

1. PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF THE NEW BRIDGES #27 AND #28 AND THE INSTALLATION OF A NEW CATTLE PASS IN THE TOWN OF ROYALTON. BRIDGE #27 WILL BE BUILT ALONG A NEW ALIGNMENT UPSTREAM OF THE CURRENT BRIDGE. THE NEW BRIDGE #27 WILL BE INTEGRAL ABUTMENT SPANNING 137.6 FEET OVER THE 2ND BRANCH OF THE WHITE RIVER. BRIDGE #27 IS LOCATED IN THE TOWN OF ROYALTON, ON VT ROUTE 14, APPROXIMATELY 1.4 MILES NORTH FROM THE INTERSECTIONS OF VT ROUTE 107 AND VT ROUTE 14. THE CATTLE PASS WILL BE A PRECAST CONCRETE BOX WITH CONCRETE WINGWALLS. IT IS LOCATED APPROXIMATELY 0.20 MILES NORTH OF BRIDGE #27. BRIDGE #28 WILL BE BUILT ALONG AN ALIGNMENT SIMILAR TO THE EXISTING BRIDGE. THE NEW BRIDGE WILL BE A SINGLE SPAN CURVED GIRDER SPANNING 122.6 FEET OVER THE 2ND BRANCH OF THE WHITE RIVER. BRIDGE #28 IS LOCATED IN THE TOWN OF ROYALTON, ON VT ROUTE 14, APPROXIMATELY 2 MILES NORTH FROM THE INTERSECTIONS OF VT ROUTE 107 AND VT ROUTE 14.

2. AREA OF DISTURBANCE

TOTAL AREA OF DISTURBANCE AS SHOWN ON THE ATTACHED EPSC PLAN IS APPROXIMATELY 4.84 ACRES. SEE BREAKDOWN OF DISTURBANCE PER AREA IN # 5 BELOW.

3. CONSTRUCTION SEQUENCE

THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME. LIMIT TOTAL AREA OF DISTURBANCE FOR ALL SITES TO < 2 ACRES. A PROPOSED GENERAL SEQUENCE FOR EACH OF THE MAJOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:

- **ALL SITES-(THIS WORK SHALL BE DONE PRIOR TO ANY WORK LISTED FOR A SPECIFIC SITE.)**
 - 1) ESTABLISH PERIMETER CONTROLS AND MARK BOUNDARIES FOR SENSITIVE RESOURCE AREAS, SUCH AS WETLANDS AND RIPARIAN BUFFER ZONES.
 - 2) INSTALL SEDIMENT CONTROL MEASURES.
 - 3) CLEARING.
 - 4) BEGIN CUT & FILL OPERATIONS.

- **CATTLE PASS**
 - 1) CONCURRENTLY INSTALL TEMPORARY AND PERMANENT STABILIZATION AND EPSC MEASURES AND AS WORK PROGRESSES SO THAT EMBANKMENT IS STABILIZED PRIOR TO ALLOWING RUNOFF TO DISCHARGE TO IT.
 - 2) THE DITCH ON THE WEST SIDE OF THE ROADWAY SHALL BE MAINTAINED UNTIL WORK ON THAT SIDE BEGINS.
 - 3) INSTALLATION OF STRUCTURE WILL BE DONE IN PHASED CONSTRUCTION. THE EAST HALF OF THE ROADWAY WILL BE CUT DOWN TO GRADE FIRST AND HALF OF THE BOX, ONE HEADWALL AND THE TWO WINGWALLS WILL BE PLACED.
 - 4) PLACE SUBBASE MATERIAL FOR FIRST HALF OF THE ROADWAY AND STABILIZE ALL EARTH DISTURBANCE AS WORK PROGRESSES.
 - 5) THE CONTRACTOR SHALL INSTALL TEMPORARY RUNOFF MEASURES DURING CONSTRUCTION TO CAPTURE OR DIVERT RUNOFF IN THE DITCH ON THE WEST SIDE OF THE ROAD. THIS DITCH ON THE WEST SIDE, SOUTH OF THE CATTLE PASS WILL BE MAINTAINED TO DRAIN SOUTH TO THE EXISTING PIPE.
 - 6) SWITCH TRAFFIC TO THE COMPLETED SIDE AND CUT THE REMAINING SIDE DOWN TO GRADE.
 - 7) INSTALL THE REST OF THE BOX AND SECOND HEADWALL AND WINGWALLS.
 - 8) PLACE SUBBASE MATERIAL FOR SECOND HALF OF THE ROADWAY AND STABILIZE ALL EARTH DISTURBANCES AS WORK FINISHES.
 - 9) ONCE VEGETATION HAS BEEN ESTABLISHED AND THE STONE-LINED DITCHES INSTALLED, REMOVE THE INSTALLED TEMPORARY RUNOFF MEASURES AND DIVERT WATER INTO THE STONE-LINED DITCHES AS SHOWN ON THE PLANS.
 - 10) PAVE ROADWAY.

