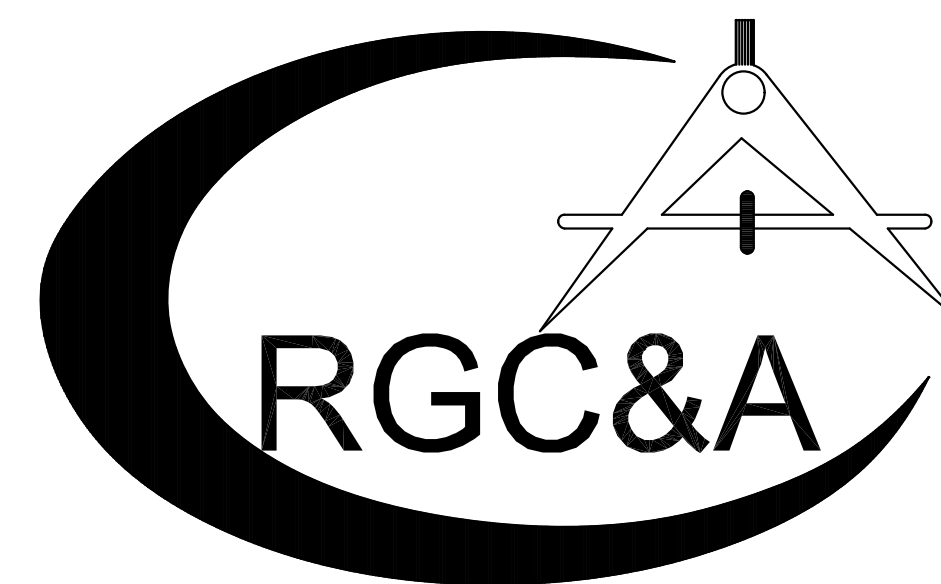


PROPOSED SITE 1 GRADING / DRAINAGE AND EROSION CONTROL PLAN TVA INVESTPREP GRANT SMOKY MOUNTAIN INNOVATION PARK NEWPORT, TENNESSEE TVA CONTRACT NO. 17263

SHEET INDEX:

- SHEET 1: COVER
- SHEET 2: SITE 1 EXISTING CONDITIONS
- SHEET 3: SITE 1 GRADING AND DRAINAGE
- SHEET 4: DETAILS AND NOTES



ROBERT G. CAMPBELL & ASSOCIATES , L.P.
CONSULTING ENGINEERS
KNOXVILLE , TENNESSEE

DEVELOPER: COCKE COUNTY PARTNERSHIP
433 PROSPECT AVE.
NEWPORT, TN. 37821
(423) 623-3008

ENGINEER: ROBERT G. CAMPBELL & ASSOCIATES, L.P.
7523 TAGGART LANE
KNOXVILLE, TN 37938
(865) 947-5996



NOTE:
THREE DAYS PRIOR TO ANY EARTHWORK
DEMOLITION OR CONSTRUCTION, THE
CONTRACTOR MUST CONTACT TENNESSEE
ONE-CALL AT 1-800-361-1111.
CONTRACTOR IS RESPONSIBLE TO RECORD
AND SAVE CONFIRMATION NUMBER.

CONSTRUCTION SHALL ADHERE TO THE MOST CURRENT
TDEC APPROVED STANDARD SPECIFICATIONS FOR WATER
SYSTEM CONSTRUCTION FOR THE NEWPORT UTILITIES

TN
GRID CONVERGENCE N 03°46'35" E

LEGEND

- SILT FENCE
- ☐ CE CONSTRUCTION EXIT
- ☐ SDI STORM DRAIN INLET PROTECTION
- ☐ SDO STORM DRAIN OUTLET PROTECTION
- CD CHECK DAM
- - - EXISTING 10' CONTOURS
- S.V. EXISTING SEWER VALVE
- ⊕ EXISTING POWER POLE
- ⊕ EXISTING SIGN

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SYSTEM CONSTRUCTION FOR THE NEWPORT UTILITIES



NOTE:
THREE DAYS PRIOR TO ANY EARTHWORK
DEMOLITION OR CONSTRUCTION, THE
CONTRACTOR MUST CONTACT TENNESSEE
ONE-CALL AT 1-800-351-1111
CONTRACTOR IS RESPONSIBLE TO RECORD
AND SAVE CONFIRMATION NUMBER.



NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				

RGC&A
ROBERT G. CAMPBELL & ASSOC., L.P.
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

SMOKY MOUNTAIN INNOVATION PARK
OF COCKE COUNTY
SITE 1

TVA INVESTPREP
OVERALL
EXISTING CONDITIONS

DESIGNED BY RGC&A	CHECKED BY RGC	SCALE 1"=60'	SHEET NO. 2
DRAWN BY RWM	DATE 04/08/2024	FILE NO. 22203_GR	OF 4 SHEETS



TN
GRID CONVERGENCE N 03°48'38" E

LEGEND

- - - - - SILT FENCE
- CE CONSTRUCTION EXIT
- IP STORM DRAIN INLET PROTECTION
- OP STORM DRAIN OUTLET PROTECTION
- CD CHECK DAM
- EXISTING 10' CONTOURS
- - - - - PROPOSED CONTOURS
- S.V. EXISTING SEWER VALVE
- ⊕ EXISTING POWER POLE
- ⊕ EXISTING SIGN

STORM DRAINAGE SUMMARY									
FROM	GRATE	INVERT	TO	IGRATE	INVERT	LENGTH	SLOPE	DIAMETER	MATERIAL
CB-1	1103.70	1096.90	EX CB	1101.71	1096.80	26.94'	0.37%	36.00"	HDPE
CB-2	1103.30	1098.20	CB-1	1103.70	1097.01	300.03'	0.40%	36.00"	HDPE
CB-3	1107.00	1099.90	CB-2	1103.30	1098.31	390.54'	0.41%	36.00"	HDPE
CB-4	1114.40	1107.58	CB-3	1107.00	1100.00	264.78'	2.87%	36.00"	HDPE
CB-5	1116.00	1109.00	CB-4	1114.40	1107.68	95.38'	1.38%	36.00"	HDPE
CB-6	1116.10	1109.42	CB-5	1116.00	1109.10	80.85'	0.40%	36.00"	HDPE
CB-7	1117.50	1110.66	CB-6	1116.10	1109.52	202.45'	0.56%	36.00"	HDPE
CB-8	1120.20	1113.40	CB-7	1117.50	1110.76	78.99'	3.34%	36.00"	HDPE

Volumes by Triangulation (Prisms) Fri Apr 12 11:42:40 2024
 Existing Surface: L:\GENERAL\2022\22203\TIN FILES\WORKING MERGE.tin
 Final Surface: L:\GENERAL\2022\22203\TIN FILES\SITE 1 TVA rev.tin

Cut volume: 1,763,220.1 C.F., 65,304.45 C.Y.
 Fill volume: 742,738.9 C.F., 27,508.85 C.Y.

