APPENDIX A PUBLIC INVOLVEMENT REPORT

PUBLIC MEETING #1 SUMMARY

About the Study

The Houston-Galveston Area Council conducted an access management study for SH 105 to identify transportation improvements that will reduce crashes, improve traffic flow, reduce motorist delay and address multi-modal/land-use context. The study area extends from SH 105 between Loop 336 in Conroe to US 59 in Cleveland, and crosses Montgomery, San Jacinto and Liberty Counties.

Meeting Purpose and Activities

H-GAC hosted a public meeting regarding proposed safety and mobility improvements. The open house meeting was held to introduce the study, show initial recommendations and improvements, and receive public feedback. The meeting date, location and time:

Wednesday, August 10, 2011 Austin Elementary School 14796 Highway 105 East Conroe, Texas 77306 6:00-8:00 p.m.

At the meeting, informative boards were staffed by project team members. Attendees were able to speak with team members and have questions answered. Two sets of large table maps of the study area were displayed and attendees were invited to review the short-, medium- and long-term recommendations. Smaller maps of proposed pedestrian improvements and livable center plans were also available for review. Questionnaires were provided to collect comments from attendees. Some attendees took extra copies of the questionnaires to distribute to people who were not able to attend the meeting.

The project boards, presentation, sign-in sheets and completed questionnaires are included as attachments

to the Public Involvement Report, which is a separate document.

Attendance

A total of 72 people attended the public meetings. The following breakdown categorizes the attendees:

General Public	57
Elected Officials/Steering Committee	4
Project Team	11

PUBLICITY SUMMARY

A variety of methods were used to publicize the meetings. The following is a breakdown of the publicity summary. Copies of all publicity items are included in Attachment A.

Direct Mail

Letters were sent to local elected officials 30 days in advance. Two rounds of postcards were mailed to local community groups, the Steering Committee, the Stakeholder Committee, schools, churches, emergency services and property owners within the SH 105 study area. Extra postcards were distributed at Austin Elementary School, Security Community Center, Cut and Shoot Town Hall, and other local area businesses. The map on the following page shows the distribution area of the property owners who received the postcard. The complete mailing lists are included on the enclosed CD.

Newspapers

A public meeting notice was printed in the legal section of The Houston Chronicle, 30 days prior to the meeting. Display ads were printed in English and Spanish in the Conroe Courier and Cleveland Advocate and in Spanish in La Voz, The Houston Chronicle's Spanish language publication. A media release was e-mailed approximately two weeks in advance. An article appeared in Your Houston News.















Newsletters

Notices appeared in H-GAC's Vision and Regional Focus electronic newsletters.

E-Notices

An e-notice was e-mailed to elected officials, the Steering Committee, and individuals from a database of previous meetings.

Social Media

A notice was posted on the H-GAC's website, www.h-gac. com, in the Transportation and Air Quality section and on H-GAC's face book page.

Sians

TxDOT's portable orange construction signs displayed the meeting information on the day of the meetings at two separate locations, near either end of the study corridor.

QUESTIONNAIRE COMMENTS SUMMARY

Questionnaires were distributed to attendees at the meeting. Some attendees took extra questionnaires and distributed them after the meeting. After the meeting, an abbreviated version of the questionnaire (with questions related to walking and bicycling deleted) was provided in electronic file for e-mail distribution; 20 of these abbreviated questionnaires were completed.

A total of 50 completed questionnaires were received, with these summary responses:

Which category best describes your interest?

Local resident	46
Public official	6
Retail business owner	3
Service business owner	3
Developer	2
School official	
Future retail owner	1

Of the tools presented here tonight, which would you like to see used in the corridor?

Four-lane roadway se	ection	39

SH1	105
	S MANAGEMENT STUD

Left- and right-turn lanes33
New traffic signal installation28
(2 specified Walker Road)
Improve traffic signal timing/progression25
Center two-way, left turn lane14
Raised median2
Six-lane roadway section
Driveway reconfiguration
Locate parking to be set back further
(Austin Elementary)
Limit driveway access to SH 105
Center turn lane

Which locations along the corridor have the most safety issues?

sarcty issues.
<u>SH 105 at</u>
Crystal Forest12
North Walker Road8
Fostoria 8
Loop 3367
Willis Waukegan6
Millmac4
Loop 14854
Austin Elementary School2
Crockett Trace/Emerson Estates2
Crystal Trail2
Flea markets2
Crockett Martin Road1
Duck Creek1
Peach Creek1
Sonic1
Trails End1
The whole highway2
From Loop 336 to Security-Foster Drive2

What transportation-related issues along the SH 105 corridor concern you the most?

Congestion	21
Truck traffic	10
Access to businesses	6
Wrecks and safety concerns	6
Speed limits	5
Turn lanes	3
Not enough lanes	2
Access to residences	1
All of it	1
Elementary school does not need raised median	1

Emergency vehicle access
Traffic signal warning lights
Do you or your employees/students walk along

this corridor?

No	26
Yes	2
2 say they would walk if it were safe	

What sections of SH 105 do you walk along or across?

Walker Rd	
Crystal Forest	
Cross N. Walker; Fostoria; Waukegan; Duck Cr.	

What is your destination?

information presented tonight?

5. Walker	1
oop 336	1

Do you or your employees/students bicycle along this corridor?

No2	6
Yes	3

Where do you start and end your bike ride?

Waukegan to Loop 336 Do you have any other general comments on the

Raised medians will negatively impact businesses 5
Need lights, crosswalk, 4 lanes plus turn lane3
Community discouraged by promises and no results 2
Trucks/cars from Louisiana and East Texas use SH 105 1
More lights1
Glad to see improvements1
ROW required? 1
Expand SH 105 like Airport Road1
Widen SH 105 between Cleveland and Conroe 1
Band-aid approach at Crystal Forest proposed 1
Informative presentation1
SH 105 is dangerous1
Need 5-foot shoulder bike lanes 1

PUBLIC MEETING #2 SUMMARY

About the Study

The Houston-Galveston Area Council conducted an access management study for SH 105 to identify transportation improvements that will reduce crashes, improve traffic flow, reduce motorist delay and address multi-modal/ land-use context. The study area extends from SH 105 between Loop 336 in Conroe to US 59 in Cleveland, and crosses Montgomery, San Jacinto and Liberty Counties.

Meeting Purpose and Activities

H-GAC hosted a public meeting regarding proposed safety and mobility improvements. The open house meeting was held to introduce the study, show final recommendations and improvements, and receive public feedback. The meeting date, location and time:

Thursday, October 27, 2011 Austin Elementary School 14796 Highway 105 East Conroe, Texas 77306 6:00-8:00 p.m.

At the meeting, informative boards were staffed by project team members. Attendees were able to speak with team members and have questions answered. Two sets of large table maps of the study area were displayed and attendees were invited to review the short-, medium- and long-term recommendations. Smaller maps of proposed pedestrian improvements and livable center plans were also available for review. Two display monitors were set up to continuously play a short movie on access management. Questionnaires were provided to collect comments from attendees. Some attendees took extra copies of the questionnaires to distribute to people who were not able to attend the meeting.

The project boards, presentation, sign-in sheets and completed questionnaires are included as attachments to the Public Involvement Report, which is a separate document.

Attendance

A total of 61 people attended the public meeting. The following breakdown categorizes the attendees:

General Public	4
Elected Officials/Steering Committee	8
Project Team	8

PUBLICITY SUMMARY

A variety of methods were used to publicize the meetings. The following is a breakdown of the publicity summary. Copies of all publicity items are included in Attachment A.

Direct Mail

Letters were sent to local elected officials 30 days in advance. Postcards were mailed to local community groups, the Steering Committee, the Stakeholder Committee, schools, churches, emergency services and property owners within the SH 105 study area. Extra postcards were distributed at Austin Elementary School, Security Community Center, Cut and Shoot Town Hall, and other local area businesses. The map on the following page shows the distribution area of the property owners who received the postcard. The complete mailing lists are included on the enclosed CD.

Newspapers

A public meeting notice was printed in the legal section of The Houston Chronicle, 30 days prior to the meeting. Display ads were printed in English and Spanish in the Conroe Courier, Cleveland Advocate, The Greensheet. The display ad was only printed in Spanish in La Voz, the Houston Chronicle's Spanish language publication. A media release was emailed approximately two weeks in advance. An article was published in both Guidry News and Your Houston News.

Newsletters

Notices appeared in H-GAC's Vision and Regional Focus electronic newsletters.

E-notices

An e-notice was emailed to elected officials, the Steering Committee, and individuals from a database of previous meetings.

Social Media

A notice was posted on the H-GAC's website, www.h-gac. com, in the Transportation and Air Quality section and on H-GAC's facebook page.

Signs

TxDOT's portable orange construction signs displayed the meeting information on the day of the meetings at two separate locations, near either end of the study corridor.

QUESTIONNAIRE COMMENTS SUMMARY

Questionnaires were distributed to attendees at the meeting. Some attendees took extra questionnaires for distribution to others who were not at the meeting. A summary of the 19 completed questionnaires received is provided below:

Which category best describes your interest?

Local resident	13
Public official	
School official	
Retail business owner	

Of the access management tools presented, which would you like to see used along the corridor?

Improve traffic signal timing/progression	10
Left- and right-turn lanes	9
Center two-way, left-turn lane	8
Four-lane roadway section	7
No raised median	3
Six-lane roadway section	3
New traffic signal installation	3
Locate parking to set back further	2
Four-lane with a center turn lane	2
Center turn lane in Cut and Shoot	1
Raised median	1

What do you think about the set of short-term recommendations?

recommendations:
No raised median8
No bicycle/pedestrian enhancements6
No raised median accept at churches, schools, and major
turns2
Douget Road needs traffic-triggered signal1

Traffic signal at Crystal Forest	1
Widen lanes	1

What do you think about the set of medium-term recommendations?

No raised median	/
No bicycle/pedestrian enhancements	5
No driveway consolidation	1
Some of the medium-term should be short-term	1
No raised median, need center turn lane	1
You will acquire land from property owners who do not	C
desire to lose their property	1

What do you think about the set of long-term recommendations?

No bicycle/pedestrian enhancements	2
More concerned with traffic problems	1
Only sidewalks near schools	1
It's a consideration	1
No sidewalks	1
OK .	1

Do you support these recommendations for pedestrian/bicycle traffic along SH 105?

caestrian, bicycle transcatoring bir 105.	
011	
25	

What modifications or additions would you like to see?

Widen SH 105

Wait for the bicycle/pedestrian enhancements when more businesses are along SH 105

Place sidewalks only near schools

Four lanes with center-turn lane only

Do you have any other general comments on the information presented tonight?

Rethink raised medians with a center-turn only

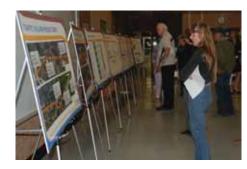
Why can't East of Conroe (Hwy 105) be done as West of Conroe?

No raised medians

The zero crashes at Walker Road is not true, please recheck

sources

Lower the speed limits Add more police patrol









APPENDIX B

SUMMARY OF SH 105 CORRIDOR SUBDIVISION REGULATIONS

SUMMARY OF SH 105 CORRIDOR

Subdivision regulations for Montgomery, San Jacinto, and Liberty counties are applicable to SH 105 and were reviewed as part of this study. In the absence of zoning controls, these subdivision regulations most directly influence development pattern along the corridor. A summary and comparison of these regulations is provided in the table.

Regulatory Element	San Jacinto	Citation
Extra Territorial Jurisdiction (ETJ)	If parcel is within ETJ of an incorporated city, then it is subject to the regulations of both the city and County.	Part I, Sec. 2.8
Exemptions from Subdivision Regulations	1. The land is used primarily for ag, farm, ranch, timber or wildfile management. 2. The land is being divided among Jamily of ranily and results in no more than 4 lots. 3. All lots are more than 10 acres and no new streets or public dedications. 4. All lots are leng sold to Veterants through the Veterans Land Board Assoc. 5. The land is owned by the state or any of its agencies or school funds unless there are public dedications or if land is subdivided for sale to adjacent private owners. 6. The land is owned by a political jurisdiction of the state, is in a floodplain and is being sold to adjacent owners. 7. Two tracts are created - one for the owner and to be sold for development that would be subject to plat requirements. 8. No public dedications are being made and the lot is being transferred to a previous owner with a jable being required before further development. Items 2, 3 and 4 require lot frontage of at least 50°.	Part I, Sec. 3.1
Water/Wastewater/Sewage	No On-Site Sewage Facility permits will be issued for land subdivided after June 19, 2000, unless it has been subdivided according to the Subdivision Regulations and the San Jacinto County On-Site Sewage Facility Rules or is exempt from subdivision under state law. Subdivision Regulations include a reference to Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a)]: Subdivisions served by a public water supply and an OSSF must have a minimum lot size of 1/2 acre. Subdivisions event by a public water supply and continued to the supply) must have a minimum lot size of 1 acre.	Part I, Sec. 2.10 Appendix 6, Sec. 8 Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a)
Streets		
General provisions	Must be paved and dedicated. Private streets permitted only by variance. Neighborhood Subdivision Streets (hone serving 100 lots or less) must connect to a State or Federal Highway or a County Feeder Road.	Part I, Sec. 6.1 Part I, Sec. 6.5
R.O.W. width	Neighborhood: 50' Local: 67' Collector: 70'	Part II, Sec. 2.5
Number of lanes	Neighborhood: 2 Local: 2 Collector: 2	Part II, Sec. 2.5
Min. lot frontage	Cul-de-sac bulbs: 25' Neighborhood: 50' Loai: 50' Collector: 150' County Feeder Roads: 150'	Part I, Sec. 6.5.1 Part I, Sec. 6.5.2 Part II, Sec. 2.5
Min. driveway spacing	Neighborhood: 50' Local: 50' Collector: 150'	Part II, Sec. 2.5
Pavement width	NONE NOTED	

Reaul	atory Element	San Jacinto	Citation
ots			
Fla	g lots	Generally not permitted, unless Commissioners Court approves the lot after review and consideration.	Part I, Sec. 6.4
Mir	n. lot width	NONE NOTED	
Mir	n. lot depth	NONE NOTED	
Mir	n. setback	NONE NOTED	
Mir	n. lot area	Subdivisions served by a public water supply and an OSSF: 1/2 acre Subdivisions with individual water systems: 1 acre This reflects the Traxs Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a) regarding On-Sta Sewage Facilities.	Appendix 6, Sec. 8
Ex	emptions to bulk regulations	NONE NOTED	
	erior Roads - Manufactured ntal Home Parks	Must provide direct access to 60' wide public road Parks with more than 80 spaces must have two points of access. Minimum pavement width of 24'.	Appendix 5, Site Designand Development Standards
Max. blo	ck length	NONE NOTED	
Floodpla	in development	Development in the floodplain requires a permit and compliance with standards for floodplain construction.	Appendix 3, Article 3B
Other Ap	plicable Development ons	No.	Ashley, Permit Dept., San Jacinto County 5/19/11, 9:55 a.m. CST

ACCESS MANAGEMENT STUDY :

SUBDIVISION REGULATIONS (CONTINUED)

Regulatory Element	Liberty	Citation
Extra Territorial Jurisdiction (ETJ)	If parcel is within ETJ of an incorporated city, then it is subject to the regulations of both the city and County.	Sec. 2.9
Exemptions from Subdivision Regulations	1. The land is used primarily for ag, farm, ranch, timber or wildlife management. 2. The land is lengt divided among lamity for family and results in no more than 4 lots. 3. All lots are more than 10 acres and no new streets or public dedications. 4. All lots are being sold to Veterans through the Veterans Land Board Assoc. Lots are subject to driveway spacing requirements. 5. The land is owned by the state or any of its agencies or school funds unless there are public dedications or if land is subdivided for sale to adjacent private owners. 6. The land is owned by a political jurisdiction of the state, is in a flootplant and is being sold to adjacent owners. 7. Two tracts are created - one for the owner and to be sold for development that would be subject to plat requirements. 8. No public declarons are being made and the lot is being transferred to a previous owner with a plat being required before further development. **Rems 2 and 3 require lot frontage of at least 50*:	Sec. 3.1
Water/Wastewater/Sewage	No On-Site Sewage Facility permits will be issued for land subdivided after February 10, 2000 unless it has been subdivided according to the Subdivision Regulations and the Liberty County On-Site Sewage Facility Rules or is exempt from subdivision under state law. Subdivision Regulations include a reference to Texas Administrative Code [Title 30, Part I, Ch. 265, Subchapter A, Rule \$285.4 (al)]. Part I, Ch. 265, Subchapter A, Rule \$285.4 (al)]. Subdivision Regulations include a reference to Texas Administrative Code [Title 30, Part I, Ch. 265, Subchapter A, Rule \$285.4 (al)]. Subdivision Regulations include a reference to Texas Administrative Code [Title 30, Part I, Ch. 265, Subchapter A, Rule \$285.4 (al)].	Sec. 2.10 Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a)
Streets General provisions	Must be paved and dedicated. Private streets permitted only by variance. Neighborhood Subdivision Streets (those serving 100 lots or less) must connect to a State or Federal Highway or a County Feeder Road.	Sec. 6.1 Sec. 6.5
R.O.W. width	Open Disches: What of Arterials: 75' Collector or Laterials: 60' Single-family residential streets: 60' with 50' radius cul-de-sac and 600' length Curb and Gutter Arterials: 75' Collectors: 60' Single-family residential streets: 60' with 50' radius cul-de-sac and 600' length Alleys: 20' Alleys: 20' Alleys: 20' Alleys: 20' Alleys: 20' Alleys: 20'	Sec. 4.1.3(a) Sec. 4.1.1
Number of lanes	NONE NOTED	
Min. lot frontage	Cul-de-sac bulbs: 25 Neighborhood: 50' County Feeder Roads: 150'	Sec.6.5.1 Sec.6.5.2
Min. driveway spacing	NONE NOTED	
Pavement width	NONE NOTED	

Regulatory Element	Liberty	Citation
Lots		
Flag lots	Generally not permitted, unless Commissioners Court approves the lot after review and consideration.	Sec. 6.4
Min. lot width	50'	Sec. 4.1.1
Min. lot depth	130'	Sec. 4.1.1
Min. setback	25'	Sec. 4.1.1
Min. lot area	NONE NOTED However, per the Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a) regarding On-Site Sewage Facilities: 1 acre for lots served by well and septic and 1/2 acre central water and septic.	
Exemptions to bulk regulations	Subdivisions with curb and gutter can have a zero lot line design, minimum lot width of 45' and 110' depth	Sec. 4.1.1
Interior Roads - Manufactured Rental Home Parks	NONE NOTED	
Max. block length	1,400'	Sec. 4.1.1
Floodplain development	Development and construction in special flood hazard areas requires a permit and compilance with standards for floodplain construction.	Appendix 4, Secs. A, C and D
Other Applicable Development Regulations	No.	Leslie, Engineering Dept. Liberty County 5/20/11, 10:21 a.m. CS

SUBDIVISION REGULATIONS (CONTINUED)

Regulatory Element	Montgomery	Citation
Extra Territorial Jurisdiction (ETJ)	NONE NOTED	
Exemptions from Subdivision Regulations	NONE NOTED	
Water/Wastewater/Sewage	Cluster developments, residential condominisms, multi-family residential, apartments and mobile home parks should be served by sanitary sewer. Mobile home parks should be served by a community water supply. While not referenced in Subdivision Regulations, Tevas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule \$285.4 (a)] applies: Subdivisions served by a public water supply and an OSSF must have a minimum lot size of 1/2 acre. Subdivisions verter supply and mot Served by public water supply) must have a minimum lot size of 1 acre.	Subdivision Guidelines and Recommendations: Sec. 2-IIIJ.4 Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a)
Streets General provisions	NONE NOTED	
R.O.W. width	Commercialindustrial subdivisions: 77, 60° f concrete curb and gutter Minor streets, loop noted and culd-essace tests han 80° length: 50° Collector streets: 60°, 50° if concrete curb and gutter Major thoroughters: 100°-120° according to bytical section in Major Thoroughfare Plan Alleys: 20′ Cul-de-sac bulbs: 50° single-family and 60° other uses	Subdivision Guidelines and Recommendations: Sec. 2-III-B Sec. 2-III-F
Number of lanes	NONE NOTED	
Min. lot frontage	NONE NOTED	
Min. driveway spacing	NONE NOTED	
Pavement width	Residential streets, major thoroughfares, ranchettes 10 acres or more and mobile homes 10 acres or more: Minimum pavement width = 18' Commercial and heavy industrial streets: Minimum pavement width = 22'	Sec. 3-II-B-1

Regulatory Element	Montgomery	Citation
Lots	Montgomery	Oitation
Flag lots	NONE NOTED	
riag iots		
Min. lot width	Single-family residential: 50°, 30° for pie-shaped lots, 60° corner lots, 75° corner lots on major throughfam. The companies: 20°, 30° for end or corner units Cluster developments: 25° Mobile homes; 25° for single-wide mobile homes; 25° for single-wide mobile homes.	Subdivision Guidelines and Recommendations: Sec. 2-II-J-4
Min. lot depth	Single-family residential: 100', 110' for lots on major thoroughfare	Subdivision Guidelines and Recommendations: Sec. 2-II-J-4
Min. setback	Single-family and two-family dwellings: 20' front, 10' exterior side; 5' interior side for main building, 3' for secondary buildings Apartments or multi-family developments: 20' from any street Townhouse: 20' front	Subdivision Guidelines and Recommendations: Sec. 2-II-J-4
Min. lot area	Cluster developments and townhouses: 1,400 s.f. Multi-family and Apartments: 6,000 s.f., plus 1,500 s.f. for each dwelling unit in excess of two None other noted: however, per the Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285 s.4 (a) regarding On-Site Sewage Facilities: 1 acre for lots served by well and septic and 1/2 acre central water and septic.	Subdivision Guidelines and Recommendations: Sec. 2-II-J-4
Exemptions to bulk regulations	NONE NOTED	
Interior Roads - Manufactured Rental Home Parks	NONE NOTED	
Max. block length	Single-family detached lots less than 5,000 s.f.: 1,400' Single-family detached lots greater than 5,000 s.f.: 2,000' Along major thoroughfares: 2,000'	Subdivision Guidelines and Recommendations: Sec. 2-II-I
Floodplain development	Lots shall only be permitted in the floodplain after all other viable options are exhausted. For those lots platted in the floodplain the lowest habitable floor elevation must be 1'	Subdivision Guidelines and Recommendations: Sec. 2-II-B
	above 100 -year floodplain elevation. No structures are permitted in the 100-year floodway.	
Other Applicable Development Regulations	Subdivision Guidelines and Recommendations: S.O.P. / Required Drainage Criteria Manual: If requirements are stricter than Sub. Regs, it supercedes the Sub. Regs.	Cristy Weldon Engineer, Montgomery County 5/24/11, 1:50 pm CST

SUBDIVISION REGULATIONS (CONTINUED)

Regulatory Element	Cleveland	Citation
Extra Territorial Jurisdiction (ETJ)	NONE NOTED	
Exemptions from Subdivision Regulations	NONE NOTED	
Water/Wastewater/Sewage	Permits for septic systemswill only be issued when a final plat for the lot has been approved and recorded or when an existing lot complies with the subdivision regulations. The city will not supply water or sewer sencic to any subdivision until a final plat for has been approved and recorded or until the subdivision regulations have been fully compiled with. While not referenced in Subdivision Regulations, Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (al) applies: Subdivisions served by a public water supply and an OSSF must have a minimum lot size of 1/2 acre. Subdivisions with individual water systems (not served by public water supply) must have a minimum lot size of 1/2 acre.	Municipal Code, Subdivision Regulations Sec.106-4(a) and 106- 4(d) Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a)
Streets General provisions	Street intersections shall be as near to 90 dgrees as practical, Cul-de-sacs shall be no longer than 500'. Subdivisions with frontage onto an anterial require a marginal-access street (i.e. frontage road).	Municipal Code, Subdivision Regulations Sec.106-10(2), 106-(5)
R.O.W. width	Sidewalks are not required. Cul-de-sac bulbs: 100' in residential areas; 200' in commercial/industrial Alleys: 20'	Municipal Code, Subdivision Regulations Sec.106-10(2), 106-(3)
Number of lanes	NONE NOTED	
Min. lot frontage	Lots must front onto a public street. Irregular shaped lots must have at least 50' of frontage.	Municipal Code, Subdivision Regulations Sec.106-(13)
Min. driveway spacing	NONE NOTED	
Pavement width	Alleys: 20' in commercial / industrial; 14' in residential areas	Municipal Code, Subdivision Regulations Sec.106-(3)

Reg	gulatory Element	Cleveland	Citation
Lots			
	Flag lots	NONE NOTED	
	Min. lot width	50' if served by sewer 75' if not served by sewer 100' corner lots	Municipal Code, Subdivision Regulation Sec.106-(13)
	Min. lot depth	120' if served by sewer 200' if not served by sewer	Municipal Code, Subdivision Regulation Sec.106-(13)
	Min. setback	Front yard: 25'; corner lots: must have a 15' sideyard setback unless it is a "key" lot, in which case 25' is required; rear yard: 25% of lot depth or 40' maximum; sideyard: the greater of 10' or 10% of lot width.	Municipal Code, Subdivision Regulation Sec.106-(13)
	Min. lot area	6,000 s.f. if served by sewer 15,000 s.f. if not served by sewer [This appears to conflict with the Texas Administrative Code [Title 30, Part I, Ch. 285, Subchapter A, Rule §285.4 (a) regarding On-Site Sewage Facilities, which requires a minimum lot area of 1/2 acre (21,780 s.f.) if a parcel is served by central water and septic.]	Municipal Code, Subdivision Regulation Sec.106-(13)
	Exemptions to bulk regulations	NONE NOTED	
	Interior Roads - Manufactured Rental Home Parks	NONE NOTED	
Max.	block length	1200' maximum; 200' minimum	Municipal Code, Subdivision Regulation Sec.106-(11)
Flood	Iplain development	NONE NOTED	
	Applicable Development lations	NONE NOTED	

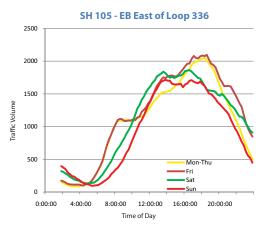
APPENDIX C

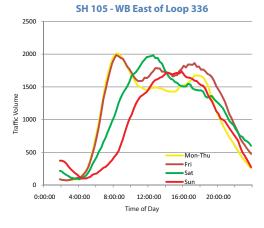
EXISTING (2011) TRAFFIC COUNT DATA

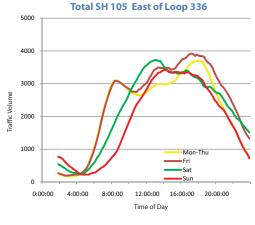
SEVEN-DAY TRAFFIC COUNTS SUMMARY

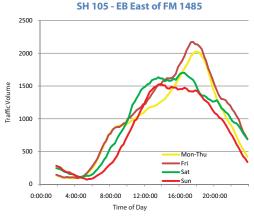
EB - Eastbound, WB - Westbound

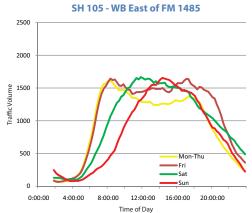
24-hour traffic counts were conducted for seven consecutive days at various locations along SH 105. This data is summarized in the following charts for each location by day of the week and time of day. For each location, traffic volumes are summarized by direction and then totaled for both directions.

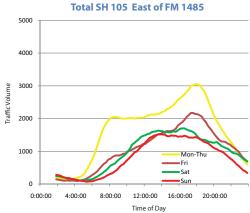








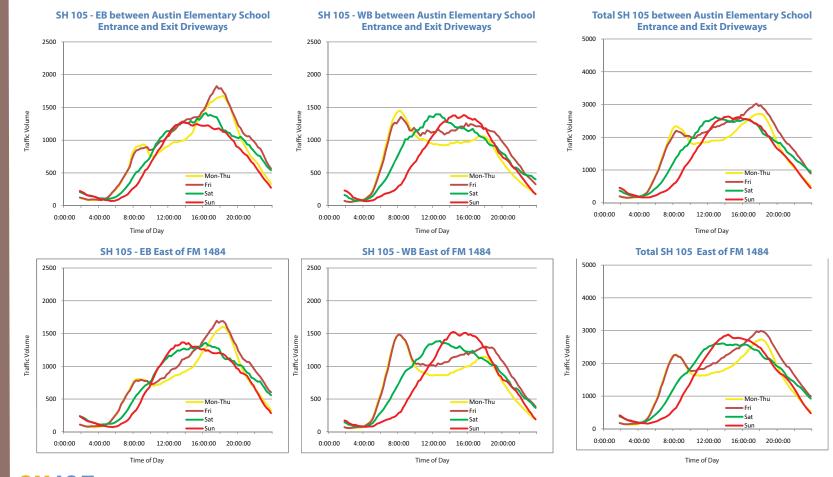




SH105
ACCESS MANAGEMENT STUDY

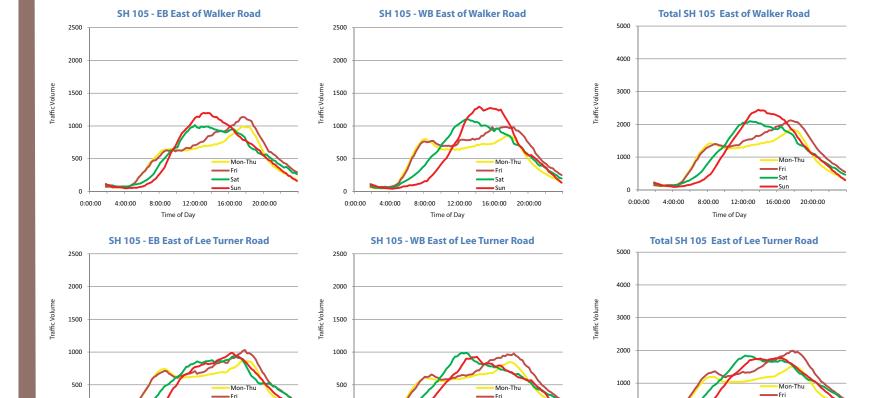
SEVEN-DAY TRAFFIC COUNTS SUMMARY (CONTINUED)

EB - Eastbound, WB - Westbound



SEVEN-DAY TRAFFIC COUNTS SUMMARY (CONTINUED)

EB - Eastbound, WB - Westbound



4:00:00 8:00:00 12:00:00 16:00:00 20:00:00

Time of Day

0:00:00 4:00:00 8:00:00 12:00:00 16:00:00 20:00:00

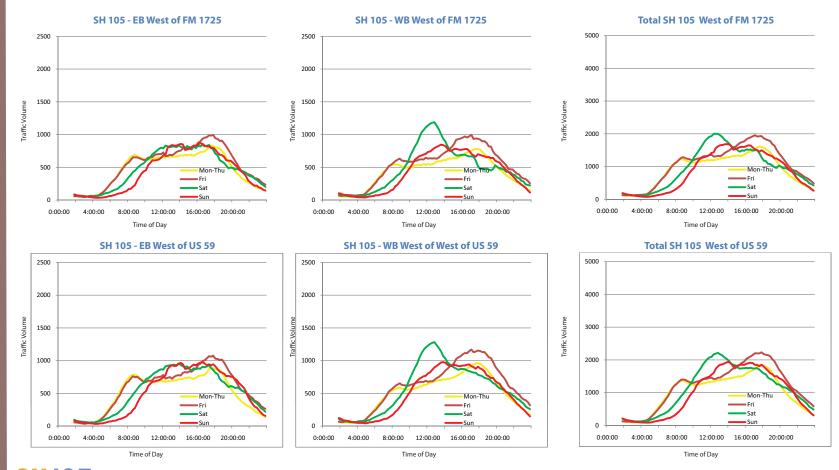
Time of Day

0:00:00 4:00:00 8:00:00 12:00:00 16:00:00 20:00:00

Time of Day

SEVEN-DAY TRAFFIC COUNTS SUMMARY (CONTINUED)

EB - Eastbound, WB - Westbound



APPENDIX D SYNCHRO/SIMTRAFFIC MODEL DEVELOPMENT

The development of an access management plan for SH 105 involves the evaluation and analysis of the existing transportation system and the proposed recommendations. The analysis methodology and analytical tools used to evaluate the transportation system are described in this section.

ANALYSIS METHODOLOGY

The study area was modeled using Synchro/SimTraffic. Synchro is a macroscopic simulation software developed by Trafficware® for capacity analysis of intersections that are either isolated or part of a network, and includes an evaluation of delay and queues. Synchro also has the capability of optimizing traffic signals, thereby allowing the development of traffic signal timing to accommodate roadway and intersection reconfigurations evaluated as part of this traffic study. SimTraffic, the companion visualization software, enables microscopic simulation of the roadway network developed in SYNCHRO.

Capacity analyses were conducted for study area intersections to evaluate existing and projected traffic operating conditions. The Highway Capacity Manual defines capacity at an intersection as the maximum hourly rate at which vehicles can reasonably be expected to pass through the intersection under prevailing traffic roadway and signalization conditions. The primary Measures of Effectiveness (MOEs) used in evaluating the traffic impacts for the proposed hotel development were peak hour intersection control delay (measured in units of seconds per vehicle) and level-of-service (LOS).

Control delay is defined as that component of total delay caused by decelerating and accelerating at a traffic signal or stop sign. Level-of-Service (LOS) is a qualitative measure of operating conditions at an intersection based on control delay. LOS is given a letter designation from A to

F, where LOS A represents free-flow conditions and LOS F represents heavy congestion.

DATA SOURCES

Data for simulation model input were obtained as follows:

- Background aerials used in building the scaled network were obtained from Houston-Galveston Area Council's (H-GAC) digital aerial imagery files.
- Traffic signal timings for study area intersections were obtained from Texas Department of Transportation (TxDOT).
- Traffic counts in the study area were conducted by CJ Hensch and Wilbur Smith Associates.

MODEL INPUTS

To simulate real-life traffic conditions, the model requires very detailed data inputs. This section describes the various inputs that were utilized to develop the Synchro/SimTraffic model for the current project.

LANE AND GEOMETRIC INFORMATION

Several field trips were conducted to document the roadway geometric and operational details such as speed limits, number of lanes, left-turn and right-turn lanes. Aerial imagery obtained from HGAC was scaled and used as a template to develop the existing study area roadway network. Lane and geometric information that was input in the software includes roadway speed limit, number of lanes, lane widths, turn bay storage lengths and number of storage lanes.

Traffic Volumes and Composition

Traffic volume information input in the simulation software includes peak hour intersection turning movement counts, and truck percentages. Peak hour intersection turning movement counts and 24-hour counts for the study area were used as the basis for developing traffic volumes that were coded in the

simulation model. During the typical weekday, it was estimated that heavy vehicle percentage on SH 105 ranges between eight percent and 10 percent.

Intersection Traffic Control

All the signalized intersections along SH 105 in the study area along with critical minor un-signalized intersections and driveways were modeled in the simulation software. As mentioned previously, traffic signal timings for study area intersections were obtained from TxDOT.

Model Calibration and Validation

Calibration is a necessary process to ensure that traffic conditions in the real world are sufficiently replicated by the simulation model. Synchro/SimTraffic is a complex mathematical model with several parameters that can be adjusted to match behavior in the real world. Model parameters in Synchro/SimTraffic can be classified as following:

- · Vehicle parameters
- Driver parameters

Driver parameters directly affect driving behavior for vehicles in the model. Vehicle parameters describe attributes associated with each vehicle type modeled such as vehicle dimensions, occupancy, acceleration and deceleration profiles. Some of the parameters affect the models' performance on a global scale while others have a local effect.

Vehicle parameters that can be modified in Synchro/ SimTraffic include length and width of vehicles, acceleration rate and maximum speed of vehicles. The default parameters provided in Synchro/SimTraffic are acceptable for the study area simulation and are not modified during the calibration process.

Driver parameters can be used to adjust the driving behavior of the vehicles in the simulation model from being most conservative to most aggressive. The driver parameters that can be modified in Synchro/SimTraffic

include Yellow Deceleration Rate (maximum deceleration rate a driver is willing to use when faced with a yellow light), Speed Factor (maximum speed of a driver), Headways (amount of time between vehicles drivers try to maintain), etc. The driver parameters were modified from the default values provided in Synchro/SimTraffic till a realistic driver behavior was observed for the SH 105 study area.

After the calibration process was completed, the model was run multiple times and inspected visually to ensure expected operation of network elements. Analysis output from the Synchro/SimTraffic model was obtained after running the model for one hour representing the peak hour. Average travel time along SH 105 in the study area was calibrated to ensure real world travel behavior.

Travel time data were collected on SH 105 in the study area during the peak analysis periods. This data was used to assess the accuracy of the Synchro/SimTraffic model. Travel time output provided by the model was compared to real-world travel times and, if necessary, data input parameters were adjusted to reflect more real-world conditions. Finally, field observations were conducted and the model was calibrated based on field observations of queue lengths.

Table 1 and **Table 2** compare the travel time results from Synchro/SimTraffic model and the field observations for a typical weekday PM and weekend peak hour. The results show that the travel time along SH 105 in the study area is comparable to the output from the simulation model.

Table 1: Travel Time Results - Existing Weekday PM Peak Hour

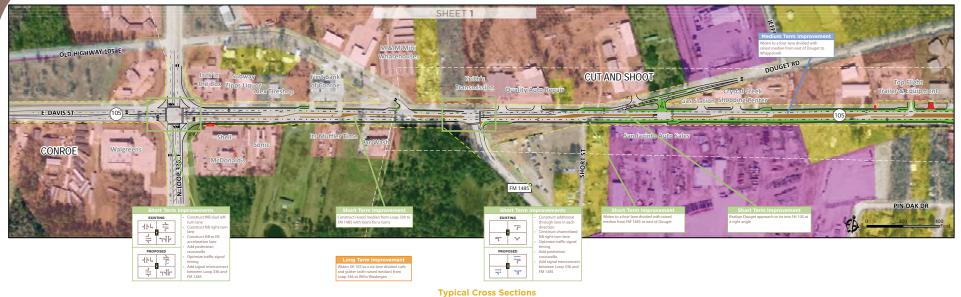
Table 2: Travel Time Results - Existing Weekend Peak Hour

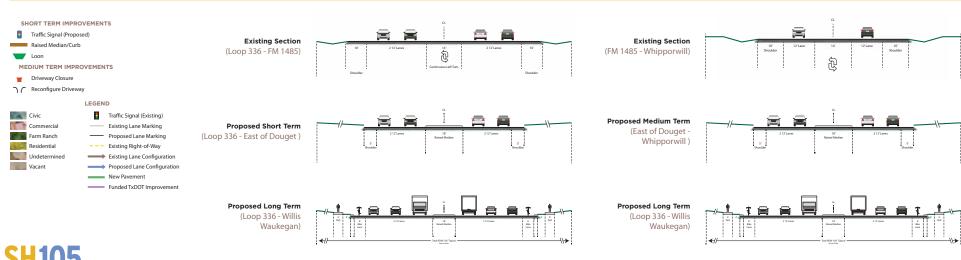
S		SH 105	Trave	el Time	5		SH 105	Trave	el Time
Direction	From	То	Field Observation	Synchro/SimTraffic	Direction	From	То	Field Observation	Synchro/SimTraffic
	Loop 336	FM 1485	0:01:05	0:00:57		Loop 336	FM 1485	0:00:39	0:00:40
	FM 1485	Whipporwill Road	0:01:18	0:01:16		FM 1485	Whipporwill Road	0:00:59	0:01:11
	Whipporwill Road	Crystal Forest Drive	0:00:28	0:00:33		Whipporwill Road	Crystal Forest Drive	0:00:25	0:00:29
	Crystal Forest Drive	Millmac Road	0:01:17	0:01:16		Crystal Forest Drive	Millmac Road	0:01:11	0:01:13
Б	Millmac Road	Willis Waukegan Road	0:01:32	0:01:27	ь	Millmac Road	Willis Waukegan Road	0:01:42	0:01:25
onu	Willis Waukegan Road	FM 1484	0:01:05	0:00:56	Jn C	Willis Waukegan Road	FM 1484	0:00:57	0:00:54
Eastbound	FM 1484	Crockett Martin Road	0:00:44	0:01:02	Eastbo	FM 1484	Crockett Martin Road	0:00:38	0:00:57
Ш	Crockett Martin Road	Walker Road	0:02:32	0:02:32	Ë	Crockett Martin Road	Walker Road	0:02:30	0:02:36
	Walker Road	Fostoria Road	0:07:53	0:08:17		Walker Road	Fostoria Road	0:07:54	0:08:09
	Fostoria Road	FM 1725	0:03:31	0:03:17		Fostoria Road	FM 1725	0:03:40	0:03:16
	FM 1725	US 59 NBFR	0:01:37	0:01:30		FM 1725	US 59 NBFR	0:01:34	0:01:22
	Total		0:23:02	0:23:03		Total		0:22:10	0:22:13
	US 59 NBFR	FM 1725	0:01:15	0:01:08		US 59 NBFR	FM 1725	0:00:57	0:01:04
	FM 1725	Fostoria Road	0:03:28	0:03:17		FM 1725	Fostoria Road	0:03:45	0:03:17
	Fostoria Road	Walker Road	0:07:56	0:08:10		Fostoria Road	Walker Road	0:07:55	0:07:57
	Walker Road	Crockett Martin Road	0:02:29	0:02:33		Walker Road	Crockett Martin Road	0:02:51	0:02:38
ъ	Crockett Martin Road	FM 1484	0:01:00	0:00:56	pu	Crockett Martin Road	FM 1484	0:00:44	0:00:49
Westbound	FM 1484	Willis Waukegan Road	0:00:55	0:00:53	oour	FM 1484	Willis Waukegan Road	0:00:56	0:00:52
estb	Willis Waukegan Road	Millmac Road	0:01:32	0:01:30	Westbour	Willis Waukegan Road	Millmac Road	0:01:28	0:01:31
>	Millmac Road	Crystal Forest Drive	0:01:11	0:01:14	≶	Millmac Road	Crystal Forest Drive	0:01:12	0:01:14
	Crystal Forest Drive	Whipporwill Road	0:00:34	0:00:31		Crystal Forest Drive	Whipporwill Road	0:00:30	0:00:35
	Whipporwill Road	FM 1485	0:01:27	0:01:13		Whipporwill Road	FM 1485	0:01:12	0:01:14
	FM 1485	Loop 336	0:01:01	0:01:05		FM 1485	Loop 336	0:00:29	0:00:53
		Total	0:22:47	0:22:29			Total	0:22:00	0:22:05

APPENDIX E

CONCEPTUAL LAYOUTS FOR RECOMMENDED IMPROVEMENTS







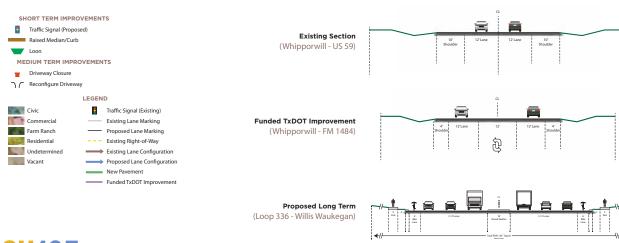
ACCESS MANAGEMENT STUDY:



E-3



Long Term Improvement
Widen SH 105 to a six-lane divided curb
and gutter (with raised median) from
Loop 336 to Willis Waukegan

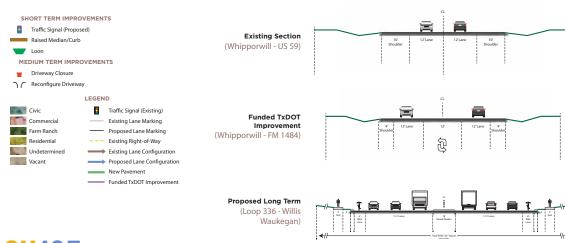


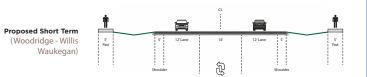




Long Term Improvement
Widen SH 105 to a six-lane divided curb
and gutter (with raised median) from
Loop 336 to Willis Waukegan

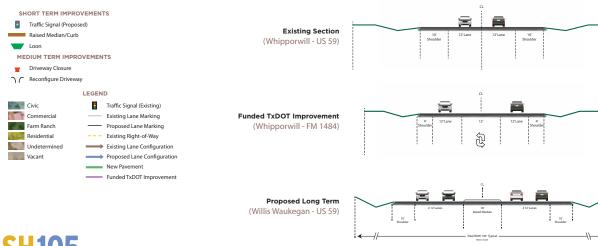
Typical Cross Sections





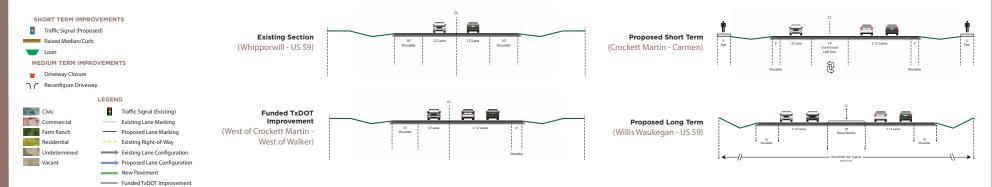
SH105
ACCESS MANAGEMENT STUDY:





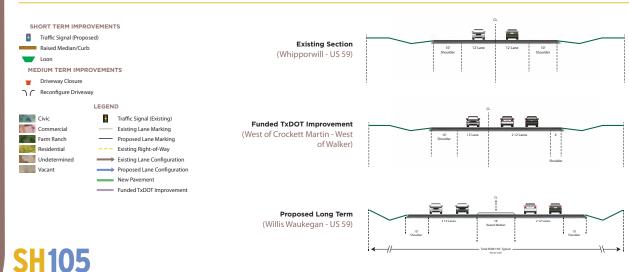






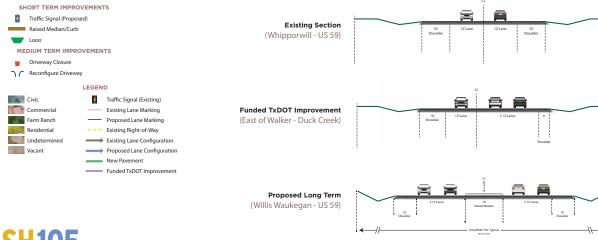
ACCESS MANAGEMENT STUDY =





ACCESS MANAGEMENT STUDY

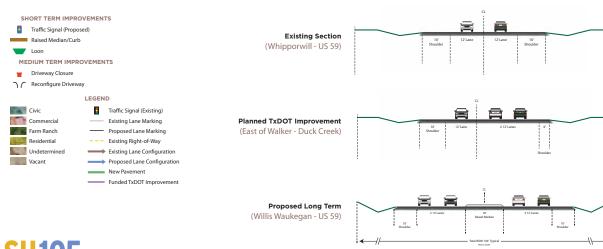








Widen SH 105 to a four-lane divided with raised median and shoulders from Willis Waukegan to US 59

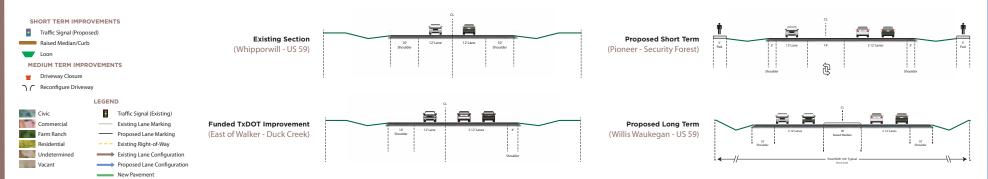






Long Term Improvement
Widen SH 105 to a four-lane divided with
raised median and shoulders from Willis
Waukegan to US 59

Typical Cross Sections



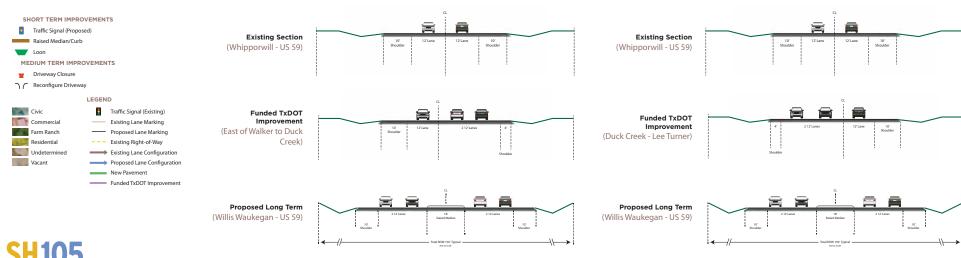


----- Funded TxDOT Improvement

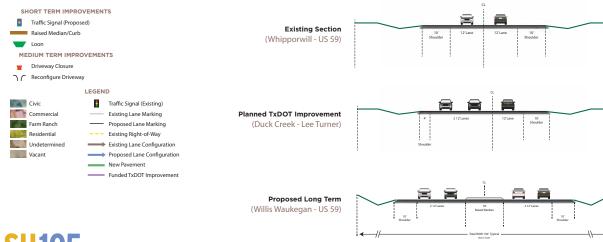


Short Term Improvement
Construct EB right-turn lane at Duck Creek

Long Term Improvement
Widen SH 105 to a four-lane divided with
raised median and shoulders from Willis
Waukegan to US 59













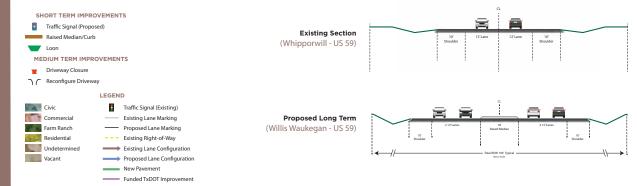


Long Term Improvement
Widen SH 105 to a four-lane divided with
raised median and shoulders from Willis
Waukenan to US 59

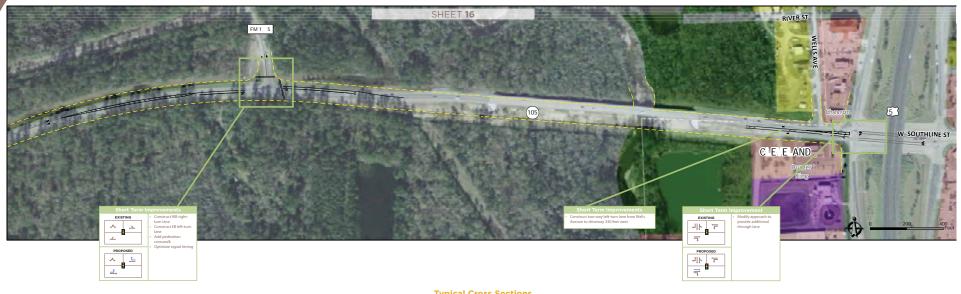


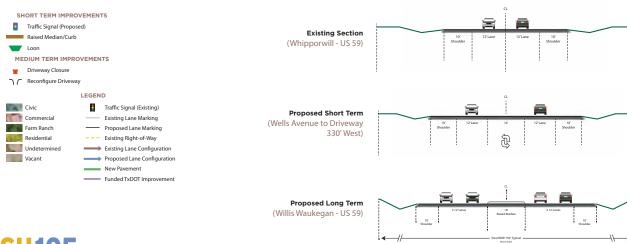












APPENDIX F COST ESTIMATE DETAILS

This appendix provides cost estimates for prioritized improvement projects. Included are a summary of estimated costs, and details of quantities and bid prices. Assumptions upon which the cost estimates were developed are also provided.

Cost Summary and Responsible Agency Loop 336 to US 59 (Length = 18.7 Miles)

	Primary Funding Source			TxDOT				City/County		т	OTALS
	Improvement	Number	Unit	Unit Cost	Cost	Number	Unit	Unit Cost	Cost	(In I	Millions
	NEW PROJECTS:										
	New Traffic Signal (Crystal Forest Intersection)	1	EΑ	\$ 200,000.00	\$ 200,000						
	Upgrade Signal Equipment (Loop 336 to FM 1485)	2	INT	\$ 20,500.00	\$ 41,000					1	
	Optimize Traffic Signal Timing	9	INT	\$ 5,000.00	\$ 45,000					1	
	Add Right Turn Lane - SH 105 (Average Length = 225')	2	EΑ	\$ 72,800.00	\$ 145,600					1	
	Add Right Turn Lane - SH 105 (Average Length = 400')	4	EΑ	\$ 113,100.00	\$ 452,400					1	
	Add Right Turn Lane - SH 105 (Average Length = 640')	3	EA	\$ 173,700.00	\$ 521,100						
	Widen SH 105 - From Loop 336 to East of Douget	2.1	MI	\$ 1,651,519.00	\$ 3,468,190					1	
	Bridge Widening - Lawrence Creek	3,200	SF	\$ 75.00	\$ 240,000						
	Bridge Culvert Widening - West Fork Crystal Creek	190	SF	\$ 120.00	\$ 22,800						
	Add Raised Median / Channelization (Concrete)	24,274	SF	\$ 10.00	\$ 242,740	1,350	SF	\$ 10.00	\$ 13,500		
	Driveway Closure	1	EΑ	\$ 1,353.00	\$ 1,353					1	
	Add Pedestrian Crosswalks	8	EΑ	\$ 4,143,00	\$ 33,144						
	Standardize Driveway Width	14	EΑ	\$ 3,179.00	\$ 44,506					1	
	Concrete Sidewalks (Loop 336 to east of Douget Rd)	30.020	SF	\$ 9.00	\$ 270,180					1	
	Concrete Sidewalks (Woodridge Dr to Willis Waukegan Rd)	34,000	SF		\$ 306,000	1					
	Concrete Sidewalks (Crockett Martin Rd to Carmen Blvd)	19,000	SF		\$ 171,000	1					
	Concrete Sidewalks (Pioneer Rd to Security Forest Dr)	20.000	SF								
	Add NB Right Turn Lane - Crystal Forest		-		,	1	EA	\$ 42,800.00	\$ 42,800		
	Add SB Right Turn Lane - FM 1484					1	EΑ		\$ 80,200		
	Add NB Left Turn Lane - Crockett Martin		\vdash			1	EA		\$ 56,200		
	Add NB Left Turn Lane - Crockett Trace					1	EA		\$ 61,500	1	
	Add NB Right Turn Lane - Old Highway 105					1	EA		\$ 84,400		
	Add NB & SB Left Turn Lanes - Walker		t			1	EA	\$ 157,200.00	\$ 157,200		
	Add SB Right Turn Lane - Lee Turner					1	EA	\$ 45,200.00	\$ 45,200		
	Widening (Douget Road)		t			0.1	MI	\$ 1,651,519.00	\$ 165,152		
	FUNDED PROJECTS:					0.1	1011	ψ 1,001,013.00	ψ 100,102		
	TXDOT Improvements (Montgomery County) – Super 2 Passing Lanes, Center Left Turn Lane and Asphalt Overlay	1	LS	\$ 5,130,000	\$ 5,130,000						
	TXDOT Improvements (San Jacinto County) – Super 2 Passing Lanes and Asphalt Overlay	1	LS	\$ 700,000	\$ 700,000	1	H				
	TXDOT Improvements (San Sacinto County) – Super 2 Passing Lanes and Asphalt Overlay	1	LS			1	H				
	TXDOT Improvements (Liberty County) – Super 2 Fassing Lanes and Asphalt Overlay		LO	\$ 1,170,000	\$ 1,170,000	1					
	TOTAL FOR SHORT TERM IMPROVEMENTS (less than 5 years)				\$ 13,385,013				\$ 706,152	\$	14
	Upgrade Signal Equipment (Whipporwill to Crystal Forest)	1	INT	\$ 20,500.00	\$ 20,500						
	Widen SH 105 - From East of Douget to Crystal Forest	1.0	MI	\$ 1,651,519.00	\$ 1,651,519					1	
2	Bridge Culvert Widening - Unnamed Creek near Jefferson Chemical Rd	1,012	SF	\$ 80.00	\$ 80,960					1	
3	Add Raised Median / Channelization (Concrete)	24,385	SF	\$ 10.00	\$ 243,850					1	
`	Driveway Closure	17	EΑ	\$ 1,353.00	\$ 23,001					1	
(a l la years)	Add NB Left Turn Lane - Jefferson					1	EΑ	\$ 157,000.00	\$ 157,000	1	
,	Realign Old SH 105					1	EΑ	\$ 148,200.00	\$ 148,200		
										s	2
	TOTAL FOR MEDIUM TERM IMPROVEMENTS (5 – 15 years)				\$ 2,019,830				\$ 305,200	9	
	Widen SH 105 from 4-Lane to 6-Lane - From Loop 336 to Willis Waukegan (Full Reconstruction)	4.0	MI	\$ 4,477,572.00	\$ 17,910,288						
	Widen SH 105 from 2-Lane to 4-Lane - From Willis Waukegan to US 59 (Full Reconstruction)	14.5		\$ 3,805,227.00							
	Bridge Reconstruction - East Fork Crystal Creek, Hurricane Creek, Caney Creek, Cagle Branch Creek, Spring Branch Creek, Lawrence Creek, Peach Creek, Jayhawker Creek and East Fork San Jacinto River	243,040	SF	\$ 60.00	\$ 14,582,400						
ars +)	Bridge Culvert Reconstruction - West Fork Crystal Creek, Unnamed Creek near Jefferson Chemical Rd and Bee Branch Creek	7,900	SF	\$ 75.00	\$ 592,500						
	Add Raised Median / Channelization (Concrete)	1,449,952	SF	\$ 10.00	\$ 14,499,520			ĺ			
Š.,	Concrete Sidewalks (Loop 336 to Willis Waukegan Rd)	210,870	SF	\$ 9.00	\$ 1,897,830						
- ye						1	EA	\$ 1,044,400.00	\$ 1,044,400		
, (2)	Butler Street Extension (From Loop 336 to Jefferson Chemical Rd)						-		,		
2	Butler Street Extension (From Loop 336 to Jefferson Chemical Rd)										405
() () () () () () () () () ()	Butler Street Extension (From Loop 336 to Jefferson Chemical Rd) TOTAL FOR LONG TERM IMPROVEMENTS (15 years +)				\$ 104,658,330				\$ 1,044,400	\$	



Units: EA = Each INT = Intersection MI = Miles SF = Square Feet LS = Lump Sum

Cost Estimate Assumptions

Improvement	Assumptions
New Traffic Signal (Crystal Forest Intersection)	Costs include vehicle detection, signal heads, street lighting, cabling and conduit. The costs also include pedestrian pads, curb ramps, proposed pavement markings and roadside signs. Traffic signal interconnection, as per TxDOT standards, will also be a part of the new traffic signal.
Upgrade Signal Equipment (Loop 336 to FM 1485)	Costs for upgrading existing traffic signal controller and cabinet, and installing wireless traffic signal interconnect.
Optimize Traffic Signal Timing	Cost to obtain traffic count data, develop signal timing inputs, field implement/fine tune and provide documentation.
Add Right Turn Lane - SH 105 (Average Length = 225')	Costs for adding right turn lanes (RTL's) are based on an average length of 225 LF construction area per RTL. Costs include all the materials required for the widening of existing SH 105 to accommodate the RTL at the intersection.
Add Right Turn Lane - SH 105 (Average Length = 400')	Costs for adding right turn lanes (RTL's) are based on an average length of 400 LF construction area per RTL. Costs include all the materials required for the widening of existing SH 105 to accommodate the RTL at the intersection.
Add Right Turn Lane - SH 105 (Average Length = 640')	Costs for adding right turn lanes (RTL's) are based on an average length of 640 LF construction area per RTL. Costs include all the materials required for the widening of existing SH 105 to accommodate the RTL at the intersection.
Widen SH 105 - From Loop 336 to East of Douget	Costs for widening SH 105 were calculated on a per mile basis. Costs include all the materials required for the widening of existing SH 105 to accommodate the addition of a raised median with left turn bays for access to businesses. Drainage improvements were also included in the costs since existing ditches would have to be relocated due to the roadway widening.
Add Raised Median / Channelization (Concrete)	Costs for adding raised medians/channelizations include all materials such as curb, conc riprap and striping. The cost was calculated on a square foot basis.
Add Pedestrian Crosswalks	Costs included adding pavement markings to identify the new crosswalks at the selected intersections.
Standardize Driveway Width	Costs for standardizing driveway widths include adding a narrow raised median to minimize the excessive width of some driveways. This work includes all materials such as curb and conc riprap. The cost was calculated on a square foot basis.
Concrete Sidewalks (Loop 336 to east of Douget Rd, Woodridge Dr to Willis Waukegan Rd, Crockett Martin Rd to Carmen Blvd and Pioneer Rd to Security Forest Dr)	Costs for concrete sidewalks include installation of a sidewalk with new curb ramps located at each cross street intersection. The costs was calculated on a square foot basis.
Add NB Right Turn Lane - Crystal Forest	Costs for adding right turn lane at the Crystal Forest intersection. Costs include all the materials required for the widening cross street to accommodate the RTL at the intersection.
Add SB Right Turn Lane - FM 1484	Costs for adding right turn lane at the FM 1484 intersection. Costs include all the materials required for the widening cross street to accommodate the RTL at the intersection.
Add NB Left Turn Lane - Crockett Martin	Costs for adding left turn lane at the Crockett Martin intersection. Costs include all the materials required for the widening cross street to accommodate the LTL at the intersection.
Add NB Left Turn Lane - Crockett Trace	Costs for adding left turn lane at the Crockett Trace intersection. Costs include all the materials required for the widening cross street to accommodate the LTL at the intersection.
Add NB Right Turn Lane - Old Highway 105	Costs for adding right turn lane at the Old Hwy 105 intersection. Costs include all the materials required for the widening cross street to accommodate the RTL at the intersection.
Add NB & SB Left Turn Lanes - Walker	Costs for adding left turn lanes at the Walker intersection. Costs include all the materials required for the widening cross street to accommodate the LTL's at the intersection.
Add SB Right Turn Lane - Lee Turner	Costs for adding right turn lane at the Lee Turner intersection. Costs include all the materials required for the widening cross street to accommodate the RTL at the intersection.
Widening (Douget Road)	Costs for widening Douget Road were calculated on a per mile basis. Costs include all the materials required for the widening of existing Douget Road to accommodate a left turn lane at the SH 105 intersection. Drainage improvements were also included in the costs since exisiting ditches would have to be relocated due to the roadway widening.
Upgrade Signal Equipment (Whipporwill to Crystal Forest)	Costs for upgrading existing traffic signal controller and cabinet, and installing wireless traffic signal interconnect.
Widen SH 105 - From East of Douget to Crystal Forest	Costs for widening SH 105 were calculated on a per mile basis. Costs include all the materials required for the widening of existing SH 105 to accommodate the addition of a raised median with left turn bays for access to businesses. Drainage improvements were also included in the costs since existing ditches would have to be relocated due to the roadway widening.
Add Raised Median / Channelization (Concrete)	Costs for adding raised medians/channelizations include all materials such as curb, conc riprap and striping. The cost was calculated on a square foot basis.
E Driveway Closure	Costs for driveway closures include demolition of existing driveway and placement of curb, embankment and topsoil.
Add NB Left Turn Lane - Jefferson	Costs for adding left turn lane at the Jefferson intersection. Costs include all the materials required for the widening cross street to accommodate the LTL at the intersection.
Widen SH 105 - From East of Douget to Crystal Forest Add Raised Median / Channelization (Concrete) Driveway Closure Add NB Left Turn Lane - Jefferson Realign Old SH 105	Costs for realigning of cross street are based on a 250 LF construction area. Costs include demolition of existing cross street and all the materials required for the relocation of the new cross street. Drainage improvements were also included in the costs since exisitng ditches would have to be relocated due to the roadway widening. Costs for acquiring ROW required for the realignment are not included in the estimate.

Cost Estimate Assumptions (Continued)

	Improvement	Assumptions
	Widen SH 105 from 4-Lane to 6-Lane (Widen Only)	Costs for widening SH 105 from 4-lanes to 6-lanes were calculated on a per mile basis. Costs include all the materials required for the widening of existing SH 105 to accommodate the additional 2 lanes and a center raised median. Drainage improvements were also included in the costs since existing ditches would have to be relocated due to the roadway widening.
/ears +	Widen SH 105 from 4-Lane to 6-Lane (Full Reconstruction)	Costs for widening and reconstructing SH 105 from 4-lanes to 6-lanes were calculated on a per mile basis. Costs include all the materials required for the full reconstruction of SH 105 and addition of 2 lanes and a center raised median. Drainage improvements were also included in the costs since existing ditches would have to be relocated due to the roadway widening.
m (15)	Widen SH 105 from 2-Lane to 4-Lane (Widen Only)	Costs for widening SH 105 from 2-lanes to 4-lanes were calculated on a per mile basis. Costs include all the materials required for the widening of existing SH 105 to accommodate the additional 2 lanes and a center raised median. Drainage improvements were also included in the costs since existing ditches would have to be relocated due to the roadway widening.
ong Ter	Widen SH 105 from 2-Lane to 4-Lane (Full Reconstruction)	Costs for widening and reconstructing SH 105 from 2-lanes to 4-lanes were calculated on a per mile basis. Costs include all the materials required for the full reconstruction of SH 105 and addition of 2 lanes and a center raised median. Drainage improvements were also included in the costs since existing ditches would have to be relocated due to the roadway widening.
	Add Raised Median / Channelization (Concrete)	Costs for adding raised medians/channelizations include all materials such as curb, conc riprap and striping. The cost was calculated on a square foot basis.
	Concrete Sidewalks	Costs for concrete sidewalks include installation of a sidewalk with new curb ramps located at each cross street intersection. The costs was calculated on a square foot basis.



Summary of Quantities for Short Term Improvements

			Short Term Short Term												
							Improvements Alor	ng SH 105	by TxDOT						
	Segment		Upgrade Signal	Optimize Traffic Signal Timing	Add Right Turn Lane - SH 105 (Average Length = 225')	Add Right Turn Lane - SH 105 (Average Length = 400')	Add Right Turn Lane - SH 105 (Average Length = 640')	Widen SH 105	Bridge Widening	Bridge Widening (Concrete)	Add Raised Median / Chan. (Concrete)	Driveway Closure	Add Pedestrian Crosswalks	Standardize Driveway Width	Concrete Sidewalks
		EA	INT	INT	EA	EA	EA	MI	SF	SF	SF	EA	EA	EA	SF
1	From Loop 336 to East of Douget		2					0.7		190	20,265	1	2	3	30,020
2	Douget Intersection Improvements							0.1							
3	From East of Douget to Whipporwill														
4	From Whipporwill to Crystal Forest	1											1	8	
5	From Crystal Forest to Willis Waukegan				1	2	1						1		34,000
6	From Willis Waukegan to Walker					2					2,100		3	3	19,000
7	From Walker to US 59				1		2	1.3			1,909		1		20,000
Total	From Loop 336 to US 59	1	2	9	2	4	3	2.1	3,200	190	24,274	1	8	14	103,020
		EA	INT	INT	EA	EA	EA	MI	SF	SF	SF	EA	EA	EA	SF

Summary of Quantities for Short Term Improvements (Continued)

						Short Term							
			Improvements by City/County										
	Segment	Add NB Right Turn Lane - Crystal Forest	Add SB Right Turn Lane - FM 1484	Add NB Left Turn Lane - Crockett Martin	Add NB Left Turn Lane - Crockett Trace	Add NB Right Turn Lane - Old Highway 105	Add NB & SB Left Turn Lanes - Walker	Add SB Right Turn Lane - Lee Turner	Widening (Douget Road)	Add Raised Median / Channelization (Concrete)			
		EA	EA	EA	EA	EA	EA	EA	MI	SF			
1	From Loop 336 to East of Douget												
2	Douget Intersection Improvements								0.1				
3	From East of Douget to Whipporwill												
4	From Whipporwill to Crystal Forest	1											
5	From Crystal Forest to Willis Waukegan												
6	From Willis Waukegan to Walker		1	1	1	1	1			1,350			
7	From Walker to US 59							1					
Total	From Loop 336 to US 59	1	1	1	1	1	1	1	0.1	1,350			
		EA	EA	EA	EA	EA	EA	EA	MI	SF			



Summary of Quantities for Medium Term Improvements

					Medium Term			
			Improve		Improvements by City/County			
	Segment	Upgrade Signal Equipment	Widen SH 105	Bridge Widening (Culvert)	Add Raised Median / Channelization (Concrete)	Driveway Closure	Add NB Left Turn Lane - Jefferson	Realign Old SH 105
		INT	MI	SF	SF	EA	EA	EA
1	From Loop 336 to East of Douget							
2	Douget Intersection Improvements							
3	From East of Douget to Whipporwill		0.6	1,012	24,385	4	1	
4	From Whipporwill to Crystal Forest	1	0.4					
5	From Crystal Forest to Willis Waukegan							
6	From Willis Waukegan to Walker					7		1
7	From Walker to US 59					6		
Total	From Loop 336 to US 59	1	1.0	1,012	24,385	17	1	1
		INT	MI	SF	SF	EA	EA	EA

Summary of Quantities for Long Term Improvements

				_				
					Long Term			
				Improveme	ents Along SH 105 by	TxDOT		
	Segment	Widen SH 105 from 4-lane to 6-lane (Full Reconstruction)	Widen SH 105 from 2-lane to 4-lane (Full Reconstruction)	Bridge Reconstruction	Bridge Reconstruction (Culvert)	Butler Street Extension	Add Raised Median / Channelization (Concrete)	Concrete Sidewalks
		MI	MI	Sf	SF	EA	SF	SF
1	From Loop 336 to Willis Waukegan	4.0		24,926	6,180	1	234,315	210,870
2	From Willis Waukegan to US 59		14.5	218,114	1,720		1,215,637	
Total	From Loop 336 to US 59	4.0	14.5	243,040	7,900	1	1,449,952	210,870
		MI	MI	SF	SF	EA	SF	SF

Units: EA = Each INT = Intersection MI = Miles SF = Square Feet LS = Lump Sum

Cost Estimate Details for Short Term Improvements

			New Tra	ffic Signal	Upgrade Sign	al Equipment	Optimize Trat	ffic Signal	Add Right Turn (Average Le			n Lane - SH 105 ength = 400')	Add Right Tur	n Lane - SH 105 ength = 640')	Add NB Righ Crystal	t Turn Lane - Forest	Add SB Right 14	Turn Lane - FM	Add NB Left Crocket	Turn Lane - Martin	Add NB Left Crocke	:Turn Lane - tt Trace		Turn Lane - Old
			Per		Per E		Per Ea		Per E	ach	Per			Each	Per l		Per		Per E		Per			Each
ITEM CODE DESCRIPTION	UNIT		QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST		COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST
100 2002 PREPARING ROW 104 2001 REMOVING CONC (PAV)	SY	\$ 2,500.00 \$ 6.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
104 2009 REMOVING CONC (RIPRAP)	SY	\$ 5.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
104 2021 REMOVING CONC (CURB)	LF			\$ -		\$ -		\$ -		S -		\$ -		\$ -		S -		\$ -		\$ -		S -		S -
104 2036 REMOVING CONC (SIDEWALK OR RAMP) 105 2014 REMOVING STAB BASE & ASPH PAV (7"-12")	SY			\$ -		\$ -		\$ -	50	\$ 250.00	04	\$ 455.00	142	\$ - \$ 710.00		\$ - \$ 190.00	63	\$ - \$ 315.00	48	\$ 240.00	44	\$ 220.00	67	\$ - \$ 335.00
110 2001 EXCAVATION (ROADWAY)	CY			\$ -		S -		\$ -	50	\$ 250.00	91	\$ 455.00 \$ -	142	\$ 710.00	30	\$ 190.00	63	\$ 315.00	40	\$ 240.00	44	\$ 220.00	6/	\$ 335.00
112 2002 SUBGRADE WIDENING (DENS CONT)	STA	\$ 1,000.00		\$ -		\$ -		\$ -	2.5	\$ 2,500.00	4	\$ 4,000.00	6.5	\$ 6,500.00	2	\$ 2,000.00	3	\$ 3,000.00		\$ 2,000.00	2	\$ 2,000.00	3	\$ 3,000.00
132 2005 EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY			\$ -		\$ -		\$ -	215	\$ 4,300.00	387	\$ 7,740.00	607	\$ 12,140.00		\$ 3,220.00	270	\$ 5,400.00		\$ 4,080.00		\$ 3,780.00	284	\$ 5,680.00
150 2001 BLADING 160 2003 FURNISHING AND PLACING TOPSOIL (4")	STA			\$ -		\$ -		\$ -	2.5	\$ 325.00	4	\$ 520.00	6.5	\$ 845.00	2	\$ 260.00	3	\$ 390.00	2	\$ 260.00	2	\$ 260.00	3	\$ 390.00
162 2002 BLOCK SODDING	SY			s -		S -		S -		S -		S -		S -		S -		S -		\$ -		S -		\$ -
164 2045 STRAW OR HAY MULCHING	SY			\$ -		\$ -		\$ -	378	\$ 75.60	681	\$ 136.20	1068	\$ 213.60	567	\$ 113.40	475	\$ 95.00	358	\$ 71.60	333	\$ 66.60	500	\$ 100.00
168 2001 VEGETATIVE WATERING	MG			\$ -		S -		\$ -	5	\$ 70.00	8	\$ 112.00	13	\$ 182.00	7	\$ 98.00	6	\$ 84.00	4	\$ 56.00	4	\$ 56.00	6	\$ 84.00
170 2001 IRRIGATION SYSTEM 247 2041 FL BS (CMP IN PLC)(TY A GR 1)(FNAL POS	LS			\$ -		\$ -		\$ -	68	\$ 4.216.00	114	\$ 7.068.00	202	\$ 12.524.00	18	\$ - \$ 1.116.00	106	\$ 6.572.00	45	\$ 2,790.00	76	\$ 4,712.00	87	\$ - \$ 5.394.00
260 2012 LIME(HYD,COM OR QK)(SLRY)OR QK(DRY)	TON			\$ -		s -		s -	6	\$ 870.00	9	\$ 1,305.00	16	\$ 2,320.00	1	\$ 1,116.00	9	\$ 1,305.00	45	\$ 580.00		\$ 870.00	7	\$ 1,015.00
260 2014 LIME TRT (SUBGR)(DC)(6")	SY			\$ -		\$ -		\$ -	306	\$ 765.00	511	\$ 1,277.50		\$ 2,275.00	81	\$ 202.50	476	\$ 1,190.00	202	\$ 505.00		\$ 850.00	393	
316 2006 ASPH (AC-20-5TR)	GAL			\$ -		\$ -		\$ -	111	\$ 388.50	186	\$ 651.00	331	\$ 1,158.50	29	\$ 101.50	173	\$ 605.50	73	\$ 255.50	124	\$ 434.00	143	\$ 982.50 \$ 500.50
316 2222 AGGR(TY-PB GR-4S SAC-B) 341 2122 D-GR HMA(QCQA) TY-D PG70-22	CY			\$ -		\$ -		\$ -	3	\$ 330.00 \$ 2.480.00	4	\$ 440.00 \$ 4.080.00	8	\$ 880.00 \$ 7.280.00	1	\$ 110.00 \$ 640.00	4	\$ 440.00 \$ 3.840.00	2	\$ 220.00 \$ 1.600.00		\$ 330.00 \$ 2.720.00	3	\$ 330.00 \$ 3.120.00
341 2122 D-GR HMA(QCQA) TY-D PG/0-22 354 2023 PLANE ASPH CONC PAV(0" TO 4")	SY			\$ -		\$ -		\$ -	31	\$ 2,400.00	51	\$ 4,080.00 S	91	\$ 7,200.00	۰	\$ 640.00	40	\$ 3,040.00	20	\$ 1,600.00		\$ 2,720.00	39	\$ 3,120.00
360 2018 CURB (TYPE II)	LF	\$ 4.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
360 2023 CONC PAV (JOINT REINF) (6")	SY			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
432 2066 RIPRAP (CONC)(CL B)	CY			\$ -		\$ -		\$ -		\$ 5,000,00		\$ -		\$ 5,000,00	0.5	\$ -	0.5	\$ -	0.5	\$ -	0.5	\$ -	0.5	\$ -
502 2001 BARRICADES, SIGNS AND TRAFFIC HANDLING 506 2034 TEMPORARY SEDIMENT CONTROL FENCE	LF			\$ -		s -		s -	250	\$ 5,000.00	400	\$ 5,000.00 \$ 1,200.00	650	\$ 5,000.00	0.5 340	\$ 2,500.00 \$ 1,020.00	U.5 285	\$ 2,500.00 \$ 855.00	0.5 215	\$ 2,500.00 \$ 645.00		\$ 2,500.00 \$ 600.00	300	\$ 2,500.00 \$ 900.00
506 2040 TEMP SEDIMENT CONTROL FENCE (REMOVE)	LF			\$ -		\$ -		\$ -	250	\$ 250.00		\$ 400.00		\$ 650.00		\$ 340.00	285	\$ 285.00		\$ 215.00		\$ 200.00	300	\$ 300.00
531 2005 CURB RAMPS (TY 1)	EA			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
531 2024 CONC SIDEWALK (5")	SY			\$ -		\$ -		\$ -		\$ -		s -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
533 2001 SHOULDER TEXTURING (MILLED) 636 2001 ALLIMINIUM SIGNS (TV A)	STA			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		S -
644 2001 INS SM RD SN SUP&AM TY 10BWG(1) SA(P)	EA			\$ -		S -		S -		\$ 400.00		\$ 400.00		\$ 400.00		\$ 400.00	1	\$ 400.00		\$ 400.00		\$ 400.00	1	\$ 400.00
662 2004 WK ZN PAV MRK NON-REMOV (W) 4* (SLD)	LF			\$ -		\$ -		\$ -		S -		\$ -		\$ -		\$ 102.00	285	\$ 85.50		\$ 64.50		\$ 60.00	300	\$ 90.00
662 2032 WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	LF			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	340	\$ 102.00	285	\$ 85.50	215	\$ 64.50	200	\$ 60.00	300	\$ 90.00
662 2050 WK ZN PAV MRK REMOV (REFL) TY I-A 666 2003 REFL PAV MRK TY I (W) 4" (BRK)(100MIL)	EA LF			<u> </u>		\$ -		s -		\$ -		\$ -		\$ -	9 85	\$ 27.00 \$ 42.50	7 143	\$ 21.00 \$ 71.50	6	\$ 18.00 \$ 54.00		\$ 15.00 \$ 50.00	8 150	\$ 24.00 \$ 75.00
666 2006 REFL PAV MRK TYT (W) 4" (BRK)(100MIL)	LF LF			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ 42.50	143	\$ /1.50	108	\$ 54.00		\$ 50.00	150	\$ 75.00
666 2012 REFL PAV MRK TY I (W) 4" (SLD)(100MIL)	LF			\$ -		\$ -		\$ -	250	\$ 125.00	400	\$ 200.00	650	\$ 325.00	340	\$ 170.00	570	\$ 285.00	430	\$ 215.00	400	\$ 200.00	600	\$ 300.00
666 2036 REFL PAV MRK TY I (W) 8" (SLD)(100MIL)	LF			\$ -		\$ -	ĺ	\$ -	100	\$ 100.00	100	\$ 100.00	100	\$ 100.00		\$ -		\$ -		\$ -		\$ -		\$ -
666 2042 REFL PAV MRK TY I (W) 12"(SLD)(100MIL)	LF			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
666 2048 REFL PAV MRK TY I (W) 24"(SLD)(100MIL) 666 2054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA			\$ -	-	\$ - \$ -		\$ -	1	\$ 140.00	1	\$ 140.00	1	\$ 140.00	2	\$ 280.00	2	\$ 280.00	2	\$ 280.00	2	\$ 280.00	2	\$ 280.00
666 2096 REFL PAV MRK TY I (W) (WORD) (100MIL)	EA			s -		S -		S -	1	\$ 145.00	1	\$ 145.00	1	\$ 145.00	2	\$ 290.00	2	\$ 290.00	2	\$ 290.00		\$ 290.00	2	\$ 290.00
666 2105 REFL PAV MRK TY I (Y) 4" (BRK)(100MIL)	LF	\$ 0.50		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		S -		\$ -		\$ -		\$ -		S -
666 2111 REFL PAV MRK TY I (Y) 4" (SLD)(100MIL)	LF			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$
666 2132 REFL PAV MRK TY I (Y) 24"(SLD)(100MIL) 672 2012 REFL PAV MRKR TY I-C	LF EA			\$ -		\$ -		\$ -	10	S 30.00	10	\$ 30.00	10	\$ - \$ 30.00	4	\$ - \$ 12.00	7	\$ 21.00	-	\$ 15.00	-	\$ 15.00	0	\$ 24.00
672 2015 REFL PAV MRKR TY II-A-A	FA			\$ -		S -		S -	10	\$ 30.00	10	\$ 30.00	10	\$ 30.00	,	\$ 12.00	-	\$ 21.00	J	\$ 13.00	J	\$ 15.00	0	\$ 24.00
677 2001 ELIM EXT PAV MRK & MRKS (4")	LF	\$ 0.45		\$ -		s -		s -		\$ -		s -		\$ -		S -		s -		\$ -		\$ -		\$
677 2003 ELIM EXT PAV MRK & MRKS (8")	LF			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
677 2008 ELIM EXT PAV MRK & MRKS (ARROW) 677 2018 ELIM EXT PAV MRK & MRKS (WORD)	EA FA			5 -		\$ -		\$ -		S -		\$ -		\$ -		S -		S -		\$ -		\$ -		\$ -
678 2001 PAV SURF PREP FOR MRK (4")	LF			\$ -		\$ -		\$ -		\$		S -		S -		\$ -		S -		\$ -		\$ -		S -
678 2003 PAV SURF PREP FOR MRK (8")	LF	\$ 0.10		\$ -		š -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
678 2007 PAV SURF PREP FOR MRK (ARROW)	EΑ			\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
678 2018 PAV SURF PREP FOR MRK (WORD) 6055 2001 IN - LANE OR TRANSVERSE RUMBLE STRIP	EA LF			\$ -		\$ -		\$ -		\$ -		s -		\$ -		\$ -		\$ -		\$ -		\$ -		S -
XXX XXX DRAINAGE IMPROVEMENTS		\$ 18.00		\$ -		s -		s -	0.05	\$ 25,000,00	0.08	\$ 40,000.00	0.12	\$ 60,000,00	0.03	\$ 15,000.00	0.05	\$ 25,000.00	0.04	\$ 20,000,00		\$ 20,000.00	0.06	\$ 30,000.00
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (RECONSTRUCTION)	EA	\$ 150,000.00		\$ -		\$ -		s -	0.00	\$ -	0.00	\$ -	V.12	\$ -	0.00	\$ -	0.00	\$ -	0.04	\$ -	0.0.	\$ -	0.00	\$ -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (TS2 CABINET)	EA	\$ 25,000.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (DETECTION)		\$ 24,000.00		\$ -		\$		\$ -		\$ -		\$		\$		S -		\$		\$ -		\$ -		\$
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (PEDESTRIAN) XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (SIGNAL HEADS)		\$ 1,000.00 \$ 1,000.00		5 -		5 -		\$ -		\$ -		s -		S -		S -		S -		\$ -		\$ -		\$ -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (SIGNAL HEADS) XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (BACK PLATES)	EA			\$ -		\$ -		\$ -		\$ -		S -		s -		S -		\$ -		\$ -		\$ -		S -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (POLES)	EA	\$ 8,000.00		\$ -		s -		\$ -		S -		S -		s -		\$ -		\$ -		\$ -		\$ -		\$ -
		\$ 10,000.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
XXX XXX SIGNAL SYNCHRONIZATION	LS	\$ 150,000.00		5 -	\vdash	\$ -		\$ -		\$ -		\$ -		\$ -	\vdash	S -		\$ -		\$ -		s -		\$ -
SUB TOTAL 1				\$ -		s -		s -		\$ 4851010		\$ 75 399 70		\$ 115 768 10		\$ 28 481 90		\$ 53,416,00		\$ 3741910		\$ 40,968,60		\$ 56 204 00
300 1011121			MISC 20%	\$ -				-				10,000.70		110,700.10		20,101.80		55,410.00		Ţ 01,410.10		40,000.00		
XXX XXX BONDS	LS	5%		\$ -		\$ -		\$ -		\$ 2,425.51		\$ 3,769.99		\$ 5,788.41		\$ 1,424.10		\$ 2,670.80		\$ 1,870.96		\$ 2,048.43		\$ 2,810.20
500 2001 MOBILIZATION	LS	20%	10%	\$ -		\$ -		\$ -		\$ 9,702.02		\$ 15,079.94		\$ 23,153.62		\$ 5,696.38		\$ 10,683.20		\$ 7,483.82		\$ 8,193.72		\$ 11,240.80
XXX XXX MISCELLANEOUS & CONTINGENCY	LS	20%		\$ -		\$ -		2 -		\$ 60,637.63 \$ 12,127.53		\$ 94,249.63 \$ 18,849.93		\$ 144,710.13 \$ 28,942.03		\$ 35,602.38 \$ 7,120.48		\$ 66,770.00 \$ 13,354.00		\$ 46,773.88 \$ 9,354.78		\$ 51,210.75 \$ 10,242.15		\$ 70,255.00 \$ 14,051.00
GRAND TOTAL	LO	2076		\$ -		\$ -		\$ -		\$ 72,765.15		\$ 113,099.55		\$ 173,652.15		\$ 42,722.85		\$ 80,124.00		\$ 56,128.65		\$ 61,452.90		\$ 84,306.00
CALLED				\$ -		\$ -		\$ -		\$ 72,800.00		\$ 113,100.00		\$ 173,700.00		\$ 42,800.00		\$ 80,200.00		\$ 56,200.00		\$ 61,500.00		\$ 84,400.00
AVERAGE UNIT COST (ROUNDED TO NEAREST \$100)	ш		PRICE/EACH	\$ 200,000.00	PRICE/EACH	\$ 20,500.00	PRICE/EACH	\$ 5,000.00	PRICE/EACH	\$ 72,800.00	PRICE/EACH	\$ 113,100.00	PRICE/EACH	\$ 173,700.00	PRICE/EACH	\$ 42,800.00	PRICE/EACH	\$ 80,200.00	PRICE/EACH	\$ 56,200.00	PRICE/EACH	\$ 61,500.00	PRICE/EACH	\$ 84,400.00



Cost Estimate Details for Short Term Improvements (Continued)

				Wa	eft Turn Lanes -		ner		SH 105	Add Raised I Channelization	(Concrete)	Add Pedestrian		Driveway		Standardize D			Sidewalks
					Each	Per l		Per		Per Square		Per E		Per E		Per		Per Sq	uare Foot
ITEM COD	DESCRIPTION	UNIT	PRICE	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST		COST
	PREPARING ROW		\$ 2,500.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	REMOVING CONC (PAV)	SY			\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	REMOVING CONC (RIPRAP)	SY	\$ 5.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	REMOVING CONC (CURB) REMOVING CONC (SIDEWALK OR RAMP)	LF	\$ 4.00 \$ 11.00		\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
	REMOVING CONC (SIDEWALK OR RAMP) REMOVING STAB BASE & ASPH PAV (7"-12")	SY		133	\$ 665.00	36	\$ 180.00	2588	\$ 12,940.00	\$			s -	1544	\$ 7,720.00		s -		\$ -
	EXCAVATION (ROADWAY)	CY		133	\$ 665.00	36	\$ 180.00	2588	\$ 12,940.00	\$ \$					\$ 2,040.00		\$ -		\$ -
	SUBGRADE WIDENING (DENS CONT)	STA		6	\$ 6,000,00	2	\$ 2,000,00	152	\$ 152,000,00	S			9 -	200	\$ 2,040.00		s -		\$ -
	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	\$ 20.00	568	\$ 11.360.00	152	\$ 3,040,00	14403	\$ 288,060,00	S	-		\$ -	100	\$ 2,000,00		S -		\$ -
150 200		STA			\$ 780.00		\$ 260.00		\$ 19,760.00	S	-		s -		S -		S -		\$ -
	FURNISHING AND PLACING TOPSOIL (4")	SY	\$ 1.50		\$ -	_	S -		S -	S			\$ -	1544	\$ 2,316.00		S -		\$ -
	BLOCK SODDING	SY			\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
164 2045	STRAW OR HAY MULCHING	SY	\$ 0.20	1000	\$ 200.00	267	\$ 53.40	38825	\$ 7,765.00	\$			\$ -		\$ -		\$ -		\$ -
	VEGETATIVE WATERING	MG		12	\$ 168.00	3	\$ 42.00	466	\$ 6,524.00	\$			\$ -		\$ -		\$ -		\$ -
	IRRIGATION SYSTEM	LS			\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
	FL BS (CMP IN PLC)(TY A GR 1)(FNAL POS	CY		154	\$ 9,548.00		\$ 2,418.00		\$ 466,736.00	\$			\$ -		\$ -		\$ -		\$ -
	LIME(HYD,COM OR QK)(SLRY)OR QK(DRY)	TON		12	\$ 1,740.00	3	\$ 435.00		\$ 88,450.00	\$	-		\$ -		\$ -		\$ -		\$ -
	LIME TRT (SUBGR)(DC)(6")	SY		693	\$ 1,732.50		\$ 442.50		\$ 84,695.00	\$		\vdash	\$ -		\$ -		\$ -		\$ -
	ASPH (AC-20-5TR)	GAL		252	\$ 882.00	64	\$ 224.00	12319	\$ 43,116.50	\$	-		\$ -		\$ -		\$ -		\$ -
316 2222	AGGR(TY-PB GR-4S SAC-B)	CY		6	\$ 660.00 \$ 5.520.00	18	\$ 110.00		\$ 30,800.00	\$		\vdash	\$ -		\$ -		\$ -		\$ -
341 2122	D-GR HMA(QCQA) TY-D PG70-22 PLANE ASPH CONC PAV(0" TO 4")	TON	\$ 80.00 \$ 3.50	69	\$ 5,520.00	18	\$ 1,440.00		\$ 271,040.00 \$ -	\$			3 -		\$ -		\$ -		\$ - \$ -
		LF			9 -		\$ -		S -	176945 \$	707,780.00		\$ -		\$ -	2187	\$ 8,748.00		\$ -
	CURB (TYPE II) CONC PAV (JOINT REINF) (6")	SY			\$ -		\$ -		S -	176945 \$	101,100.00		s -		\$ -		\$ 8,748.00		\$ -
	RIPRAP (CONC)(CL B)	CY			\$ -		\$ -		\$ -		7.854.600.00		\$ -		\$.	53	\$ 15.900.00		\$.
	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO		1	\$ 5,000,00	0.5	\$ 2,500,00	24	\$ 120,000,00	24 \$	120,000,00	0.25	\$ 1,250,00	0.25	\$ 1,250,00		\$ 5,000.00		\$ -
	TEMPORARY SEDIMENT CONTROL FENCE	LE	\$ 3,000.00	600	\$ 1,800.00	160	\$ 480.00	23295	\$ 69.885.00	9	120,000.00	0.20	\$ -	0.20	\$ -		\$ -		\$ -
	TEMP SEDIMENT CONTROL FENCE (REMOVE)	LF		600	\$ 600.00	160	\$ 160.00		\$ 23,295.00	S	-		\$ -		\$ -		s -		\$ -
531 2008	CURB RAMPS (TY 1)	EA	\$ 1,600.00		\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -	112	\$ 179,200.00
	CONC SIDEWALK (5")	SY	\$ 44.00		\$ -	i	\$ -		\$ -	\$	-		\$ -		\$ -		\$ -	34877	\$ 1,534,588.00
533 200	SHOULDER TEXTURING (MILLED)	STA	\$ 50.00		\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
	ALUMINUM SIGNS (TY A)	SF			\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	INS SM RD SN SUP&AM TY 10BWG(1) SA(P)	EA		2	\$ 800.00	1	\$ 400.00	30	\$ 12,000.00	\$			\$ -		\$ -		\$ -		\$ -
	WK ZN PAV MRK NON-REMOV (W) 4" (SLD)	LF	\$ 0.30	600	\$ 180.00	160	\$ 48.00	23295	\$ 6,988.50	\$			\$ -		\$ -		\$ -		\$ -
	WK ZN PAV MRK NON-REMOV (Y) 4" (SLD)	LF		600	\$ 180.00	160	\$ 48.00		\$ 6,988.50	\$	-		\$ -		\$ -		\$ -		\$ -
	WK ZN PAV MRK REMOV (REFL) TY I-A	EA		15	\$ 45.00	4	\$ 12.00	582	\$ 1,746.00	\$	-		\$ -		\$ -		\$ -		\$ -
	REFL PAV MRK TY I (W) 4" (BRK)(100MIL)	LF		300	\$ 150.00	80	\$ 40.00	5824	\$ 2,912.00	\$			\$ -		\$ -		\$ -		\$ -
	REFL PAV MRK TY I (W) 4" (DOT)(100MIL)	LF			\$ -		\$ -		\$ -	\$	<u> </u>		\$ -		\$ -		\$ -		\$ -
	REFL PAV MRK TY I (W) 4" (SLD)(100MIL) REFL PAV MRK TY I (W) 8" (SLD)(100MIL)	LF		1200	\$ 600.00	320	\$ 160.00		\$ 11,647.50 \$ -	5600 S	5,600.00		\$ -		\$ -		\$ -		\$ - S -
		LF	4		\$ -		\$ -		S -	5000 \$	5,000.00		\$ 1.080.00		\$ -		\$ -		\$ -
	REFL PAV MRK TY I (W) 12"(SLD)(100MIL) REFL PAV MRK TY I (W) 24"(SLD)(100MIL)	LF			\$ -		\$ -		s -	\$		72	\$ 432.00		ş -		\$ - c		2 -
	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	\$ 140.00	4	\$ 560.00	2	\$ 280.00	12	\$ 1,680,00	56 \$	7 840 00	12	\$ 432.00		\$.		\$.		\$ -
	REFL PAV MRK TY I (W) (WORD) (100MIL)	EA		4	\$ 580.00	2	\$ 290.00		\$ 1,740.00	56 \$	8,120.00		s -		s -		S -		\$ -
	REFL PAV MRK TY I (Y) 4" (BRK)(100MIL)	LF			\$ -	_	S -		S -	S			s -		s -		S -		\$ -
	REFL PAV MRK TY I (Y) 4" (SLD)(100MIL)	LF			\$ -		\$ -		S -	S	-		\$ -		S -		S -		\$ -
666 2132	REFL PAV MRK TY I (Y) 24"(SLD)(100MIL)	LF	\$ 6.00		\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
672 2012	REFL PAV MRKR TY I-C	EA	\$ 3.00	15	\$ 45.00	4	\$ 12.00	291	\$ 873.00	560 \$	1,680.00		\$ -		\$ -		\$ -		\$ -
	REFL PAV MRKR TY II-A-A	EA	\$ 3.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	ELIM EXT PAV MRK & MRKS (4")	LF			\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
	ELIM EXT PAV MRK & MRKS (8")	LF			\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	ELIM EXT PAV MRK & MRKS (ARROW)	EA			\$ -		\$ -		\$ -	\$	-	\Box	\$ -		\$ -		\$ -		\$ -
	ELIM EXT PAV MRK & MRKS (WORD)	EA			\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	PAV SURF PREP FOR MRK (4")	LF			\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
678 2000	PAV SURF PREP FOR MRK (8") PAV SURF PREP FOR MRK (ARROW)	LF EA	\$ 0.10 \$ 10.00		\$ - \$ -		÷ -		\$ -	\$	-		ф - С		\$ -		9 -		\$ - \$ -
	PAV SURF PREP FOR MRK (ARROW) PAV SURF PREP FOR MRK (WORD)	EA			\$ -		\$ -		\$ -	\$		\vdash	\$ -		\$ -		\$ -		\$ -
	IN - LANE OR TRANSVERSE RUMBLE STRIP	LF			\$ -		\$ -		S -	\$			\$.		s -		S -		\$ -
	DRAINAGE IMPROVEMENTS		\$ 500.000.00	0.11	\$ 55.000.00		\$ 15,000.00	2.88	\$ 1.440.000.00	\$			\$.		\$.		\$.		\$ -
	TRAFFIC SIGNAL IMPROVEMENTS (RECONSTRUCTION)		\$ 150,000.00	0.11	\$ -	0.03	\$ -	2.00	\$ -	S			s .		s .		s .		\$ -
XXX XXX	TRAFFIC SIGNAL IMPROVEMENTS (TS2 CABINET)		\$ 25,000.00		\$ -		\$ -		S -	S	-		\$ -		Š -		S -		\$ -
	TRAFFIC SIGNAL IMPROVEMENTS (DETECTION)		\$ 24,000.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		s -		\$ -
	TRAFFIC SIGNAL IMPROVEMENTS (PEDESTRIAN)	EA			\$ -		\$ -		\$ -	S			\$ -		\$ -		\$ -		\$ -
	TRAFFIC SIGNAL IMPROVEMENTS (SIGNAL HEADS)		\$ 1,100.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
XXX XXX	TRAFFIC SIGNAL IMPROVEMENTS (BACK PLATES)	EA	\$ 100.00		\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
XXX XXX	TRAFFIC SIGNAL IMPROVEMENTS (POLES)		\$ 8,000.00		\$ -		\$ -		\$ -	\$			\$ -		\$ -		\$ -		\$ -
	TRAFFIC SIGNAL IMPROVEMENTS (REMOVE SIGNAL)		\$ 10,000.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
XXX XXX	SIGNAL SYNCHRONIZATION	LS	\$ 150,000.00		\$ -		\$ -		\$ -	\$	-		\$ -		\$ -		\$ -		\$ -
	SUB TOTAL 1				\$ 104,795.50		\$ 30,074.90		\$ 3,171,642.00	\$	8,705,620.00		\$ 2,762.00		\$ 15,326.00		\$ 29,648.00		\$ 1,713,788.00
1001	la avea	1										\vdash							
XXX XXX		LS	5%		\$ 5,239.78		\$ 1,503.75		\$ 158,582.10	\$	435,281.00		\$ 138.10		\$ 766.30		\$ 1,482.40		\$ 85,689.40
500 200	MOBILIZATION	LS	20%		\$ 20,959.10		\$ 6,014.98		\$ 634,328.40		1,741,124.00		\$ 552.40		\$ 3,065.20		\$ 5,929.60		\$ 342,757.60
VVV VV	SUB TOTAL 2 MISCELLANEOUS & CONTINGENCY	LS	20%		\$ 130,994.38 \$ 26,198.88		\$ 37,593.63 \$ 7,518.73		\$ 3,964,552.50 \$ 792,910,50		2.176.405.00		\$ 3,452.50 \$ 690.50		\$ 19,157.50 \$ 3,831.50		\$ 37,060.00 \$ 7.412.00		\$ 2,142,235.00 \$ 428,447.00
	GRAND TOTAL	LO	20%		\$ 157,193.25		\$ 45,112.35		\$ 4,757,463.00		13,058,430.00		\$ 4,143.00		\$ 22,989.00		\$ 44,472.00		\$ 2,570,682.00
	10				+ 107,100.20		+ -10,112.00		+ 4,707,400.00	3	. 5,000,400.00		4,140.00		,000.00		+ 44,472.00		2,010,002.00



Cost Estimate Details for Medium Term Improvements

			П		Jetterson		Widen SH 105		Add Raised Median /	Driveway	/ Closure	Realign Old SH 105		
			-			Each	Per	Mile	Per Square	Foot	Per	Each	Per	Each
ITEM	CODE	DESCRIPTION	UNIT	PRICE	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST	QTY.	COST
		PREPARING ROW	STA	\$ 2,500.00 \$ 6.00		\$ -		\$ -	\$			\$ - S -	2	\$ 5,000.00
104		REMOVING CONC (PAV) REMOVING CONC (RIPRAP)	SY	\$ 5.00		\$ - \$ -		\$ - \$ -	\$ \$			\$ -		\$ -
104		REMOVING CONC (CURB)	LF	\$ 4.00		\$ -		\$ -	\$			\$ -		\$ -
104	2036	REMOVING CONC (SIDEWALK OR RAMP)	SY	\$ 11.00		\$ -		\$ -	\$			\$ -		\$ -
105		REMOVING STAB BASE & ASPH PAV (7"-12")	SY	\$ 5.00	139	\$ 695.00	2588	\$ 12,940.00	\$		1544	\$ 7,720.00	978	\$ 4,890.00
110	2001	EXCAVATION (ROADWAY) SUBGRADE WIDENING (DENS CONT)	STA	\$ 8.00 \$ 1,000.00	6	\$ 6,000.00	152	\$ 152,000.00	\$ \$		255	\$ 2,040.00 \$ -	500	\$ 4,000.00 \$ -
132	2002	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	\$ 20.00	592	\$ 11,840.00	14403	\$ 288,060.00	3		100	\$ 2,000.00	100	\$ 2,000.00
150		BLADING	STA	\$ 130.00	6	\$ 780.00	152	\$ 19,760.00	\$		100	\$ -	2	\$ 260.00
160		FURNISHING AND PLACING TOPSOIL (4")	SY	\$ 1.50		\$ -		\$ -	\$		1544	\$ 2,316.00		\$ -
		BLOCK SODDING	SY			\$ -		\$ -	\$			\$ -		\$ -
164 168		STRAW OR HAY MULCHING VEGETATIVE WATERING	SY	\$ 0.20 \$ 14.00	1042	\$ 208.40 \$ 182.00	38825 466	\$ 7,765.00 \$ 6,524.00	\$ \$			\$ - S -	1000	\$ 200.00 \$ 70.00
170	2001	IRRIGATION SYSTEM	LS	\$ 25.000.00	13	\$ 102.00	400	\$ 6,324.00	3			\$ -	<u> </u>	\$ 70.00
247		FL BS (CMP IN PLC)(TY A GR 1)(FNAL POS		\$ 62.00	114	\$ 7,068.00	7528	\$ 466,736.00	\$			\$ -	190	\$ 11,780.00
260	2012	LIME(HYD,COM OR QK)(SLRY)OR QK(DRY)	TON	\$ 145.00	9	\$ 1,305.00	610	\$ 88,450.00	\$			\$ -	15	\$ 2,175.00
		LIME TRT (SUBGR)(DC)(6")	SY			\$ 1,280.00	33878	\$ 84,695.00	\$			\$ -	856	\$ 2,140.00
316 316		ASPH (AC-20-5TR)	GAL	\$ 3.50	186 4	\$ 651.00	12319	\$ 43,116.50 \$ 30.800.00	\$			\$ - \$ -	311	\$ 1,088.50 \$ 770.00
341	2122	AGGR(TY-PB GR-4S SAC-B) D-GR HMA(QCQA) TY-D PG70-22	TON	\$ 110.00 \$ 80.00	51 51	\$ 440.00 \$ 4,080.00	280 3388	\$ 30,800.00	\$			\$ -	86	\$ 6.880.00
354	2023	PLANE ASPH CONC PAV(0" TO 4")	SY	\$ 3.50	UI	\$ 4,080.00	5500	\$ 271,040.00	\$			\$ -		\$ 6,880.00
360	2018	CURB (TYPE II)	LF	\$ 4.00		\$ -		\$ -	176945 \$			\$ -		\$ -
	2023	CONC PAV (JOINT REINF) (6")		\$ 38.00		\$ -		\$ -	\$			\$ -		\$ -
432		RIPRAP (CONC)(CL B)	CY	\$ 300.00		\$ -	04	\$ -	26182 \$		0.05	\$ -		\$ -
502 506		BARRICADES, SIGNS AND TRAFFIC HANDLING TEMPORARY SEDIMENT CONTROL FENCE	MO	\$ 5,000.00 \$ 3.00	625	\$ 5,000.00 \$ 1.875.00	24 23295	\$ 120,000.00 \$ 69.885.00	24 \$		0.25	\$ 1,250.00	500	\$ 30,000.00 \$ 1,500.00
506		TEMP SEDIMENT CONTROL FENCE (REMOVE)	LF	\$ 1.00		\$ 625.00	23295	\$ 23,295.00	\$ \$			\$ -	500	\$ 500.00
		CURB RAMPS (TY 1)	EA	\$ 1,600.00	ULU ULU U	\$ -	20200	\$ -	Š			\$ -	000	\$ -
531		CONC SIDEWALK (5*)	SY	\$ 44.00		\$ -		\$ -	\$	-		\$ -		\$ -
533		SHOULDER TEXTURING (MILLED)	STA	\$ 50.00		\$ -		\$ -	\$			\$ -		\$ -
636		ALUMINUM SIGNS (TY A)		\$ 26.00	0	\$ -	20	\$ -	\$			\$ -		\$ -
644		INS SM RD SN SUP&AM TY 10BWG(1) SA(P) WK ZN PAV MRK NON-REMOV (W) 4" (SLD)	EA IF	\$ 400.00 \$ 0.30	625	\$ 800.00 \$ 187.50	30 23295	\$ 12,000.00 \$ 6,988.50	\$ \$			\$ - \$ -		\$ -
662		WK ZN PAV MRK NON-REMOV (V) 4" (SLD)	LF	\$ 0.30	625	\$ 187.50	23295	\$ 6,988.50	3			\$ -		\$ -
662		WK ZN PAV MRK REMOV (REFL) TY I-A	EA	\$ 3.00	15	\$ 45.00	582	\$ 1,746.00	\$			\$ -		\$ -
666	2003	REFL PAV MRK TY I (W) 4" (BRK)(100MIL)	LF	\$ 0.50	313	\$ 156.50	5824	\$ 2,912.00	\$			\$ -		\$ -
666		REFL PAV MRK TY I (W) 4" (DOT)(100MIL)	LF	\$ 1.50		\$ -		\$ -	\$			\$ -		\$ -
666		REFL PAV MRK TY I (W) 4" (SLD)(100MIL) REFL PAV MRK TY I (W) 8" (SLD)(100MIL)	LF	\$ 0.50 \$ 1.00	1250	\$ 625.00 \$ -	23295	\$ 11,647.50 \$	5600 S	5.600.00		\$ - S -	500	\$ 250.00 \$
666		REFL PAV MRK TYT (W) 8" (SLD)(100MIL)	LF	\$ 3.00		\$ -		\$ -	5600 \$	5,600.00		\$ -		\$.
666		REFL PAV MRK TY I (W) 24"(SLD)(100MIL)		\$ 6.00		\$ -		\$ -	S	-		\$ -		s -
666	2054	REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	\$ 140.00	2	\$ 280.00	12	\$ 1,680.00	56 \$			\$ -		\$ -
666		REFL PAV MRK TY I (W) (WORD) (100MIL)	EA	\$ 145.00	2	\$ 290.00	12	\$ 1,740.00	56 \$			\$ -		\$ -
666		REFL PAV MRK TY I (Y) 4" (BRK)(100MIL)	LF	\$ 0.50 \$ 0.50		\$ -		\$ -	\$ \$			\$ -	500	\$ -
666 666		REFL PAV MRK TY I (Y) 4" (SLD)(100MIL) REFL PAV MRK TY I (Y) 24"(SLD)(100MIL)	LF	\$ 6.00		\$ -		\$ -	\$ \$			\$ -	500	\$ 250.00
672		REFL PAV MRKR TY I-C		\$ 3.00	16	\$ 48.00	291	\$ 873.00	560 \$	1.680.00		S -		s -
672	2015	REFL PAV MRKR TY II-A-A	EA	\$ 3.00		\$ -		\$ -	\$			\$ -	15	\$ 45.00
		ELIM EXT PAV MRK & MRKS (4")	LF			\$ -		\$ -	\$			\$		\$ -
677		ELIM EXT PAY MRK & MRKS (8")	LF	\$ 0.60		\$ -		\$ -	\$			\$ -		\$ -
677 677		ELIM EXT PAV MRK & MRKS (ARROW) ELIM EXT PAV MRK & MRKS (WORD)	EA	\$ 60.00 \$ 60.00		\$ -		\$ -	\$ \$			\$ -		\$ -
678	2001	PAV SURF PREP FOR MRK (4")		\$ 0.05		\$ -		\$ -	\$	- :		\$ -		\$ -
678	2003	PAV SURF PREP FOR MRK (8")	LF	\$ 0.10		\$ -		\$ -	\$			\$ -		\$ -
678		PAV SURF PREP FOR MRK (ARROW)		\$ 10.00		\$ -		\$ -	\$	-		\$ -		\$ -
678		PAV SURF PREP FOR MRK (WORD)	EA	\$ 10.00		\$ -		\$ -	\$			\$ -		\$ -
6055 XXX		IN - LANE OR TRANSVERSE RUMBLE STRIP DRAINAGE IMPROVEMENTS		\$ 18.00		\$ 60,000,00	2.00	\$ - \$ 1,440,000,00	\$			\$ - \$ -	0.05	\$ 25,000,00
XXX		TRAFFIC SIGNAL IMPROVEMENTS (RECONSTRUCTION)		\$ 150,000.00	0.12	\$ 60,000.00	2.88	\$ 1,440,000.00	\$ \$			\$ -	0.05	\$ 25,000.00
XXX		TRAFFIC SIGNAL IMPROVEMENTS (RECONSTRUCTION) TRAFFIC SIGNAL IMPROVEMENTS (TS2 CABINET)		\$ 25,000.00		\$ -		\$ -	\$			\$ -		\$ -
XXX		TRAFFIC SIGNAL IMPROVEMENTS (DETECTION)	EA	\$ 24,000.00		\$ -		\$ -	\$			\$ -		\$ -
XXX	XXX	TRAFFIC SIGNAL IMPROVEMENTS (PEDESTRIAN)	EA			\$ -		\$ -	\$			\$ -		\$ -
XXX		TRAFFIC SIGNAL IMPROVEMENTS (SIGNAL HEADS)		\$ 1,100.00		\$ -		\$ -	\$			\$ -		\$ -
XXX		TRAFFIC SIGNAL IMPROVEMENTS (BACK PLATES) TRAFFIC SIGNAL IMPROVEMENTS (POLES)	EA	\$ 100.00 \$ 8,000.00		\$ -		\$ - S -	\$ \$	-		\$ - S -		\$ -
XXX		TRAFFIC SIGNAL IMPROVEMENTS (POLES) TRAFFIC SIGNAL IMPROVEMENTS (REMOVE SIGNAL)		\$ 10,000.00		\$ -		\$ -	\$ \$			S -		\$ -
XXX	XXX	SIGNAL SYNCHRONIZATION		\$ 150,000.00		\$ -		\$ -	\$			\$ -		\$ -
						•						1		
		SUB TOTAL 1				\$ 104,648.90		\$ 3,171,642.00	\$	8,705,620.00		\$ 15,326.00		\$ 98,798.50
100	1000	B OLUB O												
500	XXX	BONDS MOBILIZATION	LS	5% 20%		\$ 5,232.45 \$ 20,929.78		\$ 158,582.10 \$ 634,328.40	\$ \$	435,281.00 1,741,124.00		\$ 766.30 \$ 3,065.20		\$ 4,939.93 \$ 19,759.70
300	2001	SUB TOTAL 2	LO	20%		\$ 130,811.13		\$ 3,964,552.50	3	10,882,025.00		\$ 19,157.50		\$ 123,498.13
XXX	XXX	MISCELLANEOUS & CONTINGENCY	LS	20%		\$ 26,162.23		\$ 792,910.50	\$			\$ 3,831.50		\$ 24,699.63
		GRAND TOTAL				\$ 156,973.35		\$ 4,757,463.00		13,058,430.00		\$ 22,989.00		\$ 148,197.75
		CALLED				\$ 157,000.00		\$ 4,757,500.00	\$	13,058,430.00		\$ 23,000.00		\$ 148,200.00

Cost Estimate Details for Long Term Improvements

Column				Lane (V	from 4-Lane to 6- liden Only)	Lane (Full R		Lane (Wi		Lane (Full I			crete)		et Extension	Concrete Sidewalks	
The content of the	ITEM CODE DESCRIPTION	UNDE	PRICE				r Mile		Mile		er Mile		Jare Foot		Each	Per Squ	are Foot
Control Cont	100 2002 PREPARING POW	STA	\$ 2,500,00	QIY.	COST	QIY.	CUST	QIY.	COST	QIY.	COST		CUST		\$ 70,000,00		CUST
Column C					s -		s -		s -		S -			20			\$ -
Column C	104 2009 REMOVING CONC (RIPRAP)	SY	\$ 5.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
10 10 10 10 10 10 10 10		LF	\$ 4.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
	104 2036 REMOVING CONC (SIDEWALK OR RAMP)	SY	\$ 11.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
10 10 10 10 10 10 10 10				4686	\$ 23,430.00	141830	\$ 709,150.00	17020	\$ 85,100.00	412784	\$ 2,063,920.00						\$ -
					\$ -		\$ -		\$ -		\$ -						\$ -
Too Decision Control														2052			\$ -
The content of the	132 2005 EMBANKMENT (FINAL)(ORD COMP)(TT C)	STA	\$ 120.00							766				2032	\$ 35,040.00		9 -
10 10 10 10 10 10 10 10				211	\$ 27,430.00	211	\$ 27,430.00	700	\$ 55,300.00	700	\$ 55,000.00		\$.	20	\$ 3,040.00		\$.
10 20 Conference (Company) 10 1 10 10 10 10 10 10					\$ -		Š -		Š -		š -		S -		š -		\$ -
The content of the	164 2045 STRAW OR HAY MULCHING	SY	\$ 0.20	70290	\$ 14,058.00	70290	\$ 14,058.00	255300	\$ 51,060.00	255300	\$ 51,060.00		\$ -	9333	\$ 1,866.60		\$ -
The color of the	168 2001 VEGETATIVE WATERING	MG	\$ 14.00	843	\$ 11,802.00	843	\$ 11,802.00	3064	\$ 42,896.00	3064	\$ 42,896.00		\$ -	112	\$ 1,568.00		\$ -
Description Conference Property Conference Conference Property Conference Pro	170 2001 IRRIGATION SYSTEM	LS	\$ 25,000.00		\$ -		\$ -		\$ -		\$ -				\$ -		\$ -
Dec													\$ -				\$ -
10 10 10 10 10 10 10 10													\$ -				\$ -
10 200																	\$ -
1																	\$ -
Section Continue													\$ -				Š -
The color	354 2023 PLANE ASPH CONC PAV(0" TO 4")	SY	\$ 3.50		\$ -						\$ -		S -				\$ -
Total Continue C	360 2018 CURB (TYPE II)			42174	\$ 168,696.00	42174	\$ 168,696.00	153180	\$ 612,720.00	153180	\$ 612,720.00	176945	\$ 707,780.00		\$ -		\$ -
Total Anthony Conference	360 2023 CONC PAV (JOINT REINF) (6")		\$ 38.00		\$ -		\$ -				\$ -		\$ -		\$ -		\$ -
1					\$ -		\$ -		\$ -		\$ -				\$ -		\$ -
Dec Total Processor Control Processor Contro												24	\$ 120,000.00				\$ -
133 205 CHARLAMS STATE 1													\$ -				\$ -
State Proceedings State				42174	a 42,174.00	42174	a 42,1/4.00	153180	a 153,180.00	153180	a 153,180.00		9 -	5600	\$ 5,6UU.00	112	\$ 179,200.00
State	531 2005 CURB RAMPS (1Y 1) 531 2024 CONC SIDEWALK (5*)	SV	\$ 1,600.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ 1,534,588.00
Section Continue					s -		S -		s -		S -		S -		s -	04011	\$ -
Section Proceedings Proc					\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
MED 2000 MY, DEP NAME REPORT PLY ALL E.A. 5. 3.00 1005 5. 3.165.00 1005 5.		EA	\$ 400.00	42	\$ 16,800.00	42	\$ 16,800.00		\$ 61,200.00	153	\$ 61,200.00		\$ -		\$ -		\$ -
		LF	\$ 0.30										\$ -		\$ -		\$ -
566 200 REFL PAV MEN TY IVIN # (REPLAY																	\$ -
													\$ -		\$ -		\$ -
1666 2016 REF. PAW MERK TY 1 (10) (* (50.0) 1000ML)				10544	\$ 5,272.00					38295	\$ 19,147.50		\$ -		\$ -		\$ -
See See Ref. RAM MRK Y IV NO PE S S S S S S S S S				40474	\$ 24,007,00					452400	\$ 70 F00 00						\$ -
Sec.				42174	\$ 21,067.00					155160	\$ 76,580.00	5600		3600			\$ -
500 SEE PAV MRK TY IV (0) AND SEE AL 140.00 \$ \$ \$ \$ \$ \$ \$ \$ \$					\$ -		S -		S -		S -	3000	\$ 3,000.00		\$ -		\$ -
See 2008 REER PAY MERK TY FEW PROBATION S S 1,160.00 S S 1,160.00 S S S S S S S S S	666 2048 REFL PAV MRK TY I (W) 24"(SLD)(100MIL)				\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
See	666 2054 REFL PAV MRK TY I (W) (ARROW) (100MIL)	EA	\$ 140.00	8	\$ 1,120.00	8	\$ 1,120.00	48	\$ 6,720.00	48	\$ 6,720.00	56	\$ 7,840.00		\$ -		\$ -
566 2111 REFL PAY MIRK TY I/TY ("SLDI) (100ML) LE \$ 0.00 \$.				8	\$ 1,160.00	8	\$ 1,160.00	48	\$ 6,960.00	48	\$ 6,960.00	56	\$ 8,120.00		\$ -		\$ -
\$667 2132 REFL PAM MRK RT YL (Y) 24 (SL)(100ML) \$72 2012 REFL PAM MRK RT YL (C) \$8 1 3.00 \$73 2010 REFL PAM MRK RT YL (A) \$8 1 3.00 \$9 1.581.00 \$1 5 5.745.00 \$1 1915 \$5.745.00 \$1 5 5.745.00 \$1 5 5.745.00 \$1 1915 \$5.745.00 \$1 5 5.745.00 \$1 1915 \$5.745.00 \$1 5 5.745.00 \$1 1915 \$5.745.00 \$1 5 5.745.00 \$1 5 5.745.00 \$1 5 5.745.00 \$1 5 5.745.00 \$1 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5.745.00 \$1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
672 2012 REFL PAM MIRKET YILO: 68 3 0.00 527 \$ 1,581.00 527 \$ 1,581.00 1915 \$ 5,745.00 50 \$ 1,880.00 \$ \$					\$ -		\$ -		ş -		\$ -		\$ -	5600	\$ 2,800.00		\$ -
### ST ST ST ST ST ST ST S	666 2132 REFL PAV MRK TYT(Y) 24"(SLD)(100MIL)	LF	\$ 6.00	507	\$ -	507	\$ -	4045	5 -	1015	\$ -	500	\$ -		\$ -		\$ -
GFT 2001 ELIME ETPAY MIRK & MRRIS (8) LF \$ 0.45 \$.				527	\$ 1,581.00	527	\$ 1,581.00	1915	\$ 5,745.00	1915	\$ 5,745.00	560	\$ 1,680.00	70			\$ -
Fig.	677 2001 FLIM EXT PAV MRK & MRKS (4")				\$ -		S -		S -		\$.		S -	70			\$ -
677 2008 ELIM EXT PAY MRK & NIRKS (MRD) EA \$ 6.000 \$ \$. \$ \$. \$. \$. \$. \$. \$. \$.					\$ -		S -		s -		\$ -						\$ -
678 2001 PAY SURP PREP FOR MRK (4)					\$ -		\$ -		\$ -		\$ -				\$ -		\$ -
### 578 2007 PAV SURP PREP FOR MRK (APCW)	677 2018 ELIM EXT PAV MRK & MRKS (WORD)	EA	\$ 60.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
For 2007 PAY SURP PREP FOR MRK (MORD)					\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
## 5018 PAY SURF PREP FOR MRK WORD) ## 6055 2001 N. LANG OR TRANSVERSE RUMBLE STRIP ## 1.0					\$ -		\$ -		s -		\$ -		\$ -		\$ -		\$ -
Code					\$ -		5 -		5 -		5 -				5 -		\$ -
XXX XXX DARAINGE IMPROVEMENTS M \$ 600,000 00 3.99 \$ 1,995,000.00 14.51 \$ 7,255,000.00 \$ \$ \$ \$ \$ \$ \$ \$ \$					9 -		÷ -		ş -		э - c				ş -		9 -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (RECONSTRUCTION) EA \$ 150,000.00 \$. \$. \$. \$. \$. \$. \$. \$. \$. \$				3.99	\$ 1,995,000,00												S
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (TS2 CABNET)	XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (RECONSTRUCTION)	EA	\$ 150,000 00	0.00	\$ -					14.01	\$ -						\$ -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (DETECTION) EA \$ 2,400.00 S -	XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (TS2 CABINET)	EA	\$ 25,000.00		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (SIGNAL HEADS) EA \$ 1,00.00 S - S - S - S - S - S - S - S - S - S	XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (DETECTION)	EA	\$ 24,000.00		\$ -		\$ -		\$ -		\$ -		S -		\$ -		\$ -
XXX XXX FRAFFIG SIGNAL IMPROVEMENTS (BACK PLATES) E. R. \$ 100.00 \$					\$ -		\$ -		\$ -		\$ -				\$ -		\$ -
XXX XXX TRAFFIC SIGNAL IMPROVEMENTS (REMOVE SIGNAL) EA \$ 8,000.00 \$.					\$ -		\$ -		s -		\$ -		\$ -		\$ -		s -
XXX XXX SIGNAL IMPROVENTS (REMOVE SIGNAL) E. 8 \$ 10,000,00 \$ \$. \$. \$. \$. \$. \$. \$. \$. \$.					\$ -		\$ -		s -		\$ -		\$ -		\$ -		\$ -
XXX XXX SIGNAL SYNCHRONIZATION LS \$15,000,000 S S S S S S S S S					\$ -		\$ -		· ·		\$ -		\$ -		•		\$ -
SUB TOTAL 1 \$ 6.635,202-00 \$ 1,921,493.90 \$ 21,619,394.50 \$ 36,798,206.50 \$ 8,706,520.00 \$ 666,224.10 \$ 1 \$ 1 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$					\$ -		9 -		ş -		\$ -		\$				\$ -
XXX XXX BONDS	AAA AAA GONAE GTINGTIKONIEATION		¥ 130,000.00	l					· ·		· -		· -	 	-		<u> </u>
XXX XXX BONDS	SUB TOTAL 1				\$ 6.635.292.40		\$ 11.921.493.90		\$ 21,619,934.50		\$ 36,798,206.50		\$ 8.705.620.00		\$ 696,234.10		\$ 1.713.788.00
500 2001 MOBILIZATION LS 20% \$ 1,327,058.46 \$ 2,384,298.78 \$ 4,323,969.00 \$ 7,3896,743.0 \$ 1,741,124.00 \$ 139,246.82 \$ \$ 82,941,124.00 \$ 1,400,124.00 \$ 1,40					,,				,,		•						.,,
SUB TOTAL 2 \$ \$ 8.294.115.50 \$ \$ 14.501.867.38 \$ \$ 27.024.918.13 \$ \$ 45.907.758.13 \$ \$ 10.882.025.00 \$ \$ 870.222.63 \$ \$ 2.000.00 \$ 2	XXX XXX BONDS	LS	5%		\$ 331,764.62		\$ 596,074.70		\$ 1,080,996.73		\$ 1,839,910.33		\$ 435,281.00		\$ 34,811.71		\$ 85,689.40
SUB TOTAL 2 \$ 8.294.115.50 \$ 14.901.867.38 \$ 27.024.918.13 \$ 45.997.758.13 \$ 10.882.05.00 \$ 870.292.83 \$ 2.02.00 \$ 2.00.		LS	20%														\$ 342,757.60
GRAND TOTAL \$ 9.952.938.60 \$ 17.882.240.85 \$ 32.429.907.75 \$ 55.197.200.75 \$ 13.058.430.00 \$ 1.044.351.15 \$ 2 CALLED \$ 9.953.000.00 \$ 17.882.300.00 \$ 32.430.000.00 \$ 55,197.400.00 \$ 13.058.430.00 \$ 1.044.400.00 \$ 2 CALLED \$ 9.953.000.00 \$ 10.044.400.00 \$ 2 CALLED \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.00 \$ 9.953.000.																	\$ 2,142,235.00
CALLED \$ 9.953,000.00 \$ 17.882,300.00 \$ 32.430,000.00 \$ 55,197.400.00 \$ 13,058,430.00 \$ 1,044,400.00 \$ 2		LS	20%														\$ 428,447.00
																	\$ 2,570,682.00
AVERAGE UNIT COST (ROUNDED TO NEAREST \$100) PRICE/MILE \$ 2,492,144.00 PRICE/MILE \$ 4,477,572.00 PRICE/MILE \$ 2,235,676.00 PRICE/MILE \$ 3,805,227.00 PRICE/SQ.FT. \$ 10.00 PRICE/SQ.FT. \$ 1,044,400.00 PRICE/SQ.FT. \$	CALLED	+		-	a 9,953,000.00		a 17,882,300.00		a 32,430,000.00		a 55,197,400.00		a 13,058,430.00	-	a 1,044,400.00		\$ 2,570,700.00
Tributine Programme Progra	AVERAGE UNIT COST (ROUNDED TO NEAREST \$100)	+		PRICE/MILE	\$ 2,492,144,00	PRICE/MILE	\$ 4.477.572.00	PRICE/MILE	\$ 2,235,676,00	PRICE/MILE	\$ 3,805,227,00	PRICE/SQ. FT	\$ 10.00	PRICE/EACH	\$ 1.044.400.00	PRICE/SQ. FT	\$ 9.00
	The state of the s												70.00				



SH 105 COST BRIDGE WIDENING/RECONSTRUCTION

	Mateu/Deaduus		Estate a Battan Laurah	Podosto o Poddoo NE deb		Bridge	Widening/Re	construction	Needed	
Structure Number	Water/Roadway Crossing	Туре	Existing Bridge Length	Existing Bridge Width	Short Terr	n Widening	Medium Ter	m Widening	Long Term	New Bridge
Nullibel	Crossing		LF	LF	LF	SF	LF	SF	LF	SF
3	West Fork Crystal Creek	Culvert	38	86	5	190	0	0	103	3,914
4	Unnamed Creek	Culvert	22	45	0	0	46	1,012	103	2,266
5	East Fork Crystal Creek	Bridge	182	49.7	0	0	0	0	103	18,746
6	Hurricane Creek	Bridge	60	48.5	0	0	0	0	103	6,180
7	Caney Creek	Bridge	645	46	0	0	0	0	86	55,470
8	Cagle Branch Creek	Bridge	120	46	0	0	0	0	86	10,320
9	Spring Branch Creek	Bridge	120	46	0	0	0	0	86	10,320
10	Lawrence Creek	Bridge	200	46	16	3,200	0	0	86	17,200
11	Peach Creek	Bridge	664	46	0	0	0	0	86	57,104
12	BNSF Railroad	Bridge	250	88.9	0	0	0	0	0	0
13	Jayhawker Creek	Bridge	250	47	0	0	0	0	86	21,500
14	Bee Branch Creek	Culvert	20	45	0	0	0	0	86	1,720
15	East Fork San Jacinto River	Bridge	1,100	44	0	0	0	0	42	46,200
		-	FOTALC			3,390		1,012		250,940
		ı	TOTALS			SF		SF		SF

Calcluations for Bridge Culvert Costs

		Calculations for Bridge Culvert Costs										
Structure	Water/Roadway			Short	Term							
Number	Crossing	Price per LF	Box Culvert	Head Wall	Total	Calc Price per SF	Price per SF Used					
3	West Fork Crystal Creek	\$650	\$13,000	\$9,000	\$22,000	\$115.79	\$120					

		Calculations for Bridge Culvert Costs											
Structure	Water/Roadway	Medium Term											
Number	Crossing	Price per LF	Box Culvert	Head Wall	Total	Calc Price per SF	Price per SF Used						
4	Unnamed Creek	\$650	\$59,800	\$18,000	\$77,800	\$76.88	\$80						

				Calculat	ions for Bridge Culv	ert Costs						
Structure	Water/Roadway				Long Term	Long Term						
Number	Crossing	Price per LF	Box Culvert	Head Wall	Removal of Existing Culvert	Total	Calc Price per SF	Price per SF Used				
3	West Fork Crystal Creek	\$650	\$268,800	\$18,000	\$5,460	\$291,260	\$74.71					
4	Unnamed Creek	\$650	\$133,900	\$18,000	\$2,730	\$154,630	\$68.24					
14	Bee Branch Creek	\$650	\$11,800	\$18,000	\$1,350	\$131,150	\$76.24					
		LONG TER/	M TOTALS			\$577,040	\$73.04	\$75				