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ANUARY 14, 2026

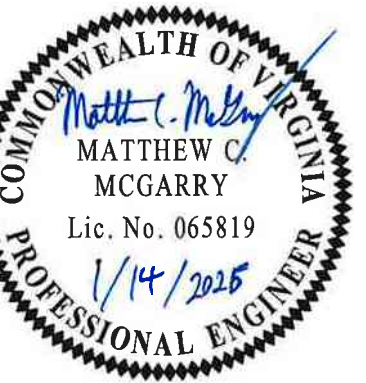


Sheet Number	Sheet Title
G-001	COVER SHEET
C-001	CIVIL GENERAL NOTES, LEGEND, AND OVERALL PLAN
C-101	EXISTING CONDITIONS AND DEMOLITION PLAN
C-102	NEW WORK PLAN
C-103	EROSION AND SEDIMENT CONTROL PLAN
C-401	EROSION AND SEDIMENT CONTROL NARRATIVE
C-402	EROSION AND SEDIMENT CONTROL DETAILS
C-501	CIVIL DETAILS
C-502	CIVIL DETAILS
S-501	STRUCTURAL REPAIRS

EMERGENCY - CITY OF STAUNTON
540-332-3196



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CITY OF STAUNTON

STAUNTON WTP CLEARWELL COVER
REPLACEMENT

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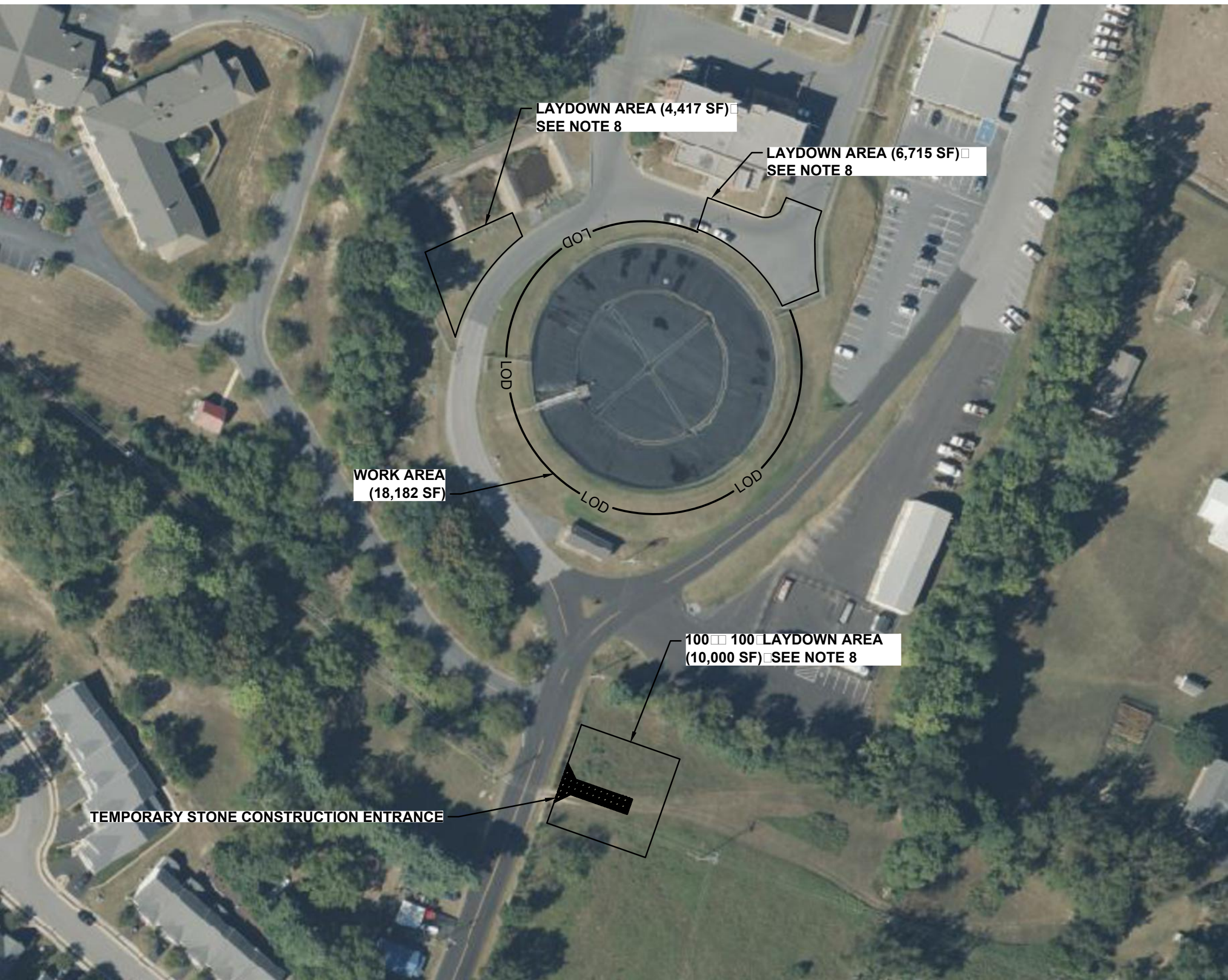
COVER SHEET

