



HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
3430 Courthouse Drive ■ Ellicott City, Maryland 21043 ■ 410-313-2350

Marsha S. McLaughlin, Director

www.howardcountymd.gov

FAX 410-313-3467

TDD 410-313-2323

November 22, 2013

Red Stone, LLP
P.O. Box 416
Ellicott City, MD 21041

Dear Sir or Madam:

RE: WP-14-028, 9251 Baltimore National Pike,
"Red Stone, LLP"

The Director of the Department of Planning and Zoning considered your request for a waiver from the Howard County Subdivision and Land Development Regulations.

As of the date of this letter, the Planning Director **approved** your request to waive **Section 16.155(a)(2) (i)** – requires the submission of a site development plan for all new or expanded non-residential development; **Section 16.116(a)** – which prohibits disturbance to wetlands, streams and buffers; and **Section 16.115(c)(2)** which prohibits disturbance to floodplain.

Approval is subject to the following conditions:

1. No disturbance is permitted beyond the limit of disturbance as shown on this waiver petition exhibit, WP-14-028. All disturbed areas must be stabilized, as appropriate.
2. On plans and applications for all applicable permits, provide as a General Note a brief description of the waiver petition, WP-14-028 which includes the required sections of the Regulations, approval date and action taken.
3. Submission of a Developer's Agreement to the Department of Public Works, Real Estate Services Division, and posting of financial surety for storm drains and landscaping [\$300.00].

Once the cost estimates are approved by the Development Engineering Division and/or this Division, the information will be forwarded to Real Estate Services, DPW. RES, DPW will contact you regarding requirements for preparation of a Developer's agreement. Real Estate Services requires a minimum of three (3) weeks to execute the agreement(s). This should be anticipated by the developer in scheduling submittal of the originals.

4. You will be required to execute a Developer's Agreement which will include **\$300.00** of surety to ensure the completion of your landscaping obligations for this project. This Department will perform an inspection to verify installation of the required plant materials. The inspection fee required for this project is **\$100.00**. This fee must be paid to **SAP acct number 1000000000-3000-3000000000-PWPW0000000000-432105** at the time the plan originals are submitted for signatures (check payable to the Director of Finance).
5. The applicant shall submit a mylar original for the approved waiver plan exhibit within **60** days of this letter (**on or before January 21, 2014**). The Department of Public Works will provide a written receipt indicating the above developer's agreement conditions have been met. The receipt from Real Estate Services must accompany the submission of the waiver plan originals.

6. A distribution fee of **\$15.00** per plan sheet must accompany the original drawings. Additional print orders may also be submitted at this time with the originals. After distribution is complete, the original WP plan exhibit will be held by the DPZ.
7. Payment to the Director of Finance, Howard County, of a fee-in-lieu to the Forest Conservation Fund (to be paid concurrently with the submission of the original WP plan for signature approval).

Forest Conservation Fund – Section 16.1211

Fee **\$1,307.00**

SAP Acct 2060000000-3000-3000000000-PWPW000000000000-432521

8. Provide a completed Forest Conservation Data Summary chart.
9. Compliance with the Development Engineering Division comments dated November 14, 2013.

Our decision was made based on the following:

Extraordinary Hardship or Practical Difficulty - The disturbance is needed to repair the stream outfall in order to prevent further erosion of the stream bank which is undermining the existing parking area. In order to stabilize the site and prevent future erosion, disturbance to the floodplain, stream, wetland and their buffers is required. The applicant was granted a permit for encroachments into the environmental features. In addition, if the applicant were required to submit a formal Site Development Plan, repairs to the stream may not occur. Strict compliance of the Regulations would require additional time, effort, and cost. The additional work would include a forest stand delineation report, extensive survey field work, additional computations, mapping, reports, plans and exhibit preparation. Full compliance with the regulations and the expenditure of the design team's resources would not improve the final design for repairing the erosion to the stream bank and expansion of the parking area. The waiver petition exhibit adequately represents the requirements for a Site Development Plan. In addition, the waiver petition exhibit will be signed by the required County agencies and the original mylar will be retained by the County. In addition, the developer will be required to enter into a developer's agreement for the proposed improvements.

Not Detrimental to the Public Interest – The regulations are meant to assure that development occurs per County requirements. The waiver petition exhibit is an acceptable alternative to the required Site Development Plan. In addition, allowing the applicant to encroach into environmental features will not be detrimental to the public interest because the repair to the stream is required in order to stop further erosion to the streambank.

Will Not Nullify the Intent or Purpose of the Regulations - The waiver request is not intended to exempt the project from County Regulations, but rather to more appropriately match the goals and resources of the project to the overall intent of the regulations which will not be nullified by the granting of the waiver requests. Since the waiver petition exhibit contains information typically provided on a Site Development Plan, the intent or purpose of the Regulations will be fulfilled. In addition, disturbance to the environmental features is necessary in order to repair the stream bank. The Maryland Department of Environment has approved a permit allowing disturbance to these features.

Indicate this waiver petition file number, request, section of the regulations, action, conditions of approval, and date on all related plats, and site development plans, and building permits. This requested waiver will remain valid for one year from the date of this letter or as long as the waiver plan original and/or permits remain in active processing.

If you have any questions, please contact Brenda Luber at (410) 313-2350 or email at BLuber@howardcountymd.gov.

Sincerely,

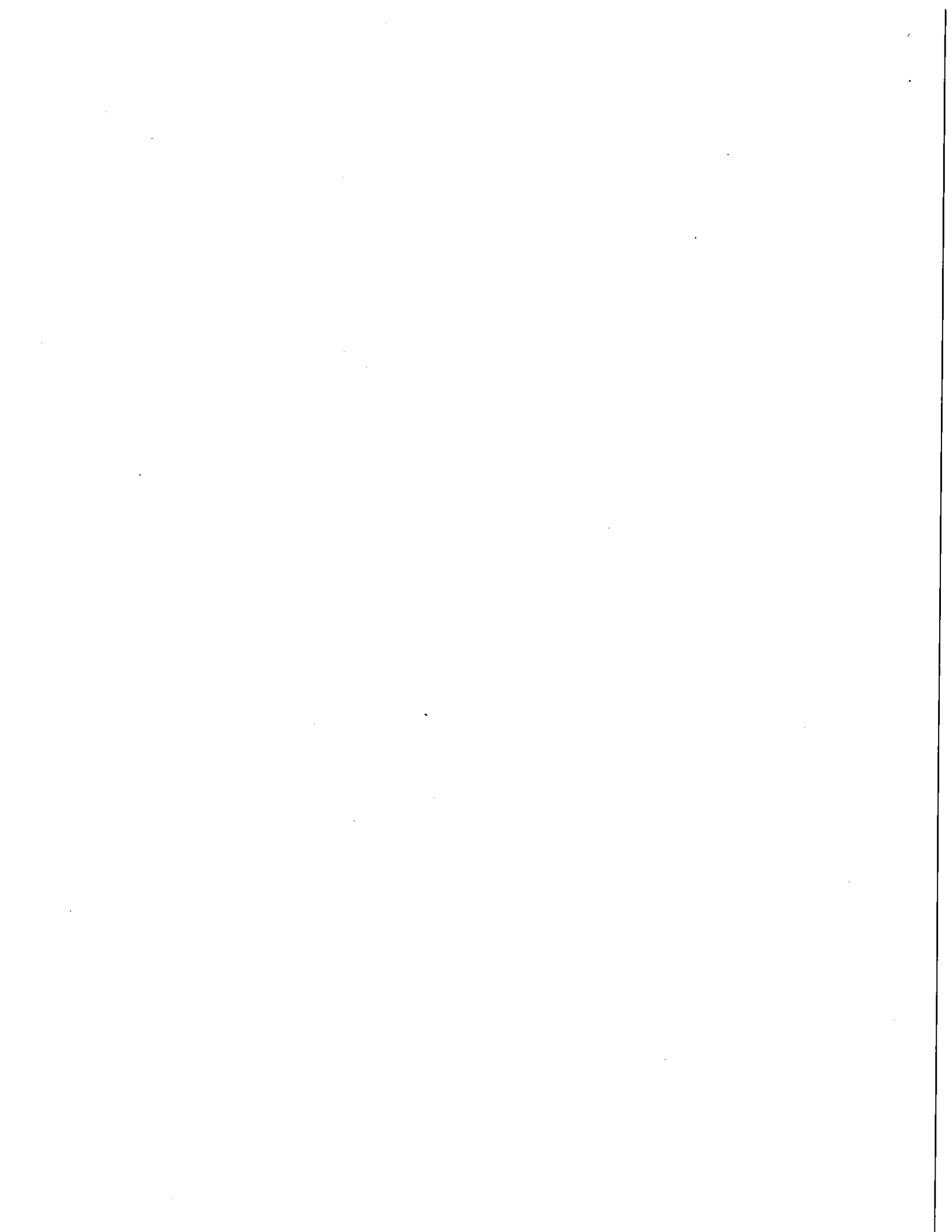


Kent Sheubrooks, Chief
Division of Land Development

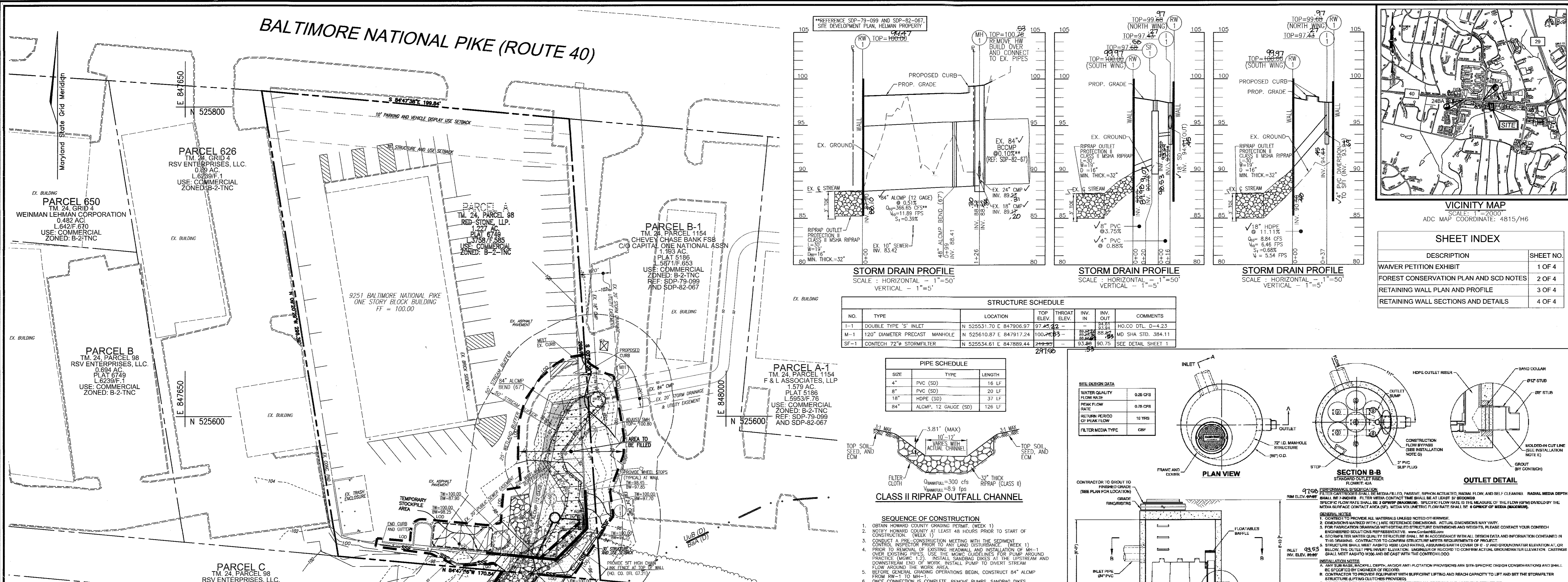
KS/BL

Enclosure (DED)

cc: Research
DED
Real Estate Services
Robert Vogel Engineering, Inc.



