

Wycliffe Avenue Reconstruction Project Wycliffe Working Group Meeting Construction and Traffic

Thursday, February 6, 2025

2:00 PM – 4:00 PM



Agenda

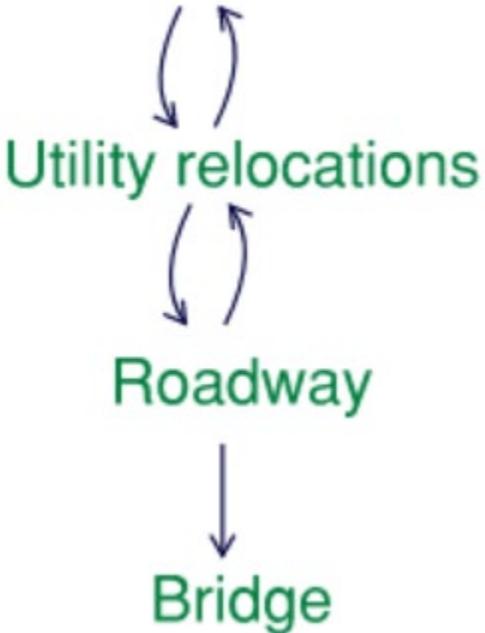
- Construction Sequencing
 - Original sequence philosophy
 - Alternative sequencing
 - Constructability considerations

