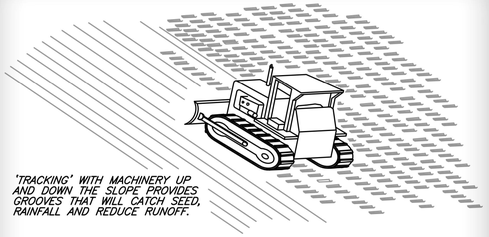
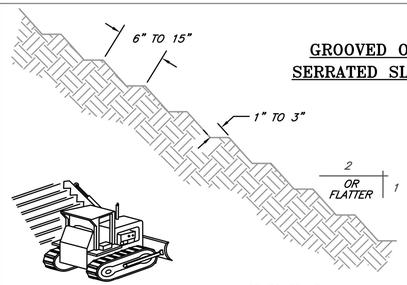


'TRACKING' WITH MACHINERY UP AND DOWN THE SLOPE PROVIDES GROOVES THAT WILL CATCH SEED, RAINFALL AND REDUCE RUNOFF.

TRACKING



GROOVED OR SERRATED SLOPE

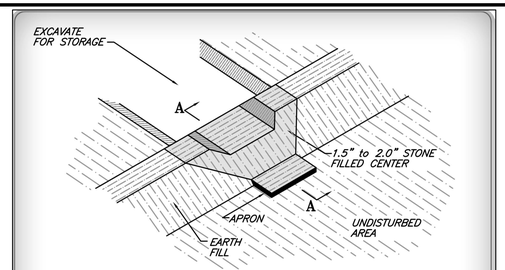
NOT TO SCALE

NOTE:
GROOVE BY CUTTING SERRATIONS ALONG THE CONTOUR. IRREGULARITIES IN THE SOIL SURFACE CATCH RAINWATER, SEED, MULCH AND FERTILIZER.

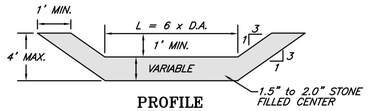
SURFACE ROUGHENING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

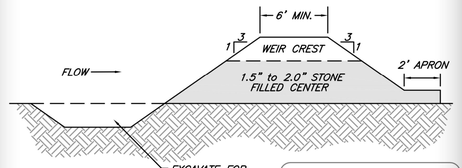
DRAWING NO. SR | DETAIL NO. 1



ISOMETRIC VIEW



PROFILE

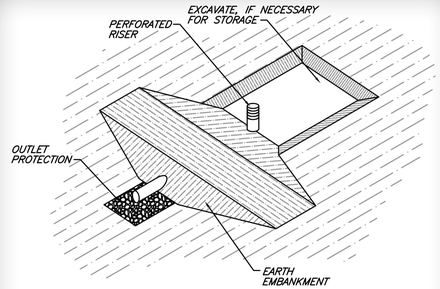


SECTION A–A

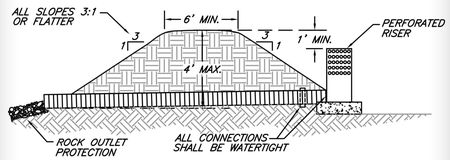
STONE OUTLET SEDIMENT TRAP

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. SOST | DETAIL NO. 2



ISOMETRIC VIEW

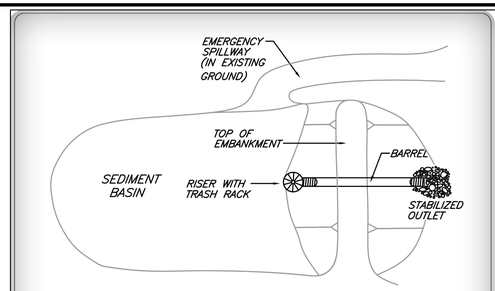


EMBANKMENT SECTION THROUGH BARREL & RISER

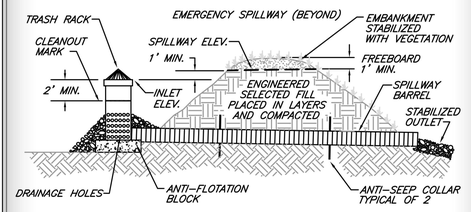
PIPE OUTLET SEDIMENT TRAP

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. POST | DETAIL NO. 3



PLAN



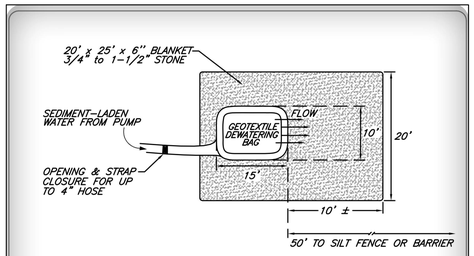
SECTION

NOTES:
1. THE TEMPORARY SEDIMENT BASIN, DESIGNED BY A QUALIFIED PROFESSIONAL, IS REQUIRED FOR DISTURBED AREAS GREATER THAN 5 ACRES WITHIN A DRAINAGE AREA LESS THAN 100 ACRES.
2. THE SEDIMENT BASIN WILL BE REMOVED WITHIN 3 YEARS.

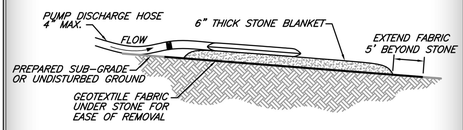
TYPICAL SEDIMENT BASIN

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. TSB | DETAIL NO. 4



PLANVIEW



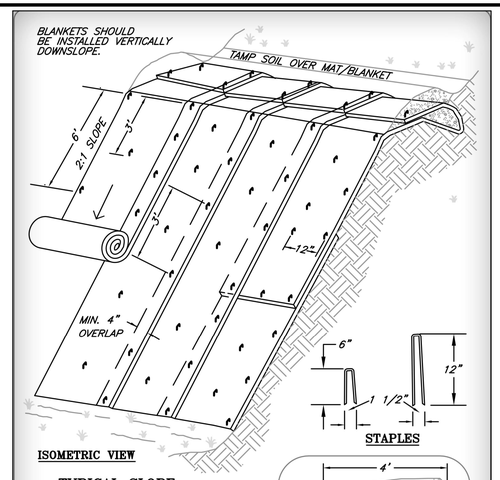
PROFILE

NOTES:
1. GEOTEXTILE BAG MATERIAL BASED ON PARTICLE SIZE IN PUMPED WATER, I.E., FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZE BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DOWNGRADIENT FROM RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G., FOREST FLOOR OR COARSE GRAVEL/STONE.
5. DISCHARGE LOCATION SHALL MEET ALL REGULATORY SETBACKS FROM WETLANDS AND OTHER WATER COURSES.

GEOTEXTILE DEWATERING BAG

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

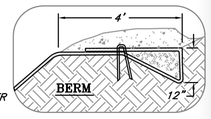
DRAWING NO. GDB | DETAIL NO. 5



ISOMETRIC VIEW

STAPLES

TYPICAL SLOPE SOIL STABILIZATION



BERM

NOT TO SCALE

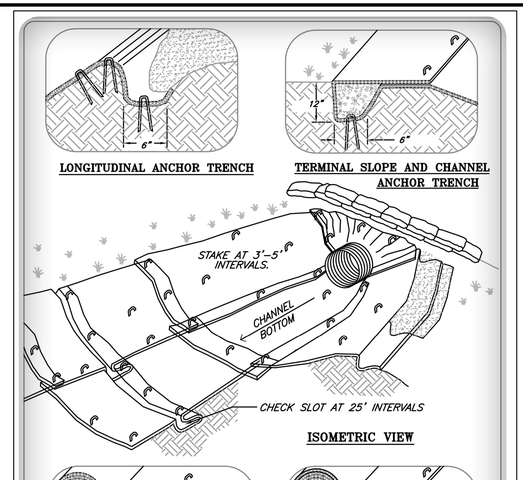
NOTES:
1. DIMENSIONS GIVEN IN THE DRAWINGS ARE EXAMPLES; DEVICE SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION BLANKETS SLOPE INSTALLATION

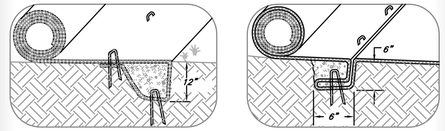
ADAPTED FROM J. McCULLAH 1994

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. EBSI | DETAIL NO. 6



ISOMETRIC VIEW



NOTES:
1. DIMENSIONS GIVEN IN THE DRAWINGS ARE EXAMPLES; DEVICE SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
2. CHECK SLOTS TO BE CONSTRUCTED PER MANUFACTURER'S SPECIFICATIONS.
3. STAKING OR STAPLING LAYOUT PER MANUFACTURER'S SPECIFICATIONS.

EROSION BLANKETS CHANNEL INSTALLATION

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. EBCI | DETAIL NO. 7

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

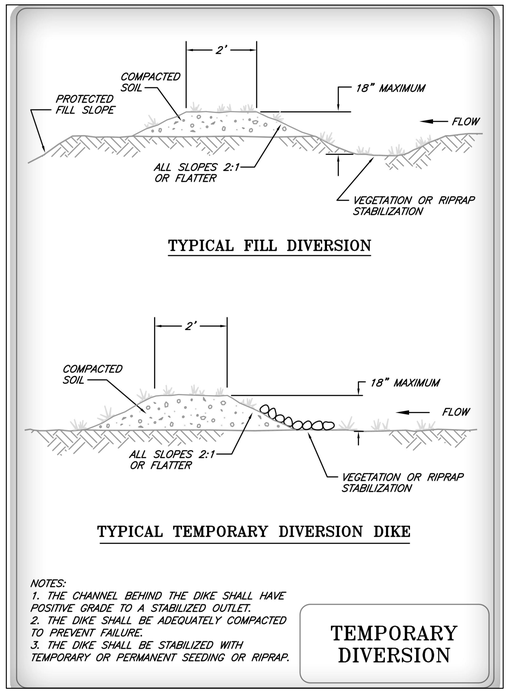
Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

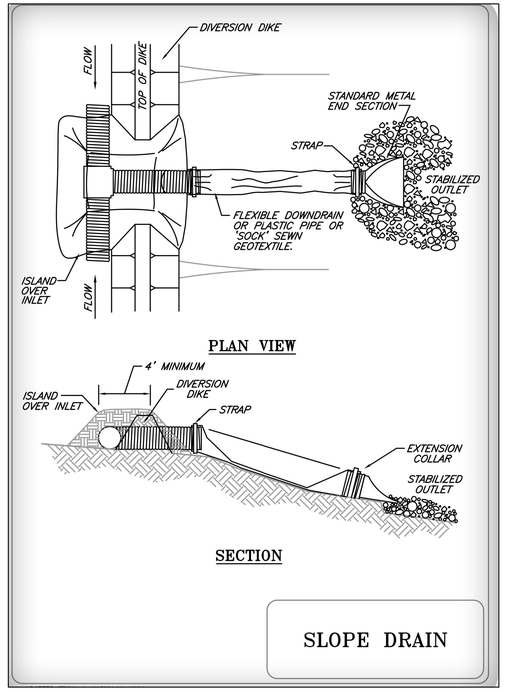
Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 1 of 13	
		Type:	

G:\KinderMorgan\339501_NEDProject\DataProd\Work\Drafting\Standard_Details\E&S_Details\NH\CAD\NH_ES_DETAILS_001.dwg — PLOT TIME: 11/13/2015 10:35 PM



Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. TD | DETAIL NO. 8



Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

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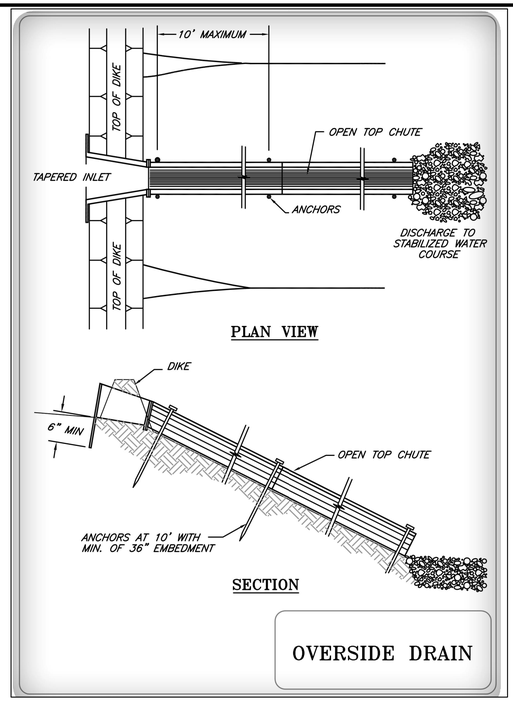

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

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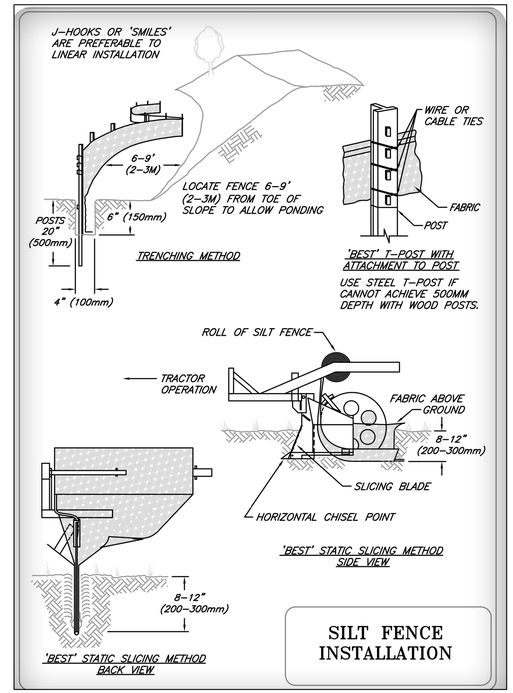
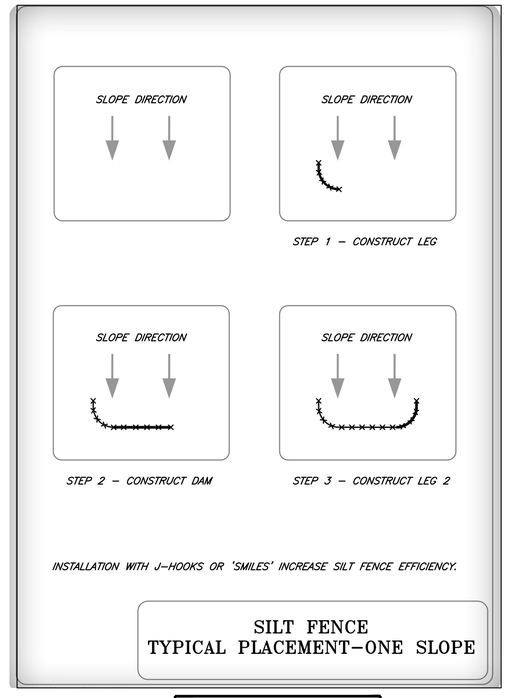


Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. SF1 | DETAIL NO. 11



Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

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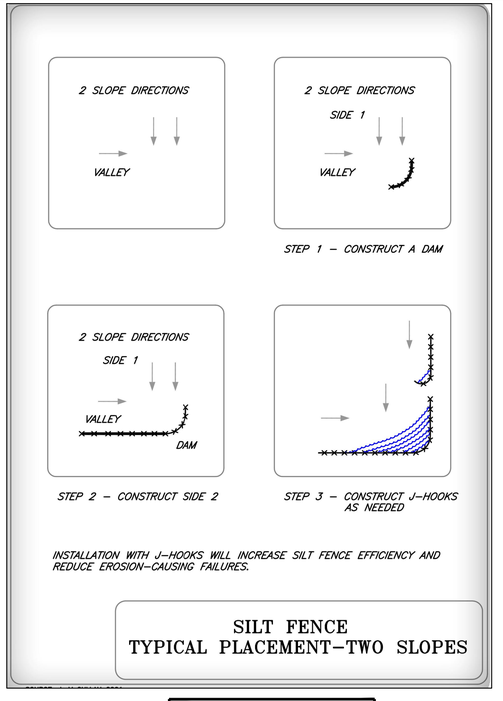

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

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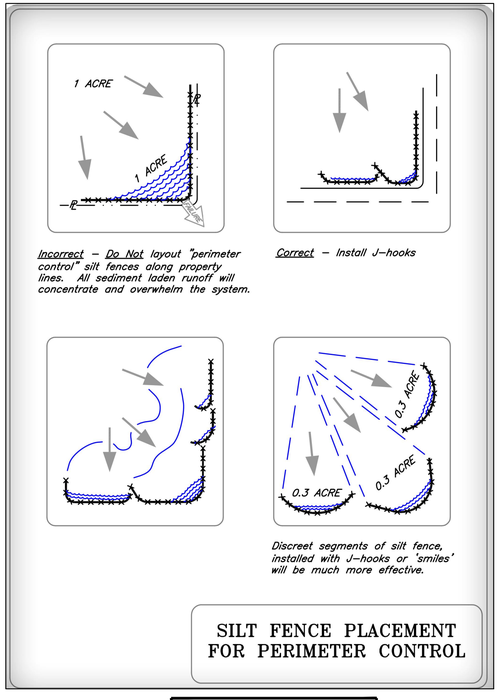

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. SF4 | DETAIL NO. 14

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:	State: NEW_HAMPSHIRE		
Division:	Op. Area:		
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 2 of 13	
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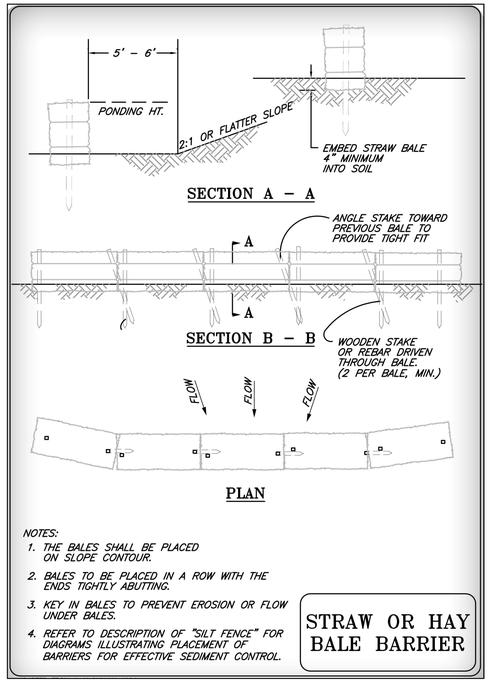


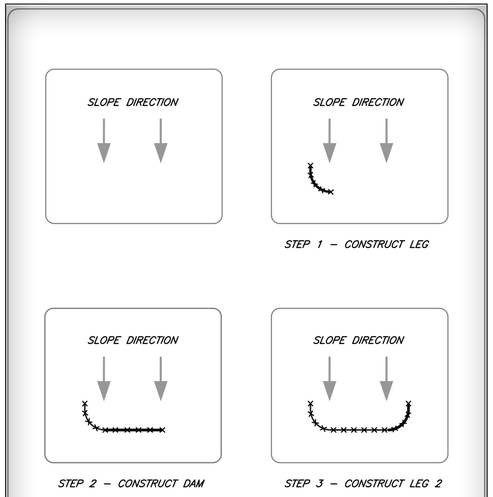
NOTES:

1. THE BALES SHALL BE PLACED ON SLOPE CONTOUR.
2. BALES TO BE PLACED IN A ROW WITH THE ENDS TIGHTLY ABUTTING.
3. KEY IN BALES TO PREVENT EROSION OR FLOW UNDER BALES.
4. REFER TO DESCRIPTION OF "SILT FENCE" FOR DIAGRAMS ILLUSTRATING PLACEMENT OF BARRIERS FOR EFFECTIVE SEDIMENT CONTROL.

STRAW OR HAY BALE BARRIER

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. SHBB | SCALE: NTS | DATE: 2010 | DETAIL NO. 15

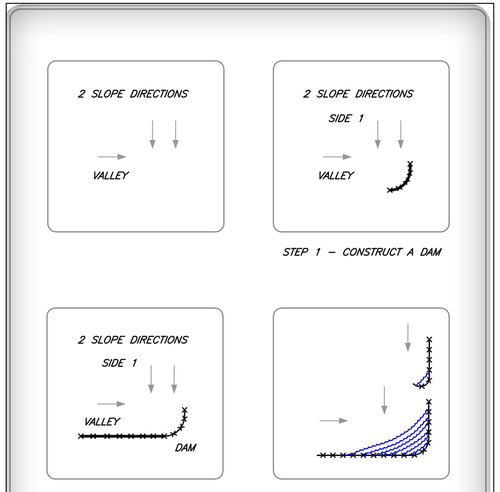


INSTALLATION WITH J-HOOKS OR 'SMILES' INCREASES EROSION CONTROL MIX BERM EFFICIENCY.

