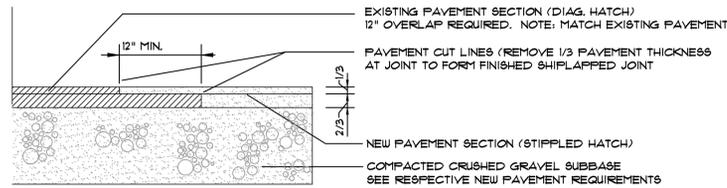


- NOTES**
- 1) COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% OF THEIR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
 - 2) HOT MIX ASPHALT PAVEMENT MUST BE COMPACTED TO 92%-93% OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041.
 - 3) A TACK COAT MUST BE USED BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.
 - 4) PROVIDE NON-FROST SUSCEPTIBLE COMPACTED FILL GRANULAR BORROW (MDOT 103.13) BELOW PAVEMENT IN FILL AREAS.
 - 5) CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

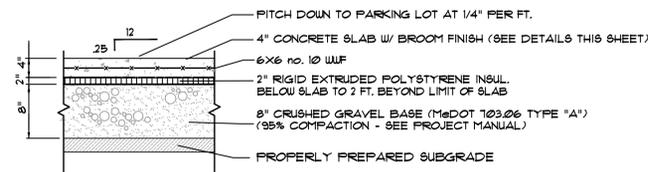
PAVED AREA CROSS SECTION

NOT TO SCALE



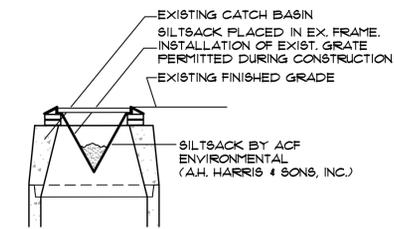
PAVEMENT SAWCUT JOINT DETAIL

NOT TO SCALE



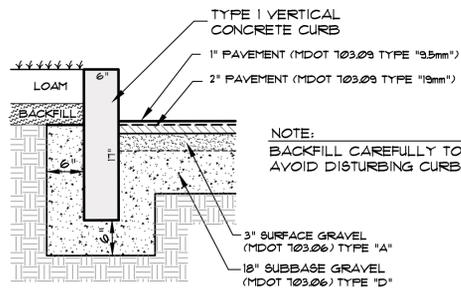
CONCRETE SIDEWALK SECTION

NOT TO SCALE



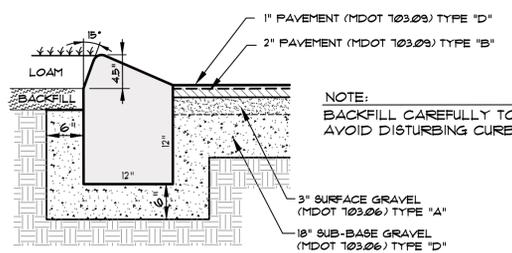
EXISTING CATCH BASIN SILTSACK DETAIL

NOT TO SCALE



VERTICAL CONCRETE CURBING

NOT TO SCALE



SLOPED CONCRETE CURBING

NOT TO SCALE

EROSION CONTROL NOTES

- 1) LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED/ISSUED BY GOVERNING AUTHORITIES.
- 2) LAND DISTURBING ACTIVITIES SHALL BE SCHEDULED SUCH THAT THE LEAST PRACTICABLE DISTURBANCE OF THE SITE IS ACHIEVED.
- 3) NO GRUBBING, EXCAVATION, OR BLASTING SHALL BEGIN UNTIL PERIMETER EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND IMPLEMENTED.
- 4) ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 14 DAYS OF FINAL GRADING.
- 5) SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
- 6) 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 ARE FUNCTIONING PROPERLY DURING CONSTRUCTION. MAINTENANCE AND REPAIR OF ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE SITE CONTRACTOR UNTIL THE PROJECT IS 100% COMPLETE.
- 7) 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.
- 8) SITE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL ORDINANCES.
- 9) ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ONSITE OBSERVATIONS.
- 10) IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- 11) THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING PERMANENT SOIL STABILIZATION BY ANY MEANS NECESSARY.
- 12) 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.
- 13) ALL CATCH BASINS WITH OUTLET PIPES 18" DIAMETER OR LESS SHALL BE PROVIDED WITH SEDIMENT HOODS (90° DOWNWARD BENDS).
