



GENERAL NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
2. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE, UNLESS ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED.
4. THIS PROJECT IS LOCATED IN "NT, R-ED, AND CEF-R" ZONES IN ACCORDANCE WITH THE 10/06/2013 COMPREHENSIVE ZONING PLAN AND "CEF-R" PER THE ZONING BOARD - DECISION AND ORDER FOR CASE ZB1104M, APPROVED ON APRIL 6, 2015 AND IS SUBJECT TOT HE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/02/2003 PER COUNCIL BILL 75-2003.
5. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.

IN ACCORDANCE WITH SECTION 16.116(c) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS A NECESSARY DISTURBANCE REQUEST WAS SUBMITTED TO HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING ON APRIL 4, 2025 AND APPROVED IN A LETTER DATED MAY 27, 2025. THIS NECESSARY DISTURBANCE ALLOWS MINOR DISTURBANCES TO THE 75' STREAM BUFFER FOR THE CONSTRUCTION OF THE STORM DRAIN OUTFALL. APPROVAL OF THE DESCRIBED NECESSARY DISTURBANCE IS SUBJECT TO THE FOLLOWING CONDITIONS AND MITIGATION METHODS:

1. THE IMPROVEMENTS SHALL ONLY DISTURB THE ENVIRONMENTAL AREAS AS STATED AND DELINEATED ON THE NECESSARY DISTURBANCE EXHIBIT AND SHOWN ON SDP-19-025. ANY DISTURBANCES TO ENVIRONMENTALLY REGULATED FEATURES BEYOND WHAT HAVE BEEN APPROVED ARE NOT PERMITTED UNLESS THE DEVELOPER SUBMITS A FORMAL REQUEST TO DPZ FOR SUCH DISTURBANCES IN ACCORDANCE WITH SECTION 16.116(c) OR AN ALTERNATIVE COMPLIANCE REQUEST.

6. -CONSTRUCTION OF THIS TRAIL IS NOT REQUIRED TO COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE, OR BUILDING AND GRADING PERMITS.
- A NATURAL SURFACE TRAIL AND ASSOCIATED BRIDGES ARE NOT A "STRUCTURE" AS DEFINED BY THE ZONING REGULATIONS.

7. THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON PLATS 23334-23337, RECORDED MAY 2015 BY DORRIS & RITCHIE ASSOCIATES, INC. THE BOUNDARY HAS BEEN VERIFIED BY VOGEL ENGINEERING+TIMMONS GROUP, AUGUST 2016.
8. THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON F-18-041 PREPARED BY VOGEL ENGINEERING + TIMMONS GROUP APPROVED ON MARCH 21, 2019 AND MAY 2024.

9. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS BM 35HA AND BM 35HB WERE USED FOR THIS PROJECT.
10. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

11. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- WATER IS PUBLIC. (THERE IS NO PROPOSED WATER SERVICE FOR THIS PROJECT)
- SEWER IS PUBLIC. (THERE IS NO PROPOSED WATER SERVICE FOR THIS PROJECT)

12. THERE ARE NO EXISTING DWELLINGS/STRUCTURES LOCATED ON THIS SITE.
13. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS PROPERTY OR THE COUNTY'S CEMETERY SITE MAP.

14. EXISTING UTILITIES ARE BASED ON PLANS OF THE CEDAR CREEK SUBDIVISION (A.K.A. SIMPSON OAKS) AS PREPARED BY VOGEL ENGINEERING + TIMMONS GROUP FROM ROAD CONSTRUCTION PLANS (F-18-041) AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
15. ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.

16. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING
- AT&T 1-800-252-1133
- BGE (CONSTRUCTION SERVICES) 410-637-8713
- BGE (EMERGENCY) 410-686-0123
- BUREAU OF UTILITIES 410-313-4900
- COLONIAL PIPELINE CO 410-795-1390
- MISS UTILITY 1-800-257-7777
- STATE HIGHWAY ADMINISTRATION 410-531-5533
- VERIZON 1-800-743-0033

17. -WETLANDS AND STREAMS SHOWN FOR THE PROJECT ARE BASED ON THE DELINEATION BY GEO-TECHNOLOGY ASSOCIATES, INC. DATED MAY 31, 2013 AND FEBRUARY 2016 AND APPROVED AUGUST 23, 2016.
- ECO-SCIENCE PROFESSIONALS, INC. PROVIDED A FIELD REVIEW AND ASSESSMENT OF THE PROPOSED CEDAR CREEK TRAIL ALIGNMENT, DATED NOVEMBER 2024, TO ASSESS THE PROPOSED ALIGNMENT FOR WETLANDS, STREAMS, AND SPECIEM TREES.

18. FOREST CONSERVATION IS ADDRESSED PER THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY FOREST CONSERVATION MANUAL.
- TRAILS AND PAVED PATHWAYS ARE PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT WITHOUT MITIGATION IF THEY MEET THE REQUIREMENTS OF SECTION 4.2.4 OF THE FOREST CONSERVATION MANUAL:

- A. THIS PLAN IMPACTS TAX MAP 35 - PARCEL 145 CEDAR CREEK OPEN SPACE LOT 140, PLATS 25254-25269. THE CEDAR CREEK PROJECT FOREST CONSERVATION OBLIGATIONS HAVE BEEN FULFILLED UNDER F-18-041. A PORTION OF THE TRAIL ON OPEN SPACE LOT 140 IS LOCATED OUTSIDE A FOREST CONSERVATION EASEMENT. NO MITIGATION REQUIRED.
- B. "TAX MAP 35 - PARCEL 412 IS EXEMPT FROM THE FOREST CONSERVATION ACT BECAUSE IT IS IN A PLANNED UNIT DEVELOPMENT WHICH HAS PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 500K OR MORE OF THE LAND IS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992. PLEASE NOTE, THIS EXEMPT WAS REMOVED WITH CB-89-2021; HOWEVER A TRAIL SYSTEM FOR PARCEL 412 WAS APPROVED ON A PRELIMINARY PLAN PRIOR TO REMOVAL OF THE EXEMPTION (CB-89-2021); THEREFORE, PARCEL 412 IS GRANDFATHERED TO THE REGULATIONS IN EFFECT WHEN THE PRELIMINARY PLAN WAS SIGNED."

- C. TAX MAP 35 - PARCEL 347 - THE HOWARD COUNTY MARYLAND, DEPARTMENT OF RECREATION AND PARKS LIBER 748 FOLIO 507.
- NO FOREST CONSERVATION IS REQUIRED FOR PARCEL 347. WE ARE NOT REMOVING ANY QUALITATIVE TREES AND A PATHWAY IS PERMITTED IN A FEE.
- EVERY EFFORT SHALL BE MADE TO CONSTRUCT THE TRAIL IN ACCORDANCE WITH SECTION 4.2.4 OF THE FOREST CONSERVATION MANUAL.

- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

19. -PARCEL 145, OPEN SPACE LOT 40 -FOREST STAND DELINEATION REPORT DATED MAY 29, 2015 AND FEBRUARY 2016 WAS PREPARED BY GEO-TECHNOLOGY ASSOCIATES, INC. AND APPROVED AUGUST 23, 2016. FOREST CONSERVATION WAS ADDRESSED WITH F-18-041.

- PARCEL 412 IS EXEMPT FROM FOREST CONSERVATION AND DOES NOT REQUIRE A FSD.

- PARCEL 347 - FOREST STAND DELINEATION REPORT DATED NOVEMBER 5, 2024 WAS PREPARED BY GEO-SCIENCE PROFESSIONALS INC.
20. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.

21. THE ENVIRONMENTAL CONCEPT PLAN (ECP-15-080) WAS APPROVED PER LETTER DATED AUGUST 23, 2016
22. A PRELIMINARY PLAN (P-17-002) WAS APPROVED ON SEPTEMBER 13, 2017.

23. A FINAL PLAN (F-18-041) WAS APPROVED ON MARCH 21, 2019.
24. THE GEOTECHNICAL AND ESD TEST PIT REPORTS WERE PREPARED BY GEO-TECHNOLOGY ASSOCIATES, INC. FEBRUARY 2015 AND JANUARY 2017 RESPECTIVELY.

25. SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY HOWARD COUNTY, MARYLAND - CLARKSVILLE NE MAP #17.
26. FLOODPLAINS ARE LOCATED ONSITE. THE FLOODPLAIN SHOWN ON THE SUBJECT PROPERTY (MIDDLE PATUXENT RIVER) IS PER HOWARD COUNTY DFIRM. THE ONSITE FLOODPLAINS ALONG THE VILLAGE OF RIVER HILL AINM W.R. GRACE PROPERTY BOUNDARIES WERE DELINEATED BASED ON A REPORT PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED MAY 2017 AND APPROVED ON OCTOBER 5, 2017.

27. STEEP SLOPES OVER 20.000 SF CONTIGUOUS ARE SHOWN HEREON.
28. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. THE LANDSCAPE OBLIGATION FOR THIS PROJECT IS SATISFIED BY THE RETENTION OF EXISTING VEGETATION. SEE SHEETS 14-15.

29. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-20-008, ON SEPTEMBER 4, 2019, THE PLANNING DIRECTOR APPROVED THE REQUEST FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.156(g)(2). APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
- THE DEVELOPER SHALL SUBMIT ANY REQUESTED ADDITIONAL INFORMATION AND A REVISED PLAN THAT ADDRESSES ALL COMMENTS FOUND IN PROJECT DOX TO THE DEPARTMENT OF PLANNING AND ZONING AS INDICATED WITHIN THE DPZ LETTER DATED JUNE 27, 2019, WITHIN 60 DAYS OF THIS LETTER (ON OR BEFORE NOVEMBER 3, 2019).

30. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-20-044, ON NOVEMBER 15, 2019, THE PLANNING DIRECTOR APPROVED THE REQUEST FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.156(g)(2). APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
- THE DEVELOPER SHALL SUBMIT ANY REQUESTED ADDITIONAL INFORMATION AND REVISED PLAN THAT ADDRESSES ALL COMMENTS FOUND IN PROJECT DOX TO THE DEPARTMENT OF PLANNING AND ZONING AS INDICATED WITHIN THE DPZ LETTER DATED JUNE 27, 2019, WITHIN 60 DAYS OF THIS LETTER (ON OR BEFORE JANUARY 14, 2020).

31. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-20-094, ON APRIL 21, 2020, THE PLANNING DIRECTOR APPROVED THE REQUEST FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.156(g)(2). APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPER SHALL SUBMIT ADDITIONAL INFORMATION AND A REVISED SITE DEVELOPMENT PLAN TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 60 DAYS OF ALTERNATIVE COMPLIANCE APPROVAL (ON OR BEFORE JUNE 20, 2020).

32. THE CEDAR CREEK PROJECT (F-18-041) IS ZONED "CEF-R" PER ZONING BOARD DECISION AND ORDER FOR CASE ZB1104M, APPROVED ON APRIL 6, 2015 AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- HOWARD COUNTY ZONING BOARD CASE ZB-1104-M, APPROVED ON APRIL 6, 2015, CONTAINED THE FOLLOWING CONDITIONS OF APPROVAL:

- A. THE ZONING BOARD FULLY SUPPORTING THIS COMMUNITY BEING ANNEXED INTO THE VILLAGE OF RIVER HILL WANTS TO ENSURE THAT THE ACCESSORY USE PROVISIONS APPLICABLE TO THIS DEVELOPMENT BE THE SAME AS THOSE APPLICABLE TO RIVER HILL IF THE PROPERTY IS TO BE ANNEXED, OR SUBSTANTIALLY SIMILAR TO R-SC TYPE DEVELOPMENT. THE PROPERTY IS NOT ANNEXED, THEREFORE, THE BOARD APPROVED FOR THIS DEVELOPMENT IF IT IS ANNEXED INTO THE VILLAGE OF RIVER HILL THE ACCESSORY USE PROVISIONS APPLICABLE TO RIVER HILL. WHETHER THEY BE ANY SPECIFIC ACCESSORY USE PROVISIONS IN THE RECORDED FINAL DEVELOPMENT PLAN FOR THE SECTION OF RIVER HILL ADJOINING THE SUBJECT PROPERTY, OR THE ACCESSORY USE PROVISIONS OF SECTION 11.00 (R-SC DISTRICT), OR ANY COMBINATION THEREOF; THE BOARD ALTERNATIVELY APPROVES FOR THIS DEVELOPMENT IF IT IS NOT ANNEXED INTO THE VILLAGE OF RIVER HILL, THE PROPOSED ACCESSORY USE PROVISIONS ORIGINALLY PROPOSED IN PETITIONER'S BOOKLET (PETITIONER'S EXHIBIT 2A'S ACCESSORY USE PROVISIONS WITH THE DELETIONS FOR SECTIONS B.5, 6, AND 8, REMOVED).

- B. THE PETITIONER SHALL PROVIDE ON THE SUBSEQUENT SITE DEVELOPMENT PLAN FOR THE SUBJECT PROPERTY'S DEVELOPMENT PROPOSED ADDITIONAL SCREENING AS NECESSARY ON FIREHST LOTS 3, 12, 15, 24, 27, 35, 38, AND 45 TO ENSURE APPROPRIATE VARD SEPARATION.
- C. THE PETITIONER SHALL PROVIDE ON THE SUBSEQUENT SITE DEVELOPMENT PLAN FOR THE SUBJECT PROPERTY'S DEVELOPMENT A CONNECTION BETWEEN THE NEIGHBORHOOD TRAIL AND THE CUL-DE-SAC BETWEEN LOTS 25 AND 26 SIMILAR TO THAT PROVIDED BETWEEN LOTS 13 AND 14 AND LOTS 36 AND 37 AS SHOWN ON THE CONCEPT PLAN.

- * ITEMS B & C ABOVE ARE NO LONGER APPLICABLE DUE TO THE SITE CHANGES ASSOCIATED WITH A SECOND HEARING.
- IN ACCORDANCE WITH SECTION 12.10, THE HOWARD COUNTY ZONING BOARD HELD A SECOND HEARING FOR A DETERMINATION OF MINOR MODIFICATION (CASE ZB-1104-M) ON NOVEMBER 10, 2016 THE HOWARD COUNTY ZONING BOARD APPROVED THE REQUEST AND DETERMINED:

- S-15-007 PROPOSES MINOR MODIFICATIONS TO THE APPROVED DEVELOPMENT CONCEPT PLAN IN THIS MATTER IN ACCORDANCE WITH ZONING REGULATION SEC. 121.0.1.
- S-15-007, AS APPROVED, SHALL CONSTITUTE THE NEW DEVELOPMENT CONCEPT PLAN IN THIS CASE.
- THE PETITIONER IS NOT REQUIRED TO COMMANE A NEW CEF APPLICATION FOLLOWING THE SAME PROCEDURES USED FOR A PETITION TO CREATE A NEW CEF DISTRICT; AND
- SECTION C.2 OF THE BULK REGULATIONS IN THIS CASE IS APPROVED TO BE AMENDED FROM SPECIFYING A 105' SETBACK FOR "BUILDING/USE" TO A 105' SETBACK FOR "PRINCIPAL STRUCTURE".

33. THE GROUNDWATER USE RESTRICTION AREA SHOWN HEREON IS DESCRIBED IN A TITLE NOTICE DATED APRIL 7, 2008 AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN LIBER 11163 FOLIO 568. THE TITLE NOTICE DECLARES THAT THE AREA IS SUBJECT TO RESOURCE CONSERVATION AND RECOVERY CORRECTIVE ACTION PERMIT AND THE PROHIBITION AGAINST THE DEVELOPMENT OF ONSITE WELLS FOR DRINKING WATER OR OTHER DOMESTIC USES.
- ADDITIONAL OPEN SPACE FOR "CEDAR CREEK" PROJECT IS BEING PROVIDED ON THE VILLAGE OF HICKORY RIDGE - SECTION 3 AREA 14, PARCEL A - PARCEL A PLAT MDR NO. 13640.

- PARCEL A SHALL BE DEDICATED TO HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS BY W.R. GRACE.
- PARCEL 'A' IS KNOWN AS TAX MAP 35, PARCEL 412. PARCEL 412 (PARCEL 'A') CONTAINING 31.39 ACRES OF OPEN SPACE.
- HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS SHALL BE THE OWNER AND RESPONSIBLE FOR ALL MAINTENANCE OF THE NATURAL SURFACE TRAIL SHOWN HEREIN.

35. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-21-147, ON AUGUST 27, 2021, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, CONSIDERED AND APPROVED YOUR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTIONS 16.156(L)(M) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO REQUEST A 6-MONTH EXTENSION TO PAY ALL REQUIRED FEES, EXECUTE DEVELOPER'S AGREEMENTS, AND SUBMIT THE SITE DEVELOPMENT PLAN PLANS TO THE DEPARTMENT OF PLANNING AND ZONING FOR SDP-19-025. APPROVAL OF THIS ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPER MUST COMPLETE THE DEVELOPER'S AGREEMENTS, PAY FEES, POST FINANCIAL OBLIGATIONS AND SUBMIT THE SITE DEVELOPMENT PLAN ORIGINAL TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 180-DAYS OF THE DATE OF THIS ALTERNATIVE COMPLIANCE APPROVAL LETTER (ON OR BEFORE OCTOBER 7, 2023).

36. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-23-083, ON MARCH 31, 2023 AND PURSUANT TO SECTION 16.104, THE ACTING DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, CONSIDERED AND APPROVED YOUR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTIONS 16.156(L)(M) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO EXTEND THE DEADLINE DATE TO COMPLETE THE DEVELOPER'S AGREEMENTS, PAY FEES, POST FINANCIAL OBLIGATIONS, AND SUBMIT THE SITE DEVELOPMENT PLAN ORIGINALS TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 180-DAYS OF THE DATE OF THIS ALTERNATIVE COMPLIANCE APPROVAL LETTER (ON OR BEFORE OCTOBER 7, 2023).

37. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-24-036, ON OCTOBER 19, 2023 AND PURSUANT TO SECTION 16.104, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, CONSIDERED AND APPROVED YOUR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTIONS 16.156(L)(M) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO EXTEND THE DEADLINE DATE TO COMPLETE THE DEVELOPER'S AGREEMENTS, PAY FEES, POST FINANCIAL OBLIGATIONS, AND SUBMIT THE SITE DEVELOPMENT PLAN ORIGINALS TO THE DEPARTMENT OF PLANNING AND ZONING, APPROVAL OF THIS ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPER MUST COMPLETE THE DEVELOPER'S AGREEMENTS, PAY FEES, POST FINANCIAL OBLIGATIONS AND SUBMIT THE SITE DEVELOPMENT PLAN ORIGINALS TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 180-DAYS OF THE ORIGINAL MILESTONE DATE (ON OR BEFORE OCTOBER 13, 2024).

39. THE DEVELOPER MUST COMPLETE THE DEVELOPER'S AGREEMENTS, PAY FEES, POST FINANCIAL OBLIGATIONS AND SUBMIT THE SITE DEVELOPMENT PLAN ORIGINALS TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 180-DAYS OF THE DATE OF THIS ALTERNATIVE COMPLIANCE APPROVAL LETTER (ON OR BEFORE APRIL 16, 2024).
40. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-25-081, ON FEBRUARY 28, 2025, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, CONSIDERED AND APPROVED THE REQUEST FOR AN ALTERNATIVE, COMPLIANCE OF SECTION 16.156(g)(2) FOR 45-DAY EXTENSION TO SUBMIT THE SITE DEVELOPMENT PLAN FOR REVIEW. APPROVAL OF THIS ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING CONDITIONS:

1. THE DEVELOPER MUST RESUBMIT THE SITE DEVELOPMENT PLAN (SDP-19-025) TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 45-DAYS OF THE FEBRUARY 10, 2025 DEADLINE DATE (ON OR BEFORE MARCH 27, 2025). INDICATE THIS ALTERNATIVE COMPLIANCE EXTENSION FILE NUMBER, REASON, SECTION OF THE REGULATIONS, ACTION, CONDITIONS OF APPROVAL, AND DATE ON ALL RELATED PLATS, SITE DEVELOPMENT PLANS, AND BUILDING PERMITS. THE REQUESTED ALTERNATIVE COMPLIANCE WILL REMAIN VALID FOR THE TIME PERIOD SPECIFIED IN THE CONDITIONS OF APPROVAL.
41. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-26-030, ON SEPTEMBER 18, 2025, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING CONSIDERED AND APPROVED THE REQUEST FOR AN ALTERNATIVE, COMPLIANCE OF SECTION 16.156(g)(2) TO REACTIVE SDP-19-025 AND REWIVE A 30-DAY EXTENSION TO RESUBMIT THE SITE DEVELOPMENT PLAN FOR REVIEW.

42. THE TRAIL SHALL BE LOCATED WITHIN THE TRAIL (HAND DIG OR MINIMAL EQUIPMENT USED) AND WILL MEANDER AROUND THE EXISTING TREES. NO TREES GREATER THAN 2" WILL BE REMOVED.
43. IN ACCORDANCE WITH SECTION 107.6.1 OF THE HOWARD COUNTY ZONING REGULATIONS FOR PARCEL 347 WITHIN ZONE -ED; THIS PLAN WAS APPROVED BY THE HOWARD COUNTY PLANNING BOARD ON 20.

44. ON MAY 27, 2025 THE PLANNING DIRECTOR APPROVED THE REQUESTS FOR ESSENTIAL OR NECESSARY STREAM BANK, STREAM BUFFER, STEEP SLOPE AND WETLAND BUFFER DISTURBANCES ASSOCIATED WITH THE CEDAR CREEK TRAIL PROJECT. THE DECISION WAS MADE BASED ON THE FOLLOWING:
- THE DETAILED JUSTIFICATION PROVIDED BY VOGEL ENGINEERING+TIMMONS GROUP IN A LETTER DATED APRIL 4, 2025, BASED ON THIS JUSTIFICATION, THERE ARE 13 LOCATIONS OF DISTURBANCE NEEDED TO CONSTRUCT THE TRAIL. THE ALIGNMENT OF THE TRAIL WAS ESTABLISHED BY A SITE WALK ATTENDED BY HOWARD COUNTY STAFF, THE DEPARTMENT OF RECREATION AND PARKS TRAIL CONSULTANT, AND THE DEVELOPER. CONSIDERATIONS INCLUDE RETENTION OF EXISTING VEGETATION, MINIMIZING PATHWAY SLOPES AND AVOIDANCE OF ENVIRONMENTAL IMPACTS.
 - THE DISTURBANCE IS THE MINIMUM NECESSARY TO CONSTRUCT THE TRAIL AND WILL EMPLOY BEST MANAGEMENT PRACTICES FOR WORK CONDUCTED IN THE ENVIRONMENTAL AREAS. THOSE DISTURBED AREAS SHALL BE RETURNED AS CLOSELY AS POSSIBLE TO ITS ORIGINAL NATURAL STATE AFTER DISTURBANCE.
 - THE DEVELOPMENT ENGINEERING DIVISION HAS REVIEWED THE REQUEST AND AGREES THAT THE DISTURBANCE IS JUSTIFIED.

