

EROSION AND SEDIMENT CONTROL PRACTICES

THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR DEALING WITH SOIL EROSION DURING AND AFTER THE CONSTRUCTION OF ACCESS ROADS, DRIVEWAYS, BUILDINGS, AND UTILITIES AT THE MANCHESTER MOTORS CONSTRUCTION SITE. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AS CONTAINED IN THE CURRENT EDITION (DATED MARCH 2015) OF "BEST MANAGEMENT PRACTICES" BY THE SOIL AND WATER CONSERVATION DISTRICT AND ADOPTED BY THE MAINE DEP.

CONSTRUCTION IS EXPECTED TO BEGIN SPRING OF 2016 AFTER OBTAINING PERMITS FOR APPROVAL FROM THE TOWN, MDOT, AND DEP. SPECIAL ATTENTION SHOULD BE GIVEN TO THE SEASON PERTAINING TO FALL AND WINTER SEEDING AS THE PROJECT MAY OVERLAP INTO THE 2017 CONSTRUCTION SEASON.

THE PRINCIPAL EROSION CONTROL DEVICES WILL BE HAY BALE BARRIERS, SILT FENCES, RIPRAP, MULCH, EROSION CONTROL BLANKETS, AND SEED TO PROTECT EXISTING TREES, HOUSES, AND DRAINAGE PATHS FROM THE REGIONS UNDERGOING CONSTRUCTION. STEEP SLOPES SHALL BE DRESSED WITH BIODEGRADABLE EROSION CONTROL NETTING. OTHER FEATURES SUCH AS GRASSED WATERWAYS AND LANDSCAPING WILL BE CONSTRUCTED AS PERMANENT EROSION CONTROLS.

STRUCTURAL MEASURES

HAY BALES BARRIERS SHALL BE PLACED ALONG THE CONTOUR AND PERPENDICULAR TO THE PREDOMINANT SLOPE OF THE LAND ON THE DOWNSLOPE SIDE BEHIND INDIVIDUAL HOUSES AND/OR ROAD CONSTRUCTION. BALES ARE TO BE STAKED AND EMBEDDED 4" INTO THE SOIL WITH ENDS TIGHTLY ABUTTING ADJACENT BALES. IN AREAS OF SIGNIFICANT EROSION, PLACEMENT OF FILTER FABRIC ALONG UPHILL SIDE OF HAY BALE IS FREQUENT.

SILT FENCING SHALL BE INSTALLED ALONG THE CONTOUR AND PERPENDICULAR TO THE PREDOMINANT SLOPE OF THE LAND JUST BEYOND THE DOWNSLOPE LIMITS OF CLEARING AND GRASSING AND/OR ADJACENT TO ANY ADJACENT FINE DRAINAGE LINES INDICATED ON THE PLAN TO PROTECT AGAINST CONSTRUCTION RELATED EROSION. INSTALLATION SHALL BE AS SHOWN ON THE PLANS OR APPROVED EQUAL.

RIPRAP MATERIALS SHALL BE PLACED AS SHOWN IN ALL INLETS/OUTLETS OF PIPE CULVERTS. THESE APRONS WILL PREVENT SCOUR AT STORMWATER OUTLETS AND MINIMIZE THE POTENTIAL FOR DOWNSLOPE EROSION BY REDUCING THE VELOCITY OF CONCENTRATED STORMWATER FLOW. AVERAGE DESIGN SIZE STONE, D₅₀, SHALL BE AS CALLED OUT IN THE DETAIL ON THE PLANS. LARGEST SIZE OF STONE IN THE RIPRAP IS TO BE 15 TIMES THE D₅₀ SIZE.

PROTECTIVE MATS ON STEEP SLOPES WILL AID IN CONTROLLING EROSION ON CRITICAL AREAS DURING THE ESTABLISHMENT PERIOD OF VEGETATION. JUTE EROSION CONTROL MATS ARE SHOWN ON THE PLAN.