EROSION CONTROL MIX BERM TYPICAL PLACEMENT-ONE SLOPE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ECB1 | SCALE: NTS | DATE: 2010 | DETAIL NO. 16

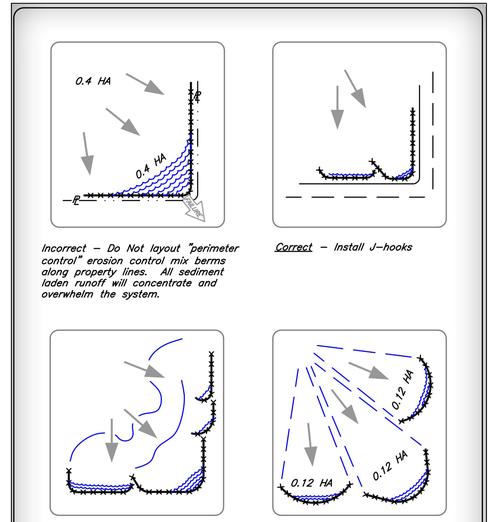


INSTALLATION WITH J-HOOKS WILL INCREASE EROSION CONTROL MIX BERM EFFICIENCY AND REDUCE EROSION-CAUSING FAILURES.

EROSION CONTROL MIX BERM TYPICAL PLACEMENT-TWO SLOPES

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

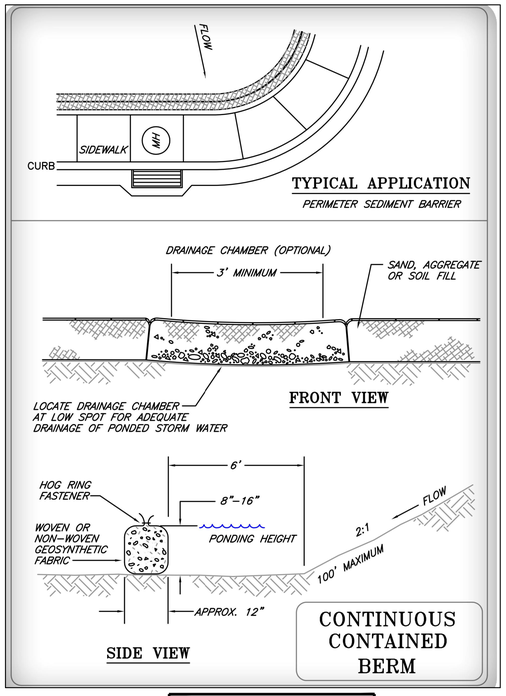
DRAWING NO. ECB2 | SCALE: NTS | DATE: 2010 | DETAIL NO. 17



EROSION CONTROL MIX BERM PLACEMENT FOR PERIMETER CONTROL

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

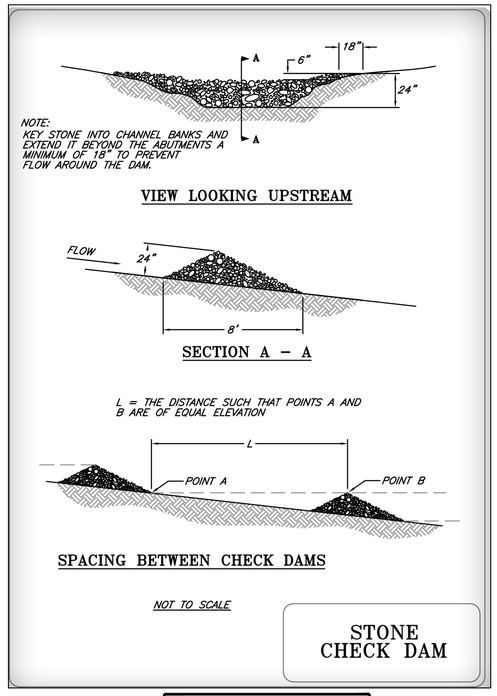
DRAWING NO. ECB3 | SCALE: NTS | DATE: 2010 | DETAIL NO. 18



CONTINUOUS CONTAINED BERM

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

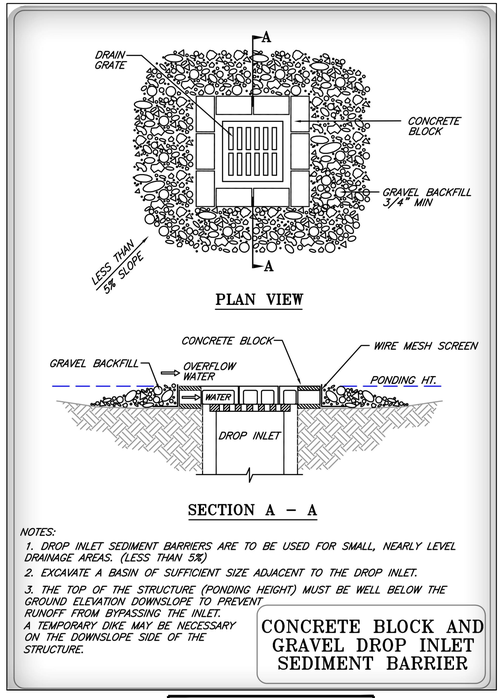
DRAWING NO. CCB | SCALE: NTS | DATE: 2010 | DETAIL NO. 19



STONE CHECK DAM

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. SCD1 | SCALE: NTS | DATE: 2010 | DETAIL NO. 20



NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

CONCRETE BLOCK AND GRAVEL DROP INLET SEDIMENT BARRIER

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. CGSB | SCALE: NTS | DATE: 2010 | DETAIL NO. 21

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

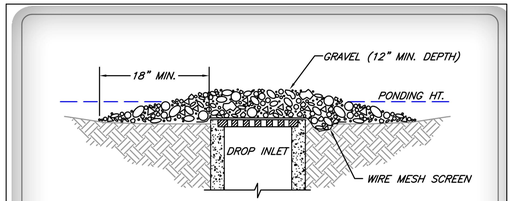
REVISIONS

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 3 of 13	
		Type:	

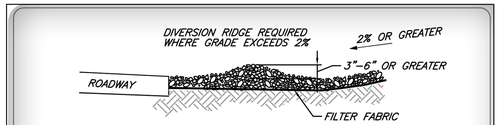


PROFILE

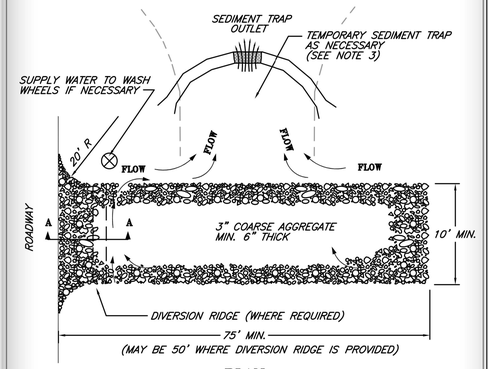
GRAVEL & WIRE MESH DROP INLET SEDIMENT BARRIER

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. GWSB | SCALE: NTS | DATE: 2015 | DETAIL NO. 22



SECTION A – A



PLAN

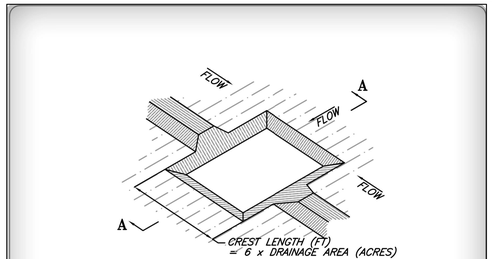
NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

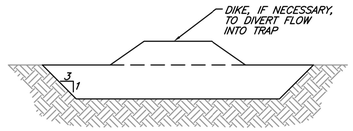
TEMPORARY GRAVEL CONSTRUCTION EXIT

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. TGCE | SCALE: NTS | DATE: 2015 | DETAIL NO. 23



ISOMETRIC VIEW



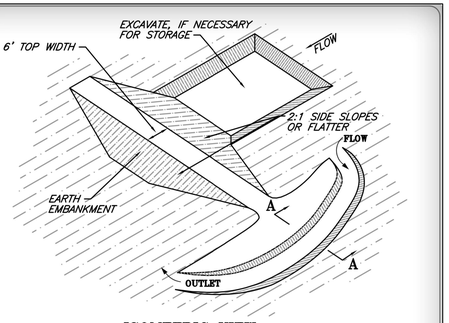
SECTION A–A

EXCAVATED

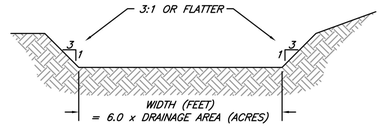
EARTH OUTLET SEDIMENT TRAP

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. EST1 | SCALE: NTS | DATE: 2015 | DETAIL NO. 24



ISOMETRIC VIEW



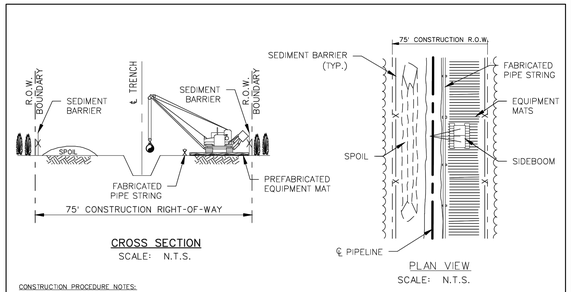
SECTION A–A

EMBANKMENT

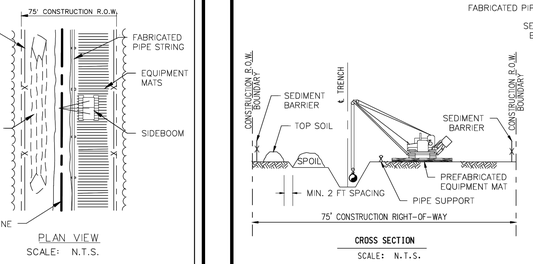
EARTH OUTLET SEDIMENT TRAP

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. EST2 | SCALE: NTS | DATE: 2015 | DETAIL NO. 25



CROSS SECTION
SCALE: N.T.S.



PLAN VIEW
SCALE: N.T.S.

CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPCP PLAN.
3. INSTALL TEMPORARY SLOPE BREAKERS UPSLOPE OF WETLAND BOUNDARIES.
4. INSTALL PREFABRICATED EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT OUTER BOUNDARIES OF WETLAND AND ALONG BOTH WETLAND EDGES.
6. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCHLINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
7. TOPSOIL STRIPPING SHALL NOT BE REQUIRED IN SATURATED SOIL CONDITIONS.
8. LEAVE HARD PLUGS AT THE EDGES OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
9. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEDE CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACKFILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
10. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY WITHIN 100 FEET OF WETLAND BOUNDARY, UNLESS APPROVED BY COMPANY ENVIRONMENTAL INSPECTOR.
11. LOWER-IN PIPE PRIOR TO BACKFILLING, INSTALL TRENCH PLUGS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
12. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY AND INSTALL PERMANENT EROSION CONTROL MEASURES.
13. REMOVE PREFABRICATED MATS FROM WETLANDS UPON COMPLETION.
14. SEED DISTURBED WETLAND AREA (UNLESS STANDING WATER IS PRESENT) AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS AND ECP OR AS APPROVED BY THE APPLICABLE PERMITTING AGENCY.
15. NO FERTILIZER OR LIME IS PERMITTED.
16. DO NOT USE LIQUID MULCH BINDERS WITHIN 100 FT OF WETLANDS OR WATERBODIES.

TYPE II "SATURATED WETLAND" INSTALLATION PROCEDURE

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. SWIP | SCALE: NTS | DATE: 2015 | DETAIL NO. 26

CROSS SECTION
SCALE: N.T.S.

PLAN VIEW
SCALE: N.T.S.

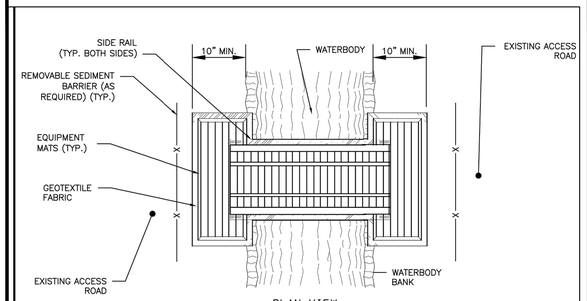
CONSTRUCTION PROCEDURE NOTES:

1. FLAG WETLAND BOUNDARIES AND INSTALL BOUNDARY SIGNS PRIOR TO CLEARING.
2. NO OVERNIGHT PARKING OR REFUELING OF MOBILE EQUIPMENT IS ALLOWED WITHIN 100 FEET OF WETLAND. PLACE "NO FUELING" SIGN POSTS 100 FEET BACK FROM WETLAND BOUNDARY. REFUEL STATIONARY EQUIPMENT AS PER SPCP PLAN.
3. INSTALL TEMPORARY SLOPE BREAKERS UPSLOPE OF WETLAND BOUNDARIES.
4. AVOID ADJACENT WETLANDS. INSTALL PREFABRICATED EQUIPMENT MATS THROUGH ENTIRE WETLAND AREA ON THE WORKING SIDE OF THE CONSTRUCTION CORRIDOR.
5. AVOID ADJACENT WETLANDS. INSTALL SEDIMENT BARRIERS AT THE OUTER BOUNDARIES OF THE WETLAND. INSTALL SEDIMENT BARRIERS ALONG THE EDGE OF THE SPOIL SIDE OF THE CONSTRUCTION CORRIDOR THROUGH THE WETLAND AND ALONG THE DOWN SLOPE EDGE OF THE WETLAND. IF THE DOWN SLOPE EDGE OF THE WETLAND IS THE SPOIL SIDE, THEN SEDIMENT BARRIERS ARE NOT REQUIRED ON THE WORKING SIDE OF THE CORRIDOR UNLESS EQUIPMENT TRAVERSING THROUGH THE WETLAND CAUSES SPOIL AND SEDIMENT TO EXIT THE CONSTRUCTION CORRIDOR.
6. LIMIT PULLING OF TREE STUMPS AND GRADING ACTIVITIES TO DIRECTLY OVER THE TRENCH LINE. DO NOT GRADE OR REMOVE STUMPS OR ROOT SYSTEMS FROM THE REST OF THE RIGHT-OF-WAY IN WETLANDS UNLESS THE CHIEF INSPECTOR AND COMPANY ENVIRONMENTAL INSPECTOR DETERMINE THAT SAFETY RELATED CONSTRUCTION CONSTRAINTS REQUIRE REMOVAL OF TREE STUMPS FROM UNDER THE WORKING SIDE OF THE RIGHT-OF-WAY.
7. CONDUCT TRENCH LINE TOPSOIL STRIPPING (IF TOPSOIL IS NOT SATURATED OR FROZEN). SALVAGE TOPSOIL TO ACTUAL DEPTH OR A MAXIMUM DEPTH OF 12 INCHES, AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR. SEGREGATED TOPSOIL PILE MAY BE LOCATED ON SPOIL SIDE, AS REQUIRED.
8. LEAVE HARD PLUGS AT THE EDGES OF WETLAND UNTIL JUST PRIOR TO TRENCHING.
9. TRENCHING THROUGH WETLANDS MAY PROCEED WHEN THE PIPE SECTION IS FABRICATED AND READY TO LAY. ONCE TRENCHING COMMENCES, CONSTRUCTION THROUGH THE WETLAND IS TO PROCEED CONTINUOUSLY UNTIL THE CROSSING IS COMPLETED, BACK FILLED AND RESTORED IN ORDER TO MINIMIZE THE LENGTH OF TIME THE TRENCH IS OPEN.
10. PIPE SECTION MAY BE FABRICATED WITHIN THE WETLAND ADJACENT TO PIPE TRENCH, OR IN STAGING AREA OUTSIDE THE WETLAND AND WALKED IN. NO CONCRETE COATING ACTIVITY SHALL OCCUR WITHIN 100 FEET OF WETLAND BOUNDARY UNLESS APPROVED BY ENVIRONMENTAL INSPECTOR.
11. LOWER-IN PIPE PRIOR TO BACK FILLING TRENCH, INSTALL TRENCH BREAKERS IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
12. RESTORE GRADE TO NEAR PRE-CONSTRUCTION TOPOGRAPHY; REPLACE TOPSOIL AND INSTALL PERMANENT EROSION CONTROL MEASURES.
13. REMOVE PREFABRICATED MATS FROM WETLANDS UPON COMPLETION.
14. SEED DISTURBED WETLAND AREAS (UNLESS STANDING WATER IS PRESENT) AS DETERMINED BY THE ENVIRONMENTAL INSPECTOR AND AS SHOWN ON DRAWINGS AND ECP OR AS APPROVED BY THE APPLICABLE PERMITTING AGENCY.
15. NO FERTILIZER OR LIME IS PERMITTED.
16. DO NOT USE LIQUID MULCH BINDERS WITHIN 100 FT OF WETLANDS OR WATERBODIES.

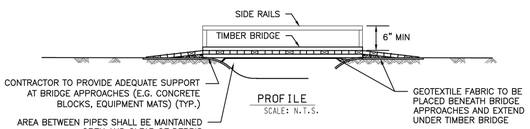
TYPE I "NON-SATURATED WETLAND" INSTALLATION PROCEDURE

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. NWIP | SCALE: NTS | DATE: 2015 | DETAIL NO. 27



PLAN VIEW
SCALE: N.T.S.



PROFILE
SCALE: N.T.S.

NOTES:

1. TIMBER BRIDGES SHALL BE ADEQUATELY ANCHORED AT BOTH ENDS.
2. TEMPORARY STREAM CROSSINGS SHALL BE INSPECTED ON A DAILY BASIS AND BUILD UP OF SEDIMENT OR DEBRIS SHALL BE REMOVED.
3. BRIDGE APPROACHES SHALL BE SUPPORTED WITH EQUIPMENT MATS OR APPROVED EQUAL.
4. SIDE RAILS SHALL BE INSTALLED ON BOTH SIDES OF THE BRIDGE EQUIPMENT CROSSING IN ORDER TO PREVENT SEDIMENT FROM ENTERING THE WATERBODY. SIDE RAILS ARE TO BE CONSTRUCTED OF PLYWOOD NAILED TO THE OUTER EDGES OF THE EQUIPMENT MATS.
5. EQUIPMENT MATS SHALL EXTEND A MINIMUM OF 10 FEET OUTSIDE OF THE WATERBODY OR WETLAND BOUNDARIES.
6. UNLESS OTHERWISE INDICATED ON PLAN, CROSSING SHALL BE REMOVED IMMEDIATELY AFTER CONSTRUCTION IS COMPLETED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LOAD CALCULATIONS REQUIRED TO ENSURE THE INSTALLED MATS/EQUIPMENT BRIDGE CAN STRUCTURALLY SUPPORT THE CONSTRUCTION EQUIPMENT TO BE UTILIZED.

