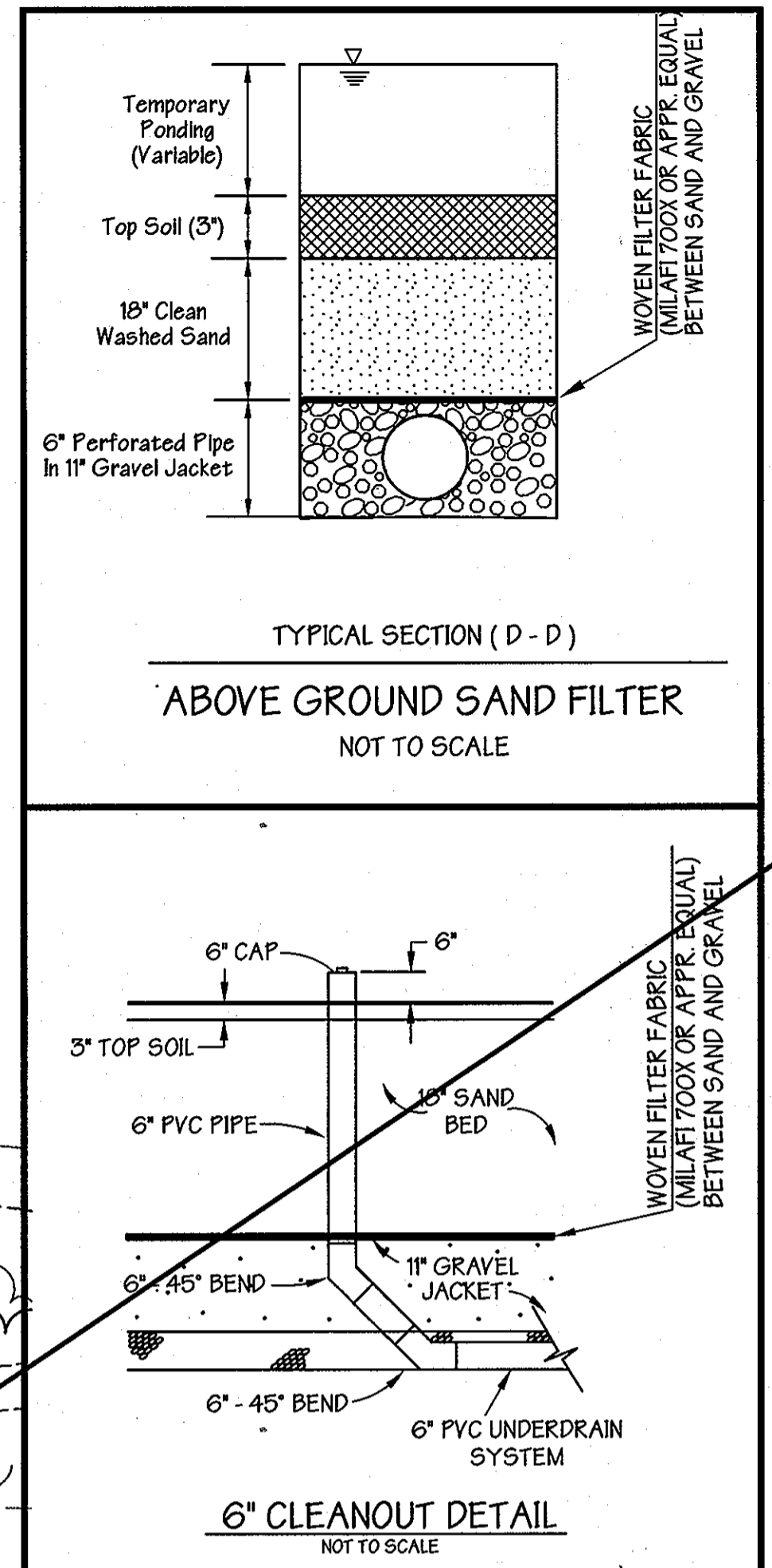
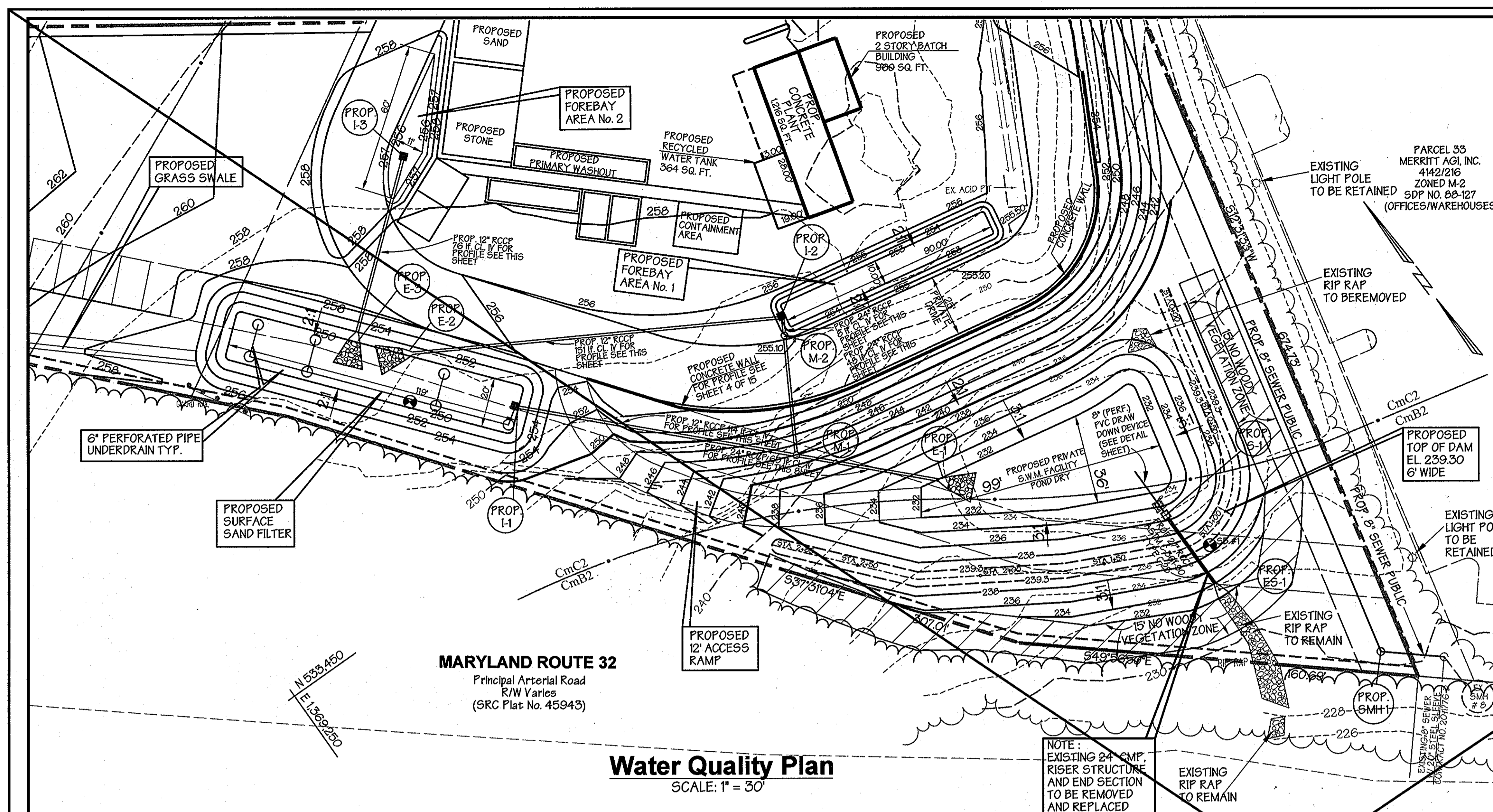
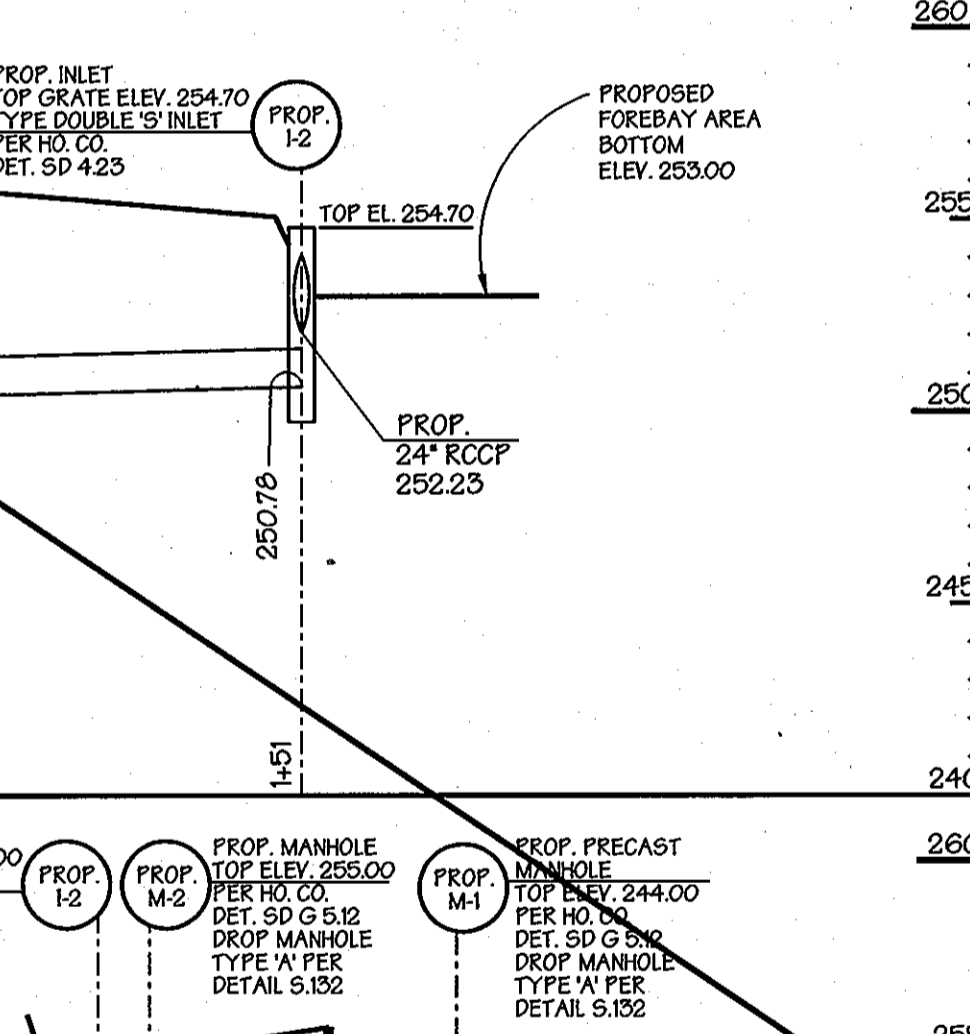
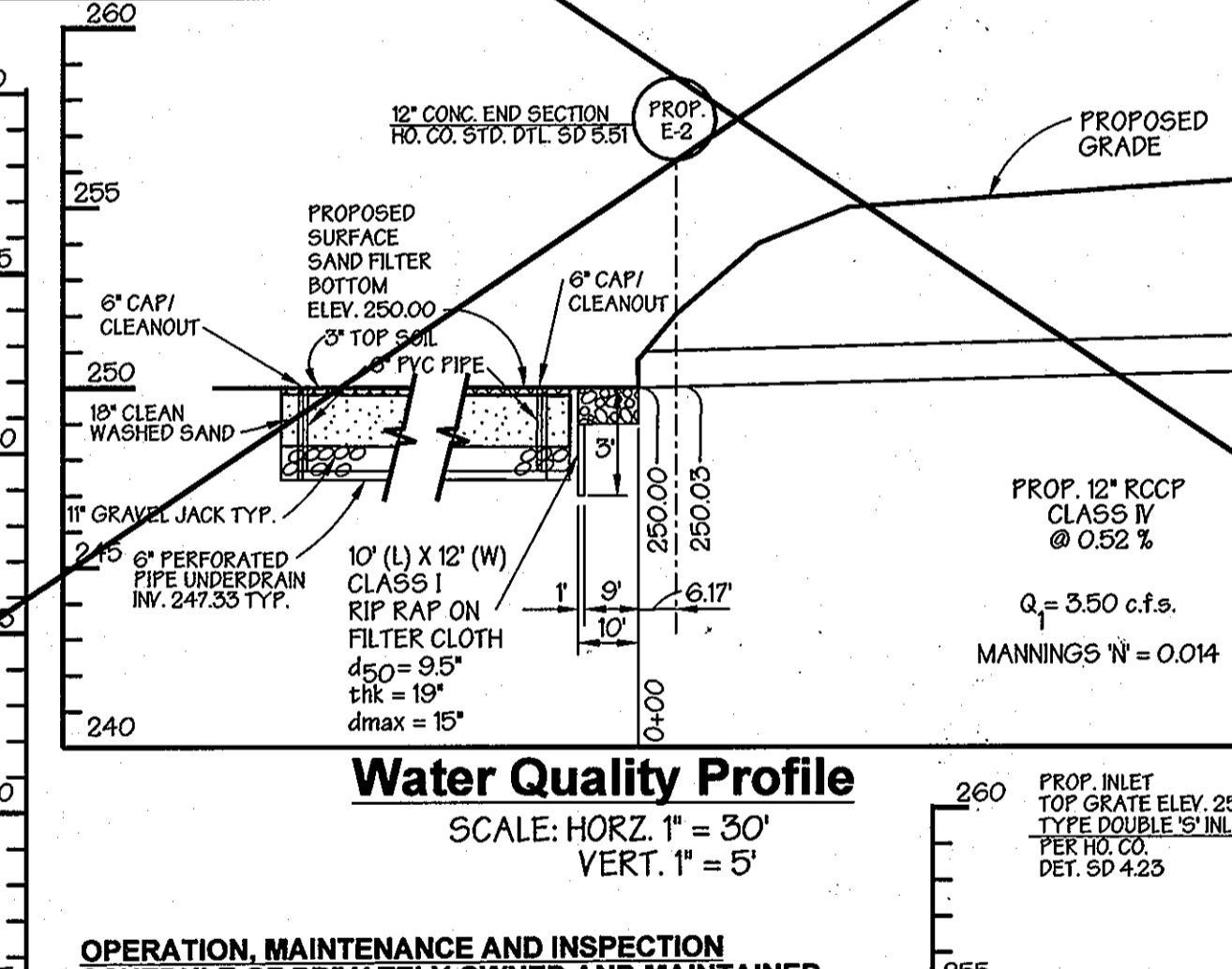
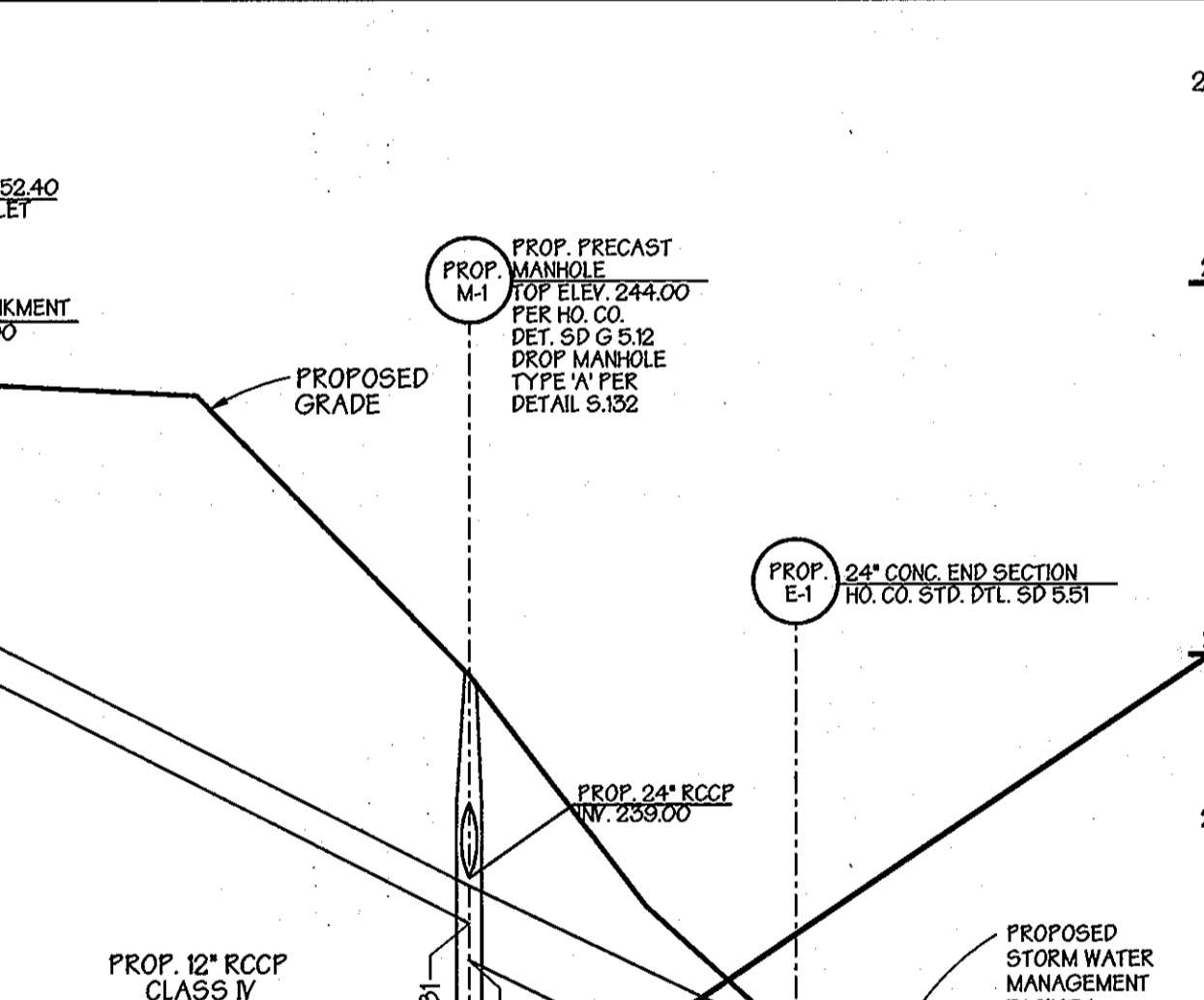
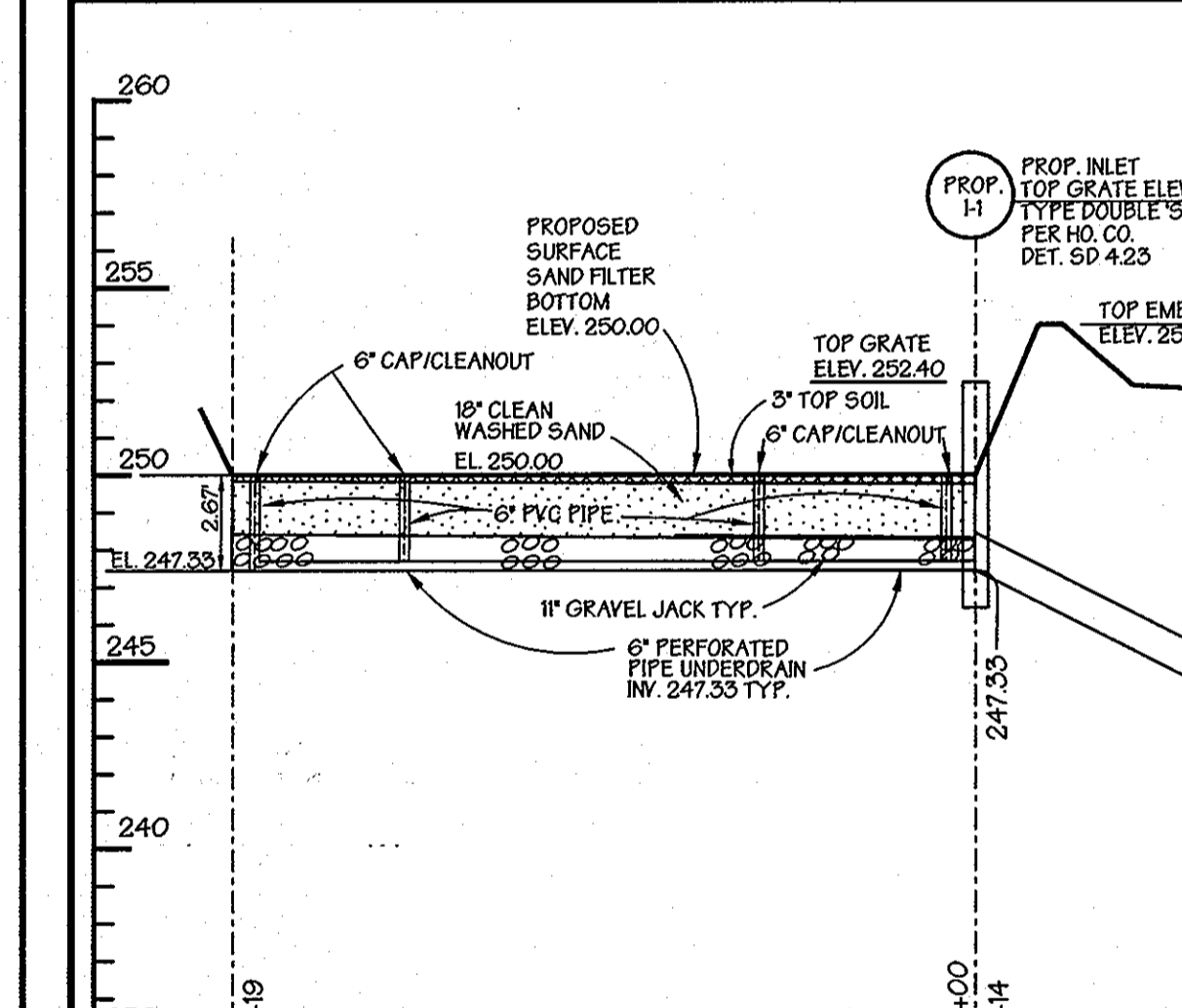


Table 27 - Geotextile Fabrics

CLASS	APPEARANT OPENING SIZE (INCHES)	GRAB TENSILE STRENGTH (LB.
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PARAMETER	SPECIFICATION	SIZE	NOTES
Sand	AASHTO M-6 or ASTM C-35	0.02" to 0.04"	Sand substitutions such as Diabase and Gneiss are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand. The material must be well-sorted, clean, uniform, and clean.
Leaf Compost	n/a	n/a	
Underdrain Gravel	AASHTO M-43	0.35" to 0.75"	Must maintain 125 gpm per sq. ft. flow rate. Note: a 4" pea gravel layer may be substituted for geotextiles meant to "separate" sand filter layer.
Geotextile Fabric (if required)	ASTM-D-4833 (puncture strength - 125 lb)	0.008" thick equivalent opening size of #80 sieve	
Impermeable liner (if required)	ASTM-D-4833 (puncture strength - 100 lb, elongation 200%) ASTM-D-524 (tear resistance 150 lb/in) ASTM-D-471 (water adsorption +2 to -2 % mass)		
underdrain piping	F 750, Type FS 28 or ASSGHTO-M-270	4" - 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary undermatch pipes.
concrete (cast in place)	MHSA Standard and Spec, Section 902 - Mix No. 3; min. 5000 psi, normal weight, air-entrained, conforming to meet ASTM 615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump tests; all concrete design (cast-in-place or pre-cast) not using precast approved. State or local standards require design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 308.1R09; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressure); and analysis of potential cracking.
concrete (pre-cast)	per pre-cast manufacturer	n/a	SEE ABOVE NOTE
non-rebar steel	ASTM A-36	n/a	Structural steel to be hot-dipped galvanized ASTM-A 123



Materials Specifications for Sand Filters

3.1.1.1 Filtering Maintenance Criteria

The sediment chamber outlet devices shall be cleaned/inspected when drawdown times within the chamber exceed 26 hours. Trash and debris shall be removed as necessary.

