

GENERAL NOTES AND SPECIFICATIONS FOR EROSION CONTROL

- THE CONTRACTOR IS RESPONSIBLE FOR WATER CONTROL DURING ALL PHASES OF CONSTRUCTION. NO WORK SHALL BE PERMITTED IN FLOWING WATER. STREAMS SHALL BE TEMPORARILY DAMMED BY USE OF SAND BAGS OR OTHER SUITABLE MEANS. THE DIVERSION SHALL BE ACCOMPLISHED BY TEMPORARY CULVERTS OR BY PUMPING. ALL DIVERTED WATER SHALL BE DISCHARGED TO STONE FILL OR OTHER SUITABLE ENERGY DISSIPATER SURROUNDED BY SILT FENCE AND HAY BALE DIKES.
- THIS PLAN IS TO BE USED AS A GUIDELINE ONLY. ADDITIONAL HAY BALE DIKES OR OTHER MEASURES MAY BE DICTATED BY FIELD CONDITIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- CONSTRUCTION SEQUENCE
 - CONSTRUCT PERMANENT STORMWATER DITCHES, TEMPORARY DIVERSION SWALES AND PIPING. ERECT HAY BALE DIKES AND/OR SILT FENCES AS SHOWN ON DRAWINGS AND AS MAY BE REQUIRED IN THE FIELD TO PROTECT PROPERTY, AND WATERWAYS. EXCAVATE AND FILL FOR PARKING LOT AND BUILDING SITES. STOCKPILE SOIL SO THAT EROSION IS MINIMIZED. EXTRA PRECAUTIONS SHALL BE TAKEN WHEN SOIL IS SATURATED. STABILIZE DITCHES, SWALES AND DETENTION AREAS BEFORE DIRECTING FLOW TO THEM.
 - INSTALL HAY BALE FILTERS AT CATCH BASINS UNTIL PAVING IS COMPLETE.
 - COMMENCE CONSTRUCTION OF BUILDING, PARKING, ETC. ALL TRENCHES ARE TO BE BACKFILLED AND GRADED AS PROGRESS IS MADE.
 - GRADE SITE SO THAT SOIL EROSION CAUSED BY RUNOFF WILL BE MINIMIZED. ON STEEP SLOPE RUN DOZER PARALLEL TO SLOPE SO THAT TREADS OF DOZER CREATE GROOVES TO TEMPORARILY SCARIFY SURFACE AND MINIMIZE RUNOFF VELOCITIES (ANCHOR MULCH ON ALL SLOPES). STAKED MULCH NETTING MAY ALSO BE USED TO ANCHOR MULCH).
 - ESTABLISH PERMANENT VEGETATION UPON COMPLETION OF FINAL GRADING IN A GIVEN AREA. REFER TO LANDSCAPING PLAN FOR ADDITIONAL DETAILS.

MATERIALS

- HAY BALES: SECURELY TIED BALED HAY AT LEAST 14 INCHES BY 18 INCHES BY 30 INCHES LONG.
- MULCH MATERIAL: SELECT MULCH MATERIAL FOR EROSION CONTROL THAT WILL BEST MEET THE SITE CONDITIONS FROM THE FOLLOWING:
 - HAY OR STRAW - SHALL BE DRY, FREE OF MOLD AND WEED SEEDS.
 - WOOD CHIPS - SHALL BE DRY, FREE OF SOIL AND OTHER FOREIGN MATERIAL.
- MULCH ANCHORING: WHEN MULCH MUST BE HELD IN PLACE, ONE OF THE FOLLOWING MULCH ANCHORING MATERIALS SHALL BE USED:
 - ASPHALT EMULSION - TYPES RS-1, RS-2, MS-2 OR SS-1 IN COMPLIANCE WITH ASTM D977.
 - MULCH NETTING (PAPER, TWINE, PLASTIC, OR PLASTIC AND WOOD FIBER).
- FERTILIZER: COMPLETE FERTILIZER 10-20-20 (STANDARD PRODUCT) - CLASS A 10-20-20 (STANDARD PRODUCT) - CLASS B
- LIME: GROUND LIMESTONE CONTAINING NOT LESS THAN 95% TOTAL CARBONATES (CALCIUM OR MAGNESIUM).
- TEMPORARY SEED MIXTURE (NOT FOR WETLAND RESTORATION): WHEN IT IS IMPRACTICAL TO ESTABLISH PERMANENT PROTECTIVE VEGETATION ON DISTURBED EARTH BY OCTOBER 15, USE "CONSERVATION MIX" OR THE FOLLOWING SEED MIXTURE: FOR AREAS OUTSIDE OF CONSTRUCTION TRAFFIC:

KIND OF SEED	LBS PER ACRE
SWITCHGRASS (BLACKWELL OR SHELTER)	4.0
BIG BLUESTEM (NIAGRA OR KAW)	4.0
LITTLE BLUESTEM (CAMPER OR BLAZE)	2.0
SAND LOVEGRASS (NE-27 OR BLAZE)	1.5
BIRDSFOOT TREFLOIL (VIKING)	2.0

INOCULUM SPECIFIC TO BIRDSFOOT TREFLOIL MUST BE USED WITH THIS MIXTURE. IF SEEDING BY HAND, A STICKING AGENT SUCH AS MILK OR COLA SHALL BE USED TO STICK INOCULUM TO THE SEED. IF SEEDING WITH HYDROSEEDER, USE FOUR (4) TIMES THE RECOMMENDED AMOUNT OF INOCULUM.

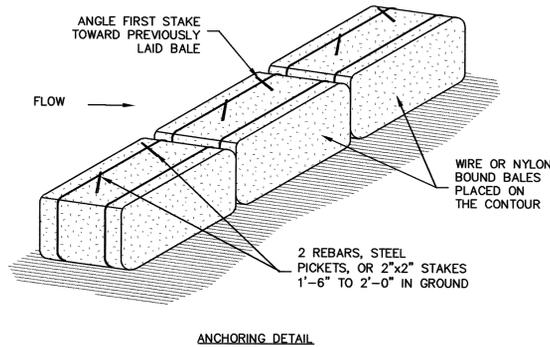
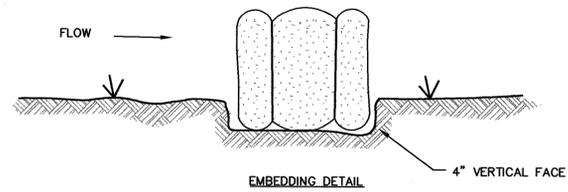
- PERMANENT SEED MIXTURE (NOT FOR WETLAND RESTORATION):
 - FOR CLASS A (LAWN) RESTORATION OF GROWTH: SHALL NORMALLY BE USED ON LOAM AREAS. THIS SEED SHALL CONFORM TO THE FOLLOWING AND SHALL BE FURNISHED ON A PURE LIVE SEED (PLS) BASIS.

CLASS A	
KIND OF SEED	PLS PER ACRE, LBS
RED FESCUE (CREEPING)	21
KENTUCKY BLUEGRASS	21
REDFEST	21
PERENNIAL RYEGRASS (MANHATTAN)	21
TOTAL	84
 - FOR CLASS B (FIELD) RESTORATION OF GROWTH: SHALL NORMALLY BE USED FOR ALL SLOPE WORK. THIS SEED SHALL CONFORM TO THE TABLE BELOW UNLESS AMENDED BY THE ENGINEER TO SUIT SPECIAL LOCAL CONDITIONS ENCOUNTERED. THIS SEED SHALL BE FURNISHED ON A PLS BASIS.

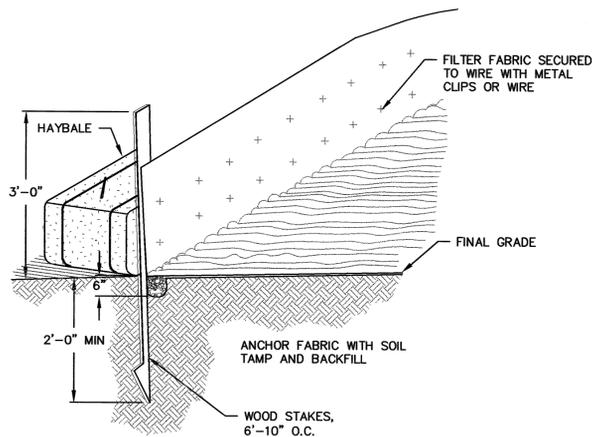
CLASS B	
KIND OF SEED	PLS PER ACRE, LBS
TALL FESCUE (ALTA OR K-31)	20
PERENNIAL RYEGRASS (MANHATTAN)	4.0
RED FESCUE (CREEPING)	5
RED CLOVER	5
BIRDSFOOT TREFLOIL (EMPIRE VARIETY PREFERRED)	5
TOTAL	50