BRIDGE EQUIPMENT CROSSING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. BEC | SCALE: NTS | DATE: 2015 | DETAIL NO. 28

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

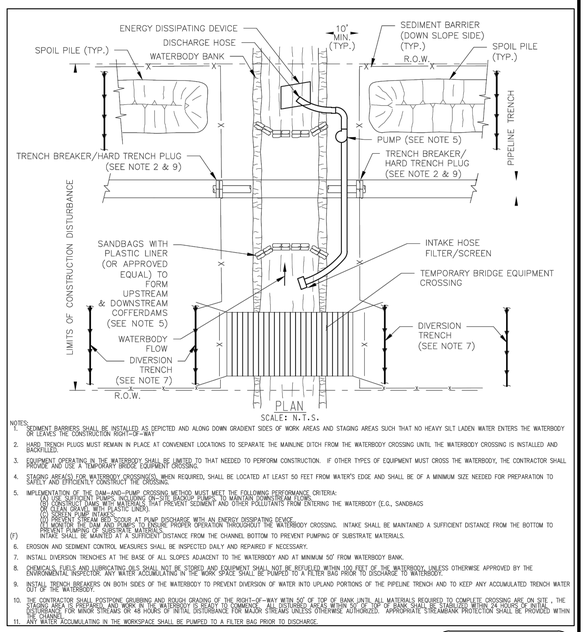
REVISIONS

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:	State: NEW_HAMPSHIRE		
Division:	Op. Area:		
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 4 of 13	
		Type:	



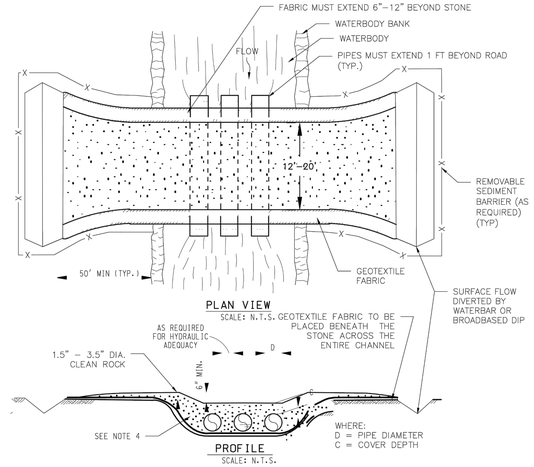
NOTES:

1. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDE OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT-OF-WAY.
2. HARD TRENCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE THE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY CROSSING IS INSTALLED AND BACK-FILLED.
3. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, THE CONTRACTOR SHALL PROVIDE AND USE A TEMPORARY BRIDGE EQUIPMENT CROSSING.
4. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR PREPARATION TO SAFELY AND EFFICIENTLY CONSTRUCT THE CROSSING.
5. IMPLEMENTATION OF THE DAM-AND-PUMP CROSSING METHOD MUST MEET THE FOLLOWING PERFORMANCE CRITERIA:
   (A) USE SUFFICIENT PUMPS, INCLUDING ON-SITE BACK-UP PUMPS, TO MAINTAIN DOWNSTREAM FLOWS;
   (B) OVERSTRUCT DAMS WITH MATERIALS THAT PREVENT SEDIMENT AND OTHER POLLUTANTS FROM ENTERING THE WATERBODY (E.G., SANDBAGS OR SHEETS OF PLASTIC LINER);
   (C) LIMIT PUMP HOSE DISCHARGE RATES;
   (D) PREVENT STREAM BED SCOUR AT PUMP DISCHARGE WITH AN ENERGY DISSIPATING DEVICE;
   (E) MONITOR THE DAM AND PUMPS TO ENSURE PROPER OPERATION THROUGHOUT THE WATERBODY CROSSING. INTAKE SHALL BE MAINTAINED A SUFFICIENT DISTANCE FROM THE BOTTOM TO PREVENT PUMPING OF SUBSTRATE MATERIALS.
   (F) INTAKE SHALL BE MAINTAINED AT A SUFFICIENT DISTANCE FROM THE CHANNEL BOTTOM TO PREVENT PUMPING OF SUBSTRATE MATERIALS.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
7. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY AND AT MINIMUM 50' FROM WATERBODY BANK.
8. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY, UNLESS OTHERWISE APPROVED BY THE ENVIRONMENTAL INSPECTOR. ANY WATER ACCUMULATING IN THE WORK SPACE SHALL BE PUMPED TO A FILTER BAG PRIOR TO DISCHARGE TO WATERBODY.
9. INSTALL TRENCH BREAKERS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
10. THE CONTRACTOR SHALL POSTPONE GRUBBING AND BEGIN GRADING OF THE RIGHT-OF-WAY WITHIN 50' OF TOP OF BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE. THE CONTRACTOR SHALL BE PREPARED AND WORK IN THE WATERBODYS READY TO COMMENCE. ALL DISTURBED AREAS WITHIN 50 FEET OF TOP OF BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED. EXCEPT FOR BLASTING AND OTHER ROCK BREAKING MEASURES, THE CONTRACTOR SHALL COMPLETE IN WATERBODY CONSTRUCTION ACTIVITIES (INCLUDING TRENCHING, PIPE INSTALLATION, BACKFILL, AND RESTORATION OF THE WATERBODY CHANNEL CONTOURS) WITHIN 24 HOURS. WATERBODY BANKS AND UNCONSOLIDATED WATERBODY CHANNELS MAY REQUIRE ADDITIONAL RESTORTION AFTER THIS PERIOD.
11. ANY WATER ACCUMULATING IN THE WORKSPACE SHALL BE PUMPED TO A FILTER BAG PRIOR TO DISCHARGE.

DAM AND PUMP CROSSING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. DPC | SCALE: NTS | DATE: 2015 | DETAIL NO. 29



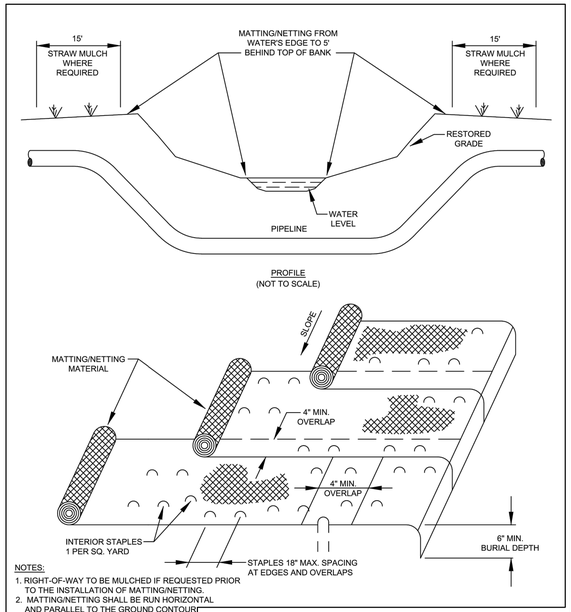
NOTES:

1. TEMPORARY STREAM CROSSING SHALL BE INSPECTED ON A DAILY BASIS AND BUILD-UP OF SEDIMENT OR DEBRIS ON BRIDGE SHALL BE REMOVED.
2. CULVERTS SHALL BE PLACED AT LEAST ONE– HALF (1/2) THEIR DIAMETER APART.
3. ALL MATERIAL AND EQUIPMENT PLACED IN THE WATERBODY CHANNEL SHALL BE COMPLETELY REMOVED DURING FINAL CLEAN–UP. REMOVAL OF THESE ITEMS ARE NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
4. ONLY CLEAN ROCK WILL BE USED. THE ROCK MUST BE SIZED ACCORDING TO THE ANTICIPATED FLOW CONDITIONS. THE ROCK SIZE USED SHALL CONFORM TO THE CONDITIONS OF THE APPLICABLE PERMITTING AGENCY. THE ROCK FILL SHOULD BE EXTENDED A MINIMUM OF 50' FROM THE TOP OF BANK ON EACH SIDE OF THE CROSSING. THE FILL SHOULD BE DEPRESSED A MINIMUM OF 6" OVER THE CHANNEL TO ALLOW FOR OVERFLOW. THE MAXIMUM DEPTH OF FILL OVER THE CULVERT IS THE MINIMUM THE MANUFACTURER REQUIRES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LOAD CALCULATIONS REQUIRED TO ENSURE THE INSTALLED PIPES CAN STRUCTURALLY SUPPORT THE CONSTRUCTION EQUIPMENT. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, PIPE MATERIAL SELECTION AND REQUIRED PIPE COVER DEPTH.

CULVERT EQUIPMENT CROSSING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. CEC | SCALE: NTS | DATE: 2015 | DETAIL NO. 30



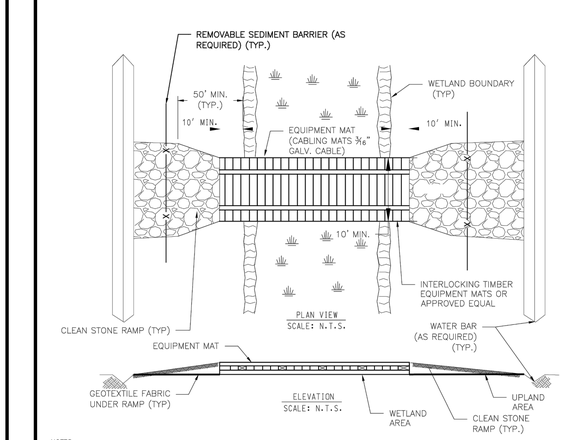
NOTES:

1. RIGHT-OF-WAY TO BE MULCHED IF REQUESTED PRIOR TO THE INSTALLATION OF MATTING/NETTING.
2. MATTING/NETTING SHALL BE RUN HORIZONTAL AND PARALLEL TO THE GROUND CONTOUR.
3. STAPLES SHALL BE 10"-LONG, STANDARD MATTING/NETTING STAPLES.
4. **EROSION CONTROL MATTING WILL BE INSTALLED ON ANY DISTURBED SOIL WITHIN 100' OF A WATERBODY.**

TYPICAL MATTING/NETTING INSTALLATION FOR WATER CROSSING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. MIWC | SCALE: NTS | DATE: 2015 | DETAIL NO. 31



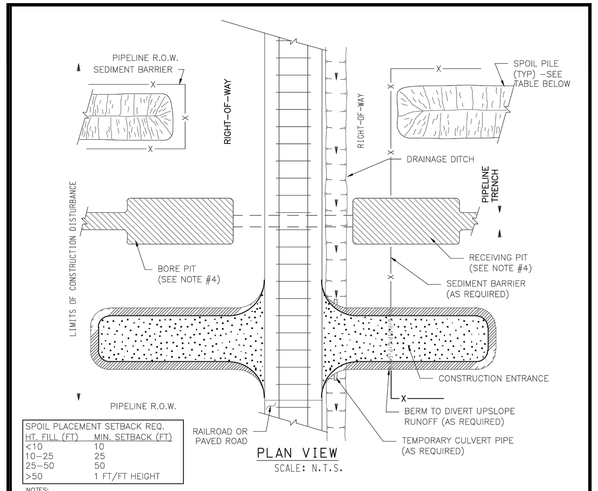
NOTES:

1. INSPECT ON A DAILY BASIS AND REMOVE BUILD–UP OF SEDIMENT AND DEBRIS.
2. MATERIALS PLACED IN WETLANDS SHALL BE COMPLETELY REMOVED DURING FINAL CLEAN–UP. REMOVAL OF THESE MATERIALS IS NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
3. IF A WATERBODY IS LOCATED WITHIN A WETLAND, EXTEND EQUIPMENT MATS TO THE BRIDGE EQUIPMENT CROSSING CONSTRUCTED TO CROSS THE WATERBODY IN ORDER TO ALLOW FOR CONTINUOUS EQUIPMENT MAT COVERAGE THROUGH THE WETLAND AND WATERBODY AREA.
4. USE ADDITIONAL EQUIPMENT MATS TO RAISE THE CROSSING ABOVE THE ELEVATION WHERE POOR SOIL CONDITIONS EXIST. A MAXIMUM OF 2 TIMBER MAT LAYERS MAY BE USED WITHIN WETLANDS UNLESS OTHERWISE APPROVED BY THE ENVIRONMENTAL INSPECTOR.
5. EQUIPMENT MATS SHALL EXTEND A MINIMUM OF 10 FEET OUTSIDE OF THE WETLAND AND WATERBODY BOUNDARIES.
6. INSTALL CLEAN STONE RAMP APPROACHES TO EQUIPMENT MATS IN WETLAND AREAS.
7. EQUIPMENT MATS ARE TO BE CONSTRUCTED OF 4"X4" WOOD MEMBERS, LINKED WITH 3/8 GALVANIZED STEEL CABLE TO ENSURE REMOVAL OF ALL MATS.

WETLAND EQUIPMENT CROSSING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. WEC | SCALE: NTS | DATE: 2015 | DETAIL NO. 32



SPOIL PLACEMENT SETBACK REQ.	
HT. FILL (FT)	MIN. SETBACK (FT)
<10	10
10–25	25
25–50	50
>50	1 FT/FT HEIGHT

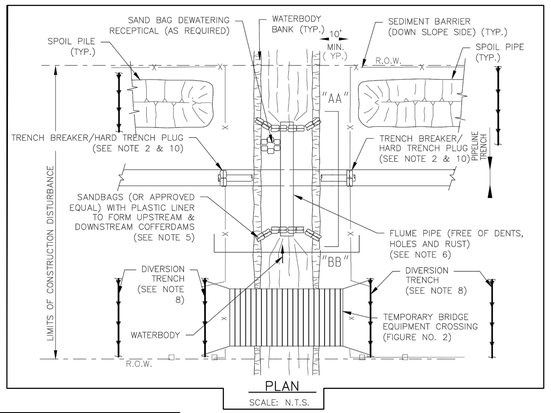
NOTES:

1. A SEDIMENT BARRIER SHALL BE INSTALLED AT THE BASE OF SLOPES ADJACENT TO THE CROSSING WHERE VEGETATION IS DISTURBED TO INTERCEPT SURFACE RUNOFF.
2. PROTECTION FOR SPOIL PILES SHALL BE INSTALLED ONLY WHERE SEDIMENT BARRIERS ACROSS THE ENTIRE DISTURBED AREA ARE NOT REQUIRED.
3. SEDIMENT BARRIERS SHALL BE MAINTAINED IN PLACE UNTIL PERMANENT REVEGETATION IS ESTABLISHED.
4. ANY WATER REMOVED FROM THE BORE PIT OR RECEIVING PIT SHALL BE FILTERED THROUGH AN APPROVED DEWATERING STRUCTURE OR FILTER BAG.
5. IF WELL POINTING IS REQUIRED, THE CONTRACTOR SHALL CONSULT WITH THE ENVIRONMENTAL INSPECTOR PRIOR TO COMMENCEMENT OF WORK IN ORDER TO DETERMINE PROPER DEWATERING LOCATIONS AND METHODS.
6. THE CONTRACTOR SHALL BE REQUIRED TO KEEP THE CROSSING CLEAR OF DEBRIS AT ALL TIMES.
7. THE CONTRACTOR MAY ELECT TO UTILIZE SHEET PILING IN ORDER TO STABILIZE THE BORE PITS AND RECEIVING PITS.
8. DEPENDING ON TOPOGRAPHY AND STATE AGENCY REQUIREMENTS, A SEDIMENT BARRIER MAY BE REQUIRED ACROSS THE ENTIRE CONSTRUCTION RIGHT OF WAY AT THE EDGE OF CROSSING. IN ADDITION TO THIS DETAIL, REFER TO THE ENVIRONMENTAL ALIGNMENT DRAWINGS FOR PLACEMENT OF SEDIMENT BARRIERS.

BORED ROAD/ RAILROAD CROSSING

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. BRRC | SCALE: NTS | DATE: 2015 | DETAIL NO. 33



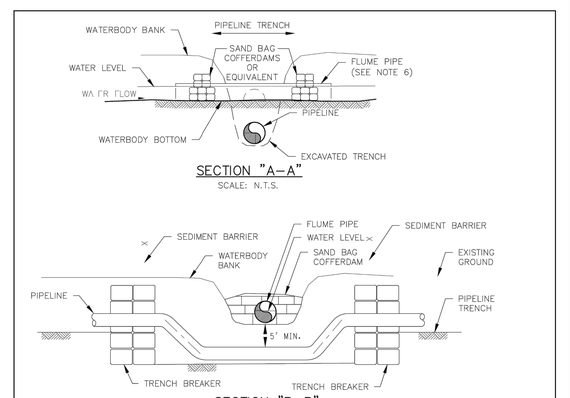
NOTES:

1. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS AND STAGING AREAS SUCH THAT NO HEAVY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT-OF-WAY.
2. HARD TRENCH PLUGS MUST REMAIN IN PLACE AT CONVENIENT LOCATIONS TO SEPARATE THE MAINLINE DITCH FROM THE WATERBODY CROSSING UNTIL THE WATERBODY CROSSING IS INSTALLED AND BACKFILLED.
3. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, THE CONTRACTOR SHALL PROVIDE AND USE A TEMPORARY BRIDGE EQUIPMENT CROSSING.
4. STAGING AREA(S) FOR WATERBODY CROSSING(S), WHEN REQUIRED, SHALL BE LOCATED AT LEAST 50 FEET FROM THE WATER'S EDGE AND SHALL BE OF A MINIMUM SIZE NEEDED FOR CONVENIENT PREPARATION.
5. FLUME CROSSING METHOD REQUIREMENTS INCLUDE:
   (A) INSTALL FLUME PIPE(S) AFTER BLASTING (IF NECESSARY), BUT BEFORE ANY TRENCHING.
   (B) USE SAND BAG OR SAND BAG AND PLASTIC SHEETING DIVERSION STRUCTURES OR EQUIVALENT TO DEVELOP AN EFFECTIVE SEAL AND TO DIVERT WATERBODY FLOW THROUGH THE FLUME PIPE (SOME MINOR MODIFICATIONS TO THE WATERBODY BOTTOM MAY BE REQUIRED TO ACHIEVE AN EFFECTIVE SEAL).
   (C) PROPERLY ALIGN FLUME PIPE(S) TO PREVENT BANK EROSION AND WATERBODY CHANNEL BED SCOUR.
   (D) DO NOT REMOVE FLUME PIPE DURING TRENCHING, PIPE LAYING, OR BACKFILLING ACTIVITIES, OR INITIAL STREAM BED RESTORATION EFFORTS.
   (E) REMOVE ALL FLUME PIPES AND DAMS THAT ARE NOT ALSO PART OF THE EQUIPMENT BRIDGE AS SOON AS FINAL CLEANUP OF THE STREAM BED AND BANK IS COMPLETE.
6. THE FLUME PIPE MUST BE SIZED TO ADEQUATELY CONVEY MAXIMUM ANTICIPATED FLOW RATES AT THE TIME OF THE CROSSING WITHOUT FLOODING THE TRENCH, WHILE TO MAINTAINING ADEQUATE FLOW RATES TO PROTECT AQUATIC LIFE AND PREVENT THE INTERRUPTION OF EXISTING DOWNSTREAM USES.

FLUME CROSSING–1

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. FC1 | SCALE: NTS | DATE: 2015 | DETAIL NO. 34



7. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY AND REPAIRED IF NECESSARY.
8. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY AND AT 50' FROM WATERBODY BANKS.
9. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF THE WATERBODY UNLESS OTHERWISE APPROVED BY THE ENVIRONMENTAL INSPECTOR.
10. ANY WATER ACCUMULATING IN THE WORK SPACE SHALL BE PUMPED TO A FILTER BAG PRIOR TO DISCHARGE TO A WATERBODY.
10. INSTALL TRENCH BREAKERS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
11. ALL MATERIAL AND EQUIPMENT PLACED IN THE WATERBODY CHANNEL SHALL BE COMPLETELY REMOVED DURING FINAL CLEAN–UP. REMOVAL OF THESE ITEMS ARE NOT CONTINGENT UPON ESTABLISHMENT OF PERMANENT VEGETATION.
12. THE CONTRACTOR SHALL POSTPONE ROUGH GRADING AND GRUBBING OF THE RIGHT OF WAY WITHIN 50' OF TOP OF BANK UNTIL THE STAGING AREA IS PREPARED AND WORK IN THE WATERBODYS READY TO COMMENCE. ALL DISTURBED AREAS WITHIN 50 FEET OF TOP OF BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR STREAMS OR 48 OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED.
13. EXCEPT FOR BLASTING AND OTHER ROCK BREAKING MEASURES, THE CONTRACTOR SHALL COMPLETE IN WATERBODY CONSTRUCTION ACTIVITIES (INCLUDING TRENCHING, PIPE INSTALLATION, BACKFILL, AND RESTORATION OF THE WATERBODY CHANNEL CONTOURS) WITHIN 24 HOURS. WATERBODY BANKS AND UNCONSOLIDATED WATERBODY CHANNELS MAY REQUIRE ADDITIONAL RESTORTION AFTER THIS PERIOD.
14. THE CONTRACTOR SHALL COORDINATE THE ENVIRONMENTAL INSPECTOR TO DETERMINE THE APPROPAITE DRY CROSSING METHOD THAT SHOULD BE UTILIZED DURING CONSTRUCTION.