Sediment should be cleaned out of the sedimentation chamber when it accumulates to a depth of more than six inches. Vegetation within the sedimentation chamber should be limited to a height of 10 inches.

When the filtering capacity of the filter diminishes substantially (e.g., when water ponds on the surface of the filter bed for more than 72 hours), the top few inches of discolored material shall be removed and shall be replaced with fresh material. The removed sediment shall be disposed in an acceptable manner (e.g., landfill). Site/sediment should be removed from the filter bed when the accumulation exceeds one inch.

Organic filters (F-4) or surface sand filters (F-5) that have a grass cover should be mowed a minimum of 3 times per growing season to maintain maximum grass heights less than 12 inches.

A drop of at least six inches shall be provided at the inlet of Horseshoe facilities (F-6) (stone diaphragm). Dead or diseased plant material shall be replaced. Areas devoid of match should be re-matched on an annual basis.

Direct maintenance access shall be provided to the pretreatment area and the filter bed.

Construction of sand filters and Horseshoe areas shall conform to the specifications outlined in Appendix B.3.

B.3.A Sand Filter Specifications

1. Material Specifications for Sand Filters

The allowable materials for sand filter construction are detailed in Table B.3.1.

2. Sand Filter Testing Specifications

Underground sand filters, facilities with sensitive groundwater aquifers, and filters designed to serve urban wet spots are to be tested for water tightness prior to placement of filter media. Test runs and tests should be plugged and the system completely filled with water to demonstrate water tightness. Water tightness means no leakage for a period of 6 hours.

All overflow weirs, multiple orifices and flow distribution slots are to be field-tested to verify adequate distribution of flows.

3. Sand Filter Construction Specifications

Provide sufficient maintenance access (i.e., 10-foot-wide road with legally recorded easement). Vegetated access slopes are to be a maximum of 10%; gravel slopes to 15%; paved slopes to 25%.

Absolutely no runoff is to enter the filter until all contributing drainage areas have been established.

Surface or filter bed is to be level.

All underground sand filters should be clearly delineated with signs so that they may be located when maintenance is due.

Surface sand filters may be planted with appropriate grasses; see Appendix A.

"Voids" sand filters (and residential infiltration facilities treating areas larger than an acre) shall be staked with a "void" that covers approximately 10% of the filter area. The "voids" shall be filled with pea gravel (2 1/4 inch stones).

Plant Material

Plant material should conform to the American Standard Nursery Stock, published by the American Association of Nurserymen, and should be selected from certified, reputable nurseries.

Plant Installation

Shredded hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the Horseshoe area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

The plant root ball should be planted so 1/3rd of the ball is above the final grade surface. Root stock of the plant material shall be kept moist during transport and on-site storage. Planting pits shall follow LCA planting guidelines. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Stems and maintain the plant upright during the entire planting process. Thoroughly water ground cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and leaved seed shall be filled into the soil to a depth of at least one inch. Grass and leaved seed shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the Horseshoe structure is to improve water quality. Adding fertilizers, defoliant, or a minimum, topsoil this good Only add fertilizer if wood chips or mulch is used to amend the soil. Fertilizer shall be applied at a rate of 2 pounds per 1000 square feet of surface area.

The main collector pipe for underdrain systems shall be constructed as a minimum slope of 0.05%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

Filter Strips

Construct pea gravel diaphragm 12" wide, minimum, and 24" deep minimum.

Previous berms to be a sand/gravel mix. See Horseshoe planting media specifications: add 20% gravel, reduce clay component accordingly. Berms to have overflow weirs with 6 inch minimum lead.

Slope range to be 2% minimum to 6% maximum.

Manufacturing

The construction facility may not be constructed until all contributing drainage areas have been established.

These plans have been reviewed for Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 11/16/11

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 11/21/11

DIRECTOR DATE 4/24/11

PREPARED BY: **GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.**
Civil Engineers and Land Surveyors
1020 Cromwell Bridge Road
Towson, Maryland 21286
(410) 825-8120

Water Quality Profile SCALE: HORIZ. 1" = 30' VERT. 1" = 5'

AS-BUILT CERTIFICATION:

I hereby certify that the facility shown on this plan was constructed as shown on the "as-built" plans and meet the approved plans and specifications.

Signature: *[Signature]* Date: *[Date]*

Certify means to state or declare a professional opinion based upon on-site inspections and material tests which are conducted during construction. The on-site inspections and material tests are those inspections and tests deemed sufficient and appropriate by commonly accepted engineering standards. Certify does not mean or imply a guarantee by the engineer nor does an engineer's certification relieve any other party from meeting requirements imposed by contract, employment, or other means, including meeting commonly accepted industry practices.

CONSULTANTS HAZARD CLASS CERTIFICATION:

I certify that this pond meets all requirements for hazard class (A) B or C. (requirements as stated in the soil conservation service - Maryland standards and specifications for pond, code 370, November 1992). All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to Howard county soil conservation district.

Engineer: *[Signature]* Date: 9/26/11

Signature of Developer: *[Signature]* Date: 9/26/11

Print Name: *[Name]*

OPERATION, MAINTENANCE AND INSPECTION SCHEDULE OF PRIVATELY OWNED AND MAINTAINED FOREBAY / SURFACE SAND FILTER

INSPECTION OF THE FOREBAY / SURFACE SAND FILTER SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS* STANDARDS AND SPECIFICATIONS FOR FOREBAY / SURFACE SAND FILTER (MD-378). THE FOREBAY / SURFACE SAND FILTER OWNER AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE FOREBAY / SURFACE SAND FILTER AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

Water Quality Profile SCALE: HORIZ. 1" = 30' VERT. 1" = 5'

DESIGNED BY: H.P.P.
DRAWN BY: K.P.
CHECKED BY: H.P.P.

REVISIONS: SHEET BEING USED WITH STORMWATER MANAGEMENT DETAILS

OWNER / DEVELOPER: **OLD GUILFORD ROAD, LLC**
52 NEW PLANT COURT
P.O. BOX 604
OWINGS MILLS, MARYLAND 21117

ELECTION DISTRICT: 6th HOWARD CO., MARYLAND
SDP 05 - 030
SCALE: As Shown
DATE: JULY 16, 2004

Water Quality Profile SCALE: HORIZ. 1" = 30' VERT. 1" = 5'

OWNER / DEVELOPER: **OLD GUILFORD ROAD, LLC**
52 NEW PLANT COURT
P.O. BOX 604
OWINGS MILLS, MARYLAND 21117

DESIGNED BY: H.P.P.
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CHECKED BY: H.P.P.

REVISIONS: SHEET BEING USED WITH STORMWATER MANAGEMENT DETAILS

ELECTION DISTRICT: 6th HOWARD CO., MARYLAND
SDP 05 - 030
SCALE: As Shown
DATE: JULY 16, 2004

Water Quality Plan and Profiles

SDP 05 - 030
SCALE: As Shown
DATE: JULY 16, 2004

ELECTION DISTRICT: 6th HOWARD CO., MARYLAND
SDP 05 - 030
SCALE: As Shown
DATE: JULY 16, 2004

CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for Practice M-070. All references to ASTM and AASHTO specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be cleared and graded within 5 feet of the top of the embankment.

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

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

EARTH FILL

Material - The material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, weed stalks, stones greater than 24 inches, or other objectionable material. The material shall be placed in a minimum of 4-foot compacted layers which are to be compacted over the entire length of the fill. The most permeable borrow material shall be placed in the embankment extending to the crest of the embankment. The principal roadway must be installed concurrently with the placement and to be continuous over the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by the equipment. The depth of each lift shall be controlled by the equipment operator. The material shall be compacted to a minimum of 90% relative compaction. The material shall be compacted to a minimum of 90% relative compaction. The material shall be compacted to a minimum of 90% relative compaction.

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

Cut Off Trench - The cutoff trench shall be excavated below impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be determined by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1. The trench shall be completed 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 depth shall be at least four feet below existing grade or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be completed with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

STRUCTURE BACKFILL - Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjacent fill material. The fill shall be placed in a minimum of 4-foot compacted layers. The material shall be compacted to a minimum of 90% relative compaction. The material shall be compacted to a minimum of 90% relative compaction.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 211.01. The flowable fill shall have a minimum strength of 4.00 p.s.i. and a minimum permeability of 10^-10 cm/sec. The flowable fill shall be placed in a minimum of 4-foot compacted layers. The material shall be compacted to a minimum of 90% relative compaction.

OUTFALL PROTECTION - Outfall pipes or gutters shall be protected by the required ditches and grades. Any required inlets in the outfall pipe shall be protected by a minimum of 4-foot concrete apron. The apron shall be placed in a minimum of 4-foot compacted layers. The material shall be compacted to a minimum of 90% relative compaction.

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 (1 mil) on both sides of the pipe. The pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-190 and M-191 with water-tight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) The pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 with water-tight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when used under water conditions, must be tested for corrosion durability. The pipe shall have a minimum coating thickness of 0.01 inch (1 mil) on both sides of the pipe. The pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 of M-211 with water-tight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when used under water conditions, must be tested for corrosion durability. The pipe shall have a minimum coating thickness of 0.01 inch (1 mil) on both sides of the pipe. The pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

2. Coupling bands, anti-seep collars, and sockets, etc., must be composed of the same material and coatings as the pipe. They shall be tested for durability under conditions similar to those of the pipe. The pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-190 and M-191 with water-tight coupling bands or flanges.

3. Connections - All connections with pipes must be completely water-tight. The drain pipe or barrel connection to the filter shall be water-tight. Anti-seep collars shall be connected to the pipe in such a manner as to be completely water-tight. Simple bands are not considered to be water-tight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be sealed with an adequate number of neoprene gaskets to accommodate the backfill. The following type connections are acceptable for pipe less than 24 inches in diameter: upon one end of the pipe with a circular 20 inch closed cell neoprene gasket; upon the other end with a circular 20 inch closed cell neoprene gasket; and a 12 inch wide standard lip type band with 24 inch wide 300-psi closed cell neoprene gasket; and a 12 inch wide lip type band with 24 inch wide 300-psi closed cell neoprene gasket; and a 12 inch wide lip type band with 24 inch wide 300-psi closed cell neoprene gasket; and a 12 inch wide lip type band with 24 inch wide 300-psi closed cell neoprene gasket.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other material is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