- 14) SILT FENCES SHALL BE INSPECTED, REPAIRED, AND CLEANED AS NECESSARY TO PREVENT SEDIMENT FROM OFFSITE TRANSPORT.
- 15) 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 SHEPT CLEAN REMOVING THE DEBRIS.
- 16) SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.
- 17) A FULL EROSION CONTROL PLAN AND NARRATIVE IS INCLUDED WITH THIS CONSTRUCTION PLAN SET.
- 18) CATCH BASIN SEDIMENT SUMPS SHALL BE INSPECTED IN APRIL AND OCTOBER OF EACH YEAR ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE CATCH BASIN WHEN THE DEPTH OF THE SEDIMENT IS GREATER THAN 12". THE SEDIMENT WILL BE REMOVED BY THE CONTRACTOR DURING CONSTRUCTION, AND BY THE OWNER THEREAFTER. SOIL TO BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
- 19) THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER.
- 20) ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL RECEIVE 4" OF LOAM, SEEDED, AND MULCHED.
- 21) THE CONTRACTOR SHALL PROVIDE AND IMPLEMENT AN END OF DAY GRADING AND STABILIZATION PLAN FOR THE OVERNIGHT AND WEEKEND/HOLIDAY SHUT DOWN PERIODS.

DEMOLITION

- 1) THE FOLLOWING ITEMS ARE TYPICAL OF THE MATERIALS WHICH MAY BE ENCOUNTERED DURING SITE CLEARING/DEMOLITION. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF ALL THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED: CONCRETE FOUNDATIONS/SLABS, BITUMINOUS ASPHALT PAVEMENT, CONCRETE PADS AND BLOCKS, WOOD BUILDINGS, FENCE POSTS, UNDERGROUND UTILITIES, UNDERGROUND FUEL & WASTE OIL TANKS, ABOVE GROUND FUEL OIL TANKS AND PROPANE GAS TANKS, STORM DRAIN PIPES AND AFFURTEANCE STRUCTURES, WOOD DEBRIS, BRICK CHIMNEYS, OTHER TRASH AND MISCELLANEOUS SOLID WASTE GOODS, ABANDONED VEHICLES OR WHITE GOODS.
- 2) DEMOLITION OF BUILDINGS SHALL NOT OCCUR UNTIL PROPER ABATEMENT PROCEDURES HAVE OCCURRED FOR EACH BUILDING. THE PROJECT CONSTRUCTION MANAGER WILL NOTIFY THE CONTRACTOR THAT ABATEMENT HAS OCCURRED.
- 3) ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTES SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE THE PROJECT CONSTRUCTION MANAGER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
- 4) THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES FOR THE TERMINATION OF UTILITY SERVICE FROM EXISTING BUILDINGS AND CAP SERVICE AS DIRECTED BY THE RESPECTIVE UTILITY.
- 5) ANY DOMESTIC WELLS SHALL HAVE WELL CASING CUT 2' BELOW FINAL GRADE. THE CONTRACTOR SHALL USE TREMIE CONCRETE TO FILL THE WELL CASING.

