

69 KV TRANSMISSION LINE ALTERNATIVES STUDY

Routing/Structural/Environmental evaluation of the 69 KV Loop Preliminary Route
for the

City of Boulder City

Public Works Department
401 California Avenue
Boulder City, NV 89005



April 2015



3521 Gabel Road, Billings, MT 59102

EXECUTIVE SUMMARY

ES 1.

Boulder City, NV operates a municipal electric utility and is classified in Nevada as a municipal corporation. Boulder City has identified the requirement for a new single circuit 69 kV transmission loop, providing an interconnection between Substation 3 and Substation 6 (Proposed Project). Electrical Consultants, Inc. (ECI) was retained to complete a Siting and Routing Study for the Proposed Project.

ES 2.

The Project Study area is located within the city limits of Boulder City, NV. There were several major tasks associated with the siting and routing of the Proposed Project. Tasks included field reconnaissance, resource identification and the associated maps, developing criteria to determine the sensitivity of area resources to the Proposed Project, the identification of the alternative transmission segments and finally the selection of a Preferred Project. Once the study area was defined, data was compiled on a scale sufficient to identify the magnitude of sensitive resources in a defined project area. Sensitivity is that measure of probable adverse response of resources to direct and indirect impacts associated with the construction, operation, maintenance, and abandonment of the Proposed Project. Sensitivity data developed during this task provided the basis for developing alternative project segments and ultimately a Preferred Project. The criteria included resource values, protective status, present and future use and hazards. Based on these criteria, all mapped resources in the area under study were ranked according to their level of sensitivity (Exclusion, Avoidance, Constraint, and Opportunity) to the introduction of the Proposed Project. Based on the evaluated sensitivities, 37 transmission line alternatives were selected. Of the 37 transmission line alternatives, 15 were considered and dismissed from further evaluation.

ES 3.

Section 3 presents the resources inventoried for the analysis within this study. These analyses identified areas of major concern that could be affected by the Proposed Project. The resources inventoried and described include: existing land use, zoning, visual resources, planned land use, geography and right of way availability, natural resources, engineering constraints, and cost. Overhead and underground alternatives were evaluated for cost and the preferred route was estimated at \$1.8 Million for overhead installation and \$5.2 Million for combining overhead and underground installation.

ES 4.

During the site siting screening process, sensitive resources and issues were identified and mapped. Thirty-seven transmission segments were identified with alphabetic labels Segment A to Segment KK. Two routes were selected for further evaluation that follow either Nevada Way or Avenue I. Both route concepts have some segment subset alternatives.

ES 5.

The individual resource analyses were compiled to identify an overall constraint for each alternative segment. The end product of this process has been the identification of a Preferred Project that presents the overall best balance of constraint avoidance and opportunity use.

EXECUTIVE SUMMARY

Transmission segments were ranked from low risk to high risk based on the segment's impact on affected resources.

After segments were ranked, the overall Preferred Project includes Segment Subsets A, C, I, AA, J, R, T, DD, CC and EE (Nevada Way Alternative).

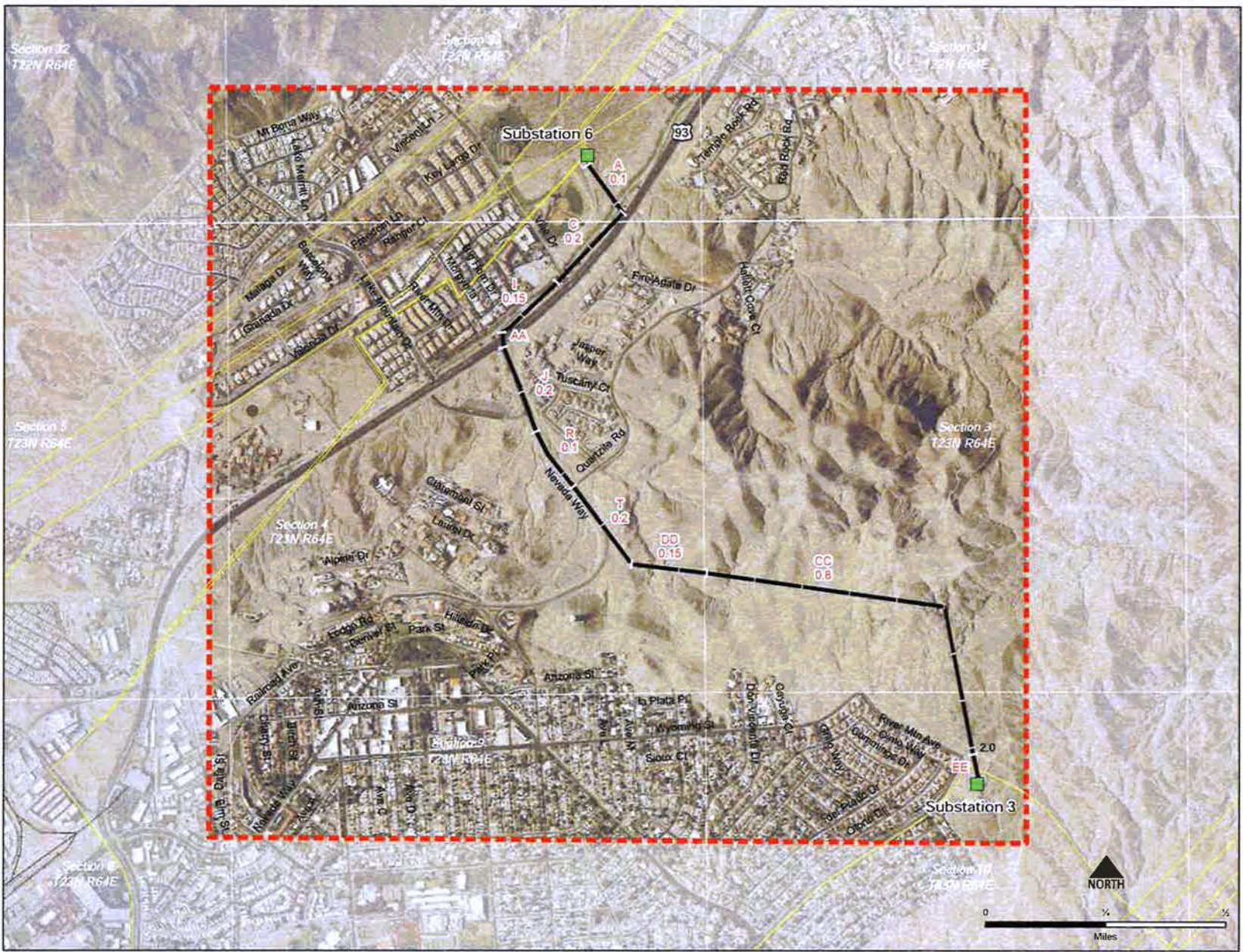







Figure 5-2
**Boulder City 69kV
 Loop Alternatives Study
 Preferred Route**





 Project Area

 Preferred Route
(with .10 mile markers)

 Existing Substation

 Existing Transmission Lines

 Railroad

 Road



Source: ECL, ESRI, PLSS, Tiger, NLCD, USDA NAIP