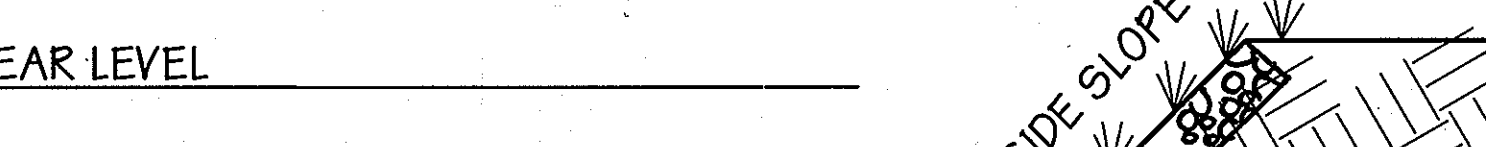
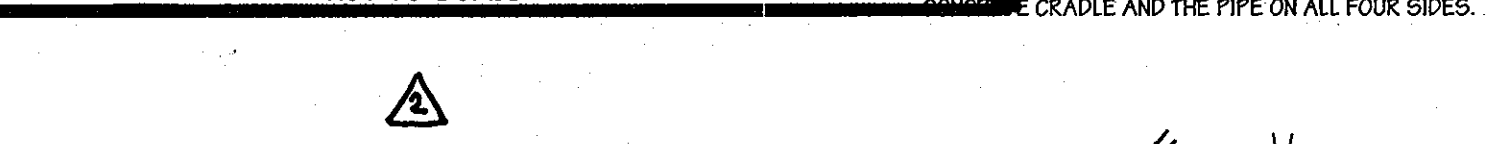
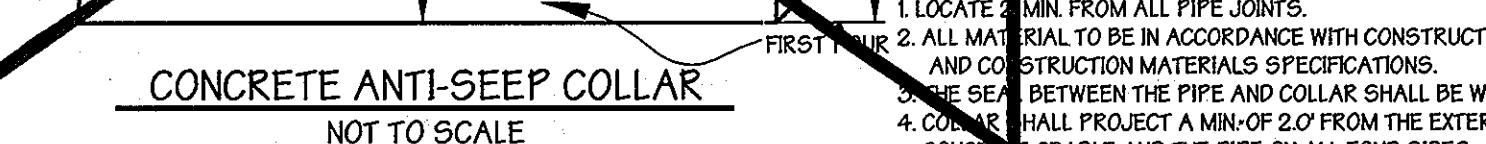
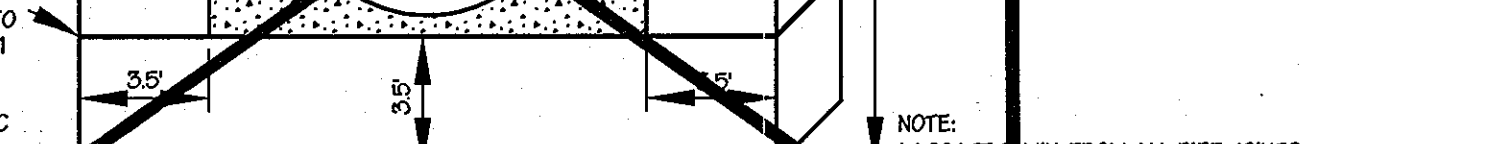
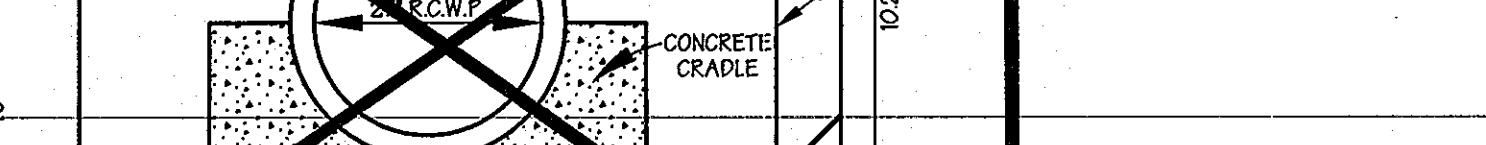
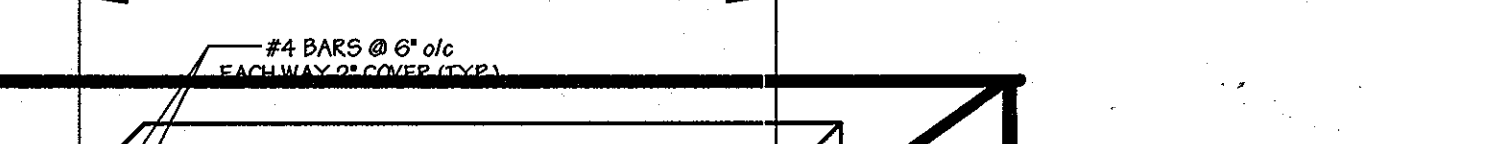
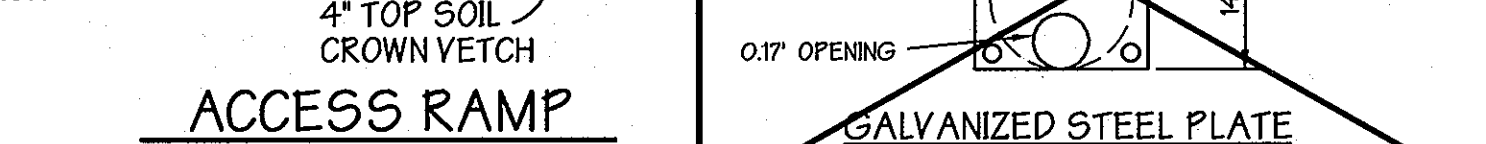
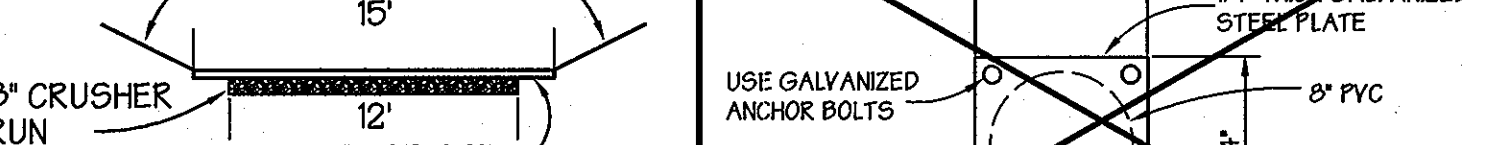
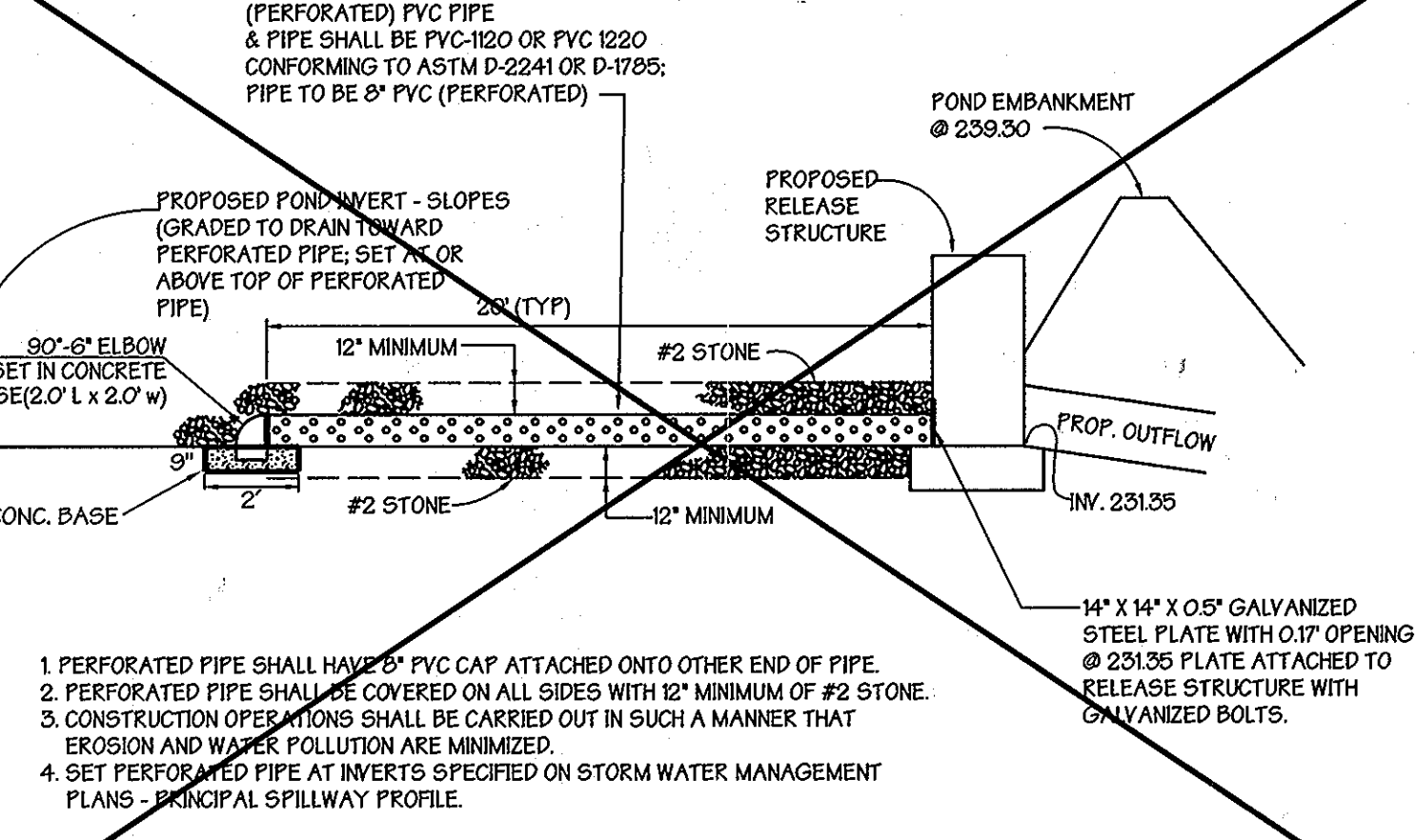
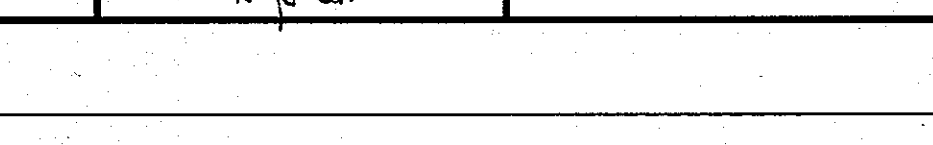
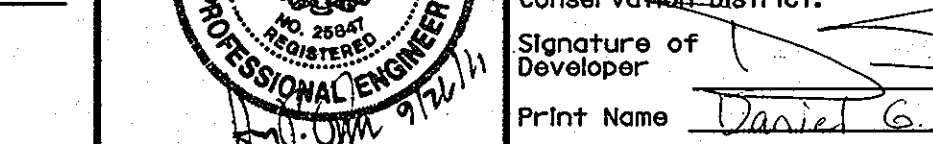
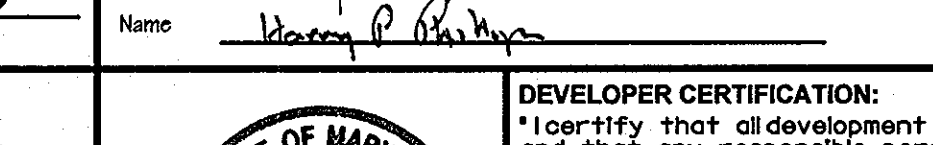
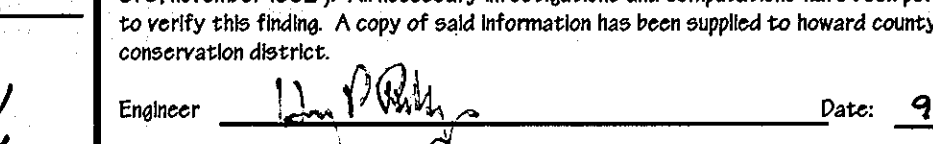
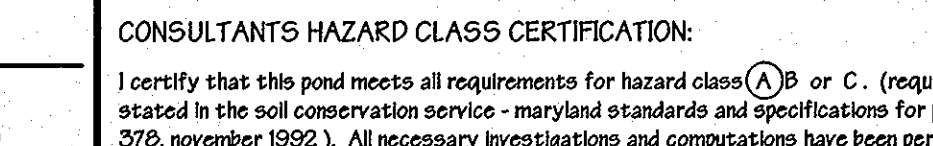
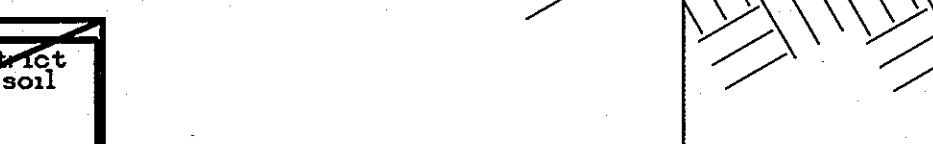
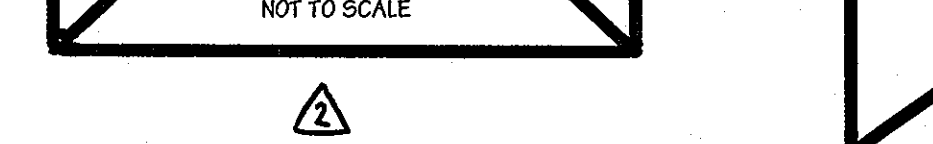
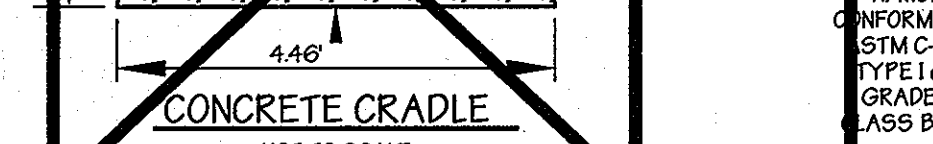
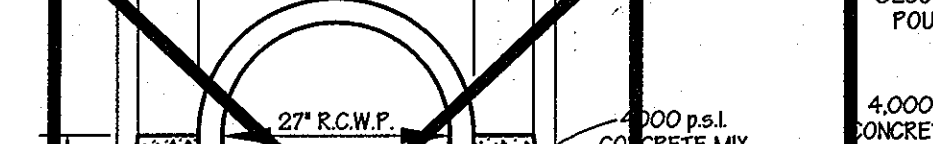
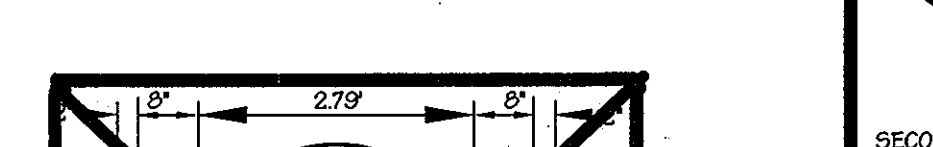
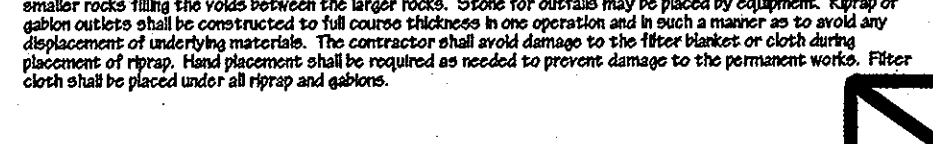
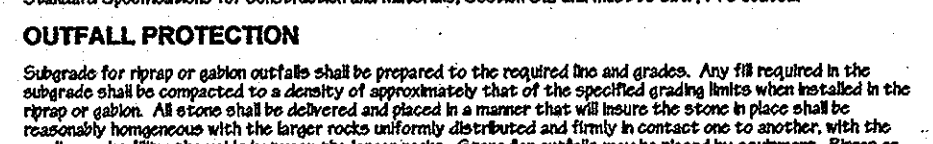
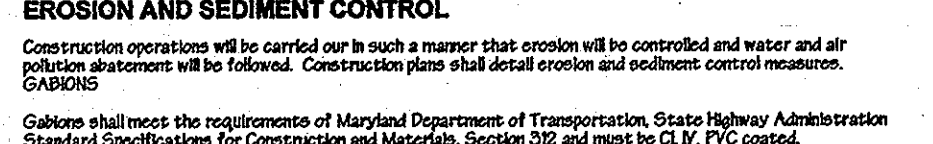
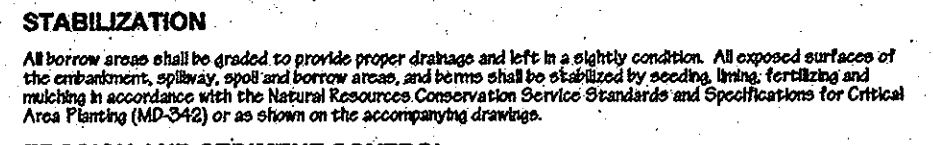
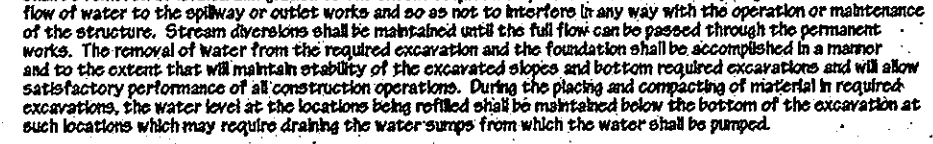
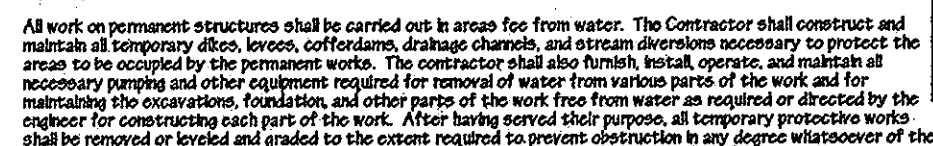
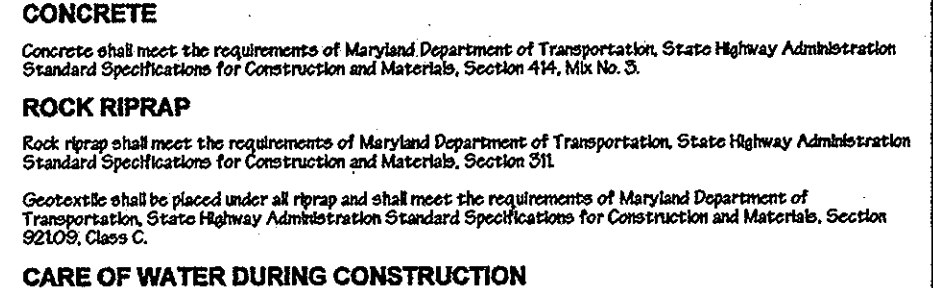
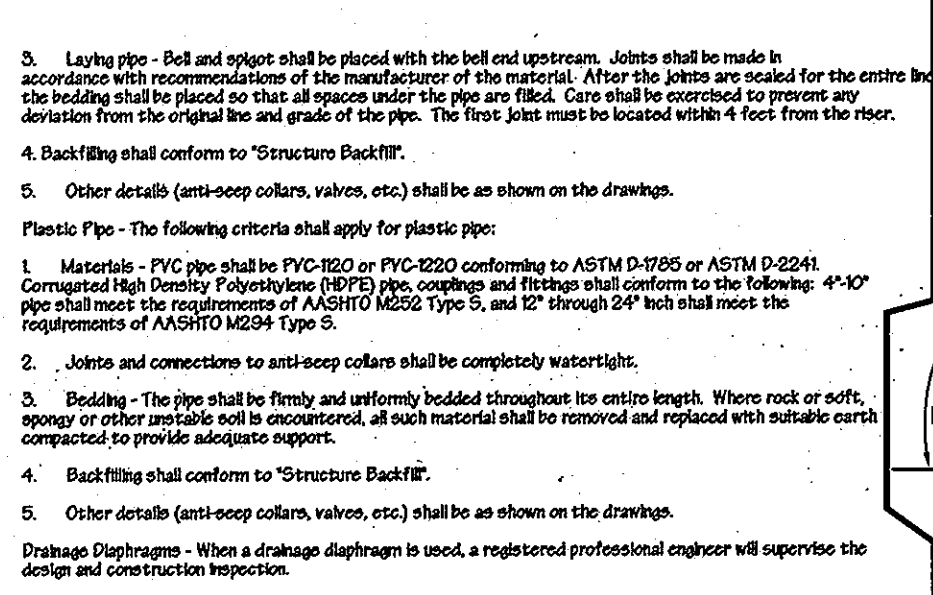
5. Backfilling shall conform to "Structure Backfill".

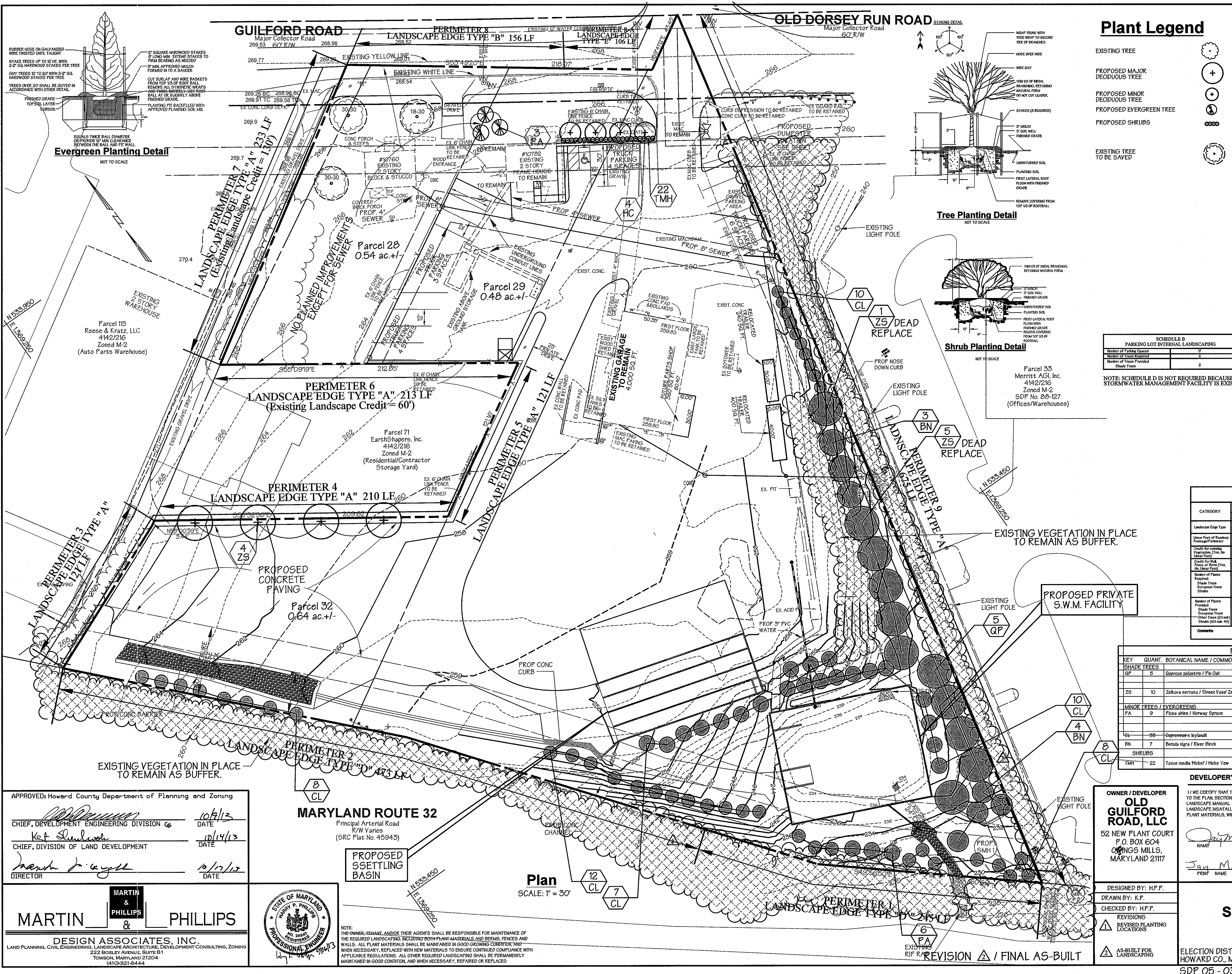
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-558.

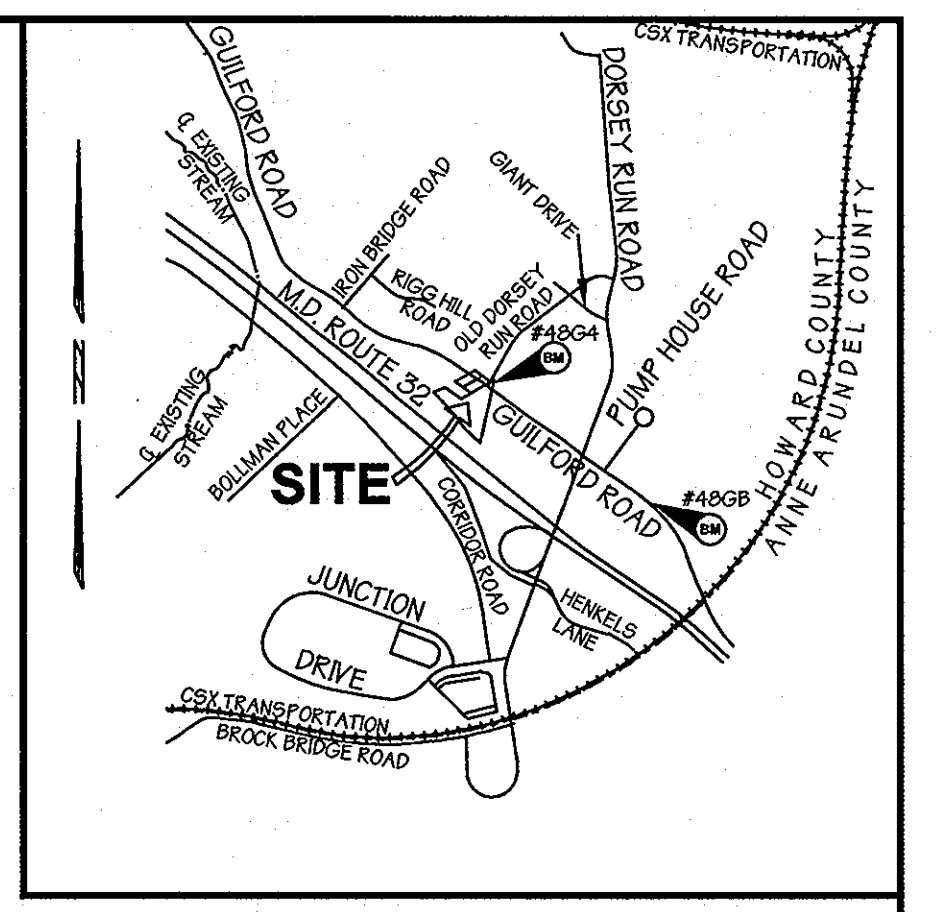
2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle that consists of high strength concrete placed under the pipe and up the sides of the pipe at a minimum of 10% concrete diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.





Plant Legend

- EXISTING TREE
- PROPOSED MAJOR DECIDUOUS TREE
- PROPOSED MINOR DECIDUOUS TREE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUBS
- EXISTING TREE TO BE SAVED



Vicinity Map

SCALE: 1" = 2,000'

PLANTING NOTES
 PLANT LOCATIONS SHALL BE FIELD ADJUSTED TO AVOID UTILITIES. CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO START OF WORK. ALL TREES AND SHRUBS SHALL BE MAINTAINED TO A MINIMUM OF 6" BEYOND THE EDGE OF THE ROAD. SHRUBS MASSINGS SHALL BE PLANTED IN CONTIGUOUS MASSES. ALL WIRE, PLASTIC AND TWINE TIES SHALL BE REMOVED FROM TOP OF THE ROOT BALL.

PLANT STANDARDS
 ALL NURSERY STOCK SHALL BE TOP QUALITY AND IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN INC. "AMERICAN STANDARDS FOR NURSERY STOCK" LATEST EDITION. INFERIOR NURSERY STOCK WILL BE SUBJECT TO REJECTION BY THE LANDSCAPE ARCHITECT. BARE ROOT SHALL NOT BE ALLOWED FOR ANY TREE DEFINED AS MAJOR DECIDUOUS, MAJOR EVERGREEN OR EVERGREEN.

CHANGES MAY IMPACT REQUIRED CERTIFICATION
 PLANT TYPES (DECIDUOUS TREES, EVERGREEN, ETC.), QUANTITIES, SPACING, LOCATION, AND SPECIES SHOWN ON THE APPROVED LANDSCAPE PLAN ARE BASED ON REQUIREMENTS STATED IN THE LATEST HOWARD COUNTY LANDSCAPE MANUAL. ANY CHANGE IN THESE ITEMS MAY AFFECT THE REQUIRED APPROVAL AND CERTIFICATION OF THE INSTALLED PLANTING. OWNER IS REQUIRED TO APPROVE AND PAY FOR CERTIFICATION BY LANDSCAPE ARCHITECT.

LANDSCAPE SPECIFICATIONS
 LANDSCAPE SPECIFICATION SHALL CONFORM TO LCA LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE WASHINGTON METROPOLITAN AREA, INCLUDING PLANTING PROCEDURES AND SOIL PREPARATION FOR SHRUBS AND PERENNIAL BEDS. A ONE-YEAR WARRANTY PERIOD SHALL BE REQUIRED. MAINTENANCE REQUIRED TO HONOR THE ONE-YEAR WARRANTY SHALL BE PERFORMED AS PART OF THIS CONTRACT.

SPECIAL PROVISIONS TO LCA STANDARDS SPECIFICATIONS
 CONTRACTOR IS ENCOURAGED TO PERFORM SOIL TESTING. TEST RESULTS SHALL BE SUBMITTED 30 DAYS BEFORE PLANTING. FAILURE TO PERFORM TESTING WILL VOID GUARANTEE PROVISIONS.

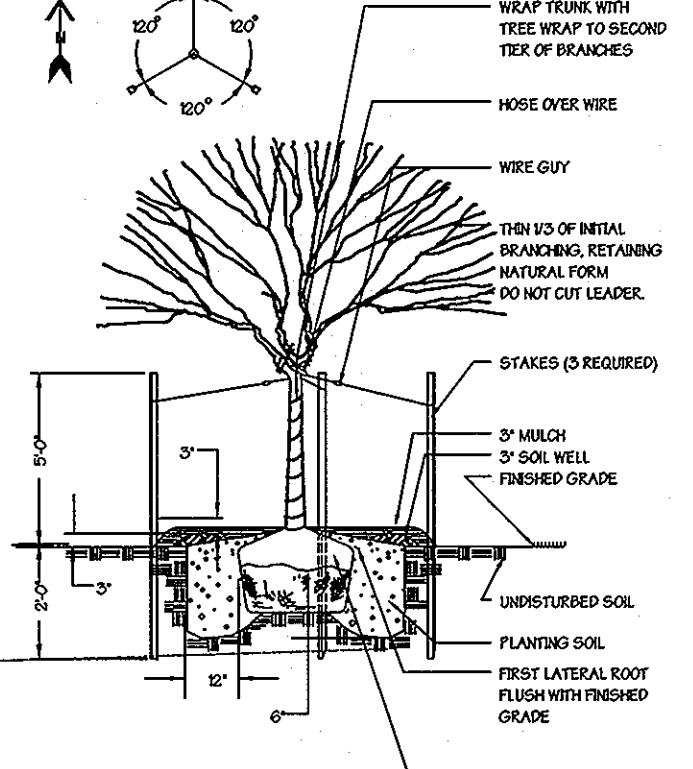
CONTRACTOR SHALL REVIEW AND TEST SUBSOIL DRAINAGE CHARACTERISTICS 30 DAYS PRIOR TO PLANTING AND NOTIFY OWNER UNACCEPTABLE CONDITIONS.