G-001	0
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1. THE RECOMMENDED SEQUENCE OF CONSTRUCTION IS PROVIDED TO ASSIST IN PERFORMING THE WORK WITH MINIMAL IMPACT ON FACILITY OPERATION. THE RECOMMENDED SEQUENCE OF CONSTRUCTION IS GENERAL IN NATURE, DOES NOT INCLUDE ALL STEPS OR DETAILS REQUIRED TO COMPLETE THE WORK AND IS NOT INTENDED TO DEFINE THE METHODS OF CONSTRUCTION.
2. CONTRACTOR MUST FIELD VERIFY THE MATERIALS, LOCATION AND DIMENSIONS OF CONCRETE VALVE VAULT, OVERALL DIMENSIONS OF THE RESERVOIR, AND ALL EXISTING PIPES AFTER DEMOLITION OF THE EXISTING FLOATING COVER PRIOR TO BEGINNING SHOTCRETE REPAIRS. NOTIFY ENGINEER WHERE FIELD CONDITIONS VARY FROM CONDITIONS SHOWN ON THE DRAWINGS.
3. GENERAL SEQUENCE OF OPERATIONS:
 - A. ACTIVITY 1: TRANSITION WATER TREATMENT PLANT TO BYPASS OPERATIONS
 - B. ACTIVITY 2: DEMOLISH EXISTING FLOATING COVER
 - C. ACTIVITY 3: INSPECT CONCRETE RESERVOIR AND PERFORM CONCRETE REPAIRS
 - D. ACTIVITY 4: PERFORM CONCRETE REPAIRS AS DIRECTED BY ENGINEER
 - E. ACTIVITY 5: INSTALL AND COMMISSION MEMBRANE LINER AND FLOATING COVER
4. CONSTRAINTS:
 - A. THE CLEARWELL BYPASS MUST BE IN PLACE PRIOR TO DRAINING THE CLEARWELL AND DEMOLISHING THE MEMBRANE COVER. THE OWNER WILL DRAIN THE CLEARWELL AND IMPLEMENT THE BYPASS PLAN. THE CONTRACTOR MUST PROVIDE NOTICE TO THE OWNER AT LEAST 2 WEEKS BEFORE THE BYPASS IS NEEDED TO ALLOW THE OWNER TIME TO IMPLEMENT THE BYPASS AND ADJUST OPERATIONS.
 - B. THE OWNER WILL OPERATE ALL VALVES. COORDINATE WITH THE OWNER AS NEEDED.
 - C. NOTIFY OWNER AND ENGINEER AHEAD OF COMMENCING ACTIVITY 3 TO SCHEDULE CONCRETE INSPECTION WITH STRUCTURAL ENGINEER. DURING THE INSPECTION AREAS REQUIRING CONCRETE REPAIR WILL BE MARKED AND QUANTIFIED. OWNER, ENGINEER, AND CONTRACTOR MUST AGREE ON QUANTITIES PRIOR TO PROCEEDING WITH CONCRETE REPAIRS.

<u>DESIGN</u>	<u>EXISTING</u>	
		EDGE OF PAVEMENT
		FENCELINE
		OBJECT DEMOLITION
		GRAVEL
		CONCRETE
		AREA DEMOLITION

C-PCM-01	SAFETY FENCE		
C-PCM-04	SILT FENCE		
C-SSM-09	TEMPORARY SEEDING		
C-SSM-10	PERMANENT SEEDING		
C-SSM-11	MULCHING		
C-SCM-03	TEMPORARY STONE CONSTRUCTION ENTRANCE		



SCALE: 1" = 100'

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CITY OF STAUNTON		STAUNTON WTP CLEARWELL COVER REPLACEMENT	
		STAUNTON, VA	
		REVISION DESCRIPTION	
		DATE	
		MRK	
COMM NO: 250095			
DATE: 01/14/2026			
DRAWN: AKP		DESIGN: MCM	
CHECK: AST			
SHEET TITLE			
CIVIL GENERAL NOTES, LEGEND, AND OVERALL PLAN			
SHT. NO. C-001		REV. NO. 0	



CITY OF STAUNTON

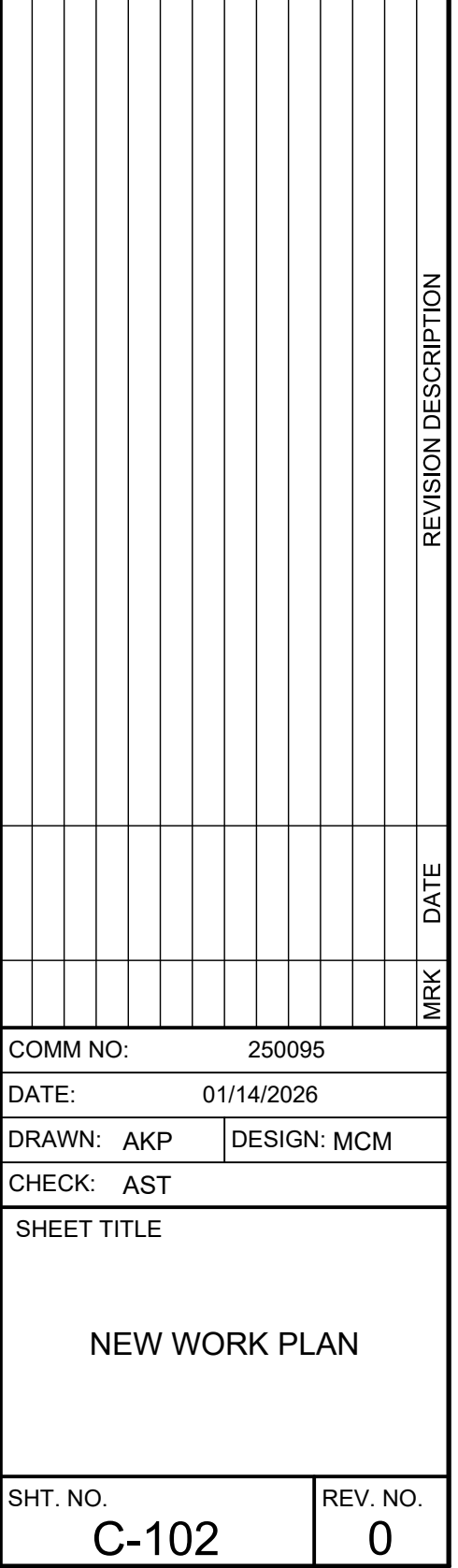
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COMM NO:	250095		
DATE:	01/14/2026		
DRAWN:	AKP	DESIGN	
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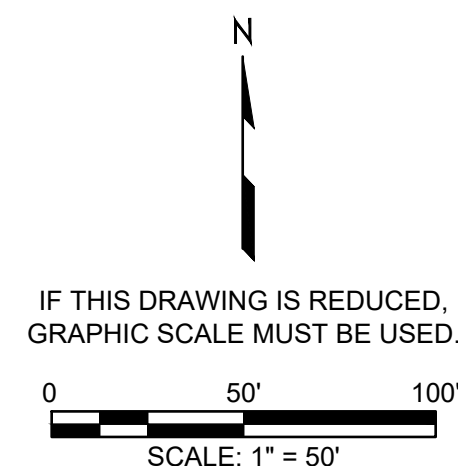
EXISTING CONDITIONS AND DEMOLITION PLAN

