

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
60% PRELIMINARY DESIGN

INDEX OF SHEETS

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PROJECT SUMMARY

TOTAL LENGTH OF EXISTING STREAM RESTORED: 2,600 LINEAR FEET
TOTAL LENGTH OF PROPOSED STREAM RESTORED: 2,600 LINEAR FEET
STREAM USE CLASS: IV-P
STREAM CLOSURE PERIOD: MARCH 1" – JUNE 15"
LOAD REDUCTIONS AND IA CREDIT SUMMARY:

IA CREDIT	TSS REDUCTION	TN REDUCTION	TP REDUCTION
108.31 AC	538.24 TON/YR	714.29 LB/YR	338.14 LB/YR

NOTE: CREDIT CALCULATED VIA PROTOCOL 1 BANC'S METHODOLOGY, PROTOCOL 5, AND THE 2021 MDE WASTELOAD ALLOCATIONS DOCUMENT.

SITE ANALYSIS

- | | |
|--|----------|
| 1. TOTAL SITE AREA: | 4.34 AC |
| 2. TOTAL DISTURBED AREA: | 4.34 AC |
| 3. TOTAL IMPERVIOUS AREA WITHIN THE LOD: | 0.01 AC |
| 4. TOTAL AREA TO BE VEGETATIVELY STABILIZED: | 3.93 AC |
| 5. PROPOSED IMPERVIOUS AREA: | 0 AC |
| 6. IMPERVIOUS AREA TREATED (MS4 CREDIT): | 108.31 |
| 7. ESTIMATED CUT: | 4,275 CY |
| 8. ESTIMATED FILL: | 1,595 CY |
| 9. NET EXPORT: | 2,680 CY |

AS-BUILT CERTIFICATION

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

SIGNATUREDATE

PRINTED NAME

FIELD VERIFICATION

I HEREBY CERTIFY THAT I COMPLETED A FIELD VERIFICATIN TO THE INFORMATION SHOWN ON THE PLANS ON JUNE 15, 2021 AND THAT THE INFORMATION SHOWN ON THE PLANS IS IN AGREEMENT WITH THE ACTUAL FIELD CONDITIONS.

PRINTED NAME

SIGNEDDATE

DEVELOPER'S/LANDOWNER'S CERTIFICATION

I/WE CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE CONSTRUCTION DRAWING(S) WILL BE ACCOMPLISHED PURSUANT TO THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED, INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS WITHIN 30 DAYS OF COMPLETION, BY A REGISTERED PROFESSIONAL ENGINEER.

SIGNEDDATE

PRINTED NAME

OWNER: HARFORD COUNTY
212 SOUTH BOND STREET,
1ST FLOOR
BEL AIR, MD 21014
(410) 638 – 3217

Prepared By :



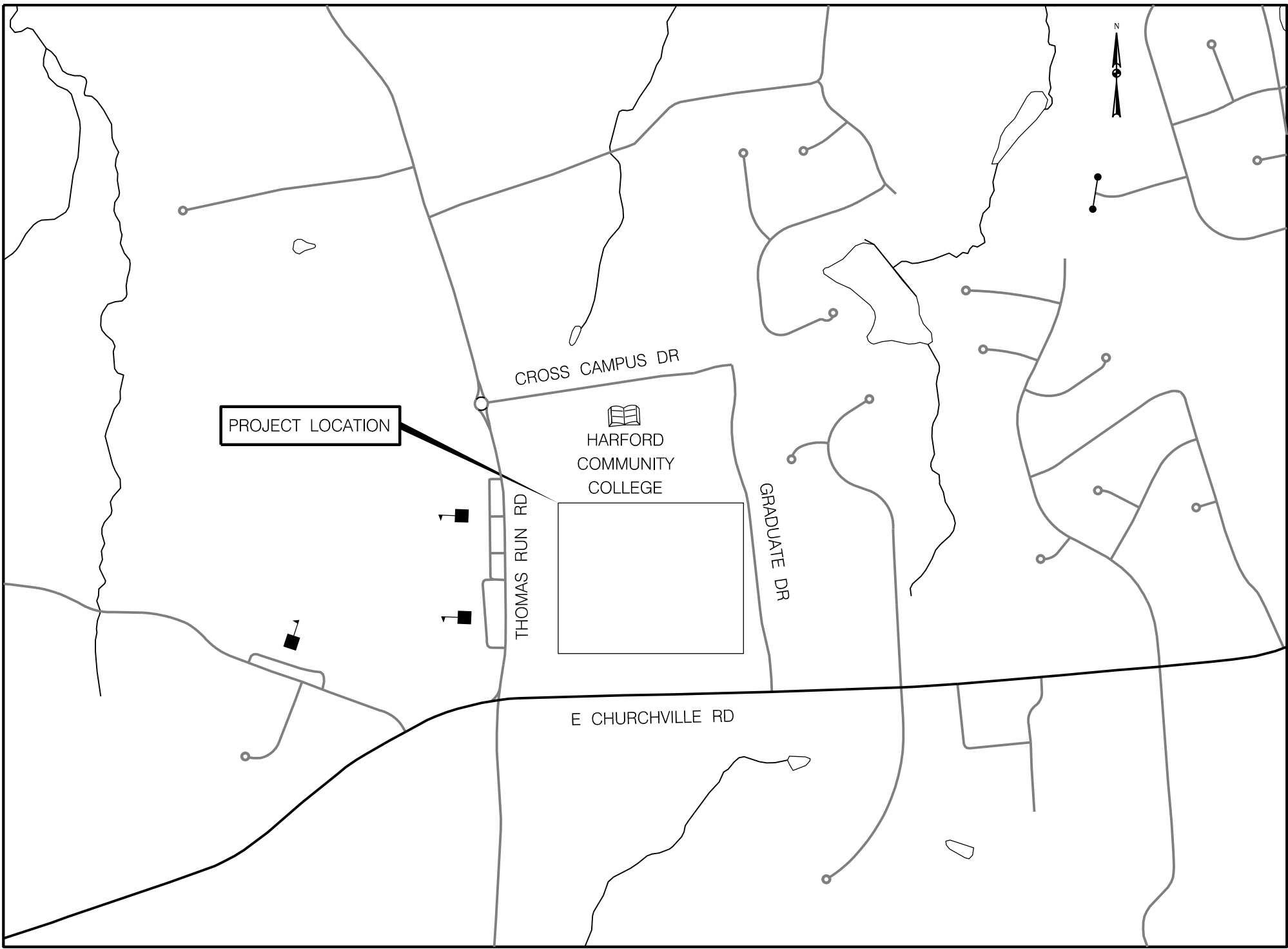
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LOCATION MAP

SCALE 1" = 1,000'



GENERAL NOTES

- SPECIFICATIONS: ALL WORK IS TO BE PERFORMED IN ACCORDANCE MDOT STATE HIGHWAY ADMINISTRATIONS STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2025 AND THE MOST RECENT REVISIONS THEREOF AND ADDITIONS THERETO.
- UTILITIES: UTILITY LOCATIONS SHOWN ON THE PLANS ARE BASED ON SURVEY INFORMATION AVAILABLE. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF THIS INFORMATION. THE COST OF REPAIR OR REPLACEMENT OF ANY SUCH FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE BORNE BY THEM.

CONTACT "MISS UTILITY" PHONE 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THERE SHOULD BE NO EXCAVATION UNTIL THE LOCATIONS OF UNDERGROUND UTILITIES HAVE BEEN DETERMINED.

- STANDARD DETAILS: REFERENCE MADE TO STANDARDS ARE TAKEN FROM THE HARFORD COUNTY ROAD CODE "BOOK OF STANDARD DETAILS" AND FROM "THE MDOT STATE HIGHWAY ADMINISTRATION'S BOOK OF STANDARDS-HIGHWAY AND INCIDENTAL STRUCTURES". IT WILL BE THE CONTRACTOR'S RESPONSIBILITY THAT THE STANDARD DRAWINGS IN THEIR POSSESSION ARE THE LATEST REVISED STANDARDS UP TO AND INCLUDING THE DATE OF THE ADVERTISEMENT OF THIS CONTRACT.

- RIGHT-OF-WAY LINES: RIGHT-OF-WAY LINES SHOWN ON THESE PLANS DO NOT INCLUDE EASEMENTS. THEY ARE FOR ASSISTANCE IN INTERPRETING THE PLANS ONLY. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL FEE RIGHT-OF-WAY AND EASEMENT INFORMATION, SEE THE APPROPRIATE RIGHT-OF-WAY PLATS.

- SOIL CONSERVATION: THE CONTRACTOR SHALL NOT DISTURB THE EXISTING VEGETATION OUTSIDE THE LIMITS OF DISTURBANCE. SOIL STABILIZATION WILL CONFORM TO 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. THE CONTRACTOR WILL OBTAIN APPROVAL OF THE HARFORD COUNTY SOIL CONSERVATION DISTRICT FOR THEIR PLANS IN CONTROLLING SEDIMENT EROSION FOR THE BORROW AREA AND DISPOSING OF ANY WASTE EXCAVATION.

- EXISTING MAILBOXES AND EXISTING SIGNS: ALL EXISTING MAILBOXES, SIGNS AND PAPER BOXES DISTURBED DURING CONSTRUCTION SHALL BE TEMPORARILY RESET IMMEDIATELY AND PERMANENTLY RESET AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.

- SURVEYS:
HORIZONTAL CONTROL – COORDINATES SHOWN ON THE PLANS ARE BASED ON MARYLAND STATE PLANE COORDINATE SYSTEMN NAD83/91. ALL DISTANCES SHOWN HEREON ARE IN U.S. SURVEY FEET.

VERTICAL CONTROL – ELEVATIONS SHOWN ON THE PLANS ARE BASED ON NAVD88 IN U.S. SURVEY FEET.

ONLY THOSE CONTROL POINTS SHOWN ON THESE PLANS ARE TO BE USED FOR THE CONSTRUCTION OF THIS PROJECT.

SURVEY IS TIED TO LOCAL CONTROL NATIONAL GEODETIC SURVEY (NGS) POINTS JV6806, JV6311, AND JV6275.

NOTE: TOPOGRAPHIC MAPPING PRODUCED BASED ON FEBRUARY 2025 SURVEY CONDUCTED BY RKK.

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
TITLE SHEET

Drawn By : AG

Scale : N/A

Designed By : NH, JZ

Date : SEPTEMBER 2025

Reviewed By : RD

Drawing No. GN-01 of GN-01

Sheet No. 1 of 48

PROFESSIONAL CERTIFICATION

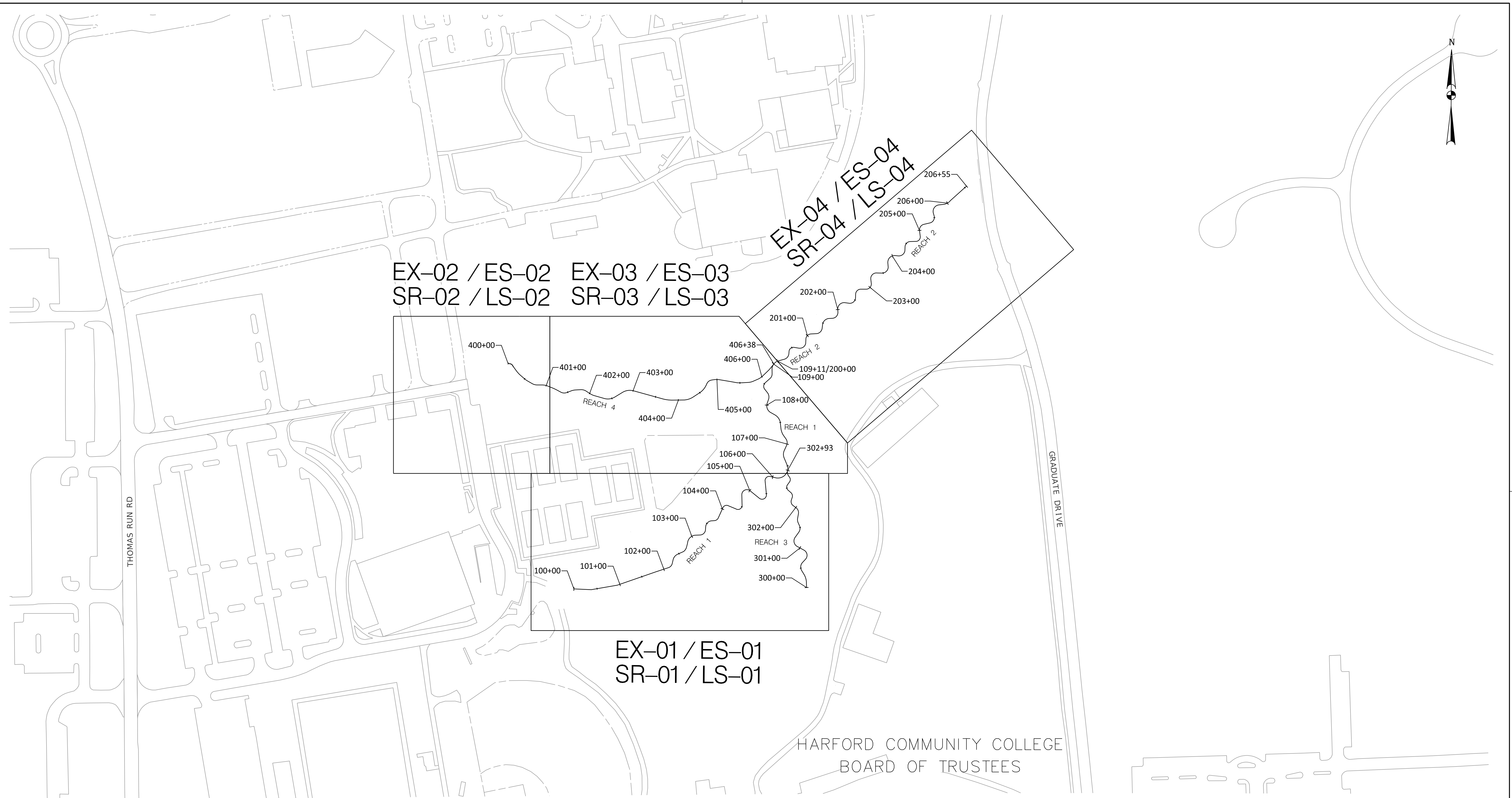
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 200370, EXPIRATION DATE: 2025/03/19.

PROJECT CONTRACT:
21-097 TO #25

Revisions

GP #XXX-XXXXXX-XXXX

SIGN AND SEAL



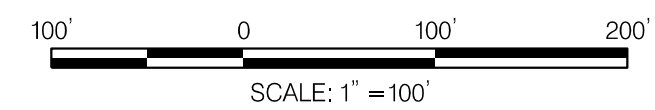
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FILE PATH: \\ad.rkk.com\fs\Cloud\Projects\2021\21155_HARCO\Task 025_Harford Community College Stream Restoration\CADD\60%\Plans\02 - pKS-0001_HCC.dgn
PLOTTED: 9/12/2025



PROFESSIONAL CERTIFICATION

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AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MARYLAND. LICENSE NO. 200370, EXPIRATION DATE: 2025/03/19.

PROJECT CONTRACT:
21-097 TO #25

GP #XXX-XXXXXX-XXXX

Revisions

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION KEY SHEET

Drawn By : AG

Scale : 1"=100'

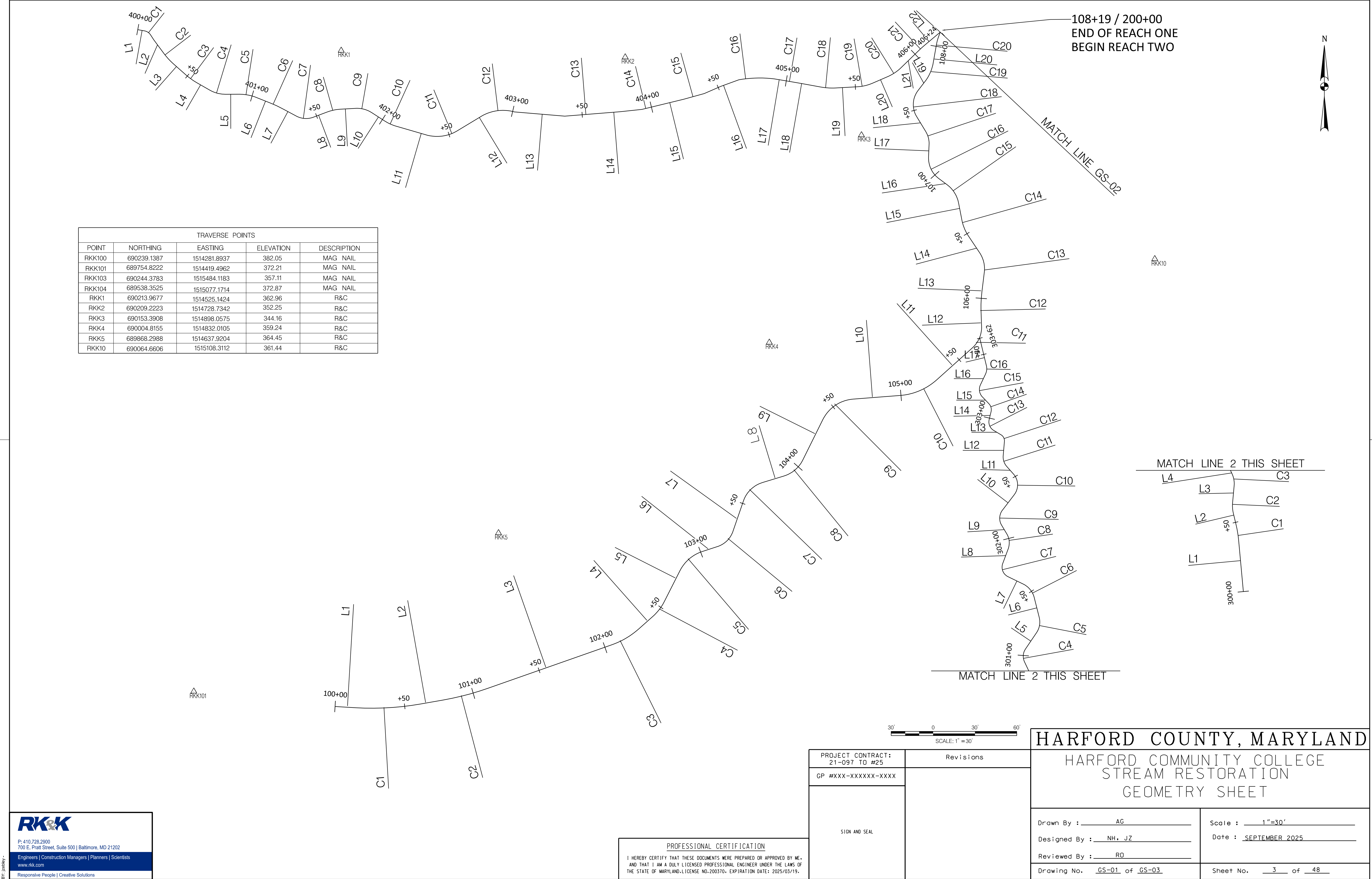
Designed By : NH, JZ

Date : SEPTEMBER 2025

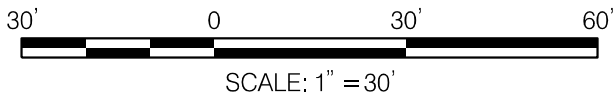
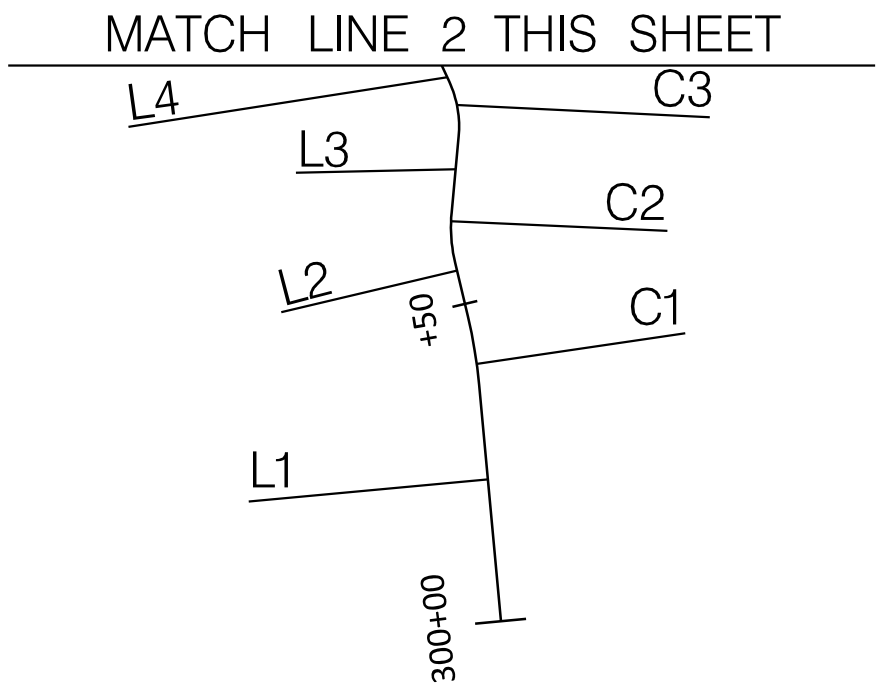
Reviewed By : RO

BID No.::

SCALE : 1 inch



TRAVERSE POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
RKK100	690239.1387	1514281.8937	382.05	MAG NAIL
RKK101	689754.8222	1514419.4962	372.21	MAG NAIL
RKK103	690244.3783	1515484.1183	357.11	MAG NAIL
RKK104	689538.3525	1515077.1714	372.87	MAG NAIL
RKK1	690213.9677	1514525.1424	362.96	R&C
RKK2	690209.2223	1514728.7342	352.25	R&C
RKK3	690153.3908	1514898.0575	344.16	R&C
RKK4	690004.8155	1514832.0105	359.24	R&C
RKK5	689868.2988	1514637.9204	364.45	R&C
RKK10	690064.6606	1515108.3112	361.44	R&C



HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION GEOMETRY SHEET

Drawn By : AG

Scale : 1"=30'

Designed By : NH, JZ

Date : SEPTEMBER 2025

Reviewed By : RD

Drawing No. GS-01 of GS-03

Sheet No. 3 of 48

PROJECT CONTRACT:
21-097 TO #25
GP #XXXX-XXXXX-XXXX

Revisions

SIGN AND SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME,
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Reach 1 Baseline Data							
NUMBER	STATION	NORTHING	EASTING	RADIUS	DELTA ANGLE	LENGTH FT	TANGENT FT
L1	0+00.00	689743.9395	1514520.772			14.66'	
C1	0+14.66	689743.0254	1514558.769	200.00'	13.3942	46.75'	23.48'
L2	0+61.41	689741.6536	1514558.847			16.62'	
C2	0+78.04	689752.0803	1514614.353	200.00'	9.3878	32.77'	16.42'
L3	1+10.81	689751.4292	1514614.524			94.64'	
C3	2+05.45	689792.8535	1514729.297	56.90'	22.1904	22.04'	11.16'
L4	2+27.49	689791.9191	1514729.846			13.81'	
C4	2+41.30	689813.4446	1514753.181	36.13'	21.5896	13.61'	6.89'
L5	2+54.92	689813.0468	1514753.696			24.72'	
C5	2+79.64	689849.7081	1514774.632	27.54'	45.0748	21.66'	11.43'
L6	3+01.30	689851.4371	1514773.151			11.39'	
C6	3+12.70	689862.6805	1514801.712	17.53'	52.9638	16.21'	8.73'
L7	3+28.90	689861.2154	1514803.154			22.95'	
C7	3+51.85	689899.4273	1514818.719	20.93'	54.085	19.75'	10.68'
L8	3+71.61	689901.276	1514816.936			15.93'	
C8	3+87.53	689913.4	1514850.417	22.61'	46.6623	18.41'	9.75'
L9	4+05.94	689911.8638	1514851.718			32.29'	
C9	4+38.24	689959.6947	1514879.321	26.49'	59.1302	27.34'	15.03'
L10	4+65.58	689962.9815	1514877.102			33.92'	
C10	4+99.50	689970.2151	1514939.838	44.16'	37.3939	28.82'	14.94'
L11	5+28.32	689967.9531	1514940.806			34.47'	
C11	5+62.79	690007.957	1514982.633	19.81'	50.4043	17.43'	9.32'
L12	5+80.22	690007.1446	1514984.552			9.28'	
C12	5+89.50	690033.397	1514983.823	95.85'	9.1648	15.33'	7.68'
L13	6+04.83	690033.4094	1514983.516			14.14'	
C13	6+18.96	690062.318	1514985.725	20.57'	40.6598	14.60'	7.62'
L14	6+33.56	690062.6353	1514987.054			14.54'	
C14	6+48.10	690086.4711	1514971.856	30.93'	22.7615	12.29'	6.23'
L15	6+60.39	690086.2349	1514971.282			12.50'	
C15	6+72.89	690111.9905	1514964.794	21.58'	42.3617	15.95'	8.36'
L16	6+88.84	690112.8229	1514966.117			7.29'	
C16	6+96.12	690129.0126	1514947.935	18.38'	55.8256	17.91'	9.74'
L17	7+14.03	690127.9731	1514945.75			8.89'	
C17	7+22.92	690151.4027	1514946.047	16.50'	33.8176	9.74'	5.01'
L18	7+32.66	690151.5886	1514946.769			12.51'	
C18	7+45.17	690176.1127	1514935.254	16.59'	69.0713	20.00'	11.42'
L19	7+65.17	690176.3101	1514931.71			8.01'	
C19	7+73.18	690198.016	1514947.371	30.47'	27.8116	14.79'	7.54'
L20	7+87.97	690197.6444	1514948.213			12.65'	
C20	8+00.62	690226.0267	1514954.186	39.24'	25.9083	17.74'	9.03'
L21	8+18.36	690226.4249	1514953.242			0.30'	

Reach 2 Baseline Data							
NUMBER	STATION	NORTHING	EASTING	RADIUS	DELTA ANGLE	LENGTH FT	TANGENT FT
L1	0+00.00	690233.7294	1514958.771			14.48'	
C1	0+14.48	690248.7097	1514970.88	180.57'	3.0338	9.56'	4.78'
L2	0+24.04	690248.671	1514970.93			15.05'	
C2	0+39.10	690271.8051	1514990.763	24.42'	51.1412	21.80'	11.69'
L3	0+60.90	690274.1395	1514989.505			13.54'	
C3	0+74.43	690277.2351	1515020.102	10.10'	65.8364	11.60'	6.54'
L4	0+86.04	690275.666	1515021.229			12.77'	
C4	0+98.81	690298.2821	1515031.878	10.38'	65.6954	11.90'	6.70'
L5	1+10.71	690299.8854	1515030.724			10.22'	
C5	1+20.93	690303.0377	1515054.105	12.03'	66.4684	13.95'	7.88'
L6	1+34.88	690301.1382	1515055.491			7.22'	
C6	1+42.10	690319.4159	1515063.827	9.68'	61.471	10.38'	5.75'
L7	1+52.48	690320.6511	1515062.84			14.36'	
C7	1+66.84	690325.938	1515089.024	13.90'	56.2354	13.65'	7.43'
L8	1+80.48	690324.4329	1515090.118			13.98'	
C8	1+94.46	690348.8626	1515103.519	15.44'	49.1365	13.24'	7.06'
L9	2+07.71	690350.0477	1515102.54			9.73'	
C9	2+17.44	690357.8918	1515124.833	13.58'	59.8522	14.18'	7.82'
L10	2+31.62	690356.4127	1515126.307			16.82'	
C10	2+48.44	690386.1654	1515136.22	13.35'	60.0031	13.98'	7.71'
L11	2+62.42	690387.6303	1515134.763			16.45'	
C11	2+78.87	690398.1154	1515164.738	12.69'	72.5347	16.06'	9.31'
L12	2+94.93	690396.2016	1515167.11			13.11'	
C12	3+08.03	690424.7248	1515170.865	9.21'	85.4704	13.74'	8.51'
L13	3+21.77	690427.0933	1515168.526			15.84'	
C13	3+37.61	690431.164	1515200.827	12.38'	81.4094	17.59'	10.65'
L14	3+55.20	690428.2569	1515203.501			15.73'	
C14	3+70.93	690462.025	1515206.656	35.89'	24.2043	15.16'	7.70'
L15	3+86.09	690462.102	1515207.468			14.37'	
C15	4+00.47	690491.3288	1515201.54	10.72'	90.0732	16.85'	10.73'
L16	4+17.32	690493.385	1515197.593			12.79'	
C16	4+31.11	690504.1822	1515226.074	10.71'	66.6498	13.46'	7.04'
L17	4+43.57	690502.8489	1515227.707			11.54'	
C17	4+55.11	690528.3672	1515233.841	9.68'	100.2771	16.94'	11.60'
L18	4+72.05	690532.8661	1515230.812			16.80'	
C18	4+88.85	690525.0993	1515265.773	12.96'	69.086	15.62'	8.92'
L19	5+04.47	690522.4677	1515266.647			12.41'	
C19	5+16.88	690543.9676	1515285.292	14.06'	60.3272	14.81'	8.17'
L20	5+31.69	690545.9988	1515284.44			13.52'	
C20	5+45.21	690545.1564	1515314.164	11.87'	83.3483	17.27'	10.57'
L21	5+62.48	690541.8316	1515316.427			14.99'	
C21	5+77.47	690573.9967	1515325.7	27.17'	33.7852	16.02'	8.25'
L22	5+93.49	690574.6271	1515324.649			30.07'	

Reach 3 Baseline Data							
Number	Station	NORTHING	EASTING	RADIUS	DELTA ANGLE	LENGTH FT	TANGENT FT
L1	0+00.00	689682.5383	1515027.269			37.16'	
C1	0+37.16	689724.9045	1515023.154	76.95'	8.058	10.82'	5.42'
L2	0+47.98	689724.9353	1515023.342			8.66'	
C2	0+56.64	689742.4994	1515019.501	24.00'	18.6853	7.83'	3.95'
L3	0+64.47	689742.4769	1515019.179			11.91'	
C3	0+76.38	689762.6872	1515020.481	16.77'	30.3079	8.87'	4.54'
L4	0+85.25	689762.7902	1515021.076			10.09'	
C4	0+95.34	689780.6416	1515014.071	9.15'	59.012	9.43'	5.18'
L5	1+04.77	689780.7494	1515012.712			14.24'	
C5	1+19.01	689802.0807	1515025.701	13.56'	48.093	11.38'	6.05'
L6	1+30.39	689801.8571	1515026.97			14.48'	
C6	1+44.88	689827.648	1515019.046	15.13'	50.116	13.23'	7.07'
L7	1+58.11	689828.6396	1515020.266			11.95'	
C7	1+70.06	689840.9332	1514999.406	7.58'	84.6475	11.20'	6.91'
L8	1+81.27	689839.9382	1514996.925			11.14'	
C8	1+92.41	689862.3348	1515003.973	12.45'	51.4068	11.17'	5.99'
L9	2+03.58	689862.4594	1515005.335			7.23'	
C9	2+10.81	689879.3282	1514997.178	9.68'	68.3867	11.55'	6.58'
L10	2+22.36	689879.4434	1514995.158			13.84'	
C10	2+36.21	689903.2008	1515009.978	11.68'	79.2818	16.16'	9.67'
L11	2+52.36	689903.3336	1515013.462			7.10'	
C11	2+59.46	689919.4607	1515000.17	10.36'	46.7311	8.45'	4.48'
L12	2+67.91	689919.1677	1514999.293			10.26'	
C12	2+78.17	689936.5854	1515000.014	5.05'	64.1825	5.65'	3.16'
L13	2+83.82	689937.0012	1515000.824			6.08'	
C13	2+89.91	689945.037	1514989.981	7.07'	72.5205	8.94'	5.18'
L14	2+98.85	689944.3736	1514988.419			6.04'	
C14	3+04.88	689958.2259	1514990.937	5.95'	57.0374	5.93'	3.24'
L15	3+10.81	689958.4425	1514991.731			6.81'	
C15	3+17.63	689969.8197	1514982.717	7.77'	69.0209	9.36'	5.34'
L16	3+26.98	689969.5521	1514981.08			8.62'	
C16	3+35.60	689985.0781	1514987.836	8.93'	38.7444	6.04'	3.14'
L17	3+41.64	689985.0234	1514988.369			20.29'	

Reach 4 Baseline Data								
Number	Station	NORTHING	EASTING	RADIUS	DELTA ANGLE	LENGTH FT	TANGENT FT	
L1	0+00.00	690221.6305	1514390.81			11.75'		
C1	0+11.75	690207.878	1514401.335	52.64'	12.1353	11.15'	5.60'	
L2	0+22.90	690207.6776	1514401.117			11.01'		
C2	0+33.91	690193.5116	1514417.567	50.69'	11.5626	10.23'	5.13'	
L3	0+44.14	690193.3009	1514417.416			10.34'		
C3	0+54.48	690183.3479	1514436.304	22.73'	29.8941	11.86'	6.07'	
L4	0+66.34	690182.5788	1514436.099			10.21'		
C4	0+76.54	690182.0222	1514458.418	32.14'	21.6748	12.16'	6.15'	
L5	0+88.70	690182.5956	1514458.527			10.29'		
C5	0+98.99	690174.3899	1514478.794	94.02'	6.6136	10.85'	5.43'	
L6	1+09.84	690174.5321	1514478.86			10.56'		
C6	1+20.40	690165.2288	1514498.995	14.86'	48.9165	12.68'	6.76'	
L7	1+33.08	690163.7673	1514498.898			10.28'		
C7	1+43.36	690171.2351	1514519.815	33.89'	17.551	10.38'	5.23'	
L8	1+53.74	690171.6279	1514519.733			10.53'		
C8	1+64.28	690171.8701	1514541.491	19.39'	35.874	12.14'	6.28'	
L9	1+76.42	690172.8278	1514541.744			11.04'		
C9	1+87.46	690161.273	1514560.315	31.54'	16.5854	9.13'	4.60'	
L10	1+96.59	690160.9696	1514560.177			22.21'		
C10	2+18.80	690152.6264	1514597.567	28.44'	47.4049	23.53'	12.48'	
L11	2+42.33	690150.0293	1514597.911			19.53'		
C11	2+61.85	690170.7662	1514636.917	30.55'	46.6534	24.87'	13.17'	
L12	2+86.73	690173.4596	1514636.543			65.65'		
C12	3+52.38	690150.5536	1514722.212	70.41'	16.0868	19.77'	9.95'	
L13	3+72.15	690149.8598	1514722.123			24.58'		
C13	3+96.73	690151.8448	1514766.997	37.50'	32.0813	21.00'	10.78'	
L14	4+17.73	690150.3896	1514767.434			16.76'		
C14	4+34.49	690172.843	1514799.293	40.24'	32.9103	23.12'	11.89'	
L15	4+57.60	690171.72	1514800.594			3.35'		
C15	4+60.95	690190.2356	1514810.41	12.94'	52.0616	11.76'	6.32'	
L16	4+72.71	690191.3606	1514809.478			0.18'		
C16	4+72.88	690194.241	1514825.629	49.41'	23.0696	19.90'	10.08'	
L17	4+92.78	690195.2589	1514825.592			10.14'		
C17	5+02.92	690191.0719	1514850.589	754.79'	0.7769	10.23'	5.12'	
L18	5+13.16	690191.089	1514850.592			12.40'		
C18	5+26.56	690187.1262	1514874.34	47.71'	13.3817	11.14'	5.60'	
L19	5+37.70	690186.7996	1514874.32			15.19'		
C19	5+52.89	690188.7472	1514900.698	32.15'	20.277	11.38'	5.75'	
L20	5+64.27	690188.2508	1514900.815			11.61'		
C20	5+75.88	690197.9573	1514921.904	32.68'	20.6207	11.76'	5.95'	
L21	5+87.64	690197.5112	1514922.202			18.23'		
C21	6+05.87	690216.0246	1514941.415	70.81'	4.0609	5.02'	2.51'	
L22	6+10.89	690216.0577	1514941.385			14.98'		

Conveyance Swale (SW-01) Baseline Data				
NUMBER	STATION	NORTHING	EASTING	LENGTH FT
L1	0+00.00	690346.94	1515166.07	50.12'
L2	0+50.12	690395.81	515166.07	3.22'

Conveyance Swale (SW-02) Baseline Data				
NUMBER	STATION	NORTHING	EASTING	LENGTH FT
L1	0+00.00	690567.83	151519.07	13.27'
L2	0+13.27	690561.27	151520.60	6.64'
L3	0+19.91	690556.48	151520.79	6.00'
L4	0+25.91	690552.15	151521.34	6.00'
L5	0+31.91	690547.81	151521.49	6.00'
L6	0+37.91	690543.62	1414219.78	6.00'
L7	0+43.91	690539.14	151523.78	6.00'
L8	0+49.91	690534.81	151522.73	5.64'
L9	0+55.55	690530.39	1515231.43	3.05'

PROJECT CONTRACT: 21-097 TO #25	Revisions	HARFORD COMMUNITY COLLEGE STREAM RESTORATION GEOMETRY SHEET	
GP #XXX-XXXXX-XXXX			
SIGN AND SEAL		Drawn By : <u>AG</u> Designed By : <u>NH, JZ</u> Reviewed By : <u>RO</u>	Scale : <u>N.A.</u> Date : <u>SEPTEMBER 2025</u>
		Drawing No. <u>GS-03</u> of <u>GS-03</u>	Sheet No. <u>5</u> of <u>48</u>



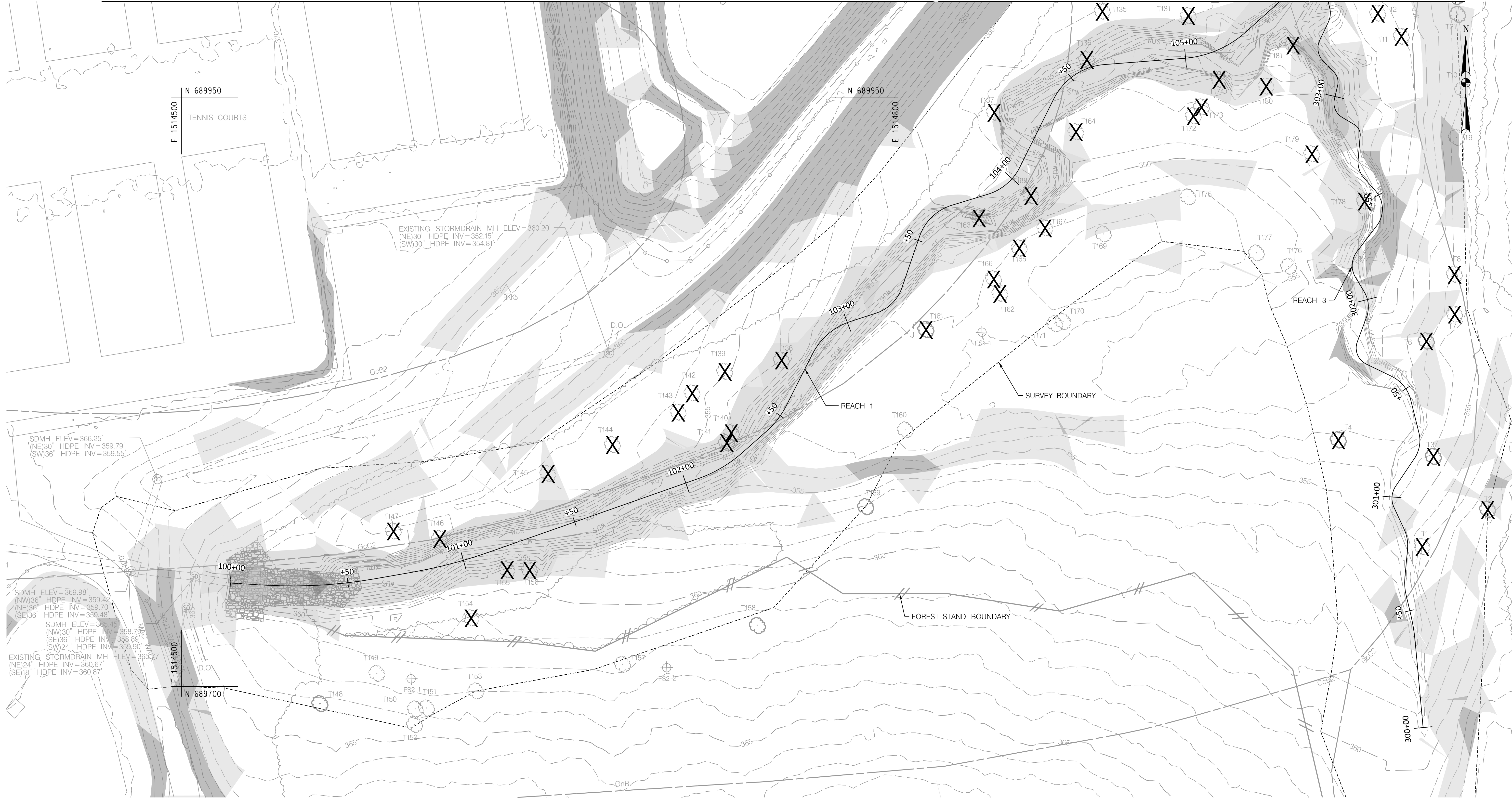
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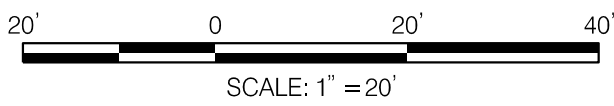
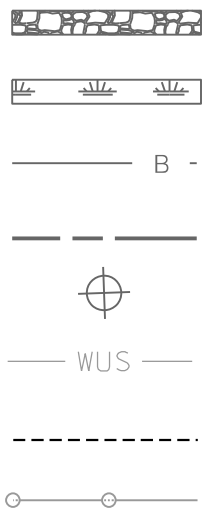
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THE STATE OF MARYLAND. LICENSE NO. 200370, EXPIRATION DATE: 2025/03/19.



LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STREAM CENTERLINE
- EXISTING STORMDRAIN
- EXISTING TREE
- EXISTING TREELINE
- TRAVERSE POINT
- 15% TO 25% SLOPES
- 25% + SLOPES

- EXISTING RIPRAP
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- SOIL BOUNDARY
- FOREST STAND
- WATERS OF THE U.S.
- SURVEY BOUNDARY
- SPLIT RAIL FENCE



PROFESSIONAL CERTIFICATION

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PROJECT CONTRACT:
21-097 TO #25
GP #XXX-XXXXX-XXXX

Revisions

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

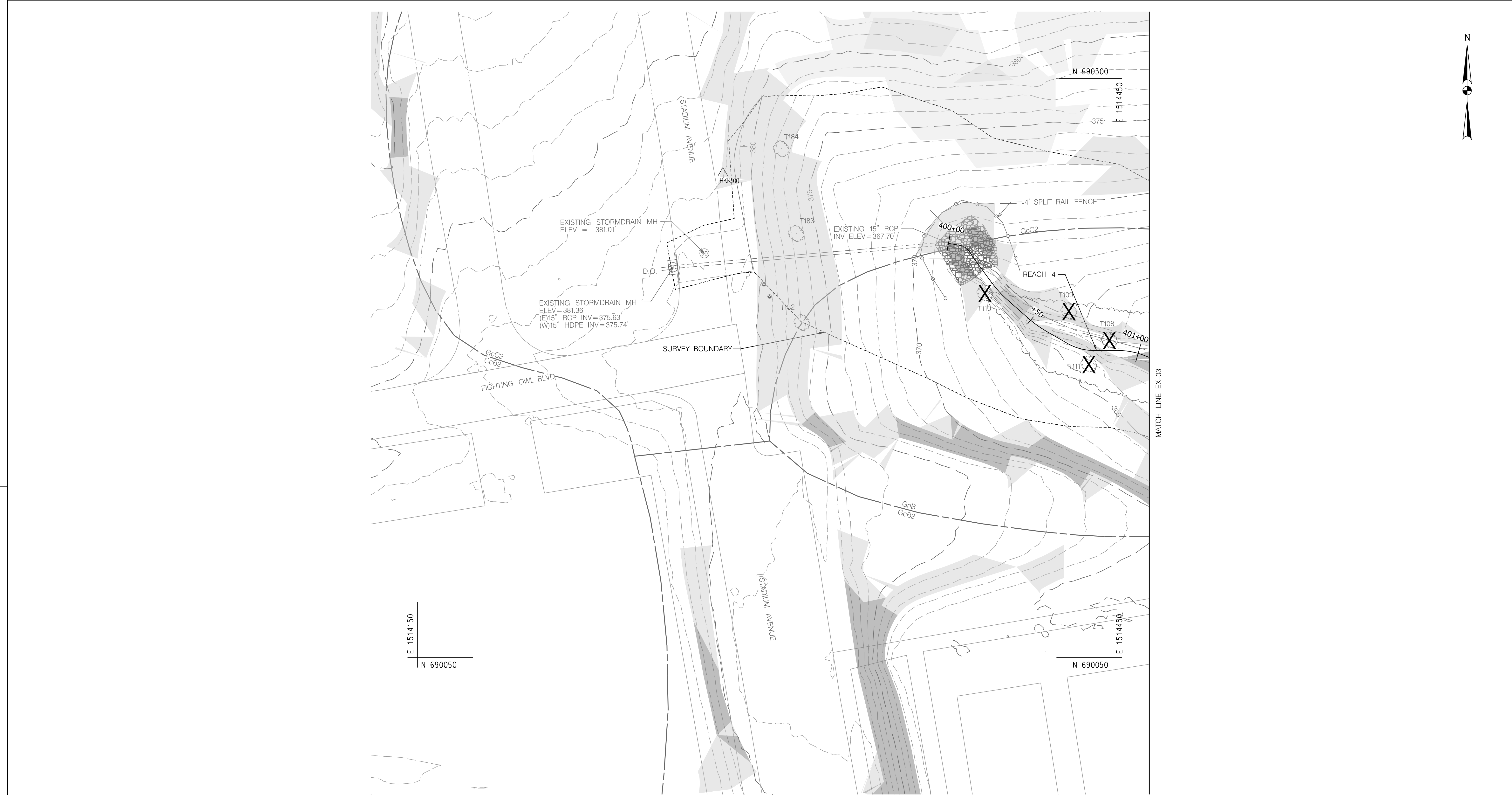
HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EXISTING CONDITIONS

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. EX-01 of EX-04

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 6 of 48

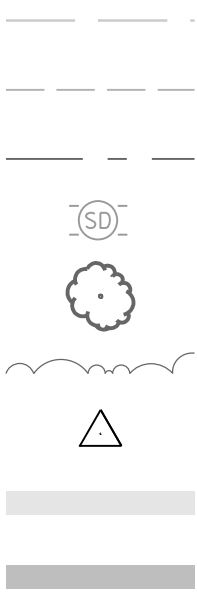


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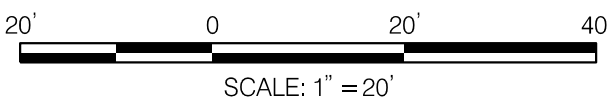
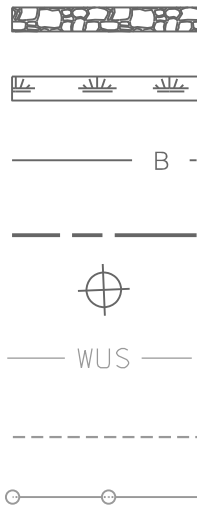


LEGEND

- EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
EXISTING STREAM CENTERLINE
EXISTING STORMDRAIN
EXISTING TREE
EXISTING TREELINE
TRAVERSE POINT
15% TO 25% SLOPES
25%+ SLOPES



- EXISTING RIPRAP
EXISTING WETLAND
EXISTING WETLAND BUFFER
SOIL BOUNDARY
FOREST STAND
WATERS OF THE U.S.
SURVEY BOUNDARY
SPLIT RAIL FENCE



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PROJECT CONTRACT: 21-097 TO #25
GP #XXX-XXXXX-XXXX
SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

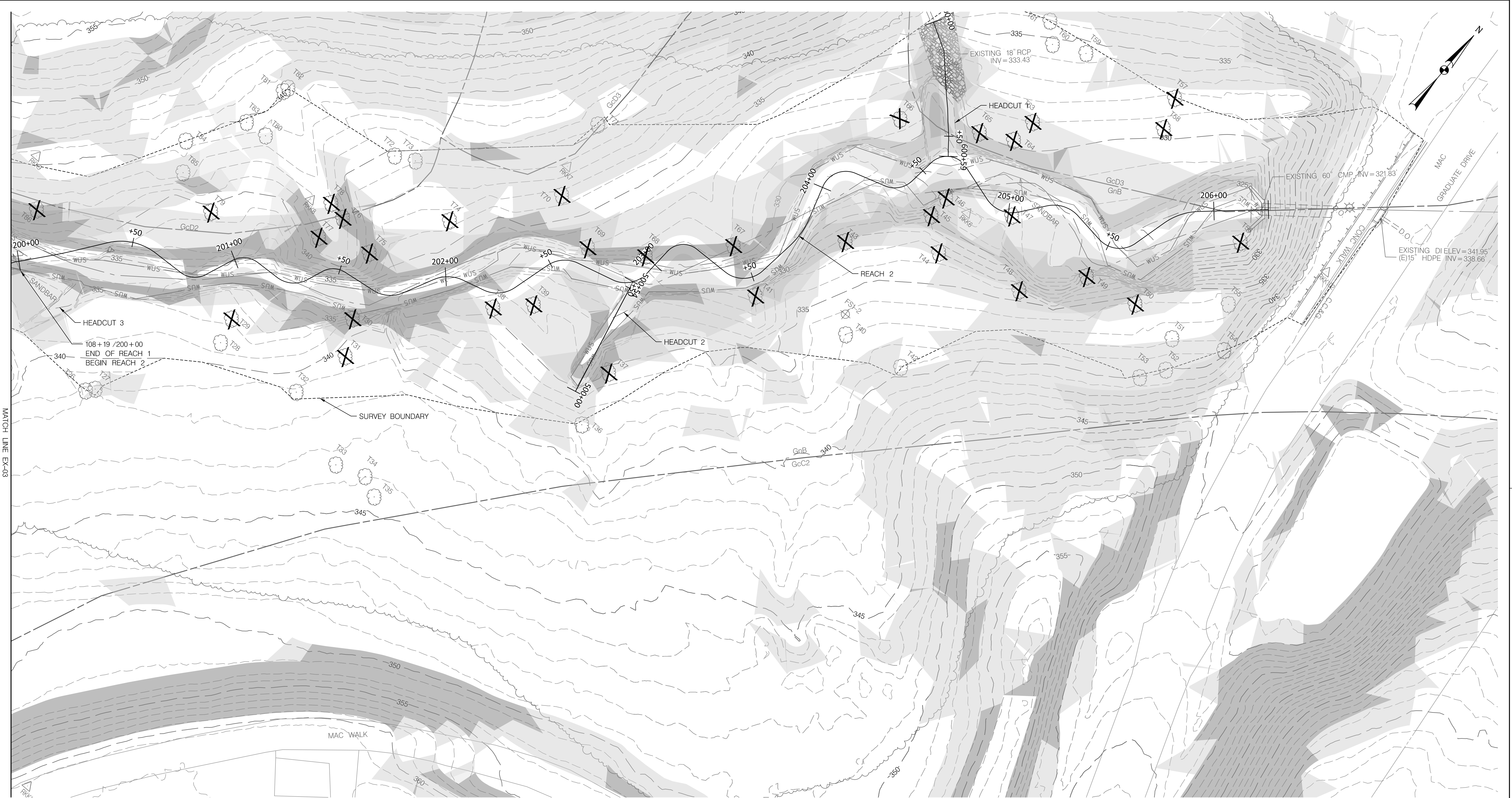
HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EXISTING CONDITIONS

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. EX-02 of EX-04

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 7 of 48



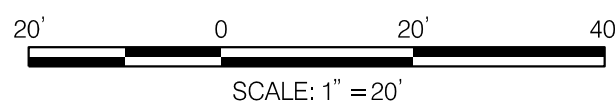
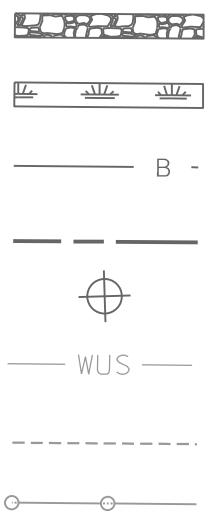
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LEGEND

- EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
EXISTING STREAM CENTERLINE
EXISTING STORMDRAIN
EXISTING TREE
EXISTING TREELINE
TRAVERSE POINT
15% TO 25% SLOPES
25%+ SLOPES

- EXISTING RIPRAP
EXISTING WETLAND
EXISTING WETLAND BUFFER
SOIL BOUNDARY
FOREST STAND
WATERS OF THE U.S.
SURVEY BOUNDARY
SPLIT RAIL FENCE



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PROJECT CONTRACT: 21-097 TO #25
GP #XXX-XXXXXX-XXXX
SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EXISTING CONDITIONS

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. EX-04 of EX-04

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 9 of 48

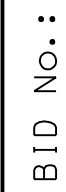


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FILE PATH: \\ad.rk.com\fs\Cloud\Projects\2021\21155_HARCO\Task 025_Harford Community College Stream Restoration\CADD\60%Plans\09 - PEX-0004_HCC.dgn
PLOTTED: 9/12/2025