NO EXCEPTIONS TO THE GUARANTEE PROVISIONS ARE ALLOWED UNLESS AGREED TO IN WRITING PRIOR TO PLANTING.

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.24 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE IN THE AMOUNT OF \$24,000.00 IS A PART OF THE DEVELOPER'S AGREEMENT.

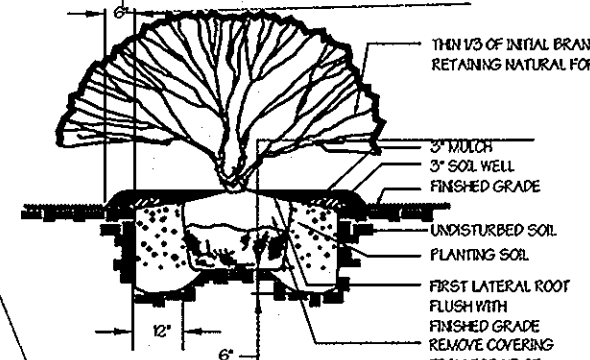
PLANTS PROVIDED CALCULATIONS

SHADE TREES	30 @ 300.00	= 11,400.00
EVERGREEN TREES	76 @ 150.00	= 11,400.00
MINOR TREES	2 @ 150.00	= 300.00
SHRUBS	32 @ 300.00	= 9,600.00
TOTAL		= 42,700.00



Tree Planting Detail

NOT TO SCALE



Shrub Planting Detail

NOT TO SCALE

SCHEDULE B
 PARKING LOT INTERNAL LANDSCAPING

Number of Planting Species	7
Number of Trees Specified	2
Number of Shrubs Specified	2

NOTE: SCHEDULE D IS NOT REQUIRED BECAUSE THE STORMWATER MANAGEMENT FACILITY IS EXISTING

SCHEDULE A
 PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS			ADJACENT TO PERMITS PROPERTIES		
	P-1	P-2	P-3	P-4	P-5	P-6
Landscaping Edge Type	D	B	E	A	A	A
Linear Feet of Roadway Frontage/Perimeter	245'	473'	156'	106'	121'	213'
Credit for existing Vegetation (Tree, No Linear Feet)	NO	NO	2 Ex. Trees	NO	NO	NO
Credit for existing Vegetation (Tree, No Linear Feet)	NO	NO	NO	NO	NO	NO
Number of Plants Provided:						
Shade Trees	4	25	1	3	2	4
Evergreen Trees	0	0	0	0	0	0
Minor Trees	0	0	0	0	0	0
Shrubs	0	0	0	0	0	0

PLANT SCHEDULE

KEY	QUANT.	BOTANICAL NAME / COMMON NAME	SIZE / COND.	SPACING	REMARKS
QP	5	Quercus palustris / Pin Oak	2 1/2" - 3" B&B	As Shown	Full Crown
ZS	10	Zelkova serrata / Green Vase Zelkova	2 1/2" - 3" B&B	As Shown	Full Crown
FA	9	Ficus alba / Norway Spruce	6" - 8" B&B	As Shown	Heavy
EL	55	Euphorbia kylandii	6" - 8" B&B	As Shown	Full Crown
BN	7	Betula nigra / River Birch	6" - 12" B&B	Multi-Stem	Full
TMH	22	Taxus media Hickory / Hicks Yew	24" - 30" ht. B&B	3' oc	Full Crown

DEVELOPER'S / BUILDER'S CERTIFICATION

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.24 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.

OWNER / DEVELOPER
OLD GUILFORD ROAD, LLC
 52 NEW PLANT COURT
 P.O. BOX 604
 CHINGG MILLS, MARYLAND 21117

DESIGNED BY: H.P.P.
 DRAWN BY: K.P.
 CHECKED BY: H.P.P.
 REVISIONS: REVISED PLANTING LOCATIONS
 AS-BUILT FOR LANDSCAPING

NAME: *Jay M. Harman* DATE: 9-18-13
 PRINT NAME: Jay M. Harman

LANDSCAPE PLAN

SCHUSTER CONCRETE

Parcels 28, 29, 32, & 108

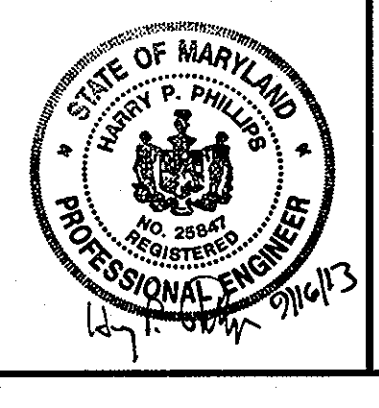
ELECTION DISTRICT: 6th
 HOWARD CO., MARYLAND
 SDP 05 - 030
 15 OF 22
 DATE: AUGUST 30, 2013
 SCALE: As Shown
 SDP 05 - 030
 PIN: 10-1042

APPROVED: Howard County Department of Planning and Zoning

10/7/13 DATE
 10/14/13 DATE
 10/13/13 DATE

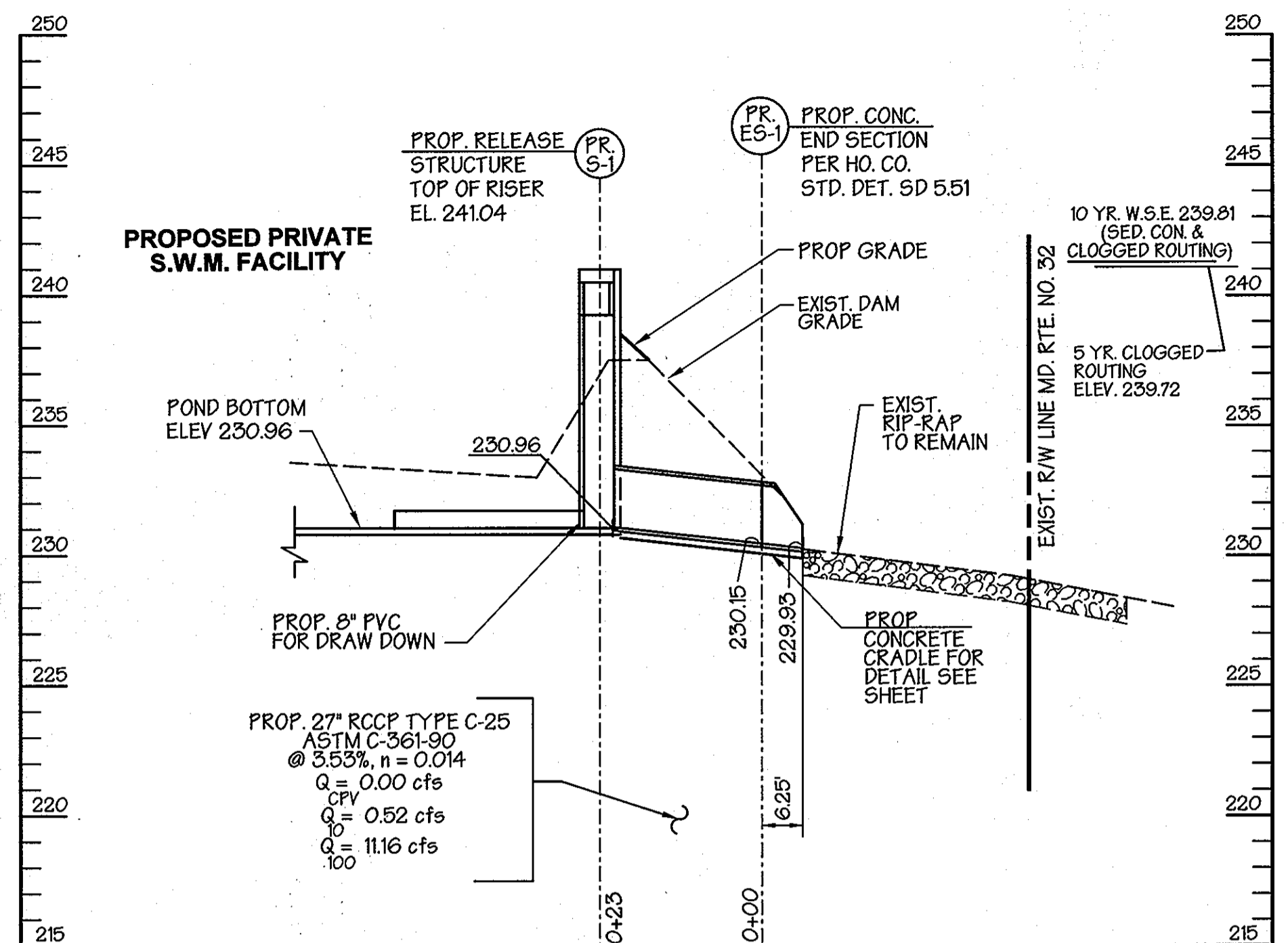
CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

MARTIN & PHILLIPS
 DESIGN ASSOCIATES, INC.
 LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
 222 BOSLEY AVENUE, SUITE B1
 TOWSON, MARYLAND 21204
 (410) 321-8444

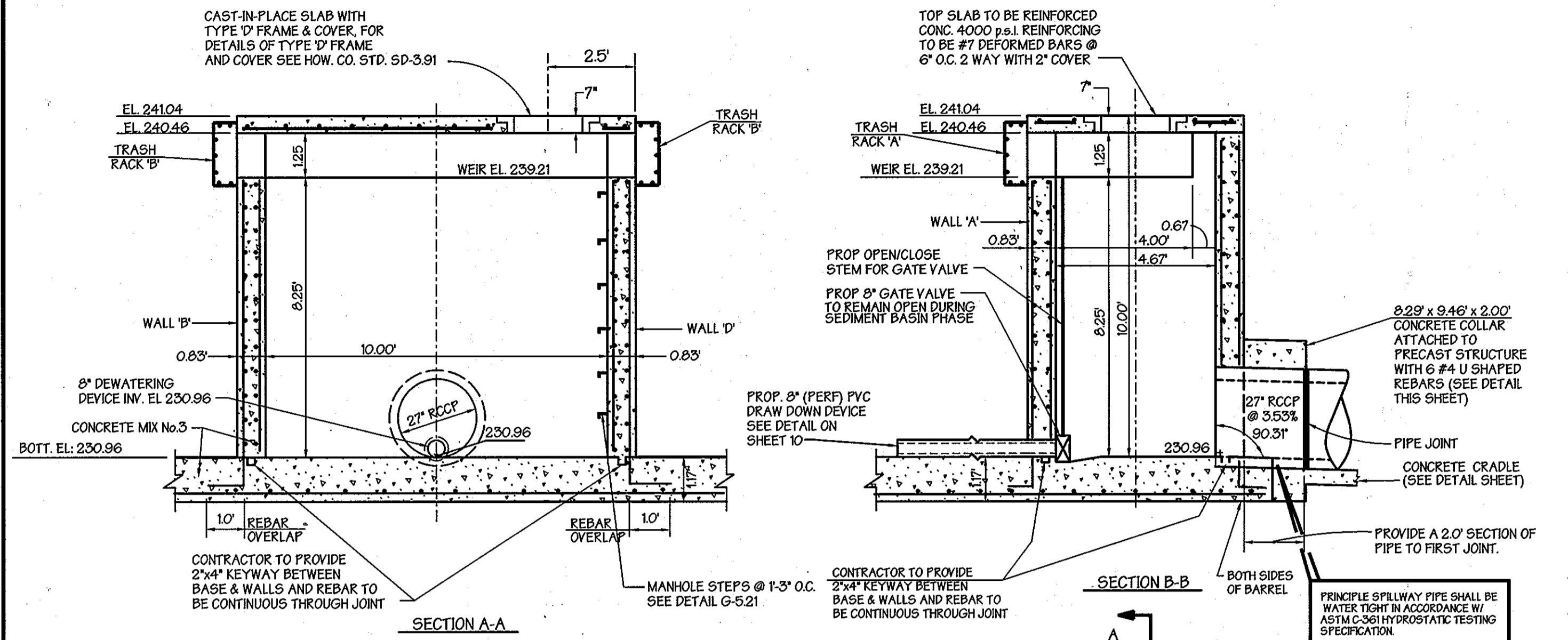


NOTE: THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BENCHES, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

Plan
 SCALE: 1" = 30'



PROFILE - PRINCIPAL SPILLWAY
SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'



- CONTROL STRUCTURE NOTES**
- STRUCTURE SHALL BE CAST-IN-PLACE REINFORCED CONCRETE WITH 3,500 P.S.I. (MIN.) STRENGTH @ 28 DAYS.
 - ALL REINFORCING TO BE CONTINUOUS THROUGHOUT STRUCTURE.
 - ALL REINFORCING TO HAVE 1-6" MIN. OVERLAPS.
 - PROVIDE ADDITIONAL #4 REBARS ALONG THE PERIMETER OF ALL OPENINGS WITH THE AREA OF STEEL EQUAL TO OR GREATER THAN AREA OF STEEL REMOVED DUE TO OPENINGS.
 - THREE (3) INCH COVER MINIMUM FOR ALL REBARS.
 - UNLESS OTHERWISE NOTED STRUCTURE SHALL BE BUILT IN ACCORDANCE WITH HOWARD COUNTY STANDARD PLATE SD-4.34. STRUCTURE SHALL NOT BE BRICK.
 - THE CONTRACTOR MAY SUBSTITUTE A PRECAST RELEASE STRUCTURE IN LIEU OF THE CAST-IN-PLACE STRUCTURE. SHOP DRAWINGS FOR PRECAST CONCRETE RISERS (SEALED BY A M.D. REGISTERED ENGINEER AND MEETING A.S.T.M. REQUIREMENTS FOR PRECAST STRUCTURES) MUST BE SUBMITTED TO THE ENGINEER AND THE APPROVING AGENCY (D.E.P.R.M.) FOR APPROVAL PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED / APPROVED THEN THE HYDRAULICS AND/OR FLOTATION OF THE STRUCTURE WILL HAVE TO BE RE-ANALYZED.
 - ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.
 - CONCRETE COLLAR TO BE INSTALLED WITH PRECAST STRUCTURE (NOT APPLICABLE FOR CAST IN PLACE STRUCTURE) (SEE DETAIL THIS SHEET)

RELEASE STRUCTURE OPENINGS S-1	
WALL 'A'	ORIFICE: (0.17' OPENING) INV: 230.96 WEIR (10.00' L) CREST: 239.21
WALL 'B'	WEIR (4.00' L) CREST: 239.21
WALL 'C'	WEIR (4.00' L) CREST: 239.21

STRUCTURE S-1
SCALE: 1" = 3'

These plans have been reviewed for Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

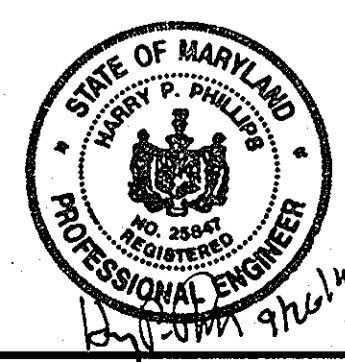
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

APPROVED: Howard County Department of Planning and Zoning

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 11/10/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE 11/11/11
DIRECTOR DATE 11/16/11

PREPARED BY: **MARTIN & PHILLIPS**
DESIGN ASSOCIATES, INC.
Land Planning, Civil Engineering, Landscape Architecture, Development Consulting, Zoning
222 Bailey Avenue, Suite 85
Towson, Maryland 21284
410-281-9444



DEVELOPER CERTIFICATION:
I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Signature of Developer: Daniel Co. Schuster Date: 11/10/11
Print Name: Daniel Co. Schuster

ENGINEER CERTIFICATION:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Signature of Engineer: H.P.P. Date: 11/16/11
Print Name: H.P.P. PE # 2567

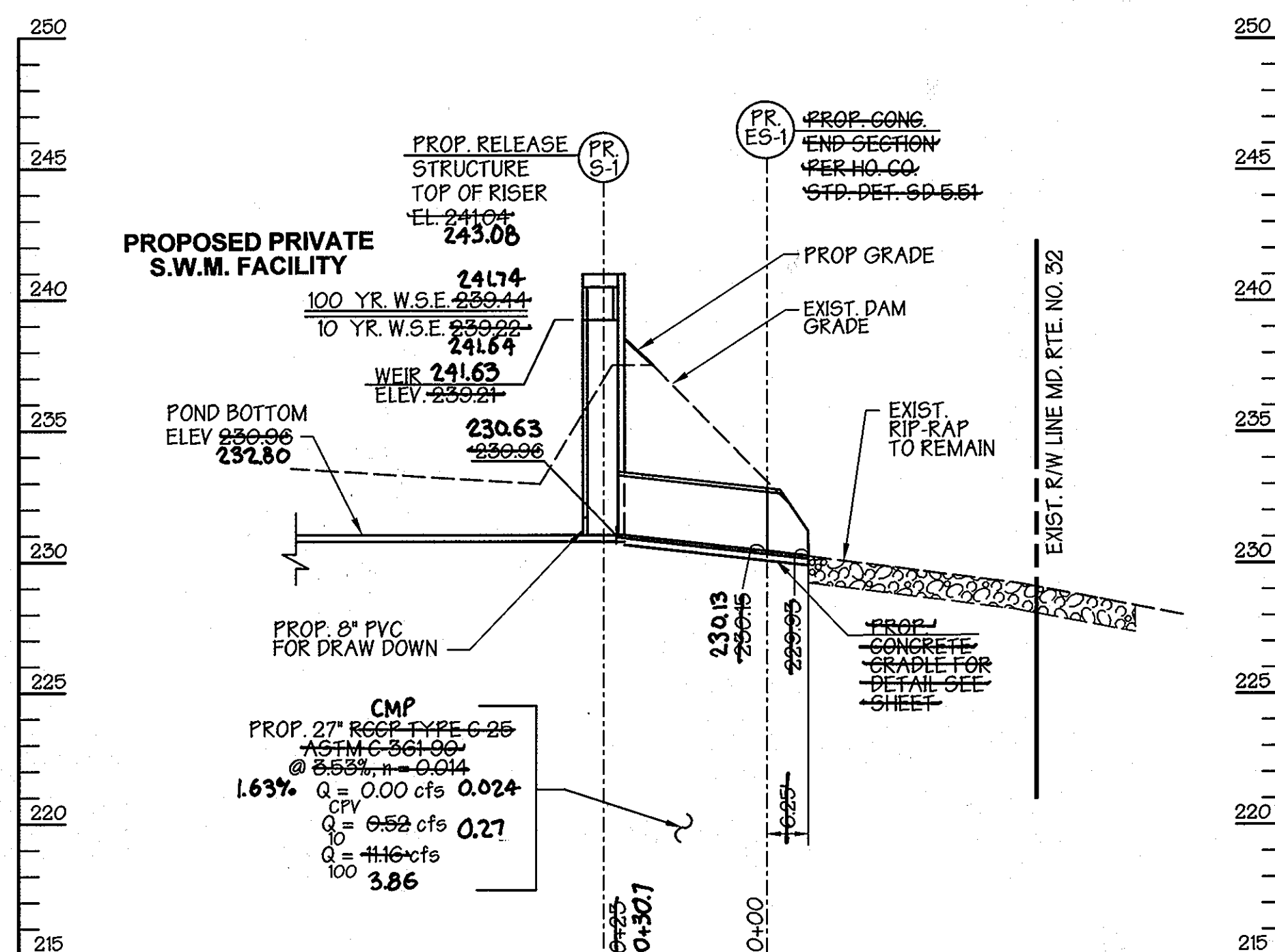
OWNER / DEVELOPER	ADDRESS CHART			
OLD GUILFORD ROAD, LLC	PARCEL NO.	STREET ADDRESS		
	PARCEL 28	10760 GUILFORD ROAD		
	PARCEL 29	10782 GUILFORD ROAD		
	PARCEL 32	10762 GUILFORD ROAD		
52 NEW PLANT COURT P.O. BOX 604 OWINGS MILLS, MARYLAND 21117	PARCEL 108	10798 GUILFORD ROAD		
PROJECT NAME SCHUSTER CONCRETE	SECTION NAME	PARCEL # 28, 29, 32, & 108		
LIBER / FOLIO GRID 5493 / 696 13 / 25	ZONE M-2	TAX MAP 46	ELECT. DIST. 6	CENSUS TRACT 606901
WATER CODE B-02	SEWER CODE 4020000			

DESIGNED BY: H.P.P., K.P.
DRAWN BY: K.P.
CHECKED BY: H.P.P.

