EROSION & SEDIMENTATION CONTROL

A. POLLUTION PREVENTION AND GENERAL HOUSEKEEPING

1. MINIMIZATION OF EXPOSED SOIL AREAS: IN ORDER TO PROTECT DOWNGRADIENT AREAS AND BUFFERS, AND TO AVOID POTENTIAL EROSION OF ANY OPEN DRAINAGE CHANNEL BANKS, OR OTHER NATURAL RESOURCES, THE CONTRACTOR SHALL SEQUENCE AND PHASE EARTHWORK OPERATIONS TO LIMIT THE AMOUNT OF SITE DISTURBANCE AND/OR EXPOSED SOIL TO ONLY THOSE AREAS NECESSARY TO EFFECTIVELY CONSTRUCT THE PROPOSED IMPROVEMENTS. TO THE EXTENT PRACTICABLE, THE CONTRACTOR SHALL RETAIN NATURAL COVER, AND PERMANENTLY STABILIZE AREAS AS SOON AS POSSIBLE AFTER EXPOSED SOIL RESULTS IN FINISH GRADING CONTROLS TO INSTALL AND MAINTAIN. IF WORK WITHIN AN AREA IS NOT ANTICIPATED TO BEGIN WITHIN TWO WEEKS TIME, THE CONTRACTOR SHALL CONSIDER LEAVING THE AREA IN ITS NATURALLY VEGETATED COVER.

2. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.

3. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SWALES, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.

4. INACTIVE SECTIONS AND CURB ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR MUDDY WATER DISCHARGED TO THE RECEIVING WATER. FOR INACTIVE AREAS OR AREAS OF THE SITE NOT IN CONSTRUCTION, FOR OPERATION DURING DRY WEATHER, THE CONTRACTOR SHALL LET DOWN THE ACCESS ROADS WITH WATER ONCE A WEEK OR MORE FREQUENTLY, AS NEEDED.

5. DEBRIS AND OTHER MATERIALS: LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

6. NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES.

B. STRUCTURAL AND NON-STRUCTURAL MEASURES

1. SEDIMENT BARRIERS: PRIOR TO SOIL DISTURBANCE, THE CONTRACTOR SHALL PROPERLY INSTALL SEDIMENT BARRIERS ACROSS OR AT THE TOE OF A SLOPE AND AT THE DOWNGRADIENT EDGE OF ANY DISTURBED AREA. SEDIMENT BARRIERS SHALL BE INSTALLED IN LOCATIONS WHERE SEDIMENTATION MAY REDUCE THE CAPACITY OF STORMWATER SYSTEMS, UPSTREAM OF ADJACENT WETLANDS AND/OR WATERCOURSES, AND OTHER AREAS THAT MAY BE AFFECTED BY SEDIMENT. SEDIMENT BARRIERS SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW. SEDIMENT BARRIERS MAY BE SILT FENCE, OR A BERM OF EROSION CONTROL MIX, OR OTHER APPROVED FILTER MATERIALS.

a. SILT FENCE: SILT FENCE IS GENERALLY A BETTER FILTER THAN HAY BALE BARRIERS. SILT FENCES CAN BE USED FOR 60 DAYS OR LONGER DEPENDING ON MANUFACTURERS RECOMMENDATIONS. PROPER INSTALLATION IS CRITICAL TO ITS PERFORMANCE. SEE DETAILS.

b. EROSION CONTROL MIX BERMS: EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. THE MIX COMPOSITION SHALL MEET THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS FOR ORGANIC CONTENT, PH, AND FOREIGN MATERIAL. BY WEIGHT, SOLUBLE SALTS AND pH LEVELS. EROSION CONTROL MIX MUST BE FREE OF REFUSE, CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE EROSION CONTROL MIX BERM MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER.

c. CONTINUOUS CONTAINED BERMS (FILTER SOCKS): A FILTER SOCK CAN BE INSTALLED, IN AREAS WHERE TRENCHING IS NOT FEASIBLE SUCH AS OVER FROZEN GROUND OR OVER PAVEMENT. A VEHICLE CAN EVEN PASS OVER IT.