SHT. NO. C-101	REV. NO. 0
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1. CONTOURS WERE GENERATED FROM CITY OF STAUNTON 5 FT CONTOURS (2011). A TOPOGRAPHIC SURVEY WAS NOT PERFORMED.



CITY OF STAUNTON

STAUNTON WTP CLEARWELL COVER
REPLACEMENT

[illegible]

COMM NO: 250095	
DATE: 01/14/2026	
DRAWN: AKP	DESIGN: MCM
CHECK: AST	
SHEET TITLE	

EROSION AND SEDIMENT CONTROL PLAN

SHT. NO. C-103	REV. NO. 0
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EROSION □ SEDIMENT CONTROL NARRATIVE

I. PROJECT DESCRIPTION

THE PROJECT INVOLVES THE REMOVAL AND REPLACEMENT OF THE CLEARWELL'S GEOMEMBRANE FLOATING COVER. THE PROJECT ALSO INCLUDES THE INSTALLATION OF A GEOMEMBRANE LINER IN THE CLEARWELL, CONCRETE REPAIRS TO THE CLEARWELL BASIN, REINSTATEMENT OF THE GRAVEL APRON AROUND THE TANK PERIMETER, AND IN-KIND REPLACEMENT OF CHAIN LINK FENCING. THE PROJECT INVOLVES APPROXIMATELY 0.75 ACRES OF LAND DISTURBANCE.

II. EXISTING SITE CONDITIONS

THIS SITE CONSISTS OF TOPOGRAPHY THAT GENERALLY SLOPES AWAY FROM THE RESERVOIR. EXISTING VEGETATION IS GRASS. ON-SITE DRAINAGE FOLLOWS THE NATURE TOPOGRAPHY OF THE SITE FROM THE RESERVOIR AND IS COLLECTED BY DITCHES AND CURBS.

III. ADJACENT PROPERTIES

THE PROJECT SITE IS BOUNDED BY EXISTING ROADS TO THE EAST, WEST, SOUTH AND THE STUANTON WATER DEPARTMENT BUILDING TO THE NORTH.

IV. OFF-SITE AREAS

FILL MATERIAL WILL BE OBTAINED FROM AREAS OF EXCAVATION CONTAINED WITHIN THE SITE. ALL STOCKPILES SHALL BE LOCATED ON SITE AND PROTECTED WITH SURROUNDING SILT FENCING AND STABILIZED WITH A VEGETATIVE COVER. UNSUITABLE MATERIAL WILL BE HAULED FROM THE SITE AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN TO THE EROSION AND SEDIMENT CONTROL REGULATOR PERTAINING TO OFFSITE DISTURBED AREAS FOR ALL SOILS INTENTIONALLY TRANSPORTED OFFSITE IF THE TRANSPORTED MATERIAL DISTURBS MORE THAN 10,000 SQUARE FEET IN AREA (IF ANY SUCH AREAS ARE REQUIRED) SUCH AS STOCKPILES, STAGING AREAS, AND SPOIL AREAS THAT ARE USED FOR THIS PROJECT.

V. SOILS

ACCORDING TO USDA SCS SOIL MAPPING, THE PROJECT SITE LIES ON SOIL TYPE FREDERICK-CHRISTIAN SILT LOAMS. 40B2 FREDERICK-CHRISTIAN SILT LOAMS, 2 TO 7 PERCENT SLOPES, ERODED

FREDERICK COMPONENT

THE FREDERICK COMPONENT MAKES UP 50 PERCENT OF THE MAP UNIT. SLOPES ARE 2 TO 7 PERCENT. THIS COMPONENT IS ON HILLS ON NORTHERN APPALACHIAN RIDGES AND VALLEYS UPLANDS. THE PARENT MATERIAL CONSISTS OF RESIDUUM WEATHERED FROM DOLOMITIC AND CHERTY LIMESTONE. DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES (OR RESTRICTED DEPTH) IS MODERATE. SHRINK-SWELL POTENTIAL IS MODERATE. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO CONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 2 PERCENT. THIS COMPONENT IS IN THE F147XY003PA MIXED LIMESTONE UPLAND ECOLOGICAL SITE. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 2E. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.

CHRISTIAN COMPONENT

THE CHRISTIAN COMPONENT MAKES UP 30 PERCENT OF THE MAP UNIT. SLOPES ARE 2 TO 7 PERCENT. THIS COMPONENT IS ON HILLS ON NORTHERN APPALACHIAN RIDGES AND VALLEYS UPLANDS. THE PARENT MATERIAL CONSISTS OF RESIDUUM WEATHERED FROM LIMESTONE OR INTERBEDDED LIMESTONE AND SANDSTONE. DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES (OR RESTRICTED DEPTH) IS MODERATE. SHRINK-SWELL POTENTIAL IS MODERATE. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO CONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 2 PERCENT. THIS COMPONENT IS IN THE F147XY003PA MIXED LIMESTONE UPLAND ECOLOGICAL SITE. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 2E. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.

