STATE OF VERMONT
AGENCY OF TRANSPORTATION

EROSION CONTROL NARRATIVE – RSA

DESCRIPTION OF PROJECT

THIS PROJECT WILL INCLUDE EXTENDING THE RUNWAY 19 SAFETY AREA (RSA) FROM 300 FEET TO 600 FEET AND WIDENING THE RSA TO A MINIMUM OF 400 FEET. THIS RSA EXTENSION WILL REQUIRE RE-LOCATING A PORTION OF EXISTING AIRPORT ROAD. THE WORK WILL BE CONSTRUCTED IN TWO PHASES:

PHASE I - AIRPORT ROAD RELOCATION: RELOCATE 780 FEET BY 28 FEET WIDE ROADWAY TO THE EAST OF THE EXISTING AIRPORT ROAD ALIGNMENT. THIS RELOCATION WILL MOVE THE INTERSECTION WITH ROUTE 103 APPROXIMATELY 800 FEET EASTERLY. THE NEW ROADWAY PROFILE WILL RISE FROM ROUTE 103 AT A GRADIENT OF 10% IN CUT FOR THE FULL LENGTH OF THE CONSTRUCTION. EXCAVATION FOR THE AIRPORT ROAD CONSTRUCTION WILL AMOUNT TO APPROXIMATELY 10,000 CUBIC YARDS AND DISTURB 1.8+/-ACRES. DRAINAGE ALONG THE NEW ROADWAY ALIGNMENT WILL BE COLLECTED AND CONVEYED VIA ROADSIDE DITCHES TO THE EXISTING ROUTE 103 ROADSIDE DITCH.

PHASE II - RUNWAY SAFETY AREA: EXTENSION OF THE RSA WILL REQUIRE THE PLACEMENT OF 200,000 CUBIC YARDS OF COMPACTED FILL MATERIAL ON THE NORTH END OF THE AIRFIELD TO A DEPTH OF 30 FEET. THIS WORK WILL DISTURB APPROXIMATELY 8.7 ACRES. RSA EMBANKMENT SIDE SLOPES WILL VARY FROM 1:3 TO 1:1.5. SLOPES GREATER THAN 1:2 WILL BE TREATED WITH RIPRAP REVETMENTS.

WASTE MATERIAL FROM THE CONSTRUCTION OF AIRPORT ROAD WILL BE USED FOR THE INITIAL RSA FILL. AN ADDITIONAL 190,000 CUBIC YARD OF FILL MATERIAL WILL BE REQUIRED FOR THE RSA CONSTRUCTION. THIS MATERIAL WILL BE HAULED IN FROM OFF SITE. SURFACE DRAINAGE FROM THE RSA WILL BE INTERCEPTED AT THE TOP OF THE EMBANKMENT ALONG THE PERIMETER OF THE RSA, COLLECTED VIA CATCH BASINS AND THEN RUN IN CULVERTS TO OUTFALL INTO DITCHES LOCATED BEYOND THE BASE OF EMBANKMENT FILL.

SITE INVENTORY AND ANALYSIS

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

THE AREA OF THE PROPOSED PROJECT IMPROVEMENTS IS UNDER THE APPROACH TO RUNWAY 19. THE SITE IS OPEN FIELDS. VEGETATION IS MATURE GRASSES AND GROUND COVER EXCEPT ALONG THE EASTERLY SIDE OF EXISTING AIRPORT ROAD WHERE LOW TREES LINE THE ROADWAY, BELOW THE RUNWAY APPROACH. EXISTING TOPOGRAPHY FROM THE SOUTH TO THE NORTH FALLS FROM AN ELEVATION OF 763 FEET TO AN ELEVATION OF 700 FEET MEAN SEA LEVEL AND IS GENERALLY STEEP. THE TERMINUS OF THE EXISTING RSA IS AN EMBANKMENT AT A GRADE AT 1:2.5 (40% GRADIENT). THE BALANCE OF TERRAIN IN THE PROJECT AREA VARIES FROM 8% TO 20% SLOPES.

