

6.0 CONCLUSION

CL&P has received extensive comment and input from residents and town officials regarding drainage/surface water runoff problems that have caused localized flooding on some properties along the GSRP right-of-way corridor. There is additional concern that construction, including the additional tree clearing proposed by the GSRP, will alter/increase the amount and frequency of runoff that currently exists in these areas.

Typically for a construction project like the GSRP, the project proponent would design surface water control measures to protect water resources during construction. The controls would be developed to meet the minimum requirements established in the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*. These controls utilized during construction usually consist of a typical geotextile silt fence (GSF) that would be installed on the downhill side of the disturbed areas. The GSF would provide erosion protection along embankment slopes and control surface water where sheet flow occurs and prevent discharge of sediment to wetlands and water courses.

Based on local comments and input received, CL&P proactively initiated a review of existing drainage conditions/patterns, in the two areas discussed in this report, to develop a plan to manage surface water flow during construction to minimize the chance that the Project would have a detrimental impact on the existing drainage conditions/patterns.

Based on the outcome of the review, which included analysis of existing drainage conditions/patterns, surface water flow calculations using the two-, ten- and fifty-year storm events, and multiple on-site inspections, CL&P determined that although the vegetation removal would result in a small, short-term increase in surface water flow, there would be no increase of impervious surfaces within any of the sub-basins. Therefore CL&P does not anticipate that there will be a long-term increase in surface water runoff resulting from the construction.

Observations during the on-site inspections indicate that the drainage problems in some areas may be partially due to ground water seepage rather than overland flow, particularly in the Newgate/Phelps Road area. Furthermore most of the existing problems can be attributed to

development upslope of the right-of-way, conditions created during site work associated with construction on the parcels where issues now occur, or the construction of homes on poorly drained soils where water naturally accumulates during heavy rain events. Developing permanent solutions to the pre-existing surface water runoff or ground water issues such as these is very complex by nature, and is further complicated by the fact that CL&P's only interest in the land is by way of easement (limited ownership in fee). As a result, this plan predominantly focused on the use of temporary surface water control measures during construction.

During the Development and Management (D&M) Plan preparation process, the locations of control measures associated with the protection of wetlands and watercourses, minimizing sedimentation and erosion, and maintaining the stability of all improved surfaces (access roads and crane pads) were determined. After being made aware of the pre-existing drainage/surface water runoff problems in these areas, CL&P developed additional control measures that normally would not be prescribed if protection of water resources was the only objective. As a result in the two areas of concern the traditional control measures have been augmented by additional control measures. A summary of these additional controls is as follows:

- Designing to a ten- or fifty-year storm event to provide an increased level of protection;
- Proposing a significant increase in the amount of silt fence in upland areas designed to augment the more traditional controls associated with protecting water resources, and to manage the small, temporary increase of surface water flow until the areas have been revegetated and stabilized;
- Utilizing wire-reinforced silt fence, instead of traditional silt fence, in some areas to provide increased protection during heavy precipitation events;
- Proposing additional stone check dams in areas identified by residents as sources of concentrated flow currently contributing to the pre-existing conditions;
- Identifying, through site inspections and conversations with residents, existing surface water control measures that have been previously installed and committing to protecting them during construction; and
- Developing a permanent solution to an existing surface water issue resulting in localized flooding at a residence on Adams Drive in East Granby.

As designed, the control measures recommended in this report will provide appropriate control of the existing surface water flow (sheet and concentrated) and the small, temporary increase in surface water flow that can be expected during construction. Properly managing the surface water flow will minimize the probability that the pre-existing localized flooding issues will be exacerbated, and that erosion and sedimentation issues associated with the ground-disturbing construction activities will occur. All control measures will be inspected regularly and will be repaired, reinforced, and upgraded as needed throughout the Project's duration. *Northeast Utilities Transmission Business Unit's Best Management Practices: Construction and Maintenance Environmental Requirements – Connecticut* will be adhered to when inspecting and maintaining all erosion control measures. Also as required all the proposed controls will remain in place until the areas have been stabilized and surface water volumes have returned to pre-construction levels.