BALTIMORE NATIONAL PIKE (ROUTE 40)



SITE DATA
 LOCATION: ELICOTT CITY, MD.
 TAX MAP 24, GRID 4, PARCEL 98, PARCEL A
 AND ELEVATION DISTRICT
 PRESENT ZONING: B-2-TNC
 TOTAL PARCEL AREA: 1.227 AC
 DP7 REFERENCES: L 3758/F 585
 EXISTING USE OF STRUCTURE: RETAIL
 AREA OF WETLANDS AND BUFFERS: 0.17 AC
 AREA OF STREAMS AND BUFFERS ON SITE: 0.28 AC
 AREA OF 100 YEAR FLOODPLAIN ON SITE: 0.10 AC
 AREA OF FOREST ON SITE: 0.00 AC
 AREA OF STEEP SLOPES ON SITE: 0.00 AC
 AREA OF ERODIBLE SOILS ON SITE: 0.00 AC
 PRODUCT AREA/LIMIT OF DISTURBED AREA: 0.24 AC
 AREA MANAGED BY ESD (THIS PLAN): 0.12 AC
 *IMPERVIOUS AREA: 0.12 AC
 *FOREST AREA: 0.00 AC

- LEGEND:**
- EXISTING CONTOUR
 - EXISTING CURB AND GUTTER
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING STORM DRAIN
 - EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - SOILS BOUNDARY
 - 100 YEAR FLOODPLAIN PER RECORD PLAT 0749
 - RIGHT-OF-WAY LINE
 - EX. LIMIT OF WETLAND
 - LIMIT OF DISTURBANCE
 - SUPER SILT FENCE

- GENERAL NOTES**
- THE PROPERTY LINES SHOWN HEREON ARE BASED ON PROPERTY OF T. CARROLL BEACH JR. ET AL., LOT 1, PARCELS A & B, PLAT 6749, DATED JANUARY 14, 1988.
 - THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM FIELD RUN SURVEY BY ROBERT H. VOGEL, ENGINEERING, INC., ON MARCH 26, 2012. HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (AS SHOWN ON PROPERTY OF T. CARROLL BEACH JR. ET AL., LOT 1, PARCELS A & B, PLAT 6749, DATED JANUARY 14, 1988) AND DERIVED FROM HOWARD COUNTY CONTROL STATIONS 3242002 (N52578.005/E845475.765) & 3242003 (N525912.292/E846807.881). ALL VERTICAL CONTROLS ARE BASED ON AN ASSUMED DATUM WITH THE FINISHED FLOOR ELEVATION SET TO ELEVATION 100.00.
 - PUBLIC WATER AND SEWER PROVIDED TO SITE.
 - WETLAND DELINEATION IN ACCORDANCE WITH DELINEATION PERFORMED BY MAURTYH AND ASSOCIATES.
 - REFERENCE WOE PERMIT 201261306/12-NI-0338 APPROVED ON JANUARY 16, 2013.
 - THE FLOODPLAIN SHOWN HEREON IS BASED ON RECORDED PLATS. THERE IS NO FIRM 100-YEAR FLOOD PLAN LOCATED ON THE SUBJECT PROPERTY.
 - WETLANDS AND STREAMS: EAST ON THIS PROPERTY AS SHOWN. THERE ARE NO STEEP SLOPES OR FOREST THAT EXISTS ON THIS PROPERTY OR WITHIN THE DEVELOPED AREA. THERE IS A 0.01 ACRES OF EXISTING FOREST LOCATED WITHIN THE LIMIT OF DISTURBANCE (0.23 AC).
 - STREAM MITIGATION APPROVED BY MIE AND LOCATED ON HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS PROPERTY, DORSEY HALL, SECTION 1, AREA 3 LOT 142. THE REQUIRED FEES HAVE BEEN PAID TO HOWARD COUNTY FOR THE USE OF PROPERTY FOR MITIGATION PLANTING.
 - PROPOSED STORM DRAINAGE TO BE PRIVATELY OWNED AND MAINTAINED BY THE PROPERTY OWNER.
 - ALL PAVING TO BE HOWARD COUNTY P-2 PAVING SECTION AND IS SUBJECT TO VERIFICATION BY THE GEOTECHNICAL ENGINEER.
 - ALL CURB TO BE HOWARD COUNTY TYPE "A" CURB AND GUTTER.
 - WRA-012 TO BE APPROVED COUNTY TYPE "A" CURB AND GUTTER. THIS WAIVER PETITION REQUESTS THE REMOVAL OF THE REQUIREMENTS: SECTION 115(2)(C)(3), 151(1)(C) AND 1415(5)(2).

ENVIRONMENTAL SITE DESIGN NARRATIVE

IN ACCORDANCE WITH CHECKLIST ITEM M.1K

- THE PROPERTY CONTAINS NATURAL RESOURCE AREAS INCLUDING WETLANDS, STREAMS, AND 100 YEAR FLOODPLAIN THAT WOULD REQUIRE PROTECTION AS THEY ARE WITHIN THE LIMITS OF DISTURBANCE. MOC HAS APPROVED ALL WORK WITHIN THE LIMITS OF DISTURBANCE UNDER PERMIT NUMBER 201261306/12-NI-0338. THIS PROPERTY DOES NOT CONTAIN SPECIALLY PROTECTED TREES OR STEEP SLOPES.
- NO DISTURBANCE TO THE NATURAL DRAINAGE PATTERNS ARE PROPOSED. ALL AREAS SHALL DRAIN AS IN THE EXISTING CONDITIONS.
- THE CONCEPTUAL REDUCTION IN IMPERVIOUS AREA THROUGH BETTER SITE DESIGN IS ACHIEVED THROUGH THE ENVIRONMENTAL SITE DESIGN (ESD) FOR THE PROJECT TO THE MAXIMUM EXTENT PRACTICABLE. THE ESD CONCEPT PROPOSES THE USE OF A STORM FILTER, THE STORM FILTER WILL DISCHARGE TO THE EXISTING STORM. THE PROPOSED ESD PRACTICE SHALL BE PRIVATELY OWNED AND MAINTAINED.
- SEDMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE OF PERMIER CONTROL (SUPER SILT FENCE AND CLEAN WATER EARTH DIKES) AND INLET PROTECTION. SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT REGULATIONS AND SHALL BE APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT.
- AS STATED IN #3 ABOVE, STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF A STORM FILTER.
- NO WAIVERS ARE ANTICIPATED TO FULFILL THIS CONCEPT.

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
UBB	URBAN LAND-UDORMENTS, COMPLEX, 0 TO B PERCENT SLOPES	D

NOTE: BASED ON HOWARD SOIL SURVEY

AS-BUILT CERTIFICATION

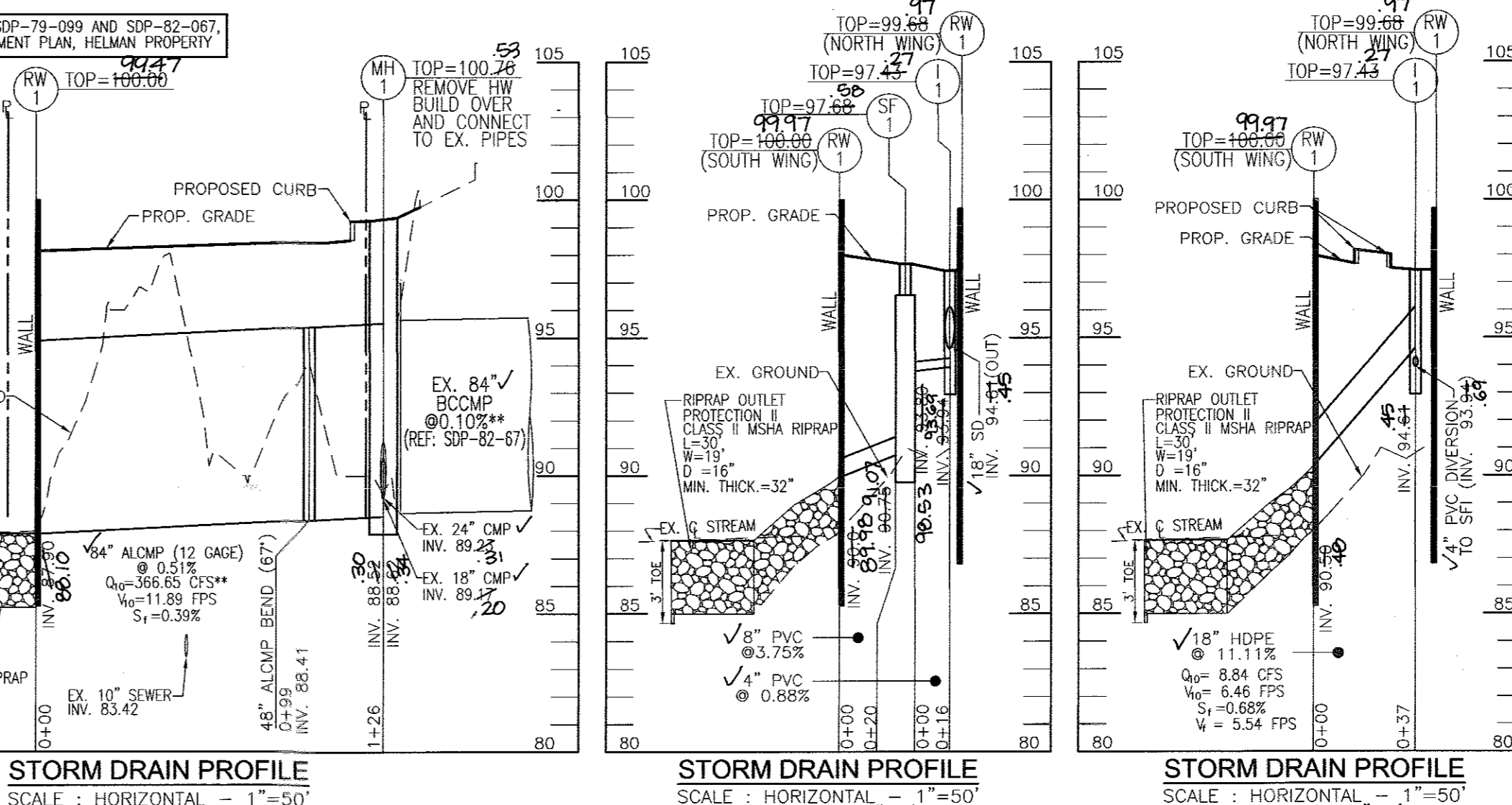
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

