

**LOUIS RIGBY**  
Mayor  
**JOHN ZEMANEK**  
Councilmember at Large A  
**STEVE GILLETT**  
Councilmember at Large B  
**DANNY EARP**  
Councilmember District 1



**CHUCK ENGELKEN**  
Councilmember District 2  
**BILL BENTLEY**  
Councilmember District 3  
**KRISTIN MARTIN**  
Councilmember District 4  
**JAY MARTIN**  
Councilmember District 5  
**NANCY OJEDA**  
Mayor Pro-Tem  
Councilmember District 6

## **CITY COUNCIL MEETING SPECIAL AGENDA**

**Notice is hereby given of a Special Meeting of the La Porte City Council to be held March 23, 2019, beginning at 8:00 a.m., in the City Hall Council Chambers, 604 W. Fairmont Parkway, La Porte, Texas, for the purpose of considering the following agenda items. All agenda items are subject to action.**

- 1. CALL TO ORDER**
  
- 2. PRESENTATION, DISCUSSION AND POSSIBLE ACTION** The purpose of this meeting is to discuss and formulate City Council and staff plans, operations, policies, and/or future projects, including the following:
  - (a) Financial Overview. [Michael Dolby, Finance Director]
  - (b) Medical & Health Insurance Update. [Matt Hartleib, Human Resources Manager]
  - (c) City Facility Maintenance Program (Councilmember Engelken). [Roz Epting, Parks and Recreation Director]
  - (d) Library Flooring & Repainting. [Roz Epting, Parks and Recreation Director]
  - (e) Fitness Center (Councilmembers J. Martin and Zemanek). [Corby Alexander, City Manager and Roz Epting, Parks and Recreation Director]
  - (f) 7th Street Widening - Concrete Paving & Sidewalks (Councilmember K. Martin). [Don Pennell, Public Works Director]
  - (g) EMS Headquarter Expansion. [Ray Nolen, EMS Chief]
  - (h) Additional EMS Captain. [Ray Nolen, EMS Chief]
  - (i) Fire Field Propane Project. [Donald Ladd, Assistant Fire Chief]
  - (j) Bay Forest Golf Course Capital Improvement Projects. [Alex Osmond, Golf Course Manager]
  - (k) IT Private Fiber Network. [Grady Parker, IT Manager]
  - (l) Convert Northwest Park & Little Cedar Bayou Park Lights. [Roz Epting, Parks and Recreation Director]
  - (m) Klein Retreat Park Options (Councilmember Earp). [Roz Epting, Parks and Recreation Director]
  - (n) Outdoor Fitness Equipment at Fairmont Park (Councilmember Ojeda). [Roz Epting, Parks and Recreation Director]
  - (o) Paved Parking Lot at Recycling Center (Councilmember Ojeda). [Don Pennell, Public Works Director]
  - (p) Continuation of Sidewalk on Farrington to Fairmont Park entrance (Councilmember Ojeda). [Don Pennell, Public Works Director]
  - (q) Funds for Artist Grants to be used for Outdoor Public Art Installations (Councilmember Ojeda). [Ryan Cramer, Economic Development Coordinator]

- (r) Uniform Plants & Planters along Main Street (Councilmember Ojeda). [Ryan Cramer, Economic Development Coordinator]
- (s) \$5,000 for Startup (Seed Money) of Youth Advisory Council through TML (Councilmember Ojeda). [Jason Weeks, Assistant City Manager and Roz Epting, Parks and Recreation Director]
- (t) Shelter in Place Procedures (Councilmember Engelken). [Kristin Gauthier, Emergency Management Coordinator]
- (u) City Safety Record, Policies, & Procedures (Councilmember Engelken). [Matt Hartleib, Human Resources Manager and Matt Daeumer, Assistant Police Chief]
- (v) Employee Evaluation and Merit Pay Increase Procedures (Councilmember Engelken). [Matt Hartleib, Human Resources Manager and Michael Dolby, Finance Director]
- (w) Presentation and discussion of meeting procedural items with the City Secretary's Office. [Lee Woodward, City Secretary]

**3. COUNCIL COMMENTS** - Hear announcements concerning matters appearing on the agenda; items of community interest; and/or inquiries of staff regarding specific factual information or existing policy from the Mayor, Councilmembers, and City staff, for which no formal action will be discussed or taken.

**4. ADJOURNMENT**

If, during the course of the meeting and discussion of any items covered by this notice, City Council determines that a Closed or Executive Session of the Council is required, then such closed meeting will be held as authorized by Texas Government Code, Chapter 551, Section 551.071 - consultation with counsel on legal matters; Section 551.072 - deliberation regarding purchase, exchange, lease or value of real property; Section 551.073 - deliberation regarding a prospective gift; Section 551.074 - personnel matters regarding the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; Section 551.076 - implementation of security personnel or devices; Section 551.087 - deliberation regarding economic development negotiation; Section 551.089 - deliberation regarding security devices or security audits, and/or other matters as authorized under the Texas Government Code. If a Closed or Executive Session is held in accordance with the Texas Government Code as set out above, the City Council will reconvene in Open Session in order to take action, if necessary, on the items addressed during Executive Session.

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services are requested to contact the City Secretary's office (281-470-5019), two working days prior to the meeting for appropriate arrangements.

**CERTIFICATE**

I, Lee Woodward, City Secretary, do hereby certify that a copy of the March 23, 2019, City Council agenda was posted on the City Hall bulletin board, a place convenient and readily accessible to the general public at all times, and to the City's website, [www.LaPorteTX.gov](http://www.LaPorteTX.gov), in compliance with Chapter 551, Texas Government Code.

DATE OF POSTING \_\_\_\_\_  
 TIME OF POSTING \_\_\_\_\_  
 TAKEN DOWN \_\_\_\_\_

\_\_\_\_\_

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Michael G. Dolby, Finance Director</u>
Department: <u>Finance</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Financial Overview Presentation  
Exhibit:

### **SUMMARY & RECOMMENDATION**

As a planning tool at the Pre-Budget Retreat, staff provides a brief overview of the current financial conditions of the City and a preliminary projection of where current trends may lead. Highlighted in the presentation are the General Fund and the Utility Fund.

The projections are subject to change as more data becomes available in late spring/early summer.

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#### **Action Required by Council:**

Receive Presentation

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#### **Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