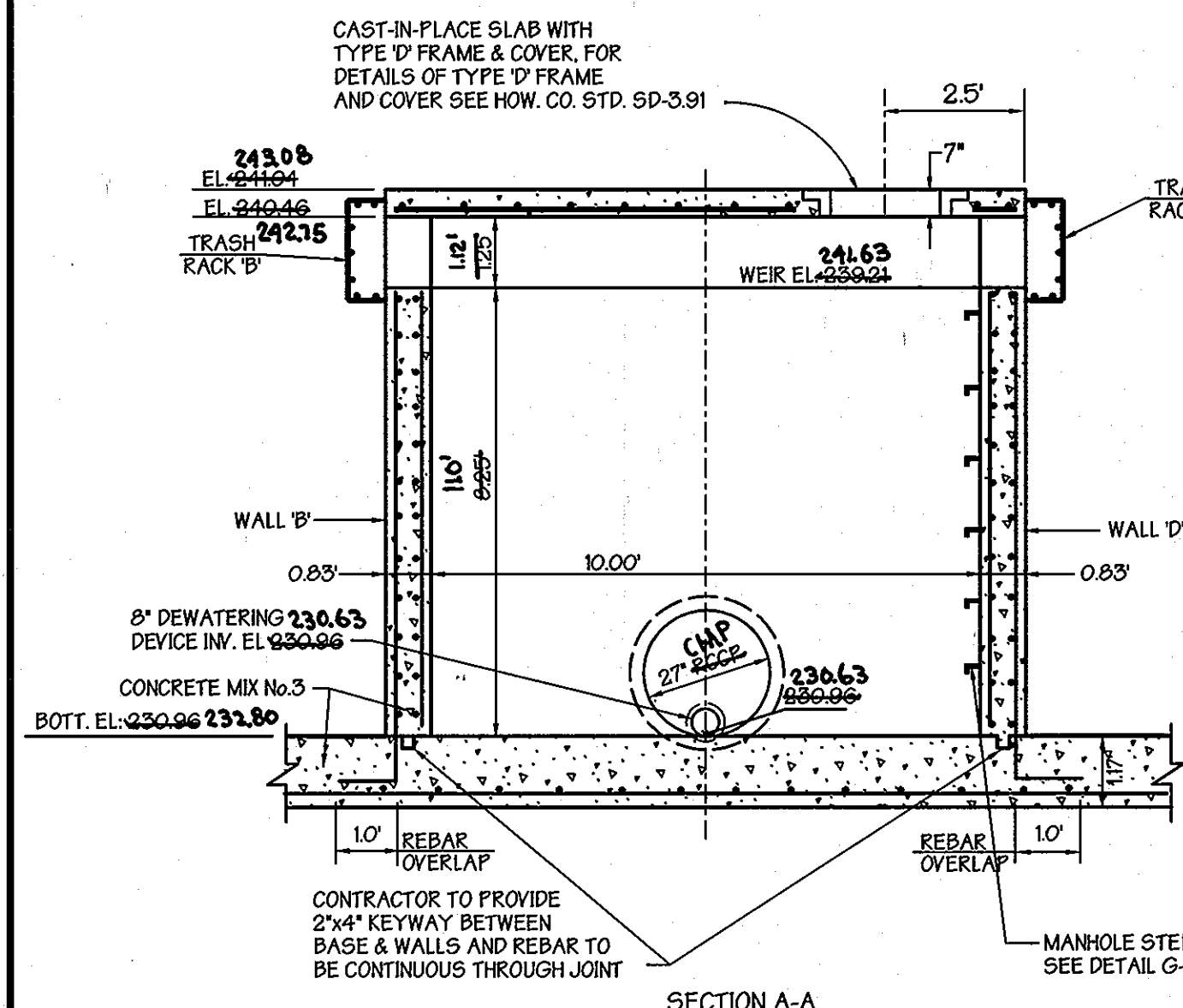
Sediment Basin Profile and Details
SCHUSTER CONCRETE
Parcels 28, 29, 32, & 108

REVISIONS
REPLACEMENT DETAILS FOR SHEETS 9 AND 10.

ELECTION DISTRICT: 6th
HOWARD CO., MARYLAND
SDP 05 - 030
SCALE: As Shown
DATE: JULY 16, 2004
SDP 05 - 030

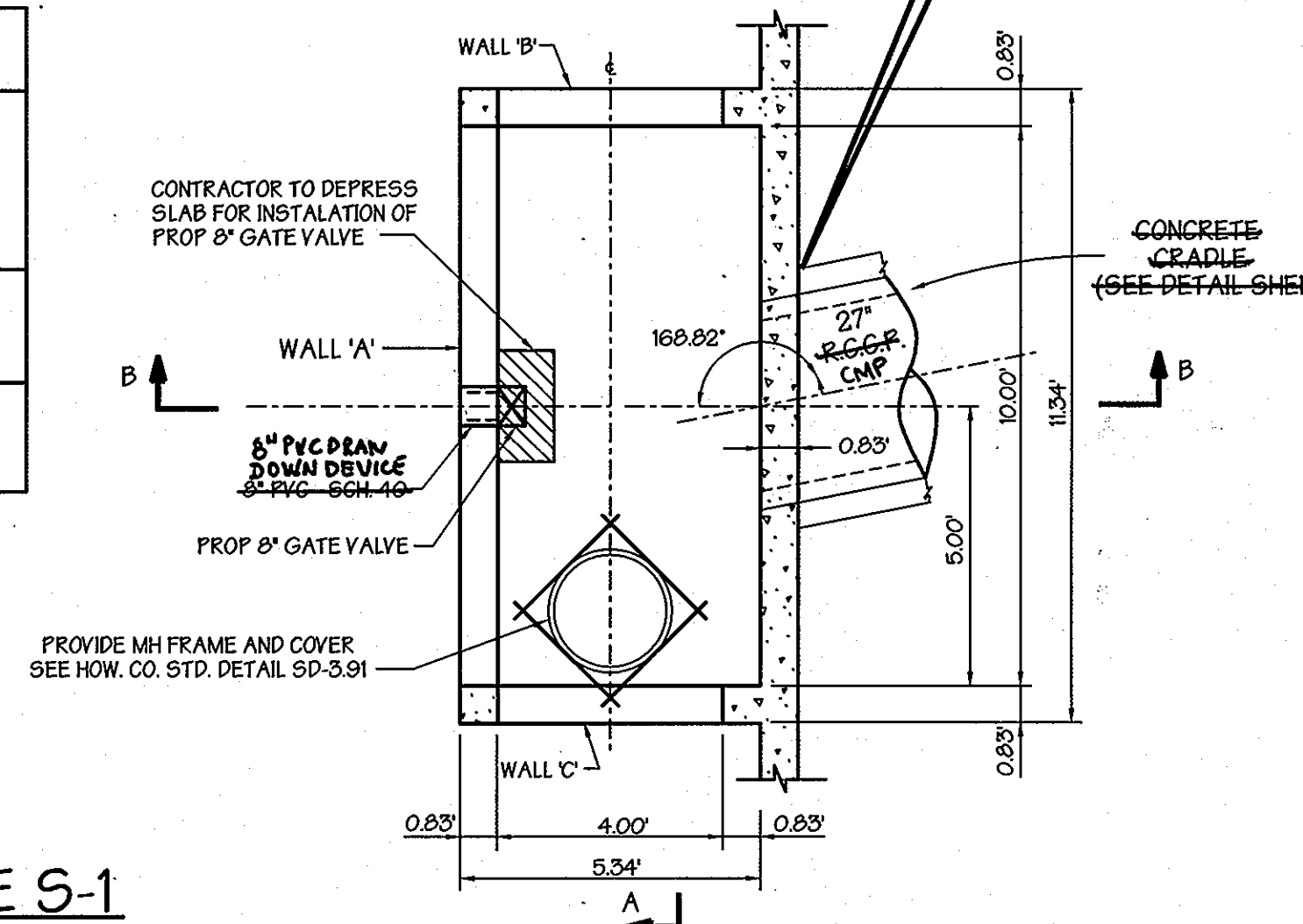
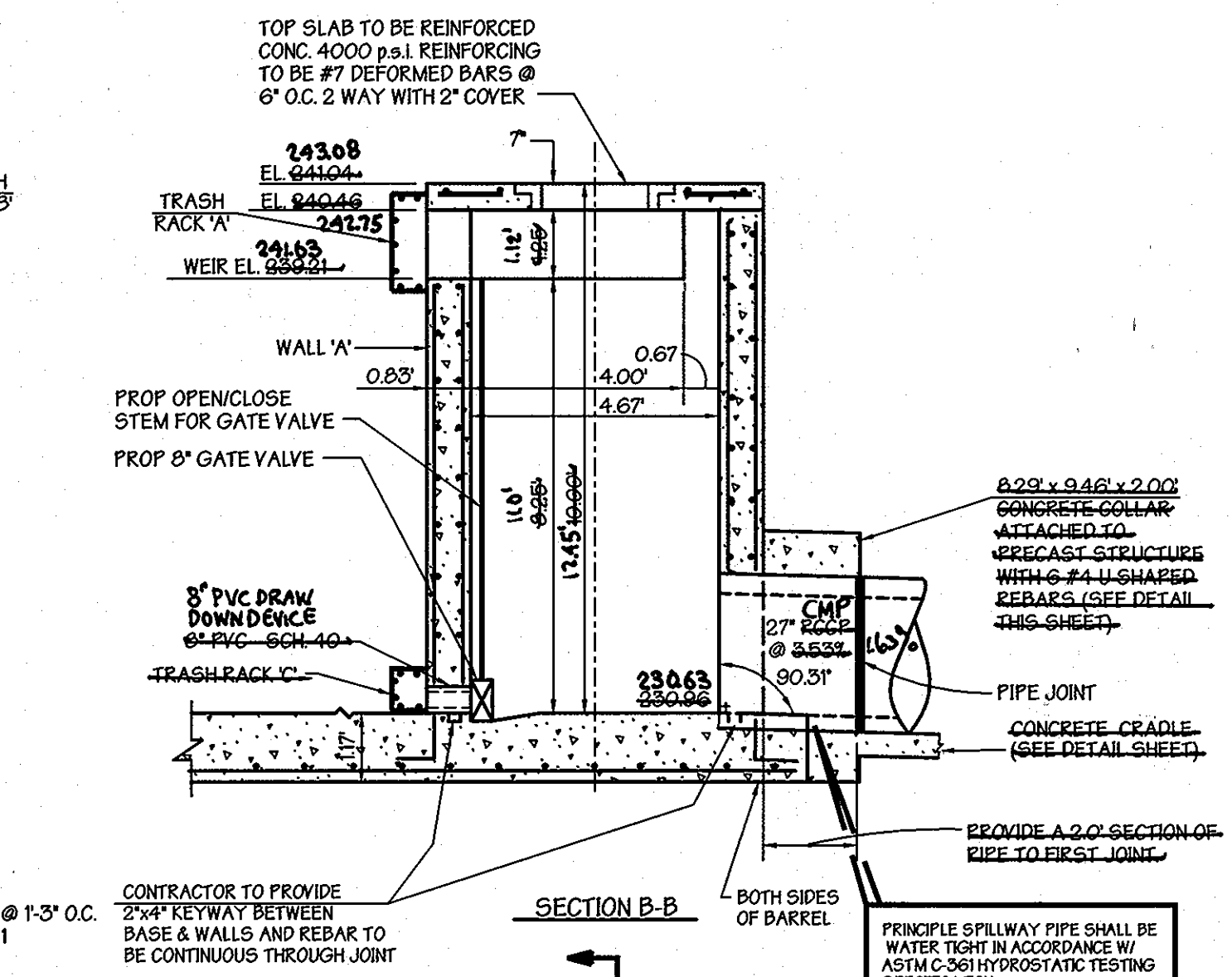


PROFILE - PRINCIPAL SPILLWAY
SCALE: HORIZ. 1" = 20'
VERT. 1" = 5'

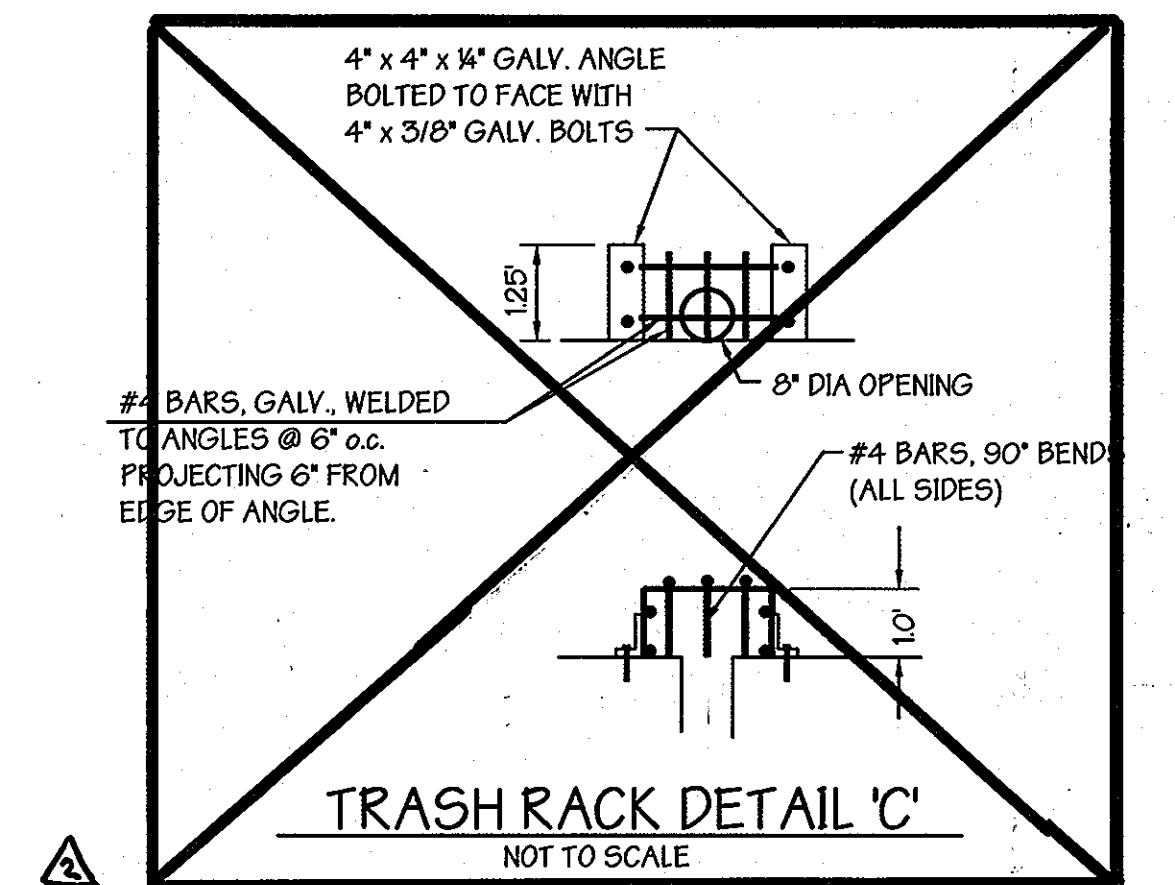


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 - THREE (3) INCH COVER MINIMUM FOR ALL REBARS.
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 - THE CONTRACTOR MAY SUBSTITUTE A PRECAST RELEASE STRUCTURE IN LIEU OF THE CAST-IN-PLACE STRUCTURE. SHOP DRAWINGS FOR PRECAST CONCRETE RISERS (SEALED BY A MD REGISTERED ENGINEER AND MEETING A.S.T.M. REQUIREMENTS FOR PRECAST STRUCTURES) MUST BE SUBMITTED TO THE ENGINEER AND THE APPROVING AGENCY (D.E.P.R.M.) FOR APPROVAL PRIOR TO FABRICATION. IF ANY STRUCTURE DIMENSIONS VARY FROM WHAT WAS ORIGINALLY REVIEWED / APPROVED THEN THE HYDRAULICS AND/OR FLOTATION OF THE STRUCTURE WILL HAVE TO BE RE-ANALYZED.
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RELEASE STRUCTURE OPENINGS S-1	
WALL 'A'	ORIFICE (0.17' OPENING) MIN. 230.06 WEIR (10.00' L) CREST: 230.21 241.63
WALL 'B'	WEIR (4.00' L) CREST: 230.21 241.63
WALL 'C'	WEIR (4.00' L) CREST: 230.21 241.63



STRUCTURE S-1
SCALE: 1" = 3'



These plans have been reviewed for Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

John R. Anderson / ca 4/10/11 DATE
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: Howard County Department of Planning and Zoning

Chief, Development Engineering Division 4/10/11 DATE
Chief, Division of Land Development 4/10/11 DATE
Director 4/24/11 DATE

PREPARED BY: MARTIN & PHILLIPS
MARTIN & PHILLIPS
DESIGN ASSOCIATES, INC.
Land Planning, Civil Engineering, Landscape Architecture, Development Consulting, Zoning
222 Bailey Avenue, Suite 21
Towson, Maryland 21284
410-281-8444



DEVELOPER CERTIFICATION:
I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Signature of Developer: Daniel G. Schuster Date: 3/25/13
Print Name: Daniel G. Schuster

ENGINEER CERTIFICATION:
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

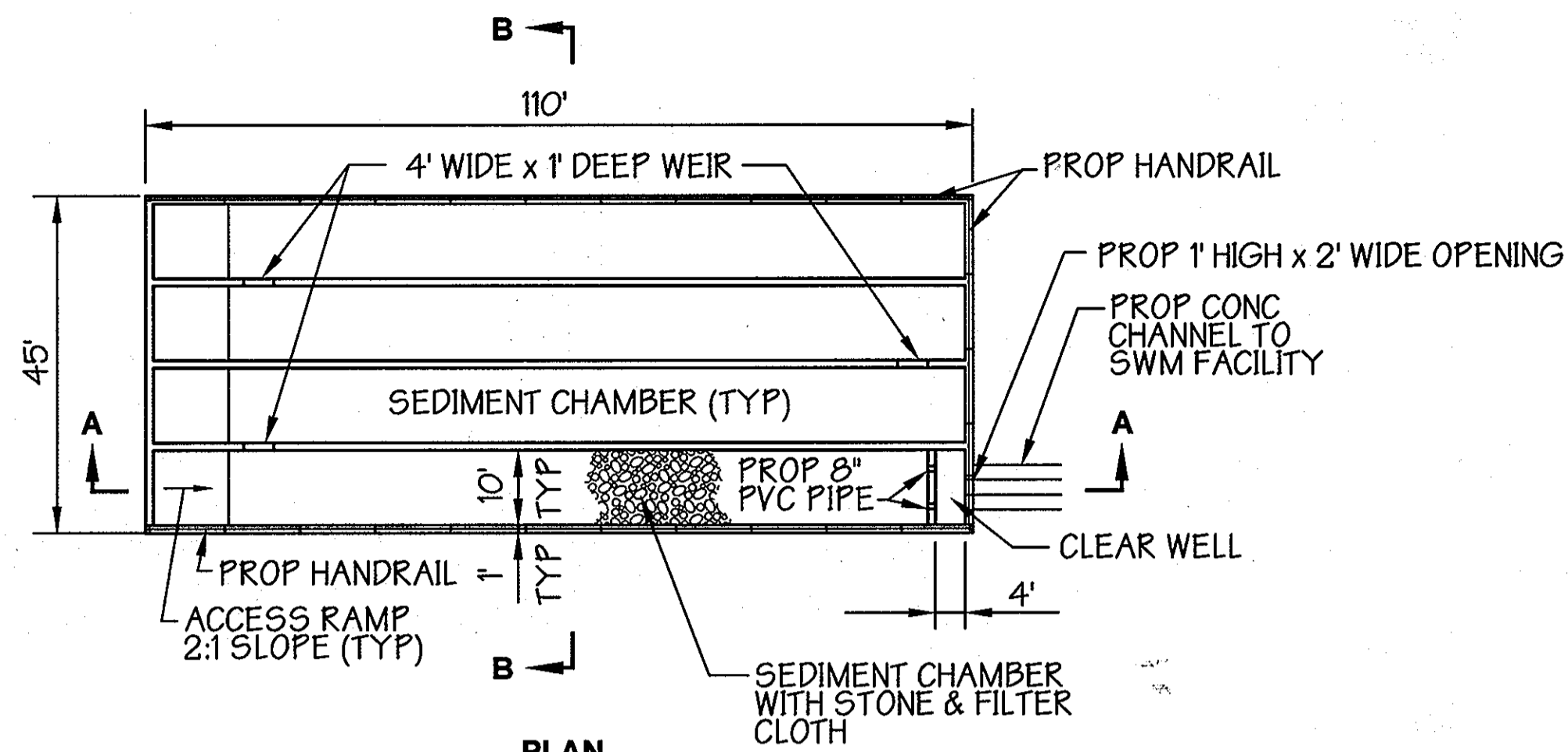
Signature of Engineer: Harry P. Phillips Date: 3/25/13
Print Name: Harry P. Phillips PE # 28547

I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.

