NOTICE OF SPECIAL CITY COUNCIL MEETING
CITY OF TOMBALL, TEXAS

MONDAY, JUNE 16, 2014

5:00 P.M.

Notice is hereby given of a meeting of the Tomball City Council, to be held on Monday, June 16, 2014 at 5:00 P.M., City Hall, 401 Market Street, Tomball, TX 77375, for the purpose of considering the following agenda items. All agenda items are subject to action. The reserves the right to meet in a closed session for consultation with attorney on any agenda item should the need arise and if applicable pursuant to authorization by Title 5, Chapter 551, of the Texas Government Code.

1.0 Call to Order

2.0 Public Comments and Receipt of Petitions *[At this time, anyone will be allowed to speak on any matter other than personnel matters or matters under litigation, for length of time not to exceed three minutes. No Council/Board discussion or action may take place on a matter until such matter has been placed on an agenda and posted in accordance with law.]*

3.0 New Business:

3.1 The Tomball City Council will enter into a Workshop Session regarding Downtown Sidewalks and Enhancements to the Four Corners Intersection

4.0 Adjournment

C E R T I F I C A T I O N

I hereby certify that the above notice of meeting was posted on the bulletin board of City Hall, City of Tomball, Texas, a place readily accessible to the general public at all times, on the 12th day of June 2014 by 6:00 p.m., and remained posted for at least 72 continuous hours preceding the scheduled time of said meeting.

*Doris Speer*_____
Doris Speer
City Secretary, TRMC

This facility is wheelchair accessible and accessible parking spaces are available Requests for accommodations or interpretive services must be made 48 hours prior to this meeting. Please feel free to contact the City Secretary's office at (281) 290-1002 or FAX (281) 351-6256 for further information.

AGENDAS MAY ALSO BE VIEWED ONLINE AT www.ci.tomball.tx.us.

Special City Council
Agenda Item
Data Sheet

Meeting Date: June 16, 2014

Topic:

The Tomball City Council will enter into a Workshop Session regarding Downtown Sidewalks and Enhancements to the Four Corners Intersection

Background:

The City of Tomball allocated $600,000 to enhance the sidewalks on both sides of FM 2920 between Walnut Street and Pine Street. The Community Development Department retained the services of CLR to review options and design alternatives, including possible implementation of a portion of the FM 2920 Access Management Plan.

Origination:

Community Development Department

Recommendation:

N/A

Funding:

Party(ies) responsible for placing this item on agenda:

Community Development Department

ACTION TAKEN

APPROVAL	READINGS PASSED	OTHER
☐ YES ☐ NO	☐ 1ST ☐ 2ND	

ATTACHMENTS:

Downtown Sidewalk Replacement and/or Repair Investigation
Downtown Sidewalks Presentation

CITY OF TOMBALL

DOWNTOWN SIDEWALK REPLACEMENT AND/OR REPAIR INVESTIGATION

ENGINEERING & PLANNING PROJECT NO. 2014-10002

JUNE 2014

Prepared By:

CLR, Inc.

Engineering * Surveying * GIS

TBPE Firm Reg. No. 275
TBPLS Firm No. 10038900
19530 F.M. 362
Waller, Texas 77484 28, 2014

STATE OF TEXAS
KYLE A. BERTRAND
84575
LICENSED
PROFESSIONAL ENGINEER
6/10/14

1.0 EXECUTIVE SUMMARY

GENERAL

The City of Tomball retained the services of CLR, Inc., to review, assess, and provide recommendations for improving the sidewalks along FM 2920 (Main Street) from Pine Street to Walnut Street. The primary goal being improvement of pedestrian mobility in conformance with current accessibility standards along the route including to and from public parking facilities constructed to serve the Old Town Area. This report summarizes the findings of the investigations conducted and provides possible alternatives and probable costs for the alternatives reviewed.

EXISTING SITE CONDITIONS

The existing condition of the subject sidewalks was visually inspected for failures including cracks, broken concrete, surface wear, etc… and can generally be described as in disrepair in many locations. Additionally an on-site review was conducted with an accessibility review and inspection company to identify compliance related issues. A brief list of concerns from the two perspectives is as follows:

1. Numerous offset cracks with differences in elevation greater than ¼-inch, thereby exceeding allowable displacement and/or causing potential tripping hazard.
2. Excessive cross slope and/or running slope within required 36-inch wide accessible route.
3. Curb ramps are in poor condition, non-compliant, and/or missing along the route.
4. Obstruction of potential accessible routes by vendor merchandise and street scape amenities.
5. It is believed that if areas around non-complying building entrances are replaced or altered, these entrances would require modification to provide an accessible route to the building.

It should be noted that the sidewalk facilities are mostly within Texas Department of Transportation (TxDOT) right-of-way. As such repair and/or replacement are thought to be the responsibility TxDOT. However, if the City elects to repair and/or replace the sidewalks a permit application and approval of the proposed improvements and construction activity will need to be obtained.

ALTERNATIVES INVESTIGATED

With input of staff, four possible alternatives were investigated. This section summarizes those alternatives and provides estimates of probable costs for each.

1. **No-Build ($0.00)** – This alternative would require the City to further discuss the issues with TxDOT and wait for TxDOT to take action accordingly. The City could have the option of participating in the TxDOT project and/or afforded the opportunity to fund aesthetic enhancements to the project such as patterned concrete.
2. **Repairs and/or Additions ($394,000)** – The City could elect to address critical repairs and/or additions to correct accessibility concerns along the route such as tripping hazards, missing or non-compliant ramps, and restriction/removal of merchandise and pedestrian amenities to provide an accessible route throughout the subject area.
3. **Total Reconstruction with Retention of Parallel Parking ($2.6 M)** – This alternative would involve total removal and replacement of the sidewalks. Corner radii would be moved toward the street centerline to provide additional pedestrian areas and improve vehicular sight distance at the intersections and retain most of the parallel parking.
4. **Total Reconstruction with Removal of Parallel Parking ($2.7 M)** – This alternative would also involve total removal and replacement of the sidewalks. Parallel parking would be removed from FM 2920 (Main Street) by this alternative. The reconstructed facility would provide for painted left turn bays more in line with planned improvements recommended by the TxDOT FM 2920 Access Management Plan.

   The third and fourth alternatives deal with replacing the entire sidewalk and curb & gutter on the north and south side of FM 2920 (Main Street). Although these alternatives seem somewhat similar, they each offer their own design and construction challenges. Each will impact the

drainage system, curb & gutter, lighting, signalization, and other existing features further discussed at the end of Section 5.0. All improvements/replacements would be subject to compliance with current accessibility standards, including entrances to businesses along the route and at the intersection curb ramps, TxDOT permitting and approval, and possibly an environmental impact study.

2.0 INTRODUCTION

FM 2920 (Main Street) is a primary east to west corridor through the City of Tomball. The section of FM 2920 that would be affected by this project is three blocks, on both the north and south sides, between Pine Street and Walnut Street. This segment contains numerous retail shops and restaurants.

This report contains findings and alternatives obtained from studies conducted on the proposed rehabilitation of the FM 2920 (Main Street) sidewalks between Pine Street and Walnut Street. Although the contemplated improvements would be placed in Texas Department of Transportation right-of-way, it is anticipated that the City of Tomball will provide 100% of the project funding.

Because this section of FM 2920 is within TxDOT right-of-way, some of the following items may be required:

1. Acquisition of additional right-of-way (Alternative 4).
2. Preparation of an Environmental Assessment. Note: The required level of assessment, if any, is unknown at this point but was mentioned in a meeting with the TxDOT Houston District Office.
3. TxDOT permitting and approval to construct including necessary traffic control.

3.0 PROJECT DESCRIPTION

The portion of FM 2920 (Main Street) under evaluation for the proposed sidewalk improvements is a four lane road with parallel parking between Pine Street and Walnut Street. Generally the sidewalks are in disrepair and or have accessibility issues based on current criteria as noted below.

Most of the existing sidewalks as well as the curb & gutter along this section of FM 2920 (Main Street) have cracks that are greater than ¼ inch difference in elevation which exceeds the *2010 ADA Standards for Accessible Design, Standard 303.2: Vertical*. According to ADA Standards, these cracks are tripping hazards and should be mitigated.

In some locations within the project area the sidewalk slopes along the direction of travel are greater than 1:20, which exceeds the *2010 ADA Standards for Accessible Design, Standard 403.3: Slope* making them non-compliant with ADA Standards.

Cross slopes along the route vary with some compliance with ADA standards, not exceeding 2%, however vendor merchandise, benches, planters, lighting, etc… are introduced obstructions causing pedestrians to travel in non-complaint zones for a width less than 36-inches.

The trees planted along this section of roadway were apparently not installed in planters. As a result the roots grew horizontally instead of vertically and cracked or elevated significant portions of the sidewalk in this vicinity.

Accessible ramps along the sidewalk are not in compliance with ADA standards with slopes greater than 1:12 and/or do not exist along the entire route. (*2010 ADA Standards for Accessible Design, Standard 405: Ramps (405.2: Slope))***.**

Curb ramps at street intersections exhibit a similar condition which results in the accumulation of water at the bottom of the ramps near the gutters representing a violation of *2010 ADA Standards for Accessible Design, Standard 405: Ramps (405.10: Wet Conditions) and Standard 406: Curb Ramps*.

The queuing plazas for pedestrians at these intersections are crowded by telephone poles, traffic signal poles, light poles and the traffic signal boxes. For example, at the intersection of Main Street and Pine Street the lots on the north and northeast corners do not have any room for accessible ramps because of the afore-mentioned structures.

The entrances into a majority of the shops along the route are not compliant with ADA regulations. A few of the buildings have two public entrances into their shops; however, neither entrance is ADA compliant. To be acceptable, at least one of the entrances needs to be ADA compliant from the sidewalk accessible route. *(2010 ADA Standards for Accessible Design, Standard 403: Walking Surfaces, 403.5.1: Clearances)*. Most of the shops have stairs or small ramps that lead to their front entrance ranging from one to four inches above the sidewalk elevation.

The curb & gutter along FM 2920 (Main Street) is almost non-existent in some locations. There is approximately one to four inches of curb exposure in these areas. For example, at the intersection of Main Street and Walnut Street there is a corner lot in the northwest quadrant that does not have any curb or gutter. The condition is the same for the lot on the northeast corner of Main Street and Pine Street.

Some inlets and grates which are supposed to drain the gutters are above the elevation of the gutter. Therefore, positive drainage of storm water at these locations is precluded at some intersections. For example, at the intersection of Main Street and Cherry Street there are two grates on the south corner that are not receiving initial storm water runoff because of the difference in elevation.

PROJECT GOAL & OBJECTIVE

The purpose of the proposed sidewalks, curbs & gutters is to provide safe ingress/egress for pedestrians on FM 2920 (Main Street) and to eliminate existing potential safety hazards. Modifications to the sidewalks and curbs & gutters would result in the following:

- Improved Pedestrian Safety – This project would provide an ADA compliant accessible route along the sidewalks and correct features that currently pose potential safety hazards.
- Improve Aesthetics – This project would improve ascetics of the hardscape/landscape within the three block limits.
- Improve Functionality – This project would improve functionality of the facility by providing accessible routes from the off-street public parking to and from the shops and restaurants throughout the route.

4.0 DEVELOPMENT OF FEASIBLE ALTERNATIVES

Development of the alternatives investigated included meetings with City staff and TxDOT Houston District. TxDOT does not intend to implement any sidewalk improvements at this time due to funding constraints, however, posed no objection to the City proceeding with same providing permit and other TxDOT criteria is adhered to.