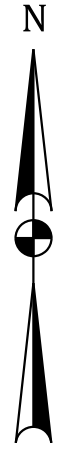
BID No.:

HCC DWG ID No.:
SCALE: 1"=20'



HARFORD COUNTY, MARYLAND

SCALE : 1 inch



LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STREAM CENTERLINE
- EXISTING STORMDRAIN
- EXISTING TREE
- EXISTING TREELINE
- TRAVERSE POINT
- PROPOSED CHANNEL BOTTOM
- SURVEY BOUNDARY
- SOIL BOUNDARY

- EXISTING RIPRAP
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING WATERS OF THE US
- PROPOSED LOG VANE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- TEMPORARY ORANGE CONTROL FENCE
- LIMIT OF WORK

- PROPOSED RIFFLE GRADE CONTROL MIX
- IMBRICATED RIPRAP FOR CASCADE WEIR
- CLASS I RIPRAP
- PROPOSED LOG RIFFLE GRADE CONTROL
- SOIL STABILIZATION MATTING

- PROPOSED RIFFLE GRADE CONTROL MIX
- IMBRICATED RIPRAP FOR CASCADE WEIR
- CLASS I RIPRAP
- PROPOSED LOG RIFFLE GRADE CONTROL
- SOIL STABILIZATION MATTING

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PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXX-XXXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

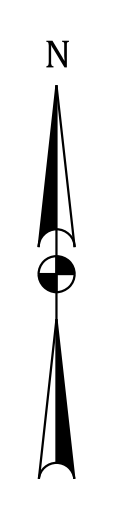
HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
DESIGN PLAN

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. SR-02 of SR-04

Scale : 1" = 20'
Date : SEPTEMBER 2025
Sheet No. 11 of 48



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LEGEND		MATCH LINE SR-01	
EXISTING MAJOR CONTOUR		EXISTING RIPRAP	
EXISTING MINOR CONTOUR		EXISTING WETLAND	
EXISTING STREAM CENTERLINE		EXISTING WETLAND BUFFER	
EXISTING STORMDRAIN		EXISTING WATERS OF THE US	
EXISTING TREE		PROPOSED LOG VANE	
EXISTING TREELINE		PROPOSED MAJOR CONTOUR	
TRAVERSE POINT		PROPOSED MINOR CONTOUR	
PROPOSED CHANNEL BOTTOM		TEMPORARY ORANGE CONTROL FENCE	
SURVEY BOUNDARY		LIMIT OF WORK	
SOIL BOUNDARY			

MATCH LINE SR-01	
PROPOSED RIFFLE GRADE CONTROL MIX	
IMBRICATED RIPRAP FOR CASCADE WEIR	
CLASS I RIPRAP	
PROPOSED LOG RIFFLE GRADE CONTROL	
SOIL STABILIZATION MATTING	



PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXX-XXXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION DESIGN PLAN

Drawn By : AG

Designed By : NH, JZ

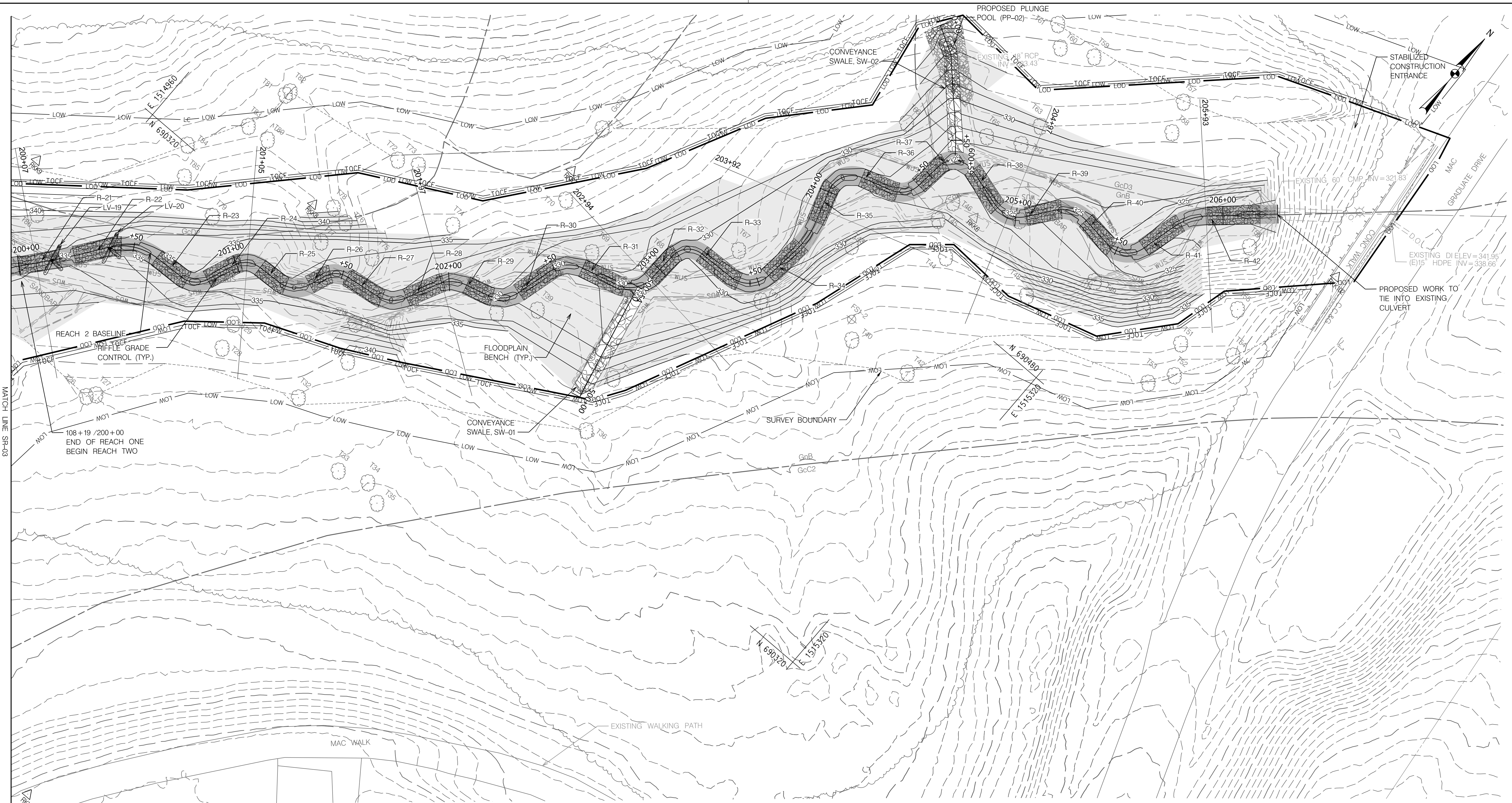
Reviewed By : RD

Drawing No. SR-03 of SR-04

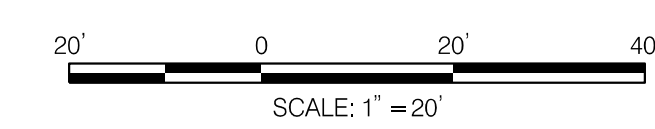
Scale : 1" = 20'

Date : SEPTEMBER 2025

Sheet No. 12 of 48



LEGEND	
EXISTING MAJOR CONTOUR	---
EXISTING MINOR CONTOUR	- - -
EXISTING STREAM CENTERLINE	---
EXISTING STORMDRAIN	SD
EXISTING TREE	Tree Symbol
EXISTING TREELINE	Wavy Line
TRAVERSE POINT	Triangle
PROPOSED CHANNEL BOTTOM	Thick Line
SURVEY BOUNDARY	Dashed Line
SOIL BOUNDARY	Thin Dashed Line
EXISTING RIPRAP	Stippled Pattern
EXISTING WETLAND	Blue Hatched Pattern
EXISTING WETLAND BUFFER	Blue Dotted Pattern
EXISTING WATERS OF THE US	WUS Line
PROPOSED LOG VANE	Log Vane Symbol
PROPOSED MAJOR CONTOUR	350
PROPOSED MINOR CONTOUR	---
TEMPORARY ORANGE CONTROL FENCE	TOCF
LIMIT OF WORK	LOW
PROPOSED RIFFLE GRADE CONTROL MIX	Riffle Pattern
IMBRICATED RIPRAP FOR CASCADE WEIR	Imbricated Pattern
CLASS I RIPRAP	Class I Pattern
PROPOSED LOG RIFFLE GRADE CONTROL	Log Riffle Pattern
SOIL STABILIZATION MATTING	Matting Pattern



PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXX-XXX	
SIGN AND SEAL	

PROFESSIONAL CERTIFICATION

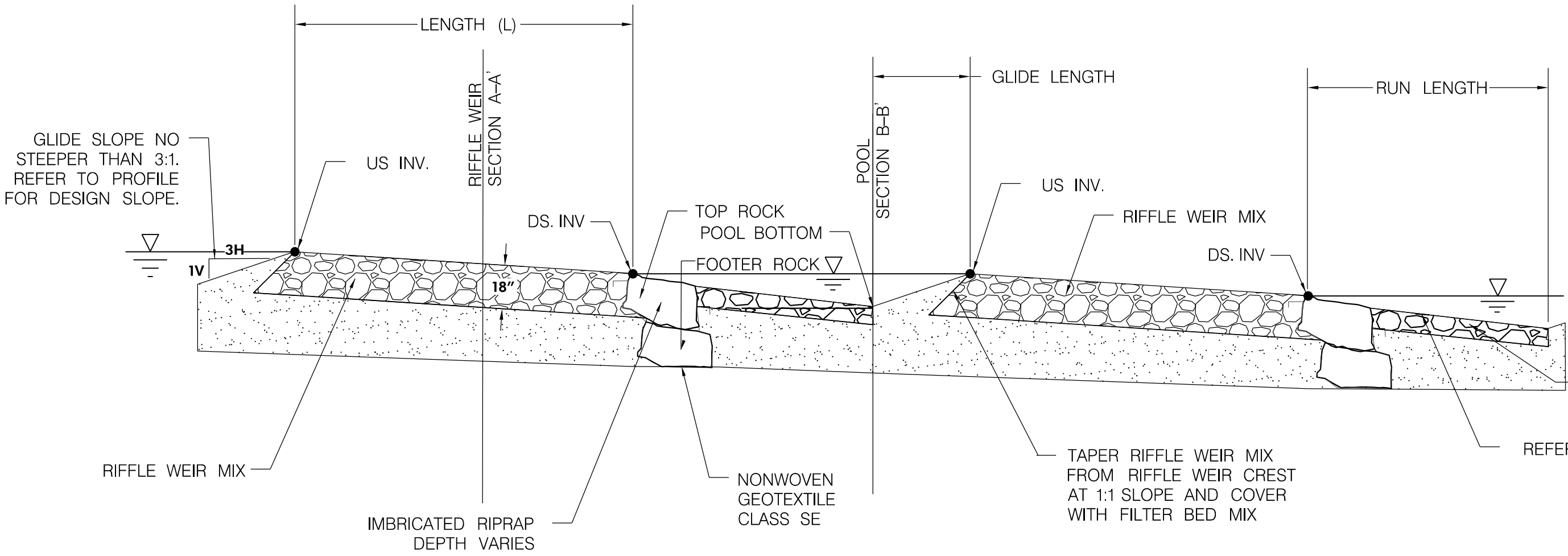
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HARFORD COUNTY, MARYLAND

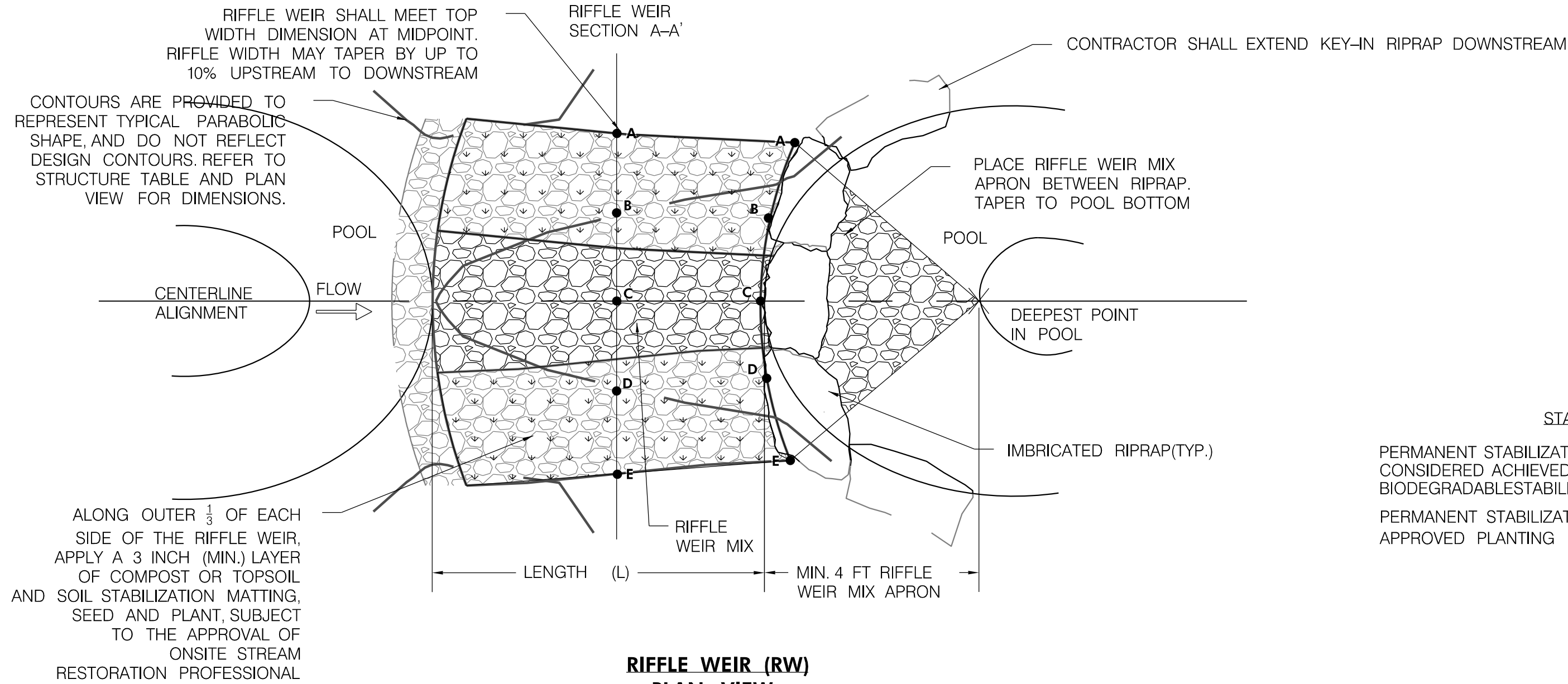
HARFORD COMMUNITY COLLEGE STREAM RESTORATION DESIGN PLAN

Drawn By : AG	Scale : 1"=20'
Designed By : NH, JZ	Date : SEPTEMBER 2025
Reviewed By : RD	
Drawing No. SR-04 of SR-04	Sheet No. 13 of 48

BID No.:
HCC DWG ID No.:
SCALE: 1"=20'



RIFFLE WEIR (RW)
CENTERLINE PROFILE
NOT TO SCALE



RIFFLE WEIR (RW)
PLAN VIEW
NOT TO SCALE

RIFFLE WEIR DIMENSION TABLE									
NAME	US STA.	DS STA.	US INV.	DS INV.	L (FT)	W (FT)	H (FT)	D (FT)	DOFFSET (FT)

*RIFFLE WEIR HEIGHT (H) IS EQUAL TO THE UPSTREAM INVERT MINUS THE DOWNSTREAM INVERT

NOTES:

1. RIFFLE WEIR MIX SHALL BE RIPRAP RANGING FROM ROUNDED TO SUB-ANGULAR SHAPE.
2. ALL RIFFLE WEIR MIX SHALL BE WASHED WITH PEA GRAVEL AND CLEAN SAND TO CHOKE VOIDS PRIOR TO FINAL STABILIZATION. THE PEA GRAVEL AND SAND ARE AN INCIDENTAL SUPPLEMENT TO THE RIFFLE MIX FOR NATURALIZATION AND ARE NOT CONSIDERED PART OF THE MIX WHEN CALCULATING D50.

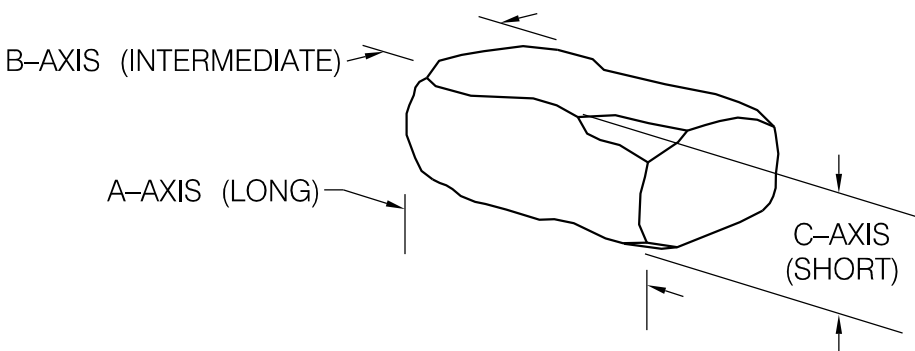
RIFFLE WEIR (RW) SECTION DIMENSIONS				
REACH	WIDTH (FT)	DEPTH AT B (FT)	DEPTH AT C (FT)	DEPTH AT D (FT)
RSC1	20	1.5	2.0	1.5
RSC4A	11	0.8	1.0	0.8
RSC4B	11	0.8	1.0	0.8

RIFFLE WEIR MIX	
SHA RIPRAP	MIX %
CLASS 0	35%
CLASS I	55%
CLASS II	10%

RIFFLE WEIR MIX d50 = 9"

STANDARD_RSC_STABILIZATION_NOTES

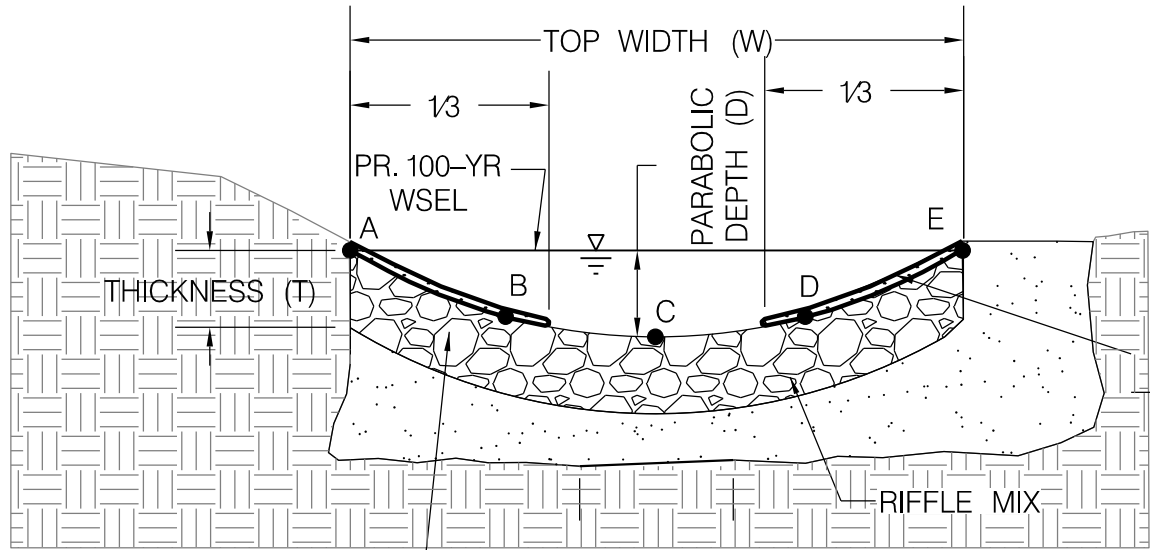
PERMANENT STABILIZATION FOR AN AREA OF EARTH DISTURBANCE OF A RSC SHALL BE CONSIDERED ACHIEVED WHEN THE BANKS AND FLOODPLAIN ARE COVERED WITH FULLY BIODEGRADABLE STABILIZATION MATTING INSTALLED PER MANUFACTURER S INSTRUCTIONS. PERMANENT STABILIZATION SHOULD BE FOLLOWED BY IMPLEMENTATION OF THE APPROVED PLANTING PLAN IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION.



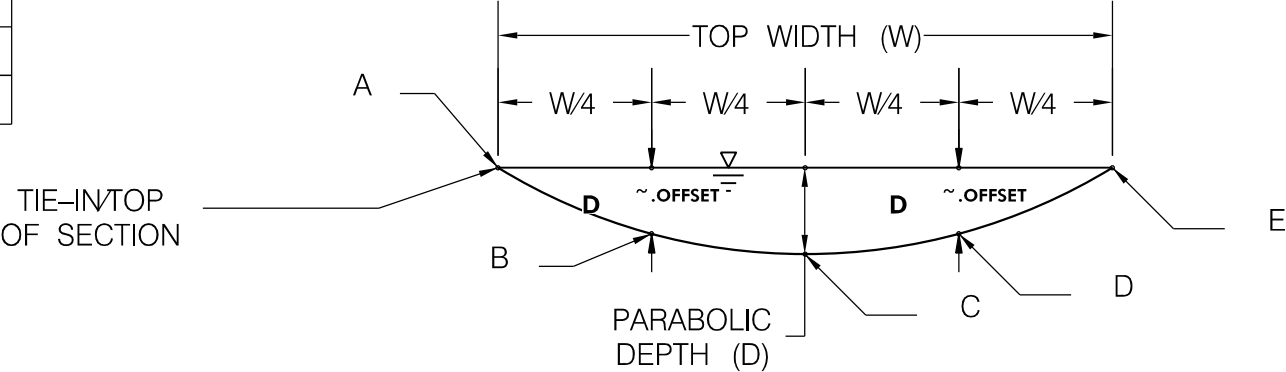
IMBRICATED RIPRAP AXIS
NOT TO SCALE

NOTES:

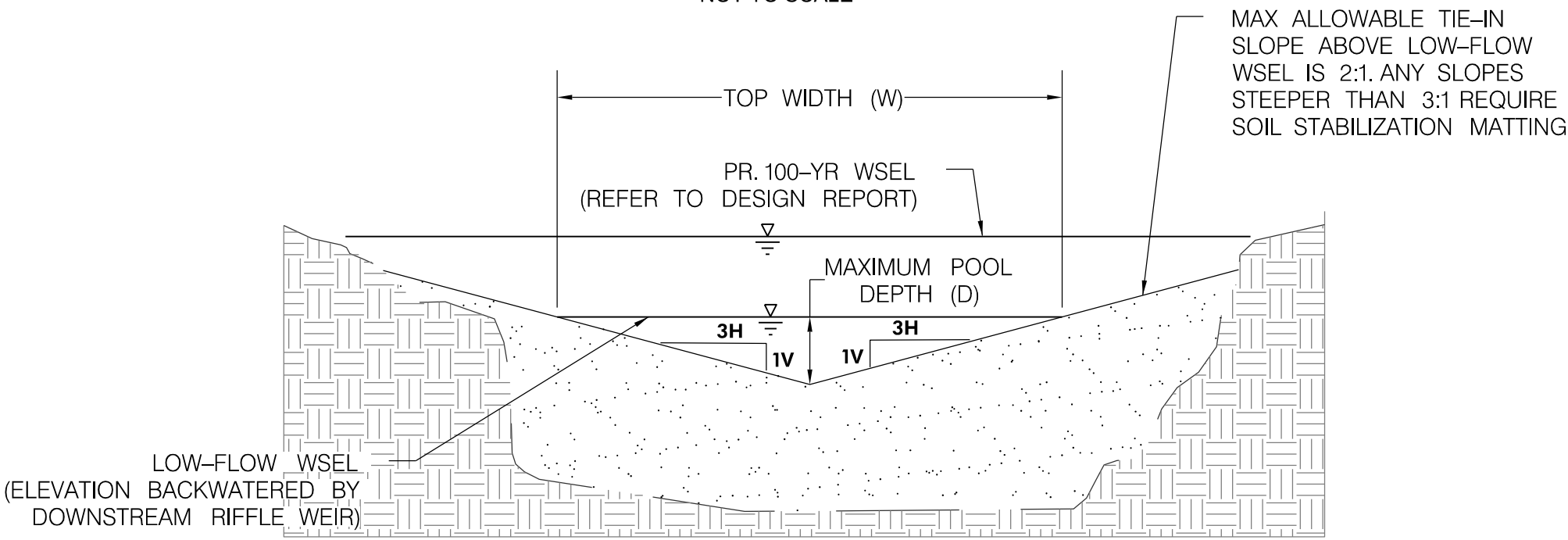
1. THE MEDIAN A-AXIS DIMENSION AVERAGED ACROSS THE FULL STRUCTURE SHALL EQUAL A MINIMUM OF 30".
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SELECT MATERIAL THAT IS APPROPRIATELY SIZED TO ALLOW FOR ECONOMICAL CONSTRUCTION OF CASCADE WEIR STRUCTURES MEETING THE DESIGN DIMENSIONS DESCRIBED IN THIS PLAN.



RIFFLE WEIR (RW)
TYPICAL SECTION A-A
NOT TO SCALE



PARABOLIC DEPTH DIMENSIONS
NOT TO SCALE



POOL
NOT TO SCALE

IMBRICATED RIPRAP DIMENSIONS (IN)				UNIT WEIGHT, LBS/FT**
	A-AXIS	B-AXIS	C-AXIS	
TOP ROCKS	24-36"	24-36"	12-24"	
FOOTER ROCKS	24-36"	24-36"	12-24"	

*DESIGNER TO PROVIDE ALLOWABLE UNIT WEIGHT. TYPICAL UNIT WEIGHT FOR GRANITE IS 165 LBS/FT³, AND SANDSTONE IS 145 LBS/FT³

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
STREAM DETAILS

Drawn By : AG

Designed By : NH, JZ

Reviewed By : RD

Drawing No. DE-01 of DE-03

Scale : NOT TO SCALE

Date : SEPTEMBER 2025

Sheet No. 14 of 48

RIFFLE WEIR NOTES :

1. THE CROSS SECTION SHALL BE CONSTRUCTED IN A PARABOLIC SHAPE BETWEEN GIVEN NODES.
2. NATURAL CHANNEL MATERIAL MAY BE HARVESTED ON-SITE PRIOR TO INSTALLATION OF RIFFLE WEIR IF IT MEETS THE SPECIFICATIONS FOR USE AS WASH-IN OR RIFFLE MIX.
3. THE NUMBER OF BOULDERS VARIES DEPENDING ON TYPICAL SECTION WIDTH AND BOULDER DIMENSIONS.
4. THE BOULDERS SHALL BE TILTED DOWNSTREAM AS SHOWN ON THE DETAIL AND NOT STACKED.
5. TIE-OUT BOULDER SHALL EXTEND PAST THE DOWNSTREAM CORNER NODES A & E A MIN. OF ONE BOULDER LENGTH (B-AXIS) INTO EXISTING BANK. WHERE THIS CONFLICTS WITH EXISTING TREE ROOTS OR BEDROCK, TIE-OUT BOULDER MAY BE ELIMINATED OR ADJUSTED AT DIRECTION OF ENGINEER.
6. CHANNEL WASH-IN MATERIAL SHALL BE REPEATEDLY WORKED INTO FULL DEPTH OF THE RIFFLE MIX TO FILL VOIDS.
7. TRIM ALL GEOTEXTILE AT OR BELOW FINISHED GRADE, IF USED.
8. ONCE RIFFLE WEIR IS CONSTRUCTED, STABILIZE ALL DISTURBED LOCATIONS AS SPECIFIED.
9. CONTOURS ARE PROVIDED TO REPRESENT TYPICAL PARABOLIC SHAPE, AND DO NOT REFLECT DESIGN CONTOURS. REFER TO STRUCTURE TABLE AND PLAN VIEW FOR DIMENSIONS.

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PLOTTED: 9/12/2025

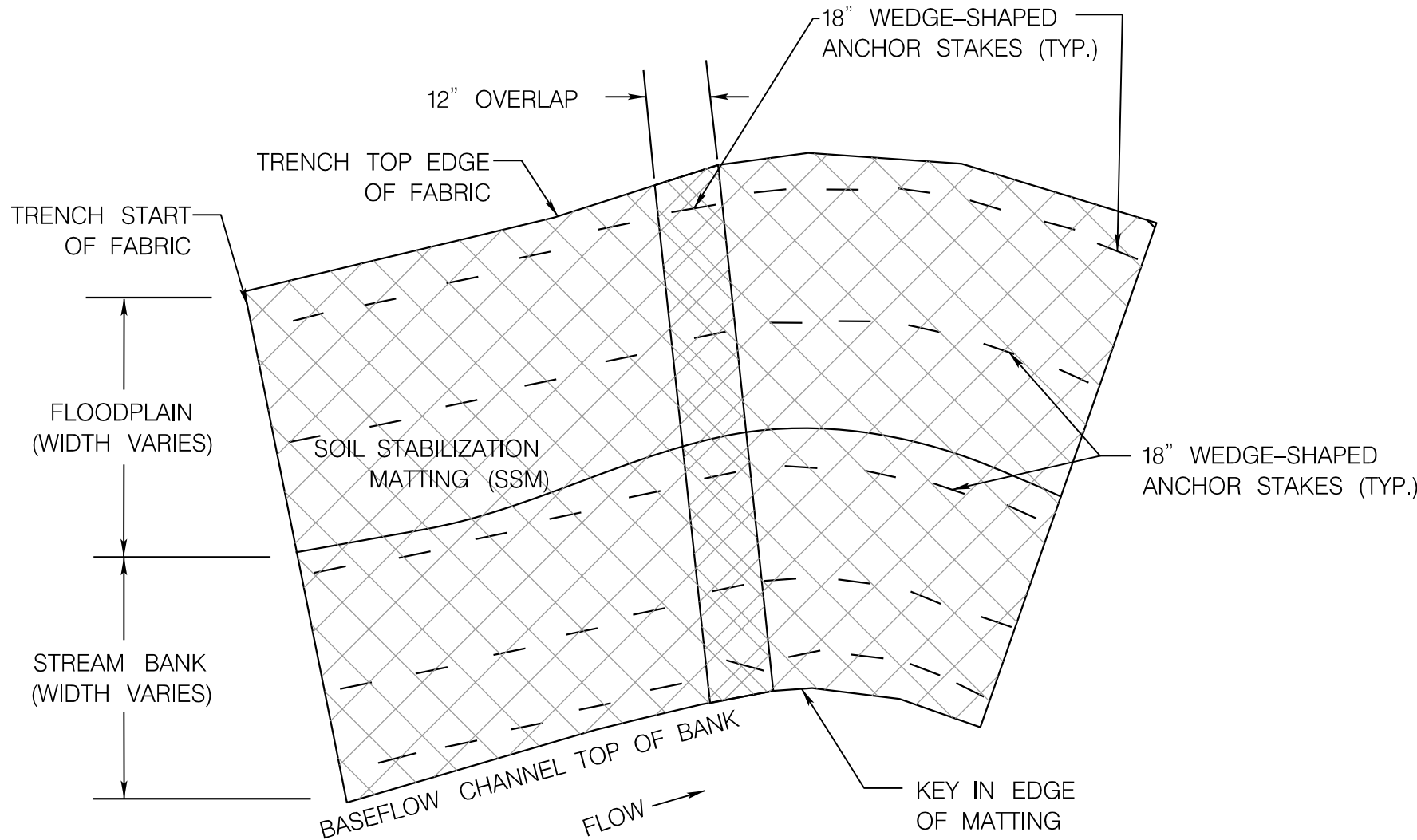
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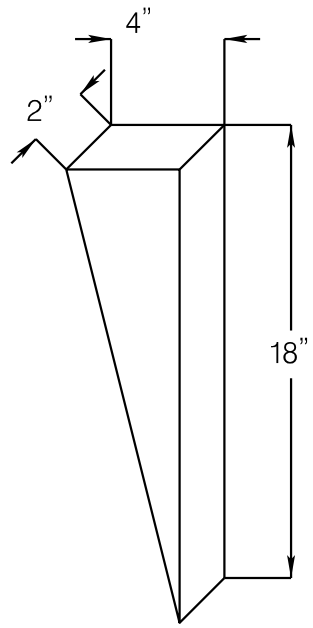
PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXXX-XXXX	
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HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION STREAM DETAILS	
Drawn By : AG	Scale : NOT TO SCALE
Designed By : NH, JZ	Date : SEPTEMBER 2025
Reviewed By : RD	
Drawing No. DE-02 of DE-03	Sheet No. 15 of 48



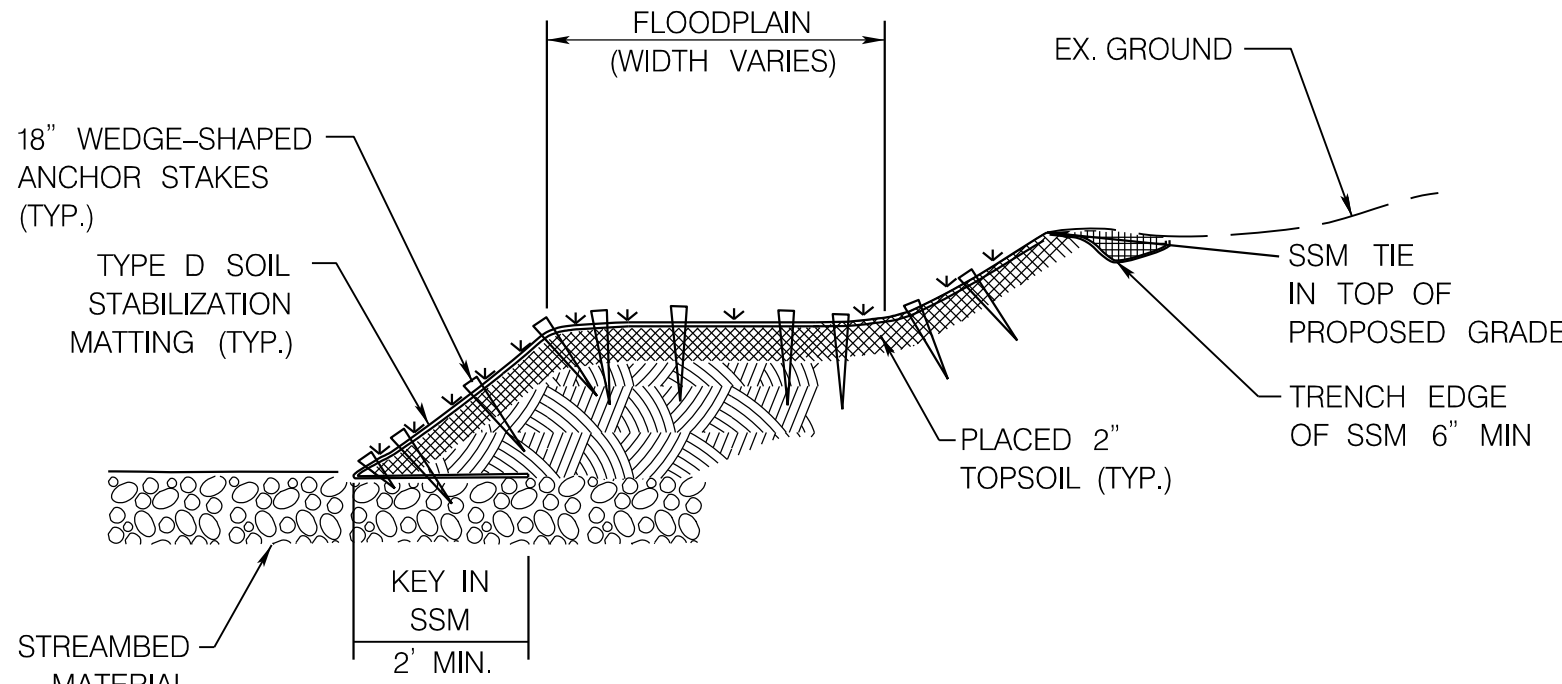
SOIL STABILIZATION MATTING PLAN



ANCHOR STAKE

NOTES:

- STAKES SHALL BE INSTALLED 24-INCHES APART ALONG THE UPSTREAM AND DOWNSTREAM EDGES OF MATTING WITH THE KEY-IN TRENCH AT THE TOP OF SLOPE, AND ON VERTICAL AND HORIZONTAL OVERLAPPING EDGES.
- ON SLOPES 2:1 OR STEEPER, STAKES SHALL BE INSTALLED 3-FOOT ON CENTER.
- ON SLOPES 3:1 OF GENTLER, STAKES SHALL BE INSTALLED 4-FOOT ON CENTER.

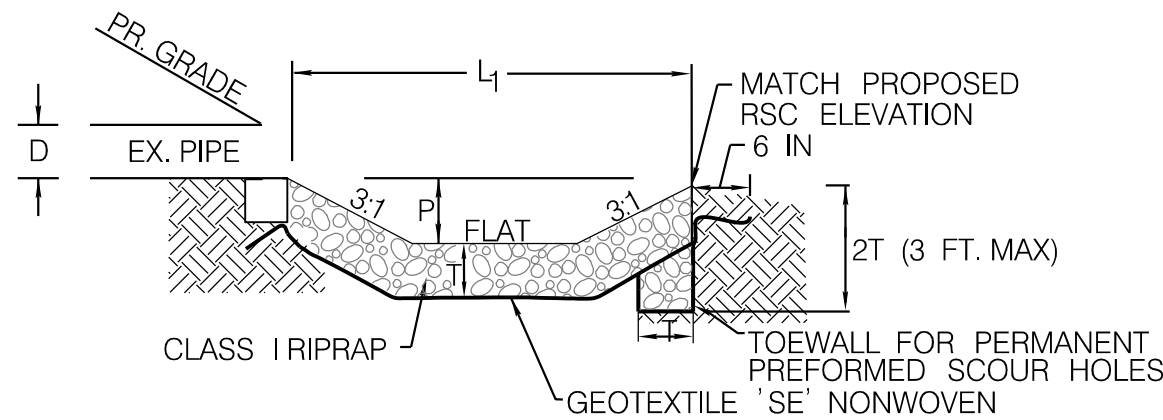


SOIL STABILIZATION MATTING SECTION

SOIL STABILIZATION DETAILS

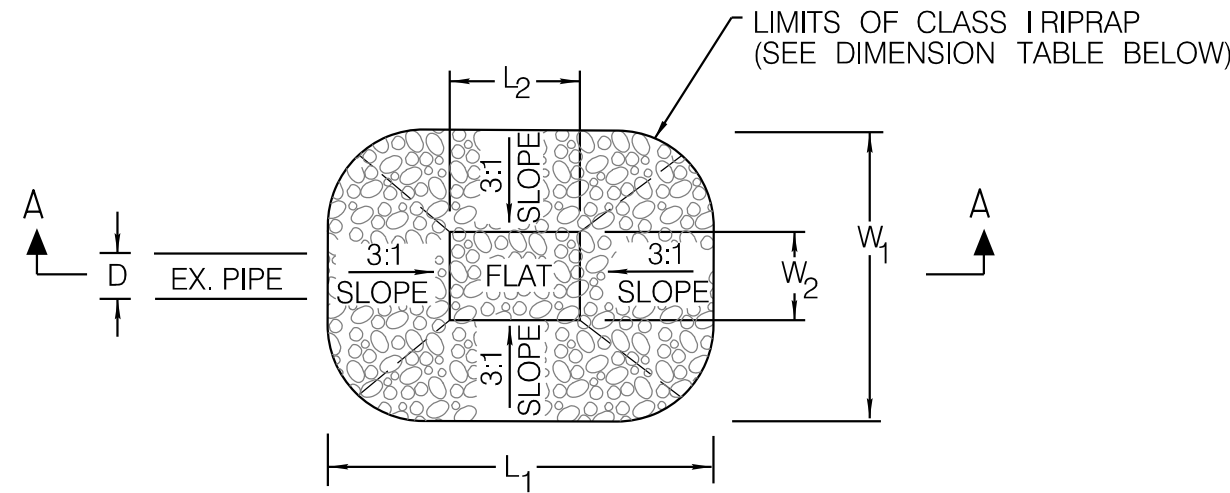
NOT TO SCALE

SOIL STABILIZATION MATTING DETAIL			
REACH	SSM (SY)	2" TOPSOIL (SY)	4" TOPSOIL (SY)
1			
2			
3			
4			



*NOTE: T (STONE THICKNESS) = 2 X D50 (MEDIAN DIAMETER OF RIPRAP)

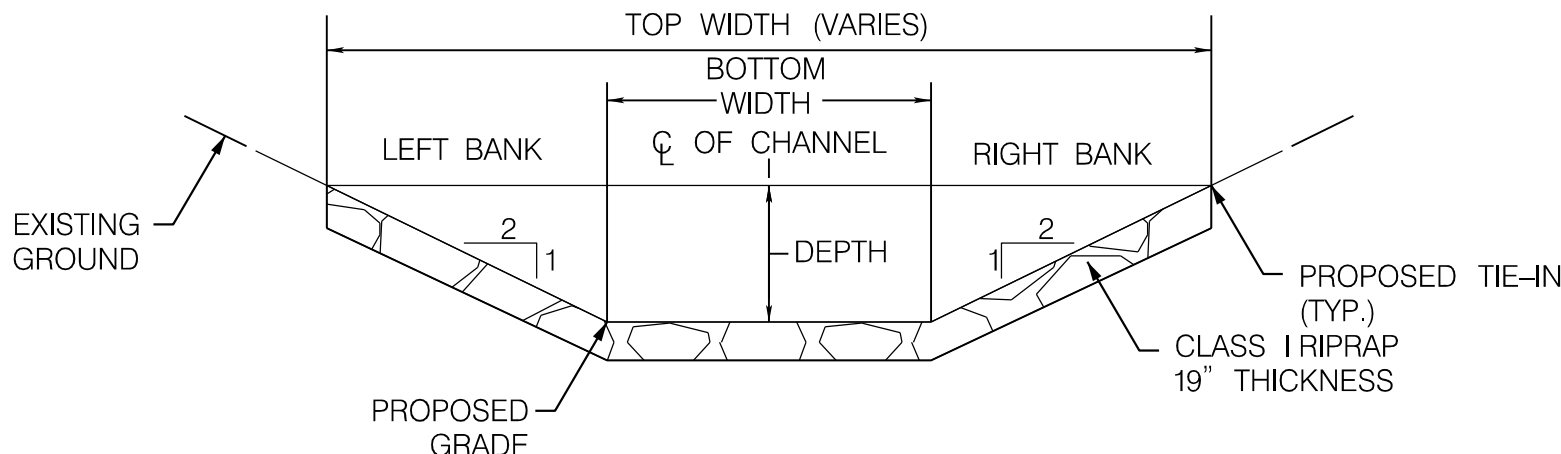
SECTION A-A
NOT TO SCALE



I.D.	D (IN.)	L ₁ (FT.)	L ₂ (FT.)	W ₁ (FT.)	W ₂ (FT.)	P (FT.)	D50 (IN.)	T (IN.)	CLASS I RIPRAP (SY)
PP-1									
PP-2									

PLUNGE POOL CONSTRUCTION DETAILS

NOT TO SCALE



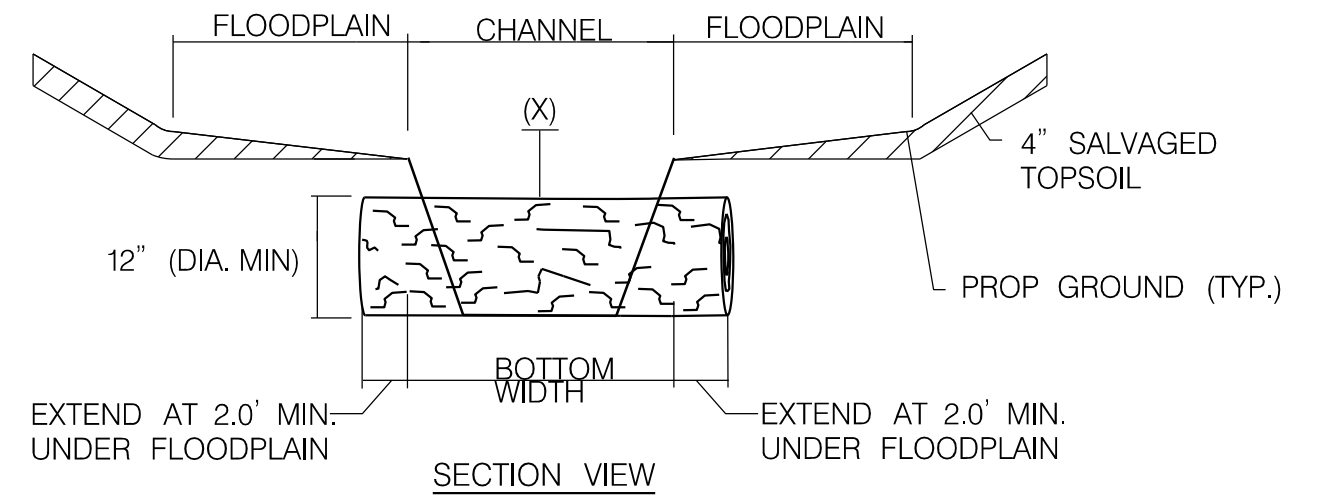
CONVEYANCE SWALE TYPICAL SECTION

NOT TO SCALE

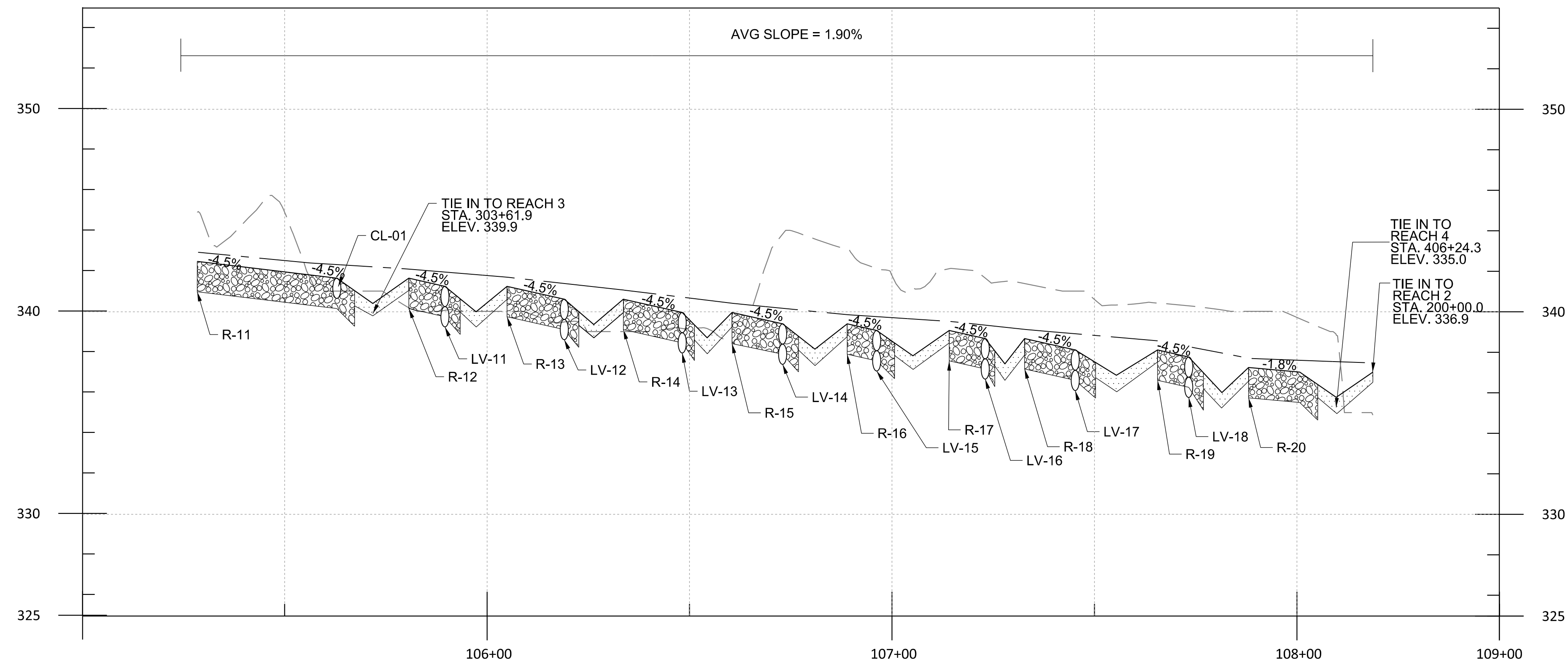
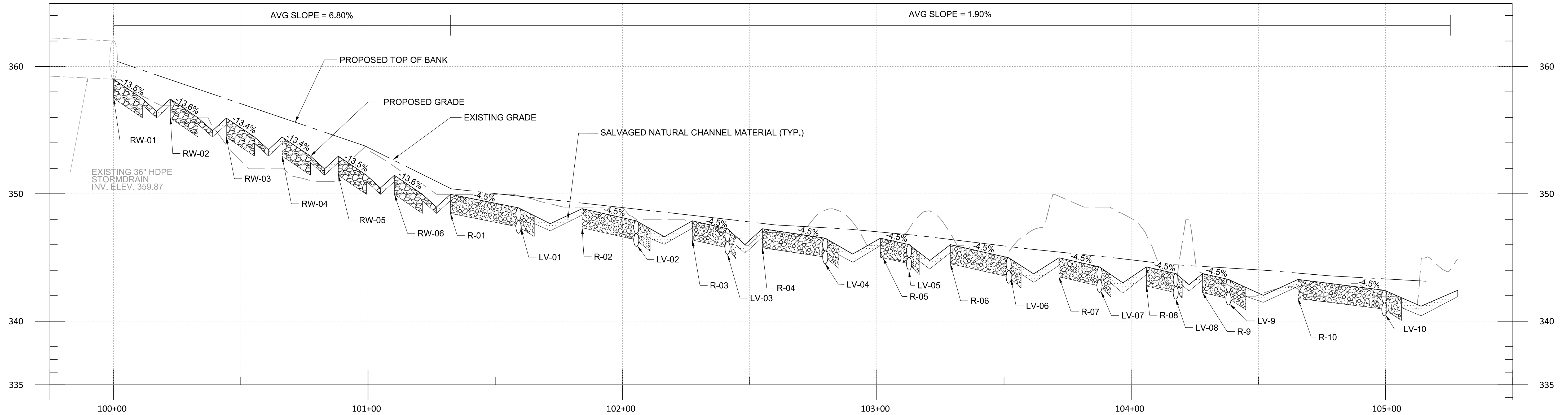
CONVEYANCE SWALE DESIGN											
REACH	START STA.	END STA.	LENGTH (FT)	DEPTH (FT)	BOTTOM WIDTH (FT)	SLOPE	SHEAR STRESS (LB/FT ²)	RIPRAP D ₅₀ (IN)	Q (CFS)	V (FPS)	CLASS I RIPRAP (SY)
SW-01											
SW-02											

BID No.:

HCC DWG ID No.:
SCALE: 1"=10'



HCG DWG ID No.:
SCALE: 1 inch



LEGEND

EXISTING GROUND SURFACE

EXISTING PIPE

PROPOSED GROUND SURFACE

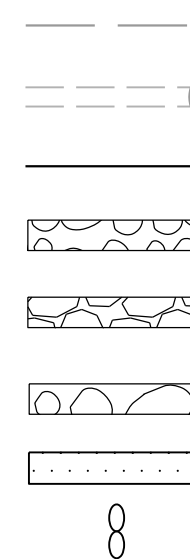
PROPOSED RIFFLE GRADE CONTROL

PROPOSED RIFFLE WEIR

PROPOSED CLASS I RIPRAP

SALVAGED NATURAL CHANNEL MATERIAL

PROPOSED LOG VANE



STREAM PROFILE: REACH 1
SCALE
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

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PROJECT CONTRACT:
21-097 TO #25

GP #XXX-XXXXXX-XXXX

Revisions

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
PROFILE

Drawn By : AG

Designed By : NH, JZ

Reviewed By : RD

Drawing No. PR-01 of PR-05

Scale : 1"=20'

