BYPASS?! We don't need no stinkin' BYPASS!

Speakers:

Kelly Davis, P.E.
Assistant Manager, Engineering Services
Trinity River Authority

Greg Vaughn, P.E.
Associate, Senior Project Manager
Lockwood, Andrews & Newnam, Inc.

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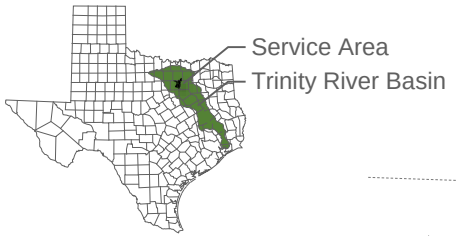
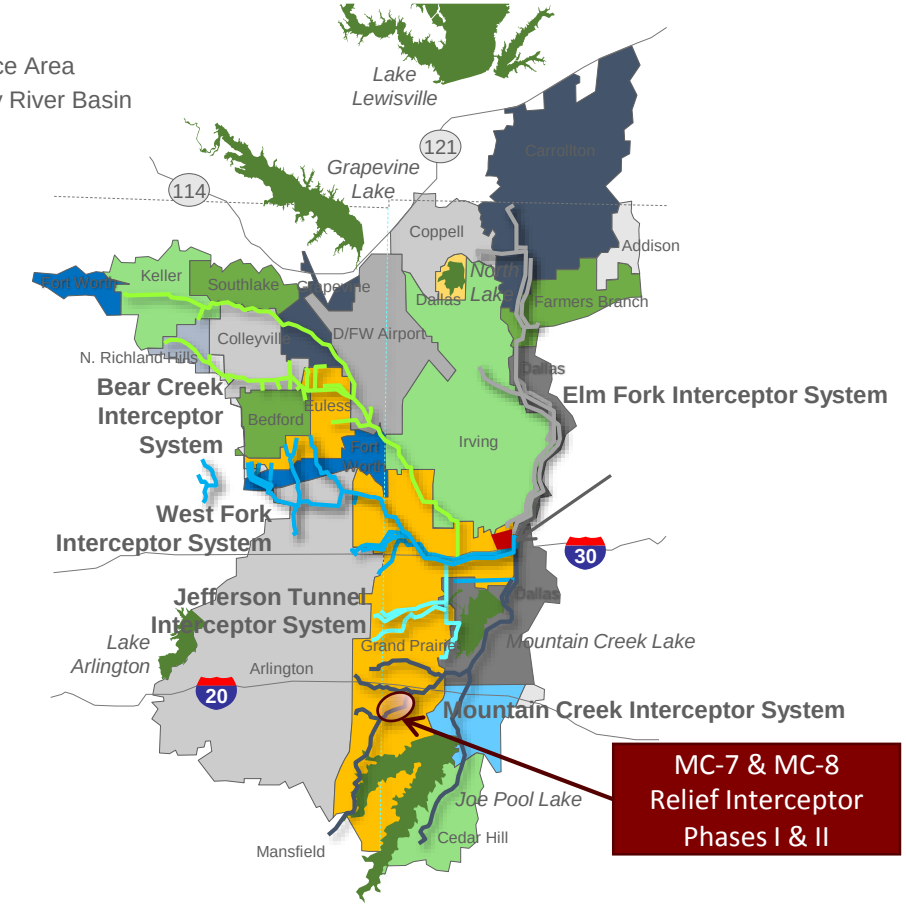
MC-7 & MC-8 Relief Interceptor, Phases I & II Improvements





Contracting Parties	
Irving	1957
Grand Prairie	1957
Farmers Branch	1957
Dallas	1957
Carrollton	1967
Arlington	1973
Bedford	1973
Euless	1973
D/FW Airport	1973
Mansfield	1973
Grapevine	1974
Colleyville	1975
N. Richland Hills	1975
Hurst	1975
Coppell	1976
Fort Worth	1976
Keller	1984
Duncanville	1984
Cedar Hill	1985
Southlake	1988
Addison	1996

- 15,800 LF of relief interceptor
  - Capacity and condition improvement
- Constructed in two phases to accommodate TxDOT IH-20 frontage roads project
- Phase I – 7,700LF of 72- to 78-inch pipeline
  - Substantially complete – site restoration remains
  - Two locations with bypass free flow diversion
- Phase II – 8,100 LF of 72-inch pipeline
  - 7,000 LF by open-cut
  - 1,100 LF by bore / tunnel
  - Awarded $13.9M construction contract to Circle C Construction Company in October 2019
  - Two locations with bypass free flow diversion

MC-7 & MC-8 Relief Interceptor, Phases I & II

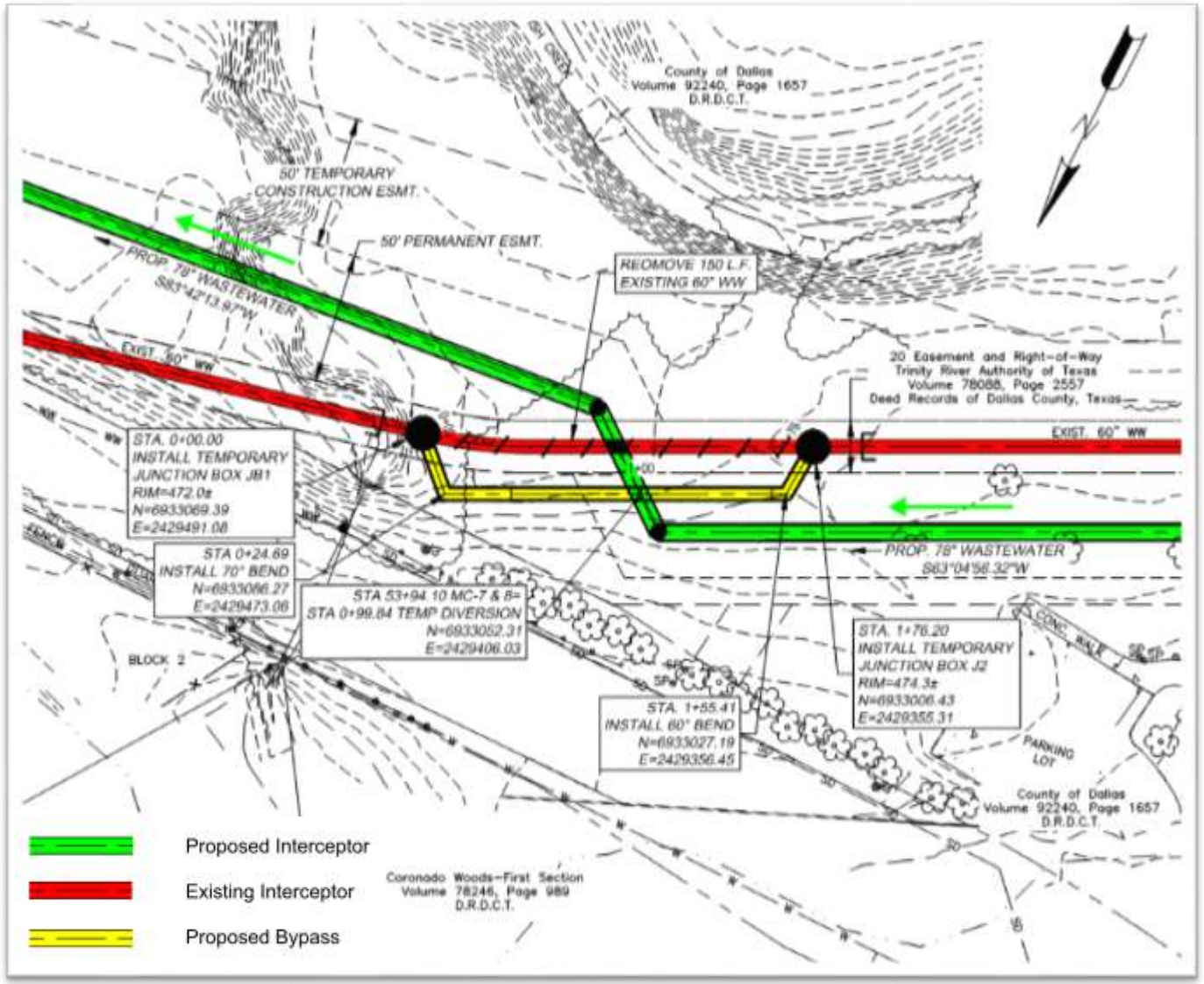
Gravity Flow Diversion Compared to Traditional Bypass