GENERAL NOTES

- 1) THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.
- 2) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ALL CONTRACTORS TO CONFORM TO ALL APPLICABLE OSHA STANDARDS. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.
- 3) ALL CONSTRUCTION WITHIN THE CITY OF WATERVILLE RIGHT OF WAY SHALL COMPLY WITH CITY PUBLIC WORKS STANDARDS. ALL CONSTRUCTION WITHIN A STATE RIGHT OF WAY SHALL COMPLY WITH MAINE D.O.T. STANDARDS. ALL UTILITY CONSTRUCTION SHALL CONFORM TO RESPECTIVE UTILITY STANDARDS.
- 4) THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS REQUIRED BY THE CITY OF WATERVILLE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF WATERVILLE, AND/OR MDOT, REQUIRED TO PERFORM ALL THE WORK (STREET OPENINGS, BUILDING PERMIT, ETC.). THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES, PROVIDE PROOF OF INSURANCE AND PROVIDE TRAFFIC CONTROL NECESSARY FOR THIS WORK.
- 5) PRIOR TO CONSTRUCTION, THE SITE CONTRACTOR IS TO INFORM ALL AREA UTILITY COMPANIES AND GOVERNMENTAL AGENCIES OF PLANNED CONSTRUCTION. THE SITE CONTRACTOR IS REQUIRED TO CONTACT DIG-SAFE (1-800-225-4911) AT LEAST 3 BUSINESS DAYS PRIOR TO ANY EXCAVATION TO VERIFY ALL UNDERGROUND AND OVERHEAD UTILITY LOCATIONS.
- 6) THE PROJECT DRAWINGS ARE GENERALLY SCHEMATIC AND INDICATE THE POSSIBLE LOCATION OF EXISTING UNDERGROUND UTILITIES. INFORMATION ON EXISTING UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING UTILITY COMPANY MAPS, MUNICIPAL RECORD MAPS, AND FIELD SURVEY. IT IS NOT GUARANTEED TO BE CORRECT OR COMPLETE. UTILITIES ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES, WHEN THOSE SERVICES ARE TO BE LEFT IN PLACE. THE CONTRACTOR IS TO PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING THE EXCAVATING AND BACKFILLING OPERATIONS. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER IMMEDIATELY FOR DIRECTION BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.
- 7) OSHA REGULATIONS MAKE IT UNLAWFUL TO OPERATE CRANES, BOOMS, HOISTS, ETC. WITHIN TEN FEET (10') OF ANY ELECTRIC LINE. IF THE CONTRACTOR MUST OPERATE CLOSER THAN 10', THE CONTRACTOR MUST CONTACT THE POWER COMPANY TO MAKE ARRANGEMENTS FOR PROPER SAFEGUARDS BEFORE ENCRACHING ON THIS REQUIREMENT.
- 8) IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLANS, APPROVALS, AND DETAILS FOR ADDITIONAL INFORMATION INCLUDING VERIFYING ALL THE SITE CONDITIONS IN THE FIELD AND CONTACT THE DESIGN ENGINEER IF THERE ARE ANY DISCREPANCIES REGARDING THE CONSTRUCTION DOCUMENTS AND/OR FIELD CONDITIONS SO THAT AN APPROPRIATE REVISION CAN BE MADE PRIOR TO BIDDING.
- 9) THE CONTRACTOR SHALL REFERENCE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND CONSTRUCTION DETAIL OF ALL BUILDINGS AND SHEDS. ALL DIMENSIONS SHALL BE REFERENCED TO PROPERTY LINES, THE FACE OF CURBS, OUTSIDE FACE OF WALLS, OR EDGE OF PAVING UNLESS OTHERWISE NOTED.
- 10) ALTERNATIVE METHODS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED IF REVIEWED AND APPROVED IN WRITING BY THE OWNER, DESIGN ENGINEER, AND APPROPRIATE GOVERNMENTAL AGENCY PRIOR TO INSTALLATION.