Construction Sequencing

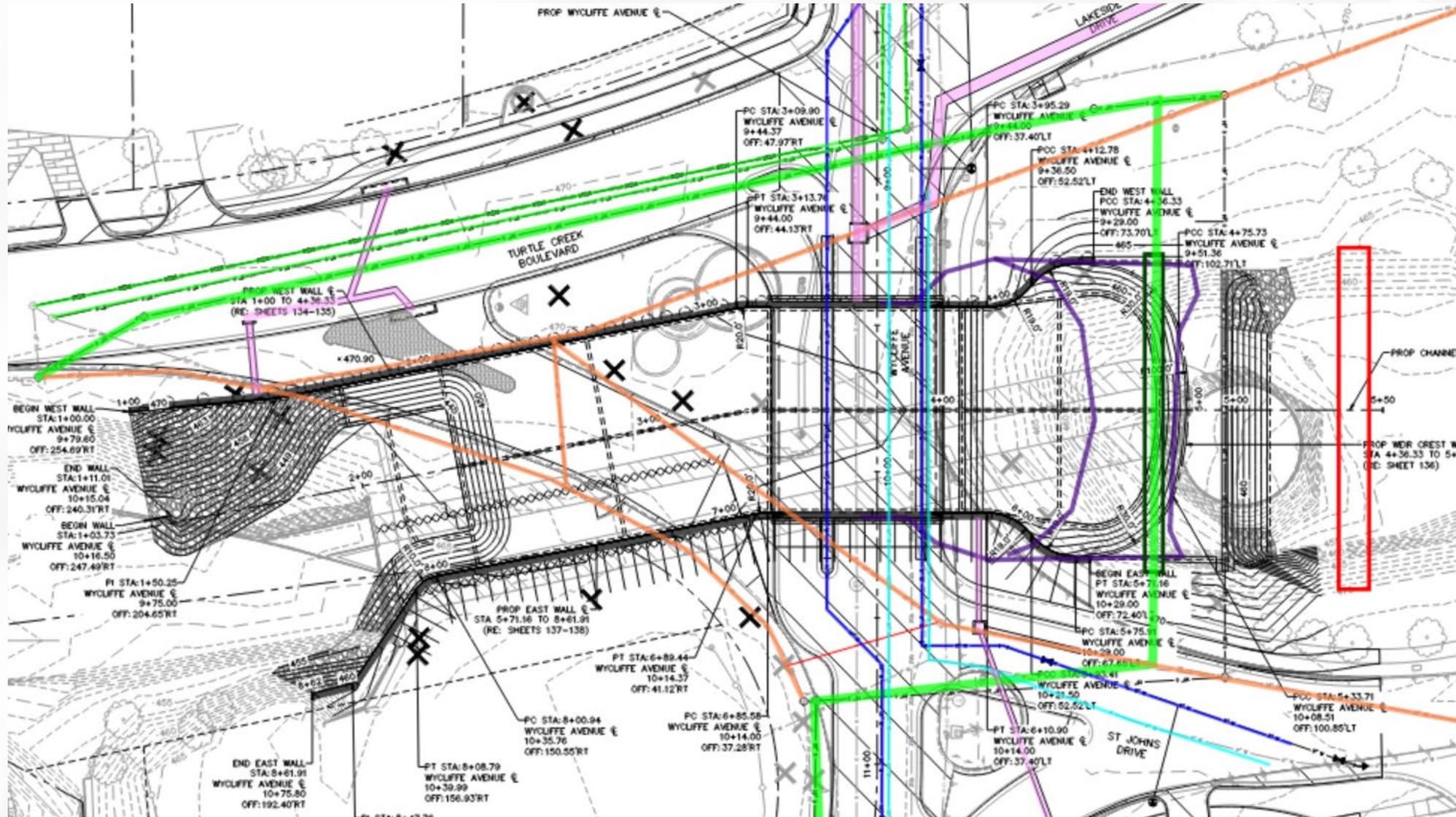
- Project sequencing philosophy

Current Approach	Potential Alternative
<p data-bbox="389 694 1281 851">Prioritize working downstream to upstream on channel-to-dam improvements, with other project elements timed as required</p> <p data-bbox="486 979 1184 1022">Key focus: storm water conveyance</p>	<p data-bbox="1330 694 2211 908">Prioritize maintaining one lane of traffic on Fitzhugh/Wycliffe, resulting in bridge structure being constructed first above future channel/dam area</p> <p data-bbox="1556 979 1984 1022">Key focus: traffic flow</p>

Construction Sequencing

Current Approach	Potential Alternative
<p data-bbox="499 501 1230 558">Channel/dam construction</p>  <pre data-bbox="631 586 1116 1219">graph TD; A[Channel/dam construction] <--> B[Utility relocations]; B <--> C[Roadway]; C --> D[Bridge]</pre>	<p data-bbox="1556 539 1972 596">Build bridge first</p>  <pre data-bbox="1352 611 2142 1219">graph TD; A[Build bridge first] <--> B[Utility relocations]; A <--> C[Roadway]; B <--> C; C --> D[Channel/dam]</pre> <p data-bbox="1544 1068 2040 1196">Conflicts/risk with new bridge Flood water obstruction Partial closures required</p>

Construction Sequencing



Construction Sequencing

- Comparisons between current approach and potential alternative
 - Impacts to area during rain events
 - Bridge construction
 - Roadway construction
 - Water line replacement
 - Sanitary sewer relocations
 - Traffic control on adjacent streets

Impacts to area during rain events

Current Approach	Potential Alternative
Water overtops roadway/inundates channel work area if rain even occurs during work	If bridge is in place prior to channel excavation, new bridge creates obstruction in current overtopping pathway, leading to negative upstream impacts (increased water levels and upstream flooding)

