

EPSC PLAN NARRATIVE

1. PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION OF APPROXIMATELY 750-FEET OF RIVER EMBANKMENT, RECONSTRUCTION OF APPROXIMATELY 690-FEET OF RAVINE, INSTALLATION OF A NEW CROSS CULVERT AND APURTENANT ROADWAY WORK. THE EMBANKMENT WILL BE RECONSTRUCTED WITH SUBBASE OF DENSE GRADED CRUSHED STONE AND STONE FILL ARMORING. THE RAVINE WILL BE ARMORED WITH TYPE IV STONE AND THE VOIDS WILL BE FILLED WITH NATIVE COBBLE MATERIAL THAT IS WASHED IN. THE NEW CULVERT WILL BE A 38" RISE BY 57" SPAN CORRUGATED METAL PIPE ARCH. THE PROJECT IS LOCATED IN THE TOWN OF MENDON, NEAR THE INTERSECTION OF US ROUTE 4 AND MEDWAY DRIVE.

2. AREA OF DISTURBANCE

NOTE: AREA OF DISTURBANCE INCLUDES LIMITS OF EARTH DISTURBANCE WITHIN THE PROJECT AREA, AS WELL AS WASTE, BORROW AND STAGING AREAS, AND OTHER EARTH DISTURBING ACTIVITIES WITHIN OR DIRECTLY ADJACENT TO THE PROJECT LIMITS AS SHOWN ON THE ATTACHED EPSC PLAN.

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 3.81 ACRES.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST ONE CONSTRUCTION SEASON.

3. CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME. AT NO TIME SHALL THE TOTAL CONCURRENT EARTH DISTURBANCE EXCEED 2 ACRES. A SUGGESTED GENERAL SEQUENCE FOR EACH OF THE MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:

- **MENDON BROOK EMBANKMENT RECONSTRUCTION**
 - 1) THIS WORK SHALL TAKE PLACE DURING THE LOW FLOW SEASON, BETWEEN JULY 15TH AND OCTOBER 1ST OR AS OTHERWISE RESTRICTED BY THE CGP-9020.
 - 2) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS.
 - 3) INSTALL WATER DIVERSION BARRIER TO CONTROL FLOW FROM WORK ZONE AND ALLOW FOR AQUATIC ORGANISM PASSAGE, AS SHOWN ON PLANS.
 - 4) INSTALL SEDIMENT CONTROL MEASURES AT DOWNSTREAM END OF PROJECT.
 - 5) BEGIN CUT & FILL OPERATIONS, BEGINNING AT THE UPSTREAM END AND WORKING DOWNSTREAM, LIMIT AREA OF DISTURBANCE TO < 2 ACRES AT ANY ONE TIME. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 7-DAYS OF DISTURBANCE.
 - 6) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES SO THAT EMBANKMENT IS STABILIZED PRIOR TO ALLOWING RUNOFF TO DISCHARGE TO IT.
 - 7) WASH NATIVE SAND, GRAVEL, AND COBBLE MATERIAL INTO THE STONE FILL TO FILL VOIDS AND PREVENT UNDERFLOW ALLOWING FOR AQUATIC ORGANISM PASSAGE.
- **INSTALLATION OF CULVERT AND HEADWALL**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS.
 - 2) INSTALL SEDIMENT CONTROL MEASURES AS SHOWN ON PLANS.
 - 3) BEGIN CUT/FILL OPERATIONS AND CULVERT INSTALLATION PROCESS WORKING DOWNSTREAM TO UPSTREAM.
 - 4) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES SO THAT EMBANKMENT IS STABILIZED AROUND HEADWALL.
 - 5) COLD PLANE EXISTING PAVEMENT IN AREAS TO RECEIVE PAVEMENT OVERLAY.
 - 6) PLACE SUBBASE MATERIAL FOR AREAS DISTURBED BY TRENCH EXCAVATION.
 - 7) PAVE BASE COURSE AS SHOWN IN MATERIAL TRANSITION DIAGRAM.
- **RAVINE RECONSTRUCTION**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS.
 - 2) INSTALL INLET PROTECTION DEVICES, AS SHOWN ON PLANS.
 - 3) CONSTRUCT SEDIMENT BASIN WHERE SHOWN ON PLANS. DIVERT ALL FLOWS TO THE SEDIMENT BASIN DURING CONSTRUCTION USING SPECIAL PROVISIN (TEMPORARY RELOCATION OF STREAM). PROVIDE 204 CY OF STORAGE IN BASIN. INSPECT SEDIMENT BASIN AND CONTINUE TO INSPECT DAILY AND MAINTAIN AS NECESSARY.
 - 4) BEGIN CUT & FILL OPERATIONS, WORKING FROM DOWNSTREAM TO UPSTREAM, LIMIT AREA OF DISTURBANCE TO < 2 ACRES AT ANY ONE TIME. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 7-DAYS OF DISTURBANCE.
 - 5) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES SO THAT RAVINE IS STABILIZED PRIOR TO ALLOWING RUNOFF TO DISCHARGE TO IT.
 - 6) WASH NATIVE SAND, GRAVEL, AND COBBLE MATERIAL INTO THE STONE FILL AS WORK PROGRESSES UPSTREAM.
 - 7) COMPLETE WORK AND DISCONTINUE USE OF SEDIMENT BASIN. RESTORE AREA TO FINAL CONDITIONS.