Area in Cut: 286,187.6 S.F., 6.57 Acres
 Area in Fill: 200,413.1 S.F., 4.60 Acres
 Total Inclusion area: 486,600.7 S.F., 11.17 Acres

Average Cut Depth: 6.16 feet
 Average Fill Depth: 3.71 feet
 Cut to Fill ratio: 2.37
 Export Volume: 37,795.6 C.Y.
 Elevation Change To Reach Balance: 2.097
 Volume Change Per .1 ft: 1,802.2 C.Y.

Cut (C.Y.) / Area (acres): 5845.99
 Fill (C.Y.) / Area (acres): 2462.56

Max Cut: 24.487 at 2790678.457, 612641.079
 Max Fill: 13.158 at 2791134.639, 611819.478

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NOTES:
 1. CONTRACTOR TO VERIFY SLOPE IN THIS AREA AROUND EXISTING CATCH BASIN TO INSURE PROPOSED GRADING ALLOWS FOR MINIMUM PIPE COVER. ADJUSTMENT TO GRADING MAY BE NECESSARY AND MUST BE APPROVED BY ENGINEER.



NOTE:
 THREE DAYS PRIOR TO ANY EARTHWORK DEMOLITION OR CONSTRUCTION, THE CONTRACTOR MUST CONTACT TENNESSEE ONE-CALL AT 1-800-351-1111. CONTRACTOR IS RESPONSIBLE TO RECORD AND SAVE CONFIRMATION NUMBER.

CONSTRUCTION SHALL ADHERE TO THE MOST CURRENT TDEC APPROVED STANDARD SPECIFICATIONS FOR WATER SYSTEM CONSTRUCTION FOR THE NEWPORT UTILITIES



NO.	DATE	DESCRIPTION	BY	CKD.