Date : SEPTEMBER 2025

Sheet No. 17 of 48

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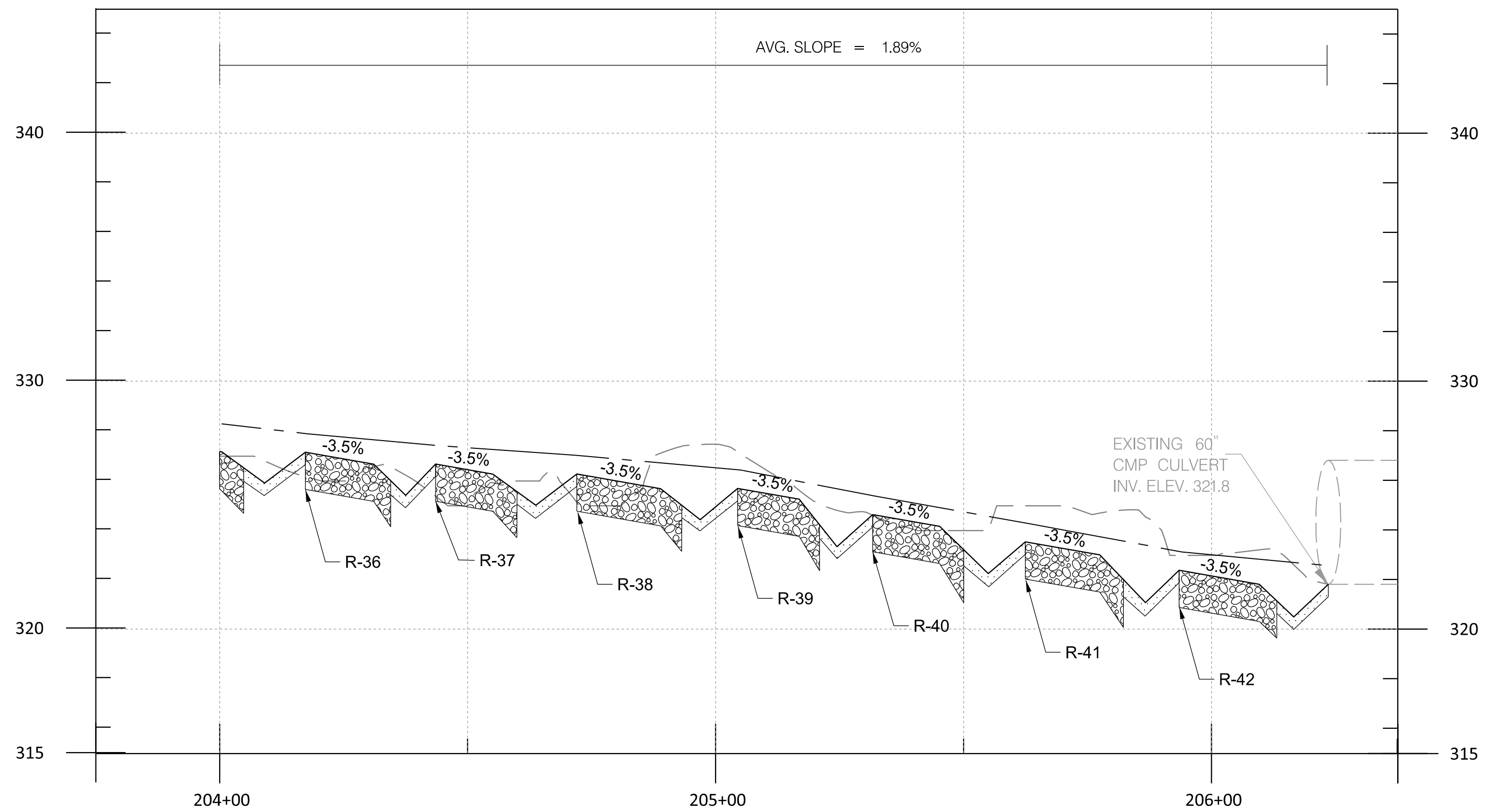
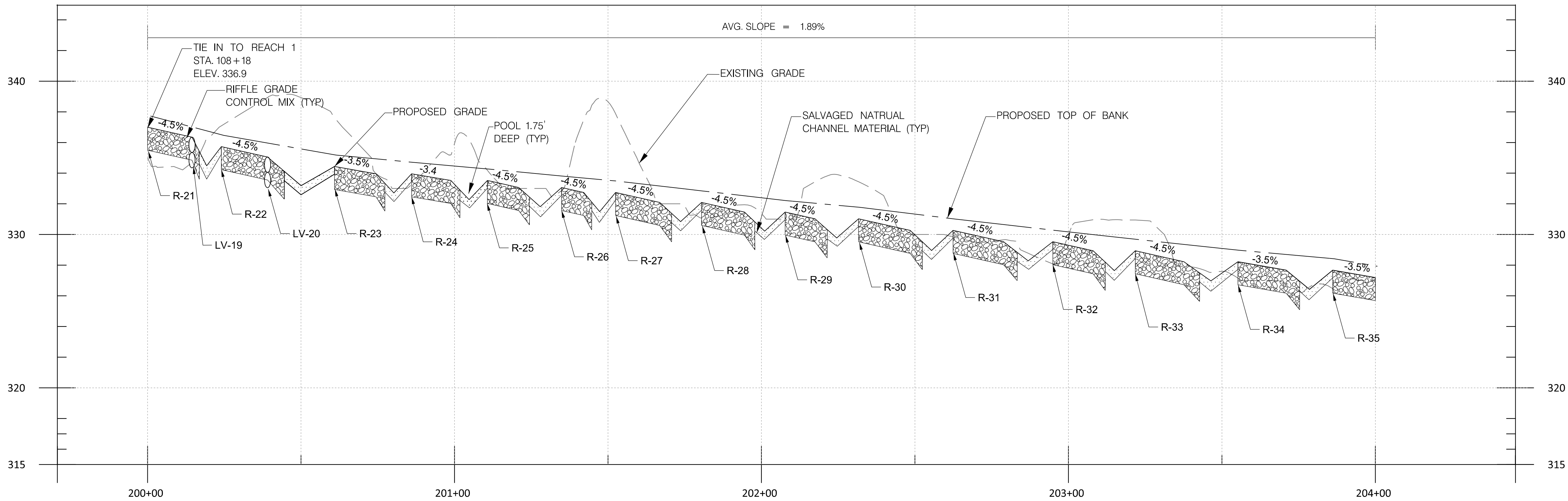
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PLOTTED: 9/11/2025

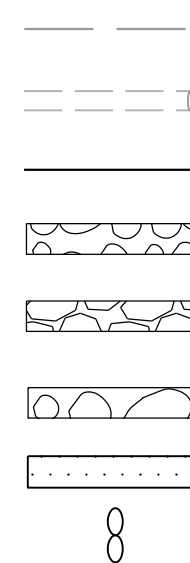
BID No.:

HCC DWG ID No.:
SCALE: 1"=20'



LEGEND

- EXISTING GROUND SURFACE
- EXISTING PIPE
- PROPOSED GROUND SURFACE
- PROPOSED RIFFLE GRADE CONTROL
- PROPOSED RIFFLE WEIR
- PROPOSED CLASS I RIPRAP
- SALVAGED NATURAL CHANNEL MATERIAL
- PROPOSED LOG VANE



STREAM PROFILE: REACH 2

SCALE
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

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PROJECT CONTRACT:
21-097 TO #25
GP #XXX-XXXXXX-XXXX

Revisions

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HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
PROFILE

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. PR-02 of PR-05

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 18 of 48



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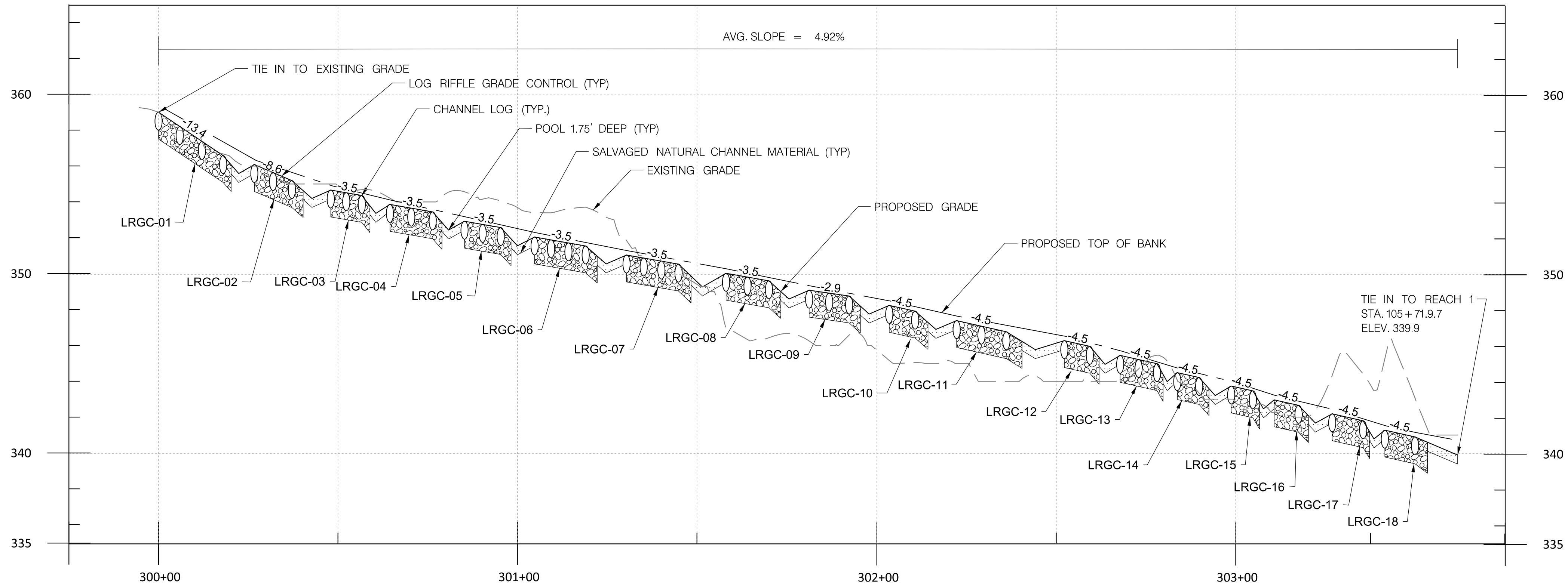
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PLOTTED: 9/11/2025

BID No.:

HCC DWG ID No.:
SCALE: 1"=20'



STREAM PROFILE: REACH 3
SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

LEGEND

EXISTING GROUND SURFACE

EXISTING PIPE

PROPOSED GROUND SURFACE

PROPOSED RIFFLE GRADE CONTROL

PROPOSED RIFFLE WEIR

PROPOSED CLASS I RIPRAP

SALVAGED NATURAL CHANNEL MATERIAL

PROPOSED LOG VANE

8

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PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXXX-XXXX	
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HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
PROFILE

Drawn By : AG

Designed By : NH, JZ

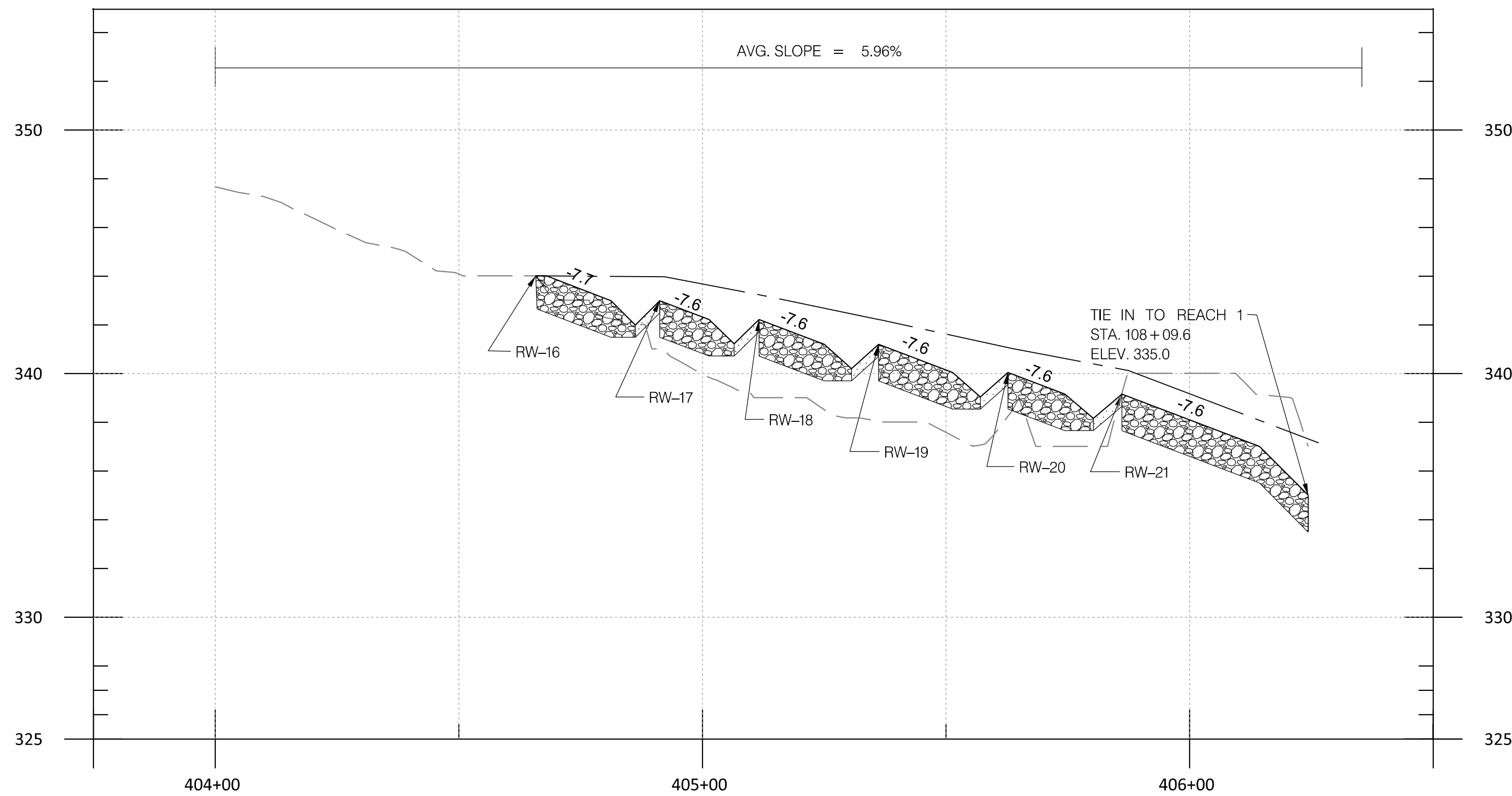
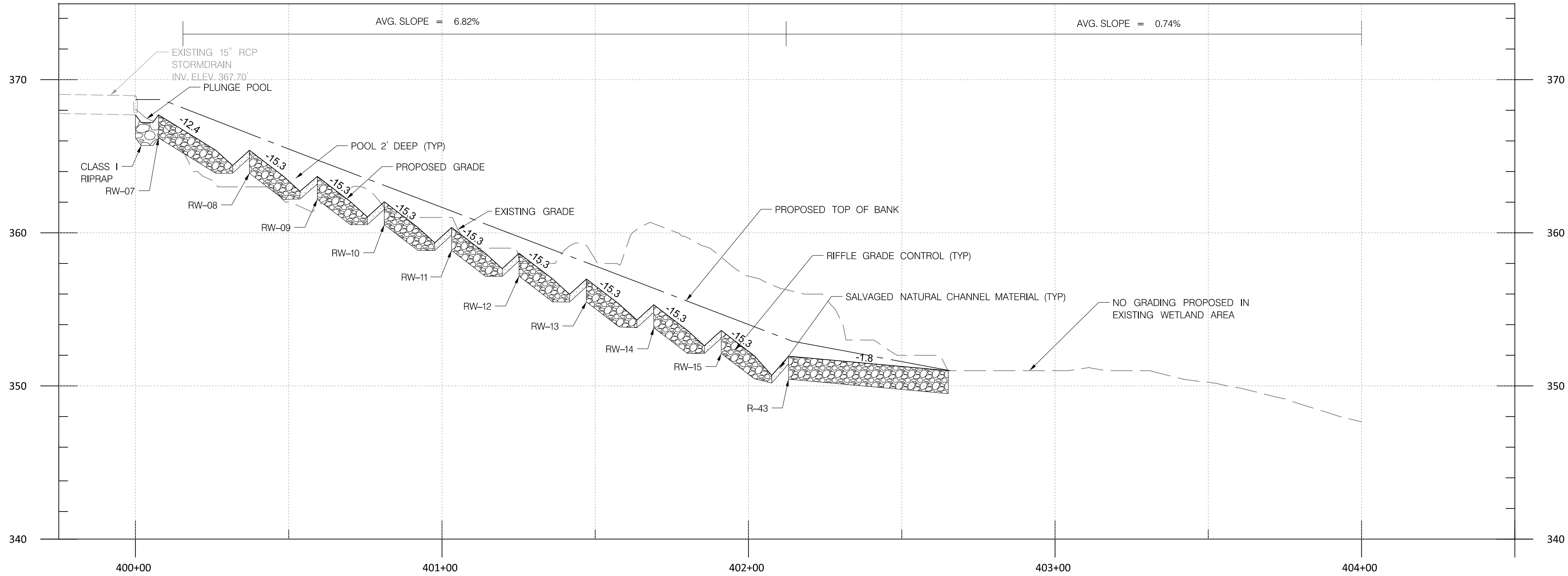
Reviewed By : RD

Drawing No. PR-03 of PR-05

Scale : 1"=20'

Date : SEPTEMBER 2025

Sheet No. 19 of 48



STREAM PROFILE: REACH 4
SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

LEGEND	
EXISTING GROUND SURFACE	
EXISTING PIPE	
PROPOSED GROUND SURFACE	
PROPOSED RIFFLE GRADE CONTROL	
PROPOSED RIFFLE WEIR	
PROPOSED CLASS I RIPRAP	
SALVAGED NATURAL CHANNEL MATERIAL	
PROPOSED LOG VANE	

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION PROFILE			
Drawn By : <u>AG</u>		Scale : <u>1"=20'</u>	
Designed By : <u>NH, JZ</u>		Date : <u>SEPTEMBER 2025</u>	
Reviewed By : <u>RD</u>			
Drawing No. <u>PR-04</u> of <u>PR-05</u>		Sheet No. <u>20</u> of <u>48</u>	

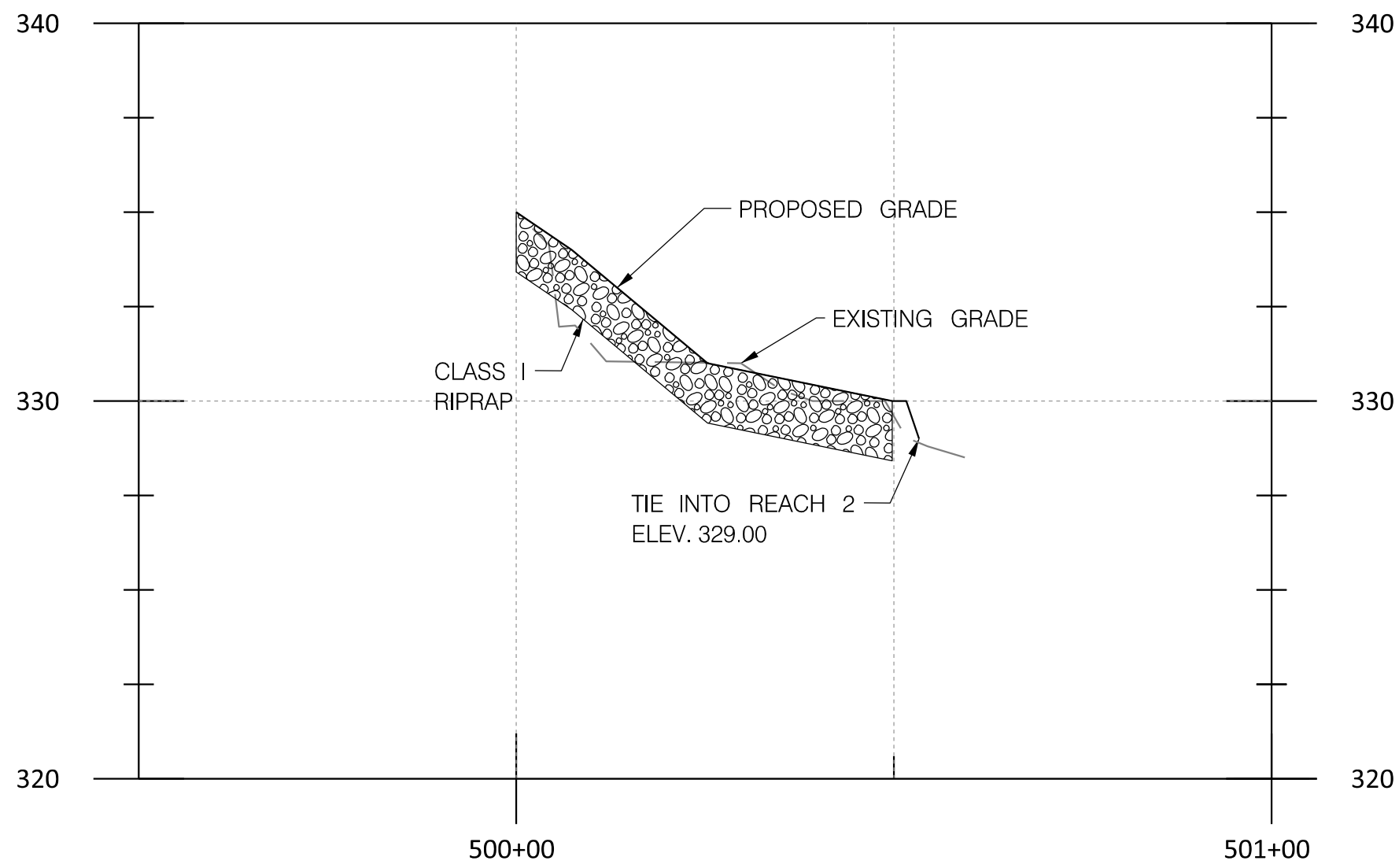
PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXX-XXX	
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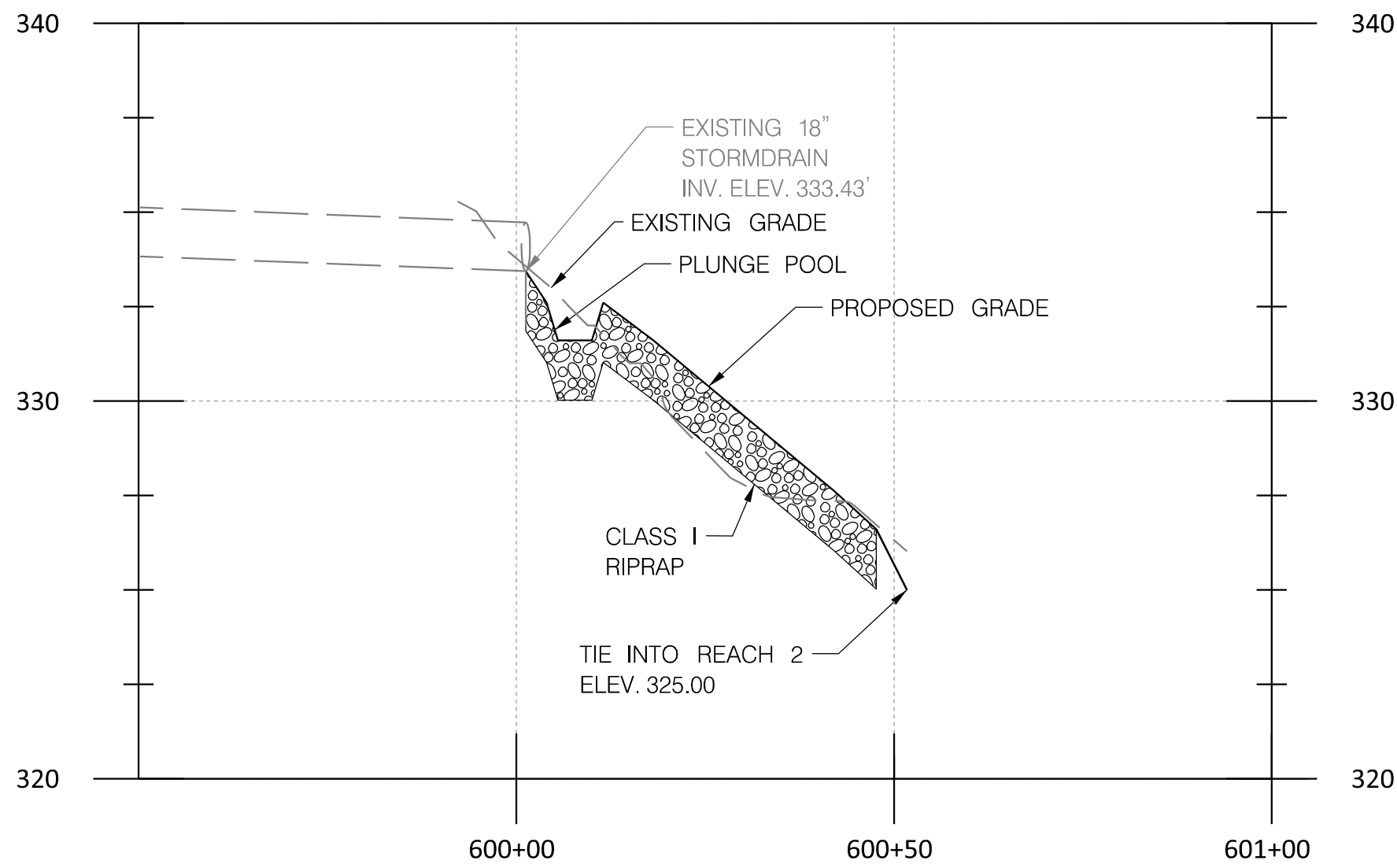
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CONVEYANCE SWALE PROFILE: SW-01

SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

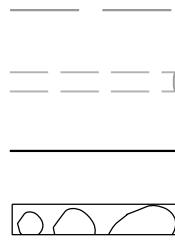


CONVEYANCE SWALE PROFILE: SW-02

SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

LEGEND

- EXISTING GROUND SURFACE
EXISTING PIPE
PROPOSED GROUND SURFACE
PROPOSED CLASS I RIPRAP



HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
PROFILE

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. PR-05 of PR-05

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 21 of 48

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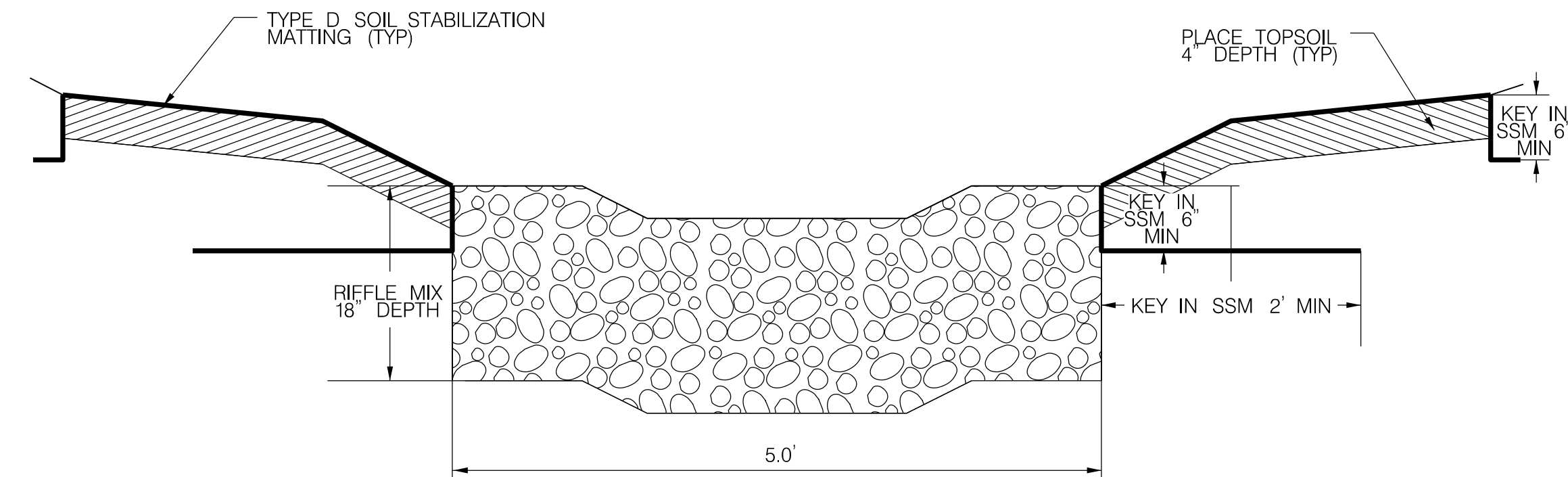
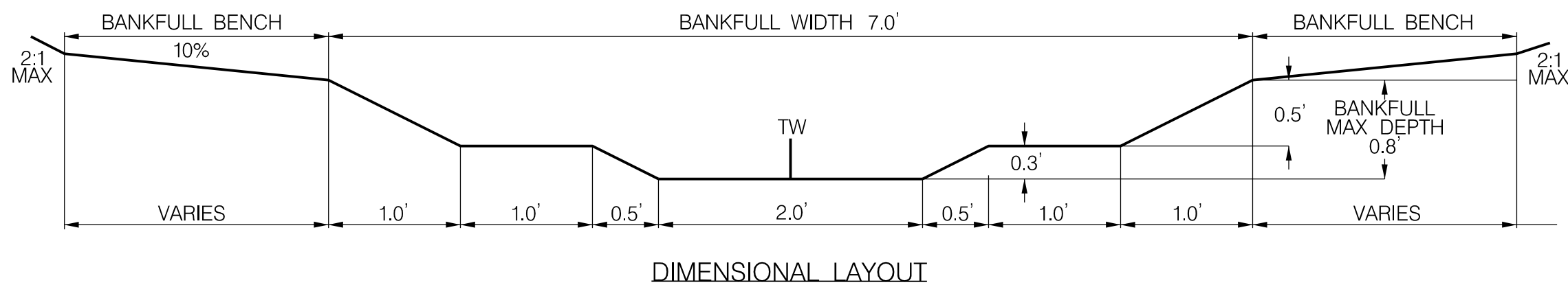
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GP #XXX-XXXXX-XXXX

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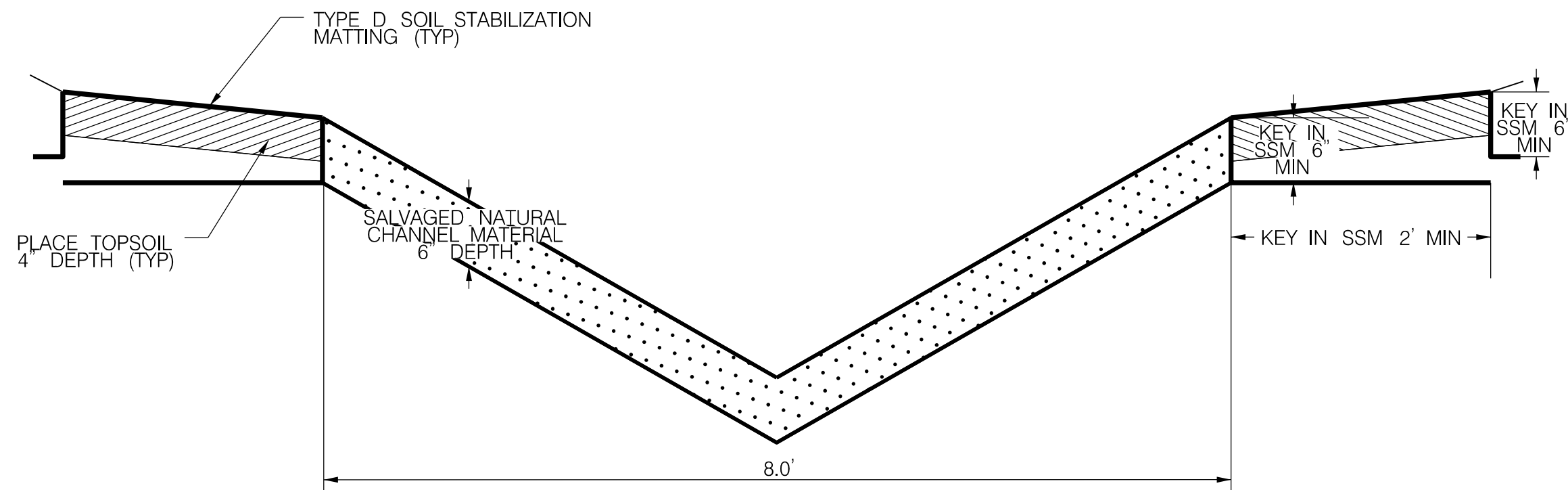
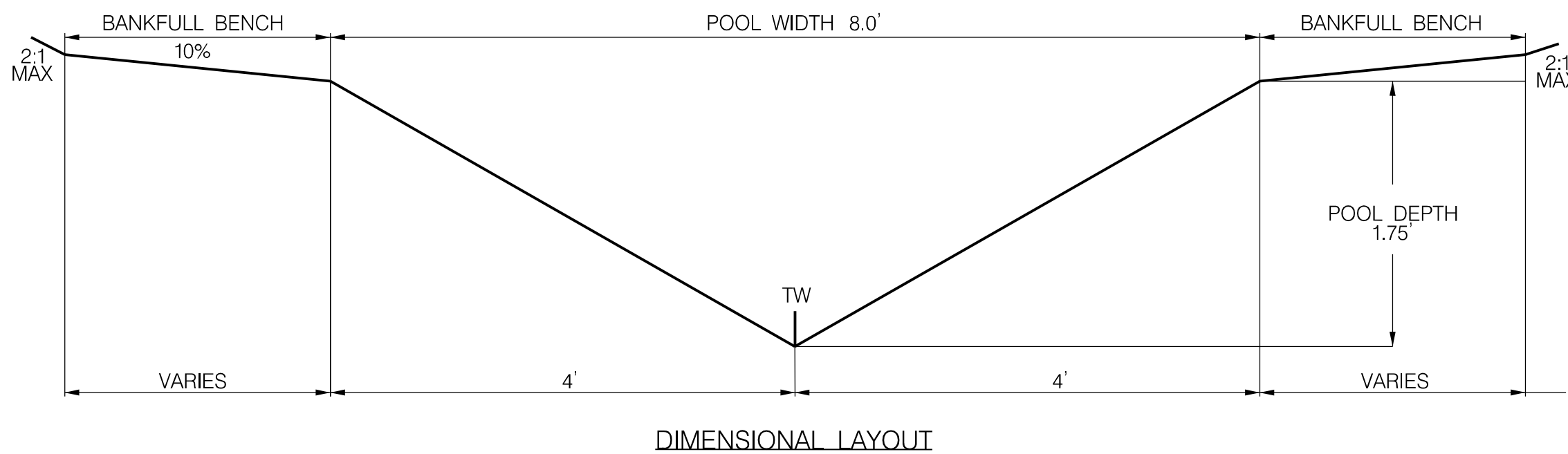
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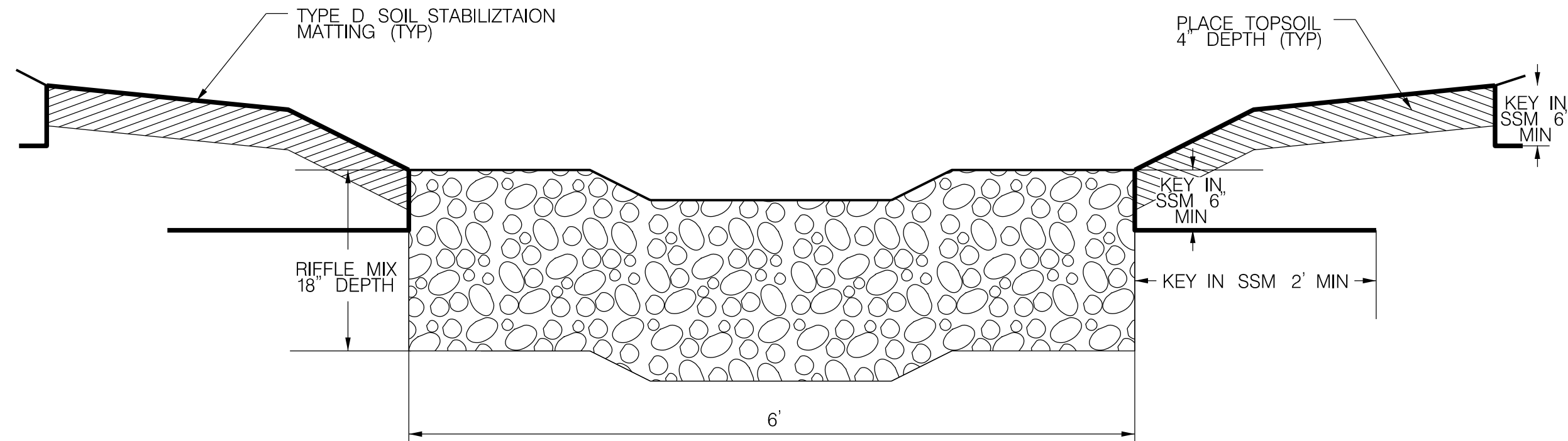
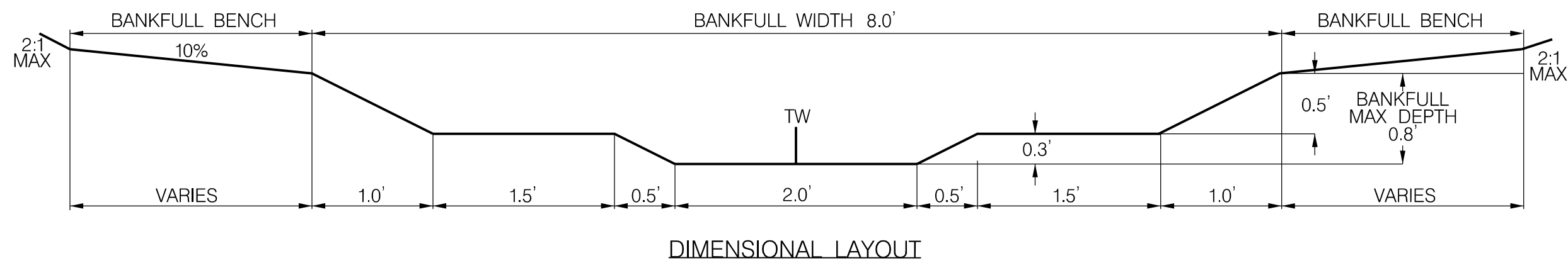
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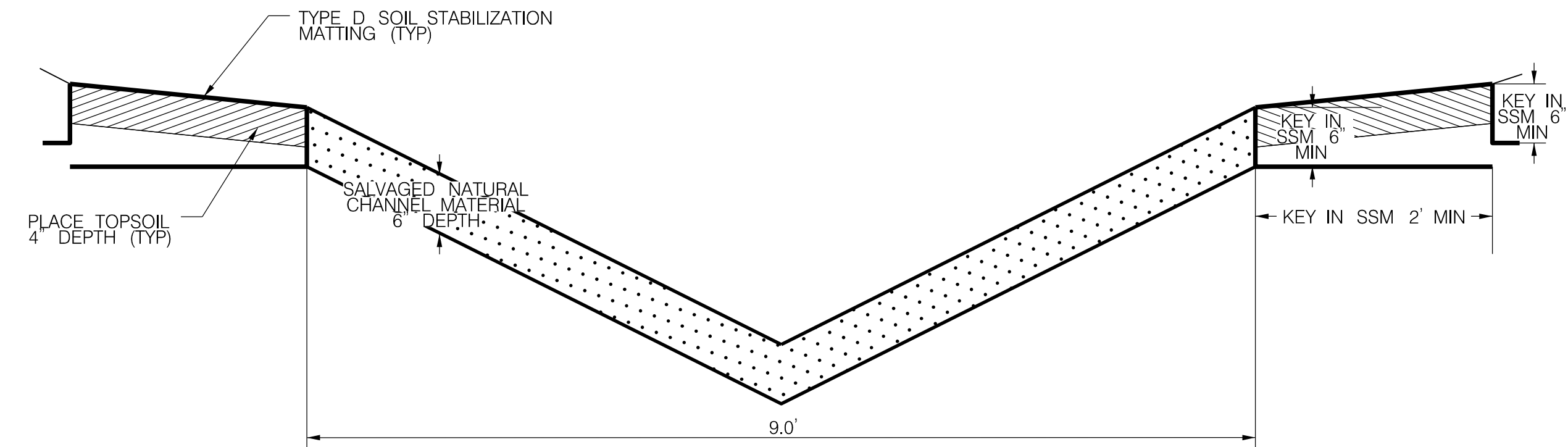
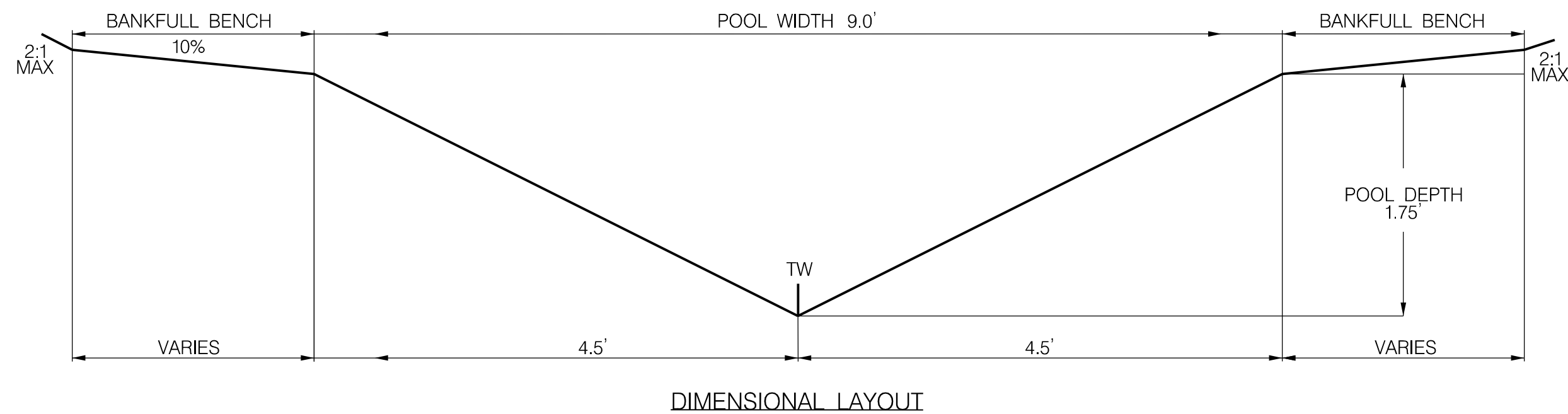
SUBSTRATE AND TYPE D SSM LAYOUT
TYPICAL SECTION REACH 1 – RIFFLE



SUBSTRATE AND TYPE D SSM LAYOUT
TYPICAL SECTION REACH 1 – POOL



SUBSTRATE AND TYPE D SSM LAYOUT
TYPICAL SECTION REACH 2 – RIFFLE



SUBSTRATE AND TYPE D SSM LAYOUT
TYPICAL SECTION REACH 2 – POOL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION TYPICAL SECTIONS	
Drawn By : <u>AG</u>	Scale : <u>NOT TO SCALE</u>
Designed By : <u>NH, JZ</u>	Date : <u>SEPTEMBER 2025</u>
Reviewed By : <u>RD</u>	
Drawing No. <u>IS-01</u> of <u>IS-02</u>	Sheet No. <u>22</u> of <u>48</u>

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The diagram illustrates a pool cross-section with the following specifications:

- Pool Width:** 4.0'
- Bankfull Bench:** 10% slope on both sides.
- Pool Depth:** 1.0'
- Twelve Foot (TW):** The central point of the pool bottom.
- Slopes:** 2:1 MAX on the outer edges.
- Dimensions:** The pool width is divided into three sections: VARIES (left), 2.0' (center), and VARIES (right).

DIMENSIONAL LAYOUT

[illegible]

* SALVAGED NATURAL CHANNEL MATERIAL

[illegible]

RIFFLE GRADE CONTROL MIX 1		
% MIX	SNCM*	20
	SHA CLASS 0	20
	SHA CLASS 1	40
	SHA CLASS 2	20

*SALVAGED NATURAL CHANNEL MATERIAL

RIFLE GRADE CONTROL MIX 2		
% MIX	SNCM*	20
	SHA CLASS 0	10
	SHA CLASS 1	30
	SHA CLASS 2	40

HARFORD COMMUNITY COLLEGE STREAM RESTORATION TYPICAL SECTIONS

Scale : NOT TO SCALE

Date : SEPTEMBER 2025

Sheet No. 23 of 48

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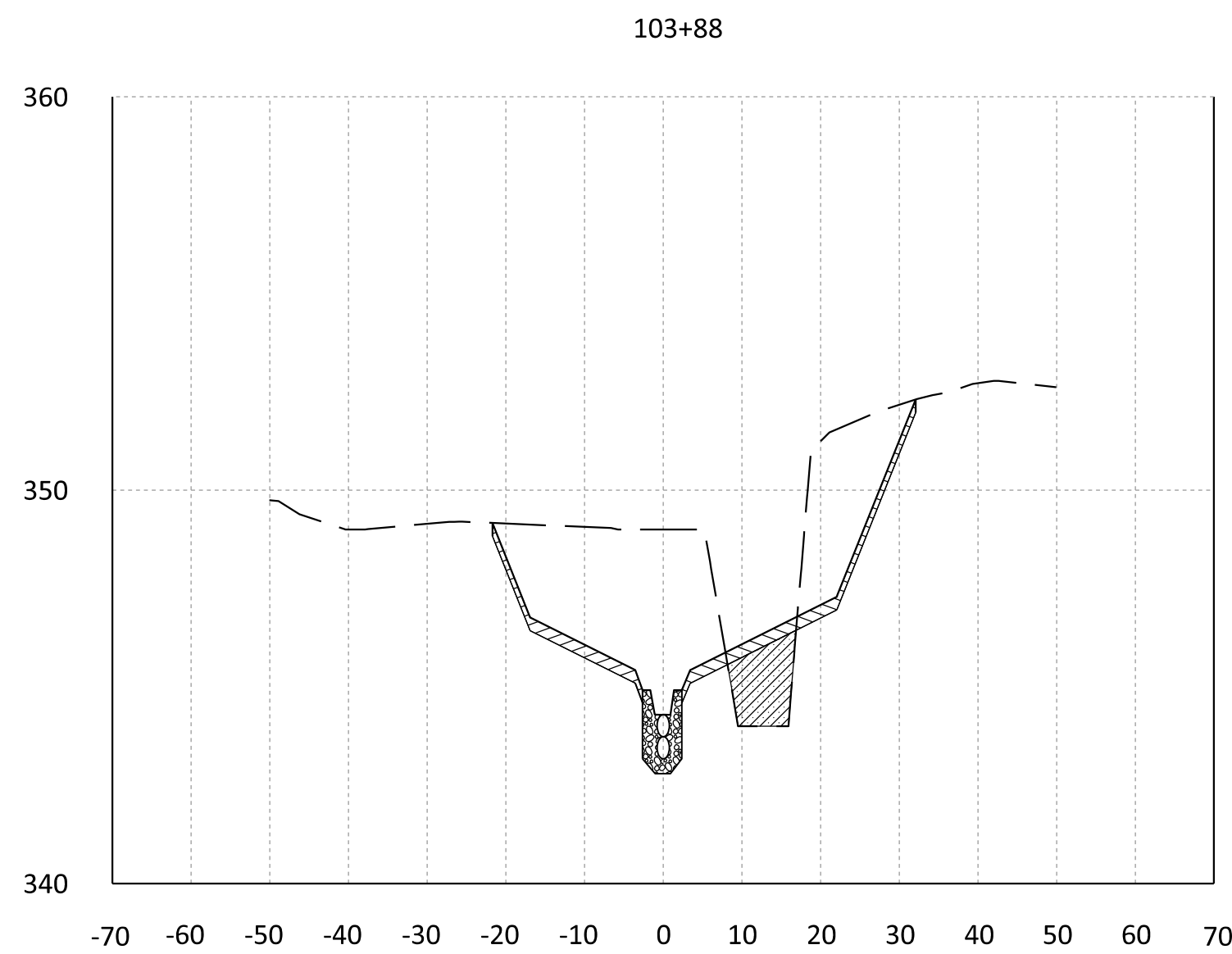
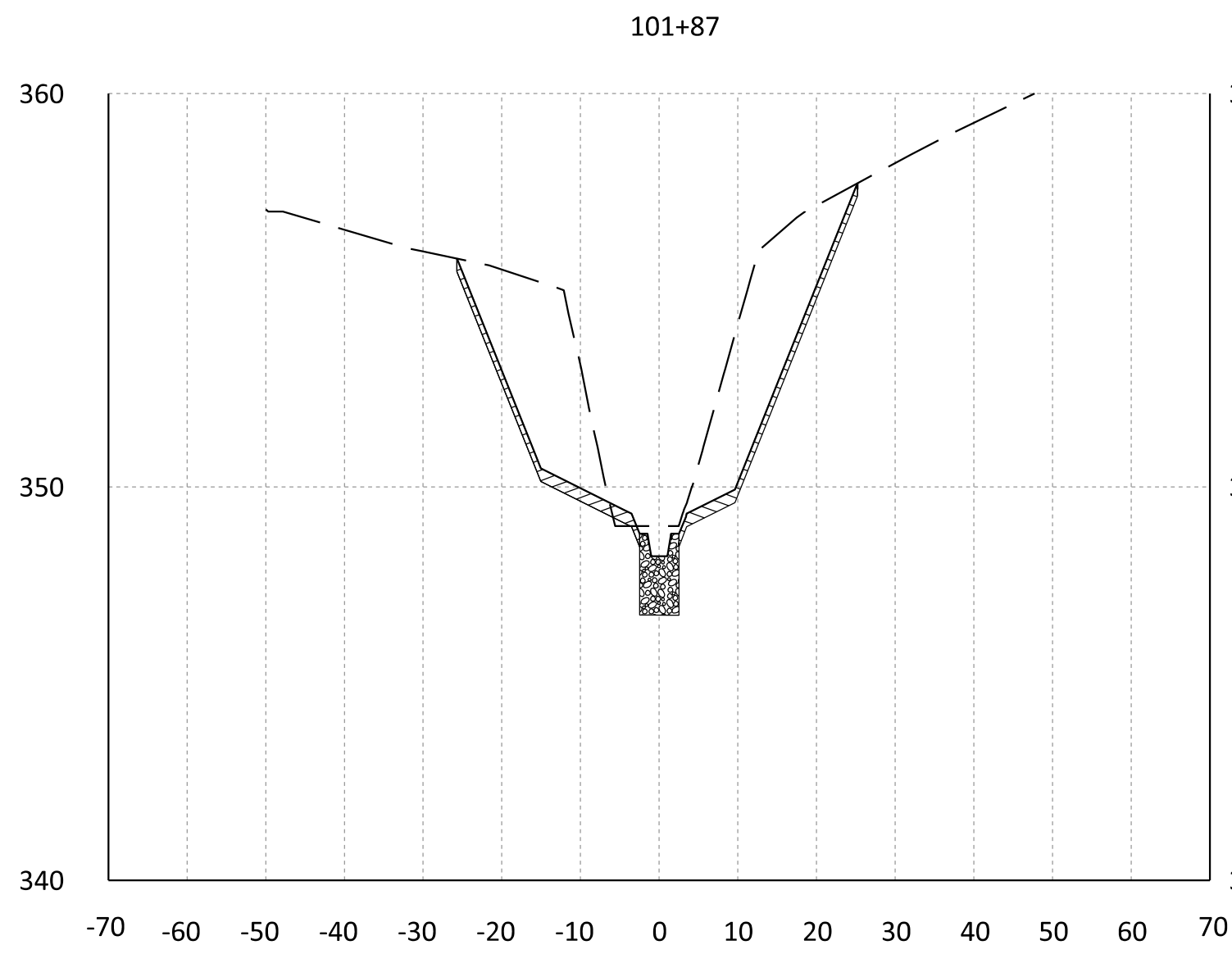
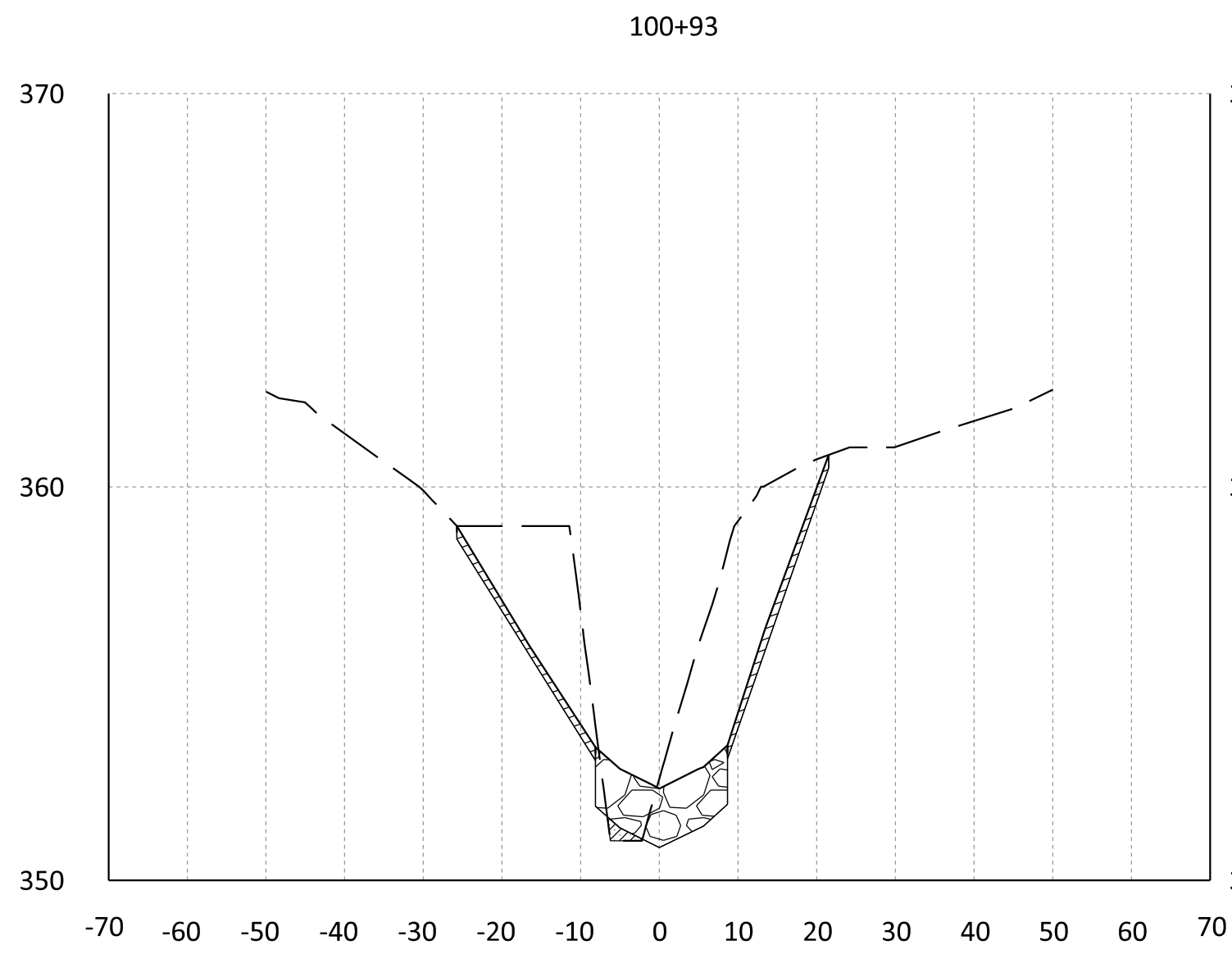
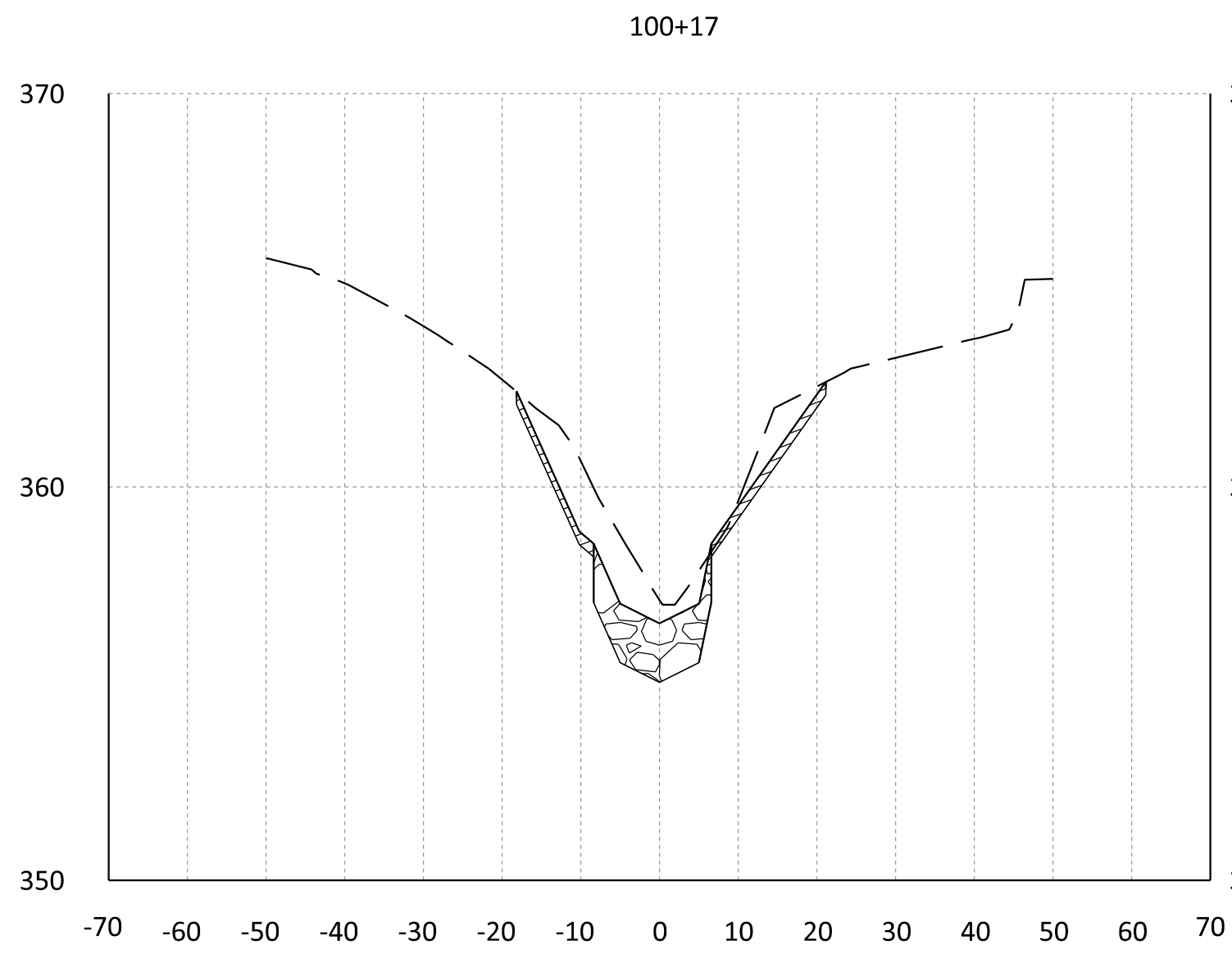
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PLOTTED: 9/12/2025