- **BRIDGE #27**
 - 1) CONSTRUCT TEMPORARY OUTLET CONTROL AND DRAINAGE PIPES FOR USE AS TEMPORARY SEDIMENT BASIN AT LOCATION SHOWN ON THE PLANS.
 - 2) BEGIN CUT/FILL OPERATIONS
 - 3) CONCURRENTLY INSTALL TEMPORARY STABILIZATION AND EPSC MEASURES AS WORK PROGRESSES.
 - 4) INSTALL NEW BRIDGE SUBSTRUCTURE. NO DEWATERING REQUIRED.
 - 5) PLACE SUBBASE MATERIAL UP TO TOP OF PILE CAP.
 - 6) INSTALL NEW BRIDGE SUPERSTRUCTURE.
 - 7) PLACE THE REST OF THE SUBBASE MATERIAL UP TO GRADE.
 - 8) WITH TRAFFIC MOVED TO NEW STRUCTURE, FORM NEW DITCH ALONG LEFT SIDE OF THE ROAD.
 - 9) ONCE PERMANENT STABILIZATION MEASURES ARE IN PLACE AND VEGETATION HAS BEEN ESTABLISHED, DRAIN SEDIMENT BASIN, REMOVE ACCUMULATED SEDIMENTS.
 - 10) DIVERT RUNOFF FROM SEDIMENT BASIN TO THE NEW DITCH.

- **BRIDGE #28**
 - 1) CONSTRUCT TEMPORARY BRIDGE.
 - 2) CONSTRUCT BRIDGE ABUTMENTS. DEWATER EXCAVATIONS AS NECESSARY.
 - 3) BACKFILL AROUND ABUTMENTS.
 - 4) CONSTRUCT BRIDGE.
 - 5) PLACE SUBBASE MATERIAL FOR ROADWAY APPROACHES.
 - 6) PAVE ROADWAY AND SHOULDERS WITH BASE COURSE OF PAVEMENT AS SOON AS SUFFICIENT LENGTH OF ROADWAY IS CONSTRUCTED.
 - 7) REMOVE TEMPORARY BRIDGE AND FINAL GRADE SIDE SLOPES.
 - 8) APPLY PERMANENT STABILIZATION MEASURES TO ALL REMAINING EXPOSED SOIL AREAS.

4. STABILIZATION OF EXPOSED SOILS

- SEED AND MULCH WILL BE USED FOR BOTH PERMANENT AND TEMPORARY STABILIZATION MEASURES. ROLLED EROSION CONTROL PRODUCT (RECP) WILL BE USED IN PLACE OF MULCH FOR SLOPES GREATER THAN 1V:3H. MULCH IS TO BE APPLIED AT A MINIMUM APPLICATION RATE AS SHOWN IN THE PLANS, 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.
- DISTURBED AREAS AND SOIL STOCKPILES THAT WILL NOT BE WORKED FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY STABILIZED WITH SEED AND 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

THE PROJECT HAS THREE DISCRETE DISCHARGE POINTS TO THE RECEIVING WATER, THE 2ND BRANCH OF THE WHITE RIVER. EACH DISCHARGE CORRESPONDS TO A DRAINAGE AREA IN WHICH THE PROJECT HAS BEEN DIVIDED.

