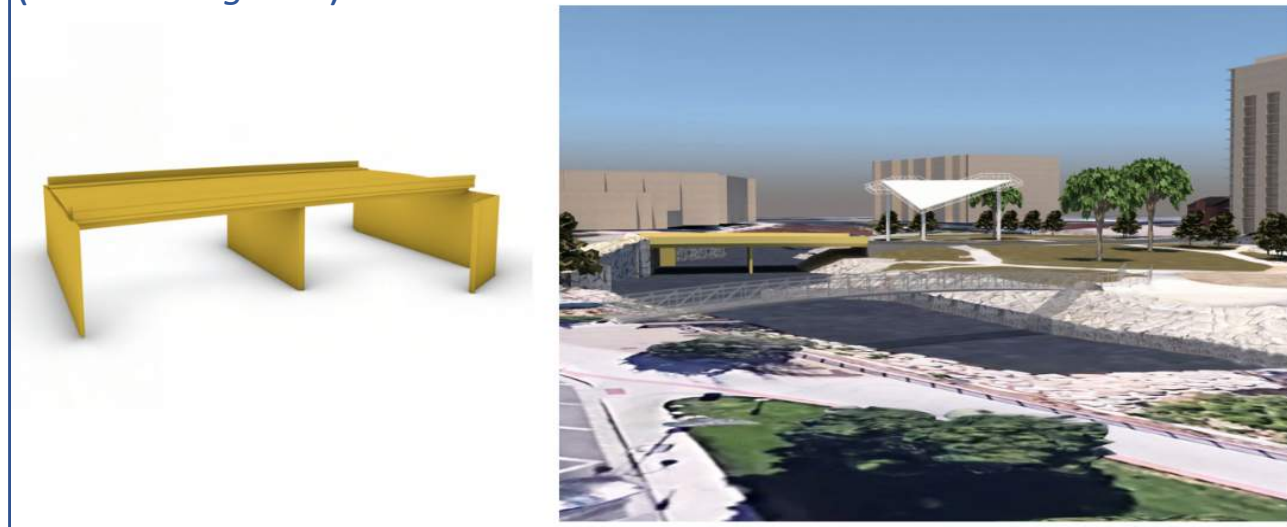


Arlington Avenue Bridges over the Truckee River - Concept Evaluation

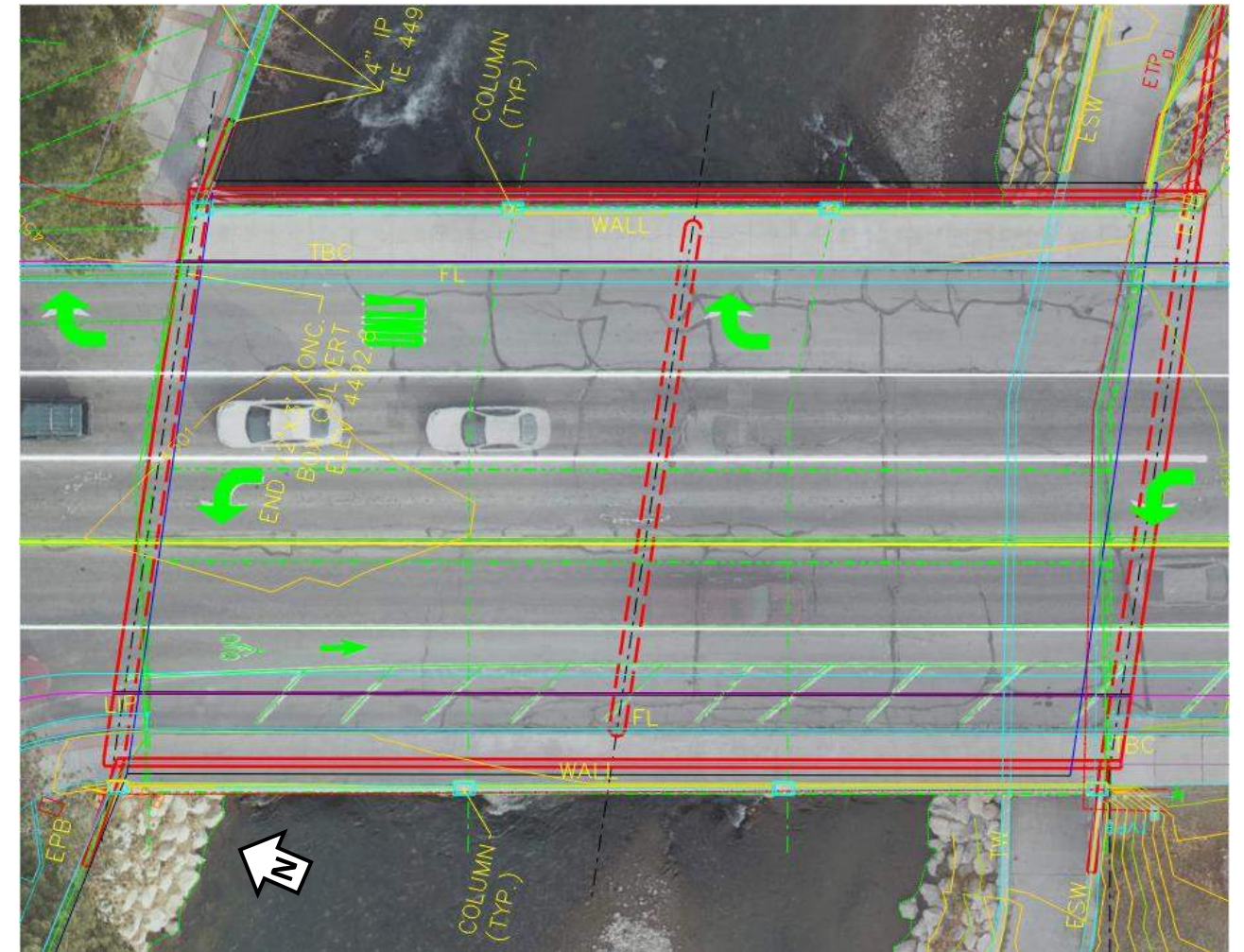
SINGLE PIER CONCEPT

(view looking east)

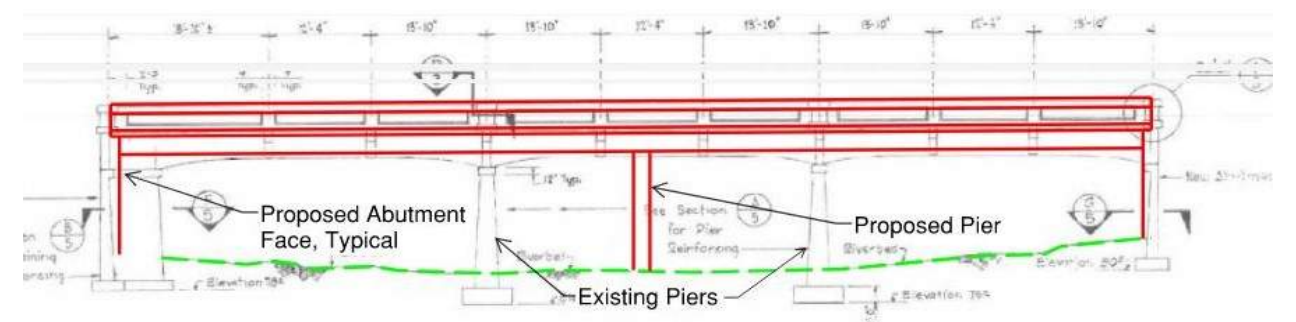


Some things to consider when evaluating the Single Pier Concept:

- 1) In-river center pier shortens span lengths and allows for thinner deck section.
- 2) Thin overall deck section with uniform depth optimizes ability to accommodate flood flows without raising roadway profile.
- 3) Relatively short spans can be accommodated using precast concrete beams, steel I-girders, or cast-in-place concrete construction.
- 4) An "open soffit" system (discrete steel I-girders or precast concrete beams) may increase the potential to snag flood debris under the bridge.
- 5) A cast-in-place concrete box girder with a "closed soffit" may eliminate the potential to snag flood debris under the bridge but requires temporary shoring/falsework in the river to support construction.
- 6) A single in-river pier versus two existing in-river piers reduces the potential for river debris to snag and collect on the structure.
- 7) A single in-river pier may reduce the number of obstructions for river activities.
- 8) River diversions required for abutment and pier removal and construction.
- 9) All three bridge types (precast, CIP and steel) involve common construction methods familiar to many contractors, increasing competition during bidding which could lead to lower costs.