2. INSPECTION AND MAINTENANCE OF SEDIMENT BARRIERS: SEDIMENT BARRIERS ARE EFFECTIVE ONLY IF INSTALLED AND MAINTAINED PROPERLY. IF THERE IS EVIDENCE OF SEDIMENT ON PROPERLY INSTALLED BARRIERS, THE CONTRACTOR SHALL EXTEND BARRIERS UPHILL OR REPLACE THEM WITH TEMPORARY CHECK DAMS. SEDIMENT BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. THEY SHALL BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR THROUGH OR UNDER THE BARRIER, OR WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE REMOVED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.

3. TEMPORARY CHECK DAMS: MAY BE CONSTRUCTED OF EITHER STONE OR CONTAINED BERMS OF EROSION CONTROL MIX. TEMPORARY CHECK DAMS ALSO MAY TRAP SMALL AMOUNTS OF SEDIMENT BUT SHALL NOT BE USED IN PLACE OF SEDIMENT BARRIERS. THE DAM SHALL BE LEFT IN PLACE PERMANENTLY TO AVOID UNNECESSARY DISTURBANCE OF THE SOIL. IF IT IS NECESSARY TO REMOVE A STONE CHECK DAM FROM A GRADE-LINED CHANNEL, WHICH WILL BE MOWED, THE CONTRACTOR SHALL ENSURE THAT ALL STONES ARE REMOVED, INCLUDING ANY STONES WASHED DOWNSTREAM.

4. SIZING AND PLACEMENT: THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL BE 2 FEET. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES. THE MAXIMUM SPACING BETWEEN THE DAMS SHALL BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM CHECK DAM. SHALL BE INSTALLED PERPENDICULAR TO THE DIRECTION OF THE FLOW. THE SIDES OF DRAINAGE DITCH STONE CHECK DAMS SHALL BE CONSTRUCTED OF 2 TO 3 INCH STONE. HAND OR MECHANICAL PLACEMENT IS NECESSARY TO PROPERLY INSTALL THE DETAIL. THE CONTRACTOR SHALL PROPERLY INSTALL CHECK DAMS TO AVOID UNDERCUTTING AND BYPASS OF THE FLOW AROUND THE ENDS OF THE CHECK DAMS.

5. INSPECTIONS AND MAINTENANCE: THE CONTRACTOR SHALL MAKE REGULAR INSPECTIONS TO ENSURE THAT THE CENTER OF THE DAM IS LOWER THAN THE EDGES. EROSION CAUSED BY FLOW AROUND THE EDGES OF THE DAM SHALL BE CORRECTED IMMEDIATELY. IF EVIDENCE OF SILTATION IN THE WATER IS APPARENT DOWNSTREAM FROM THE CHECK DAM, THE CHECK DAM SHALL BE INSPECTED AND ADJUSTED IMMEDIATELY. CHECK DAMS SHALL BE CHECKED FOR SEDIMENT ACCUMULATION AFTER EACH SIGNIFICANT RAINFALL. SEDIMENT MUST BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OR BEFORE. IF IT IS POSSIBLE, LEAVE THE DAM IN PLACE PERMANENTLY. THE STONE MAY BE SPREAD ALONG THE DITCH INVERT TO PROVIDE ADDITIONAL PROTECTION.