NATURALLY VEGETATED BUFFERS AND GRASS FILTER STRIPS REMOVE SEDIMENT AND OTHER POLLUTANTS FROM RUNOFF BY INFILTRATION, DEPOSITION, ABSORPTION AND DECOMPOSITION. FILTERS ARE EFFECTIVE ONLY IF USED TO REMOVE SEDIMENT FROM SHEET (OVERLAND) FLOW.

RIPRAP SWALES (DITCHES) SHALL BE PLACED AS SHOWN ON THE DRAWINGS. THESE SWALES ARE A MINIMUM OF TWO FEET IN DEPTH AND HAVE D₅₀ STONE SIZE THAT IS DESIGNED TO WITHSTAND THE MAXIMUM ALLOWABLE VELOCITY FOR THE WATERWAY. STONES ARE TO BE PLACED ON A 6" GRAVEL BEDDING OR GEOTEXTILE FABRIC SUCH AS MIRAFI 142N.

DIVERSION DITCHES ARE TO BE CREATED WHERE INDICATED ON PLANS TO DIVERT STORMWATER RUNOFF AWAY FROM UNPROTECTED OR STEEP SLOPES TO A STABILIZED OUTLET. BERTS ARE TO BE A MINIMUM OF 1' DEEP AND 5' WIDE. GRADES OF DIVERSION BERTS IS NOT TO EXCEED 2% UNLESS APPROPRIATE STRUCTURAL MEASURES (RIPRAP, PAVED FLUMES) ARE TAKEN. DISTURBED AREAS ARE TO BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION.

A STONE CHECK DAM IS A FILTERING AND ENERGY DISSIPATION DEVICE THAT LIMITS THE EROSION PROCESS. THESE DAMS ARE 2'-3" CRUSHED STONE, 24" IN HEIGHT AND ARE PLACED IN DRAINAGE DITCHES AS A TEMPORARY EROSION CONTROL MEASURE. THE DAMS ARE TO BE REMOVED PRIOR TO FINAL ACCEPTANCE OF THE PROJECT AND RIPRAP INSTALLED IN ITS PLACE. (SEE TYPICAL DETAIL)

STABILIZED CONSTRUCTION ENTRANCE IS TO BE PLACED DURING CONSTRUCTION, WHERE TRAFFIC IS ENTERING OR LEAVING CONSTRUCTION SITE. THIS WILL REDUCE OR ELIMINATE THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. A 2" THICK LAYER OF 1/2"-3" CRUSHED STONE 50' IN LENGTH HAS BEEN DESIGNED AND SHOWN ON THE PLAN. (SEE TYPICAL DETAIL)

LEVEL SPREADERS ARE USED TO CONVERT CHANNELIZED RUNOFF TO SHEET FLOW. SINCE THE SPREADER IS SWEEPED AND SIGNIFICANTLY REDUCES THE VELOCITY OF THE CHANNELIZED FLOW AND ALLOWS IT TO BE DISCHARGED AT NON-EROSIVE VELOCITIES ONTO UNDISTURBED AREAS THAT HAVE EXISTING VEGETATION CAPABLE OF PREVENTING EROSION, THEY CAN BE USED WITH ROADWAY DITCH TURNOUTS TO DIVERT THE RUNOFF INTO A NATURALLY VEGETATED BUFFER AREA. THIS PROCEDURE IS AN EFFECTIVE METHOD FOR REDUCING THE EXPORT OF PHOSPHORUS FROM A DEVELOPED SITE.

VEGETATIVE MEASURES

1. TOPSOIL ON SITE SHALL BE STOCKPILED AT A STABLE LOCATION ON SITE AND COVERED WITH ANCHORED MULCH FOR TEMPORARY EROSION CONTROL.