40C2 FREDERICK-CHRISTIAN SILT LOAMS, 7 TO 15 PERCENT SLOPES, ERODED

FREDERICK COMPONENT

THE FREDERICK COMPONENT MAKES UP 45 PERCENT OF THE MAP UNIT. SLOPES ARE 7 TO 15 PERCENT. THIS COMPONENT IS ON HILLS ON NORTHERN APPALACHIAN RIDGES AND VALLEYS UPLANDS. THE PARENT MATERIAL CONSISTS OF RESIDUUM WEATHERED FROM DOLOMITIC AND CHERTY LIMESTONE. DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES (OR RESTRICTED DEPTH) IS MODERATE. SHRINK-SWELL POTENTIAL IS MODERATE. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO CONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 2 PERCENT. THIS COMPONENT IS IN THE F147XY003PA MIXED LIMESTONE UPLAND ECOLOGICAL SITE. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 3E. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.

CHRISTIAN COMPONENT

THE CHRISTIAN COMPONENT MAKES UP 35 PERCENT OF THE MAP UNIT. SLOPES ARE 7 TO 15 PERCENT. THIS COMPONENT IS ON HILLS ON NORTHERN APPALACHIAN RIDGES AND VALLEYS UPLANDS. THE PARENT MATERIAL CONSISTS OF RESIDUUM WEATHERED FROM LIMESTONE OR INTERBEDDED LIMESTONE AND SANDSTONE. DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES (OR RESTRICTED DEPTH) IS MODERATE. SHRINK-SWELL POTENTIAL IS MODERATE. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO CONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 2 PERCENT. THIS COMPONENT IS IN THE F147XY003PA MIXED LIMESTONE UPLAND ECOLOGICAL SITE. NONIRRIGATED LAND CAPABILITY CLASSIFICATION IS 3E. THIS SOIL DOES NOT MEET HYDRIC CRITERIA.

VI. CRITICAL AREAS

THERE ARE NO CRITICAL AREAS LOCATED ON SITE. SEDIMENT WILL BE TRAPPED ON SITE.

VII. LIST OF BEST MANAGEMENT PRACTICES (BMPs)

ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA STORMWATER HANDBOOK. SYMBOLS, DETAILS, AND DIMENSIONS USED ARE TAKEN FROM THE HANDBOOK, AS WELL AS THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION'S ROAD AND BRIDGE STANDARDS.

A. SEDIMENT CONTROL MEASURES

- 1. C-SCM-03 TEMPORARY STONE CONSTRUCTION ENTRANCE: A TEMPORARY STONE CONSTRUCTION ENTRANCE IS A PAD WITH A FABRIC FILTER LINER UNDERNEATH THE STONE LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE. THERE ARE SEVERAL TYPES OF TRACK-OUT CONTROLS THAT MINIMIZE THE AMOUNT OF SEDIMENT, SUCH AS DIRT OR MUD, LEAVING OR BEING TRACKED OUT FROM THE CONSTRUCTION SITE ATTACHED TO VEHICLES.

B. SURFACE STABILIZATION MEASURES

- 1. C-SSM-09 TEMPORARY SEEDING: THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING WITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS.
- 2. C-SSM-10 PERMANENT SEEDING: PERMANENT SEEDING IS THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED.
- 3. C-SSM-11 MULCHING: MULCHING IS THE APPLICATION OF A PROTECTIVE BLANKET OF STRAW OR OTHER PLANT RESIDUES/MATERIALS TO THE SOIL SURFACE DURING THE ESTABLISHMENT OF TEMPORARY AND PERMANENT SEEDING.

C. PERIMETER CONTROL MEASURE

- 1. C-PCM-01 SAFETY FENCE: SAFETY FENCE IS A PROTECTIVE BARRIER INSTALLED TO PREVENT ACCESS TO A LAND-DISTURBING ACTIVITY OR EROSION CONTROL MEASURE.
- 2. C-PCM-04 SILT FENCE: SILT FENCE (AND ITS DERIVATIVES WIRE-SUPPORTED (REINFORCED) AND SUPER SILT FENCE) IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC ENTRENCHED AND STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS.

VIII. 9VAC25-75-560 MINIMUM STANDARDS

- MS-1 STABILIZATION OF DENUDED AREAS: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- MS-2 STABILIZATION OF SOIL STOCKPILES: DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- MS-3 PERMANENT VEGETATIVE COVER: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- MS-4 TIMING AND STABILIZATION OF SILT TRAPPING MEASURES: SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- MS-5 CONCENTRATED RUNOFF DOWN CUT OR FILLED SLOPES:

- MS-6 STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION. SEDIMENT BASINS AND TRAPS: SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.
 - A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
 - B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.
- MS-7 CUT AND FILL SLOPES: CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
- MS-8 CONCENTRATED RUNOFF DOWN CUT OR FILL SLOPES: CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- MS-9 WATER SEEPAGE FROM A SLOPE FACE: WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED. STORM SEWER INLET PROTECTION: ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LOADED WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- MS-11 STABILIZATION OF OUTLETS: BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- MS-12 WORK IN LIVE WATERCOURSES: WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- MS-13 CROSSING A LIVE WATERCOURSE: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.
- MS-14 APPLICABLE REGULATIONS: ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.
- MS-15 STABILIZATION OF BED AND BANKS: THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
- MS-16 UNDERGROUND UTILITIES: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
 - A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
 - B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
 - C. EFFLUENT FROM Dewatering OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
 - D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
 - E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER.
 - F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.
- MS-17 CONSTRUCTION ACCESS ROUTES: WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
- MS-18 TEMPORARY EROSION CONTROL MEASURE REMOVAL: ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION. ADEQUACY OF RECEIVING CHANNELS: PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS.
 - A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.
 - B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
 - (1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION OR
 - (2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS.
 - (B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND
 - (C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.
 - C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:
 - (1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS; OR
 - (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
 - (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR
 - (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.
 - D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
 - E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.
 - F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.
 - G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
 - H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
 - I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
 - J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.
 - K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