Pros	Cons
• Reduces risk of surface spills and contamination • Reduces the requirement of a large staging area to be used for pumping • Removes the requirement for 24/7 monitoring of pumps • Accommodates all forecasted flows • Removes the potential of mechanical or pipe failure caused by long term pumping • In large diameter applications, results in significant cost savings when compared to traditional bypass pumping	• Requires installation of expensive piping that will ultimately be abandoned • Bypass pumping is still required during installation of some gravity flow diversion approaches • Potential for clogging if left in place for too long

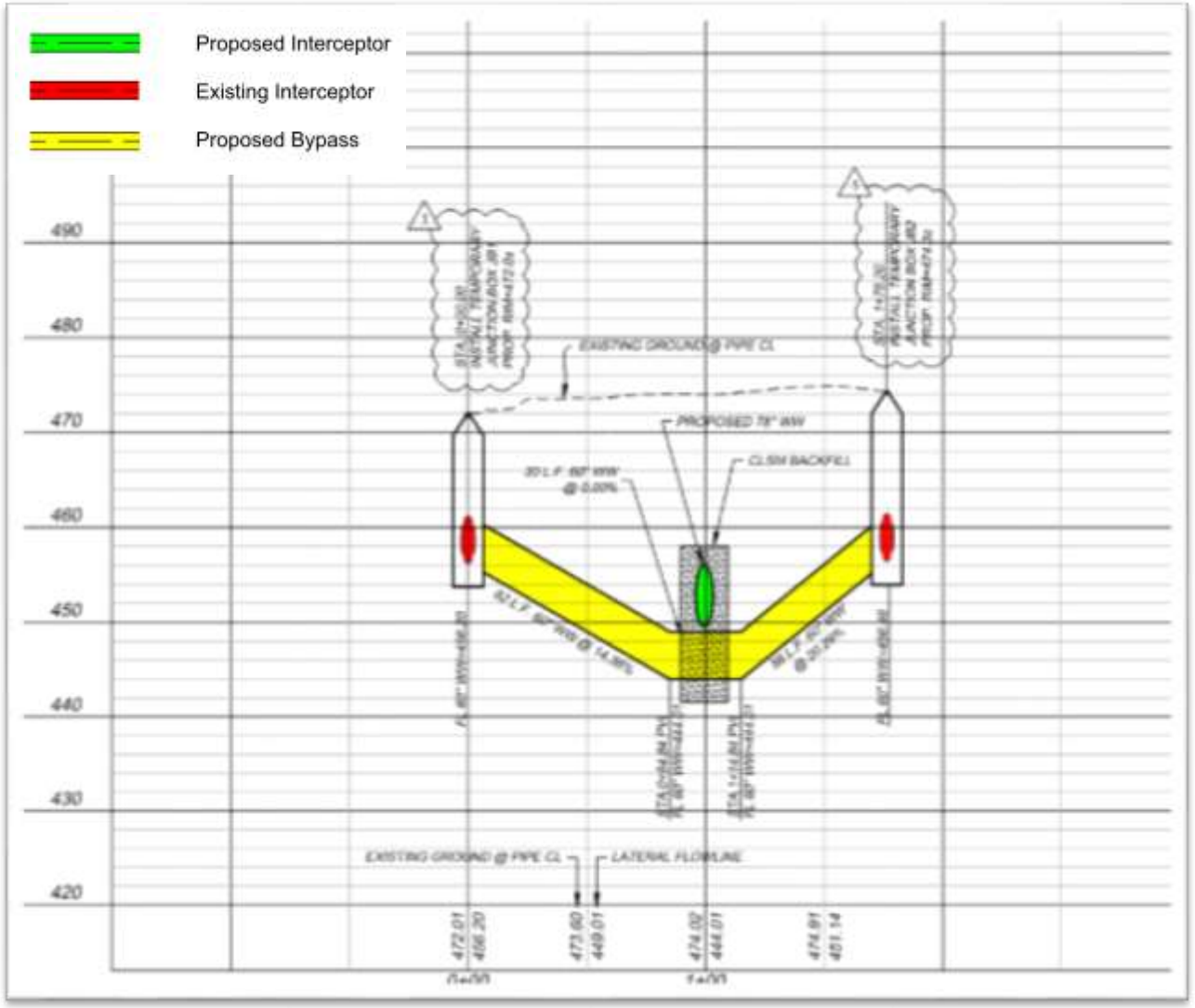
60-inch Flow Diversion at Crossland Blvd.

- A conflict in elevation between the existing 60-inch interceptor and the proposed 78-inch interceptor necessitated the need for this bypass.
- A 60-inch siphon, 180 linear feet long was constructed to provide temporary, gravity flow diversion.
- This flow diversion needed to accommodate 110 MGD of flow, at peak wet weather.
- Initial estimates of bypass pumping the existing flow were $200,000 per month with an additional $100,000 set up cost.
    - This high cost and client concerns with the safety and operation of this bypass pumping resulted in LAN researching the cost, constructability, and safety of a gravity flow diversion at this location.
- The average bid for the construction, installation and removal of the gravity flow diversion was $93,000.

60-inch Flow Diversion at Crossland Blvd.



60-inch Flow Diversion at Crossland Blvd.



60-inch Flow Diversion at Crossland Blvd.

Upstream View of the Bypass Installed at Crossland Blvd.

60-inch Flow Diversion at Crossland Blvd.

Downstream View of the Bypass Installed at Crossland Blvd.

60-inch Flow Diversion at Crossland Blvd.