3. STABILIZED CONSTRUCTION ENTRANCE(SCE): PRIOR TO THE START OF CONSTRUCTION, IF A STABILIZED CONSTRUCTION ENTRANCE IS NOT ALREADY AVAILABLE, THE CONTRACTOR SHALL INSTALL A STABILIZED CONSTRUCTION ENTRANCE/EXIT AT THE POINT OF ACCESS TO THE EXISTING ROAD. THIS AREA SHALL CONSIST OF A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER CLOTH. THE CONTRACTOR SHALL MONITOR PAVEMENT EDGES FOR CRACKING OR RAVELING OF THE EXISTING PAVEMENT EDGE IN THE AREA OF ANY UNPROTECTED ENTRANCE. IF THE EXISTING PAVEMENT EDGE SHOWS SIGNS OF IMPACT, THEN THE STABILIZED CONSTRUCTION EXIT SHALL BE USED FOR ALL ENTRIES AND EXITING CONSTRUCTION VEHICLES. WOVEN OR NONWOVEN GEOTEXTILE FABRIC SHALL BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE. THE STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL CONSIST OF A 10' WIDE (MINIMUM) BY 50' LONG (MINIMUM) & THICK PAD OF 2"-3" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT. THE PAD SHALL EXTEND THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. WHEN THE STABILIZED PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. A NEW ENTRANCE SHALL BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

4. STORMDRAIN INLET PROTECTION: IS A SEDIMENT FILTER INSTALLED AROUND A STORM DRAIN DROP INLET OR CURB INLET TO PREVENT SEDIMENT FROM ENTERING A STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA. THE INLET PROTECTION DEVICE SHALL BE CONSTRUCTED IN A MANNER THAT WILL FACILITATE CLEANOUT AND DISPOSAL OF TRAPPED SEDIMENTS AND MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.

a. MANUFACTURED SEDIMENT BARRIERS AND FILTERS: INCLUDE VARIOUS TYPES OF SYSTEMS SUCH AS THE "SILT SACK" OR OTHER MANUFACTURED MATERIALS. THESE MEASURES ARE ACCEPTABLE AS LONG AS THEY ARE INSTALLED, USED AND MAINTAINED AS SPECIFIED BY THE VENDOR OR MANUFACTURER.

b. INSPECTION AND MAINTENANCE OF STORMDRAIN INLET PROTECTION: THE STRUCTURES SHALL BE INSPECTED BEFORE AND AFTER EACH RAIN EVENT AND REPAIRED AS NEEDED. IF THE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE FILTER SHALL BE CLEANED AND REPLACED. SEDIMENT SHALL BE REMOVED AND THE STORMDRAIN SEDIMENT FILTER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. THE REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. SEDIMENT FILTERS SHALL BE REMOVED AND THE AREA STABILIZED AFTER THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED. THE CONTRACTOR SHALL CLEAN ALL CATCHBASINS AND STORMDRAIN INLETS AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED.

5. STORMWATER CHANNELS: DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS MUST BE CONSTRUCTED AND STABILIZED USING MEASURES THAT ACHIEVE LONG-TERM EROSION CONTROL. DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING ON EACH SECTION CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN EITHER TEMPORARY CHECK DAMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL, PROPERLY-SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, OR A TEMPORARY LINING SHALL BE INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING.

6. TRENCH OR FOUNDATION DE-WATERING: ACCUMULATED WATER IN TRENCHES, POND, AND OTHER AREAS THAT RETAIN WATER AFTER EXCAVATION MUST BE CAREFULLY REMOVED TO AVOID DOWNSTREAM IMPACTS DUE TO THE HEAVILY SILTED WATER. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE. LINE A DEWATERING BASIN OR DEVICE SUCH AS A "DIRT BAG" FILTER OR EQUAL, AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. THE CONTRACTOR SHALL USE A NON-WOVEN GEOTEXTILE SEDIMENT CONTROL BAG SUCH AS A "DIRT BAG" OR EQUIVALENT IS A PREFERRED OPTION.

7. ADDITIONAL REQUIREMENTS: ADDITIONAL REQUIREMENTS MAY BE REQUIRED BY THE ENGINEER OR INSPECTOR AND SHALL BE APPLIED BY THE CONTRACTOR ON A SITE SPECIFIC BASIS AT NO ADDITIONAL COST.