ROBERT H. VOGEL, P.E. FENO 16193 10/21/15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

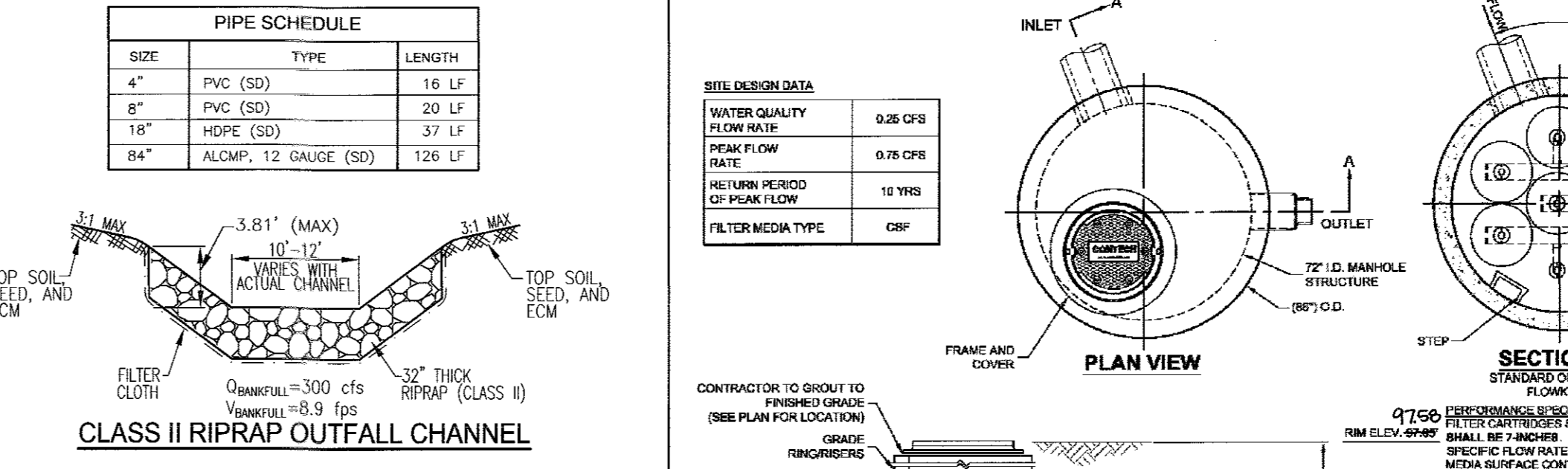
BY THE DEVELOPER: [Signature] DATE: 5-8-14

BY THE ENGINEER: [Signature] DATE: 11/25/13

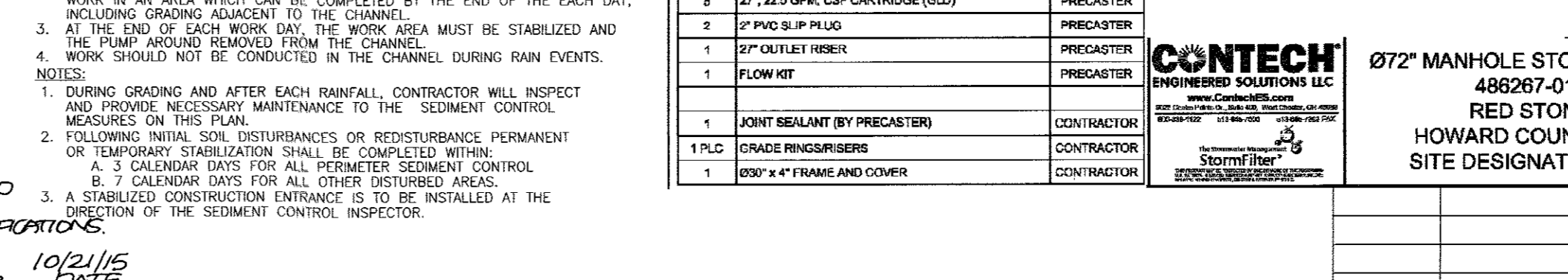


STRUCTURE SCHEDULE

NO	TYPE	LOCATION	TOP ELEV.	THROAT ELEV.	IN. IN.	IN. OUT.	COMMENTS
M-1	DOUBLE TYPED 'S' INLET	N 525531.70 E 847906.97	97.45	97.45	18"	18"	MO.CO DTL. D=4.23
M-1	120" DIAMETER PRECAST MANHOLE	N 525610.87 E 847917.24	100.00	99.99	18"	18"	MO SHA STD. 384.11
SF-1	CONTECH 72" STORMFILTER	N 525534.61 E 847889.44	94.00	93.99	30"	30"	SEE DETAIL SHEET 1



- SEQUENCE OF CONSTRUCTION**
- OBTAIN HOWARD COUNTY GRADING PERMIT (WEEK 1)
 - NOTIFY HOWARD COUNTY AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION (WEEK 1)
 - CONDUCT A CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR PRIOR TO ANY LAND DISTURBANCE (WEEK 1)
 - PREPARE TO REMOVAL OF EXISTING HEADWALL AND INSTALLATION OF M-1 OVER EXISTING PIPES. USE THE MGC GUIDELINES FOR PUMP AROUND PRACTICE (MOC 1.2). INSTALL SANDING CHAIN AT THE UPSTREAM AND DOWNSTREAM END OF WORK. INSTALL PUMP TO DIVERT STREAM FLOW AROUND THE WORK AREA.
 - BEFORE GENERAL GRADING OPERATIONS BEGIN, CONSTRUCT 84" ALCMP FROM W-1 TO W-2.
 - ONCE CONNECTION IS COMPLETE, REMOVE PUMPS, SANDBAR DIKES, AND ANY OTHER DEVICES USED PER MGC.
 - COMPLETE RETAINING WALL CONSTRUCTION, AND GRADING OPERATIONS. FINE CRACKS AND STABILIZE ALL AREAS OF EXISTING EXPOSED EARTH AREAS OUTSIDE THE LOD. REMOVE ALL TRASH JUNK AND DEBRIS FROM THE CHANNEL DURING RAIN EVENTS.
 - REMOVE ALL SEDIMENT CONTROL MEASURES AFTER RECEIVING APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR.



CONTECH ENGINEERED SOLUTIONS LLC

OWNER/DEVELOPER: RED STONE, LLP, ELICOTT CITY, MD. 21041

72" MANHOLE STORMFILTER - 486267-010

TAX MAP 24 GRID 4, PARCEL 98 AND ELEVATION DISTRICT

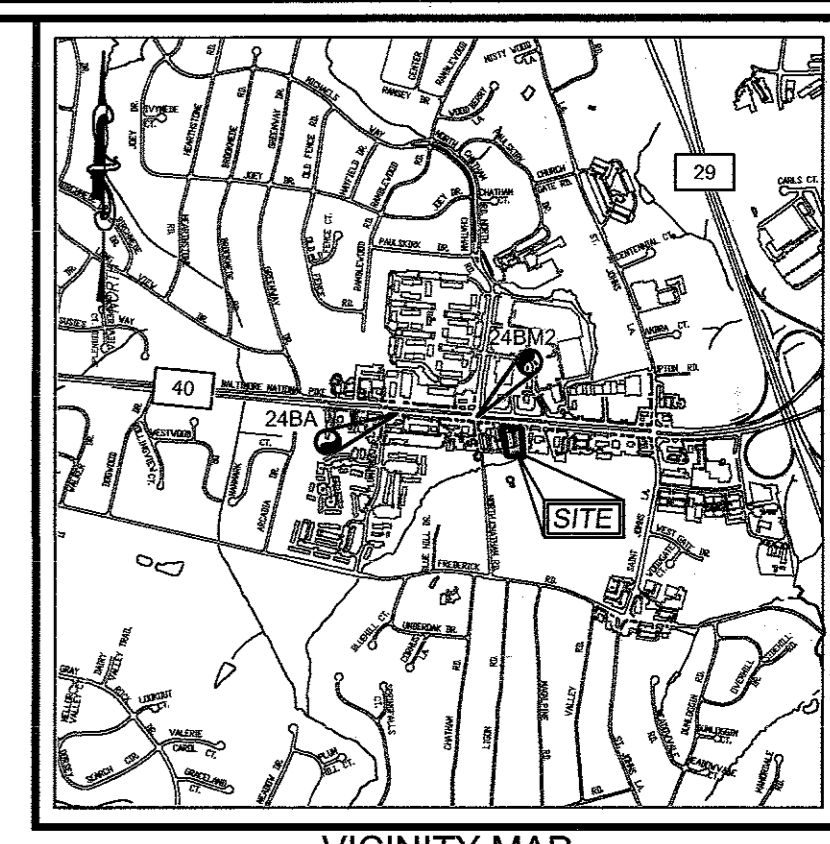
ROBERT H. VOGEL ENGINEERING, INC.