2. IF ANY DISTURBED AREA OF SOIL WILL BE LEFT BARE FOR MORE THAN TWO WEEKS, OR IF CONSTRUCTION IS TO BE COMPLETED IN PHASES OVER AN EXTENDED DURATION, TEMPORARY SEEDING AND MULCHING SHALL COMMENCE IMMEDIATELY FOLLOWING INITIAL FINE GRADING OF SITE. IN SENSITIVE AREAS (WITHIN 25' OF WETLANDS OR STREAMS) TEMPORARY MULCH MUST APPLIED WITHIN 7 DAYS OR PRIOR TO ANY STORM EVENT ON ALL DISTURBED SURFACES. IT SHALL BE MAINTAINED AND RESEEDED AS NECESSARY TO INSURE GOOD VEGETATIVE COVER FOR THE ENTIRE DURATION OF CONSTRUCTION. SEED WILL BE SELECTED FROM THE FOLLOWING TABLE, ACCORDING TO THE TIME OF THE YEAR.

TEMPORARY SEED MIXTURE

SEED	LB5 ACRE	LB5 1000 SF	RECOMMENDED SEEDING DATE
WINTER RYE	12	2.6	8/15 - 10/1
OATS OR ANNUAL RYEGRASS	40	0.8	4/1 - 7/1 AND 8/15 - 9/15
SUDANGRASS	40	0.9	5/15 - 8/15
PERENNIAL RYEGRASS	40	0.9	8/15 - 9/15

TEMPORARY MULCH WITH OR WITHOUT DORMANT SEEDING RATE

MULCH WILL BE APPLIED WITH SEEDING ACCORDING TO MULCH TABLE. IF IT IS NOT POSSIBLE TO SEED 45 DAYS OR MORE PRIOR TO FROST, THEN DORMANT SEEDING AND ANCHORED MULCH SHALL BE APPLIED.

3. PERMANENT SEEDINGS OF GRASS COVER SHALL BE APPLIED TO ALL DISTURBED AREAS. ALL SURFACE WATER CONTROL MEASURES AND FINAL LAND GRADING IN THE VICINITY SHOULD BE COMPLETED. GROUND PREPARATION SHALL INCLUDE TILLING TO A MINIMUM 3" DEPTH OF FINE BUT FRIABLE SOIL, FREE OF CLODS OR STONES. PERMANENT SEED SHALL BE SELECTED ACCORDING TO ITS FINAL DESTINATION. (SEE PERMANENT SEED MIXTURE TABLE)

4. ALL SEEDING WILL REQUIRE MULCH. MULCH PROVIDES SEVERAL BENEFITS: CONSERVES MOISTURE, PREVENTS SURFACE COMPACTION, IMPROVES WATER QUALITY, REDUCES RUNOFF AND EROSION, CONTROL, WEEDS, AND HELPS ESTABLISH PLANT COVER. MULCH SHALL BE APPLIED ACCORDING TO THE FOLLOWING TABLES:

PERMANENT SEED MIXTURE

MIXTURE	APPLICATION RATE	
	PARKS + LAUNS LB5/1000 SF	ROADSIDE AREAS, DITCHES, FLUMES LB5/1000 SF
KENTUCKY BLUEGRASS	46	46
CREeping RED FESCUE	46	05
PERENNIAL RYEGRASS	11	46
TOTAL SEED RATE	103	097

NOTE: THE CONTRACTOR MAY WISH TO FINAL SEED FROM 10/1 TO 1/1 WITH THE SAME SOIL PREPARATIONS, SEEDING MIXES (DOUBLING THE SEED RATE) AND MULCHING, BUT IT MAY RESULT IN WINTER KILL. VEGETATION MUST BE INSPECTED AND RESEEDED AS NECESSARY IN THE FOLLOWING SPRING TO ASSURE GOOD VEGETATIVE COVER.

2. NO SEEDING SHALL BE PERMITTED ON THE SNOW.

3. MULCH SHALL BE APPLIED AFTER ALL SEED APPLICATIONS.

4. PERMANENT SEEDINGS SHOULD BE MADE 45 DAYS OR MORE PRIOR TO THE FIRST KILLING FROST OR AS A DORMANT SEEDING AFTER THE FIRST KILLING FROST.

MAINTENANCE

DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:

SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE 75% VEGETATIVE ESTABLISHMENT.