Tinhorn Manhole Installed at Both Ends of Bypass

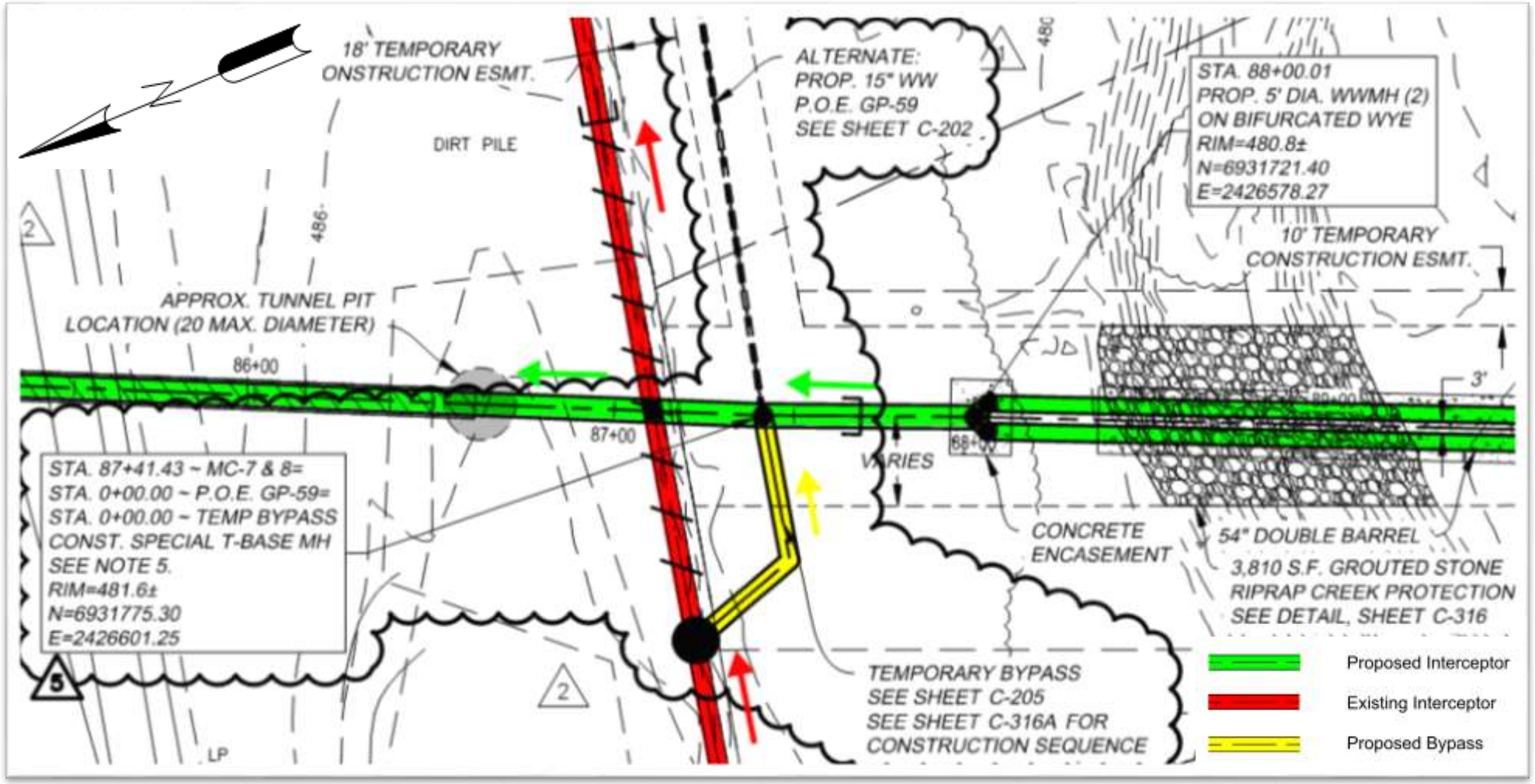
60-inch Flow Diversion at Crossland Blvd.

View of Plug Installed in Interceptor

60-inch Flow Diversion at Crossland Blvd.

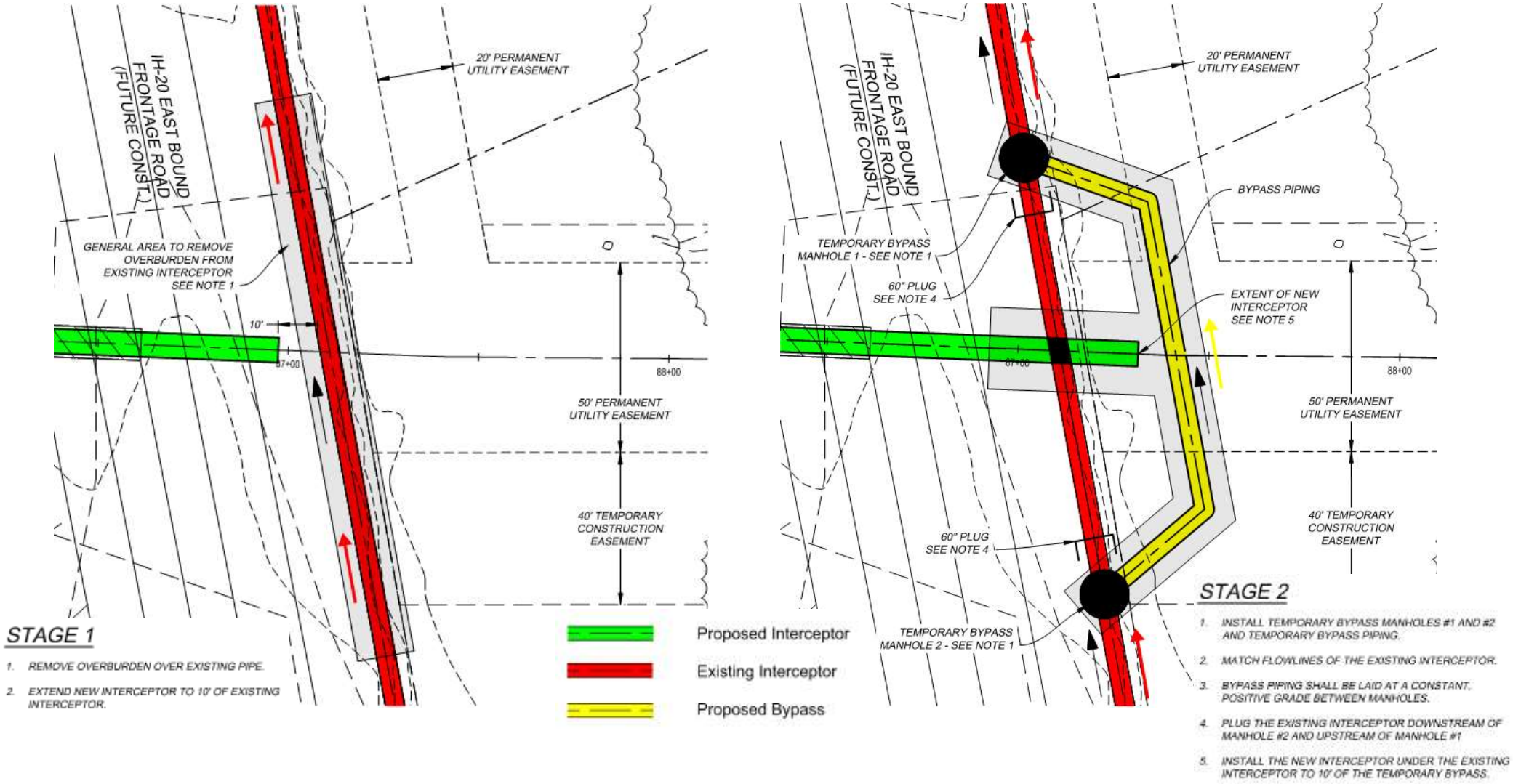
View of Installation Between the Ends of the Bypass