- L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO 62.1-44.15.2 OF THE CODE OF VIRGINIA (VESMA) OR 62.1-44.15.65 OF THE CODE OF VIRGINIA (ESCL).
- M. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF 62.1-44.15.2 A OF THE CODE OF VIRGINIA (ESCL) AND THIS SUBDIVISION 19 SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE VESMA AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES (I) ARE IN ACCORDANCE WITH PROVISIONS FOR THE TIME LIMITS ON APPLICABILITY OF APPROVED DESIGN CRITERIA IN 9VAC25-75.4-0 OR GRANDFATHERING IN 9VAC25-75-490, IN WHICH CASE THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF 62.1-44.15.2 A OF THE CODE OF VIRGINIA (ESCL) SHALL APPLY; OR (II) ARE EXEMPT PURSUANT TO 62.1-44.15.34 G 2 OF THE CODE OF VIRGINIA (VESMA).
- N. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-70-600 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISION 19 OF THIS SUBSECTION.

IX. OPERATIONS AND MAINTENANCE CONSIDERATIONS:

ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO INSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT THE END OF EACH DAY AND AFTER EVERY RAINFALL EVENT.

A. SEDIMENT CONTROL MEASURES

- 1. C-SCM-03 TEMPORARY STONE CONSTRUCTION ENTRANCE: INSPECT THE CONSTRUCTION ENTRANCE WEEKLY AND IMMEDIATELY AFTER EACH RAINFALL. MAINTAIN THE ENTRANCE TO PREVENT TRACKING OR FLOW OF DIRT, MUD, OR SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, INCLUDING PERIODIC TOP DRESSING WITH ADDITIONAL STONE AND REPAIR OR CLEANOUT OF STRUCTURES THAT TRAP SEDIMENT OR BOTH. MAINTAIN A STOCKPILE OF ROCK AT THE SITE FOR TOP DRESSING PURPOSES. MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE STONE AND COMPROMISE THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE. WHEN THIS OCCURS, TOP DRESS THE PAD WITH NEW STONE. COMPLETE STONE REPLACEMENT IS NECESSARY WHEN THE PAD BECOMES WHOLLY CLOGGED WITH SEDIMENT AND THE TOPDRESSING IS NO LONGER EFFECTIVE AT REMOVING ACCUMULATED SEDIMENT FROM TIRES. IMMEDIATELY REMOVE ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR STORM DRAINS. DO NOT USE WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS UNDER ANY CIRCUMSTANCES. IMMEDIATELY REMOVE STONES FROM THE ADJOINING ROADWAY THAT CONSTRUCTION TRAFFIC DISLODGED FROM THE ENTRANCE. MAINTAIN THE AREA UNDER THE WASH RACK FREE OF ACCUMULATED SEDIMENT. REPAIR OR REPLACE THE WASH RACK IF IT BECOMES DAMAGED.

B. SURFACE STABILIZATION MEASURES

- 1. C-SSM-09 TEMPORARY SEEDING: INSPECT SEEDED AREAS EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 0.5 INCH OR MORE OF PRECIPITATION. RESEED ANY BARE AREAS 500 SQUARE FEET COVER SEEDED AREA WITH STRAW OR MULCH TO MODERATE SOIL MOISTURE AND TEMPERATURE DURING THE INITIAL GERMINATION PERIOD. SUPPLY TEMPORARY SEEDING WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED, ESPECIALLY IN ABNORMALLY HOT OR DRY WEATHER OR ON ADVERSE SITES. CONTROL WATER APPLICATION RATES TO PREVENT RUNOFF.
- 2. C-SSM-10 PERMANENT SEEDING: EVEN WITH CAREFUL, WELL-PLANNED SEEDING OPERATIONS, FAILURES CAN OCCUR. WHEN PLANTS HAVE NOT GERMINATED ON AN AREA OR HAVE DIED, RESEED THESE AREAS IMMEDIATELY TO PREVENT EROSION DAMAGE. HOWEVER, IT IS EXTREMELY IMPORTANT TO DETERMINE WHY GERMINATION FAILED AND TAKE ANY CORRECTIVE ACTION NECESSARY BEFORE RESEEDING THE AREA. HEALTHY VEGETATION IS THE MOST EFFECTIVE EROSION CONTROL AVAILABLE.
- 3. C-SSM-11 MULCHING: INSPECT ALL MULCHES AND SOIL COVERINGS PERIODICALLY AND AFTER RAINSTORM EVENTS TO CHECK FOR EROSION. WHERE EROSION IS OBSERVED IN MULCHED AREAS, APPLY ADDITIONAL MULCH. INSPECT MULCH MATS AFTER RAINSTORMS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, REINSTALL NETTING OR MATTING AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE OR DITCH. INSPECT MULCHES UNTIL GRASSES ARE FIRMLY ESTABLISHED. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR (APPROXIMATELY EVERY 3 MONTHS) TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