C. STABILIZATION MEASURES

a. TEMPORARY STABILIZATION: THE CONTRACTOR SHALL STABILIZE ANY EXPOSED SOILS THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS WITH MULCH OR OTHER NON-ERODABLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.

b. SOIL STOCKPILES: STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED WITH HAY OR STRAW AT A RATE OF 75 LBS/1000 SF, (1.5 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL. PLACEMENT OF ANY SOIL STOCKPILES WITHIN 100 FEET FROM ANY NATURAL RESOURCES SHALL BE AVOIDED.

c. NATURAL RESOURCES PROTECTION: ANY AREAS WITHIN 100 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED USING TEMPORARY MULCHING WITHIN 7 DAYS OF EXPOSURE OR PRIOR TO ANY STORM EVENT. SEDIMENT BARRIERS SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA.

4. PERMANENT STABILIZATION: IF THE AREA HAS BEEN BROUGHT TO FINAL GRADE OR WILL NOT BE WORKED FOR MORE THAN ONE YEAR, THE CONTRACTOR SHALL PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH OR REPRAP, OR PAVER SUBBASE. IF USING VEGETATION FOR STABILIZATION, AND/OR AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS TO PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS AND SCHEDULE SODDING, PLANTING, AND SEEDING TO AVOID DORMANT PERIODS DURING DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED. IF GERMINATION IS BEYOND, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT THE CONTRACTOR SHALL RESEED AND MULCH THE AREA. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.

a. SEEDED AREAS: FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

b. SODDED AREAS: FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

c. PERMANENT MULCH: FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE MDEP APPROVED APPLICATION RATES AND LIMITATIONS.

d. REPRAP: FOR AREAS STABILIZED WITH REPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH REPRAP HAVE AN APPROPRIATE BEDDING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE REPRAP.

e. PAVER: FOR PAVER AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED SUBBASE IS COMPLETED.

f. DITCHES, CHANNELS, AND SWALES: FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF HEALTHY VEGETATION, WITH A WELL-GRADED REPRAP LINING, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL BANKS, OR DOWN-CUTTING OF THE CHANNEL.

5. REMOVAL OF STABILIZATION MEASURES: WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED THE CONTRACTOR SHALL REMOVE ANY TEMPORARY SEDIMENT CONTROL MEASURES (SUCH AS SILT FENCE, ETC.) REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE THE AREA. SILT FENCE SHALL BE REMOVED BY CUTTING THE FENCE MATERIALS AT GROUND LEVEL TO AVOID ADDITIONAL SOIL DISTURBANCE.

D. TEMPORARY VEGETATION

THE FOLLOWING SHALL APPLY IN AREAS TO RECEIVE TEMPORARY SEEDING:

1. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. INSTALL EROSION CONTROL MEASURES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, SEDIMENT BASINS AND GRASSED WATERWAYS TO PROTECT NEWLY SEEDED AREAS.

2. APPLY LIMESTONE AND FERTILIZER AT THE RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1000 SQUARE FEET OF 10-10-10 (N-P205-K20) OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1000 SQUARE FEET). WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 3 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.

3. SEEDING RATES AND DEPTHS SHALL BE AS SPECIFIED ON THE PLAN SET, OR AS IDENTIFIED IN THE SEEDING TABLE BELOW. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER, OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED 10 % WHEN HYDROSEEDING.

4. APPLY MULCH OVER SEEDED AREA.

5. TEMPORARY SEEDING SHALL BE PERIODICALLY INSPECTED. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER BARRIERS, CHECK DAMS, ETC.).

TEMPORARY SEEDING TABLE

SEED	LB/AC	SEEDING DATES	DEPTH	SEEDING DATES	NOTES
WINTER RYE	112	(112 BU)	1-1.5 IN	8/15-10/1	GOOD FOR FALL SEEDING. SELECT HARDY SPECIES SUCH AS ARDOSTOCK RYE.
OATS	86	(3.5 BU)	1-1.5 IN	4/1-7/1 (SPRING) 8/15-9/15 (FALL)	BEST FOR SPRING SEEDING. FALL SEEDING REQUIRES MULCH
ANNUAL RYEGRASS	4.06		.25 IN	4/1-7/1	GROWS QUICKLY BUT IS OF SHORT DURATION. USE WHERE APPEARANCE IS IMPORTANT. CAN BE USED THROUGHOUT GROWING SEASON, IF MULCHED.
BUD GRASSES	46	(1.0 BU)	0.5-1.0 IN	8/15-9/15	GOOD GROWTH DURING HOT SUMMER
PERENNIAL RYEGRASS	46	(1.0 BU)	0.25 IN	8/15-9/15	GOOD COVER, LONGER LASTING THAN ANNUAL RYEGRASS. CAN BE USED THROUGHOUT GROWING SEASON, IF MULCHED.
TEMPORARY MULCH				10/1-4/1	REFER TO TEMPORARY MULCHING OR PERMANENT VEGETATION