- APPROVAL OF THE ABOVE DESCRIBED ESSENTIAL OR NECESSARY DISTURBANCE IS SUBJECT TO THE FOLLOWING CONDITIONS AND MITIGATION METHODS:
1. THE IMPROVEMENTS SHALL ONLY DISTURB THE ENVIRONMENTAL AREAS AS STATED AND DELINEATED ON THE NECESSARY DISTURBANCE EXHIBIT AND SHOWN ON SDP-19-025. ANY DISTURBANCES TO ENVIRONMENTALLY REGULATED FEATURES BEYOND WHAT HAVE BEEN APPROVED ARE NOT PERMITTED UNLESS THE DEVELOPER SUBMITS A FORMAL REQUEST TO DPZ FOR SUCH DISTURBANCES IN ACCORDANCE WITH SECTION 16.116(c) OR AN ALTERNATIVE COMPLIANCE REQUEST.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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DIRECTOR DATE

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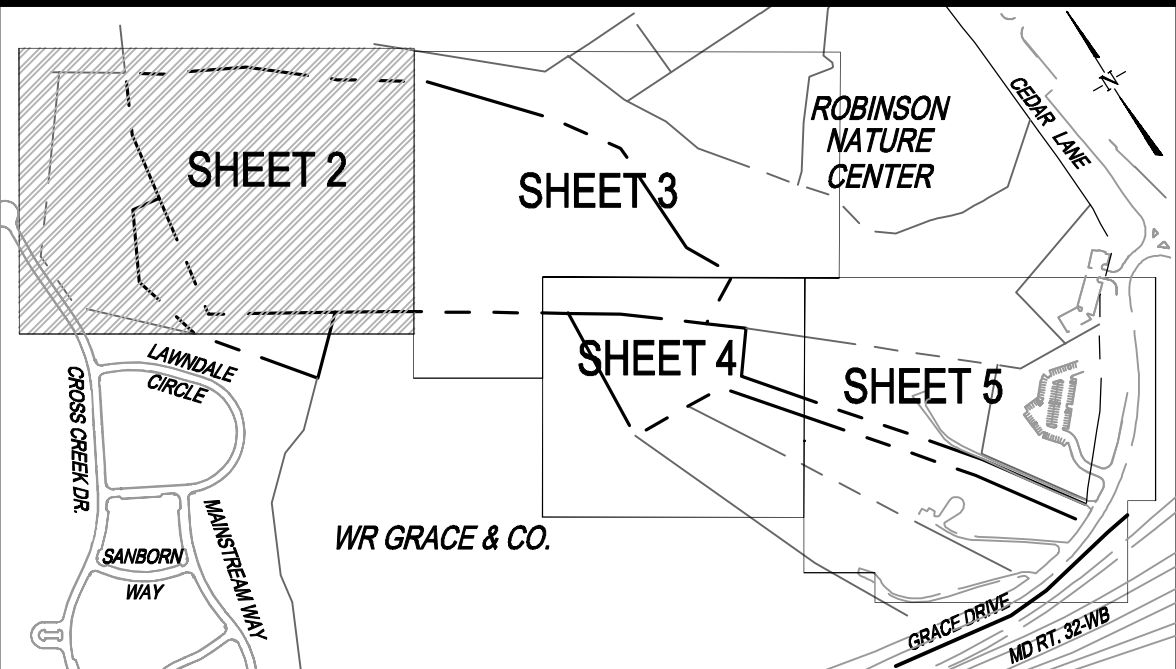
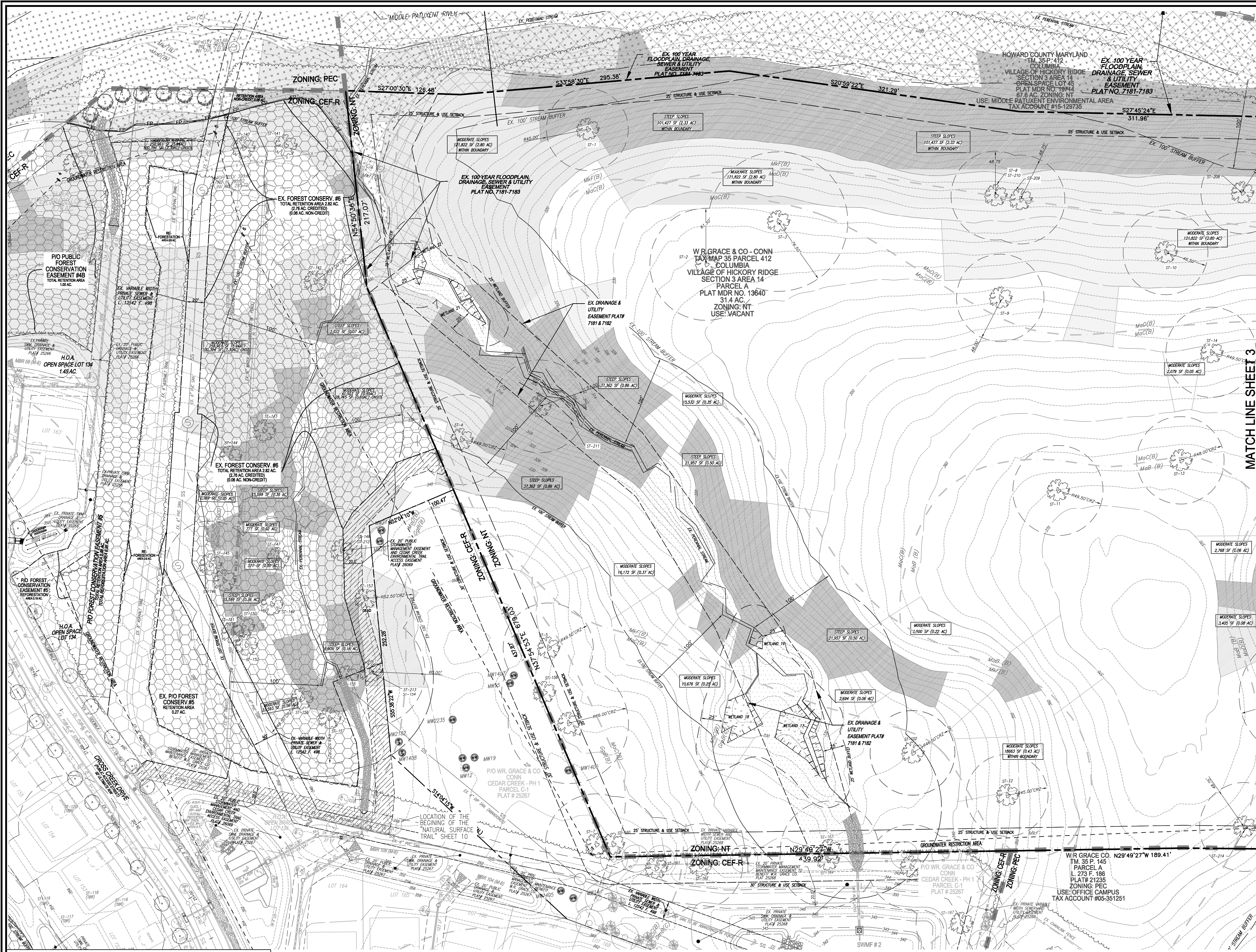
DIRECTOR DATE

CHIEF, DIVSION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

CHIEF, DIVSION OF LAND DEVELOPMENT DATE

DIRECTOR DATE



KEY MAP
NOT TO SCALE

LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING SPECIMEN TREES
- EXISTING TREELINE (FIELD LOCATED)
- 100' STREAM BUFFER
- EXISTING STREAM
- 25' WETLAND BUFFER
- WETLANDS
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- ZONING LINE
- EXISTING SIDEWALK
- MODERATE SLOPES (15% - 24.99%)
- STEEP SLOPE (>25%)
- PUBLIC 100 YR FLOODPLAIN
- EXISTING DRAINAGE AND UTILITY EASEMENT PLAT#7181-7182
- EXISTING FOREST CONSERVATION EASEMENT (RETENTION)
- EXISTING FOREST CONSERVATION EASEMENT (REFORESTATION)
- EX. 100 YEAR FLOODPLAIN, DRAINAGE, SEWER & UTILITY EASEMENT PLAT#7181-7183
- EX. 20' PUBLIC STORMWATER MANAGEMENT EASEMENT AND CEDAR CREEK ENVIRONMENTAL TRAIL ACCESS EASEMENT PLAT# 25269

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
EXISTING FEATURES &
NATURAL RESOURCES
**CEDAR CREEK
NATURAL SURFACE TRAIL**

TAX MAP 35 GRID 16,21,22 ZONED: NT, R-ED & CEF-R P.412, P.347 & P/O PARCEL 145 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



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DRAWN BY: VE + TG
CHECKED BY: RHV
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SCALE: AS SHOWN
W.O. NO.: 15-55

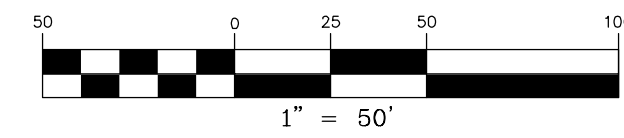
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME, AND
THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2028

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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

PLAN

SCALE: 1"=50'



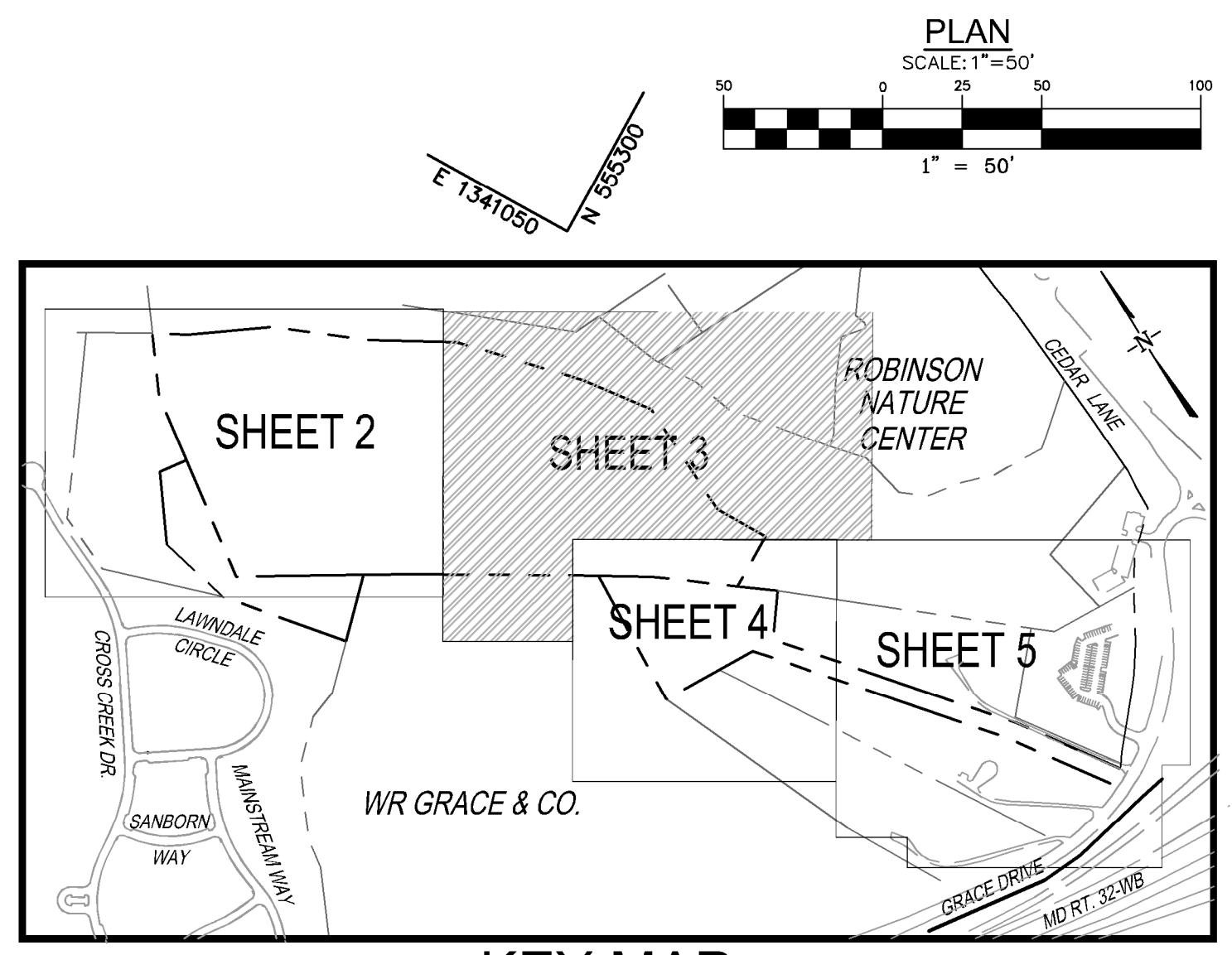
OWNER-PARCEL 347 OWNER-PARCEL 145(O.S.140) OWNER-PARCEL 412 (P.A.) DEVELOPER
HOWARD COUNTY, MARYLAND CEDAR CREEK W.R. GRACE & CO. - CONN SIMPSON OAKS CRP3, LLC
DEPT OF RECREATION AND PARKS HOMEOWNERS ASSOCIATION, INC. 5400 GRACE DRIVE 4750 OWINGS MILLS BOULEVARD
3400 COURT HOUSE DRIVE 4750 OWINGS MILLS BLVD. COLUMBIA, MARYLAND 21044 OWINGS MILLS, MARYLAND 21117
COLUMBIA, MARYLAND 21043 OWINGS MILLS, MARYLAND 21117 410-356-9900 410-356-9900



- LEGEND:**
- EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
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 - PUBLIC 100 YR FLOODPLAIN
 - EXISTING DRAINAGE AND UTILITY EASEMENT PLAT#7181-7182
 - EXISTING FOREST CONSERVATION EASEMENT (RETENTION)
 - EX. 100 YEAR FLOODPLAIN, DRAINAGE SEWER & UTILITY EASEMENT PLAT#7181-7183

MATCHLINE SHEET 2

MATCH LINE SHEET 4



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

OWNER-PARCEL 347 OWNER-PARCEL 145(O.S.140) OWNER-PARCEL 412 (P.A.) DEVELOPER

HOWARD COUNTY, MARYLAND CEDAR CREEK SIMPSON OAKS CRP3, LLC

DEPT OF RECREATION AND PARKS HOMEOWNERS ASSOCIATION, INC. 7500 GRACE DRIVE

3430 COURT HOUSE DRIVE COLUMBIA, MARYLAND 21044 OWINGS MILLS, MARYLAND 21117

COLUMBIA, MARYLAND 21045 OWINGS MILLS, MARYLAND 21117 410-356-9900 410-356-9900

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
EXISTING FEATURES &
NATURAL RESOURCES
CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16.21,22 ZONED: NT, R-ED & CEF-R P.412, P.347 & P/O PARCEL 145 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

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P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

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DATE: FEBRUARY 2024
SCALE: AS SHOWN
W.D. NO.: 15-55

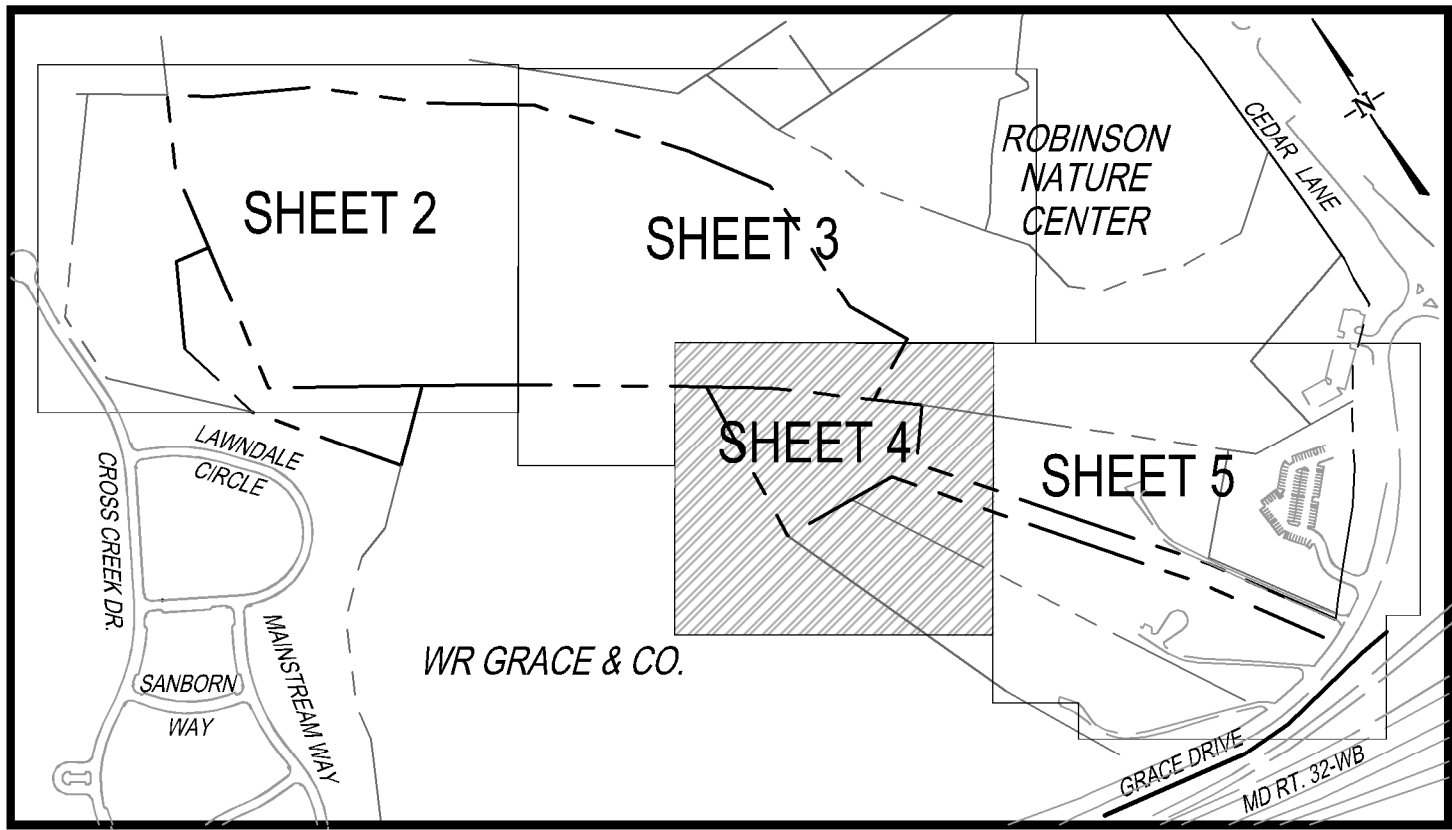
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2028

ROBERT H. VOGEL, PE No.16193

3 SHEET OF 20

MATCH LINE SHEET 3

MATCH LINE SHEET 5



KEY MAP
NOT TO SCALE

- LEGEND:**
- EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
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 - EXISTING SIGN
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 - ZONING LINE
 - EXISTING SIDEWALK
 - MODERATE SLOPES (15% - 24.99%)
 - STEEP SLOPE (>25%)
 - PUBLIC 100 YR FLOODPLAIN
 - EXISTING DRAINAGE AND UTILITY EASEMENT PLAT#7161-7162
 - EXISTING FOREST CONSERVATION EASEMENT (RETENTION)
 - EX. 100 YEAR FLOODPLAIN, DRAINAGE, SEWER & UTILITY EASEMENT PLAT#7161-7163

OWNER-PARCEL 347 OWNER-PARCEL 145(O.S.140) OWNER-PARCEL 412(P.A.) DEVELOPER
HOWARD COUNTY, MARYLAND CEDAR CREEK WR GRACE & CO - CONN SIMPSON OWENS CORP'S, LLC
DEPT OF RECREATION AND PARKS 7500 GRACE DRIVE 4750 OWINGS MILLS BOULEVARD
5430 COURT HOUSE DRIVE COLUMBIA, MARYLAND 21044 OWINGS MILLS, MARYLAND 21117
COLUMBIA, MARYLAND 21043 OWINGS MILLS, MARYLAND 21117 410-356-9900

NO. REVISION DATE

SITE DEVELOPMENT PLAN
EXISTING FEATURES &
NATURAL RESOURCES
CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16.21.22 --- ZONED: NT, R-ED & CEF-R --- P.412, P.347 & P/O PARCEL 145
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

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CHECKED BY: RHY
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SCALE: AS SHOWN
W.O. NO.: 15-55

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EXPIRATION DATE: 09-27-2026

4 SHEET OF 20

ROBERT H. VOGEL, PE No.16193

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17									
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	HYDRIC INCLUSIONS	K FACTOR	PAVE. FARMLAND	PAVE. FARMLAND	PAVE. FARMLAND	PAVE. FARMLAND
BaA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	YES	YES	0.37	NO	YES	YES	YES
Co	COGOLUS & HARBOR SILT LOAM, 0-3% SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	YES	YES	YES
GpB	GLENCLO LOM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO	NO
GpB	GLENCLO-URBAN LOM COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO	NO
GmB	GLENCLO SILT LOAM, 3 TO 8 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES	YES
GmC	GLENCLO SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES	YES
GmB	GLENCLO-URBAN LOM-DOOPENS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES	YES	YES
MoB	MANOR LOM, 3-8% SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MgC	MANOR LOM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO	NO
MoD	MANOR LOM, 15-25% SLOPES	B	NO	NO	0.28	NO	YES	YES	YES
MkF	MANOR-BRINKLOW COMPLEX, 25-65% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	YES	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

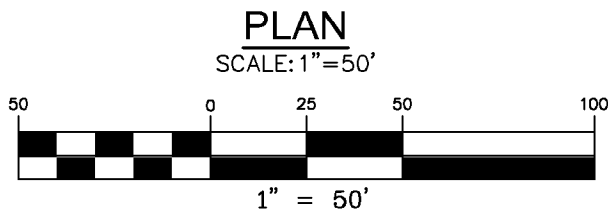
1. SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY.
CONSULTED ON DECEMBER 20, 2014. AVAILABLE ON LINE AT: <http://websoilsurvey.nrcs.usda.gov/AHP/home.page.nhp>.
2. HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST. AT: <http://soils.usda.gov/soils/hydric/>.
CONSULTED ON DECEMBER 20, 2014.

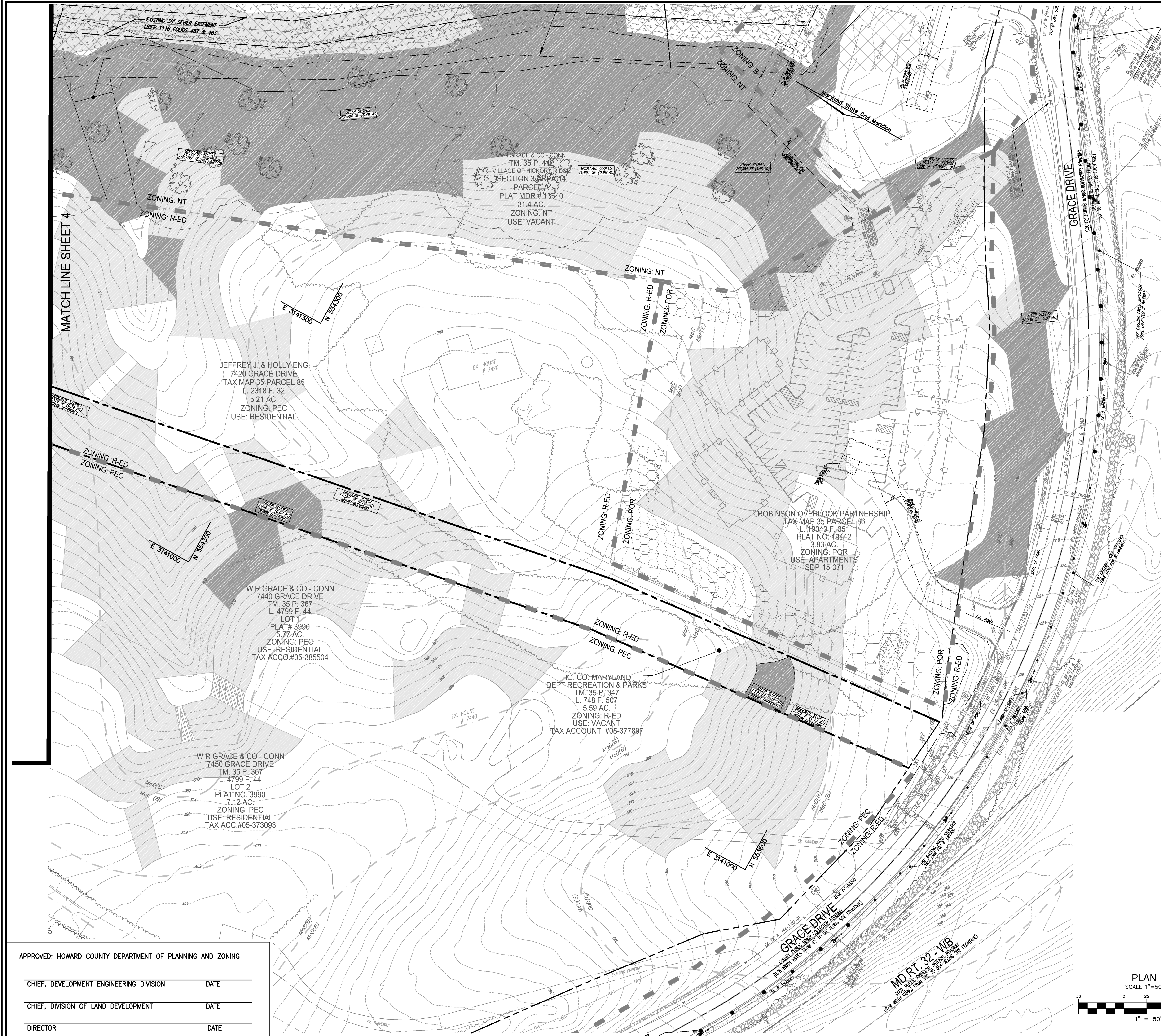
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

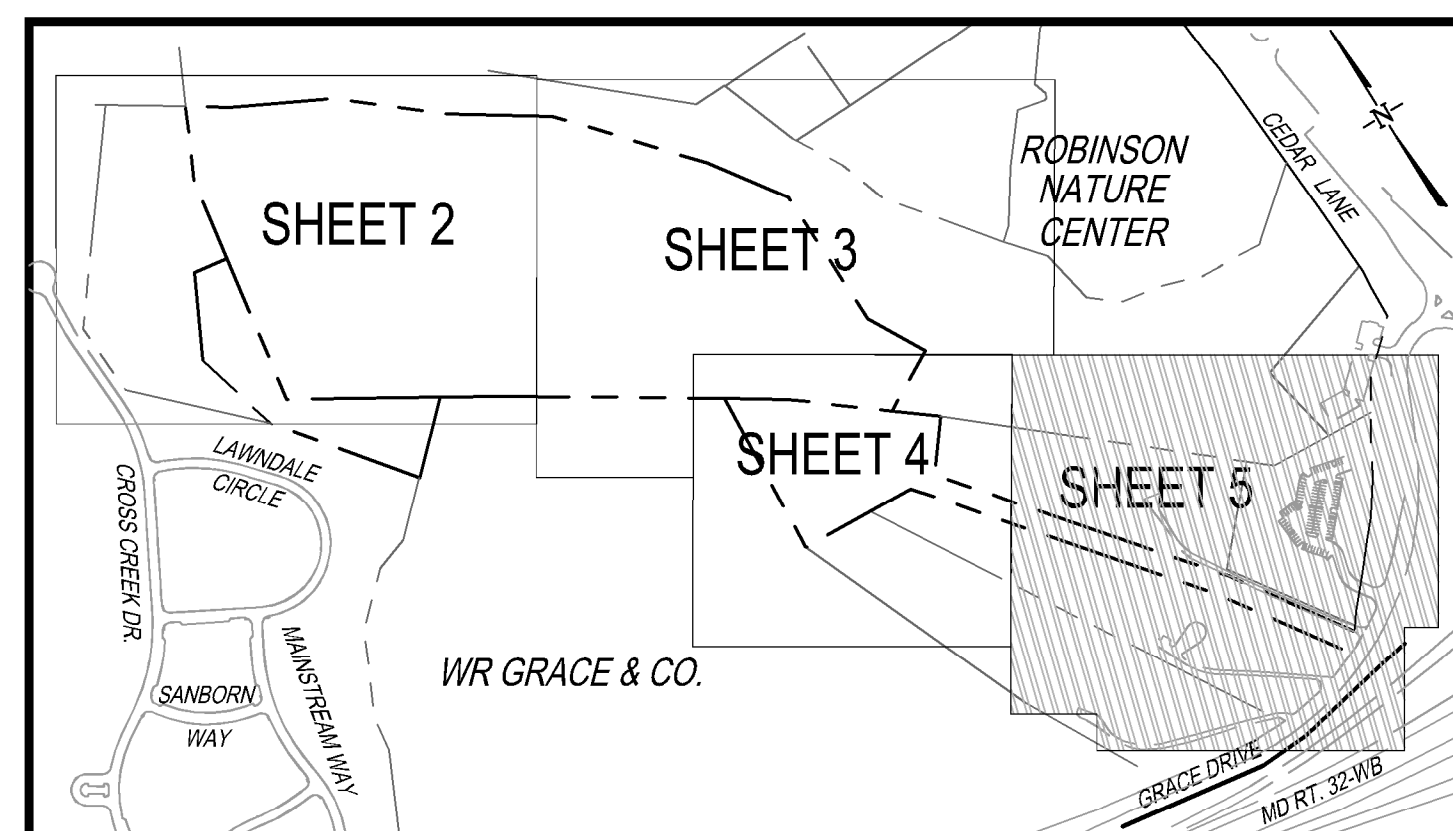
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE





- LEGEND:**
- EXISTING CONTOUR
 - EXISTING SPOT ELEVATION
 - EXISTING CURB AND GUTTER
 - EXISTING UTILITY POLE
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 - EXISTING MAILBOX
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 - STEEP SLOPE (>25%)
 - PUBLIC 100 YR FLOODPLAIN
 - EXISTING DRAINAGE AND UTILITY EASEMENT PLAT#17181-7182
 - EXISTING FOREST CONSERVATION EASEMENT (RETENTION)
 - EX. 100 YEAR FLOODPLAIN, DRAINAGE SEWER & UTILITY EASEMENT PLAT#17181-7183



KEY MAP
NOT TO SCALE

OWNER-PARCEL 347 CEDAR CREEK, HOWARD COUNTY, MARYLAND
OWNER-PARCEL 145(O.S.140) CEDAR CREEK, HOWARD COUNTY, MARYLAND
OWNER-PARCEL 412(P.A.) CEDAR CREEK, HOWARD COUNTY, MARYLAND
DEVELOPER SIMPSON OAKS CRP3, LLC, 4750 OWINGS MILLS BOULEVARD, COLUMBIA, MARYLAND 21043

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
EXISTING FEATURES & NATURAL RESOURCES
CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16.21.22 ZONED: NT, R-ED & CEF-R P.412, P.347 & P/O PARCEL 145 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

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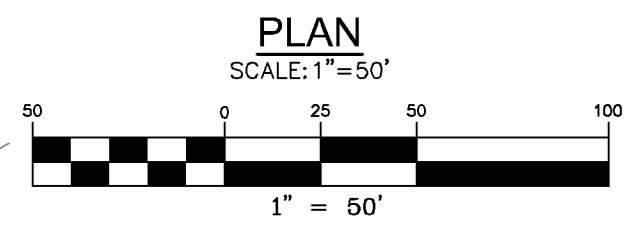


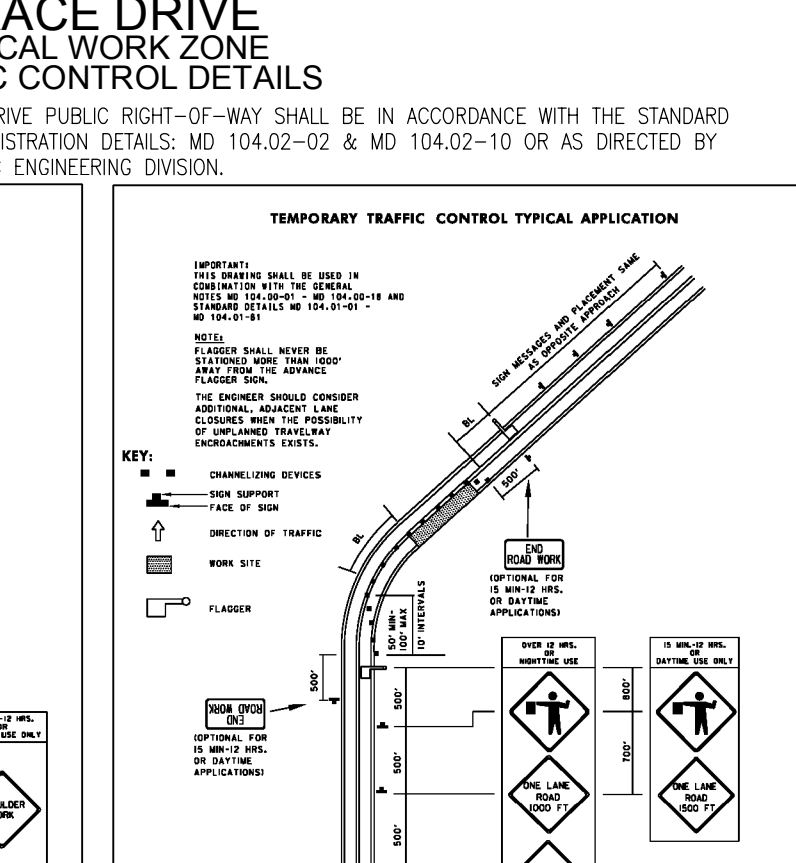
DESIGN BY: VE + TG
DRAWN BY: VE + TG
CHECKED BY: RHV
DATE: FEBRUARY 2024
SCALE: AS SHOWN
W.D. NO.: 15-55

PROFESSIONAL CERTIFICATE
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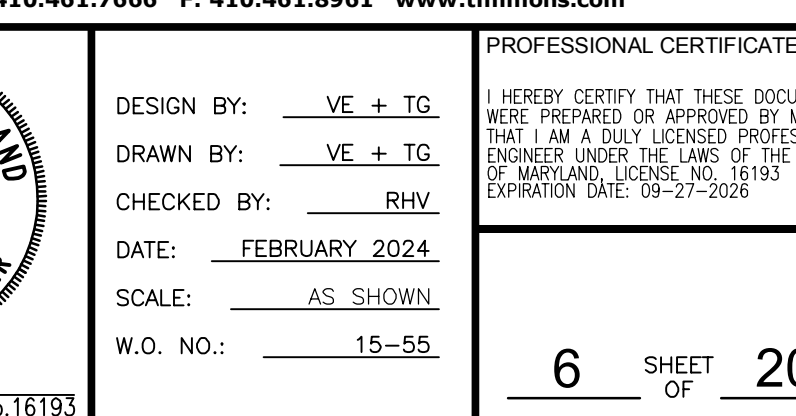
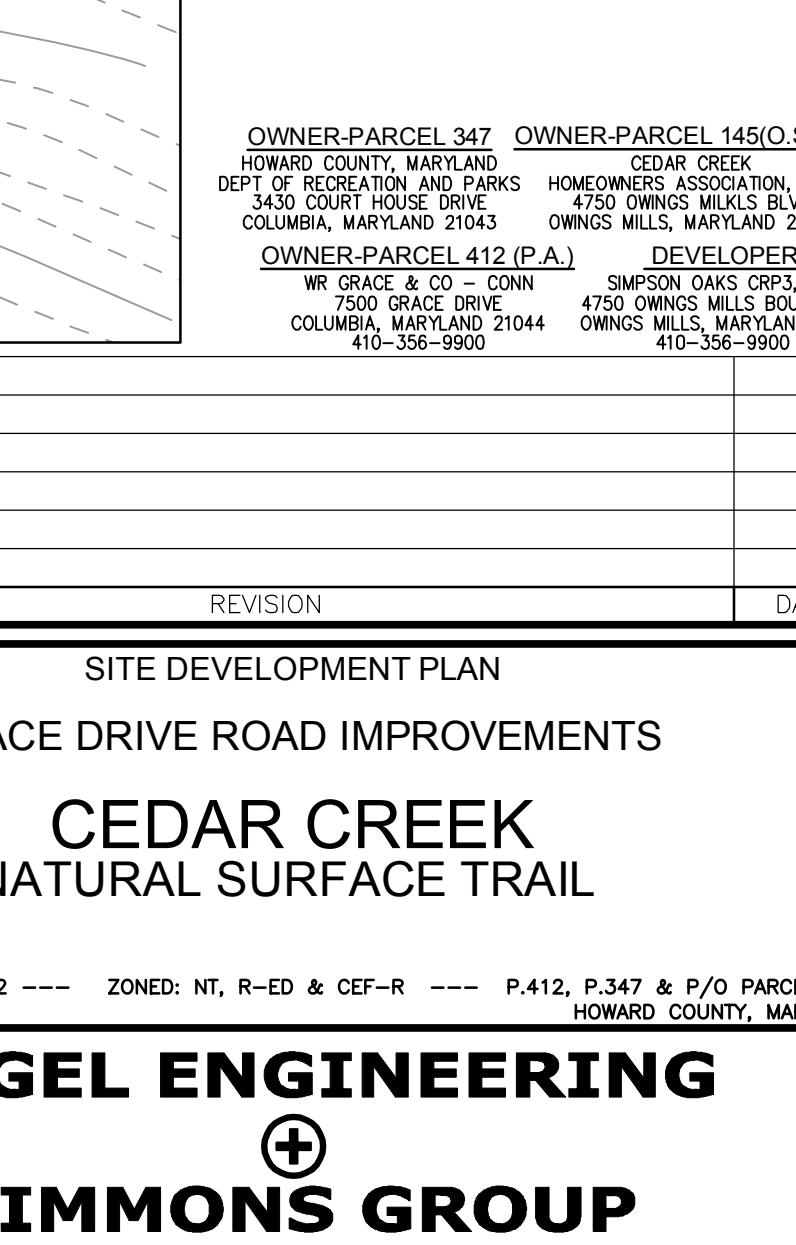
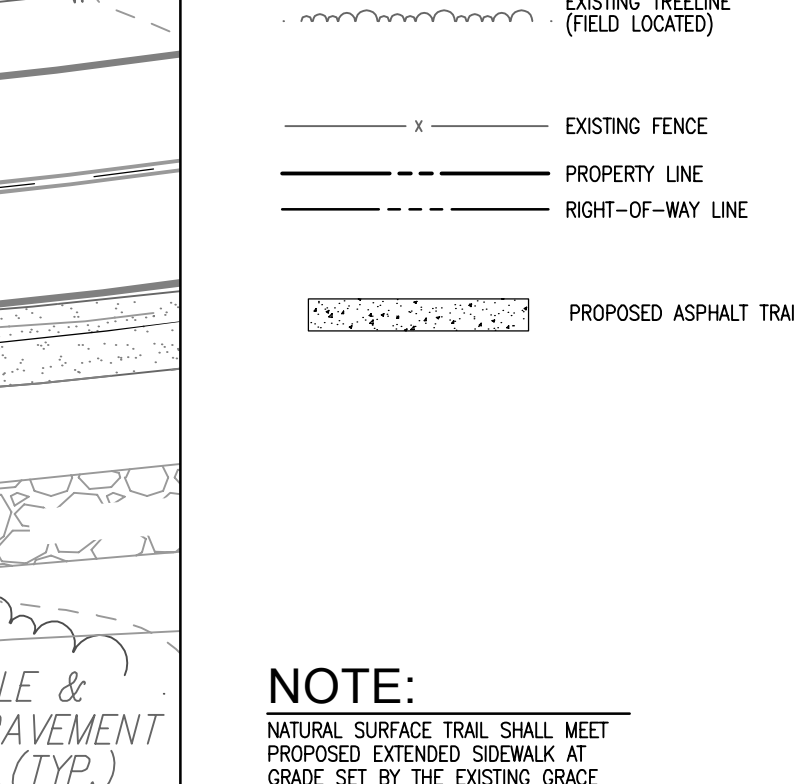
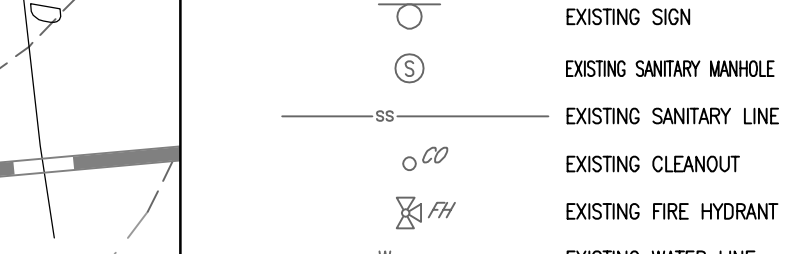
5 SHEET OF 20

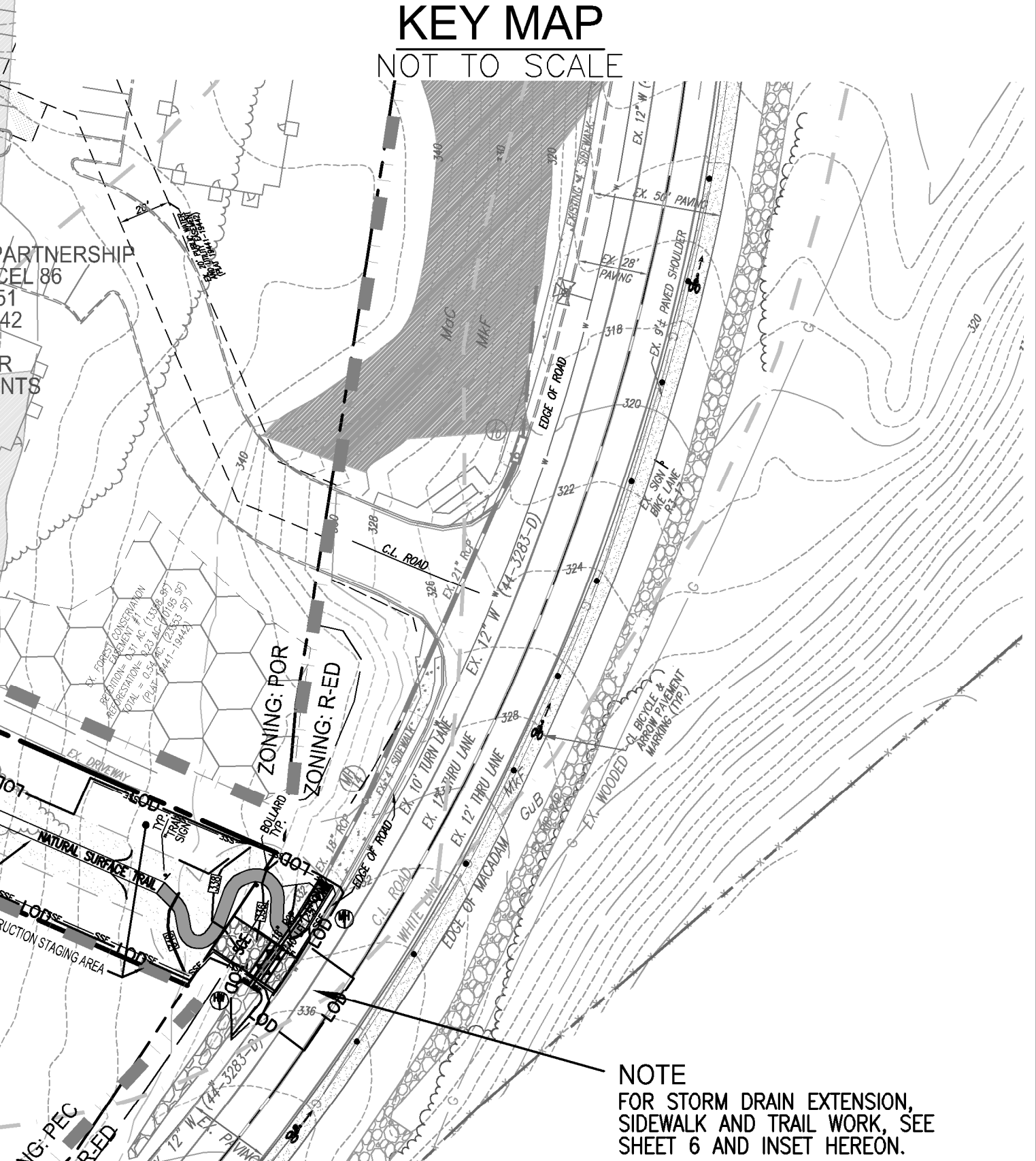
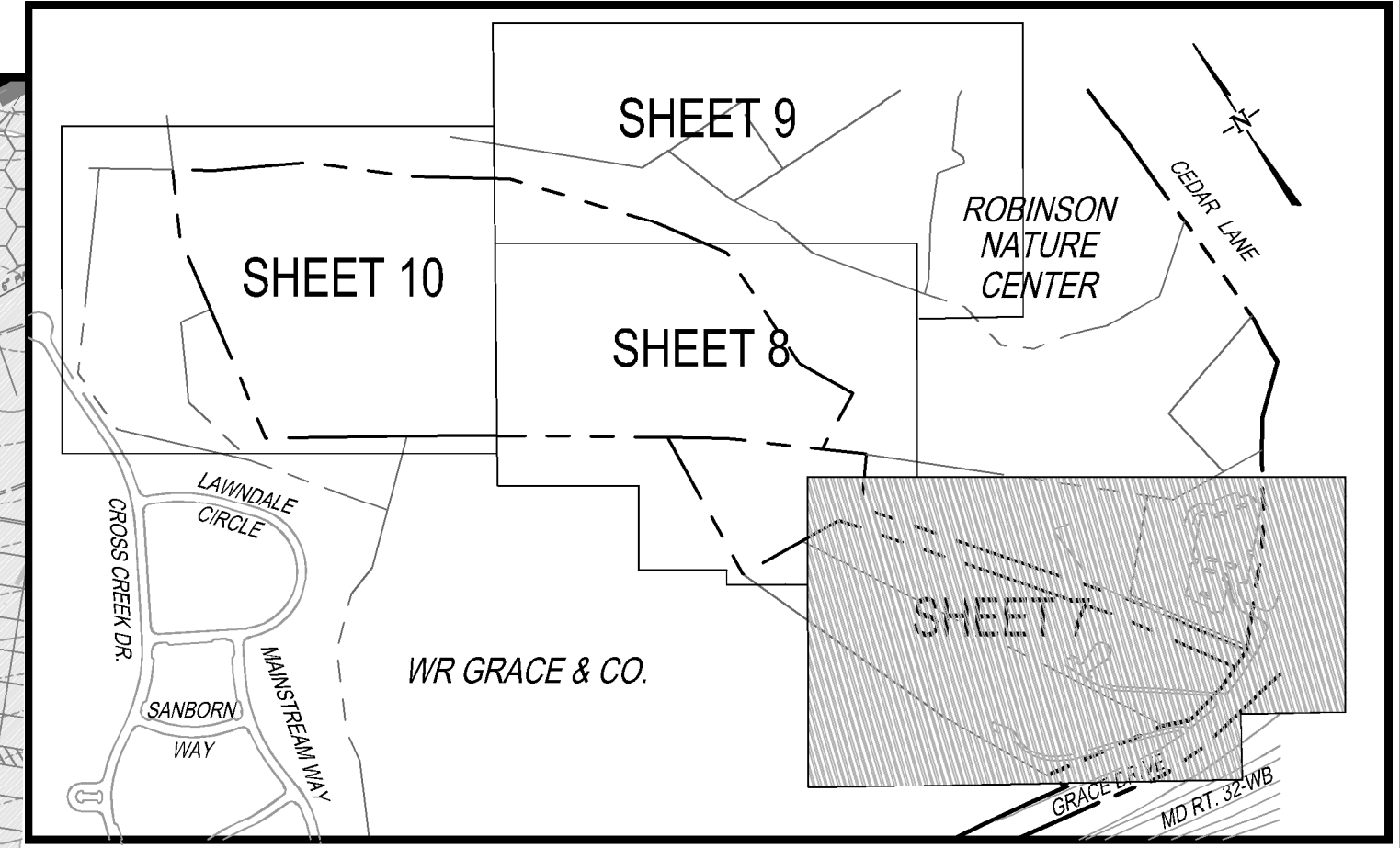
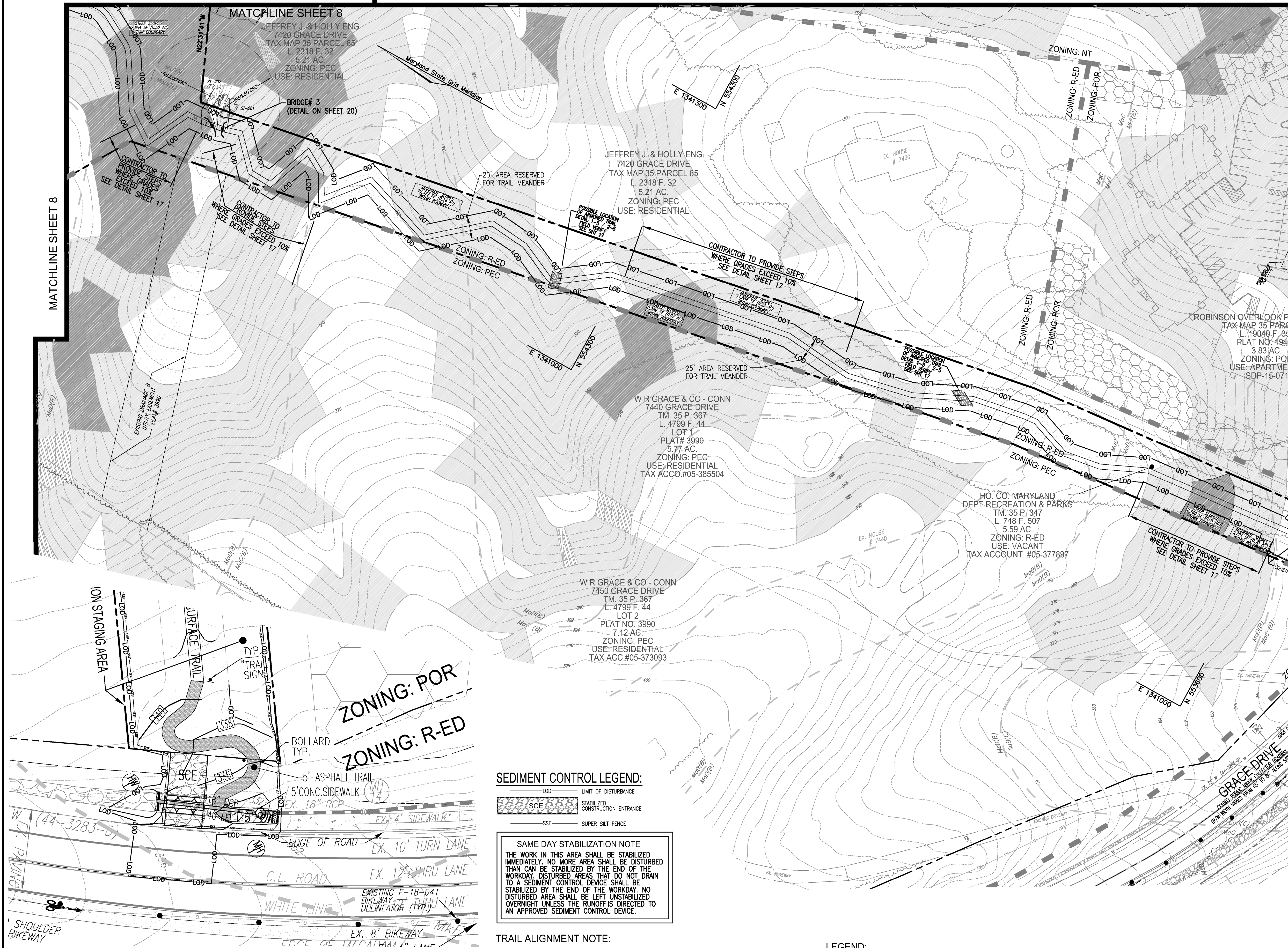
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
DIRECTOR DATE





SECTION LOCATION DATE BY	PROJECT NO. _____ CONTRACT CODE _____ SHEET NO. 154	
	APPROVED: _____ DATE: _____ 	
104.02	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND ACCESSIAL STRUCTURES FLAGGING OPERATIONS-LANE 3-WAY EQUALS LESS THAN 40 MPH STANDARD NO. _____ MD 104.02-1	





OWNER/DEVELOPER CERTIFICATION:	
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.	
OWNER/DEVELOPER SIGNATURE	DATE
PRINTED NAME & TITLE	

DESIGNER CERTIFICATION:	
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT I WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	
DESIGNER'S SIGNATURE	DATE
ROBERT H. VOGEL	MD REGISTRATION NO. 16193
PRINTED NAME	PE, R.L.S., OR R.L.A. (circle one)
HOWARD S.C.D.	DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	
HOWARD S.C.D.	DATE

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
GRADING AND SOIL EROSION &
SEDIMENT CONTROL PLAN
CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16.21.22 ZONED: NT, R-ED & CEF-R P.412, P.347 & P/O PARCEL 145
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
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7 SHEET OF 20

STATE OF MARYLAND
ROBERT H. VOGEL
PE No. 16193
PROFESSIONAL ENGINEER

GRADING AND SOIL EROSION &
SEDIMENT CONTROL PLAN - INSET

SCALE 1"=20'

10' 0' 20'

SEDIMENT CONTROL LEGEND:

- LOD LIMIT OF DISTURBANCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- SSF SUPER SILT FENCE

SAME DAY STABILIZATION NOTE

THE WORK IN THIS AREA SHALL BE STABILIZED IMMEDIATELY. NO MORE AREA SHALL BE DISTURBED THAN CAN BE STABILIZED BY THE END OF THE WORKDAY. DISTURBED AREAS THAT DO NOT DRAIN TO A SEDIMENT CONTROL DEVICE SHALL BE STABILIZED BY THE END OF THE WORKDAY. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFFS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.