8407 MAIN STREET, ELICOTT CITY, MD 21043

PROFESSIONAL CERTIFICATE

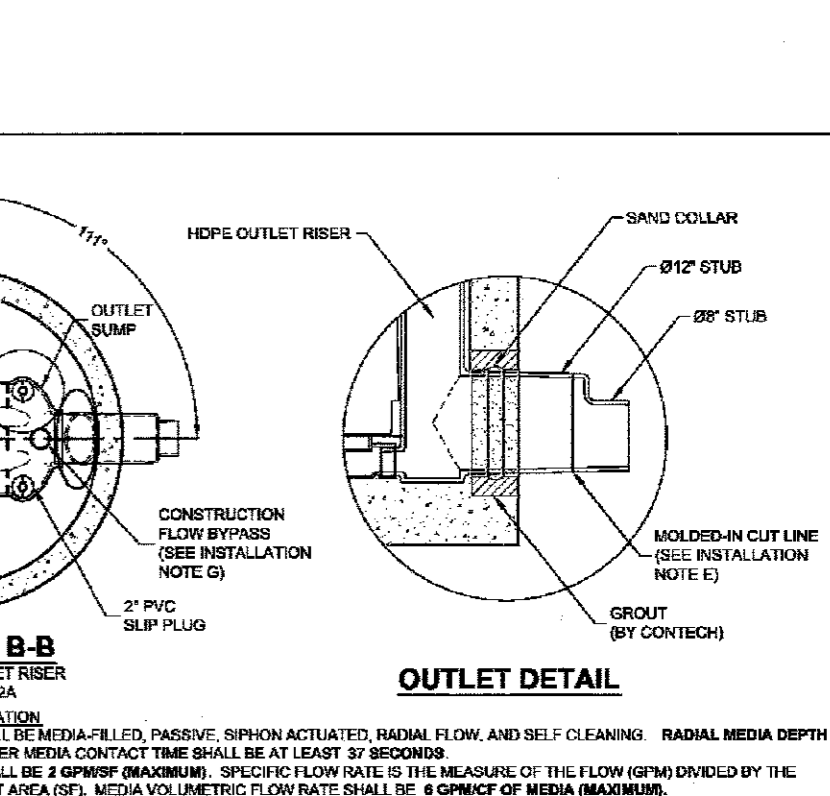
DESIGN BY: DZ
 DRAWN BY: JER
 CHECKED BY: RHY
 DATE: NOVEMBER 2013
 SCALE: 1"=30"
 W.O. NO.: 12-16

1 SHEET OF 4



SHEET INDEX

DESCRIPTION	SHEET NO.
WAIVER PETITION EXHIBIT	1 OF 4
FOREST CONSERVATION PLAN AND SCD NOTES	2 OF 4
RETAINING WALL PLAN AND PROFILE	3 OF 4
RETAINING WALL SECTIONS AND DETAILS	4 OF 4



- GENERAL NOTES**
- CONTRACTOR SHALL VERIFY ALL MATERIALS AND METHODS OF CONSTRUCTION.
 - ENGINEERED SOLUTIONS REPRESENTATIVE: www.contech.com
 - FOR FABRICATION DRAWINGS WITH DETAIL STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH STRUCTURE SPECIALIST REPRESENTATIVE.
 - STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFORM TO ALL STRUCTURE DIMENSIONS AND WEIGHTS SPECIFIED IN THESE DRAWINGS.
 - CONTRACTOR SHALL VERIFY ALL MATERIALS AND METHODS OF CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL MATERIALS AND METHODS OF CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL MATERIALS AND METHODS OF CONSTRUCTION.

9251 BALTIMORE NATIONAL PIKE

PROPERTY OF T. CARROLL BEACH JR. ET AL., PARCEL A

L. 3758/F. 585 (PLAT 6749)

TAX MAP 24 GRID 4, PARCEL 98 AND ELEVATION DISTRICT

ROBERT H. VOGEL ENGINEERING, INC.

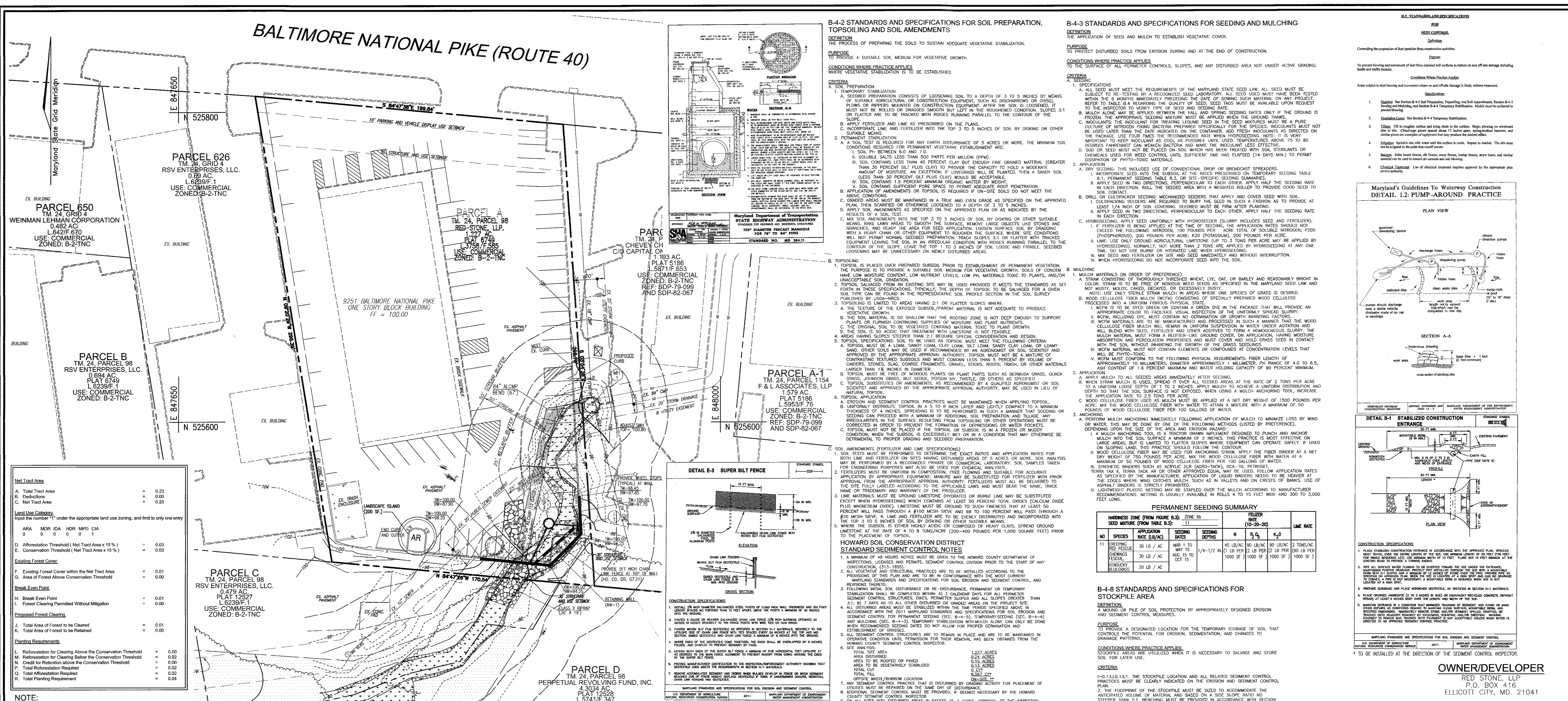
8407 MAIN STREET, ELICOTT CITY, MD 21043

PROFESSIONAL CERTIFICATE

DESIGN BY: DZ
 DRAWN BY: JER
 CHECKED BY: RHY
 DATE: NOVEMBER 2013
 SCALE: 1"=30"
 W.O. NO.: 12-16

1 SHEET OF 4

AS-BUILT 10/21/15



NOTE:
FOREST CONSERVATION REQUIREMENTS FOR THIS PROJECT SHALL BE FULFILLED BY A PERMITS FOR 0.04 AC. (1742 SF) IN THE AMOUNT OF \$1,306.50 AND SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.

LEGEND:

- EXISTING CONTOUR
- ==== EXISTING CURB AND GUTTER
- ⊙ EXISTING SANITARY MANHOLE
- S- EXISTING SANITARY LINE
- SD- EXISTING STORM DRAIN
- X- EXISTING FENCE
- - - PROPERTY LINE
- - - RIGHT-OF-WAY LINE
- MTB2 SOLS BOUNDARY
- Md3 100 YEAR FLOODPLAIN PER RECORD JET 0749
- - - RIGHT-OF-WAY LINE
- AR EX. LIMIT OF WETLAND
- PROPOSED SHADE TREE

PARKING LOT INTERNAL LANDSCAPING

NO. OF NEW PARKING SPACES	LANDSCAPE ISLAND REQ'D AREA (SQ. FT.)	LANDSCAPE STRIP REQ'D AREA (SQ. FT.)	SHADE TREES REQUIRED	SHADE TREES PROVIDED
17	1/200 SF	1/200 SF	1	1