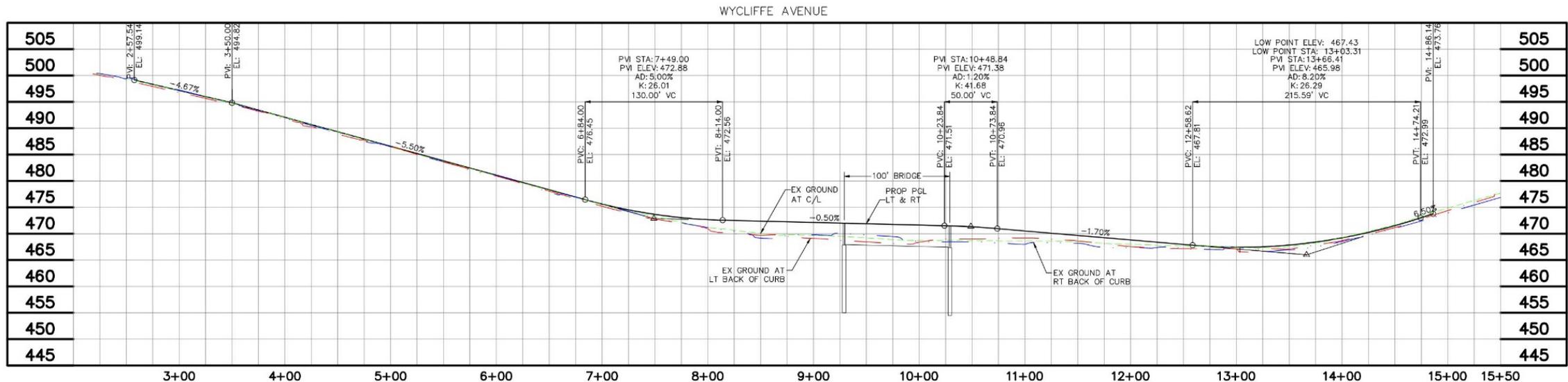
- **Insert graphic of raised WSE**

Bridge construction

Current Approach	Potential Alternative
Bridge drilled piers installed in single mobilization; cast-in-place bridge deck	Bridge installed in multiple mobilizations; temporary safety measures required to allow traffic on constructed side

Roadway construction

Current Approach	Potential Alternative
Full-depth roadway replacement to adjusted grades to meet 30" bridge elevation increase	Full-depth roadway replacement in "halves" sequenced with utility replacement and lane openings; wire basket/geofabric or retaining structure required to allow traffic on in-service half



Water line replacement

Current Approach	Potential Alternative
Water line replacements trenched under channel in conjunction with channel construction (potentially open-cut installation)	Water line replacements installed by deep trench open cut prior to bridge installation, or by trenchless methods before or after bridge installation. Option for on-bridge attachment if extended water outages are feasible (existing water lines likely decommissioned prior to new bridge installation).

Sanitary sewer relocations

Current Approach	Potential Alternative
<p>Gravity sanitary sewer lines relocated/replaced prior to or in conjunction to channel construction. Temporary bypass pumping required.</p>	<p>Town eastern gravity sewer line conflicts with bridge; extended upstream bypass pumping required during bridge + dam construction. Partial short shutdowns required for crossing sanitary sewer relocations.</p>

Traffic control on adjacent streets

Current Approach	Potential Alternative
Potential to convert Avondale from eastbound to two-way traffic; westbound Wycliffe closed during heavy channel construction prior to bridge installation.	Maintain Avondale as eastbound; keep one lane of Wycliffe westbound open as able (periodic shutdowns still required). Evaluate traffic queueing from Oak Lawn.



Project Drivers

No.	Technical Goal	Driver
1	Reduce dam classification from high to low hazard	<ul style="list-style-type: none">• Public safety and liability• Annual regulatory burden• Maintaining high hazard still requires improvements
2	Pass the 100-year storm event without overtopping Wycliffe Avenue	<ul style="list-style-type: none">• Public safety• Outside funding acquired to eliminate overtopping
3	Remove structures and reduce limits of the 100-year floodplain	<ul style="list-style-type: none">• Settlement agreement• Generally desirable to reduce floodplain on properties
4	Maintain existing water level of Connor Lake	<ul style="list-style-type: none">• Aesthetic impacts• Environmental: exposed streambank would have to be improved (added cost)
5	Conform with USACE's Nationwide Permit Program	<ul style="list-style-type: none">• Triggering an Individual Permit would extend project schedule and add cost for offsite mitigation

Project Drivers

No.	Technical Goal	Driver
1	Reduce dam classification from high to low hazard	<ul style="list-style-type: none">• Public safety and liability• Annual regulatory burden• Maintaining high hazard still requires improvements



Hazard	Description
Low	No loss of human life is expected
Significant	Loss of human life is possible <ul style="list-style-type: none">• 1 to 6 lives• 1 or 2 habitable structures in the inundation area
High	Loss of human life is expected

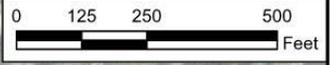
Project Drivers

No.	Technical Goal	Driver
2	Pass the 100-year storm event without overtopping Wycliffe Avenue	<ul style="list-style-type: none"><li data-bbox="1281 448 1582 491">• Public safety<li data-bbox="1281 505 2326 548">• Outside funding acquired to eliminate overtopping