C. PERIMETER CONTROL MEASURE

- 1. C-PCM-01 SAFETY FENCE: SAFETY FENCE SHOULD BE CHECKED REGULARLY FOR WEATHER-RELATED OR OTHER DAMAGE. ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY. CARE SHOULD BE TAKEN TO SECURE ALL ACCESS POINTS (GATES) AT THE END OF EACH WORKING DAY. ALL LOCKING DEVICES MUST BE REPAIRED OR REPLACED AS NECESSARY.
- 2. C-PCM-04 SILT FENCE: INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. MAKE ANY REPAIRS IMMEDIATELY. PAY CLOSE ATTENTION TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. THIS IS COMMONLY A SIGN THE FENCE HAS EITHER BEEN IMPROPERLY INSTALLED OR IS PLACED IN A LESS THAN OPTIMAL LOCATION. IF THE FENCE CANNOT BE RELOCATED, THEN MORE FREQUENT INSPECTIONS WILL BE WARRANTED. REPLACE THE FABRIC PROMPTLY IF THE FABRIC ON A SILT FENCE DECOMPOSES OR BECOMES INEFFECTIVE BEFORE THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY. REMOVE TRASH, FLOATABLES, AND LARGE SEDIMENT DEPOSITS AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. DRESS TO CONFORM TO EXISTING GRADE. PREPARE, AND SEED ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED. WHERE SILT FENCE OR ANY OF ITS DERIVATIVES HAVE FAILED BECAUSE OF CONCENTRATED RUNOFF, A ROCK FILTER OUTLET (SPECIFICATION BMP C-SCM-03) MUST BE PLACED AT THE LOCATION. DO NOT REINSTALL USING THE COMPROMISED PRACTICE.

X. PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH SEEDING FOLLOWING GRADING IN ACCORDANCE WITH THE MINIMUM STANDARDS. SEEDING SHALL BE IN ACCORDANCE WITH THE TEMPORARY OR PERMANENT SEEDING SCHEDULES SHOWN ON C-402. IN ALL SEEDING OPERATIONS, TOPSOIL, SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO INSTALLATION OF MULCHING OR EROSION CONTROL BLANKETS AND MATTING.

XI. WATER QUANTITY COMPLIANCE

MANAGEMENT OF STORMWATER RUNOFF DURING AND AFTER CONSTRUCTION WILL COMPLY WITH THE CURRENT VIRGINIA EROSION AND STORMWATER MANAGEMENT REGULATION 9VAC25-75. THE EROSION AND SEDIMENT CONTROL PLANS INDICATE ALL ACTIVITIES AND STRATEGIES NECESSARY TO MINIMIZE EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. REFER TO CHAPTER 13.01 EROSION AND STORMWATER MANAGEMENT, CITY CODE OF STAUNTON, VIRGINIA FOR EXEMPTION ON STORMWATER QUALITY AND QUANTITY.

XII. WATER QUALITY COMPLIANCE

REFER TO CHAPTER 13.01 EROSION AND STORMWATER MANAGEMENT, CITY CODE OF STAUNTON, VIRGINIA FOR EXEMPTION ON STORMWATER QUALITY AND QUANTITY.

XIII. SEQUENCE(S) OF CONSTRUCTION

- GENERAL PROJECT SEQUENCE OF CONSTRUCTION:
 - 1. INSTALL EROSION AND SEDIMENT CONTROL AND BEST MANAGEMENT PRACTICES AS IS PRACTICABLE.
 - 2. CLEAR THE PLANNED DISTURBED AREA AND REMOVE DEBRIS TO A SUITABLE LOCATION.
 - 3. INSTALL UTILITIES, INLET AND OUTLET PROTECTION AS IS PRACTICABLE.
 - 4. BRING GRADES TO DESIRED ELEVATION.
 - 5. STABILIZE ALL DISTURBED AREAS WITH PERMANENT VEGETATION.
 - 6. APPLY SURFACE TREATMENT AS DESIGNED.
 - 7. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL RELEASED BY THE GOVERNING AGENCY.
 - 8. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
 - 9. STABILIZE AREAS AFFECTED BY THE REMOVAL OF TEMPORARY EROSION MEASURES.

XIV. PERMITS

LOCAL: CITY OF STAUNTON LAND DISTURBING PERMIT

STATE: N/A

FEDERAL: N/A

XV. RESPONSIBLE PARTIES

INSPECTION AND REPAIR OF CONSTRUCTION BMP'S:
NAME:
ADDRESS:
PHONE:
EMAIL:



127 Nationwide Drive | Lynchburg, VA 24502
434.947.1901 | wileywilson.com | 100% Employee-Owned



CITY OF STAUNTON
STAUNTON WTP CLEARWELL COVER REPLACEMENT

REVISION DESCRIPTION												MARK	DATE
COMM NO: 250095													
DATE: 01/14/2026													
DRAWN: AKP DESIGN: MCM													
CHECK: AST													
SHEET TITLE													
EROSION AND SEDIMENT CONTROL NARRATIVE													
SHT. NO. C-401												REV. NO. 0	