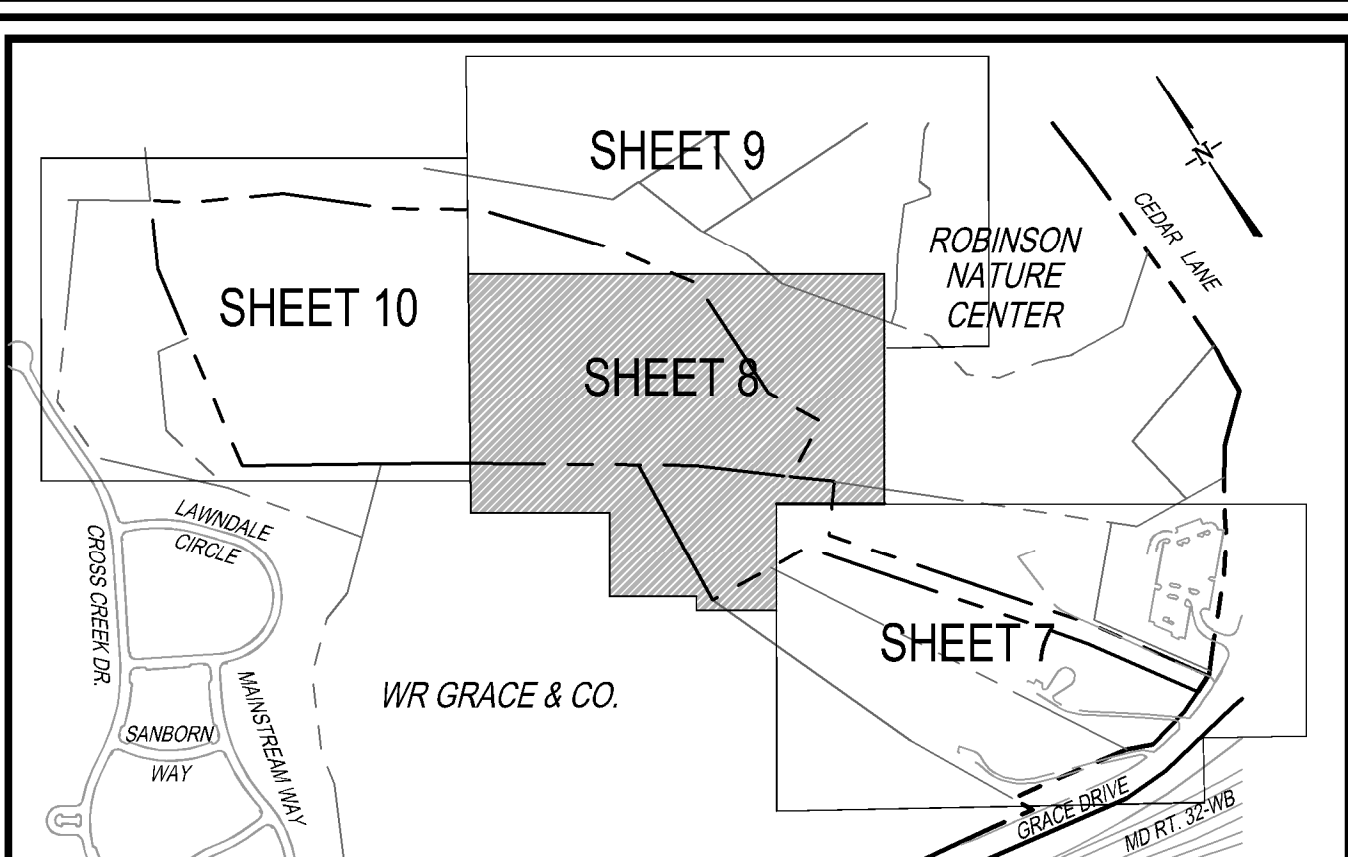
TRAIL ALIGNMENT NOTE:

THE TRAIL ALIGNMENT SHOWN HEREON IS AN AGREED UPON ALIGNMENT BY HOWARD COUNTY, GREENSTONE TRAILCRAFT, AND THE DEVELOPER AS THE BEST POSSIBLE ALIGNMENT. A 25' MEANDER ZONE IS REPRESENTED HEREON FOR THE ALLOWANCE OF ANY REQUIRED FIELD ADJUSTMENTS.

THE TRAIL CONTRACTOR SHALL SCHEDULE REGULAR MEETINGS WITH HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS REPRESENTATIVES DURING CONSTRUCTION OF THE TRAIL TO REVIEW THE FINAL TRAIL ALIGNMENT, SLOPE, AND STAIR LOCATIONS WITHIN THE CORRIDOR SHOWN.

LEGEND:

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
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- MODERATE SLOPES (10% - 24.99%)
- STEEP SLOPE (25%+)
- EXISTING DRAINAGE AND UTILITY EASEMENT PLAT#7181-7182
- EXISTING FOREST CONSERVATION EASEMENT (RETENTION)
- 25' AREA RESERVED FOR TRAIL MEANDER
- 5' ASPHALT TRAIL HOWARD COUNTY RIGHT-OF-WAY
- 5' CONCRETE WALK HOWARD COUNTY RIGHT-OF-WAY



TRAIL ALIGNMENT NOTE:
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<u>OWNER-PARCEL 347</u>	<u>OWNER-PARCEL 145(O.S.140)</u>	<u>OWNER-PARCEL 412 (P.A.)</u>	<u>DEVELOPER</u>
HOWARD COUNTY, MARYLAND DEPT OF RECREATION AND PARKS 3430 COURT HOUSE DRIVE COLUMBIA, MARYLAND 21043	CEDAR CREEK HOMEOWNERS ASSOCIATION, INC. 4750 OWINGS MILLS BLVD OWINGS MILLS, MARYLAND 21117	WR GRACE & CO - CONN 7500 GRACE DRIVE COLUMBIA, MARYLAND 21044 410-356-9900	SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900

NO.	REVISION	DATE
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SITE DEVELOPMENT PLAN
GRADING AND SOIL EROSION &
SEDIMENT CONTROL PLAN
CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16,21,22 ---- ZONED: NT, R-ED & CEF-R ---- P.412, P.347 & P/O PARCEL 14
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TTMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
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DESIGN BY: VE + TG

DRAWN BY: VE + TG

CHECKED BY: RHV

DATE: FEBRUARY 2024

SCALE: AS SHOWN

W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE

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. 16193
EXPIRATION DATE: 09-27-2026

8 SHEET 20
OF

HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 430-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
- PRIOR TO THE START OF EARTH DISTURBANCE.
 - AFTER COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
 - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
 - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS WITHIN APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND RESOURCES THEREIN.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-3), TEMPORARY SEEDING (SEC. B-4-4), AND MULCHING (SEC. B-4-5). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN, INCORPORATED, OR STABILIZED (SEC. B-4-4) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >1% OF SLOPE AND/OR FILL STOCKPILES (SEC. B-4-4-8) IN EXCESS OF 20 FT. MUST BE BONDED WITH STABLE OUTLET, ALL CONCENTRATED FLOWS, AND SLOPES, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION TREATMENT (SEC. B-4-6). ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

5. SITE ANALYSIS:
- TOTAL AREA OF SITE: 42.54 ACRES
AREA TO BE DISTURBED: 4.78 ACRES
AREA TO BE REVEGETED OR PAVED: 3.76 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 3.25 ACRES
TOTAL CUT: 0.00 CU YDS. TOTAL
TOTAL FILL: 0.00 CU YDS. TOTAL
OFFSITE WASTE/BORROW AREA LOCATION: SEP-19-025
6. PROJECT ASSUMES MINIMUM 1% SLOPE / FILL
- (1) REFER TO ITEM 11 BELOW

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAINFALL REPORT BY THE CONTRACTOR. INSPECTIONS MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
- INSPECTION DATE
 - INSPECTION TYPE (ROUTINE, PRE-STOREM EVENT, DURING RAIN EVENT)
 - NAME AND TITLE OF INSPECTOR
 - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
 - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
 - EVIDENCE OF SEDIMENT DISCHARGES
 - IDENTIFICATION OF PLANT DEFICIENCIES
 - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
 - IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
 - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
 - PHOTOGRAPHS
 - MONITORING/SAMPLING
 - MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
 - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE (3) PILE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE CID PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HCSO-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM AREA OF 20 AC. FOR GRADING UNIT) AT A TIME, WHILE MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASH-OUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBERGATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPWARD BY 2' IN ELEVATION.
15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):
- USE 1 AND 10: MARCH 1 - JUNE 15
 - USE 10 AND 10: OCTOBER 1 - APRIL 30
 - USE 10: MARCH 1 - MAY 31
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

REV. 8/2015

B-4-4 STANDARDS AND SPECIFICATIONS
STOCKPILE AREA

DEFINITION
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE
TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES
STOCKPILES ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. THE FOOTPRINT OF THE STOCKPILE MUST BE SEED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL, AND BASED ON A SOIL SLOPE RATIO NO STEEPER THAN 2:1. SEEDING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3-3 LAND GRADING.
2. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
3. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
4. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY THE USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SLOPE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
5. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
6. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
7. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LEAN SHOULD BE PROVIDED BELOW THE STOCKPILE AREA TO PREVENT THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, SEDIMENTS MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3-3 LAND GRADING.

MAINTENANCE
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4-1 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF WEEDS. THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, SEDIMENTS MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3-3 LAND GRADING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

B-4-5 STANDARDS AND SPECIFICATIONS
FOR
PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- A. SOIL MIXTURES
1. GENERAL USE:
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FLOWN ON TABLE 8.2 (ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHOEBELNS, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
 - FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
 - FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES
- A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE (ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHOEBELNS, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
 - FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
 - FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

3. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
- WESTERN MD, MARCH 15 TO JUNE 1, AUGUST 10 TO OCTOBER 15 (HARDNESS ZONES: 5B, 6A)
 - CENTRAL MD, MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)
 - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)

4. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL THE SURFACE IMMEDIATELY PRIOR TO LAYING THE SEED. REMOVE STONES AND DEBRIS OVER 1/4 INCHES IN DIAMETER. THE RESULTING SEEDING MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL NOT BE DIFFICULT.
5. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEEDED SEEDS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FULLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ANOMALY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

6. SOO: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
1. GENERAL SPECIFICATIONS
- A. CLASS OF TURFGRASS MUST BE MARYLAND STATE CERTIFIED. SOIL SAMPLES MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
- B. SOO MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS .01 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND HATCH, BROKEN PEGS AND TOM OR UNCLE JOHN ENDS WILL NOT BE ACCEPTABLE.
- C. STANDARD SEED SECTIONS OF SOO MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
- D. SOO MUST NOT BE HARVESTED OR TRANSPORTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- E. SOO MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOO NOT TRANSPORTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOO INSTALLATION
- A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, SPENT BRIGADE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOO.
- B. LAY THE FIRST ROW OF SOO IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOO IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRAIN DRYING OF THE ROOTS.
- C. WHEREVER POSSIBLE, LAY SOO WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOO TO PREVENT UPLIFTE ON SLOPES. ENSURE SOO CONTACT EXISTS BETWEEN SOO ROOTS AND THE UNDERLYING SOIL SURFACE.
- D. WATER THE SOO IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOO PAD AND SOIL SURFACE BELOW THE SOO ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRIGATING FOR ANY PEGCE OF SOO WITHIN EIGHT HOURS.

3. SOO MAINTENANCE
- A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER MUST DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOO DURING THE HEAVY RAINFALL PERIODS. WATER SOO DURING THE HEAVY RAINFALL PERIODS. WATER SOO DURING THE HEAVY RAINFALL PERIODS.
- B. AFTER THE FIRST WEEK, NO WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- C. DO NOT MOW UNTIL THE SOO IS FIRMLY ROOTED, NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ O ₅	K ₂ O	LIME RATE
9	COOL SEASON ANNUAL GRASSES OR PERENNIALS	1.1-1.6 LB / AC K.B. 40 LB / AC OR EQUAL	MAR 1 TO MAY 15 AUG 15 TO OCT 15	1/4"-1/2" IN	45 LB/AC (10 LB PER 1000 SF)	90 LB/AC (20 LB PER 1000 SF)	90 LB/AC (20 LB PER 1000 SF)	2 TONS/AC (50 LB PER 1000 SF)
4	WARM/COOL SEASON GRASS MIX	DT 15 LB / AC CRF 20 LB / AC	MAR 1 TO MAY 15 JUNE 15 TO OCT 15	1/4"-1/2" IN	45 LB/AC (10 LB PER 1000 SF)	90 LB/AC (20 LB PER 1000 SF)	90 LB/AC (20 LB PER 1000 SF)	2 TONS/AC (50 LB PER 1000 SF)

FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B-26 - B-32

R-4-2 STANDARDS AND SPECIFICATIONS
FOR
SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
- A. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CIRCULAR PLOW, OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSEND, IT MUST NOT BE ROLLED OR DISKED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
- A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
- SOIL PH BETWEEN 6.0 AND 7.0.
 - SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE IN A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 - PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - SOIL CONTAINS 15 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE PLANS. APPROXIMATE 10 TO 20 POUNDS PER 1000 SQUARE FEET. ONCE A MINIMUM OF 3 PERCENT TOTAL BLUESH GRASSES CULTIVARS WITH EACH RANGING FROM 10 TO 15 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - KENTUCKY BLUESH GRASSES/FINE FESCUE: SHADE MIXTURE; FOR USE IN AREAS WITH SHADE IN BLUESH GRASSES. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUESH GRASSES CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.
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B-4.1 STANDARDS AND SPECIFICATIONS

FOR

INCREMENTAL STABILIZATION

Definition

Establishment of vegetative cover on cut and fill slopes.

Purposes

To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions When Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

Criteria

A. Incremental Stabilization - Cut Slopes

1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.

2. Construction sequence example (refer to Figure B.1):

a. Construct and stabilize all temporary dikes or dikes that will be used to convey runoff around the excavation.

b. Perform Phase 1 excavation, prepare seedbed, and stabilize.

c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.

d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

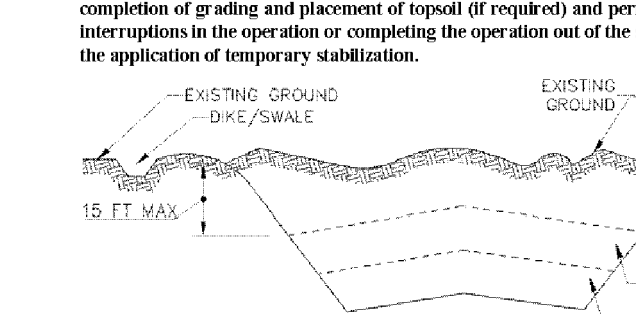


Figure B.1: Incremental Stabilization - Cut

B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all fill slopes as the work progresses.

2. Stabilize slopes immediately when the vertical height of a fill reaches 15 feet, or when the grading operation ceases as prescribed in the plans.

3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.

4. Construction sequence example (refer to Figure B.2):

a. Construct and stabilize all temporary dikes or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.

b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.

c. Place Phase 1 fill, prepare seedbed, and stabilize.

d. Place Phase 2 fill, prepare seedbed, and stabilize.

e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

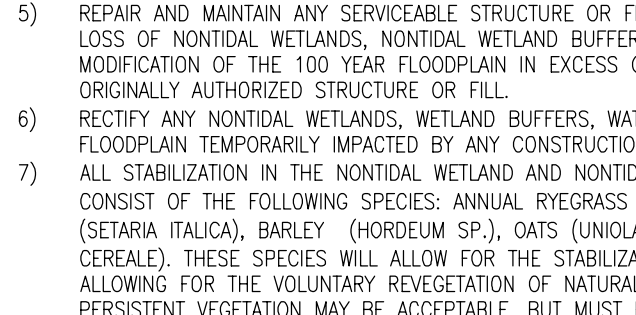


Figure B.2: Incremental Stabilization - Fill

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- 1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 2) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 4) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- 5) ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLIA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- 6) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- 7) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
USE II WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
- 8) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- 9) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

NOTE

THE DEVELOPER WILL OBTAIN ALL NECESSARY STATE PERMITS FOR THE PROPOSED ENVIRONMENTAL IMPACTS.

—MDE AUTHORIZATION NUMBER:

ALL WORK IN THE NONTIDAL WETLANDS, WETLAND BUFFERS SHALL BE COMPLETED PER THE BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS.

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

HOWARD S.C.D. DATE

OWNER/DEVELOPER CERTIFICATION:

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

OWNER/DEVELOPER SIGNATURE

PRINTED NAME & TITLE

DESIGN CERTIFICATION:

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

DESIGNER'S SIGNATURE DATE

ROBERT H. VOGEL M.D. REGISTRATION NO. 16193

PRINTED NAME (E.D., R.L.S., OR R.L.A. (circle one))

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all fill slopes as the work progresses.

2. Stabilize slopes immediately when the vertical height of a fill reaches 15 feet, or when the grading operation ceases as prescribed in the plans.

3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.

4. Construction sequence example (refer to Figure B.2):

a. Construct and stabilize all temporary dikes or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.

b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.

c. Place Phase 1 fill, prepare seedbed, and stabilize.

d. Place Phase 2 fill, prepare seedbed, and stabilize.

e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

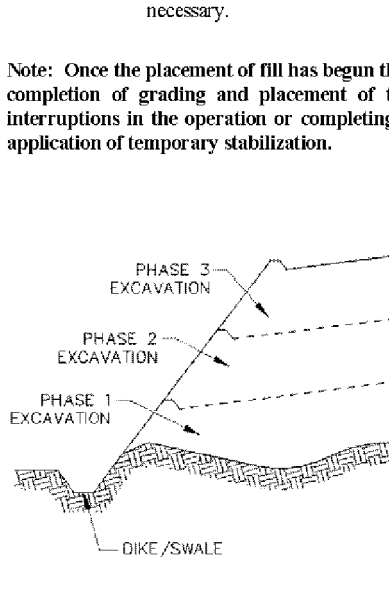


Figure B.2: Incremental Stabilization - Fill

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

- 1) NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 2) PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 3) DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
- 4) REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
- 5) ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLIA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
- 6) AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- 7) TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
USE II WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
- 8) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- 9) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

NOTE

THE DEVELOPER WILL OBTAIN ALL NECESSARY STATE PERMITS FOR THE PROPOSED ENVIRONMENTAL IMPACTS.

—MDE AUTHORIZATION NUMBER:

ALL WORK IN THE NONTIDAL WETLANDS, WETLAND BUFFERS SHALL BE COMPLETED PER THE BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS.

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

HOWARD S.C.D. DATE

OWNER/DEVELOPER CERTIFICATION:

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

OWNER/DEVELOPER SIGNATURE

PRINTED NAME & TITLE

DESIGN CERTIFICATION:

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

DESIGNER'S SIGNATURE DATE

ROBERT H. VOGEL M.D. REGISTRATION NO. 16193

PRINTED NAME (E.D., R.L.S., OR R.L.A. (circle one))

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

DETAIL E-6 FILTER LOG

STANDARD SYMBOL

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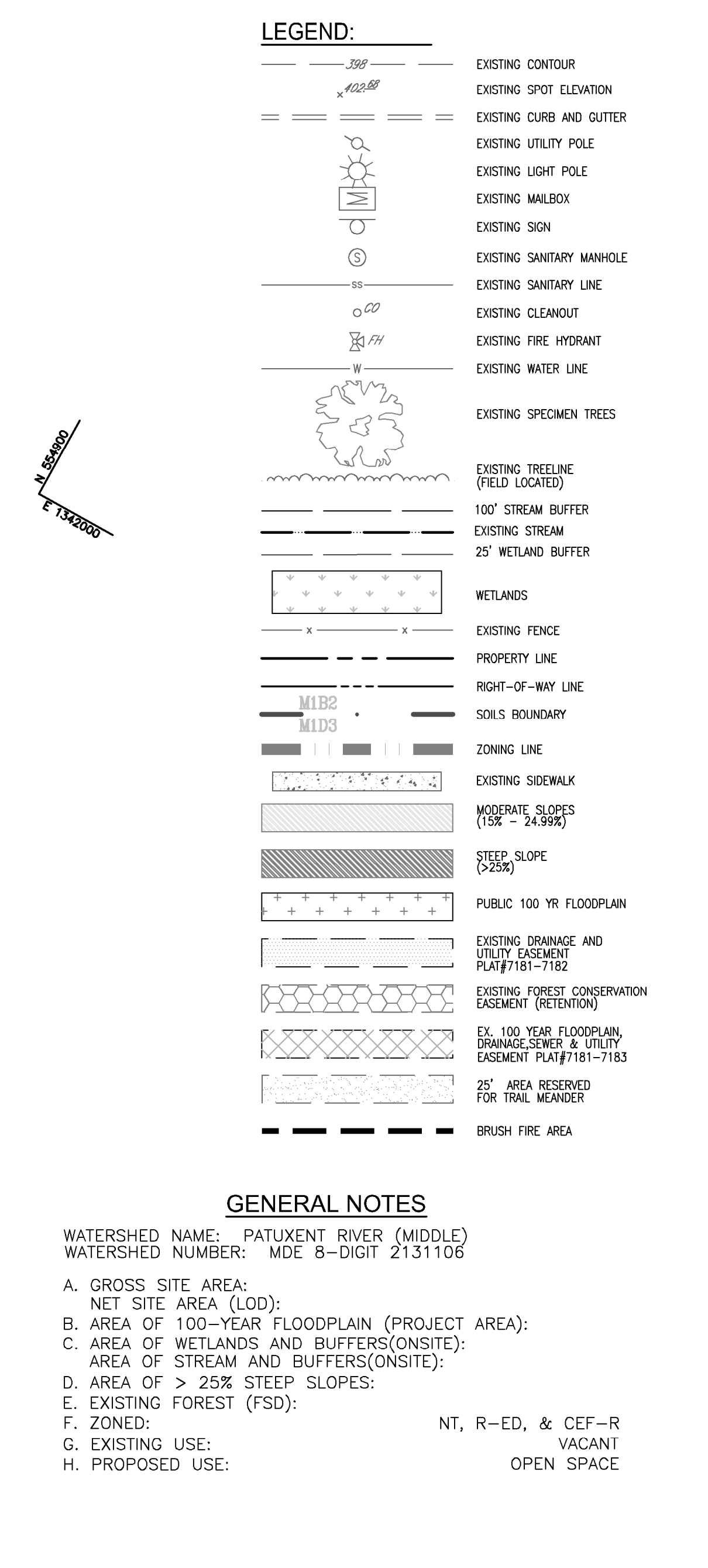
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SCALE 1"=100'

A horizontal scale bar with a central zero point. To the left of zero is a tick mark labeled 50'. To the right of zero is a tick mark labeled 100'. The bar is divided into two equal segments by the zero point, each representing 50 feet.

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:

HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 29, 2006 AT <HTTP://WEBGEOGRAPHICS.USDA.GOV/USDA/NRCS/>

2-HYDRIC SOIL INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT <HTTP://SOILS.USDA.GOV/USE/HYDRIC/>, CONSULTED ON DECEMBER 29, 2006

DIRECTOR _____ DATE _____

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

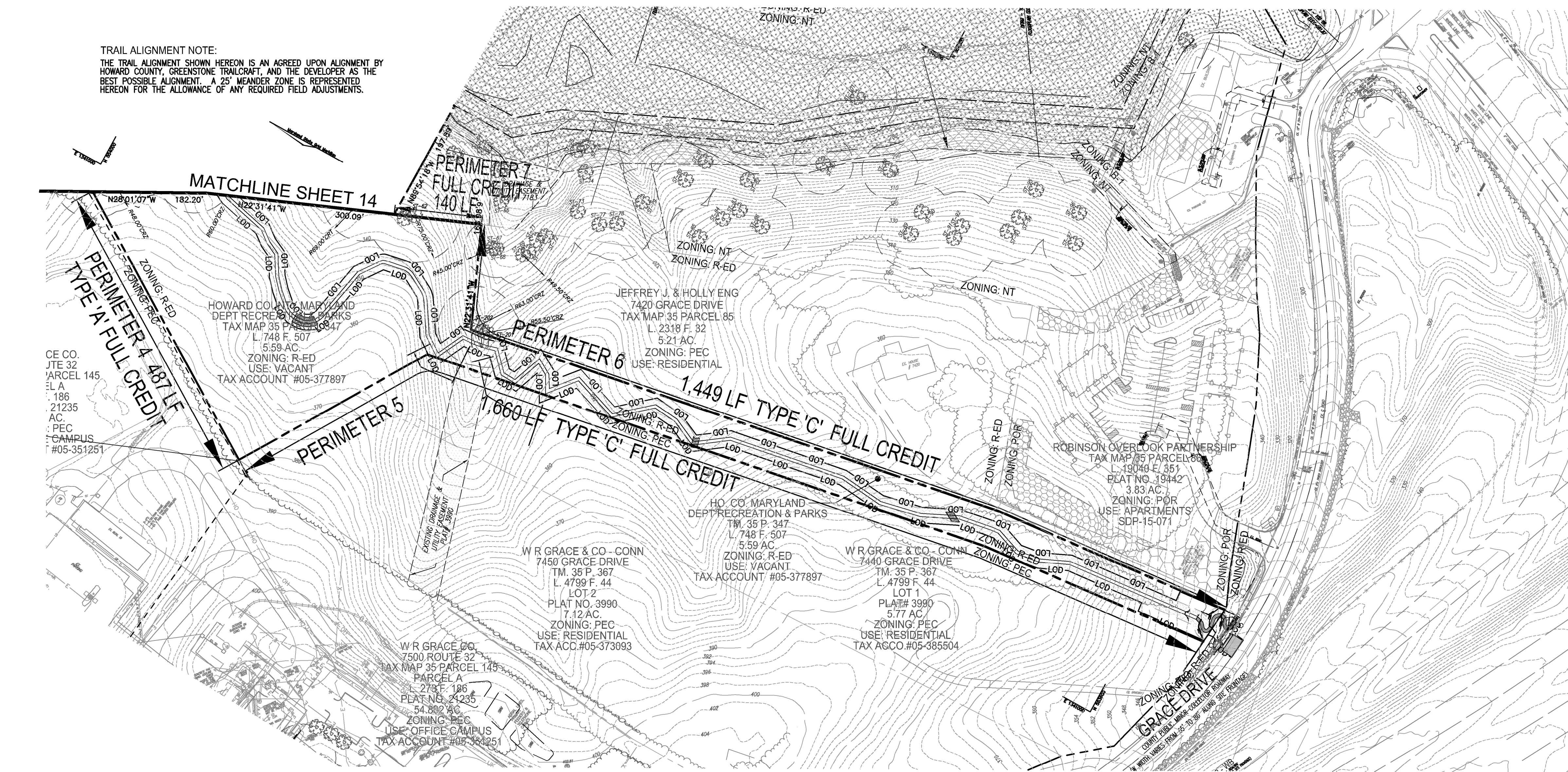
SIGNATURE OF DEVELOPER



J. Brody McAllister
ISA Certified Arborist
Cert ID: MA6471A
MD DNR FCA Qualified Professional

SDP-19-025

TRAIL ALIGNMENT NOTE:
THE TRAIL ALIGNMENT SHOWN HEREON IS AN AGREED UPON ALIGNMENT BY HOWARD COUNTY, GREENSTONE TRAILCRAFT, AND THE DEVELOPER AS THE BEST POSSIBLE ALIGNMENT. A 25' MEANDER ZONE IS REPRESENTED HEREON FOR THE ALLOWANCE OF ANY REQUIRED FIELD ADJUSTMENTS.