Project Driver

No.	Technical Goal	Driver
3	Remove structures and reduce limits of the 100-year floodplain	<ul style="list-style-type: none">• Settlement agreement• Generally desirable to reduce floodplain on properties

- Comply with requirements of the settlement agreement
- Do not increase limits of floodplain on private property



Kimley-Horn
 13455 Noel Road, Suite 700
 Dallas, TX 75240
 (972) 770-1300 Phone
 (972) 770-1300 Fax
 Engineering Firm Registration No. E-928



City of Highland Park, Texas
WYCLIFFE AVE DAM

2D Hydraulic Workmap

DATE:	FEBRUARY 2025
DESIGN:	MDJ, JKL
DRAWN:	JKL
CHECKED:	SDG
KH NO.:	064474683

SHEET
1

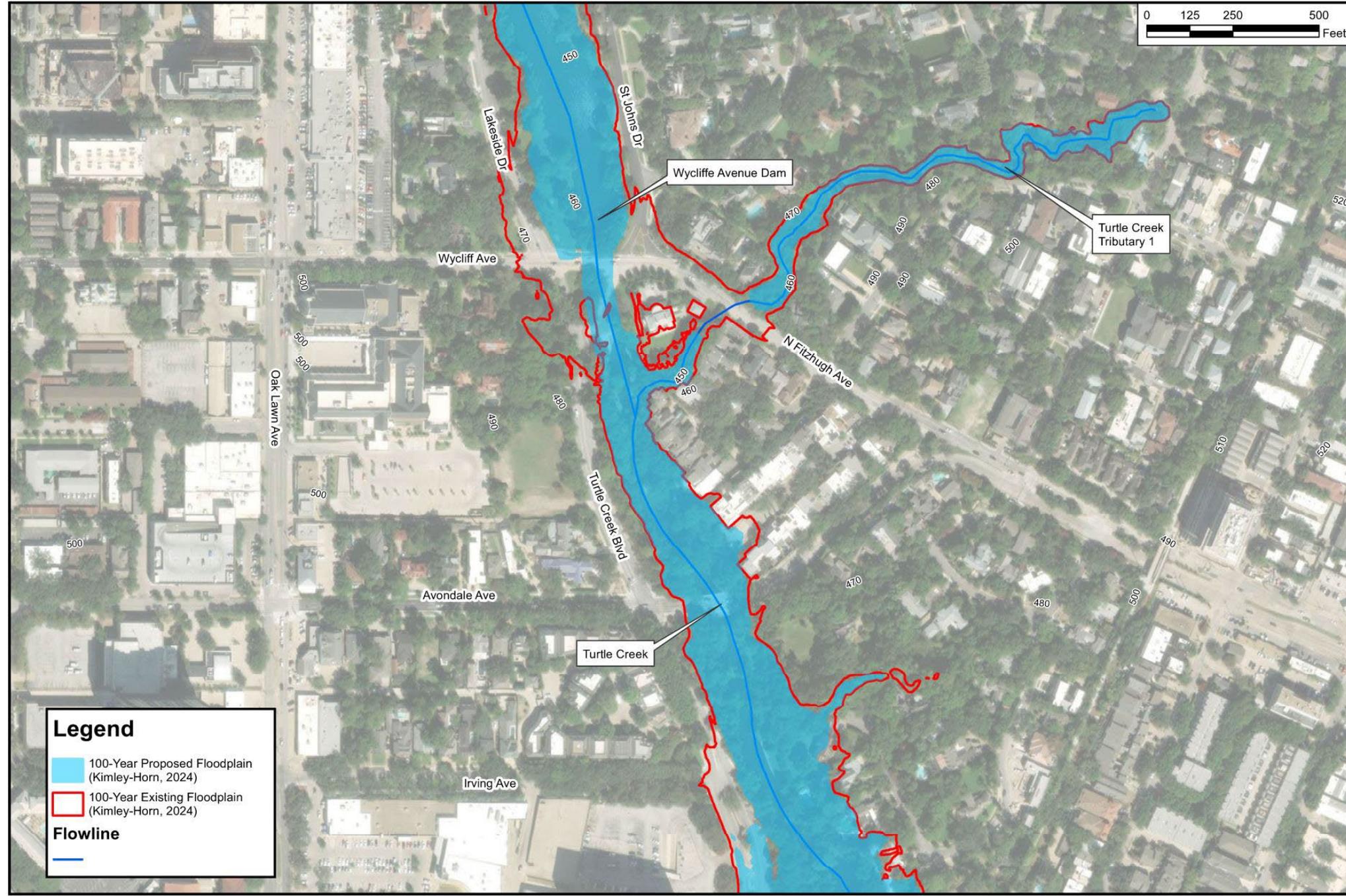
X:\DIAL_CRSDIAL_Hydra\064474683 - Wycliffe EPA\07_Ermitas\100-YR Proposed Floodplain Workmap.mxd