ROBERT G. CAMPBELL & ASSOC., L.P.
 CONSULTING ENGINEERS
 KNOXVILLE, TENNESSEE

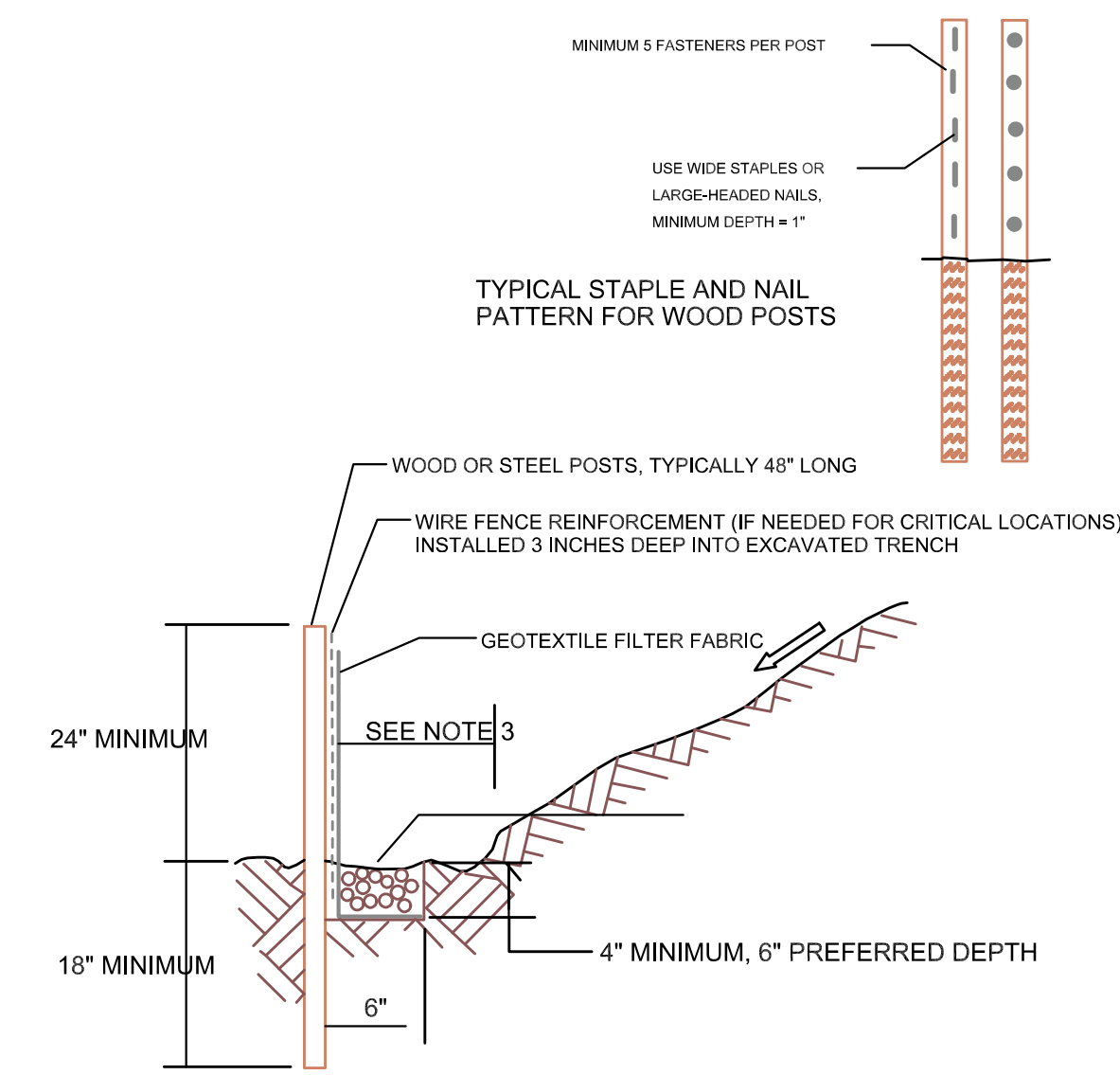
SMOKY MOUNTAIN INNOVATION PARK
 OF COCKE COUNTY
 SITE 1

TVA INVESTPREP
 EROSION CONTROL
 GRADING AND DRAINAGE

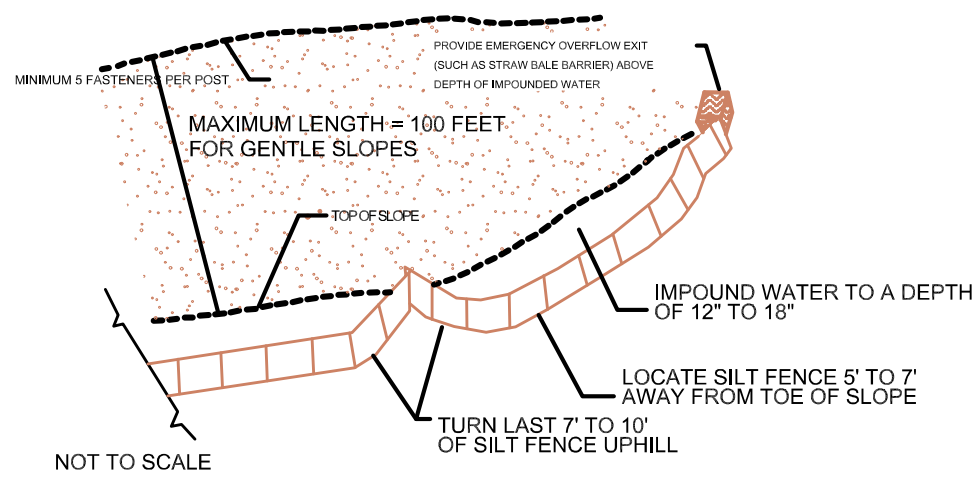
DESIGNED BY	CHECKED BY	SCALE	SHEET
RGC&A	RGC	1"=60'	3
DRAWN BY	DATE	FILE NO.	NO.
RWM	04/08/2024	22203_GR	3
			OF 4 SHEETS

NOTES:

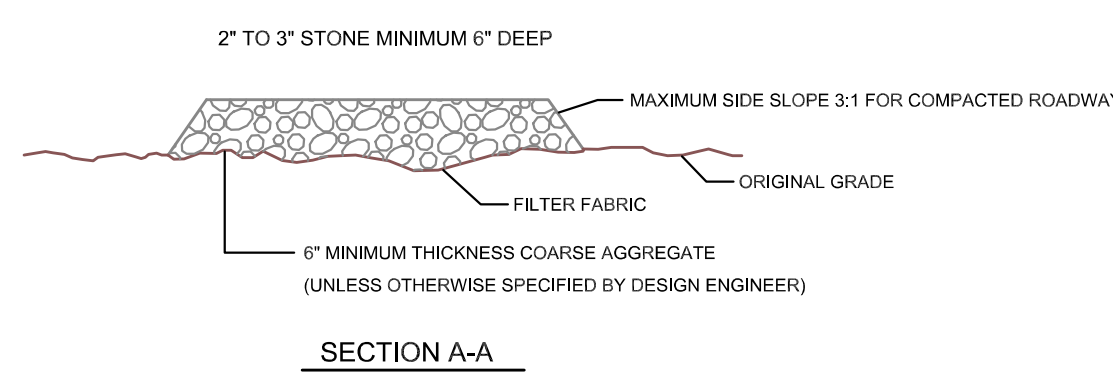
1. POST SPACING SHALL BE 8 FEET MAXIMUM FOR TYPICAL APPLICATIONS AT THE BOTTOM OF SLOPES OR ALONG SITE PERIMETER.
2. POST SPACING SHALL BE 6 FEET MAXIMUM AT THE BOTTOM OF STEEP SLOPES. POST SPACING SHALL BE 4 FEET MAXIMUM WITHIN A DRAINAGE CHANNEL.
3. PLACE SILT FENCE AT LEAST 5 TO 7 FEET AWAY FROM STEEP OR LONG SLOPES TO IMPOUND STORMWATER RUNOFF. SEE FIGURE ES-14-3.