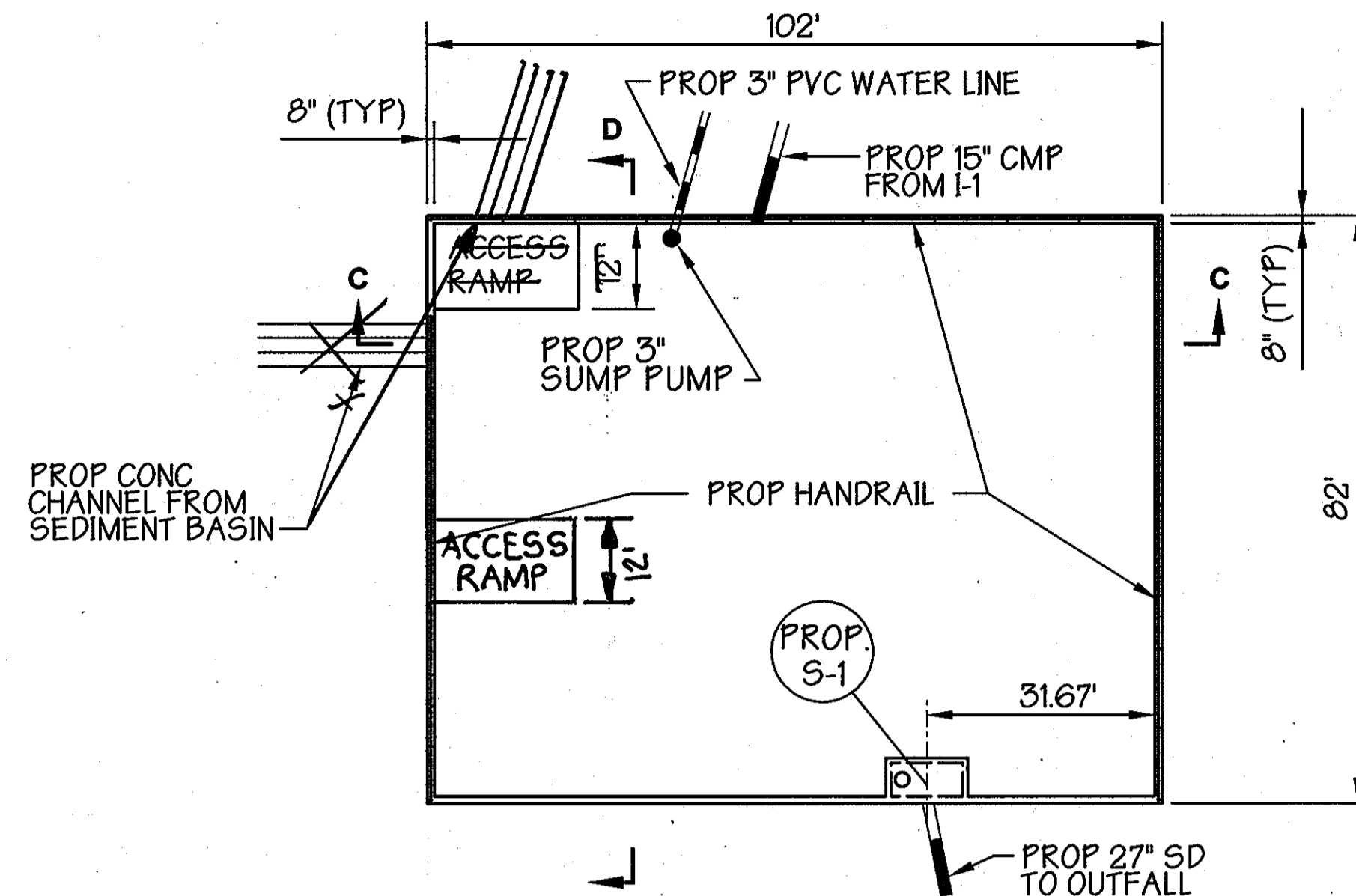
HARRY P. PHILLIPS, PE No. 28547 DATE OF AS-BUILT: 3/25/13

REVISION **Δ** /FINAL AS-BUILT CONDITION

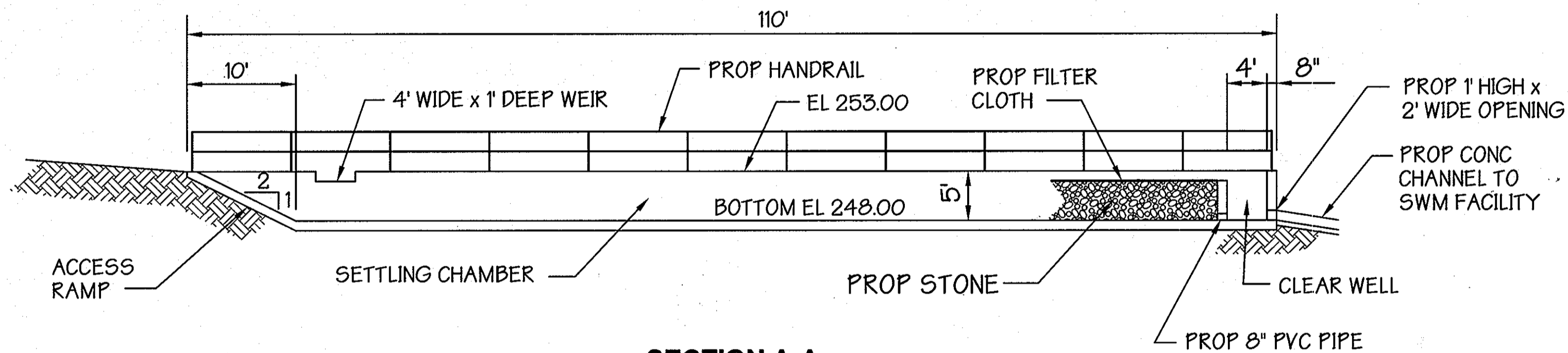
OWNER / DEVELOPER	ADDRESS CHART	
OLD GUILFORD ROAD, LLC 52 NEW PLANT COURT P.O. BOX 604 OWINGS MILLS, MARYLAND 21117	PARCEL NO.	STREET ADDRESS
	PARCEL 28	10760 GUILFORD ROAD
	PARCEL 29	10792 GUILFORD ROAD
	PARCEL 32	10782 GUILFORD ROAD
	PARCEL 108	10798 GUILFORD ROAD
	PROJECT NAME	SECTION NAME
	SCHUSTER CONCRETE	
	LIBER / FOLIO GRID	ZONE / ZONE MAP
	5493 / 696	13 / 23 M-2
	WATER CODE	SEWER CODE
	B-02	4020000
DESIGNED BY: H.P.P., K.P.	DRAWN BY: K.P.	
CHECKED BY: H.P.P.	REVISIONS	
	REPLACEMENT DETAILS FOR SHEETS 12 AND 13.	
	DELETED & REVISED DETAIL	
Stormwater Management Details SCHUSTER CONCRETE Parcels 28, 29, 32, & 108		
ELECTION DISTRICT: 6 th HOWARD CO., MARYLAND SPP 05 - 030 SCALE: As Shown DATE: JULY 16, 2004 SPP 05 - 030		



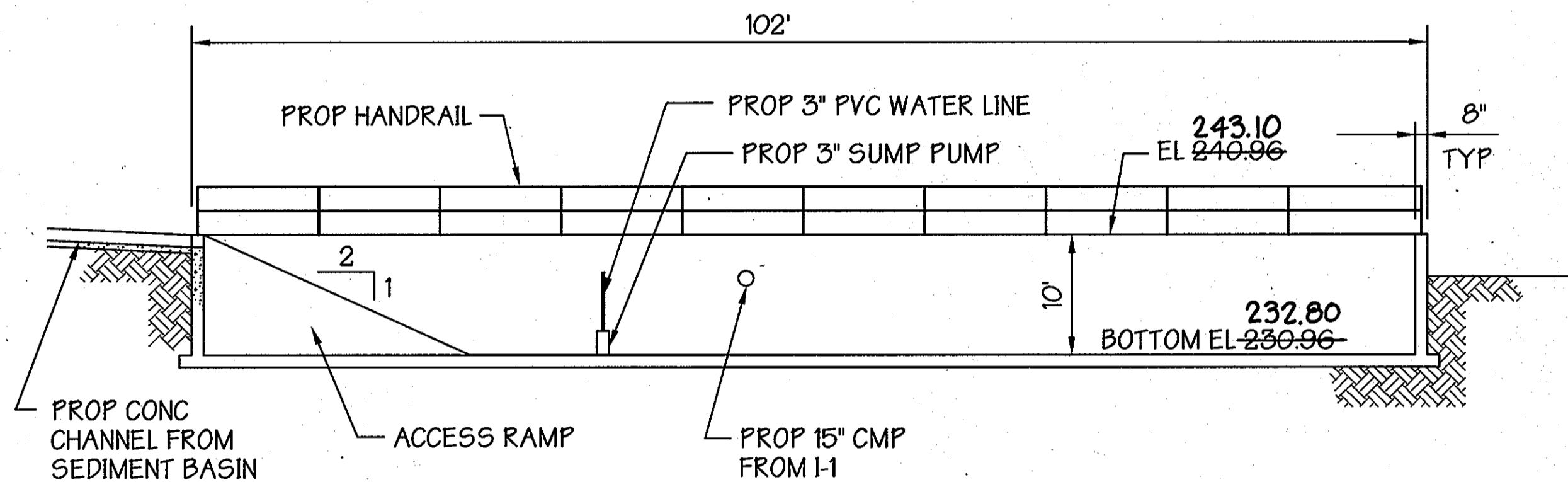
PLAN
SETTLING BASIN
SCALE: 1" = 20'



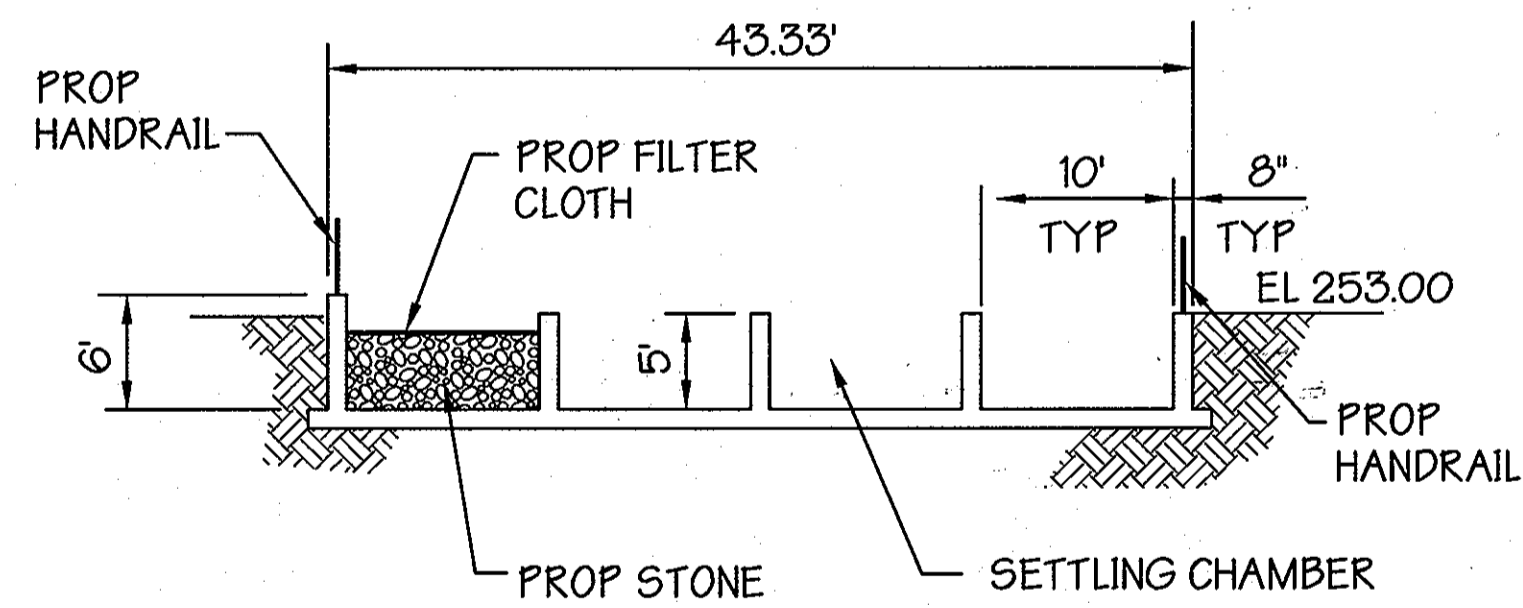
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PROPOSED SWM FACILITY
SCALE: 1" = 20'



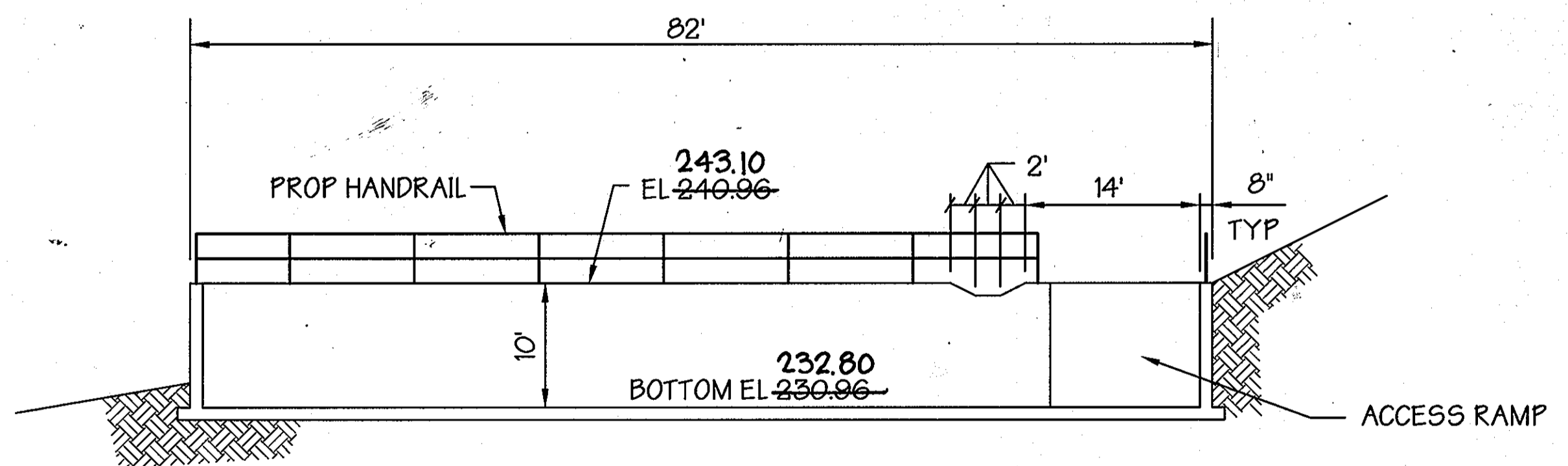
SECTION A-A
SCALE: 1" = 10'



SECTION C-C
SCALE: 1" = 10'



SECTION B-B
SCALE: 1" = 10'



SECTION D-D
SCALE: 1" = 10'

APPROVED: Howard County Department of Planning and Zoning
 Chief, Development Engineering Division: *[Signature]* DATE: 11/16/11
 Chief, Division of Land Development: *[Signature]* DATE: 11/21/11
 Director: *[Signature]* DATE: 11/21/11

PREPARED BY:
MARTIN & PHILLIPS
DESIGN ASSOCIATES, INC.
 Land Planning, Civil Engineering, Landscape Architecture, Development Consulting, Zoning
 222 Siding Avenue, Suite 11
 Towson, Maryland 21284
 410-321-8444



DEVELOPER CERTIFICATION:
 I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a certificate of attendance at a Department of the Environment Approved Training Program for the control of sediment and erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

Signature of Developer: *[Signature]* Date: 9/25/13
 Print Name: Daniel G. Schwatzer PE # 26847

ENGINEER CERTIFICATION:
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Signature of Engineer: *[Signature]* Date: 9/25/13
 Print Name: Harry P. Phillips PE # 28547

I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
 HARRY P. PHILLIPS, PE No. 28547 DATE OF AS-BUILT: 9/25/13

REVISION **Δ** /FINAL AS-BUILT CONDITION

OWNER / DEVELOPER		ADDRESS CHART	
OLD GUILFORD ROAD, LLC		PARCEL NO.	STREET ADDRESS
52 NEW PLANT COURT		PARCEL 28	10760 GUILFORD ROAD
P.O. BOX 604		PARCEL 29	10782 GUILFORD ROAD
OWINGS MILLS, MARYLAND 21117		PARCEL 32	10762 GUILFORD ROAD
		PARCEL 108	10798 GUILFORD ROAD
PROJECT NAME: SCHUSTER CONCRETE		SECTION NAME	PARCEL #
			28, 29, 32, & 108
LIBER / FOLIO	GRID	ZONE	TAX MAP
5493 / 696	13 / 23	M-2	48
WATER CODE B-02		ELECT. DIST.	CENSUS TRACT
		6	606901
		SEWER CODE	4020000

DESIGNED BY: H.P.P., K.P.
 DRAWN BY: K.P.
 CHECKED BY: H.P.P.
 REVISIONS:
Δ SHEET REPLACING WATER QUALITY PLAN AND PROFILE SHEET.
Δ REVISED DETAIL

Stormwater Management Details
SCHUSTER CONCRETE
 Parcels 28, 29, 32, & 108

ELECTION DISTRICT: 6th
 HOWARD CO., MARYLAND
 SDP 05 - 030

SCALE: As Shown
 DATE: JULY 16, 2004
 18 OF 22

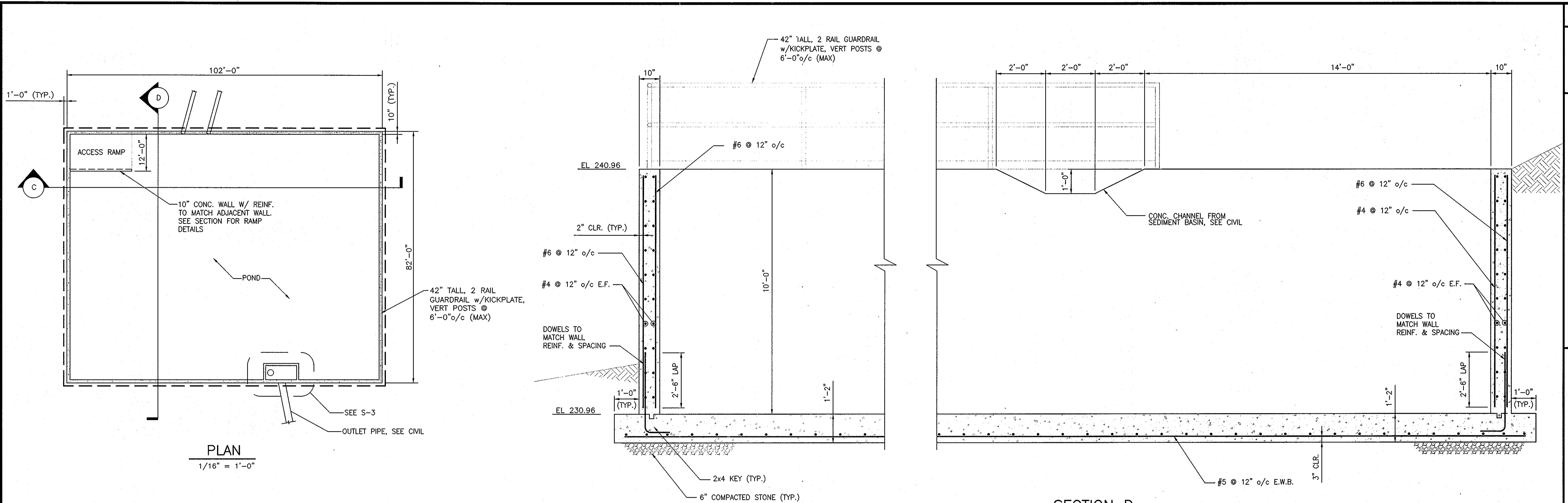
- PRELIMINARY ONLY
- BIDDING
- PERMIT
- CONSTRUCTION

REVISIONS	NO.	DATE	DESCRIPTION
	1	08/17/08	COUNTY PERMIT REVIEW COMMENTS

CARROLL ENGINEERING, INC.
 EXECUTIVE PLAZA IV, SUITE 1L1
 11350 MCCORMICK ROAD
 HUNT VALLEY, MD 21081
 410-785-7423 PHONE 410-771-1313 FAX

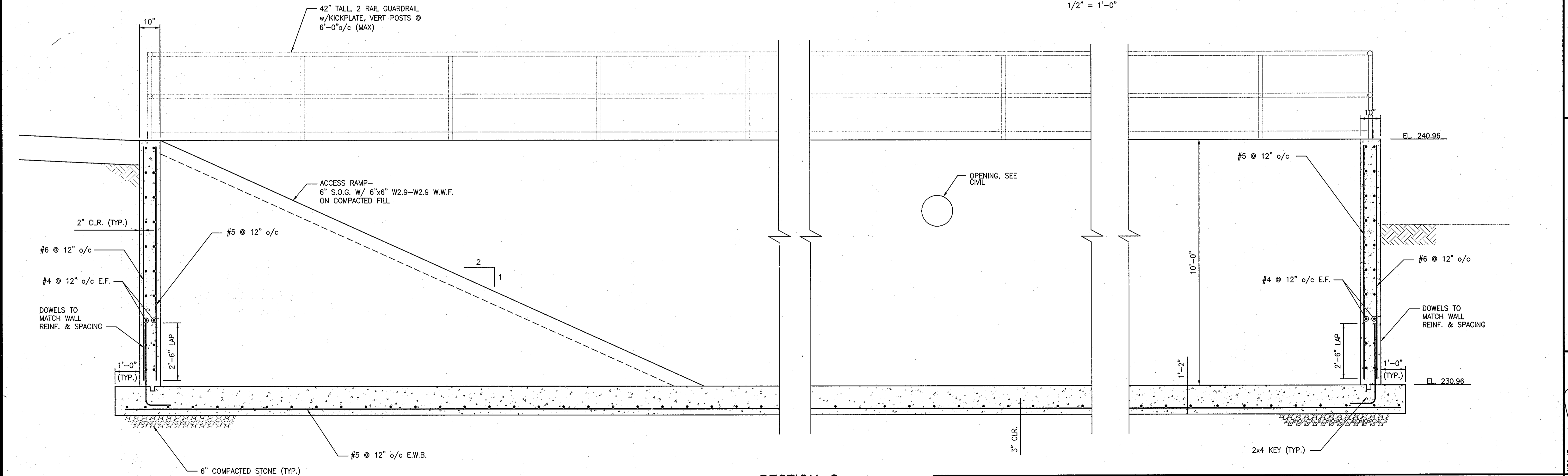


**SWM FACILITY
 PLAN & SECTIONS**
ANNAPOLIS JUNCTION PLANT
DGS CONSTRUCTION, INC.
 HOWARD COUNTY, MD



PLAN
 1/16" = 1'-0"

SECTION D
 1/2" = 1'-0"



SECTION C
 1/2" = 1'-0"

ENGINEER CERTIFICATION:
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion."