It should be noted that TxDOT previously completed an Access Management Study for FM 2920 from IH 45 to US 290. The impact of the study for the subject area would be elimination of parallel parking, reconstruction of the sidewalks, and the addition of raised median to create left turn bays and restrict turning movements and cross traffic at non-signalized intersection. These improvements are not currently programmed for implementation in the near future based on meetings with TxDOT conducted during this investigation.

TxDOT does have plans to mill, overlay, and re-crown FM 2920 in the subject area in the near future. As of this report scheduling for these improvements has not been confirmed.

Alternative 1 – No Build

The first alternative, a temporary ''No-Build'' option, is straight forward and would entail waiting for TxDOT to implement the necessary repairs and/or implement improvements identified in the FM 2920 Access Management Plan. Continued contact with TxDOT is recommended to reinforce the City's desire for improvements as soon as possible. The City could have the option of participating in the TxDOT project and/or afforded the opportunity to fund aesthetic enhancements to the project such as patterned concrete.

Alternative 2 – Repairs and/or Additions

The second alternative is to patch only the critical portions of the sidewalk that pose a hazard (greater than ¼-inch difference in elevation) to pedestrians *(per 2010 ADA Standards for Accessible Design, Standard 303.2: Vertical)*. Existing sidewalks with a continuous 36-inch wide accessible route having cross slopes a maximum of 1:48 and running slopes a maximum of 1:20 could remain *(per 2010 ADA Standards for Accessible Design, Standard 303: Changes in Level and Standard 403: Walking Surfaces (403.3: Slope)*). This alternative does not include constructing ADA regulated entrances into the shops along FM 2920 (Main Street). There are however, handicap ramps located along the sidewalk and at the intersections that are severely cracked or non-complying and will need to be replaced and updated to the most recent ADA standards for ramps *(per 2010 ADA Standards for Accessible Design, Standard 405: Ramps)* if affected.

Large cracks or hazardous areas in the sidewalk would be removed up to three-feet on either side of the crack along its full length. This will include replacing the sidewalk and possibly adjacent curb & gutter to obtain a maximum cross slope of 1:48 and a maximum running slope of 1:20 *(per 2010 ADA Standards for Accessible Design, Standard 403: Walking Surfaces (403.3: Slope and 403.5.1: Clearances))*. The concrete work could be done during non-peak hours to minimize impacts fronting businesses. High early strength (quick setting) concrete could be used to expedite cure time and returning access to pedestrian use. The approximate square footage of concrete needed for this alternative is 2,893 square feet at four and a half inches thick.

Potential repair areas were identified in the field and are illustrated on the attached exhibits. Based on these, an estimate of probable costs for was prepared totaling $394,000, attached.

Alternative 3 – Total Reconstruction with Retention of Parallel Parking

The third alternative would increase the radii at the intersections and extend them 11-feet into FM 2920 (Main Street) up to the width of the parallel parking spots, then curving the sidewalks and, curb & gutter back towards the center of the block approximately 30-feet. To implement this alternative, the block northeast of the project boundary (Walnut Street to Elm Street on FM 2920 (Main Street)) will need to have the street corners constructed in a similar manner. This block has fairly new concrete, so replacement of the sidewalks and curb & gutter will not be a concern.

Alternative three will increase the number of parallel parking spaces from 75 to 91 in front of the businesses along FM 2920 (Main Street) and will allow increased pedestrian area at the crosswalks. Cars turning onto FM 2920 (Main Street) would experience improved sight visibility thereby improving vehicular and pedestrian safety. This option would impact the parallel parking in that the proposed improvements would require conversion of some parking spaces for accessible use. This means there will have to be a handicap ramp at the end of the accessible parallel parking stall resulting in a decrease (to 5 feet) of the overall sidewalk width at those locations. FM 2920 (Main Street) will remain a four lane road with striping and no left turn lanes.

Total reconstruction for implementation of this alternative is expected to impact all parking areas, all curb & gutter, drainage features, fire hydrants, valves, trees, lighting, encroaching structures, signalization, pavement markings, and signage. These impacts will result as a product of creating compliant slopes controlled by adjacent structures.

Both vehicular and pedestrian traffic would likely require temporary controls for maintain safety and pedestrian access to adjacent businesses during construction. Construction could and/or would be

done during non-peak hours to minimize impacts. High early strength (quick setting) concrete could be used to expedite cure time and return access to pedestrian use.

This alternative would include constructing ADA regulated entrances into the shops along FM 2920 (Main Street) (*2010 ADA Standards for Accessible Design, Standard 405: Ramps and Standard 505: Handrails)*. The handicap ramps along the sidewalks and at the intersections will need to be replaced and updated to the most recent ADA specifications for ramps (*2010 ADA Standards for Accessible Design, Standard 405: Ramps (405.10: Wet Conditions) and Standard 406: Curb Ramps)*.

An exhibit illustrating this alternative is attached along with a detailed estimate of probable construction costs totaling $2.6 million for the proposed improvements.

Alternative 4 – Total Reconstruction with Removal of Parallel Parking

This alternative would completely remove the parallel parking along FM 2920 (Main Street) and introduce a left turn lane similar to the TxDOT Access Management Plan, however the conversion would be accomplished with pavement markings and not raised median. All current turning movements would remain.

To implement this alternative, the block east of the project boundary (Walnut Street to Elm Street on FM 2920 (Main Street)) will only need to have the street restriped including removal of the parking. In addition, the block west of the project boundary (Pine Street to Magnolia Street on FM 2920 (Main Street)) would require additional right-of-way and some pavement widening. The street will then taper back down to four lanes without a left turn lane immediately after crossing Magnolia Street. The parallel parking in front of the building on the northwest corner of Pine Street and FM 2920 (Main Street) will be removed to accommodate the new through lane configuration.

Total reconstruction for implementation of this alternative is expected to impact all parking areas, all curb & gutter, drainage features, fire hydrants, valves, trees, lighting, encroaching structures, signalization, pavement markings, and signage. These impacts will result as a product of creating compliant slopes controlled by adjacent structures.

Both vehicular and pedestrian traffic would likely require temporary controls for maintain safety and pedestrian access to adjacent businesses during construction. Construction could and/or would be done during non-peak hours to minimize impacts. High early strength (quick setting) concrete could be used to expedite cure time and return access to pedestrian use.

This alternative would include constructing ADA regulated entrances into the shops along FM 2920 (Main Street) *(2010 ADA Standards for Accessible Design, Standard 405: Ramps and Standard 505: Handrails)*. The handicap ramps along the sidewalks and at the intersections will need to be replaced and updated to the most recent ADA specifications for ramps *(2010 ADA Standards for Accessible Design, Standard 405: Ramps (405.10: Wet Conditions) and Standard 406: Curb Ramps).*

The traffic signals will need to be modified for the new configuration.

An exhibit illustrating this alternative is attached along with a detailed estimate of probable construction costs totaling $2.7 million for the proposed improvements.

For alternatives three and four, it is expected that the curb & gutter would need to be removed and replaced to allow proper grading of the sidewalks. Existing flow patterns would likely be maintained to minimize potential impacts of storm sewer trunk line. Removal, replacement, and additional inlets and leads were estimated for both alternatives (3 & 4) and these assumptions are illustrated on the attached exhibits.

6.0 CONCLUSION

The alternatives reviewed in this report provide options for the City ranging from “do nothing” to total reconstruction of the sidewalk facilities. Each alternative presented has what could be considered both positive and negative aspects. For example, Alternate 1 while zero or minimized cost to the City, it provides no short term solution and subjects the City to a TxDOT timetable. Alternative 2 is offered as a minimal repair scenario which helps rectify major accessibility issues and somewhat improve aesthetics. However, the effort and expense could be considered temporary and may need to be repeated. Alternates 3 and 4 offer more of a long term solution although overall impacts and implementation costs are considerably more, a detailed investigation would be required to better define the project impacts and refine costs.

Regardless of which build alternative is selected more detailed investigations are recommended. Further investigation would need to commence with a thorough field survey to better define critical locations for both repairs and design constraints.

In the case of the repair scenario, the exhibits included in this report could be supplemented by City staff and/or a consultant to better define critical locations and assembled into a construction bid package.

For the rebuild scenarios, a detailed topography survey would need to be performed and detailed engineering plans would need to be prepared. The design and construction effort would include professional land surveying, civil engineering, geotechnical and materials testing services, an urban forester, accessibility reviewer and inspection, traffic engineering, and potentially structural engineering. Given current regulation and design criteria, design of pedestrian sidewalks can involve as much or more effort than roadway design, particularly in locations as the one investigated in this report.

Project: The City of Tomball Sidewalk Investigation
Alternative 2 Summary

Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost
1	02221	Remove/ Dispose Conc Sidewalk	SY	$ 10.00	1,309	$ 13,094.00
2	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$10.00	247	$ 2,466.00
3	02752S	Saw Cutting	LF	$ 15.00	455	$ 6,825.00
4	02754	Concrete Driveways including Excavation 6-inch thick	SF	$9.00	2,219	$ 19,971.00
5	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	11,629	$ 174,435.00
6	02775	Wheelchair Ramps (Curb)	EA	$ 1,500.00	19	$ 28,500.00
7		Handrails	LF	$ 5.00	300	$ 1,500.00
					Subtotal	$ 246,791.00

Item no.	Spec. Ref.	Description	Unit of Measure	Estimated Quantity	Unit Price	Total in Figures
1	01505	Mobilization	LS	$ 1.00	$ 4,000.00	$ 4,000.00
2	01562	Tree and plant protection	LS	$ 1.00	$ 15,000.00	$ 15,000.00
3	01570	Storm-Water-Pollution-Prevention	LS	$ 1.00	$ 6,000.00	$ 6,000.00
				Lump Sum Total		$ 25,000.00

Total Estimated Probable Cost for 2-200	$76,511.00
Total Estimated Probable Cost for 2-300	$72,591.00
Total Estimated Probable Cost for 2-400	$97,682.00
Lump Sum Total	$ 25,000.00
Construction Subtotal	$271,784.00

Contingency @ 25%	$ 67,946.00
Contingency + Construction Subtotal	$339,730.00
Engineering and Surveying @ 20%	$ 54,357.00
TOTAL	$394,087.00

Project: The City of Tomball Sidewalk Investigation
Alternative 2 Estimate of Probable Cost by Block

					Northside of Block 200		Southside of Block 200		
Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Total in Figures
1	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	235	$ 2,346.00	183	$ 1,835.00	$ 4,181.00
2	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$10.00	44	$444.00	60	$597.00	$1,041.00
3	02752S	Saw Cutting	LF	$ 15.00	70	$ 1,050.00	110	$ 1,650.00	$ 2,700.00
4	02754	Concrete Driveways including Excavation 6-inch thick	SF	$9.00	399	$3,591.00	537	$4,833.00	$8,424.00
5	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	2,084	$ 31,260.00	1,627	$ 24,405.00	$ 55,665.00
6	02775	Wheelchair Ramps (Curb)	EA	$ 1,500.00	1	$ 1,500.00	2	$ 3,000.00	$ 4,500.00
7		Handrails	LF	$ 5.00	0	$ -	0	$ -	$ -
				Construction Subtotal		$ 40,191.00		$ 36,320.00	$ 76,511.00