# City of La Porte

## City Council Retreat

### *Financial Overview*



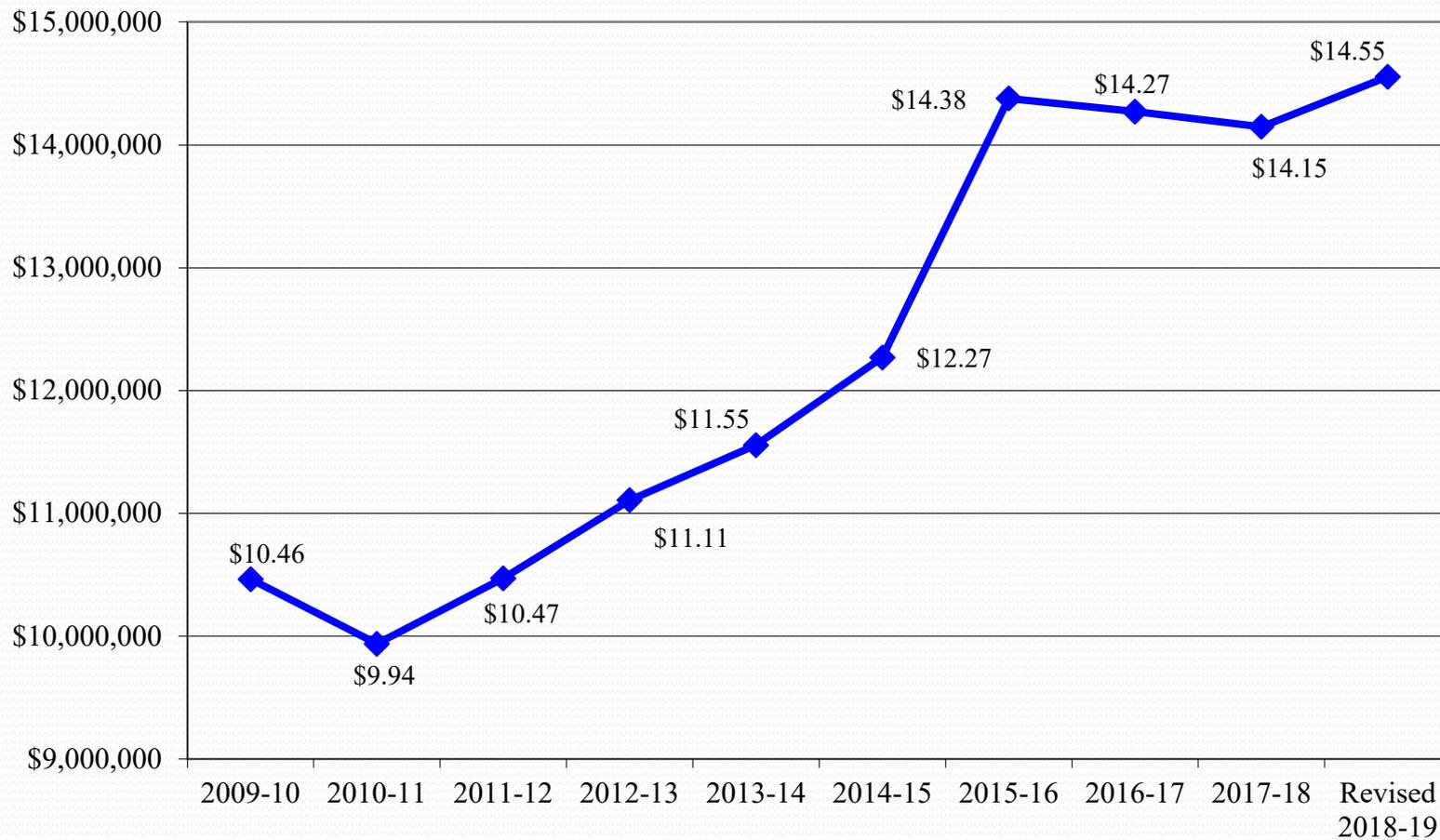


# Property Tax Growth General Fund Current Tax Collections (O&M) 10-Year History





## In-Lieu-of-Taxes Trend – General Fund





## Sales Tax Trends – General Fund Historical Growth - 10 Years





## General Fund

### Statement of Revenues, Expenditures and Changes in Fund Balances For the Fourth Month Ended January 31, 2019, with Comparative Data for the Prior Year 33% of Year Lapsed

	Current Year				Prior Year		
	Budget	Actual Year to Date	Variance	Percent of Budget	Budget	Actual Year to Date	Percent of Budget
<b>REVENUES</b>							
Property taxes	\$ 17,676,500	\$ 14,217,079	\$ (3,459,421)	80.43%	\$ 17,960,500	\$ 12,793,735	71.23%
Franchise taxes	2,919,131	409,633	(2,509,498)	14.03%	2,428,769	381,551	15.71%
Sales taxes	5,000,000	1,016,409	(3,983,591)	20.33%	4,500,000	917,696	20.39%
Industrial payments	13,750,000	14,600,961	850,961	106.19%	13,375,000	12,918,163	96.58%
Other taxes	90,000	21,023	(68,977)	23.36%	90,000	24,622	27.36%
Licenses and permits	646,150	355,833	(290,317)	55.07%	491,500	321,583	65.43%
Fines and forfeits	1,559,550	683,645	(875,905)	43.84%	1,556,150	473,751	30.44%
Charges for services	5,891,834	1,558,923	(4,332,911)	26.46%	5,780,041	1,746,941	30.22%
Interest	400,000	309,817	(90,183)	77.45%	325,000	179,936	55.36%
Miscellaneous	100,000	55,093	(44,907)	55.09%	100,000	70,907	70.91%
Total revenues	48,033,165	33,228,416	(14,804,749)	69.18%	46,606,960	29,828,884	64.00%



**General Fund**  
**Statement of Revenues, Expenditures and Changes in Fund Balances**  
**For the Fourth Month Ended January 31, 2019, with Comparative Data for the Prior Year**  
**33% of Year Lapsed**

	Current Year				Prior Year		
	Budget	Actual Year to Date	Variance	Percent of Budget	Budget	Actual Year to Date	Percent of Budget
<b>EXPENDITURES</b>							
General Government:							
Administration <sup>1</sup>	7,774,511	2,235,519	5,538,992	28.75%	8,350,567	2,024,980	24.25%
Finance	4,021,302	842,949	3,178,353	20.96%	3,193,629	580,487	18.18%
Planning & Engineering	1,624,740	447,820	1,176,920	27.56%	1,668,993	447,251	26.80%
Public Safety:							
Fire and Emergency Services	5,208,135	1,640,769	3,567,366	31.50%	5,164,291	1,731,229	33.52%
Police	13,843,401	3,961,579	9,881,822	28.62%	13,779,723	4,072,090	29.55%
Public Works:							
Public Works Administration	715,838	218,068	497,770	30.46%	710,111	203,745	28.69%
Streets	2,832,241	788,478	2,043,763	27.84%	2,596,385	803,382	30.94%
Health and Sanitation:							
Solidwaste	2,869,246	882,434	1,986,812	30.75%	2,939,041	894,994	30.45%
Culture and Recreation							
Parks and Recreation	4,466,538	1,210,190	3,256,349	27.09%	4,694,895	1,210,475	25.78%
Total expenditures	43,355,952	12,227,806	31,128,147	28.20%	43,097,635	11,968,633	27.77%
Excess (deficiency) of revenues over expenditures	4,677,213	21,000,610	16,323,397		3,509,325	17,860,251	

<sup>1</sup> Includes Admin, HR, MC, IT, City Sec., Legal, Emergency Management, City Council, and Golf.



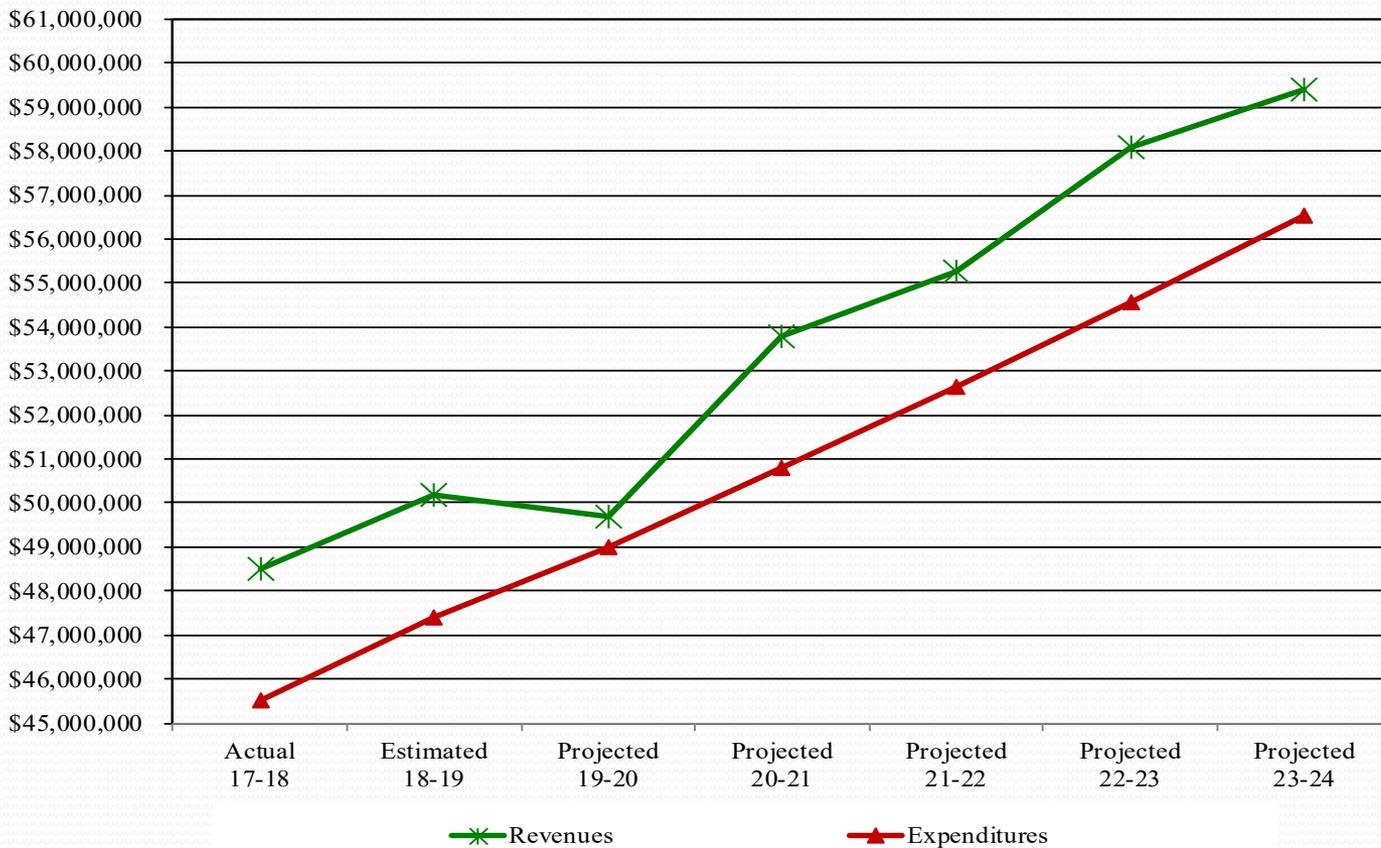
**General Fund**  
**Statement of Revenues, Expenditures and Changes in Fund Balances**  
**For the Fourth Month Ended January 31, 2019, with Comparative Data for the Prior Year**  
**33% of Year Lapsed**