STATE ROUTE 103 IS LOCATED NORTH OF THE RUTLAND AIRPORT ADJACENT TO THE PROPOSED RSA EXTENSION. AIRPORT ROAD, A TOWN ROAD LOCATED OFF ROUTE 103, IS LOCATED WITHIN THE PROJECT AREA AND WILL REQUIRE RELOCATION TO THE EAST.

THERE ARE NO BUILDINGS WITHIN THE PROJECT AREA. THERE ARE TWO RUNWAY 19 APPROACH LIGHT TOWERS LOCATED WITHIN THE RSA EXTENSION FILL AREA THAT WILL HAVE TO BE REMOVED DURING THE CONSTRUCTION. THESE APPROACH LIGHTING TOWERS WILL BE RESET UPON PROJECT COMPLETION.

UTILITIES INCLUDE OVERHEAD PRIMARY ELECTRIC AND TELEPHONE LINES LOCATED ALONG EXISTING AIRPORT ROAD AND UNDERGROUND AIRPORT ELECTRIC SERVICE FOR THE RUNWAY APPROACH LIGHTS. THESE UTILITIES ARE TO BE RELOCATED PRIOR TO RECEIVING NOTICE TO PROCEED.

SITE DRAINAGE CHARACTERISTICS:

THE EXISTING TERRAIN WITHIN THE PROJECT LIMITS FALLS SOUTH TO NORTH SUCH THAT DRAINAGE IS INTERCEPTED IN ROADSIDE DITCHES ALONG THE SOUTH SIDE OF STATE ROUTE 103, THEN CONVEYED TO THE NORTH SIDE OF ROUTE 103 VIA CROSS CULVERTS. STORM WATER RUNOFF WITHIN THE PROJECT AREA IS GENERALLY OVER LAND EXCEPT FOR ON THE EXISTING RSA WHERE RUNOFF IS INTERCEPTED BY DROP INLETS AND PIPED TO THE BASE OF THE EXISTING RSA EMBANKMENT WHERE IT IS THEN DISCHARGED TO RUN OVER LAND. AIRPORT ROAD DRAINAGE WITHIN THE PROJECT AREA IS LIMITED TO A SINGLE CROSS CULVERT.

WATERWAYS, BODIES OR WATER:

THERE ARE A TOTAL OF 18 DISTINCT WETLANDS LOCATED ON AIRPORT PROPERTY. THE PROJECT AREA FOR THE RELOCATED AIRPORT ROAD WILL NOT IMPACT ANY JURISDICTIONAL WETLANDS OR WETLAND BUFFER AREAS.

THE PROPOSED RUNWAY SAFETY AREA EXTENSION WILL IMPACT APPROXIMATELY 3600 SQUARE FEET OF WETLANDS. THIS WETLAND (DESIGNATED AS WETLAND "L") IS LOCATED TO THE WEST OF THE RSA. WETLAND P IS LOCATED MORE THAN 200 FEET EAST OF THE PROPOSED AIRPORT ROAD. THIS WETLAND BORDERS AN INTERMITTENT STREAM LOCATED ANOTHER 100+/- FEET TO THE EAST. USGS QUAD MAPPING (RUTLAND) SHOWS AN UNNAMED TRIBUTARY TO OTTER CREEK, AT ITS NEAREST LOCATION SOME 600 FEET NORTHEAST OF THE PROPOSED RELOCATED AIRPORT ROAD INTERSECTION WITH ROUTE 103. OTTER CREEK IS LOCATED APPROXIMATELY 6,000 FEET WEST OF THE PROJECT.

VEGETATION:

THE AIRFIELD CONSISTS OF OPEN MEADOW GRASSLANDS THAT ARE MOWED ANNUALLY. EXISTING AIRPORT ROAD TO BE REMOVED HAS A HEDGE ROW ON EITHER SIDE OF THE ROAD. THIS HEDGE ROW WILL BE REMOVED DURING CONSTRUCTION OF THE RUNWAY SAFETY AREA.