					Northside of Block 300		Southside of Block 300		
Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Total in Figures
1	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	301	$ 3,009.00	85	$ 852.00	$ 3,861.00
2	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$10.00	0	$0.00	0	$0.00	$0.00
3	02752S	Saw Cutting	LF	$ 15.00	80	$ 1,200.00	110	$ 1,650.00	$ 2,850.00
4	02754	Concrete Driveways including Excavation 6-inch thick	SF	$9.00	0	$0.00	0	$0.00	$0.00
5	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	2,712	$ 40,680.00	730	$ 10,950.00	$ 51,630.00
6	02775	Wheelchair Ramps (Curb)	EA	$ 1,500.00	3	$ 4,500.00	6	$ 9,000.00	$ 13,500.00
7		Handrails	LF	$ 5.00	0	$ -	150	$ 750.00	$ 750.00
				Construction Subtotal		$ 49,389.00		$ 23,202.00	$ 72,591.00

					Northside of Block 400		Southside of Block 400		
Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Total in Figures
1	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	152	$ 1,525.00	352	$ 3,519.00	$ 5,044.00
2	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$10.00	123	$1,226.00	20	$200.00	$1,426.00
3	02752S	Saw Cutting	LF	$ 15.00	85	$ 1,275.00	0	$ -	$ 1,275.00
4	02754	Concrete Driveways including Excavation 6-inch thick	SF	$9.00	1,103	$9,927.00	180	$1,620.00	$11,547.00
5	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	1,345	$ 20,175.00	3,131	$ 46,965.00	$ 67,140.00
6	02775	Wheelchair Ramps (Curb)	EA	$ 1,500.00	2	$ 3,000.00	5	$ 7,500.00	$ 10,500.00
7		Handrails	LF	$ 5.00	0	$ -	150	$ 750.00	$ 750.00
				Construction Subtotal		$ 37,128.00		$ 60,554.00	$ 97,682.00
					Subtotal Northside	**$ 126,708.00**	**Subtotal Southside**	**$ 120,076.00**	**$ 246,784.00**

Project: The City of Tomball Sidewalk Investigation
Alternative 3 Summary

Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost
1	01740	Site restoration	LF	$ 5.00	16,480	$ 82,400.00
2	02082	Type C manhole for 42-inch diameter and smaller sewer	EA	$ 1,500.00	16	$ 24,000.00
3	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$ 10.00	313	$ 3,121.00
4	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	2,830	$ 28,303.00
5	02221	Remove/ Dispose Conc Curb and Gutter	LF	$ 10.00	2,515	$ 25,150.00
6	02221	Remove And Dispose of Existing Inlets	EA	$ 500.00	8	$ 4,000.00
7	02631	24-inch diameter storm sewer by open cut	LF	$ 150.00	1,075	$ 161,250.00
8	2632	Type BB inlet (Precast)	EA	$ 3,200.00	34	$ 108,800.00
9	02711	HotMix Asphalt Base Course (TypeA/B) / All Thickness	TON	$ 120.00	1,200	$ 144,000.00
10	02712	Cement Stabilzed Sand	SY	$ 15.00	2,000	$ 30,000.00
11	02741	Hot Mix Asphalt Concrete Pavement 2-inch thick	TON	$ 123.00	455	$ 56,039.00
12	02752S	Saw Cutting	LF	$ 15.00	2,600	$ 39,000.00
13	02754	Concrete Driveways including Excavation 6-inch thick	SF	$ 9.00	2,780	$ 25,029.00
14	02771	6-inch Curb and Gutter	LF	$ 6.00	3,020	$ 18,120.00
15	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	36,520	$ 547,800.00
16	02775	Wheelchair Ramps (Curb)	EA	$ 500.00	20	$ 10,000.00
17	02775	Wheelchair Ramps (Building Entrance)	EA	$ 1,000.00	33	$ 33,000.00
18	02960	Milling Asphalt pavement up to 4-inches	SY	$ 5.00	5,023	$ 25,122.00
19		Handrails	LF	$ 5.00	615	$ 3,075.00
20		Adjust Small Black Street Lights to Proposed Elevation	EA	$ 1,500.00	40	$ 60,000.00
21		Adjust Fire Hydrant to Proposed Elevation	EA	$ 750.00	3	$ 2,250.00
22		Adjust Existing Inlets	EA	$ 1,500.00	2	$ 3,000.00
					Construction Subtotal	$ 1,433,459.00

Item no.	Spec. Ref.	Description	Unit of Measure	Estimated Quantity	Unit Price	Total in Figures
1	01502	Mobilization	LS	1	$ 50,000.00	$ 50,000.00
2	01555	Temporary Traffic Signals	LS	1	$ 30,000.00	$ 30,000.00
3	01555	Traffic Control and Regulation	LS	1	$ 50,000.00	$ 50,000.00
4	01555	Flagmen	LS	1	$ 30,000.00	$ 30,000.00
5	01562	Tree and Plant Protection	LS	1	$ 30,000.00	$ 30,000.00
6	01570	Storm-Water-Pollution-Prevention	LS	1	$ 6,000.00	$ 6,000.00
7		Pavement Markings	LS	1	$ 15,000.00	$ 15,000.00
8		Traffic Signal Modifications for PED Signals	LS	2	$ 75,000.00	$ 150,000.00
					Lump Sum Total	$ 361,000.00

Total Estimated Probable Cost for 3-100	$ 319,562.00
Total Estimated Probable Cost for 3-200	$ 363,508.00
Total Estimated Probable Cost for 3-300	$ 350,648.00
Total Estimated Probable Cost for 3-400	$ 399,741.00
Lump Sum Total	$ 361,000.00
Construction Total	$ 1,794,459.00

Contingency @ 25%	$ 448,615.00
Contingency + Construction Subtotal	$ 2,243,074.00
Engineering and Surveying @ 20%	$ 358,892.00
TOTAL	$ 2,601,966.00

Project: The City of Tomball Sidewalk Investigation
Alternative 3 Estimate of Probable Cost by Block

					Northside of Block 100		Southside of Block 100		Northside of Block 200		Southside of Block 200		Northside of Block 300		Southside of Block 300		Northside of Block 400		Southside of Block 400			
Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Total Quantity	Total in Figures
1	01740	Site restoration	LF	$ 5.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	16,480	$ 82,400.00
2	02082	Type C manhole for 42-inch diameter and smaller sewer	EA	$ 1,500.00	2	$ 3,000.00	2	$ 3,000.00	2	$ 3,000.00	2	$ 3,000.00	2	$ 3,000.00	2	$ 3,000.00	2	$ 3,000.00	2	$ 3,000.00	16	$ 24,000.00
3	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$ 10.00	80	$ 800.00	0	$ -	65	$ 649.00	1	$ 10.00	0	$ -	0	$ -	135	$ 1,354.00	31	$ 308.00	312	$ 3,121.00
4	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	0	$ -	0	$ -	515	$ 5,149.00	485	$ 4,854.00	460	$ 4,600.00	430	$ 4,303.00	580	$ 5,797.00	360	$ 3,600.00	2,830	$ 28,303.00
5	02221	Remove/ Dispose Conc Curb and Gutter	LF	$ 10.00	200	$ 2,000.00	200	$ 2,000.00	325	$ 3,250.00	325	$ 3,250.00	395	$ 3,950.00	390	$ 3,900.00	320	$ 3,200.00	360	$ 3,600.00	2,515	$ 25,150.00
6	02221	Remove And Dispose of Existing Inlets	EA	$ 500.00	0	$ -	0	$ -	1	$ 500.00	2	$ 1,000.00	1	$ 500.00	3	$ 1,500.00	0	$ -	1	$ 500.00	8	$ 4,000.00
7	02631	24-inch diameter storm sewer by open cut	LF	$ 150.00	95	$ 14,250.00	90	$ 13,500.00	120	$ 18,000.00	120	$ 18,000.00	130	$ 19,500.00	120	$ 18,000.00	240	$ 36,000.00	160	$ 24,000.00	1,075	$ 161,250.00
8	2632	Type BB inlet (Precast)	EA	$ 3,200.00	4	$ 12,800.00	4	$ 12,800.00	4	$ 12,800.00	4	$ 12,800.00	4	$ 12,800.00	4	$ 12,800.00	5	$ 16,000.00	5	$ 16,000.00	34	$ 108,800.00
9	02711	HotMix Asphalt Base Course (TypeA/B) / All Thickness	TON	$ 120.00	150	$ 18,000.00	150	$ 18,000.00	150	$ 18,000.00	150	$ 18,000.00	150	$ 18,000.00	150	$ 18,000.00	150	$ 18,000.00	150	$ 18,000.00	1,200	$ 144,000.00
10	02712	Cement Stabilzed Sand	SY	$ 15.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	2,000	$ 30,000.00
11	02741	Hot Mix Asphalt Concrete Pavement 2-inch thick	TON	$ 123.00	55	$ 6,760.00	60	$ 7,361.00	55	$ 6,813.00	60	$ 7,379.00	60	$ 7,396.00	60	$ 7,412.00	50	$ 6,128.00	55	$ 6,790.00	456	$ 56,039.00
12	02752S	Saw Cutting	LF	$ 15.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	2,600	$ 39,000.00
13	02754	Concrete Driveways including Excavation 6-inch thick	SF	$ 9.00	710	$ 6,390.00	0	$ -	575	$ 5,175.00	0	$ -	3	$ 27.00	3	$ 27.00	1,220	$ 10,980.00	270	$ 2,430.00	2,781	$ 25,029.00
14	02771	6-inch Curb and Gutter	LF	$ 6.00	380	$ 2,280.00	395	$ 2,370.00	385	$ 2,310.00	395	$ 2,370.00	395	$ 2,370.00	390	$ 2,340.00	320	$ 1,920.00	360	$ 2,160.00	3,020	$ 18,120.00
15	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	5,075	$ 76,125.00	3,605	$ 54,075.00	5,035	$ 75,525.00	4,780	$ 71,700.00	4,545	$ 68,175.00	4,270	$ 64,050.00	5,605	$ 84,075.00	3,605	$ 54,075.00	36,520	$ 547,800.00
16	02775	Wheelchair Ramps (Curb)	EA	$ 500.00	1	$ 500.00	1	$ 500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	20	$ 10,000.00
17	02775	Wheelchair Ramps (Building Entrance)	EA	$ 1,000.00	0	$ -	0	$ -	6	$ 6,000.00	0	$ -	4	$ 4,000.00	7	$ 7,000.00	8	$ 8,000.00	8	$ 8,000.00	33	$ 33,000.00
18	02960	Milling Asphalt pavement up to 4-inches	SY	$ 5.00	635	$ 3,174.00	655	$ 3,277.00	640	$ 3,199.00	655	$ 3,275.00	660	$ 3,299.00	650	$ 3,249.00	530	$ 2,649.00	600	$ 3,000.00	5,024	$ 25,122.00
19		Handrails	LF	$ 5.00	0	$ -	0	$ -	110	$ 550.00	70	$ 350.00	80	$ 400.00	90	$ 450.00	170	$ 850.00	95	$ 475.00	615	$ 3,075.00
20		Adjust Small Black Street Lights to Proposed Elevation	EA	$ 1,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	40	$ 60,000.00
21		Adjust Fire Hydrant to Proposed Elevation	EA	$ 750.00	0	$ -	1	$ 750.00	0	$ -	1	$ 750.00	0	$ -	1	$ 750.00	0	$ -	0	$ -	3	$ 2,250.00
22		Adjust Existing Inlets	EA	$ 1,500.00	1	$ 1,500.00	1	$ 1,500.00	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	2	$ 3,000.00
				Construction Subtotal		**$ 174,004.00**		**$ 145,558.00**		**$ 188,845.00**		**$ 174,663.00**		**$ 175,942.00**		**$ 174,706.00**		**$ 225,878.00**		**$ 173,863.00**		**$ 1,433,459.00**

