

FM 546/CR 400 Corridor Study

Request for Approval of Alignment from
Bridgefarmer Road to US 380

June 2021



Project Overview



Overall Study Split into 2 Phases

CURRENT STUDY

Phase I – Purple

Limits:

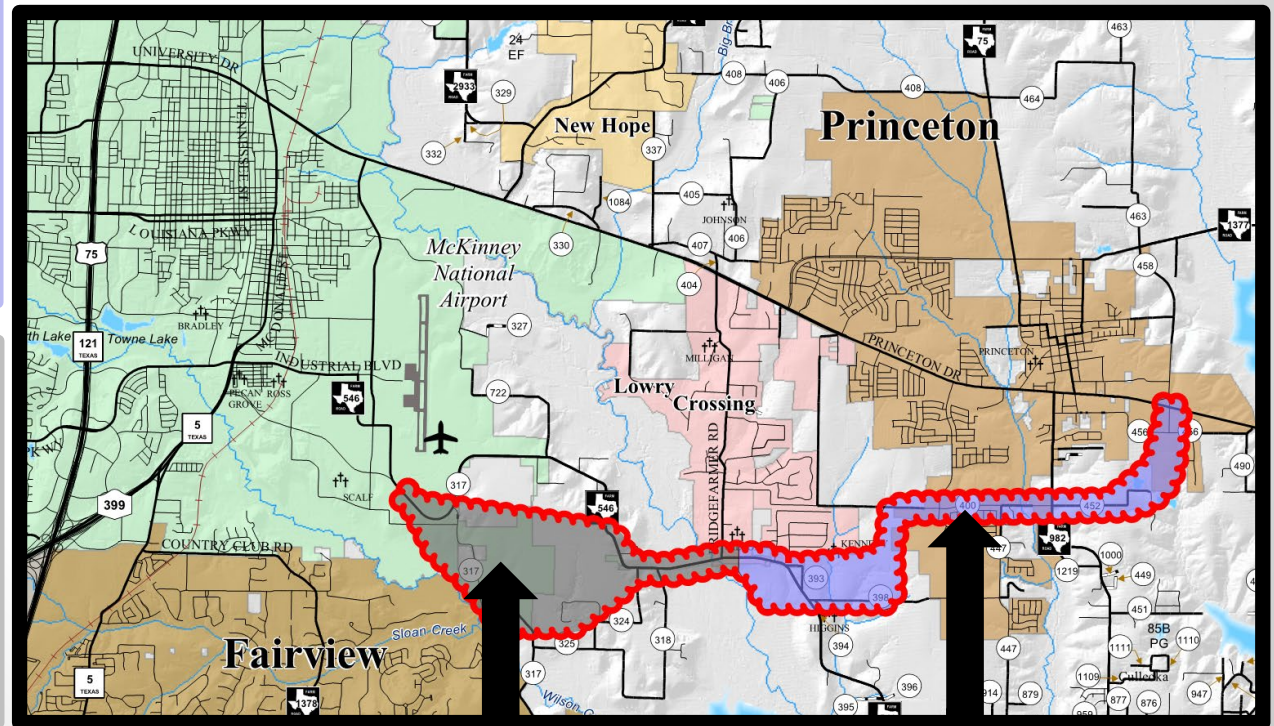
From east of Bridgefarmer Road
to US 380

Phase II – Gray

In Progress

Limits:

From south of McKinney National Airport
to east of Bridgefarmer Road



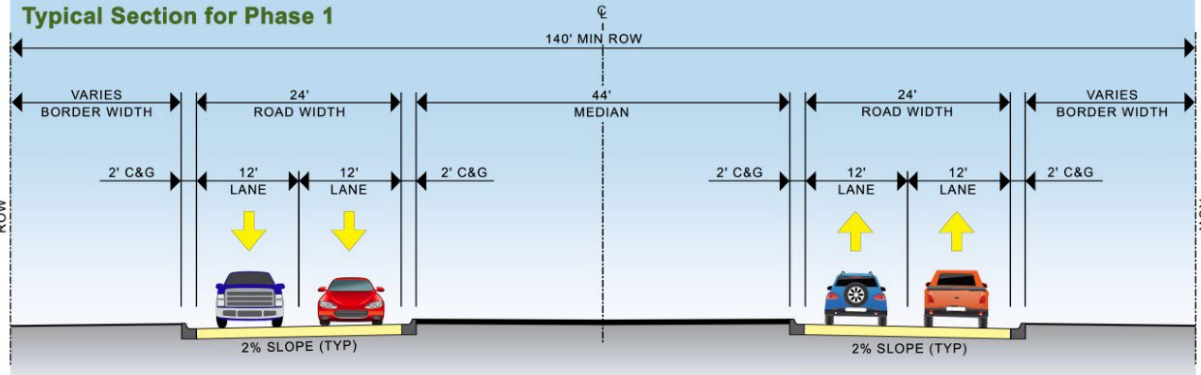
PHASE II / Not part of this study

PHASE I – Current Study

Proposed Typical Section

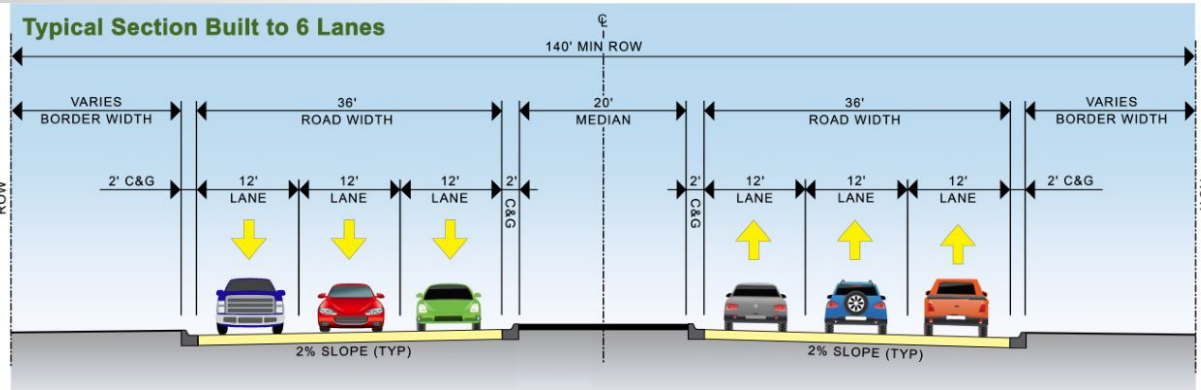


Typical Section for Phase 1



Interim Typical Section

Typical Section Built to 6 Lanes



Ultimate Typical Section

Typical Section

- Construct four 12-foot lanes (Interim)
- Access controlled by left turn lanes and opening in medians
- Median will allow for future expansion to six lanes (Ultimate)

Public Outreach Summary



- 2 – Lowry Crossing Focus Group
- 1 – Lowry Crossing EDC Presentation
- 2 – City of Princeton
- 8 – Property Owner Meetings
- 1 – Group Property Owner Meeting with Commissioner Hale & Project Team
- 2 – Mass Public Notice Mailings
- 6 – Newspaper Postings/Facebook
- 2 – News Releases (PIO)
- 6 – Mass E-mail Announcements
- 2 – Public Meetings (Virtual & In-Person)

Public Meeting Website

Collin County, TX > FM 546 / CR 400 Corridor Study

Project Overview Project Location Maps Typical Sections **Past Public Meetings** Learn More

Virtual Public Meeting #1

A virtual public meeting was conducted on Thurs., Oct. 29, 2020. The comment period for that public meeting closed on Fri., Nov. 13, 2020. A video of the recorded virtual public meeting is below. A copy of the notice may be viewed [here](#).

FM 546 CR 400 Open House Powerpoint V2.720p [Copy link](#)

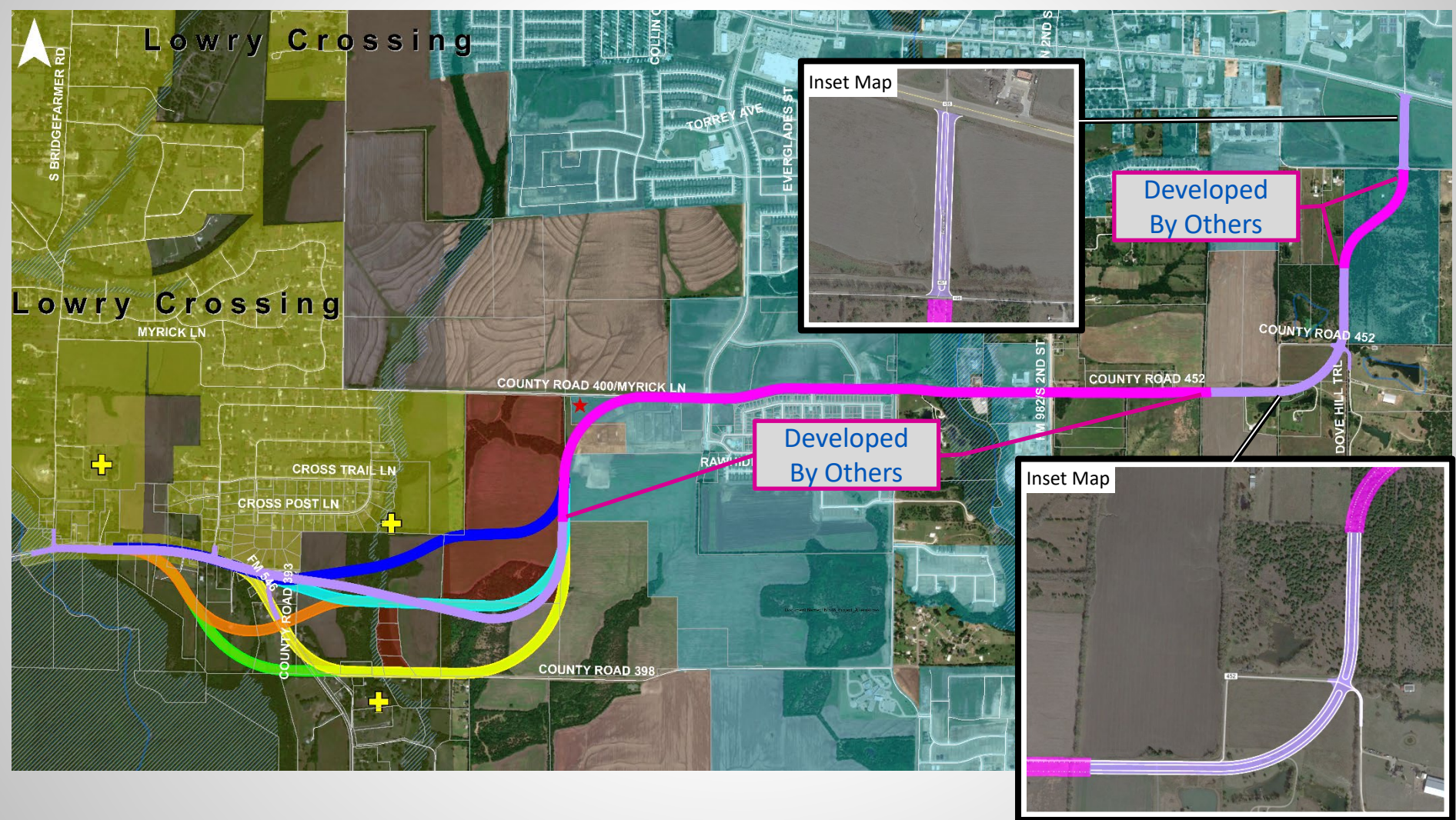
Virtual Public Meeting

FM 546 / CR 400 Corridor Study

October 2020

Watch on YouTube

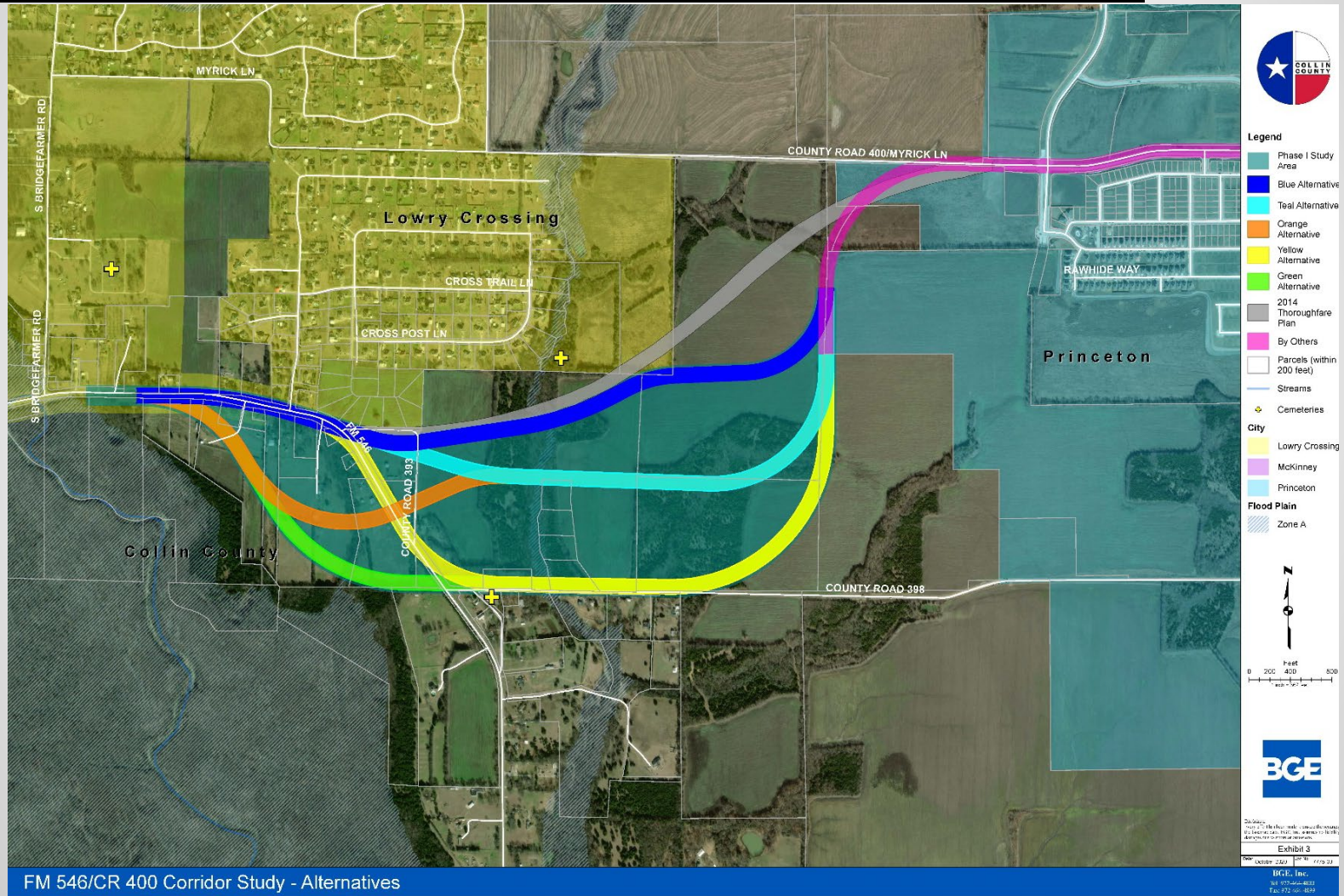
Proposed Alternatives



Proposed Alternatives Cont'd



Alternatives shown at Public Meeting # 1 – Oct. 29, 2020



FM 546/CR 400 Corridor Study - Alternatives

Public Meeting #1 Summary (10/29/20)

- 73 Total Comments Received
- Top Concerns
 - Residential & Property Impacts
 - Safety
 - Increased Traffic

Public Preferences

	ALT1	ALT2	ALT3	ALT4	ALT5
Preferred	43%	17%	21%	11%	26%
Disliked	13%	13%	47%	21%	38%
Not Mentioned	43%	70%	32%	68%	36%
Ranking	1	2	5	3	4



Evaluation Criteria Categories

- Environmental
- Engineering and Constructability
- Public/Stakeholder Input
- Utilities and ROW
- Construction Cost

Alternatives Comparison Matrix Analysis

Cont'd



Scoring System

- Scored on a scale from 1 to 5, based on severity of impact with 5 having the **most** impact.
- The scores for each category were added together to obtain total score of each alternative.
- The **least impactful** alternatives (**lowest score**) are **shaded green**.
- The **most impactful** alternatives (**highest score**) are **shaded red**.
- Alternatives with moderate impacts are **shaded yellow**.

NOTE: Process utilized follows guidelines set forth by the National Environmental Policy Act of 1969 known as NEPA

Sub-Categories Utilized for Comparison

- Number of Parcels Impacted
- Number of Displacements
- Acres of Land Impacted
- Acres of Farmland Impacted
- Noise Impacts
- Potential Cemetery Impact
- Indirect Impacts

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5
Environmental						
Parcels Affected	N/A	4	4	5	3	4
Displacements	N/A	1	3	5	3	3
Acres of Prime Farmland Impacted	N/A	5	4	3	3	4
Structures Affected by increase in Noise (100 feet)	N/A	3	3	5	2	3
Potential Cemetery Impact	N/A	N	N	Y	N	Y
Indirect Impacts	N/A	3	4	5	3	5
Sub-Total	N/A	16	18	24	14	20

Sub-Categories Utilized for Comparison

- Intersections
- Design Speed
- Driveway Access
- Construction Sequencing
- Drainage

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5
Engineering and Constructability						
Skewed Intersections (based on severity)	N/A	2	2	3	2	5
Speed Given Curve Radii	N/A	5	1	5	4	1
Speed Given Superelevation	N/A	5	2	5	5	1
Driveway Challenges (Percentage)	N/A	2	2	3	4	3
Number of Driveways Impacted	N/A	4	3	5	2	3
Construction Sequencing Challenges	N/A	1	1	3	1	2
Drainage Impacts	N/A	3	3	4	2	2
Impacts Recent Myrick Lane Construction	N/A	5	2	1	2	1
Sub-Total	N/A	27	16	29	22	18

Sub-Categories Utilized for Comparison

- Public Preferences per Alternative
- Property Bifurcation Impacts (Farmland, Remainders)
- Impacts to Proposed/Planned Developments
- Local Government Input

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5
Public/Stakeholder Input						
Public Preferences for Alternative	N/A	1	2	5	4	3
Property Bifurcation Impacts (Farmland; Remainders)	N/A	4	2	3	5	5
Impacts to Proposed Developments	N/A	5	3	1	3	1
Local Government Input	N/A	5	3	1	2	1
Sub-Total	N/A	15	10	10	14	10

Utilities and Right-of-Way/Cost Analysis



Sub-Categories Utilized for Comparison

- Utility Impacts
- ROW Impacts

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5
Utilities and ROW						
Utilities Impacted	N/A	3	3	4	2	3
Proposed ROW Needed	N/A	3	4	4	5	5
Sub-Total	N/A	6	7	8	7	8

- Cost Analysis: A conceptual construction cost estimate was developed for each alternative for comparison.

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5
Cost						
Cost Analysis	N/A	1	1	5	3	5

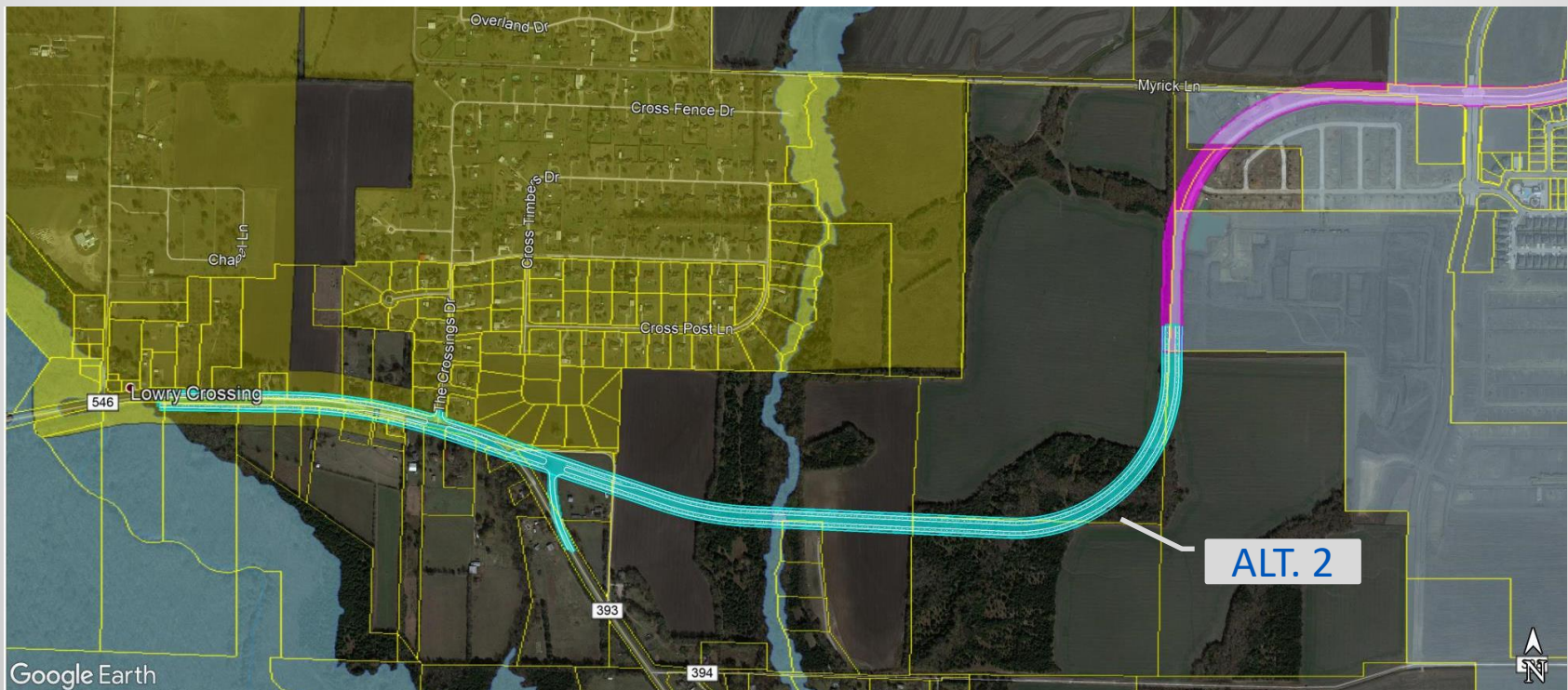
Results



Combined Scores



Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5
Combined Rankings						
Overall Total (LOW SCORE BEST):	N/A	65	52	76	60	61
Note: No Build does not meet purpose and need of the project and is not scored.						

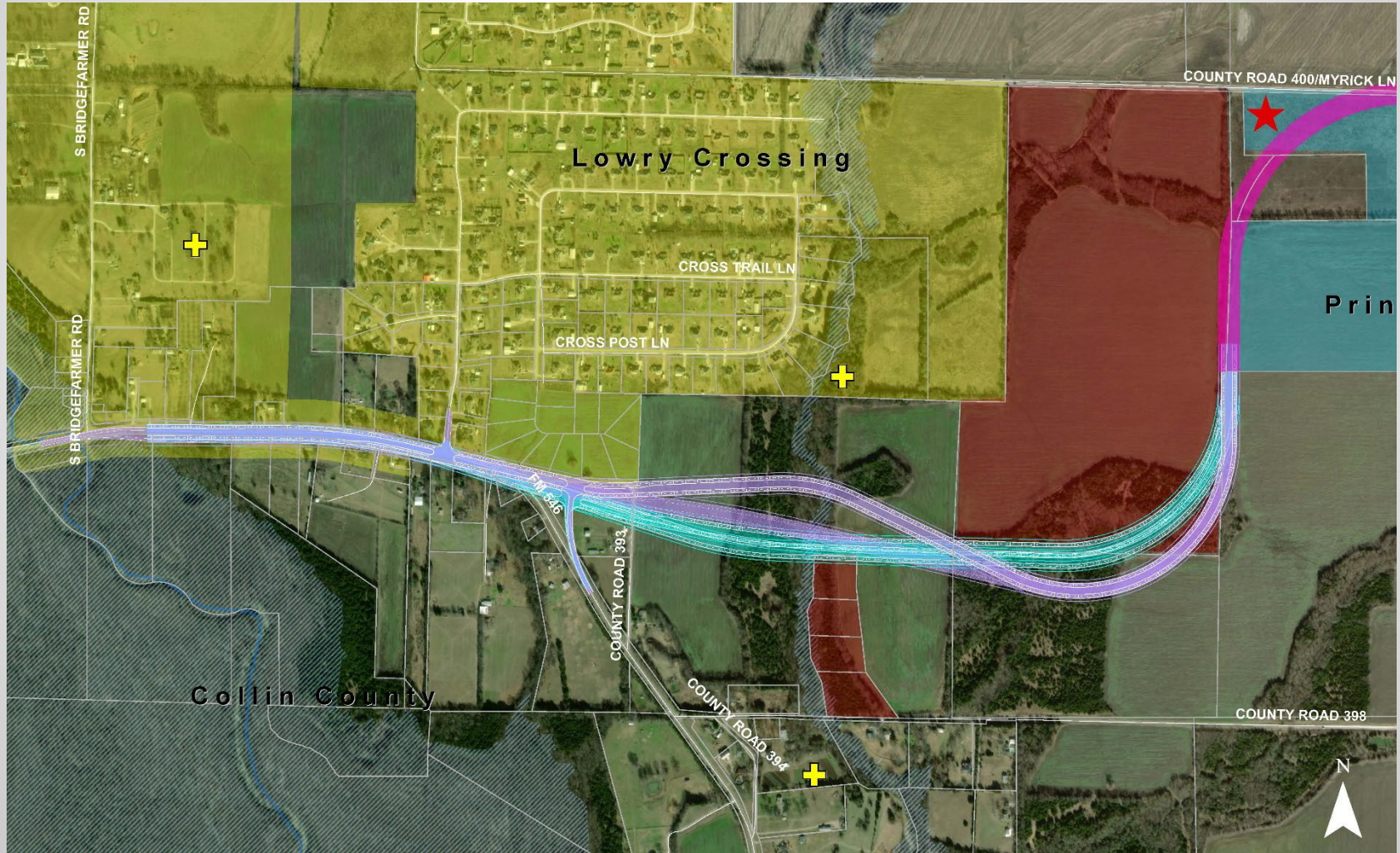


Additional Alternatives



Additional Alternatives Analyzed After Public Meeting #1

ADDITIONAL ALTERNATIVES ANALYZED

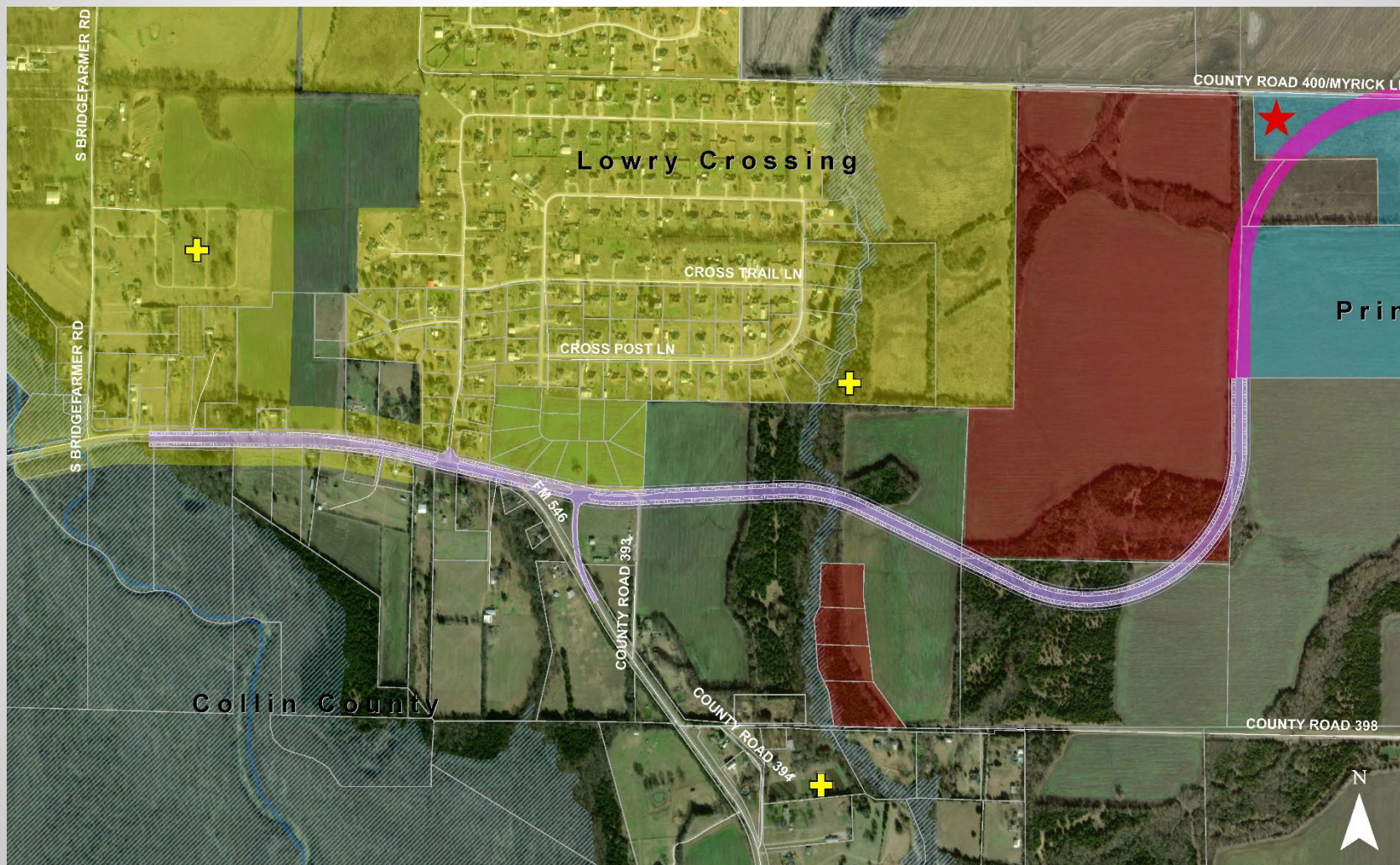


Additional Alternatives Cont'd



Additional Alternatives Analyzed After Public Meeting #1

ALTERNATIVE 6

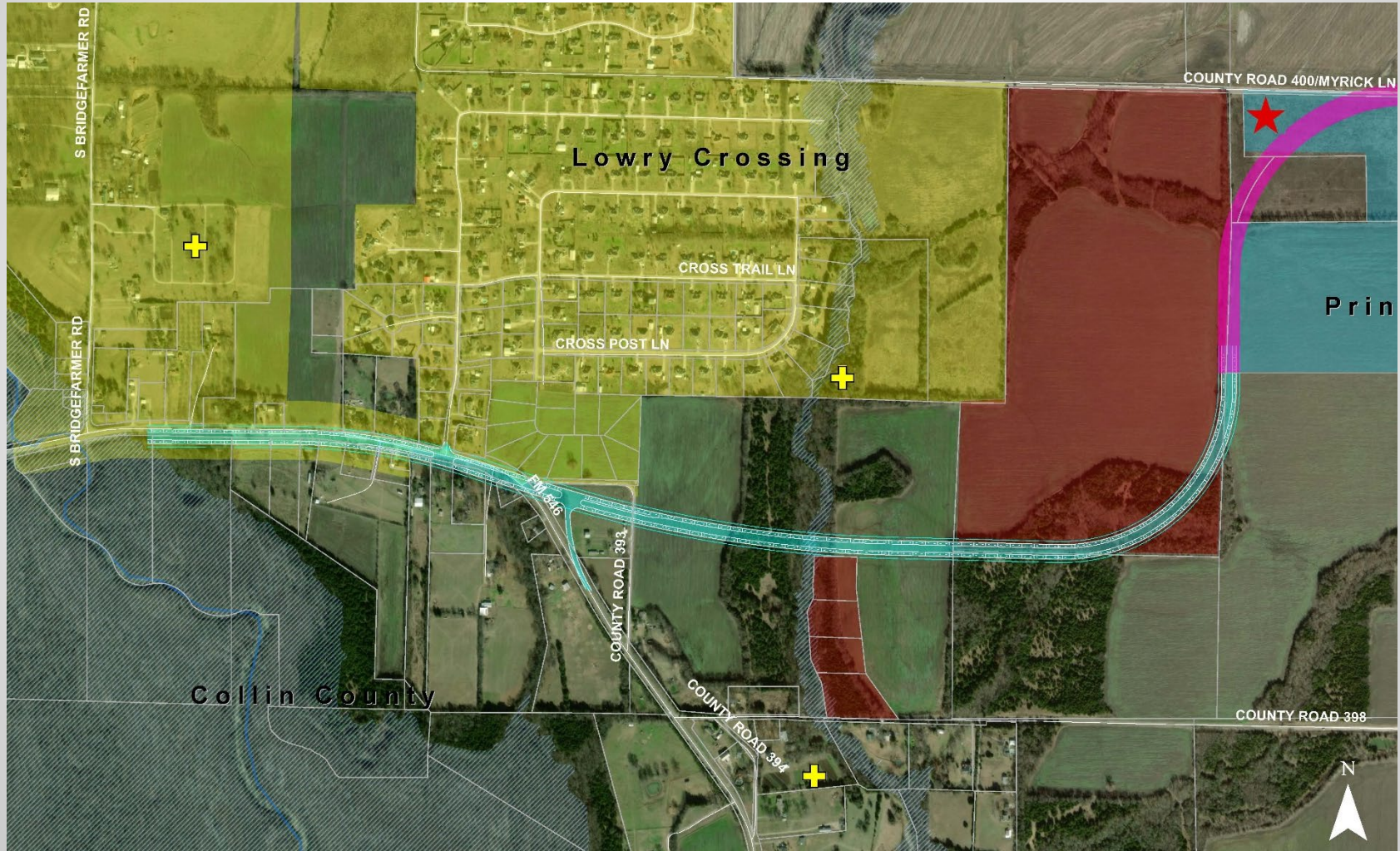


Additional Alternatives Cont'd



Additional Alternatives Analyzed After Public Meeting #1

ALTERNATIVE 2-1

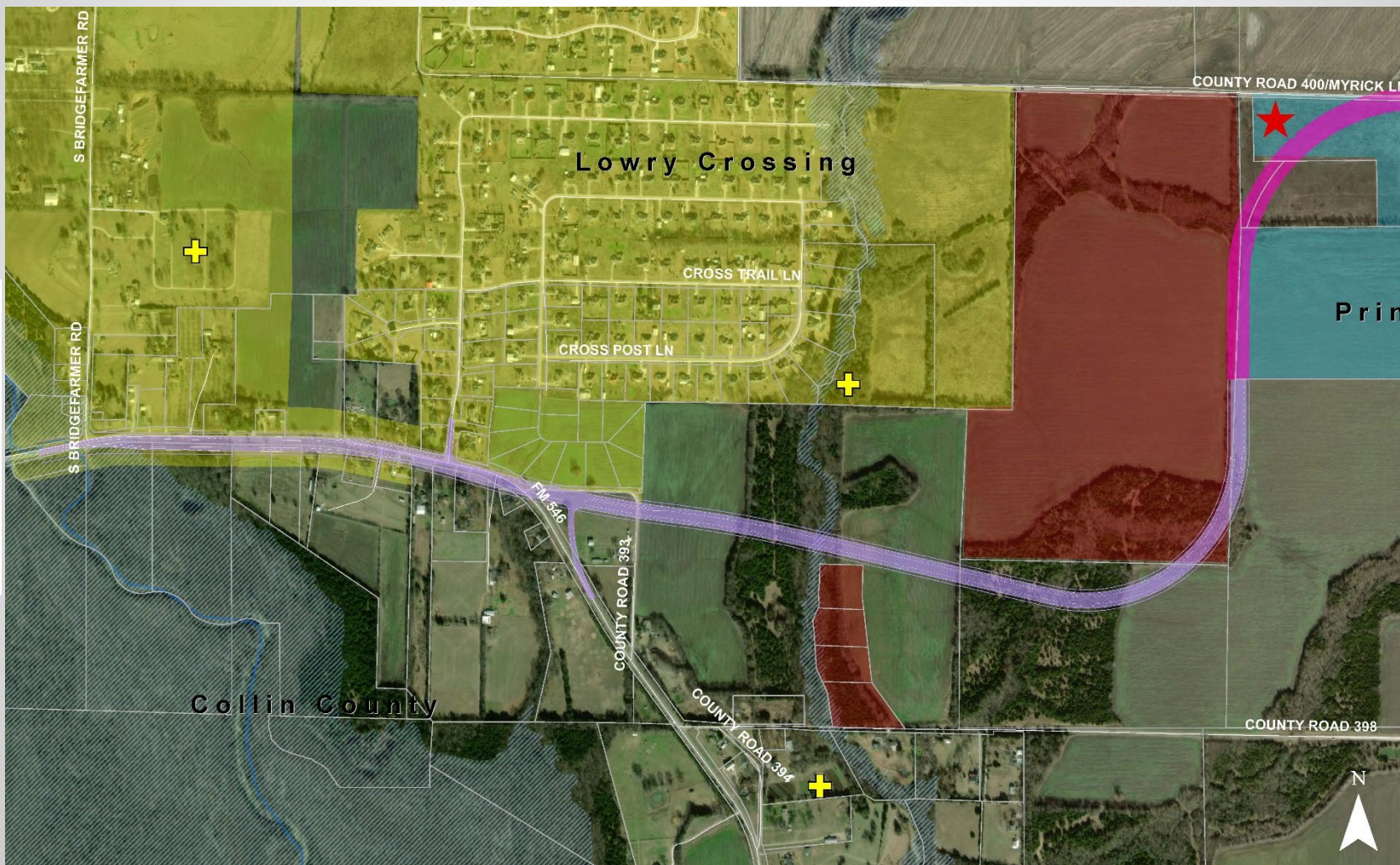


Additional Alternatives Cont'd



Additional Alternatives Analyzed After Public Meeting #1

ALTERNATIVE 6-1



Updated Matrix – ALL Alternatives



Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6	ALT. 2-1	ALT. 6-1
Environmental									
Parcels Affected	N/A	4	4	5	3	4	5	4	4
Displacements	N/A	1	3	5	3	3	1	3	1
Acres of Prime Farmland Impacted	N/A	5	4	3	3	4	4	4	4
Structures Affected by increase in Noise (100 feet)	N/A	3	3	5	2	3	3	3	3
Potential Cemetery Impact	N/A	N	N	Y	N	Y	N	N	N
Indirect Impacts	N/A	3	4	5	3	5	4	4	4
Sub-Total	N/A	16	18	24	14	20	17	18	16

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6	ALT. 2-1	ALT. 6-1
Public/Stakeholder Input									
Public Preferences for Alternative	N/A	1	2	5	4	3	2	2	2
Property Bifurcation Impacts (Farmland; Remainders)	N/A	4	2	3	5	5	3	2	3
Impacts to Proposed Developments	N/A	5	3	1	3	1	5	3	2
Lowry Crossing Input	N/A	5	3	1	2	1	5	3	3
Sub-Total	N/A	15	10	10	14	10	15	10	10

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6	ALT. 2-1	ALT. 6-1
Engineering and Constructibility									
Skewed Intersections (based on severity)	N/A	2	2	3	2	5	2	2	2
Speed Given Curve Radii	N/A	5	1	5	4	1	4	1	1
Speed Given Superelevation	N/A	5	2	5	5	1	1	2	2
Driveway Challenges (Percentage)	N/A	2	2	3	4	3	2	1	1
Number of Driveways Impacted	N/A	4	3	5	2	3	4	4	4
Construction Sequencing Challenges	N/A	1	1	3	1	2	1	1	1
Drainage Impacts	N/A	3	3	4	2	2	3	3	3
Impacts Recent Myrick Lane Construction	N/A	5	2	1	2	1	2	2	2
Sub-Total	N/A	27	16	29	22	18	19	16	16

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6	ALT. 2-1	ALT. 6-1
Utilities and ROW									
Utilities Impacted	N/A	3	3	4	2	3	3	3	3
Proposed ROW Needed	N/A	3	4	4	5	5	4	4	4
Sub-Total	N/A	6	7	8	7	8	7	7	7

Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6	ALT. 2-1	ALT. 6-1
Cost									
Cost Analysis	N/A	1	1	5	3	5	1	1	1



Evaluation Criteria	NO BUILD	ALT. 1	ALT. 2	ALT. 3	ALT. 4	ALT. 5	ALT. 6	ALT. 2-1	ALT. 6-1
Combined Rankings									
Overall Total (LOW SCORE BEST):	N/A	65	52	76	60	61	59	52	50
Note: No Build does not meet purpose and need of the project and is not scored.									

Recommended Alternative – South of LC



Recommended alternative presented at Public Meeting # 2 – Mar. 25, 2021

ALTERNATIVE 6-1



FM546 / CR 400 Public Meeting #2 Summary

- 20 Total Comments Received
 - 4 Design/Safety Related
 - 5 Not in Support of Recommended Alignment
 - 3 Supporting the Recommended Alignment
 - 1 Question Requesting Clarification
 - 4 Repeat Comments
 - 3 Against Population Growth in the Area

