

Logan River Stabilization Plan Logan, Utah

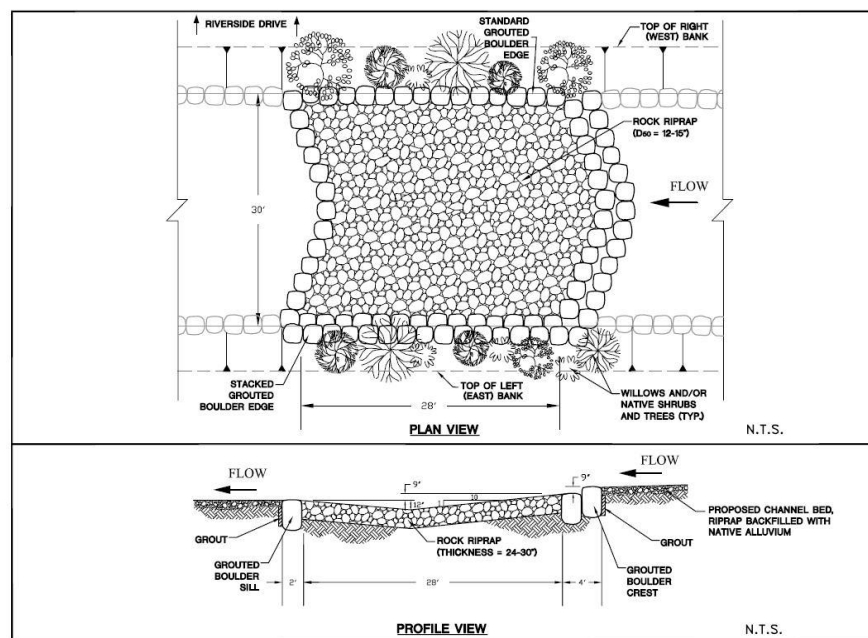
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The Logan River is located in Cache County, Utah and conveys flow from the mouth of Logan Canyon through the City of Logan, Utah. A series of diversion dams within the city borders serve to limit base flows in the river, as well as providing local control of bed levels and lateral migration. The diversion structures, along with a combination of residential development and roads parallel to the river, have encroached upon and restricted lateral movement of the river. A 0.6-mile reach of the river downstream of the diversion structures has experienced a general lowering of the channel bed and subsequent bank retreat. The City of Logan is concerned with the overall stability of the project reach, and therefore determined the need for a conceptual plan for stabilizing the reach.

Key elements of the recommended conceptual plan for stabilizing the project reach of the Logan River include the following:

- A brief geomorphic evaluation of the project reach in order to ascertain bed and plan form changes affecting river stability over recent years;
- Effective, duplicate effective, and existing condition hydraulic analyses of the project reach, which includes graphical flood profiles and floodplain/floodway mapping for existing conditions;
- Conceptual level bed and bank stabilization alternatives for the project reach; and
- A recommended alternative, which includes preliminary level design of riprap and boulder/riprap sloping drop structures for the channel bed, stacked grouted boulder edges and appropriate cut/fill for the channel banks, hydraulic analyses of the recommended alternative, and conceptual construction quantity estimates.



Plan/Profile View of Boulder/Riprap Sloping Drop Structure.