- SEEDING AND MULCHING (NOT FOR WETLAND RESTORATION)
 - ALL AREAS WHICH WILL REMAIN OPEN SHALL BE SEEDED AND MULCHED WITHIN FIVE (5) DAYS OF HAVING TOPSOIL PLACED OR LANDSCAPING. ALL SLOPES SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL ONCE FINAL GRADING HAS BEEN DONE.
 - SOIL SAMPLES MAY BE SENT TO THE COUNTY EXTENSION SERVICE FOR ANALYSIS TO DETERMINE THE PROPER SEED MIXTURE AND FERTILIZER REQUIREMENTS.
 - THE FOLLOWING PROCEDURES SHALL BE FOLLOWED FOR TEMPORARY SEEDING:
 - APPLY LIME AT A RATE OF 75 TO 100 POUNDS PER 1000 SQUARE FEET. INCORPORATE INTO TOP TWO INCHES OF SOIL.
 - APPLY FERTILIZER AT A RATE OF 30 POUNDS PER 1000 SQUARE FEET. MIX THOROUGHLY INTO THE TOP TWO INCHES OF SOIL.
 - APPLY SEED MIXTURE AT A RATE OF TWO POUNDS PER 1000 SQUARE FEET EVENLY IN TWO INTERSECTING DIRECTIONS. RAKE LIGHTLY.
 - APPLY MULCH MATERIAL WITHIN 24 HOURS AFTER SEEDING IN ACCORDANCE WITH THE FOLLOWING:
 - HAY OR STRAW: APPLICATION RATE - 75 TO 100 POUNDS PER 1000 SQUARE FEET. SPREAD BY HAND OR WITH MACHINE. ANCHOR ON SLOPES AND WHERE SUBJECT TO BLOWING OR SLIPPING.
 - WOOD CHIPS: APPLICATION RATE - TWO TO SIX INCHES DEEP. USE FOR TREE AND SHRUB PLANTING.
 - ANCHOR MULCH ON ALL SLOPES EXCEEDING 5% AND OTHER AREAS AS REQUIRED USING ONE OF THE FOLLOWING METHODS:
 - ASPHALT EMULSION: APPLY ASPHALT EMULSION AT A RATE OF 3.5 TO 4.5 GALLONS PER 1000 SQUARE FEET. MAY BE BLOWN ON WITH HAY OR STRAW OR SPRAYED ON AFTER SPREADING HAY OR STRAW. PROPER EQUIPMENT SHALL BE USED TO APPLY EMULSION.
 - MULCH NETTING: SPREAD OVER LOOSE MULCH AND PIN TO THE SOIL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - WHEN TEMPORARY SEEDING CANNOT BE ACCOMPLISHED TO HAVE ESTABLISHED OR VISIBLE GROWTH BY OCTOBER 15, THE DISTURBED AREAS SHALL BE COVERED WITH 6 INCHES OF MULCH FOR THE WINTER.

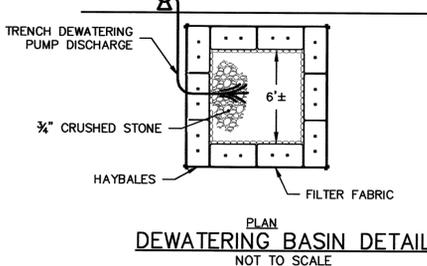
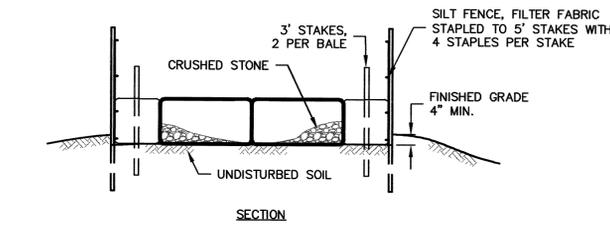
- MAINTENANCE OF EROSION CONTROL STRUCTURES
 - HAY BALES SHALL BE REPLACED WHEN THEY BECOME CLOGGED WITH SOIL PARTICLES OR AS DIRECTED BY THE ENGINEER.
 - WHEN THE SEDIMENT ACCUMULATION REACHES A DEPTH OF 12 INCHES BEHIND THE SILT FENCE, IT SHALL BE DISPOSED OF.
 - REPAIR ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY.
- WINTER EROSION CONTROL
 - ALL EROSION CONTROL FEATURES SUCH AS SILT FENCE AND HAY BALE DIKES MUST BE IN PLACE PRIOR TO THE GROUND FREEZING.
 - ALL DISTURBED AREAS OF THE SITE SHALL BE SEEDED AND MULCHED FROM OCTOBER 15 TO APRIL 15 REGARDLESS OF WHETHER FINAL GRADING HAS BEEN FINISHED. WORK MAY CONTINUE THROUGH THIS PERIOD IF THE FOLLOWING WINTER EROSION CONTROLS ARE IMPLEMENTED:
 - OAT SEEDS SHALL BE SUBSTITUTED FOR ANY OTHER TEMPORARY ANNUAL GRASS SEEDS.
 - ALL EXPOSED EARTH SHALL BE MULCHED WITH 6 INCHES OF HAY OR STRAW. SLOPES OVER 5% SHALL HAVE AN ADDITIONAL COVERING OF STAKED JUTE MAT OR ITS EQUIVALENT.
 - THE FOLLOWING MAINTENANCE ITEMS SHOULD BE PERFORMED SPECIFICALLY FOR THE VARIOUS EROSION CONTROL DEVICES:
 - DIVERSION DIKE:
 - MINIMUM INSPECTION FREQUENCY - WEEKLY.
 - REMOVE ANY FLOW BLOCKAGE CAUSED BY ICE OR SEDIMENT.
 - MULCH:
 - MINIMUM INSPECTION FREQUENCY - DAILY.
 - REPLACE MULCH ON ANY AREA WHERE ORIGINAL MULCH COVER HAS BEEN LOST.
 - HAY BALE DIKE:
 - MINIMUM INSPECTION FREQUENCY - WEEKLY.
 - REMOVE LAYERS OF SILT AND SOIL FROM THE UPSTREAM FACE WHENEVER A NOTICEABLE ACCUMULATION HAS OCCURRED. REPLACE HAY BALE DIKE SHOULD IT BECOME COMPLETELY CLOGGED, SHOW OBVIOUS SIGNS OF BREAKDOWN OR BECOME DAMAGED IN ANY OTHER WAY. INSTALL ADDITIONAL HAY BALE DIKES DOWNSTREAM AND UPSTREAM OF EXISTING HAY BALE DIKES WHENEVER IT APPEARS THAT THE EXISTING DIKES ARE NOT PERFORMING ADEQUATELY BY THEMSELVES.
 - SILT FENCE:
 - MINIMUM INSPECTION FREQUENCY - WEEKLY.
 - CLEAN AND REMOVE ANY COLLECTED SEDIMENT BEFORE PREDICTED THAWS OR RAINY PERIODS.



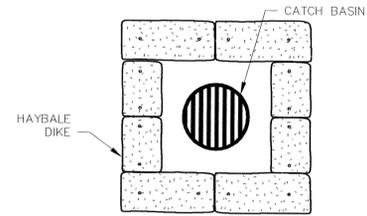
TYPICAL HAYBALE DETAIL
NOT TO SCALE



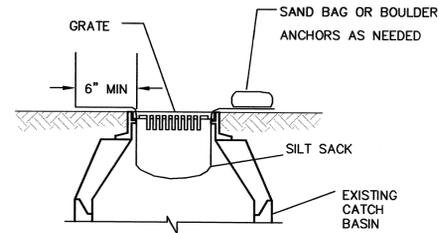
HAYBALE WITH SILT FENCE DETAIL
NOT TO SCALE



DEWATERING BASIN DETAIL
NOT TO SCALE



CATCH BASIN WITH HAYBALE DIKE
NOT TO SCALE



- NOTES:
- CATCH BASIN SILT SACK TO BE USED IN LIEU OF HAY BALE DIKES AS DIRECTED BY THE ENGINEER.
 - PLACE SILT SACK UNDER GRATE AND RESET GRATE.
 - SILT SACK TO BE MONITORED AT A MINIMUM OF ONCE PER WEEK AND IMMEDIATELY FOLLOWING A RAIN EVENT. SILT TO BE REMOVED AS NECESSARY.

CATCH BASIN FILTER DETAIL
NOT TO SCALE



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Consultants

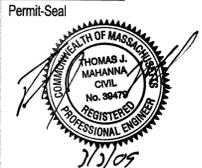
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Notes

Revision	By	Appd.	YY.MM.DD

Issued By Appd. YY.MM.DD

File Name: 11881c-501-502.dwg DP TJM RLJ 09.02.01
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Client/Project
ACTON WATER DISTRICT
WATER MAIN IMPROVEMENTS
Acton, Massachusetts
Title
EROSION CONTROL DETAILS

Project No. 19511881	Scale AS NOTED
Drawing No. C-502	Sheet 7 of 7
Revision	0

CONSERVATION COMMISSION
REVIEW
NOT FOR CONSTRUCTION