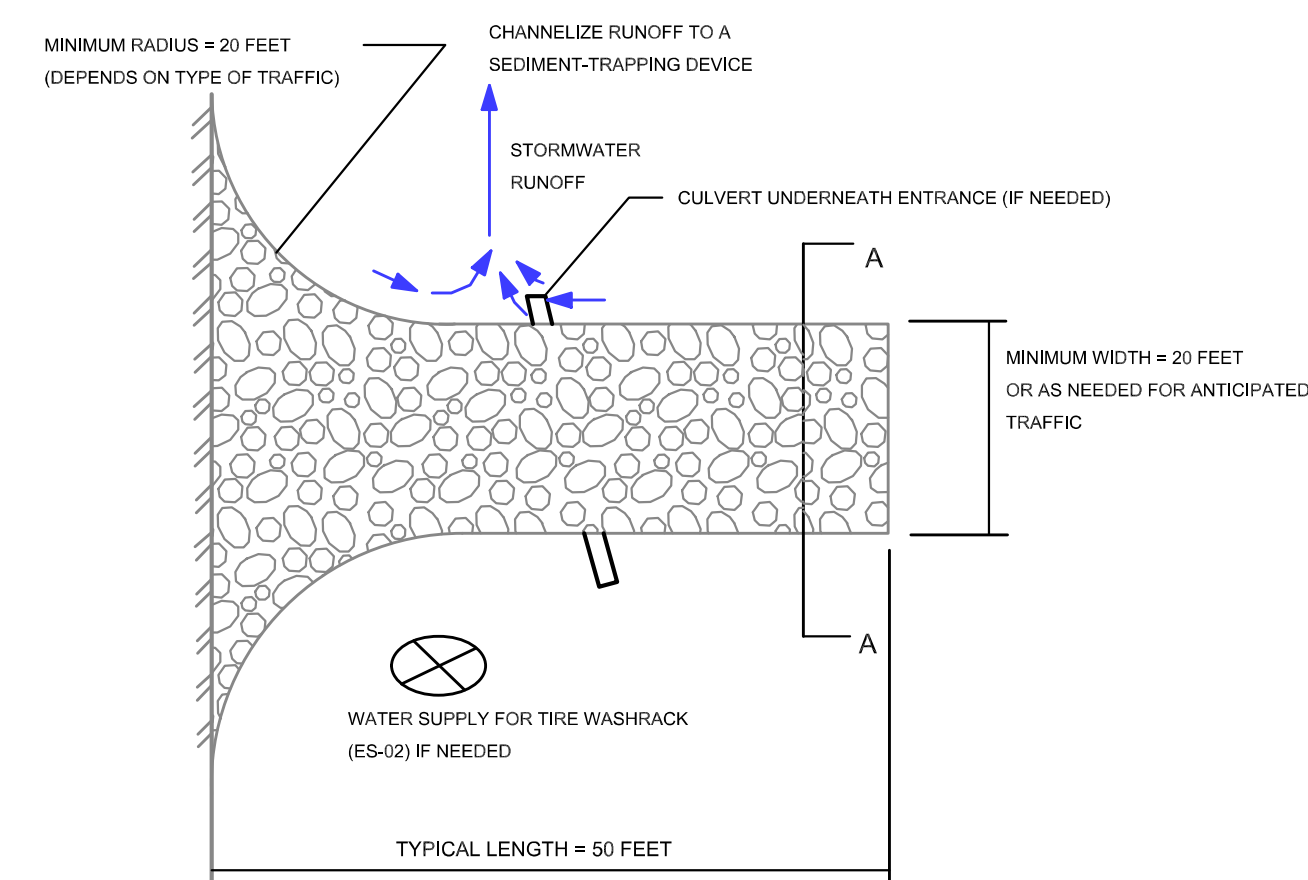
TYPICAL SILT FENCE INSTALLATION



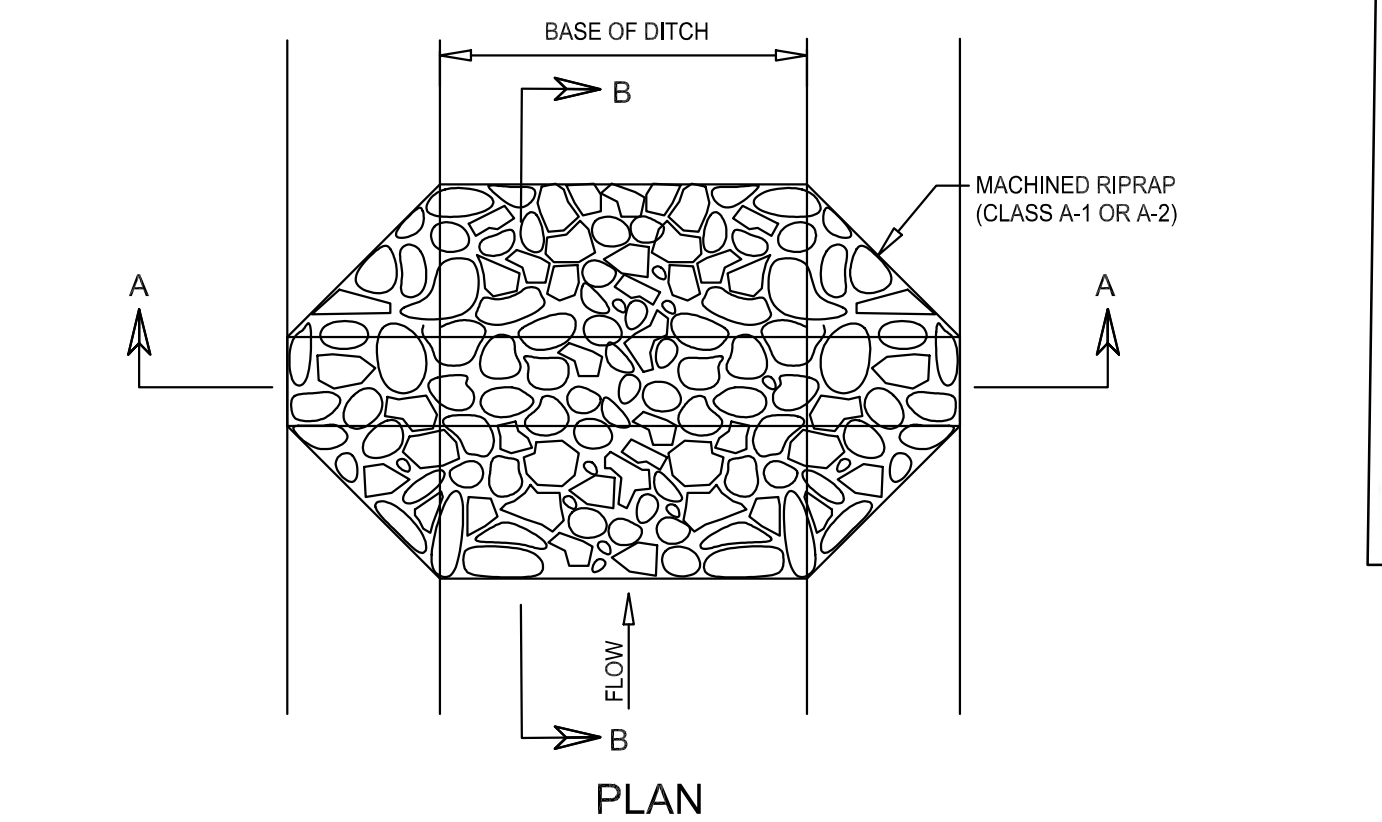
SILT FENCE (BELOW A STEEP OR LONG SLOPE)