Signature of Engineer: *Harry P. Phillips* Date: 7/26/11
 Print Name: Harry P. Phillips PE # 25547

APPROVED: Howard County Department of Planning and Zoning

Signature: *Thomas E. Suttell* Date: 11/21/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: *Mark P. KMP* Date: 11/21/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *SWB* Date: 11/21/11
 CHECKED BY: SWB

SCALE: AS-SHOWN
 DATE: 7-10-08

PROJECT NUMBER: 08.06.09
 DRAWING NUMBER: S-1
 SHEET 19 OF 22

RELEASED FOR

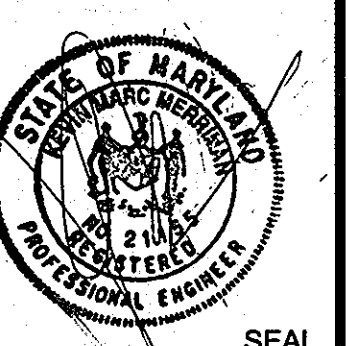
- PRELIMINARY ONLY
- BIDDING
- PERMIT
- CONSTRUCTION

NO.	DATE	DESCRIPTION
1	08/17/09	COUNTY PERMIT REVIEW COMMENTS

CARROLL ENGINEERING, INC.
 EXECUTIVE PLAZA IV, SUITE LL1
 11350 MCCORMICK ROAD
 HUNT VALLEY, MD 21081
 410-785-7423 PHONE 410-771-1313 FAX

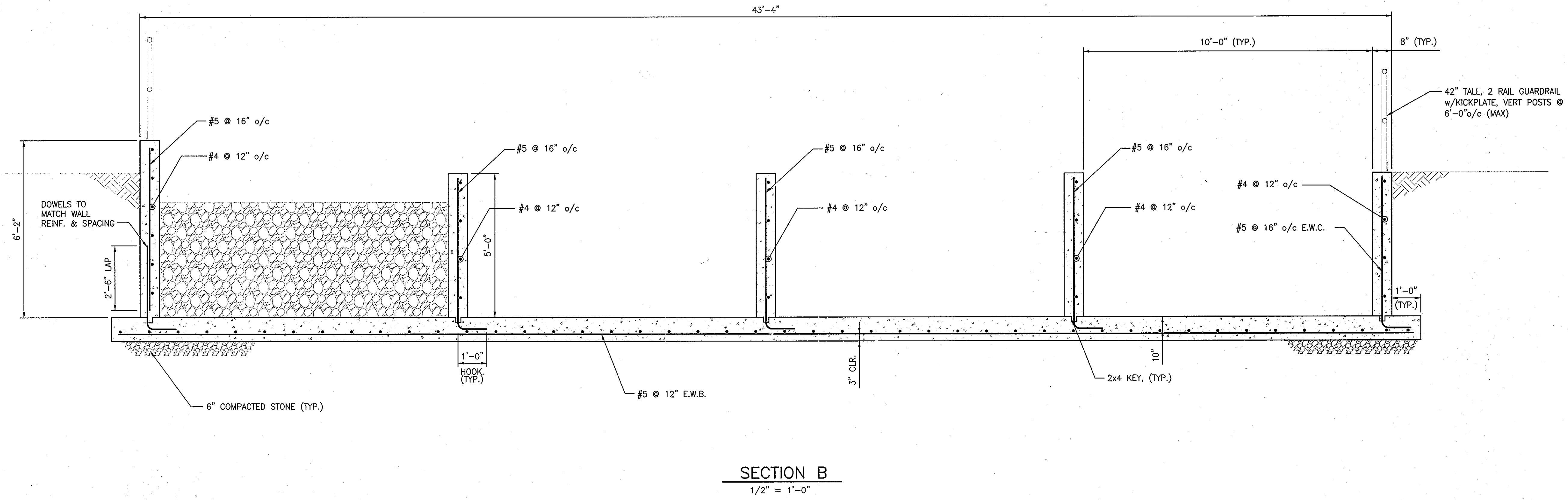
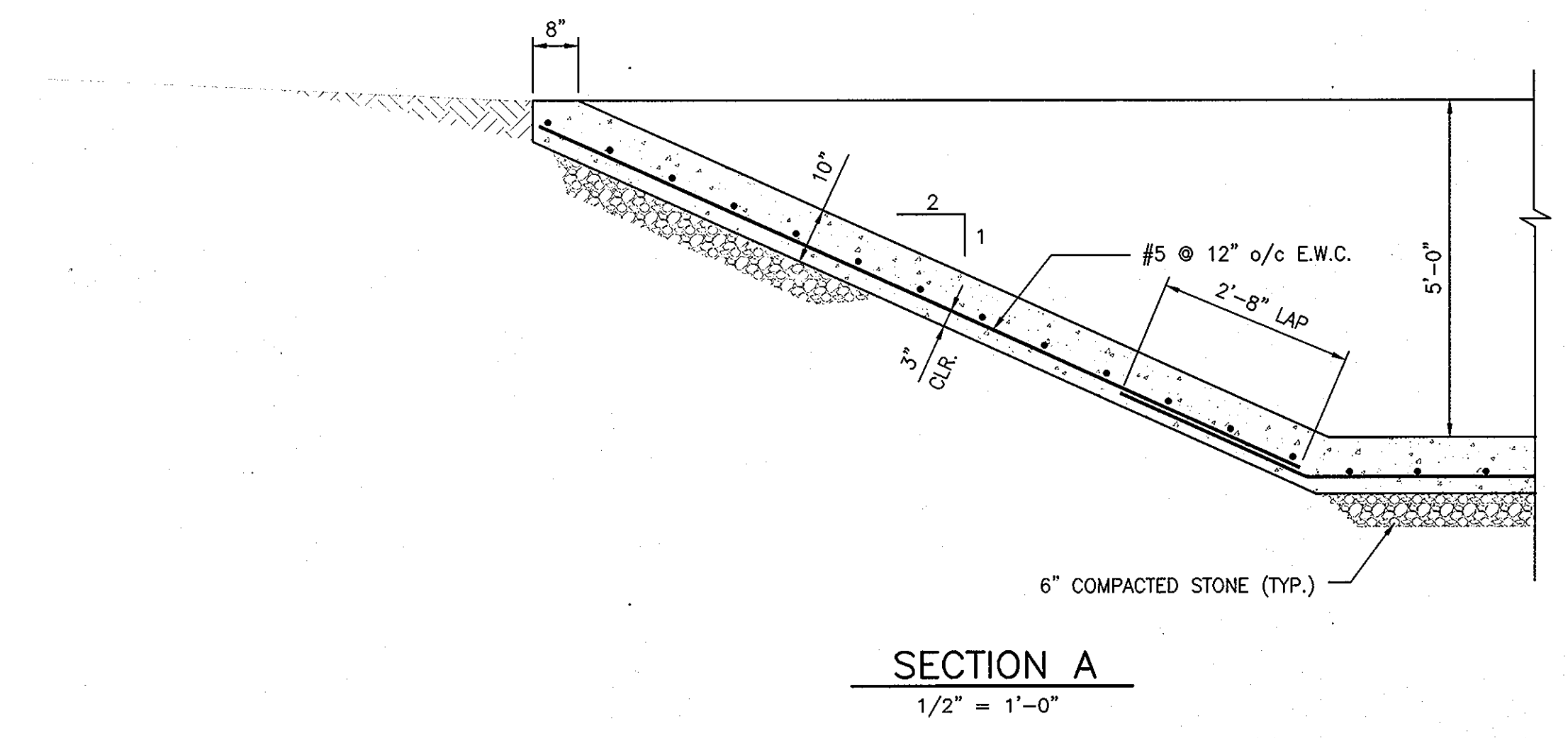
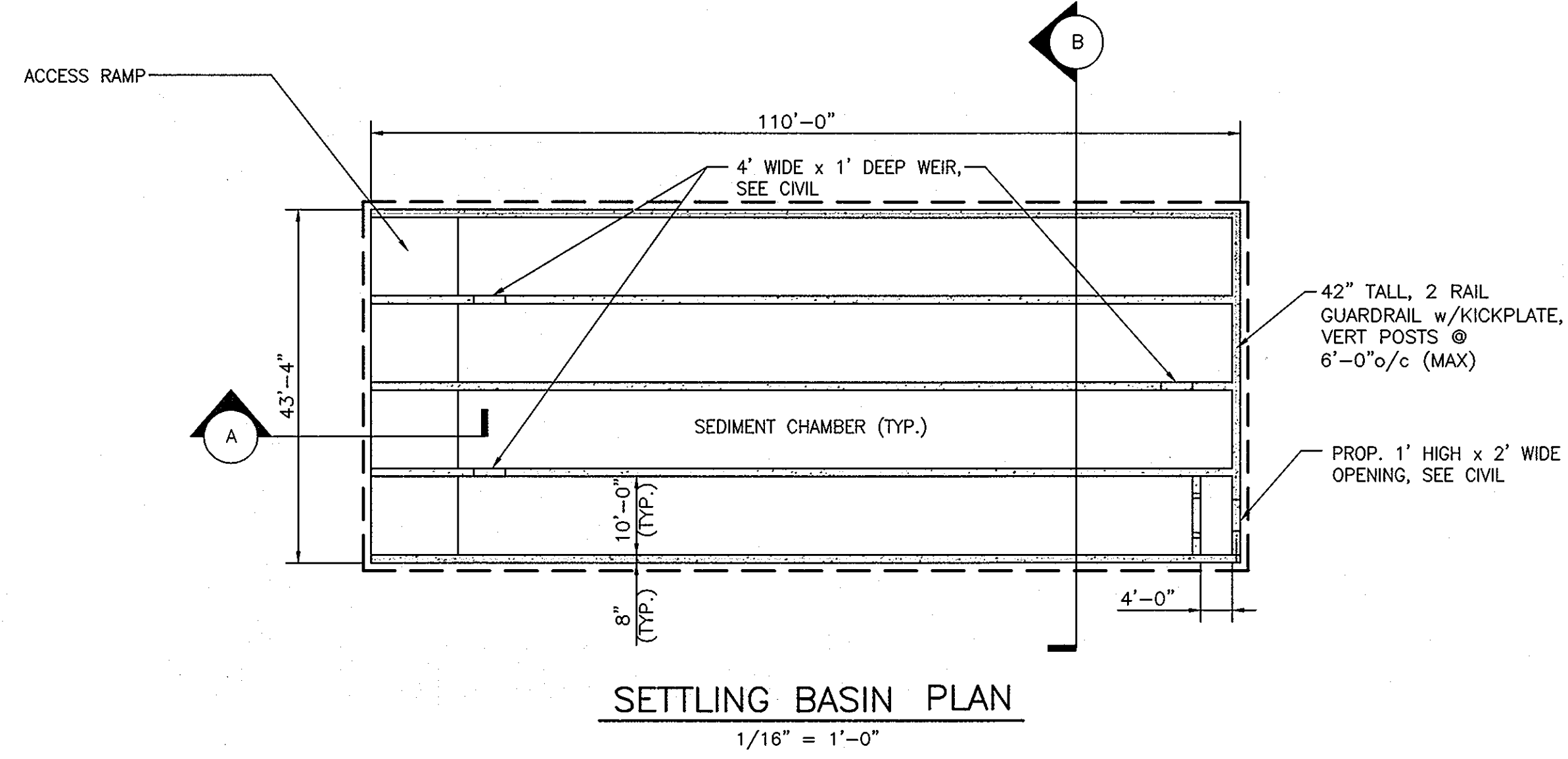


ANNAPOLIS JUNCTION PLANT
DGS CONSTRUCTION, INC.
 HOWARD COUNTY, MD



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 2106, EXPIRATION DATE 8/31/10.

DRAWN BY:	PROJECT NUMBER:
MKP	08.06.09
CHECKED BY:	DRAWING NUMBER:
SWB	S-2
SCALE:	DATE:
AS-SHOWN	7-10-08
DATE:	SHEET 20 OF 22

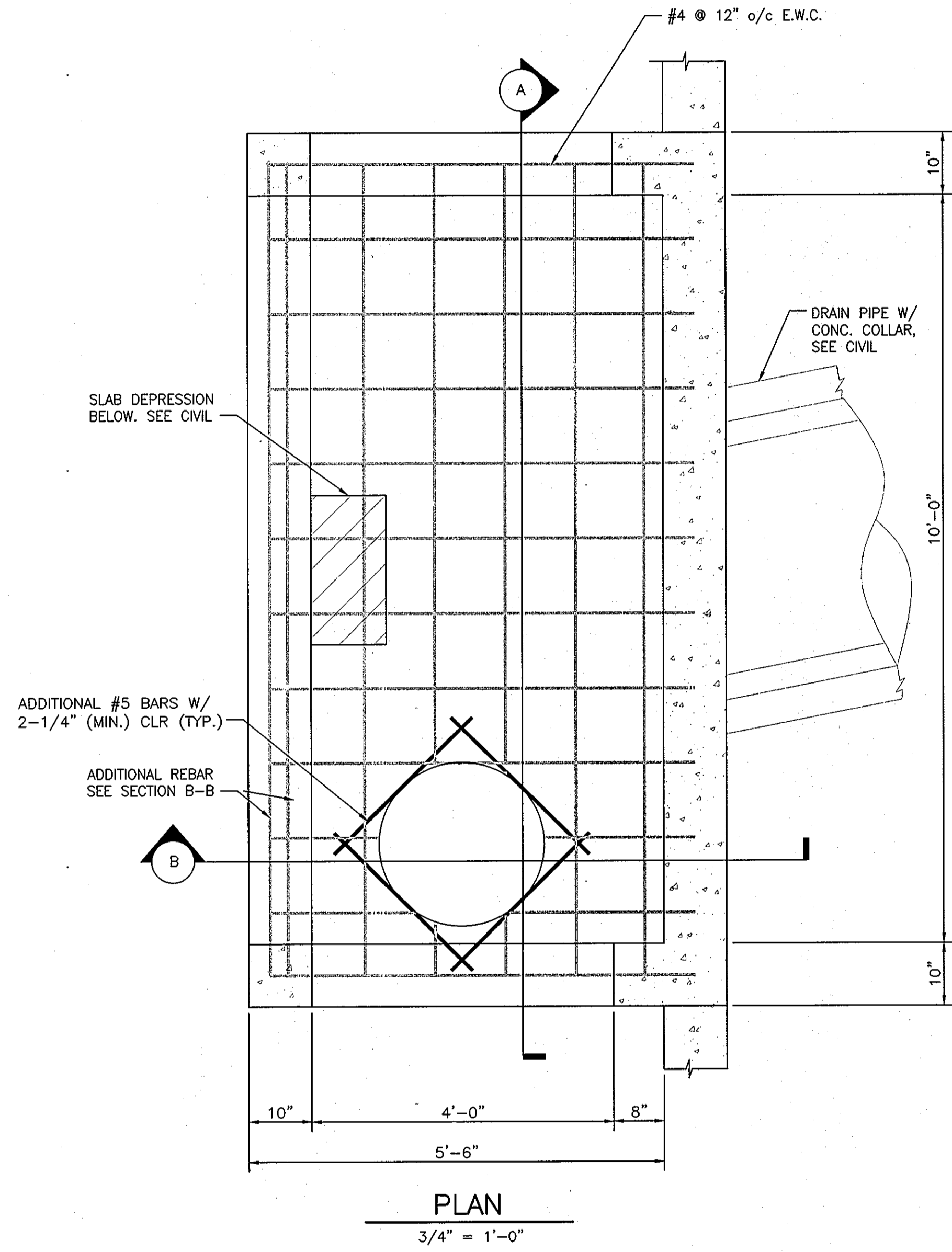
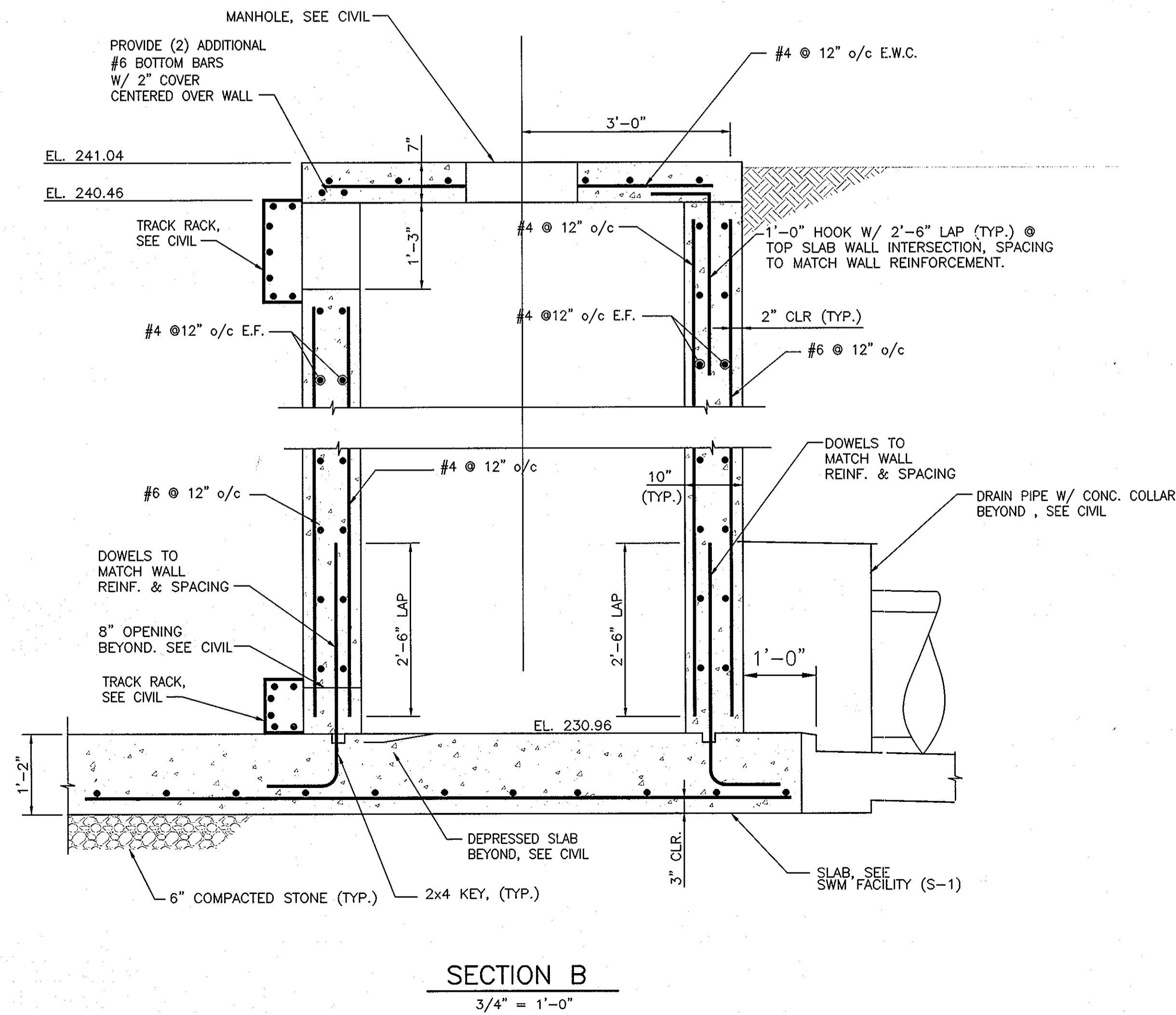
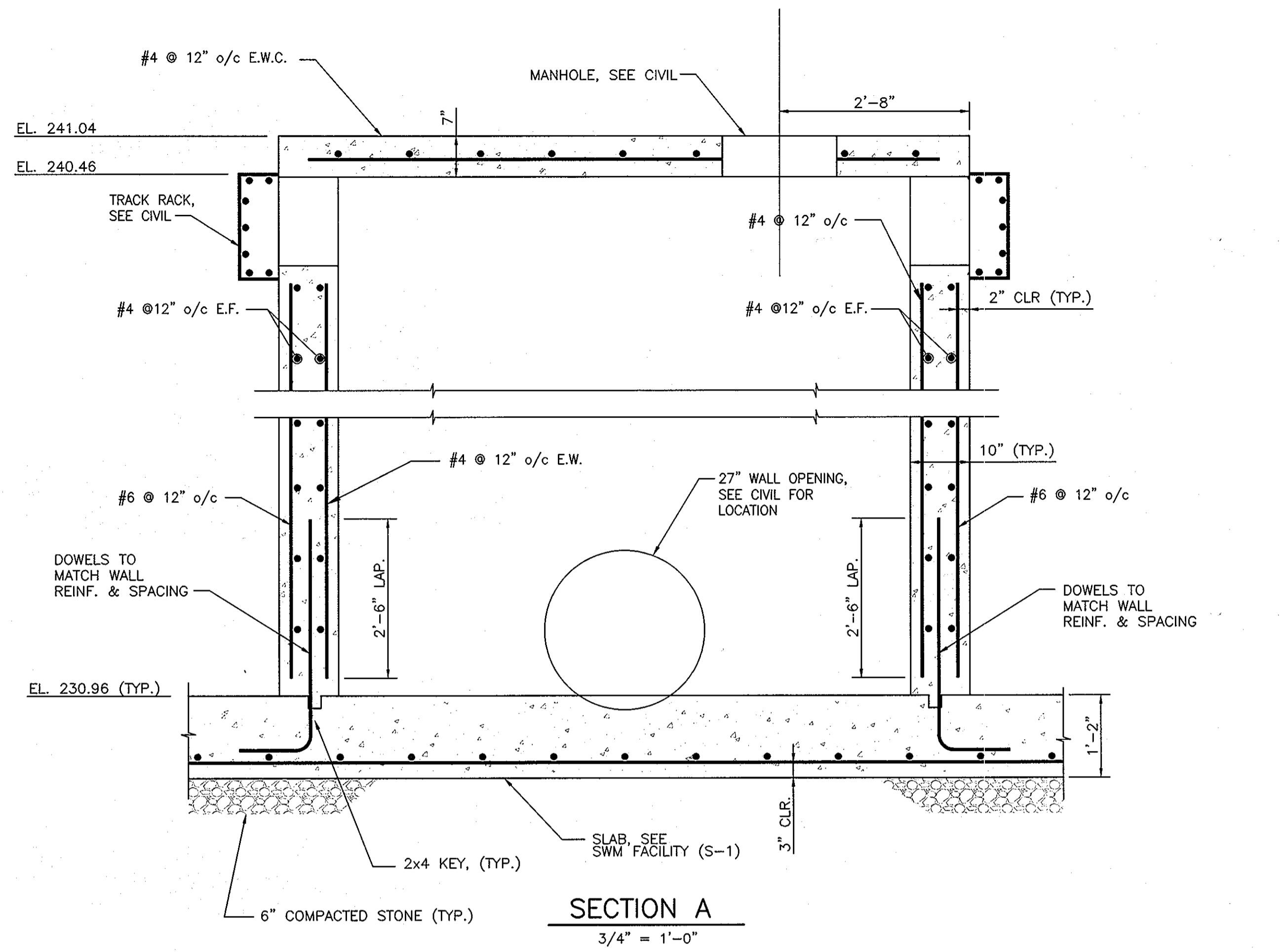


ENGINEER CERTIFICATION:
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Signature of Engineer: *H.P. Kelly* Date: 7/28/11
 Print Name: *Henry P. Kelly* PE # 25847

APPROVED: Howard County Department of Planning and Zoning

Thomas E. Suttler
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 66 DATE: 11/16/11
Scott Shelton
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 11/21/11
Thomas E. Suttler
 DIRECTOR DATE: 11/21/11

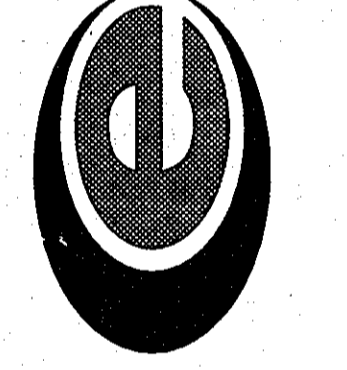


RELEASED FOR

PRELIMINARY ONLY
 BIDDING
 PERMIT
 CONSTRUCTION

REVISIONS	NO.	DATE	DESCRIPTION
	1	03/17/08	COUNTY PERMIT REVIEW COMMENTS

CARROLL ENGINEERING, INC.
 EXECUTIVE PLAZA IV, SUITE LL1
 11350 MCCORMICK ROAD
 HUNT VALLEY, MD 21031
 410-785-7423 PHONE 410-771-1313 FAX



ANAPOLIS JUNCTION PLANT
DGS CONSTRUCTION, INC.
 HOWARD COUNTY, MD



ENGINEER CERTIFICATION:
 I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that he/she must engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.