LANDSCAPE SCHEDULE

SYMBOL	KEY	QUAN.	BOTANICAL NAME	SIZE	COMMENTS
○	AR	1	ACER FRAXINUS 'OCTOBER GLORY'	2 1/2" CAL	B & B

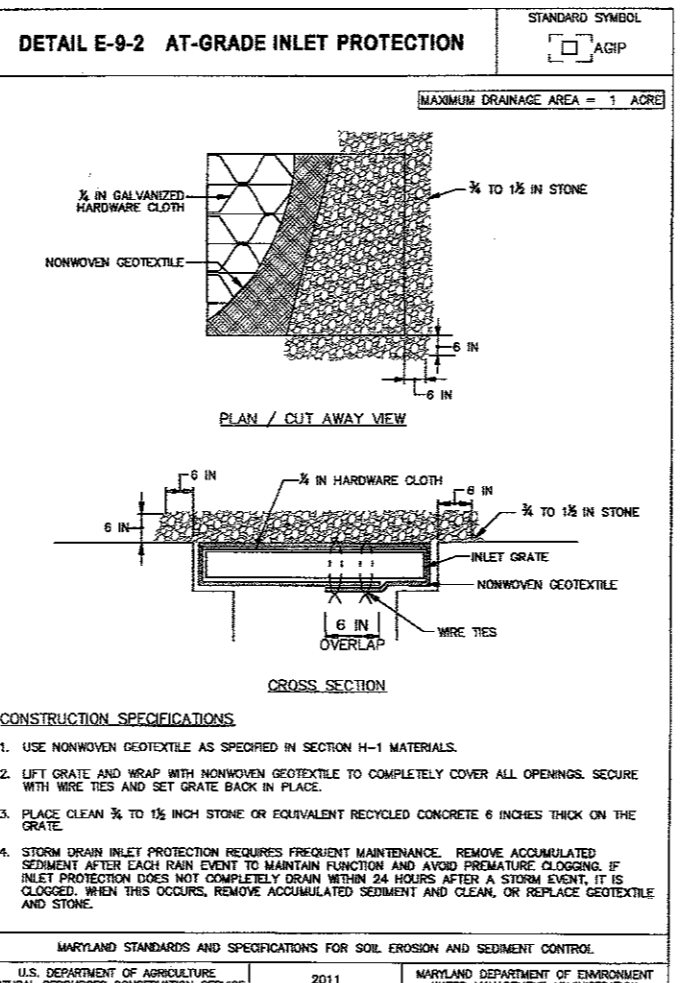
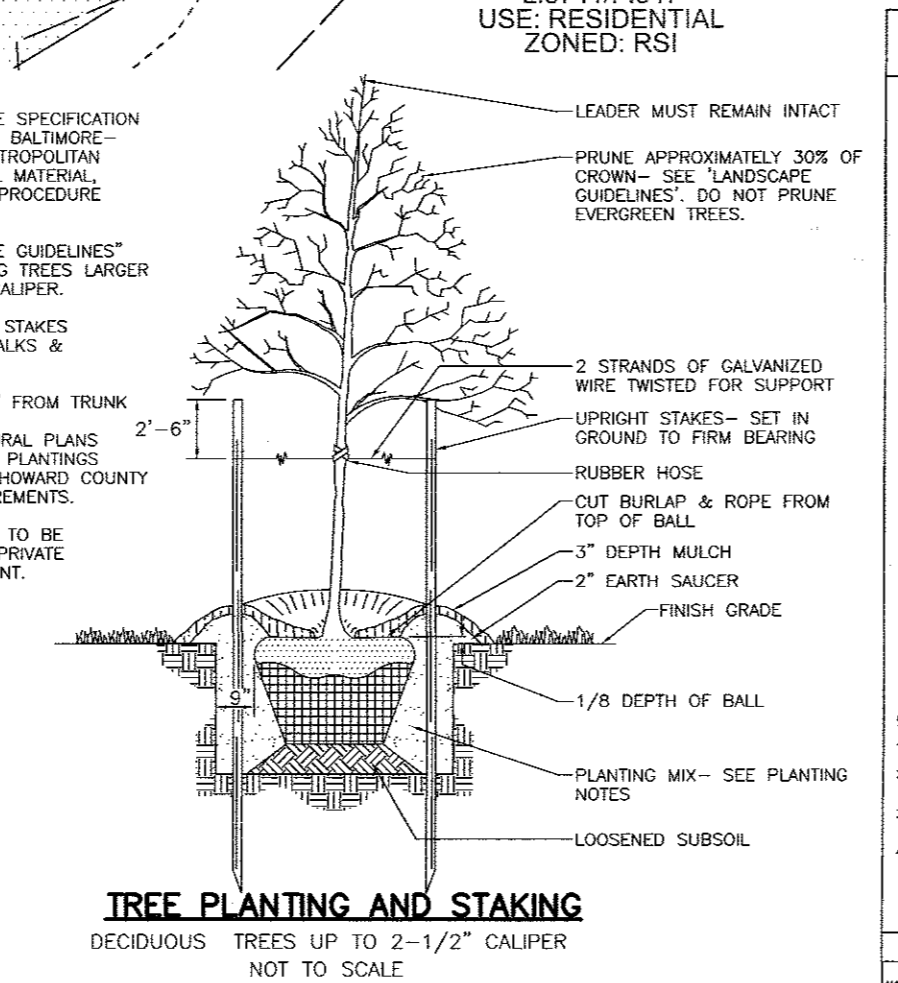


Table B-1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate (lb/1000 sq ft)	Seeding Depth (inches)	Recommended Seeding Dates by Plant Hardiness Zone*	FERTILIZER (lb/1000 sq ft)	LIME RATE (lb/1000 sq ft)
Annual Ryegrass (Lolium perenne)	40	1.0	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC
Bird's Foot Trefoil (Lotus corniculatus)	90	2.0	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC
White Clover (Trifolium repens)	75	1.0	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC
Red Clover (Trifolium pratense)	120	2.0	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC
Crabgrass (Digitaria sanguinalis)	112	2.0	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC
Annual Ryegrass (Lolium perenne)	30	0.5	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC
White Clover (Trifolium repens)	30	0.5	May 15 to May 31; Aug 1 to Sep 30	45 lb/AC	20 TONS/AC

PERMANENT SEEDING SUMMARY

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P	K ₂ O	LIME RATE
11	CRABGRASS	30 LB / AC	MAR 1 TO MAY 15	1/4" - 1/2" IN	45 LB/AC	80 LB/AC	80 LB/AC	20 TONS/AC
12	RED FESCUE	30 LB / AC	MAR 1 TO MAY 15	1/4" - 1/2" IN	45 LB/AC	80 LB/AC	80 LB/AC	20 TONS/AC
13	ORCHARD GRASS	30 LB / AC	MAR 1 TO MAY 15	1/4" - 1/2" IN	45 LB/AC	80 LB/AC	80 LB/AC	20 TONS/AC
14	PERennial Ryegrass	20 LB / AC	MAR 1 TO MAY 15	1/4" - 1/2" IN	45 LB/AC	80 LB/AC	80 LB/AC	20 TONS/AC

OWNER/DEVELOPER
RED STONE, LLP
P.O. BOX 416
ELlicott CITY, MD 21041

WAIVER PETITION EXHIBIT
FOREST CONSERVATION PLAN / SCD NOTES AND DETAILS
9251 BALTIMORE NATIONAL PIKE
PROPERTY OF T. CARROLL BEACH JR. ET AL., PARCEL A
L.3758/F.585 (PLAT 6749)

**TAX MAP 24 GRID 4
2ND ELECTION DISTRICT**

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELlicott CITY, MD 21043
Tel: 410.461.7666
Fax: 410.461.8961

DESIGN BY: DZ
DRAWN BY: JER
CHECKED BY: RHV
DATE: NOVEMBER 2013
SCALE: 1"=30'
W.O. NO.: 12-16

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRES 09-27-2018

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 5-8-14
DATE

[Signature] 5-08-14
DATE

BY THE DEVELOPER:

[Signature] 12/10/13
DATE

[Signature] 11/26/13
DATE

BY THE ENGINEER:

[Signature] 11/26/13
DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 11/26/13
DATE

NO AS-BUILT INFORMATION THIS SHEET

AS-BUILT 10/21/15

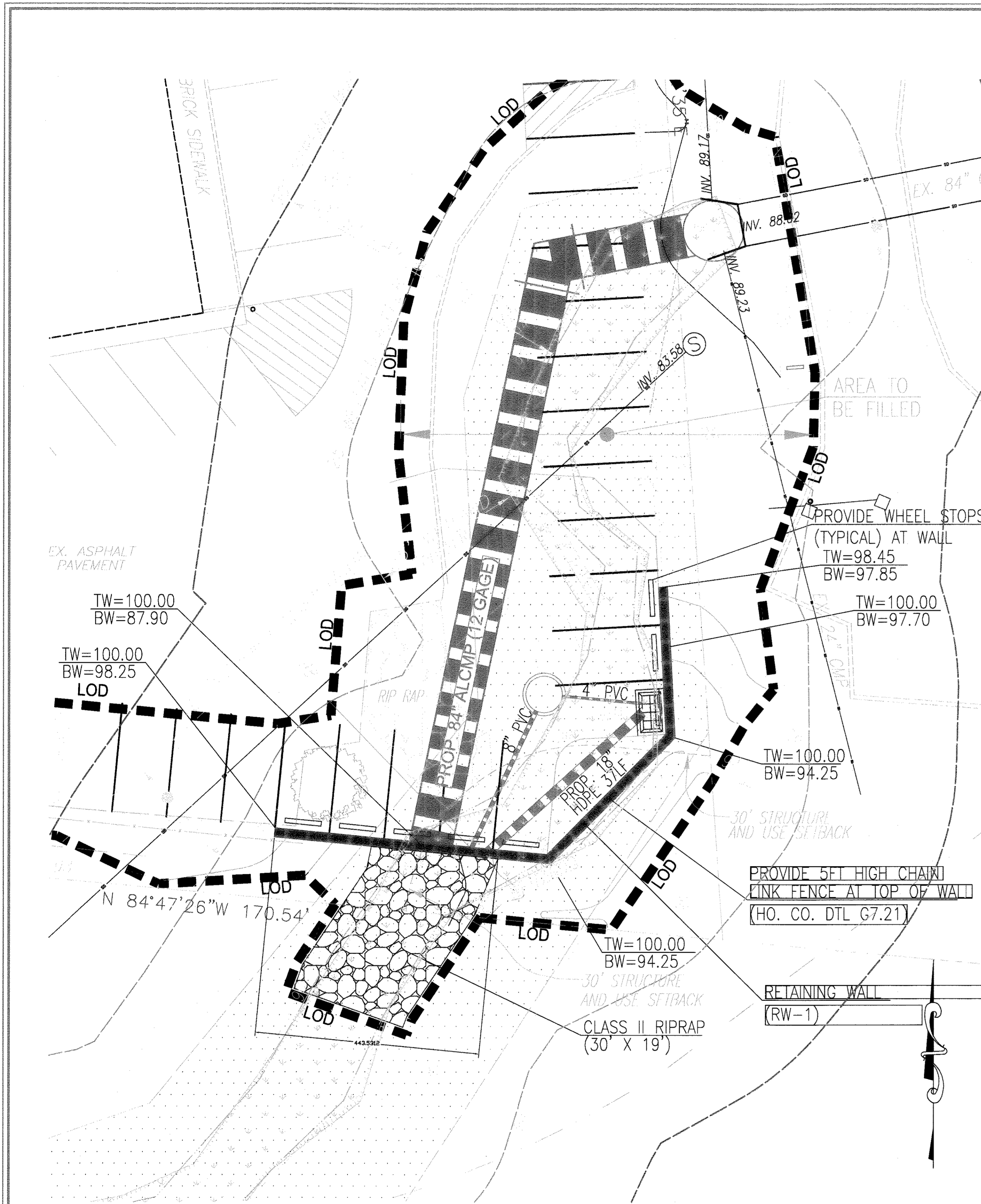
Table B-2: Temporary Seeding for Site Stabilization

Notes: *See table for recommended seeding rates and dates. **Seeding rates listed above are for temporary seeding. ***Seeding rates listed below are for permanent seeding. ****Seeding rates listed below are for permanent seeding. *****Seeding rates listed below are for permanent seeding.