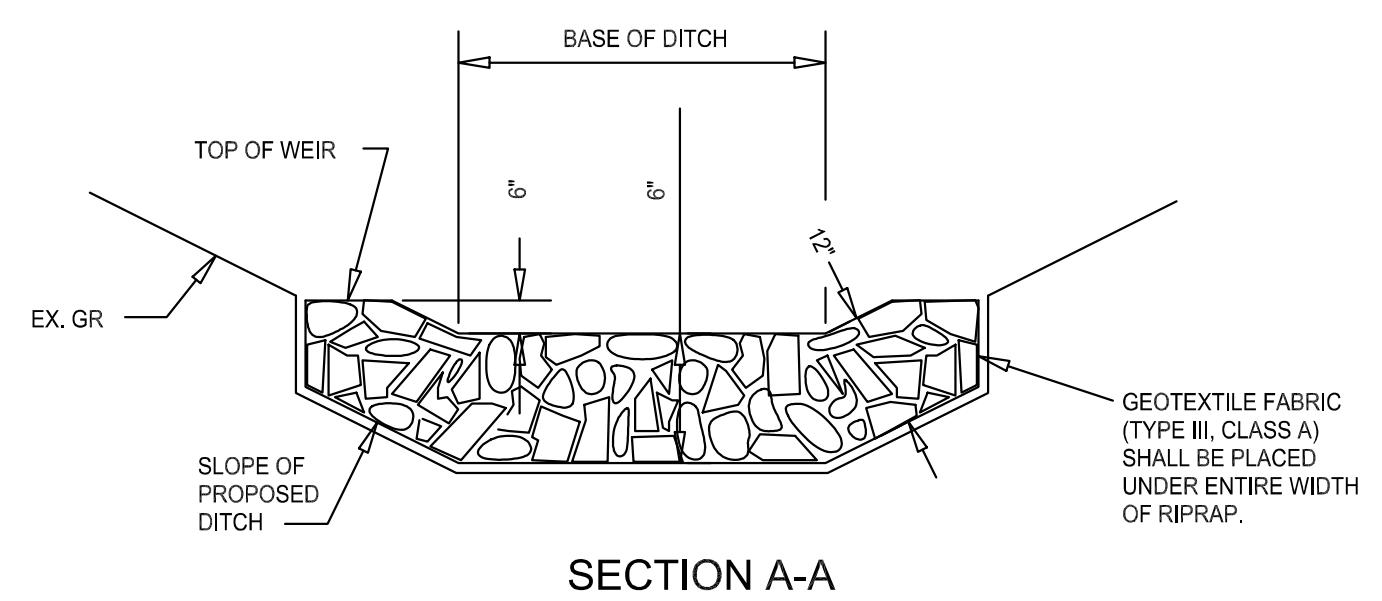
SECTION A-A



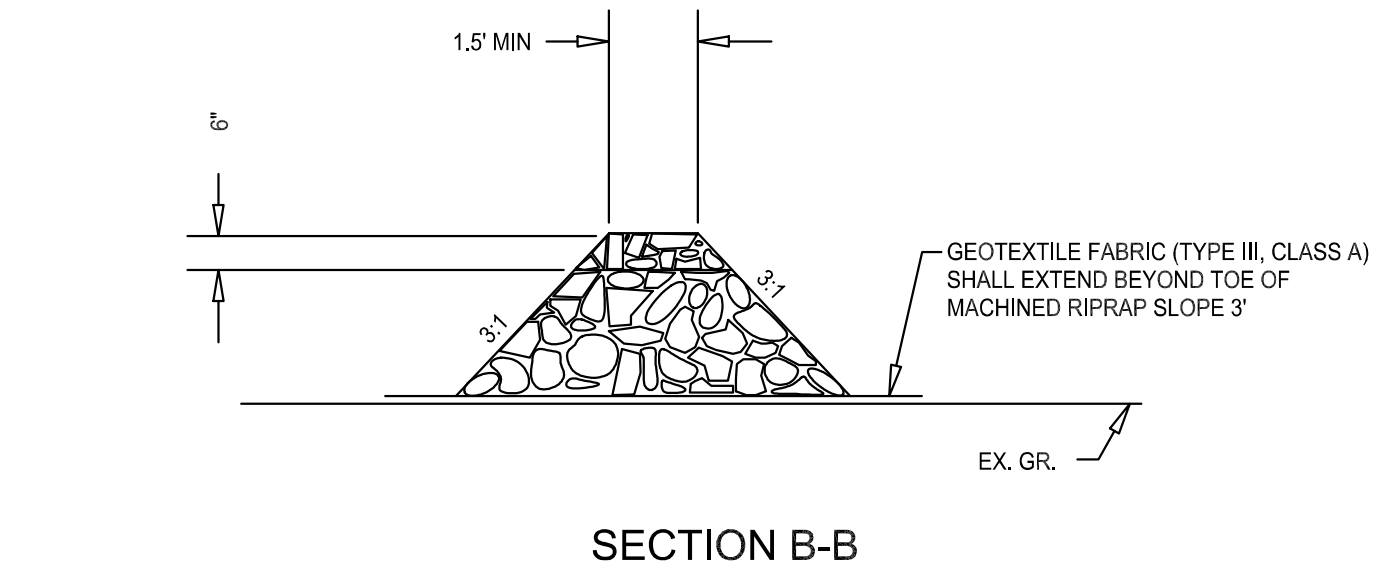
CONSTRUCTION EXIT DETAIL



PLAN

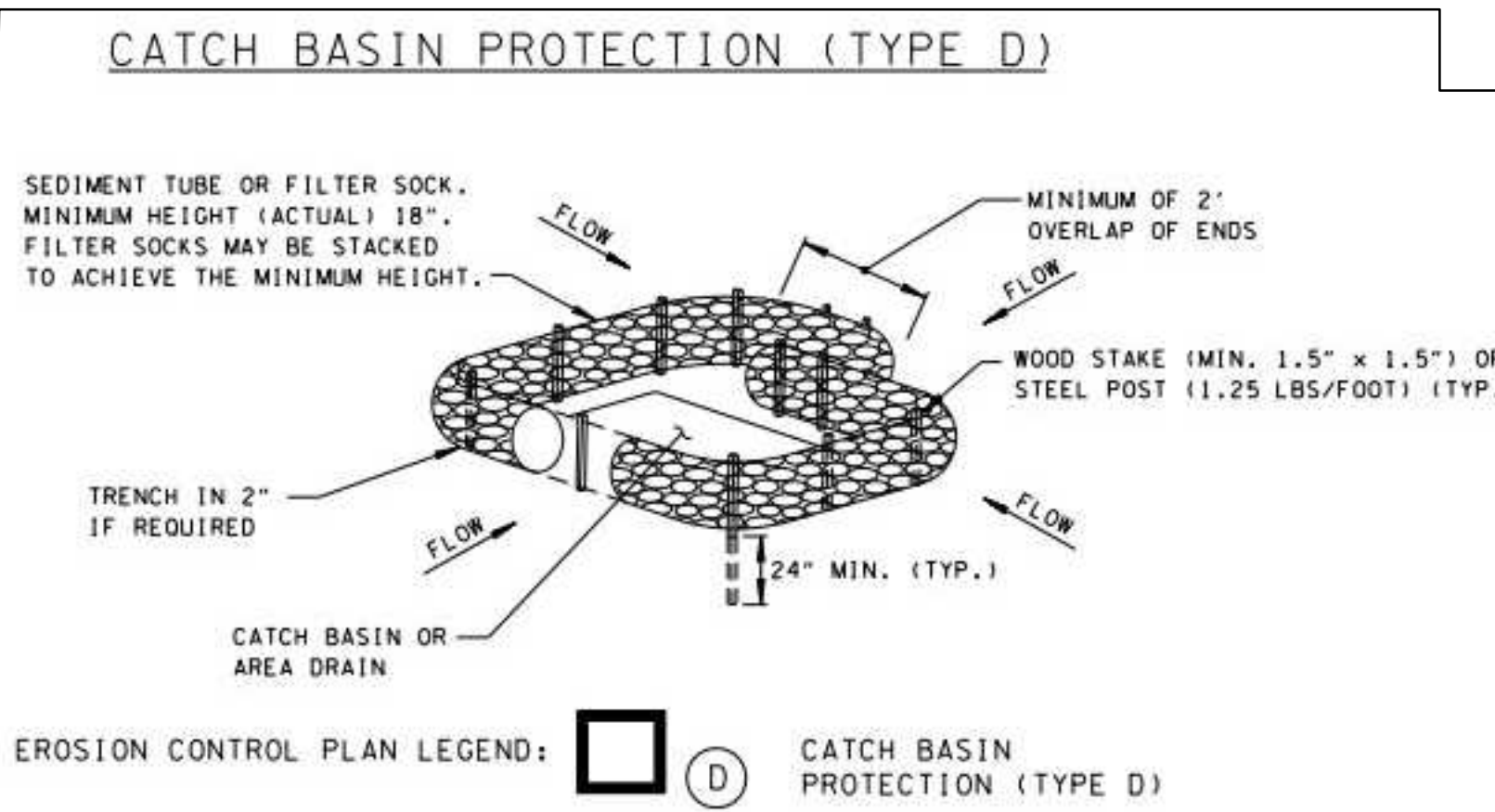