Project: The City of Tomball Sidewalk Investigation
Alternative 4 Summary

Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost
1	01740	Site restoration	LF	$ 5.00	16,480	$ 82,400.00
2	02082	Type C manhole for 42-inch diameter and smaller sewer	EA	$ 1,500.00	0	$ -
3	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$ 10.00	330	$ 3,270.00
4	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	2,745	$ 27,454.00
5	02221	Remove/ Dispose Conc Curb and Gutter	LF	$ 10.00	2,695	$ 26,950.00
6	02221	Remove And Dispose of Existing Inlets	EA	$ 500.00	16	$ 8,000.00
7	02631	24-inch diameter storm sewer by open cut	LF	$ 150.00	240	$ 36,000.00
8	2632	Type BB inlet (Precast)	EA	$ 3,200.00	18	$ 57,600.00
9	02711	HotMix Asphalt Base Course (TypeA/B) / All Thickness	TON	$ 120.00	2,000	$ 240,000.00
10	02712	Cement Stabilzed Sand	SY	$ 15.00	2,000	$ 30,000.00
11	02741	Hot Mix Asphalt Concrete Pavement 2-inch thick	TON	$ 123.00	540	$ 66,341.00
12	02752S	Saw Cutting	LF	$ 15.00	2,600	$ 39,000.00
13	02754	Concrete Driveways including Excavation 6-inch thick	SF	$ 9.00	2,825	$ 25,434.00
14	02771	6-inch Curb and Gutter	LF	$ 6.00	2,595	$ 15,570.00
15	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	30,085	$ 451,275.00
16	02775	Wheelchair Ramps (Curb)	EA	$ 500.00	24	$ 12,000.00
17	02775	Wheelchair Ramps Building Entrance)	EA	$ 1,000.00	39	$ 39,000.00
18	02960	Milling Asphalt pavement upto 4-inches	SY	$ 5.00	5,208	$ 26,050.00
19		Handrails	LF	$ 5.00	615	$ 3,075.00
20		Adjust Small Black Street Lights to Proposed Elevation	EA	$ 1,500.00	40	$ 60,000.00
21		Adjust Fire Hydrant to Proposed Elevation	EA	$ 750.00	4	$ 3,000.00
					Construction Subtotal	$ 1,252,419.00

Item no.	Spec. Ref.	Description	Unit of Measure	Estimated Quantity	Unit Price	Total in Figures
1	01502	Mobilization	LS	1	$ 50,000.00	$ 50,000.00
2	01555	Traffic Control and Regulation	LS	1	$ 50,000.00	$ 50,000.00
3	01555	Flagmen	LS	1	$ 30,000.00	$ 30,000.00
4	01555	Temporary Traffic Signals	LS	1	$ 30,000.00	$ 30,000.00
5	01562	Tree and Plant Protection	LS	1	$ 30,000.00	$ 30,000.00
6	01570	Storm-Water-Pollution-Prevention	LS	1	$ 6,000.00	$ 6,000.00
7		Traffic Signals	LS	2	$ 200,000.00	$ 400,000.00
8		Pavement Markings	LS	1	$ 15,000.00	$ 15,000.00
				Lump Sum Total		$ 611,000.00

Total Estimated Probable Cost for 4-100	$201,325.00
Total Estimated Probable Cost for 4-200	$350,520.00
Total Estimated Probable Cost for 4-300	$340,348.00
Total Estimated Probable Cost for 4-400	$360,226.00
Lump Sum Total	$ 611,000.00
Construction Subtotal	$1,863,419.00

Contingency @ 25%	$ 465,855.00
Contingency + Construction Subtotal	$ 2,329,274.00
Engineering and Surveying @ 20%	$ 372,684.00
TOTAL	$ 2,701,958.00

Alternati

Project: The City of Tomball Sidewalk Investigation
Alternative 4 Estimate of Probable Cost by Block

					Northside of Block 200		Southside of Block 200		Northside of Block 300		Southside of Block 300		Northside of Block 400		Southside of Block 400		Northside of Block 500		Southside of Block 500			
Item no.	Spec. Ref.	Description	Unit of Measure	Unit Price	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Estimated Quantity	Estimated Cost	Total Quantity	Total in Figures
1	01740	Site restoration	LF	$ 5.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	2,060	$ 10,300.00	16,480	$ 82,400.00
2	02082	Type C manhole for 42-inch diameter and smaller sewer	EA	$ 1,500.00	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -	0	$ -
3	02221	Remove/Dispose Conc driveway 6-inch thick/More	SY	$ 10.00	50	$ 503.00	0	$ -	1	$ 10.00	1	$ 10.00	110	$ 1,105.00	25	$ 248.00	60	$ 596.00	80	$ 798.00	327	$ 3,270.00
4	02221	Remove/ Dispose Conc Sidewalk 4-inch thick/More	SY	$ 10.00	485	$ 4,846.00	450	$ 4,503.00	470	$ 4,702.00	395	$ 3,949.00	585	$ 5,853.00	315	$ 3,146.00	45	$ 455.00	0	$ -	2,745	$ 27,454.00
5	02221	Remove/ Dispose Conc Curb and Gutter	LF	$ 10.00	320	$ 3,200.00	360	$ 3,600.00	350	$ 3,500.00	350	$ 3,500.00	290	$ 2,900.00	325	$ 3,250.00	350	$ 3,500.00	350	$ 3,500.00	2,695	$ 26,950.00
6	02221	Remove And Dispose of Existing Inlets	EA	$ 500.00	1	$ 500.00	2	$ 1,000.00	1	$ 500.00	3	$ 1,500.00	0	$ -	1	$ 500.00	4	$ 2,000.00	4	$ 2,000.00	16	$ 8,000.00
7	02631	24-inch diameter storm sewer by open cut	LF	$ 150.00	30	$ 4,500.00	30	$ 4,500.00	30	$ 4,500.00	30	$ 4,500.00	30	$ 4,500.00	30	$ 4,500.00	30	$ 4,500.00	30	$ 4,500.00	240	$ 36,000.00
8	2632	Type BB inlet (Precast)	EA	$ 3,200.00	2	$ 6,400.00	2	$ 6,400.00	2	$ 6,400.00	2	$ 6,400.00	2	$ 6,400.00	2	$ 6,400.00	3	$ 9,600.00	3	$ 9,600.00	18	$ 57,600.00
9	02711	HotMix Asphalt Base Course (TypeA/B) / All Thickness	TON	$ 120.00	250	$ 30,000.00	250	$ 30,000.00	250	$ 30,000.00	250	$ 30,000.00	250	$ 30,000.00	250	$ 30,000.00	250	$ 30,000.00	250	$ 30,000.00	2,000	$ 240,000.00
10	02712	Cement Stabilzed Sand	SY	$ 15.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	250	$ 3,750.00	2,000	$ 30,000.00
11	02741	Hot Mix Asphalt Concrete Pavement 2-inch thick	TON	$ 123.00	60	$ 7,322.00	60	$ 7,322.00	60	$ 7,425.00	60	$ 7,425.00	65	$ 7,939.00	60	$ 7,382.00	95	$ 11,716.00	80	$ 9,810.00	539	$ 66,341.00
12	02752S	Saw Cutting	LF	$ 15.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	325	$ 4,875.00	2,600	$ 39,000.00
13	02754	Concrete Driveways including Excavation 6-inch thick	SF	$ 9.00	435	$ 3,915.00	0	$ -	3	$ 27.00	3	$ 27.00	980	$ 8,820.00	205	$ 1,845.00	500	$ 4,500.00	700	$ 6,300.00	2,826	$ 25,434.00
14	02771	6-inch Curb and Gutter	LF	$ 6.00	320	$ 1,920.00	360	$ 2,160.00	350	$ 2,100.00	350	$ 2,100.00	290	$ 1,740.00	325	$ 1,950.00	300	$ 1,800.00	300	$ 1,800.00	2,595	$ 15,570.00
15	02775	Sidewalk 4-1/2-inch thick	SF	$ 15.00	5,385	$ 80,775.00	5,040	$ 75,600.00	5,195	$ 77,925.00	4,500	$ 67,500.00	6,225	$ 93,375.00	3,740	$ 56,100.00	0	$ -	0	$ -	30,085	$ 451,275.00
16	02775	Wheelchair Ramps (Curb)	EA	$ 500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	3	$ 1,500.00	5	$ 2,500.00	2	$ 1,000.00	2	$ 1,000.00	24	$ 12,000.00
17	02775	Wheelchair Ramps (Building Entrance)	EA	$ 1,000.00	6	$6,000.00	0	$ -	4	$ 4,000.00	7	$ 7,000.00	8	$ 8,000.00	8	$ 8,000.00	6	$ 6,000.00	0	$ -	39	$ 39,000.00
18	02960	Milling Asphalt pavement upto 4-inches	SY	$ 5.00	805	$ 4,027.00	805	$ 4,027.00	790	$ 3,949.00	790	$ 3,949.00	820	$ 4,099.00	800	$ 3,999.00	200	$ 1,000.00	200	$ 1,000.00	5,209	$ 26,050.00
19		Handrails	LF	$ 5.00	110	$ 550.00	70	$ 350.00	80	$ 400.00	90	$ 450.00	170	$ 850.00	95	$ 475.00	0	$ -	0	$ -	615	$ 3,075.00
20		Adjust Small Black Street Lights to Proposed Elevation	EA	$ 1,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	5	$ 7,500.00	40	$ 60,000.00
21		Adjust Fire Hydrant to Proposed Elevation	EA	$ 750.00	0	$ -	1	$ 750.00	0	$ -	1	$ 750.00	0	$ -	0	$ -	0	$ -	2	$ 1,500.00	4	$ 3,000.00
				Construction Subtotal		**$ 182,383.00**		**$ 168,137.00**		**$ 173,363.00**		**$ 166,985.00**		**$ 203,506.00**		**$ 156,720.00**		**$ 103,092.00**		**$ 98,233.00**		**$ 1,252,419.00**

South ROW 200 Block

South ROW 200 Block


207


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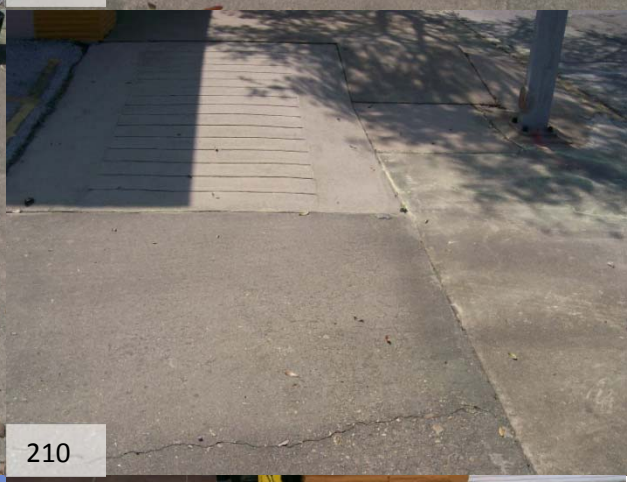
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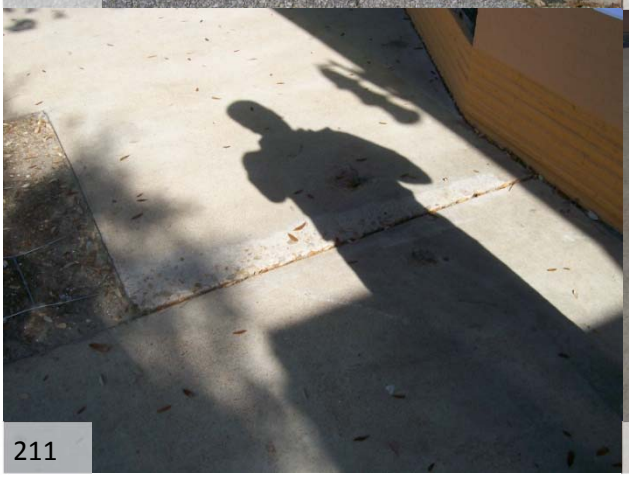
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South ROW 300 Block

South ROW 300 Block


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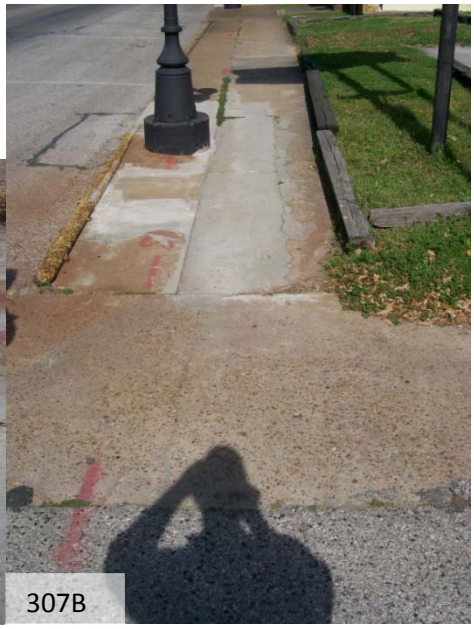
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South ROW 400 Block


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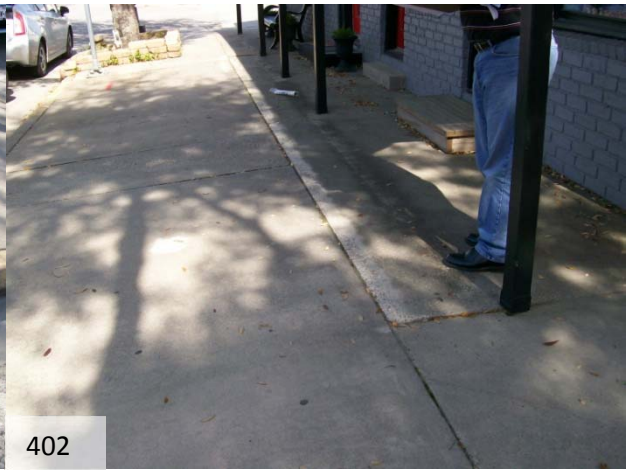
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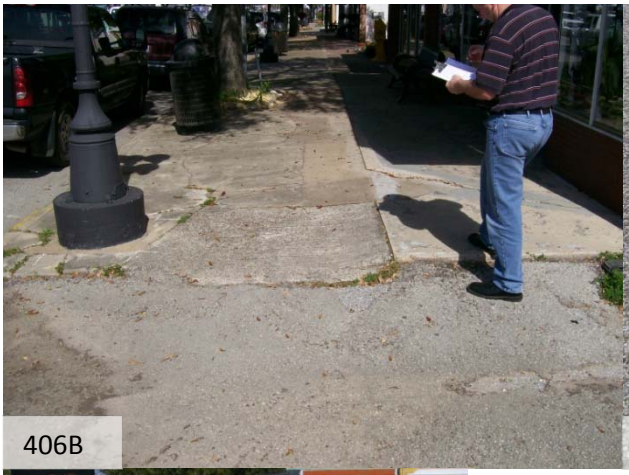
South ROW 400 Block



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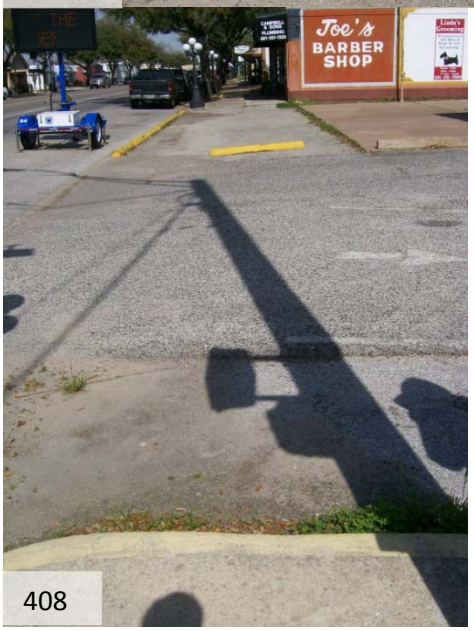

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North ROW 400 Block


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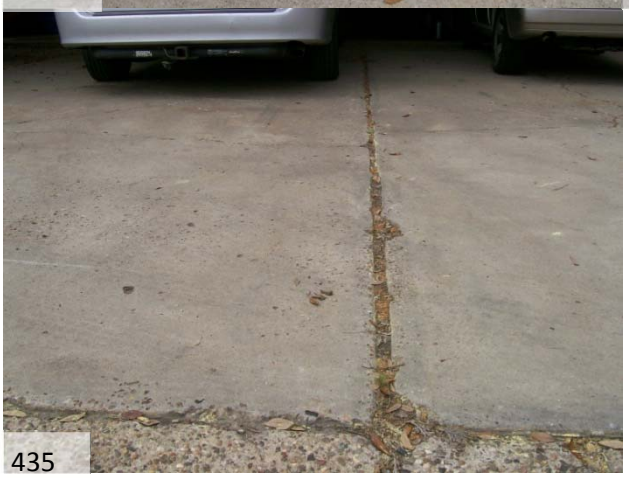
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North ROW 400 Block


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North ROW 400 Block


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North ROW 300 Block


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North ROW 200 Block


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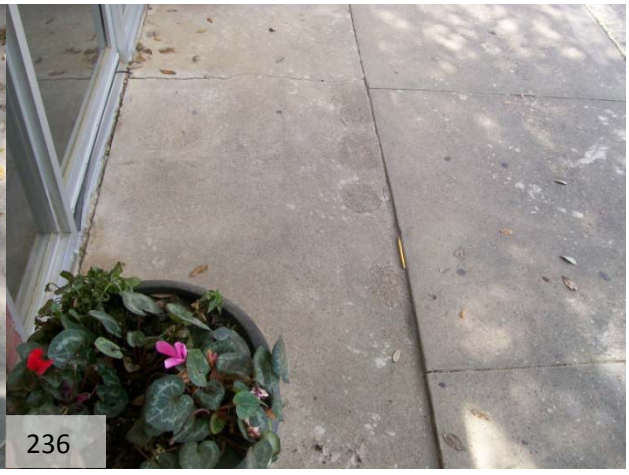
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North ROW 200 Block

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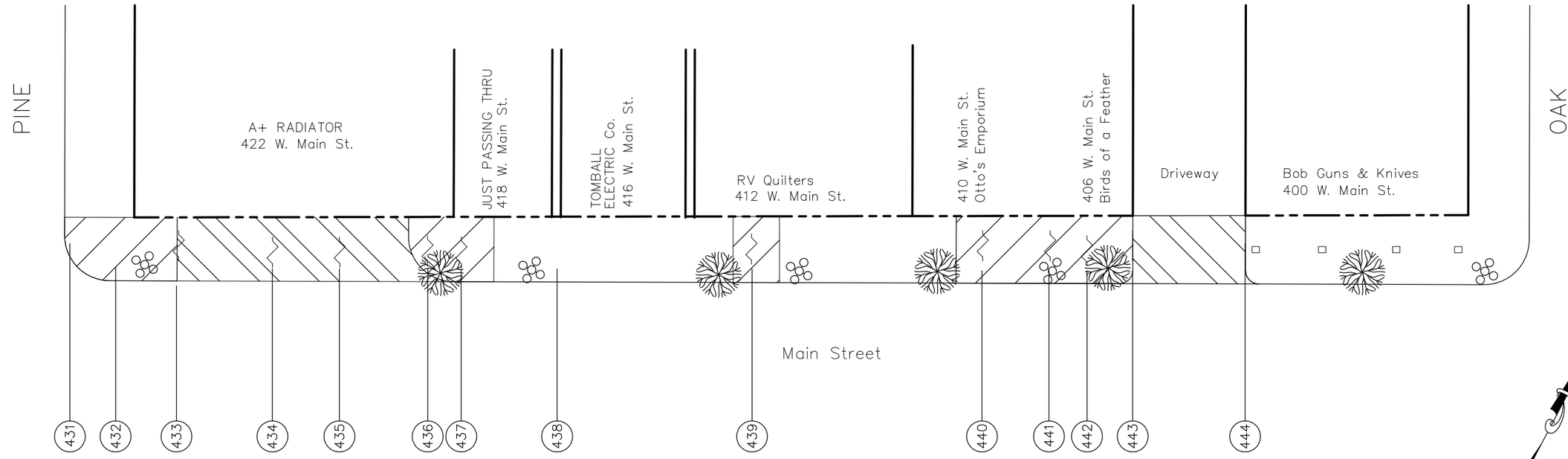


No.	sq. ft. of repair	TDLR Code/ Notes
431	30 sf	405 No HC Ramp
432	60 sf	405 No HC Ramps Need 2 here
433	NA	303.2 >1/4" diff. in surfaces
434	NA	303.2 >1/4" diff. in surfaces
435	NA	303.2 >1/4" diff. in surfaces
436	NA	303.2 >1/4" diff. in surfaces
437	NA	303.2 >1/4" diff. in surfaces
438	NA	303.2 >1/4" diff. in surfaces
	1,103 SF	Driveway repair and curb
	1,345 SF	Sidewalk repair

No.	sq. ft. of repair	TDLR Code/ Notes
439	NA	303.2 >1/4" diff. in surfaces
440	NA	303.2 >1/4" diff. in surfaces
441	NA	303.2 >1/4" diff. in surfaces
442	NA	303.2 >1/4" diff. in surfaces
443	NA	303.2 >1/4" diff. in surfaces
444	NA	cross slope in Driveway >2%

LEGEND

STREET LIGHT

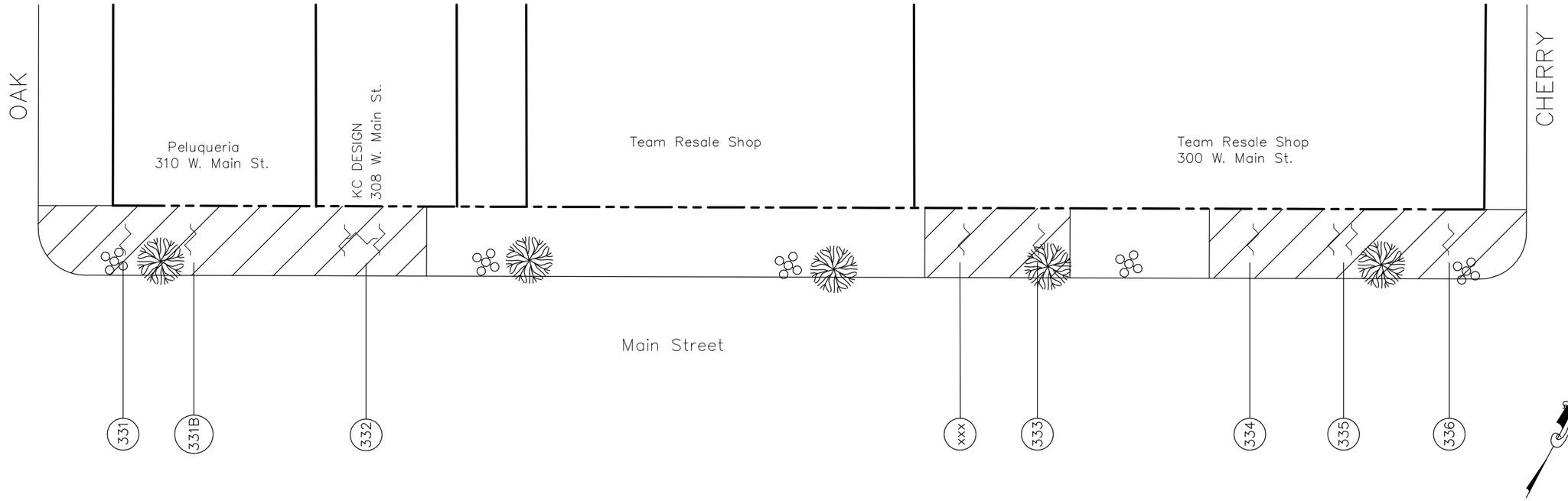
LANDSCAPE TREE

CLR, Inc.
TBPE Firm Reg. No. 275
TBPLS Firm Reg. No. 10038900
Engineers • Surveyors • GIS
19530 F.M. 362, Waller, Texas 77484
Phone: (713) 462-0993 Fax: (713) 462-2732

ALTERNATE 2
REPAIRS AND/OR ADDITIONS
SHEET 1 OF 6

North Right of Way
Pine and Oak St. Block

Main Street
Sidewalk Investigation



No.	sq. ft. of repair	TDLR Code/ Notes
331	NA	303.2 >1/4" diff. in surfaces
331B	NA	303.2 >1/4" diff. in surfaces
332	NA	303.2 >1/4" diff. in surfaces
xxx	NA	303.2 >1/4" diff. in surfaces
333	NA	303.2 >1/4" diff. in surfaces
334	NA	303.2 >1/4" diff. in surfaces
335	NA	303.2 >1/4" diff. in surfaces
336	NA	303.2 >1/4" diff. in surfaces
	2,708 SF	Sidewalk repair

LEGEND

STREET LIGHT

LANDSCAPE TREE

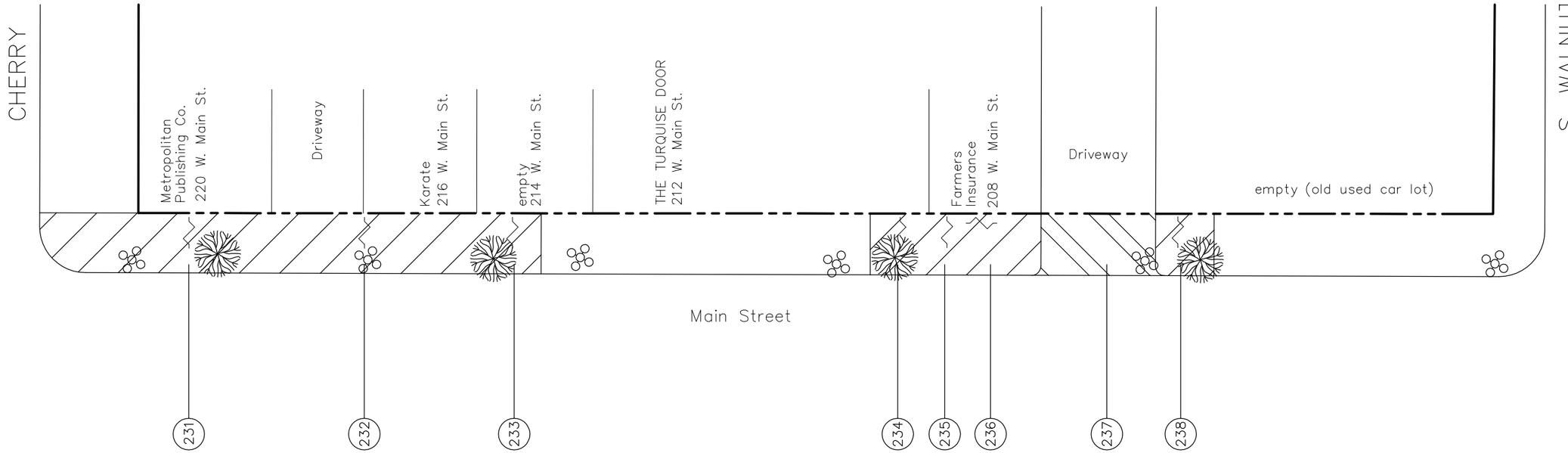
CLR, Inc.
TBPE Firm Reg. No. 275
TBPLS Firm Reg. No. 10038900
Engineers • Surveyors • GIS
19530 F.M. 362, Waller, Texas 77484
Phone: (713) 462-0993 Fax: (713) 462-2732

ALTERNATE 2
REPAIRS AND/OR ADDITIONS

SHEET 2 OF 6

North Right of Way
Oak and Cherry St. Block

Main Street
Sidewalk Investigation



No.	sq. ft. of repair	TDLR Code/ Notes
231	NA	303.2 >1/4" diff. in surfaces
232	NA	303.2 >1/4" diff. in surfaces
233	NA	303.2 >1/4" diff. in surfaces
234	NA	303.2 >1/4" diff. in surfaces
235	NA	303.2 >1/4" diff. in surfaces
236	NA	303.2 >1/4" diff. in surfaces
237	NA	cross slope in driveway >2%, no access
238	NA	303.2 >1/4" diff. in surfaces
	2,084 sf	Sidewalk repair
	399 sf	Driveway repair and curb

LEGEND

STREET LIGHT

LANDSCAPE TREE

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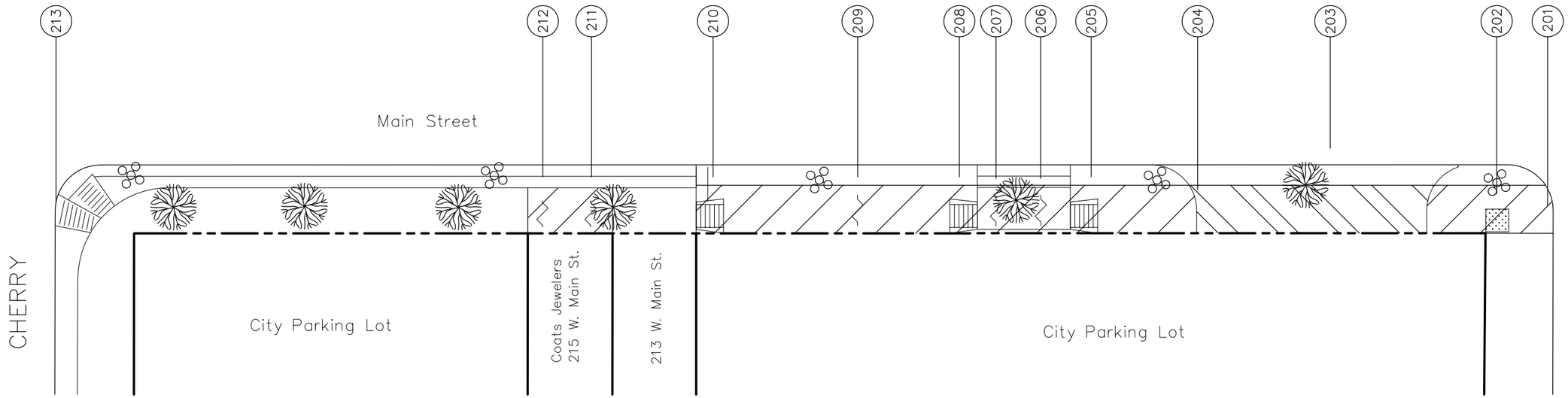
ALTERNATE 2
REPAIRS AND/OR ADDITIONS
SHEET 3 OF 6

North Right of Way
Cherry and Walnut St. Block

Main Street
Sidewalk Investigation



No.	sq. ft. of repair	TDLR Code/ Notes
201	30 sf	405 Need Ramp
202	NA	303 no concrete sidewalk for accessible route
203	NA	403.3 cross slope across driveway >2%
204	NA	302 surface change >1/4" at ramp, repair
205	NA	405.9 No edge protection/ need proper rails
206	NA	302 cracked surface change >1/4"
207	NA	302 cracked surface change >1/4"
	1,624 sf	Sidewalk repair
	537 sf	Driveway repair and curb

No.	sq. ft. of repair	TDLR Code/ Notes
208	NA	405.9 No edge protection/ need proper rails
209	NA	302 cracked surface change >1/4"
210	NA	405.9 No edge protection/ need proper rails
211	NA	302 cracked surface change >1/4"
212	NA	302 cracked surface change >1/4"
213	NA	302 surface change >1/4" at ramp

LEGEND

STREET LIGHT

LANDSCAPE TREE

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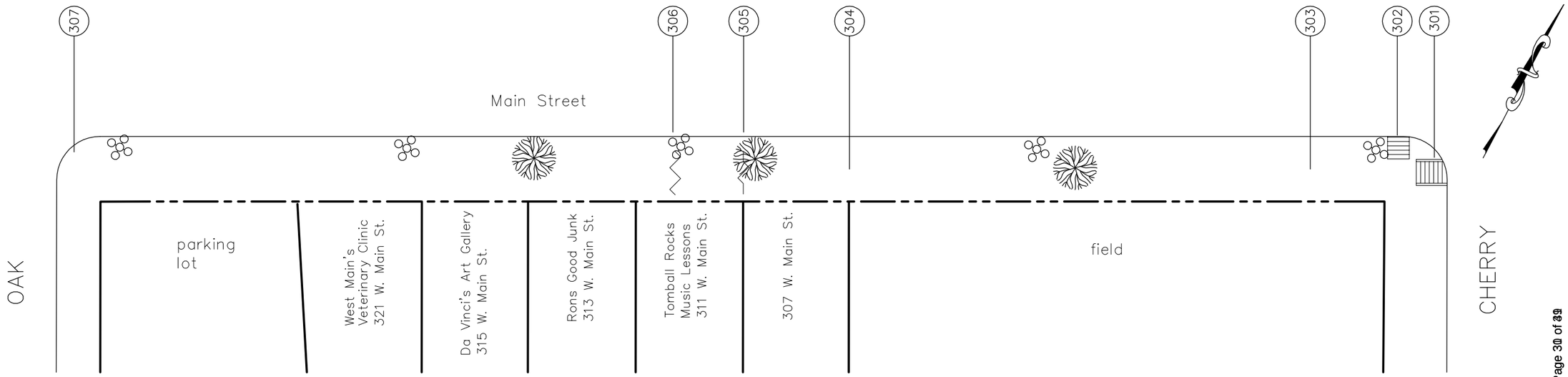
ALTERNATE 2
REPAIRS AND/OR ADDITIONS

SHEET 4 OF 6

South Right of Way
Walnut and Cherry St. Block

Main Street
Sidewalk Investigation



No.	sq. ft. of repair	TDLR Code/ Notes
301	36 sf	405 No Ramp
302	36 sf	302 ramp repair
303	532 sf	403.3 cross slope >2.08% at exit driveway
304	30 sf	303.2 >1/4" diff. in surfaces needs repair/ mill
305	30 sf	303.2, 405 >1/4" diff. in surfaces
306	30 sf	303.2, 405 >1/4" diff. in surfaces
307	36 sf	303.2 >1/4" diff. in surfaces at ramp

LEGEND

STREET LIGHT

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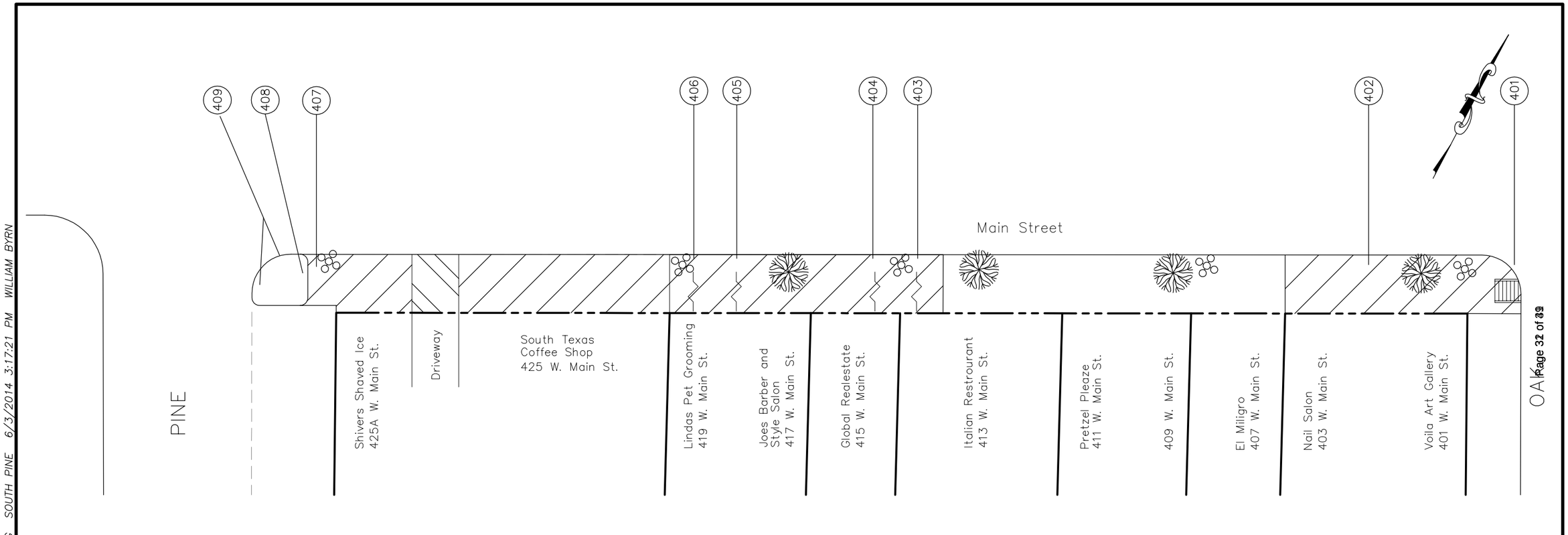
ALTERNATE 2
REPAIRS AND/OR ADDITIONS

SHEET 5 OF 6

South Right of Way
Cherry and Oak St. Block

Main Street
Sidewalk Investigation



No.	sq. ft. of repair	TDLR Code/ Notes
401	NA	303.2 >1/4" diff. in surfaces at ramp
402	NA	No TDLR Access
403	NA	303.2 >1/4" diff. in surfaces
404	NA	303.2 >1/4" diff. in surfaces
405	NA	303.2 cracked concrete
406	NA	303.2 > 1/4" diff. in surfaces
407	NA	303.2 >1/4" diff. in surfaces
	3,131 sf	Sidewalk repair
	180 sf	Driveway repair and curb

No.	sq. ft. of repair	TDLR Code/ Notes
408	30 sf	405 No HC Ramp
409	72 sf	405 No HC Ramp

LEGEND

STREET LIGHT

LANDSCAPE TREE

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ALTERNATE 2
REPAIRS AND/OR ADDITIONS

SHEET 6 OF 6

South Right of Way
Oak and Pine St. Block

Main Street
Sidewalk Investigation

CITY OF TOMBALL

DOWNTOWN SIDEWALKS & ENHANCEMENTS TO FOUR CORNERS INTERSECTION WORKSHOP

June 16, 2014

Background:

- The City of Tomball allocated $600,000 to enhance the sidewalks on both sides of FM 2920 between Walnut Street and Pine Street.
- The Community Development Department retained the services of CLR to review options and design alternatives.
- Goals:
  - ✓ Improve the safety and aesthetics of the sidewalks and mimic the existing sidewalks in the 100 block of FM 2920
  - ✓ Provide ADA compliant accessibility

- **Existing Conditions:**
  - Numerous cracks and tripping hazards
  - Excessive slopes (longitudinal and cross)
  - Obstructions (merchandise and streetscape amenities)
  - Accessible ramps missing
  - Inadequate drainage

Alternative 1:

- Work with H-GAC and TxDOT to implement a "portion" of the FM 2920 Access Management Study, which was adopted by Resolution 2009-33
  - "Portion" defined as between Tomball Parkway (SH 249 Business) and the railroad

Alternative 1 (continued):

- Includes:
  - At SH 249 Business / FM 2920 intersection
    - Elimination of curved right-turn lane and addition of new right-turn lane at the intersection.
  - Between SH 249 Business and Buvinghausen Street
    - Addition of raised medians and left-turn channelization
    - Raised triangle at Alma Street / FM 2920 intersection
  - Between Pine Street and the railroad tracks
    - Addition of raised medians and left-turn channelization
    - Removal of parking
    - Reconstruction of sidewalks

RECOMMENDED IMPROVEMENTS

LEGEND

- Residential
- Commercial
- Industrial
- Religious
- Day Care Center
- School
- Police or Fire Station
- Post Office
- Recreational / Health
- Vacant Land / Railroad
- County Boundary
- City Boundary

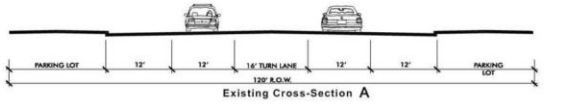
IMPROVEMENT LEGEND

County
- Short Term Improvement
- Medium Term Improvement
- Long Term Improvement

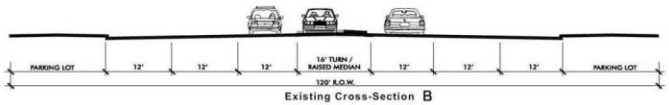
TxDOT
- Short Term Improvement
- Medium Term Improvement
- Long Term Improvement

City
- Short Term Improvement
- Medium Term Improvement
- Long Term Improvement

- Existing Signal
- Driveway Closure

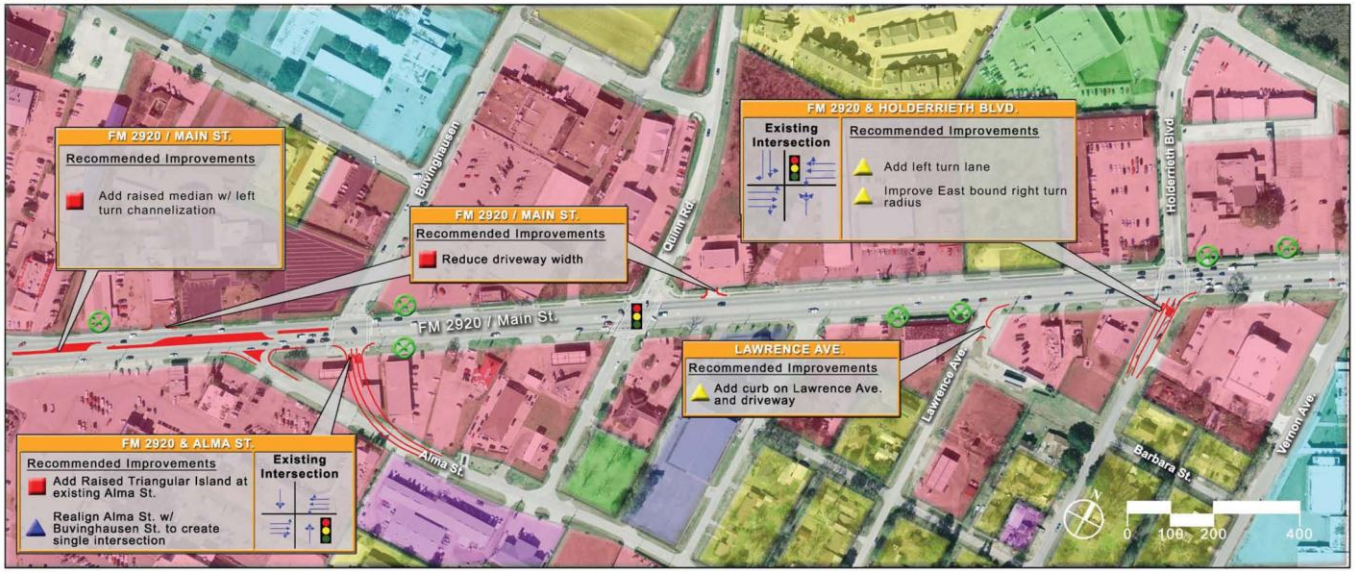


Existing Cross-Section A



Existing Cross-Section B

RECOMMENDED IMPROVEMENTS



LEGEND

- Residential
- Commercial
- Industrial
- Religious
- Day Care Center
- School
- Police or Fire Station
- Post Office
- Recreational / Health
- Vacant Land / Railroad
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- City Boundary

IMPROVEMENT LEGEND

County
- Short Term Improvement
- Medium Term Improvement
- Long Term Improvement

TxDOT
- Short Term Improvement
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City
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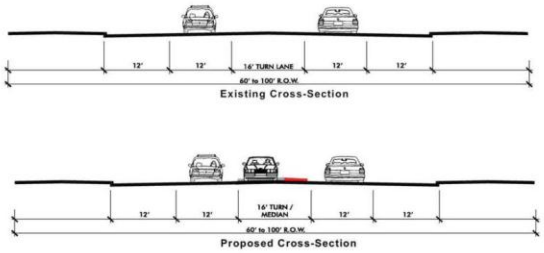
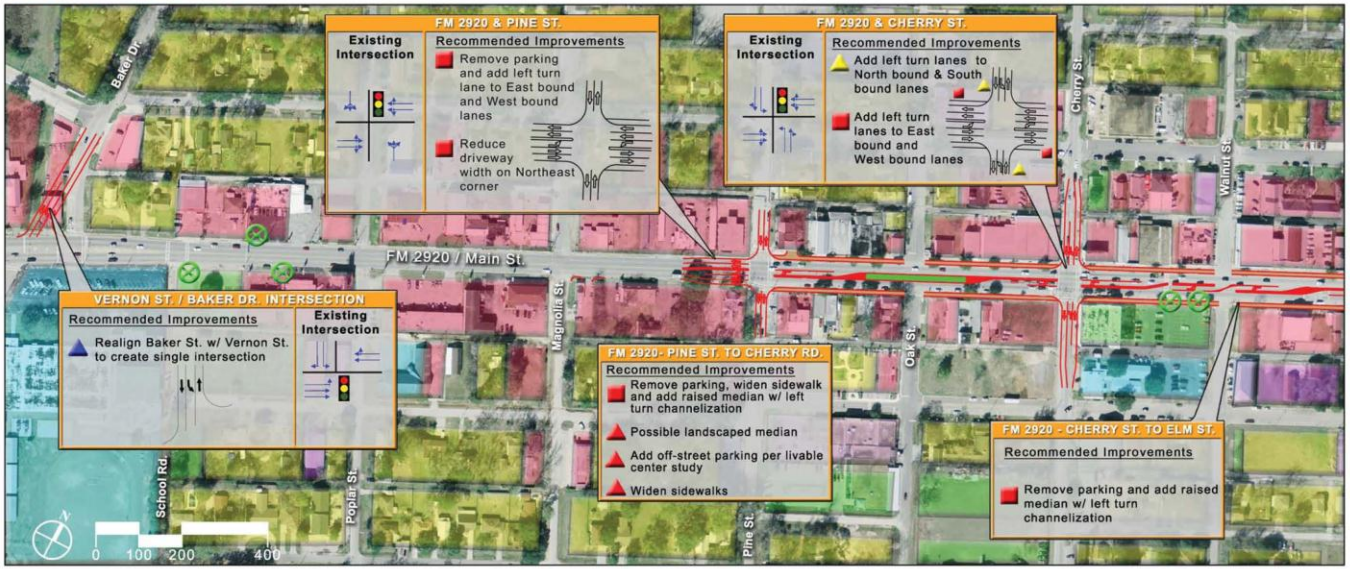
- Existing Signal
- Driveway Closure



RECOMMENDED IMPROVEMENTS



LEGEND

- Residential
- Commercial
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IMPROVEMENT LEGEND

County
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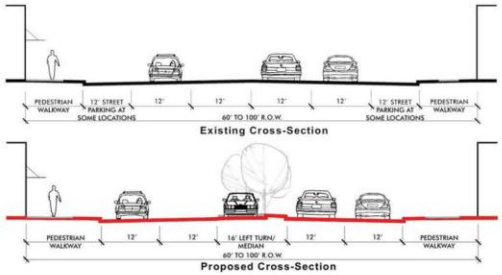
- Existing Signal
- Driveway Closure



RECOMMENDED IMPROVEMENTS

LEGEND

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IMPROVEMENT LEGEND

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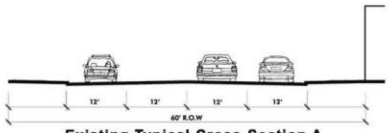
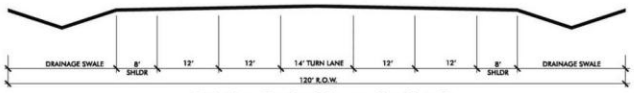
- Driveway Closure



Existing Typical Cross-Section A



Existing Typical Cross-Section B

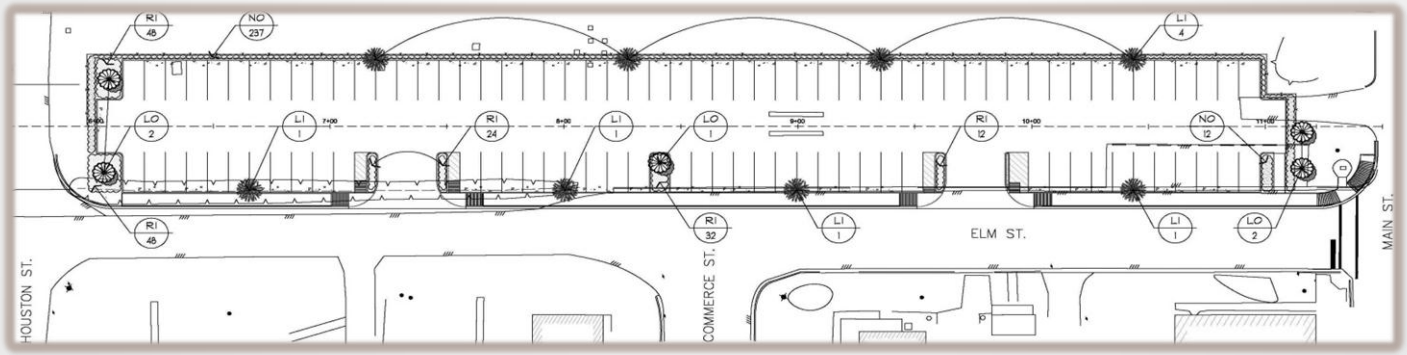
47

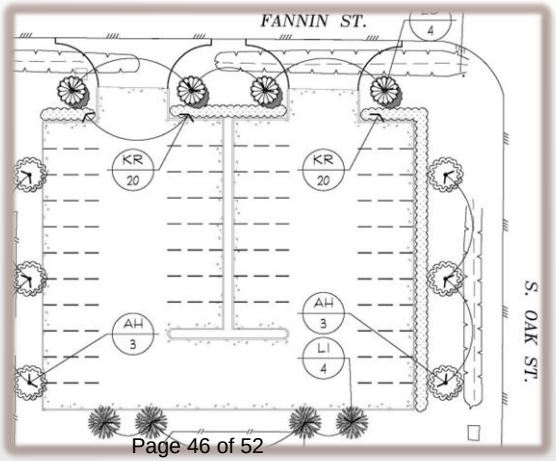
Alternative 1 (continued):

- Seek Grant Funding:
  - 20% TxDOT, 80% H-GAC grant through Congestion Mitigation and Air Quality (CMAQ) funding
  - Enhancements beyond TxDOT minimum standards at City's expense
    - Gateways, wayfinding and decorative signage, lighting, traffic signals, landscaping, decorative concrete, site furnishings, etc.
  - Timing
    - Application for H-GAC Grant later this summer
    - 2017 / 2018 Call for Projects
  - Local contribution increases odds of being awarded the grant

What has been done so far:

- Implementation of components in the Livable Centers Downtown Plan
  - New parking lots (Elm Street, Fannin Street) to offset loss of parking along FM 2920

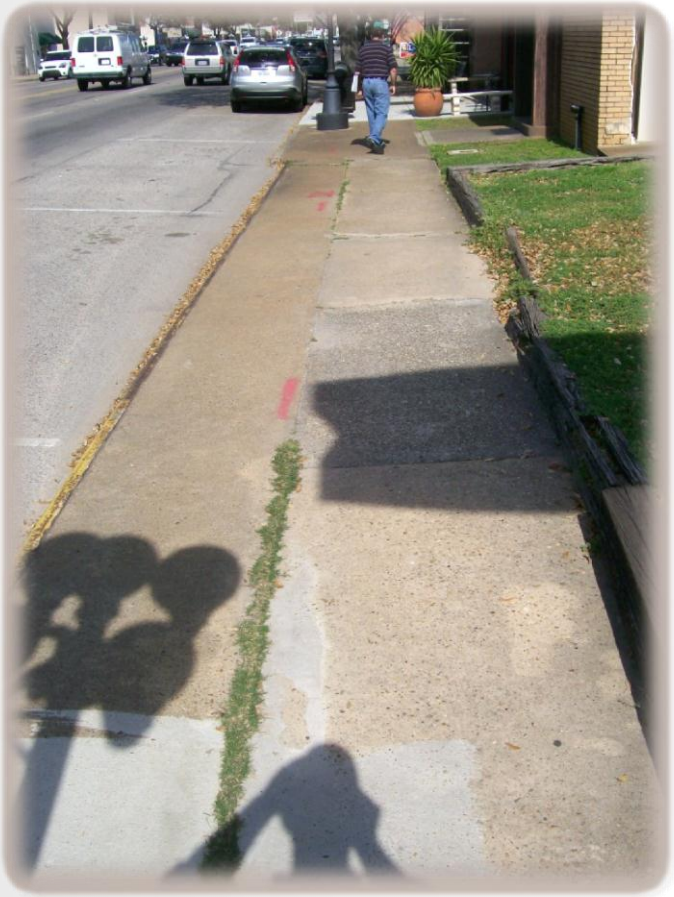




Alternative 2:

- Repairs and/or Additions
  - Repair tripping hazards
  - Construct or replace non-compliant ramps at intersections
  - Removal of obstructions to permit accessible routes
  - Temporary solution until FM 2920 Access Management Plan is implemented
  - Cost is approximately $400,000

Alternative 2 (continued):

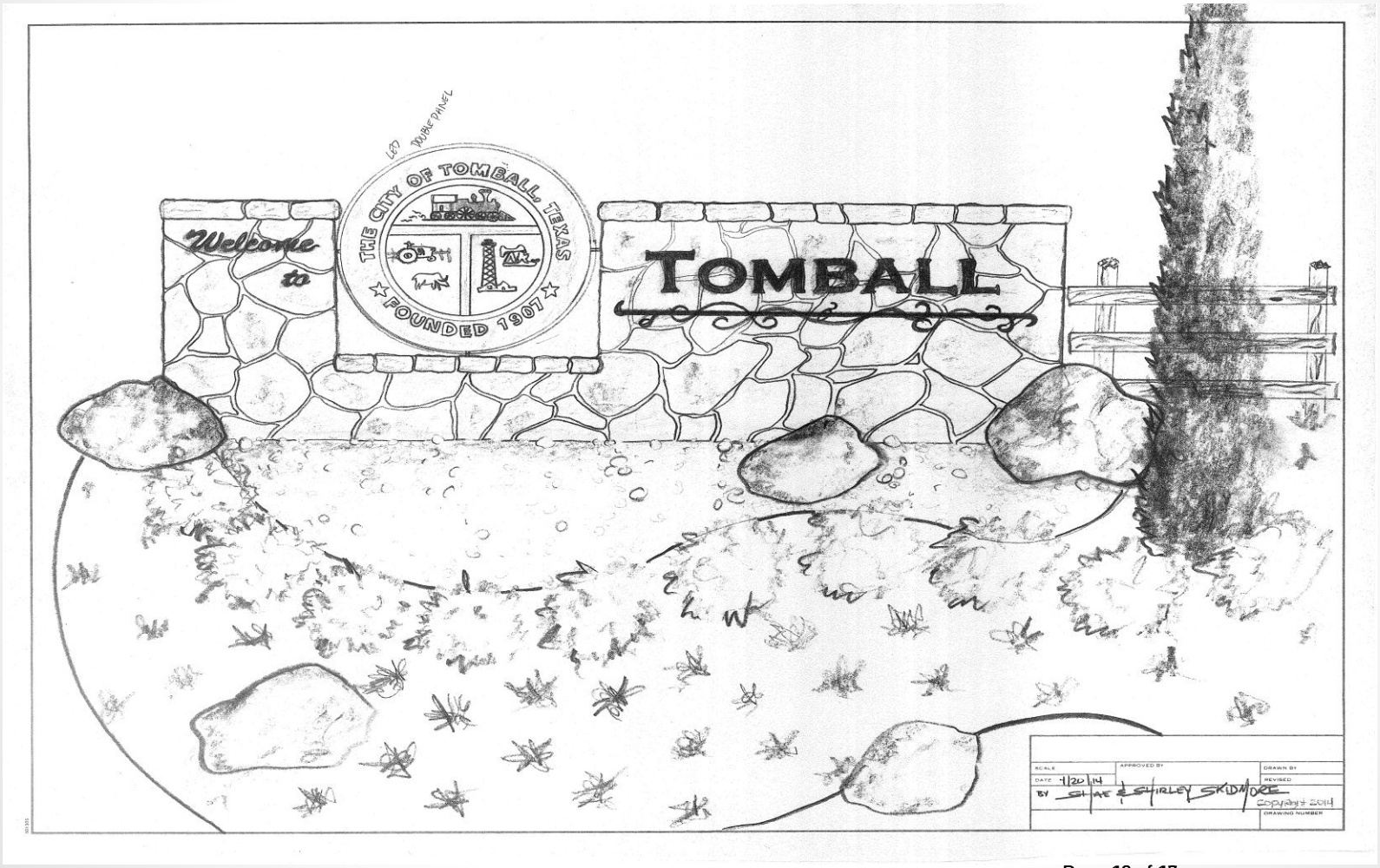


Alternative 3:

- Total reconstruction, by City, without on-street parking (between Pine Street and Walnut Street)
  - Reconstruction of sidewalks, ramps, curb/gutter, striped medians and left-turn channelization, traffic signal adjustments, lighting, utility adjustments, signs, pavement markings, additional right-of-way needed
  - $2.7 million

Four Corners Monument/ Tomball Gateway Concept

Four Corners Monument/ Tomball Gateway Concept



Discussion and Questions