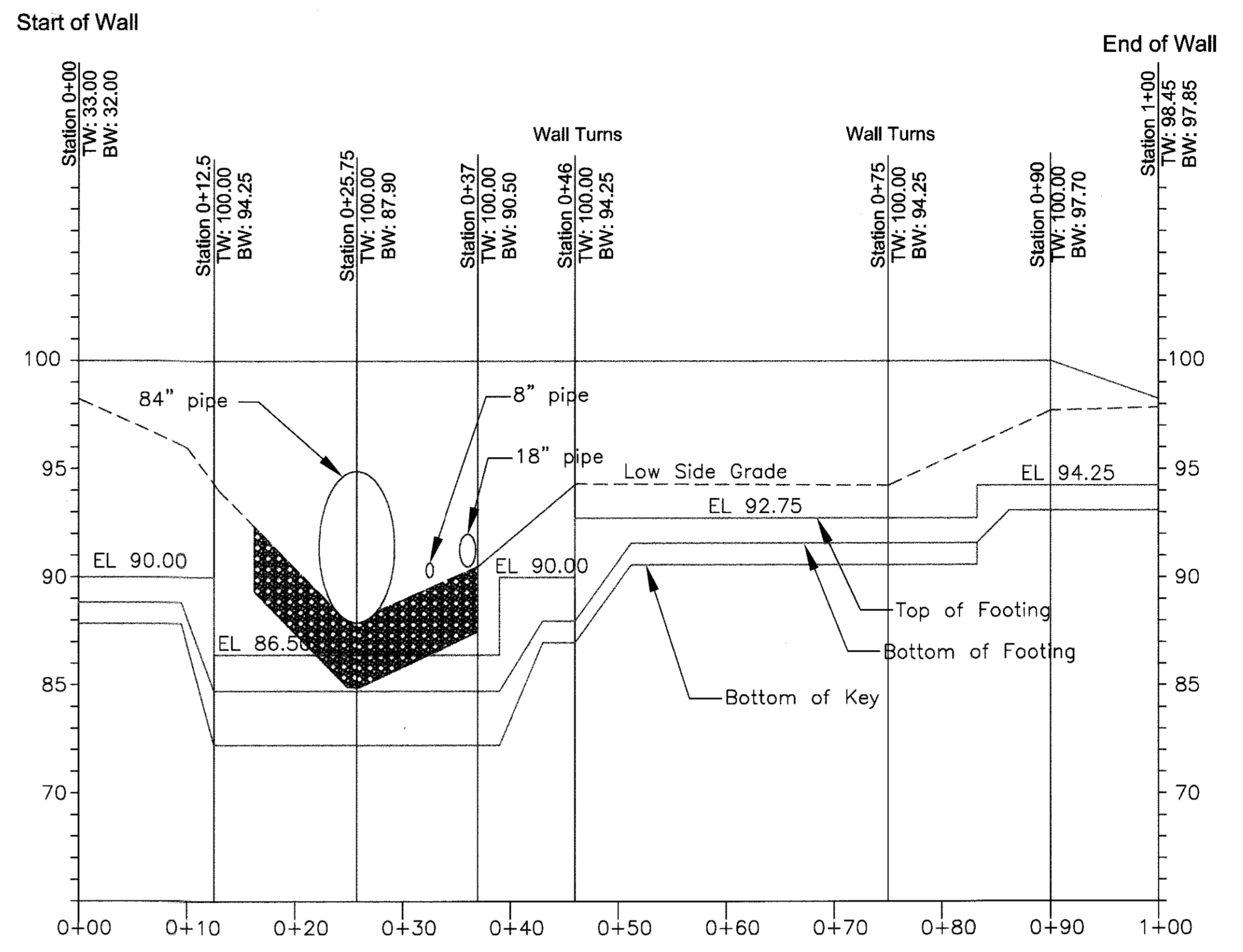
REVISION

NO.	REVISION	DATE
1	ADD	10/21/15

2 SHEET OF 4



PLAN (BASED ON ENVIRONMENTAL PLAN PROVIDED BY ROBERT H. VOGEL ENGINEERING, INC)
SCALE: 1"=10'



WALL PROFILE
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

OWNER
RED STONE, LLP
P.O. BOX 416
ELIJAH CITY, MARYLAND 21041

NO.	REVISION	DATE

RETAINING WALL
PLAN & PROFILE

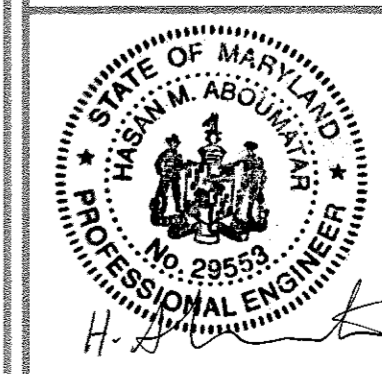
9521 BALTIMORE NATIONAL PIKE
PARCEL A
L.3758/F.585 (PLAT 6749)

TAX MAP 24 GRID 4
2ND ELECTION DISTRICT

PARCEL 98
HOWARD COUNTY, MARYLAND

ECS LLC
MID-ATLANTIC

1340 CHARWOOD ROAD
SUITE A
HANOVER, MARYLAND 21076
PHONE: (410) 858-4300
FAX: (410) 858-4324



DESIGN BY: DMA
DRAWN BY: DMA
CHECKED BY: HMA
DATE: NOV 2013
SCALE: AS SHOWN
W.C. NO.:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 29553
EXPIRATION DATE: 12-31-2016
5 #A

3 SHEET OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edrington 5-8-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

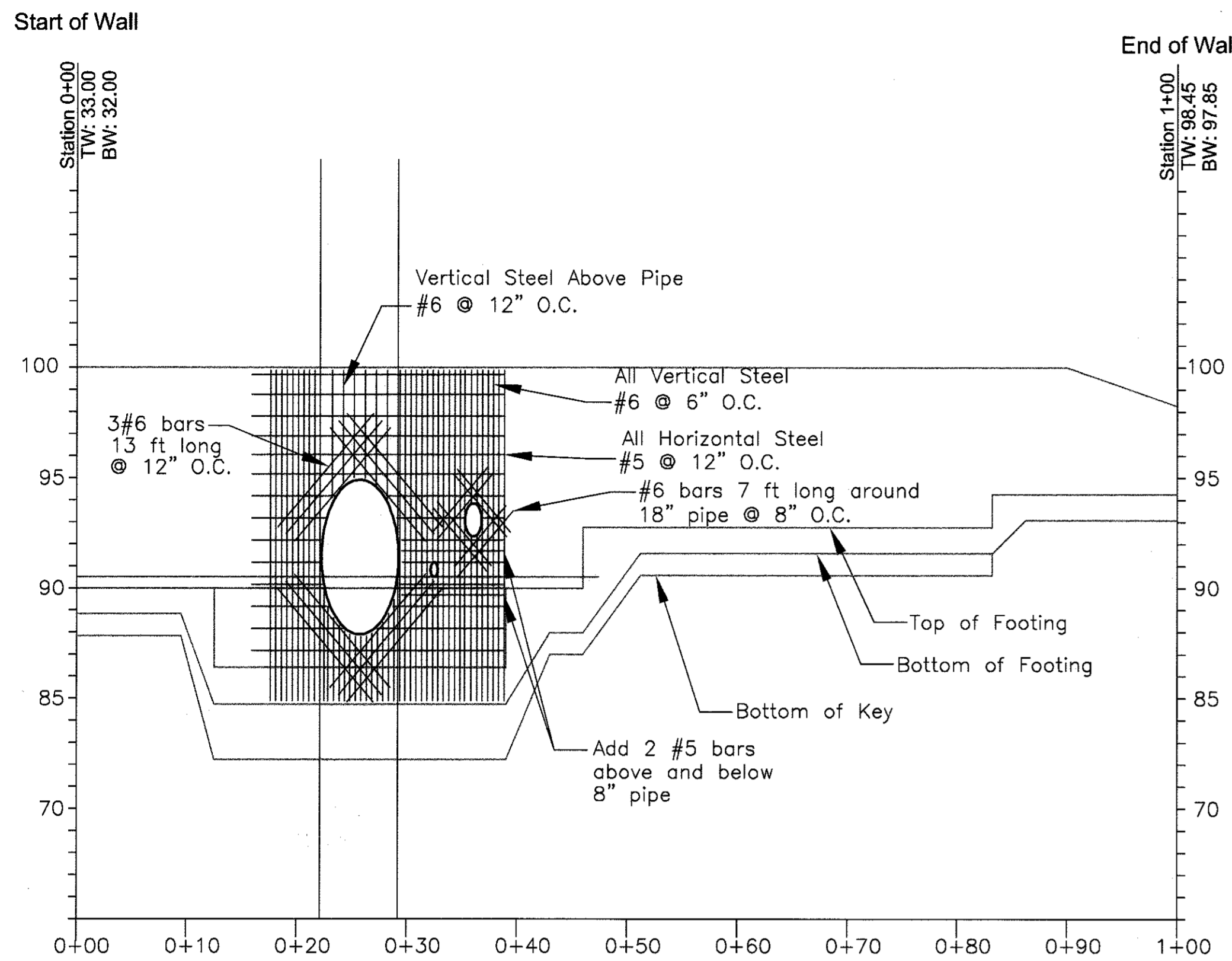
Kurt Shandrow 5-08-14
CHIEF, DIVISION OF LAND DEVELOPMENT & PLANNING DATE

Mark P. Langley 5/14/14
DIRECTOR DATE

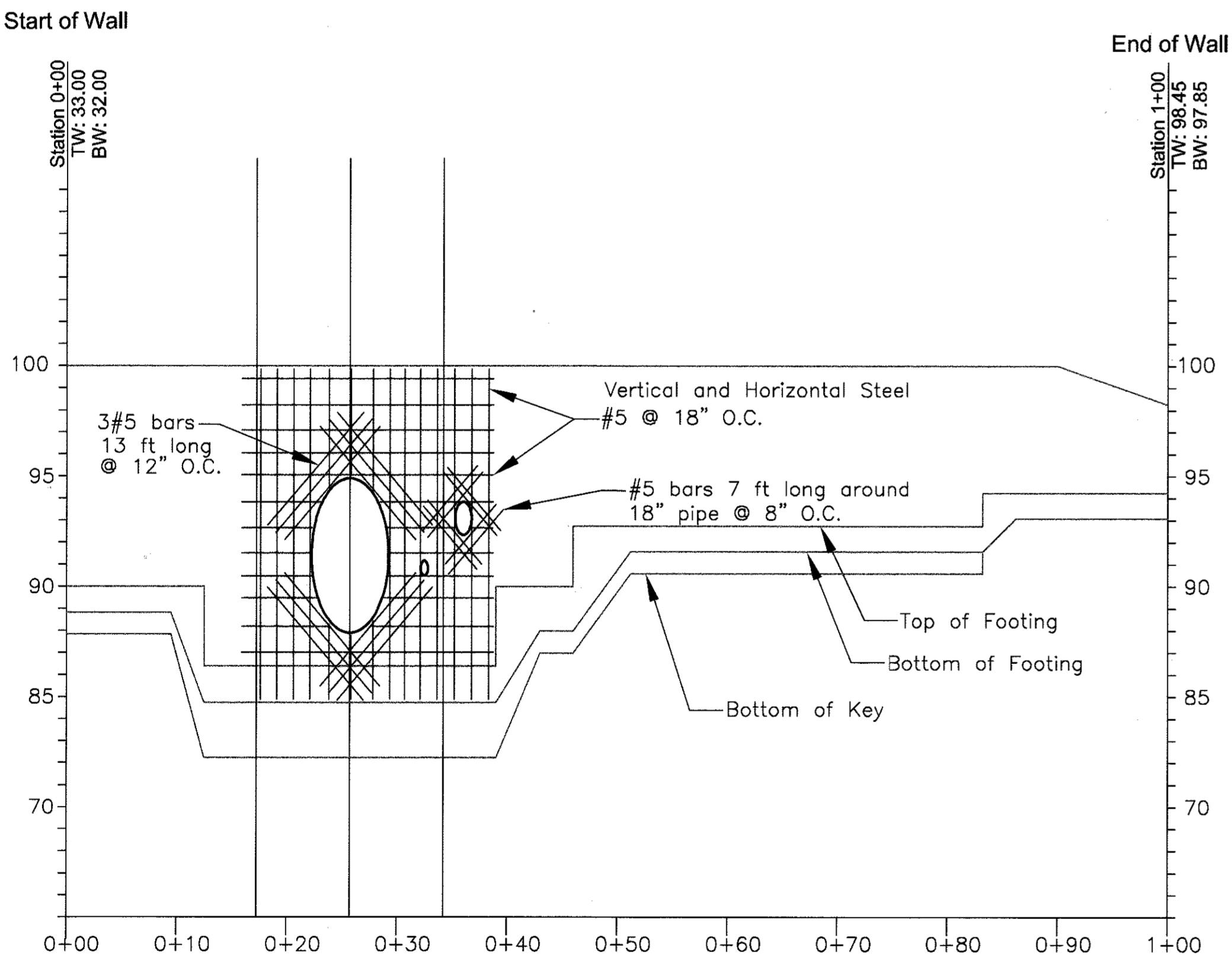
NO AS-BUILT INFORMATION THIS SHEET

AS-BUILT 10/21/15

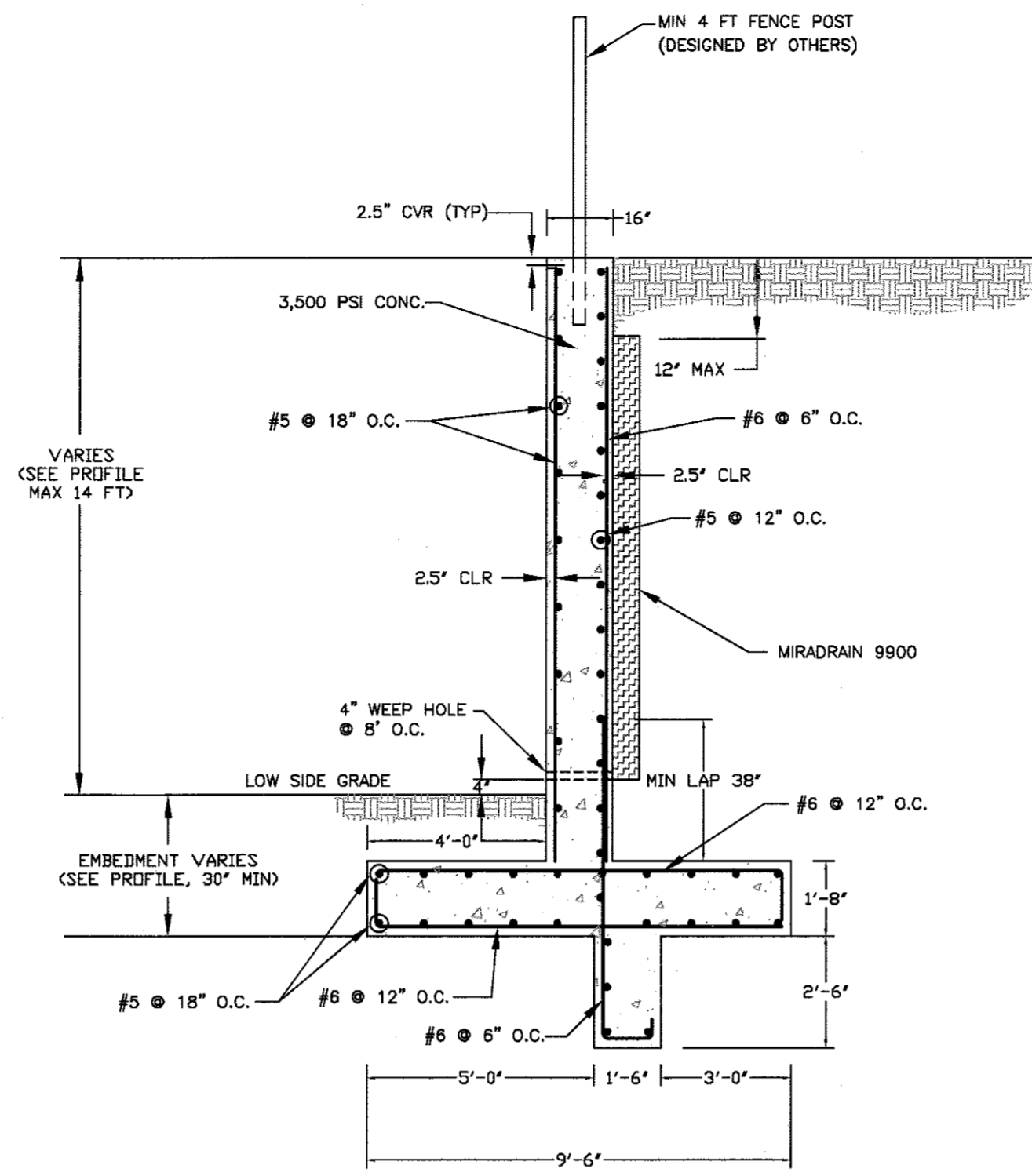
WR 14-028



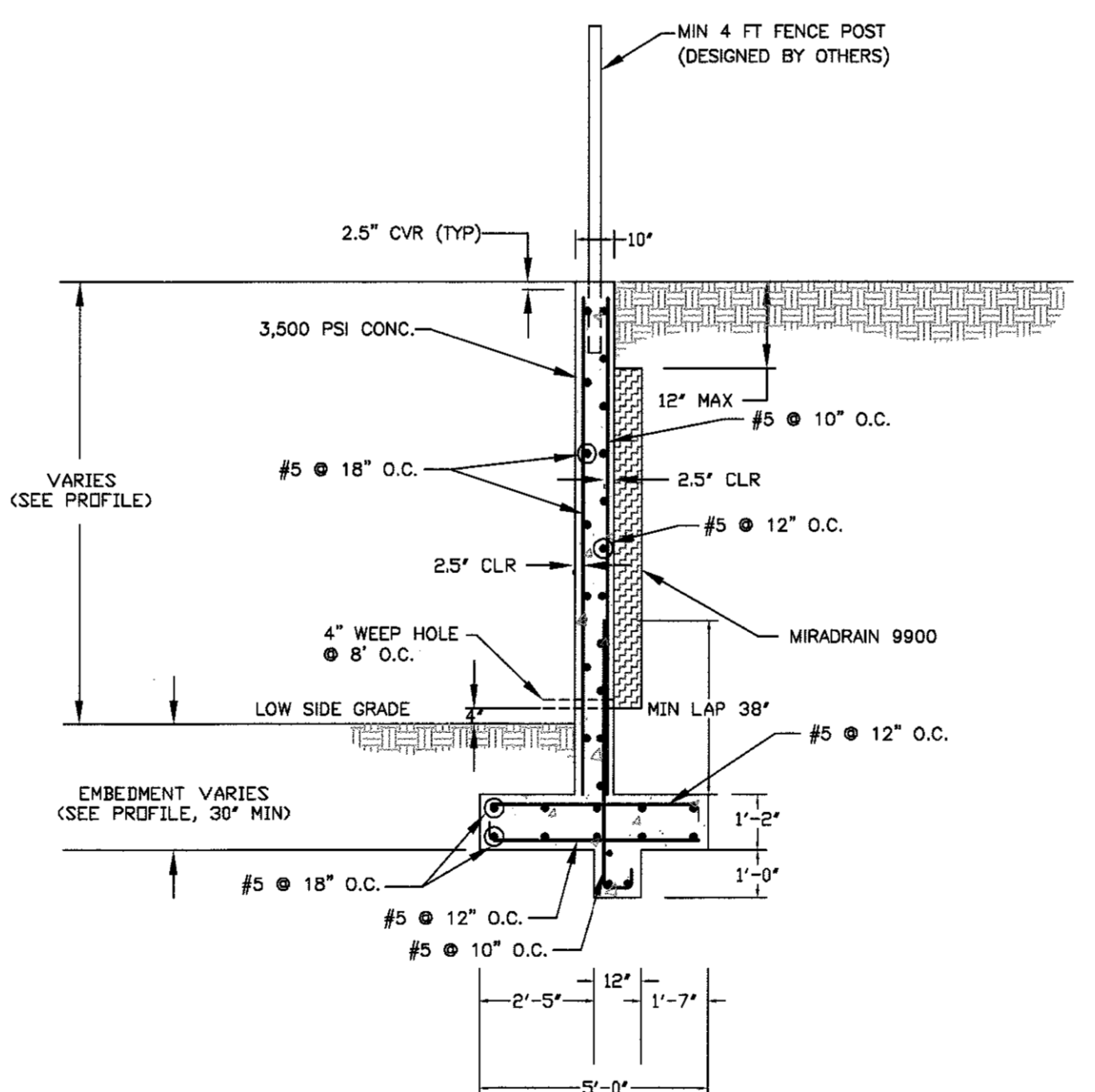
TYPICAL STEM REINFORCEMENT NEAR PIPE - BACK FACE OF WALL



TYPICAL STEM REINFORCEMENT NEAR PIPE - FRONT FACE OF WALL

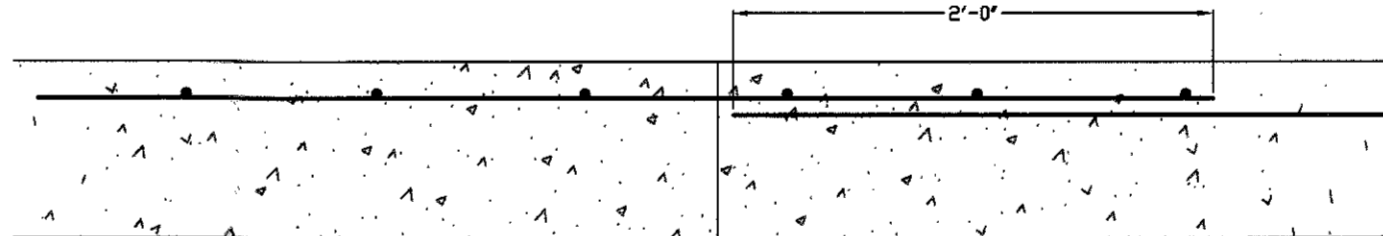


TYPICAL SECTION
STA 0+12.5 TO STA 0+39

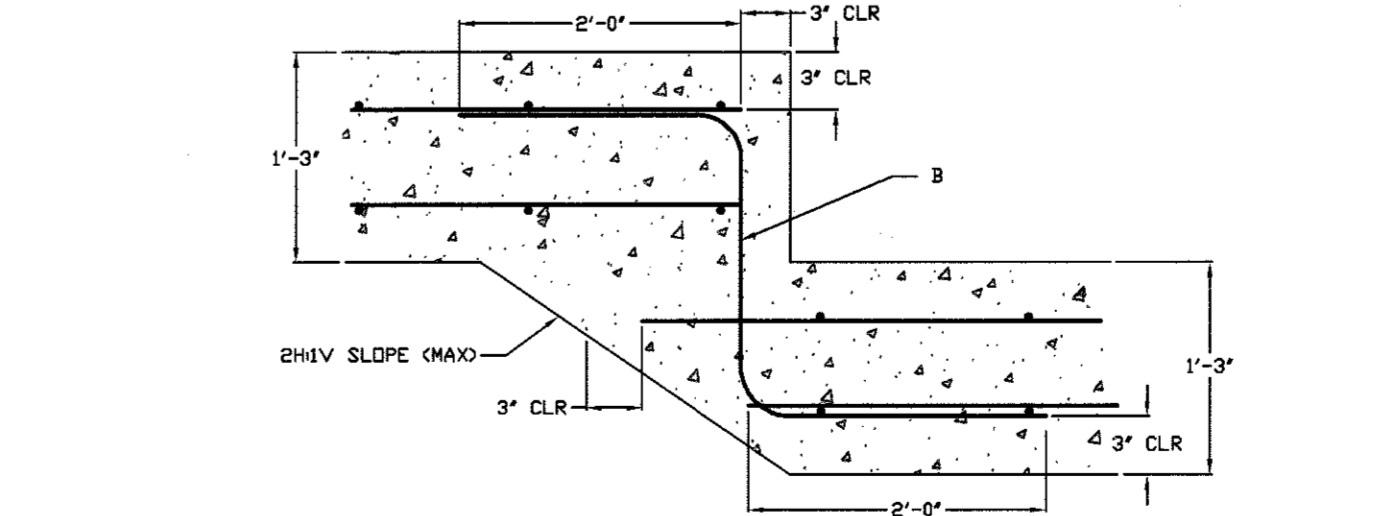


TYPICAL SECTION
START OF WALL TO STA 0+12.5
STA 0+39 TO END OF WALL

- Retaining Wall Specifications and Guidelines**
- Part 1: General**
- 1.01 Description
 A. Retaining walls must be constructed under the supervision of a Maryland Registered Professional Engineer.
 B. Work includes preparation of foundation soils, furnishing all materials, and installing all materials to the lines and grades shown on the construction drawings.
- 1.02 Codes and Standards
 A. International Building Code - 2009, International Code Council, Inc.
 B. ACI Manual of Concrete Practice - Parts 1 Through 5 - 2004
 C. Manual of Standard Practice - Concrete Steel Reinforcing Institute
 D. American Society For Testing and Materials
- 1.03 Damage, Storage, and Handling
 A. The Contractor shall check the materials upon delivery to assure that the proper materials have been received.
 B. The Contractor shall properly handle and store the materials to prevent damage to the materials. Damaged materials shall not be incorporated into the wall.
- 1.04 Quality Assurance
 A. The Owner shall engage a qualified testing agency to provide observation and testing services as described below.
 B. Concrete Placement:
 1. The agency shall inspect the formwork and reinforcing steel placement for compliance with the contract documents. Reinforcing steel should be inspected for correct size, quantity, and spacing.
 2. Fresh concrete shall be sampled in accordance with ASTM C 172, and tested for slump, air entrainment, and temperature.
 3. Test cylinders shall be molded in accordance with ASTM C 31. Four test cylinders shall be molded for each day's pour, or for every 50 cubic yards of concrete placed, whichever is greater.
 C. Fill Placement:
 1. All soil fills shall be tested in accordance with ASTM D 2922.
 2. A minimum of one convection test per lift should be made per 2,500 square feet of fill lift area, but not fewer than two tests per lift should be made.
 3. The elevations and locations of the field density tests should be clearly identified at the time of fill placement and compaction.
- Part 2: Materials**
- 2.01 Concrete
 A. Concrete shall conform to Virginia Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414.
 B. Concrete shall have a minimum 28-day compressive strength of 3,500 psi.
 C. Concrete shall have a Liquid Limit less than 40, and a Plasticity Index less than 15.
 D. Concrete shall have a minimum density of 145 pcf and a maximum water-to-cement ratio of 0.45.
- 2.02 Steel Reinforcement
 A. Steel reinforcing shall conform to ASTM A-615, Grade 60.
 B. Submit shop drawings at least 15 business days before date reviewed submittals will be needed. Shop drawings shall bear the contractor's stamp of approval which shall constitute that he has verified all field measurements, construction criteria, materials, and similar data, and has checked each drawing for completeness, coordination, and compliance with contract documents.
- 2.03 Soil Backfill
 A. Material should consist of soil classified as SM, SC, or more granular, in accordance with ASTM D 2487.
 B. Material should have no particle larger than 2.5 inches and shall contain at least 30 percent, by weight, retained on the U.S. No. 200 sieve.
 C. Material should have a Liquid Limit less than 40, and a Plasticity Index less than 15.
 D. Material should have a minimum friction angle of 33 degrees.
 E. The Contractor should submit samples of the proposed backfill soils to the Geotechnical Engineer of Record for approval prior to their use.
- 2.04 Drainage Board
 A. Drainage board used behind the walls shall consist of Miradrain 9900.
- Part 3: Construction**
- 3.01 General
 A. All existing underground utilities shall be properly marked, and relocated if necessary, prior to construction.
 B. All proposed underground utilities or structures in the general wall area shall be completely installed prior to the construction of the wall.
 C. Protect all existing and/or new structures from damage by construction equipment. Immediately repair any damage that may occur.
- 3.02 Foundation
 A. The wall foundation shall be excavated to the grades and lines as shown on the construction drawings. Contractor should take care not to disturb foundation soils beyond the lines and grades shown.
 B. The foundation shall bear at the minimum embedment depths indicated, as measured from the final grade at the front of the wall.