FLUME CROSSING–2

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. FC2 | SCALE: NTS | DATE: 2015 | DETAIL NO. 35

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 5 of 13	
		Type:	

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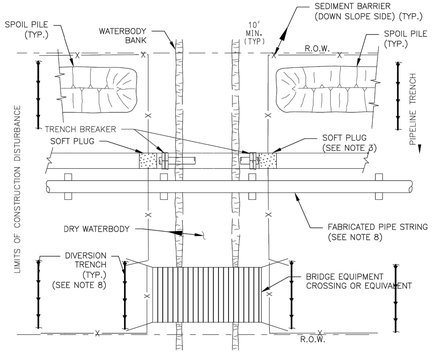


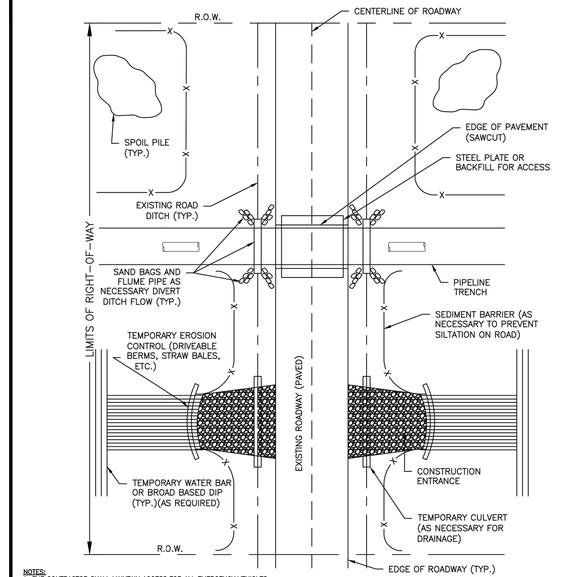
NOTES:

1. THIS METHOD APPLIES TO WATERBODIES THAT ARE DRY AT THE TIME OF CROSSING.
2. SEDIMENT BARRIERS SHALL BE INSTALLED AS DEPICTED AND ALONG DOWN GRADIENT SIDES OF WORK AREAS SUCH THAT NO HEAVILY SILT LADEN WATER ENTERS THE WATERBODY OR LEAVES THE CONSTRUCTION RIGHT OF WAY.
3. SOFT PLUGS SHALL BE INSTALLED FOLLOWING EXCAVATION OF THE MAINLINE TRENCH THROUGH THE WATERBODY.
4. INSTALL TRENCH BREAKERS ON BOTH SIDES OF THE WATERBODY TO PREVENT DIVERSION OF WATER INTO UPLAND PORTIONS OF THE PIPELINE TRENCH AND TO KEEP ANY ACCUMULATED TRENCH WATER OUT OF THE WATERBODY.
5. EQUIPMENT OPERATING IN THE WATERBODY SHALL BE LIMITED TO THAT NEEDED TO PERFORM CONSTRUCTION. IF OTHER TYPES OF EQUIPMENT MUST CROSS THE WATERBODY, THE CONTRACTOR SHALL PROVIDE AND USE A TEMPORARY BRIDGE EQUIPMENT CROSSING OR EQUIVALENT AS APPROVED BY THE ENVIRONMENTAL INSPECTOR.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED DAILY AND REPAIRED IF NECESSARY.
7. CHEMICALS, FUELS AND LUBRICATING OILS SHALL NOT BE STORED AND EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF WATERBODY, UNLESS OTHERWISE APPROVED BY THE REGULATORY AUTHORITY. ANY WATER ACCUMULATING IN THE WORKSPACE SHALL BE PUMPED TO A FILTER BAG PRIOR TO DISCHARGE TO A WATERBODY.
8. INSTALL DIVERSION TRENCHES AT THE BASE OF ALL SLOPES ADJACENT TO THE WATERBODY AND AT MINIMUM 50' FROM WATERBODY BANK.
9. THE FABRICATED PIPE STRING MAY SPAN THE DRY WATERBODY CROSSING IN PREPARATION FOR THE LOWERING-IN PHASE OF CONSTRUCTION.
10. THE DRY WATERBODY MAY BE TRENCHED IN SEQUENCE WITH NORMAL TRENCHING OPERATIONS AND THE PIPE INSTALLED THROUGH THE DRY WATERBODY CROSSING IN CONJUCTION WITH UPSTREAM AND DOWN STREAM PIPE.
11. THE CONTRACTOR SHALL POSTPONE GRUBBING AND ROUGH GRADING OF THE RIGHT-OF-WAY WITHIN 50' OF TOP OF BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE, THE STAGING AREA IS PREPARED AND WORK IN THE WATERBODY IS READY TO COMMENCE. ALL DISTURBED AREAS WITHIN 50 FEET OF TOP OF BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE OR MINOR STREAMS OR 48 HOURS OF INITIAL DISTURBANCE FOR MAJOR STREAMS UNLESS OTHERWISE AUTHORIZED. APPROPRIATE STREAMBANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.
12. ANY WATER ACCUMULATING IN THE WORKSPACE SHALL BE PUMPED TO A FILTER BAG PRIOR TO DISCHARGE.

DRY WATERBODY CROSSING

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. DWC | SCALE: NTS | DATE: 2015 | DETAIL NO. 36



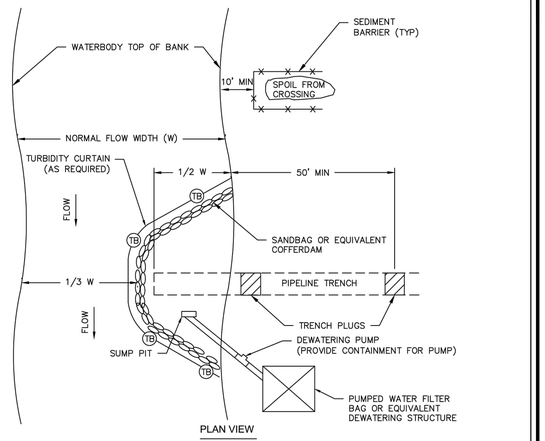
NOTES:

1. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL EMERGENCY VEHICLES.
2. THE CONTRACTOR SHALL COORDINATE ACCESS RESTRICTIONS WITH ALL IMPACTED PARTIES PRIOR TO CROSSING THE ROAD.
3. THE CONTRACTOR SHALL MAINTAIN ONSITE ADEQUATELY SIZED STEEL PLATES TO COVER THE OPEN TRENCH AND ALLOW FOR EMERGENCY OR GENERAL ACCESS IN THE EVENT THAT CONSTRUCTION ACTIVITIES HAVE TO BE HALTED.

TYPICAL OPEN CUT PAVED ROAD CROSSING

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. OCRC | SCALE: NTS | DATE: 2015 | DETAIL NO. 37



PLAN VIEW

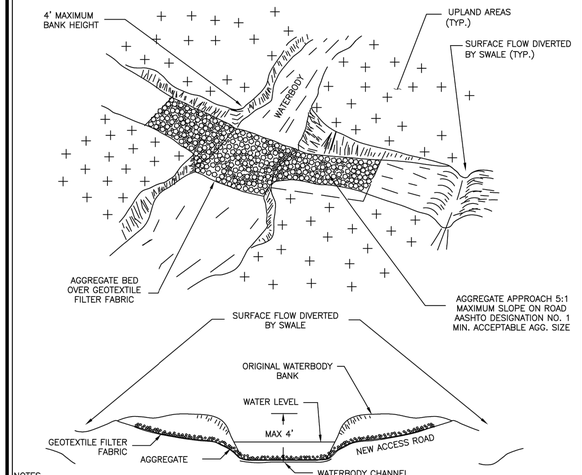
NOTES:

1. GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.
2. TRENCH BREAKER SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE WATERBODY CHANNEL.
3. WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A PUMPED WATER FILTER BAG OR SEDIMENT TRAP PRIOR TO DISCHARGING INTO ANY SURFACE WATER.
4. HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF WATERBODY BANK.
5. ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE WATERBODY CROSSING AREA.
6. ALL DISTURBED AREAS WITHIN 50 FEET OF TOP-OF-BANK SHALL BE BLANKETED OR MATTED WITHIN 24 HOURS OF INITIAL DISTURBANCE FOR MINOR WATERBODIES OR 48 HOURS OF INITIAL DISTURBANCE FOR INTERMEDIATE WATERBODIES UNLESS OTHERWISE AUTHORIZED.
7. APPROPRIATE WATERBODY BANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.
8. THE WATERBODY CROSSING WILL GENERALLY BE COMPLETED IN 2 STAGES. THE DETAIL DEPICTS STAGE 1. STAGE 2 WILL GENERALLY BE COMPLETED USING THE SAME CONFIGURATION FROM THE OPPOSITE BANK.

TYPICAL UTILITY LINE CROSSING WITH COFFERDAM

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ULCC | SCALE: NTS | DATE: 2015 | DETAIL NO. 38



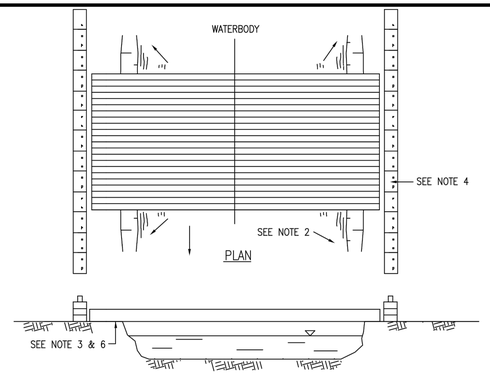
NOTES

1. THIS METHOD IS INTENDED FOR USE BY CLEARING EQUIPMENT AND CONSTRUCTION EQUIPMENT REQUIRED TO CONSTRUCT A TEMPORARY BRIDGE CROSSING PRIOR TO PIPE INSTALLATION (E.G. TRENCHING), UNLESS OTHERWISE APPROVED BY THE APPLICABLE REGULATORY AGENCY. UNLESS OTHERWISE APPROVED, THE CONTRACTOR SHALL LIMIT THE NUMBER OF CROSSINGS TO ONE PER PIECE OF EQUIPMENT.
2. THIS METHOD SHALL ONLY BE USED IF IT WILL NOT AFFECT AQUATIC LIFE SUCH AS FISH MIGRATION OR SPAWNING. COORDINATION WITH THE APPLICABLE PERMITTING AGENCY WILL BE REQUIRED PRIOR TO INSTALLATION.
3. THE ACCESS FORD SHALL BE CONSTRUCTED PERPENDICULAR TO THE WATERBODY BANKS TO MINIMIZE IMPACTS
4. A SWALE SHALL BE CONSTRUCTED AT BOTH APPROACHES A MAXIMUM OF 50' FROM THE EDGE OF THE WATERBODY BANK TO DIVERT RUNOFF AND PREVENT IT FROM DIRECTLY ENTERING THE WATERBODY.
5. THE MAXIMUM HEIGHT BETWEEN THE INVERT OF THE WATERBODY AND THE WATERBODY TOP OF BANK IS 4'. THIS METHOD SHALL NOT BE USED IF THE BANK HEIGHT EXCEEDS 4'.
6. ALL AREAS DISTURBED BY THE ACCESS FORD SHALL BE STABILIZED AS SOON AS PRACTICAL, BUT NO LATER THAN 14 CALENDAR DAYS AFTER REMOVAL.

TEMPORARY ACCESS FORD

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TAF | SCALE: NTS | DATE: 2015 | DETAIL NO. 39



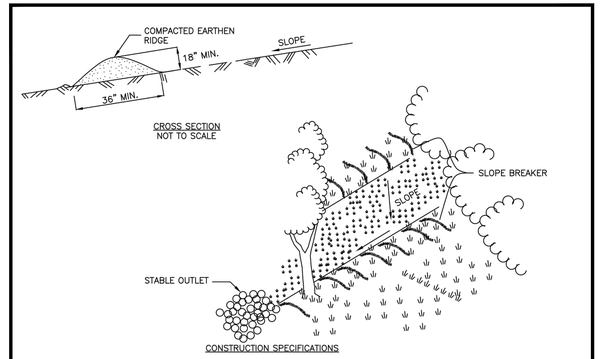
NOTES:

1. THIS TYPE OF BRIDGE IS GENERALLY USED ON NARROW CROSSINGS, LESS THAN 20 FEET WIDE WITH APPROPRIATE BANK CONFIGURATION. MULTIPLE MATS MAY BE LAYERED FOR HEAVIER EQUIPMENT CROSSINGS.
2. BRIDGE IS ANCHORED AND/OR TIED OFF TO ANCHOR BLOCKS FOR STABILITY. BRIDGE SHOULD BE TEMPORARILY REMOVED IF HIGH WATER RENDERS IT UNSAFE TO USE.
3. IF REQUIRED, UTILIZE APPROACH FILLS OF CLEAN GRANULAR MATERIAL, SWAMP MATS, SKIDS OR OTHER SUITABLE MATERIAL TO AVOID CUTTING THE BANKS WHEREVER FEASIBLE. ENSURE ADEQUATE FREEBOARD. AS REQUIRED, ENSURE THAT FILL MATERIAL IF USED DOES NOT SPILL INTO WATERCOURSE INCLUDING REMOVAL OF DIRT FROM DECK DURING OPERATION.
4. CONSTRUCT SEDIMENT BARRIERS ACROSS THE ENTIRE CONSTRUCTION R.O.W. TO PREVENT SILT LADEN WATER AND SPOIL FROM FLOWING BACK INTO WATERBODY. BARRIERS MAY BE TEMPORARILY REMOVED TO ALLOW CONSTRUCTION ACTIVITIES BUT MUST BE REPLACED BY THE END OF EACH WORK DAY. SILT FENCE, HAY BALES OR SANDBAGS MAY BE USED INTERCHANGEABLY.
5. REMOVE BRIDGES AS SOON AS POSSIBLE AFTER PERMANENT SEEDING UNLESS OTHERWISE DIRECTED BY COMPANY REPRESENTATIVE. THE STRUCTURE IS TO BE REMOVED IF THERE IS MORE THAN ONE MONTH BETWEEN FINAL GRADING AND SEEDING, AND ALTERNATIVE ACCESS TO THE CONSTRUCTION R.O.W. IS AVAILABLE.
6. DISPOSE OF ANY ROCK AS DIRECTED BY COMPANY REPRESENTATIVE.
7. RESTORE AND STABILIZE BED AND BANKS TO APPROXIMATE PRE-CONSTRUCTION CONDITIONS.

TYPICAL TIMBER MAT WATERBODY BRIDGE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TMWB | SCALE: NTS | DATE: 2015 | DETAIL NO. 40



CONSTRUCTION SPECIFICATIONS

1. INSTALL THE SLOPE BREAKER AS SOON AS THE RIGHT OF WAY IS CLEARED AND GRADED.
2. DISK OR STRIP THE SOD FROM THE BASE FOR THE CONSTRUCTED RIDGE BEFORE PLACING FILL.
3. TRACK THE RIDGE TO COMPACT IT TO THE DESIGN CROSS SECTION.
4. SLOPE BREAKERS MAY BE CURVED ALONG THE SLOPE TO CONFORM TO THE CONTOURS. REGARDLESS OF CURVATURE, ALL SLOPE BREAKERS SHALL BE CONSTRUCTED WITH A POSITIVE SLOPE TOWARDS A STABLE OUTLET.
5. THE OUTLET SHALL BE LOCATED ON AN UNDISTURBED AREA. FIELD SPACING WILL BE ADJUSTED TO USE THE MOST STABLE OUTLET AREAS. OUTLET PROTECTION WILL BE PROVIDED WHEN NATURAL AREAS ARE NOT ADEQUATE.
6. VEHICLE CROSSING SHALL BE STABILIZED WITH GRAVEL. EXPOSED AREAS SHALL BE IMMEDIATELY SEEDED AND MULCHED.
7. PERIODICALLY INSPECT SLOPE BREAKERS FOR EROSION DAMAGE AND SEDIMENT. CHECK OUTLET AREAS AND MAKE REPAIRS AS NEEDED TO RESTORE OPERATION.
8. THE POSITIVE GRADE OF THE SLOPE BREAKER SHALL NOT EXCEED 8%. A CROSSING ANGLE OF APPROX. 60 DEGREES IS PREFERRED. SLOPE BREAKERS FLOW MUST BE CONVEYED TO STABLE OUTLETS.

NOTES:

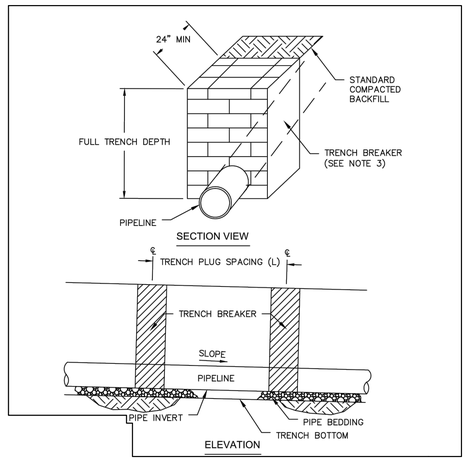
1. INSTALL ON SLOPING TERRAIN. AS REQUIRED

Required Spacing for Waterbars	
Slope %	FERC Spacing (Ft.)
> 5 - 15	300
> 15 - 30	200
> 30	100

SLOPE BREAKER (WATERBAR)

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. SB | SCALE: NTS | DATE: 2015 | DETAIL NO. 41



TYPICAL SPACING FOR TRENCH PLUGS	
Slope %	SPACING (FT)
> 5 - 15	300
> 15 - 30	200
> 30	100

NOTES

1. TOPSOIL SHALL NOT BE USED TO FILL SACKS.
2. IMPERVIOUS TRENCH BREAKERS ARE REQUIRED FOR ALL STREAM, RIVER, WETLAND, OR OTHER WATER BODY CROSSINGS.
3. BREAKER MATERIAL MAY CONSIST OF STACKED CLAY, BENTONITE, SAND BAGS OR FOAM.

TRENCH BREAKER (TRENCH PLUG)

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TB | SCALE: NTS | DATE: 2015 | DETAIL NO. 42

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

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NORTHEAST ENERGY DIRECT PROJECT

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Section:		Township:	Range:
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Division:		Op. Area:	
Drafter:	BZ	Date:	Project ID:
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Approved:	CM	Date:	Filename:

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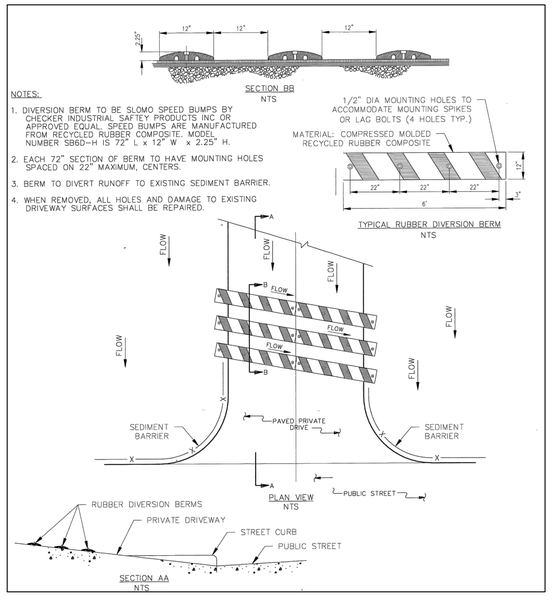
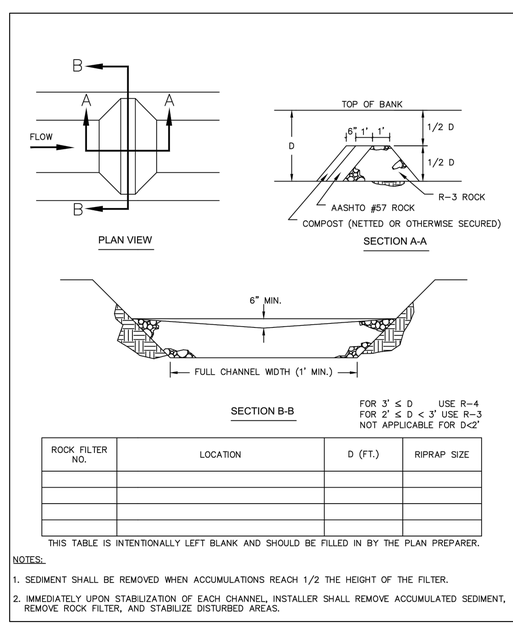


DRIVEWAY DIVERSION BERM

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. DDB | SCALE: NTS | DATE: 2015 | DETAIL NO. 43



ROCK FILTER NO.	LOCATION	D (FT.)	RIPRAP SIZE

THIS TABLE IS INTENTIONALLY LEFT BLANK AND SHOULD BE FILLED IN BY THE PLAN PREPARER.

NOTES:

1. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTER.
2. IMMEDIATELY UPON STABILIZATION OF EACH CHANNEL, INSTALLER SHALL REMOVE ACCUMULATED SEDIMENT, REMOVE ROCK FILTER, AND STABILIZE DISTURBED AREAS.

ROCK FILTER

Tennessee Gas Pipeline Company, L.L.C.
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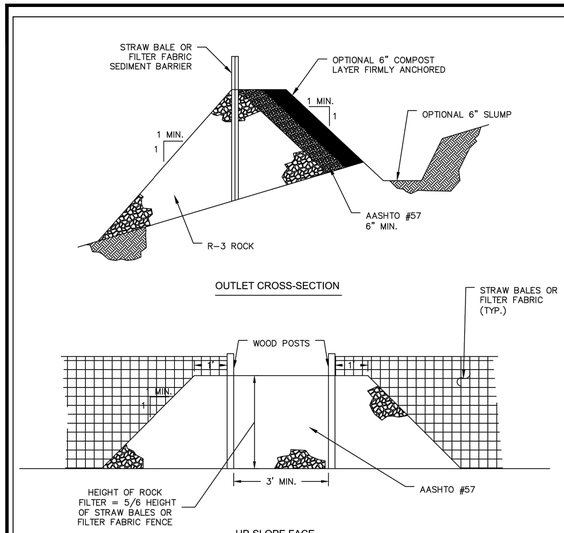
DRAWING NO. RF | SCALE: NTS | DATE: 2015 | DETAIL NO. 44



NOTES:

1. A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HIGH QUALITY AND EXCEPTIONAL VALUE WATERSHEDS.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

ROCK FILTER OUTLET

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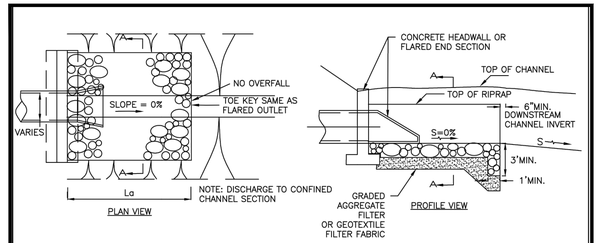
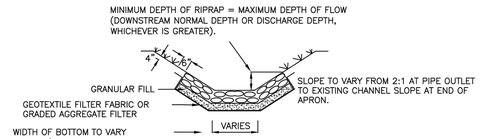
DRAWING NO. RFO | SCALE: NTS | DATE: 2015 | DETAIL NO. 45





NOTES:

1. THE OUTLET PROTECTION MAY BE DONE USING ROCK RIPRAP, GROUTED RIPRAP, OR GABIONS. RIPRAP SHALL BE COMPOSED OF A WELL–GRADED MIXTURE OF STONE SIZE SO THAT 50 PERCENT OF THE PIECES, BY WEIGHT, SHALL BE LARGER THAN THE D50 SIZE DETERMINED BY USING THE CHART. A WELL–GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZES, BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.
2. THE MINIMUM THICKNESS OF THE RIPRAP LAYER SHALL BE 1.5 TIMES THE MAXIMUM STONE DIAMETER FOR D50 OF 15 INCHES OR LESS; AND 1.2 TIMES THE MAXIMUM STONE SIZE FOR D50 GREATER THAN 15 INCHES.