SOILS:

SOIL TYPES IN THE PROPOSED CONSTRUCTION AREA ARE SHOWN ON SHEET EC-3.

SENSITIVE RESOURCE AREAS:

THERE ARE NO RARE, THREATENED, OR ENDANGERED SPECIES LOCATED WITHIN THE PROPOSED RSA EXTENSION IMPROVEMENTS AREA. SURROUNDING AREA MEADOWS HAVE BEEN DESIGNATED AS HABITAT FOR GRASSLAND BIRDS. THERE IS A MEMORANDUM OF UNDERSTANDING BETWEEN THE VT AGENCY OF NATURAL RESOURCES (VANR) AND THE VT AGENCY OF TRANSPORTATION (VTRANS) THAT THE AIRPORT DELAY GRASS MOWING AND CONSTRUCTION DURING THE NESTING SEASON FOR GRASSLAND BIRDS. AS A MITIGATION MEASURE VTRANS WILL MOW THE PROPOSED SITE FOR CONSTRUCTION OF THE RSA AND ROADWAY RE-LOCATION BEGINNING IN MAY TO DISCOURAGE THESE GRASS LAND BIRDS FROM NESTING IN THE PROJECT AREA. GRASS IN MOWED AREAS IS TO BE MAINTAINED AT LESS THAN 4" IN HEIGHT.

THERE ARE NO FLOODPLAINS, HISTORIC, ARCHITECTURAL, CULTURAL, AND ARCHAEOLOGICAL RESOURCES WITHIN THE PROPOSED PROJECT AREA.

TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL

" PROJECT DEMARCATION FENCING " WILL BE PLACED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE EXPOSED TO EROSION.

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING, OR EQUIVALENT PRODUCTS, WILL BE UTILIZED ON ALL SLOPES STEEPER THAT 1:3 THAT ARE NOT LINED WITH STONE REVETMENT. THE SLOPES FROM THE RSA SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL/FINISH GRADE OR DURING INTERMITTENT PHASES OF CONSTRUCTION ACTIVITY.

ANY SLOPES OR OPEN AREAS TO BE EXPOSED FOR SEVERAL DAYS PRIOR TO FINAL GRADING SHALL BE MULCHED. THE FORECAST OF RAINFALL EVENTS SHALL ALSO TRIGGER PROTECTION OF EXPOSED AREAS OR SLOPES.

TEMPORARY MEASURES TO CONTROL SEDIMENT TRANSPORT INCLUDE:

CONSTRUCTION OF A TEMPORARY SEDIMENTATION BASIN ALONG WITH PERIMETER DIVERSION BERMS AND/OR DIVERSION SWALES DIRECTING CONSTRUCTION RUNOFF TO THIS BASIN AS SHOWN ON THE PLANS. INSTALLATION OF PERIMETER AND INTERIM SILT FENCES AS THE WORK IS PHASED, AS SHOWN OR CALLED FOR ON PLANS OR OTHERWISE APPROVED BY THE ENGINEER. EACH LINE OF SILT FENCE WILL BE PLACED WITH THE ENDS TURNED SLIGHTLY UPHILL TO CREATE A PONDING CONDITION SHOULD WATER TRY TO RUN AROUND THE FENCING. THE MAXIMUM SLOPE LENGTH BETWEEN SEPARATE RUNS OF SILT FENCE SHALL NOT EXCEED 100 FEET.

A STABILIZED CONSTRUCTION ENTRANCE AS CALLED FOR ON THE PLANS. MODIFICATION AND/OR RELOCATION OF THE STABILIZED CONSTRUCTION ENTRANCE(S) ARE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.

PERMANENT EROSION CONTROL MEASURES

PERMANENT EROSION CONTROL MEASURES TO BE UTILIZED INCLUDE:

PERMANENT EROSION CONTROL MEASURES WILL INCLUDE GRASS OR OTHER SUITABLE GROUND COVER. AT LOCATIONS WHERE EMBANKMENT GRADING EXCEEDS 1 (VERTICAL) ON 2 (HORIZONTAL) STONE REVETMENT / LINING SHALL BE PLACED. AS THE WORK PROCEEDS ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED PROMPTLY UPON ACHIEVING FINAL GRADES USING AN APPROVED SEEDING FORMULA FOR RURAL AREAS.

