MEMORANDUM ADDENDUM

DATE: February 13, 2025

TO: Darren Farar P.E., City Engineer

CC:

FROM: Zan Murray S.E., Corrine Turner E.I.T. J-U-B Engineers

SUBJECT: Addendum to Logan 1st Dam Tank Transmission Line Alternative Summary

The purpose of this addendum is to provide additional information and analysis to the "Logan 1st Dam Tank Transmission Line Alternative Summary" memo dated November 20, 2024.

Background

This addendum is necessary to address alternative pipeline alignments proposed through public comment during the 1st Dam Tank Pipeline Public Meeting held on December 5, 2025, and other public involvement interviews.

Additional Alignment Alternatives

Alignment 6 (purple) South side of street. – Alignment 6 is the preferred alignment for the main transmission line from the tank to 200 West. It has been suggested that this alignment could be altered to have the pipeline installed on the south side of the Canyon Road from Crockett Avenue to 600 East to reduce impacts to the trees and create a greater distance from the toe of the slope. Canyon road. The south side of Canyon Road currently has a high voltage transmission line, irrigation pipeline, culinary waterline, curb gutter and sidewalk installed in the south half of the right-of-way. The pipeline cannot be installed near the high voltage powerline because of safety requirements (Constructability). To install the transmission line in the south side of the road would require relocation of the high voltage transmission line underground, relocation of the irrigation pipeline (Utility Conflicts) and reconstruction of the curb, gutter and sidewalk to maintain the required 10-foot spacing from the sewer line. The relative cost difference between this alternative and the preferred alignment on the north side of the street is at least $5.1M.

Alternative 8 (red) – This alignment would proceed west along Canyon Road to Crockett Avenue, then south to 200 North. Then head west along 200 North to 600 East then north to Canyon Road, up to 300 North and head west following Alignment 6 for the balance. This alignment would require installation of an additional 1,790 feet of pipeline or 14% more than the preferred alignment. This alignment would also require reconstruction of the existing curb, gutter and sidewalk along 200 North (Constructability), or relocation of overhead powerlines on 200 North and utilities in Crockett Avenue (Utility Conflict) which has a very narrow right-of-way. Relocating utilities would require property acquisition to accommodate relocations. The relative cost difference between this alternative and the preferred alternative is at least $2.4M.

Alignment 9 (black) -– This alignment contemplated constructing the primary transmission line west on Canyon Road to Crockett Avenue then dipping south to 100 North, west to 500 East, south to Center Street, east to 200 East, north to 300 North, and then west to 200 West. Placing the transmission line along Crockett Avenue and Center Street was not feasible because this alignment had a 38% or 4,850 feet longer length compared to the preferred alignment, (Constructability), a high number of conflicts with existing utilities including placing the pipe under the Center Street pedestrian underpass east of 200 East and under the Crockett Canal that is piped diagonally under the intersection at Center Street and 200 East (Utility Conflicts), and would require purchase of additional right-of-way width (Property Acquisition). The relative cost difference between this alternative and the preferred alternative is at least $5.3M.