Legend

- 100-Year Proposed Floodplain (Kimley-Horn, 2024)
- 100-Year Existing Floodplain (Kimley-Horn, 2024)

Flowline

-



Project Drivers

No.	Technical Goal	Driver
4	Maintain existing water level of Connor Lake	<ul style="list-style-type: none"><li data-bbox="1281 448 1684 491">• Aesthetic impacts<li data-bbox="1281 504 2339 604">• Environmental: exposed streambank would have to be improved (added cost)



Project Drivers



No.	Technical Goal	Driver
5	Conform with USACE's Nationwide Permit Program	<ul style="list-style-type: none">Triggering an Individual Permit would extend project schedule and add cost for offsite mitigation

- Nationwide Permit ensures that project results in only minimal adverse environmental impacts on waters of the United States
- “Allowed” to disturb up to a threshold area before an Individual Permit is required

Nationwide Permit

- 6-9 Months
- Permits are pre-approved

Individual Permit

- 18-24 Months
- Requires alternative analysis
- Requires offsite mitigation
 - Stream Mitigation = \$1,300/linear foot
 - Wetland/Pond Mitigation = \$70,000/acre
- No guarantee that USACE will issue permit

Funding Sources

Source	Amount	Funding Reason	At Risk
TCEQ	\$461k	Grant funding for design for high hazard dam modifications	N - Secured
TxDOT/NCTCOG	\$12M	Eliminate road overtopping/improve safety (Lori any additions from AFA scope language?)	Y
Dallas County	\$1M	Traffic and pedestrian safety	Y
City of Dallas	\$400k + utilities	Storm fund contribution; ILA for water/wastewater improvement reimbursement	Y
University Park	\$375k	Half of Turtle Creek Interceptor replacement cost	N
Other third party	\$500k	Settlement agreement cost participation	Y
Town	Balance	Remaining costs	N/A

Minimum Required Improvements

- TCEQ-mandated dam improvements:
 - Flatten lake bank slope
 - Rehabilitate lake slope adjacent to Wycliffe with erosion control materials – armor banks with riprap material/concrete
 - Regrade area between Wycliffe and headwall and add erosion protection measures – concrete, rip-rap, synthetic reinforcement



Minimum Required Improvements

- TCEQ-mandated dam improvements:
 - Multiple cracks and joint offsets were identified in the standpipe and the culverts – potentially require replacement
- Town roadway and utilities need rehabilitated/replaced/upgraded
- City of Dallas replacing water and sewer lines through corridor



Minimum Rehabilitation Costs

- Much of current outside funding at risk with reduced project scope
- Cost summary –
 - TCEQ
 - Utilities
 - Roadway
 - Pedestrian Improvements