D 50 (IN)	d max (in)	MIN. BLANKET THICKNESS (IN)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

RIPRAP OUTLET PROTECTION–GENERAL

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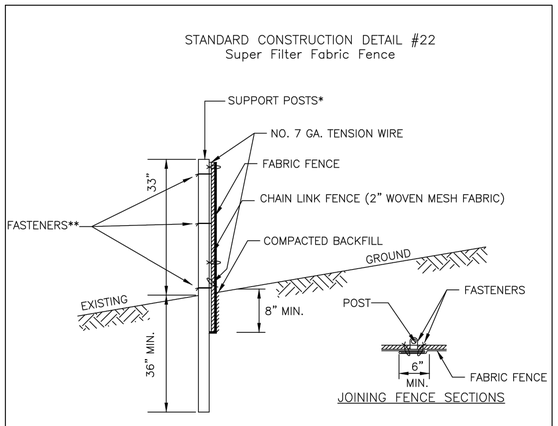
DRAWING NO. RROP | SCALE: NTS | DATE: 2015 | DETAIL NO. 46



* POSTS SPACED @ 10' MAX. USE 2 1/2" DIA. GALVANIZED OR ALUMINUM POSTS.

** CHAIN LINK TO POST FASTENERS SPACED @ 14" MAX. USE NO. 6 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL PRE–FORMED CLIPS. CHAIN LINK TO TENSION WIRE FASTENERS SPACED @ 60" MAX. USE NO. 10 GA. GALVANIZED STEEL WIRE. FABRIC TO CHAIN FASTENERS SPACED @ 24" MAX. C TO C.

NO. 7 GA. TENSION WIRE INSTALLED HORIZONTALLY AT TOP AND BOTTOM OF CHAIN–LINK FENCE.

FILTER FABRIC FENCE MUST BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UPSLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT.

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE.

SUPER SILT FENCE–1

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DRAWING NO. SSF1 | SCALE: NTS | DATE: 2015 | DETAIL NO. 47

AT A MINIMUM THE FABRIC SHALL HAVE THE FOLLOWING PROPERTIES:

FABRIC PROPERTY	MINIMUM ACCEPTABLE VALUE	TEST METHOD
GRAB TENSILE STRENGTH (lb)	120	ASTM D1682
ELONGATION AT FAILURE (%)	20% MAX.	ASTM D1682
MULLEN BURST STRENGTH (lb)	200	ASTM D3786
TRAPEZOIDAL TEAR STRENGTH (lb)	50	
PUNCTURE STRENGTH (lb)	40	ASTM D 751 (MODIFIED)
SLURRY FLOW RATE (gal/min/sf)	0.3	
EQUIVALENT OPENING SIZE	30	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY (%)	80	ASTM G-26

SUPER SILT FENCE–2

Tennessee Gas Pipeline Company, L.L.C.
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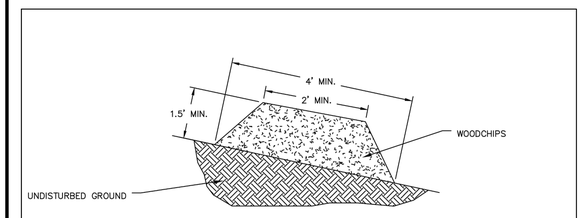
DRAWING NO. SSF2 | SCALE: NTS | DATE: 2015 | DETAIL NO. 48



PRIOR TO PLACEMENT OF THE BERM, OBSTRUCTIONS SUCH AS TREE LIMBS, LARGE ROCKS, ETC. SHALL BE REMOVED.

WOOD CHIP FILTER BERM SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BERM SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BERM ALIGNMENT. WOOD CHIP BERMS SHALL NOT BE LOCATED IN AREAS OF CONCENTRATED FLOW OR USED TO CONSTRUCT SEDIMENT TRAPS OR OTHER IMPOUNDMENTS.

A 6" THICK LAYER OF COMPOST SHALL BE ADDED TO THE UPSLOPE SIDE OF ANY WOOD CHIP FILTER BERM LOCATED IN AN HQ WATERSHED. THIS BMP SHALL NOT BE ROUTINELY USED IN EV WATERSHEDS.

BERMS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE HEIGHT OF THE BERM. DAMAGED OR DETERIORATED PORTIONS OF THE BERM SHALL BE REPLACED IMMEDIATELY UPON INSPECTION.

BERMS MAY BE LEVELED WHEN THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED OR LEFT IN PLACE.

WOODCHIP FILTER BERM

Tennessee Gas Pipeline Company, L.L.C.
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DRAWING NO. WFB | SCALE: NTS | DATE: 2015 | DETAIL NO. 49

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

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NORTHEAST ENERGY DIRECT PROJECT

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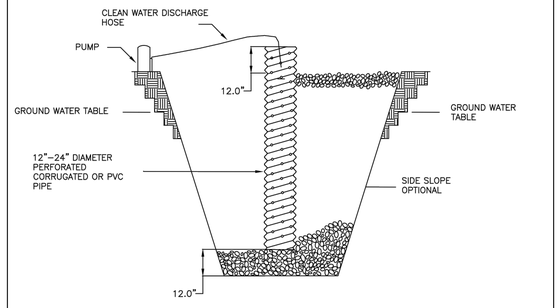


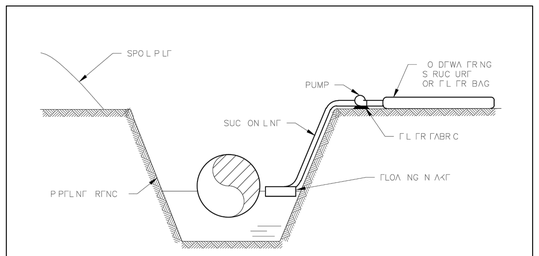
CONSTRUCTION SPECIFICATIONS

1. PIT DIMENSIONS ARE OPTIONAL.
2. THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 12–24" DIAMETER CORRUGATED OR PVC PIPE.
3. A BASE OF 2" AGGREGATE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD BE BACKFILLED WITH 2" AGGREGATE.
4. THE STANDPIPE SHOULD EXTEND 12" ABOVE THE LIP OF THE PIT.
5. THE OUTLET SHALL BE FILTERED THROUGH AN APPROVED DEWATERING DEVICE TO PREVENT HEAVY SILT LADEN WATER FROM DIRECTLY ENTERING A WATERBODY OR WETLAND.
6. THE OUTLET SHOULD BE SITUATED IN A WELL VEGETATED AREA.

WELL POINT/ SUMP PIT

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. WPSP | SCALE: NTS | DATE: 2015 | DETAIL NO. 50



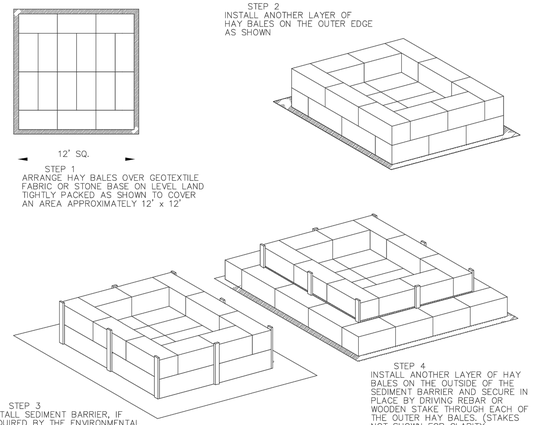
NOTES:

1. WATER PUMPED OUT OF TRENCH SHALL NOT BE DISCHARGED DIRECTLY INTO WATERBODIES. WATER SHALL BE DISCHARGED INTO A FILTER BAG OR DEWATERING STRUCTURE.
2. PUMP SHALL BE CONTROLLED SO THAT THE DISCHARGE DOES NOT OVERFLOW DEWATERING STRUCTURE. THE DEWATERING STRUCTURE SHALL BE RESIZED IF ADDITIONAL FLOW IS REQUIRED.
3. PUMP SUCTION HOSE MUST NOT BE ALLOWED TO COME IN CONTACT WITH TRENCH BOTTOM. PROVISIONS MUST BE MADE TO ELEVATE THE SUCTION HOSE TO AT LEAST ONE FOOT ABOVE THE BOTTOM OF THE PIPE TRENCH UNTIL BOTTOM DEWATERING IS NECESSARY.
4. DEWATERING SHALL NOT OCCUR DURING TIMES OF HEAVY RAINFALL EXCEPT AS REQUIRED TO PREVENT FLOODING OF CONSTRUCTION EQUIPMENT LOCATED IN BORE PITS AND TRENCHES.
5. PUMPS UTILIZED DURING DEWATERING SHALL BE PLACED WITHIN SECONDARY CONTAINMENT IF POSITIONED WITHIN 100 FEET OF A WETLAND OR WATERBODY.

TRENCH DEWATERING

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TD | SCALE: NTS | DATE: 2015 | DETAIL NO. 51



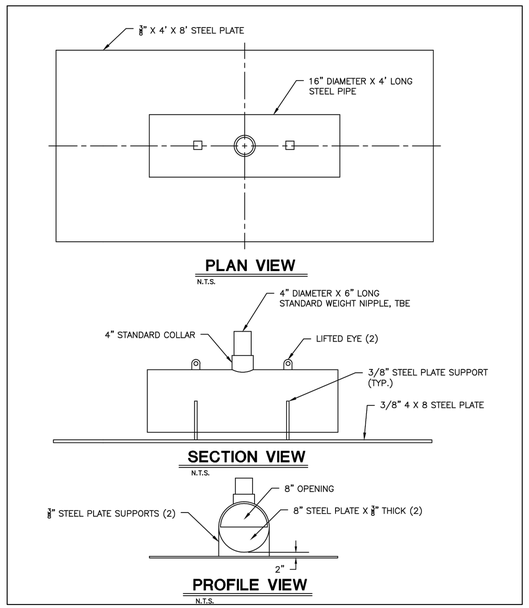
NOTES:

1. WHERE POSSIBLE, THE STRUCTURE SHALL BE PLACED ON A LEVEL, WELL VEGETATED UPLAND SITE SUCH THAT WATER WILL FLOW AWAY FROM STRUCTURE AND ANY WORK AREAS.
2. THE CONTRACTOR SHALL PROPERLY REMOVE AND PROPERLY DISPOSE OF THE DEWATERING STRUCTURE IMMEDIATELY UPON COMPLETION OF DEWATERING OPERATIONS. UNDER NO CIRCUMSTANCES SHALL USED DEWATERING STRUCTURES BE LEFT IN PLACE FOR A PERIOD OF TIME GREATER THAN 48 HOURS AFTER DEWATERING OPERATIONS ARE COMPLETE.
3. THE STRUCTURE SHOULD BE POSITIONED SUCH THAT WATER WILL NOT FLOW DIRECTLY INTO ANY WETLANDS OR WATERBODIES.

DEWATERING STRUCTURE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

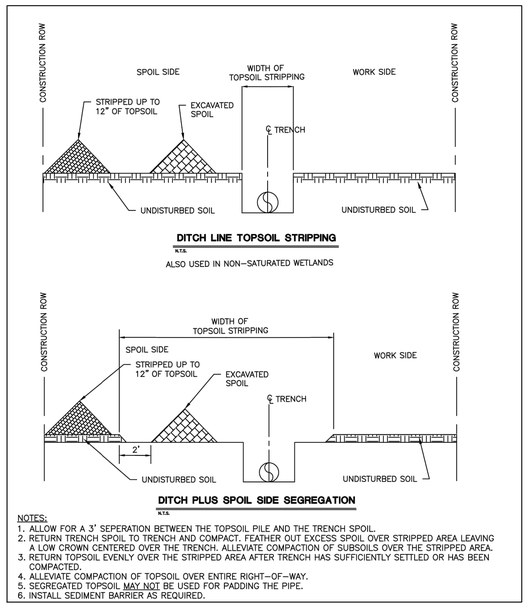
DRAWING NO. DS | SCALE: NTS | DATE: 2015 | DETAIL NO. 52



PIPE ENERGY DISSIPATER

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. PED | SCALE: NTS | DATE: 2015 | DETAIL NO. 53



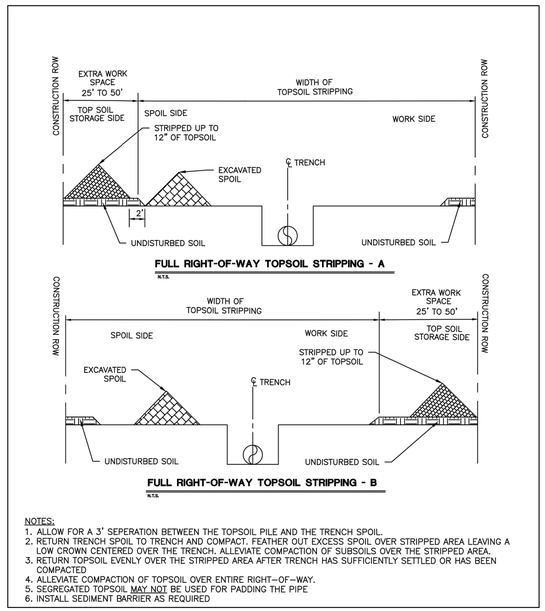
NOTES:

1. ALLOW FOR A 3' SEPERATION BETWEEN THE TOPSOIL PILE AND THE TRENCH SPOIL.
2. RETURN TRENCH SPOIL TO TRENCH AND COMPACT. FEATHER OUT EXCESS SPOIL OVER STRIPPED AREA LEAVING A LOW CROWN CENTERED OVER THE TRENCH. ALLEVIATE COMPACTION OF SUBSOILS OVER THE STRIPPED AREA.
3. RETURN TOPSOIL EVENLY OVER THE STRIPPED AREA AFTER TRENCH HAS SUFFICIENTLY SETTLED OR HAS BEEN COMPACTED.
4. ALLEVIATE COMPACTION OF TOPSOIL OVER ENTIRE RIGHT–OF–WAY.
5. SEGREGATED TOPSOIL MAY NOT BE USED FOR PADDING THE PIPE.
6. INSTALL SEDIMENT BARRIER AS REQUIRED.

TOPSOIL SEGREGATION–1

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TS1 | SCALE: NTS | DATE: 2015 | DETAIL NO. 54



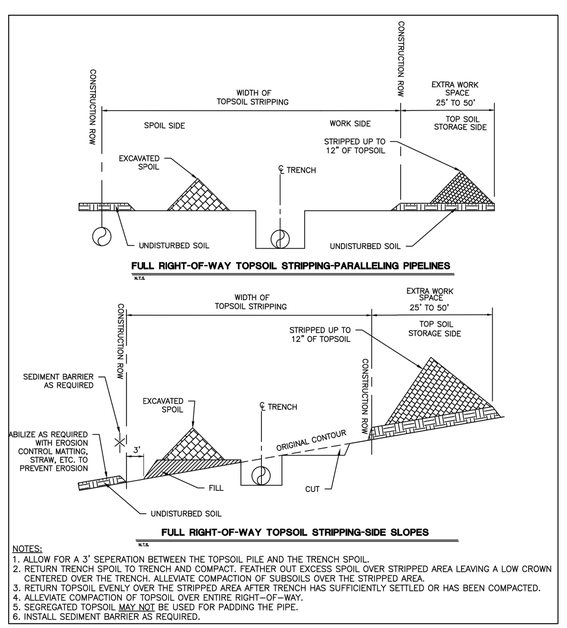
NOTES:

1. ALLOW FOR A 3' SEPERATION BETWEEN THE TOPSOIL PILE AND THE TRENCH SPOIL.
2. RETURN TRENCH SPOIL TO TRENCH AND COMPACT. FEATHER OUT EXCESS SPOIL OVER STRIPPED AREA LEAVING A LOW CROWN CENTERED OVER THE TRENCH. ALLEVIATE COMPACTION OF SUBSOILS OVER THE STRIPPED AREA.
3. RETURN TOPSOIL EVENLY OVER THE STRIPPED AREA AFTER TRENCH HAS SUFFICIENTLY SETTLED OR HAS BEEN COMPACTED
4. ALLEVIATE COMPACTION OF TOPSOIL OVER ENTIRE RIGHT–OF–WAY.
5. SEGREGATED TOPSOIL MAY NOT BE USED FOR PADDING THE PIPE
6. INSTALL SEDIMENT BARRIER AS REQUIRED

TOPSOIL SEGREGATION–2

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TS2 | SCALE: NTS | DATE: 2015 | DETAIL NO. 55



NOTES:

1. ALLOW FOR A 3' SEPERATION BETWEEN THE TOPSOIL PILE AND THE TRENCH SPOIL.
2. RETURN TRENCH SPOIL TO TRENCH AND COMPACT. FEATHER OUT EXCESS SPOIL OVER STRIPPED AREA LEAVING A LOW CROWN CENTERED OVER THE TRENCH. ALLEVIATE COMPACTION OF SUBSOILS OVER THE STRIPPED AREA.
3. RETURN TOPSOIL EVENLY OVER THE STRIPPED AREA AFTER TRENCH HAS SUFFICIENTLY SETTLED OR HAS BEEN COMPACTED.
4. ALLEVIATE COMPACTION OF TOPSOIL OVER ENTIRE RIGHT–OF–WAY.
5. SEGREGATED TOPSOIL MAY NOT BE USED FOR PADDING THE PIPE.
6. INSTALL SEDIMENT BARRIER AS REQUIRED.

TOPSOIL SEGREGATION–3

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TS3 | SCALE: NTS | DATE: 2015 | DETAIL NO. 56

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 8 of 13	
		Type:	

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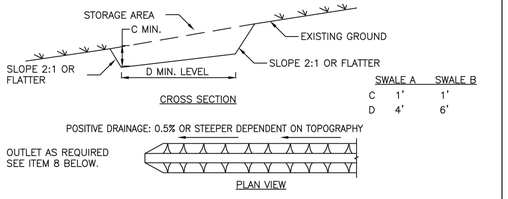


CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE FLOW CHANNEL STABILIZATION CHART BELOW:

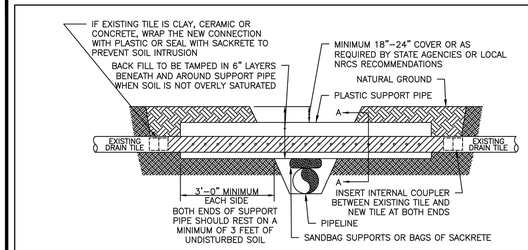
TYPE OF TREATMENT	CHANNEL GRADE	A(5 AC. OR LESS)	B(5 AC. -10AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSIOR, SOD RECYCLED CONCRETE EQUIVALENT	LINED WITH 4-8" RIP-RAP OR
4	8.1-20.%	LINED WITH 4-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

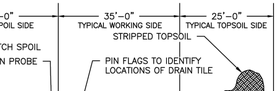
TEMPORARY SWALE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TS | SCALE: NTS | DATE: 2015 | DETAIL NO. 57



DRAINAGE TILE	SUPPORT SIZE
3" TO 5"	6" PIPE
6"	8" PIPE
7" TO 8"	10" PIPE
9" TO 10"	12" PIPE
12"	W12 X 14
15" TO 18"	W16 X 26
OVER 18"	W18 X 46



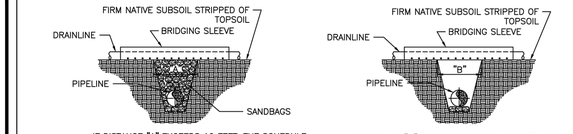
NOTES:
1. SUPPORT PIPE TO BE OF 0.250" WALL THICKNESS OR HEAVIER. WHERE THE SUPPORT PIPE IS OVER 30" IN LENGTH OR IN SATURATED AREAS. PERFORATIONS TO THE SUPPORT PIPE MAY BE REQUESTED.
2. REPLACEMENT TILE TO BE HEAVY DUTY HIGHWAY GRADE PERFORATED PLASTIC DRAIN TUBING (ADS TYPE N-12) CONFORMING TO THE AASHTO M.252 SPECIFICATION.
3. IF THE TRENCH WIDTH EXCEEDS 10 FEET, SUFFICIENT STABILITY SHALL BE PROVIDED TO THE SUPPORT PIPE TO PREVENT SAGGING.