	<b>Current Year</b>				<b>Prior Year</b>		
	<b>Budget</b>	<b>Actual Year to Date</b>	<b>Variance</b>	<b>Percent of Budget</b>	<b>Budget</b>	<b>Actual Year to Date</b>	<b>Percent of Budget</b>
<b>OTHER FINANCING SOURCES (USES)</b>							
Transfers in	126,614	42,711	(83,903)	33.73%	126,614	42,205	33.33%
Transfers out	(4,325,532)	(1,441,844)	2,883,688	33.33%	(6,149,445)	(2,049,815)	33.33%
Total other financing sources (uses)	<u>(4,198,918)</u>	<u>(1,399,132)</u>	<u>2,799,785</u>	<u>33.32%</u>	<u>(6,022,831)</u>	<u>(2,007,610)</u>	<u>33.33%</u>
Net change in fund balances	478,295	19,601,478	19,123,183		(2,513,506)	12,144,281	
Fund balances—beginning	47,307,073	47,307,073	-		42,899,564	42,899,564	
Fund balances—ending	<u>\$ 47,785,368</u>	<u>\$ 66,908,551</u>	<u>\$ 19,123,183</u>		<u>\$ 40,386,058</u>	<u>\$ 55,043,845</u>	



# General Fund Long Range Plan

FY	Actual 17-18	Estimated 18-19	Projected 19-20	Projected 20-21	Projected 21-22	Projected 22-23	Projected 23-24
Revenues	\$ 48,511,817	\$ 50,181,314	\$49,688,779	\$ 53,783,059	\$ 55,253,812	\$58,072,855	\$ 59,410,604
Expenditures	45,527,123	47,395,717	49,016,179	50,807,033	52,632,330	54,545,161	56,547,898
<b>▲ fund balance</b>	<b>\$ 2,984,694</b>	<b>\$ 2,785,597</b>	<b>\$ 672,600</b>	<b>\$ 2,976,026</b>	<b>\$ 2,621,483</b>	<b>\$ 3,527,694</b>	<b>\$ 2,862,706</b>





## Utility Fund

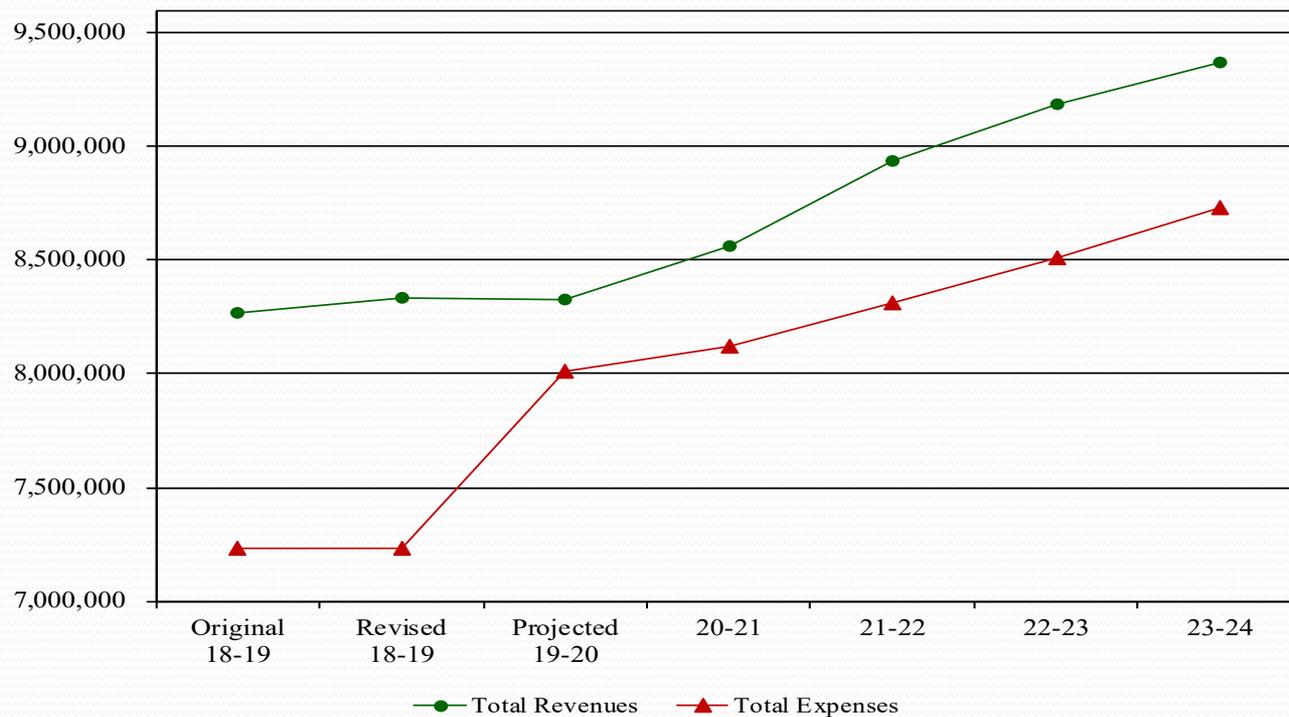
### Statement of Revenues, Expenditures and Changes in Fund Balances For the Fourth Month Ended January 31, 2019, with Comparative Data for the Prior Year 33% of Year Lapsed

	Current Year				Prior Year		
	Budget	Actual Year to Date	Variance	Percent of Budget	Budget	Actual Year to Date	Percent of Budget
Operating Revenues:							
User fees	\$ 8,197,250	\$ 3,157,531	\$ (5,039,719)	38.52%	\$ 8,316,050	\$ 2,790,698	33.56%
Operating expenses:							
Personal services	3,406,063	1,037,371	2,368,692	30.46%	3,338,255	1,086,828	32.56%
Supplies	194,130	58,465	135,665	30.12%	284,725	62,278	21.87%
Other services and charges	5,032,215	1,116,127	3,916,087	22.18%	5,439,460	924,481	17.00%
Total operating expenses	8,632,408	2,211,963	6,420,446	25.62%	9,062,440	2,073,586	22.88%
Operating income	(435,158)	945,568	1,380,727		(746,390)	717,112	
Nonoperating revenues (expenses):							
Interest income	92,250	70,673	(21,577)	76.61%	85,500	33,156	38.78%
Income before contributions and transfers	(342,908)	1,016,241	1,359,149		(660,890)	750,268	
Transfers in	300,000	100,000	(200,000)	33.33%	2,300,000	766,667	33.33%
Transfers out	(658,028)	(219,343)	438,685	33.33%	(374,201)	(124,734)	33.33%
Change in net assets	(700,936)	896,898	1,597,834		1,264,909	1,392,201	
Net position - beginning of the year	30,681,679	30,681,679	-		31,921,294	31,921,294	
Net position - end of the year	<u>\$ 29,980,743</u>	<u>\$ 31,578,577</u>	<u>\$ 1,597,834</u>		<u>\$ 33,186,203</u>	<u>\$ 33,313,495</u>	