4. STABILIZATION OF EXPOSED SOILS

- SEED AND MULCH WILL BE USED FOR BOTH PERMANENT AND TEMPORARY STABILIZATION MEASURES. MULCH IS TO BE APPLIED AT A MINIMUM APPLICATION RATE AS SHOWN ON THE EPSC DETAILS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY STABILIZED WITH MULCH/RECP WITHIN 48 HOURS.
- EXPOSED AREAS THAT HAVE ACHIEVED FINAL GRADE SHALL BE PERMANENTLY STABILIZED WITHIN 48 HOURS.
- IN AREAS WHERE VEGETATIVE COVER WILL PROVIDE PERMANENT STABILIZATION, SEEDING TO BE COMPLETED BETWEEN APRIL 15 AND SEPTEMBER 15.

5. DRAINAGE AREAS AND DISCHARGE POINTS

- **DRAINAGE AREA 1**
THE DRAINAGE AREA CONSISTS OF THE RAVINE TO THE SOUTH OF US ROUTE 4 AND THE EMBANKMENT ON THE NORTH SIDE OF US ROUTE 4. THE ASSOCIATED AREA OF DISTURBANCE IS 3.81 ACRES. THE RAVINE TO THE SOUTH COLLECTS 33.29 ACRES AND CONVEYS IT TO A 48-INCH CPEP CULVERT. AS PART OF THIS PROJECT A NEW CORRUGATED METAL PIPE ARCH CULVERT WILL BE INSTALLED AND THE EXISTING CPEP CULVERT WILL BE USED AS AN OVER FLOW.