NOTES:
1. CLEAN OUT DRAIN TILES TO THE PERMANENT R.O.W. LIMITS ON THE BACKFILL SIDE AND TO THE TEMPORARY R.O.W. LIMIT ON THE WORKING SIDE.
2. REPLACE DAMAGED TILES AND REPAIR TILES AND JOINTS THAT REQUIRE WORK AND ARE WITHIN THE AREAS OF CONSTRUCTION ACTIVITIES.

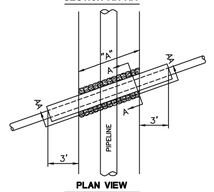
TYPICAL DRAIN TILE REPAIR ACROSS TRENCH-1

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. DTR1 | SCALE: NTS | DATE: 2015 | DETAIL NO. 58

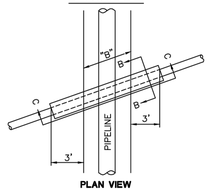


SECTION AA-AA

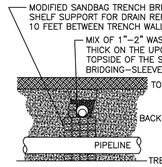


PLAN VIEW

SECTION C-C



PLAN VIEW



CROSS SECTION "B-B" IS THE SAME AS CROSS SECTION "A-A", MINUS THE SAND BAG TRENCH BREAKER. MINIMUM OF 1"-2" WASHED STONE, 4"-6" THICK UNDERNEATH,TO BE PLACED AROUND THE SIDES AND OVER TOP OF THE BRIDGING SLEEVE.

THE BRIDGING-SLEEVE DRAIN REPAIR RESTS ON THE UPGRADIENT SIDE OF THE MODIFIED SANDBAG TRENCH BREAKER. THE HIGHER PORTION OF THE TRENCH BREAKER IS ON THE DOWN GRADIENT SIDE OF THE REPAIR.

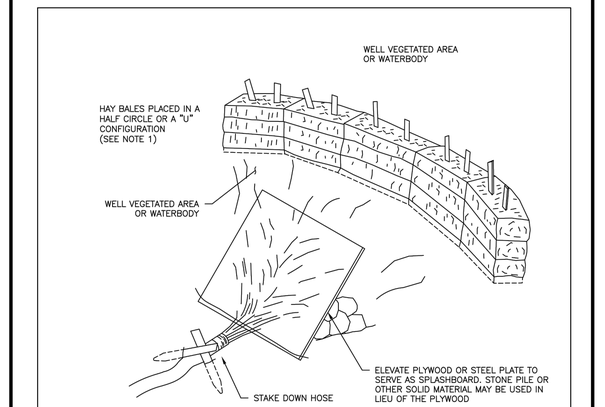
NOTE:
1.IF THE REPAIR OF THE SEVERED DRAINLINE CROSSES THE PIPELINE TRENCH AT AN ANGLE REQUIRING MORE THAN 20' OF BRIDGING-SLEEVE BETWEEN THE FARTHEST ENDS OF THE FIRM SHELVES, MODIFY THE CROSSING ANGLE TO SHORTEN THE TOTAL LENGTH OF THE CROSSING AND THEN TIE TO THE EXISTING DRAIN TILE.

2. ALL DRAIN TILE REPAIRS CONSISTING OF PLASTIC PIPE SHALL CONFORM TO THE AASHTO M.252 SPECIFICATION.

TYPICAL DRAIN TILE REPAIR ACROSS TRENCH-2

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. DTR2 | SCALE: NTS | DATE: 2015 | DETAIL NO. 59



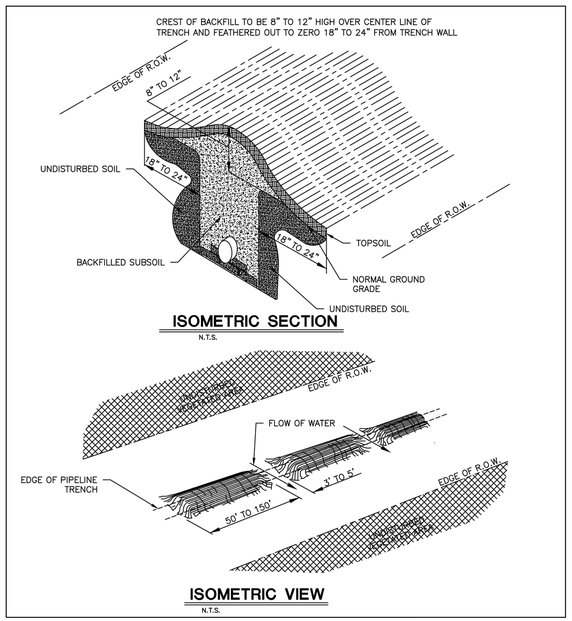
USED FOR TRENCH DE-WATERING AND DAM AND PUMP WATERBODY CROSSINGS

NOTE:
1. THIS DISSIPATER MAY BE USED WITHIN A WATERBODY DURING A DAM AND PUMP DEWATERING OPERATION. THE HAYBALES WILL NOT BE INSTALLED IF UTILIZED IN A WATERBODY.
2. THIS SHALL NOT BE USED WHEN TRENCH DEWATERING IS REQUIRED AND THERE IS SILT LADEN WATER THAT WILL DISCHARGE DIRECTLY INTO A WETLAND OR WATERBODY.

ENERGY DISSIPATER

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ED | SCALE: NTS | DATE: 2015 | DETAIL NO. 60



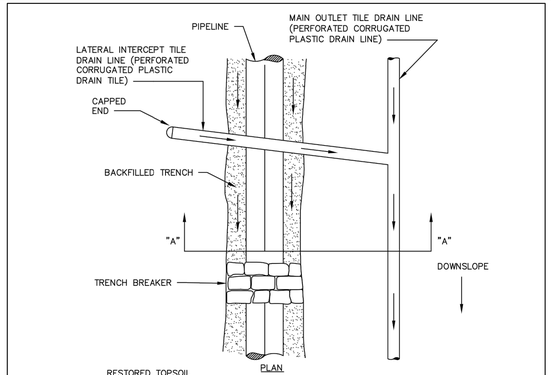
ISOMETRIC SECTION
N.T.S.

ISOMETRIC VIEW
N.T.S.

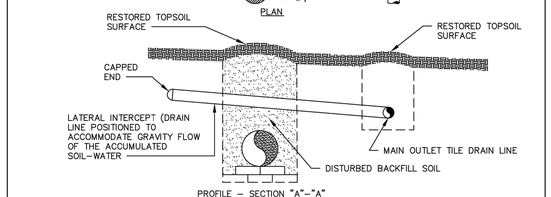
RIGHT-OF-WAY-CROWNING

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ROWC | SCALE: NTS | DATE: 2015 | DETAIL NO. 61



PLAN



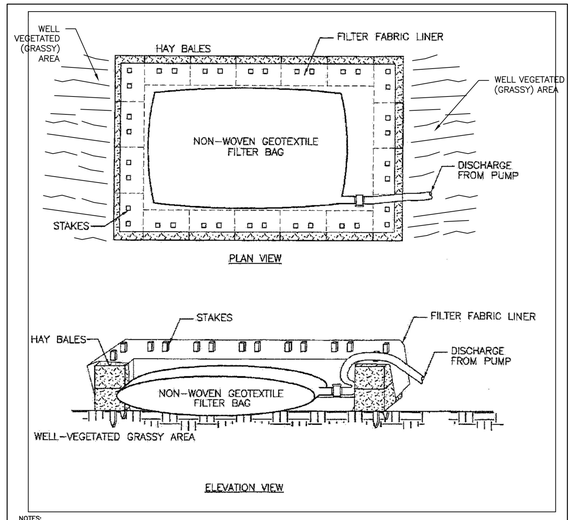
PROFILE - SECTION "A"-"A"

NOTES:
1. TRENCH BREAKERS PREVENT GULLY EROSION WHILE THE TRENCH IS OPEN AND HELP INHIBIT WATER PIPING AND WATER BLOWOUTS DOWN THE COURSE OF T PIPELINE AFTER BACKFILLING.
2. INTERCEPT DRAIN LINES ABSORB THE WATER WHICH DRAIN NATURALLY FROM THE UNDISTURBED SOIL PROFILE INTO THE DISTURBED BACKFILL SOIL MATERIA THE TRENCH. THE INTERCEPT DRAIN LINES HELP PREVENT SATURATED SOIL CONDITIONS.
3. AGRICULTURAL CROPLAND MAY REQUIRE CROSS TRENCH DRAINAGE OR PARALLEL DRAINAGE.
4. ALL DRAIN TILE REPAIRS CONSISTING OF PLASTIC PIPE SHALL CONFORM TO THE AASHTO M.252 SPECIFICATION.

LATERAL INTERCEPT DRAIN

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. LID | SCALE: NTS | DATE: 2015 | DETAIL NO. 62



NOTES:
1. RECTANGULAR DEWATERING DISCHARGE AREA CONSTRUCTED OUT OF HAY BALES STACKED ONE OR TWO ROWS HIGH AND SECURED WITH WOODEN STAKES.
2. FILTER FABRIC LINER INSTALLED COVERING ENTIRE INTERIOR OF STRUCTURE AND SECURED ON TOP OF THE HAY BALES WITH WOODEN STAKES.
3. THE DEWATERING DEVICE SHALL BE LOCATED IN A WELL-VEGETATED (GRASSY) AREA AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE FLOW PATH SHALL BE PROVIDED. A DISCHARGE DEVICE SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%
4. FOR LESS TURBID WATER DISCHARGE, THE GEOTEXTILE FILTER BAG IS OPTIONAL AND THE STRUCTURE MAY UTILIZE JUST FILTER FABRIC LINER WITH NO FILTER BAG.

TRENCH DEWATERING SEDIMENT CORRAL

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. TDSC | SCALE: NTS | DATE: 2015 | DETAIL NO. 63

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 9 of 13	
		Type:	

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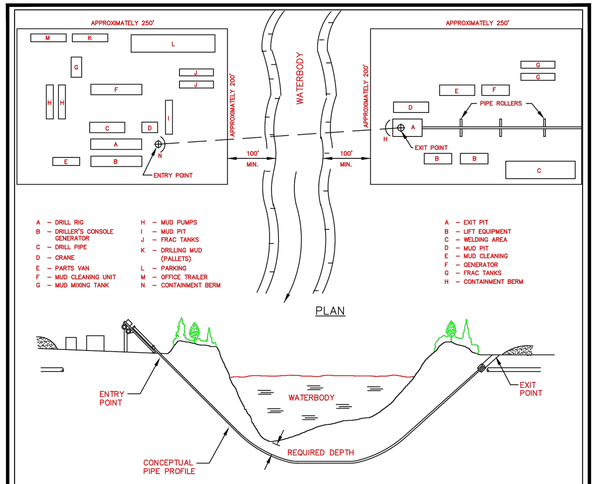


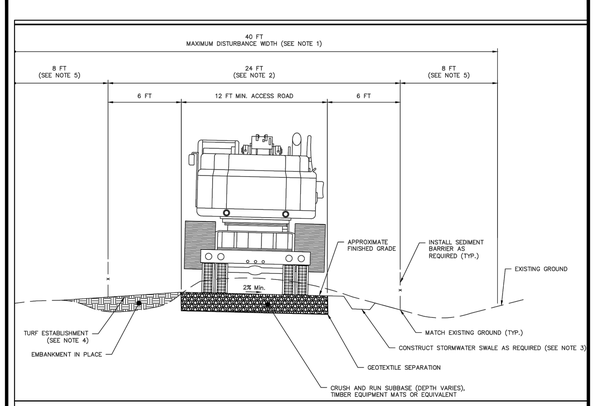
NOTES:

1. SET UP DRILLING EQUIPMENT A MINIMUM OF 100 FEET FROM THE EDGE OF THE WATERCOURSE. DO NOT CLEAR OR GRADE WITHIN THE 100 FOOT ZONE.
2. ENSURE THAT ONLY BENTONITE BASED DRILLING MUD IS USED. DO NOT ALLOW THE USE OF ANY ADDITIVES TO THE DRILLING MUD WITHOUT THE APPROVAL OF COMPANY'S INSPECTOR.
3. INSTALL SUITABLE DRILLING MUD TANKS OR SUMPS TO PREVENT CONTAMINATION OF WATERCOURSE.
4. INSTALL BERMS DOWNSLOPE FROM THE DRILL ENTRY AND ANTICIPATED EXIT POINTS TO CONTAIN ANY RELEASE OF DRILLING MUD.
5. DISPOSE OF DRILLING MUD IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AUTHORITY REQUIREMENTS.

WATERBODY CROSSING HORIZONTAL DIRECTIONAL DRILL

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. WHDD | SCALE: NTS | DATE: 2015 | DETAIL NO. 64



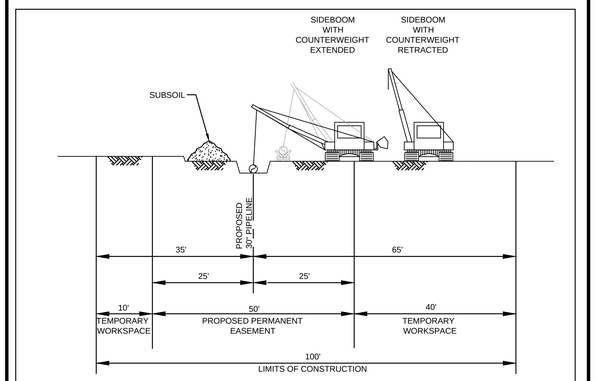
NOTES:

1. THE MAXIMUM DISTURBANCE WIDTH ASSOCIATED WITH THE CONSTRUCTION OF ACCESS ROADS WILL BE 40FT.
2. ACCESS ROADS WILL TYPICALLY INCLUDE A 12 FT TRAVEL LANE AND 12 FT OF GRADING DISTURBANCE. THE GRADING DISTURBANCE WILL BE REQUIRED TO MATCH INTO EXISTING GROUND AND CONSTRUCT REQUIRED EROSION CONTROL MEASURES (E.G. SILT FENCE) AND SEDIMENT CONTROL DEVICES (E.G. STORMWATER SWALE). ADDITIONAL CONSTRUCTION WIDTH MAY BE REQUIRED IN AREAS THAT REQUIRED TRUCK PULL OFFS, TRUCK TURNAROUNDS, AND AROUND SHARP CURVES WHERE EQUIPMENT TRAILERS HAVE LARGE TURNING RADIUSES.
3. REFER TO THE STORMWATER SWALE TABLES FOR LOCATIONS AND SIZES OF ALL SWALES REQUIRED ALONG ACCESS ROADS.
4. SEED MIXES TO BE UTILIZED FOR TURF ESTABLISHMENT ALONG ACCESS ROADS SHALL CONFORM TO THE SEED MIXES OUTLINED IN THE ENVIRONMENTAL CONSTRUCTION PLANS (ECPs).
5. THE ADDITIONAL 16 FT OF DISTURBANCE MAY BE REQUIRED TO ACCOMMODATE TRUCK PULL-OFFS, TRUCK TURNAROUNDS, AND INCREASED TRAVEL LANE WIDTHS AROUND CURVES DUE TO THE LARGE TRUCK TURNING RADIUSES.

TYPICAL ACCESS ROAD CROSS SECTION

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ARCS | SCALE: NTS | DATE: 2015 | DETAIL NO. 65



PROFILE
(NOT TO SCALE)

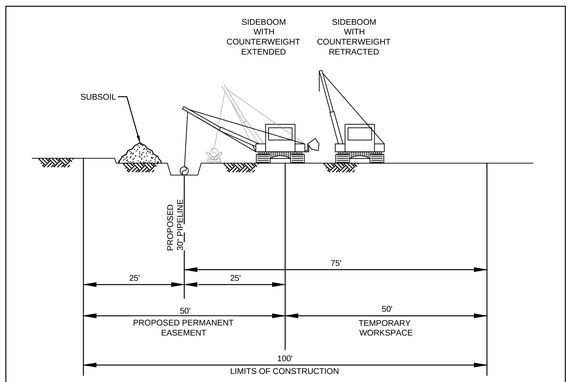
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

100' CORRIDOR (GREENFIELD) STANDARD

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ROW01 | SCALE: NTS | DATE: 2015 | DETAIL NO. 66



PROFILE
(NOT TO SCALE)

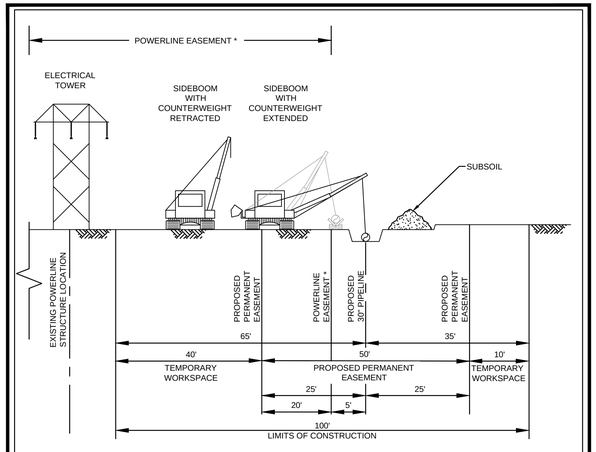
NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

100' CORRIDOR (GREENFIELD 50/50)

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ROW02 | SCALE: NTS | DATE: 2015 | DETAIL NO. 67



PROFILE
(NOT TO SCALE)

NOTES:

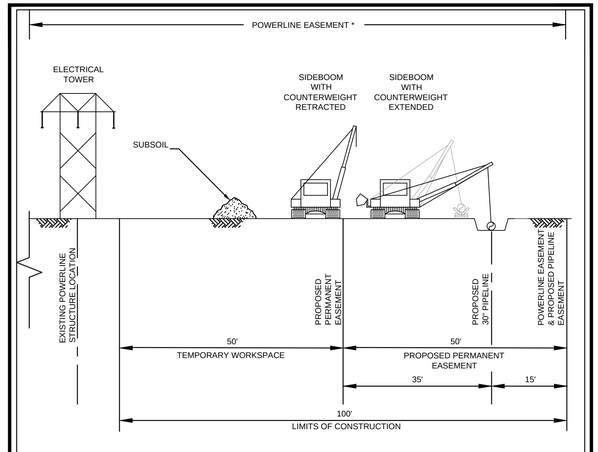
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT (20 FEET OF THE PROPOSED PERMANENT EASEMENT BEING SHARED WITH THE POWERLINE'S EASEMENT) AND 50 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON THE WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

* EXISTING POWERLINE EASEMENT VARIES BASED ON EXISTING PROPERTY RIGHTS

100 FT. CORRIDOR PIPELINE OUTSIDE POWERLINE EASEMENT FOR 30" PROPOSED PIPELINE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ROW03 | SCALE: NTS | DATE: 2015 | DETAIL NO. 68



PROFILE
(NOT TO SCALE)

NOTES:

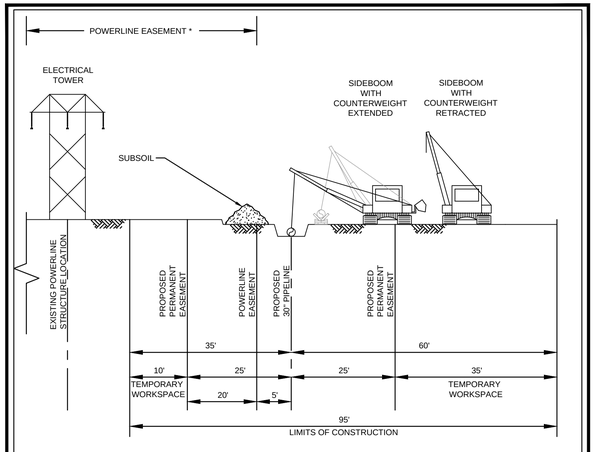
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 100 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT AND 50 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.
4. TYPICAL USED IN LOCATIONS WHERE TERRAIN, STRUCTURES OR OTHER OBSTACLES OBSTRUCT PIPELINE OUTSIDE THE EASEMENT.

* EXISTING POWERLINE EASEMENT VARIES BASED ON EXISTING PROPERTY RIGHTS.

100 FT. CORRIDOR PIPELINE INSIDE POWERLINE EASEMENT FOR 30" PROPOSED PIPELINE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ROW04 | SCALE: NTS | DATE: 2015 | DETAIL NO. 69



PROFILE
(NOT TO SCALE)

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 95 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT (20 FEET OF THE PROPOSED PERMANENT EASEMENT BEING SHARED WITH THE POWERLINE'S EASEMENT) AND 45 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

* EXISTING POWERLINE EASEMENT VARIES BASED ON EXISTING PROPERTY RIGHTS.