# Utility Fund Long Range Plan

FY	Original 18-19	Revised 18-19	Projected 19-20	20-21	21-22	22-23	23-24
<b>Total Revenues</b>	8,267,250	8,333,850	8,323,050	8,564,363	8,934,659	9,188,204	9,371,829
<b>Total Expenses</b>	7,229,336	7,229,336	8,010,452	8,118,340	8,313,935	8,512,179	8,727,368
<b>Δ fund balance</b>	1,037,914	1,104,514	312,598	446,023	620,724	676,025	644,460

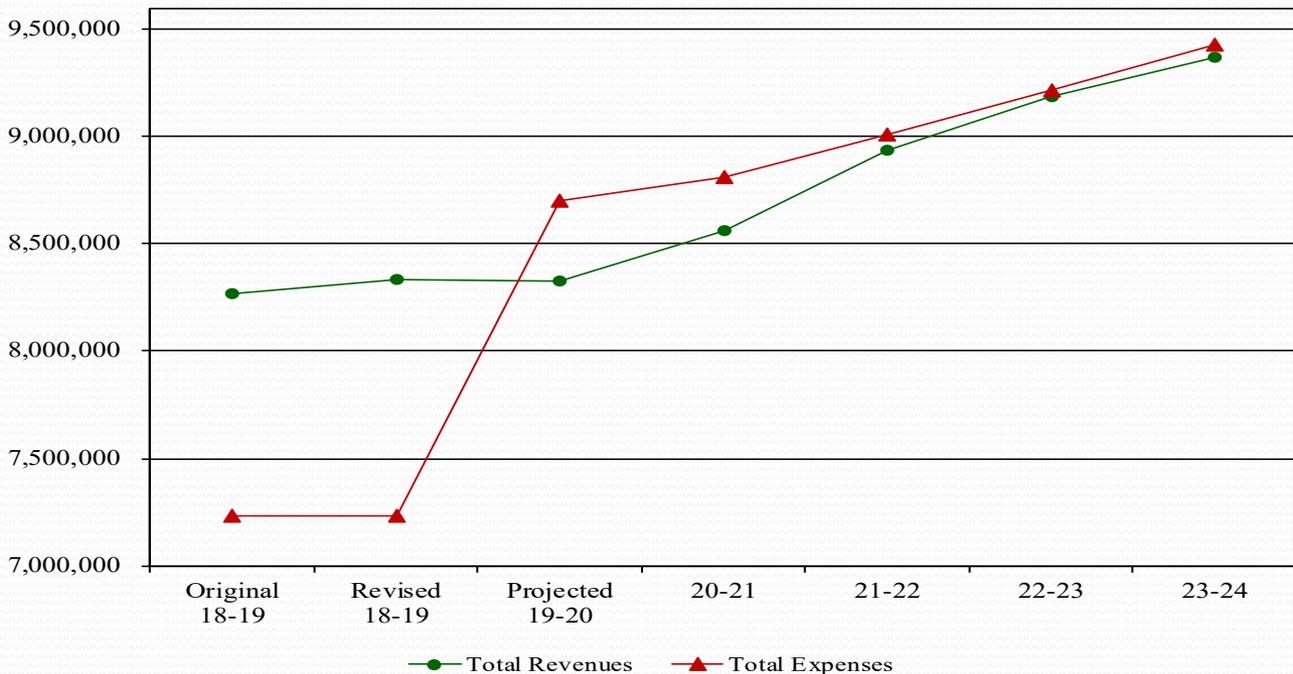




# Utility Fund Long Range Plan

*(Including TWDB Debt)*

FY	Original 18-19	Revised 18-19	Projected 19-20	20-21	21-22	22-23	23-24
<b>Total Revenues</b>	8,267,250	8,333,850	8,323,050	8,564,363	8,934,659	9,188,204	9,371,829
<b>Total Expenses</b>	7,229,336	7,229,336	8,700,949	8,815,051	9,011,078	9,214,010	9,428,167
<b>Δ fund balance</b>	1,037,914	1,104,514	(377,899)	(250,688)	(76,419)	(25,806)	(56,339)



## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Matt Hartleib, HR Manager</u>
Department: <u>Human Resources</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Plan Update from IPS/HUB

### **SUMMARY & RECOMMENDATION**

As a planning tool at the Pre-Budget Retreat, staff will provide an update on the Medical Fund's performance in the last plan year and any relevant data for the current plan year. The presentation will include a look at current plan utilization measures, benchmarking data, and renewal timelines.

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#### **Action Required by Council:**

Provide staff direction regarding budget planning goals for the Medical Fund.

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#### **Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

# HUB

Advocacy. Tailored Insurance Solutions. Peace of Mind



*City of*  
**LA PORTE**  
*Texas*

March 5, 2019

# City of La Porte Benefits Strategy Meeting

Brent Weegar, MBA – Senior Vice President

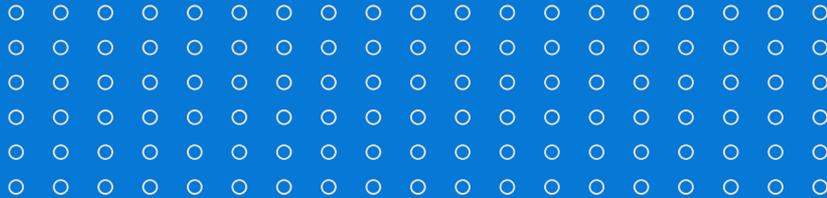
Julian Fontana – Employee Benefits Specialist

Brian Wilson – Account Manager

# Agenda

- 1 | Overview & Renewal Recap
- 2 | Plan Financial Performance Review
- 3 | Medical & Rx Plan Utilization
- 4 | Medical Plan Benefits & Benchmarking

# 1



## Overview & Renewal Recap

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The City of La Porte has retained HUB International to provide analysis and recommendations for its health and welfare benefits plans for the 2019 plan year. The purpose of this meeting is to provide an update to financial results and discuss strategic planning including coverage up for renewal effective 1/1/2020.

## **Financials**

At plan year end 2018 the City of La Porte's medical and prescription plan costs were 95% of plan funding per budget. Medical claims decreased by 15.5% while pharmacy claims increased 9.4% during the same period. Overall, total plan costs per employee per month reduced by 4% from \$1,289 to \$1,245 PEPM. For 2018, there were 7 large claimants (over 50% of Specific Deductible) representing 21% of total claim utilization versus 12 large claimants with 25% of total claims utilization in 2017.

## **Looking Ahead**

This is the third year of a 3-year contract for plan Medical plan administration and prescription benefit management services with Aetna, an RFP will be released later this Spring. Dental, Life AD&D and Long Term Disability plan renewals and will be evaluated and we will coordinate with City staff and Chapter 172 committee regarding additional RFP's as determined appropriate. The Vision plan with Avesis and EAP with UT EAP are under rate guarantees through January 2021.

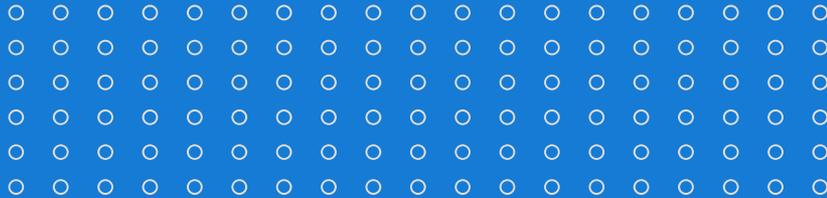
HUB has included a timeline in this presentation which will outline specific renewal/RFP dates.