EXISTING ROUTING



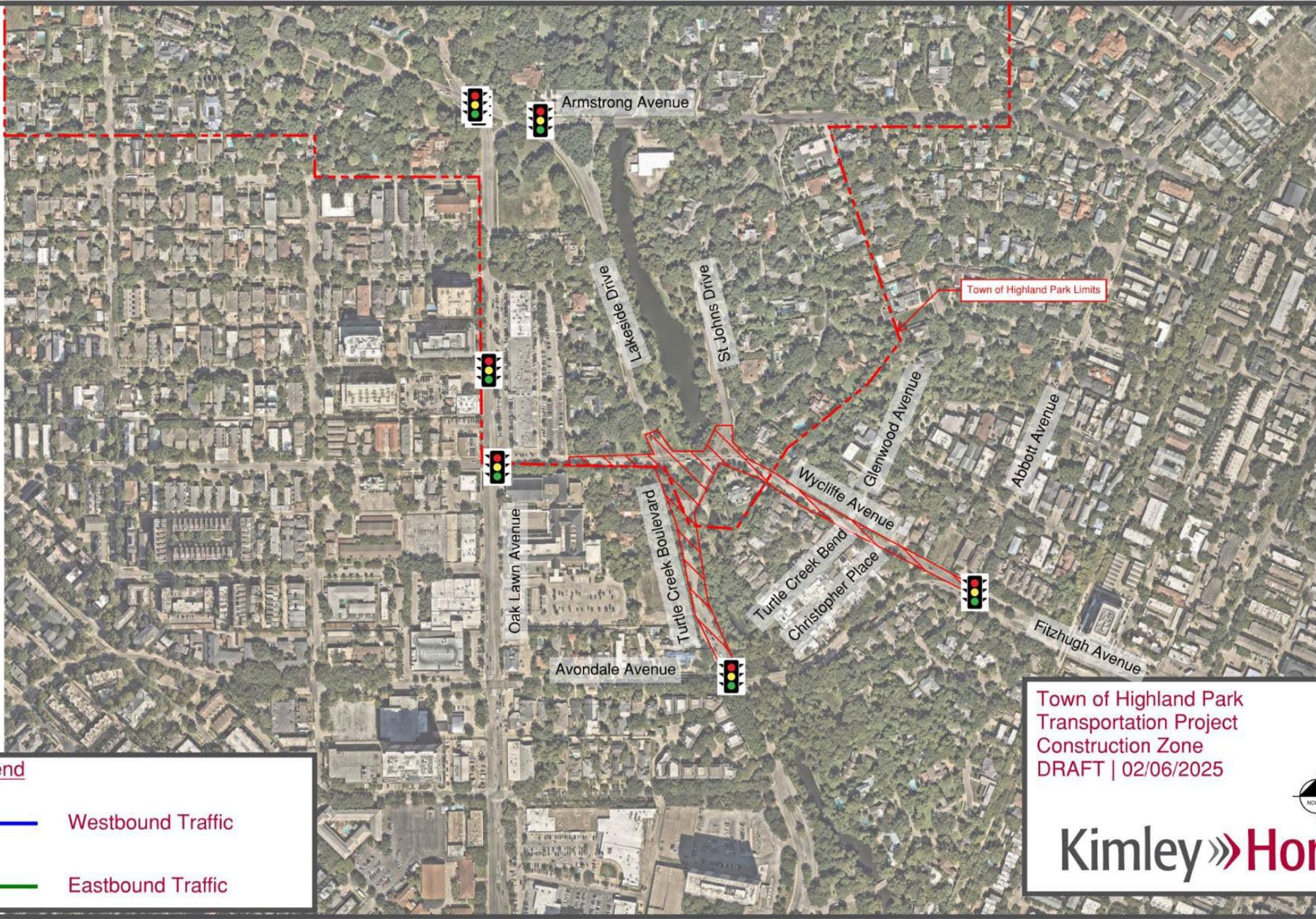
Legend

-  Westbound Traffic
-  Eastbound Traffic

Town of Highland Park
Transportation Project
Existing Routing
DRAFT | 02/06/2025



Kimley & Horn



Legend

-  Westbound Traffic
-  Eastbound Traffic

Town of Highland Park
Transportation Project
Construction Zone
DRAFT | 02/06/2025