95 FT. CORRIDOR PIPELINE OUTSIDE POWERLINE EASEMENT FOR 30" PROPOSED PIPELINE

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

DRAWING NO. ROW05 | SCALE: NTS | DATE: 2015 | DETAIL NO. 70

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
			REVISIONS		

Tennessee Gas Pipeline Company, L.L.C. a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 10 of 13	
		Type:	

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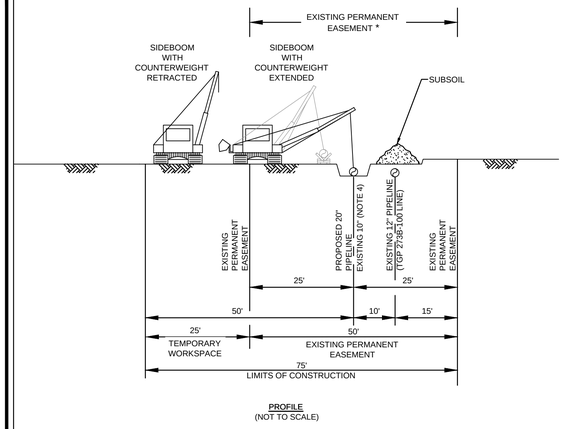


PROFILE
(NOT TO SCALE)

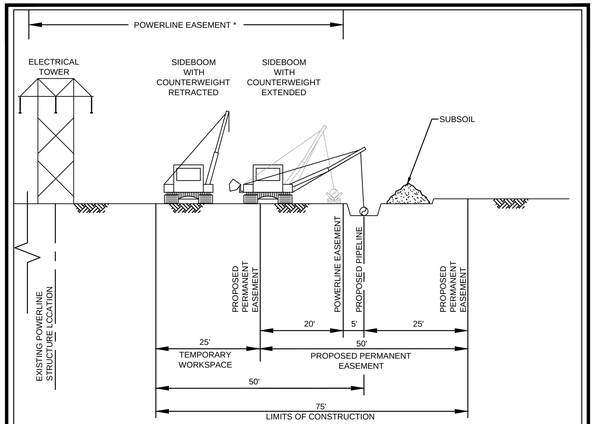
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 50 FEET OF EXISTING PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.
4. A PORTION OF THE EXISTING 10" TGP 270B - 300 PIPELINE WILL BE REMOVED AND REPLACED WITH A PROPOSED 20" PIPELINE.

* EXISTING POWERLINE EASEMENT VARIES BASED ON EXISTING PROPERTY RIGHTS.

TAKE-UP & RELAY FOR SEGMENT P 20" PROPOSED PIPELINE

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. ROW06 | SCALE: NTS | DATE: 2015 | DETAIL NO. 71



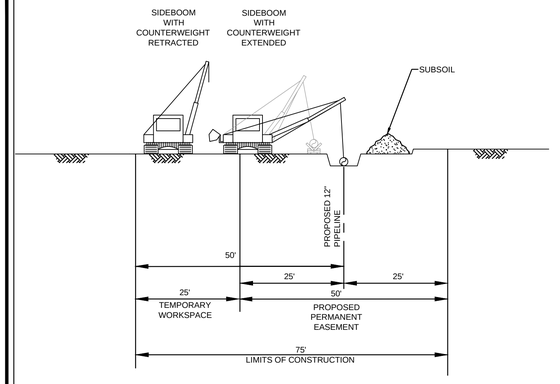
PROFILE
(NOT TO SCALE)

NOTES:
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT (20 FEET OF THE PROPOSED PERMANENT EASEMENT BEING SHARED WITH THE POWERLINE EASEMENT) AND 25 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS, AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

75' CORRIDOR PIPELINE OUTSIDE POWERLINE EASEMENT FOR 12" PROPOSED PIPELINE

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. ROW07 | SCALE: NTS | DATE: 2015 | DETAIL NO. 72



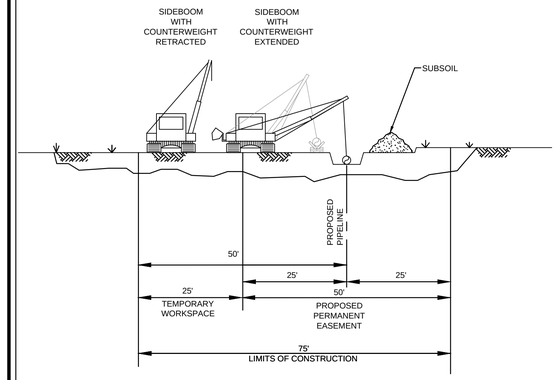
PROFILE
(NOT TO SCALE)

NOTE:
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE. ADDITIONAL TEMPORARY WORKSPACE (ATWS) WILL BE NECESSARY AT MAJOR ROADS, RAILROADS, RIVER CROSSINGS AND OTHER SPECIAL CIRCUMSTANCES, AS REQUIRED. CERTAIN SITUATIONS MAY REQUIRE A NARROWER WIDTH.
2. ADD 25 FEET OF ATWS ON WORKING SIDE (TYPICALLY) FOR TOPSOIL STORAGE IN AGRICULTURAL FIELDS, RESIDENTIAL YARDS AND AS PER LANDOWNER AGREEMENTS.
3. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

75' CORRIDOR (GREENFIELD) FOR PROPOSED 12" PIPELINE

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. ROW08 | SCALE: NTS | DATE: 2015 | DETAIL NO. 73



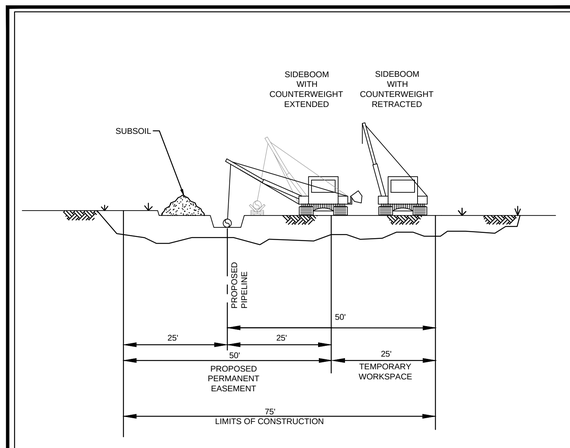
PROFILE
(NOT TO SCALE)

NOTES:
1. CONSTRUCTION RIGHT-OF-WAY THROUGH WETLANDS WILL TYPICALLY BE 75 FEET WIDE CONSISTING OF 50 FEET OF PROPOSED PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE.
2. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

75' CORRIDOR (WETLANDS)-1

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. ROW09 | SCALE: NTS | DATE: 2015 | DETAIL NO. 74



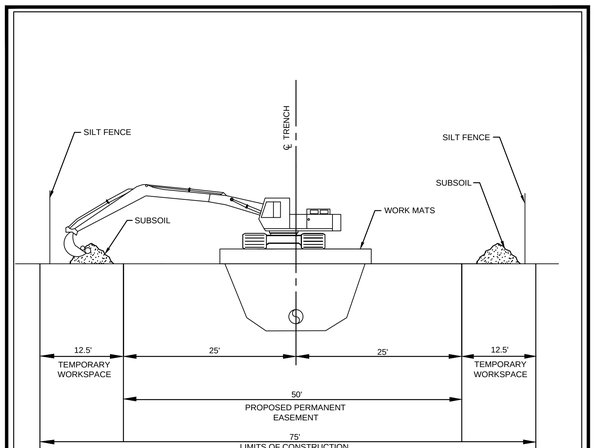
PROFILE
(NOT TO SCALE)

NOTES:
1. CONSTRUCTION RIGHT-OF-WAY THROUGH WETLANDS WILL TYPICALLY BE REDUCED TO 75 FEET WIDE CONSISTING OF 50 FEET OF PROPOSE PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE.
2. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

75' CORRIDOR (WETLANDS)-2

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. ROW10 | SCALE: NTS | DATE: 2015 | DETAIL NO. 75



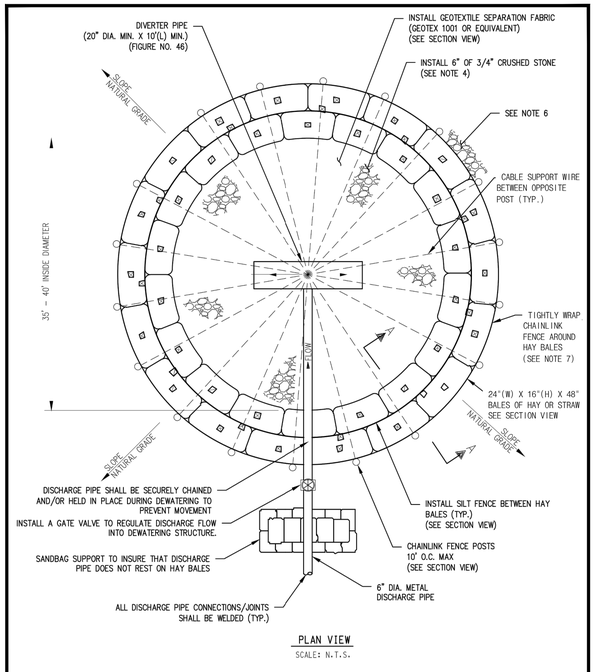
PROFILE
(NOT TO SCALE)

NOTES:
1. CONSTRUCTION RIGHT-OF-WAY THROUGH WETLANDS WILL TYPICALLY BE REDUCED TO 75 FEET WIDE CONSISTING OF 50 FEET OF PROPOSE PERMANENT EASEMENT AND 25 FEET OF TEMPORARY WORKSPACE.
2. LEAVE GAPS IN SPOIL PILES AT OBVIOUS DRAINAGES. DO NOT PUSH UPLAND SOILS INTO CREEKS OR WETLANDS. DO NOT USE TOPSOIL FOR PADDING. AVOID SCALPING VEGETATED GROUND SURFACE WHEN BACKFILLING TOPSOIL AND SPOIL PILES.

75' CORRIDOR PUSH/PULL WETLAND CROSSING METHOD

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. ROW11 | SCALE: NTS | DATE: 2015 | DETAIL NO. 76



PLAN VIEW
SCALE: N.T.S.

HYDROSTATIC DEWATERING STRUCTURE-1

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

DRAWING NO. HDS1 | SCALE: NTS | DATE: 2015 | DETAIL NO. 77

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: BZ	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 11 of 13	
		Type:	

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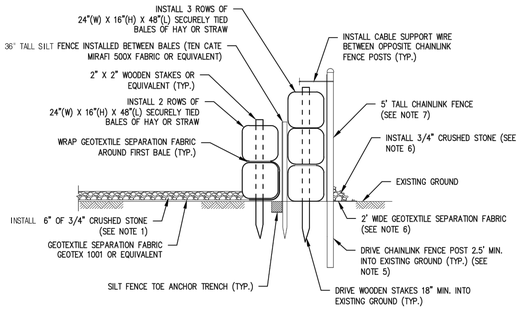

SECTION "A-A" VIEW

SCALE: N.T.S.

NOTES:

1. STRUCTURE SHALL BE PLACED ON A LEVEL WELL VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM STRUCTURE AND ANY WORK AREAS AND MINIMIZE EROSION OF THE SURROUNDING AREA TO THE EXTENT PRACTICABLE.
2. AT THE DISCRETION OF THE ENVIRONMENTAL INSPECTOR, ADDITIONAL EROSION AND SEDIMENTATION CONTROL DEVICES (E.G. RIPRAP CHECK DAMS, COMPOST FILTER SOCKS, ETC.) MAY BE REQUIRED TO BE INSTALLED DOWNSTREAM OF THE STRUCTURE IF EROSION BECOMES APPARENT DURING DEWATERING.
3. FLOW RATES THROUGH DISCHARGE AND DIVERTER PIPES SHALL BE SUCH THAT STRUCTURE WILL NOT OVERFLOW. A MINIMUM FREEBOARD OF 3", MEASURED FROM THE TOP OF THE THIRD ROW OF HAYBALES TO THE WATER SURFACE ELEVATION, SHALL BE MAINTAINED AT ALL TIMES.
4. THE 3/4" CRUSHED STONE INSTALLED WITHIN THE BASIN SHALL BE WASHED TO REMOVE ALL DIRT/FINE PARTICLES PRIOR TO INSTALLATION.
5. THE CHAINLINK FENCE POSTS SHALL BE DRIVEN A MINIMUM OF 2.5 FT. INTO STABLE, EXISTING GROUND. THE CONTRACTOR MAY BE REQUIRED TO INSTALL THE POLES DEEPER IF STABLE SUBSOILS ARE NOT ACHIEVED WITHIN 2.5 FT.
6. AT THE DISCRETION OF THE ENVIRONMENTAL INSPECTOR, ADDITIONAL GEOTEXTILE SEPARATION FABRIC AND 3/4" CRUSHED STONE MAY BE REQUIRED TO BE INSTALLED AROUND THE OUTSIDE EDGE OF THE DEWATERING STRUCTURE.
7. CHAINLINK FENCE SHALL INSTALLED TIGHTLY AGAINST THE HAY BALES AND SECURELY FASTENED TOGETHER AT ALL JOINTS WITH CABLE TENSION WIRE AND STRETCHER BARS.
8. THE ENVIRONMENTAL INSPECTOR SHALL HAVE THE AUTHORITY TO MODIFY THE DESIGN AS REQUIRED TO PREVENT EROSION AND SEDIMENTATION DOWNSTREAM OF THE STRUCTURE.
9. HAY BALES SHALL BE STACKED SUCH THAT THE JOINTS ARE STAGGERED.

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

HYDROSTATIC DEWATERING STRUCTURE-2

DRAWING NO.	SHEET NO.	DATE
HDS2	DETAIL NO. 78	2015

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT

NEW HAMPSHIRE

Section:	Township:	Range:
Co./Par.:	State: NEW_HAMPSHIRE	
Division:	Op. Area:	
Drafter: BZ	Date:	Project ID:
Chk'd: DL	Date:	Scale:
Approved: CM	Date:	Filename:
		Sheet: 12 of 13
		Type:

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NH DETAIL NUMBER	TITLE	ACRONYM
1	SURFACE ROUGHENING	SR
2	STONE OUTLET SEDIMENT TRAP	SOST
3	PIPE OUTLET SEDIMENT TRAP	POST
4	TYPICAL SEDIMENT BASIN	TSB
5	GEOTEXTILE DEWATERING BAG	GDB
6	EROSION BLANKETS SLOPE INSTALLATION	EBSI
7	EROSION BLANKETS CHANNEL INSTALLATION	EBCI
8	TEMPORARY DIVERSION	TD
9	SLOPE DRAIN	SD
10	OVERSIDE DRAIN	OD
11	SILT FENCE INSTALLATION	SF1
12	SILT FENCE TYPICAL PLACEMENT – ONE SLOPE	SF2
13	SILT FENCE TYPICAL PLACEMENT – TWO SLOPES	SF3
14	SILT FENCE PLACEMENT FOR PERIMETER CONTROL	SF4
15	STRAW OR HAY BALE BARRIER	SHBB
16	EROSION CONTROL MIX BERM TYPICAL PLACEMENT – ONE SLOPE	ECB1
17	EROSION CONTROL MIX BERM TYPICAL PLACEMENT – TWO SLOPES	ECB2
18	EROSION CONTROL MIX BERM PLACEMENT FOR PERIMETER CONTROL	ECB3
19	CONTINUOUS CONTAINED BERM	CCB
20	STONE CHECK DAM	SCD
21	CONCRETE BLOCK AND GRAVEL DROP INLET SEDIMENT BARRIER	CGSB
22	GRAVEL & WIRE MESH DROP INLET SEDIMENT BARRIER	GWSB
23	TEMPORARY GRAVEL CONSTRUCTION EXIT	TGCE
24	EARTH OUTLET SEDIMENT TRAP (EXCAVATED)	EST1
25	EARTH OUTLET SEDIMENT TRAP (EMBANKMENT)	EST2
26	TYPE II "SATURATED WETLAND" INSTALLATION PROCEDURE	SWIP
27	TYPE I "NON–SATURATED WETLAND" INSTALLATION PROCEDURE	NWIP
28	BRIDGE EQUIPMENT CROSSING	BEC
29	DAM AND PUMP CROSSING	DPC
30	CULVERT EQUIPMENT CROSSING	CEC
31	TYPICAL MATTING/NETTING INSTALLATION FOR WATER CROSSING	MIWC
32	WETLAND EQUIPMENT CROSSING	WEC
33	BORED ROAD/RAILROAD CROSSING	BRRC
34	FLUME CROSSING – 1	FC1
35	FLUME CROSSING – 2	FC2
36	DRY WATERBODY CROSSING	DWC
37	TYPICAL OPEN CUT PAVED ROAD CROSSING	OCRC
38	TYPICAL UTILITY LINE CROSSING WITH COFFERDAM	ULCC
39	TEMPORARY ACCESS FORD	TAF
40	TYPICAL TIMBER MAT WATERBODY BRIDGE	TMWB
41	SLOPE BREAKER (WATERBAR)	SB
42	TRENCH BREAKER (TRENCH PLUG)	TB
43	DRIVEWAY DIVERSION BERM	DDB
44	ROCK FILTER	RF
45	ROCK FILTER OUTLET	RFO
46	RIP RAP OUTLET PROTECTION – GENERAL	RROP
47	SUPER SILT FENCE – 1	SSF1
48	SUPER SILT FENCE – 2	SSF2
49	WOODCHIP FILTER BERM	WFB
50	WELL POINT/SUMP PIT	WPSP
51	TRENCH DEWATERING	TD
52	DEWATERING STRUCTURE	DS
53	PIPE ENERGY DISSIPATER	PED
54	TOPSOIL SEGREGATION – 1	TS1
55	TOPSOIL SEGREGATION – 2	TS2
56	TOPSOIL SEGREGATION – 3	TS3
57	TEMPORARY SWALE	TS
58	TYPICAL DRAIN TILE REPAIR ACROSS TRENCH – 1	DTR1
59	TYPICAL DRAIN TILE REPAIR ACROSS TRENCH – 2	DTR2
60	ENERGY DISSIPATER	ED
61	RIGHT OF WAY CROWNING	ROWC
62	LATERAL INTERCEPT DRAIN	LID
63	TRENCH DEWATERING SEDIMENT CORRAL	TDSC
64	WATERBODY CROSSING HORIZONTAL DIRECTION DRILL (HDD)	ARCS
65	TYPICAL ACCESS ROAD CROSS SECTION	WHDD
66	100' CORRIDOR (GREENFIELD) STANDARD	ROW01
67	100' CORRIDOR (GREENFIELD 50/50)	ROW02
68	100 FT. CORRIDOR PIPLINE OUTSIDE POWERLINE EASEMENT FOR 30" PROPOSED PIPELINE	ROW03
69	100 FT. CORRIDOR PIPLINE INSIDE POWERLINE EASEMENT FOR 30" PROPOSED PIPELINE	ROW04
70	95 FT. CORRIDOR PIPLINE OUTSIDE POWERLINE EASEMENT FOR 30" PROPOSED PIPELINE	ROW05
71	TAKE–UP & RELAY FOR SEGMENT P 20" PROPOSED PIPELINE	ROW06
72	75' CORRIDOR PIPELINE OUTSIDE POWERLINE EASEMENT FOR 12" PROPOSED PIPELINE	ROW07
73	75' CORRIDOR (GREENFIELD) FOR PROPOSED 12" PIPELINE	ROW08
74	75' CORRIDOR (WETLANDS) – 1	ROW09
75	75' CORRIDOR (WETLANDS) – 2	ROW10
76	75' CORRIDOR PUSH/PULL WETLAND CROSSING METHOD	ROW11
77	HYDROSTATIC DEWATERING STRUCTURE – 1	HDS1
78	HYDROSTATIC DEWATERING STRUCTURE – 2	HDS2

EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION CONTROLS WILL BE INSTALLED IMMEDIATELY FOLLOWING EARTH DISTURBANCE AND WILL BE MAINTAINED UNTIL PERMANENT STABILIZATION. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON–VEGATATED COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION THROUGHOUT THE SITE.
2. ALL WETLAND AND WATERBODY BOUNDARIES WILL BE CLEARLY MARKED/FLAGGED IN THE FIELD PRIOR TO THE COMMENCEMENT OF EARTH DISTURBANCE ACTIVITIES.
3. ALL EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPs) MUST BE INSPECTED DAILY IN ACTIVE CONSTRUCTION AREAS AND AT LEAST WEEKLY OR WITHIN ONE DAY FOLLOWING A PRECIPITATION EVENT THAT RESULTS IN STORMWATER RUNOFF IN NON–ACTIVE AREAS. MAINTENANCE, REPAIR OR REPLACEMENT OF FAILING BMPs SHALL BE PERFORMED IMMEDIATELY.
4. SUBSOIL EXCAVATED AS PART OF THE PROJECT AND SEDIMENT REMOVED FROM BMPs WILL BE COMBINED AND USED TO BACKFILL THE TRENCH. TYPICALLY, EXCESS SOIL IS MINIMAL AND WILL EITHER BE USED TO CREATE A CROWN OVER THE TRENCH TO COUNTERACT SETTLING OR WILL BE SPREAD EVENLY ACROSS THE ROW, WHICH WILL HAVE A NEGLIGIBLE EFFECT ON THE OVERALL GRADE. ALSO, ANY EXCESS EXCAVATED MATERIALS OR MATERIALS UNSUITABLE FOR BACKFILL WILL BE HANDLED, AS APPROVED BY LANDOWNER OR LAND MANAGEMENT AGENCY, OR DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.
5. IT IS ACCEPTABLE FOR E&S BMPs TO BE TEMPORARILY REMOVED FROM EQUIPMENT CROSSING PATHWAYS DURING PERIODS OF ACTIVE CONSTRUCTION IF THESE CONTROLS WILL BE PROPERLY REINSTALLED AT THE END OF EACH WORK DAY.
6. WETLAND MATS WILL BE PERMANENTLY REMOVED AFTER CLEAN–UP/RESTORATION.
7. MATS WILL BE AT LEAST 12 FEET WIDE AND LENGTH IS DEPENDENT ON THE WETLAND CROSSING LENGTH FROM START TO END.
8. WHEN WETLAND AREAS ARE TEMPORARILY DISTURBED, TOPSOIL WILL BE ISOLATED AND STOCKPILED FOR REPLACEMENT AFTER GRADING IS COMPLETED. NO SOIL AMENDMENTS SHOULD BE USED ON WETLAND AREAS.
9. TEMPORARY VEGETATIVE COVER SHOULD BE APPLIED WHERE EXPOSED SOIL SURFACES WILL NOT BE FINAL GRADED WITHIN 4 DAYS FROM INITIAL DISTURBANCE. SUCH AREAS INCLUDE EXCAVATED AREAS, SOIL STOCKPILES, BERMS, EMBANKMENTS AND SIDES OF SEDIMENT BASINS, TEMPORARY ROAD BANKS, AND OTHER EARTHWORKS. APPLY TEMPORARY VEGETATION IN ACCORDANCE WITH NEW HAMPSHIRE STORMWATER MANUAL (NHSM) VOLUME 3, CHAPTER 4–1.
10. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
11. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BMPs TO MINIMIZE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION AND NOTIFY THE NHDES.
12. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG OR EQUIVALENT SEDIMENT REMOVAL FACILITY, OVER UNDISTURBED VEGETATED AREAS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ANY EXCESS MATERIAL AND MAKE SURE THE SITE(S) RECEIVING THE EXCESS HAS AN APPROVED AND FULLY IMPLEMENTED EROSION AND SEDIMENT CONTROL PLAN THAT MEETS APPLICABLE STATE OR FEDERAL REGULATIONS.
14. MAJOR EARTHMOVING ACTIVITIES SHOULD NOT BE CONDUCTED DURING MAJOR RAINSTORMS OR WHEN SPRING THAW IS OCCURRING.
15. THE LENGTH OF TIME FOR OPEN TRENCH SHOULD BE MINIMUM TIME NECESSARY TO EFFICIENTLY EXCAVATE THE TRENCH, INSTALL THE PIPE, BACKFILL THE TRENCH, AND BEGIN STABILIZATION OF THE DISTURBED AREAS. THIS TIME PERIODS SHOULD NOT EXCEED 30 DAYS FOR STEEL PIPELINES.
16. ADDITIONAL AND/OR MODIFICATIONS TO THE PROPOSED EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED BASED ON ACTUAL FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION. REVIEWING AGENCY SHALL BE NOTIFIED OF ANY SUBSTANTIVE CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES.
17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THE PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
18. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
19. VEHICLES AND EQUIPMENT SHALL ENTER AND EXIT THE WORKSPACE DIRECTLY ONLY FROM ACCESS POINTS SHOWN ON THE APPROVED E&S PLANS.
20. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES – 6 TO 12 INCHES ON COMPACTED SOILS – PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 4–INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
21. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs MUST BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS SHOULD BE PERFORMED ONLY DURING THE GERMINATING SEASON.
22. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.
23. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS–SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE.
24. PLANNING FOR SEEDING AND RESTORATION ACTIVITIES SHALL TAKE PLACE PRIOR TO COMMENCING FINAL RESTORATION ACTIVITIES.
25. UPON FINAL COMPLETION OF ANY EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY, THE SITE SHALL IMMEDIATELY HAVE TOPSOIL RESTORED, REPLACED, OR AMENDED, SEEDED, MULCHED OR OTHERWISE PERMANENTLY STABILIZED AND PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION.
26. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE ACTIVITY OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE A CESSATION OF EARTH DISTURBANCE ACTIVITIES WILL EXCEED 4 DAYS, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED, OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES.
27. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN DRAWINGS IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. TOPSOIL STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SIDE SLOPES MUST BE 2:1 OR FLATTER.
28. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHENEVER POSSIBLE PRIOR TO SEEDING.

(CON'T)

29. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE THE DISTURBED AREAS. DURING NON–GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE–DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINAL GRADE OR WHICH WILL NOT BE RE–DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
30. AN EROSION CONTROL BLANKET SHALL BE APPLIED AT THE BASE OF GRASSED WATERWAYS, ON STEEP SLOPES (° 15%), AND ON ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS, AND WETLANDS.
31. IRREGULARITIES IN THE SOIL SURFACE SHALL BE CORRECTED TO PREVENT THE FORMATION OF DEPRESSIONS.

PROJECT SEQUENCE AND SCHEDULE:

GENERAL CONDITIONS:

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED AND IMMEDIATELY STABILIZED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING, GRUBBING AND TOPSOIL STRIPPING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. ANY DEVIATION FROM THE FOLLOWING SEQUENCE MUST BE APPROVED IN WRITING FROM THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES (NHDES).

CONSTRUCTION WILL TAKE PLACE IN A SINGLE SPREAD. PIPELINE CONSTRUCTION CREWS WILL BE IN CLOSE PROXIMITY TO EACH OTHER AND WILL BE ABLE TO EFFICIENTLY COMMUNICATE DURING THE ENTIRE CONSTRUCTION PHASE OF THE PROJECT. THE MINIMAL LENGTH OF EACH CONSTRUCTION SPREAD WILL NOT REQUIRE CONSTRUCTION CREWS TO BE SEPARATED BY SIGNIFICANT DISTANCES DURING PIPELINE CONSTRUCTION.

WORK EFFORT WILL BE SUBDIVIDED INTO CATEGORIES AND PERFORMED BY SPECIALIZED CREWS (E.G, SITE PREPARATION/CLEARING, TRENCHING, PIPE CONSTRUCTION, ETC). EACH CREW WILL PROGRESS IN A LOGICAL MANNER, GENERALLY FROM THE BEGINNING TO END OF THE PIPELINE. THE TIME PERIOD BETWEEN TRENCH EXCAVATION AND FINAL STABILIZATION SHALL BE MINIMIZED TO THE EXTENT PRACTICABLE. NO ONE SEGMENT OF AREA OF THE PIPELINE ALIGNMENT SHALL GO WITHOUT STABILIZATION (TEMPORARY OF PERMANENT) FOR A PERIOD GREATER THAN FOUR DAYS. THE FOLLOWING DESCRIBES THE TYPICAL SEQUENCE OF CONSTRUCTION ACTIVITIES THAT SHALL OCCUR WITHIN THE TYPES OF AREAS DESCRIBED BELOW, WHICH WILL BE ENCOUNTERED DURING CONSTRUCTION.

1. CONSTRUCTION PREPARATION ACTIVITIES

A. AT LEAST 7 DAYS PRIOR TO INITIATING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING, GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION, AND A REPRESENTATIVE OF THE NHDES TO AN ON–SITE PRE–CONSTRUCTION MEETING.
B. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY DIG SAFE FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
C. ESTABLISH CONSTRUCTION SUPPORT FACILITIES.
D. IDENTIFY UTILITIES AND OTHER CRITICAL SITE FEATURES TO BE PROTECTED.
E. FLAG AND/OR STAKE WETLAND AND OTHER SENSITIVE AREAS TO BE PROTECTED.
F. FLAG AND/OR STAKE PROPOSED CONSTRUCTION LIMITS OF DISTURBANCE.
G. INSTALL TEMPORARY GRAVEL CONSTRUCTION EXITS.
H. INSTALL ACCESS ROAD.
I. BRUSH HOG/MOW EXISTING VEGETATION TO FACILITATE INSTALLATION OF TEMPORARY EROSION AND SEDIMENT CONTROLS.
J. INSTALL TEMPORARY VEHICULAR STREAM CROSSING (E.G., BRIDGE OR MULTIPLE PIPE CROSSING) AND TIMBER MAT WETLAND CROSSING.
K. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THIS PLAN. EROSION AND SEDIMENT CONTROL INSTALLATION, SIMILAR TO OTHER ACTIVITIES, MAY BE CONDUCTED AS PIPELINE CONSTRUCTION ACTIVITIES PROGRESS, HOWEVER, SOIL DISTURBANCE SHALL BE MINIMIZED UNTIL THE APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROLS HAVE BEEN INSTALLED IN THE PROPOSED WORK AREA.

2. SITE CLEARING (TREE CUTTING) & GRUBBING

A. INITIATE CLEARING AND GRUBBING OF RIGHT–OF–WAY AND ACCESS ROADS AS NEEDED.
B. WOODY VEGETATION CLEARING OF THE ROW, ATWS AND STAGING AREAS WILL TAKE PLACE IN A SINGLE PASS. NO GRADING OR GRUBBING WILL OCCUR DURING CLEARING OPERATIONS.
C. HAUL MERCHANTABLE TIMBER OFF–SITE OR STACK AT A DESIGNATED LOCATION. AS DETERMINED BY LANDOWNER SPECIAL CONDITIONS OR ENVIRONMENTAL INSPECTOR.
D. CHIP UNMERCHANTABLE MATERIALS AND SPREAD EVENLY WITHIN THE RIGHT–OF–WAY LIMITS, EXCEPT IN WETLANDS, AGRICULTURE FIELDS, AND MANICURED LAWNS.
E. GRUB TREE STUMPS IN CLEARED ROW. GRIND STUMPS AND REMOVE FROM ROW AND HAUL OFF SITE OR STOCKPILE AT STAGING AREAS FOR USE AS MULCH STABILIZATION AFTER EARTH DISTURBING ACTIVITIES ARE COMPLETED.
E. NOTIFY THE NHDES AFTER INSTALLATION OR STABILIZATION OR ALL PERIMETER SEDIMENT CONTROL BMPS (INCLUDING TOPSOIL PILES) WITHIN A NEW WORK AREA AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH BULK EARTH DISTURBANCE ACTIVITIES.

3. SITE GRADING AND STABILIZATION

A. RE–STAKE THE ROW TO REPLACE ANY SIGNAGE OR FLAGGING THAT WAS REMOVED OR DAMAGED DURING CLEARING ACTIVITIES.
B. INSTALL TEMPORARY GRAVEL CONSTRUCTION EXITS WHERE VEHICLES WILL EXIT CONSTRUCTION AREAS FROM ACCESS ROADS.
C. CLEAR, GRADE AND IMPROVE ACCESS ROAD AS NEEDED AS THEIR USE BECOMES REQUIRED.
D. STOCKPILE TOPSOIL ALONG THE EDGE OF THE RIGHT–OF–WAY WHERE INDICATED AND TEMPORARILY STABILIZED.
E. ROUGH GRADE SITE, REMOVE AND STOCKPILE TOPSOIL AS APPROPRIATE. INSTALL SILT FENCE AS SHOWN ON E&S DRAWINGS.
F. THE MIXING OF TOPSOIL WITH SUBSOIL SHALL BE PREVENTED BY STRIPPING TOPSOIL FROM THE WORK AREA WITHIN DESIGNATED AREAS AND IN COORDINATION WITH THE APPLICABLE ACCESS AGREEMENTS.
G. INSTALL TEMPORARY SLOPE BREAKERS AS SHOWN ON E&S DRAWINGS.
H. INSTALL TEMPORARY FLOW DIVERSION, FLUME STRUCTURES AND TEMPORARY BRIDGES AT STREAM CROSSINGS AS STREAM CROSSINGS ARE ENCOUNTERED.
I. INSTALL APPROPRIATE TRENCH DEWATERING AND FILTERS SURROUNDING SEDIMENT BARRIERS (STRAW BALES, SILT FENCE AND/OR COMPOST FILTER SOCKS AS DETERMINED IN THE FIELD) IN PREPARATION OF DEWATERING ACTIVITIES. THIS SHALL BE COMPLETED PRIOR TO PERFORMING EXCAVATION ACROSS WATERBODIES.
J. INSTALL TIMBER MATS FOR EQUIPMENT ACCESS AS SHOWN ON E&S DRAWINGS AS WETLANDS/STREAMS ARE ENCOUNTERED.
K. UTILIZED WOOD CHIPS IN HEAVILY TRAFFICKED AREAS TO REDUCE THE POTENTIAL FOR RUTTING EXCEPT IN WETLANDS

4. PIPELINE CONSTRUCTION

UPLAND LOCATIONS:

A. ENSURE THE APPROPRIATE UPLAND EROSION AND SEDIMENT CONTROLS ARE IN PLACE.
B. GRADE/EXCAVATE PIPELINE TRENCH AND RIGHT–OF–WAY.
C. SEGREGATE TOPSOIL IN AGRICULTURAL FIELDS AND MANICURED LAWNS FOR RESTORATION ACTIVITIES DURING FINAL CLEAN UP.
D. STRING PIPE AND PREPARE THE PIPE JOINTS FOR WELDING.
E. WELD PIPE JOINTS AND PERFORM NDT (NON–DESTRUCTIVE TESTING).
F. DISCHARGE ALL WATER FROM TRENCH USING FILTER BAGS OR COMPOST SOCK SEDIMENT TRAP.
G. INSTALL THE PIPELINE IN THE TRENCH.
H. INSTALL TRENCH PLUGS.
I. BACKFILL THE PIPELINE TRENCH
J. PERFORM PERMANENT STABILIZATION, INCLUDING:
   1. GRADE AREAS AS CLOSELY AS POSSIBLE TO ORIGINAL CONTOURS.
   2. REPLACE TOPSOIL.
   3. APPLY PERMANENT SEEDING, SOIL AMENDMENTS AND MULCH OR EROSION CONTROL BLANKETS.

(CON'T)

ROADWAY, DRIVEWAYS AND RAILROADS CROSSINGS:

A. STRING PIPE OUTSIDE OF ROAD/DRIVEWAY AND PREPARE THE PIPE JOINTS FOR WELDING AND NON–DESTRUCTIVE TESTING.
B. EXCAVATE PIPELINE TRENCH FOR THE OPEN TRENCH CROSSING OR EXCAVATE BORE PITS FOR CONVENTIONAL BORED CROSSING.
C. DISCHARGE ALL WATER FROM TRENCH.
D. MOVE THE PIPE SECTIONS TO THE TRENCH OR PERFORM CONVENTIONAL BORE.
E. INSTALL THE PIPELINE IN THE TRENCH.
F. INSTALL TRENCH PLUGS AS SHOWN ON E&S DRAWINGS.
G. BACKFILL THE PIPELINE TRENCH.

STREAM CROSSING (LESS THAN 24 HOURS FOR STREAM LESS THAN 10 FEET WIDE, LESS THAN 48 HOURS FOR STREAMS BETWEEN 10 AND 100 FEET WIDE):

A. ADJUST EROSION AND SEDIMENT CONTROLS AS NEEDED TO PERFORM WORK AT STREAM CROSSING LOCATIONS.
B. INSTALL SANDBAG DIVERSION DAM OR OTHER NHDES–APPROVED DAM AROUND CHANNEL WORKAREA.
C. ALL NON–PERENNIAL STREAMS AND DITCHES WILL BE FLUMED ONLY IF WATER IS PRESENT.
D. DEWATER OPEN–CUT TRENCH WORK AREA WITH THE STREAM USING FILTER BAG OR COMPOST SOCK SEDIMENT TRAP AS NEEDED.
E. EXCAVATE PIPELINE TRENCH.
F. TEMPORARY TOPSOIL AND SUBSOIL STOCKPILES SHALL BE LOCATED AT LEAST 10 FEET AWAY FROM TOP OF STREAM BANKS.
G. IN AN UPLAND LOCATION, STRING PIPE AND PREPARE THE PIE JOINTS FOR WELDING AND NON–DESTRUCTIVE TESTING.
H. DISCHARGE ALL WATER FROM TRENCH USING FILTER BAGS OR COMPOST SOCK SEDIMENT TRAP.
I. INSTALL THE PIPELINE IN THE TRENCH.
J. INSTALL TRENCH PLUGS AT TOP OF STREAM BANKS.
K. BACKFILL THE PIPELINE TRENCH.
L. PERFORM PERMANENT STABILIZATION, INCLUDING:
   1. GRADE AREAS AS CLOSELY AS POSSIBLE TO ORIGINAL CONTOURS.
   2. REPLACE TOPSOIL.
   3. APPLY PERMANENT SEEDING, SOIL AMENDMENTS AND EROSION CONTROL BLANKET.
M. REMOVE TEMPORARY CONTROL MEASURES.

WETLAND CROSSING:

A. ADJUST EROSION AND SEDIMENT CONTROLS AS NEEDED TO WORK IN STREAM CROSSING LOCATIONS.
B. EXCAVATE THE TOP 1–FOOT OF TOPSOIL AND STOCKPILE SEPARATELY FROM THE SUBSOIL.
C. IN AN UPLAND LOCATION, STRING PIPE AND PREPARE THE PIPE JOINTS FOR WELDING AND NON–DISTRUCTIVE TESTING.
D. DISCHARGE ALL WATER FROM TRENCH USING FILTER BAGS OR COMPOST SOCK SEDIMENT TRAP.
E. INSTALL THE PIPELINE IN THE TRENCH.
F. INSTALL TRENCH PLUGS AT EDGE OF WETLAND.
G. BACKFILL THE PIPELINE TRENCH.
H. PERFORM PERMANENT STABILIZATION, INCLUDING:
   1. REPLACE SUBSOIL MATERIAL
   2. REPLACE TOPSOIL SUCH THAT THERE IS NO CROWNING OF SOIL MATERIAL
   3. APPLY TEMPORARY SEEDING.

5. DEMOBILIZATION AND SITE CLEAN UP

A. COMPLETE PERMANENT STABILIZATION OF ALL REMAINING AREAS OF DISTURBANCE, INCLUDING:
   1. GRADE AREAS AS CLOSELY AS POSSIBLE TO ORIGINAL CONTOURS.
   2. REPLACE TOPSOIL
   3. APPLY PERMANENT SEEDING, SOIL AMENDMENT, AND MULCH OR EROSION CONTROL BLANKET.
B. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED ARES, THE OWNER.OR OPERATOR SHALL CONTACT THE NHDES FOR AN INSPECTION PRIOR TO THE REMOVAL/CONVERSION OF THE EROSION AND SEDIMENT CONTROL BMPS.
C. REMOVE TEMPORARY CONTROL MEASURES UPON APPROVAL OF THE NHDES.
D. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES, REMOVAL OF ALL TEMPORARY BMPS, INSTALLATIONS OF ALL PERMANENT BMPS, AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE NHDES FOR A FINAL INSPECTION.
E. ANY MATERIALS NOT INCORPORATED AS TRENCH BACKFILL OR GENERAL GRADING (E.G. UNCONTAMINATED SOIL, ROCK, STONE, GRAVEL, BRICK AND BLOCK, CONCRETE AND USED ASPHALT; AND WASTE FROM LAND CLEARING, GRUBBING AND EXCAVATION, INCLUDING TREES, BRUSH, STUMPS AND VEGETATIVE MATERIAL) WILL BE REUSED, RECYCLED OR REMOVED FROM THE CONSTRUCTION WORK LIMITS IN ACCORDANCE WITH GENERAL EROSION AND SEDIMENT CONTROL NOTES.
F. CONTRACTOR DEMOBILIZATION.

6. POST–CONSTRUCTION

A. CONTINUE TO CONDUCT INSPECTIONS UNTIL THE SITE HAS REACHED PERMANENT STABILIZATION.
B. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER NON–VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.
C. TEMPORARY E&S BMPS MAY BE REMOVED AFTER THE ENTIRE CONTRIBUTARY AREA TO EACH BMP REACHES PERMANENT STABILIZATION.
D. REMOVE ANY REMAINING TEMPORARY WATERBODY AND WETLAND EQUIPMENT CROSSINGS.
E. REMOVE ANY REMAINING TEMPORARY GRAVEL CONSTRUCTION EXITS.
F. PRIOR TO APPLICATION OF THE SEED IN ALL SUPPORT & STAGING AREAS, THE SEEDBED WILL BE PREPARED TO A DEPTH OF 3 TO 4 INCHES USING APPROPRIATE EQUIPMENT TO PROVIDE A FIRM, SMOOTH SEEDBED THAT IS FREE OF DEBRIS AND SCARIFIED TO ENSURE SEEDS LODGE AND GERMINATE.

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.

REVISIONS

Tennessee Gas Pipeline Company, L.L.C.
a Kinder Morgan company

NORTHEAST ENERGY DIRECT PROJECT
LEGEND
NEW HAMPSHIRE

Section:	Township:	Range:	
Co./Par.:		State:	NEW_HAMPSHIRE
Division:		Op. Area:	
Drafter: HMM	Date:	Project ID:	
Chk'd: DL	Date:	Scale:	
Approved: CM	Date:	Filename:	
		Sheet: 13 of 13	
		Type:	