60-inch Flow Diversion at IH-20

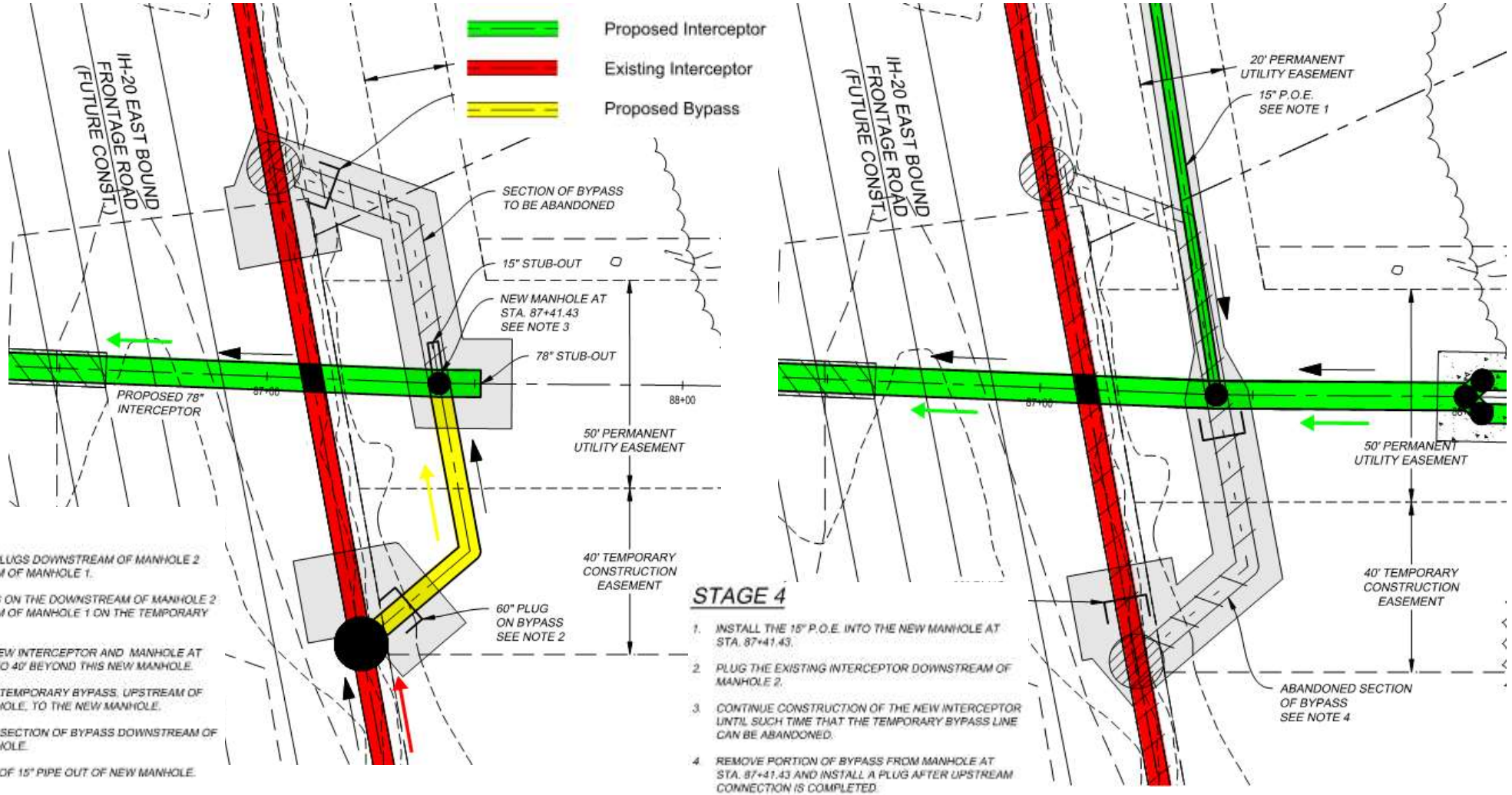


Original Design Proposal

60-inch Flow Diversion at IH-20 - Sequence



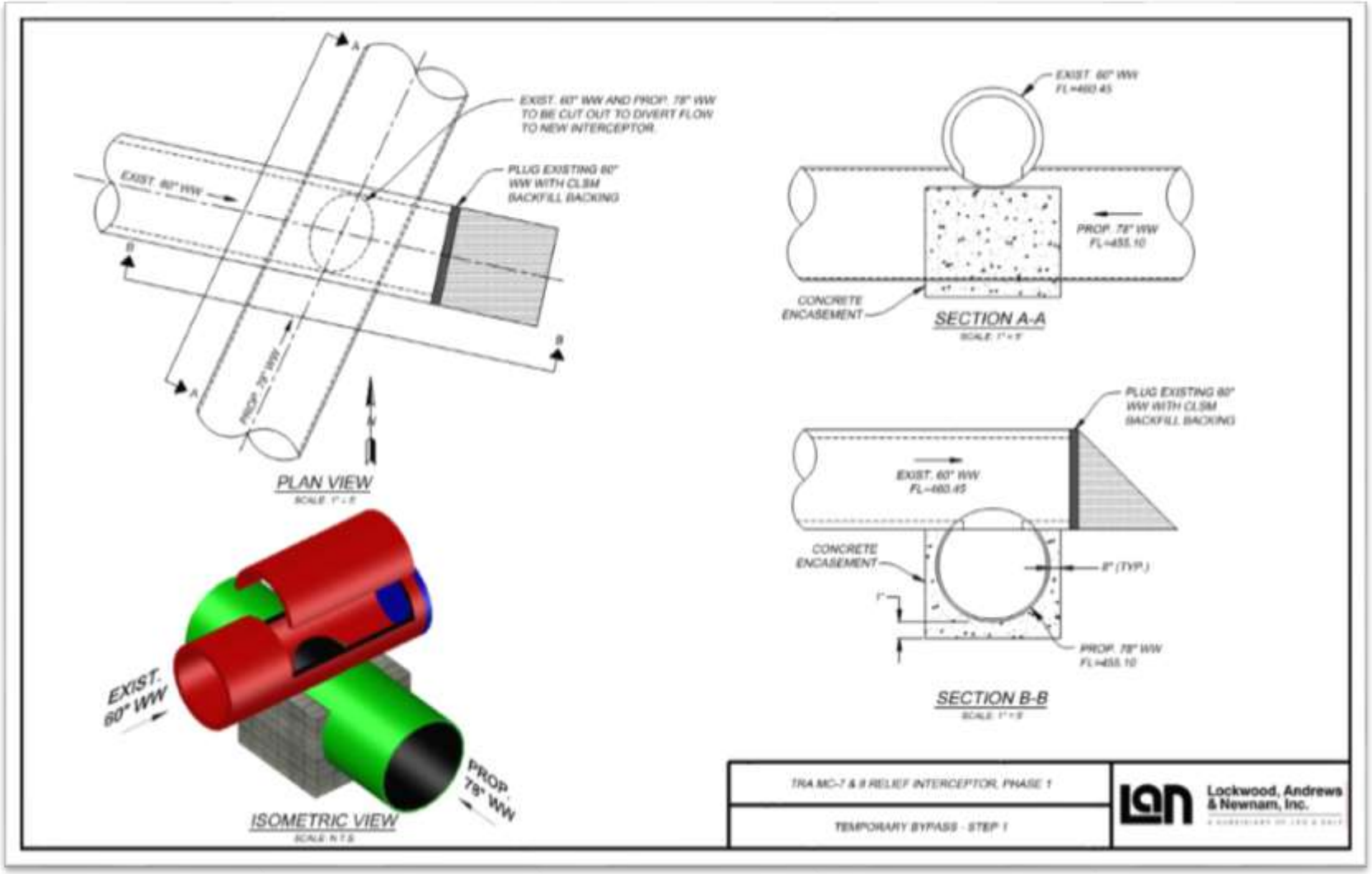
60-inch Flow Diversion at IH-20 - Sequence



