

## 2.0 INTRODUCTION

### 2.1 Project Authorization

Lockwood, Andrews, & Newnam, Inc. has been retained by the Tax Increment Reinvestment Zone No. 17 (TIRZ 17) to provide professional engineering services to perform a Preliminary Engineering Study for Kimberley Lane, between the Beltway 8 Northbound Frontage Road and West Bough Lane. The project is identified in the City of Houston (COH) Comprehensive Drainage Plan which identifies existing drainage systems within the City classified with insufficient capacity and/or deficiencies. The Comprehensive Drainage Plan (CDP) is a component of the COH Storm Drainage Facilities Improvement Program which is part of the City of Houston's overall Capital Improvement Program (CIP).

The Kimberley Lane Storm Sewer Project is also identified in the TIRZ 17 Drainage Action Plan as an existing system with capacity deficiencies. The TIRZ 17 Drainage Action Plan summarized available drainage studies and reports for the region and identified potential drainage improvement projects. A thorough investigation of the Kimberley Lane storm sewer system was previously performed in the report titled *Kimberley Lane Drainage Improvements Preliminary Engineering Report*, dated May 2009. The investigation concluded that while the existing storm sewer system meets the City of Houston criteria for the 2-year design event, overall deficiencies exist regarding extreme event sheetflow and excessive roadway ponding.

Several improvement alternatives were considered and analyzed in the *Kimberley Lane Drainage Improvements Preliminary Engineering Report* in order to provide the optimal solution in terms of drainage benefit, cost, construction time and construction impact. Multiple variations of each option were also evaluated to assess varying levels of service to improve the drainage system. The TIRZ 17 Board approved the report recommendation proposing the complete reconstruction of Kimberley Lane between the Beltway 8 Northbound Frontage Road and West Bough Lane. This recommendation provides the most economical long term solution to remedy the roadway profile and drainage deficiencies, while also replacing the existing deteriorating pavement and infrastructure.

### 2.2 Project Location

Kimberley Lane is generally located in west Houston approximately one-half mile south of the intersection of Interstate 10 and the Beltway 8 near the western TIRZ 17 boundary. The limits of this study include approximately 1,600-feet of Kimberley Lane, between the Beltway 8 Northbound Frontage Road and West Bough Lane.

The project is located within a high traffic commercial development with dense existing adjacent businesses with potential existing right-of-way encroachments. The existing adjacent development along Kimberley Lane is classified mixed-use comprised of commercial development, a church, a Spring Branch ISD Elementary School, as well as service to Fonn Villas Subdivision. Kimberley Lane is a major local roadway providing access to and from the

City Centre Commercial Development, Bendwood Elementary School, Pines Presbyterian Church and Fonn Villas Subdivision. The project is located in the Buffalo Bayou Watershed. The project area can be found on Key Map page 489C, 489D, 489G, and 489H. **Exhibit 2.1** shows a detailed location of this project.

### 2.3 Statement of the Problem

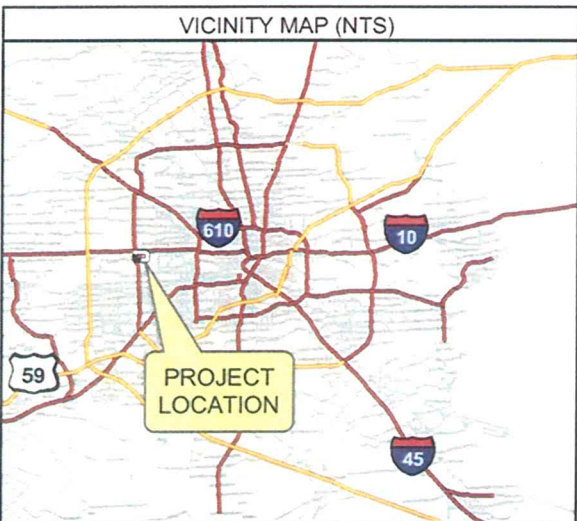
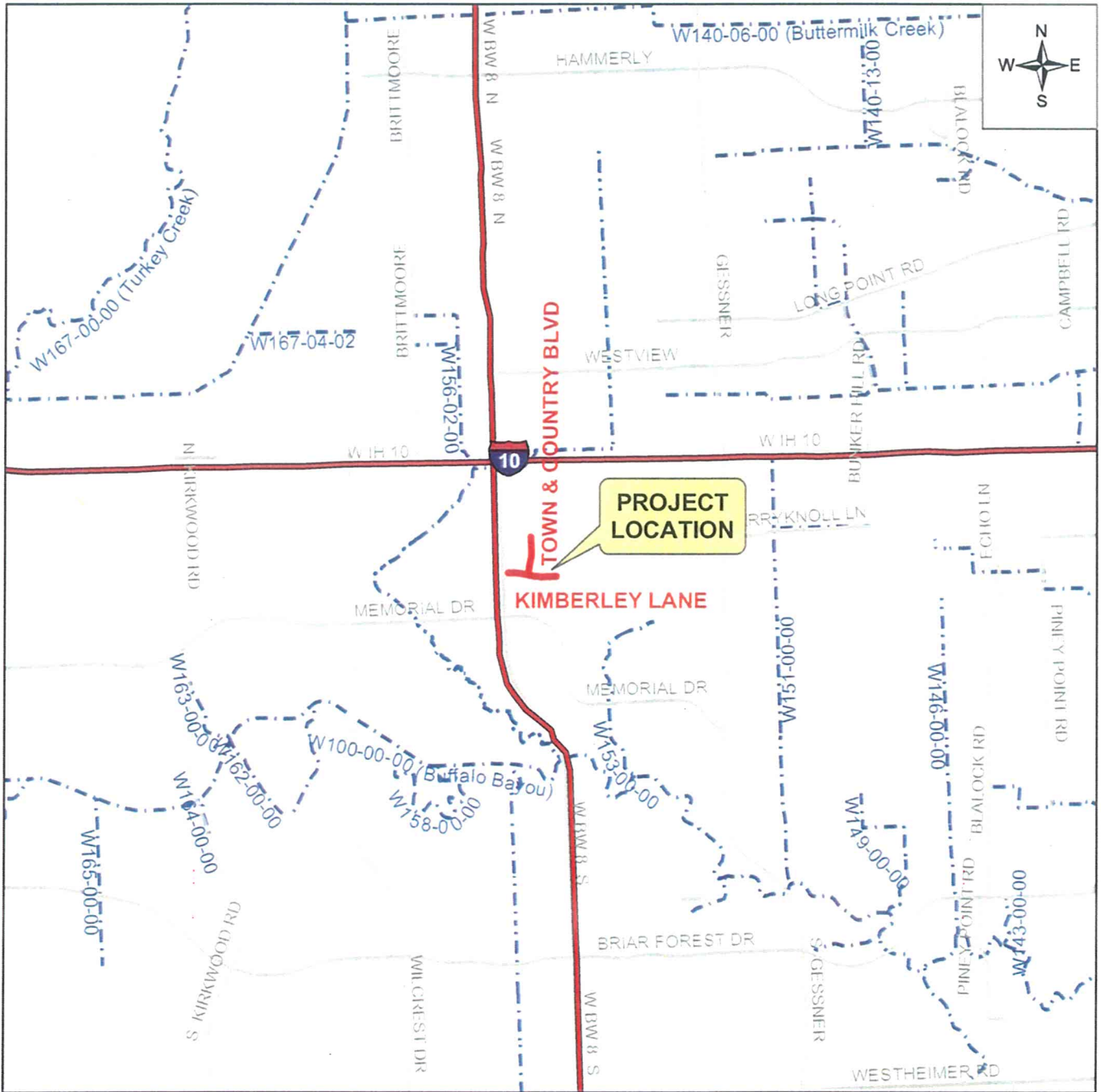
The purpose of this study is based on the recommendation of the *Kimberley Lane Drainage Improvements Preliminary Engineering Report*, dated May 2009, which identified significant drainage deficiencies. This PER updates the previous study to address the engineering components associated with the roadway reconstruction. The Kimberley Lane PER purpose and need is to perform an initial existing conditions assessment, evaluation and develop recommended solutions for improving the roadway conditions of Kimberley Lane between the Beltway 8 Northbound Frontage Road and West Bough Lane.


A summary of the major tasks performed for the study are listed below:

- Site Visit & Data Collection
- Topographic Survey
- Geotechnical Investigation
- Environmental Assessment
- Tree Inventory
- Investigation of Existing Public and Private Utilities
- Establish Roadway Baseline/Project Control
- Develop Existing and Proposed Roadway Sections
- Develop 30% Plan and Profile Sheets
- Roadway Impact Assessment & Develop Right-of-Way Map
- Develop Conceptual Traffic Control Plan
- Develop Storm Water Pollution Prevention (SWPPP) Plan Concept

Upon completion of this Phase I PER Study, and approval of the recommended project by both the City of Houston and TIRZ 17, the Phase II detail design project development may commence. Phase II of the project will provide engineering services required to provide the necessary construction documents for the proposed improvements of Kimberley Lane based on recommendations in the PER. The scope of services for the detailed design includes the following tasks:

- Prepare construction documents and engineering report
- Obtain approval from government agencies
- Coordinate with public and private utility owners
- Provide cost estimates
- Assist the MCRA in the bidding process



MEMORIAL CITY REDEVELOPMENT AUTHORITY TIRZ #17	
	<b>Lockwood, Andrews &amp; Newnam, Inc.</b> <small>A LEO A DALY COMPANY</small>
KIMBERLEY LANE PER	
PROJECT LOCATION MAP HARRIS COUNTY, TEXAS	
EXHIBIT 2.1	

## 2.4 Existing Conditions

### 2.4.1 Roadway

Kimberley Lane is an existing concrete curb and gutter roadway located approximately one-half mile south of the intersection of Interstate 10 and Beltway 8. The existing right-of-way width is 60-feet. Kimberley Lane was originally constructed in the early 1960's and consists of 9.5- to 12-inches of concrete pavement. The existing pavement consists of an undivided 40-foot roadway section striped for two 10-foot lanes in each direction at the Beltway 8 and West Bough Lane intersections with intermediate sections striped with two 20-foot lanes. The speed limit on Kimberley Lane is signed 30 mph within the project limits.

Existing sidewalks are discontinuous within the project limits. East of Town and Country Boulevard there are continuous sidewalks on both sides of the street; however, much of the sidewalk falls outside of the right-of-way on private property. The sidewalks are discontinuous between Town and Country Boulevard and Beltway 8. Kimberley Lane, between Beltway 8 and West Bough, services a mixed use development consisting of primarily dense driveway access to adjacent commercial developments, Pines Presbyterian Church and Bendwood Elementary School. East of West Bough Drive, Kimberley Lane has recently been reconstructed as part of the Storm Drainage Improvements in the Fonn Villas Subdivision Project.

Town and Country Boulevard intersects Kimberley Lane approximately 600-feet east of Beltway 8. Town and Country Boulevard is a public street to the north of Kimberley Lane and a private driveway to the south. The existing right-of-way width on the north side is 100-feet. Town and Country Boulevard is a four-lane divided roadway which consists of two 12-foot concrete lanes in each direction with a 30-foot center esplanade. In addition, left turn bays exist on Town and Country Boulevard at the intersection approaches to Kimberley Lane. The intersection has curb ramps connecting to sidewalks on Kimberley Lane at three corners. The southwest corner has curb ramps with no connecting sidewalks. No sidewalks currently exist along Town and Country Boulevard.

West Bough Lane intersects Kimberley Lane approximately 1250-feet east of Beltway 8 at the eastern project limits. The intersection is a 4 way stop; with the east and west approaches along Kimberley Lane, the south approach along West Bough Lane and the north approach an exit only driveway from Bendwood Elementary School. West Bough Lane consists of two 10-foot asphalt lanes in each direction with a roadside ditch and a sidewalk along the western right-of-way. The existing right-of-way width is 60-feet. The eastern right-of-way has a parking garage structure and office building that appear to sit directly on the right-of-way with no building set back.

### 2.4.2 Drainage

The Kimberley Lane Project is located within the Buffalo Bayou Watershed. The existing storm sewer along Kimberley Lane consists of approximately 1,300 linear feet of 24- to 36-inch reinforced concrete pipe (RCP). The portion of Kimberley Lane within the project limits is drained by 6 type B-B inlets, 1 type C inlet, and two grate inlets. The trunk line begins at a manhole on the north side of the Kimberley Lane roadway just east of West Bough Lane. The

manhole receives flow from a small detention pond servicing Bendwood Elementary School and is connected to two separate storm sewer systems. The storm sewer system to the east serves the Fonn Villas subdivision and was recently upgraded as part of the Fonn Villas Storm Sewer Improvement Project. The Kimberley Lane Project system drains to the trunk line along the Beltway 8 Northbound Frontage Road that flows south ultimately outfalling into Buffalo Bayou.

Town and Country Boulevard, between Kimberley Lane and Queensbury lane also drains to the Kimberley Lane Project Storm Sewer. Town and Country Boulevard is drained by a combination of 13 inlets of varying size and type within the referenced limits. The storm sewer trunkline on Town and Country Boulevard ranges in size from 24-inch to 30-inch.

The Kimberley Lane storm sewer has a contributing drainage area of 29 acres and the land use is classified as Business District. No changes in land use are expected in the near future. The contributing area is bound on the north by high points within the Town & Country Center located between Queensbury and Kimberley Lane. A portion of the shopping center drains northward to Queensbury Lane while the rest of the shopping center drains south towards Kimberley Lane. The Kimberley Lane storm sewer drainage area is bound on the west by the Beltway 8 Northbound Frontage Road and on the east by relative high points located near the Bendwood School property. To the south, the drainage area is bound by drainage divides located in the Town and Country Shopping Center just south of Kimberley Lane. See **Exhibit 3.1** Existing Drainage Area Map for additional information.

The Beltway 8 Northbound Frontage Road system begins as a 42" RCP and gradually increases downstream to a 9' x 8' box culvert. The trunk line transitions from a 90" RCP to a 9' x 8' box culvert at the Verde Pump Station. The Verde Pump Station serves the depressed section of the Beltway 8 mainlanes. The Verde Pump Station was determined to supply an additional 55 cfs of flow into the storm sewer for the 2 year storm event. This is equivalent to one of the two pumps flowing at full capacity. It was determined that the pump station supplies an additional 111 cfs of flow, both pumps at maximum capacity, for the extreme event. The system then continues downstream to Buffalo Bayou (W100-00-00). The existing and proposed condition models analyzed in this study include the Kimberley Lane Project storm sewer system and the Beltway 8 storm sewer system to the outfall at Buffalo Bayou.

### 2.4.3 Existing Water Lines

Existing water lines are within the Kimberley Lane Project study limits. Information on these utilities was obtained from survey data, record drawings from the City of Houston, and the City of Houston Geographic Information & Management System (GIMS). See **Exhibit E.1** Existing Public Utilities for additional information.

An existing water line is located along the north side of Kimberley Lane below the existing roadway pavement. The line consists of a portion of 6-inch cast iron pipe with an unknown construction date transitioning to an 8-inch cast iron pipe approximately 760-feet east of the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. The 8-inch portion of the line was constructed in 1962 and has exceeded its useful service life of 40-years.

Several other waterlines are also located within the vicinity of the Kimberley Lane project study limits. An 8-inch cast iron water line located 5-feet behind the back of curb along the east right-of-way of Town and Country Boulevard and runs north from the 6-inch water line located within Kimberley Lane. According to as-built drawings, this line was built in 1962, but disagreement exists between the size and material of the line stated in the as-built drawings and the City of Houston GIMS. The COH GIMS reports the waterline to be a 12-inch asbestos concrete waterline. Special specifications for removal and handling will be addressed in detailed design.

Approximately 570-feet north of the intersection of Kimberley Lane and Town and Country Boulevard, a 6-inch fire hydrant lead of unknown material crosses the northbound lanes of Town and Country Boulevard in an east west direction. Detailed plans were not available for this lead, so vertical elevations for this line are unknown, but the lead appears to tie into the above referenced water line along the east right-of-way of Town and Country Boulevard.

Approximately 310-feet east of the intersection of Kimberley Lane and Town and Country Boulevard an abandoned 8-inch waterline crosses Kimberley Lane. In 1996 this line was cut and plugged approximately 10-feet south of the 8-inch waterline that runs east west on Kimberley Lane. It is unknown if the northern portion of the line is still under pressure, but it is assumed the southern portion of the line is abandoned.

Approximately 340-feet east of the intersection of Kimberley Lane and Town and Country Boulevard an 8-inch cast iron waterline crosses beneath Kimberley Lane. Placed in 1996, this line crosses above the 54-inch sanitary sewer located in the south Kimberley Lane right-of-way and ties into the 8-inch waterline running east/west along Kimberley Lane.

Slightly west of the intersection of Kimberley Lane and West Bough Lane, an 8-inch cast iron waterline crosses beneath Kimberley Lane. Detailed flowlines from as-built drawings for this waterline were not available, but this waterline is believed to tie into the 8-inch waterline running east/west along Kimberley Lane. This waterline is recorded as constructed in 1966. Near the same crossing, a fire hydrant lead runs south from the 8-inch waterline running east/east along Kimberley Lane to the southwest corner of the intersection of Kimberley Lane and West Bough Lane. This lead is of an unknown material, but is 6-inches in diameter and is recorded as constructed in 1962. Detailed design will include maintenance of all existing service connections and removal of abandoned lines in conflict with the proposed improvements.

**Table 2.1** provides a summary of the existing water lines located within the project right-of-way.

**Table 2.1 - Existing Water Lines**

Size	Material	Alignment	Crossing	Longitudinal		Year Constructed
			Station	Station From	Station To	
16"	CI	Crossing	2+30	-	-	unknown
8" (abandoned)	CL	Crossing	10+65	-	-	unknown
8"	CI	Crossing	10+92	-	-	1996
6"	CI	Crossing	14+48	-	-	1962
8"	CI	Crossing	14+60	-	-	1966
6"	CI	Longitudinal	-	1+69	10+90	1962
8"	CI	Longitudinal	-	10+90	15+52	1962

#### 2.4.4 Existing Sanitary Sewer Lines

Several sanitary sewer lines exist within the Kimberley Lane Project study limits. Information on these utilities was obtained from survey data, record drawings from the City of Houston, record drawings from AT&T that showed other utilities on the drawings, and the City of Houston Geographic Information & Management System (GIMS). See **Exhibit E.1** Existing Public Utilities for additional information.

Active sanitary sewer lines cross the Kimberley Lane storm sewer in three different locations. The first crossing is located at the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. The second crossing is located along Kimberley Lane approximately 210-feet east of the intersection of Kimberley Lane and Town and Country Boulevard. A third crossing is located along Kimberley Lane approximately 340-feet east of the intersection of Kimberley Lane and Town and Country Boulevard.

At the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road a 54-inch monolithically reinforced concrete sanitary sewer pipe crosses below the Beltway 8 Northbound Frontage Road storm sewer trunkline. Installed in 1966, this sanitary sewer passes approximately 2-feet below the Beltway 8 Frontage Road trunkline. This sanitary sewer is located approximately 3-feet behind the back of curb in the south right-of-way of Kimberley Lane and continues to run east through the project area. Conflicts with this sanitary sewer are not anticipated.

Approximately 210-feet east of the intersection of Kimberley Lane and Town and Country Boulevard a 15-inch sanitary sewer (installed in 1966) crosses beneath Kimberley Lane. The sanitary sewer passes beneath the Kimberley Lane storm sewer with approximately 5-feet of vertical clearance. Conflicts with this sanitary sewer are also not anticipated.

Approximately 340-feet east of the intersection of Kimberley Lane and Town and Country Boulevard an 8-inch PVC sanitary sewer (installed in 2001) crosses beneath Kimberley Lane. Detailed plans were not available for this sanitary sewer but it is estimated that this sanitary sewer passes beneath the Kimberley Lane storm sewer with a vertical clearance of approximately 3.5-feet. Conflicts with this sanitary sewer are not anticipated due to its depth.

**Table 2.2** provides a summary of the existing sanitary sewer lines located within the project right-of-way.

**Table 2.2 - Existing Sanitary Sewer Lines**

Size	Material	Alignment	Crossing	Longitudinal		Year Constructed
			Station	Station From	Station To	
15"	ESP	Crossing	9+17	-	-	1966
8"	PVC	Crossing	10+68	-	-	2001
54"	MRC	Longitudinal	-	2+01	16+35	1966
10"	unknown	Longitudinal	-	14+90	16+35	1984
6"	unknown	Longitudinal	-	15+20	16+35	unknown
10"	Concrete	Longitudinal	-	15+09	16+35	1965

## 2.4.5 Existing Private Utilities

Both CenterPoint Energy (CPE) and AT&T have existing private utilities located within the Kimberley Lane project right-of-way. Utility information was requested and obtained from both companies. Texas One Call should be contacted at least 48 hours prior to excavation to locate all underground utilities.

### 2.4.5.3 Existing CenterPoint Energy Gas Facilities

An existing 4-inch IP steel gas line is located within the south right-of-way of Kimberley Lane for the entire length of the Kimberley Lane Project. The location of the line varies but is located between 4- and 6-feet inside of the south right-of-way. A 2-inch IP steel gas line crosses Kimberley Lane approximately 810-feet east of the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. It is unknown if this line crosses above or below the Kimberley Lane storm sewer due to lack of detailed plan information. A 4-inch IP steel gas line also crosses Kimberley Lane near the western intersection of Kimberley Lane and Town and Country Boulevard. It is also unknown if this line crosses above or below the Kimberley Lane storm sewer due to lack of detailed plan information. Additional coordination during detailed design will be necessary to confirm potential conflicts.

### 2.4.5.2 Underground Electric Facilities

Record drawings were obtained from CenterPoint Energy indicating underground electric facilities. An underground street light cable crosses Kimberley Lane Drive just west of the intersection of Kimberley Lane and Town and Country Boulevard. After crossing Kimberley Lane, the cable splits to run north along both sides of Town and Country Boulevard.

A major underground line and easement is shown on the electrical record drawings to be located at the northwest corner of the intersection of Kimberley Lane and Town and Country Boulevard. According to the record drawings this line and easement are located north of the right-of-way along Kimberley Lane and should not be in conflict with the Kimberley Lane Project. Additional underground lines run east/west along Kimberley Lane but are located outside of the south right-of-way line and therefore are not anticipated to be in conflict with the Kimberley Lane Project.

Several CenterPoint Energy easements are located within the vicinity of the Kimberley Lane Project. A 10-foot wide easement crosses Town and Country Boulevard approximately 200-feet north of the intersection of Town and Country Boulevard and Kimberley Lane. An additional 10-foot wide easement runs north from the Town and Country Shopping Center and is located approximately 150-feet east of the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. This easement extends approximately 10-feet north into the south right-of-way located along Kimberley Lane. Another 10-foot wide easement runs north from the Town and Country shopping center and is located approximately 320-feet east of the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. This easement also appears to extend approximately 10-feet north into the south right-of-way located along Kimberley Lane. A third 10-foot wide easement runs north from the Town and Country shopping center and is located approximately 530-feet east of the intersection of Kimberley Lane and the Beltway 8



Northbound Frontage Road. This easement terminates at the edge of the south right-of-way located along Kimberley Lane. A fourth 10-foot wide easement runs north from the Town & Country Shopping Center and is located approximately 850-feet east from the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. This easement appears to extend approximately 10-feet north into the south right-of-way located along Kimberley Lane. Additional coordination with CenterPoint Gas and Electric will be conducted during Phase II to confirm existing utilities and potential conflicts.

#### 2.4.5.3 Existing AT&T Facilities

Multiple AT&T conduits are located within the Kimberley Lane Project. East of the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road a 2 – 4-inch ‘C’ PVC (2Wx1H, placed in 1996) ductbank crosses approximately 2-feet above the existing 36-inch Kimberley Lane storm sewer trunk line. Approximately 200-feet east of the Kimberley Lane and Beltway 8 Northbound Frontage Road intersection a second ductbank, 2 – 4-inch GIP (2Wx1H, placed in 1997), crosses Kimberley Lane under the storm sewer trunkline. According to the as-built plans, a minimum of 6-inch vertical clearance exists between the ductbank and the Kimberley Lane storm sewer.

Approximately 100-feet east of the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road, a third ductbank, 4 – 4-inch ‘C’ PVC (2Wx2H, unknown install date), crosses under the Kimberley Lane roadway. This conduit turns to continue east to the project eastern termini located approximately 5-feet inside the south face of curb. This ductbank, increases in size to 8 – 4-inch PVC (4Wx2H, placed 1997) within the project eastern limits. It appears this conduit may have been placed within the roadway in order to avoid sanitary sewer conflicts along the south right-of-way.

A fourth conduit crossing of Kimberley Lane is located approximately 845-feet east from the intersection of Kimberley Lane and the Beltway 8 Northbound Frontage Road. The conduit consists of 8 – 4-inch (4Wx2H, placed in 1997) multi-ductbank crossing. It is unknown if this conduit passes above or below the Kimberley Lane storm sewer as plans were unavailable for this section of conduit passing near the Kimberley Lane storm sewer. Utility coordination during detail design will continue to identify potential AT&T conflicts. Subsurface utility excavation is recommended in Phase II to confirm critical AT&T ductbank potential conflicts.

#### 2.4.5.4 Existing Aerial Facilities

Overhead electric lines are located along the entire project length behind the curb along the south right-of-way of Kimberley Lane. Two aerial facilities cross Kimberley Lane just west of the intersection of Kimberley Lane and Town and Country Boulevard. The poles for this crossing also appear to be located behind the curb and within the north right-of-way for Kimberley Lane. It is believed that these two aerial crossings tie to the major underground line and easement. An additional aerial crossing is located approximately 150-feet east of the intersection of Kimberley Lane and Town and Country Boulevard. The pole for this crossing is located behind the curb and within the north right-of-way for Kimberley Lane. Additional coordination with CenterPoint

Electric during detailed design will be conducted to confirm potential utility conflicts and relocations.

#### 2.4.5.5 Fiber Optic Communications

There is no evidence of Level 3 Communications or other private fiber optic lines within the project limits. It is recommended that Texas One Call be contacted prior to detailed design and construction to further confirm and document this finding.

**Table 2.3** provides a summary of the existing private utilities located within the project right-of-way.

**Table 2.3 - Existing Private Utilities**

Owner	Size	Material	Alignment	Crossing	Longitudinal	
				Station	Station From	Station To
SBC	2-4" Duct	PVC	Crossing	2+27	-	-
SBC	2-4" Duct	PVC	Crossing	4+06	-	-
SBC	4-4" Duct	PVC	Longitudinal	-	2+27	4+21
SBC	3-4" Duct	PVC	Longitudinal	-	2+32	3+87
SBC	8-4" Duct	PVC	Longitudinal	-	4+21	9+02
SBC	4-4" Duct	PVC	Longitudinal	-	9+02	11+02
SBC	Buried Cable	PVC	Longitudinal	-	5+89	14+40
CNP Gas	4"	IP STL	Longitudinal	-	2+32	16+22
CNP Gas	2"	IP STL	Crossing	9+26	-	-
CNP Electric	unknown	unknown	Longitudinal	-	6+62	7+57
CNP Electric	unknown	unknown	Crossing	6+62	-	-

#### 2.4.6 Existing Tree Impacts

Over 60 existing trees are located within the right-of-way of Kimberley Lane, as well as within the median of Town and Country Boulevard. Landscaping plans and tree protection plans will be necessary in Phase II to comply with the City Tree Ordinance. Per the preliminary tree inventory findings, it is anticipated that retaining walls behind the curb may be necessary to protect multiple existing trees located near the proposed curb and pavement limits. The limits of the retaining walls will be further defined in phase II. For additional information, a detailed tree inventory was performed by C.N. Koehl Urban Forestry and can be found in **Appendix G**.

#### 2.4.7 Geotechnical Study

Tolunay-Wong Engineers, Inc. performed the geotechnical investigation for the project. The findings and recommendations are presented in the report entitled *Geotechnical Study Kimberley Lane Improvements Project*. A copy of this report can be found in **Appendix H**. Tolunay-Wong drilled 3 soil core borings at the project site, each 25-feet in depth. Soils are classified as "Type C" (medium to high plasticity lean and fat clays) within the study area. The report

recommends a reinforced concrete pavement thickness of 10-inches with a 6-inch lime-fly ash stabilized subgrade consisting of 4% lime content and 8% fly ash by dry weight.

#### 2.4.8 Environmental Site Assessment

Lockwood, Andrews & Newnam, Inc. conducted a Phase I Environmental Site Assessment (ESA) for the project area. The findings are presented in the report entitled *Phase I Environmental Site Assessment Kimberley Lane Roadway Reconstruction and Drainage Improvements from West Sam Houston Tollway to West Bough Lane*. A copy of the report is available under separate cover. Based on the Phase I ESA for the proposed roadway improvements along Kimberley Lane, there are two (2) potential Recognized Environmental Conditions (RECs) present. Phase II sampling to quantify possible contamination from the two RECs in the vicinity of the subject alignment is recommended.

Tolunay-Wong Engineers, Inc. was subsequently retained by Lockwood, Andrews & Newnam, Inc. per the Phase I recommendations to conduct a Phase II Environmental Site Assessment (Phase II ESA) for Kimberley Lane. Four soil borings were drilled and eight soil samples were selected for chemical testing. A detectable concentration of methyl tert-butyl ether (MTBE) was found in one sample that exceeds the Texas Commission on Environmental Quality's (TCEQ) Petroleum Storage Tank (PST) Program action level. Based on the single occurrence of MTBE at a depth that is expected to exceed the depth of excavation during construction activities, Tolunay-Wong concluded the exposure potential to be minimal and therefore made no recommendations for additional testing or study.

#### 2.4.9 Agency Coordination

Contact with different entities will be required throughout the final design phase prior to the final design submittal. Coordination meetings will be scheduled with the City of Houston as needed throughout the design phase. Upon 90% completion, drawings will be submitted to the City Engineer's Office for review and approval. A TxDOT permit will also need to be acquired to tie-in at the Beltway 8 Northbound Frontage Road. Coordination with adjacent businesses and Spring Branch Independent School District will be conducted throughout the project development to minimize access impacts to the existing adjacent development.

2.4.10 Existing Roadway Condition Photos

Figure 2.1 – Kimberley Lane near Beltway 8 (Looking West)

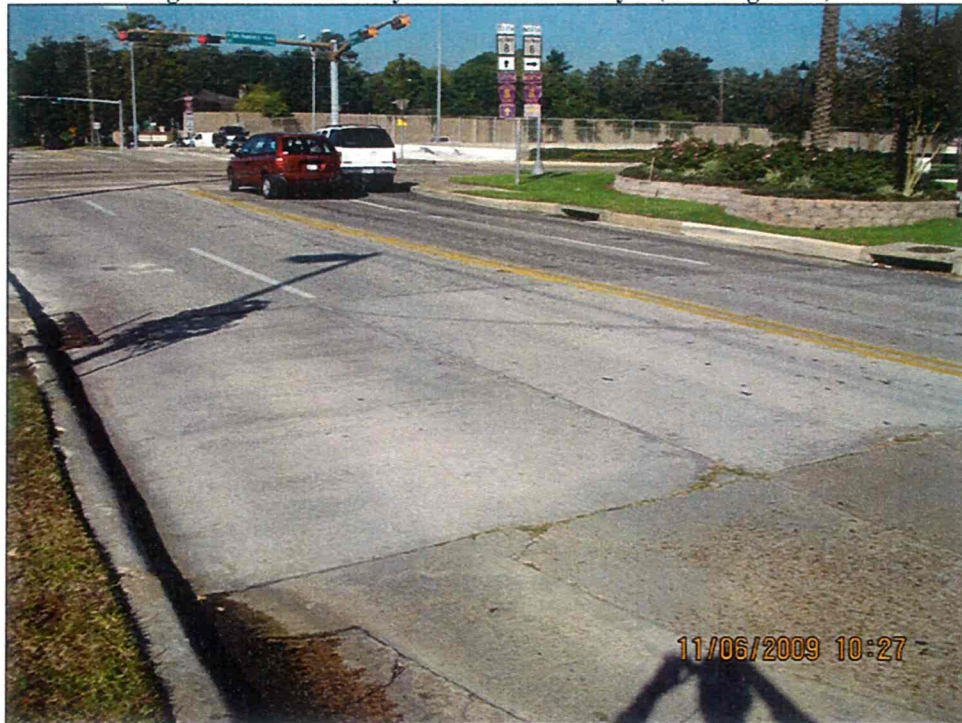


Figure 2.2 - Kimberley Lane near Town & Country Blvd (Looking West)



Figure 2.3 – Town and Country near Kimberley Lane (Looking South)



Figure 2.4 – Kimberley Lane @ Town and Country Blvd Intersection (Looking North)



Figure 2.5 - Kimberley Lane @ West Bough Lane (Looking East)



Figure 2.6 - Bendwood Elementary Driveway @ West Bough Lane (Looking South)