# 2019 Renewal Recap



COVERAGE	CARRIER	2018 /2019 RENEWAL RESULTS	NEXT RENEWAL
<b>Medical/Rx</b>	Aetna	Aetna’s plan administrative fees increased +3% in the final year of a 3-year contract. Medical plan funding/premium equivalents renewed with no change based on favorable claims experience. HUB renegotiated the underlying PBM contract in regard to AWP discounts and Rebates to the City.	January 1, 2020
<b>Dental</b>	Cigna	The Dental plan renewed with no increase and no change in benefits and is in year two of a 2-year rate guarantee.	January 1, 2020
<b>Vision</b>	Avesis	The Vision plan renewed with a +5% increase including a 2-year rate guarantee and no change in benefits.	January 1, 2021
<b>Basic Life/AD&amp;D, Vol. Life/AD&amp;D/ LTD</b>	Lincoln Financial	The Life AD&D and Disability insurance are in year two of a 2-year rate guarantee and renewed with no changes.	January 1, 2020
<b>EAP</b>	UT EAP	HUB negotiated a 30% rate reduction with UT EAP at renewal with no change in benefits under a 3-year agreement.	January 1, 2021

# 2



## Plan Financial Performance Review

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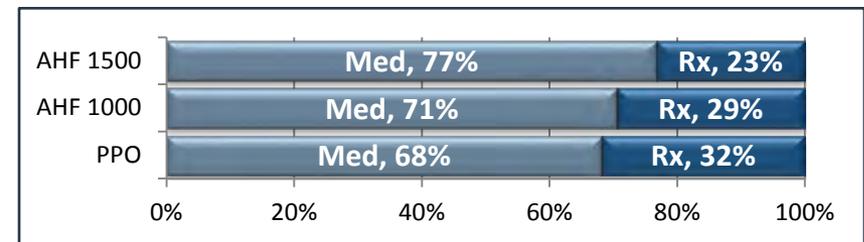


# Claims vs Funding – 2018 PYE

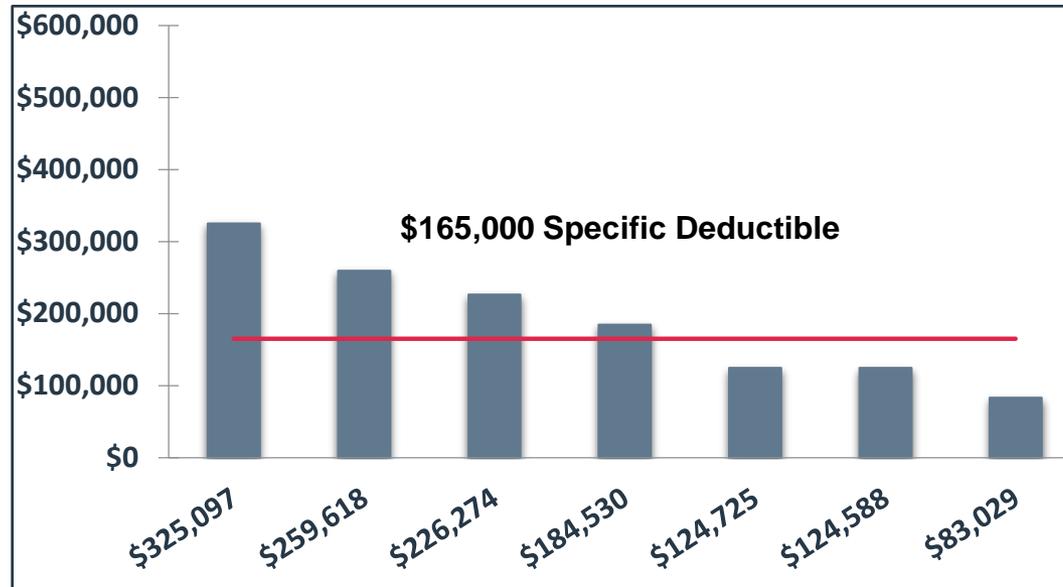


Month	ENROLLMENT <sup>1</sup>			CLAIMS DATA						FIXED COST		EMPLOYER NET COST		BUDGET DATA		
	PPO	AHF 1000	AHF 1500	Total	PPO	AHF 1000	AHF 1500	Stop Loss	AHF Fund	Total	Total	EE Contribs <sup>2</sup>	Net Cost	Total Cost	Budget <sup>3</sup>	Surplus
2018-01	188	150	71	409	\$404,670	\$131,572	\$82,298	\$0	\$37,682	\$656,222	\$49,811	(\$64,374)	\$641,659	\$706,033	\$604,464	(\$101,569)
2018-02	185	146	73	404	\$280,097	\$118,758	\$47,429	\$0	\$44,934	\$491,218	\$49,207	(\$63,189)	\$477,236	\$540,424	\$595,511	\$55,087
2018-03	183	144	80	407	\$272,569	\$127,426	\$85,076	\$0	-\$5,849	\$479,222	\$49,569	(\$62,986)	\$465,806	\$528,792	\$597,528	\$68,736
2018-04	183	143	81	407	\$309,885	\$99,432	\$90,675	\$0	\$19,720	\$519,712	\$49,569	(\$62,912)	\$506,370	\$569,282	\$597,492	\$28,211
2018-05	181	142	80	403	\$290,939	\$95,800	\$79,102	\$0	\$18,152	\$483,992	\$49,086	(\$62,463)	\$470,616	\$533,078	\$594,417	\$61,339
2018-06	179	139	84	402	\$397,179	\$89,784	\$68,651	(\$45,165)	\$11,509	\$521,959	\$48,965	(\$61,568)	\$509,355	\$570,924	\$590,480	\$19,557
2018-07	177	136	87	400	\$226,163	\$91,626	\$251,043	(\$4,408)	\$9,471	\$573,895	\$48,723	(\$60,974)	\$561,644	\$622,618	\$585,651	(\$36,967)
2018-08	177	136	89	402	\$273,474	\$121,647	\$229,370	(\$37,541)	\$8,481	\$595,430	\$48,965	(\$61,041)	\$583,354	\$644,395	\$587,369	(\$57,026)
2018-09	175	131	88	394	\$132,366	\$122,545	\$144,155	(\$21,990)	\$7,931	\$385,008	\$47,998	(\$59,808)	\$373,197	\$433,006	\$576,897	\$143,892
2018-10	172	131	93	396	\$184,882	\$169,967	\$177,425	(\$57,368)	\$5,794	\$480,700	\$48,240	(\$59,413)	\$469,527	\$528,940	\$576,212	\$47,272
2018-11	170	126	99	395	\$208,312	\$197,177	\$187,239	(\$108,781)	\$3,368	\$487,315	\$48,119	(\$58,380)	\$477,054	\$535,434	\$572,616	\$37,182
2018-12	170	125	101	396	\$246,365	\$110,322	\$172,363	(\$60,265)	\$3,651	\$472,436	\$48,240	(\$58,587)	\$462,089	\$520,676	\$573,953	\$53,277
<b>Total</b>	<b>2,140</b>	<b>1,649</b>	<b>1026</b>	<b>4,815</b>	<b>\$3,226,900</b>	<b>\$1,476,057</b>	<b>\$1,614,826</b>	<b>(\$335,518)</b>	<b>\$164,844</b>	<b>\$6,147,109</b>	<b>\$586,493</b>	<b>(\$735,696)</b>	<b>\$5,997,905</b>	<b>\$6,733,601</b>	<b>\$7,052,591</b>	<b>\$318,990</b>
<b>Avg/PEPM</b>	<b>178</b>	<b>137</b>	<b>86</b>	<b>401</b>	<b>\$1,507.90</b>	<b>\$895.12</b>	<b>\$1,573.90</b>	<b>(\$69.68)</b>	<b>\$61.62</b>	<b>\$1,276.66</b>	<b>\$121.81</b>	<b>(\$152.79)</b>	<b>\$1,245.67</b>	<b>\$1,398.46</b>	<b>\$1,464.71</b>	<b>\$66.25</b>

Year to Date Summary	Total	PEPM
Total Net Paid Claims	\$6,147,109	\$1,276.66
Total Fixed Costs	\$586,493	\$121.81
<b>Subtotal - Total Costs</b>	<b>\$6,733,601</b>	<b>\$1,398.46</b>
<b>Total Cost as % of Budget</b>	<b>95%</b>	
Employee Contributions	(\$735,696)	(\$152.79)
<b>Total - Net Employer Costs</b>	<b>\$5,997,905</b>	<b>\$1,245.67</b>



# Large Claims Report 2018 PYE



Claimant	Total Paid	Over / Under ISL	Plan	Relationship
1	\$325,097	\$160,097	AHF 1000	Employee
2	\$259,618	\$94,618	AHF 1000	Spouse
3	\$226,274	\$61,274	PPO	Employee
4	\$184,530	\$19,530	PPO	Employee
5	\$124,725	(\$40,275)	AHF 1000	Employee
6	\$124,588	(\$40,412)	AHF 1500	Spouse
7	\$83,029	(\$81,971)	PPO	Employee
<b>Total</b>	<b>\$1,327,861</b>		<b>21.0% of Medical &amp; Rx Claims</b>	