PLAN

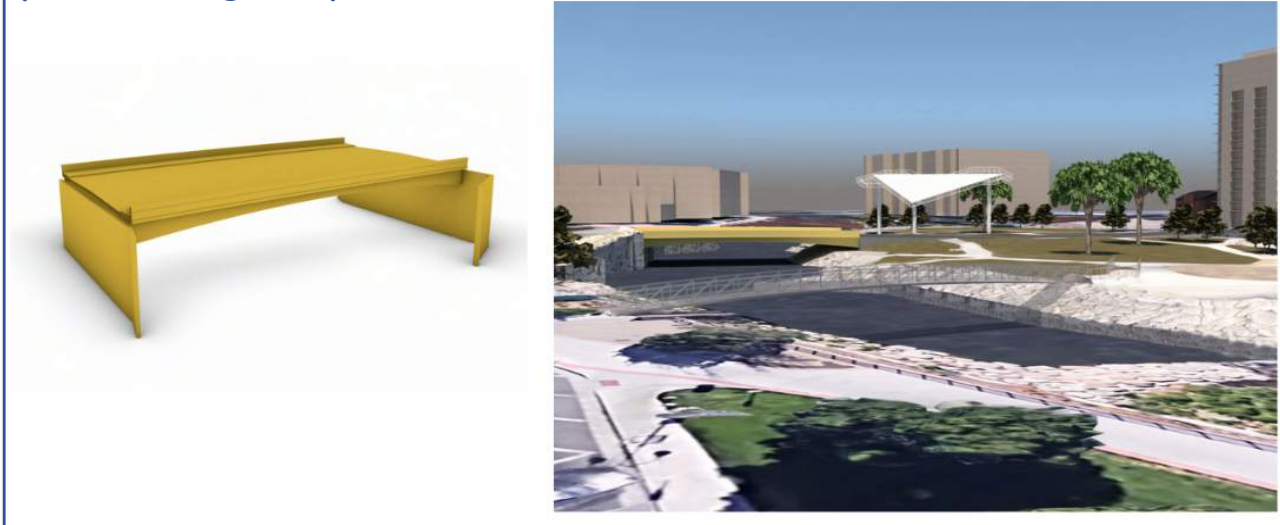


ELEVATION

Arlington Avenue Bridges over the Truckee River - Concept Evaluation

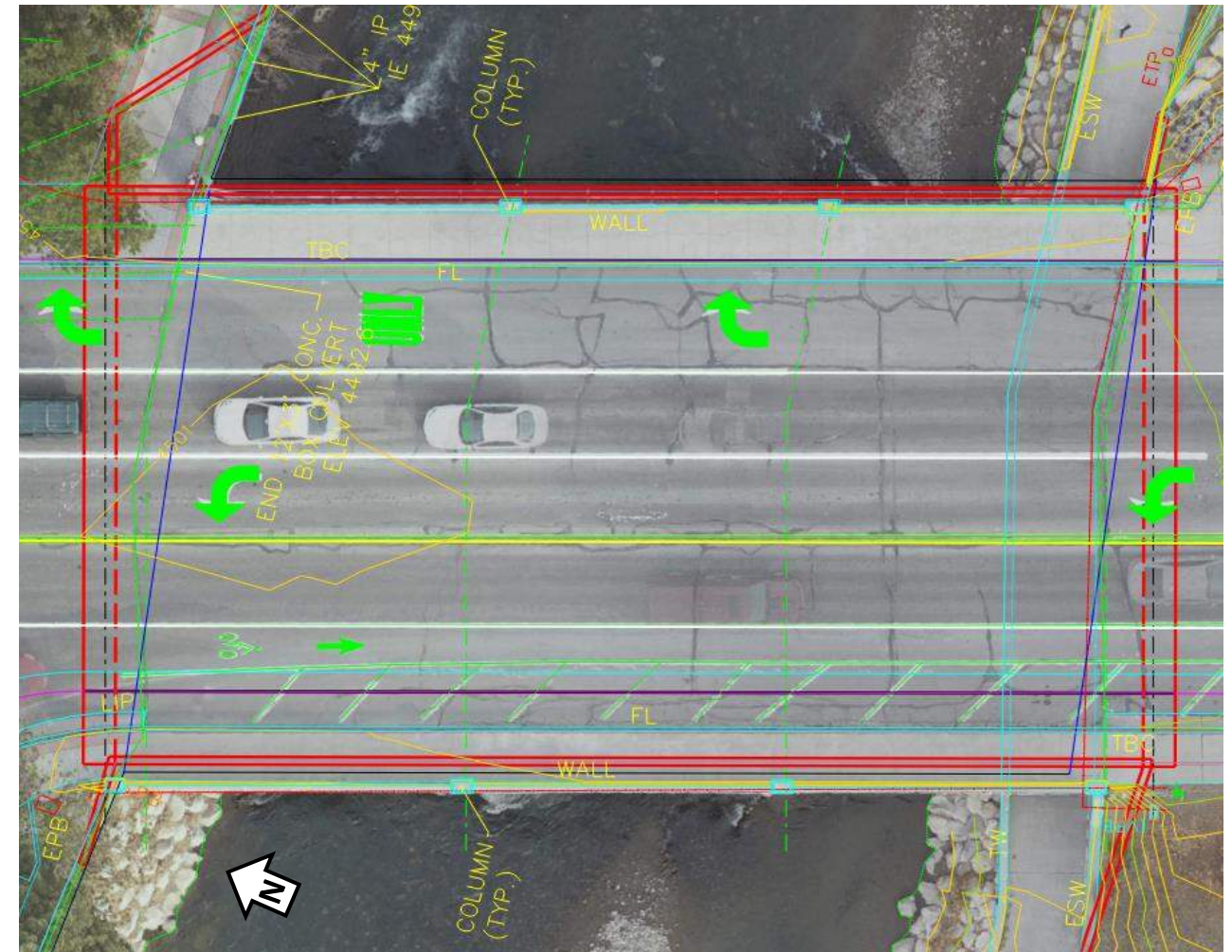
CLEAR SPAN CONCEPT

(view looking east)

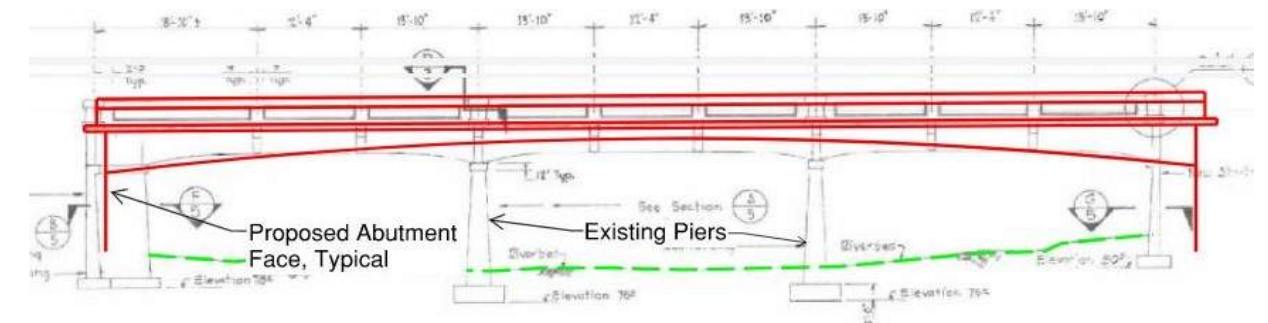


Some things to consider when evaluating the Clear Span Concept (Rigid Frame):

- 1) Thickened deck section near abutments allows for thickness at mid-span span to be comparable to the uniform depth of the Single Pier Concept.
- 2) Thickened deck section near abutments may impact the ability to provide freeboard above flood flows over the full length of the structure.
- 3) Potential for flood debris to collect is reduced with no in-river pier but may not be eliminated with the thickened deck at the abutments.
- 4) Structure type does not easily accommodate precast elements; temporary shoring/falsework will be required in the river to support construction.
- 5) A "closed soffit" may eliminate the potential to snag flood debris under the bridge.
- 6) No in-river center pier to obstruct recreation activities.
- 7) River diversions required for abutment and pier removal and for abutment construction.
- 8) Common construction methods familiar to many contractors, but perceived risk with the need to erect temporary falsework in the river may lead to higher bid prices.



PLAN

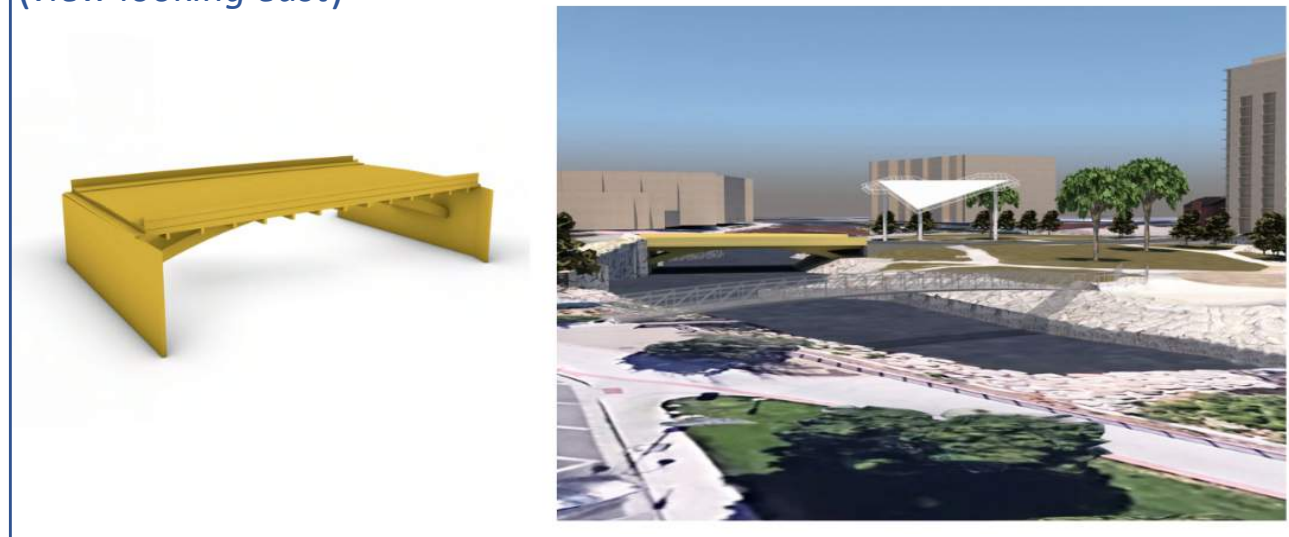


ELEVATION

Arlington Avenue Bridges over the Truckee River - Concept Evaluation

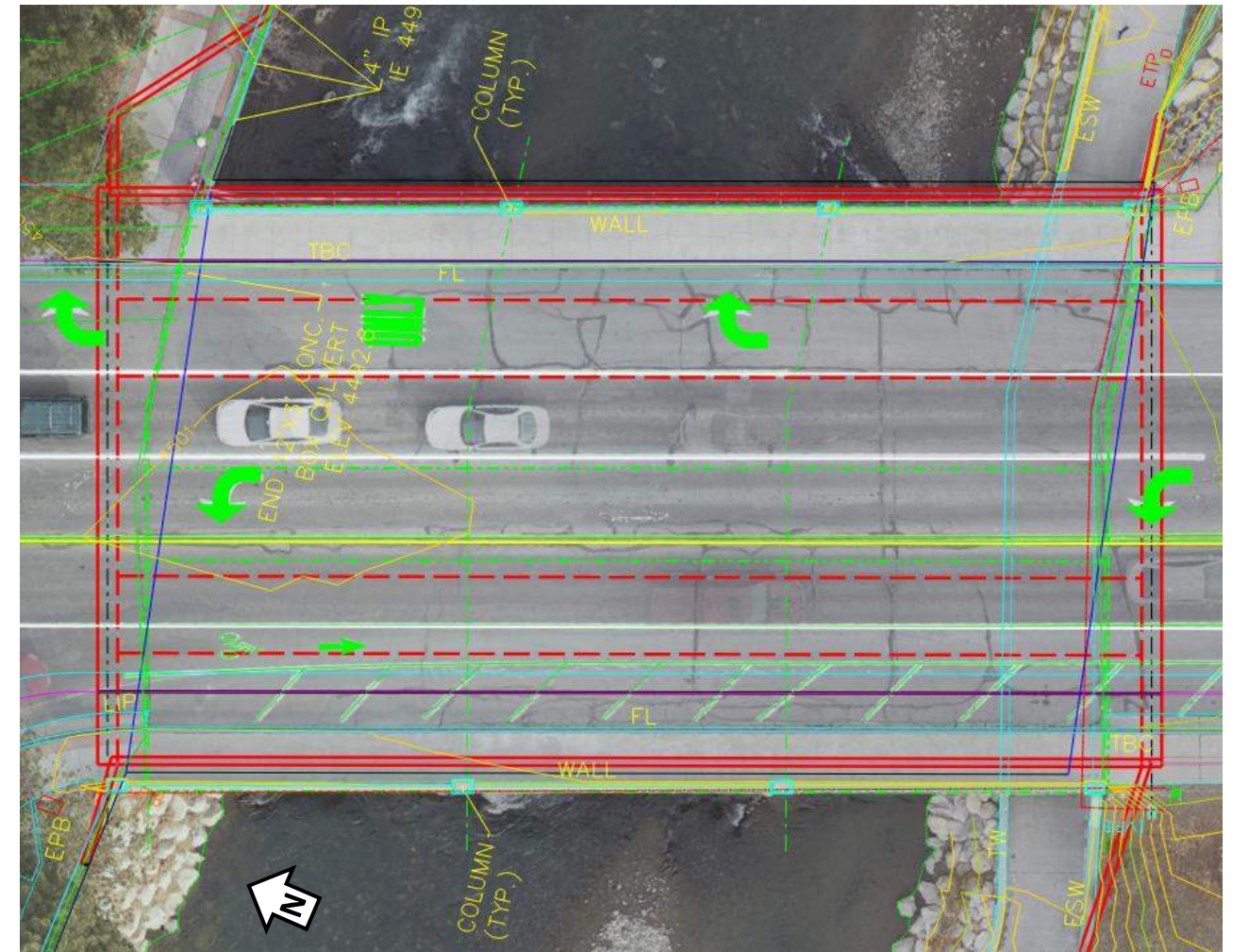
UNDERDECK ARCH CONCEPT

(view looking east)

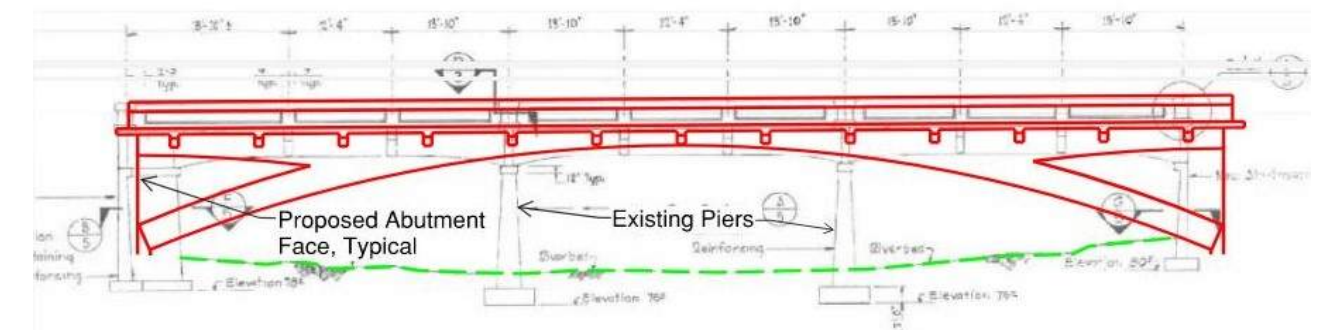


Some things to consider when evaluating the Underdeck Arch Concept:

- 1) Could be considered "more interesting" aesthetically when viewed from the river or park areas.
- 2) Low arch elements, especially near the abutments, will have a greater tendency to collect flood debris.
- 3) Low arch elements near abutments may make it difficult to provide freeboard above flood flows over the full length of the structure and may be prone to collecting debris.
- 4) No in-river center pier to obstruct recreation activities, but low arch elements at abutment may make it difficult to accommodate the existing path beneath the structure. The structure may also adversely impact existing access points.
- 5) River diversions required for abutment and pier removal and for abutment construction.
- 6) Complexities in design and construction will drive costs higher than for more common structure types.
- 7) Complexities in construction may increase cost and schedule risks.
- 8) Atypical construction methods may limit the pool of contractors with appropriate expertise and drive up bid prices.



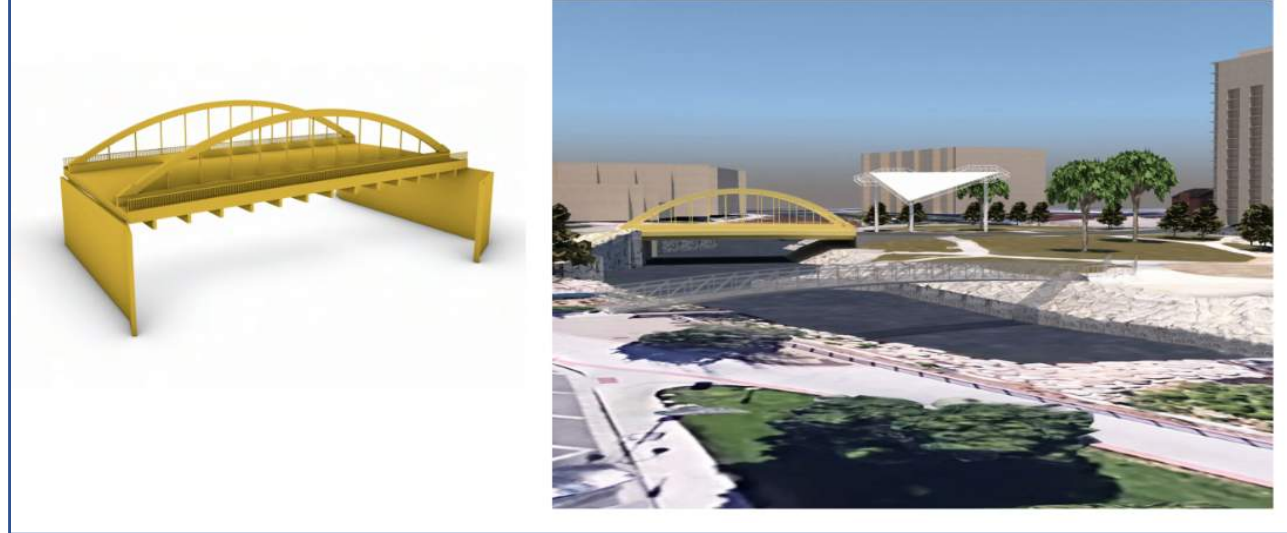
PLAN



ELEVATION

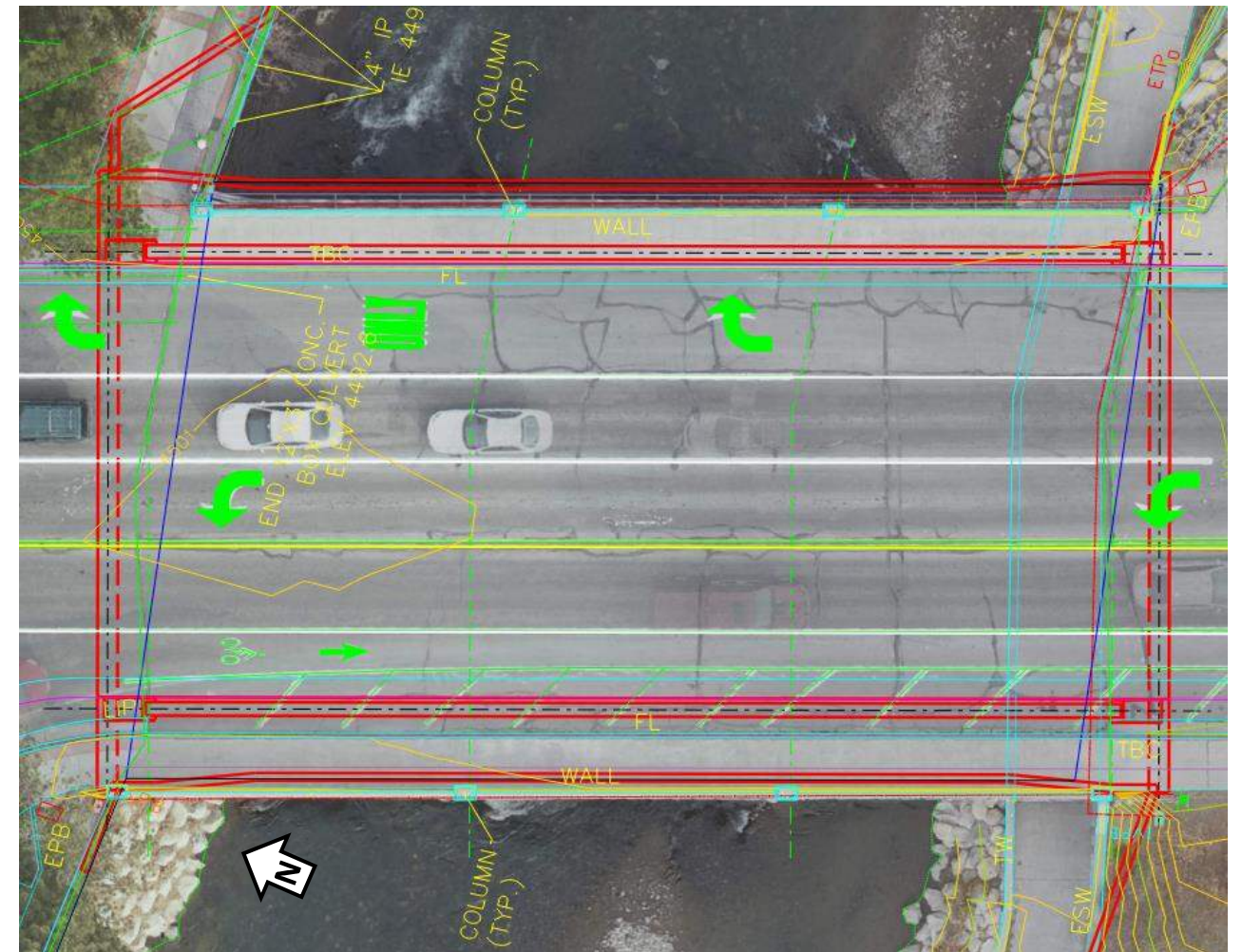
Arlington Avenue Bridges over the Truckee River - Concept Evaluation

TIED ARCH CONCEPT (view looking east)

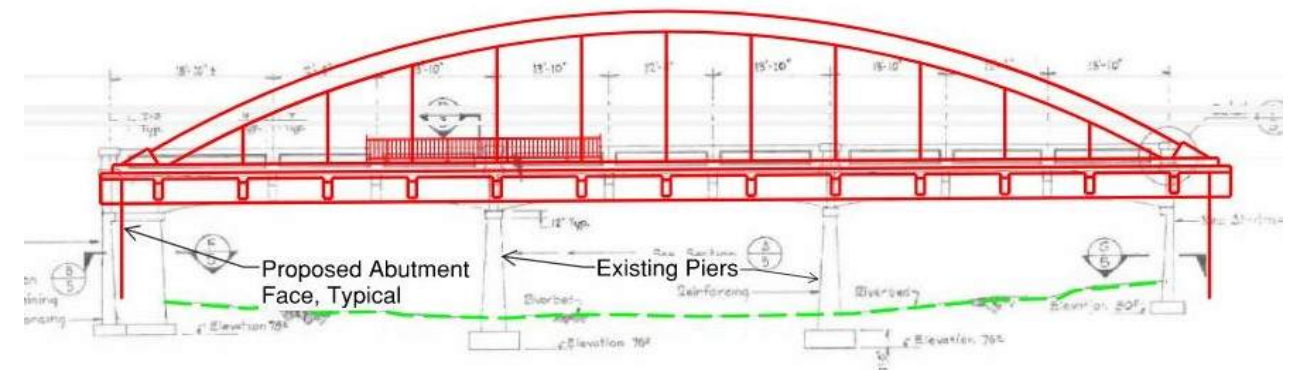


Some things to consider when evaluating the Tied Arch Concept:

- 1) Could be considered "more interesting" aesthetically when viewed at street level from nearby and distant vantage points.
- 2) Deck supported from above, relatively thin deck section optimizes ability to accommodate flood flows without raising roadway profile.
- 3) No in-river center pier to obstruct recreation activities.
- 4) Above-deck arch supports will inhibit equipment access for bridge maintenance and inspection.
- 5) River diversions required for abutment and pier removal and for abutment construction.
- 6) Complexities in design and construction will drive costs higher than for more common structure types.
- 7) Complexities in construction likely to increase cost and schedule risks.
- 8) Specialty construction methods may limit the pool of contractors with appropriate expertise and drive up bid prices.



PLAN

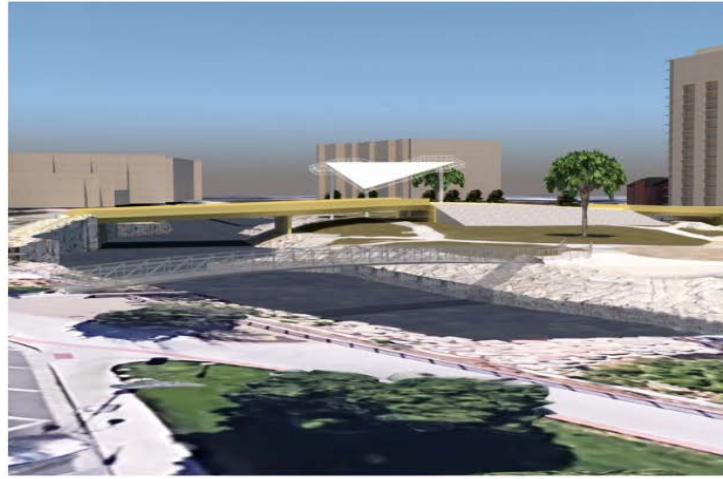


ELEVATION

Arlington Avenue Bridges over the Truckee River - Concept Evaluation

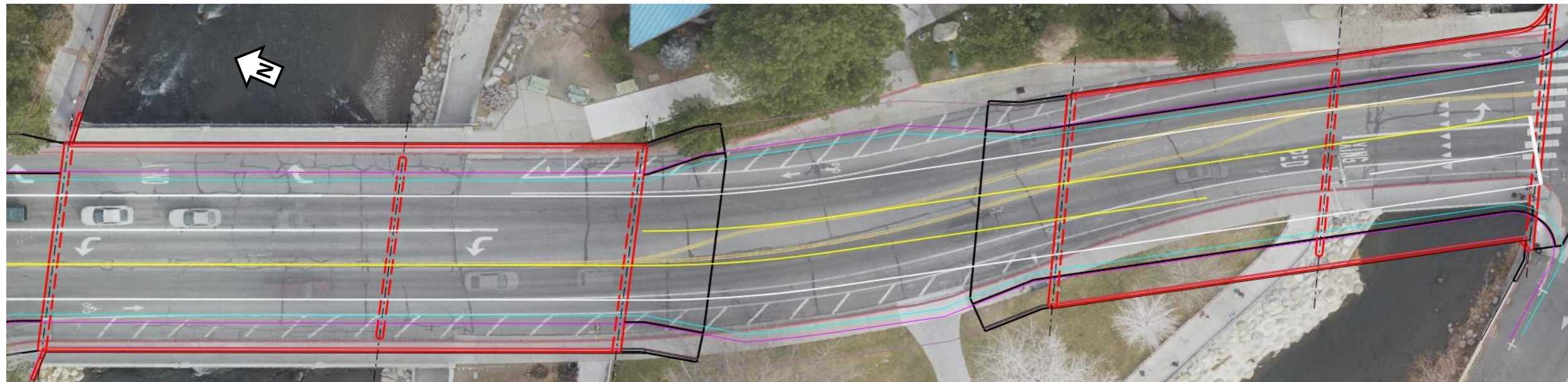
ELEVATED BRIDGE CONCEPT

(view looking east)

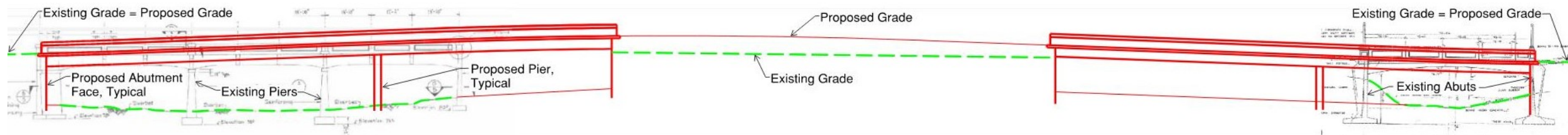


Some things to consider when evaluating the Elevated Bridge Concept:

- 1) Thin overall deck section, longer spans and wider river openings may improve flood conveyance.
- 2) Spans can be accommodated using precast concrete or cast-in-place concrete construction.
- 3) An "open soffit" system (discrete steel I-girders or precast concrete beams) increase the potential to snag flood debris under the bridge.
- 4) A cast-in-place concrete box girder with a "closed soffit" may eliminate the potential to snag flood debris under the bridge but requires temporary shoring/falsework in the river to support construction.
- 5) Longer north and south bridges require reconfiguring some portions of Wingfield Park. More park area may be useable under the longer bridges, but new embankment on elevated profile between bridges would impact existing park facilities.
- 6) Improved in-river pier configuration may reduce the potential for river debris to snag and collect on the structure during lower level flood flows.
- 7) Pier placement avoids main river channel and may not be considered an obstruction for river recreation
- 8) River diversions required for abutment and pier removal and construction.
- 9) Common construction methods familiar to many contractors; more bridge deck area comes with added overall project cost.



PLAN



NORTH BRIDGE

ELEVATION

SOUTH BRIDGE