SECTION A-A

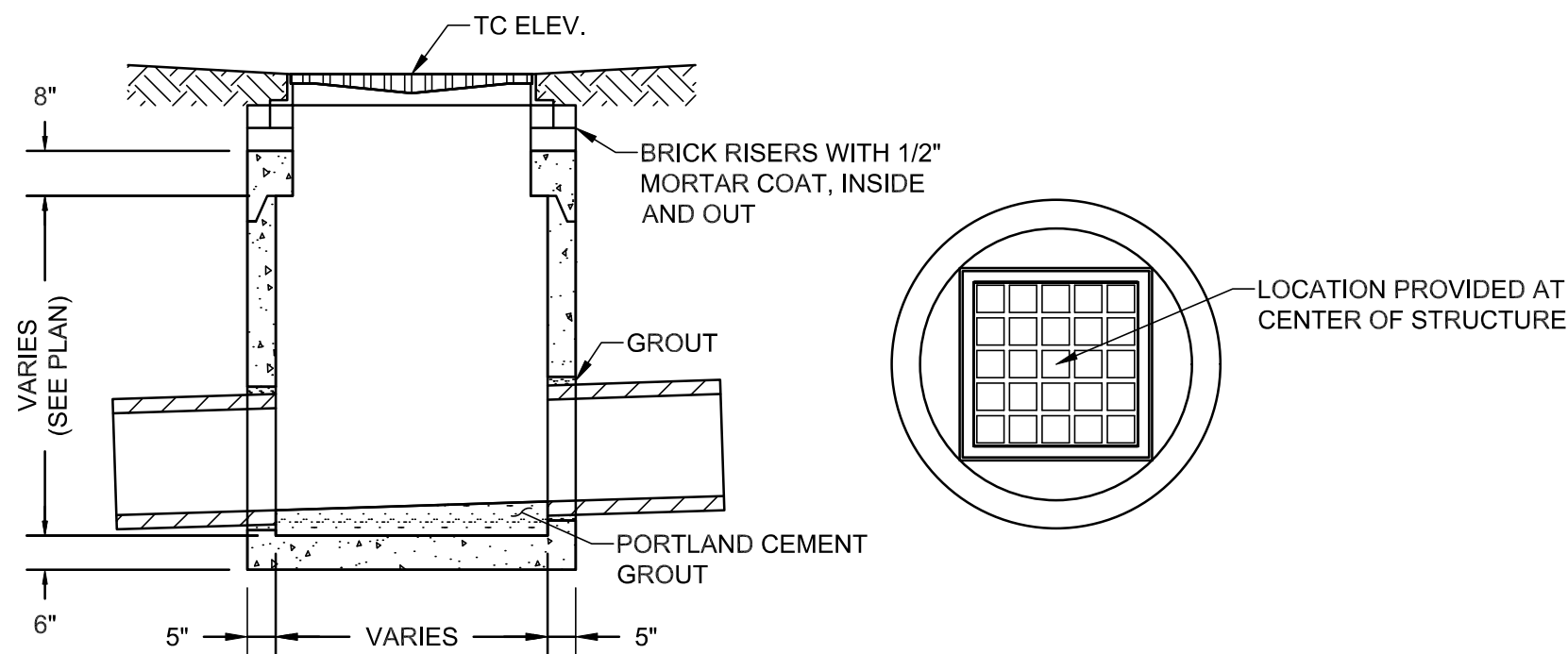


SECTION B-B

ROCK DAM DETAIL



EROSION CONTROL PLAN LEGEND: (D) CATCH BASIN PROTECTION (TYPE D)