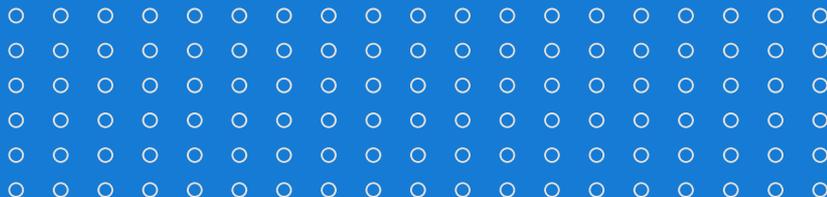


# Per Employee Per Month Costs by Plan Year

		Enrollment					Claims Data				Period
Period	End	EE	EESp	EECh	Fam	Total	Medical	Rx	Stop Loss	Total Paid	PEPM
Plan Year - January through December											
Jan-17	Dec-17	1,724	827	695	1,553	4,799	\$4,771,340	\$1,672,773	(\$256,409)	\$6,187,704	\$1,289.37
Jan-16	Dec-16	1,560	873	679	1,548	4,660	\$4,027,577	\$1,967,070	(\$170,120)	\$5,824,527	\$1,249.90
Year-to-Date - January through December											
Jan-18	Dec-18	1,854	815	675	1,471	4,815	\$4,484,224	\$1,833,559	(\$335,518)	\$5,982,264	\$1,242.42
Jan-17	Dec-17	1,724	827	695	1,553	4,799	\$4,771,340	\$1,672,773	(\$256,409)	\$6,187,704	\$1,289.37
Jan-16	Dec-16	1,560	873	679	1,548	4,660	\$4,027,577	\$1,967,070	(\$170,120)	\$5,824,527	\$1,249.90

History on Stop Loss		
	Stop Loss Reimbursement	Stop Loss Premiums Paid
2016	\$170,120	\$387,578
2017	\$256,409	\$367,030
2018	\$335,518	\$401,470

# 3



## Medical & Rx Plan Utilization

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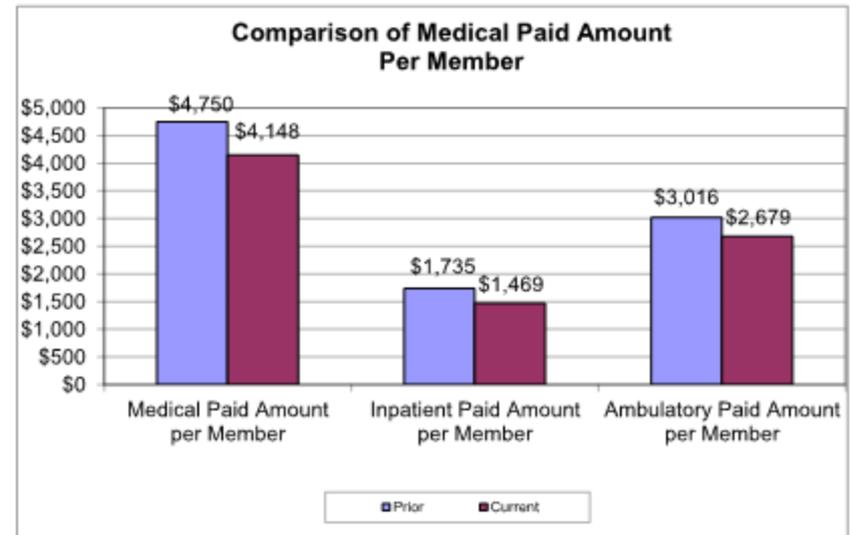
# Key Statistics 2018 PYE



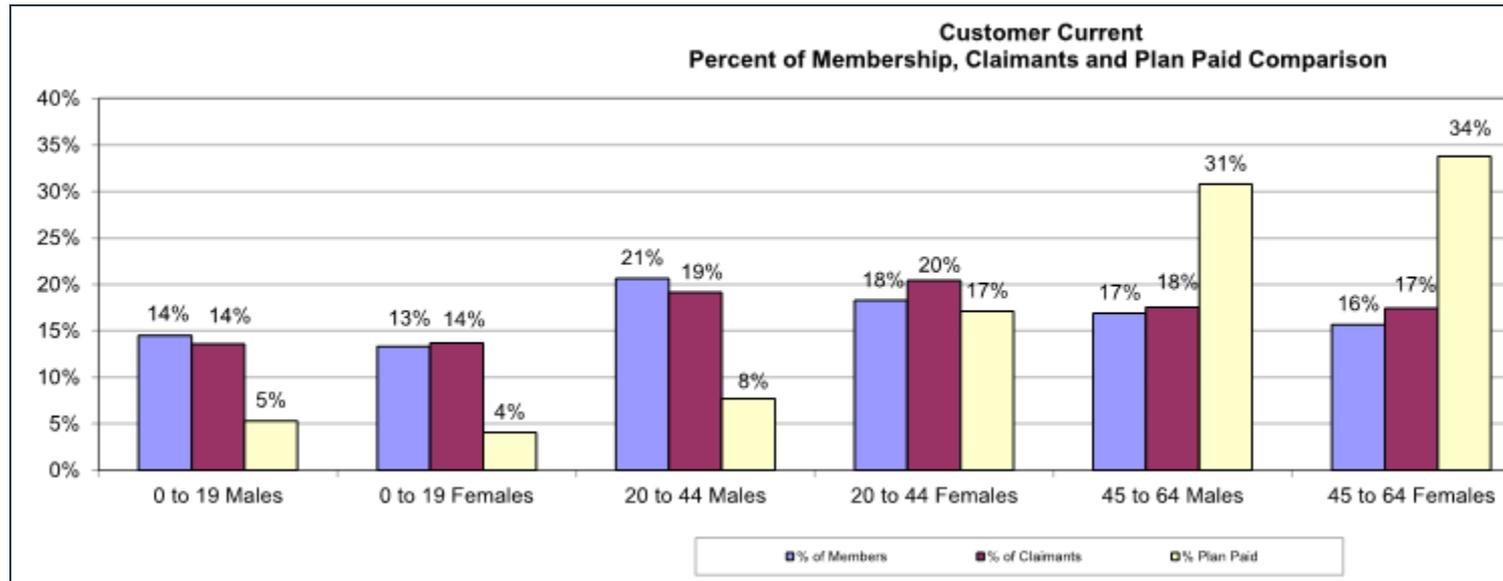
<b>Demographics Summary for Medical</b>	<b>Customer Prior</b>	<b>Customer Current</b>	<b>% Change from Prior</b>	<b>Aetna BOB<sup>1</sup></b>
Number of Employees	400	401	0.1%	N/A
Number of Members	992	961	-3.2%	N/A
Ratio of Members to Employees	2.5	2.4	-3.3%	2.0
Percent Male Members	52.3%	52.6%	0.2%	48.3%
Percent Female Members	47.7%	47.4%	-0.2%	51.7%
Average Age of Membership	32.8	33.2	1.1%	34.8

## Key Statistics

Total Medical and Pharmacy Paid Amount	\$6,380,969	\$5,808,575	-9.0%	N/A
Total Pharmacy Paid Amount	\$1,667,804	\$1,824,785	9.4%	N/A
Pharmacy Paid Amount per Member <sup>2</sup>	\$1,681	\$1,900	13.0%	\$1,177
Total Medical Paid Amount	\$4,713,164	\$3,983,790	-15.5%	N/A
Medical Paid Amount per Employee	\$11,783	\$9,945	-15.6%	N/A
Medical Paid Amount per Member	\$4,750	\$4,148	-12.7%	\$3,882



# Membership Demographics & Claim Distribution



*65% of paid claims were incurred in the 45 to 64 year old age range for Males and Females*



# Catastrophic Claims Impact +\$50,000



## Claimants Above Threshold'

	<u>Prior</u>	<u>Current</u>	<u>Change</u>	<u>Aetna BOB</u>
Number of Claimants	19	12	-36.8%	N/A
Claimants Per 1,000 Members	19.2	12.5	N/A	12.7
Medical Paid Amount for these Claimants	\$2,076,782	\$1,475,081	-29.0%	N/A
Average Paid Per Catastrophic Claimant	\$109,304.29	\$122,923.39	12.5%	N/A
% of Total Paid Amount	44.1%	37.0%	-7.0%	44.4%