DRAINAGE AREA SUMMARY

DRAINAGE AREA	TOTAL DISTURB. (ACRES)	LIMIT OF CONCURRENT DISTURBANCE	RECEIVING WATER
1	3.82	2.0 ACRES	MENDON BROOK

6. WASTE, BORROW, AND STAGING AREAS

- EXCEPT AS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OFF-SITE WASTE AND BORROW AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PERMIT, AS NECESSARY, ANY OFF-SITE WASTE AND BORROW AREAS THAT ARE NEEDED. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES NECESSARY FOR WASTE, BORROW, AND STAGING AREAS OUTSIDE THE PROJECT LIMITS SHALL BE PAID FOR PER SUBSECTION 105.29 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL LOCATE ADDITIONAL AREAS FOR DISPOSAL OF STUMPS, EXCESS SOILS AND COLLECTED SEDIMENT, IF NECESSARY. DISPOSE OF THESE MATERIALS IN A MANNER THAT WILL NOT RESULT IN SEDIMENTS ENTERING WATERS OF THE STATE.
- DISPOSAL/WASTE SITES SHALL BE APPROVED BY THE AGENCY TO RECEIVE THESE MATERIALS. THE CONTRACTOR SHALL SUBMIT TO THE AGENCY, FOR REVIEW AND APPROVAL, A "WASTE BORROW STAGING REVIEW SHEET" FOR EACH DISPOSAL SITE(S) HE/SHE WISHES TO USE FOR THIS PROJECT. ANY ADDITIONAL PERMITTING REQUIRED FOR THE DISPOSAL SITES OR PROOF OF COMPLIANCE FOR THESE WASTE SITES MUST BE FURNISHED BY THE CONTRACTOR PRIOR TO USE.
- IT IS ANTICIPATED THAT CONSTRUCTION STAGING CAN BE ACCOMPLISHED WITHIN THE EXISTING LIMITS OF WORK. VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILERS OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12 INCHES OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.
- ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH SILT FENCE OR OTHER ACCEPTABLE SEDIMENT BARRIER. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.
- ALL MATERIAL HANDLING AND DISPOSAL WORK SHALL BE IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS AND THE VERMONT AGENCY OF NATURAL RESOURCES (VANR) REQUIREMENTS. WHEREVER POSSIBLE, EXCAVATED SOIL MATERIAL SHALL BE RE-USED WHEN APPROVED BY AND AT THE DISCRETION OF THE ENGINEER TO FORM EMBANKMENTS AND AS OTHER BORROW MATERIALS.
- TEMPORARY AND PERMANENT STABILIZATION OF ALL STAGING AREAS AND WASTE DISPOSAL AREAS SHALL BE IN ACCORDANCE WITH SECTION 105 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE CGP-9020 AND VANR REQUIREMENTS.

7. WINTER CONSTRUCTION REQUIREMENTS

IF ACTIVITIES ARE ON-GOING BETWEEN OCTOBER 15 AND APRIL 15, THE CONTRACTOR SHALL FOLLOW REQUIREMENTS FOR WINTER CONSTRUCTION, AS DEFINED IN SPECIFIC PERMIT CONDITIONS AND AS FOLLOWS:

- ENLARGED ACCESS POINTS, STABILIZED TO PROVIDE FOR SNOW STOCKPILING.
 - LIMITS OF DISTURBANCE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
 - DEVELOPMENT OF A SNOW MANAGEMENT PLAN THAT INCLUDES:
 - ADEQUATE STORAGE AND CONTROL OF MELT-WATER
 - STORAGE OF CLEARED SNOW TO BE PLACED DOWN SLOPE OF DISTURBED AREAS AND OUT OF STORMWATER TREATMENT STRUCTURES
 - A MINIMUM 25-FOOT BUFFER SHALL BE MAINTAINED FROM PERIMETER CONTROLS.
 - DRAINAGE STRUCTURES MUST BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS.
 - SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED PRIOR TO THE GROUND FREEZING.
 - MULCH TO BE APPLIED AT TWICE THE REGULAR RATE, AS SHOWN ON THE EPSC DETAILS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
 - AREAS OF DISTURBED SOILS MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
 - IF NO PRECIPITATION WITHIN 24 HOURS IS FORECAST AND WORK WILL RESUME IN THE SAME AREA WITHIN 24 HOURS.
 - DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, MUST BE STABILIZED AT THE END OF EACH WORK WEEK.
- PRIOR TO STABILIZATION, SNOW OR ICE MUST BE REMOVED TO LESS THAN 1" (25MM) THICKNESS.