60-inch Flow Diversion at IH-20

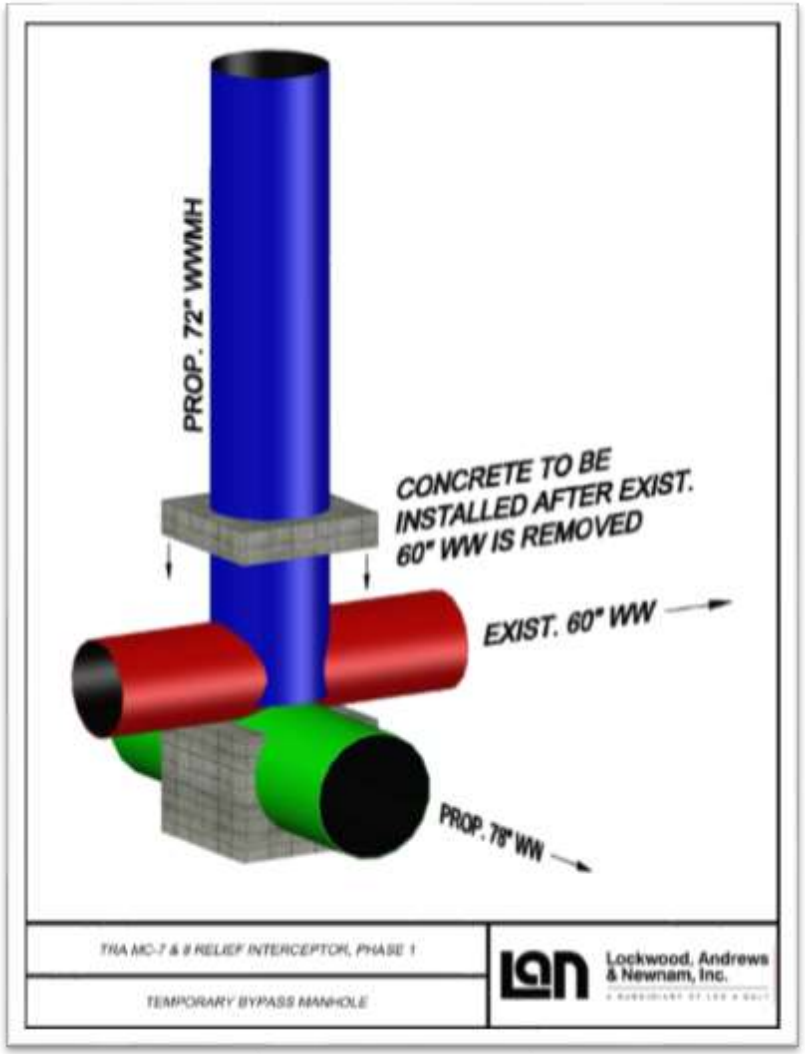
- A conflict in elevation between the existing 60-inch interceptor and the proposed 78-inch interceptor necessitated the need for this bypass.
- A 60-inch siphon, 300 linear feet long was constructed to provide temporary, gravity flow diversion.
- This flow diversion needed to accommodate 110 MGD of flow, at peak wet weather.
- Initial estimates of bypass pumping the existing flow were $200,000 per month with an additional $100,000 set up cost.
    - This high cost and client concerns with the safety and operation of this bypass pumping resulted in LAN researching the cost, constructability, and safety of a gravity flow diversion at this location.
- The average bid for the construction, installation and removal of the gravity flow diversion was $93,300.
- Changes due to field conditions required changes to the flow diversion design, resulting in a final cost of $135,000.