AT A MINIMUM, THE HAY BALE/SILT FENCE BARRIERS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND IMMEDIATELY FOLLOWING ALL SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6 INCHES AND REGRADED ONTO THE SITE.

DIVERSION DITCHES AND SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.

THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF PROPOSED TEMPORARY AND PERMANENT EROSION CONTROL MEASURES INCLUDING VEGETATION. THE CONTRACTOR MUST INSTALL OR CONSTRUCT ALL REQUIRED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR MUST INCORPORATE ALL OTHER SITE IMPROVEMENTS, RESTRICTIONS, CONSTRUCTION LIMITS, DRAINAGE IMPROVEMENTS, NATURAL VEGETATED BUFFERS, PROPOSED LANDSCAPING, ETC. THE CONTRACTOR MUST OBTAIN A COMPLETE SET OF PLANS, REPORTS AND DOCUMENTS PERTAINING TO THE PROJECT BEFORE BEGINNING CONSTRUCTION.

ALL TEMPORARY EROSION CONTROL DEVICES SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AFTER CONSTRUCTION IS COMPLETE AND THE SITE IS PERMANENTLY STABILIZED.

WINTER CONSTRUCTION (WHEN APPLICABLE)

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 15% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.

ALL AREAS SHALL BE CONSIDERED TO BE DENIED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED, SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE A MINIMUM OF 150 LB5/1000 SF. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

THE CONTRACTOR MUST INSTALL ANY ADD'D MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDING UPON THE ACTUAL SITE AND WEATHER CONDITIONS.

CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

SOIL STOCKPILES

ROCKPILES OR SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LB5/1000 SF. (3 TONS PER ACRE) OR WITH A FOUR-INCH (4") LAYER OF WOODWASTE EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.

NATURAL RESOURCES PROTECTION

ALL AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS.

DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.

PROJECTS CROSSING A NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF EROSION CONTROL FILTER BERTS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

MULCHING

ALL AREA SHALL BE CONSIDERED TO BE DENIED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED, SEEDED AND MULCHED. HAY AND STRAW SHALL BE APPLIED AT A RATE OF 150 LB. PER 1000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LB5/1000 SF. OR 150 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW WILL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION.

AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 SQUARE FEET (3 TONS/ACRE) OR ANCHORED BY ANCHORED SO THAT THE SOUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER FEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACKING INTO THE SURFACE OR WOOD CELLULOSE FIBER. THE MULCH COVER IS SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE. AFTER NOVEMBER 1, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORK DAY.

MULCHING ON SLOPES AND DITCHES

SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230 LB5/1000 SF ON ALL SLOPES GREATER THAN 8%.

MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%.

EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8% OR GREATER. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

SEEDING

BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES, FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND THE EXPOSED AREA HAS BEEN LOADED AND FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND FABRIC NETTING ANCHORED WITH STAPLES. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5LB5/1000 SF. ALL AREAS SEEDING DURING THE WINTER WILL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REMOVING THE MULCH AND RESEEDING AND REMULCHING.

IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

TRENCH DEWATERING AND TEMPORARY STREAM DIVERSION

WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM DIVERSION WILL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE.

INSPECTION AND MONITORING

MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO ENSURE THEIR CONTINUOUS FUNCTION FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING. THE CONTRACTOR SHALL INSPECT AND REPAIR ANY DAMAGES AND UNVEGETATED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85 TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS:

THE CONTRACTOR WILL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE CONTRACTOR WILL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15. IF THE CONTRACTOR FAILS TO STABILIZE A DITCH OR CHANNEL, IT TO BE GRASS-LINED BY SEPTEMBER 15. THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER. INSTALL A 60D LINING IN THE DITCH; THE CONTRACTOR WILL LINE THE DITCH WITH PROPERLY INSTALLED 60D BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE 60D ONTO THE SOIL WITH WIRE PINS, ROLLING THE 60D TO GUARANTEE CONTACT BETWEEN THE 60D AND UNDERLYING SOIL, AND WATERING THE 60D TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