CONTRACTOR RESPONSIBILITIES, LIMITATIONS & PROHIBITIONS

1. GENERAL NOTES

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AMEND/UPDATE ALL PLANS AND EXISTING PERMITS WHEN ADDING DETAILED CONSTRUCTION PHASING OR ANYTHING ELSE THAT MAY DEVIATE FROM THE APPROVED PLANS AS DIRECTED BY THE RESIDENT ENGINEER.
- OTHER THAN THOSE SHOWN ON THE PLANS ALL LAND DISTURBANCES WITHIN 50 FT OF ALL WATER BODIES, MEASURED FROM THE TOP OF BANK, AND WETLANDS, ARE PROHIBITED WITHOUT FURTHER REGULATORY REVIEW.
- CONTRACTOR TO MAINTAIN ALL EXISTING STREAMS AND RIPARIAN BUFFER ZONES IN THEIR NATURAL CONDITION.
- OFF-SITE DISCHARGES OF ANY MATERIAL OTHER THAN STORMWATER, SUCH AS VEHICLE AND EQUIPMENT MAINTENANCE SPILLS, FUELS, WASH WATER, CONSTRUCTION DEBRIS, OIL, WET CONCRETE (INCLUDING WASHOUT WATER FROM CONCRETE BATCH TRUCKS OR EQUIPMENT USED TO MIX CONCRETE), AND OTHER SUBSTANCES, ARE PROHIBITED.
- THE FAILURE TO PROMPTLY ABATE THE DISCHARGE OF SEDIMENT OR ANY OTHER WASTE WHICH CAUSES A VISIBLE DISCOLORATION OF SURFACE WATERS (INCLUDING WETLANDS), OR IS FOUND TO BE VIOLATING WATER QUALITY STANDARDS BASED ON MONITORING, IS PROHIBITED. ANY CORRECTIVE ACTION UNDERTAKEN TO REMOVE SEDIMENT FROM A WETLAND IS ALSO PROHIBITED.
- WEATHER CONDITIONS WILL BE MONITORED DURING THE CONSTRUCTION SEASON. IF AN EXTENDED RAIN PERIOD OR HEAVY RAIN IS PREDICTED, EXPOSED SOIL AREAS SHALL BE MULCHED PRIOR TO AND DAILY DURING THE RAIN EVENT. IF DETERMINED NECESSARY BY THE RESIDENT ENGINEER, WORK MAY BE SUSPENDED OR LIMITED DURING THE STORM.

2. INSPECTION & MONITORING NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROLS THAT MINIMIZE OR ELIMINATE POLLUTANTS IN THE DISCHARGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GP 3-9020.
- INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND AS REQUIRED IN SUBPART 6.3.A OF THE GP 3-9020.
- DURING THE WINTER CONSTRUCTION SEASON (OCTOBER 15TH THROUGH APRIL 15TH), DAILY INSPECTIONS SHALL BE CONDUCTED OF AREAS THAT HAVE BEEN DISTURBED AND ARE NOT YET FINALLY STABILIZED.
- INSPECTION FREQUENCY MAY BE REDUCED TO NOT LESS THAN ONE (1) PER MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED. INSPECTIONS MAY BE POSTPONED INDEFINITELY IF THE ENTIRE SITE IS PERMANENTLY STABILIZED.
- INSPECTIONS SHALL BE CONDUCTED BY, OR UNDER THE DIRECTION OF THE ON-SITE PLAN COORDINATOR.
- INSPECTIONS SHALL INCLUDE ALL AREAS OF THE SITE DISTURBED BY THE CONSTRUCTION ACTIVITY AND ALL DISCHARGE LOCATIONS, INCLUDING AREAS WITH TEMPORARY STABILIZATION.
- AN INSPECTION REPORT SHALL BE COMPLETED FOR EACH INSPECTION AND SIGNED BY THE ONSITE PLAN COORDINATOR OR THE PERSON ACTING UNDER THE DIRECTION OF THE ON-SITE COORDINATOR. AT A MINIMUM, EACH INSPECTION REPORT SHALL INCLUDE THE INFORMATION DESCRIBED IN SUBSECTIONS 6.2.G.1 THROUGH 6.2.G.12 OF THE GP 3-9020.
- A RECORD OF EACH INSPECTION REPORT AND OF ANY ACTIONS TAKEN IN ACCORDANCE WITH THIS SUBPART SHALL BE MAINTAINED ON-SITE WITH THE EPSC PLAN AND SHALL BE MADE AVAILABLE UPON REQUEST BY DEC REPRESENTATIVES.
- ALL INSPECTIONS, MONITORING AND REPORTING SHALL MEET, AT A MINIMUM, THE REQUIREMENTS OF PART SIX (6) FROM THE GP 3-9020.

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