60-inch Flow Diversion at IH-20



Change During Construction

60-inch Flow Diversion at IH-20



Implemented Installation at Bypass

60-inch Flow Diversion at IH-20

View of 78” WWMH From Above

60-inch Flow Diversion at IH-20

View of 78” WWMH From Above

60-inch Flow Diversion at IH-20

View of 78” WWMH From Above

60-inch Flow Diversion at IH-20

View of 78” WWMH From Above

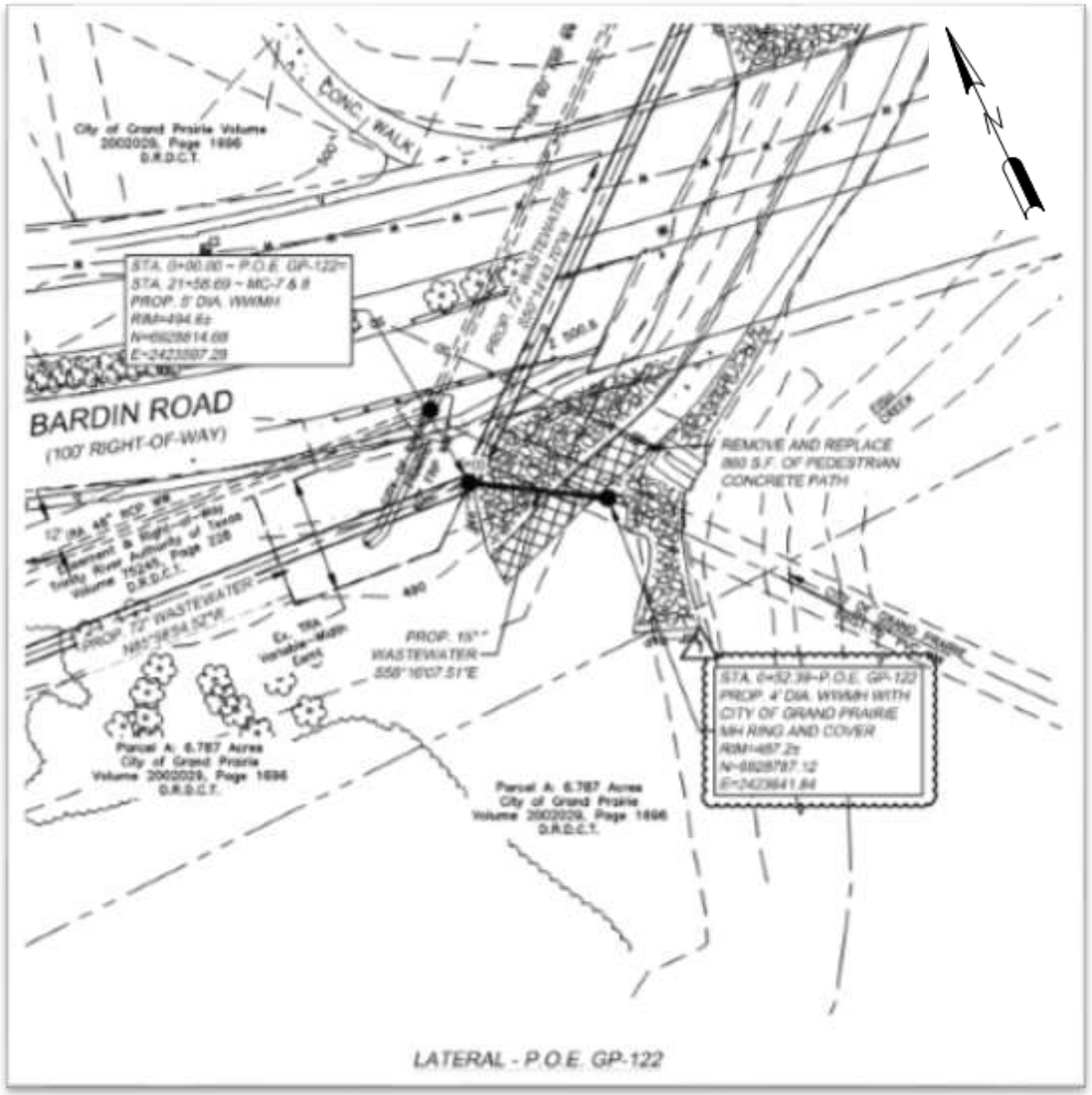
60-inch Flow Diversion at IH-20

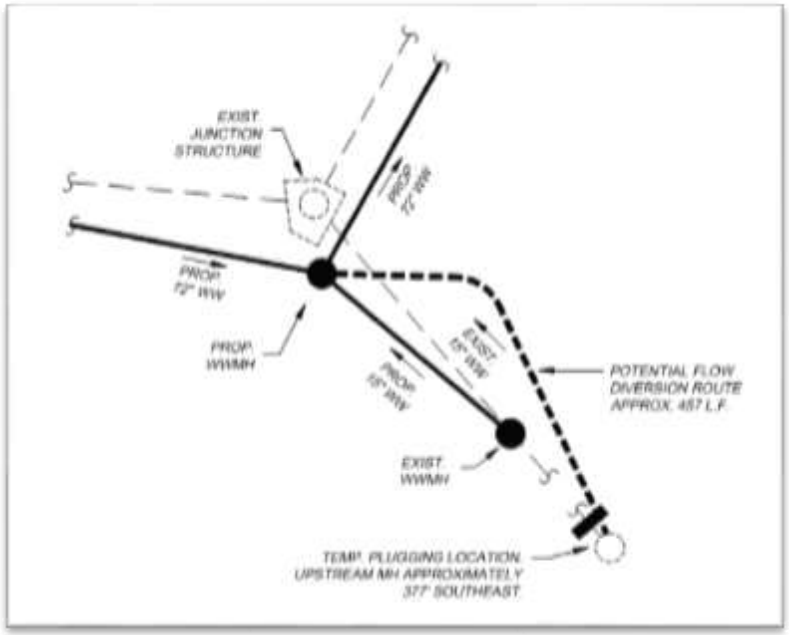
Entrance for 60” Flow

60-inch Flow Diversion at IH-20

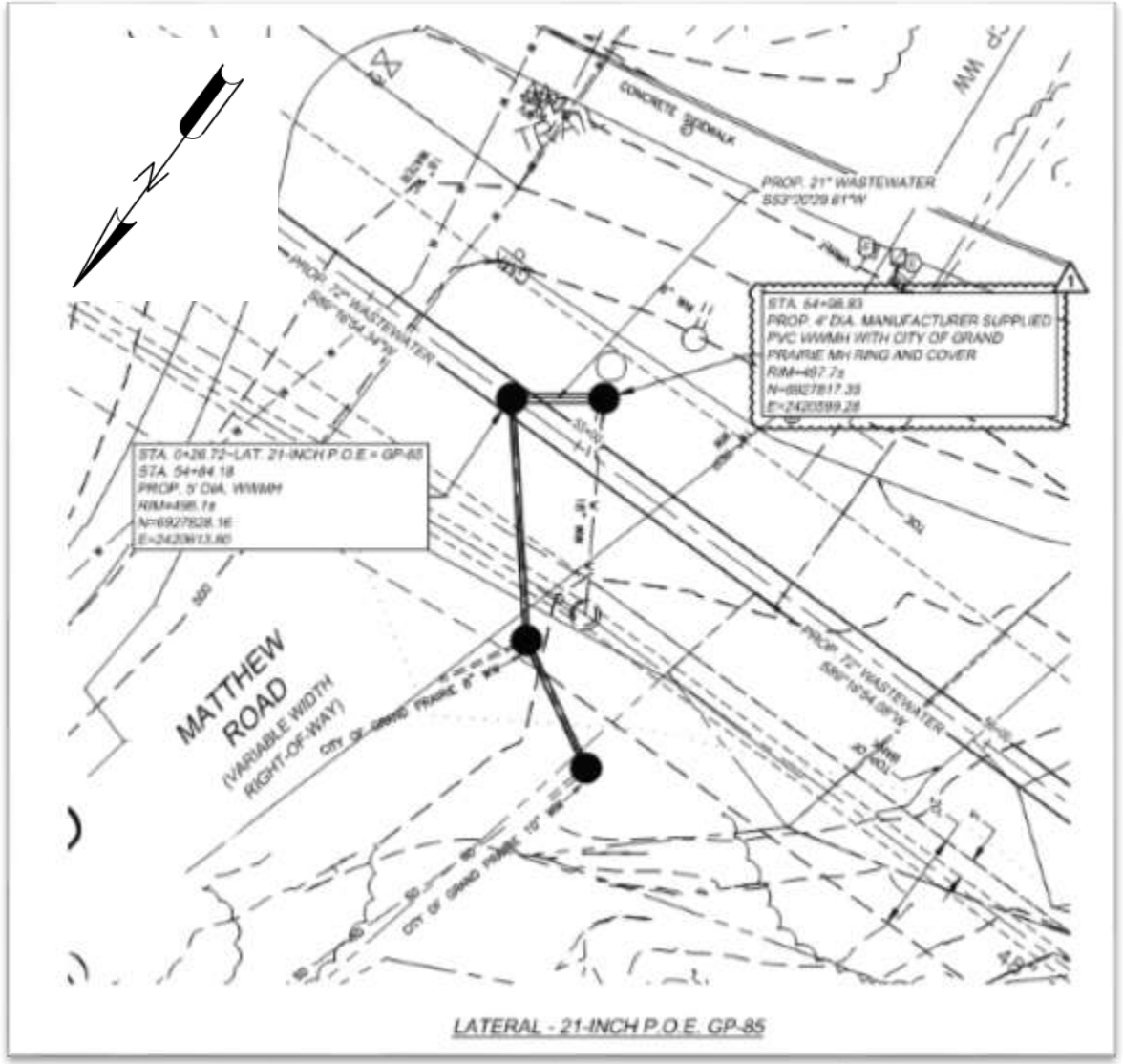
Connection to Existing 60” Interceptor

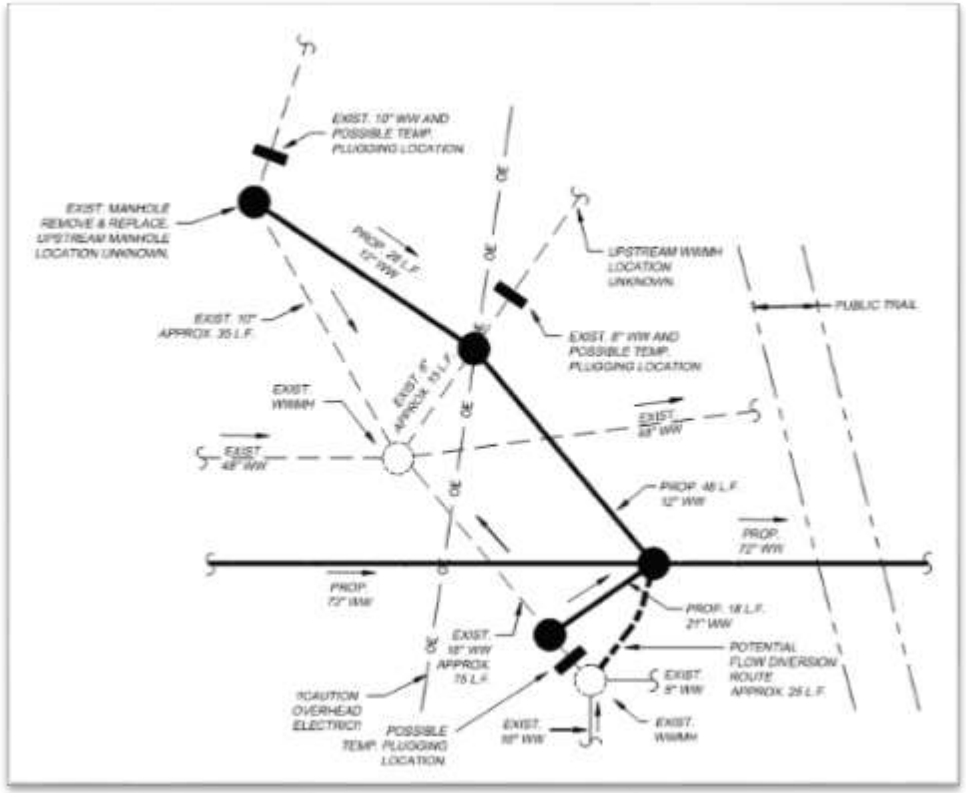
Proposed 15-inch Flow Diversion at Bardin Road (Phase II, 2021)