- **DRAINAGE AREA 1**
INCLUDES THE AREA NORTH AND SOUTH OF BRIDGE #27. THE ASSOCIATED AREA OF DISTURBANCE IS 2.76 ACRES. RUNOFF WILL GENERALLY FLOW WEST TO EAST TOWARD THE WETLAND AREA ON THE SOUTH SIDE OF THE BRIDGE. NORTH OF THAT WATER WILL FLOW NORTH TOWARD THE 2ND BRANCH OF THE WHITE RIVER. ON THE NORTH SIDE OF THE BRIDGE WATER WILL FLOW SOUTH ON EACH SIDE OF THE ROADWAY TOWARD THE 2ND BRANCH OF THE WHITE RIVER.
- **DRAINAGE AREA 2**
INCLUDES MOST OF THE AREA AROUND THE INSTALLATION OF THE CATTLE PASS. THE ASSOCIATED AREA OF DISTURBANCE IS 0.35 ACRE. RUNOFF ON THE WEST SIDE OF THE ROAD WILL FLOW IN VEGETATED SWALES TOWARD THE CATTLE PASS AND RUN THROUGH THE CATTLE PASS TO THE EAST SIDE OF THE ROAD. FROM HERE THE WATER WILL RUN TO THE 2ND BRANCH OF THE WHITE RIVER.
- **DRAINAGE AREA 3**
CONSISTS OF THE AREA NORTH AND SOUTH OF BRIDGE #28. THE ASSOCIATED AREA OF DISTURBANCE IS 1.73 ACRES. RUNOFF WILL GENERALLY FLOW NORTH TO SOUTH AND INTO THE 2ND BRANCH OF THE WHITE RIVER. MOST RUNOFF WILL BE DISCHARGED TO VEGETATED TREATMENT SWALES WHICH DISCHARGE TO THE RECEIVING WATER.

DRAINAGE AREA SUMMARY

DRAINAGE AREA	TOTAL DISTURB. (ACRES)	LIMIT OF CONCURRENT DISTURBANCE	RECEIVING WATER
1	2.76	2 ACRE*	2 ND BRANCH OF WHITE RIVER
2	0.35	2 ACRE*	2 ND BRANCH OF WHITE RIVER
3	1.73	2 ACRE*	2 ND BRANCH OF WHITE RIVER

*ONLY 2 ACRES OF TOTAL DISTURBANCE ALLOWED FOR ALL 3 SITES COMBINED, AT ONE TIME.

6. WASTE, BORROW, AND STAGING AREAS

- OFF-SITE WASTE AND BORROW AREAS HAVE NOT BEEN IDENTIFIED FOR THIS PROJECT. IT WILL 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.

- 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 SITES REQUIRE RELATIVELY LEVEL TERRAIN WITH AN ISOLATION DISTANCE OF AT LEAST 100 FT FROM ANY SURFACE WATERS, INCLUDING WETLANDS.

- 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.

7. WINTER CONSTRUCTION REQUIREMENTS

IT IS EXPECTED THAT CONSTRUCTION ACTIVITIES WILL CONTINUE INTO THE WINTER CONSTRUCTION SEASON, DEPENDING ON ACTUAL FIELD AND WEATHER CONDITIONS. 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 7.5-METER (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 AHEAD OF FROZEN GROUND.
- MULCH TO BE APPLIED AT TWICE THE REGULAR RATE, AS SHOWN IN THE PLANS, 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 INCH IN 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 WILL 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.

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