LEGEND:

	EXISTING CONTOUR		EXISTING FENCE
	EXISTING SPOT ELEVATION		PROPERTY LINE
	EXISTING CURB AND GUTTER		RIGHT-OF-WAY LINE
	EXISTING UTILITY POLE		SOILS BOUNDARY
	EXISTING LIGHT POLE		ZONING LINE
	EXISTING MAILBOX		EXISTING SIDEWALK
	EXISTING SIGN		MODERATE SLOPES (15% - 24.99%)
	EXISTING SANITARY MANHOLE		STEEP SLOPE (>25%)
	EXISTING SANITARY LINE		PUBLIC 100 YR FLOODPLAIN
	EXISTING CLEANOUT		EXISTING DRAINAGE AND UTILITY EASEMENT (PLAT#7181-7182)
	EXISTING FIRE HYDRANT		EXISTING FOREST CONSERVATION EASEMENT (RETENTION)
	EXISTING WATER LINE		EX. 100 YEAR FLOODPLAIN, DRAINAGE SEWER & UTILITY EASEMENT (PLAT#7181-7183)
	EXISTING SPECIMEN TREES		LIMIT OF DISTURBANCE
	EXISTING TREELINE (FIELD LOCATED)		
	100' STREAM BUFFER		
	EXISTING STREAM		
	25' WETLAND BUFFER		
	WETLANDS		

FOREST CONSERVATION WORKSHEET FOR PARCEL 347

Net Tract Area		
A. Total (Gross) Tract Area	5.59	A = 5.59
B. Area within 100-year Floodplain	0.00	B = 0.00
C. Other Deductions (Identify: _____)	0.00	C = 0.00
D. Net Tract Area	5.59	D = 5.59

Land Use Category		
Insert the number "1" under the appropriate land use (limit to only one entry)		
Resid. Rural LD	Resid. Rural MD	Resid. Suburban
Inst./Linear	Retail/Office	Mixed Use/PUD
1	0	0

E. Afforestation Threshold (Net Tract Area x 35%)	E = 2.00
F. Reforestation Threshold (Net Tract Area x 65%)	F = 3.60

Existing Forest Cover	
G. Existing Forest Cover within the Net Tract Area	G = 5.59
H. Area of Forest above Afforestation Threshold	H = 3.60
I. Area of Forest above Reforestation Threshold	I = 2.00

Break Even Point	
J. Break Even Point	J = 4.27
K. Forest Clearing Permitted without Mitigation	K = 1.32

Proposed Forest Clearing	
L. Total Area of Forest to be Cleared	L = 0.00
M. Total Area of Forest to be Retained	M = 5.60

Planting Requirements Inside Watershed	
N. Reforestation for Clearing above the Reforestation Threshold	N = 0.00
P. Reforestation for Clearing below the Reforestation Threshold	P = 0.00
Q. Credit for Retention above the Reforestation Threshold	Q = 2.00
R. Total Reforestation Required	R = 0.00
S. Total Afforestation Required	S = 0.00
T. Total Reforestation and Afforestation Requirement	T = 0.00
U. 75% of Total Obligation (Retention + Planting)	U = 4.20
V. Planting Required Onsite to meet 75% Obligation	V = 0.00

Planting Requirements Outside Watershed	
W. Total Planting within Development Site Watershed	W = 0.00
X. Total Afforestation Required	X = 0.00
Y. Remaining Planting within Watershed for Reforestation Credit	Y = 0.00
Z. Reforestation for Clearing above the Reforestation Threshold	Z = 0.00
AA. Reforestation for Clearing below the Reforestation Threshold	AA = 0.00
BB. Credit for Retention above the Reforestation Threshold	BB = 0.00
CC. Total Reforestation Required	CC = 0.00
DD. Total Afforestation and Reforestation Requirement	DD = 0.00

OWNER-PARCEL 347	OWNER-PARCEL 145(O.S.140)	OWNER-PARCEL 412(P.A.)	DEVELOPER
HOWARD COUNTY, MARYLAND DEPT OF RECREATION & PARKS 3410 COURT HOUSE DRIVE COLUMBIA, MARYLAND 21043	CEAR CREEK HOMEOWNERS ASSOCIATION, INC. 4750 OWINGS MILLS BLVD COLUMBIA, MARYLAND 21044	WR GRACE & CO - CONN 7500 GRACE DRIVE 410-356-9900	SIMPSON OAKS CRP3, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900

NO.	REVISION	DATE
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SITE DEVELOPMENT PLAN LANDSCAPE AND FOREST CONSERVATION PLAN, NOTES AND DETAILS CEDAR CREEK NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16.21,22 ZONED: NT, R-ED & CEF-R P.412, P.347 & P/O PARCEL 145
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: VE + TG
DRAWN BY: VE + TG
CHECKED BY: RHV
DATE: OCTOBER 2025
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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. 16193
EXPIRATION DATE: 09-27-2028

ROBERT H. VOGEL, PE No.16193

15 SHEET OF 20

SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE								
CATEGORY	ADJACENT TO ROADWAYS AND PERIMETER PROPERTIES							
	1	2	3	4	5	6	7	TOTAL
PERIMETER/FRONTAGE DESIGNATION	A	C	A	A	C	C	A	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	814	1,337	2,573	487	1,660	1,449	140	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	YES	YES	YES	YES	YES	YES	YES	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	1,660	0	1,449	0	1,660	0	1,449	0
SHADE TREES	-	1,20	0	-	1,20	0	1,20	0
EVERGREEN TREES	-	-	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED	0	0	0	0	0	0	0	0
SHADE TREES	-	0	-	0	-	0	-	0
EVERGREEN TREES	-	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-	-	-	-
EX. SPECIMEN TREES TO REMAIN	-	-	-	-	-	-	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	-	-	-	-	-	-	-	-

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. THE LANDSCAPE OBLIGATION FOR THIS PROJECT IS SATISFIED BY THE RETENTION OF EXISTING VEGETATION.

LANDSCAPING NOTES

- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS, THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- THE REMOVAL OF TREES 30" OR GREATER DBH, STATE CHAMPION TREES, OR TREES 75% THE DIAMETER OF A STATE CHAMPION TREE ARE PROHIBITED WITHOUT COUNTY APPROVAL.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE

DIRECTOR

DATE

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER

DATE

FOREST CONSERVATION NOTES:

1. THIS PLAN IMPACTS CEDAR CREEK - OPEN SPACE LOT 140 - F-18-041. THE REQUIRED FOREST FOREST CONSERVATION OBLIGATION FOR THE RESIDENTIAL PROJECT WAS PROVIDED UNDER F-18-041, (A.K.A. SIMPSON OAKS), SHEETS 44-52. THE TRAIL SYSTEM BEGINS WITHIN A RECORDED ACCESS EASEMENT ON OPEN SPACE LOT 140. THIS ACCESS EASEMENT IS NOT ENCUMBERED WITH A FOREST CONSERVATION EASEMENT.

2. THIS PLAN IMPACTS TAX MAP 35 - PARCEL 412, COLUMBIA - VILLAGE OF HICKORY RIDGE, SECTION 3 AREA 14 - PARCEL A - PLAT 13640. THIS PORTION OF THE TRAIL SYSTEM IS NOT WITHIN A FOREST CONSERVATION EASEMENT.

3. NO FOREST CONSERVATION IS REQUIRED FOR PARCEL 347. THIS PLAN DOES NOT PROPOSE THE REMOVAL OF ANY QUALITATIVE TREES AND A PATHWAY IS PERMITTED IN A FCE.

FOREST CONSERVATION IS NOT REQUIRED ON THIS 'NT' ZONED PARCEL.

PARCEL 'A' IS TO BE CONVEYED TO HOWARD COUNTY, MARYLAND AND MAINTAINED BY THE DEPT. OF REC. & PARK.

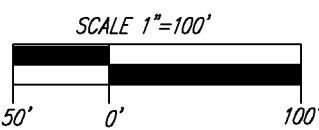
FOREST AREA RETENTION AND NOTES:

- THE WETLANDS AND WETLAND BUFFERS ARE LOCATED AS SHOWN HEREON
- NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THIS SITE
- FORESTED AREAS ADJACENT TO FLOODPLAINS AND STREAMS ARE SUBSTANTIALLY RETAINED IN OPEN SPACE
- CHANGES IN GRADING AND RUNOFF WILL NOT ADVERSELY AFFECT THE SOILS WITHIN THE FOREST RETENTION AREA. SEDIMENT CONTROL MEASURES WILL REDIRECT CONCENTRATED RUNOFF TO STORMWATER MANAGEMENT FACILITIES. RETAIN SEDIMENT WITHIN THE CONSTRUCTION AREA AND/OR REDIRECT CLEAN WATER AWAY FROM CONSTRUCTION AREAS.

SEQUENCE OF CONSTRUCTION:

- PRE-CONSTRUCTION MEETING / SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DEFINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.
- STAKE OUT LIMITS OF DISTURBANCE AND SPECIMEN TREE PROTECTION FENCING LOCATIONS.
- INSTALL SPECIMEN TREE PROTECTION FENCING: FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING.
- TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED TRAIL GRADING HAS OCCURRED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

LANDSCAPE AND FOREST CONSERVATION PLAN, NOTES AND DETAILS



SPECIMEN TREE NOTE:

THE AREA OF THE PROPOSED TRAIL WILL BE ADJUSTED FOR THE PRESERVATION OF EXISTING SPECIMEN TREES. EXISTING VEGETATION OUTSIDE OF TRAIL SURFACE AREA IS TO REMAIN. NO ADDITIONAL PLANTINGS ARE REQUIRED FOR THE 30 ACRE PARCEL (T.M. 35 PARCEL 412, PLAT MDR NO. 13640)

MAPPED SOILS TYPES - CLARKSVILLE NE MAP #17

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	DRINKING WATER	K FACTOR	DRINKING WATER	CLAY SLOPE	CLAY SLOPE
BaA	BALE SILT LOAM, 0 TO 3 PERCENT SLOPES	G/D	YES	YES	0.37	NO	NO	NO
Co	COOKS & HAYDOCK SILT LOAM, 0-18 SLOPES	C	PARTIALLY	PARTIALLY	0.37	NO	NO	NO
GpB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	C	NO	NO	0.28	YES	NO	NO
GpB	GLENELG-URBAN LAND COMPLEX, 0-8% SLOPES	B	NO	NO	0.28	NO	NO	NO
GpB	GLENELG SILT LOAM, 1 TO 9 PERCENT SLOPES	C	PARTIALLY	PARTIALLY	0.43	YES	YES	YES
GpC	GLENELG SILT LOAM, 8-15% SLOPES	C	NO	NO	0.43	YES	YES	YES
GpB	GLENELG-URBAN LAND-UDORHENTS COMPLEX, 0-8% SLOPES	C	NO	NO	0.43	NO	YES	YES
MpB	MANOR LOAM, 1-8% SLOPES	B	NO	NO	0.28	YES	NO	NO
MpC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
MpD	MANOR LOAM, 15-20% SLOPES	B	NO	NO	0.28	NO	YES	YES
MpF	MANOR-BRINLOW COMPLEX, 25-45% SLOPES, VERY ROCKY	B	NO	NO	0.32	NO	YES	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

NOTE:

HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

- SOURCE: THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE'S WEB SOIL SURVEY, CONSULTED ON DECEMBER 29, 2014, AVAILABLE ON-LINE AT <HTTP://WEBSOILSURVEY.NRCS.USDA.GOV/APP/HOME.PAGE.HTM>
- HYDRIC SOILS INFORMATION ADAPTED FROM THE NATIONAL HYDRIC SOILS LIST, AT <HTTP://SOILS.USDA.GOV/USE/HYDRIC/>, CONSULTED ON DECEMBER 29, 2014.



SPECIMEN TREE LIST:

REPORT TITLED "SIMPSON OAKS -- FOREST STAND DELINEATION" DATED 1-19-2014, TRANSMITTED TO MORRIS & RITCHIE ASSOCIATES, INC. JAN. 21, 2017
AND THE REPORT TITLED "SIMPSON OAKS, OFF-SITE TRAIL" DATED FEB. 12, 2016

NUMBER	SCIENTIFIC NAME	COMMON NAME	DBH	CONDITION	COMMENT	NUMBER	SCIENTIFIC NAME	COMMON NAME	DBH	CONDITION	COMMENT	NUMBER	SCIENTIFIC NAME	COMMON NAME	DBH	CONDITION	COMMENT
* ST-1	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		ST-39	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		ST-78	LIRIODENDRON TULIPIFERA	TULIPTREE	39	GOOD	
* ST-2	QUERCUS RUBRA	RED OAK	41	FAIR	HALF DEAD, LIMB LOSS	ST-40	LIRIODENDRON TULIPIFERA	TULIPTREE	36	GOOD		ST-79	QUERCUS RUBRA	RED OAK	36	GOOD	
* ST-3	QUERCUS RUBRA	RED OAK	51	GOOD		ST-41	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-80	QUERCUS VELUTINA	BLACK OAK	31	GOOD	
ST-4	QUERCUS ALBA	WHITE OAK	33	GOOD		ST-42	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		ST-81	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD	
* ST-5	LIRIODENDRON TULIPIFERA	TULIPTREE	33	GOOD		ST-43	LIRIODENDRON TULIPIFERA	TULIPTREE	32	FAIR	HALF DEAD, LIMB LOSS	ST-82	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD	
ST-6	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-44	LIRIODENDRON TULIPIFERA	TULIPTREE	30	FAIR	TRUNK CAVITY	ST-83	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD	
* ST-7	LIRIODENDRON TULIPIFERA	TULIPTREE	38	GOOD		ST-45	QUERCUS RUBRA	RED OAK	34	GOOD		ST-84	LIRIODENDRON TULIPIFERA	TULIPTREE	36	GOOD	
ST-8	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		ST-46	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD		ST-85	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD	
* ST-9	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		* ST-47	QUERCUS RUBRA	RED OAK	38	GOOD		ST-86	LIRIODENDRON TULIPIFERA	TULIPTREE	33	GOOD	
* ST-10	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD		* ST-48	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD		ST-87	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD	
ST-11	QUERCUS VELUTINA	BLACK OAK	33	GOOD		ST-49	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		ST-88	LIRIODENDRON TULIPIFERA	TULIPTREE	30	FAIR	BARK DAMAGE, LIMB LOSS
* ST-12	QUERCUS RUBRA	RED OAK	30	GOOD		ST-50	LIRIODENDRON TULIPIFERA	TULIPTREE	43	GOOD		ST-89	LIRIODENDRON TULIPIFERA	TULIPTREE	37	GOOD	
* ST-13	QUERCUS ALBA	WHITE OAK	32	GOOD		ST-51	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		ST-90	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD	
* ST-14	LIRIODENDRON TULIPIFERA	TULIPTREE	33	GOOD		* ST-52	LIRIODENDRON TULIPIFERA	TULIPTREE	33	GOOD		ST-91	LIRIODENDRON TULIPIFERA	TULIPTREE	47	GOOD	
* ST-15	QUERCUS RUBRA	RED OAK	30	GOOD		ST-53	LIRIODENDRON TULIPIFERA	TULIPTREE	40	GOOD		ST-92	LIRIODENDRON TULIPIFERA	TULIPTREE	37	GOOD	
* ST-16	QUERCUS RUBRA	RED OAK	35	GOOD		* ST-54	LIRIODENDRON TULIPIFERA	TULIPTREE	45	GOOD		ST-93	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD	
* ST-17	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-55	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-94	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD	
* ST-18	QUERCUS ALBA	WHITE OAK	32	GOOD		ST-56	QUERCUS ALBA	WHITE OAK	32	GOOD		ST-95	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD	
ST-19	LIRIODENDRON TULIPIFERA	TULIPTREE	45	GOOD		ST-57	LIRIODENDRON TULIPIFERA	TULIPTREE	56	GOOD		ST-96	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD	
ST-20	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD		ST-58	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-97	QUERCUS RUBRA	RED OAK	34	GOOD	
ST-21	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-59	QUERCUS RUBRA	RED OAK	36	GOOD		ST-98	JUGLANS NIGRA	BLACK WALNUT	36	FAIR	ENTANGLED WITH VINES
ST-22	QUERCUS RUBRA	RED OAK	41	GOOD		ST-60	LIRIODENDRON TULIPIFERA	TULIPTREE	46	GOOD		ST-99	PLANTANUS OCCIDENTALIS	AMERICAN SYCAMORE	35	POOR	HALF DEAD
ST-23	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		* ST-61	QUERCUS RUBRA	RED OAK	34	GOOD		ST-100	PLANTANUS OCCIDENTALIS	AMERICAN SYCAMORE	32	GOOD	
ST-24	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		* ST-62	QUERCUS RUBRA	RED OAK	50	GOOD		ST-101	LIRIODENDRON TULIPIFERA	TULIPTREE	42	GOOD	
ST-25	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-63	QUERCUS RUBRA	RED OAK	34	GOOD		ST-102	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD	
* ST-26	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		ST-64	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD							
ST-27	LIRIODENDRON TULIPIFERA	TULIPTREE	36	GOOD		ST-65	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD							
ST-28	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		ST-66	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD							
ST-29	LIRIODENDRON TULIPIFERA	TULIPTREE	34	GOOD		ST-67	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD							
ST-30	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		ST-68	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD							
ST-31	LIRIODENDRON TULIPIFERA	TULIPTREE	38	GOOD		ST-69	LIRIODENDRON TULIPIFERA	TULIPTREE	33	FAIR	LOPSIDED, LIMB LOSS						
ST-32	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD		ST-70	LIRIODENDRON TULIPIFERA	TULIPTREE	34	FAIR	TRUNK CAVITY						
ST-33	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD		ST-71	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD							
ST-34	LIRIODENDRON TULIPIFERA	TULIPTREE	37	GOOD		ST-72	PLANTANUS OCCIDENTALIS	AMERICAN SYCAMORE	32	GOOD							
ST-35	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD		ST-73	LIRIODENDRON TULIPIFERA	TULIPTREE	33	GOOD							
ST-36	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD		ST-74	LIRIODENDRON TULIPIFERA	TULIPTREE	41	GOOD							
ST-37	LIRIODENDRON TULIPIFERA	TULIPTREE	30	GOOD		ST-75	QUERCUS RUBRA	RED OAK	32	GOOD							
ST-38	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD		ST-76	QUERCUS RUBRA	RED OAK	34	GOOD							
						ST-77	LIRIODENDRON TULIPIFERA	TULIPTREE	32	GOOD							

TABLE TAKEN FROM ECO-SCIENCE PROFESSIONALS, INC.

REPORT DATED NOVEMBER 2024

Specimen Tree Chart

Key (X#)	Species	Size (in dbh)	CRZ 1:1.5 (feet radius)	Condition (good unless otherwise noted)	State Champion (in. dbh)
201	Sycamore	37	55.5		118.79
202	Tulip poplar	42	63	poor significant rot	101.27
203	Tulip poplar	41.5	62.25		101.27
204	Tulip poplar	32	48		101.27
205	Tulip poplar	34	51		101.27
206	Tulip poplar	34	51		101.27
206a	Tulip poplar	31	46.5	fair, some dieback in canopy	101.27
207	Tulip poplar	30.5	45.75		101.27
208	Red oak	30	45	fair, some dieback noted	92.04
209	Tulip poplar	32.5	48.75	fair, some dieback noted	101.27
210	Tulip poplar	32.5	48.75		101.27
211	Tulip poplar	34	51		101.27
212	White oak	31	46.5		88.85
213	White oak	40	60	poor, dead co-dominant trunk	88.85
214	Red oak	32.5	48.75	fair, limited crown	92.04
215	Tulip poplar	30	45		101.27
216	Tulip poplar	33	49.5		101.27
217	White oak	34	51		88.85
218	Southern red oak	30	45		84.08

TABLES TAKEN FROM GEO-TECHNOLOGY ASSOCIATES, INC.

REPORT TITLED "SIMPSON OAKS -- FOREST STAND DELINEATION" DATED 1-21-2015, TRANSMITTED TO MORRIS & RITCHIE ASSOCIATES, INC. JAN. 21, 2014.

ST-140	LIRIODENDRON TULIPIFERA	TULIPTREE	31"	FAIR
ST-141	QUERCUS ALBA	WHITE OAK	31"	GOOD
ST-142	QUERCUS RUBRA	RED OAK	34"	GOOD
ST-143	LIRIODENDRON TULIPIFERA	TULIPTREE	30"	GOOD
ST-144	LIRIODENDRON TULIPIFERA	TULIPTREE	33"	GOOD
ST-145	LIRIODENDRON TULIPIFERA	TULIPTREE	32"	GOOD
ST-146	LIRIODENDRON TULIPIFERA	TULIPTREE	30"	GOOD
ST-147	LIRIODENDRON TULIPIFERA	TULIPTREE	30"	GOOD
ST-148	QUERCUS ALBA	WHITE OAK	30"	GOOD
ST-149	LIRIODENDRON TULIPIFERA	TULIPTREE	46"	GOOD
ST-150	LIRIODENDRON TULIPIFERA	TULIPTREE	35"	GOOD
ST-151	LIRIODENDRON TULIPIFERA	TULIPTREE	30"	GOOD
ST-152	LIRIODENDRON TULIPIFERA	TULIPTREE	35"	GOOD
ST-153	QUERCUS VELUTINA	BLACK OAK	35"	GOOD
ST-154	QUERCUS ALBA	WHITE OAK	40"	FAIR
ST-155	LIRIODENDRON TULIPIFERA	TULIPTREE	32"	GOOD
ST-156	LIRIODENDRON TULIPIFERA	TULIPTREE	33"	POOR
ST-157	LIRIODENDRON TULIPIFERA	TULIPTREE	33"	GOOD
ST-158	LIRIODENDRON TULIPIFERA	TULIPTREE	31"	GOOD
ST-159	LIRIODENDRON TULIPIFERA	TULIPTREE	37"	GOOD
ST-160	LIRIODENDRON TULIPIFERA	TULIPTREE	35"	GOOD

OLD TRUNK DAMAGE (HEALING)

ONE OF TWO TRUNKS DEAD

TRUNK CAVITY / 1 TRUNK DEAD / VINES

PREVIOUSLY IDENTIFIED SPECIMEN TREE LIST:

ST-158	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD
ST-159	LIRIODENDRON TULIPIFERA	TULIPTREE	37	GOOD
ST-160	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD
ST-161	QUERCUS VELUTINA	BLACK OAK	37	GOOD
ST-162	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD
ST-163	LIRIODENDRON TULIPIFERA	TULIPTREE	36	GOOD
ST-164	LIRIODENDRON TULIPIFERA	TULIPTREE	35	GOOD
ST-165	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD
ST-166	LIRIODENDRON TULIPIFERA	TULIPTREE	31	GOOD

- * SPECIMEN TREES CLOSE TO LOD.
- TRAIL SHALL BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO SPECIMEN TREES.

SPECIMEN TREE NOTE:
THE AREA OF THE PROPOSED TRAIL WILL BE ADJUSTED FOR THE PRESERVATION OF EXISTING SPECIMEN TREES. EXISTING VEGETATION OUTSIDE OF TRAIL SURFACE AREA IS TO REMAIN. NO ADDITIONAL PLANTINGS ARE REQUIRED ON T.M. 35 PARCEL 412, PLAT MDR NO. 13640.