INSTALL A STONE LINING IN THE DITCH; THE CONTRACTOR WILL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE CONTRACTOR WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES:

THE CONTRACTOR WILL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE CONTRACTOR WILL CONSTRUCT AND STABILIZE RYE-COVERED SLOPES BY SEPTEMBER 15. THE TOWN/DEP WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE SLOPE. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS; BY OCTOBER 1 THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND APPLY EROSION CONTROL MATS (OR MULCH WITH JUTE NETTING) OVER THE MULCHED SLOPE. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH AN ADDITIONAL LAYER OF WINTER MULCH APPLICATION, STONE RIPRAP, OR WOODWASTE COMPOST AS DESCRIBED BELOW.

STABILIZE THE SLOPE WITH 60D; THE CONTRACTOR WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED 60D BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE 60D ONTO THE SLOPE WITH WIRE PINS, ROLLING THE 60D TO GUARANTEE CONTACT BETWEEN THE 60D AND UNDERLYING SOIL, AND WATERING THE 60D TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR WILL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33%.

STABILIZE THE SLOPE WITH EROSION CONTROL MIX; THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF EROSION CONTROL MIX ON THE SLOPE BY NOVEMBER 15, PRIOR TO PLACING THE EROSION CONTROL MIX, THE CONTRACTOR WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.

STABILIZE THE SLOPE WITH STONE RIPRAP; THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE CONTRACTOR WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS; BY SEPTEMBER 15, THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

1. STABILIZE THE SOIL WITH TEMPORARY VEGETATION; BY OCTOBER 1, THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 15 POUNDS PER 1000 SQUARE FEET AND ANCHOR THE MULCH WITH PLASTIC OR JUTE NETTING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ONE OF THE ITEMS BELOW OF THIS STANDARD.

2. STABILIZE THE SOIL WITH 60D; THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED 60D BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE 60D ONTO THE SOIL WITH WIRE PINS, ROLLING THE 60D TO GUARANTEE CONTACT BETWEEN THE 60D AND UNDERLYING SOIL, AND WATERING THE 60D TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.

3. STABILIZE THE SOIL WITH MULCH; BY NOVEMBER 15, THE CONTRACTOR WILL MULCH THE DISTURBED SOIL WITH WINTER RYE AT A RATE OF 150 LB. PER 1000 SQUARE FEET AND 1500 SQUARE FEET IN THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE CONTRACTOR WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC OR JUTE NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

NOTE

AREAS WITHIN 100' OF A WETLAND NOT BEING WORKED UPON SHALL BE SEEDING WITHIN 7 DAYS OF DISTURBANCE.

GRADING AND DRAINAGE NOTES

- UNLESS OTHERWISE NOTED, STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATION 609 AND 610. ALL DRAINAGE PIPES SHALL BE 18" DIAMETER AND FINISHED WITH THE EXCEPTION THAT THE ONLY ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS: REINFORCED CONCRETE PIPE, HDPE/SMOOTH INTERIOR CORRUGATED PLASTIC PIPE.
- HDPE/SMOOTH INTERIOR CORRUGATED PLASTIC PIPE (SICP) MAY ONLY BE USED FOR PIPE SIZES 48" DIAMETER AND SMALLER.
- TOPSOIL STRIPPED IN AREAS OF CONSTRUCTION THAT IS SUITABLE FOR REUSE AS LOAM SHALL BE STOCKPILED ON SITE AT A LOCATION TO DESIGNATED BY THE OWNER. UNSUITABLE SOIL SHALL BE SEPARATED, REMOVED, AND DISPOSED OF AT AN APPROVED DISPOSAL LOCATION OFFSITE.
- ALL EXISTING STRUCTURES, FENCING, TREES, ETC., WITHIN THE CONSTRUCTION AREA, UNLESS OTHERWISE NOTED TO REMAIN, SHALL BE REMOVED AND DISPOSED OFFSITE. ANY BURNING ONSITE SHALL BE SUBJECT TO LOCAL ORDINANCES AND PROJECT SPECIFICATIONS.
- ALL MANHOLE/CATCH BASIN STRUCTURES (INCLUDING RIMS/COVERS) TO BE PRE-CAST AND MEET HEAVY DUTY (H20) LOADING REQUIREMENTS.
- THE SITE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES HAVING UNDERGROUND PIPING ON SITE OR THE RIGHT OF WAY PRIOR TO EXCAVATION. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING COMPANY AND LOCATE ALL UTILITIES PRIOR TO GRADING/EXCAVATION START.