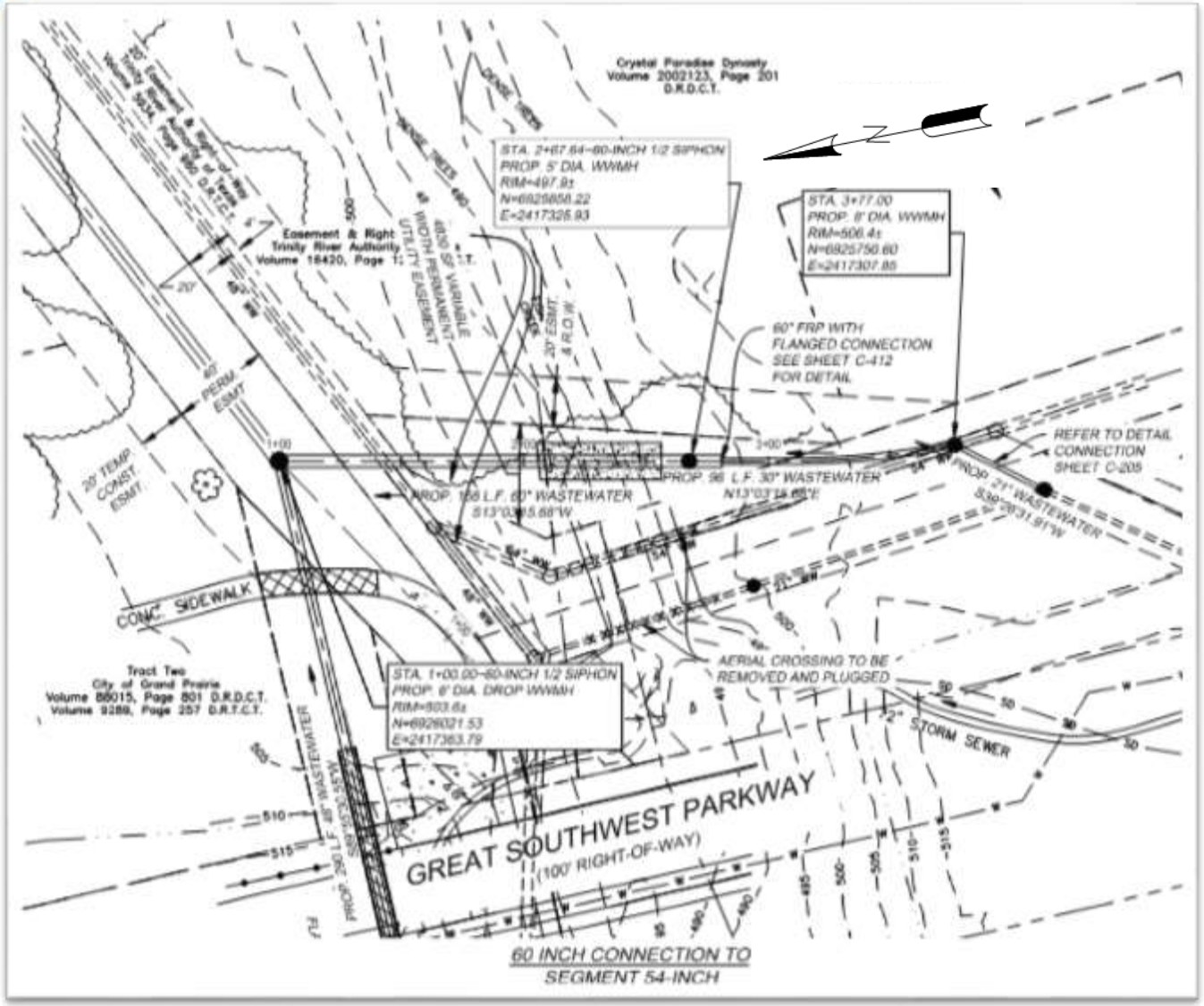


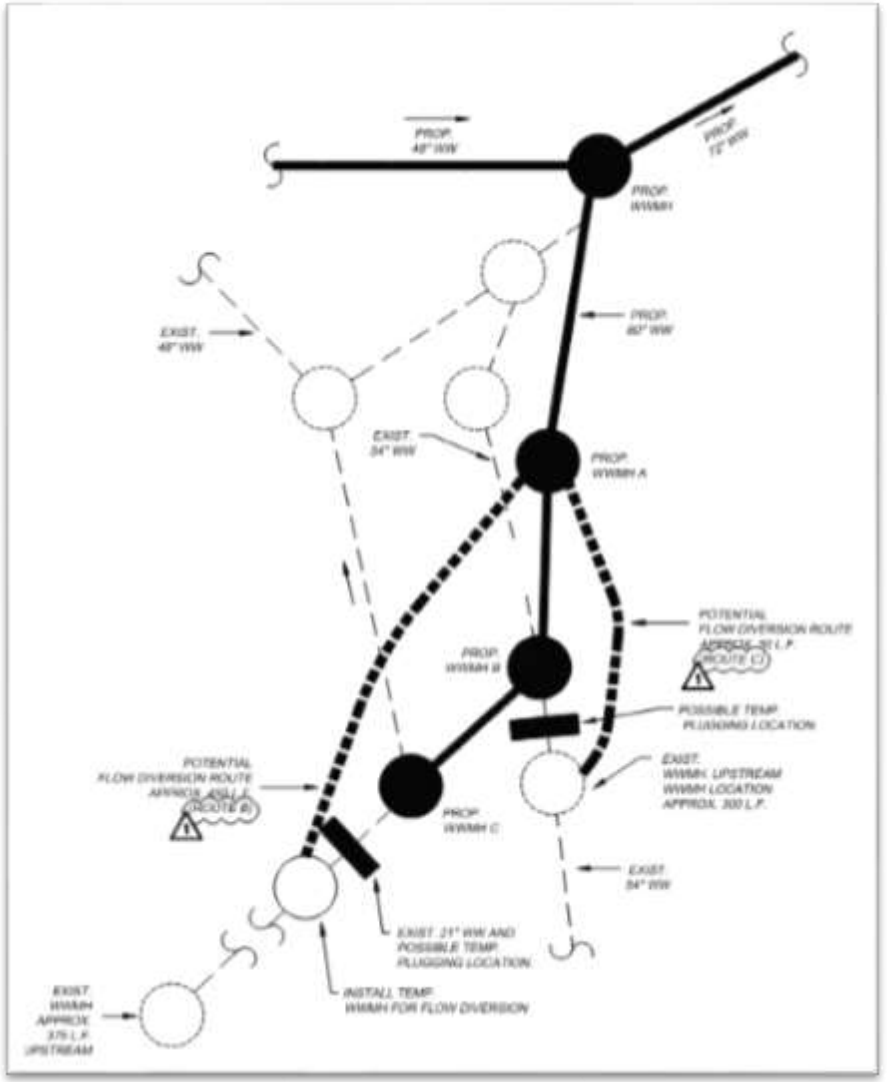
Proposed 18-inch Flow Diversion at Matthew Road (Phase II, 2021)