OWNER-PARCEL 347 OWNER-PARCEL 145(O.S.140) OWNER-PARCEL 412 (P.A.) DEVELOPER
HOWARD COUNTY, MARYLAND CEDAR CREEK MR. GRACE & CO - CONN SIMPSON OAKS CRP3, LLC
DEPT. OF RECREATION AND PARKS HOMEOWNERS ASSOCIATION, INC. 7500 GRACE DRIVE 4750 OWINGS MILLS BOULEVARD
3430 COURT HOUSE DRIVE 4750 OWINGS MILLS BLVD COLUMBIA, MARYLAND 21044 OWINGS MILLS, MARYLAND 21117
COLUMBIA, MARYLAND 21043 OWINGS MILLS, MARYLAND 21117 410-356-9900 410-356-9900

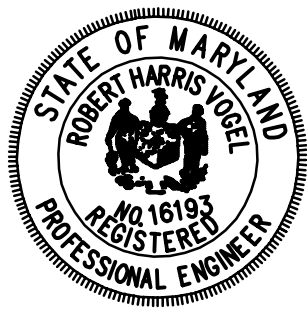
SITE DEVELOPMENT PLAN
SPECIMEN TREE CHARTS
CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16,21,22 ---- ZONED: NT, R-ED & CEF-R ---- P.412, P.347 & P/O PARCEL 145
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: VE + TG
DRAWN BY: VE + TG
CHECKED BY: RHV
DATE: FEBRUARY 2024
SCALE: AS SHOWN
W.O. NO.: 15-55

PROFESSIONAL CERTIFICATE
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. 16193
EXPIRATION DATE: 09-27-2026

16 SHEET OF 20

THE FOLLOWING SUSTAINABLE TRAIL DESIGN CRITERIA HAVE BEEN SPECIFICALLY DEVELOPED AS A STRATEGY TO CONTROL EROSION:

TRAILS ARE LOCATED SO THAT THEY ARE NEARLY PARALLEL TO THE GRADE, FOLLOWING, RATHER THAN CROSSING, THE CONTOUR LINES (FIGURE 1.1). THE CROSS SEC ON OF DISTURBANCE MEASURED ALONG THE FALL LINE WILL BE TYPICALLY LESS THAN 10'.

GRADE REVERSALS (FIGURE 1.2 & TYPICAL 5/5) ARE PROVIDED WHERE SHOWN. THIS ROLLING CONTOUR DESIGN BREAKS THE TRAIL INTO MICRO WATERSHEDS AND ENSURES THAT EXISTING FLOW AND FLOW CHANNELS ARE UNINTERRUPTED BY THE TRAIL MAKING IT HYDROLOGICALLY INVISIBLE ON THE HILLSIDE. IT ALSO PREVENTS STORM RUNOFF FROM CONCENTRATING ITSELF AND FLOWING ON THE SURFACE OF THE TRAIL FOR ANY DISTANCE.

THE AVERAGE GRADE OF THE TRAIL IS GENERALLY BETWEEN 1% AND 10%. THE MAXIMUM GRADE GENERALLY DOES NOT EXCEED 20%, BUT MAY EXCEED 20% IN CIRCUMSTANCES SUCH AS GRADE REVERSALS AND SWITCHBACK APPROACHES.

THE TYPICAL TRAIL HAS A FULLY-EXCAVATED BENCH-CUT TREAD (FIGURE 1.3 & TYPICAL 3/5). THE TREAD IS GENERALLY DESIGNED WITH A 5% MINIMUM OUT-SLOPE TO ENCOURAGE SHEET FLOW. IN SOME INSTANCES, THE TRAIL IS INSLOPED TO REDUCE SHEER FORCES AND TO PREVENT SOIL DISPLACEMENT.

A MINIMUM 25' BUFFER OF EXISTING VEGETATION IS MAINTAINED AS A FILTER STRIP BETWEEN THE LIMITS OF TRAIL CONSTRUCTION DISTURBANCE AND WATER FEATURES.

TRAIL APPROACHES ARE GRADED SO THAT WATER WILL REMAIN IN DRAINAGE SWALES (FIGURE 1.4).

THE FOLLOWING SUSTAINABLE TRAIL CONSTRUCTION PRACTICES ARE USED TO CONTROL EROSION:

THE TRAIL CONSTRUCTION PROCESS IS COMPLETED BY A TEAM WORKING IN CLOSE PROXIMITY TO EACH OTHER. THE DISTANCE FROM THE CREW CLEANING THE VEGETATION BACK TO THE FINISH WORKERS IS RARELY MORE THAN A 10' X 500' AREA.

THE FIRST TEAM PRUNES THE WOODY VEGETATION BY HAND AND MAY INSTALL WATTLES OR FILTER LOGS IN HIGH FLOW DRAINAGES.

A SECOND TEAM USES HAND TOOLS OR A MACHINE TO CONSTRUCT THE TRAIL TREAD AND BACK-SLOPE.

A THIRD TEAM DISPERSES THE SPOILS, TRACKS LOOSE SOIL, AND COMPACTS THE TREAD AND BACK-SLOPE.

SEEDING AND/OR MULCHING OF THE DISTURBED AREA TAKES PLACE THE SAME DAY. SEE SAME DAY STABILIZATION NOTES.

DISTURBANCE IS PHASED SO THAT ONLY SMALL SECTIONS ARE UNDER CONSTRUCTION AT ANY TIME. SOIL IS TYPICALLY ONLY MOVED A FEW FEET FROM ITS POINT OF ORIGIN TO THE DOWN-SLOPE PORTION OF THE TRAIL WHERE IT IS INTEGRATED INTO THE VEGETATIVE FILTER.

BACK-SLOPE STABILIZATION: THE AREA OF THE HILLSIDE JUST ABOVE THE TRAIL IS THE BACKSLOPE. THE HEIGHT OF THE BACKSLOPE IS A DIRECT FUNCTION OF THE LOCAL TERRAIN. THE BACKSLOPE IS TYPICALLY 1-2' HIGH ALTHOUGH IT CAN BE HIGHER IN CERTAIN SITUATIONS. IT WILL BE GRADED TO A MAXIMUM 2:1 SLOPE WHENEVER THE EXISTING SLOPE IS 2:1 OR LESS. A COMBINATION OF COMPACTING, TRACKING, AND FURROWING (FIGURE 3.3) IS USED TO PREVENT SLUMPING AND RILING AND CREATE SEED POCKETS TO FACILITATE RE-VEGETATION. JUTE MESH OR TEMPORARY SOIL STABILIZATION MATTING MAY BE USED TO STABILIZE BACK-SLOPES STEEPER THAN 2:1.

SPOILS STABILIZATION: THE ORGANIC AND MINERAL SPOILS FROM THE EXCAVATION ARE TYPICALLY BROADCAST IN A THIN LAYER DOWN-SLOPE OF THE TRAIL AVOIDING DRAINAGEWAYS OR SWALES. BY SCATTERING THE SPOILS THE EXISTING VEGETATION IS NOT SMOOTHERED AND QUICKLY GROWS BACK UP THROUGH THE SPOILS. BY MIXING THE NATIVE TOPSOIL OVER THE EXISTING VEGETATION, THE NATIVE SEED BANK IS PRESERVED AND PROVIDES THE SEED STOCK FOR STABILIZATION BY LOCAL VEGETATION.

TRAIL TREAD: THE FINISHED TRAIL TREAD IS A STABILIZED NATURAL SOIL SURFACE THAT DUE TO THE MINIMAL GRADES AND DISTANCE BETWEEN SWALES ALLOWED WITH A ROLLING CONTOUR DESIGN IS EXTREMELY EROSION RESISTANT. THE TRAIL IS TYPICALLY BENCH CUT. A FULLY-BENCH CUT TRAIL, WHERE ALL LOOSEN MATERIAL IS BROADCAST TO THE SIDE, CREATES A TREAD CAPABLE OF SUPPORT VISITOR TRAFFIC IMMEDIATELY AFTER CONSTRUCTION IS COMPLETE. THE OUTER EDGE IS ROLLED AT THE CRITICAL POINT TO ALLOW WATER TO SHEET FLOW OFF THE TRAIL (FIGURE 1.3 & TYPICAL 3/5)

DIPS AND CROSSINGS: WHERE WATER IS CONCENTRATED, EITHER BY THE TRAIL AT THE BOTTOM OF A GRADE REVERSAL OR WHERE A DRAINAGE SWALE CROSSES THE TREAD, THE TRAIL AND SURROUND AREA MAY BE IMPROVED VIA A ROCK ARMORED CROSSING (TYPICALS 1/5 & 2/5). SUCH CROSSINGS BETTER DISPERSE THE WATER, SLOW ITS VELOCITY AND SPREAD IT OUT INTO THE NATURAL FILTER OF THE SURROUNDING VEGETATION. IN WOODED AREAS, WHERE SEED IS UNLIKELY TO GERMINATE, LEAF LITTER IS USED TO MULCH THE DISTURBED AREAS.

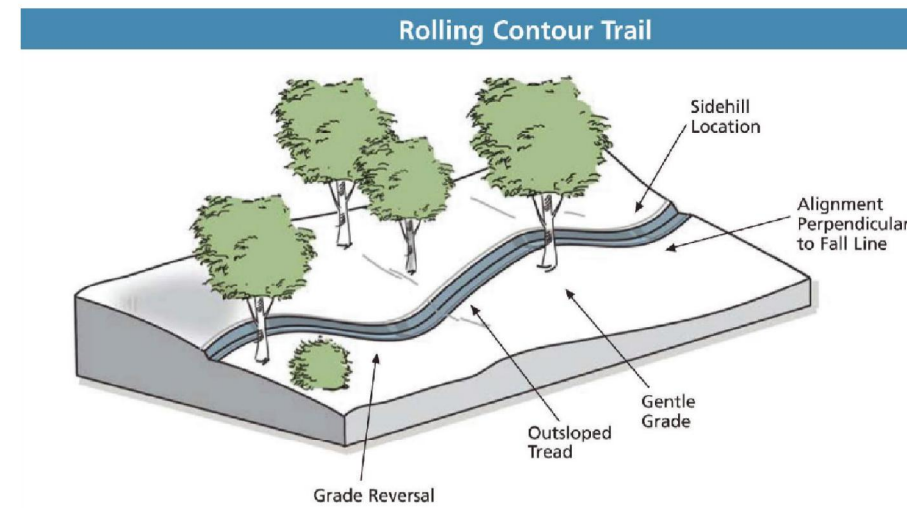


FIGURE 1.1 CHARACTERISTICS OF SUSTAINABLE TRAILS

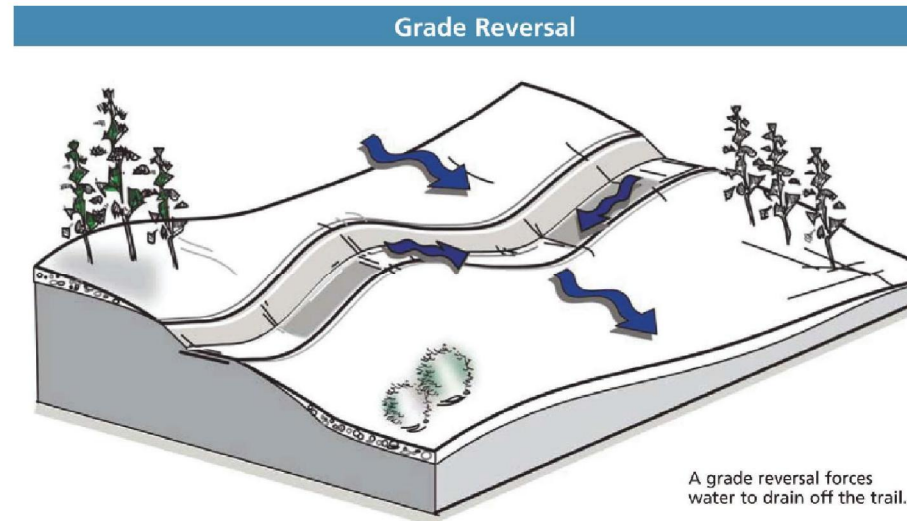


FIGURE 1.2 GRADE REVERSAL

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

STANDARD TRAIL CONSTRUCT ON: NATURAL SURFACE TRAIL CONSTRUCT ON IS ACCOMPLISHED WITH A COMBINA ON OF MACHINE AND HAND LABOR. TYPICAL MACHINES USED CAN INCLUDE:

PRIMARY CONSTRUCTION: 4' WIDE METAL-TRACKED RIDE-IN DOZER (E.G. SUTTER AND SWECO BRANDS, VARIOUS MODELS), AND/OR A SMALL TRACKED EXCAVATOR IN THE 1.5 TO 3 TON RANGE. (E.G. KUBOTA U-17 ZERO-TAIL SWING COMPACT EXCAVATOR).

SECONDARY CONSTRUCTION: 4' WIDE RUBBER-TRACKED WALK-BEHIND DOZER/LOADER (E.G. DITCHWITCH SK750, VERMEER S725TX) AND/OR RUBBER TRACKED EXCAVATOR IN THE 1.5 TO 3 TON RANGE.

NOTE FOR SOME PROJECTS, SECONDARY MACHINES ARE USED AS THE PRIMARY.

OTHER SUPPORT MACHINES/DEVICES: RIDE-ON AND/OR WALK-BEHIND HAULERS/CRAWLERS TO TRANSPORT MATERIALS AROUND JOBSITE, (VARIOUS CANYCON MODELS, S160, SC75, BFP602); SKID-STEER LOADERS TO TRANSPORT MATERIALS AROUND JOBSITE AND/OR LOAD HAULERS/CRAWLERS (BOBCAT T190). SPECIALIZED IMPLEMENTS SUCH AS A VIBRATING COMPACTOR TO FINISH AGGREGATE SURFACE.

TYPICAL EROSION AND SEDIMENTATION CONTROL PRACTICES: SEE SHEETS X-X

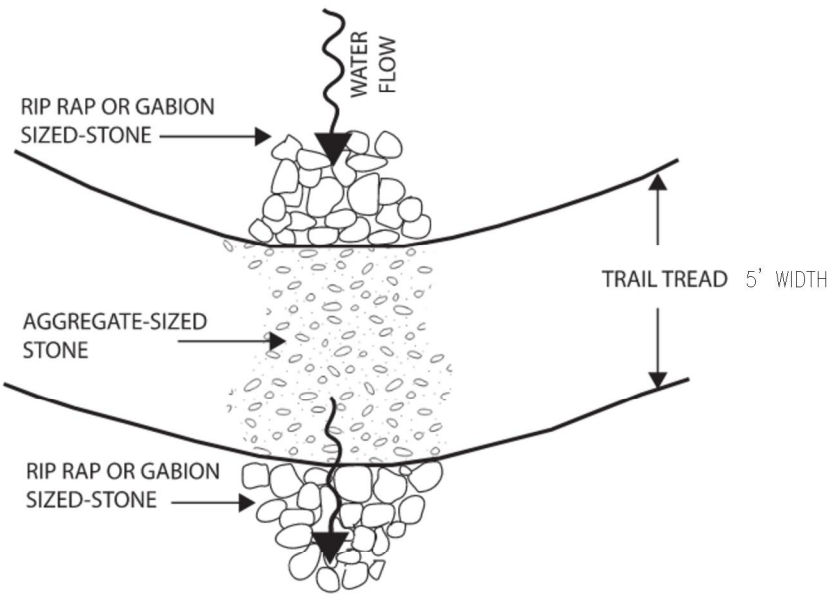
EROSION AND SEDIMENTATION CONTROL PRACTICES ARE USED STRATEGICALLY TO MINIMIZE IMPACTS ON THE EXISTING LANDSCAPE. A 25' MINIMUM BUFFER OF EXISTING VEGETATION SHALL BE MAINTAINED DOWN-SLOPE OF ALL DISTURBED AREAS TO FILTER ANY RUNOFF. ALL NEWLY DISTURBED AREAS ARE TREATED IMMEDIATELY. TRAIL TREAD IS GRADED AND COMPACTED TO ENCOURAGE SHEET FLOW OF WATER AND ANY OTHER BARE AREAS ARE COVERED WITH NATIVE GROUND MATERIAL. SEEDING, TYPICALLY WITH ANNUAL RYE GRASS, WILL BE DONE AS DIRECTED BY HSCD OR STATE REGULATIONS.

CRITICAL EROSION AREAS: CRITICAL EROSION AREAS INCLUDE BACK-SLOPES THAT ARE STEEPER THAN 2:1 AND THOSE AREAS WHERE THE TRAIL CROSSES AN INTERMITTENT STREAM OR THERE IS NO ADEQUATE VEGETATIVE BUFFER BETWEEN THE TRAIL AND THE WATER BODY. IN THESE CASES, JUTE MESH TEMPORARY SOIL STABILIZATION MATTING, STRAW BALE BARRIERS, WATTLES, FILTER LOGS OR FOUND OBJECTS (LOGS, ROCKS, OR BRUSH) WILL BE USED TO CONTROL EROSION DURING TRAIL CONSTRUCTION AND RESTORATION PERIODS. WHEN JUTE MESH OR WATTLES ARE USED THEY WILL BE ENTIRELY MADE UP OF DECOMPOSABLE MATERIAL AND MAY BE LEFT IN PLACE TO DECOMPOSE NATURALLY RATHER THAN CAUSE ADDITIONAL POST CONSTRUCTION DISTURBANCE DURING REMOVAL.

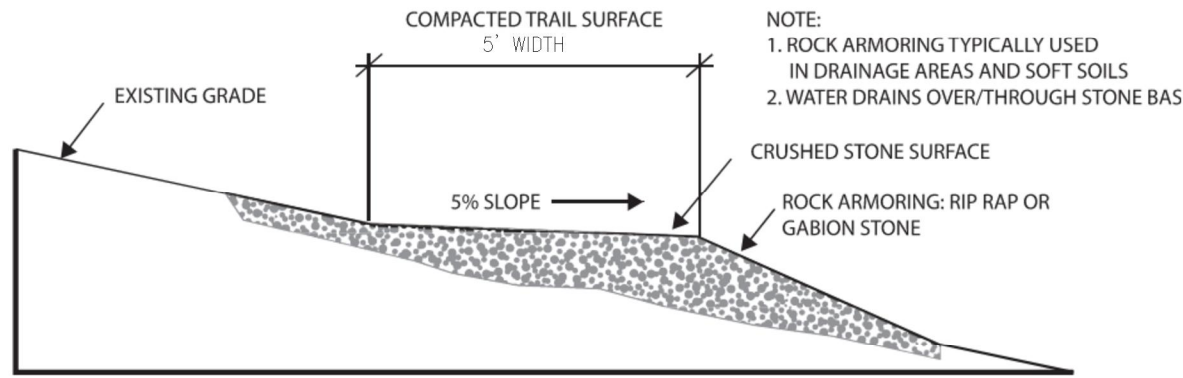
WATTLES ARE 6' TO 12' DIAMETER AND 6' TO 20' LONG. (FIGURES 3.1 & 3.2) IN LOCATIONS LIKELY TO SEE CONCENTRATED FLOW THAT HAVE A GREATER POTENTIAL FOR SEDIMENT LOSS, WALES MAY BE INSTALLED DOWNSLOPE OF THE TRAIL TO CAPTURE SEDIMENT RELEASED DURING CONSTRUCTION. IN DEEP BACKCOUNTRY AREAS WHERE ACCESS WITH BULKY ITEMS IS RESTRICTED, WATTLES MAY BE CONSTRUCTED LOCALLY OF DECOMPOSABLE JUTE AND NATIVE MULCH WITH APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.

TREE REMOVAL: NO LIVE TREES GREATER THAN 4" DBH SHALL BE REMOVED UNAUTHORIZED BY THE DEPARTMENT OF PLANNING & ZONING. REMOVED MATERIAL IS INCORPORATED INTO THE CONSTRUCTION AS DESCRIBED ABOVE. FALLEN TREES ARE TURNED SIDWAYS TO THE SLOPE WHEN POSSIBLE TO HELP BREAK FLOW OF WATER AND CREATE HABITAT AREAS.

MINOR MODIFICATIONS TO THE TRAIL ALIGNMENT MAY BE NEEDED IN THE FIELD TO MINIMIZE IMPACT ON NATURAL RESOURCES AND ADAPT TO CHANGES IN EXISTING SITE CONDITIONS.

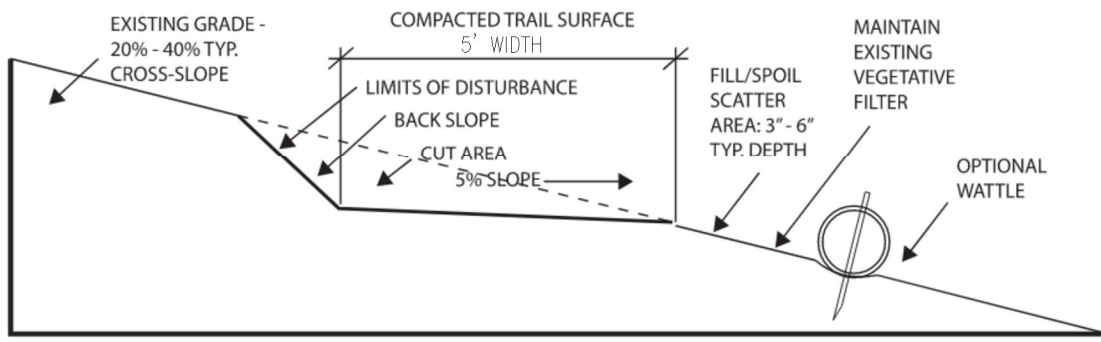


1 PLAN: TYPICAL ROCK ARMORED TRAIL

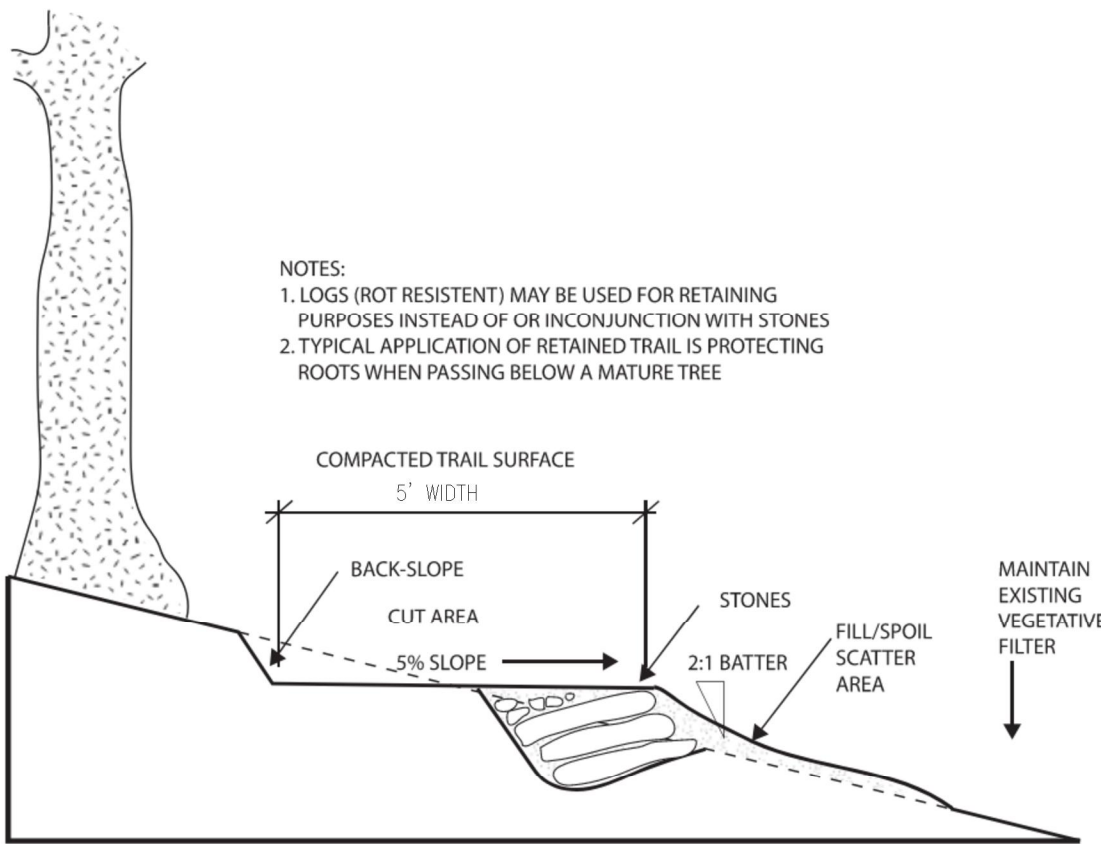


2 SECTION: TYPICAL ROCK ARMORED TRAIL

NOTES:
1. TYPICAL TRAIL WIDTH IS 2'-3'
2. DEPENDING UPON TERRAIN AND VEGETATIVE COVER, TRAIL SURFACE IS EITHER COMPACTED SOIL, SOIL MIXED WITH STONE PIECES, OR STONE
3. BACK-SLOPE IS COMPACTED AND TRACKED THEN SEEDED AND MULCHED. JUTE MESH MAY BE USED WHEN THE SLOPE IS GREATER THAN 2:1
4. OPTIONAL WATTLE INSTALLED WHEN ADEQUATE VEGETATIVE BUFFERS CANNOT BE MAINTAINED BETWEEN LOD AND WATERWAYS/WETLANDS



3 SECTION: TYPICAL BENCH CUT TRAIL



4 SECTION: TYPICAL RETAINED TRAIL



BLACK W/ STAINLESS MOUNTING RECEIVER

R-7903 Bike Bollard

The R-7903 Bike Bollard offers versatile design and functionality. Bike-locking arms are bolted internally to ensure secure storage for cyclists. Locking arms can also be used to assist in removal and transport for removable applications. R-7903 Bike Bollards are made from carbon steel with welded annular rings—and powder coated in 1 of 6 custom colors. Select from a range of mounting options: bolt-down flange, in-ground embed, fold-down and removable mountings. [View without locking arms.](#)

Qty	1	2	3	4	5-9	10-24	25-49	50-99	100 +
USDS	631	588	569	557	548	542	531	522	Call for pricing

Select Coating



Powder Coating



IronArmor

USD \$43.00



Reliance+

USD \$76.00

Select Color* Required



Black+
Standard black powder coating is included at no additional cost.
Non-standard coatings are subject to a \$250 setup fee and may require additional lead time.