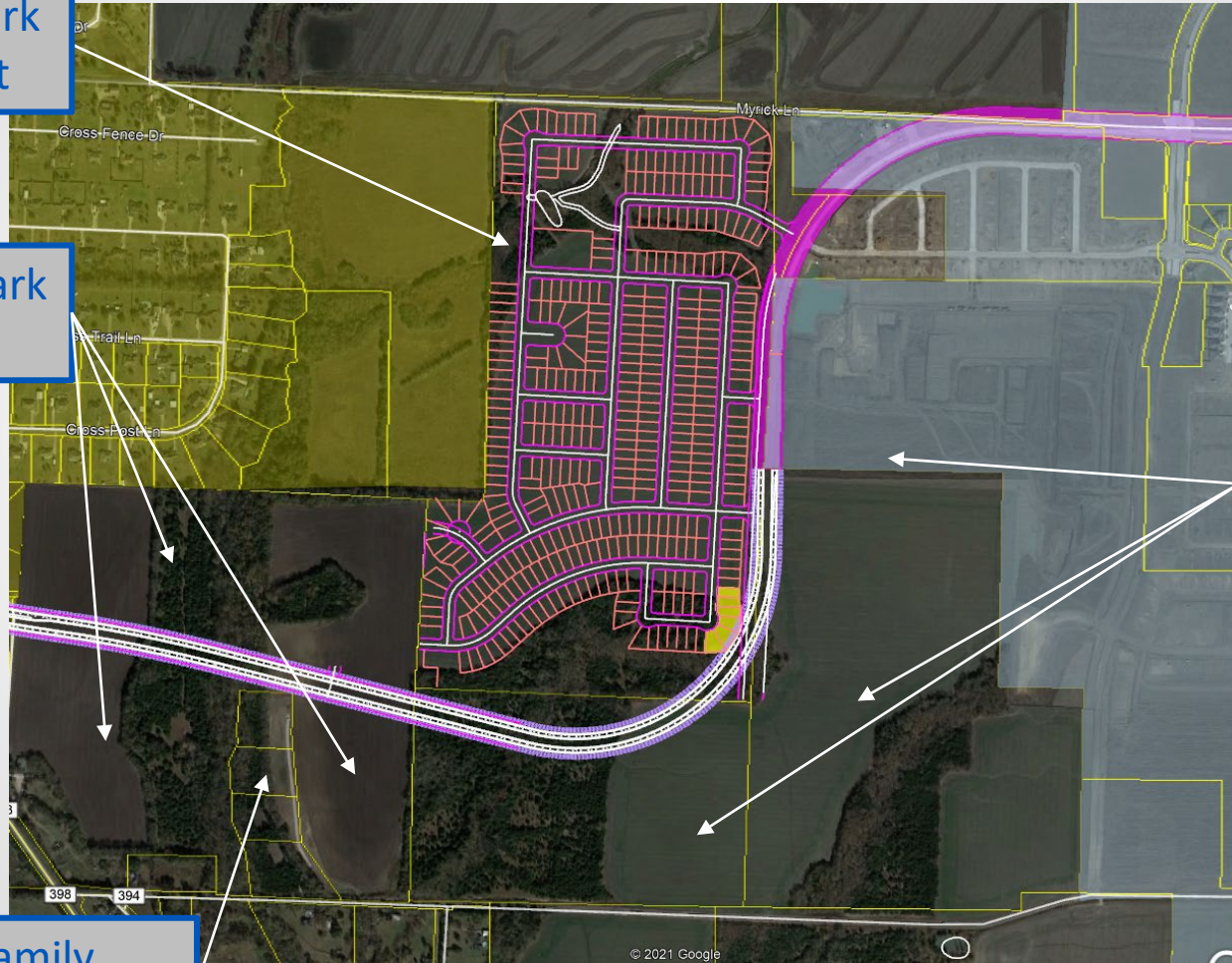
Additional Property Owner Coordination

New Landmark Development

Future Landmark Expansion

DR Horton Expanding

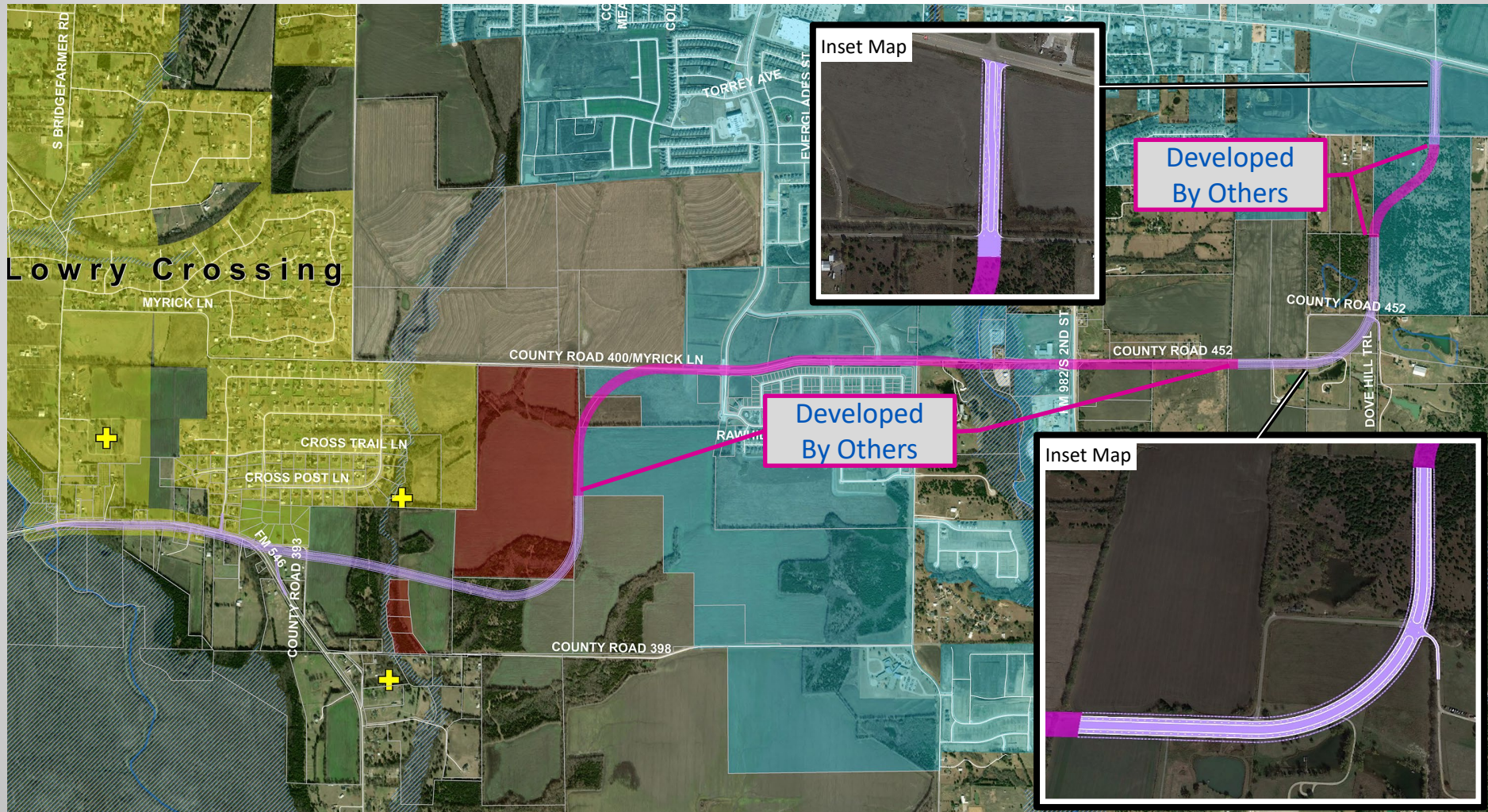
Shultz Family Development



Recommended Alignment



Recommending Alt. 6-1 to Move Forward



Remaining Schedule – Phase I

Next Steps

1. Begin Preliminary Design – Summer 2021
2. Begin ROW Acquisition – Est. Fall/Winter 2021
3. Begin Final Design – Est. Winter 2021
4. Construction – Unknown