<u>Current Claimant</u>	<u>Total Medical Paid Amount</u>	<u>Inpatient Paid Amount</u>	<u>Ambulatory Paid Amount</u>	<u>Diagnosis Code</u>	<u>Diagnosis Description</u>
1	\$312,224	\$294,674	\$17,550	E11.69	TYPE 2 DIABETES MELLITUS WITH OTHER SPECIFIED COMPLICATION
2	\$260,290	\$211,754	\$48,536	Z51.11	ENCOUNTER FOR ANTINEOPLASTIC CHEMOTHERAPY
3	\$220,378	\$200,129	\$20,249	E11.43	TYPE 2 DIABETES W DIABETIC AUTONOMIC (POLY)NEUROPATHY
4	\$130,664	\$116,235	\$14,430	I63.9	CEREBRAL INFARCTION, UNSPECIFIED
5	\$91,333	\$0	\$91,333	Z51.12	ENCOUNTER FOR ANTINEOPLASTIC IMMUNOTHERAPY
6	\$79,314	\$0	\$79,314	I69.328	OTH SPEECH/LANG DEFICITS FOLLOWING CEREBRAL INFARCTION
7	\$78,658	\$36,284	\$42,374	M17.11	UNILATERAL PRIMARY OSTEOARTHRITIS, RIGHT KNEE
8	\$71,826	\$62,937	\$8,888	M17.11	UNILATERAL PRIMARY OSTEOARTHRITIS, RIGHT KNEE
9	\$63,200	\$58,963	\$4,236	S82.142A	DISPLACED BICONDYLAR FRACTURE OF LEFT TIBIA, INIT
10	\$62,926	\$35,687	\$27,239	K50.912	CROHN'S DISEASE, UNSPECIFIED, WITH INTESTINAL OBSTRUCTION
11	\$53,406	\$7,061	\$46,345	Z48.21	ENCOUNTER FOR AFTERCARE FOLLOWING HEART TRANSPLANT
12	\$50,861	\$0	\$50,861	M05.79	RHEU ARTHRITIS W RHEU FACTOR MULT SITE W/O ORG/SYS INVOLV
<b>Total</b>	<b>\$1,475,081</b>	<b>\$1,023,725</b>	<b>\$451,356</b>		



# Top Diagnostic Categories by Amount

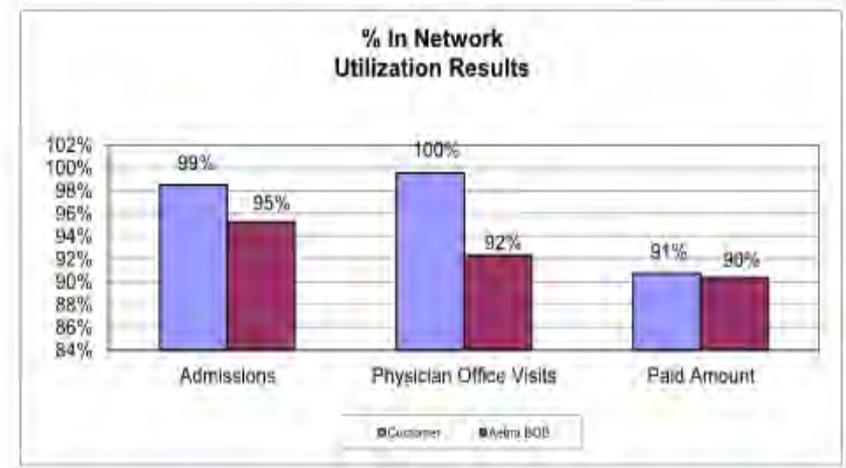
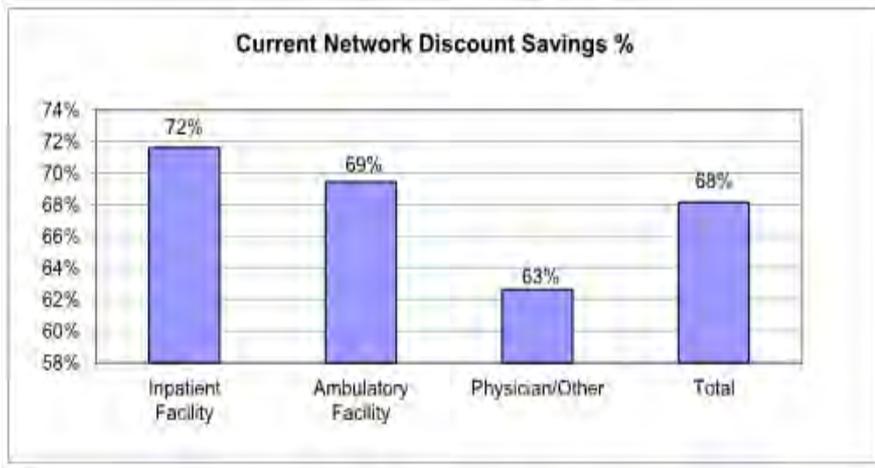


<u>Top 25 Diseases</u>	<u>Number of Unique Claimants with Disease</u>	<u>Prevalence</u>	<u>BOB Prevalence <sup>3</sup></u>	<u>Total Paid Amount for Claimants with Disease <sup>4</sup></u>	<u>Total Paid Amount Per Claimant with Disease <sup>4</sup></u>
<b>Total Continuously Enrolled Members in Population<sup>2</sup>: 727</b>					
Hypertension	158	21.7%	13.7%	\$1,656,027	\$10,481
Hyperlipidemia	140	19.3%	12.3%	\$1,501,736	\$10,727
Nonspecific Gastritis/Dyspepsia	81	11.1%	6.8%	\$1,440,279	\$17,781
Low Back Pain	57	7.8%	6.2%	\$983,460	\$17,254
Diabetes Mellitus	69	9.5%	5.5%	\$855,967	\$12,405



# PPO Network Discounts & Utilization

In Network Experience	Prior Period	Current Period	Change	Current Network Discount Savings % <sup>1</sup>
Billed Network Charges (before discount)	\$11,968,735	\$12,578,053	5.1%	
Network Discount Savings:				
Inpatient Facility	\$2,991,561	\$3,054,988	2.1%	71.6%
Ambulatory Facility	\$2,870,220	\$3,208,378	11.8%	69.4%
Physician/Other	\$2,128,826	\$2,312,154	8.6%	62.6%
Total	\$7,990,606	\$8,575,520	7.3%	➔ 68.2%



# PPO Network Discounts & Utilization



In Network Experience	Prior Period	Current Period	Change	Current Network Discount Savings % <sup>1</sup>	Aetna BOB
Billed Network Charges (before discount)	\$11,968,735	\$12,578,053	5.1%		
Network Discount Savings:					
Inpatient Facility	\$2,991,561	\$3,054,988	2.1%	71.6%	
Ambulatory Facility	\$2,870,220	\$3,208,378	11.8%	69.4%	
Physician/Other	\$2,128,826	\$2,312,154	8.6%	62.6%	
Total	\$7,990,606	\$8,575,520	7.3%	➔ 68.2%	
Network Discount Savings per Employee	\$19,977	\$21,408	7.2%		
Network Discount Savings per Member	\$8,054	\$8,928	10.9%		
Average Discount Savings per Admission	\$40,426	\$46,288	14.5%		
Network Utilization Metrics					
% Admissions In Network	98.7%	98.5%	-0.2%		95.3%
% Physician Office Visits In Network	98.5%	99.5%	1.0%		92.3%
% Claims Paid In Network	78.4%	90.7%	➔ 12.3%		90.4%

**Total Network Discount Savings increased +7.3%, an additional \$584,914 over 2017 and Percent Claims Paid In Network increased by +12% over 2017, an additional \$737,653 Paid In Network**



# Pharmacy: Key Statistics 2018 PYE

	Customer Prior	Customer Current	% Change from Prior	Aetna BOB <sup>1</sup>
Total Pharmacy Paid Amount	\$1,667,804	\$1,824,785	9.4%	N/A
Pharmacy Paid Amount per Eligible Member	\$1,681	\$1,900	13.0%	\$1,177
Pharmacy Paid Amount per Utilizing Member	\$2,074	\$2,247	8.3%	\$1,364
➔ Average Paid Amount per Claim	\$113.05	\$143.09	26.6%	\$129.70
Number of Pharmacy Claims	14,753	12,753	-13.6%	N/A
Number of Pharmacy Claims Per Eligible Member	14.9	13.3	-10.7%	9.1
Number of Pharmacy Claims Per Utilizing Member	18.3	15.7	-14.4%	N/A
➔ Generic Utilization	82.5%	85.4%	2.9%	86.2%
Generic Substitution	97.7%	98.6%	1.0%	98.5%
Brand Utilization	17.5%	14.6%	-2.9%	13.8%
Formulary Utilization	100.0%	99.8%	-0.2%	99.9%