Type of Installation* Required



Removable Mounting

NOTE:
1. INSTALL WITH LIFTING LOOPS PARALLEL WITH THE TRAVEL OF THE TRAIL.

RELIANCE FOUNDRY MODEL R-7903 REMOVABLE BOLLARD OR EQUAL

NOT TO SCALE

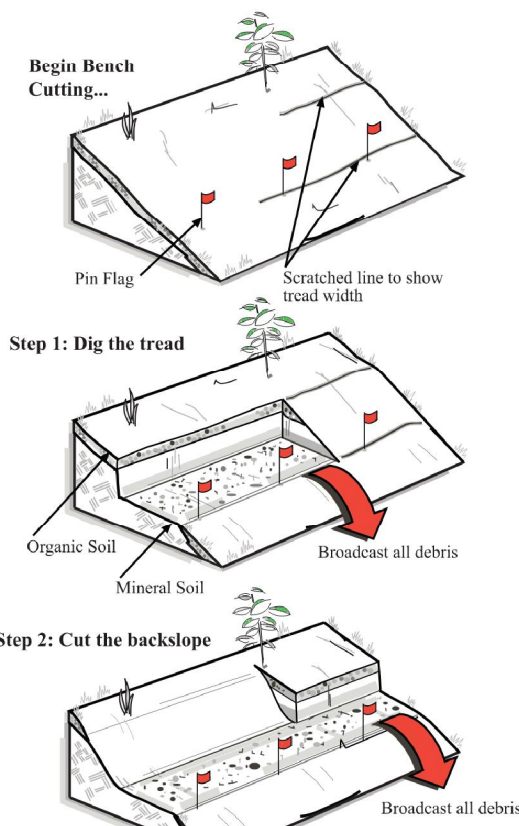


FIGURE 1.5 CONSTRUCTION SEQUENCE FOR BENCH CUT TRAIL (PART 1)

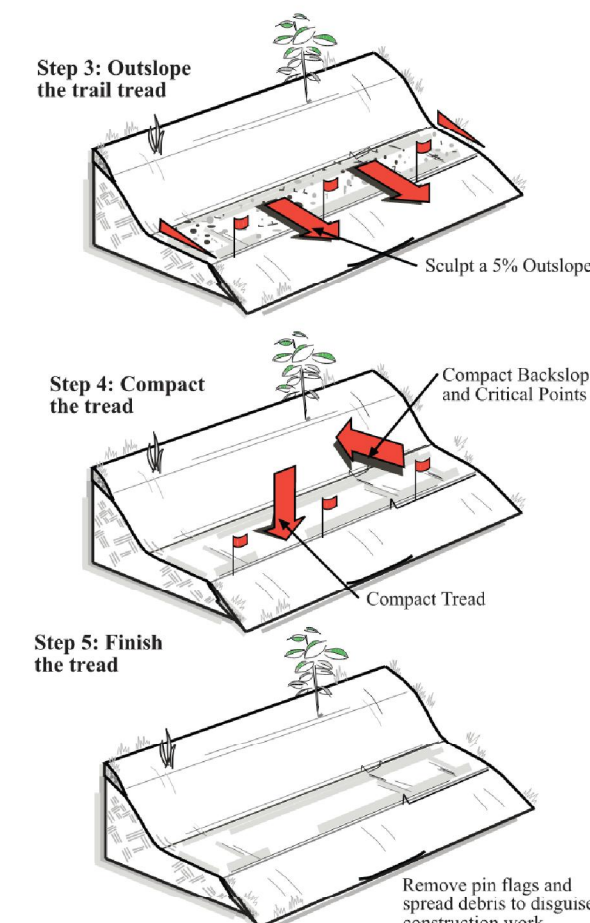
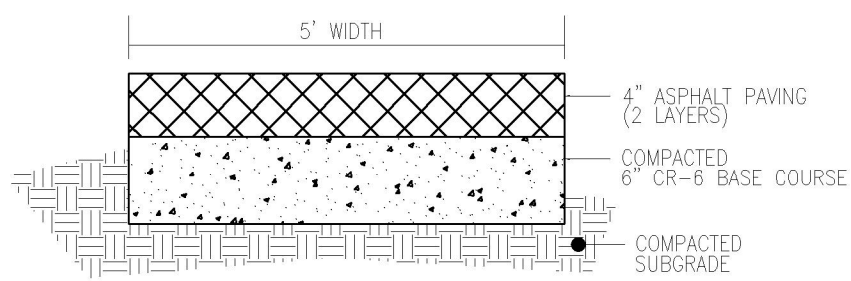


FIGURE 1.5 CONSTRUCTION SEQUENCE FOR BENCH CUT TRAIL (PART 2)



NOTE:
1. MAXIMUM CROSS-SLOPE SHALL NOT EXCEED 2%.



TYPICAL NATURAL SURFACE TRAIL STEP SECTION FOR TRAIL SECTIONS OVER 10%

NOTES:
1. GRADE REVERSALS ARE PROVIDED EVERY 100'-200'
2. CENTERLINE SLOPE ON TRAILS IS ALWAYS LESS THAN HALF THAT OF THE EXISTING SIDE SLOPE

5 TYPICAL GRADE REVERSAL ON TRAIL

OWNER-PARCEL 347 HOWARD COUNTY, MARYLAND DEPT OF RECREATION AND PARKS 3430 COURT HOUSE DRIVE COLUMBIA, MARYLAND 21043
OWNER-PARCEL 145 (O.S. 140) HOMEOWNERS ASSOCIATION, INC. 4750 OWINGS MILLS BLVD OWINGS MILLS, MARYLAND 21117
OWNER-PARCEL 412 (P.A.) RR GRACE & CO - GOWAN 7500 GRACE DRIVE COLUMBIA, MARYLAND 21044 410-356-9900
DEVELOPER SMPSON OWENS CRPS, LLC 4750 OWINGS MILLS BOULEVARD OWINGS MILLS, MARYLAND 21117 410-356-9900

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN SUSTAINABLE TRAIL NOTES & DETAILS CEDAR CREEK NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16.21,22 --- ZONED: NT, R-ED & CEF-R --- P.412, P.347 & P/O PARCEL 145 5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: VE + TG
DRAWN BY: VE + TG
CHECKED BY: RHY
DATE: FEBRUARY 2024
SCALE: AS SHOWN
W.O. NO.: 15-55

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, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2028

17 SHEET OF 20

PARTS LIST			
QTY	DESCRIPTION	LENGTH (IN)	WT. (LBS)
4	BM1	197 1/8	42
2	BM2A-BM2D	240	52
2	BM2B-BM2C	240	52
2	BM3A-BM3B	240	52
4	Crosspiece	149	32
4	Short Crosspiece	103	22
2	Top Cap	191 13/16	28
4	End Cap	56 3/8	8
2	Facepiece	103	21
4	Facepiece Clips	5	1
14	Single Span Rail to Sloped Ends		104
4	Post P1B	62 3/4	10
4	Post P2	62 3/4	10
4	Diagonal D1	79 1/16	22
2	D3 X-Brace Assy	78 7/8	33
4	48" C6 End Slope Assembly		24
3	Horizontal brace H1	116 3/4	17
4	Outrigger	59 3/4	7
4	Outrigger Plates (set of 2)	4 1/2	1
8	C6 Spacer #1	11 3/4	1
4	Spacer #2	22	3
6	C6 Spacer #3	6	1
4	C6 Spacer #4	5	1
18*	GR120 SuperDeck Lite	95 1/2	58
2	GR120 SuperDeck Lite - Sloped End	95 1/2	57
8	Anchor Bolt Clip 0023	4	2

*Estimated quantity



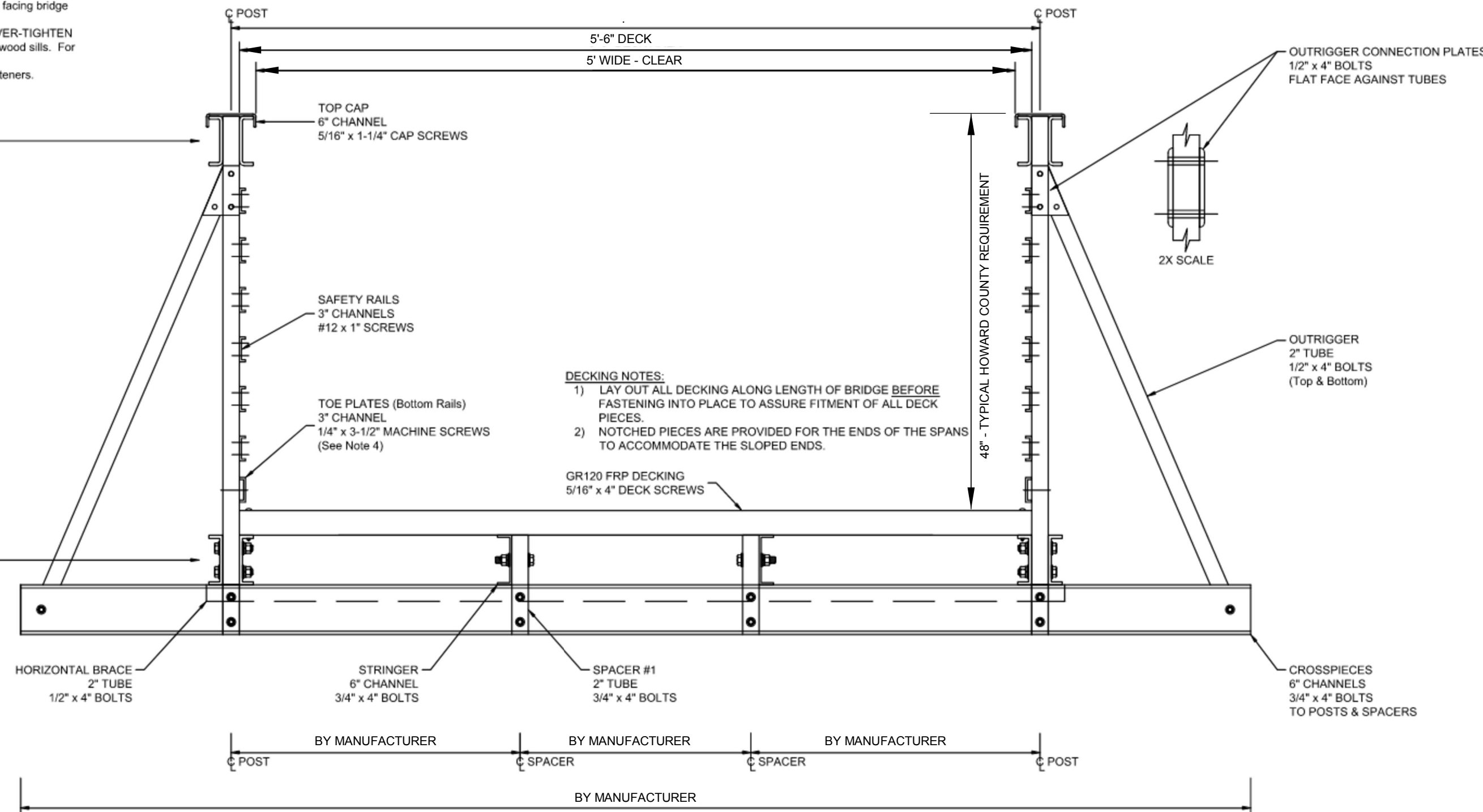
TYPICAL FRP - ISOMETRIC VIEW
SCALE: N.T.S.

GENERAL NOTES:

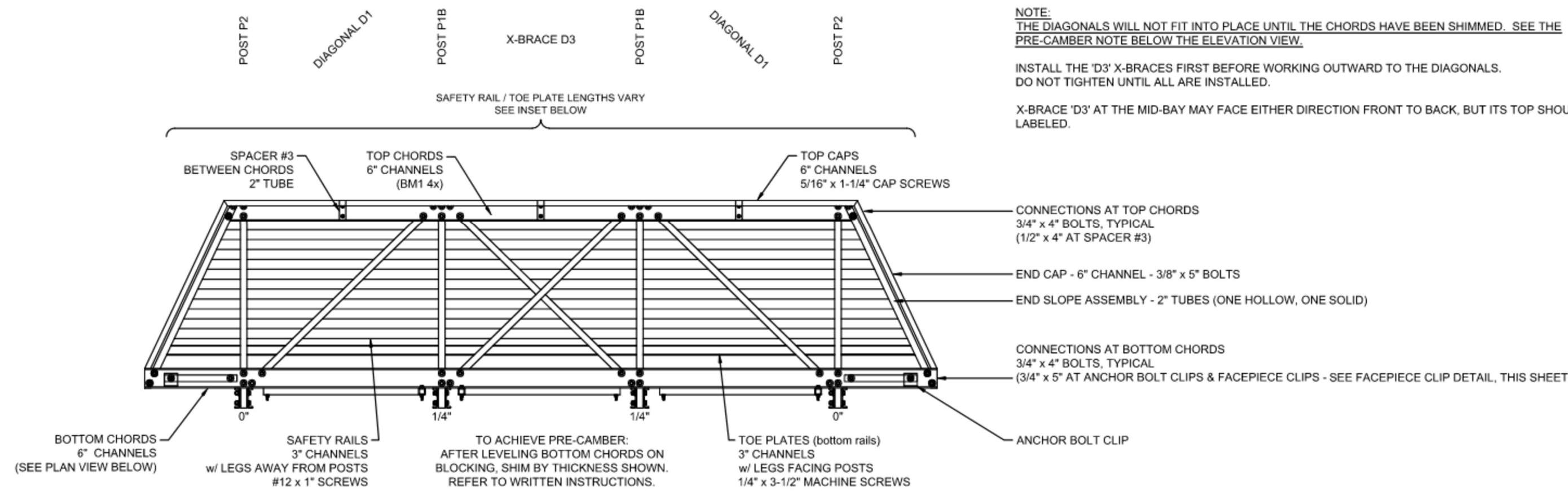
- 1) Be sure to install all vertical posts with safety rail pilot holes facing bridge walkway.
- 2) Tighten all nuts until lock washer closes firmly. DO NOT OVER-TIGHTEN
- 3) FRP Shims are supplied for use under anchor bolt clips on wood sills. For concrete foundations, grouting is preferred.
- 4) Install Toe Plates after decking for clearance of decking fasteners.

CONNECTIONS ALONG TOP CHORDS
3/4" x 4" BOLTS, TYPICAL
(1/2" x 4" AT SPACER #3)
FLAT WASHER / LOCK WASHER / NUT TO OUTSIDE FACE
BOLT HEAD / FLAT WASHER TO INSIDE FACE

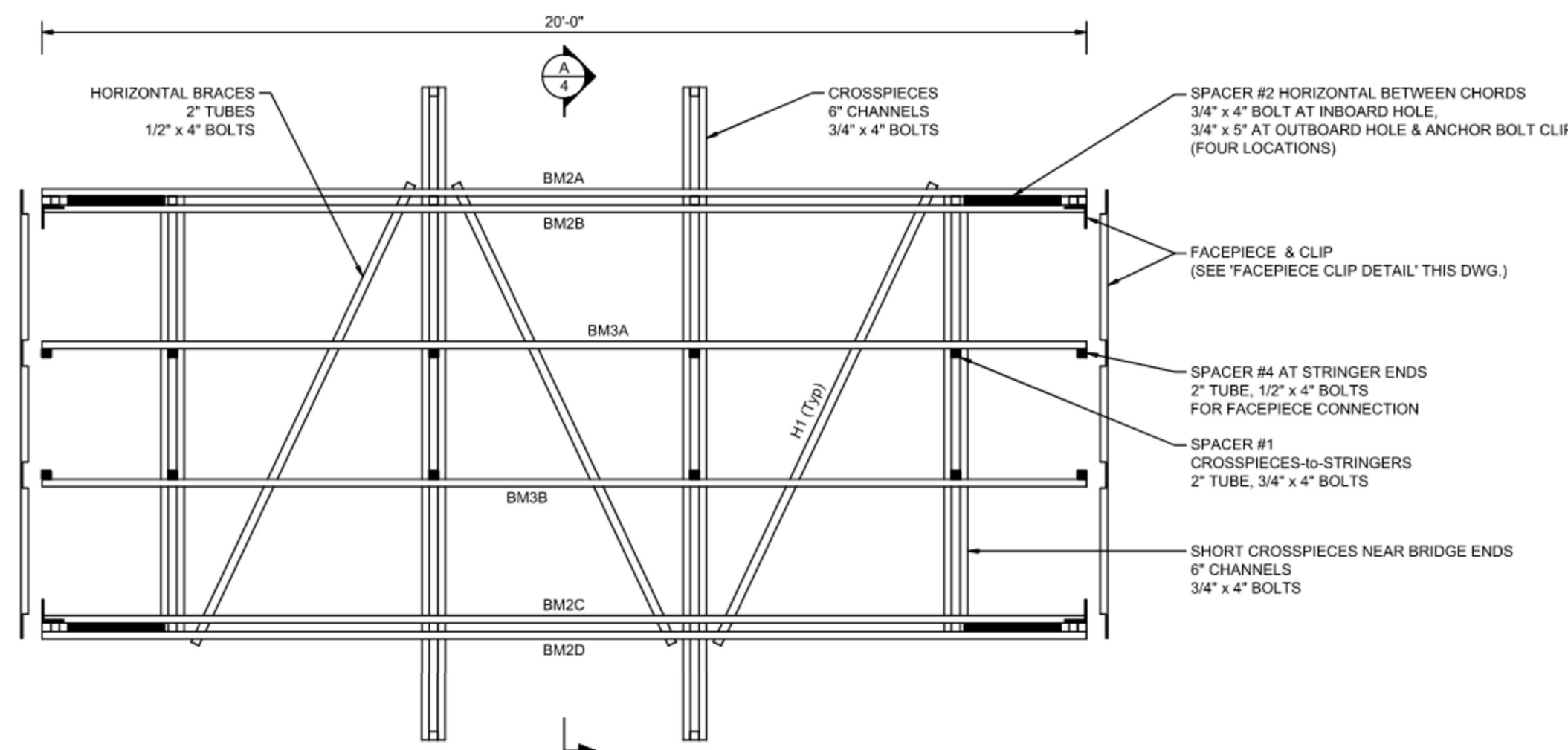
CONNECTIONS ALONG BOTTOM CHORDS
3/4" x 4" BOLTS, TYPICAL
(SEE ELEVATION VIEWS FOR VARIANTS)
FLAT WASHER / LOCK WASHER / NUT TO INSIDE FACE
BOLT HEAD / FLAT WASHER TO OUTSIDE FACE



SECTION A-A
TYPICAL TRUSS



ELEVATION



BRIDGE PLAN at BOTTOM CHORDS

NOTE:
THE DIAGONALS WILL NOT FIT INTO PLACE UNTIL THE CHORDS HAVE BEEN SHIMMED. SEE THE PRE-CAMBER NOTE BELOW THE ELEVATION VIEW.
INSTALL THE 'D3' X-BRACES FIRST BEFORE WORKING OUTWARD TO THE DIAGONALS. DO NOT TIGHTEN UNTIL ALL ARE INSTALLED.
X-BRACE 'D3' AT THE MID-BAY MAY FACE EITHER DIRECTION FRONT TO BACK, BUT ITS TOP SHOULD BE LABELED.

NOTE:
BRIDGE ABUTMENTS TO BE DESIGNED BY OTHERS.

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DEPT OF RECREATION AND PARKS
3430 COURT HOUSE DRIVE
COLUMBIA, MARYLAND 21043
OWNER-PARCEL 145(O.S.140): CEDAR CREEK
HOMESOWNERS ASSOCIATION, INC.
4750 OWINGS MILLS BLVD
OWINGS MILLS, MARYLAND 21117
OWNER-PARCEL 412 (P.A.): WR GRACE & CO - CONN
7500 GRACE DRIVE
COLUMBIA, MARYLAND 21044
410-356-9900
DEVELOPER: SIMPSON OAKS CRP3, LLC
4750 OWINGS MILLS BOULEVARD
OWINGS MILLS, MARYLAND 21117
410-356-9900

NO.	REVISION	DATE
-----	----------	------

SITE DEVELOPMENT PLAN
TYPICAL FRP - BRIDGE DETAILS

CEDAR CREEK
NATURAL SURFACE TRAIL

TAX MAP 35 GRID 16,21,22 --- ZONED: NT, R-ED & CEF-R --- P.412, P.347 & P/O PARCEL 145
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

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P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: VE + TG
DRAWN BY: VE + TG
CHECKED BY: RHV
DATE: FEBRUARY 2024
SCALE: AS SHOWN
W.O. NO.: 1S-55

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THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2028

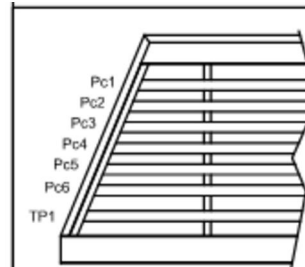
18 SHEET OF 20

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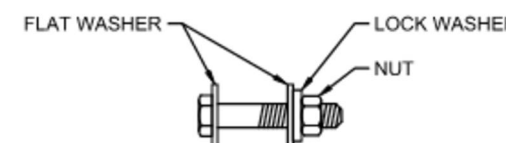
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DIRECTOR DATE

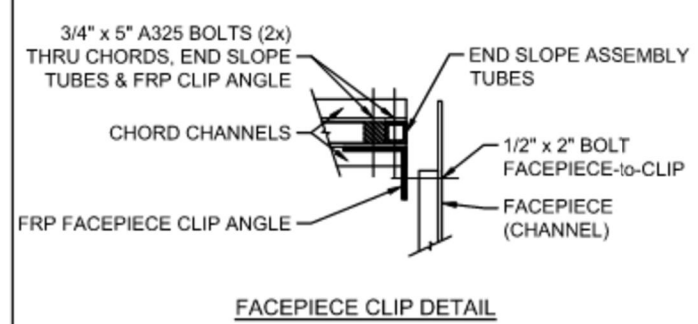


FASTEN SAFETY RAILS (PcX) WITH LEGS AWAY FROM POSTS USING #12 x 1" SCREWS
FASTEN TOE PLATES (TP1/TP1a) WITH LEGS TOWARD POSTS USING 1/4" x 3-1/2" MACHINE SCREWS
INSTALL TOE PLATES AFTER DECKING HAS BEEN INSTALLED FOR CLEARANCE OF DECKING SCREWS
FASTEN RAILS TO SLOPED END TUBE - HOLES PROVIDED IN RAILS ONLY AT THESE LOCATIONS

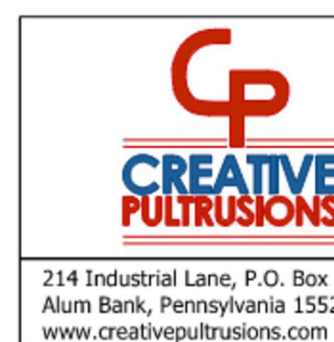


3/4" & 1/2" BOLTS ARE A307 UNLESS NOTED.
TIGHTEN NUT UNTIL LOCK WASHER CLOSES.
DO NOT OVERTIGHTEN.