E. TEMPORARY MULCHING

APPLY TEMPORARY MULCHING TO PROTECT THE EXPOSED SOIL SURFACE AND AID IN THE GROWTH OF VEGETATION.

1. IN ADDITION TO AREAS LISTED IN THE 7 DAY STREAMS, WETLANDS AND IN LAKE WATERSHEDS) TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF EXPOSING SOIL OR PRIOR TO ANY STORM EVENT.

2. IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS, DEPENDING ON SITE CONDITIONS (SOIL, ERODIBILITY, SEASON OF YEAR, EXPOSURE, AMOUNT OF DISTURBANCE, ETC.) AND THE POTENTIAL FOR ADVERSE ENVIRONMENTAL IMPACTS.

3. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED, SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING.

4. AREAS WHICH CANNOT BE SEEDED WITHIN THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION AND THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE GROWING SEASON.

5. MULCH CAN BE USED IN CONJUNCTION WITH TREES, SHRUBS, VINE AND GROUND COVER PLANTINGS.

6. MULCH ANCHORING SHOULD BE USED ON SLOPES GREATER THAN 5% IN LATE FALL (MAY BE SEPTEMBER 15), AND OVER-WINTER (SEPTEMBER 15 - APRIL 15).

7. USE HAY MULCH IS ADEQUATE TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON), IT SHOULD BE APPLIED TO A DEPTH OF FOUR INCHES (90-100 LBS. OF HAY PER 1000 SQ. FT. OR DOUBLE STANDARD APPLICATION RATE). SEEDING CANNOT GENERALLY BE EXPECTED TO GROW UP THROUGH THIS DEPTH OF MULCH AND WILL BE SMOTHERED. IF VEGETATION IS DESIRED, THE MULCH WILL NEED TO BE REMOVED IN THE SPRING/THE AREA SEEDED AND MULCHED.

8. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE SPREAD EVENLY APPLIED. MULCH THAT HAS BEEN BLOWN OFF DUE TO WIND OR DISPLACED BY RUNOFF, DISLOCATION OR FAILURE, IF BLOWOUTS OR BREAKAGE OCCUR, RE-INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. INSPECTIONS SHALL TAKE PLACE UNTIL GRASSES ARE FIRMLY ESTABLISHED (95% SOIL SURFACE COVERED).

9. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

10. THE CHOICE OF TEMPORARY MULCHES WILL BE BASED ON SOIL AND SITE CONDITIONS, SEASON, AND ECONOMICS. RECOMMENDED MULCHES INCLUDE HAY AND STRAW OR EROSION CONTROL MIX.

1. HAY AND STRAW:

a. ORGANIC MULCHES INCLUDING HAY AND STRAW MUST BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS.

b. APPLICATION RATE SHALL BE 2 BALES (90-100 POUNDS) PER 1000 SQ FT OR UP TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90 % OF THE SOIL SURFACE. HAY MULCH IS SUBJECT TO WIND BLOWN UNLESS KEPT MOIST OR ANCHORED.

c. ANCHORING METHODS INCLUDE NETTING OVER HAY WITH JUTE, WOOD FIBER OR PLASTIC NETTING ANCHORED TO THE SOIL SURFACE. STAPLE MATS ACCORDING TO MANUFACTURER'S RECOMMENDATION.