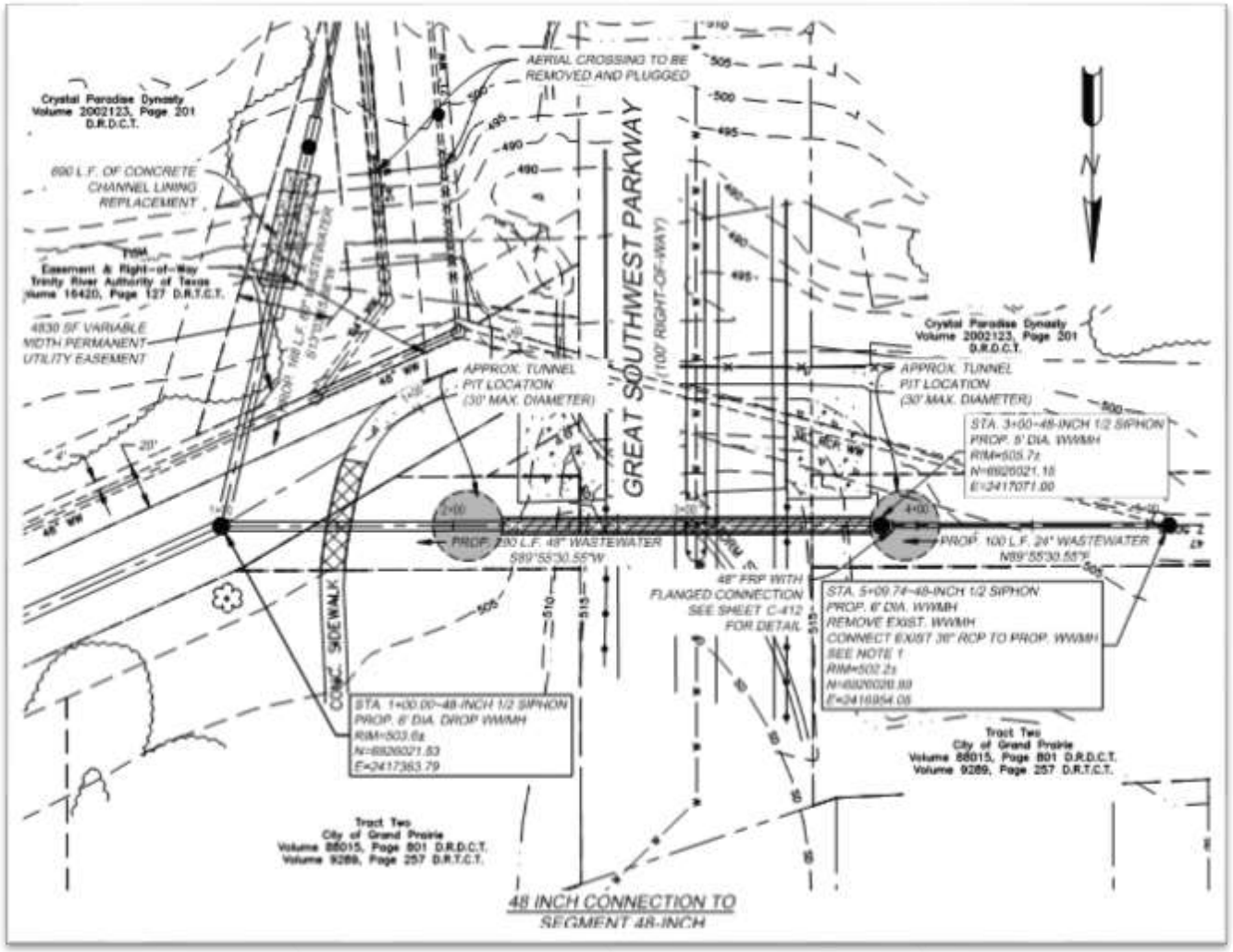


Proposed 54-inch and 21-inch Flow Diversion at GSW Parkway (Phase II)

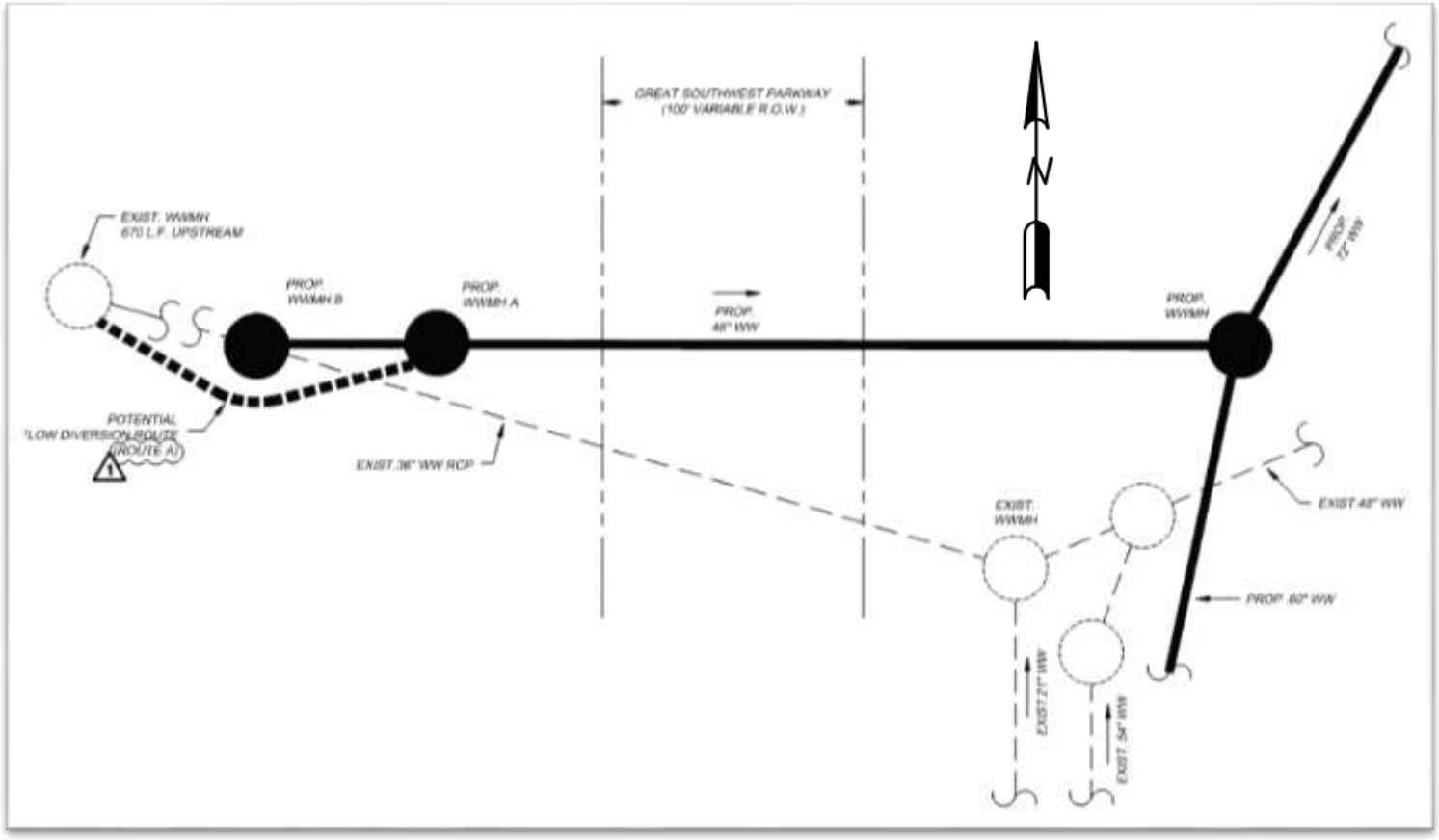




Proposed 36-inch Flow Diversion at GSW Parkway (Phase II)



Proposed 36-inch Flow Diversion at GSW Parkway (Phase II)



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