TYPICAL BOLT SET THROUGHOUT

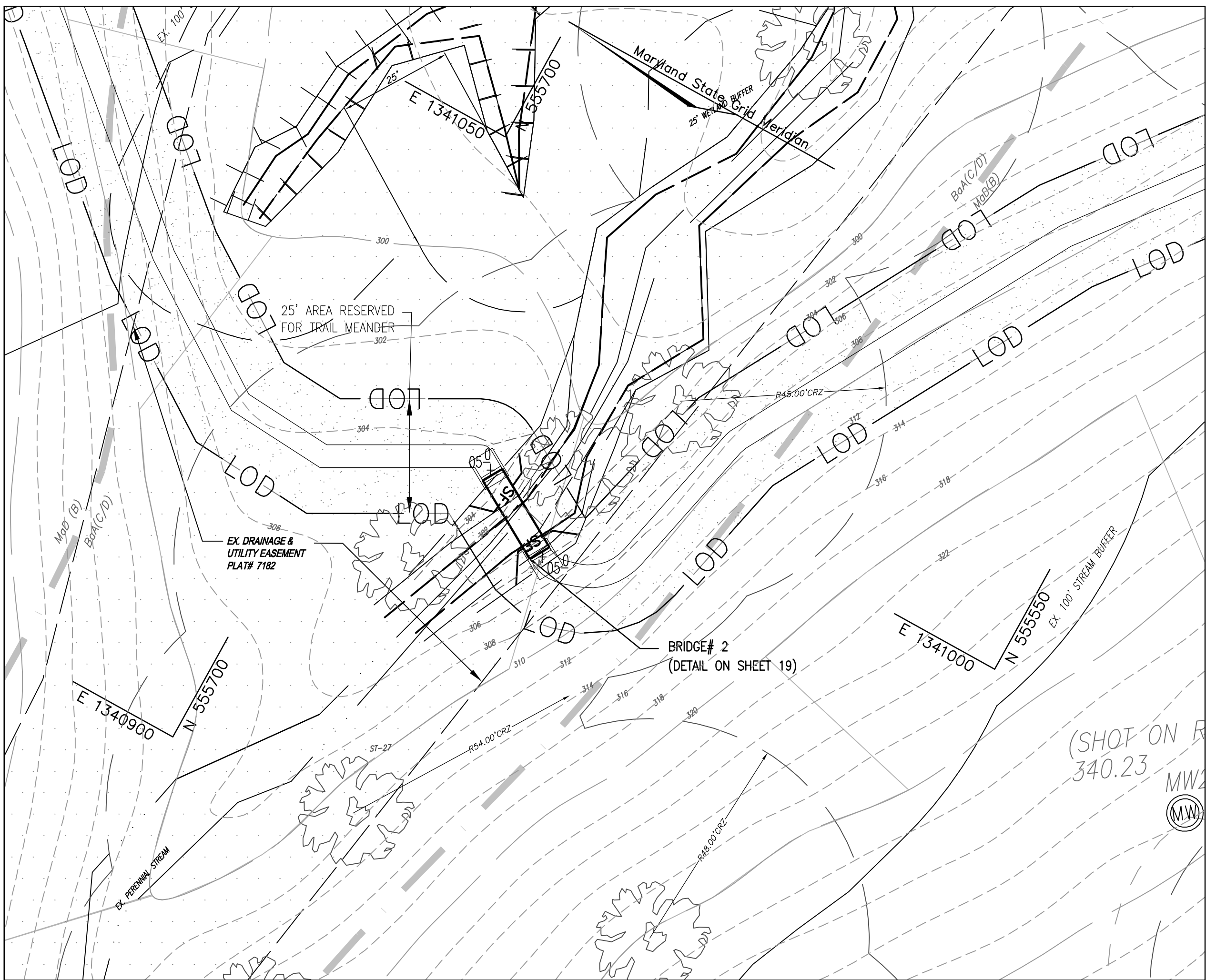
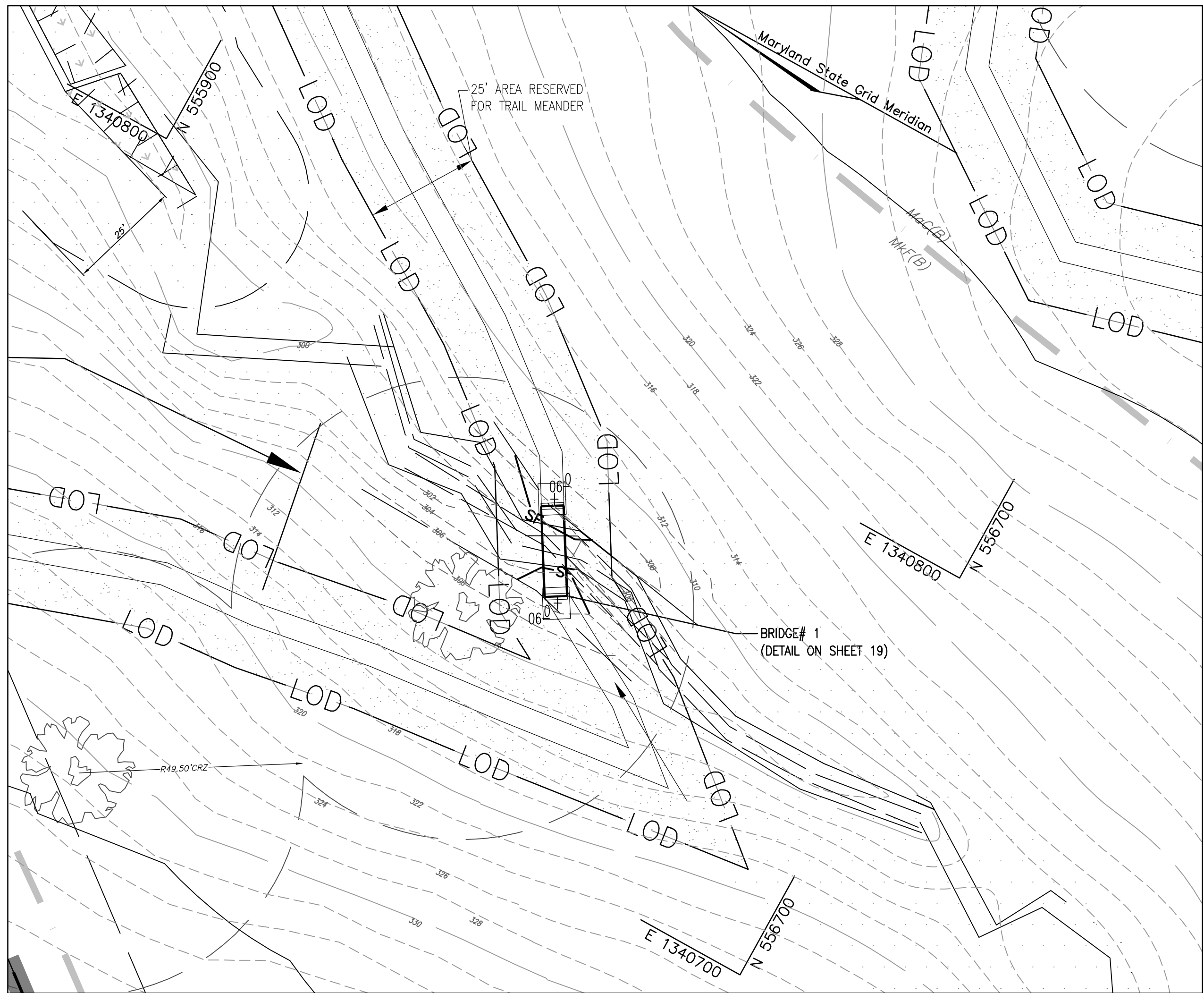


FACEPIECE CLIP DETAIL

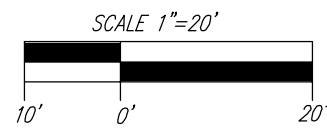


DRAWN	JHM	2/20/2024
CHECKED	GA	
RFPS		
ENG		

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Tamar Drive 20' Bridge
20'x8'x48"
SIZE: B TOLERANCE: ±1/16" PART: Field Parts List
SCALE: DRAWING NOT TO SCALE



- LEGEND:**
- EXISTING CONTOUR
 - EXISTING SPECIMEN TREES
CRITICAL ROOT ZONE
 - EXISTING TREELINE
(FIELD LOCATED)
 - PROPERTY LINE
 - SOILS BOUNDARY
 - 100' STREAM BUFFER
 - EXISTING STREAM
 - 25' WETLAND BUFFER
 - WETLANDS
 - MODERATE SLOPES
(15% - 24.99%)
 - STEEP SLOPE
(≥25%)
 - EXISTING DRAINAGE AND
UTILITY EASEMENT
PLAT#7181-7182
 - 25' AREA RESERVED
FOR TRAIL MEANDER
 - LOD LIMIT OF DISTURBANCE
 - SF SILT FENCE

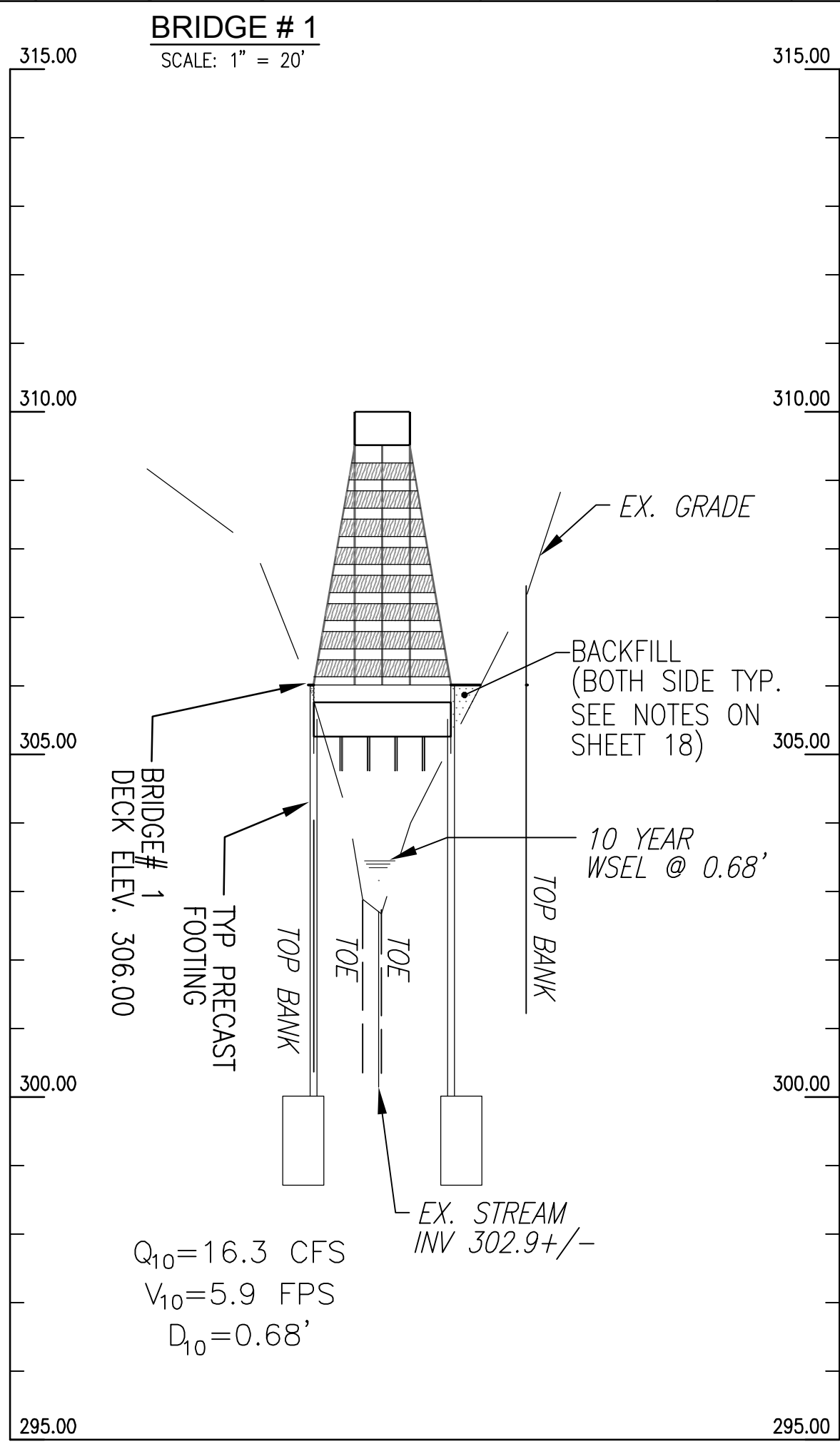


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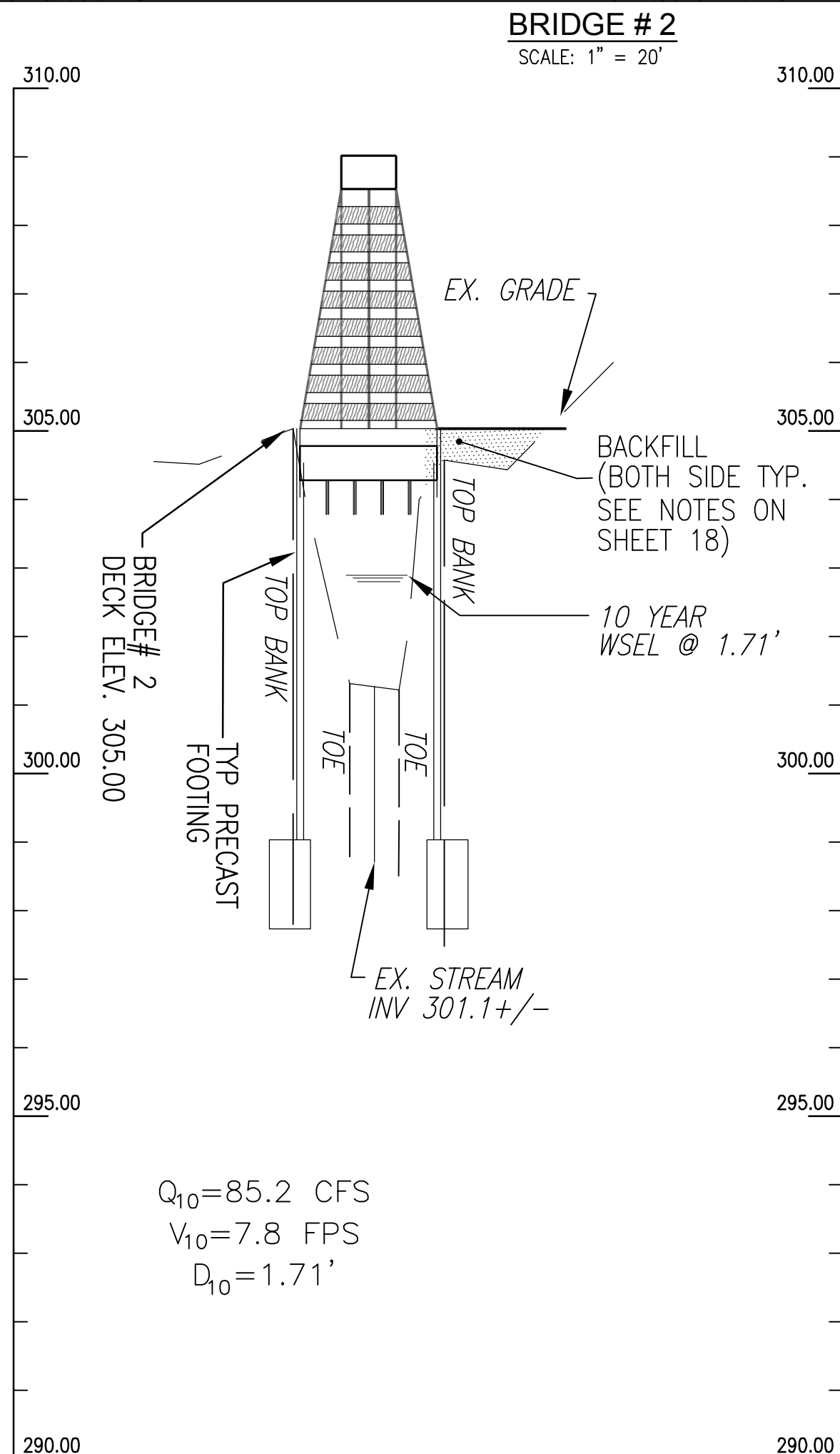
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DIRECTOR DATE



BRIDGE #1 PROFILE
SCALE : HORIZONTAL - 1"=20'
VERTICAL - 1"=5'

NOTE:
DEVELOPER / DEVELOPER'S AGENT SHALL
BE RESPONSIBLE FOR INSTALLING THE
BRIDGE FOOTINGS. SEE SHT 20.



BRIDGE #2 PROFILE
SCALE : HORIZONTAL - 1"=20'
VERTICAL - 1"=5'

NOTE:
- SILT FENCE IS TO BE REPLACED WITH SUPER
SILT FENCE AT THE DIRECTION OF THE
SEDIMENT CONTROL INSPECTOR.
- SILT FENCE SHALL BE CURLED UPHILL NO
MORE THAN 25 FEET APART
- DOUBLE ROWS OF SUPER SILT FENCE SHALL
BE INSTALLED AT THE DIRECTION OF THE
SEDIMENT CONTROL INSPECTOR.

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OWNER-PARCEL 145(O.S.140) CEDAR CREEK
OWNER-PARCEL 412 (P.A.) HOMEOWNERS ASSOCIATION, INC.
DEVELOPER SIMPSON OAKS CRP3, LLC
HOWARD COUNTY, MARYLAND 21043
7500 GRACE DRIVE
COLUMBIA, MARYLAND 21044
410-356-9900

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
BRIDGE DETAILS
**CEDAR CREEK
NATURAL SURFACE TRAIL**

TAX MAP 35 GRID 16,21,22 ZONED: NT, R-ED & CEF-R P.412, P.347 & P/O PARCEL 145
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

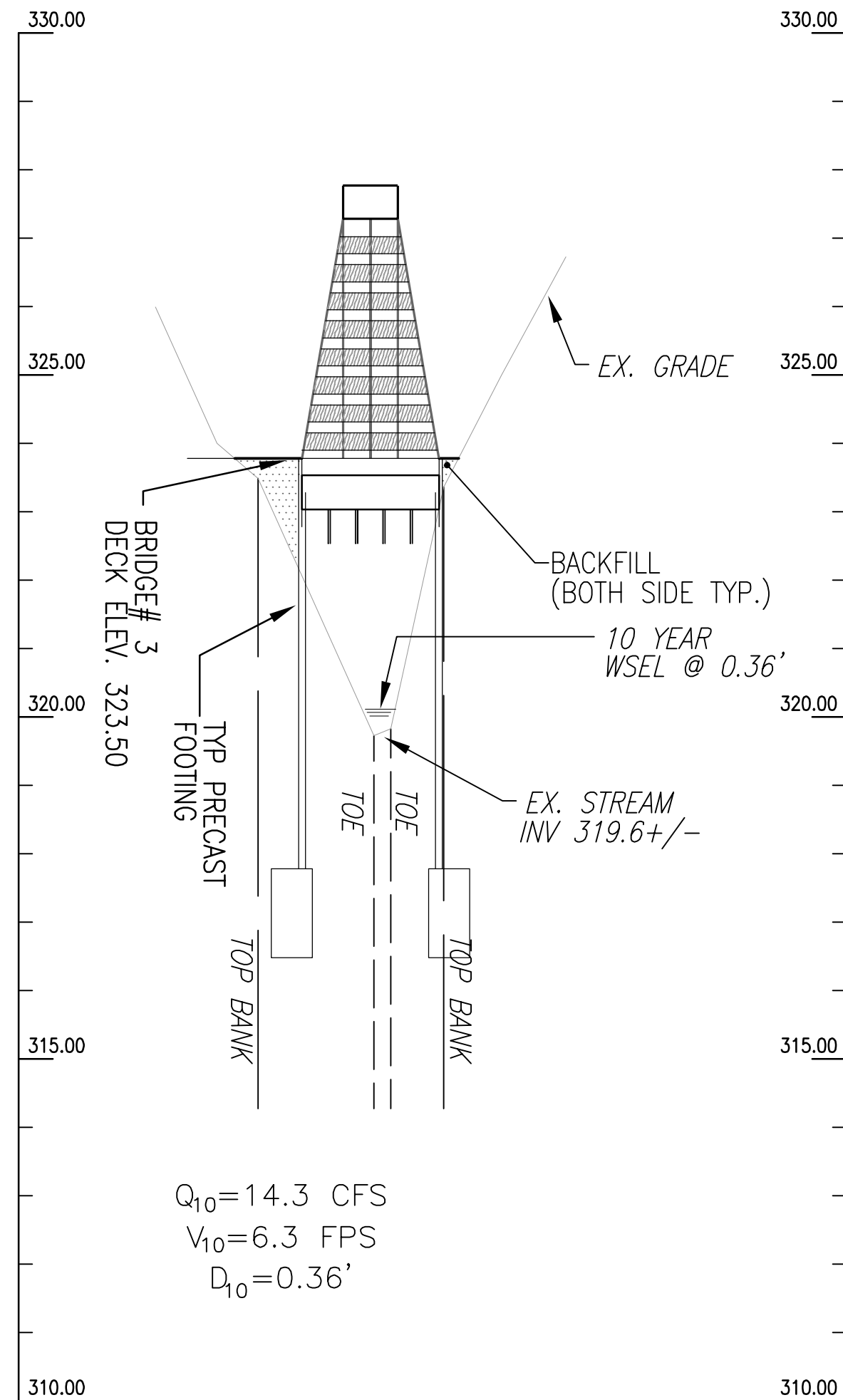
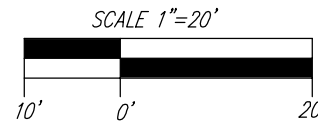
VOGEL ENGINEERING
TIMMONS GROUP
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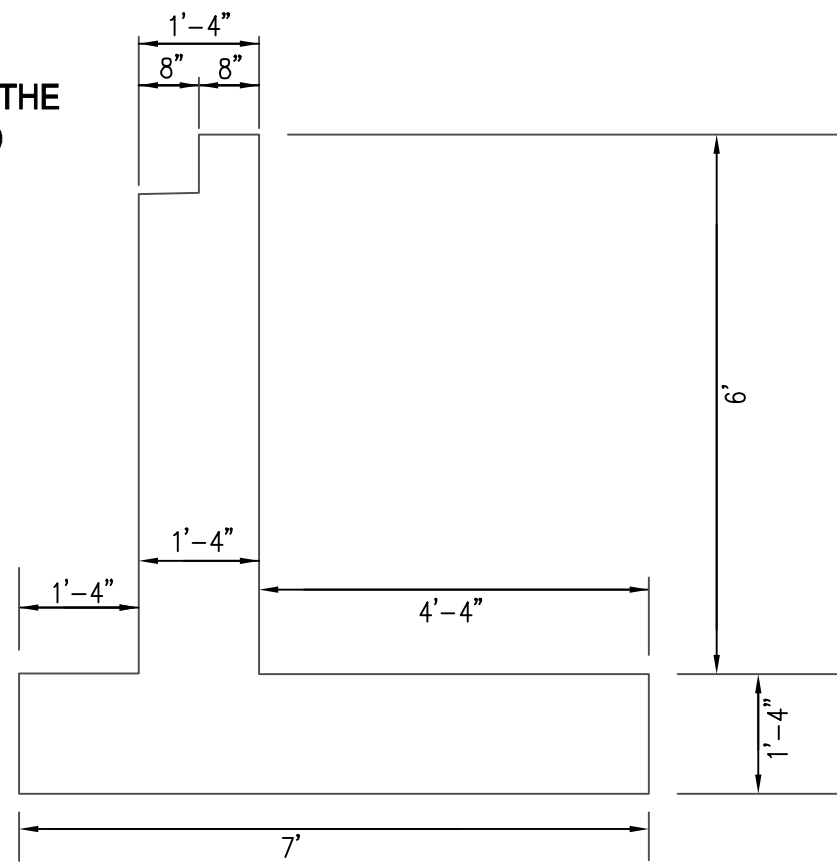
BRIDGE # 3
SCALE: 1" = 20'



BRIDGE #3 PROFILE

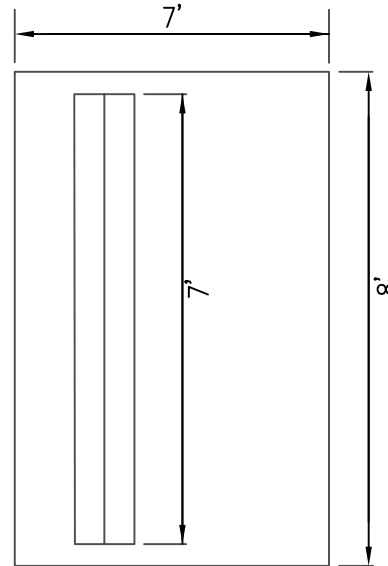
SCALE : HORIZONTAL - 1"=20'
VERTICAL - 1"=5'

NOTE:
SHOP DRAWING, SIGNED AND SEALED BY
VOGEL ENGINEERING+TIMMONS GROUP, THE
DESIGN ENGINEER, SHALL BE APPROVED
PRIOR TO CONSTRUCTION OF PRECAST
BRIDGE FOOTING



TYP. BRIDGE FOOTING - PROFILE VIEW

SCALE: N.T.S.

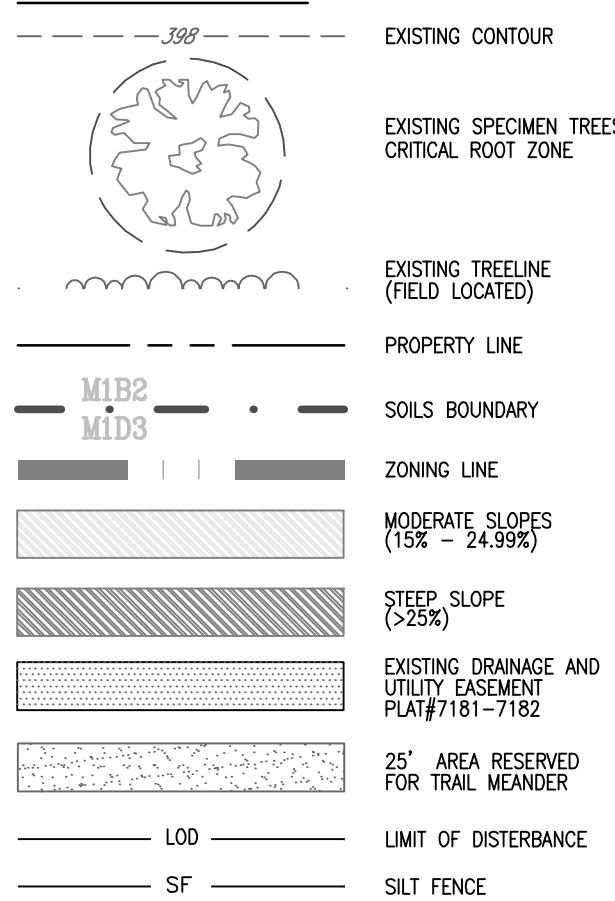


TYP. BRIDGE FOOTING - PLAN VIEW

SCALE: N.T.S.

NOTE:
DEVELOPER / DEVELOPER'S AGENT SHALL
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BRIDGE FOOTINGS.

LEGEND:



NOTE:

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- SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 25 FEET APART
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE _____

CHIEF, DIVISION OF LAND DEVELOPMENT _____ DATE _____

DATE _____

DIRECTOR	DATE
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DATE _____

SITE DEVELOPMENT PLAN
BRIDGE DETAILS
CEDAR CREEK
NATURAL SURFACE TRAIL

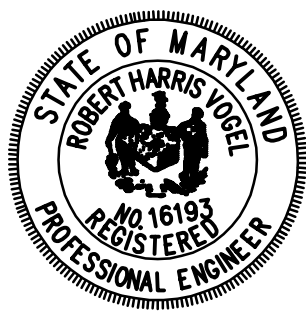
TAX MAP 35 GRID 16,21,22 --- ZONED: NT, R-ED & CEF-R --- P.412, P.347 & P/O PARCEL 14
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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ROBERT H. VOGEL, PE No.1619.

DESIGN BY: VE + TG

DRAWN BY: VE + TG

CHECKED BY: RHV

DATE: OCTOBER 2025

SCALE: AS SHOWN

W.O. NO. 15-55

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EXPIRATION DATE: 09-27-2026

20 SHEET 20
OF