- 11) THE CONTRACTOR SHALL RESTORE ALL UTILITY STRUCTURES, PIPE, UTILITIES, PAVEMENT, CURBS, SIDEWALKS, AND LANDSCAPED AREAS DISTURBED BY CONSTRUCTION TO AS GOOD AS BEFORE BEING DISTURBED AS DETERMINED BY THE CITY OF WATERVILLE CEO. ANY DAMAGES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 12) TRAFFIC CONTROL MEASURES SHALL BE UTILIZED IN ACCORDANCE WITH MAINE DOT STANDARDS. THE CONTRACTOR SHALL PROVIDE, MAINTAIN AND PROTECT TRAFFIC CONTROL DEVICES TO THE EXTENT REQUIRED BY LAWFUL POLICE PROTECTION OF THE PUBLIC CONSISTING OF CRIMS, BARRIERS, SIGNS, LIGHTS, AND UNIFORMED TRAFFIC CONTROL PERSONNEL AS REQUIRED OR ORDERED BY THE DESIGN ENGINEER OR CODE ENFORCEMENT PERSONNEL. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC LANES AND PEDESTRIAN WALKWAYS AT ALL TIMES UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE CITY. PAVEMENT MARKINGS SHALL BE FAST DRYING TYPE IN ACCORDANCE WITH MDOT SPECIFICATIONS. TWELVE INCH (12") WIDE STOP BAR AND FOUR INCH (4") WIDE PARKING STALL STRIPES SHALL BE LOCATED AS SHOWN ON THE PLANS.
- 13) THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PRODUCT, MATERIALS AND PLANT SPECIFICATIONS TO THE OWNER AND DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY TO THE SITE. ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW.
- 14) THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING LABORATORY FOR SOIL AND PAVEMENT MATERIALS AND COMPACTION TESTING AT NO COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH ANY RECONSTRUCTION AND RE-TESTING OF UNSATISFACTORY SOILS.
- 15) ALL EXCAVATION SHALL BE BACKFILLED TO EXISTING GRADE BEFORE THE END OF THE DAY OR ADEQUATELY PROTECTED FROM DANGER TO HUMANS AND ANIMALS.
- 16) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE OWNER WILL PROVIDE A BENCH MARK AT THE CONSTRUCTION SITE FROM WHICH TO BEGIN LAYOUT.
- 17) THE CONTRACTOR SHALL FURNISH ELECTRICAL POWER, WATER, AND SANITARY FACILITIES FOR HIS EXCLUSIVE USE AT THE CONSTRUCTION SITE SHOULD THE CONTRACTOR DEEM THIS ESSENTIAL FOR THE PROPER PERFORMANCE OF THE CONTRACT.
- 18) WORK MAY PROGRESS MONDAY THROUGH SATURDAY 7:00 AM TO 1:00 PM. WORK AT OTHER TIMES MAY PROCEED UPON WRITTEN APPROVAL BY THE OWNER AND THE CITY OF WATERVILLE. THE CONTRACTOR SHALL BE REQUIRED TO CONFORM WITH ALL RULES AND REGULATIONS SET FORTH IN THE CITY LAND USE ORDINANCE REGULATIONS.
- 19) THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.
- 20) THE CONTRACTOR SHALL PROVIDE AS-BUILT RECORDS OF ALL CONSTRUCTION (INCLUDING UNDERGROUND UTILITIES) TO THE OWNER AT THE END OF CONSTRUCTION.
- 21) A PRE-CONSTRUCTION CONFERENCE WITH THE OWNER, DESIGNERS, CITY OFFICIALS AND CONTRACTOR SHALL BE REQUIRED BEFORE ANY CONSTRUCTION OCCURS ON THE PROJECT. DURING CONSTRUCTION THERE SHALL BE WEEKLY PROGRESS MEETINGS WITH THE OWNER (ON SITE OR TELECONFERENCE) UNTIL PROJECT COMPLETION.
- 22) PROPER IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.
- 23) ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULES BASED UPON PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING THE WORK. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO MDOT STANDARD SPECIFICATIONS, LATEST REVISION.