GENERAL EROSION & SEDIMENT CONTROL GUIDELINES

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS, AND OTHER POLLUTION PREVENTION CONTROLS.

COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION, AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. THE CONTRACTOR WILL USE ADDITIONAL EROSION CONTROL MEASURES WHEN NECESSARY THE SEQUENCE OF CONSTRUCTION OR WHEN DIRECTED BY THE ENGINEER. REFER TO SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, LATEST EDITION.

INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN OR CALLED FOR ON THE EROSION CONTROL PLAN OR AS DIRECTED BY THE ENGINEER. DO NOT MODIFY THE TYPE, SIZE OR LOCATION OF ANY CONTROL DEVICE OR PRACTICE WITHOUT PRIOR APPROVAL FROM THE ENGINEER. ALL CHANGES SHALL BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT, AND REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER. INSPECT ALL CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT. MAKE REPORTS AS NECESSARY OR AS DIRECTED BY THE ENGINEER.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAT TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY VEGETATION SHALL BE ESTABLISHED IF THE AREA IS TO BE WITHOUT CONSTRUCTION ACTIVITY FOR A PERIOD OF 14 DAYS OR MORE. ALL PERIMETER CONTROL MEASURES SHALL BE INSTALLED FOLLOWING CLEARING, BUT PRIOR TO START OF ANY GRUBBING OR GRADING ACTIVITY. INSTALL ALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.
MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS AND OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENTATION CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHENEVER POSSIBLE.

CONTROL ONLY THE SEDIMENT-LADEN RUNOFF GENERATED BY THE PROJECT SITE. INTERCEPT, COLLECT AND CONVEY CLEAN OFFSITE RUNOFF AROUND OR THROUGH THE PROJECT SITE USING DIVERSION BERMS, DIVERSION CHANNELS, CULVERTS AND/OR TEMPORARY PIPING.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE ON THE DOWN SIDE OF PERIMETER CONTROL MEASURES.

FINAL CONDITIONS SITE PLAN

SEE DRAWINGS 14 OF 36 FOR FINAL CONSTRUCTION CONDITIONS. ALL SILT FENCE AND TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED PRIOR TO ACCEPTANCE OF THE PROJECT.

DROP INLET AND CULVERT CROSSING AIRPORT ROAD AT STATION 8+55 ARE UTILIZED FOR TEMPORARY EROSION CONTROL MEASURES DURING CONSTRUCTION TO DIVERT UNTREATED RUNOFF FROM PORTIONS OF PROPOSED RSA GRADING TO SEDIMENTATION BASIN EAST. ONCE CONSTRUCTION IS COMPLETED, SEDIMENTATION BASIN EAST WILL BE RESTORED TO PRE-CONSTRUCTION GRADE AND THE SECTION OF DRAINAGE IS TO BE REMOVED OR ABONDONED.

THE MANHOLE AND PIPE CROSSING AIRPORT ROAD AT STATION 8+80 IS UTILIZED TO DIVERT STORMWATER FROM ROUTE 103 ROADSIDE DITCH TO THE 72" CULVERT AT STATION 226+60 (ROUTE 103). THIS SECTION OF DRAINAGE IS A PERMANENT FEATURE THAT WILL SUPPLEMENT THE 24" CULVERT CROSSING ROUTE 103 AT STATION 232+50 TO PREVENT OVERTOPPING AIRPORT ROAD / ROUTE 103 INTERSECTION FOR STORMS UP TO A 25 YEAR STORM EVENT. DURING RESTORATION OF SEDIMENTATION BASIN E A 30" CPEP STORM PIPE TO BE ADDED TO CONNECT THE PERMANENT DRAINAGE CROSSING AIRPORT ROAD TO THE OUTLET PIPE FROM THE SEDIMENTATION BASIN.

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PROJECT RECORD DRAWINGS