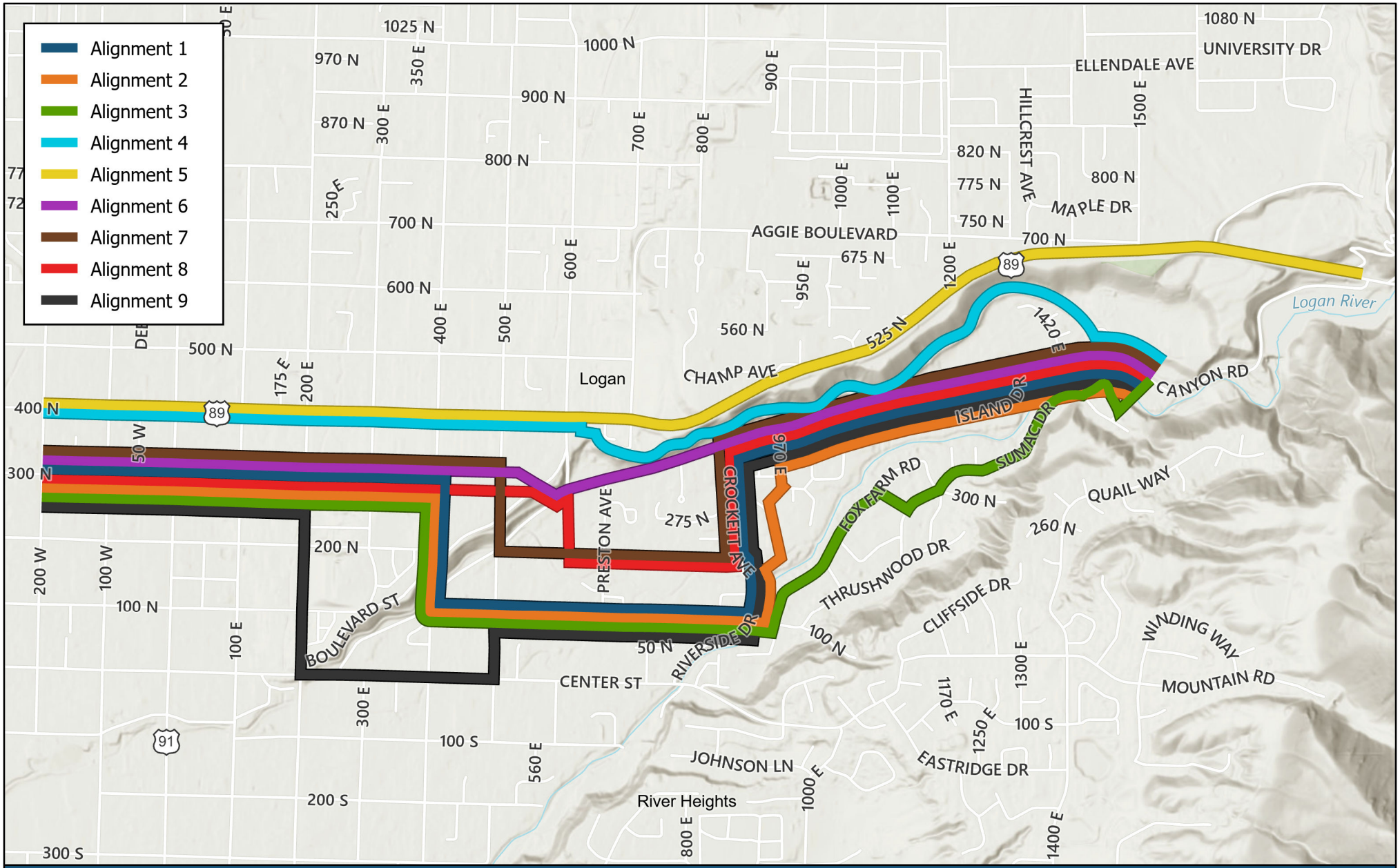
Geotechnical Considerations

The geotechnical report for the 42-inch pipeline indicates that safety factors for soil conditions on the hillside between Canyon Road and the Boulevard are lower than preferred under existing conditions. Those safety factors are still higher than the other alignment alternatives that have been considered. As recommended in the geotechnical report, the design team is reviewing the soil conditions and preparing mitigation approaches to accommodate for the lower safety factors. Mitigation activities may include drains, soil improvements, grading of the slope or pipe design adjustments to accept movement of soil near the pipe if it occurs.

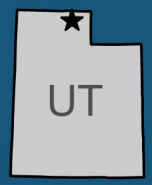
Preferred Alignment

After evaluating the additional three alignment options for the transmission pipeline and reviewing geotechnical considerations, J-U-B Engineers still recommends Alternative 6 – North Side. As outlined in the original memo, this alignment remains the preferred choice because is

simpler, less disruptive overall, safer (including soil conditions), and more affordable than all the other alternatives.



LOGAN FIRST DAM TRANSMISSION LINE ALIGNMENT ALTERNATIVE ADDENDUM



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Logan First Dam Tank Water Mains

January 2025

Logan First Dam Transmission Line Alignment Alternatives Evaluation Matrix

Criteria	Utility Conflicts	Maintaining Separation	Neigborhood Impacts	Easement / Property Acquisition	Emergency Services Accessibility	Environmental Impacts	Natural Hazards	Constructability	Relative Cost	Impact Conclusion
Alternative										
Alignment 1 - Dark Blue	High	Medium	Medium	Low	Medium	Low	Medium	Medium	Medium	**Medium**
Alignment 2 - Orange	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	**Medium**
Alignment 3 - Green	High	High	High	Medium	High	High	High	Medium	High	**High**
Alignment 4 - Light Blue	Medium	Medium	Low	High	Low	High	High	High	High	**High**
Alignment 5 - Yellow	Medium	Medium	Low	High	Low	Low	Low	High	High	**Not-Feasible**
Alignment 6 - Purple (North Side)	Medium	Low	Medium	Low	Medium	Low	Low	Low	Low	**Low**
Alignment 7 - Brown	High	Medium	Medium	Low	Medium	Low	Medium	Medium	Medium	**Medium**
Alignment 6 - Purple (South Side)	High	High	Low	Low	Medium	Low	Low	High	High	**Medium**
Alignment 8 - Red	High	Medium	Medium	Low	Medium	Low	Medium	Medium	Medium	**Medium**
Alignment 9 - Black	High	Medium	High	Medium	Medium	Low	Low	High	High	**Medium**