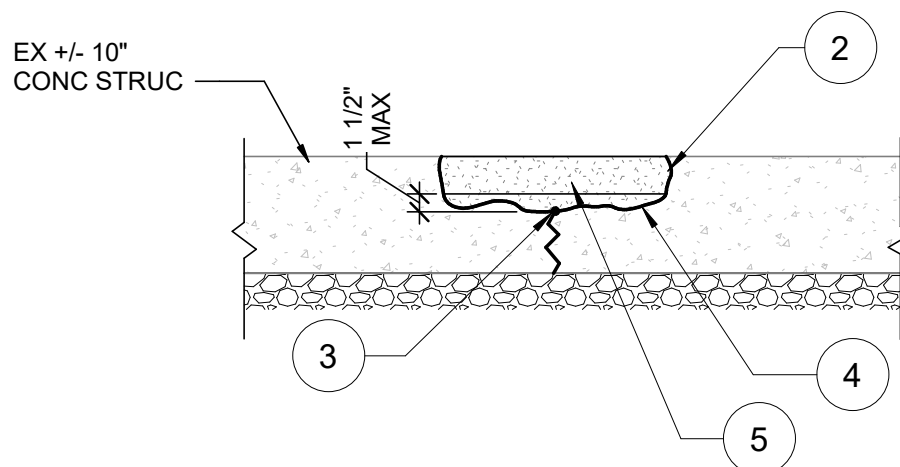


REVISION DESCRIPTION

COMM NO: 250095	
DATE: 01/14/2026	
DRAWN: SKS	DESIGN: WRM
CHECK: GKT	
SHEET TITLE	

SHT. NO. C-502	REV. NO. ----
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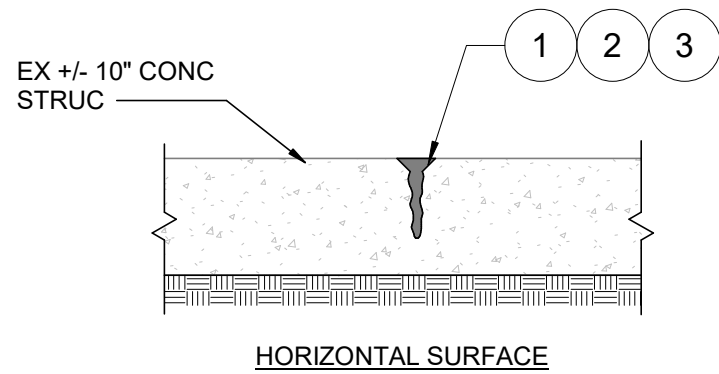




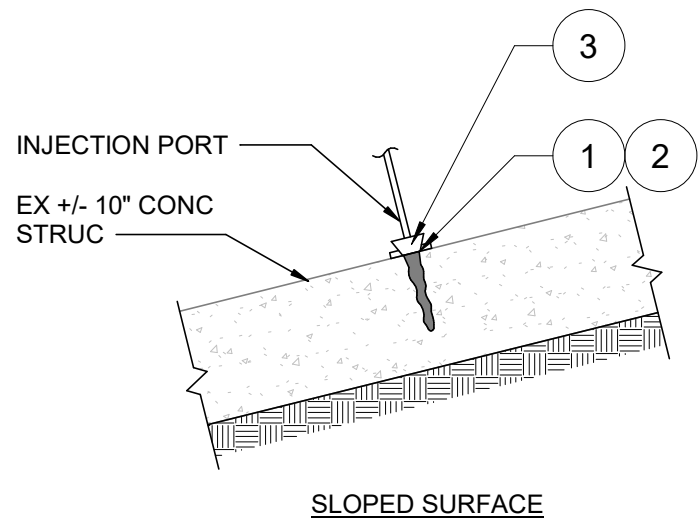
REPAIR PROCEDURE

1. CHIP OUT OR CUT OUT EXISTING DELAMINATED PATCH UNTIL HARD SURFACE IS MET OR CRACK EXTENDING THROUGH IS $< 1/8"$ ACROSS. DO NOT OVER CUT CONCRETE BEYOND DELAMINATED AREA AND DO NOT CUT OR DAMAGE EXISTING REINFORCING STEEL.
2. CLEAN SURFACE AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS AND PROCEDURES.
3. IF CRACK PROPAGATES OUT OF BOTTOM OF SPALL, SEAL CRACK WITH TWO COMPONENT LOW-VISCOSITY EPOXY RESIN ADHESIVE, BASIS OF DESIGN IS SIKA CRACK FIX. CRACKS $< 3/16"$ WIDE DO NOT REQUIRE REPAIR UNLESS SIGNS OF SEEPAGE AND UNDERMINING ARE VISIBLE.
4. PRE-WET CONCRETE SURFACE TO SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING APPLICATION. APPLY SCRUB COAT TO SUBSTRATE, FILLING ANY PORES AND VOIDS.
5. WHILE SCRUB COAT IS STILL WET, APPLY SIKAREPAIR 223 OR APPROVED EQUAL ($1/8"$ MIN, $1-1/2"$ MAX).

D4 CONCRETE SPALL REPAIR - PARTIAL DEPTH



HORIZONTAL SURFACE



SLOPED SURFACE

REPAIR PROCEDURE

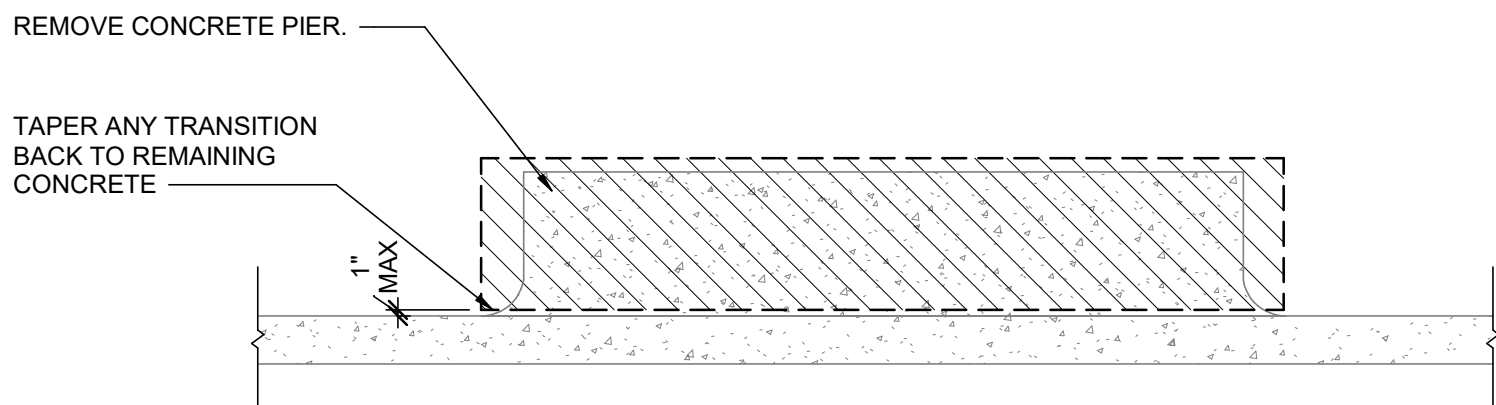
HORIZONTAL SURFACE

1. ROUTE ALONG CRACK WITH GRINDER TO FORM A V-NOTCH 1/2" WIDE X 1/2" DEEP.
2. BLOW OUT THE V-NOTCH WITH OIL-FREE COMPRESSED AIR.
3. FILL V-NOTCH WITH TWO COMPONENT LOW-VISCOSITY EPOXY RESIN ADHESIVE. BASIS OF DESIGN IS SIKA CRACK FIX.
4. MONITOR VOLUME OF MATERIAL THAT IS POURED INTO JOINT AND STOP WORK IF IT APPEARS THAT MATERIAL IS FLOWING THROUGH TO BACK SIDE OF UN-OBSERVABLE FACE OF CONCRETE.
5. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS FOR EPOXY RESIN ADHESIVE.