BID No.::

SCALE : 1 inch



LEGEND

- EXISTING GROUND SURFACE
EXISTING PIPE
PROPOSED GROUND SURFACE
PROPOSED RIFFLE GRADE CONTROL MIX
PROPOSED RIFFLE WEIR MIX
SALVAGED NATURAL CHANNEL MATERIAL
PROPOSED TOPSOIL
PROPOSED COMMON BORROW
PROPOSED LOG VANE
PROPOSED CHANNEL LOG

STREAM CROSS SECTIONS

SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

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21-097 TO #25
GP #XXX-XXXXX-XXXX

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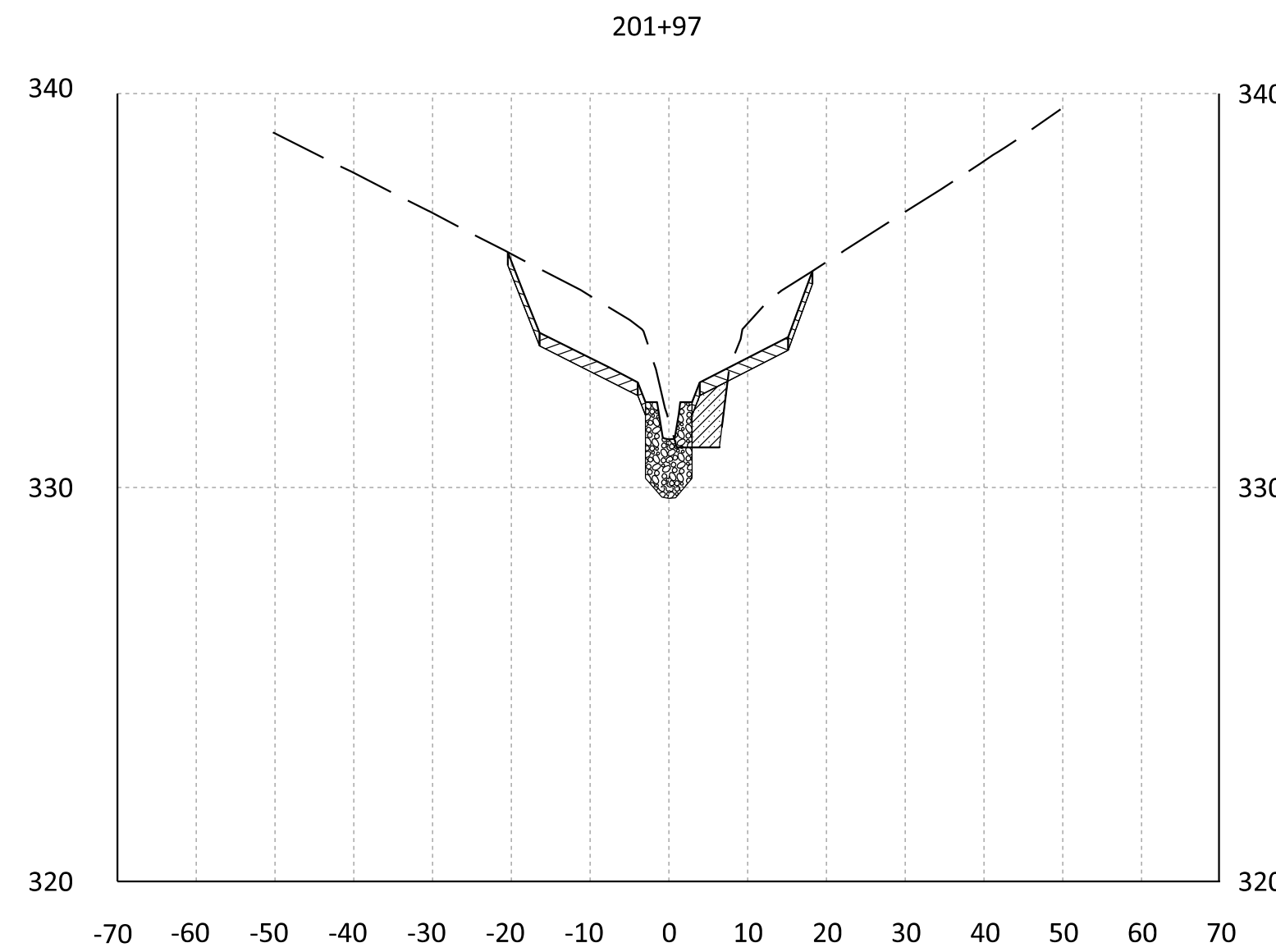
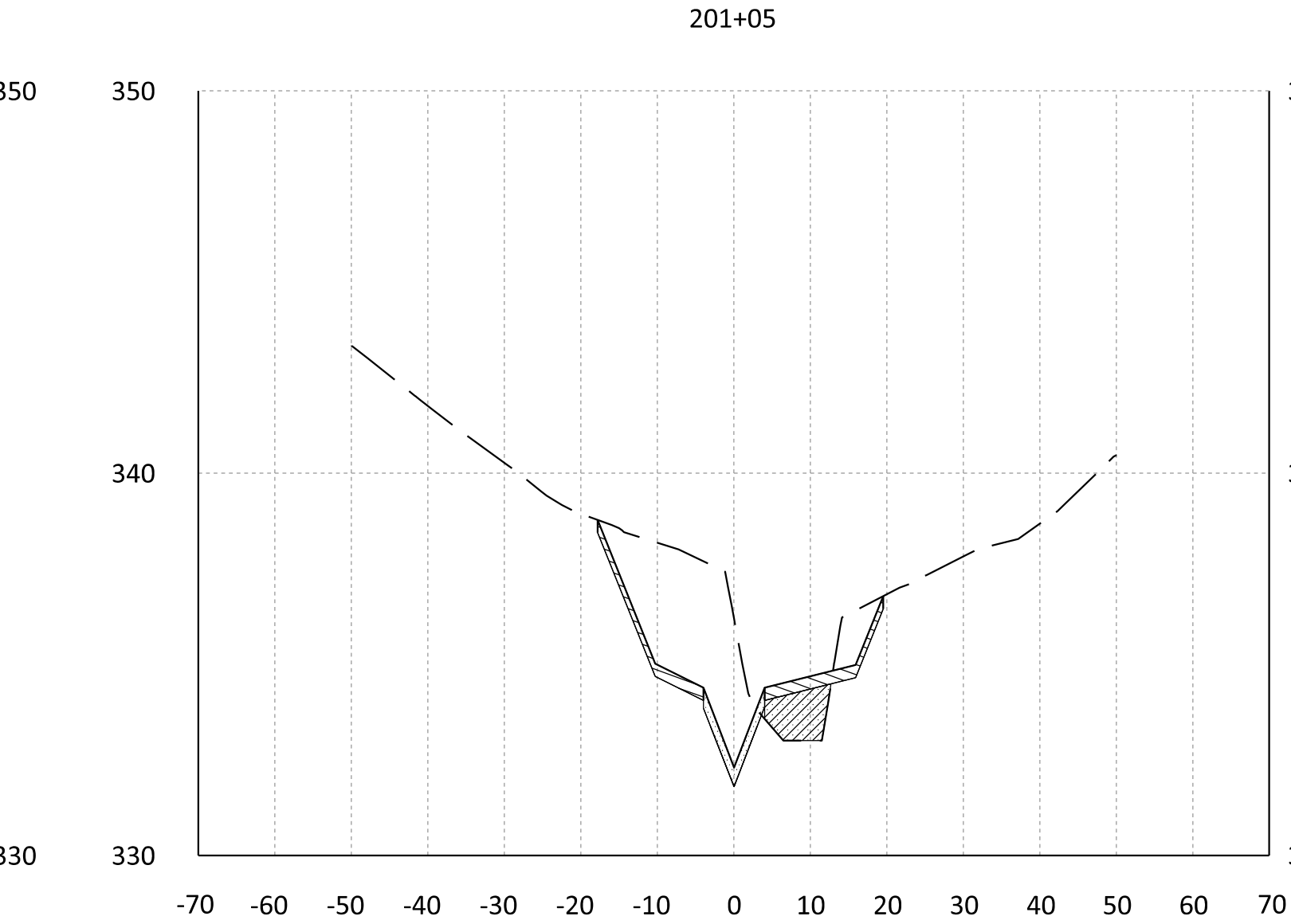
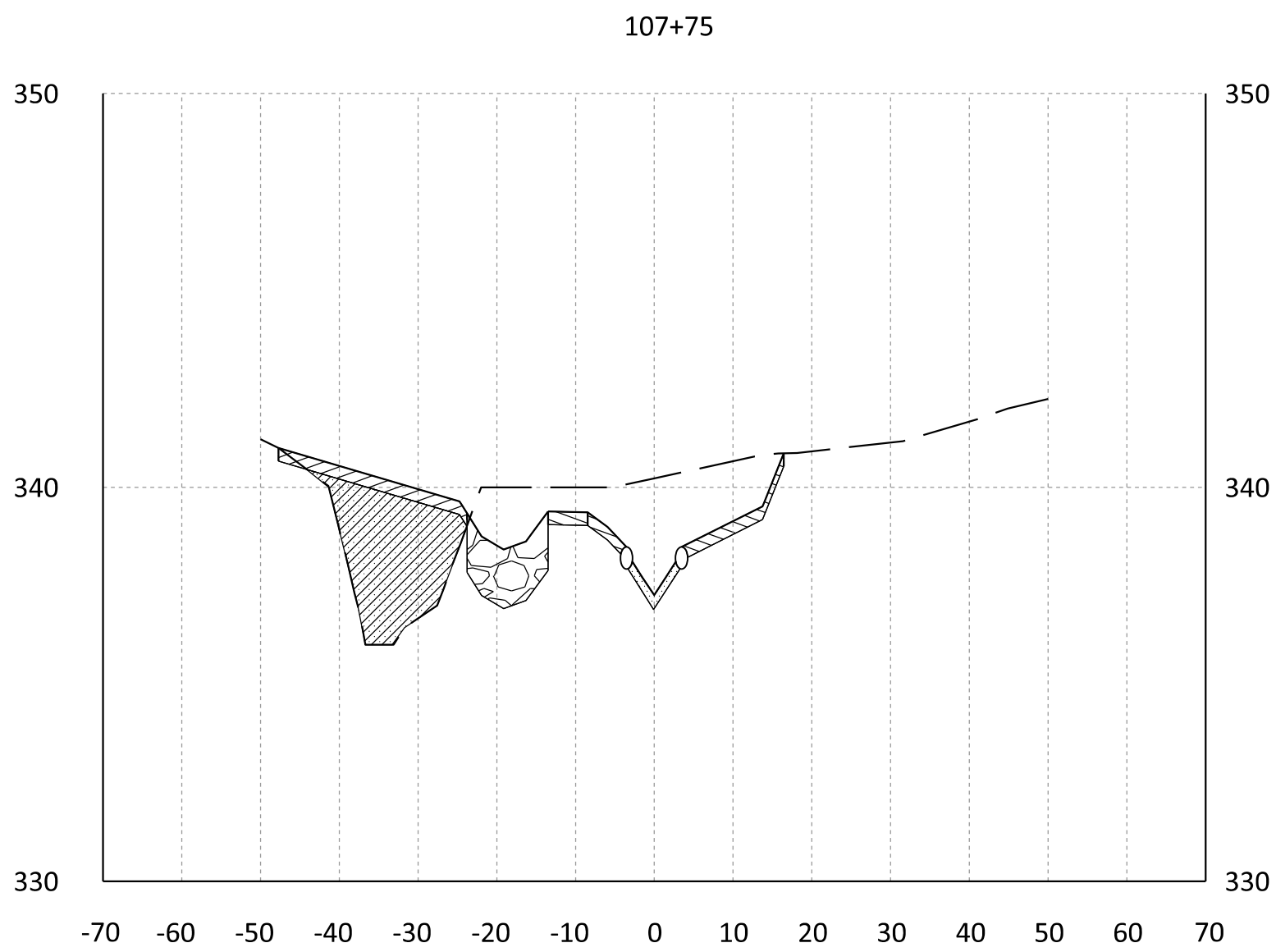
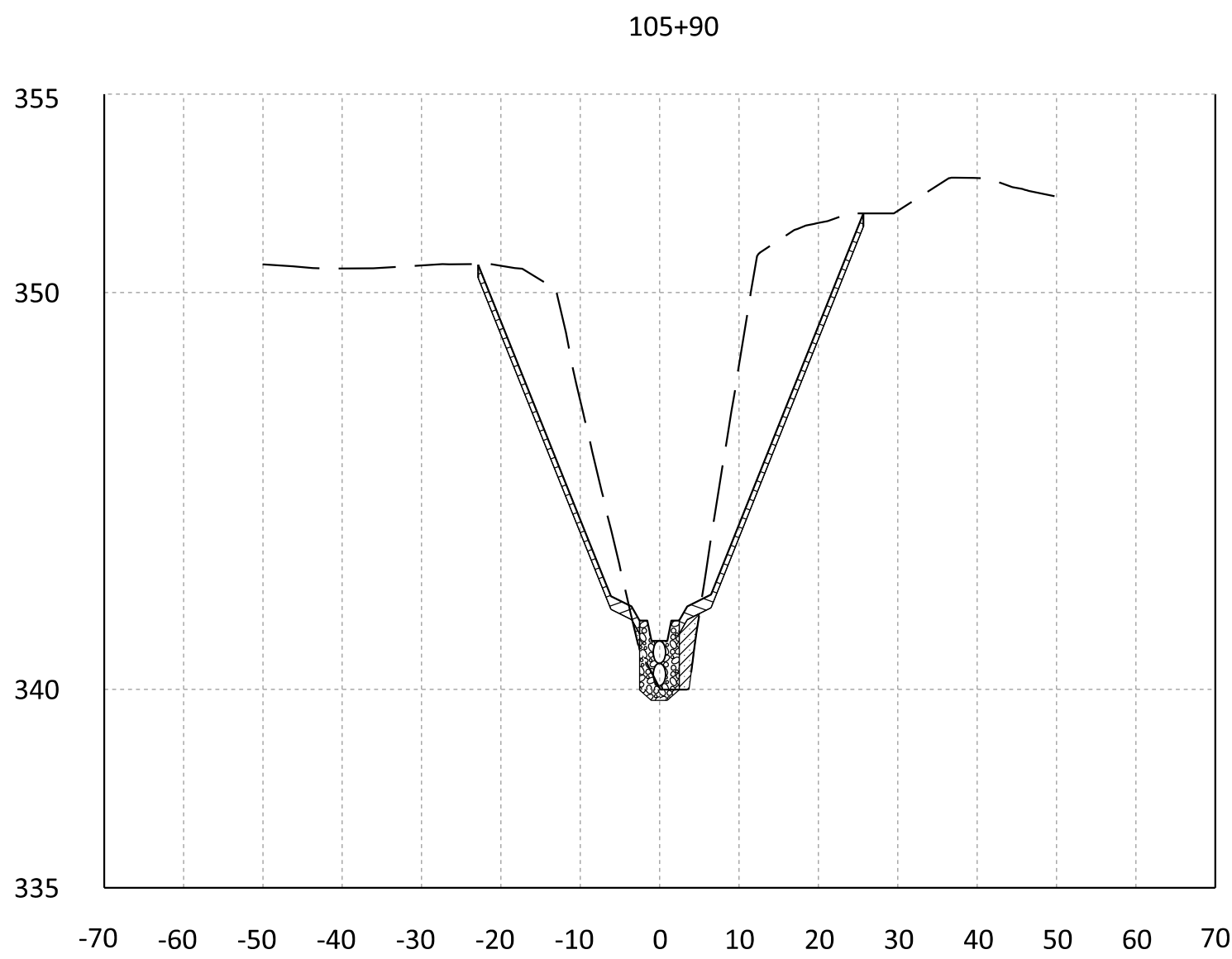
HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
CROSS SECTIONS

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. XS-01 of XS-04

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 24 of 48

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LEGEND	
EXISTING GROUND SURFACE	---
EXISTING PIPE	---
PROPOSED GROUND SURFACE	---
PROPOSED RIFFLE GRADE CONTROL MIX	---
PROPOSED RIFFLE WEIR MIX	---
SALVAGED NATURAL CHANNEL MATERIAL	---
PROPOSED TOPSOIL	---
PROPOSED COMMON BORROW	---
PROPOSED LOG VANE	---
PROPOSED CHANNEL LOG	---

STREAM CROSS SECTIONS

SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

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THE STATE OF MARYLAND, LICENSE NO. 200370, EXPIRATION DATE: 2025/03/19.

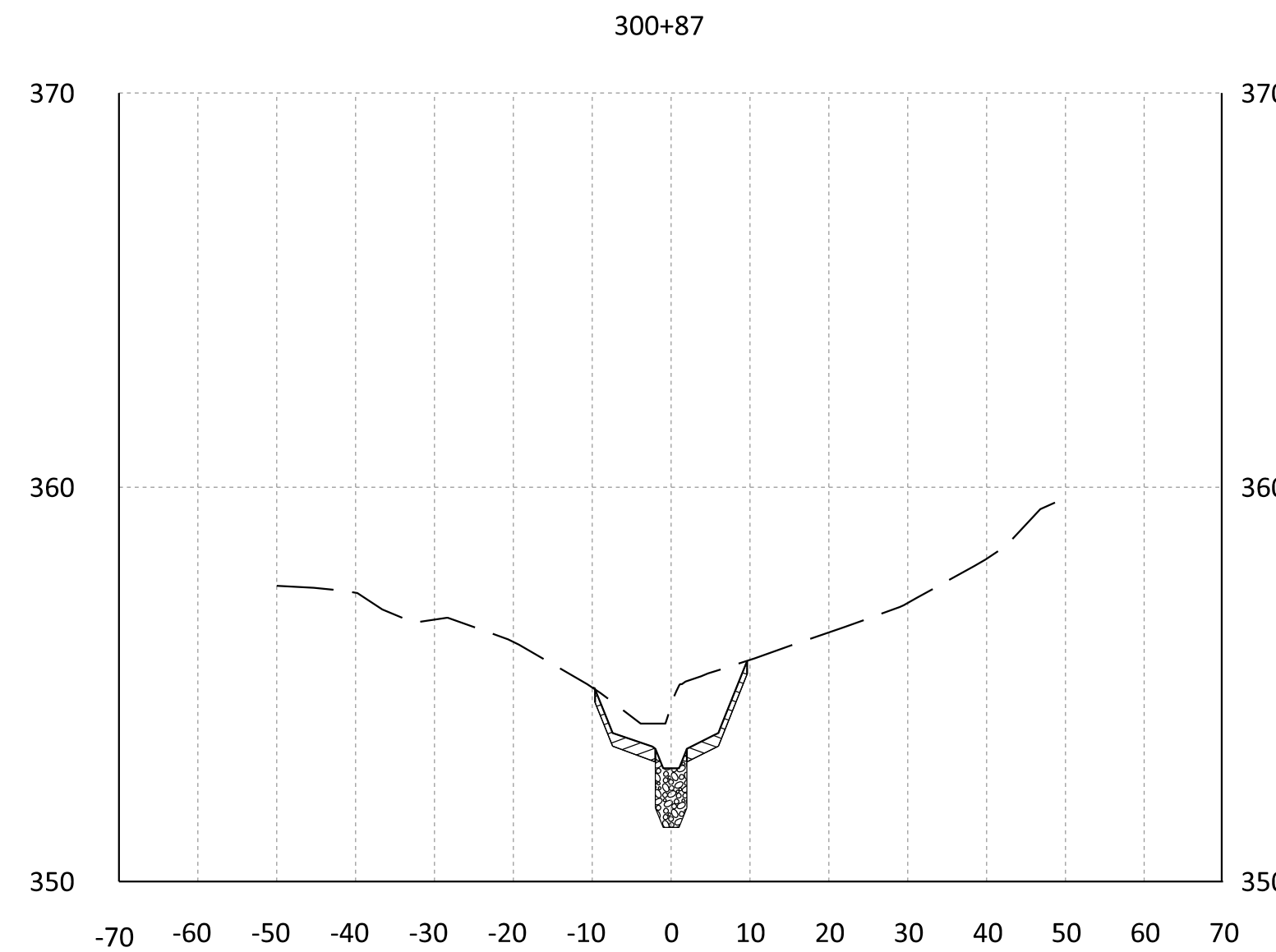
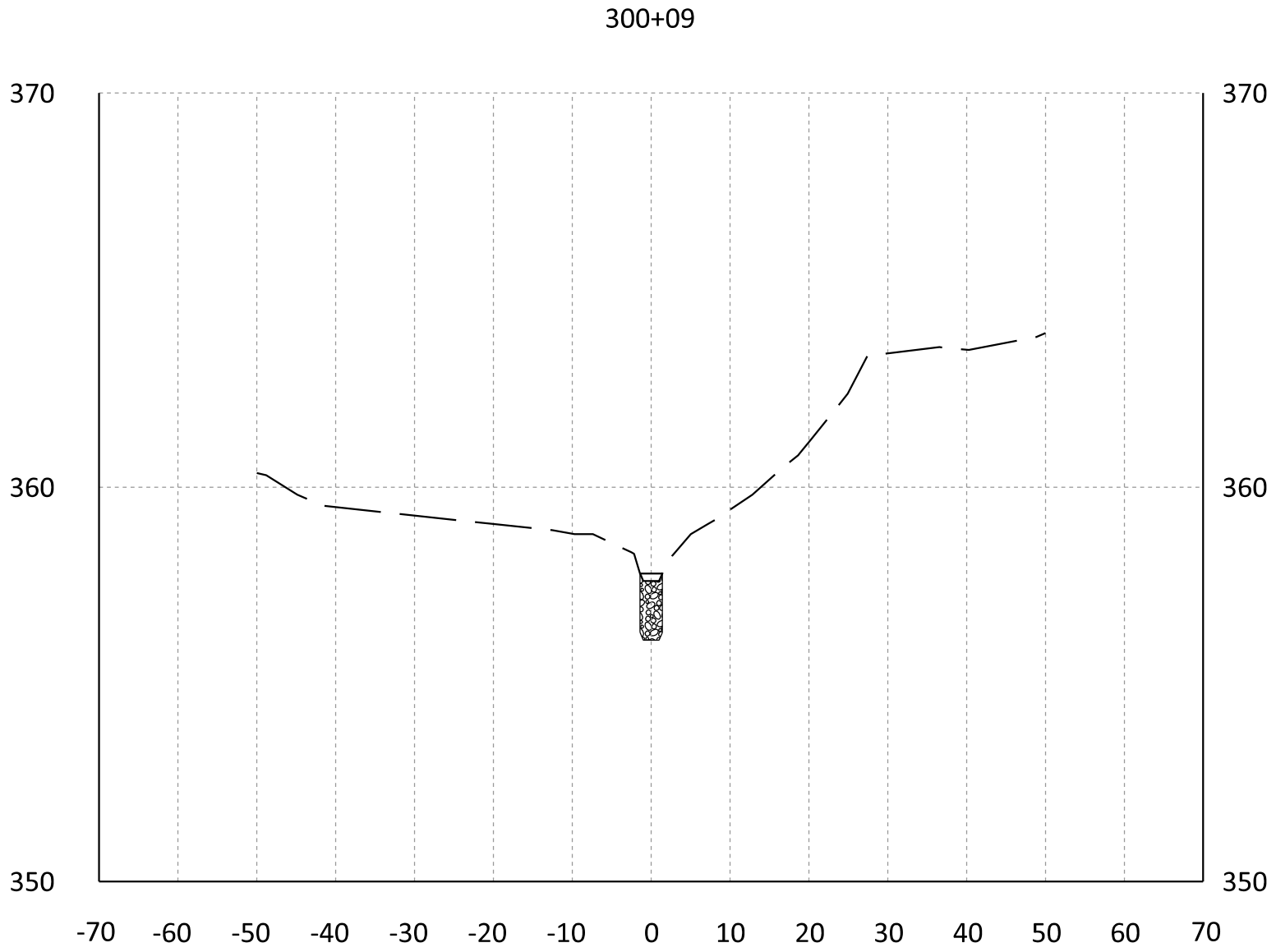
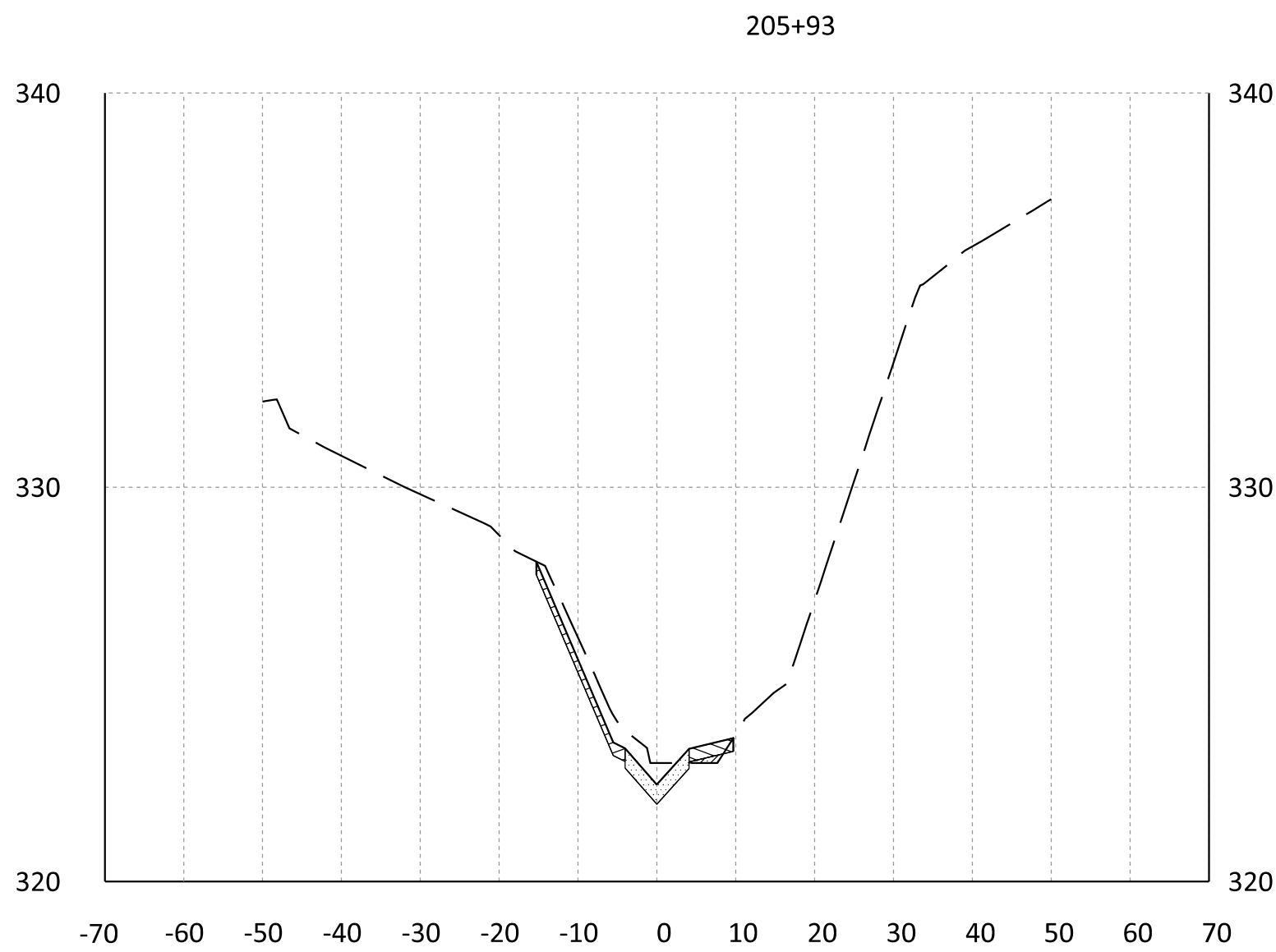
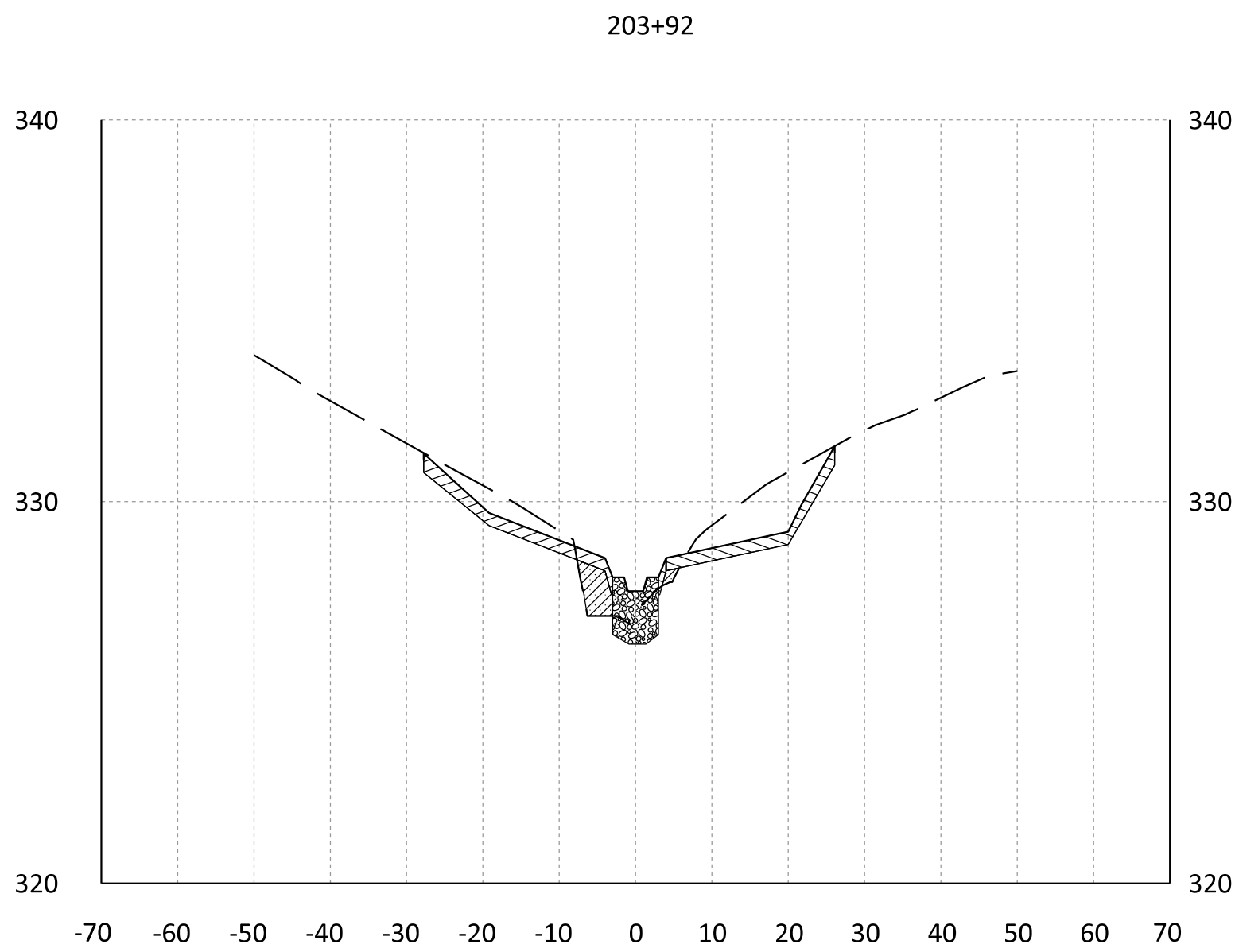
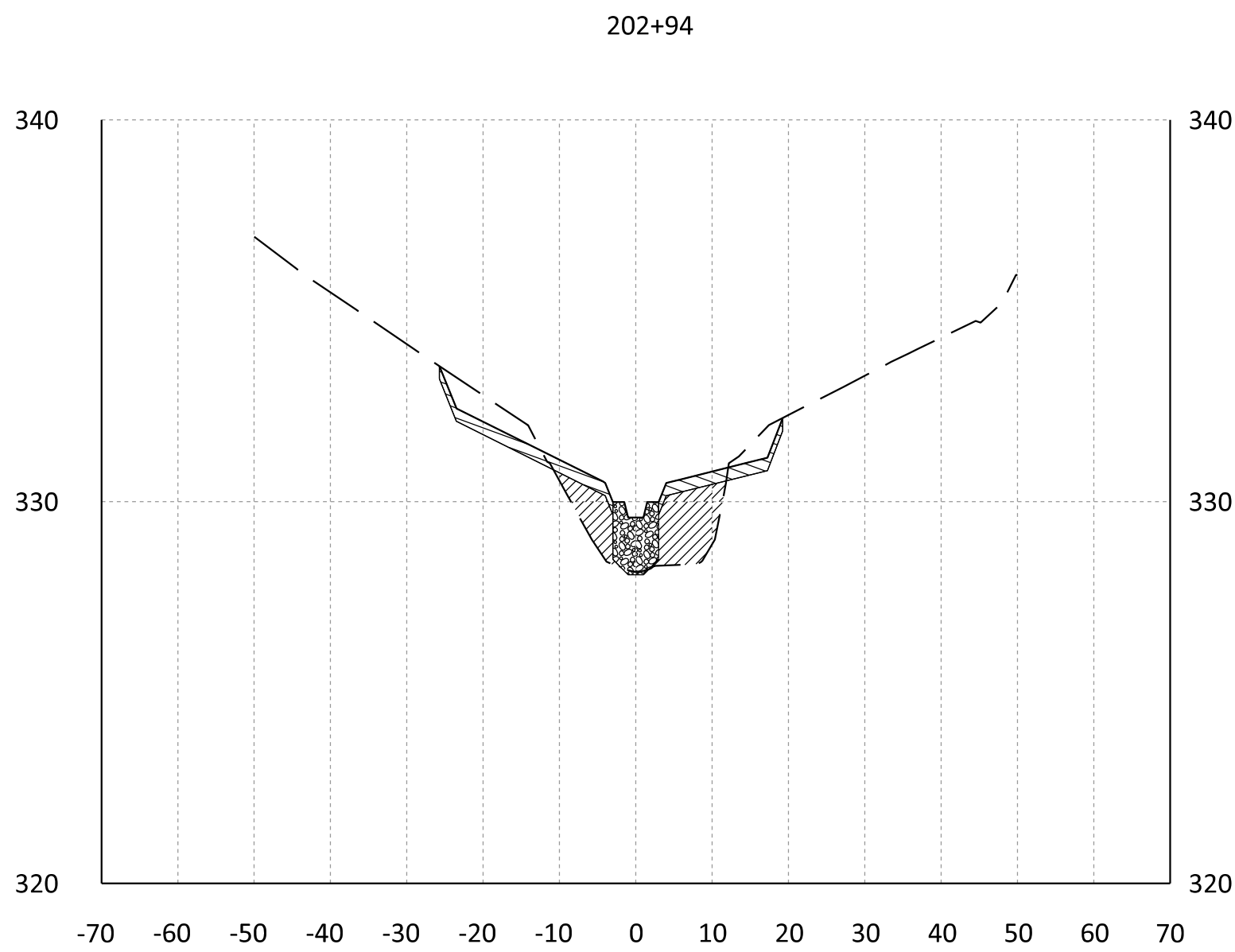
PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXXX-XXXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
CROSS SECTIONS

Drawn By : AG	Scale : 1"=20'
Designed By : NH, JZ	Date : SEPTEMBER 2025
Reviewed By : RD	
Drawing No. XS-02 of XS-04	Sheet No. 25 of 48

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LEGEND

EXISTING GROUND SURFACE

EXISTING PIPE

PROPOSED GROUND SURFACE

PROPOSED RIFFLE GRADE CONTROL MIX

PROPOSED RIFFLE WEIR MIX

SALVAGED NATURAL CHANNEL MATERIAL

PROPOSED TOPSOIL

PROPOSED COMMON BORROW

PROPOSED LOG VANE

PROPOSED CHANNEL LOG

STREAM CROSS SECTIONS

SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

PROFESSIONAL CERTIFICATION

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PROJECT CONTRACT:

21-097 TO #25

GP #XXX-XXXXXX-XXXX

Revisions

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
CROSS SECTIONS

Drawn By : AG

Designed By : NH, JZ

Reviewed By : RD

Drawing No. XS-03 of XS-04

Scale : 1"=20'

Date : SEPTEMBER 2025

Sheet No. 26 of 48

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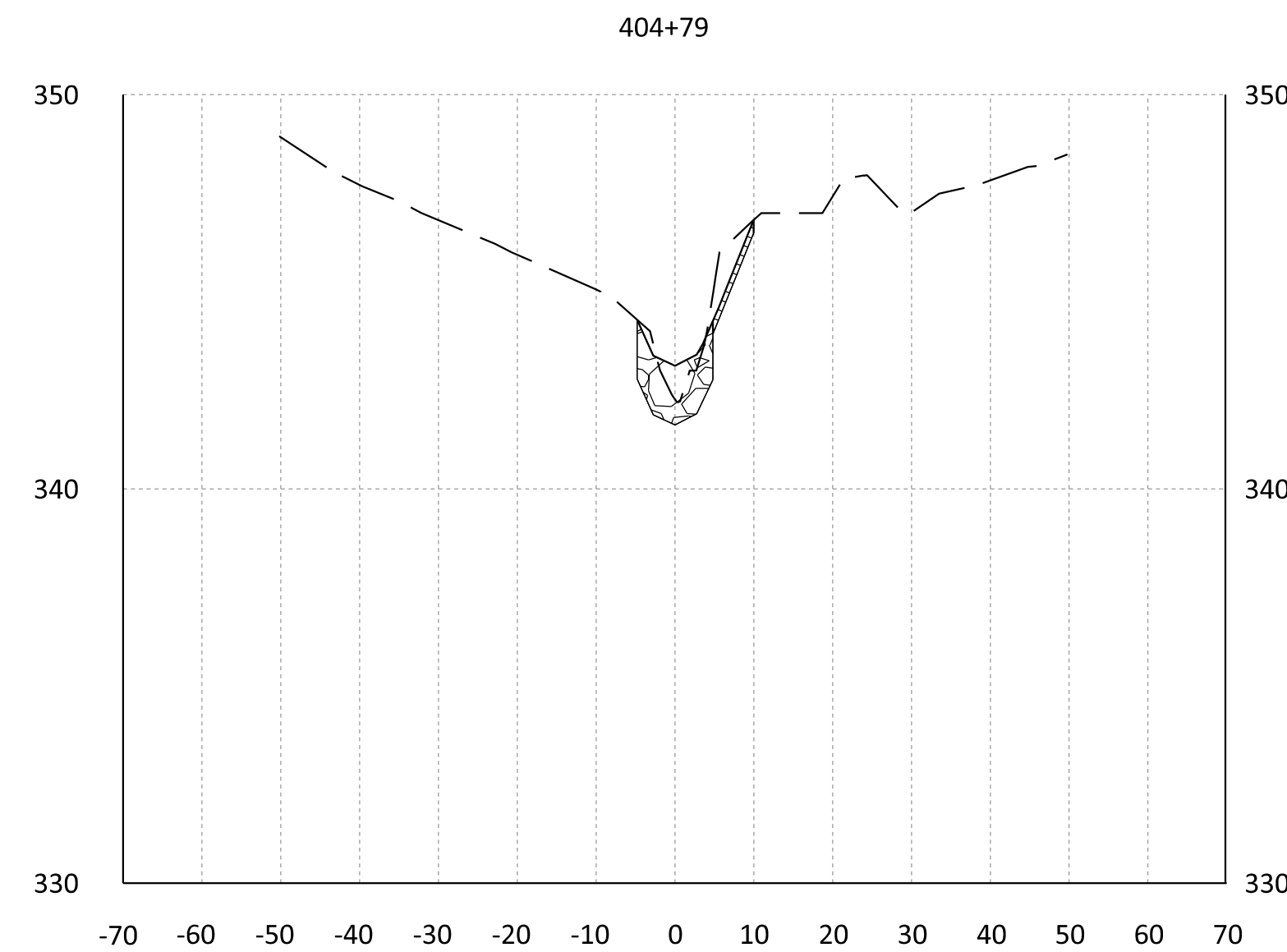
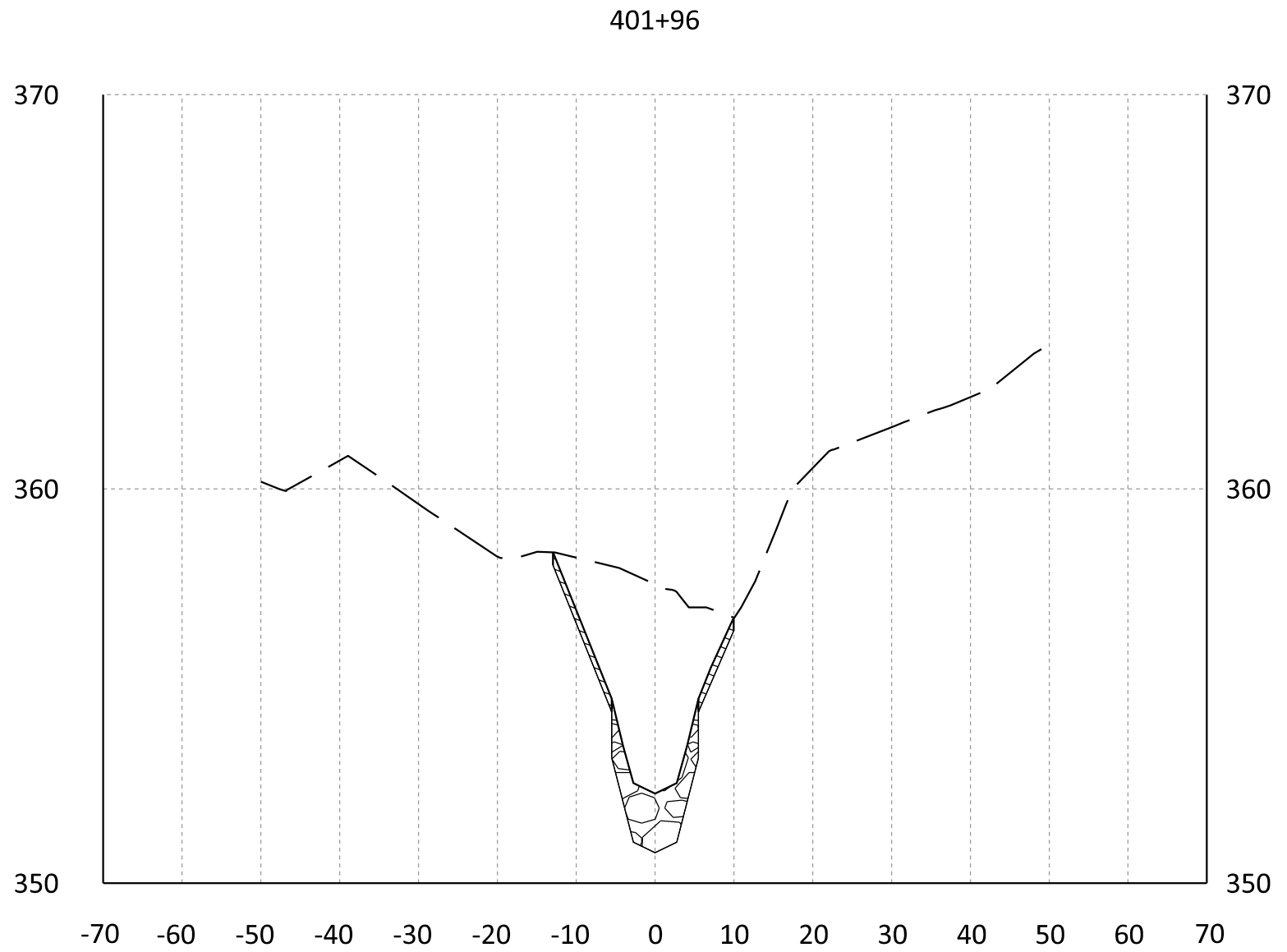
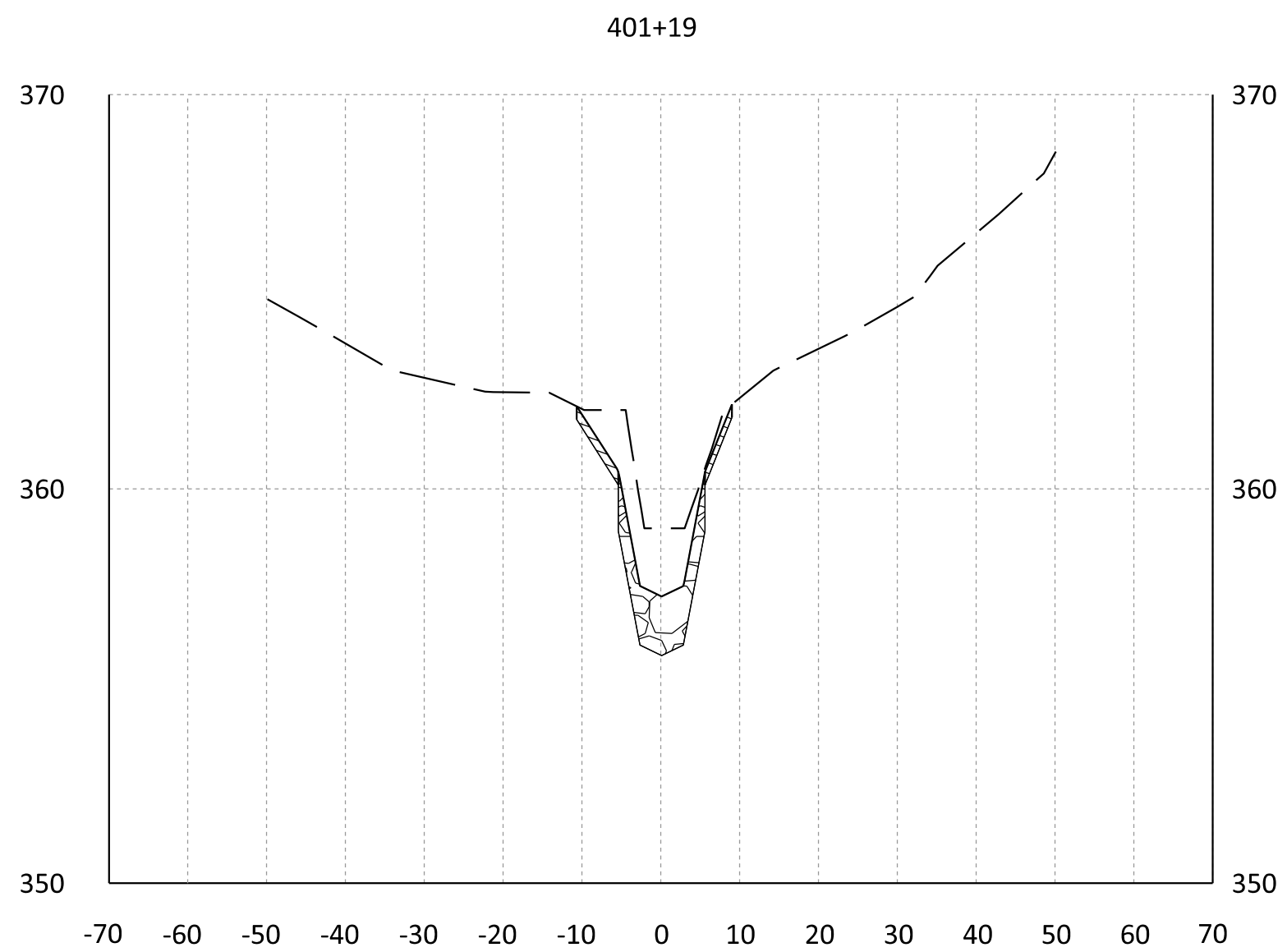
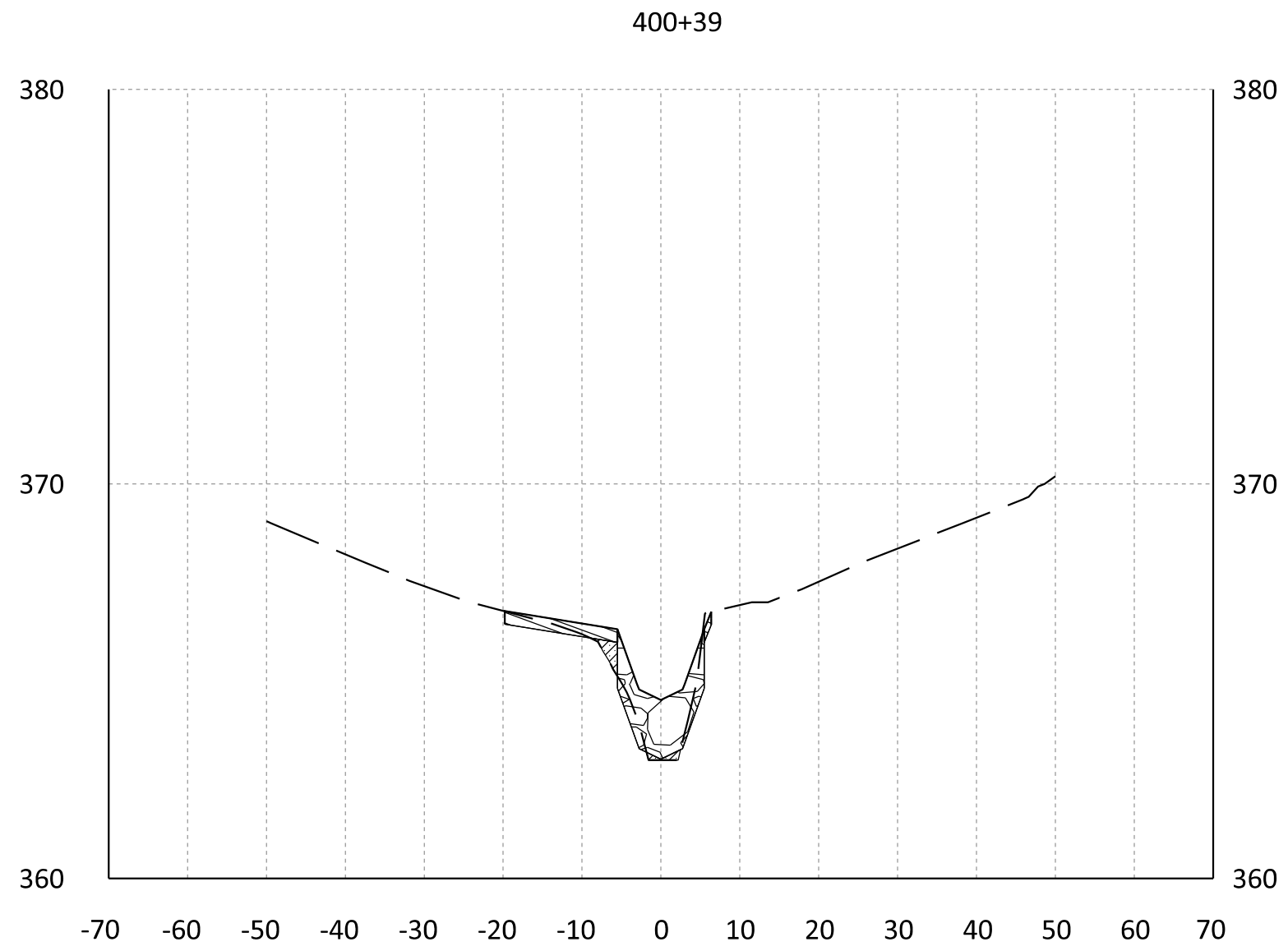
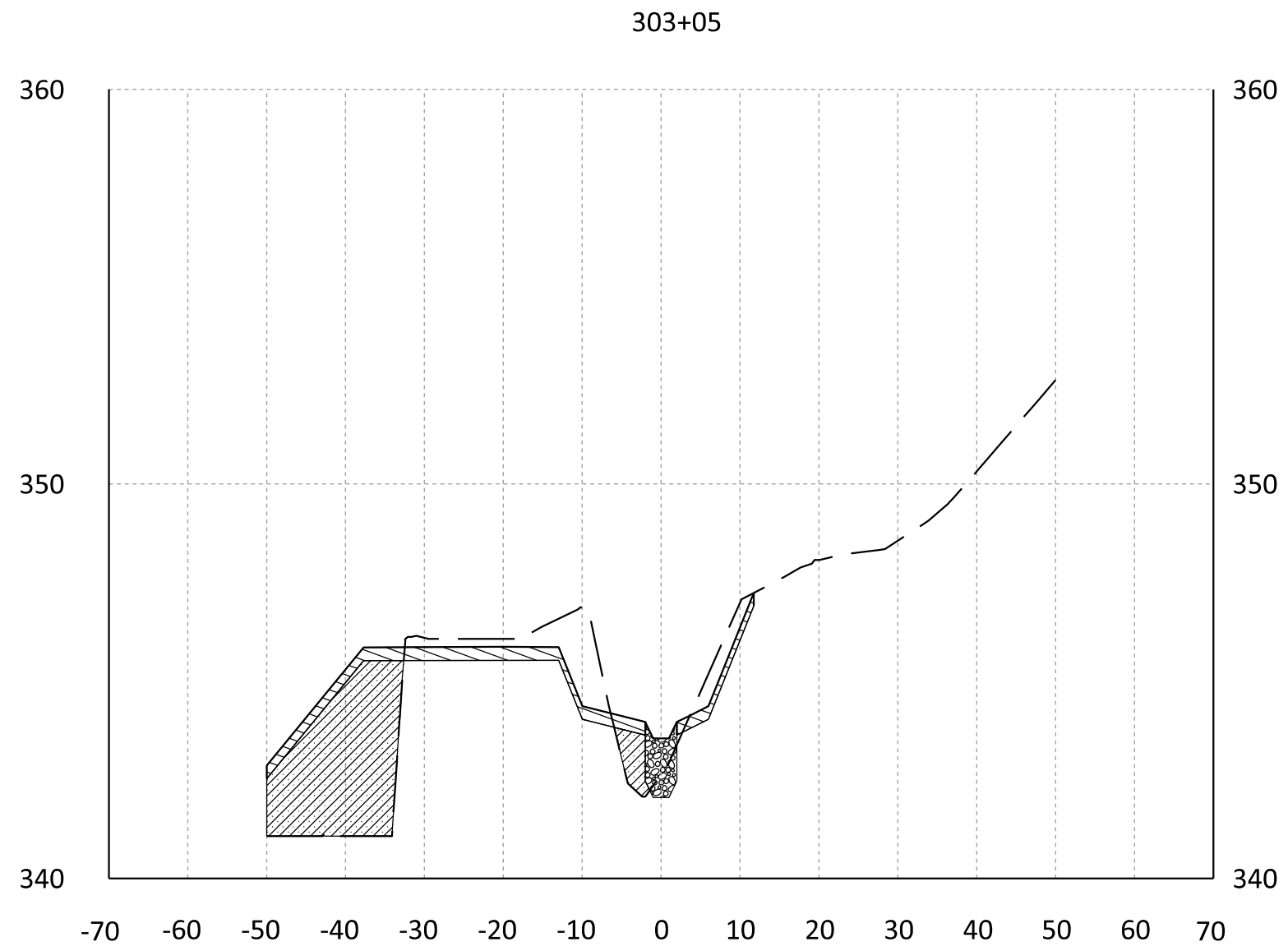
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PLOTTED: 9/12/2025

BID No.:

HCC DWG ID No.:



LEGEND	
EXISTING GROUND SURFACE	
EXISTING PIPE	
PROPOSED GROUND SURFACE	
PROPOSED RIFFLE GRADE CONTROL MIX	
PROPOSED RIFFLE WEIR MIX	
SALVAGED NATURAL CHANNEL MATERIAL	
PROPOSED TOPSOIL	
PROPOSED COMMON BORROW	
PROPOSED LOG VANE	
PROPOSED CHANNEL LOG	

STREAM CROSS SECTIONS

SCALE:
HORIZONTAL 1" = 20'
VERTICAL 1" = 4'

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PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXX-XXXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

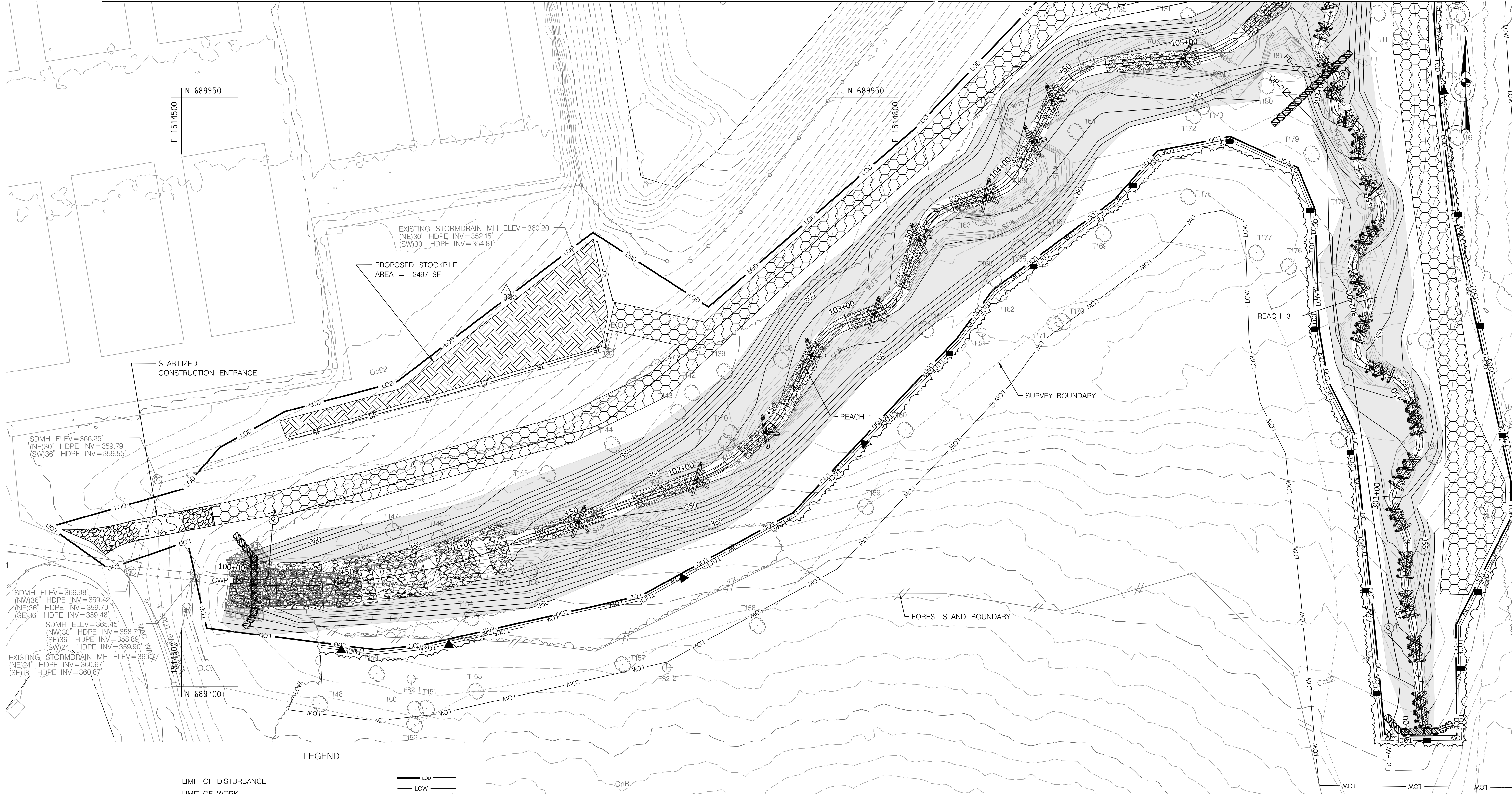
HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
CROSS SECTIONS

Drawn By : AG	Scale : 1"=20'
Designed By : NH, JZ	Date : SEPTEMBER 2025
Reviewed By : RD	
Drawing No. XS-04 of XS-04	Sheet No. 27 of 48

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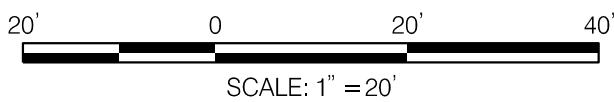
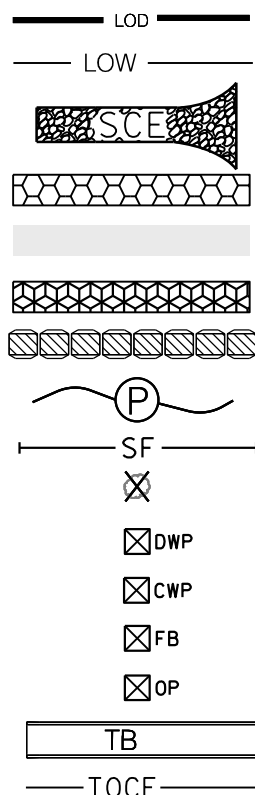
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LEGEND

- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY MULCH ACCESS ROAD
- SOIL STABILIZATION MATTING
- STAGING AND STOCKPILE AREA
- SAND BAGS
- PUMP AROUND
- SILT FENCE
- TREE TAKE
- DIRTY WATER PUMP
- CLEAR WATER PUMP
- FILTER BAG
- OUTLET PROTECTION
- TEMPORARY ACCESS BRIDGE
- TEMPORARY ORANGE CONSTRUCTION FENCE



PROFESSIONAL CERTIFICATION

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PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXXX-XXXX	
SIGN AND SEAL	

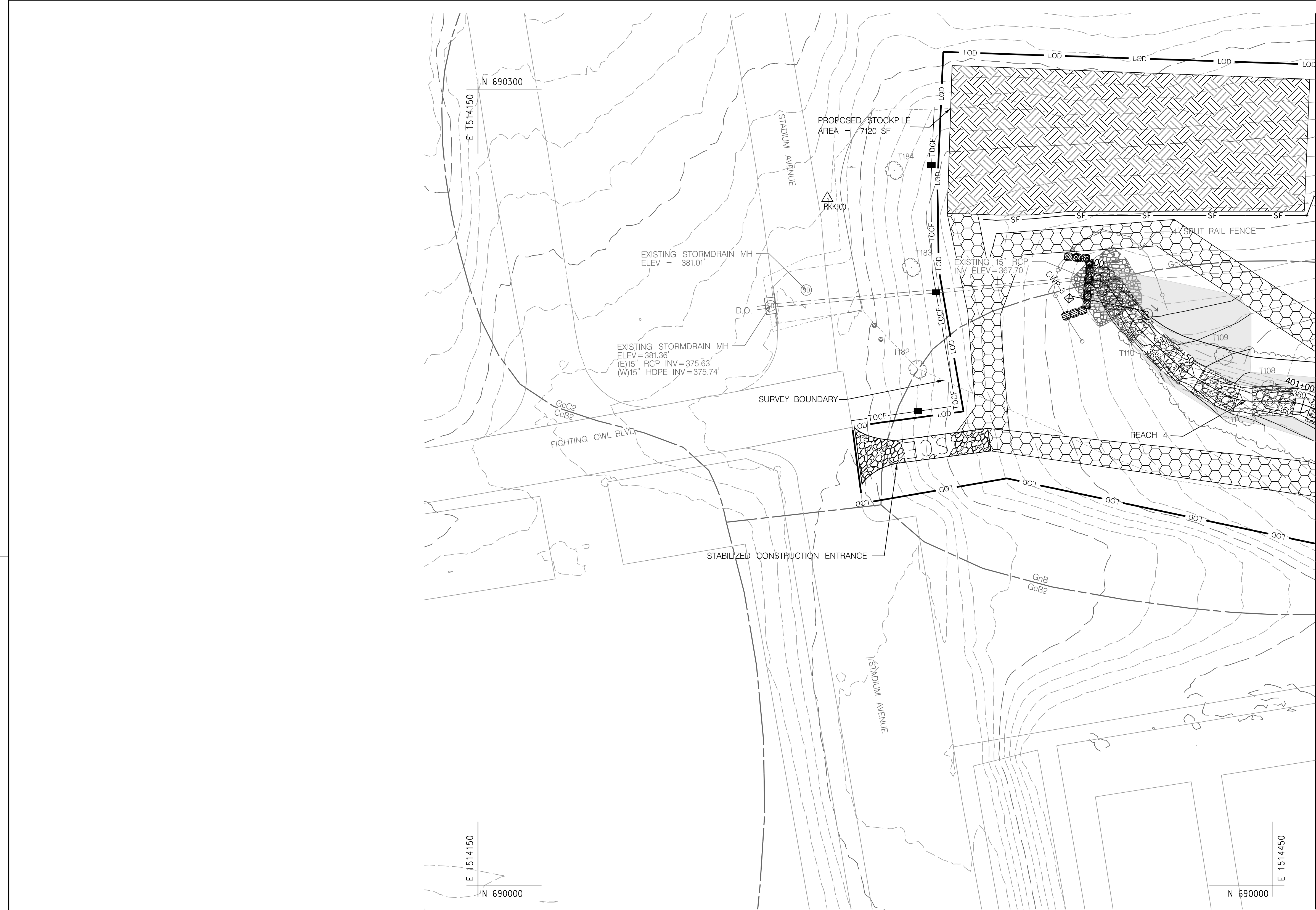
HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EROSION & SEDIMENT CONTROL

Drawn By : AG	Scale : 1"=20'
Designed By : NH, JZ	Date : SEPTEMBER 2025
Reviewed By : RD	
Drawing No. ES-01 of ES-07	Sheet No. 28 of 48

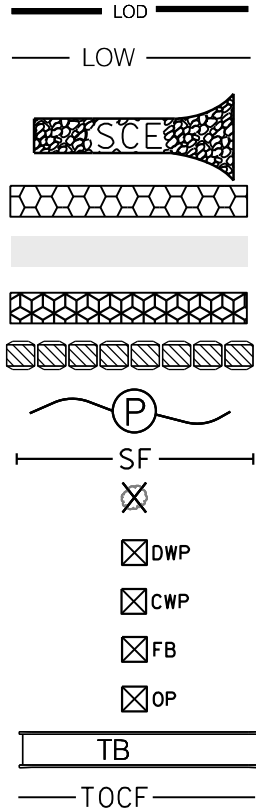


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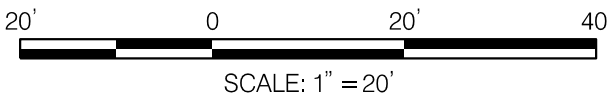


LEGEND

- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY MULCH ACCESS ROAD
- SOIL STABILIZATION MATTING
- STAGING AND STOCKPILE AREA
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NOTES:
1. TEMPORARY ORANGE CONSTRUCTION FENCE SHOWN OUTSIDE OF LOD FOR VISUAL PURPOSES ONLY.



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PROJECT CONTRACT:

21-097 TO #25

Revisions

GP #XXX-XXXXX-XXXX

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EROSION & SEDIMENT CONTROL

Drawn By : AG

Designed By : NH, JZ

Reviewed By : RD

Drawing No. ES-02 of ES-07

Scale : 1"=20'

Date : SEPTEMBER 2025

Sheet No. 29 of 48



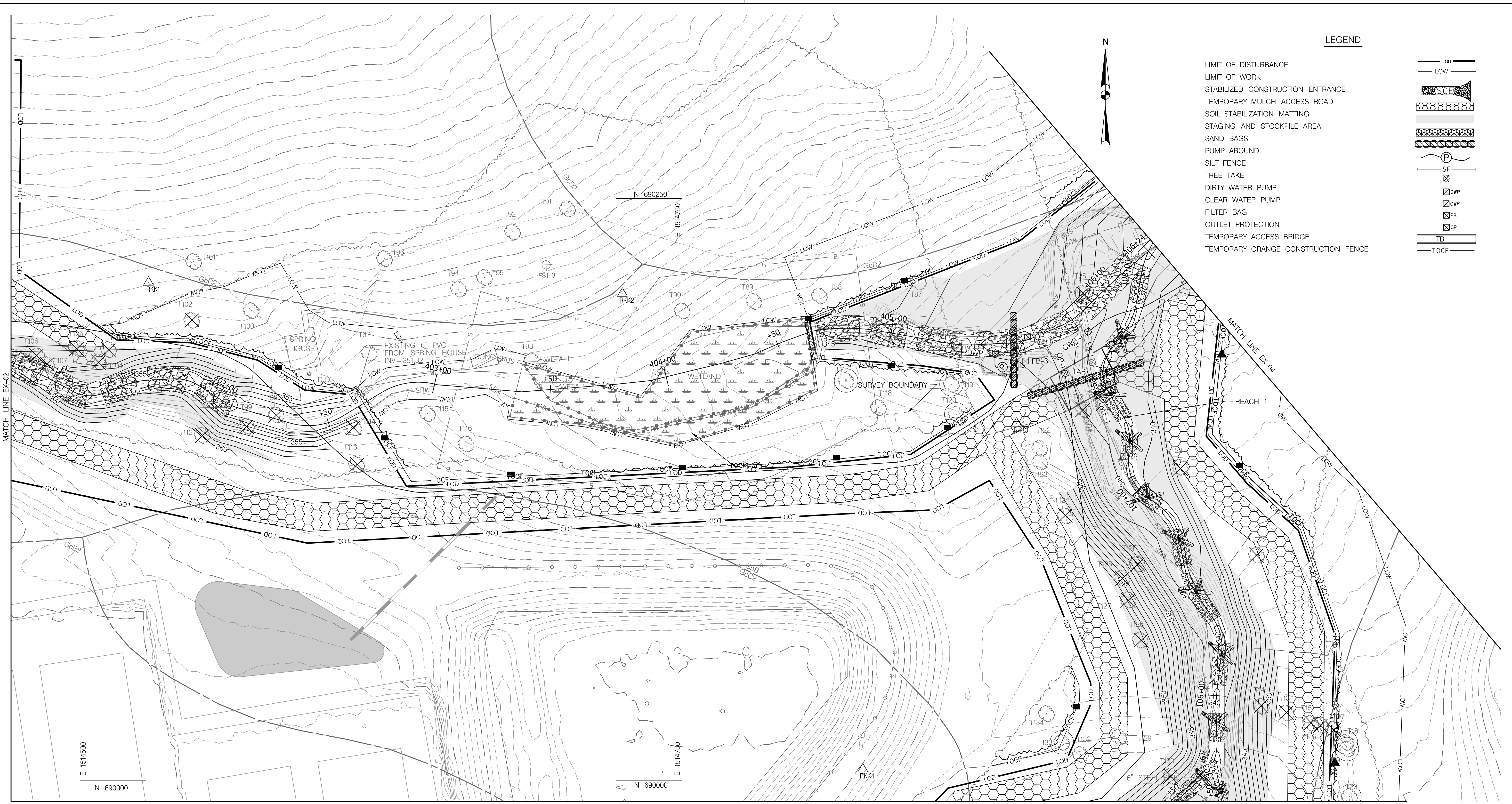
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PLOTTED: 9/12/2025

BID No.:

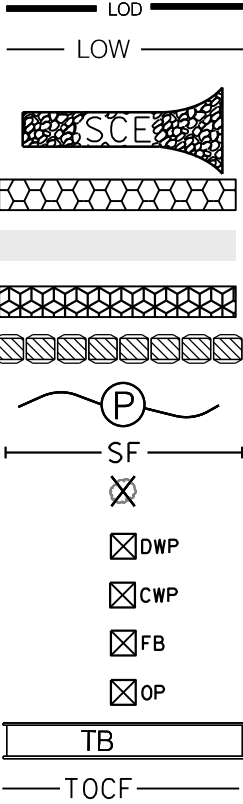
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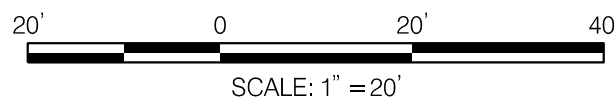


LEGEND

- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY MULCH ACCESS ROAD
- SOIL STABILIZATION MATTING
- STAGING AND STOCKPILE AREA
- SAND BAGS
- PUMP AROUND
- SILT FENCE
- TREE TAKE
- DIRTY WATER PUMP
- CLEAR WATER PUMP
- FILTER BAG
- OUTLET PROTECTION
- TEMPORARY ACCESS BRIDGE
- TEMPORARY ORANGE CONSTRUCTION FENCE



NOTES:
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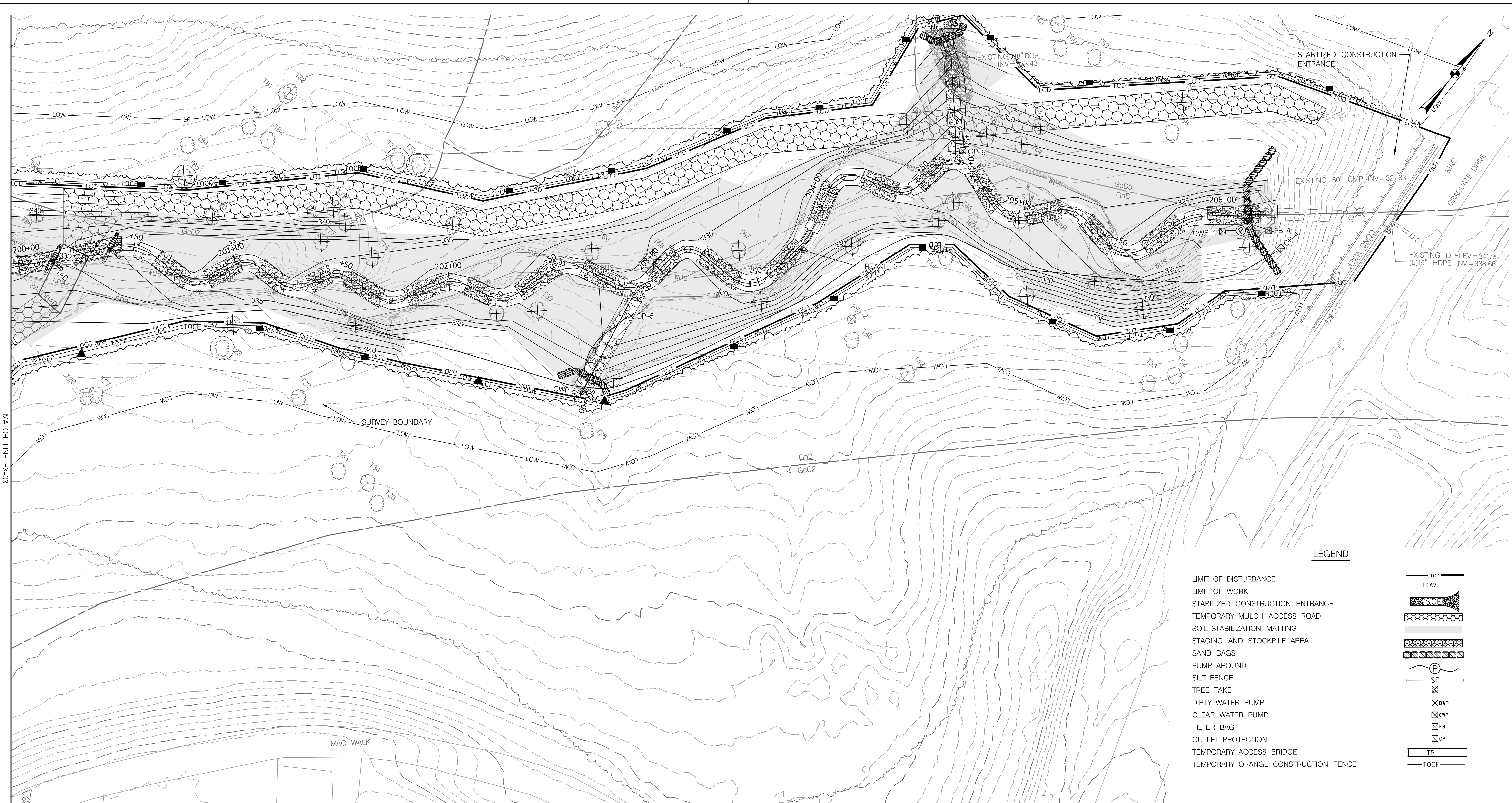
PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXXX-XXXXX-XXXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EROSION & SEDIMENT CONTROL

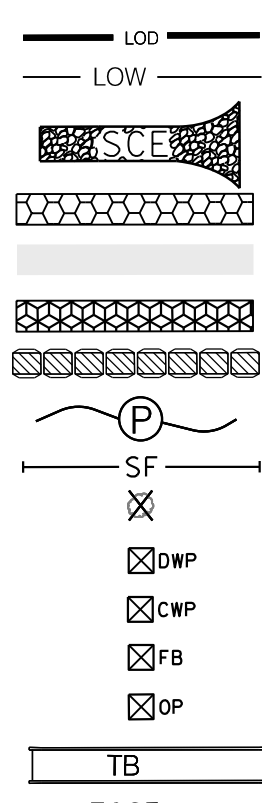
Drawn By : AG	Scale : 1"=20'
Designed By : NH, JZ	Date : SEPTEMBER 2025
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Drawing No. ES-03 of ES-07	Sheet No. 30 of 48

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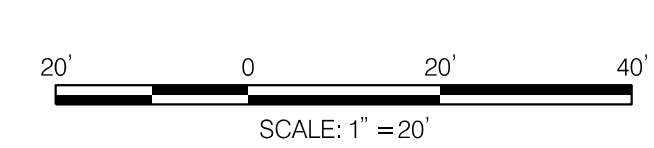


LEGEND

- LOD —
- LOW —
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY MULCH ACCESS ROAD
- SOIL STABILIZATION MATTING
- STAGING AND STOCKPILE AREA
- SAND BAGS
- PUMP AROUND
- SILT FENCE
- TREE TAKE
- DIRTY WATER PUMP
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- TEMPORARY ACCESS BRIDGE
- TEMPORARY ORANGE CONSTRUCTION FENCE



NOTES:
1. TEMPORARY ORANGE CONSTRUCTION FENCE SHOWN OUTSIDE OF LOD FOR VISUAL PURPOSES ONLY.



PROFESSIONAL CERTIFICATION

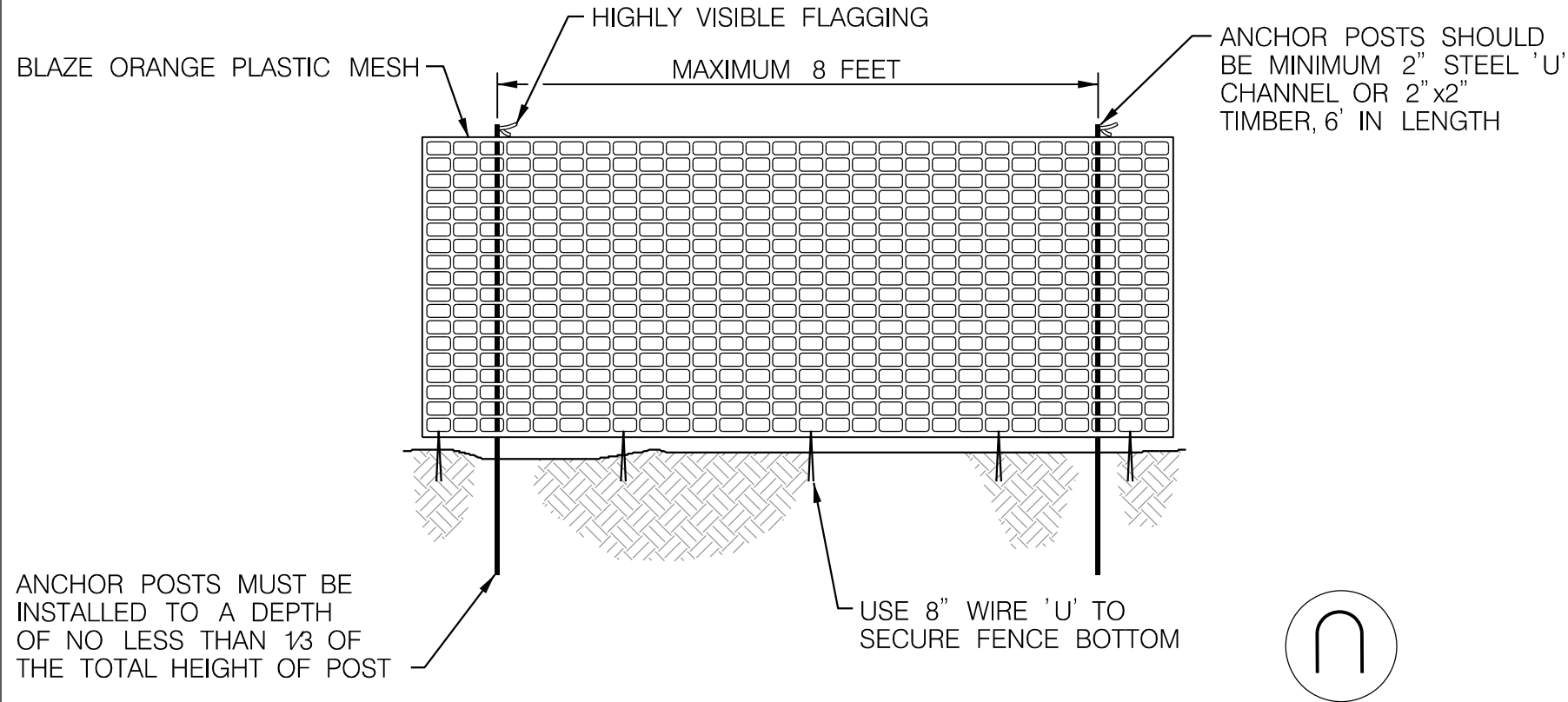
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PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXX-XXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION EROSION & SEDIMENT CONTROL	
Drawn By : AG	Scale : 1"=20'
Designed By : NH, JZ	Date : SEPTEMBER 2025
Reviewed By : RD	
Drawing No. ES-04 of ES-07	Sheet No. 31 of 48

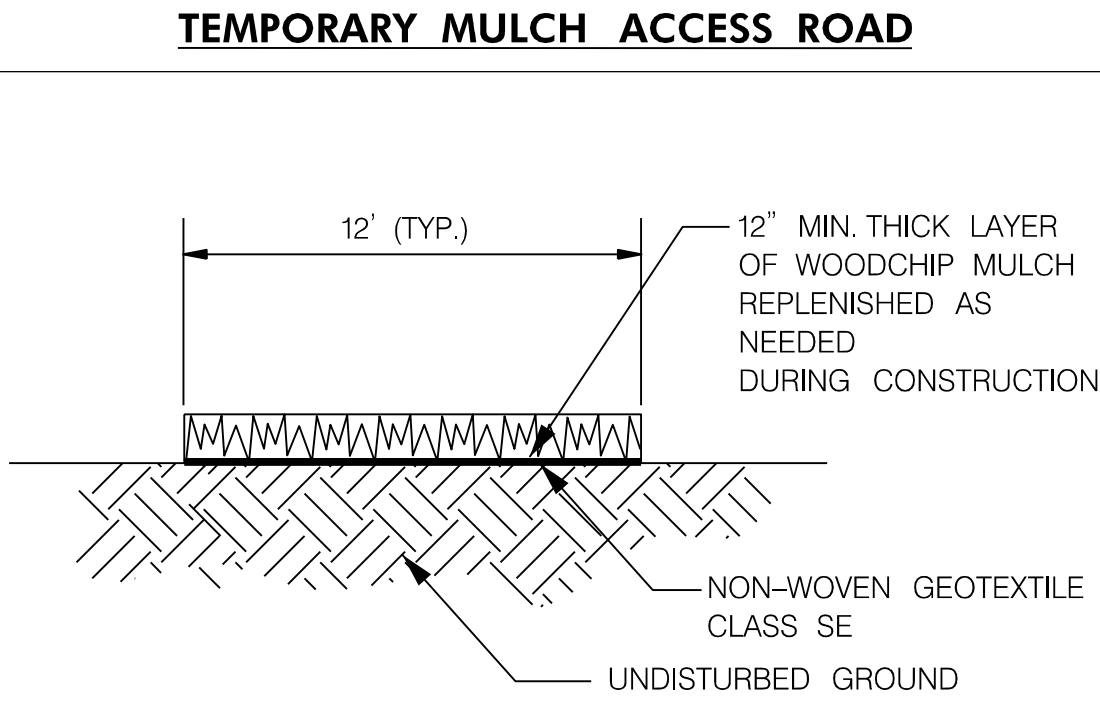
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NOTES:

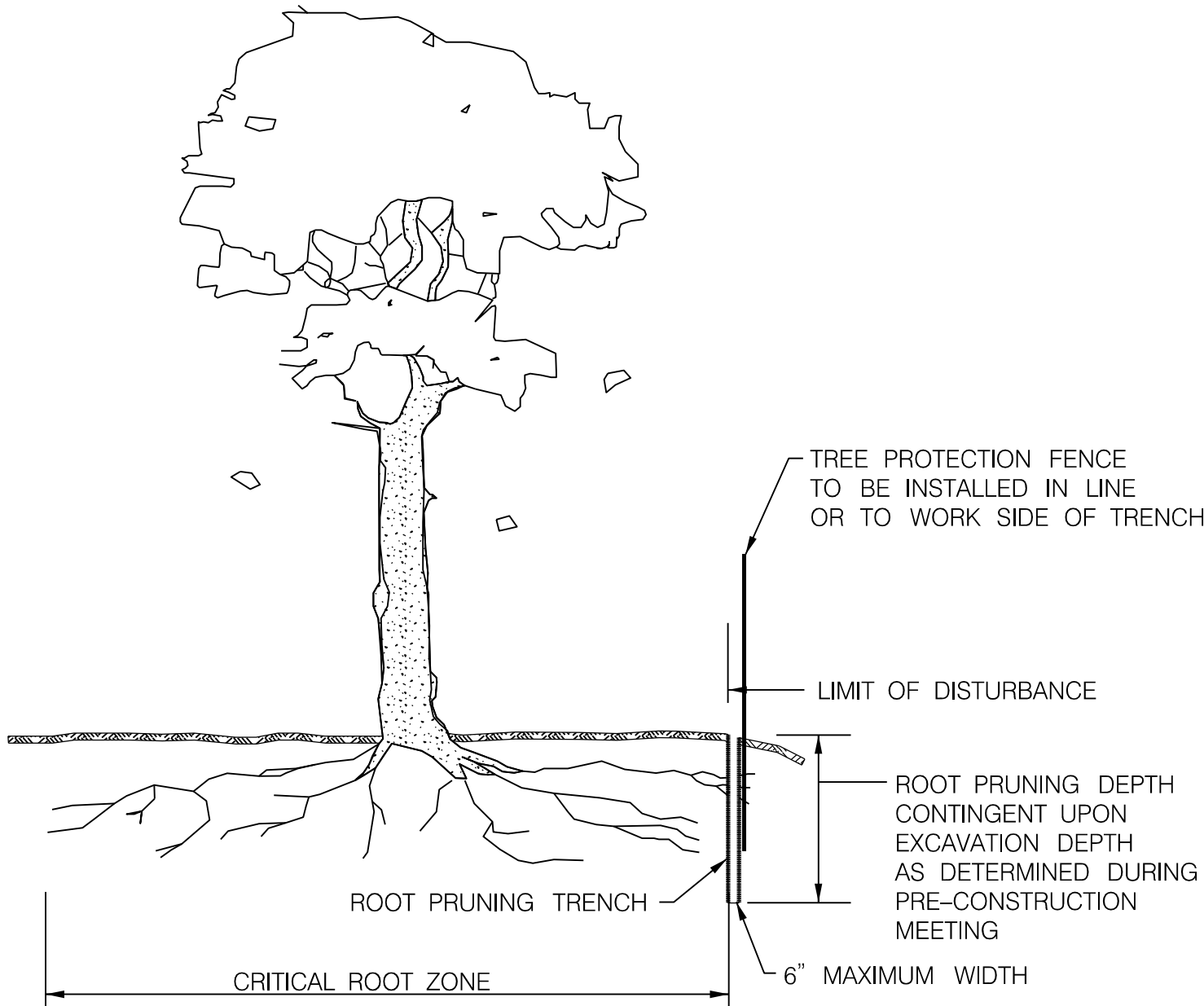
1. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
2. ROOT DAMAGE SHOULD BE AVOIDED.
3. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

ORANGE CONSTRUCTION FENCE
NOT TO SCALE



NOTES:

1. ACCESS ROUTES TO BE VERIFIED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING.
2. REVISIONS TO THE ALIGNMENT THAT MINIMIZE TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL OF THE ENGINEER.
3. GEOTEXTILE CLASS SE SHALL BE PLACED WITH SEAMS PARALLEL TO THE FLOW OF TRAFFIC. OVERLAP FABRIC BY 18" MIN. AT SEAMS.
4. CONTRACTOR SHALL MAINTAIN TEMPORARY ACCESS ROAD THROUGHOUT CONSTRUCTION PERIOD.
5. MULCH AND GEOTEXTILE PLACEMENT IS NOT REQUIRED IF THE ACCESS ROAD HAS EXISTING GRAVEL COVERAGE.

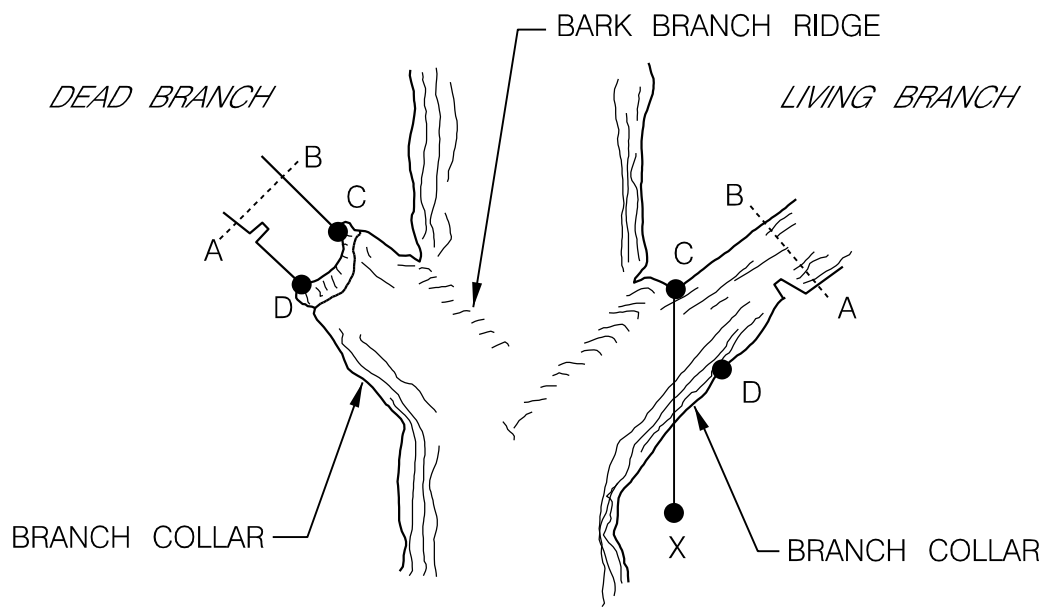


NOTES:

1. RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
2. BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TO TRENCHING.
3. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
5. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
6. IN SOME INSTANCES, IT MAY BE BENEFICIAL TO PERFORM ROOT PRUNING AT THE EDGE OF EXCAVATION RATHER THAN AT THE LOD, PROVIDED THE ROOTS BETWEEN THE EXCAVATION AND THE LOD ARE PROTECTED DURING CONSTRUCTION.

ROOT PRUNING DETAIL
NOT TO SCALE

HARDWOODS

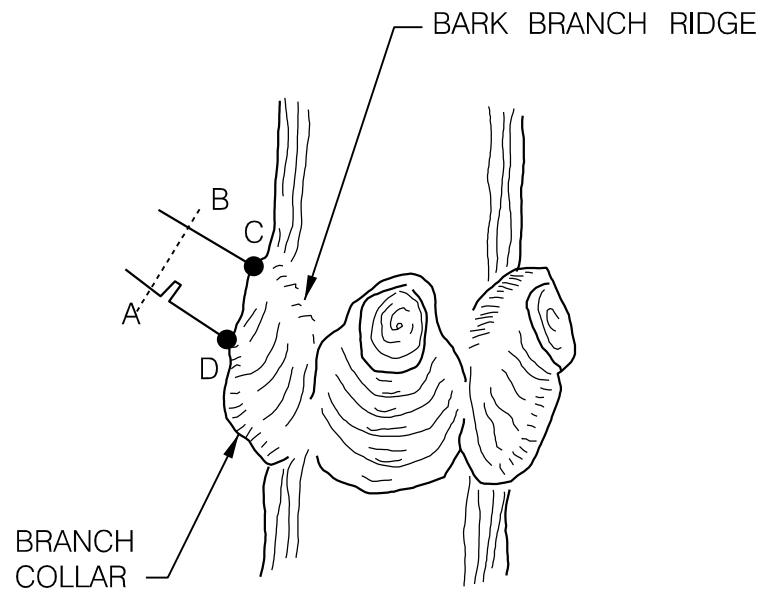


NOTES:

1. REMOVE BRANCH WEIGHT BY UNDERCUTTING AT A AND REMOVE LIMB BY CUTTING THROUGH AB.
2. REMOVE STUB AT CD (LINE BETWEEN BRANCH BARK RIDGE AND OUTER EDGE OF BRANCH COLLAR).
3. IF D IS DIFFICULT TO FIND ON HARDWOODS, ANGLE OF CD TO TRUNK SHOULD BE THE REFLECTIVE ANGLE OF THE BARK BRANCH RIDGE TO THE TRUNK.
4. ONLY PRUNE AT SPECIFIED TIMES.
5. REMOVE NO MORE THAN 30% OF CROWN AT ONE TIME.

PRUNING A BRANCH
NOT TO SCALE

CONIFERS-FOR LIVING OR DEAD BRANCH



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PLOTTED: 9/11/2025

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PROJECT CONTRACT:
21-097 TO #25
GP #XXX-XXXXX-XXXX

Revisions

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
EROSION AND SEDIMENT CONTROL
NOTES

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. ES-06 of ES-07

Scale : NOT TO SCALE
Date : SEPTEMBER 2025
Sheet No. 33 of 48

BID No.:

HCC DWG ID No.:
SCALE: 1"=10'

STANDARD EROSION & SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) SEDIMENT CONTROL INSPECTOR AT 410-901-4020 AND THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) AT LEAST 48 HOURS PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES AND, UNLESS WAIVED BY THE SEDIMENT CONTROL INSPECTOR, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING AT THE PROJECT SITE. THE CONTRACTOR MUST PROVIDE THE NAME OF THE PERSON ON THE SITE WHO IS RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES AND A COPY OF THEIR GREEN CARD TO THE SEDIMENT CONTROL INSPECTOR.
2. ALL PROJECTS WITH CONSTRUCTION ACTIVITIES DISTURBING ACRE OR MORE ARE REQUIRED TO SUBMIT A GENERAL PERMIT (NOI) TO MDE TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY FOR STORMWATER DISCHARGES. THE GENERAL PERMIT (NOI) MUST BE APPROVED PRIOR TO DISTURBANCE ACTIVITIES. TO OBTAIN A GENERAL PERMIT (NOI) FORM, CONTACT THE PERMITS COORDINATOR AT THE MDE COMPLIANCE PROGRAM AT 410-537-3510.
3. THE LIMIT OF DISTURBANCE SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO THE PRE-CONSTRUCTION MEETING AND ANY GRADING ACTIVITIES TO ENSURE COMPLIANCE WITH THE APPROVED PLAN.
4. THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE KEPT AT THE PROJECT SITE.
5. THE SOIL CONSERVATION DISTRICT (SCD) RESERVES THE RIGHT TO MODIFY THE EROSION AND SEDIMENT CONTROL PLANS.
6. THE SCD MAY REVOKE THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL PLAN IF WORK PERFORMED AT THE PROJECT SITE DOES NOT CONFORM TO THE PROVISIONS OF THE GRADING PERMIT, TO THE APPROVED PLAN OR TO ANY WRITTEN INSTRUCTIONS FROM MDE, FREDERICK COUNTY DPW OR THE SCD.
7. THE CONTRACTOR MUST REQUEST THAT THE SEDIMENT CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT AND THE FREDERICK COUNTY EROSION AND SEDIMENT CONTROL ORDINANCE AT THE FOLLOWING POINTS OF PROJECT DEVELOPMENT:
 - A. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY MDE IS MADE.
 - B. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
 - C. UPON FINAL STABILIZATION OF THE SITE AND PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL MEASURES.
8. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE SEDIMENT CONTROL INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES.
9. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR.
10. THE FOLLOWING MINOR PLAN MODIFICATIONS MAY BE APPROVED BY THE SEDIMENT CONTROL INSPECTOR IN THE FIELD:
 - A. SEDIMENT CONTROL STRUCTURES (EXCEPT BASINS AND TRAPS) MAY BE MOVED TO MEET THE EXISTING CONTOURS AND FIELD CONDITIONS. WHEN MOVING THESE STRUCTURES WOULD HAVE NO IMPACT ON THEIR FUNCTION OR DESIGN CRITERIA.
 - B. SUBSTITUTION OF PERIMETER CONTROL MEASURES MAY BE MADE PROVIDED THE MEASURE SUBSTITUTED IS EQUIVALENT (I.E., SILT FENCE FOR STRAW BALES) OR IS AN UPGRADE OF THE ORIGINAL MEASURE (I.E., SILT FENCE TO A PERIMETER BERM WITH PROPERLY SIZED OUTLET).
 - C. ADDITION AND EXTENSION OF PERIMETER CONTROLS (INCLUDING STONE CONSTRUCTION ENTRANCES) MAY BE MADE TO MEET FIELD CONDITIONS. ANY MODIFICATIONS TO THE PLAN WHICH ARE NOT LISTED ABOVE REQUIRE THE PLAN TO BE SUBMITTED TO THE SCD FOR REVIEW AND APPROVAL.

15. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES EQUAL TO OR GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
B. THE ABOVE REQUIREMENTS DO NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED OR TO INTERIOR AREAS OF A SURFACE MINE SITE WHERE THE STABILIZATION MATERIAL WOULD CONTAMINATE THE RECOVERABLE RESOURCE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT THE STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
16. SEDIMENT CONTROL PRACTICES WILL BE MAINTAINED UNTIL THE ENTIRE CONTRIBUTING AREA TO THE PRACTICE HAS BEEN PERMANENTLY STABILIZED AND MEETS THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR. SEDIMENT CONTROLS MAY ONLY BE REMOVED WITH THE AUTHORIZATION OF THE SEDIMENT CONTROL INSPECTOR.
17. ALL AREAS DISTURBED BY THE REMOVAL OF SEDIMENT CONTROL DEVICES MUST BE IMMEDIATELY STABILIZED.
18. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRaversing THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO CONVEY THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THE DIKES MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. EROSION CONTROL MEASURES MUST BE IMPLEMENTED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
19. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLANS WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATION STABILIZATION.
20. ALL FLOW LINES ARE TO BE STABILIZED WITH SOD OR SEED WITH EROSION CONTROL MATTING TO A DEPTH OF FLOW OF 1 FOOT.
21. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
22. TEMPORARY SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP OR BASIN.
23. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR FOREST RETENTION AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE.
24. FOR APPROVED DEWATERING STRATEGIES FOR TRAPS AND BASINS, SEE SECTION F OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. PUMPING SEDIMENT LADEN WATER INTO THE WATERS OF THE STATE WITHOUT FILTRATION IS STRICTLY FORBIDDEN.
25. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISHED GRADE ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF INFILTRATION DEVICE.
26. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITIES.
27. FURTHER, THE ISSUANCE OF A GRADING PERMIT DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO OBTAIN ANY ADDITIONAL LOCAL, STATE OR FEDERAL PERMITS.

3. STEPS IN EACH PHASE MAY BE ADJUSTED AND /OR BE PERFORMED CONCURRENTLY WITH THE APPROVAL OF THE FREDERICK COUNTY DPW PROJECT ENGINEER AND THE MDE SEDIMENT CONTROL INSPECTOR. ANY CHANGES TO THE SEQUENCE OF CONSTRUCTION ARE SUBJECT TO REVIEW AND RE-APPROVAL BY ALL REVIEWING AGENCIES.
 8. LIMIT OF DISTURBANCE AND STAGING AREA SHALL BE STAKED AND REVIEWED IN THE FIELD WITH THE ENGINEER PRIOR TO CONSTRUCTION TO ALLOW FOR ADJUSTMENTS. ANY ADJUSTMENTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
 9. WHEN SAND BAG DIVERSION, DIRTY WATER PUMPS, AND CLEAN WATER PUMPS ARE USED, THE LOCATION OF THE HOSES AND FILTER BAGS MAY BE MODIFIED IN THE FIELD BASED ON EXISTING CONDITIONS, AS NEEDED TO CONTROL WATER, AT NO ADDITIONAL COST TO THE COUNTY.
 10. AT THE END OF EACH WORK DAY THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA NOT DIRECTED TO AN EROSION AND SEDIMENT CONTROL DEVICE AND NOTED AS NEEDING SAME DAY STABILIZATION.
 11. AS EACH PHASE OF CONSTRUCTION IS COMPLETED, ESC MAY BE REMOVED WITH APPROVAL OF THE MDE SEDIMENT CONTROL INSPECTOR AND DPW INSPECTOR. REMOVE TEMPORARY ORANGE CONSTRUCTION FENCE AT END OF CONSTRUCTION.
 12. TOCF TO BE PLACED ON LOD. TOCF OFFSET ON PLANS FOR VISUAL PURPOSES.
 13. CLEAR AND GRUB THE AREA REQUIRED FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES AND GRADING, INCLUDING REMOVAL OF TREES AS INDICATED ON THE PLANS.
 14. UPON ESTABLISHMENT OF FINAL GRADE, STABILIZE AND LANDSCAPE ACCORDING TO LS-01 TO LP-04.
 15. SEE LANDSCAPE PLANS FOR PERMANENT VEGETATIVE STABILIZATION.
 16. CONTRACTOR TO SWEEP PAVEMENT ADJACENT TO CONSTRUCTION ENTRANCES DAILY TO ENSURE STREET AND SIDEWALK AREAS ARE CLEAN.
 17. ALL DISTURBED AREAS NOT DRAINING TO A SEDIMENT CONTROL PRACTICE MUST BE STABILIZED AT THE END OF EACH WORKING DAY.
 18. ON-ROAD TRUCK ACCESS IS NOT GUARANTEED. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE METHODS AT NO ADDITIONAL COST TO THE COUNTY AND WITH APPROVAL BY THE ENGINEER.
 19. DEWATERING DEVICES MAY BE LOCATED OUTSIDE OF THE LOD WITH PERMISSION FROM SCD AND MDE.
 20. IF ANY PAVEMENT IS DAMAGED DUE TO STAGING AND STOCKPILING, THE PAVEMENT SHALL BE REPLACED AT NO ADDITIONAL COST TO THE COUNTY.
 21. MAINTAIN VEHICULAR TRAFFIC ON SPRING RIDGE PARKWAY DURING CONSTRUCTION.
- STREAM CONSTRUCTION:
1. INSTALL TEMPORARY ORANGE CONSTRUCTION FENCE, STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND MULCH ACCESS ROADS AS REQUIRED.
 2. INSTALL SAND BAG DIVERSIONS, CLEAN WATER PUMP, DIRTY WATER PUMP, FILTER BAG, DIVERSION HOSE, AND OUTFALL PROTECTION. SEE DWG. ES-01 TO ES-04 FOR APPROXIMATE LOCATIONS. CONTRACTOR TO HAND PLACE SAND BAGS.
 3. INSTALL A DIRTY WATER PUMP ON THE UPSTREAM SIDE OF THE SAND BAGS TO A FILTER BAG ON THE DOWNSTREAM SIDE OF SAND BAGS.
 4. PRIOR TO ANY INSTREAM OR BANK WORK, PUMP AROUND THE WORK AREA BEHIND UPSTREAM SAND BAG DIVERSION USING CLEAN WATER PUMP AND DEWATER ANY SITTING WATER BETWEEN THE TWO SAND BAG DIVERSIONS USING DIRTY WATER PUMP AND FILTER BAG.
 5. CONSTRUCT REACH 1 UPSTREAM TO DOWNSTREAM. CONSTRUCT REACH 2 UPSTREAM TO DOWNSTREAM. CONSTRUCT REACH 3 UPSTREAM TO DOWNSTREAM. CONSTRUCT REACH 4 UPSTREAM TO DOWNSTREAM. DO NOT DISTURB MORE THAN CAN BE BROUGHT TO FINISHED GRADE AND STABILIZED IN A DAY.

8. CONSTRUCTION TO BE COORDINATED SO THAT FINAL GRADING IN THE ACCESS ROAD LOCATION IS COMPLETED CONCURRENT WITH THE REMOVAL OF THE ACCESS ROAD. THE ACCESS ROAD SHALL BE REMOVED CONCURRENT WITH COMPLETION OF THE ADJACENT STREAM CONSTRUCTION.
9. INSTALL PERMANENT PLANTINGS PER THE LANDSCAPE PLANS AFTER THE COMPLETION OF ALL CONSTRUCTION. COMPLETE SAME DAY STABILIZATION FOR ANY DISTURBANCE.
10. ESC CONTROL MEASURES MAY BE REMOVED WITH APPROVAL OF THE MDE SEDIMENT CONTROL INSPECTOR AND DPW INSPECTOR.

CARE OF WATER DURING CONSTRUCTION

1. ALL SIGNIFICANT RAINFALL EVENTS SHALL BE DEWATERED THROUGH THE SUMP PIT/FILTER BAG.
2. PIPES, PUMPS, SUMP PITS, AND ASSOCIATED SEDIMENT FILTRATION DEVICES SHALL BE FIELD LOCATED BY THE CONTRACTOR AND ARE SHOWN ON THE PLANS TO ILLUSTRATE POTENTIAL ALIGNMENTS AND PLACEMENT. CONTRACTOR MAY ADJUST AS NEEDED.
3. WITH THE SEDIMENT CONTROL INSPECTOR'S APPROVAL, ANY PIPES, PUMPS, SUMP PITS, AND ASSOCIATED SEDIMENT FILTRATION DEVICES MAY BE RELOCATED WITHIN THE LIMITS OF DISTURBANCE TO ACCOMMODATE CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST.
4. THE CONTRACTOR SHALL SUFFICIENTLY DEWATER THE WORK AREA BEFORE COMMENCING ANY GRADING OPERATIONS.
5. ANY FUEL SHALL BE STORED ABOVE THE 100-YEAR FLOOD ELEVATION. THE CONTRACTOR SHALL ENSURE THAT ALL SEDIMENT CONTROLS ARE IN WORKING CONDITION AT THE END OF EACH WORKING DAY TO PREVENT SEDIMENT LADEN MATERIAL FROM DISCHARGING FROM THE WORK AREA.

SITE ANALYSIS DATA

- | | | |
|----|--|-------------------------|
| 1. | APPROX. TOTAL SITE AREA: | 4.34 SQ-FT |
| 2. | APPROX. TOTAL DISTURBED AREA: | 4.34 SQ-FT |
| 3. | APPROX. TOTAL AREA TO BE STABILIZED: | 3.93 SQ-FT |
| 4. | APPROX. PROPOSED IMPERVIOUS AREA: | 0.00 SQ-FT |
| 5. | APPROX. IMPERVIOUS AREA TO BE TREATED: | 108.31 SQ-FT |
| 6. | APPROX. TOTAL EXCAVATION AND FILL: | -4,275 / +1,595 CU.-YDS |

SEQUENCE OF CONSTRUCTION
GENERAL NOTES

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN ADE APPROVED SEDIMENT CONTROL DEVICE. ALL AREAS DESIGNATED AS SAME DAY STABILIZATION MUST BE STABILIZED AT THE END OF EACH WORK DAY. DITCH/SWALE CONSTRUCTION SHALL BE COMPLETED DURING A 3-DAY DRY PERIOD.
2. POSITIVE DRAINAGE SHALL BE MAINTAINED AT THE END OF EACH WORK DAY. IF IT RAINS OVERNIGHT, THE WORK AREA SHALL BE DEWATERED USING AN APPROPRIATE SEDIMENT CONTROL DEVICE AND THE CLEAN WATER SHALL BE DISCHARGED TO A STABLE OUTLET.
3. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO BE INSTALLED PRIOR TO ANY EXCAVATION OR DISTURBANCE WITHIN THE PROJECT LIMITS, AS NEEDED TO CONTROL WATER, AT NO ADDITIONAL COST TO THE COUNTY.
4. ROOT AND BRANCH PRUNING TO OCCUR BEFORE EXCAVATION AND WITH COORDINATION OF MD LTE.
5. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT SEDIMENT CONTROL INSPECTOR.
6. UNLESS NEW, ALL HEAVY EQUIPMENT AND CONSTRUCTION MATS SHALL BE POWER WASHED PRIOR TO BEING BROUGHT ON SITE.

PROJECT CONTRACT: 21-097 TO #25	Revisions
GP #XXX-XXXXXX-XXXX	
SIGN AND SEAL	

<h1 style="text-align: center;">HARFORD COUNTY, MARYLAND</h1>	
<h2 style="text-align: center;">HARFORD COMMUNITY COLLEGE STREAM RESTORATION EROSION AND SEDIMENT CONTROL NOTES</h2>	
Drawn By : <u>AG</u> Designed By : <u>NH, JZ</u> Reviewed By : <u>RO</u>	Scale : <u>NOT TO SCALE</u> Date : <u>SEPTEMBER 2025</u>
Drawing No. <u>ES-07</u> of <u>ES-07</u>	Sheet No. <u>34</u> of <u>48</u>



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME,
AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MARYLAND. LICENSE NO. 200370, EXPIRATION DATE: 2025/03/19.



LEGEND		
LIMIT OF DISTURBANCE (LOD)	— LOD —	WET MEADOW ENHANCEMENT
LIMIT OF WORK (LOW)	— LOW —	LIVE STAKES
EXISTING MAJOR CONTOUR	— — — —	FLOODPLAIN FOREST
EXISTING MINOR CONTOUR	— — — —	RIPARIAN BUFFER FOREST
EXISTING WATERWAY	— WUS —	TURFGRASS
		EXISTING RIPRAP
		EXISTING WETLAND
		PROPOSED MAJOR CONTOURS
		PROPOSED MINOR CONTOURS
		PROPOSED CHANNEL
		PROPOSED RIPRAP
		LOG VANE
		MINI CLUMP

- NOTES:
- SEE SHEET LD-01 AND LD-02 FOR PLANTING SCHEDULES AND DETAILS.
 - PLACEMENT AND SPACING OF PLANTS SHALL BE FIELD ADJUSTED TO ACCOMMODATE PLACED WOODY DEBRIS, LOG VANES, AND ROOT WADS.
 - TREES AND SHRUBS SHALL NOT BE PLANTED WITHIN 10 FEET OF EITHER SIDE OF EXISTING SANITARY SEWER LINE.
 - REQUEST A MISS UTILITY STAKEOUT AND POSSESS A VALID MISS UTILITY CLEARANCE TICKET NUMBER PRIOR TO PLANTING. 1-800-257-7777.
 - ONCE THE TEMPORARY ACCESS ROAD IS REMOVED, NO EQUIPMENT OR MOTORIZED VEHICLES MAY ACCESS THE SITE. LANDSCAPING INSTALLATION SHALL BE COMPLETED BY HAND.
 - TREAT INVASIVE SPECIES WITHIN THE LIMIT OF WORK PER THE VEGETATION MANAGEMENT CREW SPECIFICATION.

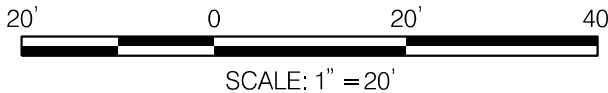
LIMIT OF WORK FOR INVASIVE SPECIES CONTROL. SEE SPECIFICATIONS FOR DETAILS.

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FILE PATH: \\ad.rkk.com\fs\Cloud\Projects\2021\21155_HARCOITask 025_Harford Community College Stream Restoration\CADD\60%\Plans\35 - PLS-0001_HCC.dgn
PLOTED: 9/11/2025



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EMAIL: ANUSSBAUM@RKK.COM

09/12/2025
DATE

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION LANDSCAPING PLAN

Drawn By : <u>EH</u>	Scale : <u>1" = 20'</u>
Designed By : <u>GC, AN</u>	Date : <u>SEPTEMBER 2025</u>
Reviewed By : <u>KJH, AN</u>	
Drawing No. <u>LS-01 of LS-04</u>	Sheet No. <u>35</u> of <u>48</u>

BID No.: #21-097BBB

HCC DWG ID No.:
SCALE: 1" = 20'



MATCH LINE LS-03

LEGEND

LIMIT OF DISTURBANCE (LOD) — LOD —

LIMIT OF WORK (LOW) — LOW —

EXISTING MAJOR CONTOUR — — —

EXISTING MINOR CONTOUR - - - - -

EXISTING WATERWAY — WUS —

WET MEADOW ENHANCEMENT

LIVE STAKES

FLOODPLAIN FOREST

RIPARIAN BUFFER FOREST

TURFGRASS

EXISTING RIPRAP

EXISTING WETLAND

PROPOSED MAJOR CONTOURS

PROPOSED MINOR CONTOURS

PROPOSED CHANNEL

PROPOSED RIPRAP

LOG VANE

MINI CLUMP

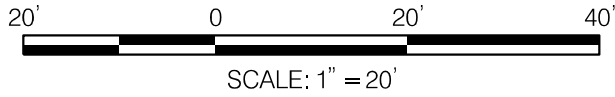
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- NOTES:
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 - TREES AND SHRUBS SHALL NOT BE PLANTED WITHIN 10 FEET OF EITHER SIDE OF EXISTING SANITARY SEWER LINE.
 - REQUEST A MISS UTILITY STAKEOUT AND POSSESS A VALID MISS UTILITY CLEARANCE TICKET NUMBER PRIOR TO PLANTING. 1-800-257-7777.
 - ONCE THE TEMPORARY ACCESS ROAD IS REMOVED, NO EQUIPMENT OR MOTORIZED VEHICLES MAY ACCESS THE SITE. LANDSCAPING INSTALLATION SHALL BE COMPLETED BY HAND.
 - TREAT INVASIVE SPECIES WITHIN THE LIMIT OF WORK PER THE VEGETATION MANAGEMENT CREW SPECIFICATION.



Alex Nussbaum

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09/12/2025

DATE

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
LANDSCAPING PLAN

Drawn By : EH

Designed By : GC. AN

Reviewed By : KJH. AN

Drawing No. LS-02 of LS-04

Scale : 1"=20'

Date : SEPTEMBER 2025

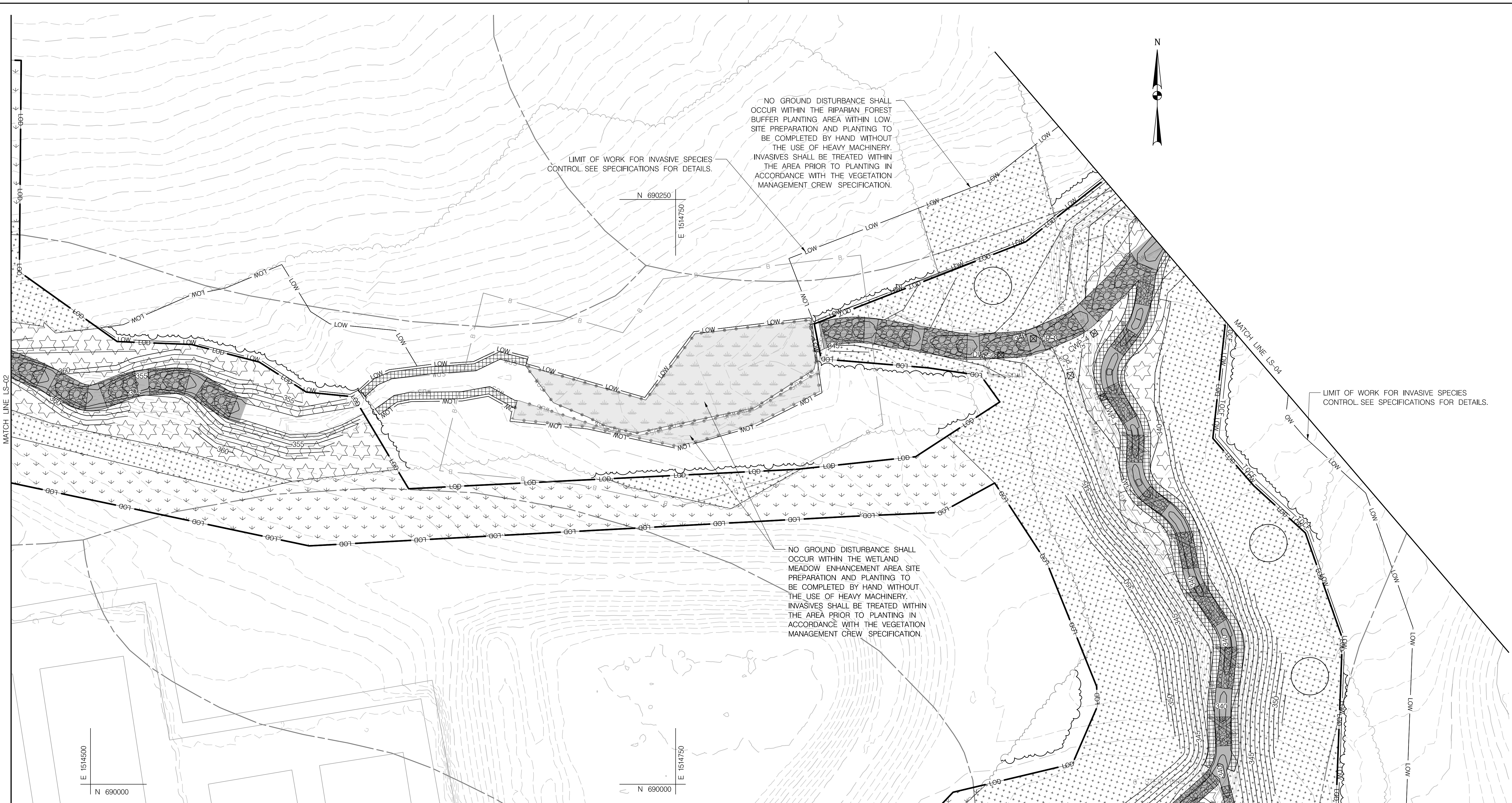
Sheet No. 36 of 48

BY: zhaohg-

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PLOTTED: 9/11/2025

BID No.: #21-097BBB

HCG DWG ID No.:
SCALE: 1"=20'



LEGEND		
LIMIT OF DISTURBANCE (LOD)	LOD	WET MEADOW ENHANCEMENT
LIMIT OF WORK (LOW)	LOW	LIVE STAKES
EXISTING MAJOR CONTOUR		FLOODPLAIN FOREST
EXISTING MINOR CONTOUR		RIPARIAN BUFFER FOREST
EXISTING WATERWAY	WUS	TURFGRASS
		EXISTING RIPRAP
		EXISTING WETLAND
		PROPOSED MAJOR CONTOURS
		PROPOSED MINOR CONTOURS
		PROPOSED CHANNEL
		PROPOSED RIPRAP
		LOG VANE
		MINI CLUMP

- NOTES:
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 - PLACEMENT AND SPACING OF PLANTS SHALL BE FIELD ADJUSTED TO ACCOMMODATE PLACED WOODY DEBRIS, LOG VANES, AND ROOT WADS.
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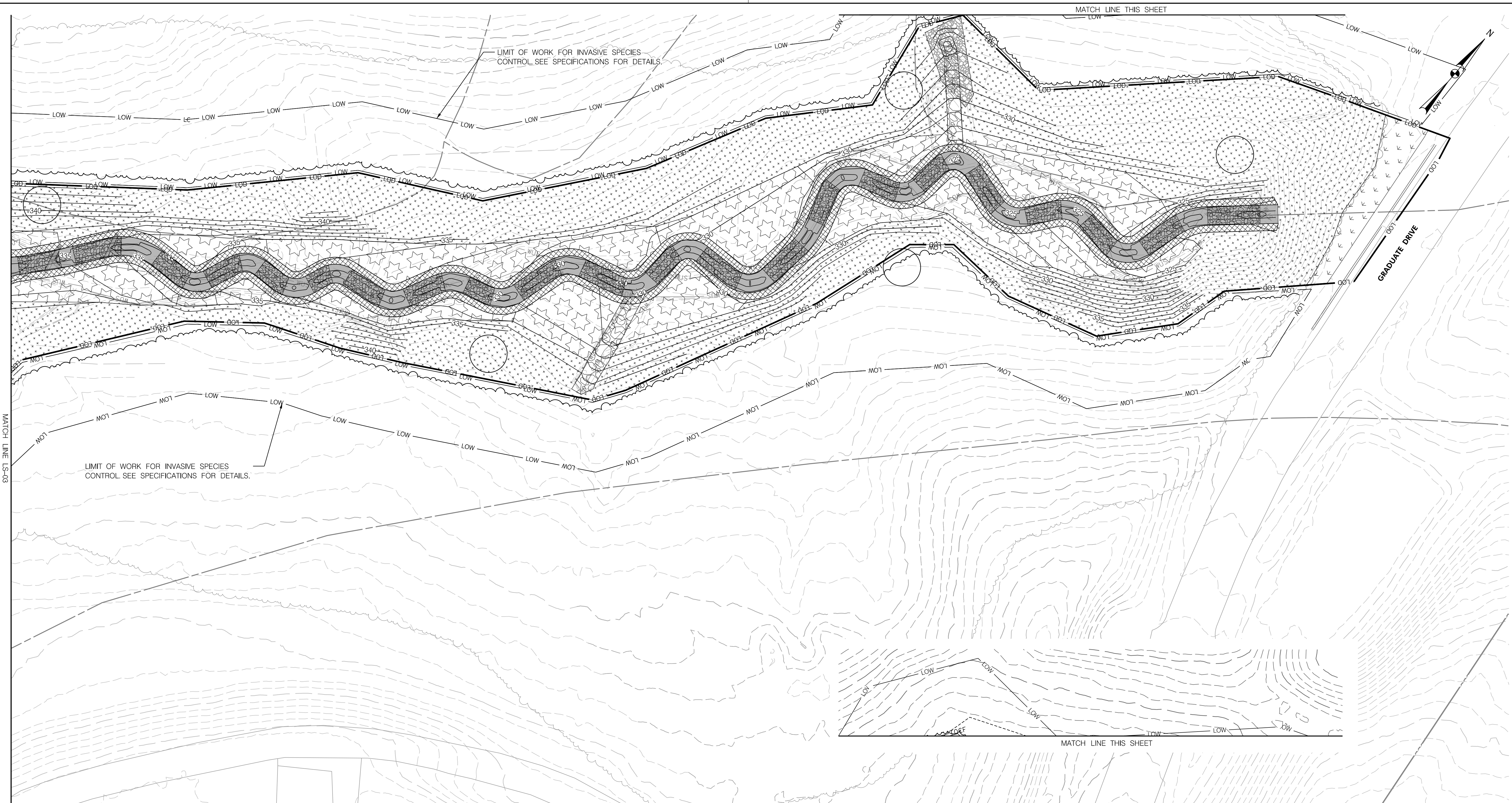
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09/12/2025
DATE

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION LANDSCAPING PLAN

Drawn By : <u>EH</u>	Scale : <u>1"=20'</u>
Designed By : <u>GC. AN</u>	Date : <u>SEPTEMBER 2025</u>
Reviewed By : <u>KJH. AN</u>	
Drawing No. <u>LS-03 of LS-04</u>	Sheet No. <u>37</u> of <u>48</u>



LEGEND		
LIMIT OF DISTURBANCE (LOD)		LOD
LIMIT OF WORK (LOW)		LOW
EXISTING MAJOR CONTOUR		
EXISTING MINOR CONTOUR		
EXISTING WATERWAY		WUS
WET MEADOW ENHANCEMENT		
LIVE STAKES		
FLOODPLAIN FOREST		
RIPARIAN BUFFER FOREST		
TURFGRASS		
EXISTING RIPRAP		
EXISTING WETLAND		
PROPOSED MAJOR CONTOURS		
PROPOSED MINOR CONTOURS		
PROPOSED CHANNEL		
PROPOSED RIPRAP		
LOG VANE		
MINI CLUMP		

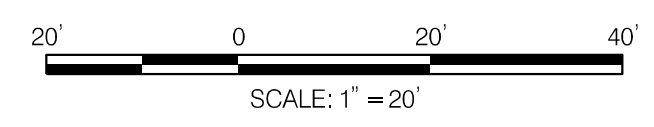
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PLOTTED: 9/12/2025



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HARFORD COUNTY, MARYLAND

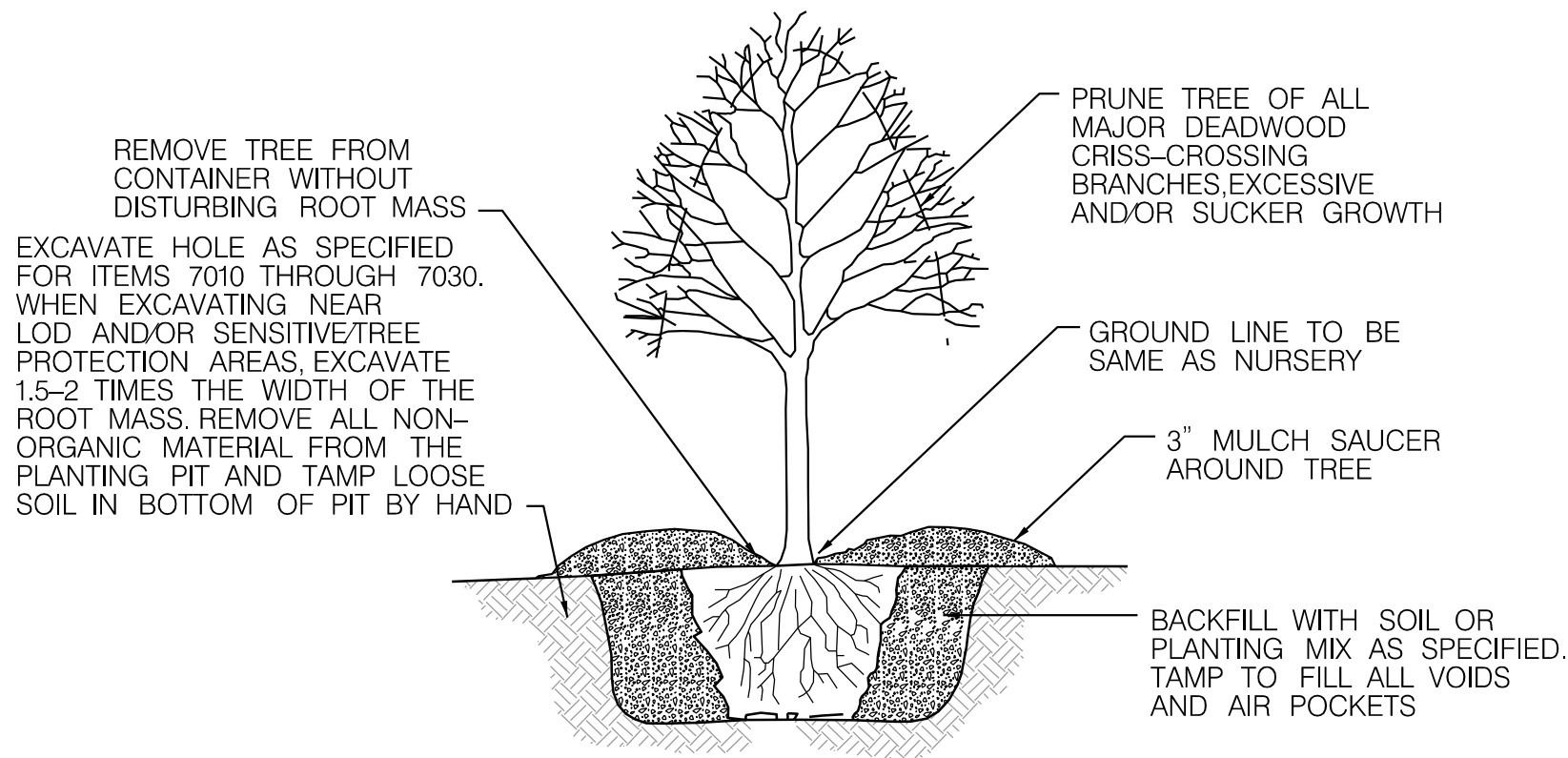
HARFORD COMMUNITY COLLEGE STREAM RESTORATION LANDSCAPING PLAN

Drawn By : <u>EH</u>	Scale : <u>1"=20'</u>
Designed By : <u>GC, AN</u>	Date : <u>SEPTEMBER 2025</u>
Reviewed By : <u>KJH, AN</u>	
Drawing No. <u>LS-04</u> of <u>LS-04</u>	Sheet No. <u>38</u> of <u>48</u>

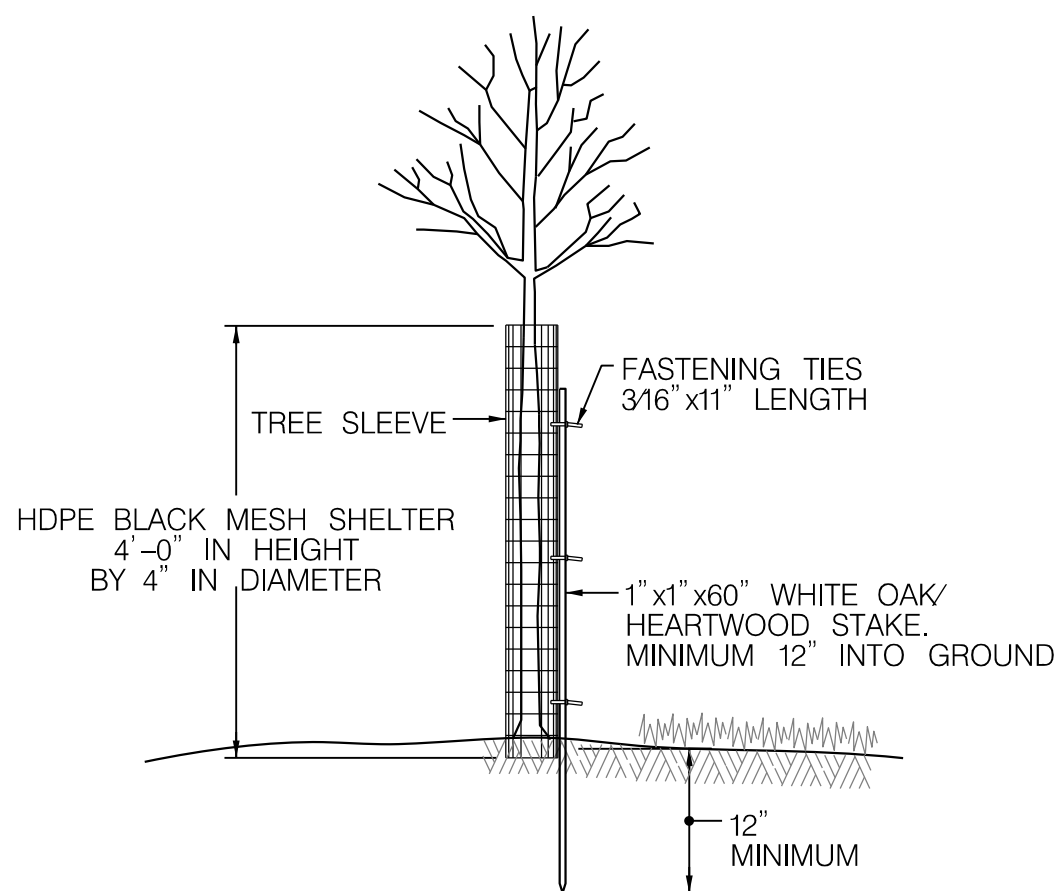
BY: shaght-

BID No.: #21-097BBB

HCC DWG ID No.:
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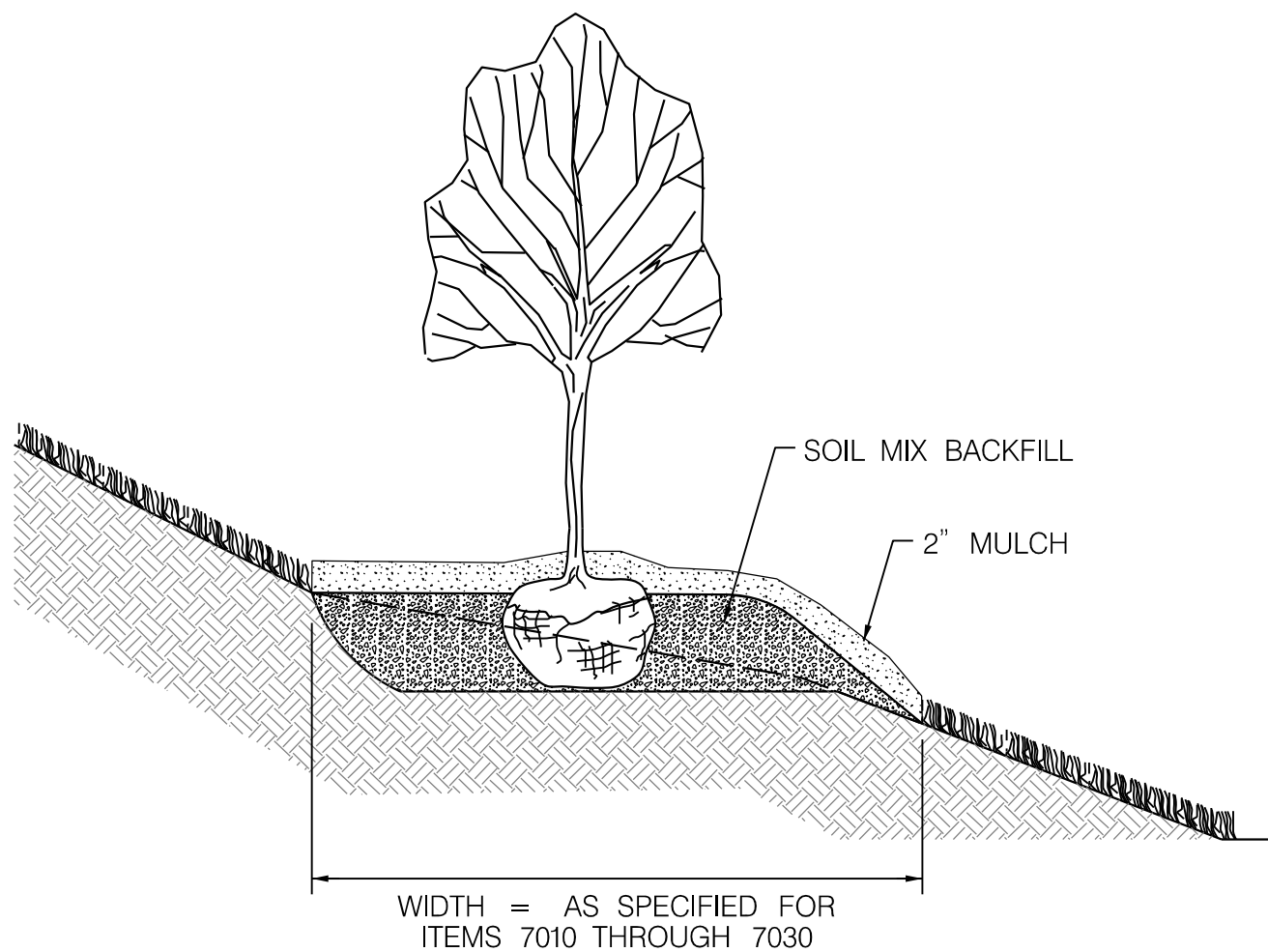


TREE/SHRUB PLANTING - CONTAINER GROWN
NOT TO SCALE

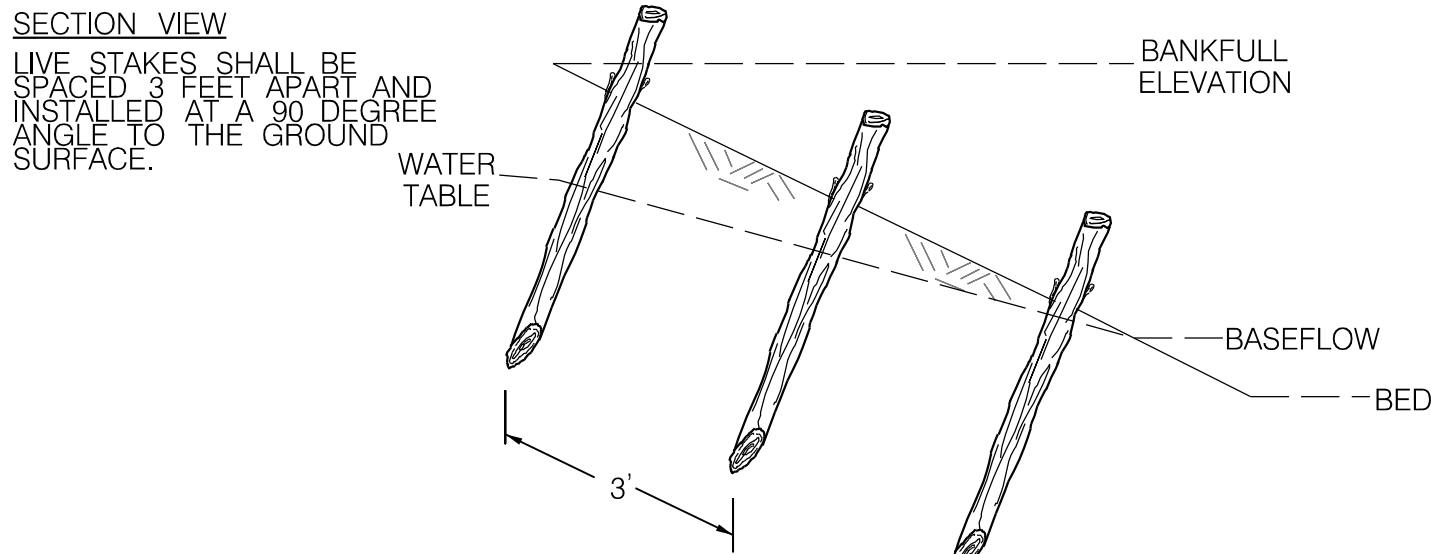
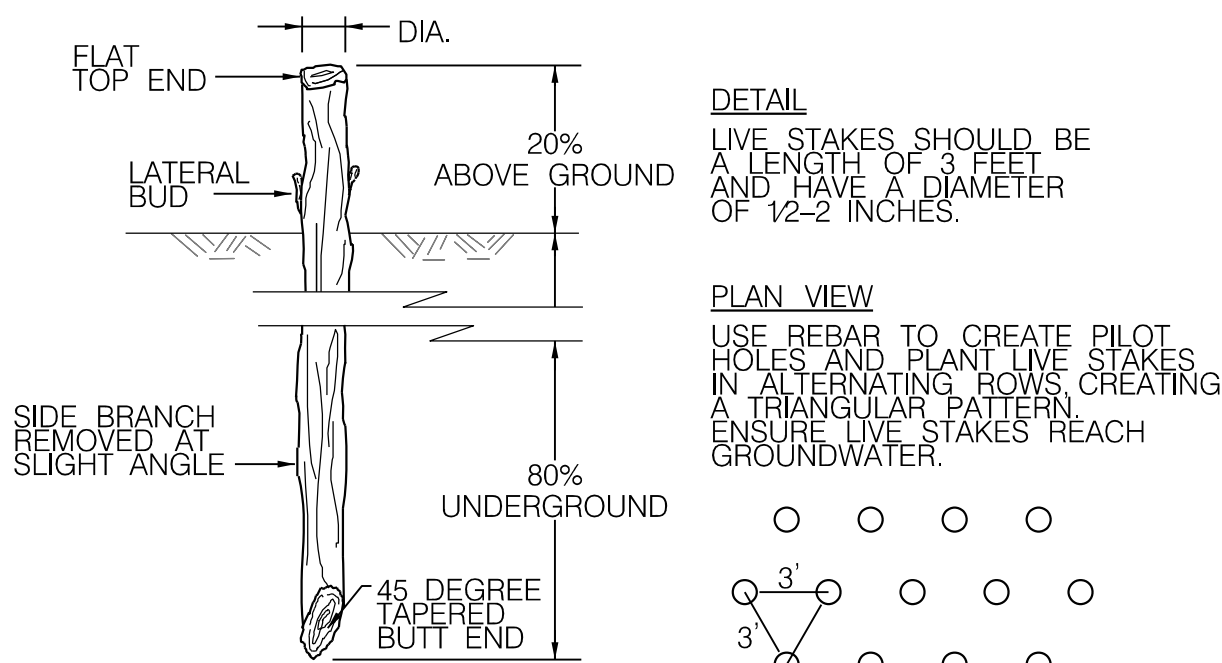


DEER PROTECTION - TREE SLEEVES

- NOTES:
1. TREE SLEEVES SHALL ONLY BE USED WITHIN THE RIPARIAN BUFFER FOREST PLANTING AREAS.
 2. REFER TO DEER PROTECTION SPECIFICATION FOR ADDITIONAL INFORMATION.

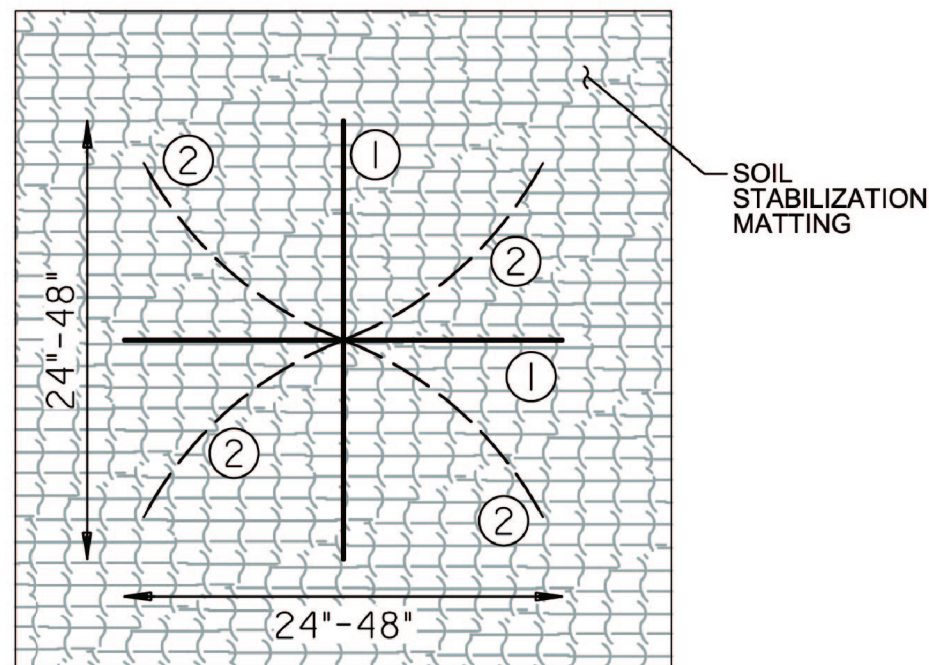


PLANTING ON SLOPE
NOT TO SCALE



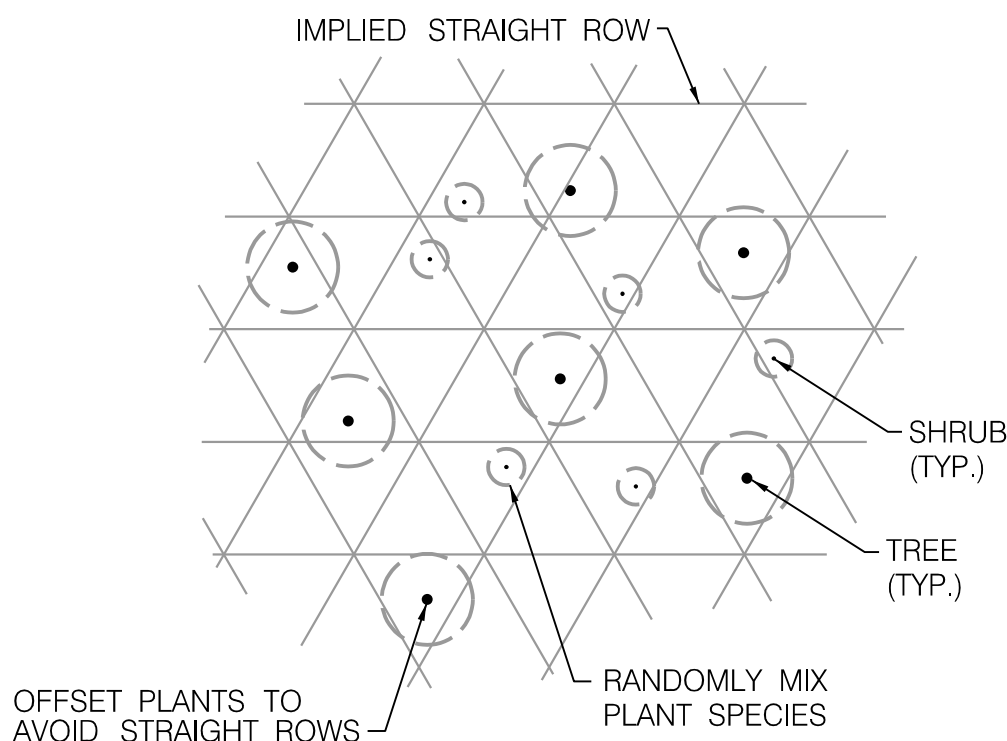
LIVE STAKES DETAIL
NOT TO SCALE

Source: Adapted from USDA-SCS (1994)



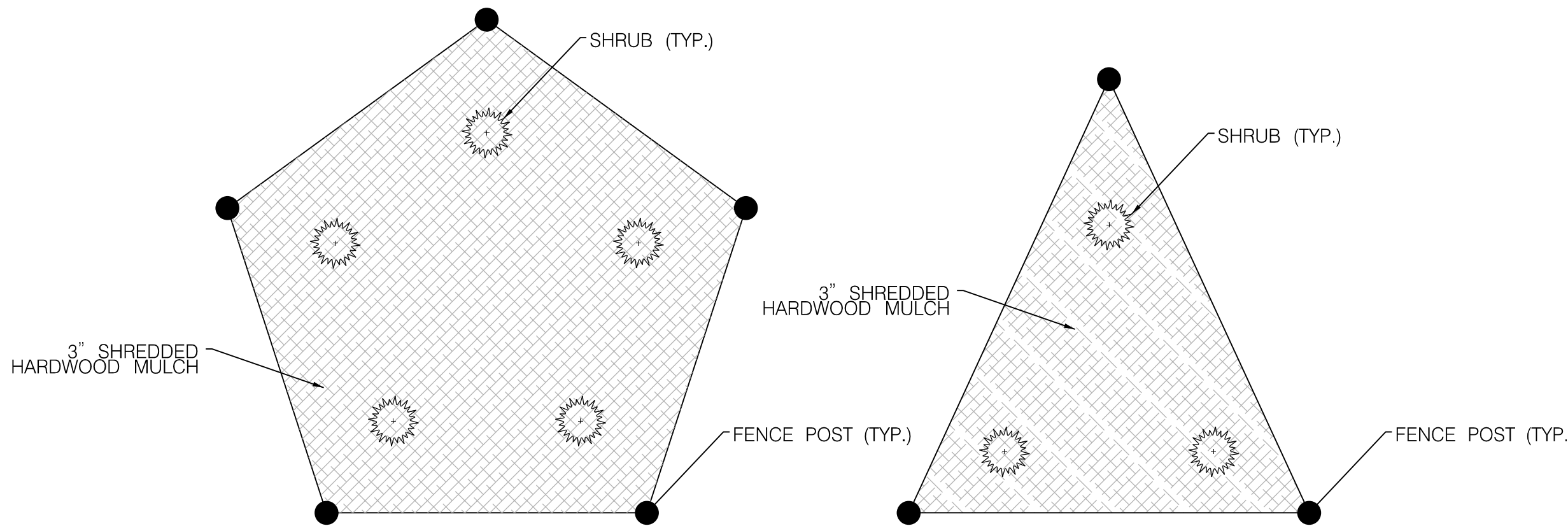
TREE & SHRUB INSTALLATION THROUGH COIR FIBER MATTING
NOT TO SCALE

- NOTES:
1. MAKE CUT WITH SHARP KNIFE THROUGH SOIL STABILIZATION MATTING - SEE SOLID LINE IN DIAGRAM ABOVE. NOTE THAT ALL CUTS IN THE MATTING SHALL BE A MINIMUM OF 2 FEET CLEAR OF ALL MATTING SEAMS, OVERLAPS AND EDGES.
 2. TEMPORARILY PIN BACK MATTING WITH 4 STAPLES TO INSTALL TREE OR SHRUB - SEE DASHED LINE IN DIAGRAM ABOVE.
 3. INSTALL PLANT THROUGH PINNED BACK MATTING. INSTALL PLANT AT PROPER GRADE TO GROUND PLANE.
 4. REMOVE 4 STAPLES PLACED IN STEP 2 ABOVE THAT WERE USED TO TEMPORARILY PIN BACK THE MATTING DURING ROOT BALL INSTALLATION.
 5. PLACE 4 STAPLES IN EACH OF FOUR CUT SECTIONS TO WELL ANCHOR SOIL STABILIZATION MATTING BACK OVER TOP OF THE ROOT BALL.
 6. FOR TREE INSTALLATIONS, INSTALL TREE STAKES THROUGH MATTING, ONCE RE-ANCHORED OVER ROOT BALL.



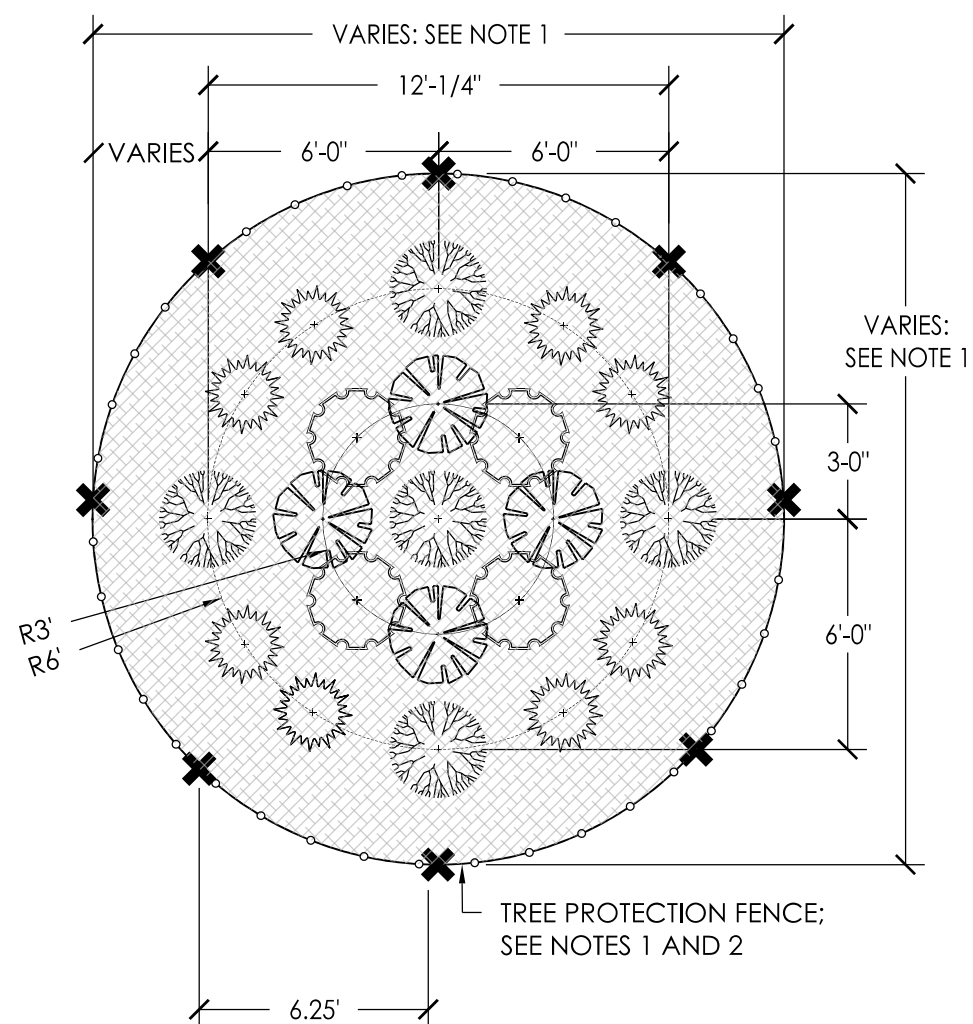
NATURALIZED PLANT SPACING
NOT TO SCALE

- NOTES:
1. TREE AND SHRUB SPACING SHALL BE INDICATED ON PLANTING SCHEDULE.
 2. USE RANDOM, NATURALIZED SPACING. AVOID PLANTING IN STRAIGHT ROWS.



SHRUB CLUMP DETAIL
NOT TO SCALE

- NOTES:
1. FENCING SHALL BE 4' HIGH, 14 GAUGE WELDED WIRE FENCE SECURED TO 6' T-POSTS DRIVEN 2' INTO THE GROUND.
 2. ALL SHRUBS SHALL BE PLACED 3' APART FROM THE ADJACENT SHRUBS. THE FENCE SHALL BE 2' OFF THE EDGE OF ALL PLANTINGS.
 3. ALL FIVE SHRUBS WITHIN A CLUMP SHALL BE THE SAME SPECIES.



MINI-CLUMP DETAIL
NOT TO SCALE

LEGEND

- (4) CLIMAX CANOPY TREES
- (5) EARLY SUCCESSIONAL TREES
- (4) UNDERSTORY TREES
- (8) SHRUBS
- TREE PROTECTION FENCE
- 3\"/>

- NOTES:
1. LOCATION OF TREE PROTECTION FENCING TO BE DETERMINED IN THE FIELD AND APPROVED BY OWNER.
 2. TREE PROTECTION FENCING SHALL BE 5' HT., 14 GAUGE WELDED-WIRE FENCE.
 3. SECURE FENCE TO 6' T-POSTS DRIVE 2' INTO THE GROUND.
 4. WHEN SURROUNDED BY PLANTINGS, MAINTAIN A MINIMUM 6' CLEARANCE FROM FENCING

HARFORD COUNTY, MARYLAND

**HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
LANDSCAPING DETAILS**

Drawn By : EH
Designed By : GC, AN
Reviewed By : KJH, AN
Drawing No. LD-01 of LD-02

Scale : NOT TO SCALE
Date : SEPTEMBER 2025
Sheet No. 39 of 48

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FILE PATH: \\ad.rk.com\fs\Cloud\Projects\2021\21155_HARCO\Task 025_Harford Community College Stream Restoration\CADD\60%\Plans\39 - pLD-0001_HCC.dgn
PLOTTED: 9/11/2025

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09/12/2025
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BID No.: #21-097BBB

HCC DWG ID No.:
SCALE: 1"=10'

BY: jnaught



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PLOTTED: 9/12/2025

FLOODPLAIN FOREST PLANTING SCHEDULE								
		ACRES:	0.68	SQUARE FEET: 29,541				
Quantity Per Acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Size	Type	Placement
250			TREES					
	15	26	<i>Acer rubrum</i>	Red maple	FAC	3/4" cal.	#7 container	Naturalized at 15' O.C.
	15	26	<i>Acer saccharinum</i>	Silver Maple	FACW	3/4" cal.	#7 container	Naturalized at 15' O.C.
	15	25	<i>Magnolia virginiana</i>	Sweetbay magnolia	FACW	3/4" cal.	#7 container	Naturalized at 15' O.C.
	15	25	<i>Platanus occidentalis</i>	American sycamore	FACW	3/4" cal.	#7 container	Naturalized at 15' O.C.
	15	25	<i>Quercus bicolor</i>	Swamp white oak	FACW	3/4" cal.	#7 container	Naturalized at 15' O.C.
	15	26	<i>Quercus palustris</i>	Pin oak	FACW	3/4" cal.	#7 container	Naturalized at 15' O.C.
	10	17	<i>Populus deltoides</i>	Eastern cottonwood	FAC	3/4" cal.	#7 container	Naturalized at 15' O.C.
	100	170	=total					
150			SHRUBS					
	15	16	<i>Salix sericea</i>	Silky willow	OBL	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	15	15	<i>Ilex verticillata</i>	Winterberry	FACW	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	15	15	<i>Clethra alnifolia</i>	Sweet pepperbush	FACW	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	15	15	<i>Alnus serrulata</i>	Hazel alder	OBL	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	15	15	<i>Vaccinium corymbosum</i>	Highbush blueberry	FACW	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	15	15	<i>Viburnum dentatum</i>	Arrowwood	FAC	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	10	11	<i>Sambucus nigra</i>	Black elderberry	FAC	2' ht.	#3 container	Cluster in groups of 3 or 5, 6' OC
	100	102	=total					
			SEEDING					
WET MEADOW ESTABLISHMENT (SY):			3,283	Refer to SHA Section 707 - Wet Meadow Establishment				

WET MEADOW ENHANCEMENT PLANTING SCHEDULE							
		ACRES:	0.08	SQUARE FEET: 3,475			
Quantity Per Acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Type	Placement
5000			HERBACEOUS CONTAINERS				
	10	40	<i>Asclepias incarnata</i>	Swamp milkweed	OBL	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	10	40	<i>Aster novae-angliae</i>	New England aster	FACW	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	10	40	<i>Conoclinium coelestinum</i>	Blue mistflower	FAC	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	10	40	<i>Hibiscus moscheutos</i>	Crimsoneyed rosemallow	OBL	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	10	40	<i>Juncus effusus</i>	Softrush	FACW	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	7	27	<i>Onoclea sensibilis</i>	Sensitive fern	FACW	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	7	28	<i>Rudbeckia laciniata</i>	Cutleaf coneflower	FACW	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	8	32	<i>Solidago rugosa</i>	Wrinkleleaf goldenrod	FAC	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	10	40	<i>Physostegia virginiana</i>	Obedient plant	FAC	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	10	40	<i>Pycnanthemum tenuifolium</i>	Narrowleaf Mountainmint	FACW	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	8	32	<i>Pycnanthemum virginianum</i>	Virginia mountainmint	FAC	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	100	399	=total				
5000			GRASSES/SEDGES				
	20	80	<i>Carex lurida</i>	Lurid sedge	OBL	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	20	79	<i>Carex stricta</i>	Tussock sedge	OBL	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	20	80	<i>Carex vulpinoidea</i>	Fox sedge	OBL	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	20	80	<i>Leersia oryzoides</i>	Rice cutgrass	OBL	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	20	80	<i>Panicum virgatum</i>	Switchgrass	FAC	1-qt. Container	Cluster in groups of 3, 5 or 7, 3' OC
	40	399	=total				
			SEEDING				
WET MEADOW ESTABLISHMENT (SY):			367	Refer to SHA Section 707 - Wet Meadow Establishment			

SEEDING SCHEDULE	
Seed Mix	Area (SY)
Total Wet Meadow Establishment	4,575
Total Lowland Meadow Establishment	9,963
Turfgrass Establishment	4,868

MINICLUMP PLANTING - PLANTING SCHEDULE									
Plot SF: 189		Acres per Plot	0.004				# of Miniclumps	14	
Total SF: 2646		Total Acres:	0.004						
Quantity/ Plot	Total Quantity	Species Name	Common Name	Wetland Indicator Status	Min. Size	Min. Container Size	Form	Succession Stage / Type	Placement
Trees									
2	28	<i>Quercus alba</i>	White oak	FACU	4' height	#3 Container	Single stem	Climax	See Detail
2	28	<i>Quercus rubra</i>	Northern red oak	FACU	4' height	#3 Container	Single stem	Climax	See Detail
2	28	<i>Acer rubrum</i>	Red maple	FAC	4' height	#3 Container	Single stem	Early Succession	See Detail
3	42	<i>Liquidambar styraciflua</i>	Sweetgum	FAC	4' height	#3 Container	Single stem	Early Succession	See Detail
2	28	<i>Carpinus caroliniana</i>	Musclewood	FAC	4' height	#3 Container	Single stem	Understory	See Detail
2	28	<i>Prunus americana</i>	American plum	FACU	4' height	#3 Container	Single stem	Understory	See Detail
13	182	=total							
Shrubs									
2	28	<i>Kalmia latifolia</i>	Mountain laurel	FACU	18" height	#2 Container	Multi stem	Shrub	See Detail
2	28	<i>Viburnum prunifolium</i>	Blackhaw	FACU	18" height	#2 Container	Multi stem	Shrub	See Detail
2	28	<i>Aronia melanocarpa</i>	Black chokeberry	FAC	18" height	#2 Container	Multi stem	Shrub	See Detail
2	28	<i>Viburnum dentatum</i>	Arrowwood	FAC	18" height	#2 Container	Multi stem	Shrub	See Detail
8	112	=total							
Refer to the provided specifications and details for required spacing, planting techniques, and deer protection.									

LIVE STAKE PLANTING SCHEDULE								
ACRES:	0.19	SQUARE FEET: 8,137						
Quantity Per Acre	Frequency (%)	Species Quantity	Vegetation Strata/ Species Name	Common Name	Wetland Indicator Status	Size	Type	Placement
5560			TREES					
	20	207	<i>Cornus sericea</i>	Red osier dogwood	FACW	2-3' long	Dormant live stake	Naturalized at 3' O.C.
	40	416	<i>Salix nigra</i>	Black willow	OBL	2-3' long	Dormant live stake	Naturalized at 3' O.C.
	40	416	<i>Salix sericea</i>	Silky willow	OBL	2-3' long	Dormant live stake	Naturalized at 3' O.C.
	100	1,039	=total					
			SEEDING					
WET MEADOW ESTABLISHMENT (SY):			905	Refer to SHA Section 707 - Wet Meadow Establishment				

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION LANDSCAPING TABLES

Drawn By : _____ EH _____

Scale : _____ NOT TO SCALE _____

Designed By : _____ GC. AN _____

Date : _____ SEPTEMBER 2025 _____

Reviewed By : _____ KJH. AN _____

Drawing No. _____ LD-02 of LD-02 _____

Sheet No. _____ 40 of 48 _____

Alex Nussbaum

MARYLAND DNR QUALIFIED PROFESSIONAL

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BALTIMORE MD, 21202

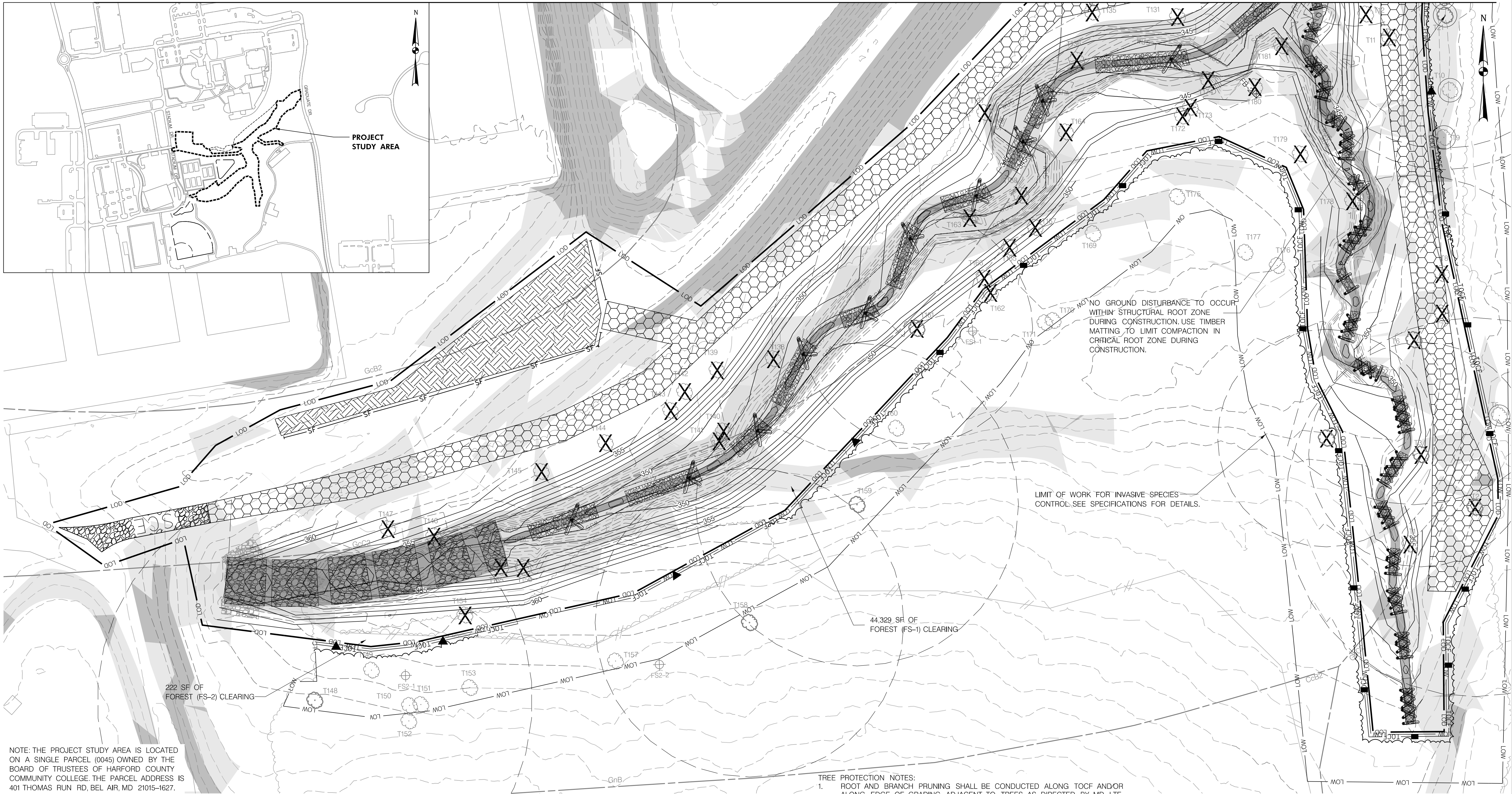
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09/12/2025
DATE

BID No.: #21-097BBD

HCC DWG ID No.:
SCALE: 1"=10'



NOTE: THE PROJECT STUDY AREA IS LOCATED ON A SINGLE PARCEL (0045) OWNED BY THE BOARD OF TRUSTEES OF HARFORD COUNTY COMMUNITY COLLEGE. THE PARCEL ADDRESS IS 401 THOMAS RUN RD, BEL AIR, MD 21015-1627.

LEGEND

LIMIT OF DISTURBANCE (LOD)	LOD	EXISTING FOREST LINE	EXISTING FOREST LINE	PROPERTY LINE	PROPERTY LINE	STABILIZED CONSTRUCTION ENTRANCE (SCE)	SCE
LIMIT OF WORK (LOW)	LOW	PROPOSED TREELINE	PROPOSED TREELINE	PROPOSED MAJOR CONTOURS	PROPOSED MAJOR CONTOURS	TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF)	TOCF
EXISTING MAJOR CONTOUR	EXISTING MAJOR CONTOUR	EXISTING RIPRAP	EXISTING RIPRAP	PROPOSED MINOR CONTOURS	PROPOSED MINOR CONTOURS	TEMPORARY ACCESS BRIDGE (TABI)	TABI
EXISTING MINOR CONTOUR	EXISTING MINOR CONTOUR	SOIL BOUNDARY	SOIL BOUNDARY	INDIVIDUAL TREE (12"-29" DBH)	INDIVIDUAL TREE (12"-29" DBH)	TEMPORARY MULCH ACCESS ROAD (TACB)	TACB
15% TO 25% SLOPES	15% TO 25% SLOPES	WATERS OF THE U.S.	WATERS OF THE U.S.	SPECIMEN TREE (≥30" DBH)	SPECIMEN TREE (≥30" DBH)	STAGING AND STOCKPILE AREA	STAGING AND STOCKPILE AREA
25%+ SLOPES	25%+ SLOPES	SPECIMEN TREE PROTECTION SIGN	SPECIMEN TREE PROTECTION SIGN	INDIVIDUAL TREE TO BE REMOVED	INDIVIDUAL TREE TO BE REMOVED	LOG VANE	LOG VANE
		FOREST CONSERVATION SIGN	FOREST CONSERVATION SIGN	SPECIMEN TREE WITH CRITICAL ROOT ZONE	SPECIMEN TREE WITH CRITICAL ROOT ZONE	SILT FENCE (SF)	SF
		FOREST STAND BREAK LINE	FOREST STAND BREAK LINE	EXISTING WETLAND	EXISTING WETLAND	PROPOSED CHANNEL	PROPOSED CHANNEL
		FOREST STAND PLOT POINT	FOREST STAND PLOT POINT	25 FT. WETLAND BUFFER	25 FT. WETLAND BUFFER	PROPOSED RIPRAP	PROPOSED RIPRAP
		SURVEYED TREE LABEL	SURVEYED TREE LABEL			TREE PROTECTION PLANKING	TREE PROTECTION PLANKING

TREE PROTECTION NOTES:

- ROOT AND BRANCH PRUNING SHALL BE CONDUCTED ALONG TOCF AND/OR ALONG EDGE OF GRADING ADJACENT TO TREES AS DIRECTED BY MD LTR.
- SEE FCN-01 TO FCN-03 FOR TREE INVENTORY TABLE, TREE PROTECTION NOTES, SEQUENCE OF TREE CONSERVATION PROCEDURES, AND TREE PROTECTION DETAILS.
- THE NET TRACT AREA IS CONSIDERED THE LIMIT OF DISTURBANCE (LOD) AND TOTALS 4.34 AC.
- TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) IS SHOWN OUTSIDE LOD FOR GRAPHICAL PURPOSES ONLY. SEE ROOT PRUNING DETAIL ON FCN-03 FOR PROPER TOCF PLACEMENT.

09/12/2025

DATE

20' 0 20' 40'

SCALE: 1"=20'

ALSO NUSSEN

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HARFORD COUNTY, MARYLAND	
HARFORD COMMUNITY COLLEGE STREAM RESTORATION FOREST CONSERVATION PLAN	
Drawn By : EH	Scale : 1"=20'
Designed By : GC. AN	Date : SEPTEMBER 2025
Reviewed By : KJH. AN	
Drawing No. FCP-01 of FCP-04	Sheet No. 41 of 48



NOTE: THE PROJECT STUDY AREA IS LOCATED ON A SINGLE PARCEL (0045) OWNED BY THE BOARD OF TRUSTEES OF HARFORD COUNTY COMMUNITY COLLEGE. THE PARCEL ADDRESS IS 401 THOMAS RUN RD, BEL AIR, MD 21015-1627.

LEGEND

- LIMIT OF DISTURBANCE (LOD) — LOD —
LIMIT OF WORK (LOW) — LOW —
EXISTING MAJOR CONTOUR — — —
EXISTING MINOR CONTOUR - - - - -
15% TO 25% SLOPES [shaded area]
25%+ SLOPES [darker shaded area]

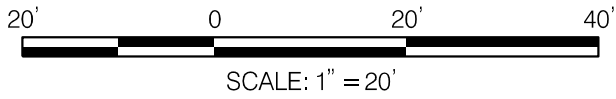
- EXISTING FOREST LINE [wavy line]
PROPOSED TREELINE [wavy line]
EXISTING RIPRAP [hatched pattern]
SOIL BOUNDARY [dashed line]
WATERS OF THE U.S. — WUS —
SPECIMEN TREE PROTECTION SIGN ▲
FOREST CONSERVATION SIGN ■
FOREST STAND BREAK LINE [double line]
FOREST STAND PLOT POINT [circle with cross]
SURVEYED TREE LABEL T100

- PROPERTY LINE [dashed line]
PROPOSED MAJOR CONTOURS [solid line]
PROPOSED MINOR CONTOURS [dashed line]
INDIVIDUAL TREE (12"-29" DBH) [circle with cross]
SPECIMEN TREE (≥30" DBH) [circle with cross]
INDIVIDUAL TREE TO BE REMOVED [circle with X]
SPECIMEN TREE WITH CRITICAL ROOT ZONE [circle with cross]
EXISTING WETLAND [hatched pattern]
25 FT. WETLAND BUFFER [dashed line]

- STABILIZED CONSTRUCTION ENTRANCE (SCE) [SCE symbol]
TEMPORARY ORANGE CONSTRUCTION FENCE — TOCF —
TEMPORARY ACCESS BRIDGE [TAB symbol]
TEMPORARY MULCH ACCESS ROAD [hatched pattern]
STAGING AND STOCKPILE AREA [hatched pattern]
LOG VANE [V symbol]
SILT FENCE [SF symbol]
PROPOSED CHANNEL [solid line]
PROPOSED RIPRAP [hatched pattern]
TREE PROTECTION PLANKING [circle with cross]

- TREE PROTECTION NOTES:
1. ROOT AND BRANCH PRUNING SHALL BE CONDUCTED ALONG TOCF AND/OR ALONG EDGE OF GRADING ADJACENT TO TREES AS DIRECTED BY MD LTE.
2. SEE FCN-01 TO FCN-03 FOR TREE INVENTORY TABLE, TREE PROTECTION NOTES, SEQUENCE OF TREE CONSERVATION PROCEDURES, AND TREE PROTECTION DETAILS.
3. THE NET TRACT AREA IS CONSIDERED THE LIMIT OF DISTURBANCE (LOD) AND TOTALS 4.34 AC.
4. TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) IS SHOWN OUTSIDE LOD FOR GRAPHICAL PURPOSES ONLY. SEE ROOT PRUNING DETAIL ON FCN-03 FOR PROPER TOCF PLACEMENT.

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DATE: 09/12/2025



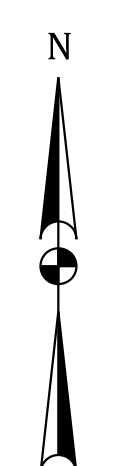
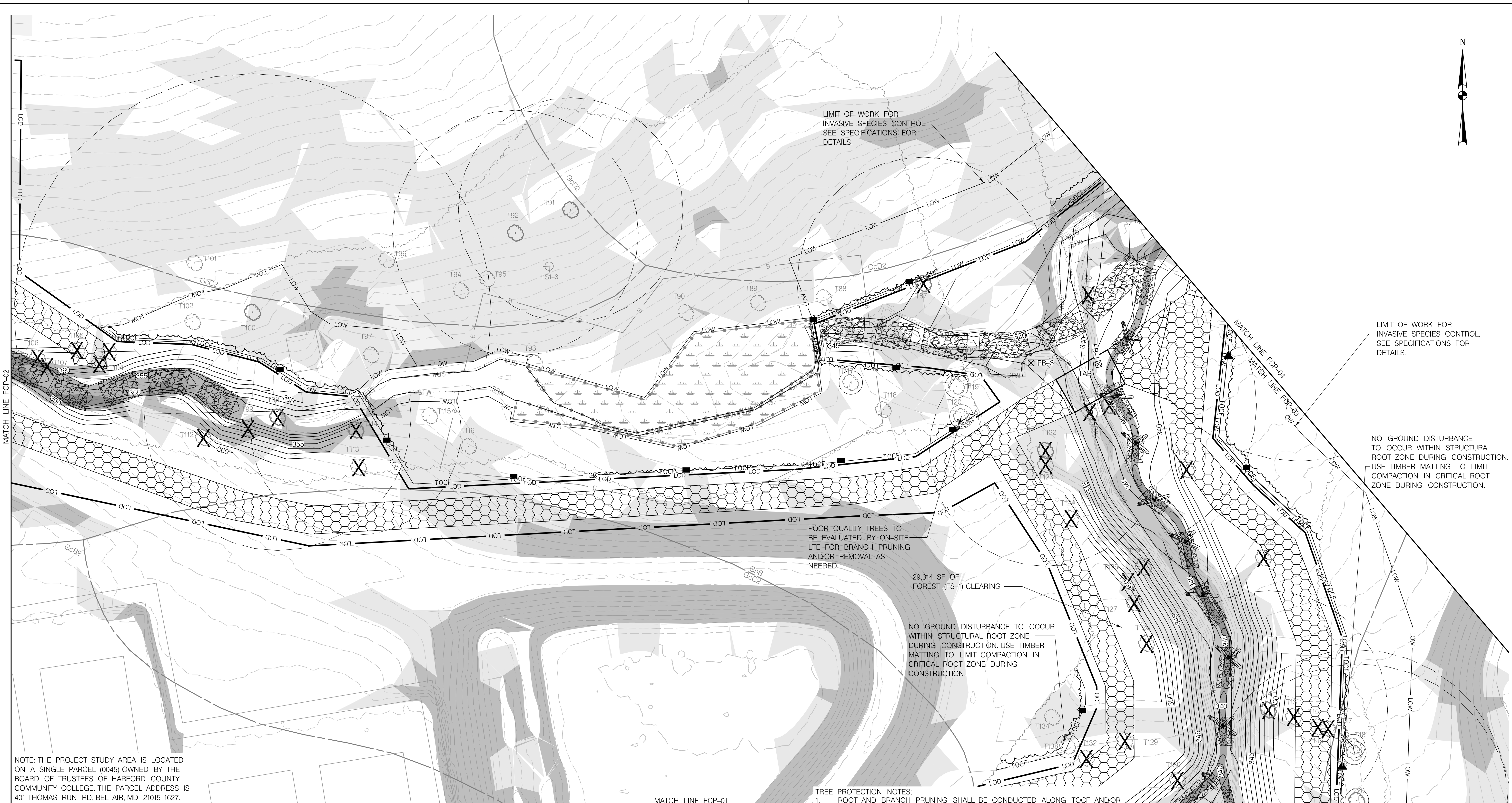
HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
FOREST CONSERVATION PLAN

Drawn By : EH
Designed By : GC, AN
Reviewed By : KJH, AN
Drawing No. FCP-02 of FCP-04

Scale : 1"=20'
Date : SEPTEMBER 2025
Sheet No. 42 of 48

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LEGEND			
LIMIT OF DISTURBANCE (LOD)	LOD	EXISTING FOREST LINE	
LIMIT OF WORK (LOW)	LOW	PROPOSED TREELINE	
EXISTING MAJOR CONTOUR		EXISTING RIPRAP	
EXISTING MINOR CONTOUR		SOIL BOUNDARY	
15% TO 25% SLOPES		WATERS OF THE U.S.	
25%+ SLOPES		SPECIMEN TREE PROTECTION SIGN	
		FOREST CONSERVATION SIGN	
		FOREST STAND BREAK LINE	
		FOREST STAND PLOT POINT	
		SURVEYED TREE LABEL	
		PROPERTY LINE	
		PROPOSED MAJOR CONTOURS	
		PROPOSED MINOR CONTOURS	
		INDIVIDUAL TREE (12"-29" DBH)	
		SPECIMEN TREE (≥30" DBH)	
		INDIVIDUAL TREE TO BE REMOVED	
		SPECIMEN TREE WITH CRITICAL ROOT ZONE	
		EXISTING WETLAND	
		25 FT. WETLAND BUFFER	
		STABILIZED CONSTRUCTION ENTRANCE (SCE)	
		TEMPORARY ORANGE CONSTRUCTION FENCE	
		TEMPORARY ACCESS BRIDGE	
		TEMPORARY MULCH ACCESS ROAD	
		STAGING AND STOCKPILE AREA	
		LOG VANE	
		SILT FENCE	
		PROPOSED CHANNEL	
		PROPOSED RIPRAP	
		TREE PROTECTION PLANKING	

TREE PROTECTION NOTES:
1. ROOT AND BRANCH PRUNING SHALL BE CONDUCTED ALONG TOCF AND/OR ALONG EDGE OF GRADING ADJACENT TO TREES AS DIRECTED BY MD LTE.
2. SEE FCN-01 TO FCN-03 FOR TREE INVENTORY TABLE, TREE PROTECTION NOTES, SEQUENCE OF TREE CONSERVATION PROCEDURES, AND TREE PROTECTION DETAILS.
3. THE NET TRACT AREA IS CONSIDERED THE LIMIT OF DISTURBANCE (LOD) AND TOTALS 4.34 AC.
4. TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) IS SHOWN OUTSIDE LOD FOR GRAPHICAL PURPOSES ONLY. SEE ROOT PRUNING DETAIL ON FCN-03 FOR PROPER TOCF PLACEMENT.

29,314 SF OF FOREST (FS-1) CLEARING

POOR QUALITY TREES TO BE EVALUATED BY ON-SITE LTE FOR BRANCH PRUNING AND/OR REMOVAL AS NEEDED.

NO GROUND DISTURBANCE TO OCCUR WITHIN STRUCTURAL ROOT ZONE DURING CONSTRUCTION. USE TIMBER MATTING TO LIMIT COMPACTION IN CRITICAL ROOT ZONE DURING CONSTRUCTION.

NO GROUND DISTURBANCE TO OCCUR WITHIN STRUCTURAL ROOT ZONE DURING CONSTRUCTION. USE TIMBER MATTING TO LIMIT COMPACTION IN CRITICAL ROOT ZONE DURING CONSTRUCTION.

LIMIT OF WORK FOR INVASIVE SPECIES CONTROL. SEE SPECIFICATIONS FOR DETAILS.

LIMIT OF WORK FOR INVASIVE SPECIES CONTROL. SEE SPECIFICATIONS FOR DETAILS.

NO GROUND DISTURBANCE TO OCCUR WITHIN STRUCTURAL ROOT ZONE DURING CONSTRUCTION. USE TIMBER MATTING TO LIMIT COMPACTION IN CRITICAL ROOT ZONE DURING CONSTRUCTION.

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION FOREST CONSERVATION PLAN

Drawn By : EH

Designed By : GC. AN

Reviewed By : KJH. AN

Drawing No. FCP-03 of FCP-04

Scale : 1"=20'

Date : SEPTEMBER 2025

Sheet No. 43 of 48

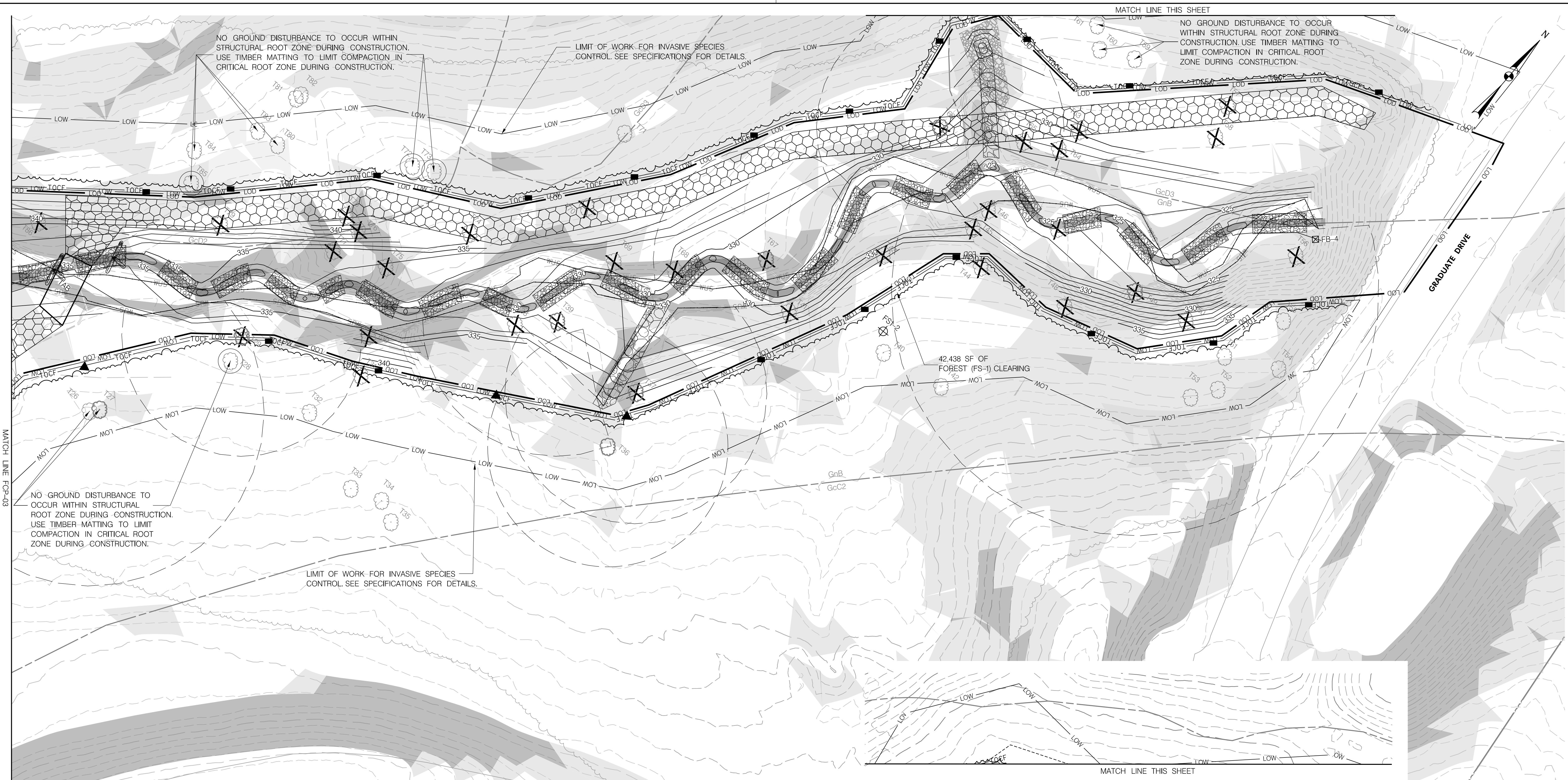
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PLOTTED: 9/12/2025

BID No.: #21-097BBB

HCC DWG ID No.:
SCALE: 1"=20'



NOTE: THE PROJECT STUDY AREA IS LOCATED ON A SINGLE PARCEL (0045) OWNED BY THE BOARD OF TRUSTEES OF HARFORD COMMUNITY COLLEGE. THE PARCEL ADDRESS IS 401 THOMAS RUN RD, BEL AIR, MD 21015-1627.

LEGEND

LIMIT OF DISTURBANCE (LOD)	EXISTING FOREST LINE	PROPERTY LINE
LIMIT OF WORK (LOW)	PROPOSED TREELINE	PROPOSED MAJOR CONTOURS
EXISTING MAJOR CONTOUR	EXISTING RIPRAP	PROPOSED MINOR CONTOURS
EXISTING MINOR CONTOUR	SOIL BOUNDARY	INDIVIDUAL TREE (12"-29" DBH)
15% TO 25% SLOPES	WATERS OF THE U.S.	SPECIMEN TREE (≥30" DBH)
25%+ SLOPES	SPECIMEN TREE PROTECTION SIGN	INDIVIDUAL TREE TO BE REMOVED
	FOREST CONSERVATION SIGN	SPECIMEN TREE WITH CRITICAL ROOT ZONE
	FOREST STAND BREAK LINE	EXISTING WETLAND
	FOREST STAND PLOT POINT	25 FT. WETLAND BUFFER
	SURVEYED TREE LABEL	

LEGEND

STABILIZED CONSTRUCTION ENTRANCE (SCE)	TEMPORARY ORANGE CONSTRUCTION FENCE	TEMPORARY ACCESS BRIDGE
TEMPORARY MULCH ACCESS ROAD	STAGING AND STOCKPILE AREA	LOG VANE
SILT FENCE	PROPOSED CHANNEL	PROPOSED RIPRAP
TREE PROTECTION PLANKING		

PROTECTION NOTES:

- ROOT PRUNING SHALL BE CONDUCTED ALONG TOCF AND/OR ALONG EDGE OF GRADING ADJACENT TO TREES AS DIRECTED BY MD LIE.
- SEE FCN-01 TO FCN-03 FOR TREE INVENTORY TABLE, TREE PROTECTION NOTES, SEQUENCE OF TREE CONSERVATION PROCEDURES, AND TREE PROTECTION DETAILS.
- THE NET TRACT AREA IS CONSIDERED THE LIMIT OF DISTURBANCE (LOD) AND TOTALS 4.34 AC.
- TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) IS SHOWN OUTSIDE LOD FOR GRAPHICAL PURPOSES ONLY. SEE ROOT PRUNING DETAIL ON FCN-03 FOR PROPER TOCF PLACEMENT.

ALSO NUSSEN 09/12/2025
MARYLAND DNR QUALIFIED PROFESSIONAL
NAME: ALEX NUSSBAUM
ADDRESS: 700 EAST PRATT ST, SUITE 500
BALTIMORE, MD, 21202
PHONE: (443) 996-4068
EMAIL: ANUSSBAUM@RKK.COM

Scale: 1"=20'

0 20' 40'

SCALE: 1"=20'

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE

STREAM RESTORATION

FOREST CONSERVATION PLAN

Drawn By : EH	Scale : 1"=20'
Designed By : GC. AN	Date : SEPTEMBER 2025
Reviewed By : KJH. AN	
Drawing No. FCP-04 of FCP-04	Sheet No. 44 of 48

FILE PATH: \\ad.rkk.com\fs\Cloud\Projects\2021\1155_HARCOITask 025_Harfod Community College Stream Restoration\CADD\60%Plans\44 - FCP-004_HCC.dgn
PLOTTED: 9/12/2025

MATCH LINE FCP-03

MATCH LINE THIS SHEET

BID No.: #21-097BBB

HCC DWG ID No.:
SCALE: 1"=20'

BY: ahaigt-



P: 410.728.2000
700 E. Pratt Street, Suite 500 | Baltimore, MD 21202

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PLOTTED: 9/12/2025

TREE INVENTORY TABLE						
Tree ID	Scientific Name	Common Name	DBH	Condition	Comments	Removal
T1	<i>Juglans nigra</i>	Black walnut	14	Fair	Vines on trunk into canopy, deadwood, slight lean	Yes
T2*	<i>Acer saccharinum</i>	Silver maple	54	Fair	Heavy vines on trunk into canopy, deadwood, imbricated bark	Yes
T3*	<i>Acer saccharinum</i>	Silver maple	32	Poor	Significant lean, extensive deadwood, heavy vines on trunk into crown	Yes
T4*	<i>Acer saccharinum</i>	Silver maple	31	Fair/Poor	Split below DBH, exposed roots, multi stemmed, minor deadwood, lower dead leaders, vines into crown	Yes
T5	<i>Acer rubrum</i>	Red maple	13	Fair	Split below DBH, 13x8, lean, old healed over trunk wounds	No
T6*	<i>Acer saccharinum</i>	Silver maple	47	Poor	Extensive deadwood, multiple dead leaders, decaying bark	Yes
T7	<i>Acer rubrum</i>	Red maple	15	Fair/Poor	Minor exposed roots, significant lean, sparse growth	Yes
T8	<i>Acer rubrum</i>	Red maple	26	Fair	Sapsucker damage, split at DBH, imbricated bark, deadwood	Yes
T9	<i>Acer rubrum</i>	Red maple	17	Fair/Poor	Extensive deadwood, woodpecker damage, sparse growth, sap sucker holes	No
T10	<i>Acer rubrum</i>	Red maple	12	Fair	Split below DBH, multi stemmed, one dead leader, one-sided growth	No
T11	<i>Prunus serotina</i>	Black cherry	17	Fair/Poor	Extensive deadwood	Yes
T12	<i>Prunus serotina</i>	Black cherry	17	Fair/Poor	Split below DBH, multistem, one dead leader, extensive deadwood	Yes
T13	<i>Acer rubrum</i>	Red maple	13	Fair	Split above DBH, one decaying leader, significant lean	Yes
T14*	<i>Acer saccharinum</i>	Silver maple	34	Good/Fair	Split above DBH, imbricated bark	Yes
T15	<i>Acer rubrum</i>	Red maple	27	Fair	Split below DBH, multistem, imbricated bark, minor deadwood	Yes
T16	<i>Acer rubrum</i>	Red maple	18	Fair/Poor	Trunk decay, extensive deadwood	Yes
T17	<i>Acer rubrum</i>	Red maple	14	Poor	Severe lean and extensive deadwood	No
T18	<i>Prunus serotina</i>	Black cherry	27	Poor	Extensive vines on trunk into canopy, extensive deadwood	No
T19	<i>Acer rubrum</i>	Red maple	27	Fair	Sapsucker damage, slight lean	No
T20*	<i>Acer saccharinum</i>	Silver maple	43	Fair/Poor	Split above DBH, imbricated bark, one dead leader lean, irregular growth	No
T21*	<i>Acer saccharinum</i>	Silver maple	44	Fair/Poor	Split above DBH, one dead leader, heavy vines on trunk into canopy	No
T22	<i>Prunus serotina</i>	Black cherry	20	Poor	Significant lean, heavy vines on trunk into canopy, extensive deadwood	Yes
T23	<i>Acer rubrum</i>	Red maple	24	Fair	Minor vines on trunk into canopy, minor deadwood	Yes
T24*	<i>Acer rubrum</i>	Red maple	42	Fair	Split above DBH, imbricated bark, exposed roots in stream bank, dead branches	Yes
T25	<i>Prunus serotina</i>	Black cherry	23	Poor	Split below DBH, dead leader, extensive vines into canopy	Yes
T26*	<i>Acer saccharinum</i>	Silver maple	48	Fair/Poor	Split above DBH, fused trunk, lean, deadwood, exposed roots	No
T27	<i>Acer saccharinum</i>	Silver maple	28	Fair/Poor	Split at DBH, 26" twin, large trunk wound	No
T28	<i>Acer rubrum</i>	Red maple	25	Fair	Exposed roots, irregular growth, vines climbing trunk	No
T29*	<i>Acer rubrum</i>	Red maple	33	Fair/Poor	Exposed roots, imbricated bark, sparse growth, vines on trunk	Yes
T30	<i>Prunus serotina</i>	Black cherry	13	Poor	Sloughing into streambank, exposed roots, heavy lean	Yes
T31	<i>Liriodendron tulipifera</i>	Tulip poplar	28	Poor	Extensive deadwood, extensive crown decay	Yes
T32	<i>Juglans nigra</i>	Black walnut	15	Fair	Heavy vines on trunk into crown, deadwood	No
T33	<i>Robinia pseudoacacia</i>	Black locust	13	Fair/Poor	Broken leader, extensive deadwood	No
T34	<i>Liriodendron tulipifera</i>	Tulip poplar	15	Fair	Lean, irregular growth, deadwood	No
T35	<i>Robinia pseudoacacia</i>	Black locust	13	Fair/Poor	Lean, deadwood, heavy debris on lower trunk	No
T36*	<i>Acer rubrum</i>	Red maple	33	Poor	Extensive exposed roots, heavy lean, extensive deadwood, vines in canopy	No
T37*	<i>Acer rubrum</i>	Red maple	36	Poor	Split above DBH, imbricated bark, large decaying trunk wound, vines into canopy	Yes
T38	<i>Acer rubrum</i>	Red maple	23	Good		Yes
T39*	<i>Acer saccharinum</i>	Silver maple	37	Fair	Split above DBH, one broken leader, lean in canopy, irregular growth	Yes
T40	<i>Liriodendron tulipifera</i>	Tulip poplar	26	Fair/Poor	Lean, extensive deadwood	No
T41	<i>Liriodendron tulipifera</i>	Tulip poplar	15	Fair/Poor	Exposed roots growing into stream banks, irregular growth	Yes
T42	<i>Liriodendron tulipifera</i>	Tulip poplar	17	Poor	Lean, heavy vines on trunk into crown, extensive deadwood	No
T43	<i>Liriodendron tulipifera</i>	Tulip poplar	17	Fair/Poor	Extensive heavy vines in canopy, deadwood	Yes
T44	<i>Prunus serotina</i>	Black cherry	21	Good/Fair	Minor vines on trunk, exposed roots, deadwood	No
T45	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Good/Fair	Trunk wounds on upper trunk healed over, exposed roots growing into streambank	Yes
T46	<i>Acer rubrum</i>	Red maple	21	Fair/Poor	Exposed roots into stream banks, heavy vines on trunk, lead, deadwood	Yes
T47	<i>Acer rubrum</i>	Red maple	23	Fair	Exposed roots, lean, deadwood	Yes
T48	<i>Liriodendron tulipifera</i>	Tulip poplar	28	Good/Fair	Vines into canopy, exposed roots, growing on slope	Yes
T49*	<i>Quercus alba</i>	White oak	67	Fair	Dead branches, growing out of hillside, lean	Yes
T50	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Good		Yes
T51	<i>Juglans nigra</i>	Black walnut	15	Fair	Deadwood, lean	No
T52	<i>Liriodendron tulipifera</i>	Tulip poplar	29	Good/Fair	Exposed roots, minor vines on trunk into canopy	No
T53	<i>Liriodendron tulipifera</i>	Tulip poplar	21	Fair/Poor	Heavy vines o, trunk into canopy, irregular growth, deadwood	No
T54	<i>Juglans nigra</i>	Black walnut	17	Fair/Poor	Irregular growth, extensive deadwood, debris leaning on lower trunk	No
T55	<i>Liriodendron tulipifera</i>	Tulip poplar	24	Fair	Lean, heavy vines, growing into slope, deadwood	No
T56	<i>Platanus occidentalis</i>	American sycamore	12	Good/Fair	Lean, vines on trunk into canopy	Yes
T57	<i>Juglans nigra</i>	Black walnut	13	Fair/Poor	Exposed roots, deadwood, vines on trunk into crown	Yes
T58	<i>Juglans nigra</i>	Black walnut	23	Fair/Poor	Heavy vines o, trunk into canopy, extensive deadwood	Yes
T59	<i>Juglans nigra</i>	Black walnut	19	Fair/Poor	Twisting trunk, heavy vines on trunk into canopy	No
T60	<i>Juglans nigra</i>	Black walnut	17	Good		No
T61	<i>Juglans nigra</i>	Black walnut	17	Fair/Poor	Heavy vines on trunk into canopy, extensive deadwood	No
T62	<i>Juglans nigra</i>	Black walnut	19	Fair/Poor	Heavy vines on trunk into canopy, extensive deadwood	No
T63	<i>Prunus serotina</i>	Black cherry	16	Poor	Lean, heavy vines on trunk into canopy, extensive deadwood	Yes
T64	<i>Prunus serotina</i>	Black cherry	13	Poor	Lean, extensive deadwood, trunk decay	Yes
T65	<i>Liriodendron tulipifera</i>	Tulip poplar	17	Fair	Sprouting at base, twisting trunk, lean	Yes
T66*	<i>Liriodendron tulipifera</i>	Tulip poplar	34	Good		Yes
T67*	<i>Acer rubrum</i>	Red maple	31	Fair	Heavy vines on trunk into canopy, split above DBH, dead leader, moderate deadwood	Yes
T68	<i>Acer rubrum</i>	Red maple	21	Poor	Extensive trunk decay and rot, extensive deadwood	Yes
T69	<i>Acer rubrum</i>	Red maple	24	Poor	Split below DBH, 24x18, heavy vines on trunk into canopy, lean, sapsucker damage, extensive deadwood	Yes
T70	<i>Acer saccharinum</i>	Silver maple	24	Poor	Extensive debris on lower trunk, heavy vines on trunk into canopy	Yes
T71	<i>Acer rubrum</i>	Red maple	18	Good/Fair	Split below DBH, 18x7, lean	No
T72	<i>Juglans nigra</i>	Black walnut	13	Good/Fair	Dead tree snagged in canopy, vines on trunk	No
T73	<i>Acer rubrum</i>	Red maple	21	Fair/Poor	Severe lean, irregular growth, exposed roots	No
T74	<i>Acer rubrum</i>	Red maple	15	Fair	Extensive sprouting, bark decay	Yes
T75	<i>Prunus serotina</i>	Black cherry	19	Poor	Extensive deadwood	Yes
T76	<i>Robinia pseudoacacia</i>	Black locust	14	Poor	Lean, extensive deadwood	Yes
T77	<i>Prunus serotina</i>	Black cherry	18	Good/Fair	Moderate deadwood	Yes
T78	<i>Prunus serotina</i>	Black cherry	13	Fair	Leaning and twisting trunk, vines on trunk into canopy	Yes
T79	<i>Prunus serotina</i>	Black cherry	19	Fair	Lean, deadwood in canopy	Yes
T80	<i>Prunus serotina</i>	Black cherry	25	Fair	Competing and fused trunks, deadwood	No
T81	<i>Prunus serotina</i>	Black cherry	23	Fair	Split below DBH, multistem, lean, deadwood	No
T82	<i>Fraxinus americana</i>	White ash	15	Fair	Exposed roots, lean, irregular growth	No
T83	<i>Prunus serotina</i>	Black cherry	12	Fair/Poor	Heavy vines on trunk into canopy, sparse growth	No
T84	<i>Acer rubrum</i>	Red maple	15	Fair/Poor	Sapsucker damage, exposed roots and root flare, deadwood	No
T85	<i>Acer rubrum</i>	Red maple	12	Good/Fair	Sapsucker damage	No
T86	<i>Nyssa sylvatica</i>	Black gum	24	Fair/Poor	Bend in leader at canopy, heavy vines into canopy, deadwood	Yes
T87*	<i>Acer rubrum</i>	Red maple	36	Fair/Poor	Split above DBH, imbricated bark, one dead leader, lean, heavy vines on trunk into canopy	Yes
T88	<i>Acer rubrum</i>	Red maple	20	Fair	Twisting trunk	No
T89	<i>Acer rubrum</i>	Red maple	14	Good/Fair	Sapsucker damage, minor deadwood	No
T90	<i>Juglans nigra</i>	Black walnut	20	Fair	Heavy vines on trunk into canopy	No

Tree ID	Scientific Name	Common Name	DBH	Condition	Comments	Removal
T91*	<i>Liriodendron tulipifera</i>	Tulip poplar	32	Good/Fair	Heavy vines into canopy, deadwood	No
T92*	<i>Liriodendron tulipifera</i>	Tulip poplar	35	Good	Minor exposed roots, minor deadwood	No
T93	<i>Acer rubrum</i>	Red maple	15	Fair	Exposed roots, extensive sapsucker damage	No
T94	<i>Acer rubrum</i>	Red maple	13	Fair	Minor exposed and girdling roots, sapsucker damage, deadwood	No
T95	<i>Acer rubrum</i>	Red maple	15	Fair	Exposed roots, extensive sapsucker damage, healed over trunk wound	No
T96	<i>Prunus serotina</i>	Black cherry	12	Fair	Lean, sparse growth	No
T97	<i>Prunus serotina</i>	Black cherry	16	Fair/Poor	Exposed roots, twisting trunk, deadwood in canopy	No
T98*	<i>Acer rubrum</i>	Red maple	38	Fair	Split above DBH, imbricated bark, exposed roots flare, growing on bank of ephemeral channel, deadwood	Yes
T99	<i>Acer rubrum</i>	Red maple	22	Poor	Extensive deadwood, trunk decay, exposed roots, growing on bank of ephemeral channel	Yes
T100*	<i>Liriodendron tulipifera</i>	Tulip poplar	68	Fair	Girdling roots, decay at base of trunk, twisting trunk	No
T101	<i>Prunus serotina</i>	Black cherry	21	Poor	Exposed and damaged roots, extensive deadwood, water sprouting	No
T102	<i>Castanea mollissima</i>	Chinese chestnut	12	Fair/Poor	Bark decay, extensive deadwood	No
T103	<i>Acer rubrum</i>	Red maple	28	Fair/Poor	Split above DBH, imbricated bark, leaning leaders, healed over trunk wound, deadwood	Yes
T104	<i>Prunus avium</i>	Sweet cherry	16	Fair	Trunk galls, oozing, waters prouts	Yes
T105	<i>Acer rubrum</i>	Red maple	17	Good		Yes
T106	<i>Quercus rubra</i>	Northern red oak	18	Poor	Multistem, split below DBH, multiple twisted leaders -some dead and/or pruned, some fallen over, significant lean in all leaders, extensive deadwood, exposed roots	Yes
T107	<i>Prunus serotina</i>	Black cherry	15	Fair/Poor	Exposed roots growing on ephemeral stream bank, lean, deadwood	Yes
T108	<i>Acer rubrum</i>	Red maple	16	Fair	Twisting trunk, exposed roots, growing on side of stream bank	Yes
T109	<i>Acer rubrum</i>	Red maple	24	Fair	Healed over trunk wound, minor decay, split above DBH, interfering branches	Yes
T110	<i>Juglans nigra</i>	Black walnut	23	Fair/Poor	Exposed roots growing into stream bank, leaning and twisting trunk	Yes
T111	<i>Liriodendron tulipifera</i>	Tulip poplar	20	Fair/Poor	Exposed roots, growing on stream bank, heavy lean, extensive woodpecker damage, deadwood	Yes
T112	<i>Prunus serotina</i>	Black cherry	17	Fair/Poor	Extensive deadwood, twisting trunk, irregular growth	Yes
T113	<i>Acer rubrum</i>	Red maple	19	Fair	One-sided growth, water sprouting, debris in canopy	Yes
T114*	<i>Quercus rubra</i>	Northern red oak	30	Fair/Poor	Exposed roots, trunk cavity with decay, deadwood, sparse growth	Yes
T115	<i>Acer rubrum</i>	Red maple	17	Good/Fair	Twisted trunk, exposed roots, minor dead branches	No
T116	<i>Acer rubrum</i>	Red maple	16	Fair/Poor	Lean and twisted trunk, healed over trunk wound, irregular growth	No
T117	<i>Liriodendron tulipifera</i>	Tulip poplar	14	Fair/Poor	Leaning and twisting trunk, deadwood, one-sided growth	No
T118	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Good/Fair	Vines into canopy	No
T119	<i>Prunus serotina</i>	Black cherry	21	Fair	Split below DBH, 21x18", vines into canopy, deadwood	No
T120	<i>Liriodendron tulipifera</i>	Tulip poplar	18	Poor	Extensive deadwood, extensive woodpecker damage, twisting trunk	No
T121	<i>Acer rubrum</i>	Red maple	29	Poor	Split above DBH, one dead leader, extensive deadwood	Yes
T122*	<i>Acer rubrum</i>	Red maple	33	Poor	Exposed roots flare, extensive deadwood, sparse growth	Yes
T123	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Fair	Competing leaders, deadwood	Yes
T124	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Fair	Heavy vines on trunk into canopy, twisted trunk	Yes
T125	<i>Liriodendron tulipifera</i>	Tulip poplar	15	Good/Fair	Minor deadwood	No
T126	<i>Liriodendron tulipifera</i>	Tulip poplar	27	Good/Fair	Growing on stream bank, exposed roots, slight lean	Yes
T127	<i>Liriodendron tulipifera</i>	Tulip poplar	28	Good/Fair	Split at DBH, smaller leader has extensive decay, main leader has minor vines	Yes
T128	<i>Liriodendron tulipifera</i>	Tulip poplar	26	Good/Fair	Exposed roots flare, minor vines	Yes
T129	<i>Liriodendron tulipifera</i>	Tulip poplar	14	Good	Twisting trunk	Yes
T130	<i>Acer rubrum</i>	Red maple	15	Fair	Excessive water sprouting	Yes
T131	<i>Liriodendron tulipifera</i>	Tulip poplar	25	Good		Yes
T132	<i>Acer rubrum</i>	Red maple	13	Fair	Split below DBH, imbricated bark, one dead leader, interfering branching, deadwood	Yes
T133	<i>Acer saccharinum</i>	Silver maple	25	Fair/Poor	Exposed roots, split below DBH, one dead leader, sapsucker damage, sparse growth in canopy	No
T134	<i>Prunus serotina</i>	Black cherry	13	Poor	Heavy vines on trunk into canopy	No
T135	<i>Acer rubrum</i>	Red maple	17	Poor	Heavy vines on trunk into canopy, dead leader	Yes
T136	<i>Ulmus americana</i>	American Elm	21	Fair/Poor	Exposed and girdling roots, growing out of stream bank, severe lean, deadwood	Yes
T137	<i>Liriodendron tulipifera</i>	Tulip poplar	25	Good/Fair	Twisting trunk, deadwood in canopy	Yes
T138	<i>Acer rubrum</i>	Red maple	18	Poor	Split below DBH, one dead leader, extensive dead vines	Yes
T139	<i>Prunus serotina</i>	Black cherry	13	Fair/Poor	Lean, heavy vines on trunk, deadwood	Yes
T140	<i>Ulmus americana</i>	American Elm	19	Good/Fair	Exposed roots, growing on stream bank, minor deadwood	Yes
T141	<i>Ulmus americana</i>	American Elm	21	Poor	Split below DBH, exposed roots, growing on stream bank, twin leader 19"	Yes
T142	<i>Acer rubrum</i>	Red maple	13	Good		Yes
T143	<i>Acer rubrum</i>	Red maple	14	Poor	Exposed roots, extensive deadwood	Yes
T144	<i>Acer rubrum</i>	Red maple	15	Fair	Heavy lean, one sided growth	Yes
T145	<i>Acer rubrum</i>	Red maple	19	Good/Fair	Exposed roots growing on stream bank, heavy vines into canopy, deadwood	Yes
T146	<i>Juglans nigra</i>	Black walnut	16	Fair/Poor	Exposed roots growing on stream bank, heavy vines into canopy, deadwood	Yes
T147	<i>Acer rubrum</i>	Red maple	13	Poor	Evidence of pruning, extensive deadwood, sparse growth	Yes
T148*	<i>Acer rubrum</i>	Red maple	62	Good/Fair	Multiple fused stems above DBH, imbricated bark, deadwood	No
T149	<i>Pinus strobus</i>	White pine	15	Good/Fair	Vines on trunk, sparse canopy	No
T150	<i>Pinus strobus</i>	White pine	22	Good/Fair	Heavy vines on trunk into canopy	No
T151	<i>Pinus strobus</i>	White pine	15	Good/Fair	Vines going into canopy	No
T152	<i>Pinus strobus</i>	White pine	13	Fair	Heavy vines into canopy, sparse growth	No
T153	<i>Fraxinus americana</i>	White ash	22	Fair	Deadwood, twisting trunk,	No
T154	<i>Liriodendron tulipifera</i>	Tulip poplar	12	Poor	Extensive woodpecker damage, deadwood	Yes
T155	<i>Prunus serotina</i>	Black cherry	20	Poor	Heavy vines on trunk into canopy, deadwood, growing on stream bank	Yes
T156	<i>Prunus serotina</i>	Black cherry	20	Poor	Heavy vines on trunk into canopy, extensive deadwood, fungal growth, exposed roots, growing out of stream bank	Yes
T157	<i>Pinus strobus</i>	White pine	18	Fair/Poor	Heavy vines on trunk into canopy, sparse growth, deadwood	No
T158*	<i>Platanus occidentalis</i>	American sycamore	44	Good/Fair	Vines on lower trunk, minor deadwood	No
T159*	<i>Acer rubrum</i>	Red maple	46	Poor	Extensive trunk decay, fungal growth, exposed roots, extensive deadwood	No
T160	<i>Acer rubrum</i>	Red maple	13	Fair	Minor exposed roots, vines on trunk into canopy, trunk wounds in canopy	No
T161*	<i>Acer rubrum</i>	Red maple	33	Good/Fair	Split above DBH, imbricated bark, deadwood	Yes
T162	<i>Acer saccharinum</i>	Silver maple	25	Fair	Exposed roots, deadwood in canopy, irregular bark in canopy	Yes
T163	<i>Liriodendron tulipifera</i>	Tulip poplar	24	Fair	Exposed roots growing out of stream bank, vines on trunk into canopy	Yes
T164	<i>Acer rubrum</i>	Red maple	18	Fair/Poor	Extensive deadwood, vines on trunk into canopy, exposed roots on stream bank	Yes
T165	<i>Acer rubrum</i>	Red maple	19	Fair/Poor	Split below DBH, one dead leader, live leader has deadwood in canopy	Yes
T166	<i>Acer rubrum</i>	Red maple	13	Poor	Extensive deadwood, trunk decay	Yes
T167	<i>Acer rubrum</i>	Red maple	25	Fair/Poor	Split below DBH, twin trunk, 1 leader is sprouting, extensive deadwood, exposed roots	Yes
T168	<i>Liriodendron tulipifera</i>	Tulip poplar	25	Poor	Extensive deadwood, dead leaders, sparse growth	Yes
T169	<i>Acer rubrum</i>	Red maple	14	Fair	Splits at DBH, multiple stems, vines into canopy, trunk decay, deadwood	No
T170	<i>Acer rubrum</i>	Red maple	24	Fair/Poor	Heavy vines into canopy, split above DBH, imbricated bark, competing leaders	No
T171	<i>Acer rubrum</i>	Red maple	28	Fair/Poor	One dead leader, extensive deadwood, exposed roots	No
T172	<i>Liriodendron tulipifera</i>	Tulip poplar	21	Fair	Lean, heavy vines on trunk into canopy, deadwood	Yes
T173	<i>Liriodendron tulipifera</i>	Tulip poplar	12	Poor	Healed over trunk wound, trunk decay, twisting vines on trunk	Yes
T174	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Fair/Poor	Extremely exposed roots, growing out of eroding stream bank, sprouting, split below dbh	Yes
T175	<i>Acer rubrum</i>	Red maple	28	Poor	Extensive deadwood, broken leader, split below dbh	No
T176	<i>Acer rubrum</i>	Red maple	12	Good/Fair	Lean, deadwood	No
T177	<i>Acer rubrum</i>	Red maple	24	Good/Fair	Lean, deadwood, vines in canopy	No
T178	<i>Liriodendron tulipifera</i>	Tulip poplar	14	Poor	Heavy vines on trunk into canopy, extensive deadwood, growing on stream bank	Yes
T179	<i>Liriodendron tulipifera</i>	Tulip poplar	13	Fair/Poor	Vines on trunk into canopy, deadwood, broken leader	Yes
T180	<i>Acer rubrum</i>	Red maple	21	Poor	Broken leader, vines on trunk into canopy, deadwood	Yes
T181	<i>Acer saccharinum</i>	Silver maple	27	Fair/Poor	Multiple dead leaders, deadwood, growing on stream bank	Yes
T182	<i>Ulmus americana</i>	American Elm	23	Good/Fair	Evidence of past pruning, minor exposed roots	No
T183	<i>Ulmus americana</i>	American Elm	26	Good/Fair	Evidence of past pruning, exposed and girdling roots, dead lower limbs	No
T184	<i>Ulmus americana</i>	American Elm	19	Good/Fair	Evidence of past pruning, exposed and damaged roots, dead lower limbs	No

Forest Stand Summary Sheet		
Property: Harford Community College		
Location: Bel Air, Harford County, ADC Map # 17 H10 (Town, County ADC Map #, and Grid Coordinates)		
Prepared By: AJN, LP		Date: 03/20/2025
Stand Variable	Stand # FS1	Stand # FS2
1. Dominant species/ Co-dominant species	Tulip poplar, silver maple, red maple, sweetgum	White pine, tulip poplar
2. Forest Association	Tulip Poplar	White Pine
3. Successional stage	Mid	Mid
4. Basal Area in SF per acre	83	135
5. Size class of dominant species	20-30"	12-20"
6. Percent of canopy coverage	57%	56%
7. Number of tree species per acre	4	2
8. Common understory species	Spicebush, red maple, sweetgum	Spicebush
9. Percent of understory cover 3' to 20' tall	68%	41%
10. Number of understory species 3' to 20' tall	3	1
11. Common herbaceous species	Japanese stiltgrass, Japanese honeysuckle, wild onion, wineberry, multiflora rose, lesser celandine	Wineberry, multiflora rose, Japanese stiltgrass, Japanese honeysuckle, garlic mustard
12. Percent of herbaceous & woody plant cover 0' to 3' tall	53%	54%
13. List of major invasive plant species and percent of cover	Japanese stiltgrass, Japanese honeysuckle, multiflora rose ñ 10%	Japanese stiltgrass, Japanese honeysuckle, multiflora rose ñ 5%
14. Number of standing dead trees 6" DBH or greater	3	6
15. Comments	Dominated by red maple and tulip poplar, understory consists of spicebush and red maple saplings, canopy gaps exist throughout, extensive standing dead and downed woody debris, heavy wineberry and Japanese stiltgrass present in herbaceous layer	Canopy dominated by white pine with inclusions of tulip poplar, medium vine load including grapevine, Japanese honeysuckle, high levels of downed woody debris, understory consists of spicebush and vines, high levels of standing dead
Sheet 1 of 1		April 2025

SOILS TABLE					
Map Unit Symbol	Map Unit Name	K-Factor (Whole Soil)*	Drainage Class	Hydric Rating**	
CcB2	Chester silt loam, 3 to 8 percent slopes	0.32	Well drained	0	Non-hydric
GcB2	Glenelg loam, 3 to 8 percent slopes	0.24	Well drained	0	Non-hydric
GcC	Glenelg loam, 8 to 15 percent slopes	0.24	Well drained	0	Non-hydric
GcD	Glenelg loam, 15 to 25 percent slopes	0.24	Well drained	0	Non-hydric
GcD3	Glenelg loam, 15 to 25 percent slopes	0.24	Well drained	0	Non-hydric
GnB	Glenville silt loam, 3 to 8 percent slopes	0.37 (HE)	Moderately well drained	10	Partially Hydric

*K-Factor * Erodibility value assigned to soil types by NRCS. K > 0.35 are considered to be highly erodible soils

**Hydric Rating * Value is based on the percentage of hydric soils within the soil type. Non-hydric soils have a value of 0, predominantly non-hydric soils have a value between 0 and 33, partially hydric soils have a value between 33 and 66, predominantly hydric soils have a value between 66 and 99, and hydric soils have a value of 100.

IMPACT/MITIGATION SUMMARY TABLE		
FEATURE	ACREAGE	SF
TOTAL NET TRACT AREA	4.34	189,050
FOREST WITHIN LOD	2.71	118,192
FOREST TO BE REMOVED	2.71	118,192
PROPOSED FOREST PLANTING	2.74	119,206

Tree Condition Assessment Guidelines

Excellent – healthy tree with exceptional growth form; no visible defects; well-formed crown; few minor dead branches acceptable; this tree condition is rare.

Good – healthy tree; very minor defects/decay acceptable with callous forming/complete; well-formed crown; minor lean and/or few minor/major dead branches acceptable; vines may be growing along trunk but not present within crown.

Fair – health questionable/stress evident; structurally sound tree; defects present that do not affect structural integrity; moderate lean; minor/major dead branches may be present; crown not broken out but not necessarily well formed or even; vines may be growing along trunk and within crown.

Ex. Fair tree could be experiencing insect damage, or exhibit a growth form that makes it very susceptible to wind damage in an open setting.

Poor –significant health problems; may be structurally unsound; may be dead or dying; may contain significant decay; may have broken or missing top/crown; may have heavy lean; vines may be significantly affecting tree health.

Note: These guidelines were developed by RK&K based on the professional judgment of our Certified Arborists and other senior environmental staff.

These tree species may commonly exhibit dead branches and/or ratty growth form/structure, which should be taken into account when assessing tree condition:

- Mulberry (*Morus spp.*)
- Pin Oak (*Quercus palustris*)
- Silver Maple (*Acer saccharinum*)
- Virginia Pine (*Pinus virginiana*)
- Scarlet Oak (*Quercus coccinea*)
- Black Locust (*Robinia pseudoacacia*)
- Osage Orange (*Maclura pomifera*)
- Willow Oak (*Quercus phellos*)
- Black Willow (*Salix nigra*)

Forest Conservation Notes:

- BRANCH PRUNE ALONG THE LOD FOR EQUIPMENT CLEARANCE PER THE DETAIL PROVIDED ON SHEET FCN-03. BRANCH PRUNING TO BE COMPLETED UNDER THE SUPERVISION OF AN LTE.
- ONLY REMOVE TREES > =12" DBH AS MARKED FOR REMOVAL ON THE PLAN. ALL OTHER TREES > =12" DBH SHALL REMAIN UNDAMAGED.
- REMOVAL OF TREES NOTED FOR REMOVAL ON THE PLAN AND OUTSIDE OF THE LOD SHALL BE PERFORMED BY HAND, WITHOUT GROUND DISTURBANCE, OR DISTURBANCE TO NEARBY PRESERVED TREES. TREES IN THESE AREAS SHALL BE CUT FLUSH TO THE GROUND, WITHOUT STUMP GRINDING.
- CUT NON-NATIVE/INVASIVE VINES GROWING ON TREES TO REMAIN WITHIN THE LOD.
- AVOID UNNECESSARY COMPACTION TO THE GREATEST EXTENT PRACTICABLE WITHIN THE CRZ OF ANY SPECIMEN TREE TO REMAIN.
- USE TIMBER MATTING AS DETAILED ON SHEET FCN-03 FOR THE ENTIRE TEMPORARY ACCESS ROAD INSTALLATION AND FOR STOCKPILE AREAS OVER VEGETATION.
- THE MITIGATION REQUIREMENT IS FULFILLED THROUGH THE ON-SITE PLANTING AREAS. ALL AVAILABLE AREAS WILL BE REFORESTED AND THE REFORESTATION DENSITY IS EQUAL TO OR GREATER THAN THE DENSITY OF THE EXISTING FOREST. REFER TO THE LANDSCAPE PLANS FOR LOCATIONS OF THE PLANTING AREAS.

General Notes:

- FOREST CONSERVATION PLANS WERE PREPARED BY ALEX NUSSBAUM, QP, OF RK&K AT 700 E. PRATT STREET, SUITE 500, BALTIMORE, MD 21202 USING FIELD DATA COLLECTED BY ALEX NUSSBAUM AND LAUREN PALMER IN FEBRUARY AND MARCH 2025.
- HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) IS PROPOSING TO RESTORE A STREAM LOCATED ON HARFORD COMMUNITY COLLEGE'S CAMPUS, RESTORING APPROXIMATELY 2,600 LF OF UNNAMED TRIBUTARIES FROM STADIUM AVENUE TO GRADUATE DRIVE HARFORD COUNTY, MARYLAND.
- THE PROJECT IS ENTIRELY LOCATED ON HARFORD COMMUNITY COLLEGE PROPERTY (TAX ACCOUNT ID 1303043177). THE TAX MAP ID IS 03031381 (MAP 0042, PARCEL 0011). THE DEED REFERENCE NUMBER IS 00830/00574. THE PARCEL IS 202.79 ACRES.
- THE PROJECT STUDY AREA IS CLASSIFIED AS AN AGRICULTURAL ZONE.
- THE ADJACENT PROPERTIES TO THE PROJECT STUDY AREA ARE DESIGNATED AS MEDIUM DENSITY RURAL RESIDENTIAL ZONES.
- THE PROJECT STUDY AREA IS NOT LOCATED WITHIN THE FEMA 100-YEAR FLOODPLAIN.
- THE PROJECT STUDY AREA IS NOT LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
- THE PROJECT STUDY AREA DOES NOT CONTAIN WETLANDS OF SPECIAL STATE CONCERN AS DEFINED IN COMAR 26.23.06.01.
- THE PROJECT STUDY AREA IS LOCATED WITHIN FOREST INTERIOR DWELLING SPECIES (FIDS) HABITAT.
- THE PROJECT IS LOCATED WITHIN THE DEER CREEK WATERSHED, MDE 8-DIGIT WATERSHED NUMBER 02120202. ONE PERENNIAL WATERS OF THE U.S., THREE INTERMITTENT WATERS OF THE U.S., AND ONE PALUSTRINE EMERGENT WETLAND (PEM) WERE IDENTIFIED WITHIN THE PROJECT STUDY AREA. ALL WATERWAYS WITHIN THE PROJECT STUDY AREA ARE CATEGORIZED AS USE CLASS IV STREAMS.
- TWO FOREST STANDS AND 184 INDIVIDUAL TREES (> =12" DBH), INCLUDING 27 SPECIMEN TREES (> =30' DBH) WERE IDENTIFIED WITHIN THE PROJECT STUDY AREA. 18 SPECIMEN TREES WILL BE IMPACTED BY THE PROJECT. TREES WERE LOCATED USING TRADITIONAL SURVEY METHODS.
- A LETTER WAS RECEIVED FROM THE MARYLAND DEPARTMENT OF NATURAL RESOURCES (MDNR) ON MAY 6, 2025, STATING THAT THERE ARE NO OFFICAL RECORDS FOR LISTED PLANT OR ANIMAL SPECIES WITHIN THE PROJECT STUDY AREA. HOWEVER, DNR'S REMOTE ANALYSIS SUGGESTS THAT THE FORESTED AREA ON THIS PROPERTY CONTAINS FOREST INTERIOR DWELLING SPECIES (FIDS) HABITAT, ESPECIALLY FOR BIRDS. AN UPDATED EVALUATION MUST BE REQUESTED IF THE PROJECT CHANGES IN THE FUTURE SUCH THAT THE LIMITS OF PROPOSED DISTURBANCE OR OVERALL SITE BOUNDARIES ARE MODIFIED. THE U.S. FISH AND WILDLIFE SERVICE (USFWS) IPAC TOOL WAS USED TO GENERATE A SPECIES LIST FOR THE PROJECT ON APRIL 17, 2025. SPECIES IDENTIFIED ON THE LIST THAT MAY OCCUR THE STUDY AREA INCLUDE THE PROPOSED ENDANGERED TRICOLORED BAT (PERIMYOTIS SUBFLAVUS), PROPOSED THREATENED MONARCH BUTTERFLY (DANAUS PLEXIPPUS), THREATENED BOG TURTLE (GLYPTEMYS MUHLENBERGII), AND ENDANGERED MARYLAND DARTER (ETHEOSTOMA SELLARE). THE NORTHERN LONG-EARED BAT AND TRICOLORED BAT RANGE-WIDE DETERMINATION KEY WAS COMPLETED FOR THE PROJECT ON MAY 20, 2025, RESULTING IN A DETERMINATION OF "MAY AFFECT, BUT NOT LIKELY TO AFFECT" FOR THE TRICOLORED BAT. COORDINATION WITH USFWS REGARDING THESE SPECIES IS ONGOING, HOWEVER SECTION 7 REQUIREMENTS ARE NOT ANTICIPATED DUE TO THE DEGRADED SITE CONDITIONS AND LACK OF SUITABLE HABITAT.
- A LETTER WAS RECEIVED FROM THE MARYLAND HISTORIC TRUST (MHT) ON MAY 9, 2025, INDICATING THAT THE PROJECT WILL HAVE NO ADVERSE EFFECT ON HISTORIC PROPERTIES.

Sequence for Tree Conservation Procedures

- THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
- AFTER THE LIMITS OF DISTURBANCE HAVE BEEN LOCATED IN THE FIELD, TREE PROTECTION FENCE WILL BE INSTALLED MANUALLY ALONG THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLAN. SPECIMEN TREE PROTECTION SIGNS AND FOREST CONSERVATION AREA SIGNS SHALL ALSO BE INSTALLED AS SHOWN ON THE PLAN. HARFORD COUNTY DEPARTMENT OF PLANNING AND ZONING (DPZ, 410-638-3013) SHALL BE NOTIFIED FOR A PRE-CONSTRUCTION INSPECTION OF TREE PROTECTION DEVICES.
- AT THE TIME OF THE PRECONSTRUCTION MEETING FOR THE PROJECT, THE TREE PROTECTION MEASURES SHALL BE IN PLACE, AND ANY REQUIRED STRESS REDUCTION TECHNIQUES (ROOT PRUNING, BRANCH PRUNING, ETC.) WILL BE DISCUSSED. A STAFF MEMBER FROM DPZ SHALL INSPECT AND APPROVE THE INSTALLATION OF ALL PROTECTION DEVICES BEFORE ANY GRADING SHALL BE PERMITTED.
- THE STRESS REDUCTION MEASURES SHALL BE PERFORMED PRIOR TO COMMENCEMENT OF GRADING/BUILDING ACTIVITIES IN THE AFFECTED AREA. STRESS REDUCTION MEASURES SHALL BE PERFORMED UNDER THE SUPERVISION OF A MARYLAND LICENSED TREE EXPERT (LTE) AND MUST BE DOCUMENTED.
- ALL PROTECTION DEVICES SHALL BE IN PLACE PRIOR TO ANY LAND CLEARING OR GRADING THAT OCCURS WITHIN 100 FEET OF A SPECIMEN TREE TO REMAIN.
- NOTIFY DPZ (410-638-3013) 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- DURING CONSTRUCTION, TREE PROTECTION DEVICES SHALL BE MAINTAINED, AND A MARYLAND LICENSED TREE EXPERT (PROVIDED BY THE CONTRACTOR) SHALL CONDUCT PERIODIC INSPECTIONS TO DETERMINE THE HEALTH OF THE TREES, AND ANY ADDITIONAL MEASURES THAT MUST BE TAKEN AS IT RELATES TO THE HEALTH OF THE TREES. ANY CHANGES TO THE PLANS, OR ADDITIONAL PROBLEMS CONCERNING THE TREES, MUST BE BROUGHT TO THE ATTENTION OF DPZ (410-638-3013) PRIOR TO IMPLEMENTATION OF ANY CHANGES. FIELD ADJUSTMENTS MAY BE SUBJECT TO APPROVAL OF AN AMENDED FOREST CONSERVATION PLAN.
- FOREST PROTECTION DEVICES SHALL BE MONITORED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PHASE OF THE PROJECT. WHEN THE CONSTRUCTION PHASE OF THE PROJECT IS COMPLETE AND THE SEDIMENT IN THE SURROUNDING AREA IS STABILIZED, THE FOREST PROTECTION DEVICES SHALL BE REMOVED.
- AT THE COMPLETION OF THE CONSTRUCTION PROJECT, AN INSPECTION OF THE TREES SHALL BE CONDUCTED BY A MARYLAND LTE (PROVIDED BY THE CONTRACTOR). ADDITIONAL STRESS REDUCTION MEASURES OR MITIGATION MAY BE REQUIRED. THE TREE PROTECTION FENCE AND ANY OTHER TREE PROTECTION DEVICES CAN BE REMOVED WHEN APPROVED BY THE MARYLAND LTE.
- ANTICIPATED CONSTRUCTION TIMETABLE

BID AND PROCUREMENT: MAY 2026
CONSTRUCTION START: AUGUST 2026
CONSTRUCTION COMPLETION: FEBRUARY 2027

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE
STREAM RESTORATION
NOTES, TABLES & DETAILS

Drawn By : EH

Designed By : GC, AN


Reviewed By : KJH, AN

Drawing No. FCN-02 of FCN-03

Scale : 1"=20'

Date : SEPTEMBER 2025

Sheet No. 46 of 48




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PLOTTED: 9/12/2025

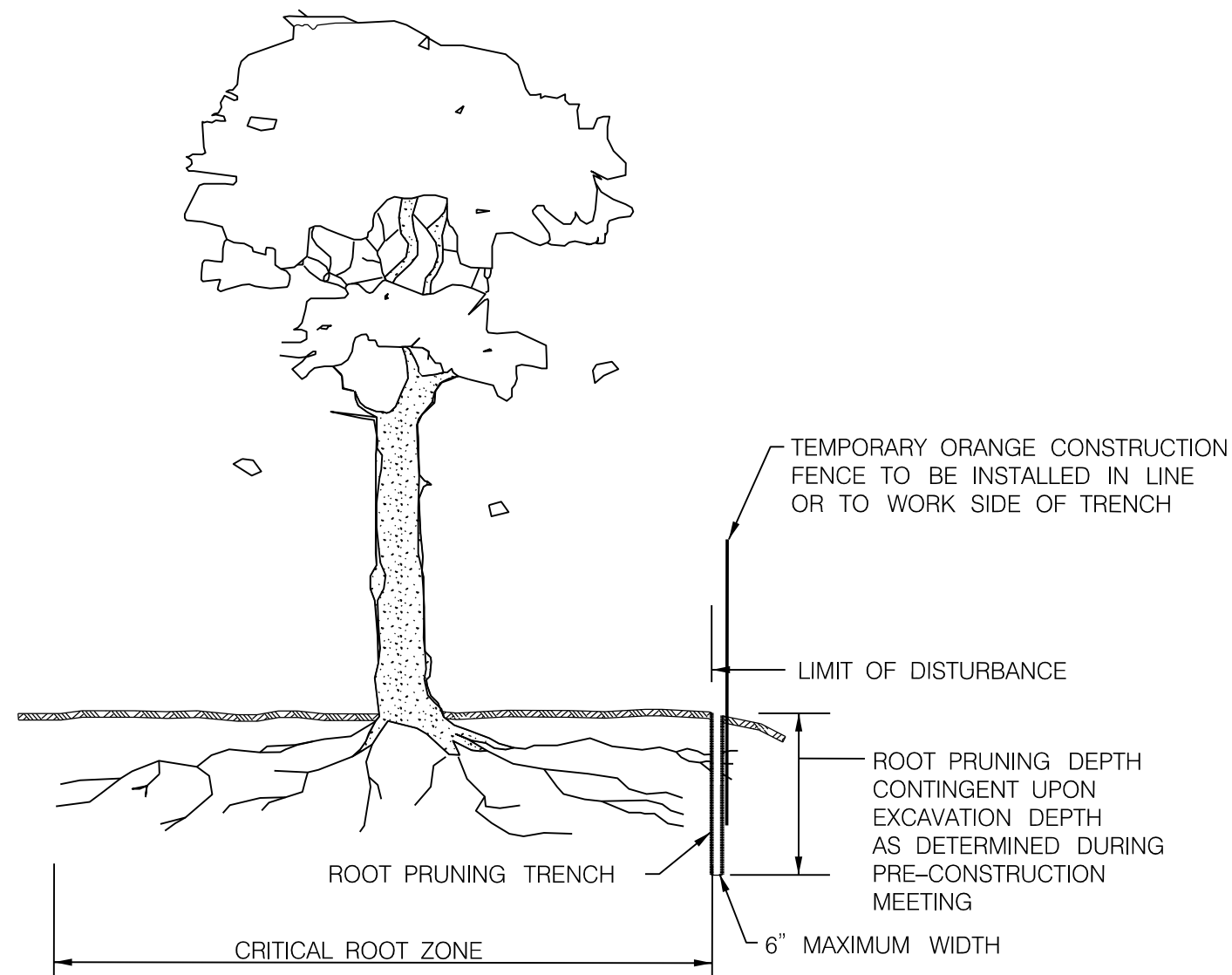


09/12/2025

MARYLAND DNR QUALIFIED PROFESSIONAL DATE
NAME: ALEX NUSSBAUM
ADDRESS: 700 EAST PRATT ST., SUITE 500
BALTIMORE MD, 21202
PHONE: (443) 996-4068
EMAIL: ANUSSBAUM@RKK.COM

BID No.: #21-097B8B

HCC DWG ID No.:
SCALE: 1"=20'



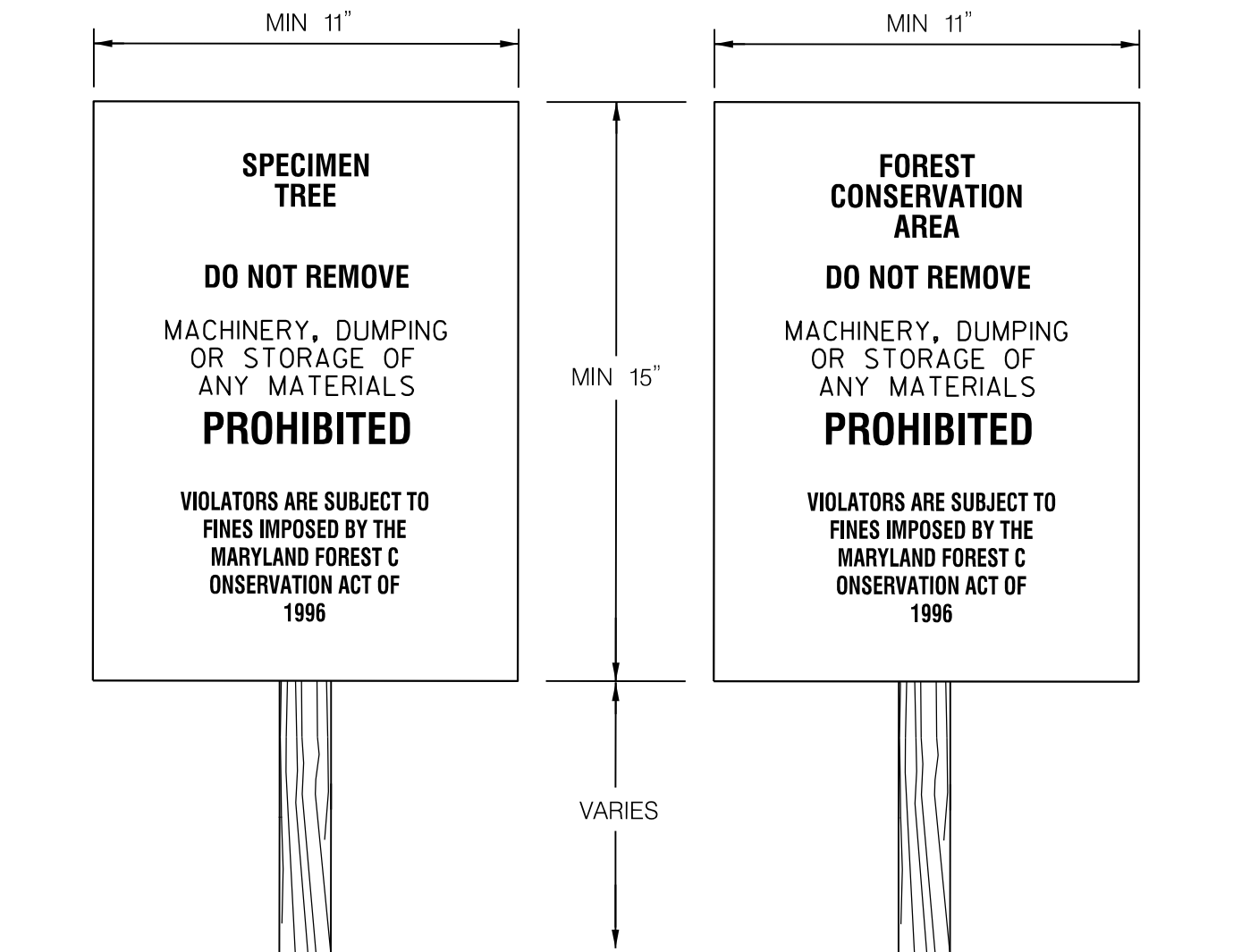
NOTES:

- RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
- BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TO TRENCHING.
- EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
- TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
- ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
- IN SOME INSTANCES, IT MAY BE BENEFICIAL TO PERFORM ROOT PRUNING AT THE EDGE OF EXCAVATION RATHER THAN AT THE LOD, PROVIDED THE ROOTS BETWEEN THE EXCAVATION AND THE LOD ARE PROTECTED DURING CONSTRUCTION.

ROOT PRUNING DETAIL

NOT TO SCALE

Source: Adapted from Steve Clark & Associates/ACRT, Inc. and Forest Conservation Manual, 1991



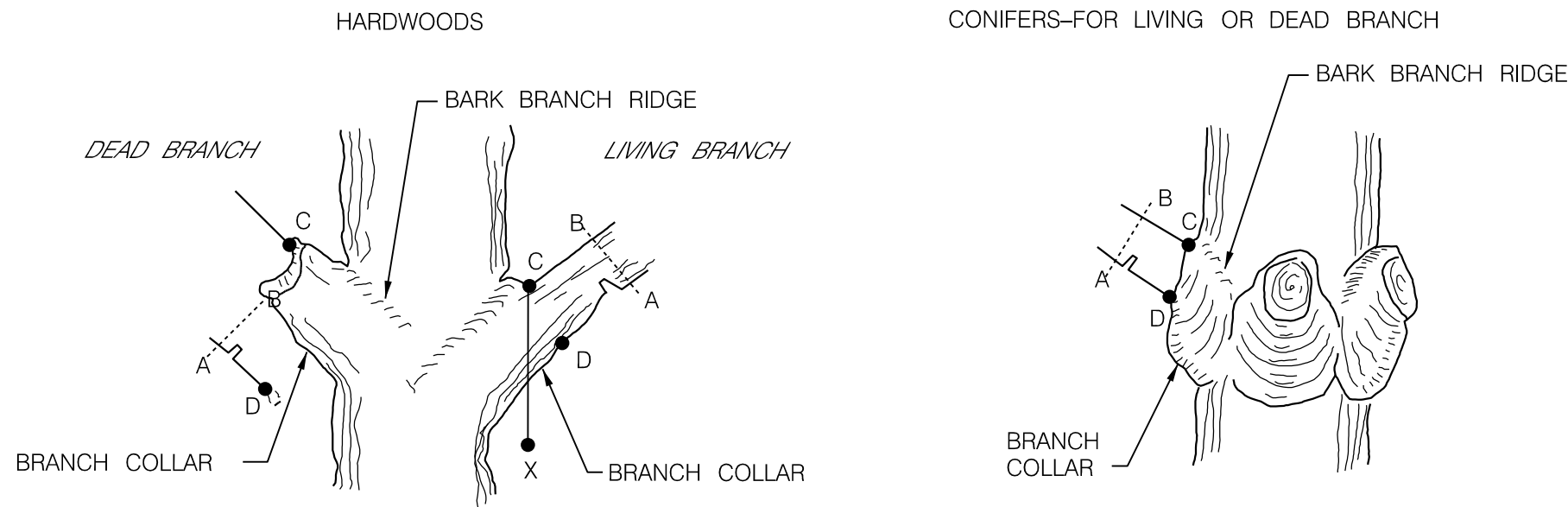
TREE PROTECTION SIGN DETAIL

NOT TO SCALE

NOTES:

- BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
- SIGNS TO BE PLACED APPROXIMATELY 50 FEET APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
- ATTACHMENT OF SIGNS TO TREE IS PROHIBITED.

Source: Ericson, T and Howell, G.P., eds (1997) State Forest Conservation Technical Manual, Maryland Department of Natural Resources

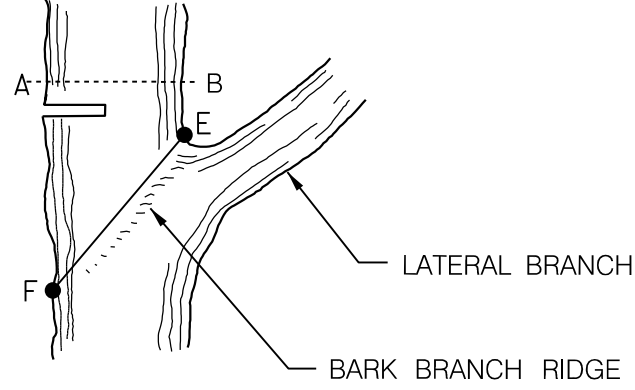


NOTES:

- REMOVE BRANCH WEIGHT BY UNDERCUTTING AT A AND REMOVE LIMB BY CUTTING THROUGH AB.
- REMOVE STUB AT CD (LINE BETWEEN BRANCH BARK RIDGE AND OUTER EDGE OF BRANCH COLLAR).
- IF D IS DIFFICULT TO FIND ON HARDWOODS, ANGLE OF CD TO TRUNK SHOULD BE THE REFLECTIVE ANGLE OF THE BARK BRANCH RIDGE TO THE TRUNK.
- ONLY PRUNE AT SPECIFIED TIMES.
- REMOVE NO MORE THAN 30% OF CROWN AT ONE TIME.

PRUNING A BRANCH

NOT TO SCALE



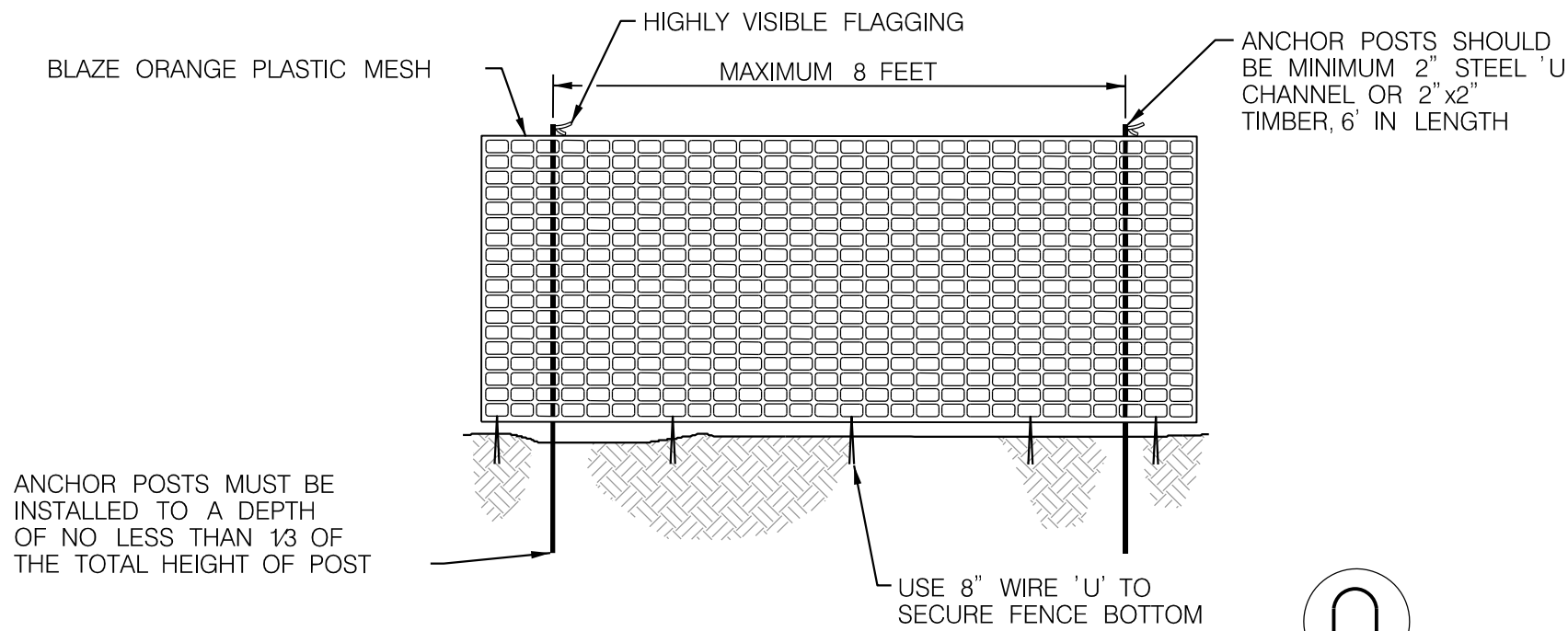
NOTES:

- REMOVE TOP WEIGHT BY UNDERCUTTING AT A AND REMOVE LIMB BY CUTTING THROUGH AB.
- REMOVE STUB AT EF PARALLEL TO THE BARK BRANCH RIDGE.
- ONLY PRUNE AT SPECIFIED TIMES.
- NO MORE THAN 30% OF THE CROWN TO BE REMOVED AT ONE TIME.
- DIAMETER OF LATERAL BRANCH SHOULD BE NO LESS THAN 30% OF THE DIAMETER OF THE LEADER.

PRUNING A LEADER TO REDUCE SIZE

NOT TO SCALE

Source: Adapted from Steve Clark & Associates/ACRT, Inc.

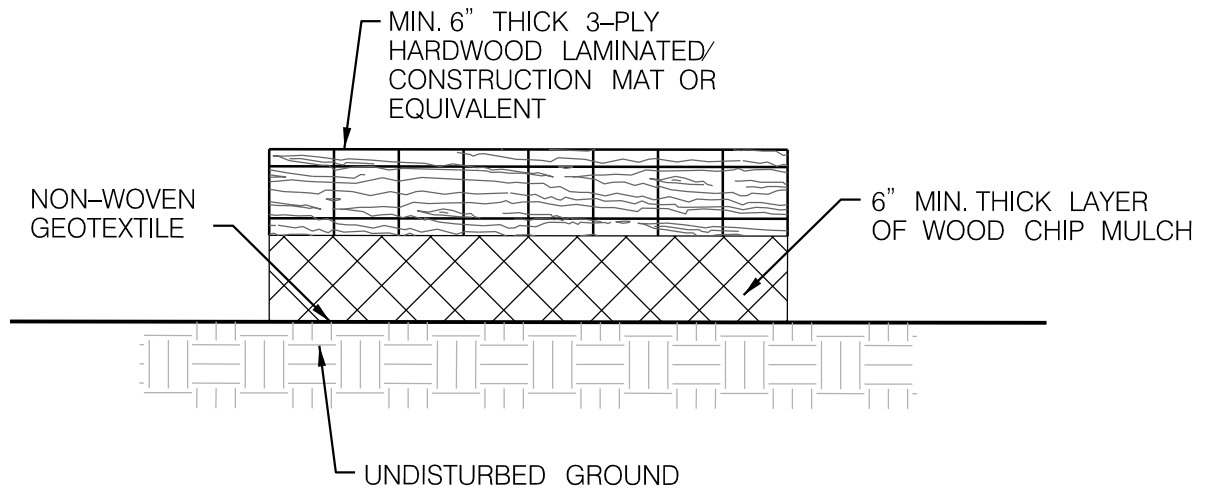


NOTES:

- THE LOCATION OF TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) SHALL BE STAKED AND FLAGGED PRIOR TO INSTALLING THE TOCF. ALL AREAS OUTSIDE OF THE TOCF SHALL BE DESIGNATED AS TREE PRESERVATION AREA (TPA). NO DISTURBANCE SHALL OCCUR WITHIN THE TPA.
- ROOT DAMAGE SHOULD BE AVOIDED.
- DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

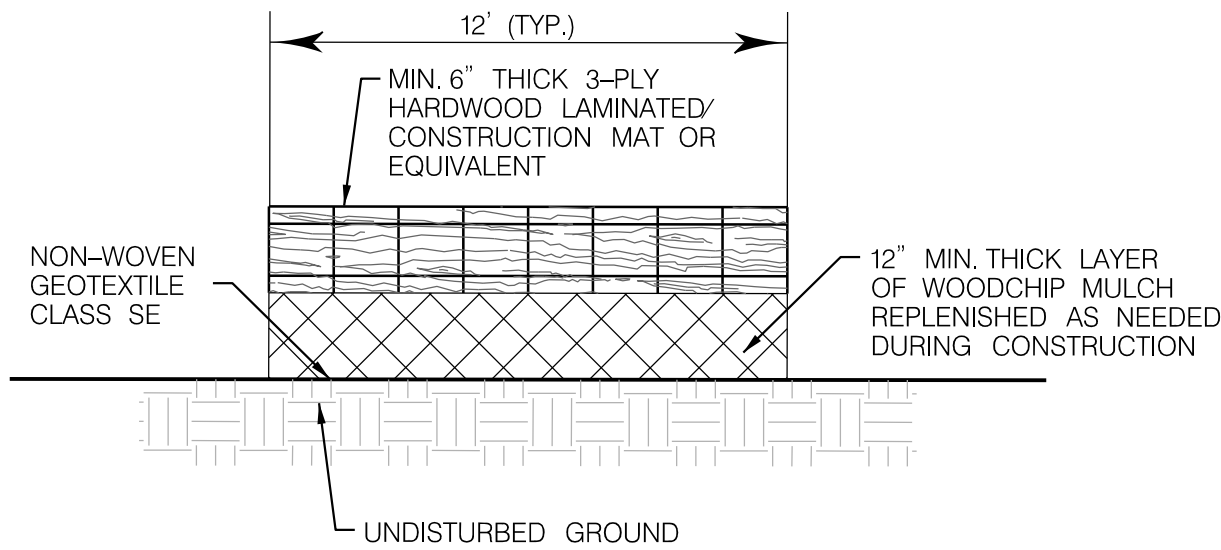
TEMPORARY ORANGE CONSTRUCTION FENCE

NOT TO SCALE



TIMBER MATTING FOR STOCKPILES

NOT TO SCALE

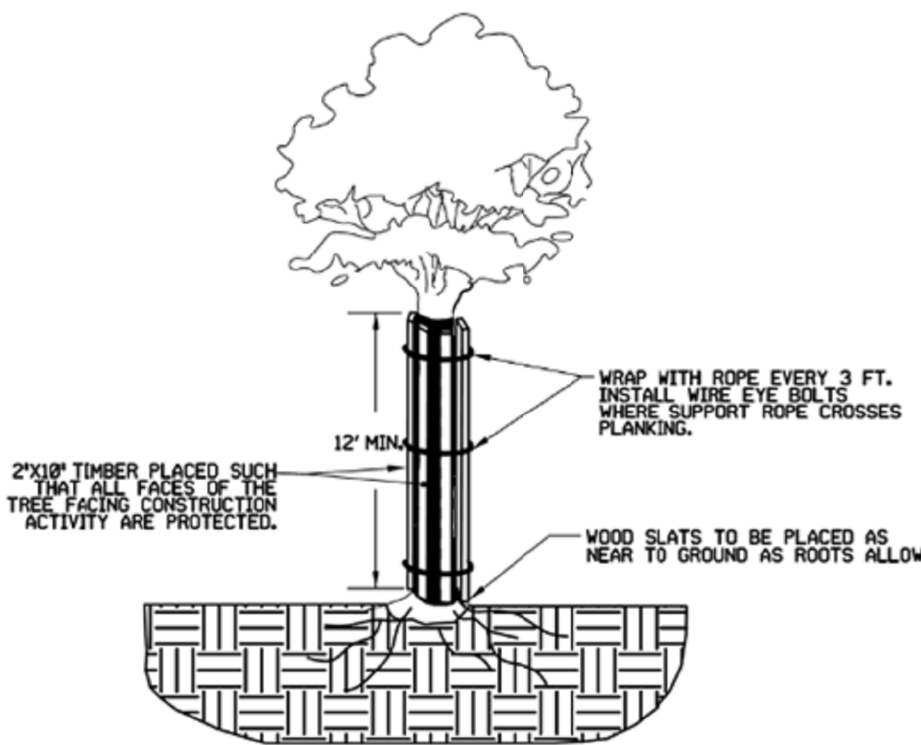


TEMPORARY MULCH ACCESS ROAD WITH TIMBER MATTING

NOT TO SCALE

NOTES:

- ACCESS ROUTES TO BE VERIFIED BY THE ENGINEER AT PRE-CONSTRUCTION MEETING.
- REVISIONS TO THE ALIGNMENT THAT MINIMIZE TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL OF THE ENGINEER.
- GEOTEXTILE CLASS SE SHALL BE PLACED WITH SEAMS PARALLEL TO FLOW OF TRAFFIC. OVERLAP FABRIC BY 18\"/>



NOTES:
PROTECTIVE PLANKING SHALL BE ERECTED PRIOR TO CLEARING, GRADING OR CONSTRUCTION BEGINS. PROTECTIVE MEASURES SHALL REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION.

TREE PROTECTION PLANKING

NOT TO SCALE

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION NOTES, TABLES & DETAILS

Drawn By : _____ EH _____

Designed By : _____ GC. AN _____

Reviewed By : _____ KJH. AN _____

Drawing No. FCN-03 of FCN-03

Scale : 1\"/>

Date : SEPTEMBER 2025

Sheet No. 47 of 48

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Alex Nussbaum

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09/12/2025
DATE

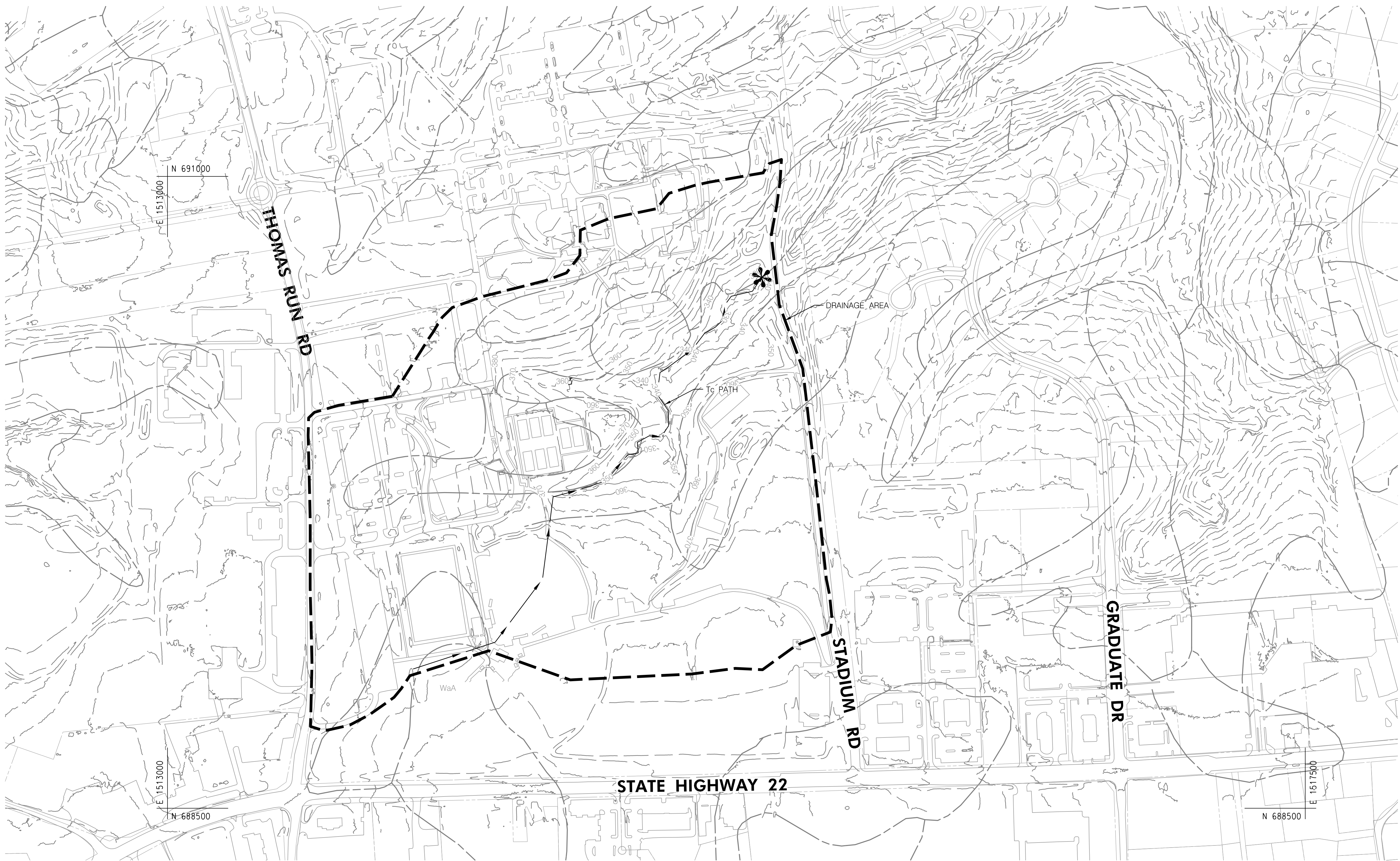
BY: jphlight

FILE PATH: \\ad.rkk.com\fs\Cloud\Projects\2021\21155_HARCON\Task 025_Harford Community College Stream Restoration\CADD\60%\Plans\47 - pFCN-0003_HCC.dgn
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BID No.: #21-097BBB

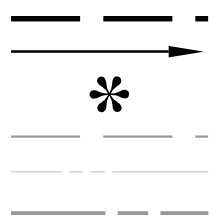
HCC DWG ID No.:

SCALE: 1"=20'



LEGEND

DRAINAGE AREA TO POI
Tc PATH
POI
EXISTING MAJOR CONTOUR
PROPERTY BOUNDARY
SOIL BOUNDARY



RUNOFF CONDITIONS	
	POI1
DRAINAGE AREA (AC)	74.75
IMPERVIOUS AREA (AC)	23.48
TIME OF CONCENTRATION (HR)	0.41
CURVE NUMBER	74



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME,
AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MARYLAND, LICENSE NO. 200370, EXPIRATION DATE: 2025/03/19.

PROJECT CONTRACT:
21-097 TO #25

GP #XXX-XXXXX-XXXX

Revisions

SIGN AND SEAL

HARFORD COUNTY, MARYLAND

HARFORD COMMUNITY COLLEGE STREAM RESTORATION DRAINAGE AREA MAP

Drawn By : AG
Designed By : NH, JZ
Reviewed By : RD
Drawing No. DA-01 of DA-01

Scale : 1" = 200'
Date : SEPTEMBER 2025
Sheet No. 48 of 48



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PLOTED: 9/12/2025

BID No.:

HCC DWG ID No.:
SCALE: 1"=200'