Kimley»Horn

Traffic Counts

Intersection Capacity Analysis

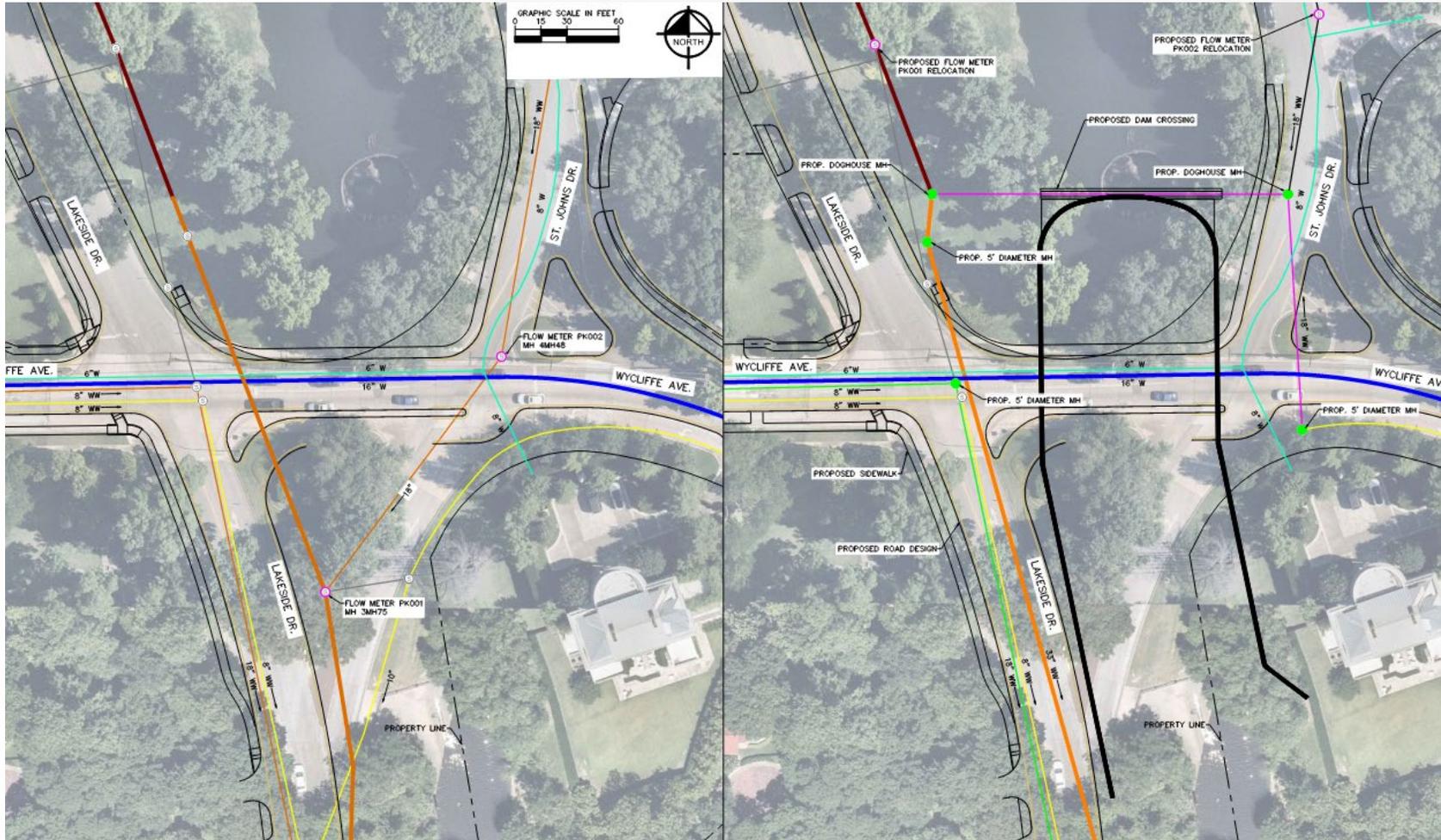
INTERSECTION	LANE GROUP	Existing (2024)				Existing Rerouted (2024) (70% Total Traffic Removed)			
		AM		PM		AM		PM	
		DELAY (Sec/Veh)	LOS	DELAY (Sec/Veh)	LOS	DELAY (Sec/Veh)	LOS	DELAY (Sec/Veh)	LOS
Avondale Avenue/Fitzhugh Avenue & Abbott Avenue	EB	2.6	A	6.8	A	0.4	A	2.5	A
	WB	4.1	8.4	8.4	A	7.2	A	6.4	A
	SB	56.6	E	22.1	C	32.7	C	60.3	E
	Overall	4.9	A	8.5	A	5.3	A	8.5	A
Oak Lawn Avenue & Avondale Avenue	EB	36.1	D	32.6	C	37.0	D	45.3	D
	WB					66.9	E	43.3	D
	NB	9.1	A	28.0	C	40.4	D	43.1	D
	SB	9.9	A	15.1	B	9.4	A	19.1	B
	Overall	19.6	B	26.4	C	46.7	D	39.8	D
Wycliffe Avenue & Oak Lawn Avenue	WB	29.6	C	46.1	D	39.8	D	39.8	D
	NB	12.3	B	3.8	A	30.6	C	23.7	C
	SB	11.3	B	8.6	A	19.2	B	22.5	C
	Overall	21.4	C	21.6	C	28.7	C	23.5	C
Turtle Creek Boulevard & Avondale Avenue	EB	25.0	C	39.4	D	33.7	C	37.2	D
	WB					47.2	D	27.1	C
	NB	0.5	A	38.5	D	10.6	B	24.9	C
	SB	7.6	A	14.7	B	29.1	C	33.4	C
	Overall	14.3	B	32.9	C	37.5	D	31.7	C