1) SITE EXCAVATION AND FILL-IN-PLACE TO ESTABLISH THE DESIRED SUB-GRADE SHALL BE COMPLETED SUCH THAT EROSION CONTROL PRACTICES ARE IN PLACE AND FUNCTIONING DOWN-GRADIENT OF THE EARTHWORK PRIOR TO THE START OF EARTHMOVING ACTIVITIES.

2) BASED ON FEMA MAPPING, NO AREA WITHIN THE SITE BOUNDARIES IS IN THE 100 YEAR FLOOD PLAIN.

LAYOUT NOTES

- ALL SIGNS INDICATED ON THE PLANS ARE TO MEET ALL REQUIREMENTS AND STANDARDS OF THE MDOT AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- OFFSETS TO CATCH BASINS AND MANHOLES ARE TO THE CENTER OF THE FRAME.
- PIPE LENGTH EQUALS THE CENTER TO CENTER DISTANCES BETWEEN CATCH BASINS AND/OR MANHOLES MINUS ONE-HALF THE DIAMETER OF EACH CATCH BASIN OR MANHOLE.
- PROPERTY LINE AND RIGHT OF WAY MONUMENTS SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTORS EXPENSE BY A MAINE PROFESSIONAL LAND SURVEYOR.
- PROPOSED RIGHT-OR-WAY MONUMENTS AND PROPERTY LINES PINS SHALL BE INSTALLED UNDER THE DIRECTION OF A MAINE PROFESSIONAL LAND SURVEYOR.

UTILITY NOTES

- LOCATION OF SITE UTILITIES SHALL BE VERIFIED BY THE SITE CONTRACTOR WITH THE PROPER UTILITY COMPANY PROVIDING SERVICE.
- SITE CONTRACTOR WILL BE RESPONSIBLE FOR ALL TAP AND TIE-IN FEES REQUIRED, AS WELL AS COST OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.
- ELECTRICAL SERVICE TO PAD MOUNTED TRANSFORMER SHALL BE RUN UNDERGROUND TO TRANSFORMER LOCATION. ASSOCIATED COST TO BE PAID BY SITE CONTRACTOR.
- SITE CONTRACTOR SHALL FURNISH TELEPHONE CONDUIT AS SHOWN ON PLAN. VERIFY LOCATION OF TIE-IN AT TELEPHONE COMPANY'S SERVICE LINE. PROVIDE AND INSTALL NYLON FULL CORD INSIDE CONDUIT.
- ALL WATER (EXCEPT FIRE SERVICE) AND SANITARY LEADS TO BUILDING SHALL END 5' OUTSIDE OF THE BUILDING LIMITS AS SHOWN ON THE PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AT END.
- THE FIRE LINE SHALL BE STUBBED UP 1' ABOVE FFE IN THE UTILITY ROOM.
- ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN APPROVED GATE VALVE A MAXIMUM OF 5' FROM HYDRANT.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- SITE CONTRACTOR SHALL OBTAIN APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THE UTILITY SYSTEM PRIOR TO INSTALLATION.
- ALL UTILITY MATERIALS AND INSTALLATION METHODS SHALL BE OBTAINED/PERFORMED IN STRICT COMPLIANCE WITH THE RESPECTIVE UTILITIES STANDARD SPECIFICATIONS.
- THRUST BLOCKS OR LOCKING RETAINER GLANDS SHALL BE PLACED ON THE WATER DISTRIBUTION LINES AT ALL BENDS, TEES, FIRE HYDRANTS, VALVES, CHANGES IN DIRECTION, ETC. THE THRUST BLOCKS MUST MEET THE STANDARDS OF THE OPERATING WATER DISTRICT.
- THE LOCATION OF THE OVERHEAD/UNDERGROUND ELECTRICAL SERVICE IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION WITH CENTRAL MAINE POWER.
- WATER METER FOR DOMESTIC AND IRRIGATION SERVICE SHALL BE INSTALLED WITHIN THE BUILDING WITH A REMOTE READER INSTALLED ON THE BUILDING AT THE ENTRANCE POINT. THE DOMESTIC AND IRRIGATION WATER SERVICE LINE SHALL HAVE A CURB STOP GATE VALVE (WITH BOX AND COVER) INSTALLED OUTSIDE THE BUILDING.
- THE SITE CONTRACTOR TO MAINTAIN AT LEAST 10' CLEAR SEPARATION BETWEEN THE WATER MAIN AND UNDERGROUND PROPANE TANKS, AND PROPANE DISTRIBUTION LINES. THE SITE CONTRACTOR TO MAINTAIN A CLEAR SEPARATION DISTANCE OF 5' BETWEEN THE WATER MAIN AND UNDERGROUND ELECTRIC, TELEPHONE, CABLE VAULTS AND CONDUIT SYSTEMS.
- TWO INCH RIGID INSULATION SHALL BE PROVIDED BETWEEN ALL NEW WATER SYSTEM PIPING AND STORM DRAIN CROSSINGS WHERE LESS THAN 3' OF SEPARATION WILL OCCUR.
- ALL HYDRANT BRANCHES SHALL INCORPORATE VALVE ANCHORING TEES AND GATE VALVES. ALL SERVICE LATERAL CONTROL VALVES SHALL BE LOCATED WITHIN 3' OF THE WATER MAIN SYSTEM.