LAYOUT NOTES

- 1) ALL SIGNS INDICATED ON THE PLANS ARE TO MEET ALL REQUIREMENTS AND STANDARDS OF THE MDOT AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 2) OFFSETS TO CATCH BASINS AND MANHOLES ARE TO THE CENTER OF THE FRAME.
- 3) 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.
- 4) 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.
- 5) PROPOSED RIGHT-OR-WAY MONUMENTS AND PROPERTY LINES PINS SHALL BE INSTALLED UNDER THE DIRECTION OF A MAINE PROFESSIONAL LAND SURVEYOR.

PERMITTING NOTES

- 1) THIS PROJECT WILL BE SUBJECT TO THE TERMS AND CONDITIONS OF THE CITY OF WATERVILLE, MAINE SITE PLAN APPROVAL. THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE WITH THE LAND USE ORDINANCE REQUIREMENTS, THE PERMIT REQUIREMENTS, AND AGENCY APPROVALS.



DATE	PROJECT
10-1-2016	2016-33
DRAWN BY	SCALE
SJR	N.T.S.

FOR APPROVALS ONLY

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CONSTRUCTION DETAILS & NOTES
 WATERVILLE BRANCH
 81 GROVE STREET - WATERVILLE, ME 04901
 PREPARED FOR
MAINE STATE CREDIT UNION
 200 CAPITOL STREET - AUGUSTA, ME 04330

DATE	PROJECT
10-1-2016	2016-33
DRAWN BY	SCALE
SJR	N.T.S.

SHEET 2

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 MAINE STATE CREDIT UNION 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 2017 AFTER OBTAINING PERMITS FOR APPROVAL FROM THE CITY, DEPOT AND MDPER AS APPLICABLE. SPECIAL ATTENTION SHOULD BE GIVEN TO THE SECTIONS PERTAINING TO FALL AND WINTER SEEDING AS THE PROJECT MAY OVERLAP INTO THE 2018 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 RIPRAP OR EROSION CONTROL NETTING. OTHER FEATURES SUCH AS GRASSSED WATERWAYS AND LANDSCAPING WILL BE CONSTRUCTED AS PERMANENT EROSION CONTROLS.

STRUCTURAL MEASURES

HAY BALE 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 ADJUTING ADJACENT BALES IN AREAS OF SIGNIFICANT EROSION. PLACEMENT OF FILTER FABRIC ALONG UPHILL SIDE OF HAY BALE IS FRUDENT.

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 GRUBBING AND/OR JUST ABOVE ANY ADJACENT PROPERTY LINE AND STREAMS WHERE 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 AREAS WILL PREVENT SCOUR AT STORMWATER OUTLETS AND MINIMIZE THE POTENTIAL FOR DOWNSLOPE EROSION BY REDUCING THE VELOCITY OF CONCENTRATED STORMWATER FLOWS. 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 THROUGH 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 140N.

DIVERSION DITCHES ARE TO BE CREATED WHERE INDICATED ON PLANS TO DIVERT STORMWATER RUNOFF AWAY FROM UNPROTECTED OR STEEP SLOPES TO A STABILIZED OUTLET. BERMS ARE TO BE A MINIMUM OF 1' DEEP AND 8' WIDE. GRADES OF DIVERSION BERMS IS NOT TO EXCEED 2% UNLESS APPROPRIATE STRUCTURAL MEASURES (RIPRAP OR GRAVEL BASE) 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 FLOUING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. A 8" 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 BUILT AT ZERO PERCENT GRADE, IT 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 ROTARY TURBINE 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 SEEDING SHALL BE WITHIN 14 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	LBS ACRE	LBS 1000 SF	RECOMMENDED SEEDING DATE
WINTER RYE	12	2.6	8/15 - 10/1
OATS OR ANNUAL RYEGRASS	40	0.9	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		WINTER MULCH 10/1 - 4/1 RATE	

MULCH WILL BE APPLIED WITH SEEDING ACCORDING TO MULCH TABLE. IF IT IS NOT POSSIBLE TO SEED 48 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 FINISH 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, CONTROLS WEEDS, AND HELPS ESTABLISH PLANT COVER. MULCH SHALL BE APPLIED ACCORDING TO THE FOLLOWING TABLES.

PERMANENT SEED MIXTURE

MIXTURE	APPLICATION RATE
	PARKS & LAWNS LBS/1000 SF
	ROADSIDE AREAS, DITCHES, BASINS LBS/1000 SF
KENTUCKY BLUEGRASS	.46
CREeping RED FESCUE	.46
PERENNIAL RYEGRASS	.11
REDFEET	
TALL FESCUE	
TOTAL SEED RATE	1.03

NOTE:
1. 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 15% 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 SIX INCHES AND REGRADED ON 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 ALL 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, 75 % 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, SEEDDED AND MULCHED. HAY AND STRAW MULCH SHALL BE A MINIMUM OF 150 LBS/1000 SF. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

THE CONTRACTOR MUST INSTALL ANY ADDED MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT 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

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

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 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 THE 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 BERMS 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, SEEDDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LBS/1000 SF. OR 15 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) AND ADEQUATELY ANCHORED SO THAT THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH.

BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER FINE LINE MULCH NETTING, ASPHALT EMULSION OR TRUCKING 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 LBS/1000 SF ON ALL SLOPES GREATER THAN 8%.

MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAY'S 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 WAY'S 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 SEEDDED 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 SEEDDED 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 150 LBS/1000 SF. ALL AREAS SEEDDED 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 FLOWING TO OR FROM A TRENCH OR TEMPORARY STREAM 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, LONG, AND SEDIMENT DISCHARGED 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 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 INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL INSPECT AND REPAIR ANY DAMAGED 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 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 SOD LINING IN THE DITCH: THE CONTRACTOR WILL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR FINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD 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 SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE TOWNDEP WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A 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 EROSION CONTROL MIX AS DESCRIBED BELOW.

STABILIZE THE SLOPE WITH SOD: THE CONTRACTOR WILL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR FINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD 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.

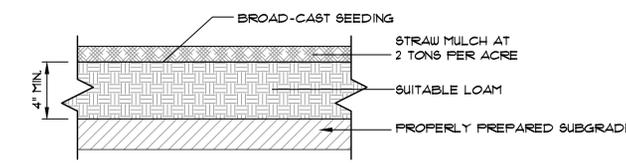
STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS:
BY SEPTEMBER 15, THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE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

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 SEEDDED 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.

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

STABILIZE THE SOIL WITH MULCH: BY NOVEMBER 15, THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON 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 SEEDDED WITHIN 1 DAY'S OF DISTURBANCE.

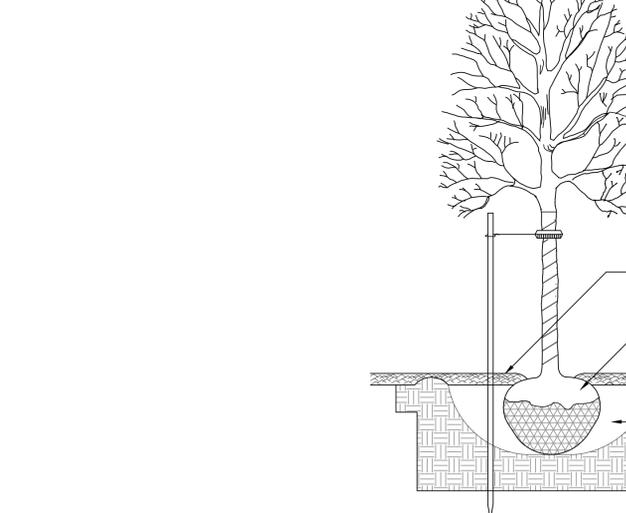


PERMANENT SEED MIX	APPLICATION RATE
	LBS/1000 SF
KENTUCKY BLUEGRASS	.46
CREeping RED FESCUE	.46
PERENNIAL RYEGRASS	.11
TOTAL SEED RATE	1.03

PLACE LOAM & SEED ON ALL DISTURBED AREAS NOT TO BE RIP RAPPED OR GRAVELED

LOAM & SEED DETAIL

NOT TO SCALE

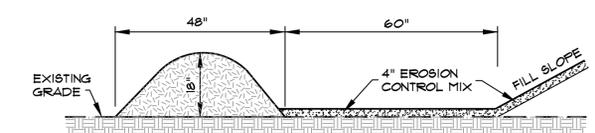


THE FILTER BERM SHALL CONSIST OF A WOOD WASTE COMPOST/BARK MULCH MIX OR RECYCLED COMPOSTED BARK FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER FLOUME LOG HANDLING SYSTEMS. COMPARABLE COMPOSTED MIXES CAN BE USED UPON WRITTEN APPROVAL OF THE ENGINEER.

THE MIX SHALL CONFORM TO THE FOLLOWING: pH BETWEEN 5.0-8.0, PARTICLE SIZE - 100% PASSING THROUGH A 6" SCREEN AND 80% RETAINED ON A 3/4" SCREEN, SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 mmhos/cm.