11. EROSION CONTROL MIX:

a. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL AND WILL INCLUDE ANY OF THE FOLLOWING: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK OR OTHER ACCEPTABLE PRODUCTS BASED ON A SIMILAR RAW SOURCE. WOOD OR BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT.

b. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER.

c. EROSION CONTROL MIX SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE MAINE DEP STANDARDS.

d. USEN USED AS MULCH, A MINIMUM 4" THICK LAYER CAN BE USED AS A STAND-ALONE REINFORCEMENT:

1. ON SLOPES STEEPER THAN 3:1 (33%) OR 10 FEET VERTICAL RISE.
2. ON FROZEN GROUND OR FORESTED AREAS.
3. AT THE EDGE OF CRITICAL DRAINAGE AREAS AND AREAS UNDER CONSTRUCTION.
4. OTHER REINFORCEMENT SHIPS (I.E. REPRAP) SHALL BE USED.

e. ON STEEPER SLOPES AND SLOPES WITH GROUNDWATER SEEPAGE AND AT LOW POINTS WITH CONCENTRATED FLOWS AND IN GULLIES:

13. THE MULCH MAY BE PLACED WITH A HYDRAULIC BUCKET, WITH A PNEUMATIC BLOWER OR BY HAND. IT SHALL BE PLACED EVENLY AND MUST PROVIDE 90 % SOIL COVERAGE. THE MULCH MUST BE STABLE.

a. ANY REQUIRED REPAIRS SHOULD BE MADE IMMEDIATELY, WITH ADDITIONAL EROSION CONTROL MIX PLACED ON TOP OF THE MULCH TO REACH THE RECOMMENDED THICKNESS. WHEN THE MIX IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED. PROPER MULCHING, MULCH ANCHORING, MULCH BLOWOUT REPAIR, AND REPLACEMENT OF PLANTS, TREES AND SHRUBS NEEDS TO BE REMOVED SPREAD IT OUT INTO THE LANDSCAPE.

b. SPRAY ON BINDERS:

a. IF USING SYNTHETIC, SPRAY-ON EMULSIONS THAT ARE MIXED WITH WATER TO HOLD WOOD FIBER, HYDRO-MULCHES OR STRAW TO THE SOIL SURFACE, THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER TO DETERMINE ADEQUATE APPLICATION RATES, ESPECIALLY FOR STEEP SLOPES OR HIGH WIND LOCATIONS.

b. AVOID APPLICATION DURING windy DAYS. A 24-HOUR CURING PERIOD AT A SOIL TEMPERATURE HIGHER THAN 45 DEGREES FAHRENHEIT IS OFTEN REQUIRED.

c. INCREASE SEEDING RATES WHEN USING THIS METHOD.

14. EROSION CONTROL BLANKETS AND MATS:

a. MANUFACTURED COMBINATIONS OF MULCH AND NETTING MAY BE USED, DURING THE GROWING SEASON (APRIL 15 - SEPTEMBER 15) USE MATS FOR MULCH AND NETTING ON:

a. THE BASE OF GRASSED WATERWAYS
b. STEEP SLOPES (50% OR GREATER)
c. ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS AND WETLANDS
d. DURING THE LATE FALL AND WINTER (SEPTEMBER 15 - APRIL 15) USE HEAVY GRADE MATS ON ALL AREAS NOTED ABOVE PLUS USE LIGHTER GRADE MATS FOR OVER-WINTER PROTECTION AND NETTING ON:

a. SIDE SLOPES OF GRASSED WATERWAYS
b. MODERATE SLOPES (SEEDED)
c. THE MATS FOR SLOPES LESS THAN 8 MATS WILL BE NEEDED ON SLOPES FLATTER THAN 8%.

THE MOST CRITICAL ASPECT OF INSTALLING MATS IS OBTAINING FIRM CONTINUOUS CONTACT BETWEEN THE MAT AND THE SOIL. WITHOUT SUCH CONTACT THE MAT IS USELESS AND EROSION OCCURS. INSTALL MATS AND STAPLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION