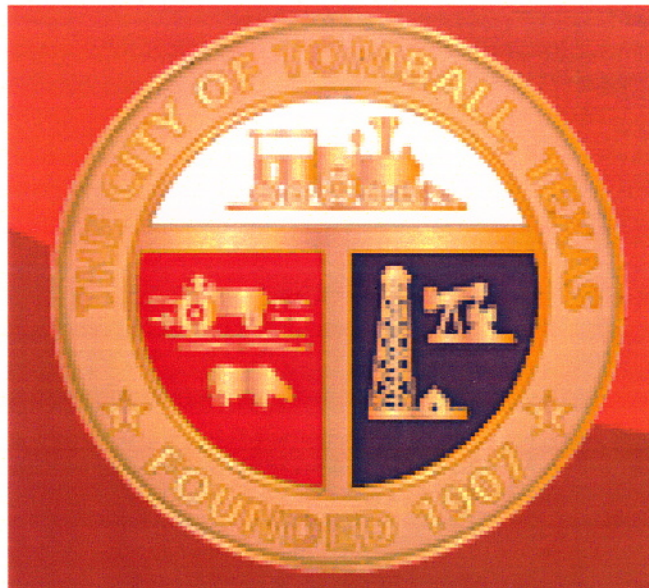


Project File Copy

QUINN ROAD PROPOSED SIDEWALK AND UTILITIES

PRELIMINARY ENGINEERING REPORT FOR THE CITY OF TOMBALL



05/29/08

Approved by

Mark A. McQuinn, P.E.
Director of Engineering
& Planning

Project No. 2007-10005

MARCH 2008

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R. Saikowski
3/20/08

**QUINN ROAD PROPOSED SIDEWALK AND UTILITIES
PRELIMINARY ENGINEERING REPORT
FOR THE CITY OF TOMBALL
PROJECT NO. 2007-10005**

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**QUINN ROAD PROPOSED SIDEWALK AND UTILITIES
PRELIMINARY ENGINEERING REPORT
FOR THE CITY OF TOMBALL
PROJECT NO. 2007-10005**

EXECUTIVE SUMMARY

Quinn Road, between FM 2920 and Zion Road, is designated as a major thoroughfare on the City of Tomball's 2006 Major Thoroughfare Plan. It is currently a two lane roadway without improved shoulders. The roadway drainage is mostly conveyed in open roadside ditches with a section between Hicks Street and Village Square conveyed by a storm sewer system below the roadside ditch. The roadway serves four Tomball ISD campuses, Tomball Junior High, Tomball High School, Beckendorf Intermediate School and Tomball Elementary School as well as local subdivisions and businesses.

Jones & Carter was authorized to prepare this Preliminary Engineering Report (PER) to provide recommendations for sidewalk and utility improvements along the corridor. The proposed utility improvements reviewed consist of waterline extensions & interconnects, gas line extensions & interconnects, and adjustments in drainage facilities to accommodate these improvements. No roadway improvements are recommended in this report.

The existing Quinn Road right-of-way (ROW) is sufficient to allow for the additions of sidewalks and utilities. However, this may result in some utilities being constructed under the proposed sidewalks. In order to minimize future maintenance costs for these utilities, it is recommended that the some of the sidewalk segments be constructed outside of the Quinn Road ROW in sidewalk easements. The location and need for these easements will be determined during the development of construction documents.

It is recommended that once the Brown-Hufsmith Road project is open to traffic, the City of Tomball initiate a traffic study on Quinn Road. The study should include updated traffic volumes, turning movement counts, the analysis of possible turn lanes, and a traffic signal warrant study(ies).

Our recommendations and total project costs are as follows:

Project Element	Project Cost
12" Water Line - Quinn Road	\$159,000
8" Water Line - Connector	20,750
4" Natural Gas Line - Quinn Road	37,000
2" Natural Gas Line Connector	7,500
Sidewalk Segment 1	63,000
Sidewalk Segment 2	60,000
Sidewalk Segment 3	37,000
Sidewalk Segment 4	112,000
Sidewalk Segment 5	45,000
Sidewalk Segment 6	61,000
Sidewalk Segment 7	28,000
Total Project Cost	\$630,250

**QUINN ROAD PROPOSED SIDEWALK AND UTILITIES
PRELIMINARY ENGINEERING REPORT
FOR THE CITY OF TOMBALL
PROJECT NO. 2007-10005
TOTAL BUDGET \$966,000
CIP DESIGN YEAR FY 06-07
CIP CONSTRUCTION YEAR FY 07-08**

I. INTRODUCTION

The City of Tomball (Tomball) authorized Jones & Carter, Inc. on April 25, 2007 via Purchase Order No. 0015420 to investigate the extension of the water distribution system, natural gas distribution system, improvements to the drainage system, evaluation of left-turn lanes into the three (3) schools along Quinn Road, and sidewalk extensions along Quinn Road between F.M. 2920 and Zion Road and in the general vicinity of Quinn Road. Additionally, Tomball authorized the preparation of a Preliminary Engineering Report (PER) that includes project costs and construction phasing recommendations.

II. PROJECT SCOPE

Prepare a Preliminary Engineering Report (PER) for the extension of the water distribution system, natural gas distribution system, improvements to the drainage system, evaluation of left-turn lanes into the three (3) schools along Quinn Road, and sidewalk extensions with cost estimates for engineering, surveying and construction services. The PER includes:

Water, Natural Gas and Storm Sewer Extensions (See Exhibit C&D):

1. 12-inch waterline along Quinn Road from the future Brown-Hufsmith Road to Baker Drive with an 8-inch waterline interconnect at Dove Trails
2. 4-inch Intermediate Pressure Gas Line along Quinn Road from the future Brown-Hufsmith Road to Baker Drive with a 2-inch gas line interconnect at Dove Trails

Sidewalk Segments (See Exhibit F):

1. Zion Road and Quinn Road adjacent to Tomball Junior High School
2. East side of Quinn Road from Zion Road to Baker Drive
3. North side of Baker Drive from Quinn Road to Tomball ISD Transportation Center
4. East side of Quinn Road from Baker Drive to future Brown-Hufsmith Road
5. North side of Inwood Street from Quinn Road to Baker Drive
6. East side of Quinn Road from Inwood Street to Village Square Drive
7. East side of Quinn Road from Village Square Drive to Rudel Drive

Traffic Management:

In addition, evaluations of previously prepared traffic studies will be made to determine if left-turn lanes are warranted on Quinn Road to enter the campuses along the corridor.

The Preliminary Engineering Report (PER) is based on available information from Tomball and Harris County files such as easement/right-of-way records, construction documents of existing and proposed infrastructure, geographic information systems (GIS) data, traffic studies, oil/gas

pipeline locations, Tropical Storm Allison Recovery Project (TSARP) Contours, and aerial topographic data.

Certain segments of waterline, gas main and sidewalk extensions are proposed to be included in the proposed Brown-Hufsmith Road project and have been designed by another consultant previously retained by Tomball. These segments are noted in the PER and are excluded from the cost estimates.

The Project Area is shown on Exhibit A.

III. EXISTING TOPOGRAPHIC FEATURES AND UTILITIES

Quinn Road is a two-lane road providing north-south access from F.M. 2920 to Zion Road and dead-ending near Spring Creek. Road pavement is concrete from F.M. 2920 to approximately 200 feet north of Baker Drive where it transitions to asphalt and remains asphalt to the northern terminus.

Drainage is provided in roadside ditches along both sides of the right-of-way. South of Inwood the roadside ditches are supplemented by a storm sewer system and inlets. Springwood Subdivision storm sewer system drains into a pumped detention basin located at the northwest corner of the future intersection of Brown-Hufsmith Road and Quinn Road. This pumped discharge enters the Quinn Road roadside ditch drainage system via a concrete splash pad.

Contours, based on TSARP LIDAR data, are provided on Exhibit "B" which depicts one foot increments. The intersection of Quinn and Zion is a high point. Quinn Road and the adjacent topography slopes gradually south to a low point at Inwood Street and then drains east toward Boggs Gully (Harris County Flood Control District Channel J131-00-00). The area north of F.M. 2920 drains north to Inwood Street.

No part of the proposed improvement lies within the 100 year flood plain. Sidewalk segment 5, which crosses over Boggs Gully on the existing structure, bisects the 500 year flood zone.

Tomball Independent School District ("Tomball ISD") owns all of the land except one tract abutting the east side of Quinn Road between Inwood Street and Zion Road, and some of the land on the west side. The land on the east side of Quinn Road between Inwood Drive and Tomball Elementary School is forested with mature trees. The land on the west side of Quinn Road between Springwood Subdivision and Hicks Street is also forested.

Land along both sides of Quinn Road south of Inwood Street and north of Village Square Drive is occupied by residences and small businesses. Village Square Apartments exists at the southeast corner of Quinn Road and Village Square Drive. The Central Fire Station accesses Quinn Road, directly north of Rudel Drive. Most of the land between the Central Fire Station and Hicks Street abutting the west side of Quinn Road is undeveloped. A multi-family development exists on the south side of Rudel Drive between Quinn Road and Tomball Parkway (SH 249).

A ten-inch waterline and four-inch gas line exists along the east side of Quinn Road between Zion Road and Baker Drive. There are no utilities on either side of Quinn Road between Baker Drive and the southeast east corner of Springwood Subdivision. A 12-inch waterline and four-inch gas line exist along the west side of Quinn Road south of Inwood Street. These lines connect respectively to an eight-inch waterline and four-inch gas line along the north side of Inwood Street. The existing waterlines and gas lines are shown on Exhibits C and D, respectively.

A ten-inch sanitary sewer exists along the west side of Quinn Road and flows from Buckingham Terrace Subdivision to the Baker Drive sanitary sewer. A ten-inch sanitary sewer drains south along the west side of Quinn Road to an 18-inch sanitary sewer south of Inwood Street.

There are several large diameter coniferous and deciduous trees along the project corridor. Please refer to the Quinn Road Site Photos section of this report for locations of trees. Segment 1 has large pine trees along its entire route on the Tomball Junior High School site. Segment 4 has large pine trees and some hardwoods along the eastern ROW of Quinn Road. Segment 5 has large oak trees in the yard of the adult convalescence home and the day care near Bogg's Gully. Segment 6 has large hardwoods in the front yards of residences. During the course of construction document development, these trees will need to be located by a surveyor and shown on the construction drawings. Every effort should be made during the engineering to avoid the removal of large trees. During construction, tree protection measures should be used to insure that the trees are not disturbed during the course of sidewalk and utilities installations.

Photographs of the Project area are included in the Appendix.

IV. ROAD RIGHT-OF-WAY

A "Right-of-Way Acquisition Map" prepared by Cobourn Linseisen & Ratcliff dated June 23, 1997 was utilized to determine the right-of-way widths along the segment of Quinn Road from Rudel to 350-feet north of Baker Drive. This information was further updated with recorded subdivision plats in the area. The "Right-of-Way Acquisition Map" is included in the Appendix. Quinn Road has an 80-foot wide right-of-way from F.M. 2920 to 350-feet north of Baker Road. Quinn Road right-of-way width from 350-feet north of Baker Road to Zion Road is 60-feet wide. Table A summarizes the road segments and right-of-way widths in the project area.

An additional ten-feet of right-of-way should be acquired along both sides of this section of road from Tomball ISD and property owners along 500 linear feet of frontage of Buckingham Terrace Subdivision along the west side of Quinn Road. This right-of-way acquisition would benefit Tomball in future years when traffic has increased on Quinn Road as a result of northerly growth, necessitating Quinn Road pavement cross-section to expand from two lanes to four lanes. Proposed utility lines within the Quinn Road right-of-way are recommended to be constructed along the right-of-way perimeters to accommodate the future road widening from two lanes to four lanes. This right-of-way acquisition is recommended to be programmed over the next several years as City Council can schedule funds for right-of-way acquisition. The extent of right-of-way acquisition and Quinn Road frontage ownership is shown on Exhibit "E".

V. WATERLINE EXTENSION

The proposed Brown-Hufsmith Road Project includes the extension of a 12-inch waterline along the north side of the proposed Brown-Hufsmith Road from the State Highway 249 east right-of-way to Quinn Road and, thence, south along the east side of Quinn Road to Inwood Street.

In order to complete a waterline loop from the Brown-Hufsmith Project, a 12-inch waterline is proposed along the east side of the Quinn to connect to the existing eight-inch waterline along the south side of the Baker Drive right-of-way. The total length of proposed 12-inch waterline excluded from the Brown-Hufsmith Road improvements is 1600 feet. In addition, an eight-inch waterline extension is proposed from the proposed 12-inch waterline on Quinn Road to the existing eight-inch waterline on the west side of Quinn Road within the Dove Trails Road right-

of-way in the Springwood Subdivision. The total length of the proposed eight-inch waterline is 80 feet. Project scopes are depicted in Exhibit C. The construction of the proposed eight-inch and 12-inch waterlines will enhance Tomball's water system reliability and pressure during peak usage periods in the area. Estimated costs for the water lines are provided in Table D with detailed estimated cost breakdowns in the Appendix.

VI. NATURAL GAS LINE EXTENSION

The proposed Brown-Hufsmith Road Project also includes the extension of a four-inch natural gas line from along the north side of the Brown-Hufsmith Road right-of-way from State Highway 249 east right-of-way to Quinn Road and, thence, south along the east side of Quinn Road right-of-way to connect to an existing four-inch natural gas line at the intersection of Quinn Road and Inwood Street.

The four-inch natural gas line is proposed to be extended in the Quinn Road Project north from Brown-Hufsmith Road to Baker Drive along the east side of the Quinn Road right-of-way to connect to an existing four-inch natural gas line along the north side of Baker Drive. Total length of four-inch natural gas line proposed along Quinn Road is 1600 feet. In addition, an eighty-foot natural gas line interconnect is proposed between the proposed Quinn Road natural gas line and the existing four-inch natural gas line at the west side of Quinn Road within the Dove Trail right-of-way. Project scopes are depicted in Exhibit D. These two natural gas line extensions will provide a more reliable natural gas distribution system. Estimated costs for the natural gas lines are provided in Table D with detailed estimated cost breakdowns in the Appendix.

VII. DRAINAGE SYSTEM

The Quinn Road drainage system consists of either roadside ditches or a combination of roadside ditches combined with a storm sewer system. The segment between F.M. 2920 and the north side of Inwood Street includes a gravity storm sewer system along the east side of the Quinn Road pavement with area inlets and shallow roadside drainage ditches above the storm sewer pipe. The remaining Quinn Road segments consist of roadside drainage ditches that are relatively shallow. However, the ditches on the west side of this section are approximately three feet below the edge of the road.

No changes to the storm sewer system and roadside ditches are required with the addition of sidewalks as outlined in Section VIII of this report.

VIII. SIDEWALK EXTENSIONS

An elementary school exists at the northeast corner of Quinn Road and Inwood Street. An intermediate school currently exists at the northeast corner of Quinn Road and Baker Drive, but it is scheduled to be closed in the near future. A junior high school is located at the southwest corner of Quinn Road and Zion Road and a high school is located at the northeast corner of Quinn Road and Zion Road.

Several sidewalk segments exist in the general area of Quinn Road, but there are few sidewalks in the immediate area of the four schools. There is a certain segment of the student population that walks or rides their bicycles to school. Except for the limited existing sidewalks, the students must either walk in the grass or along the edge of the roadways.

Concrete sidewalks are proposed for construction in the missing segments. Sidewalks are typically constructed in the road right of way beginning at 1-foot inside the right-of-way line and proceeding toward the pavement. Sidewalks can be located outside the road right-of-way, but should be placed in a public easement if the construction is funded with public monies. The proposed sidewalk will vary in widths from four-feet to six-feet in width with the wider sidewalk allowing for two-way pedestrian/bicycle traffic. The proposed sidewalk segments are depicted in Exhibit "F" and summarized in Table B. Sidewalks entering onto roads and drives will require contrasting colored pavement and grooved pavement or small cone projections in the pavement to meet Texas Accessibility Standards (TAS). Sidewalk slopes shall also meet the requirements of TAS. The sidewalk construction plans must be submitted to the Texas Department of Regulations and Licensing (TDLR) for a TAS review. Road markings and warning signage conforming to the Texas Manual of Uniform Traffic Control Devices (TxMUTCD) are required. A typical pedestrian crossings consists of advance warning signs, pedestrian warning signs, crosswalk pavement marking and appropriate TAS compliant pavement texture at approaches

Placing sidewalks in the road right-of-way may create certain logistical challenges. The challenges range from covering an existing utility line (gas line, waterline, sanitary sewer, buried phone/cable, etc.) which increases the cost to repair the utility, to piping the roadside ditch so there is room to place the sidewalk. A preliminary discussion with representatives from Tomball, Tomball ISD and Jones & Carter Inc. occurred for the purpose of identifying pedestrian patterns, potential funding participation or in-kind participation to assist with the improvements and granting of easements. Tomball ISD expressed interest in the project, but reserved comment on whether funding or in-kind contributions were available.

Easements should be considered where economically feasible to place sidewalks onto adjoining land away from any utility lines. This concept avoids the future possibility of sidewalk removal/replacement due to repairs to utility lines below sidewalks. Locations of these easements are shown on Exhibit "E".

Pedestrian crossings meeting TxMUTCD requirements for markings and warning signage will be required at eight locations in this phased project. Exhibit I shows an example from the TxMUTCD of signing for school area traffic control.

The sidewalks within easements are proposed to be designed to avoid trees with a minimum tree clearance of one-foot for bicycle safety purposes.

Typical cross-sections of Quinn Road are depicted on Exhibit "G" for existing and ultimate road configuration. These sections show placement of the sidewalk within the right-of-way (Option 1) and within an easement (Option 2), if acquired.

SIDEWALK SEGMENT DESCRIPTIONS (See Exhibit F)

Segment 1 sidewalk begins at the existing four-foot wide concrete sidewalk to the west of the west drive of Tomball Junior High School. The existing sidewalk provides access to North Star Estates. An existing sidewalk crossing (Crossing A) on Quinn Road, just south of Zion Road, will be upgraded to connect sidewalks in Segments 1 and 2. The south end of Segment 1 sidewalk will require a pedestrian crossing (Crossing B) on Quinn Road approximately 900 feet south of Zion Road to connect to the Segment 2 sidewalk on the east side of Quinn Road. The total length of Segment 1 and 2 are 1,250 and 1740 feet, respectively.

Segment 3 sidewalk will connect to an existing four-foot wide concrete sidewalk at the southern portion of Beckendorf Intermediate School. A gated four-foot tall chain link fence separates the portion of sidewalk within this school site from the sidewalk system east of the school. This fence is recommended to be relocated north of the sidewalk. The sidewalk will traverse west along the south side of the school property to Quinn Road, contingent upon Tomball ISD granting to Tomball a sidewalk easement and working out arrangements with the two pipeline companies that have pipeline easements in the immediate area of the sidewalks. The total length of Segment 2 is 950 feet.

Segment 4 begins at the pedestrian crossing (Crossing C) on Baker Drive. The sidewalk will connect to the north end of the proposed sidewalk in the Brown-Hufsmith Road Project. A pedestrian crossing (Crossing D) from Dove Trails across Quinn Road to the Segment 4 sidewalk is proposed. The sidewalk is proposed to be constructed after the proposed 12-inch waterline and four-inch natural gas line are constructed as outlined above. The fence along the west side of the Tomball ISD Bus Barn is proposed to be relocated from within the road right-of-way to either the current east right-of-way of Quinn Road or to the east line of the recommended easement if acquired. The relocated fence will allow for the construction of the sidewalk along the right-of-way to allow for future road improvements or within the recommended easement if acquired. The total length of Segment 4 is 1600 feet.

Segment 5 sidewalk begins at the south end of the proposed sidewalk in the Brown-Hufsmith Project and extends east along the north side of Inwood Street to Baker Drive where it will connect to an existing sidewalk. Segment 5 sidewalk will cross an existing drainage channel via an existing sidewalk on the Inwood Street Bridge. The total length of Segment 4 is 1450 feet.

Segment 6 sidewalk begins at the pedestrian crossing (Crossing E) on Inwood Street, continues south along the east side of Quinn Road across Hicks Street (Crossing F) and terminates at the northwest corner of the Tomball Square Apartments via a pedestrian crossing (Crossing G) on Village Square Drive. The total length of Segment 6 is 1300 feet.

Segment 7 sidewalk provides access for Village Square Apartments and a multi-family apartment complex west of Quinn Road. The sidewalk will require a pedestrian crossing (Crossing H) across Quinn Road, along the north side of Rudel Drive, with its proposed termination at the Fire Station. The total length of Segment 7 is 600 feet.

Estimated construction costs for each sidewalk segment are presented in Table C. These estimated construction costs include pedestrian crossings for each segment of the work. Table C also shows the estimated total project costs, which are the sums of the estimated construction costs, surveying fees, engineering fees, and contingency based on 10% of the estimated construction costs.

IX. LEFT-TURN LANES INTO SCHOOLS

A traffic engineering study by Traffic Engineering & Design Systems, Inc. dated July 1993 did not recommend any left-turn lanes into the driveways of Tomball High School, Tomball Junior High School, and Tomball Elementary School. This study reviewed costs of left turn lanes into Tomball High School and Tomball Junior High School on Zion Road.

A second traffic study by Kimley-Horn and Associates, Inc. dated September, 1999 for Harris County reviewed several alternatives for traffic improvements on Quinn Road. A summary of those recommendations is as follows:

1. Construct new student drop-off/pick-up on the south side of Tomball Junior High School with access from Baker Drive, several hundred feet west of Quinn Road
2. Install new traffic signal at the intersection of Zion Road and Quinn Road
3. Revise student loading procedures

In lieu of the new Tomball Junior High School drop-off/pickup drive, Kimley-Horn recommended that a traffic signal be installed at the intersection of Baker Drive and Quinn Road, widen Quinn Road in the vicinity of Tomball Junior/Senior High Schools, and provide a uniformed traffic control officer.

A review of the field conditions in May 2007 at each of the schools and major intersections revealed no problems or significant waits during peak traffic hours. The longest queuing time for left turns on Quinn Road occurred directly at the entry to the Tomball Junior High School drop-off/pick-up facility with wait times below 20 seconds and many cases where there was no wait time for north-bound traffic on Quinn Road to turn into the Tomball Junior High School facility.

The intersection with the longest wait time was Quinn Road and Baker Street with no more than four vehicles in any given lane waiting to proceed through the four-way stop intersection. Traffic at that intersection was slightly improved when the existing Intermediate School on Baker Drive, east of Quinn Road, was converted in the Fall, 2007 to an "Alternative School."

Based on the above, the previous traffic engineering recommendations and recent field observations, we recommend a traffic study along Quinn Road be performed after the opening on Brown-Hufsmith Road. The study should include updated traffic volumes, turning movement counts, the analysis of possible turn lanes, and a traffic signal warrant study(s).

X. PROJECT COSTS

Construction costs for each segment of work were estimated based on 2007 construction costs and publicly bid projects of similar work. Project costs include fees for engineering and surveying, plus a contingency of 10% of the estimated construction costs. Land acquisition costs are not included in these estimates. Estimated cost breakdowns for each segment of the Project are provided in the Appendix of this report.

Project costs vary year to year depending on local construction trends and material price increases. Should a project be deferred for several years, we recommend the project cost be updated prior to budgeting for the construction to insure adequate funds are allocated and the project can proceed without surprises.

Table D is a summary of the project costs and shall be utilized for planning purposes only to establish budgetary allocations for the construction of the improvements on Quinn Road.

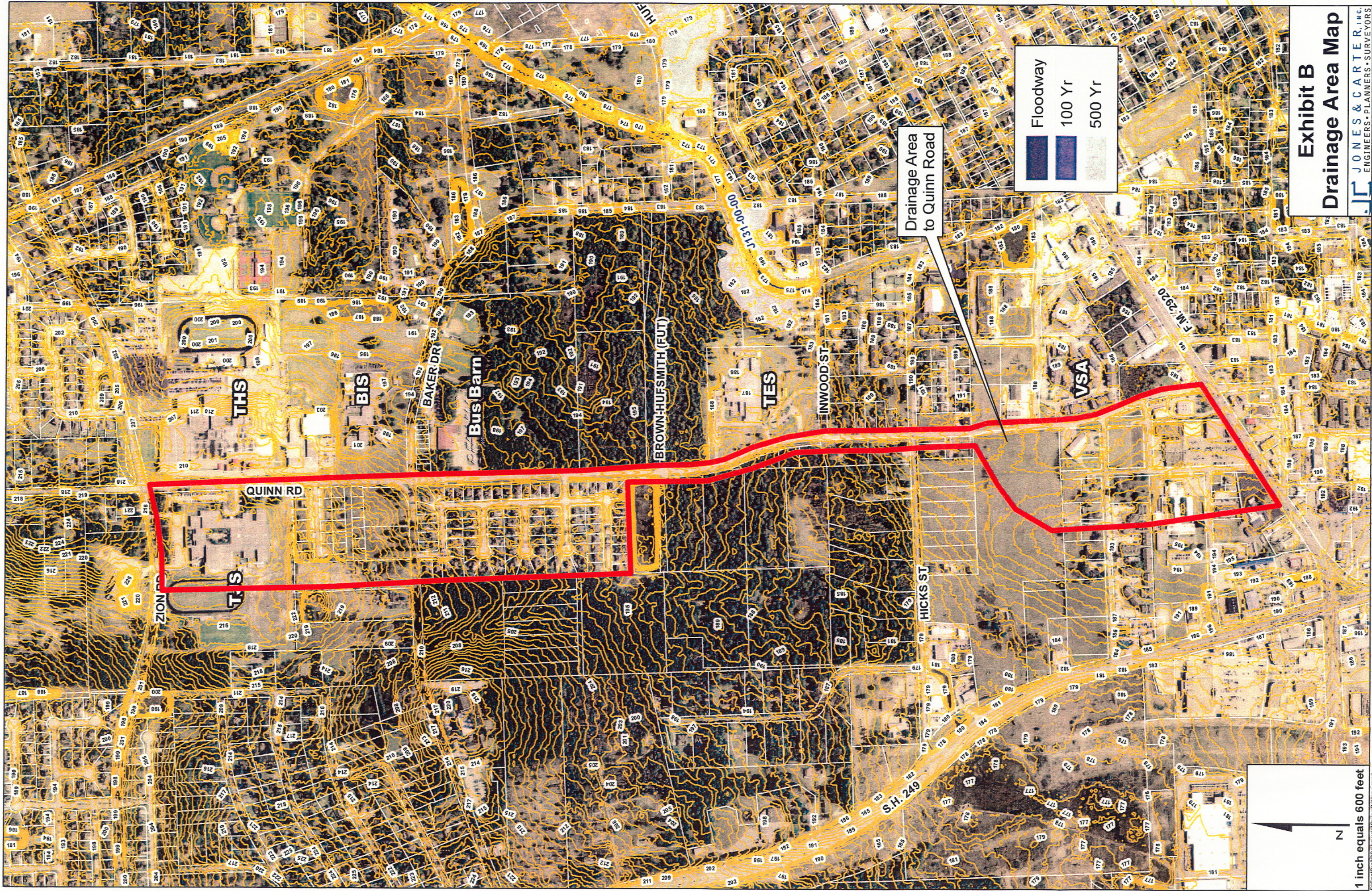
Construction is recommended for all of the proposed utility extensions along Quinn Road and Sidewalk Segments 1 through 7 in FY 2008 at a total estimated project cost of \$630,250.



1 inch equals 1,000 feet

Exhibit A

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Floodway

100 Yr

500 Yr

Drainage Area to Quinn Road

Exhibit B
Drainage Area Map

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1 inch equals 600 feet

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EXHIBIT C

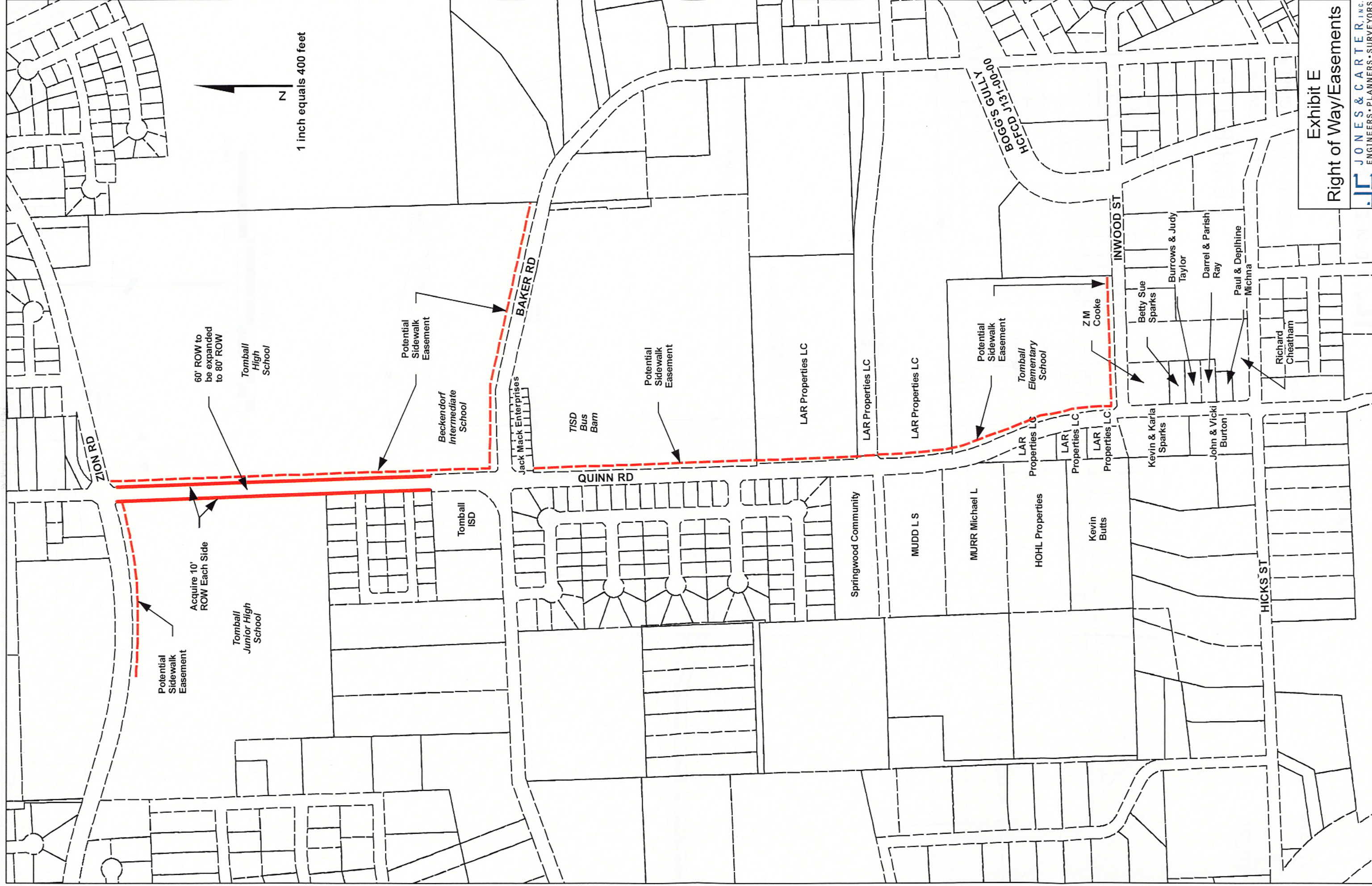
WATER LINES
 QUINN ROAD
 PRELIMINARY ENGINEERING
 REPORT

CITY OF TOMBALL
 MARCH 2008

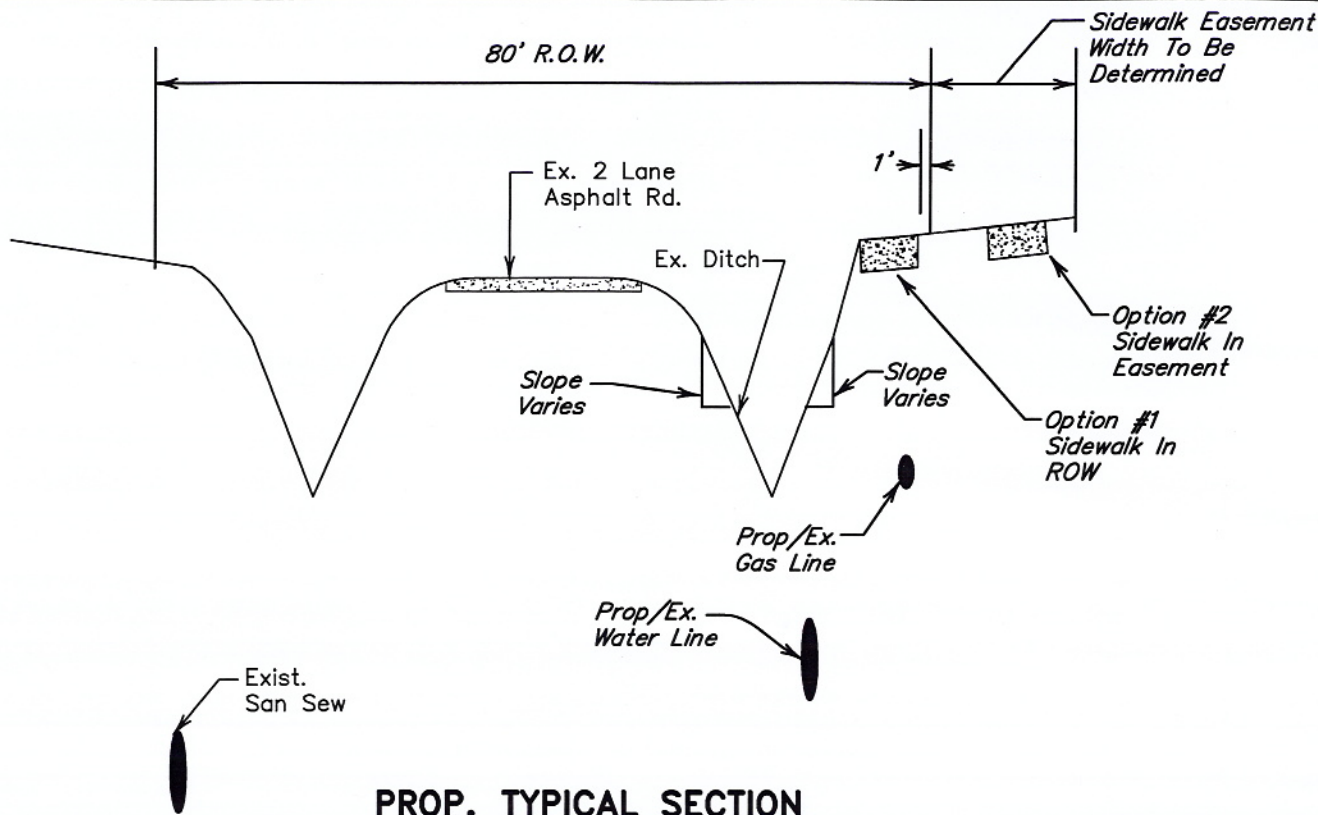


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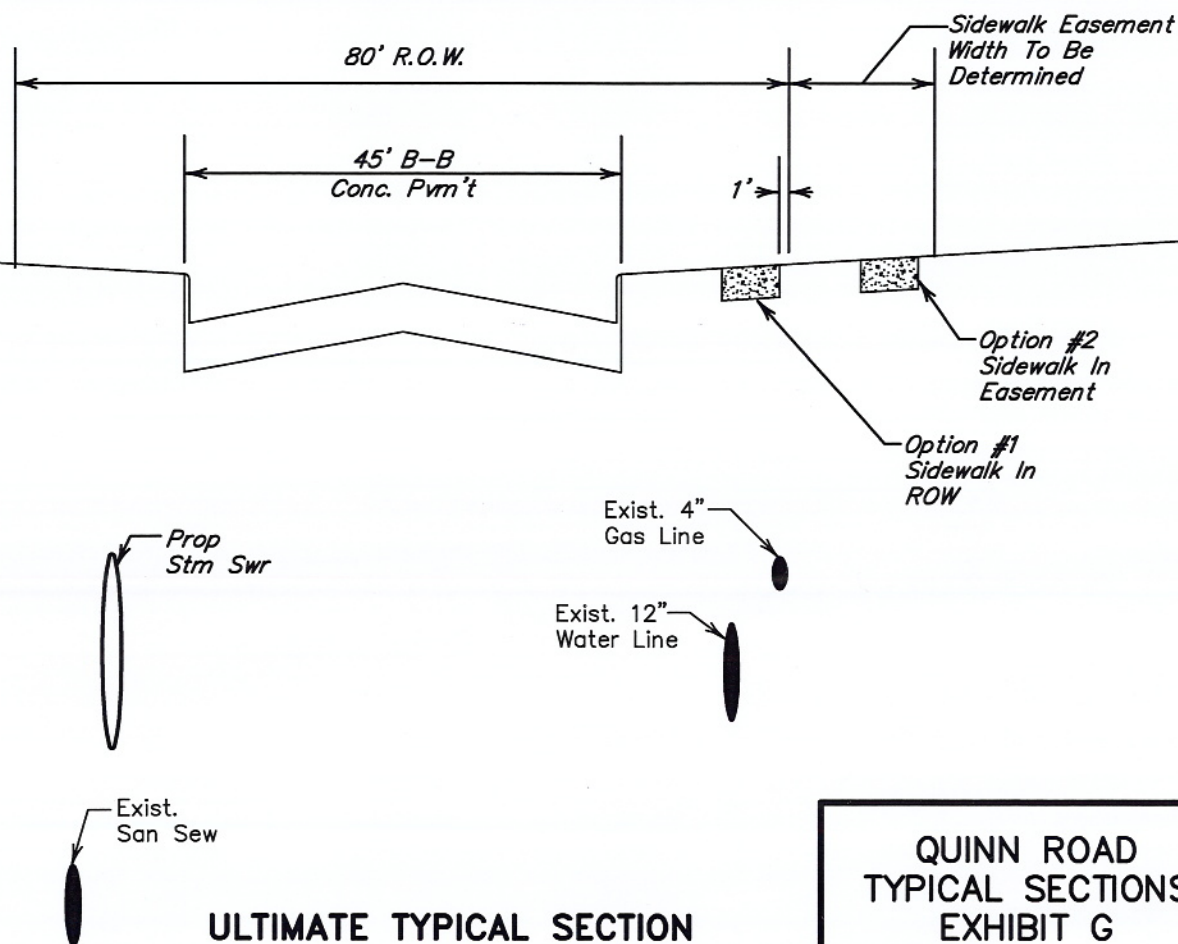
8701 New Trails Drive, Suite 200 The Woodlands, Texas 77381 (281) 363-4039



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PROP. TYPICAL SECTION



ULTIMATE TYPICAL SECTION

**QUINN ROAD
TYPICAL SECTIONS
EXHIBIT G**

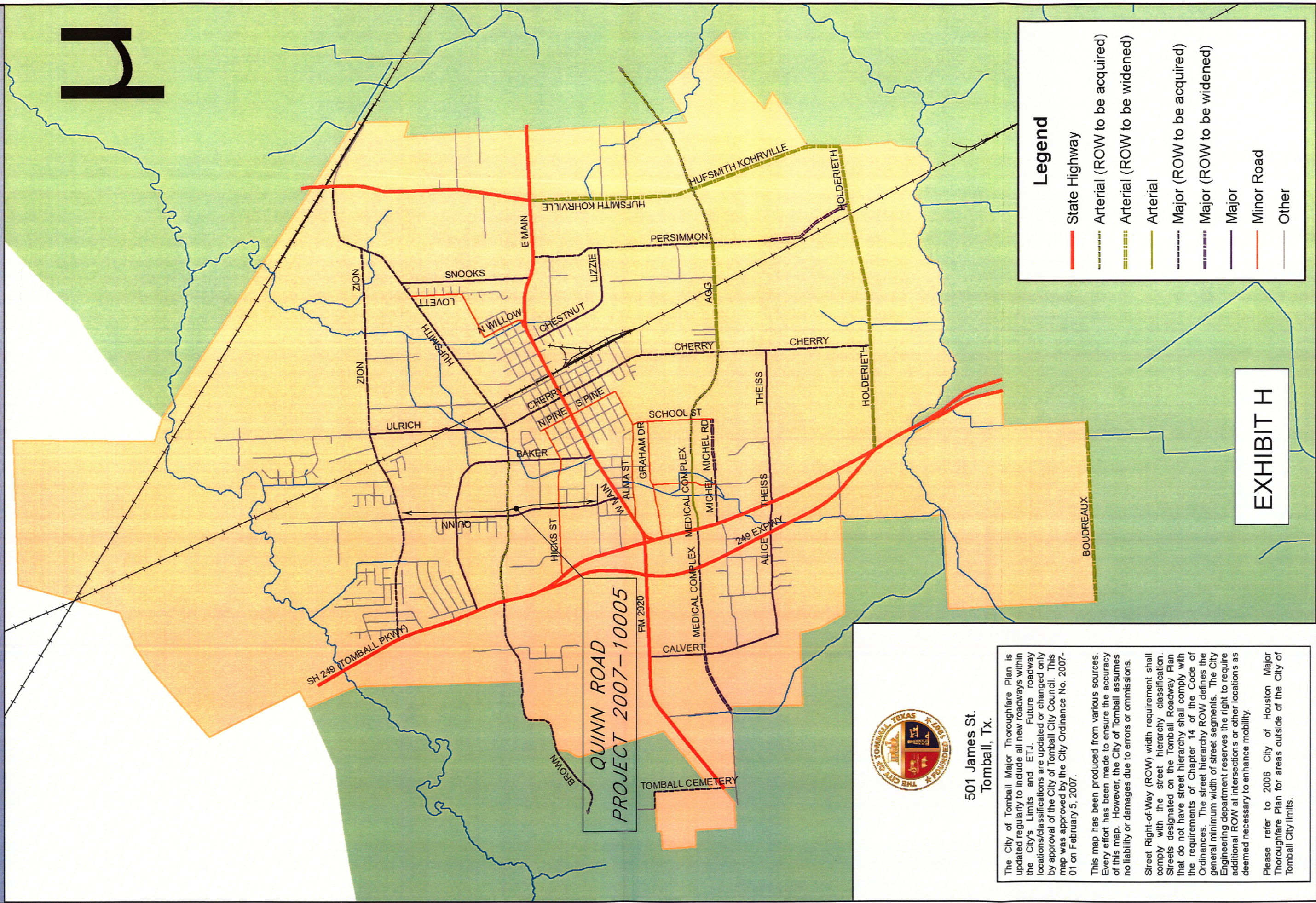
HORIZ: 1" = 20'
VERT: 1" = 2'

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8701 New Trails Drive, Suite 200 The Woodlands, Texas 77381 (281) 363-4039

2006 Major Thoroughfare Plan

4



Legend

- State Highway
- - - - - Arterial (ROW to be acquired)
- - - - - Arterial (ROW to be widened)
- Arterial
- - - - - Major (ROW to be acquired)
- - - - - Major (ROW to be widened)
- Major
- Minor Road
- Other

EXHIBIT H



501 James St.
Tomball, Tx.

The City of Tomball Major Thoroughfare Plan is updated regularly to include all new roadways within the City's Limits and ETJ. Future roadway locations/classifications are updated or changed only by approval of the City of Tomball City Council. This map was approved by the City Ordinance No. 2007-01 on February 5, 2007.

This map has been produced from various sources. Every effort has been made to ensure the accuracy of this map. However, the City of Tomball assumes no liability or damages due to errors or omissions.

Street Right-of-Way (ROW) width requirement shall comply with the street hierarchy classification. Streets designated on the Tomball Roadway Plan that do not have street hierarchy shall comply with the requirements of Chapter 14 of the Code of Ordinances. The street hierarchy ROW defines the general minimum width of street segments. The City Engineering department reserves the right to require additional ROW at intersections or other locations as deemed necessary to enhance mobility.

Please refer to 2006 City of Houston Major Thoroughfare Plan for areas outside of the City of Tomball City limits.

QUINN ROAD
PROJECT 2007-10005

Figure 7B-3. Examples of Signing for School Area Traffic Control with School Speed Limits

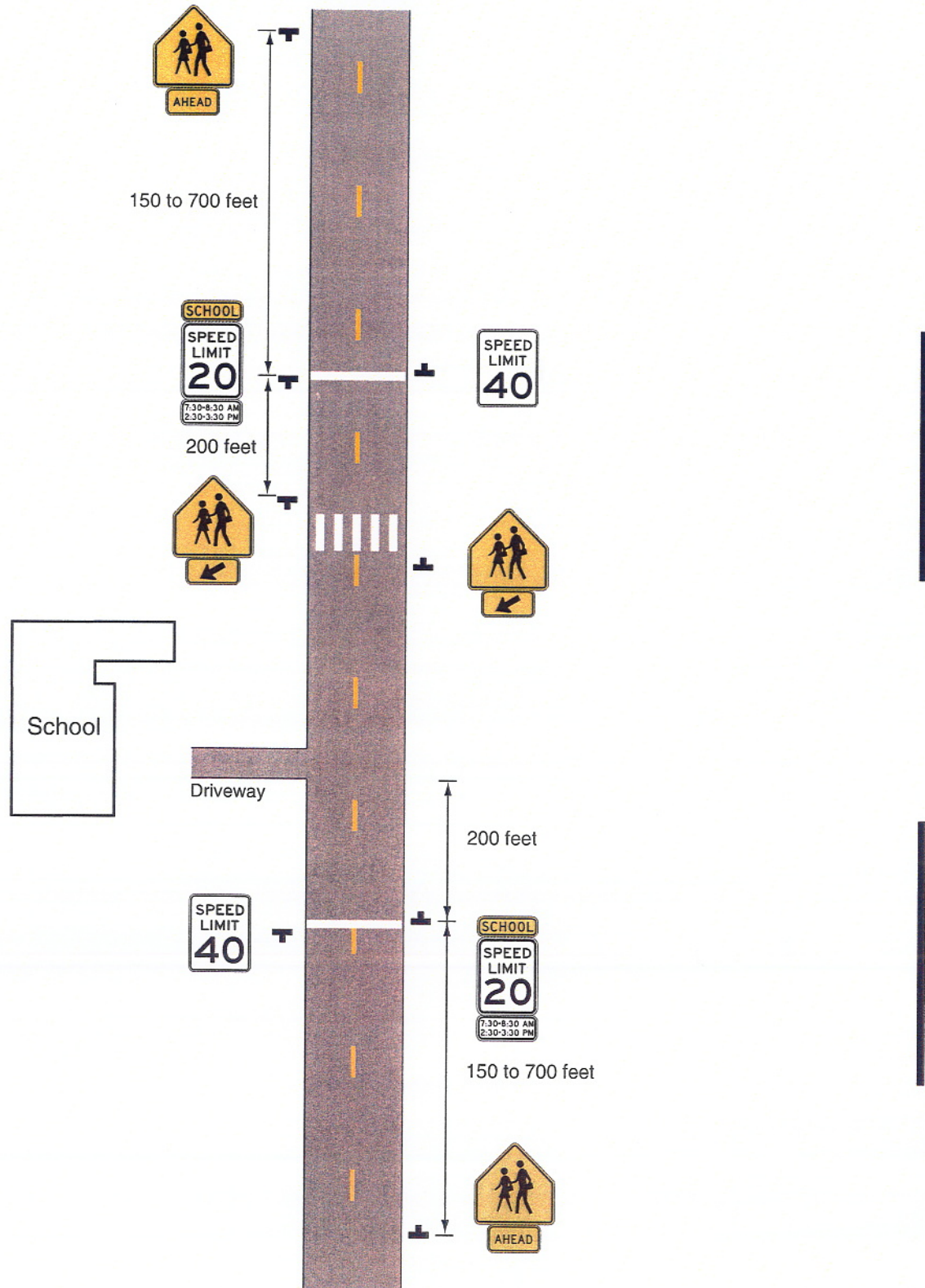


TABLE A
SUMMARY OF EXISTING RIGHT-OF-WAY WIDTHS

Road Name	Segment (from - to)	Right-of-Way Width
Quinn Road	168-feet South of Klein Drive - 234-feet North of Baker center line	80-feet
Quinn Road	234-feet North of Baker Drive center line - Zion Road	60-feet
Baker Road	East of Quinn Road	60-feet
Inwood Street	East of Quinn Road	60-feet
Hicks Street	East of Quinn Road	60-feet
Village Square Drive	East of Quinn Road	60-feet

**TABLE B
SIDEWALK SEGMENTS**

Segment Mark	Location	Pedestrian Crossings	Length (feet)
1	South side of Zion from existing sidewalk to West side of Quinn Road to 150-feet North of southeast corner of Tomball Jr. High School site.	2	1,250
2	East side of Quinn Road from Zion Road to Baker Drive.	0	1,740
3	North side of Baker Drive from Quinn Road to existing sidewalk.	0	950
4	East side of Quinn Road from Inwood Street to future Brown-Huffsmith Road.	2	1,600
5	North side of Inwood Street between Quinn Road to Baker Drive.	0	1,450
6	East side of Quinn Road from Inwood Street to Village Square Drive.	3	1,300
7	East side of Quinn Road from Village Square Drive to Rudel Drive.	1	600
Totals		8	8,890

TABLE C
SUMMARY OF ESTIMATED SIDEWALK COSTS

Segment Mark	Estimated Construction Cost	Estimated Total Project Cost
1	\$47,930	\$63,000
2	46,940	60,000
3	28,850	37,000
4	87,680	112,000
5	33,950	45,000
6	47,320	61,000
7	21,940	28,000
Total	\$314,610	\$406,000

Note: The Estimated Construction Costs are 2007 construction costs only and do not include engineering, permits or other fees and contingencies. The Estimated Total Project Costs are the sums of Estimated construction Costs, Engineering and Surveying fees, and a 10% contingency based on the Estimated Construction Costs.

TABLE D
SUMMARY OF ESTIMATED PROJECT COSTS

Project Scope	Estimated Construction Costs	Contingency (10%)	Estimated Engineering/ Survey Fees	Estimated Project Costs
12" Water Line - Quinn Road	\$126,700	\$12,670	\$19,630	\$159,000
8" Water Line - Connector	\$16,500	\$1,650	\$2,600	\$20,750
4" Natural Gas Line - Quinn Road	\$29,645	\$2,965	\$4,391	\$37,000
2" Natural Gas Line Connector	\$5,890	\$589	\$1,021	\$7,500
Sidewalk Segment 1	\$47,930	\$4,793	\$10,277	\$63,000
Sidewalk Segment 2	\$46,940	\$4,694	\$8,366	\$60,000
Sidewalk Segment 3	\$28,850	\$2,885	\$5,265	\$37,000
Sidewalk Segment 4	\$87,680	\$8,768	\$15,552	\$112,000
Sidewalk Segment 5	\$33,950	\$3,395	\$7,655	\$45,000
Sidewalk Segment 6	\$47,320	\$4,732	\$8,948	\$61,000
Sidewalk Segment 7	\$21,940	\$2,194	\$3,866	\$28,000
Total Project Costs	\$493,345	\$49,335	\$87,570	\$630,250

Note: These costs include 2007 Construction Costs, Engineering, Surveying, and a 10% Contingency.

**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
12-INCH WATER LINE ALONG QUINN ROAD
FROM
BROWN-HUFSMITH ROAD TO BAKER DRIVE
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
1. 12-inch PVC Water Line	LF	1,600	\$55	\$88,000
2. Auger 12-inch Water Line in Lieu of Open Trench	LF	60	100	6,000
3. 12-inch Wet Connection	EA	1	900	900
4. 8-inch x 8-inch Tapping Sleeve, Valve, and Box	EA	1	4,000	4,000
5. Fire Hydrant Assemblies	EA	5	2,200	11,000
6. Traffic Control	LS	1	10,000	10,000
7. Storm Water Pollution Prevention Plan	LS	1	2,800	2,800
8. Turf Establishment	Acre	1	4,000	4,000
			Subtotal	\$126,700
			Contingencies (10%):	12,670
			Engineering:	17,130
			Surveying:	2,500
			TOTAL:	\$159,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
8-INCH WATER LINE INTERCONNECT
BETWEEN QUINN ROAD AND DOVE TRAILS
VIA DOVE TRAIL
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
1. 8-inch PVC Water Line	LF	80	\$35	\$2,800
2. Auger 8-inch Water Line in Lieu of Open Trench	LF	60	70	4,200
3. 8-inch x 8-inch Tapping Sleeve, Valve and Box	EA	1	4,000	4,000
4. Fire Hydrant Assembly	EA	1	2,200	2,200
5. Traffic Control	LS	1	2,000	2,000
6. Storm Water Pollution Prevention Plan	LS	1	500	500
7. Turf Establishment	AC	0.1	8,000	800
			Subtotal:	\$16,500
			Contingencies (10%):	1,650
			Engineering:	1,800
			Surveying:	800
			TOTAL:	\$20,750

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
4-INCH INTERMEDIATE PRESSURE GAS LINE ALONG QUINN ROAD
FROM
BROWN-HUFSMITH ROAD TO BAKER DRIVE
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
1. 4-inch PVC Gas Line.	LF	1,660	\$12	\$19,920
2. Auger 8-inch Steel Casing.	LF	95	65	6,175
3. 4-inch Hot Connection 4-inch x 4-inch Tapping	EA	1	900	900
4. Sleeve Valve & Box	EA	1	2,200	2,200
5. 4-inch Gate Valve and Box	EA	1	450	450
6. Traffic Control (included with Water Line). Storm Water Pollution Prevention Plan (included with				0
7. Water Line).				0
8. Turf Establishment (included with Water Line).				0
			Subtotal:	\$29,645
			Contingencies (10%):	2,964
			Engineering:	4,391
			TOTAL:	\$37,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
2-INCH INTERMEDIATE PRESSURE GAS LINE ALONG DOVE TRAILS
FROM
QUINN ROAD TO DOVE TRAILS
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
1. 2-inch Gas Line.	LF	80	\$8	\$640
2. Auger 8-inch Steel Casing.	LF	60	65	\$3,900
3. 2-inch Hot Connection	EA	1	900	\$900
4. 2-inch Gate Valve and Box	EA	1	450	\$450
5. Traffic Control (included with Water Line).				0
6. Storm Water Pollution Prevention Plan (included with Water Line).				0
7. Turf Establishment (included with Water Line).				0
			Subtotal:	\$5,890
			Contingencies (10%):	589
			Engineering:	1,021
			TOTAL:	\$7,500

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 1
WITH
CROSSINGS A AND B
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
4-inch thick reinforced Concrete Sidewalk with				
1. Subgrade Preparation (Includes TAS Requirements)	SF	7,500	\$4	\$30,000
2. Crosswalks	EA	2	600	1,200
3. Public Road Crossing Signage	EA	4	350	1,400
4. 24-inch RCP Culvert	LF	32	40	1,280
5. 24-inch Safety End Treatment for Culvert	EA	8	600	4,800
6. Landscaping Along Both Sidewalk Edges	LF	1,250	1	1,250
7. Storm Water Pollution Prevention Plan	LS	1	\$2,400	2,400
8. Handicapped Ramps at Drives	EA	8	600	4,800
9. Traffic Control	LS	1	800	800
			Subtotal:	\$47,930
			Contingencies (10%):	4,793
			Engineering:	7,777
			Surveying:	2,500
			TOTAL:	\$63,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 2
July 1, 2007**

Item	Unit	Quantity	Unit Price	Amount
4-inch thick reinforced Concrete Sidewalk with				
1. Subgrade Preparation (Includes TAS Requirements)	SF	10,400	\$4	\$41,600
2. Landscaping Along Both Sidewalk Edges	EA	1,740	1	1,740
3. Storm Water Pollution Prevention Plan	LS	1	\$2,800	2,800
4. Traffic Control	LS	1	800	800
			Subtotal:	\$46,940
			Contingencies (10%):	4,694
			Engineering:	6,866
			Surveying:	1,500
			TOTAL:	\$60,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 3
July 1, 2007**

Item	Unit	Quantity	Unit Price	Amount
4-inch thick reinforced Concrete Sidewalk with Subgrade				
1. Preparation (Includes TAS Requirements)	SF	5,700	\$4	\$22,800
2. Fence Relocation	LF	400	8	3,200
3. Landscaping Along Both Sidewalk Edges	LF	950	1	950
4. Storm Water Pollution Prevention Plan	LS	1	1,100	1,100
5. Traffic Control	LS	1	800	800
			Subtotal:	\$28,850
			Contingencies (10%):	2,885
			Engineering:	4,265
			Surveying:	1,000
			TOTAL:	\$37,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 4
WITH
CROSSINGS C AND D
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
4-inch thick reinforced Concrete Sidewalk with				
1. Subgrade Preparation (Includes TAS Requirements)	SF	14,400	\$4	\$57,600
2. Crosswalks	EA	2	400	800
3. Public Road Crossing Signage	EA	4	350	1,400
4. 24-inch RCP Culvert	LF	32	40	1,280
5. 24-inch Safety End Treatment for Culvert	EA	8	600	4,800
6. Landscaping Along Both Sidewalk Edges	LF	1,600	1	1,600
7. Storm Water Pollution Prevention Plan	LS	1	2,000	2,000
8. Traffic Control	LS	1	800	800
9. Fence Relocation	LF	1,100	10	11,000
10. Clearing	AC	0.8	8,000	6,400
			Subtotal:	\$87,680
			Contingencies (10%):	8,768
			Engineering:	13,452
			Surveying:	2,100
			TOTAL:	\$112,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 5
July 1, 2007**

Item	Unit	Quantity	Unit Price	Amount
4-inch thick reinforced Concrete Sidewalk with				
1. Subgrade Preparation (Includes TAS Requirements)	SF	7,500	\$4	\$30,000
2. Landscaping Along Both Sidewalk Edges	LF	1,450	1	1,450
3. Storm Water Pollution Prevention Plan	LS	1	\$1,700	1,700
4. Traffic Control	LS	1	800	800
			Subtotal:	\$33,950
			Contingencies (10%):	3,395
			Engineering:	5,555
			Surveying:	2,100
			TOTAL:	\$45,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 6
WITH
CROSSINGS E, F, AND G
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
4-inch thick reinforced Concrete Sidewalk with				
1. Subgrade Preparation (Includes TAS Requirements)	SF	7,800	\$4	\$31,200
2. Crosswalks	EA	3	400	1,200
3. Public Road Crossing Signage	EA	6	350	2,100
4. 24-inch RCP Culvert	LF	48	40	1,920
5. 24-inch Safety End Treatment for Culvert	EA	12	600	7,200
6. Landscaping Along Both Sidewalk Edges	LF	1,300	1	1,300
7. Storm Water Pollution Prevention Plan	LS	1	1,600	1,600
8. Traffic Control	LS	1	800	800
			Subtotal:	\$47,320
			Contingencies (10%):	4,732
			Engineering:	7,148
			Surveying:	1,800
			TOTAL:	\$61,000

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**PRELIMINARY COST ESTIMATE
CITY OF TOMBALL
SIDEWALK SEGMENT NO 7
WITH
CROSSING H
JULY 2007**

Item	Unit	Quantity	Unit Price	Amount
1. 4-inch thick reinforced Concrete Sidewalk with Subgrade Preparation (Includes TAS Requirements)	SF	3,600	\$4	\$14,400
2. Crosswalks	EA	1	400	400
3. Public Road Crossing Signage	EA	2	350	700
4. 24-inch RCP Culvert	LF	16	40	640
5. 24-inch Safety End Treatment for Culvert	EA	4	600	2,400
6. Landscaping Along Both Sidewalk Edges	LF	1,200	1	1,200
7. Storm Water Pollution Prevention Plan	LS	1	1,400	1,400
8. Traffic Control	LS	1	800	800
			Subtotal:	\$21,940
			Contingencies (10%):	2,194
			Engineering:	2,866
			Surveying:	1,000
			TOTAL:	\$28,000

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Segment 1 – Looking east from beginning of Segment



Segment 1 – Looking east; Quinn Road in distance



Segment 2 – Looking south along east side of Quinn Road



Segment 2 – Looking south along east side of Quinn Road



Segment 2 – Looking south along east side of Quinn Road; Baker Road in distance



Segment 2 – Looking south along east side of Quinn Road; Baker Road in distance



Segment 3 – Looking east along north side of Baker Street from Quinn Road



Segment 3 – Looking west from end of sidewalk on north side of Baker Drive at Beckendorf I.S.



Segment 4 – Looking south along east side of Quinn Road at Baker Street



Segment 4 – Looking south along east side of Quinn Road at Bus Barn



Segment 5 – Looking west along north side of Inwood Street near intersection of Baker Street



Segment 5 – Looking east along north side of Inwood Street and Bogg's Gully



Segment 5 – Looking west along north side of Inwood Street



Segment 5 – Looking west along north side of Inwood Street just west of Bogg's Gully



Segment 6 – Looking southeasterly at east side of Quinn Road/Inwood Street intersection



Segment 6 – Looking northeasterly at east side of Quinn Road



Segment 6 – Looking south along east side of Quinn Road



Segment 6 – Looking north along east side of Quinn Road



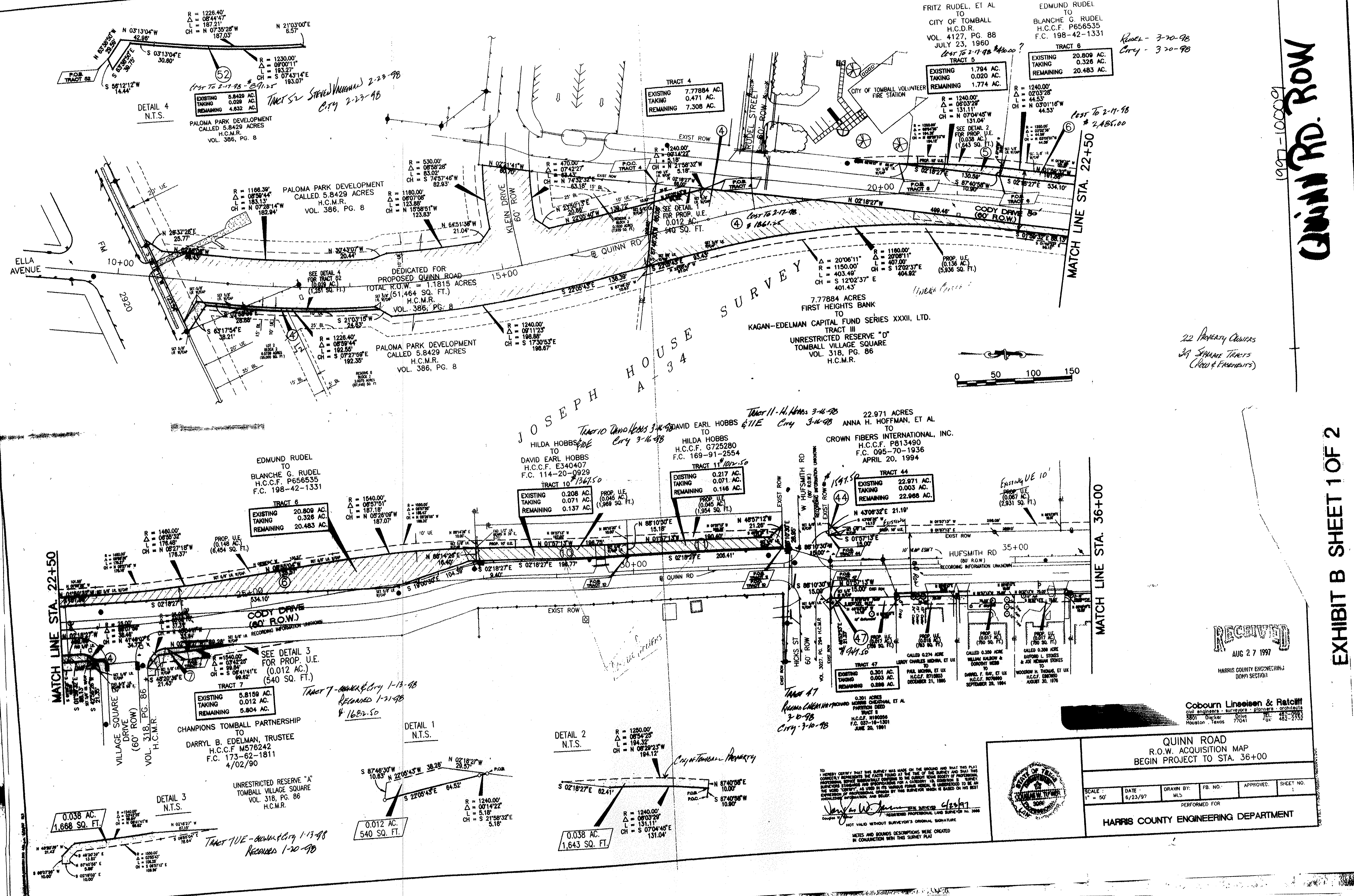
Segment 7 – Looking south along east side to Quinn Road



Segment 7 – Looking south along east side of Quinn Road

1997-10009
QUINN RD. ROW

EXHIBIT B SHEET 1 OF 2



FRITZ RUDEL, ET AL
TO
CITY OF TOMBALL
H.C.D.R.
VOL. 4127, PG. 88
JULY 23, 1960
Cost To 2-17-98 \$42000?
TRACT 5
EXISTING 1.794 AC.
TAKING 0.020 AC.
REMAINING 1.774 AC.

EDMUND RUDEL
TO
BLANCHE G. RUDEL
H.C.C.F. P656535
F.C. 198-42-1331
TRACT 6
EXISTING 20.809 AC.
TAKING 0.326 AC.
REMAINING 20.483 AC.

DETAIL 4
N.T.S.
PALOMA PARK DEVELOPMENT
CALLED 5.8429 ACRES
H.C.M.R.
VOL. 386, PG. 8

Tract 52 Steven Vaughan 2-23-98
City 2-23-98

TRACT 4
EXISTING 7.7784 AC.
TAKING 0.471 AC.
REMAINING 7.308 AC.

EXISTING 1.794 AC.
TAKING 0.020 AC.
REMAINING 1.774 AC.

R = 1240.00'
Δ = 02'03'28"
L = 44.53'
CH = N 07'01'16"W
44.53'

R = 1168.39'
Δ = 08'59'44"
L = 183.13'
CH = N 07'28'14"W
182.94'

PALOMA PARK DEVELOPMENT
CALLED 5.8429 ACRES
H.C.M.R.
VOL. 386, PG. 8

R = 1180.00'
Δ = 06'07'08"
L = 123.88'
CH = N 10'38'51"W
123.83'

R = 530.00'
Δ = 08'59'28"
L = 83.02'
CH = S 74'57'46"W
82.93'

R = 470.00'
Δ = 07'42'27"
L = 64.43'
CH = N 74'39'32"E
63.18' 15' BL

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R = 1226.40'
Δ = 08'59'44"
L = 192.25'
CH = S 07'27'59"E
192.35'

PALOMA PARK DEVELOPMENT
CALLED 5.8429 ACRES
H.C.M.R.
VOL. 386, PG. 8

R = 1226.40'
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TO
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H.C.C.F. P656535
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TRACT 6
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TAKING 0.326 AC.
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CH = N 09'28'08"W
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CH = S 07'27'59"E
192.35'

R = 1226.40'
Δ = 08'59'44"
L = 192.25'
CH = S 07'27'59"E
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R = 1226.40'
Δ = 08'59'44"
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R = 1226.40'
Δ = 08'59'44"
L = 192.25'
CH = S 07'27'59"E
192.35'

R = 1240.00'
Δ = 02'14'22"
L = 5.18'
CH = N 21'58'32"W
5.18'

R = 1240.00'
Δ = 02'14'22"
L = 5.18'
CH = N 21'58'32"W
5.18'

R = 1240.00'
Δ = 02'14'22"
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CH = N 21'58'32"W
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CH = N 21'58'32"W
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CH = N 21'58'32"W
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CH = N 21'58'32"W
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CH = N 21'58'32"W
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L = 5.18'
CH = N 21'58'32"W
5.18'

R = 1240.00'
Δ = 02'14'22"
L = 5.18'
CH = N 21'58'32"W
5.18'

22 Property Owners
39 Square Feet
(Plus 6 Enclosures)

RECEIVED
AUG 27 1997
HARRIS COUNTY ENGINEERING
BOND SECTION

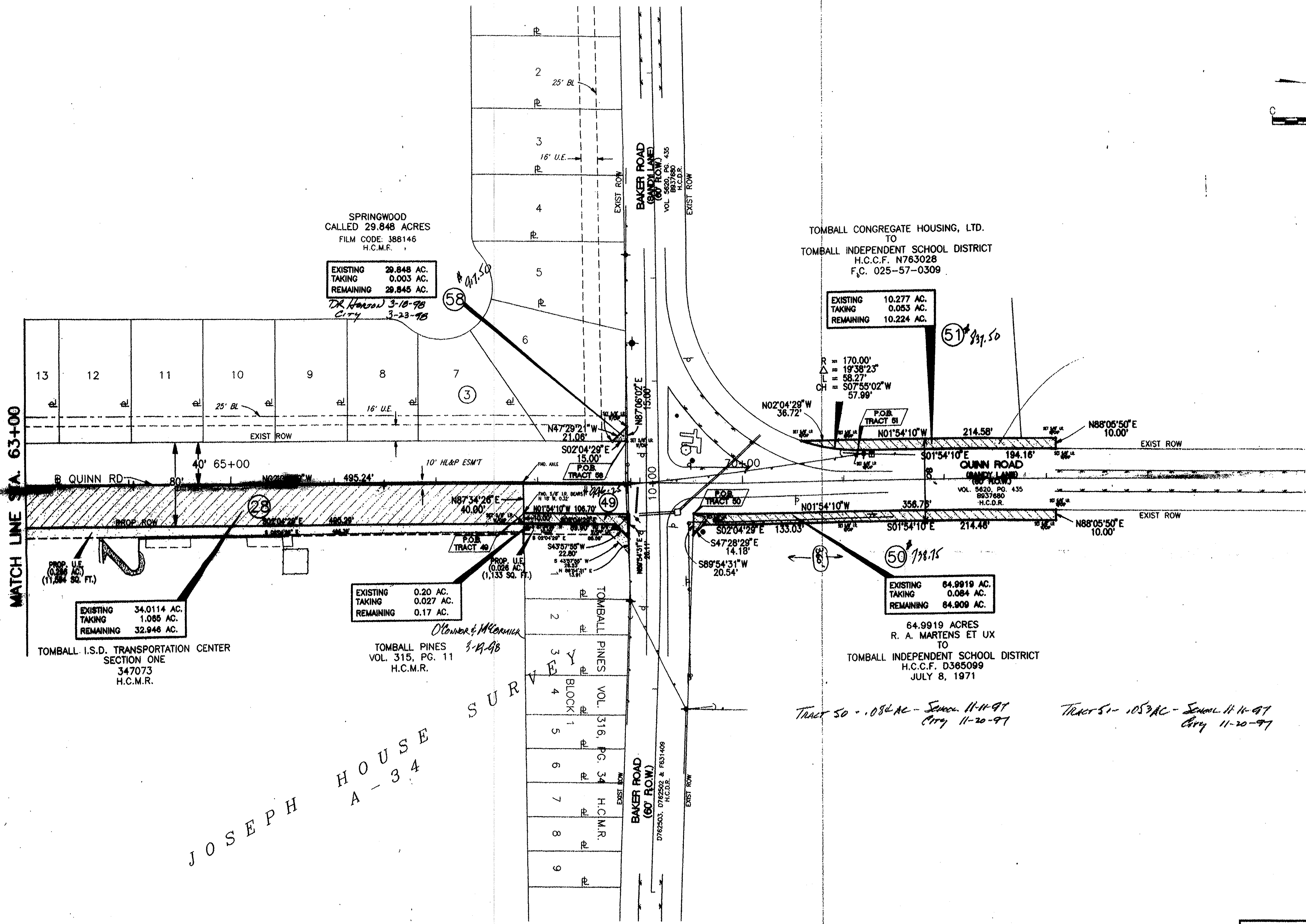
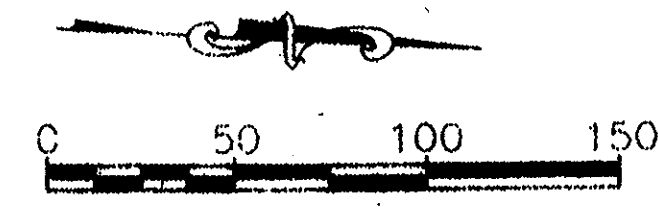
Cobourn Linseisen & Ratloff
Civil Engineers - Surveyors - Planners - Architects
5801 Dieler Drive Houston, Texas 77041 TEL: 482-2352 FAX: 482-2352

QUINN ROAD
R.O.W. ACQUISITION MAP
BEGIN PROJECT TO STA. 36+00

SCALE: 1" = 50'	DATE: 6/23/97	DRAWN BY: MLS	FB. NO.:	APPROVED:	SHEET NO. 1
PERFORMED FOR HARRIS COUNTY ENGINEERING DEPARTMENT					



I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND THAT THIS PLAN CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY AND THAT THE PROFESSIONAL SERVICE SUBSEQUENTLY RENDERED TO THE HONORABLE BOARD OF PROFESSIONAL SURVEYORS AND PLANNERS OF HARRIS COUNTY, TEXAS, IN CONNECTION WITH THIS SURVEY, WAS IN ACCORDANCE WITH THE STANDARDS AND PRACTICES OF THE PROFESSION OF SURVEYING AND PLANNING AS SET FORTH IN THE HONORABLE BOARD OF PROFESSIONAL SURVEYORS AND PLANNERS OF HARRIS COUNTY, TEXAS, AND THAT THE SURVEYOR'S SIGNATURE IS BASED ON HIS BEST PROFESSIONAL JUDGMENT AND BELIEF.
David Earl Hobbs
REGISTERED PROFESSIONAL LAND SURVEYOR No. 1190256
NOT VALID WITHOUT SURVEYOR'S ORIGINAL SIGNATURE
METES AND BOUNDS DESCRIPTIONS WERE CREATED IN CONJUNCTION WITH THIS SURVEY PLAN



SPRINGWOOD
CALLED 29.848 ACRES
FILM CODE: J88146
H.C.M.R.

EXISTING 29.848 AC.
TAKING 0.003 AC.
REMAINING 29.845 AC.

DR. Hanson 3-18-98
City 3-23-98

TOMBALL CONGREGATE HOUSING, LTD.
TO
TOMBALL INDEPENDENT SCHOOL DISTRICT
H.C.C.F. N763028
F.C. 025-57-0309

EXISTING 10.277 AC.
TAKING 0.053 AC.
REMAINING 10.224 AC.

R = 170.00'
Δ = 19°58'23"
L = 58.27'
CH = 507°55'02"W
57.99'

EXISTING 34.0114 AC.
TAKING 1.086 AC.
REMAINING 32.925 AC.

TOMBALL I.S.D. TRANSPORTATION CENTER
SECTION ONE
347073
H.C.M.R.

EXISTING 0.20 AC.
TAKING 0.027 AC.
REMAINING 0.17 AC.

TOMBALL PINES
VOL. 315, PG. 11
H.C.M.R.

EXISTING 64.9919 AC.
TAKING 0.084 AC.
REMAINING 64.909 AC.

64.9919 ACRES
R. A. MARTENS ET UX
TO
TOMBALL INDEPENDENT SCHOOL DISTRICT
H.C.C.F. D365099
JULY 8, 1971

TRACT 50 - .084 AC - Survey 11-11-97
City 11-20-97

TRACT 51 - .053 AC - Survey 11-11-97
City 11-20-97

JOSEPH HOUSE
A-34

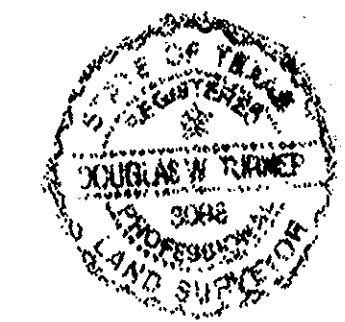
SURV
BLOCK 1

RECEIVED
AUG 27 1997

HARRIS COUNTY ENGINEERING
BOND SECTION

Cobourn Linseisen & Ratoff
Civil Engineers - Surveyors - Planners - Architects
3801 Brierley Drive, Houston, Texas 77041
Tel: 482-1883 Fax: 482-2732

TO:
I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND THAT THIS PLAN
CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY AND THAT THE
PROFESSIONAL SERVICE SUBSTANTIALLY CONFORMS TO THE CURRENT TEXAS SOCIETY OF PROFESSIONAL
SURVEYORS STANDARDS AND REGULATIONS FOR A GENERAL SURVEY. IN WITNESS WHEREOF, I
HEREBY SET MY HAND AND SEAL AT HOUSTON, TEXAS, THIS 6th DAY OF JUNE, 1997.
DATE SURVEYED 6/23/97
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 3666



QUINN ROAD R.O.W. ACQUISITION MAP STA. 63+00 TO END OF PROJECT				
SCALE: 1"=50'	DATE: 6/23/97	DRAWN BY: MLS	FB NO.:	APPROVED: SHEET NO.: 3
PERFORMED FOR HARRIS COUNTY ENGINEERING DEPARTMENT				

NOT VALID WITHOUT SURVEYOR'S ORIGINAL SIGNATURE
METES AND BOUNDS DESCRIPTIONS WERE CREATED
IN CONJUNCTION WITH THIS SURVEY PLAN.

EXHIBIT B SHEET 2 OF 2