

CMRP Section Number	NRG Recommendations, 2009 (summarized)	NRG Evaluation, 2015
2.13 – Weed Control	NRG recommended that Keystone obtain the permission of individual landowners or the appropriate land management or state agency in writing before treating weeds with herbicides on their property.	The redline change to this section of the CMRP states that “Keystone will prepare a weed management plan for each state crossed by the project, as required. In general, these plans will consider the following measures listed below.” This change is not inconsistent with our original recommendation and does not change NRG’s original testimony.
2.17 – Road and Railroad Crossings	NRG recommended that Keystone coordinate with emergency responders regarding the timing and intended duration of any temporary road closures.	The redline change to this section of the CMRP is not related to, and therefore does not change, NRG’s original testimony.
3.0 – Spill Prevention and Containment	NRG recommended that fuel storage and/or refueling activities be avoided or minimized within 400 feet of municipal wells or wellhead protection areas and within 200 feet of private water wells.	The redline changes to this section of the CMRP are not related to, and therefore do not change, NRG’s original testimony.
4.3 – Topsoil Removal and Storage	NRG summarized the benefits and limitations for each of three topsoil segregation methods proposed by Keystone, and recommended that Keystone work closely with landowners to determine the method most suitable for their property.	The redline changes to this section of the CMRP include the addition of a fourth available topsoil segregation method (trench and working side) and defines two additional site-specific conditions that may require one of the defined topsoil segregation methods. These redline changes are generally consistent with industry standards for pipeline construction, are not inconsistent with our original recommendation, and do not change NRG’s original testimony.
4.5 – Temporary Erosion and Sediment Control	NRG recommended the installation of sediment barriers in the vicinity of delineated wetlands and waterbodies regardless of the presence of flowing or standing water at the time of installation, and that liquid mulch binders not be used within 100 feet of wetlands and waterbodies.	The redline changes to this section of the CMRP are not related to, and therefore do not change, NRG’s original testimony.
4.7 – Trenching	NRG recommended the use of the triple-lift soil handling method to maintain soil productivity in agricultural lands where hard, paralithic shale and sandstone underlie unconsolidated subsoils, and where saline	The redline changes to this section include the addition of “triple ditch soil handling...at sites identified by Keystone....” NRG also reviewed the new typical drawings Detail 67 and 67A, Topsoil Conservation Ditch

	<p>subsoils underlie non-saline subsoil horizons. NRG further recommended that Keystone consult with the state or area NRCS offices to identify soils for which alternative handling methods in agricultural lands would be appropriate, develop construction procedures to minimize impacts on such soils, and potentially make those alternative soil handling methods available to landowners to maintain soil productivity in agricultural lands.</p>	<p>& Spoil Stripping Triple Ditch. These redline changes and new typical drawings are generally consistent with industry standards for pipeline construction, are not inconsistent with our original recommendations, and do not change NRG's original testimony.</p>
<p>4.7.1 – Trench Dewatering/Well Points</p>	<p>NRG made several recommendations regarding setting a minimum electrical conductivity value for the discharge of saline trench water; developing procedures to follow for disposal of overly saline trench water when alternative disposal locations are not available; and implementation of best management practices to prevent heavily silt-laden trench water from reaching wetlands and waterbodies, directly or indirectly, to prevent exceeding water quality standards.</p>	<p>The redline changes to this section do not directly address, and therefore do not change, NRG's original testimony.</p>
<p>4.9 – Padding and Backfilling</p>	<p>NRG recommended that rock be replaced in the trench only to the top of the existing bedrock profile, and all other rock should be considered construction debris and removed from the right-of-way.</p>	<p>The redline changes to this section of the CMRP are not related to, and therefore do not change, NRG's original testimony.</p>
<p>4.10 – Cleanup</p>	<p>NRG recommended that final grading, topsoil replacement, and installation of permanent erosion control structures be completed in non-residential areas within 20 days of backfilling the trench and within 10 days in residential areas unless practically infeasible. In the event seasonal or other weather conditions prevent compliance with the time frames, temporary erosion controls should be maintained until conditions allow completion of cleanup and reclamation.</p>	<p>The redline changes to this section of the CMRP are not related to, and therefore do not change, NRG's original testimony.</p>
<p>4.11.1 – Reclamation and Revegetation, Relieving Compaction</p>	<p>NRG recommended that Keystone prepare a winterization plan.</p>	<p>The redline changes to this section of the CMRP are not related to, and therefore do not change, NRG's original testimony.</p>

4.11.2 – Rock Removal	NRG recommended that excess rock be removed from at least the top 12 inches of soil in agricultural lands, to the extent possible.	The redline changes to this section do not directly address, and therefore do not change, NRG’s original testimony.
4.11.5.3 – Mulching	NRG recommended that mulch be installed on slopes concurrent with or immediately after seeding, plus recommendations regarding the timing of mulching and seeding.	The redline changes to this section do not directly address, and therefore do not change, NRG’s original testimony.
4.16 – Operations and Maintenance	NRG recommended that Keystone monitor the pipeline right-of-way for at least 2 years following construction; standards for determining the success of revegetation in non-cultivated areas; and that temporary erosion control devices should be maintained or replaced as necessary until successful revegetation of the right-of-way, or as required by permits.	These redline changes to this section are generally consistent with industry standards for pipeline construction and do not change NRG’s original testimony.
6.2 – Wetland Crossings, Easement and Workspace	NRG made several recommendations, including the recommendation that the width of the construction right-of-way in non-cultivated wetlands be reduced to 75 feet, allowing for exceptions for site-specific conditions, instead of Keystone’s stated right-of-way reduction of 85 feet.	The redline changes to this section of the CMRP indicate that the width of the construction right-of-way shall be reduced to 85 feet or less in standard wetlands...unless the USACE or other regulatory authority authorizes a greater width. This change does not change NRG’s original testimony.