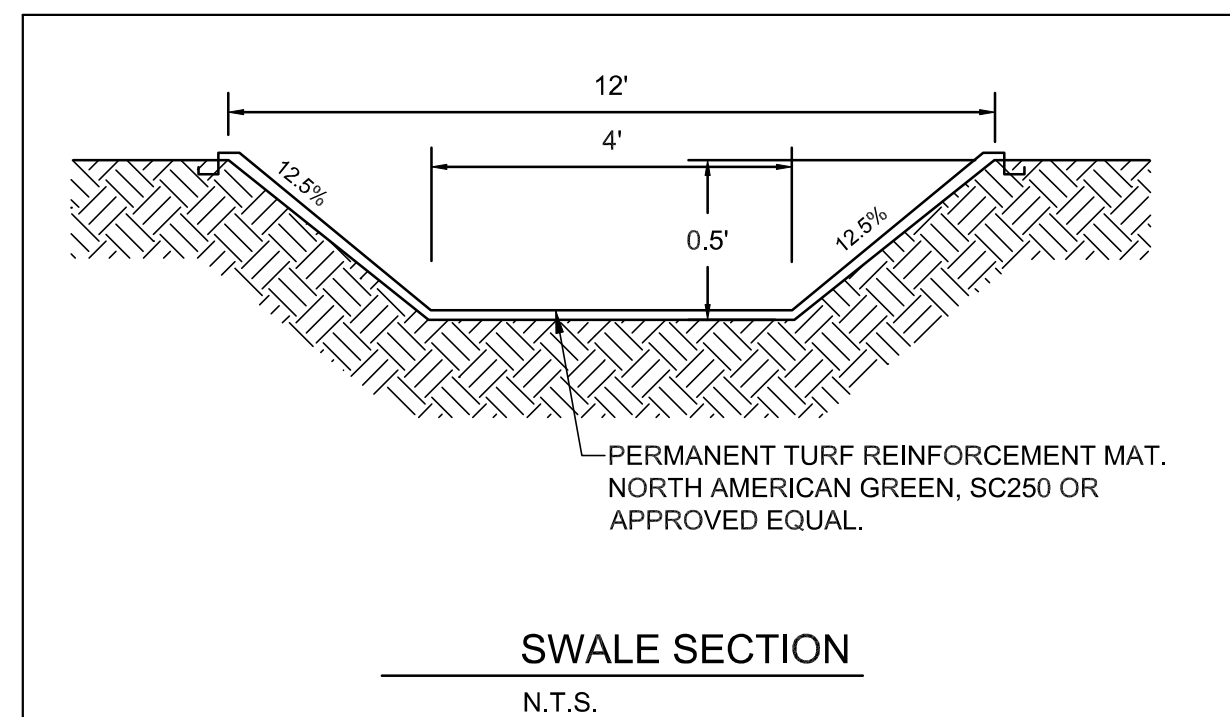


SECTION

PLAN

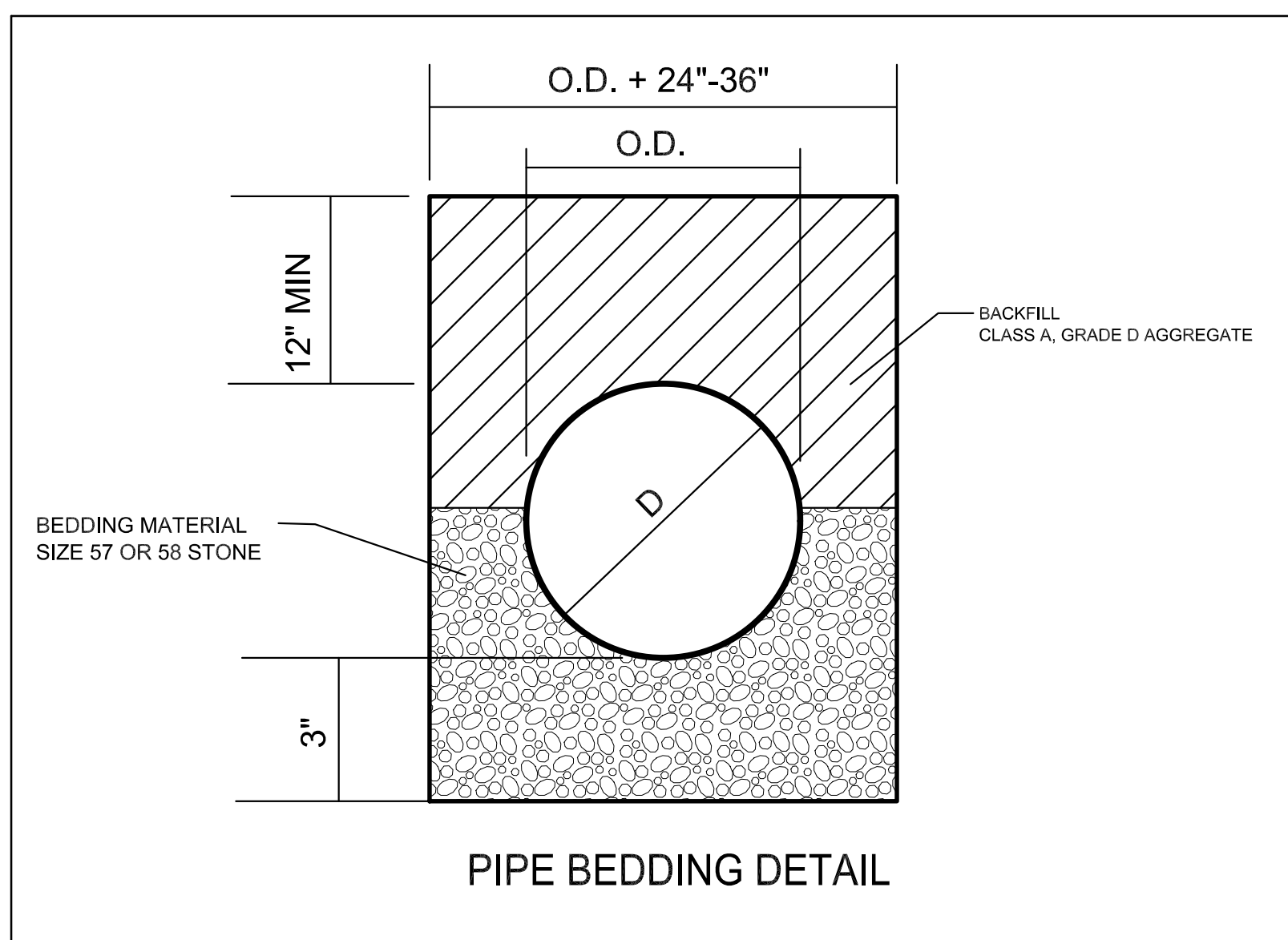
- NOTES:
1. AREA DRAINS SHALL BE CIRCULAR OR SQUARE PRECAST CONCRETE STRUCTURE IN ACCORDANCE WITH ASTM C478 (LATEST REVISION). DIMENSIONS VARY DEPENDING ON PIPE SIZE AND ANGLE OF PIPES IN AND OUT OF STRUCTURE.
 2. LADDER BARS SHALL BE PROVIDED PER OSHA REGULATIONS.
 3. LOCATION AND TC ELEVATIONS GIVEN AT CENTER OF THE STRUCTURE.
 4. FRAME AND GRATE SHALL BE E.J. USA, INC. MODEL NO. V-5630 OR EQUAL. THE GRATE SHALL BE STAMPED WITH "DUMP NO WASTE... DRAINS TO WATERWAYS" WITH FISH IMAGE, OR EQUAL.
 5. ADJUST ALL SIDES OF THE FRAME AND GRATE TO MATCH PAVEMENT CROSS SLOPE AND LONGITUDINAL SLOPE.