SLOPED SURFACE

1. USE BLAST CLEANING OR EQUIVALENT MECHANICAL MEANS TO ACHIEVE A CLEAN, SOUND SURFACE.
2. APPLY SIKAFLEX 1A TO TOP SURFACE OF CRACK AROUND INJECTION POINTS SPACED AT 2'-0" ON CENTER MAXIMUM.
3. PRESSURE INJECT HYDROPHOBIC, LOW VISCOSITY, MOISTURE ACTIVATED POLYURETHANE RESIN, BASIS OF DESIGN IS PRIME RESINS PRIME FLEX 920.
4. MONITOR VOLUME OF MATERIAL THAT IS POURED INTO JOINT AND STOP WORK IF IT APPEARS THAT MATERIAL IS POURING THROUGH TO BACK SIDE OF UN-OBSERVABLE FACE OF CONCRETE.
5. FOLLOW ALL MANUFACTURER'S INSTRUCTIONS FOR POLYURETHANE RESIN APPLICATION.

B4 REPAIR FOR CRACKED CONCRETE (UP TO 1/4" WIDTH)



NOTE: IF CONCRETE IS REMOVED BELOW SURROUNDING SURFACE PATCH BACK PER DETAIL B4 ON THIS SHEET.

A4 PIER DEMO DETAIL

A. GENERAL SELECTIVE CONCRETE DEMOLITION AND REPAIR NOTES

1. ALL WORK MUST BE IN GENERAL COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE 2021.
2. FURNISH ALL LABOR AND MATERIALS NECESSARY TO PERFORM THE DEMOLITION WORK IN A COMPLETED MANNER SUCH THAT REPAIR WORK CAN BE INSTALLED WITH MINIMUM PREPARATION.
3. CONTRACTOR MUST INCLUDE IN THE SCOPE OF WORK ALL ASPECTS OF REQUIRED DEMOLITION, SHORING OF EXISTING STRUCTURE, STAGING THE REPAIR TASKS AND SCHEDULING THE WORK IN A MANNER APPROVED BY THE BUILDING MANAGEMENT, CLEAN UP AFTER PORTIONS OF WORK ARE PERFORMED AND CLEAN UP AFTER THE ENTIRE REPAIR IS COMPLETED.
4. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR DEMOLITION OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF AND PROCEDURES FOR THE REQUIRED TEMPORARY SHORING. TEMPORARY SHORING MUST BE IN CONFORMANCE WITH OSHA REGULATIONS.
5. THE CONTRACTOR MUST TAKE PRECAUTIONS TO PREVENT DAMAGE OF THE EXISTING STRUCTURE. IN THE EVENT OF DAMAGE, CONTRACTOR IS RESPONSIBLE FOR REMEDIATING DAMAGES.
6. SCHEDULE ALL WORK IN A CAREFUL MANNER WITH ALL NECESSARY COORDINATION FOR FACILITY OPERATIONS, AND FACILITY PERSONNEL. ANY DAMAGE TO PERSON OR PROPERTY AS A RESULT OF DEMOLITION AND RELATED WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
7. ERECT BARRIERS FENCES, GUARDRAILS, WARNING DEVICES AND SHORING TO PROTECT PERSONNEL WORKING IN THE AREA.
8. SUBMIT PROCEDURES AND SCHEDULE PROPOSED FOR THE ACCOMPLISHMENT OF THE DEMOLITION WORK TO THE OWNER FOR APPROVAL. INCLUDE SAFE CONDUCT OF THE WORK, DISPOSITION OF MATERIALS, PROTECTION OF REMAINING PROPERTY AND COORDINATION WITH OTHER WORK.
9. CONCRETE DEMOLITION OBJECTIVES ARE PROVIDED IN THESE DOCUMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SELECT THE MEANS AND METHODS APPROPRIATE TO ACHIEVE THESE OBJECTIVES. ENGINEER OF RECORD WAS NOT ABLE TO OBSERVE THE EXISTING CONCRETE SURFACE CONDITION DUE TO EXISTING BASIN REQUIREMENT TO REMAIN IN SERVICE AND EXISTING COVERINGS. THE DETAILS PROVIDED HERE ARE OUR BEST ENGINEERING JUDGEMENT OF EXPECTED EXISTING CONDITIONS. ONCE THE BASIN IS CLOSED AND DRAINED THE EOR WILL OBSERVE ACTUAL DISTRESS AND MODIFY DETAILS AS REQUIRED TO MEET THE INTENT, THAT IS TO PRESERVE THE STRUCTURAL INTEGRITY OF THE BASIN.
10. ALL APPROVED EQUALS MUST BE SUBMITTED TO STRUCTURAL EOR FOR APPROVAL

ABBREVIATIONS:

CONC	CONCRETE
EX	EXISTING
NTS	NOT TO SCALE
STRUC	STRUCTURE
MIN	MINIMUM



CITY OF STAUNTON

STAUNTON WTP CLEARWELL COVER
REPLACEMENT

STAUNTON, VA

[illegible]

COMM NO:		250095	
DATE:		01/14/2026	
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SHEET TITLE

STRUCTURAL DEMO AND
REPAIR DETAILS

SHT. NO. S-501	REV. NO.
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