Supplementary Content

Utility Improvements

- Town utility relocation
 - 30-inch Turtle Creek interceptor
 - 8-inch water line
 - 8-inch and 18-inch wastewater collectors
- Dallas utility relocations
 - 10-inch wastewater upsizing to 18-inch
 - Wastewater flow meter relocations
 - 16-inch water line
- Franchise utilities currently overhead:
 - Oncor
 - Atmos
 - AT&T
 - Spectrum

Utility Relocations



Constructability

- Contractor relationship
- Sequencing of work
- Construction time limits
- Maintaining water levels in Connor Lake during construction
- Project organization and cleanup
- Resident coordination and communication
- Regular observation and construction coordination meetings



Driving Sheet Pile



Dry Side of Sheet Pile



Large Braced Sheet Pile Cofferdam



Large Sheet Pile Cofferdam



Water Inlatable Cofferd Dam



Water Inlatable Cofferd Dam with Bypass

Detailed Cost Breakdown – update for 90% OPCC?

Cost Summary	
Mobilization/Site Prep/Traffic Control	\$ 1,881,250.00
Street	\$ 2,960,000.00
Bridge	\$ 1,275,000.00
Channel	\$ 7,027,500.00
Drainage	\$ 760,000.00
Tributary 1 Crossing	\$ 1,412,500.00
Sanitary Sewer (Dallas)	\$ 835,000.00
Sanitary Sewer (Town)	\$ 188,750.00
Interceptor (Town/UP)	\$ 511,250.00
Water (Town)	\$ 826,250.00
Betterments/Landscape Allowance	\$ 1,875,000.00
Total Estimated Construction Cost	\$ 19,552,500.00
Design Cost (to date)	\$ 1,838,956.00
Total Project Cost	\$ 21,391,456.00

Outside Funding	
TXDOT (80/20)	\$ 12,253,000.00
Dallas County (50/50)	\$ 1,000,000.00
City of Dallas Tributary	\$ 400,000.00
City of Dallas Utilities (50/50)	\$ 417,500.00
External Funding	\$ 500,000.00
University Park (50/50)	\$ 255,625.00
TCEQ Grant (Design) (65/35)	\$ 461,619.00
Total Outside Funding	\$ 15,287,744.00
Total Estimated Cost to Town	\$ 6,103,712.00
Town Design Cost	\$ 1,377,337.00
Town Construction Cost	\$ 4,726,375.00

Current Project Schedule

90% Design Submittal	December 2024
Stakeholder Review	Through March 2024
100% Design (Bid) Submittal	April 2025
Advertisement	April – May 2025
Construction Award	June 2025
Construction	June 2025 – May 2027