Signature of Engineer: *Harry P. D... [Signature]* Date: 7/20/11
 Print Name: Harry P. D... PE # 25517

APPROVED: Howard County Department of Planning and Zoning

Signature of Chief: *[Signature]* Date: 8/16/11
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature of Chief: *[Signature]* Date: 8/24/11
 CHIEF, DIVISION OF LAND DEVELOPMENT

Signature of Director: *[Signature]* Date: 8/24/11
 DIRECTOR

DRAWN BY: MKP PROJECT NUMBER: 08.06.09
 CHECKED BY: SWB DRAWING NUMBER: S-3
 SCALE: AS-SHOWN
 DATE: 7-10-08 SHEET 21 OF 22

SDP-05-030

GENERAL NOTES

- DESIGN GRAVITY LIVE LOADS:

AREA	LIVE LOAD
TOP SLAB	100 PSF
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE SITE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES WHICH MAY EXIST.
- THE GENERAL CONTRACTOR SHALL EXAMINE THE SITE DRAWINGS FOR THE REQUIRED OPENINGS AS HE SHALL PROVIDE FOR ALL OPENINGS WHETHER SHOWN ON THE DRAWINGS OR NOT AND SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH THE SUBCONTRACTORS.
- CONTRACTOR TO PROVIDE REQUIRED SHEETHING, SHORING AND DEWATERING DURING CONSTRUCTION OF SWM STRUCTURES.

SUBMITTALS

- BEFORE SUBMISSION OF SHOP DWGS, THE CONTRACTOR SHALL HAVE DETERMINED AND VERIFIED ALL QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA AND SHALL HAVE COORDINATED EACH REQUIRED ELEMENT.
- PRIOR TO SUBMISSIONS, THE CONTRACTOR SHALL STAMP OR PROVIDE A SIMILAR WRITTEN INDICATION THAT THE CONTRACTOR HAS REVIEWED THE SUBMISSION AND IS SATISFIED THE CONTENTS ARE IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- REPRINTS OF THE CONTRACT DOCUMENTS WILL NOT BE ACCEPTED.
- ADEQUATE SETS SHALL BE SUBMITTED SO THAT THE ENGINEER CAN MAINTAIN ONE RECORD SET AT ALL TIMES.

BACKFILL

- BACKFILLING AGAINST WALLS SHALL NOT BE DONE UNTIL ALL WALLS ARE INSTALLED AND CONCRETE HAS BEEN CURED TO ATTAIN SUFFICIENT STRENGTH (7 DAYS MINIMUM) OR UNTIL VAULT WALLS ARE PROPERLY SHORED AND/OR BRACED.
- NO TRUCKS, BULLDOZERS OR OTHER HEAVY EQUIPMENT SHALL BE PERMITTED CLOSER THAN 6'-0" FROM ANY VAULT WALL UNLESS WALL IS PROPERLY BRACED.
- TEMPORARY SHORING AND BRACING SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

FOUNDATIONS

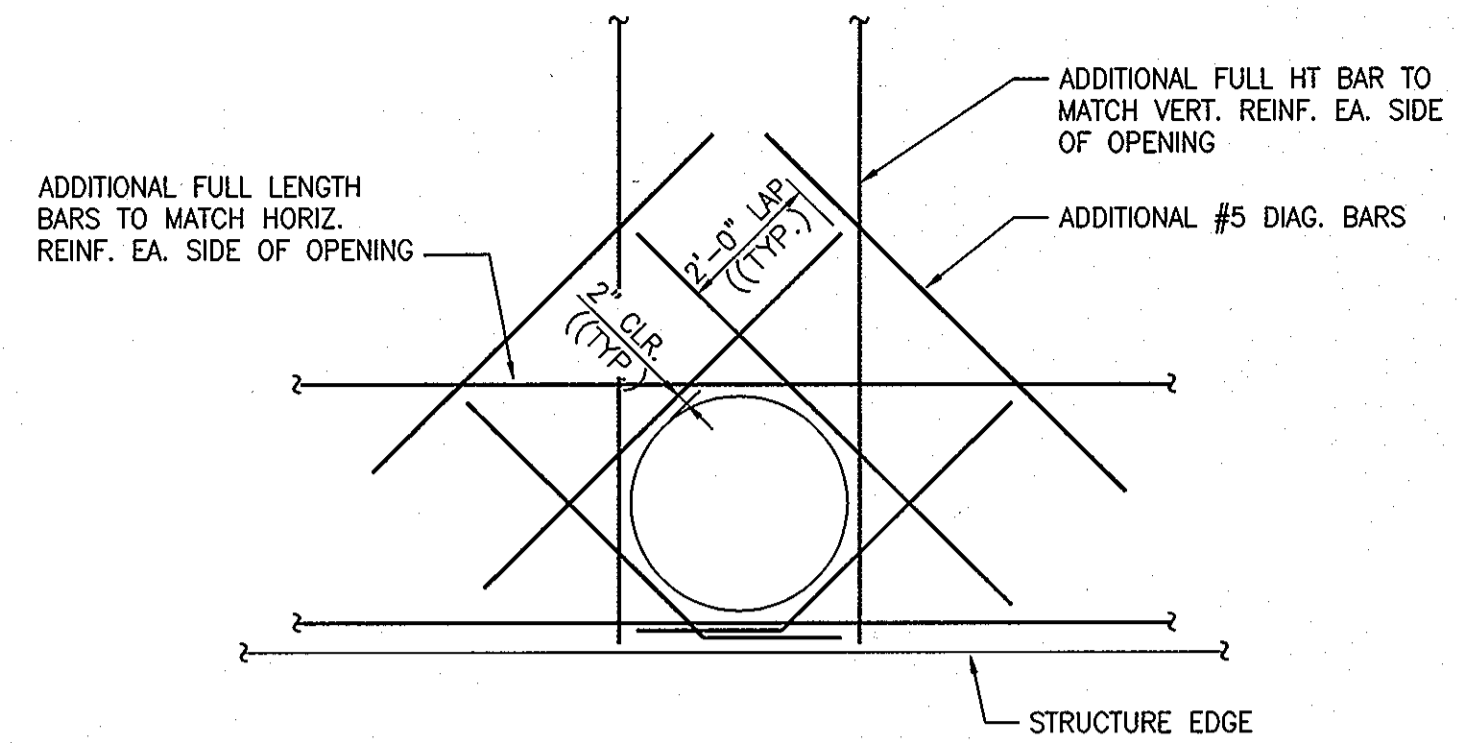
- ALL EARTHWORK, ALL SUBGRADE PREPARATION AND COMPACTION AS REQUIRED FOR VAULT CONSTRUCTION SHALL BE COMPLETED PER THE GEOTECHNICAL ENGINEER. ANY DEVIATION FROM THE ABOVE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE NECESSARY REVISIONS TO THE INFORMATION SHOWN HERE SHALL BE ISSUED (IF REQUIRED).
- ELEVATIONS HAVE BEEN ESTABLISHED BY THE SITE ENGINEER.
- THE SWM STRUCTURES BASE SLAB SHALL BE FOUNDED ON UNDISTURBED SOIL OR CONTROLLED STRUCTURAL FILL, HAVING A MINIMUM SAFE BEARING CAPACITY OF 2,000 PSF. GEOTECHNICAL ENGINEER TO VERIFY SOIL BEARING CAPACITY.
- ALL ORGANIC MATERIALS SHALL BE REMOVED IN REGION OF VAULT. THE TESTING AND INSPECTION AGENCY SHALL VERIFY SOIL BEARING CAPACITY PRIOR TO INSTALLATION OF BASE SLAB. NOTIFY SITE ENGINEER OF ANY VARIATION FROM ANTICIPATED BEARING CAPACITY.
- THE CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXCAVATIONS.
- NO HORIZONTAL JOINTS SHALL BE PLACED IN WALLS EXCEPT AS SHOWN OR AS REQUIRED BY THE SPECIFICATIONS WITHOUT APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL REFER TO THE SITE DRAWINGS FOR ALL LOCATIONS OF TRENCHES, PITS, PIPES, MANHOLES ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.

REINFORCEMENT

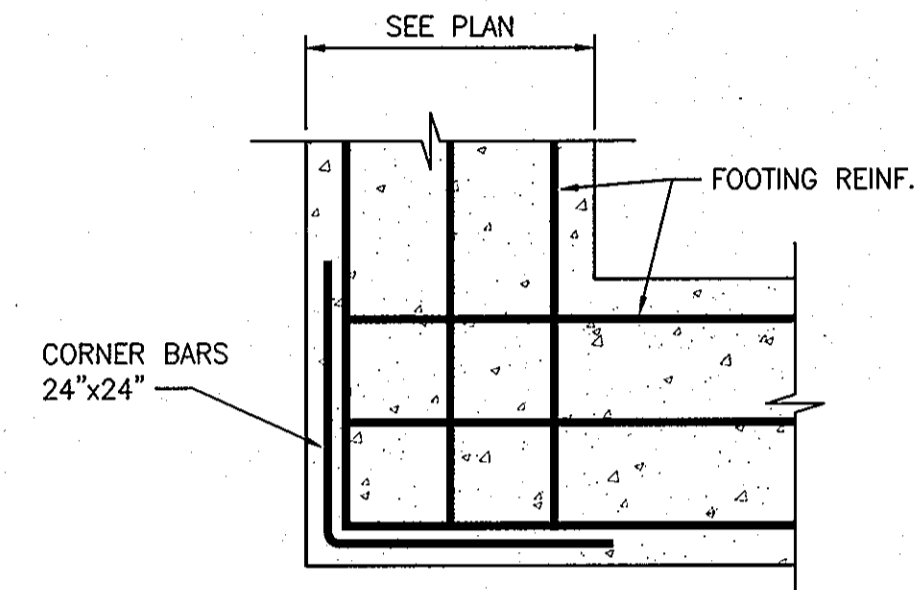
- ALL DEVELOPMENT AND SPLICES OF REINFORCEMENT SHALL CONFORM TO THE PROVISIONS OF ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-LATEST EDITION)
- REINFORCING STEEL SHALL BE DEFORMED BARS OF INTERMEDIATE GRADE NEW BILLET STEEL CONFORMING TO CURRENT REQUIREMENTS OF ASTM A615 GRADE 60. STIRRUPS AND COLUMN TIES MAY BE ASTM A615 GRADE 60. ALL HOOKS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED.
- REINFORCING BAR SUPPORTS AND SPACERS SHALL CONFORM TO ACI-315 (LATEST EDITION) DETAILING MANUAL.
- SHOP DRAWINGS SHOWING ALL NECESSARY SECTIONS AND DETAILS FOR THE PROPER POSITIONING OF ALL REINFORCING STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW BEFORE FABRICATION OR PLACEMENT OF THE STEEL.

CONCRETE

- ALL CONCRETE SHALL CONFORM TO THE ACI BUILDING CODE AND ALL LOCAL BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-LATEST EDITION) AND ACI SPECIFICATIONS FOR STRUCTURAL CONCRETE IN BUILDINGS (ACI 301-LATEST EDITION). THE MORE STRINGENT PROVISIONS SHALL APPLY.
- ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE HAVING A MINIMUM 28 DAY DESIGN COMPRESSIVE STRENGTH OF 3,000 PSI.
- NO CONCRETE SHALL BE PLACED UNTIL CONCRETE DESIGN MIXES HAVE BEEN SUBMITTED FOR EACH CLASS OF CONCRETE NOTED ABOVE AND HAVE BEEN APPROVED BY THE ENGINEER.
- NO CALCIUM CHLORIDE IN ANY FORM WILL BE PERMITTED IN CONCRETE.
- ALL STRUCTURAL MEMBERS SHALL BE POURED FOR THEIR FULL DEPTHS IN ONE OPERATION.
- EXCAVATIONS SHALL BE KEPT FREE OF WATER. NO CONCRETE SHALL BE PLACED IN WATER.

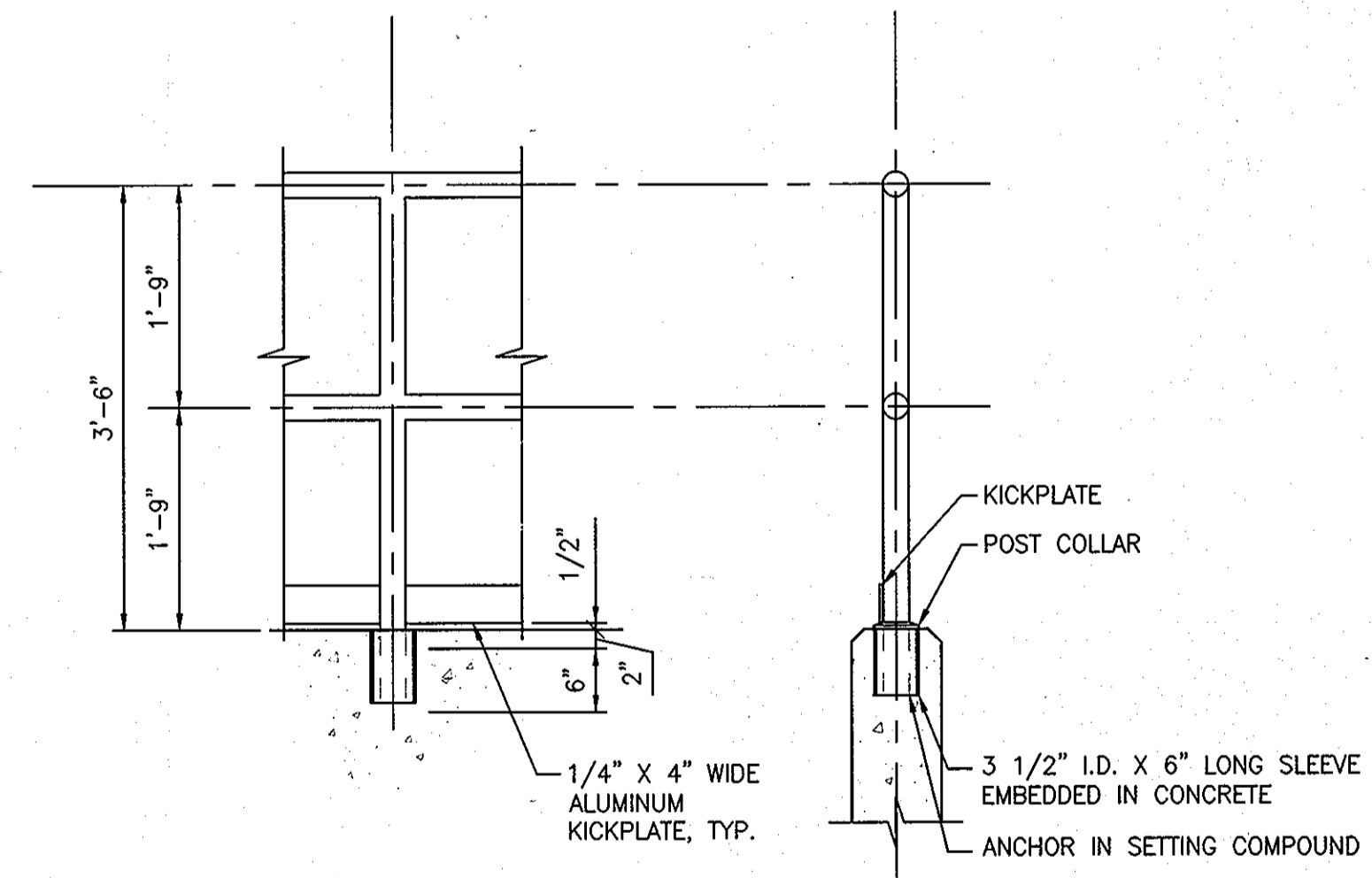


TYPICAL ADDITIONAL REINFORCEMENT
 ① CIRCULAR OPENINGS 1
 3/8"=1'-0" S-4



TYPICAL WALL FOOTING CORNER PLAN 2
 3/4"=1'-0" S-4

NOTE:
 PROVIDE 24"x24" CORNER BARS AS SHOWN ABOVE OR BEND EACH INTERSECTING OUTSIDE BAR FOR A DISTANCE OF 20" AROUND CORNERS FOR EACH LAYER OF FOOTING REINFORCING BAR TO BE SAME SIZE AS FOOTING REINFORCING. COLD BENDING IN THE FIELD IS ALLOWABLE.



TYPICAL GUARDRAIL POST DETAIL 3
 3/4"=1'-0" S-4
 1. MAXIMUM POST SPACING 6'-0" O.C.
 2. PIPE RAILING AND COMPONENT PARTS COMING IN CONTACT WITH DISSIMILAR MATERIALS SHALL BE PAINTED WITH BITUMINOUS PAINT.

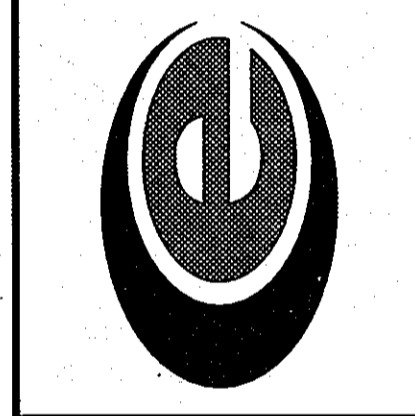
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 Signature of Engineer: *W. P. O'Brien* Date: 7/26/11
 Print Name: *W. P. O'Brien* PE # 25527

APPROVED: Howard County Department of Planning and Zoning
 Chief, Development Engineering Division: *[Signature]* Date: 11/21/11
 Chief, Division of Land Development: *[Signature]* Date: 11/21/11
 Director: *[Signature]* Date: 11/21/11

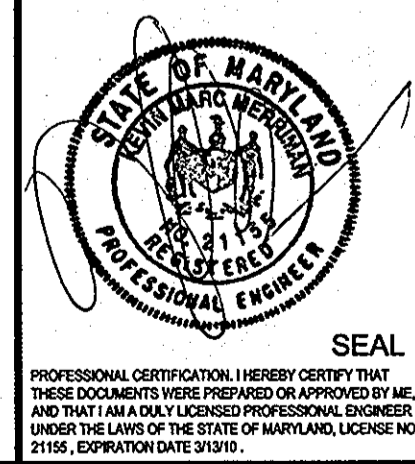
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REVISIONS	NO.	DATE	DESCRIPTION
	1	08/17/09	COUNTY PERMIT REVIEW COMMENTS

CARROLL ENGINEERING, INC.
 EXECUTIVE PLAZA IV, SUITE 111
 11350 MCCORMICK ROAD
 HUNT VALLEY, MD 21081
 410-771-1313 PHONE 410-771-1313 FAX



NOTES & TYPICAL DETAILS
 ANNAPOLIS JUNCTION PLANT
 DGS CONSTRUCTION, INC.
 HOWARD COUNTY, MD



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11165, EXPIRATION DATE 03/31/12.
 SEAL
 DRAWN BY: MKP PROJECT NUMBER: 08.06.09
 CHECKED BY: SWB DRAWING NUMBER:
 SCALE: AS-SHOWN S-4
 DATE: 7-10-08 SHEET 22 OF 22