EROSION CONTROL NOTES

- LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED/ISSUED BY GOVERNING AUTHORITIES.
- LAND DISTURBING ACTIVITIES SHALL BE SCHEDULED SUCH THAT THE LEAST PRACTICABLE DISTURBANCE OF THE SITE IS ACHIEVED.
- NO GRUBBING, EXCAVATION, OR BLASTING SHALL BEGIN UNTIL PERIMETER EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND IMPLEMENTED.
- ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 14 DAYS OF FINAL GRADING.
- SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
- THE CONTRACTOR SHALL INSPECT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AT LEAST AT THE BEGINNING AND END OF EACH DAY AND AFTER EACH RAINFALL, AND AT LEAST ONCE DURING A PROLONGED RAINFALL, TO ASCERTAIN THAT ALL DEVICES AREA FUNCTIONING PROPERLY DURING CONSTRUCTION MAINTENANCE AND DORMANT PERIODS. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR UNTIL THE PROJECT IS 100% COMPLETE.
- THIS PLAN SHALL NOT BE CONSTRUED ALL-INCLUSIVE AS THE SITE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
- SITE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL ORDINANCES.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ONSITE OBSERVATIONS.
- IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING PERMANENT SOIL STABILIZATION BY ANY MEANS NECESSARY.
- PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES. SILT SHALL NOT BE FLUSHED INTO THE ADJACENT WETLANDS OR WATER COURSES.
- ALL CATCH BASINS WITH OUTLET PIPES 18" DIAMETER OR LESS SHALL BE PROVIDED WITH SEDIMENT HOODS (30 DEGREE DOWNWARD BENDS).
- SILT FENCES SHALL BE INSPECTED, REPAIRED, AND CLEANED AS NECESSARY TO PREVENT SEDIMENT FROM OFFSITE TRANSPORT.
- THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCE AS IT BECOMES SATURATED WITH MUD TO ENSURE THAT IT OPERATES PROPERLY. DURING CONSTRUCTION, SOILS TRACKING ONTO PUBLIC WAYS SHALL BE IMMEDIATELY SUPT CLEAN REMOVING THE DEBRIS.
- SILT REM