13 AREA DRAIN
C10 N.T.S.

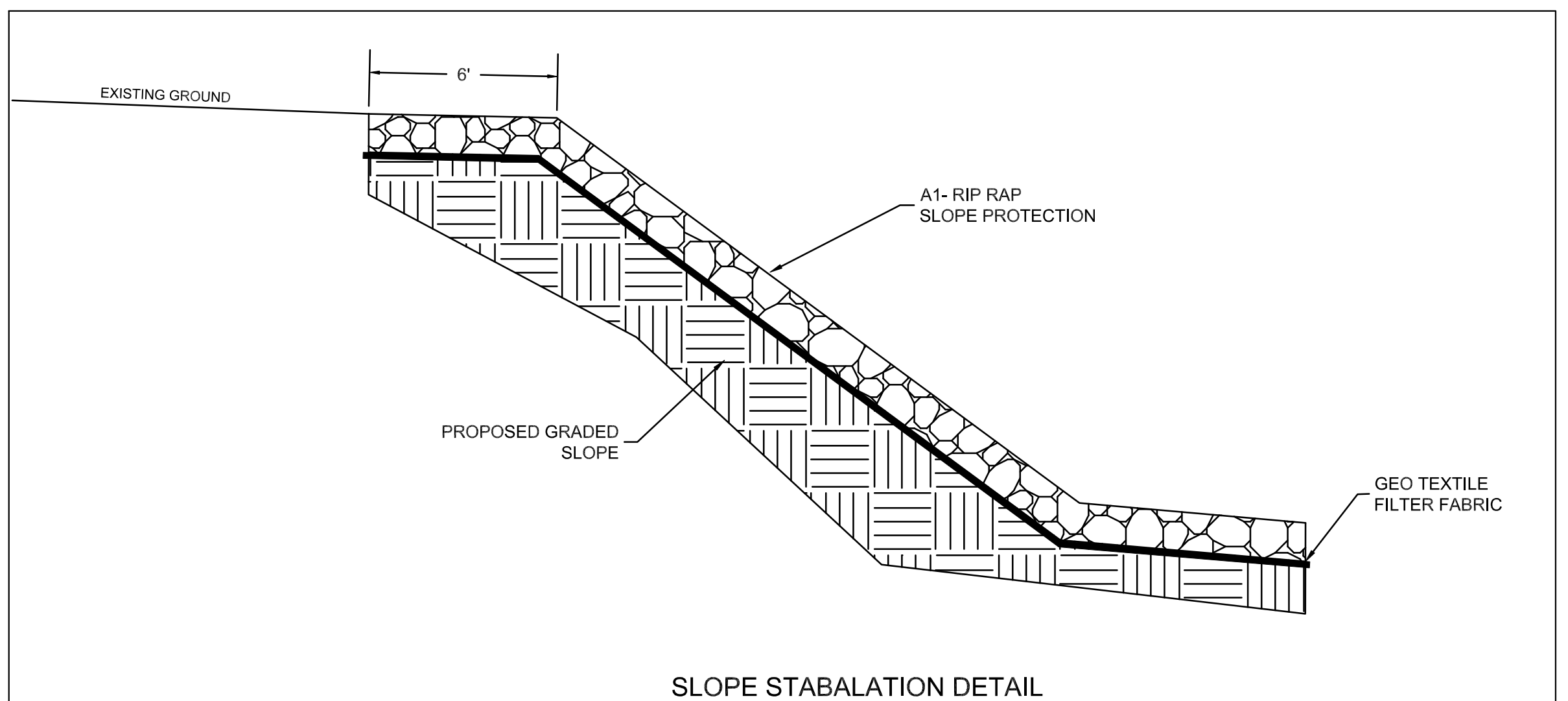


SWALE SECTION

N.T.S.



PIPE BEDDING DETAIL



SLOPE STABILIZATION DETAIL

STANDARD NOTES:

- 1) ADEQUATE DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES, BEST MANAGEMENT PRACTICES AND/OR OTHER STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DAMAGES TO ADJACENT PROPERTY AND/OR THE CONSTRUCTION SITE CAUSED BY THE CONTRACTOR'S OR PROPERTY OWNER'S FAILURE TO PROVIDE AND MAINTAIN ADEQUATE DRAINAGE AND EROSION/SEDIMENT CONTROL FOR THE CONSTRUCTION AREA SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND/OR CONTRACTOR.
- 2) QUALITY ASSURANCE OF EROSION PREVENTION AND SEDIMENT CONTROLS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL PERFORMING SITE ASSESSMENT AT EACH OUTFALL INVOLVING DRAINAGE TOTALING 10 OR MORE ACRES, FIVE OR MORE ACRES IF DRAINING TO IMPAIRED OR EXCEPTIONAL WATERS. THIS ASSESSMENT WILL BE CONDUCTED AT EACH QUALIFYING OUTFALL WITHIN A MONTH OF CONSTRUCTION COMMENCEMENT. (SEE CGP SEC 3.1.2 FOR ASSESSMENT LANGUAGE)
- 3) FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND/OR STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USER OF PUBLIC STREETS. ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED BY THE PERMITTEE WITH THE ADJOINING LAND OWNER.
- 4) SEDIMENT SHOULD BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
- 5) LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF THE SITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTION SOURCE FOR STORMWATER DISCHARGES.
- 6) PRECONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED, OR DISTURBED MORE THAN 15 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER IS INSTALLED.
- 7) EXISTING VEGETATION SHOULD BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE.
- 8) TEMPORARY OR PERMANENT SOIL STABILIZATION MUST BE COMPLETED NO LATER THAN 15 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY OR TEMPORARILY CEASED. STEEP SLOPES (>35%) MUST BE PERMANENTLY OR TEMPORARILY STABILIZED WITHIN 7 DAYS.
- 9) SITE INSPECTIONS SHALL BE PERFORMED AT LEAST TWICE WEEKLY AT A MINIMUM OF 72 HOURS APART ON ALL UNSTABILIZED SITES.

NOTES:

- 1) ALL EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES IDENTIFIED IN THESE PLANS WILL BE INSTALLED AS RECOMMENDED IN THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK.
- 2) TOPSOIL WILL BE REMOVED AND EITHER TEMPORARILY STOCKPILED FOR LATER REDISTRIBUTION OR IMMEDIATELY UTILIZED FOR FINAL COVER. CLEARING AND GRUBBING WILL BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION. TOPSOIL PILES WILL BE TEMPORARILY SEEDED.
- 3) SEDIMENT WILL BE REMOVED FROM SILT FENCE, ROCK CHECK DAMS, HAY BALE TRAPS, AND TEMPORARY SEDIMENT TRAPS BEFORE THE DESIGN CAPACITY OF THE STRUCTURE HAS BEEN REDUCED BY 50%. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER WILL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES. AFTER USE, SILT FENCES WILL BE REMOVED TO PREVENT THEM FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT WILL BE REPLACED AT THE END OF THE WORKDAY.
- 4) IN ACCORDANCE WITH THE TNCPG, INSPECTIONS WILL BE PERFORMED BY QUALIFIED PERSONNEL AT LEAST TWICE EVERY CALENDAR WEEK. INSPECTIONS WILL BE AT LEAST 72 HOURS APART. INSPECTIONS WILL INCLUDE DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, LOCATIONS WHERE VEHICLES ENTER AND EXIST THE SITE, AND EACH OUTFALL POINT. BASED ON INSPECTION RESULTS, MODIFICATIONS OR REPAIRS TO EXISTING CONTROL MEASURES WILL BE MADE BEFORE THE NEXT RAIN EVENT IF POSSIBLE, BUT WITHIN 7 DAYS AFTER THE NEED IS IDENTIFIED. INSPECTION DOCUMENTS WILL BE MAINTAINED ON SITE AND MADE AVAILABLE UPON REQUEST.
- 5) STABILIZATION WILL BE ACCOMPLISHED AS SOON AS PRACTICABLE AFTER ATTAINMENT OF FINAL GRADE AND NO LATER THAN SEVEN DAYS AFTER ATTAINING FINAL GRADE. WHERE EARTH-DISTURBING ACTIVITY HAS TEMPORARILY CEASED, TEMPORARY STABILIZATION WILL BE APPLIED WITHIN SEVEN DAYS IF THE ACTIVITY WILL NOT RESUME WITHIN 15 DAYS. THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND THE DATES WHEN STABILIZATION MEASURES ARE INITIATED WILL BE RECORDED AND MAINTAINED ON THE SITE. STABILIZATION METHODS MAY INCLUDE SEED AND MULCH, OR SEED AND EROSION CONTROL BLANKETS.



NO. 1	09-27-22	LOWER SITE 4.7	RWM	RGC
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				

ROBERT G. CAMPBELL & ASSOC., L.P.
CONSULTING ENGINEERS
KNOXVILLE, TENNESSEE

SMOKY MOUNTAINS INNOVATION PARK
OF COCKE COUNTY
CONTRACT -A-

TVA INVESTPREP
SITE
DETAILS AND NOTES

DESIGNED BY	CHECKED BY	SCALE	SHEET
RGC-A	RGC	N.T.S.	NO. 4
DRAWN BY	DATE	FILE NO.	OF 4 SHEETS
RWM	04/08/2024	20095_GR	