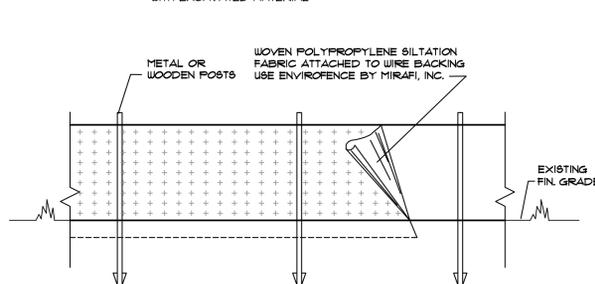
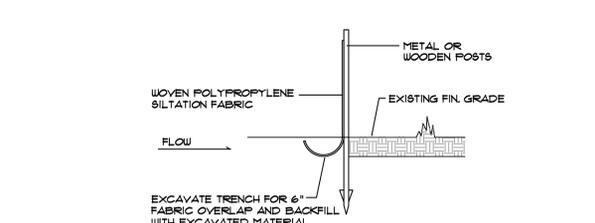
THE COMPOSTED BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

THE BERM MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE BERM BY LARGER SEDIMENT PARTICLES (SILT FENCE PLACED ON THE UPHILL SIDE OF BERM).



EROSION CONTROL FILTER BERM

NOT TO SCALE



SILT FENCE DETAIL

NOT TO SCALE

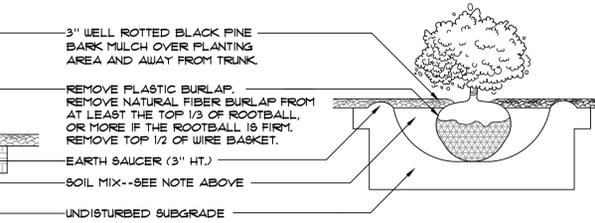
NOTES
REFERENCE IS MADE TO THE BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL: B-1 SEDIMENT BARRIERS.
AN EROSION CONTROL BERM (SEE DETAIL) IS AN ACCEPTABLE ALTERNATIVE TO A SILT FENCE

*NOTES:
DIG HOLE AT LEAST 2 TIMES THE WIDTH OF ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH TOP AT GROUND LEVEL OR SLIGHTLY HIGHER. CORRECT HOLE DEPTH AS NEEDED.

FOR DECIDUOUS AND NEEDED EVERGREEN TREES & SHRUBS 1 FULL WHEELBARROW EXISTING SOIL, 2 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL. FOR BROADLEAVED EVERGREENS AND RELATED ERICACEAE PLANTS 1 FULL WHEELBARROW EXISTING SOIL, 3-4 SHOVELS PEAT, 1 SHOVEL WELL ROTTED MANURE, OR OTHER COMPOSTED ORGANIC MATERIAL OF LOW pH (RECOMMENDATIONS ARE FOR ACCEPTABLE PLANTING AREAS).

CONTAINER GROWN STOCK:
REMOVING CONTAINER PROTECTING ROOT BALL. GENTLY COMB OUT ROOTS, PRUNE DAMAGED ROOTS. BACKFILL 2/3 OF HOLE WITH AMENDED SOIL. THEN FILL HOLE WITH WATER. LET DRAIN, REPEAT WATER AND DRAIN. BACK FILL TO FINISH GRADE. TAMP GENTLY, AND CREATE EARTH SAUCER. WATER THOROUGHLY ONCE AGAIN TO REMOVE REMAINING AIR POCKETS.

2" X 2" OF 2 1/2" DIAMETER STAKES WITH 2 #2 GAUGE WIRES ENCASED IN 2-PLY REINFORCED RUBBER HOSE 1/2" DIAMETER OR CHAIN LINK AS APPROVED BY LANDSCAPE ARCHITECT. 2 STAKES LOCATED 180° APART (STAKES SHALL BE FIRMLY SET TO PROVIDE NECESSARY TENSION).



TREE & SHRUB INSTALLATION DETAIL

NOT TO SCALE



DATE	PROJECT
10-1-2016	2016-33
DRAWN BY	SCALE