 C. The foundation subgrade soils shall be tested by a qualified representative of the Geotechnical Engineer to verify the availability of the design bearing pressure of 3,000 psf.
 D. If unsuitable soils are encountered at design foundation levels, the unsuitable soils shall be removed and the over-excavated areas shall be replaced with compacted structural fill.
- 3.03 Steel Reinforcement
 A. All steel reinforcing shall have a minimum clear cover of 2.5 inches unless otherwise noted on the contract documents.
 B. Where applicable, splices for reinforcing steel shall be made by contact tension lap splices.
 C. Welding and field-bending of reinforcing steel is not permitted.
 D. Furnish all accessories, chairs, space bars, supports, etc. necessary to secure reinforcing.
- 3.04 Cast-In-Place Concrete
 A. Footing Concrete:
 1. The vertical faces of the footing and key excavation may be used as forms for placement of foundation concrete.
 2. Foundation concrete, or protective mud mats, should be placed the same day that the foundation subgrade is approved.
 3. Provide concrete protection against freezing during placement and for 5 days thereafter.
 B. Wall Concrete:
 1. Furnish and erect concrete forms to the lines and grades shown on the construction drawings.
 2. Locate construction joints as to not impair the strength of the structure, but not more than 60 feet in any direction. Provide continuous bentonite strip waterstrip at all construction joints.
 3. Make stops in concrete pours using vertical bulkheads.
 4. All reinforcing shall be continuous through joints and bulkheads.
 5. Chamfer exposed concrete corners 3/4" by 3/4" minimum.
 6. Provide 4" diameter weep holes every 8 feet along the bottom of the wall and at wall ends. The weep holes should be formed in place prior to concrete placement by using PVC pipe. Weep hole locations must not interfere with steel reinforcing, and shall be no greater than 4 inches above final grade at the front of the wall.
 7. Where a fence is required, it is recommended that the fence posts be installed during wall concrete placement. The fence posts shall have a minimum of 24 inches of embedment into the wall, and be located along the center of the wall. Alternatively provide 4 inch diameter by 24 inch weep post holes at the designated fence post locations along the centerline of the wall. The post holes should be formed in place prior to concrete placement by using PVC pipe.
- 3.05 Backfilling
 A. All soil backfill shall conform to the material requirements of section 203.
 B. Backfill shall be moisture conditioned to within 2 percentage points of the optimum moisture content, as determined in accordance with ASTM D-698.
 C. Backfill shall be placed in loose lifts, not exceeding 8 inches in thickness, and then compacted to at least 95 percent of the maximum dry density, as determined in accordance with ASTM D-698.
 D. Backfilling shall not occur against the wall until the wall concrete has attained at least 75 percent of the 28-day design strength, and no earlier than 3 days after placement.
 E. Where feasible, maintain equal grades on each side of the wall during backfilling to prevent overturning and lateral movements. When the grade differential at the wall exceeds 12 inches, only hand-operated compaction equipment shall be allowed.
 F. Drainage boards shall be placed against the wall, extending from the weep hole up within 12 inches of final grade at the top of the wall.
- 3.06 Finish
 A. Final grades at the wall shall be established by the Contractor in the field.
 B. Final grades shall be stabilized and seeded per the approved civil plans unless noted otherwise on the site grading plans.
 C. Install a 4 ft fence at the top of the wall. If fence posts are installed subsequent to wall construction, the fence posts shall be grouted into the PVC post holes using 3,000 psi non-shrink grout.



CONSTRUCTION JOINT
NTS



FOOTING STEP
NTS

NO AS-BUILT INFORMATION THIS SHEET

OWNER
RED STONE LLP
P.O. BOX 416
ELICOTT CITY, MARYLAND 21041

NO.	REVISION	DATE

RETAINING WALL
SECTIONS & DETAILS

9521 BALTIMORE NATIONAL PIKE
PARCEL A
L375B/F.585 (PLAT 6749)
TAX MAP 24 GRID 4
2ND ELECTION DISTRICT

PARCEL 98
HOWARD COUNTY, MARYLAND

1340 CHARWOOD ROAD
SUITE A
HANOVER, MARYLAND 21076
PHONE: (410) 859-4300
FAX: (410) 859-4324

PROFESSIONAL CERTIFICATE

DESIGN BY: DMA
 DRAWN BY: DMA
 CHECKED BY: HMA
 DATE: NOV 2013
 SCALE: AS SHOWN
 W.O. NO: 4

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. 29553, EXPIRES 12/31/2015 5:11 PM

4 SHEET OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 5.9.14
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 5.08.14
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 1/14/14
DIRECTOR

AS-BUILT 10/21/15

WR-14-028