# Top Non-Specialty Drug Classes



<b>GPI Class</b>	<b>Number of Utilizing Members</b>	<b>Number of Pharmacy Claims</b>	<b>Pharmacy Paid Amount Per Utilizing Member</b>
Anti-Infective Agents	516	1,173	\$112.65
Biologicals	0	0	N/A
Antineoplastic Agents	20	70	\$2,329.62
Endocrine and Metabolic Drugs	357	2,111	\$1,464.83
Cardiovascular Agents	309	3,290	\$662.45
Respiratory Agents	250	732	\$274.40
Gastrointestinal Agents	200	654	\$484.43
Genitourinary Products	67	145	\$221.33
Central Nervous System Drugs	199	1,435	\$350.55
Stimulants/Anti-Obesity/Anorexients	45	263	\$976.05
Misc. Psychotherapeutic and Neurological Agents	14	36	\$5,882.60
Analgesics and Anesthetics	297	882	\$672.20
Neurolomuscular Drugs	147	810	\$879.08
Nutritional Products	35	125	\$50.91
Hematological Agents	26	169	\$875.23
Topical Products	302	715	\$819.57



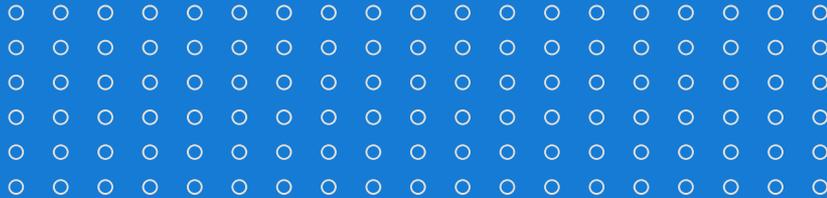


# Top Drugs & Specialty by Plan Cost PYE 2018

Drug Label Name	Number of Utilizing Members	Number of Claims	Calculated Ingredient Cost	Paid Amount	Average Paid Amount per Claim	Paid Amount per Utilizing Member	Average Days Supply
ENBREL SRCLK	1	12	\$61,270	\$60,070	\$5,005.86	\$60,070	28.0
VICTOZA	12	46	\$60,471	\$59,018	\$1,283.01	\$4,918	49.0
TRULICITY	9	65	\$60,959	\$58,816	\$904.86	\$6,535	36.0
INVOKANA	13	71	\$58,675	\$56,538	\$796.31	\$4,349	53.7
GLUMETZA	1	3	\$52,641	\$52,281	\$17,426.86	\$52,281	90.0
FLUOCINONIDE	19	40	\$47,060	\$46,801	\$1,170.02	\$2,463	26.0
ZYTIGA	1	5	\$45,023	\$45,030	\$9,006.03	\$45,030	30.0
HUMIRA	1	7	\$35,751	\$35,051	\$5,007.29	\$35,051	28.0
TECFIDERA	1	2	\$30,016	\$29,988	\$14,994.25	\$29,988	60.0
ROSUVASTATIN	46	237	\$26,842	\$24,642	\$103.98	\$536	47.0
FARXIGA	8	40	\$26,626	\$24,080	\$602.01	\$3,010	43.5
GRALISE	4	20	\$24,829	\$23,856	\$1,192.78	\$5,964	51.0
JANUVIA	7	31	\$24,197	\$23,414	\$755.30	\$3,345	55.2
DUPIXENT	1	8	\$23,580	\$23,110	\$2,888.75	\$23,110	26.3
LYRICA	10	37	\$23,746	\$23,069	\$623.49	\$2,307	35.7
ANDROGEL	4	22	\$22,778	\$22,415	\$1,018.85	\$5,604	25.3
ATORVASTATIN	65	274	\$24,500	\$22,323	\$81.47	\$343	57.1
VYVANSE	15	69	\$23,729	\$22,144	\$320.93	\$1,476	34.4
METFORMIN	65	302	\$23,102	\$21,454	\$71.04	\$330	50.6
OMEPRABICAR	3	10	\$20,993	\$20,945	\$2,094.46	\$6,982	30.0
JANUMET XR	6	22	\$20,778	\$19,902	\$904.63	\$3,317	65.5
DEXILANT	12	61	\$21,356	\$19,715	\$323.20	\$1,643	38.9
OTEZLA	1	6	\$19,696	\$19,673	\$3,278.90	\$19,673	30.0
DUEXIS	7	9	\$19,760	\$19,471	\$2,163.41	\$2,782	27.8
DOXEPIN HCL	12	31	\$18,235	\$18,032	\$581.67	\$1,503	29.7
FORTEO	1	5	\$17,416	\$16,916	\$3,383.16	\$16,916	28.0
CIALIS	12	46	\$17,795	\$16,618	\$361.26	\$1,385	24.3
GLATIRAMER	1	1	\$16,515	\$16,515	\$16,515.35	\$16,515	84.0
ADVAIR DISKU	9	32	\$17,365	\$16,470	\$514.67	\$1,830	41.3
LAMICTAL XR	1	11	\$16,744	\$16,097	\$1,463.40	\$16,097	30.0
Top 30 Drugs Total	N/A	1,525	\$902,449	\$874,456	\$573.41	N/A	45.9
Total All Claims	812	12,753	\$1,952,268	\$1,824,785	\$143.09	\$2,247	34.9

*These are comprised mostly of Specialty drug classifications*

# 4



## Medical Plan Benefits & Benchmarking

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# 2019 Medical Plan Benefits



BENEFITS – Aetna		PPO 500*	HF 1000	HF 1500
<b>Deductible</b>	Network	\$500 Individual / \$1,500 Family	\$1,000 Individual / \$3,000 Family	\$1,500 Individual / \$4,500 Family
	Non-Network	N/A	N/A	N/A
<b>Health Fund Allowance</b>		N/A	\$500 Individual/ \$1,000 Family	\$500 Individual/ \$1,000 Family
<b>Out-of-Pocket Maximum</b>		Includes Deductible	Includes Deductible	Includes Deductible
	Network	\$3,500 Individual / \$10,500 Family	\$3,000 Individual / \$9,000 Family	\$4,200 Individual / \$12,600 Family
	Non-Network	N/A	N/A	N/A
<b>Co-insurance</b>	Network	80%	80%	80%
	Non-Network	N/A	N/A	N/A
<b>Lifetime Maximum</b>		Unlimited	Unlimited	Unlimited
		<b>You Pay</b>	<b>You Pay</b>	<b>You Pay</b>
<b>Office Visit</b>	Network	\$25 PCP / \$40 Spec	Deductible/ 20%	Deductible/ 20%
	Non-Network	N/A	N/A	N/A
<b>Wellness Visit</b>	Network	\$0 Copay	\$0 Copay	\$0 Copay
	Non-Network	N/A	N/A	N/A
<b>In-Patient &amp; Out-Patient Hosp.</b>	Network	Deductible/ 20%	Deductible/ 20%	Deductible/ 20%
	Non-Network	N/A	N/A	N/A
<b>Urgent Care</b>	Network	\$40 Copay	Deductible/ 20%	Deductible/ 20%
	Non-Network	N/A	N/A	N/A
<b>Emergency Room</b>	Network	\$150 Copay/ Deductible/ 20%	\$150 Copay/ Deductible/ 20%	\$150 Copay/ Deductible/ 20%
	Non-Network	\$150 Copay/ Deductible/ 20%	\$150 Copay/ Deductible/ 20%	\$150 Copay/ Deductible/ 20%
<b>Prescriptions</b>	Generic/Brand/ Non-Formulary	\$10/\$30/\$60 20% Spec <\$100	\$10/\$30/\$60 20% Spec <\$100	\$10/\$30/\$60 20% Spec <\$100
	Mail Order (90 day) – Mandatory Maintenance	\$20/\$60/\$120	\$20/\$60/\$120	\$20/\$60/\$120
<b>Network Website</b>	<a href="http://www.aetna.com">www.aetna.com</a>	Open Access Select	Open Access Select	Open Access Select

# Benchmarking Medical Plan Benefits



	Benchmark		La Porte		
Number of Benchmark Cities	54				
Number of Enrolled Employees			401		
Plans Offered	Non HDHP	HDHP	3		
Current Carrier			Aetna		
Plan Year	2018-2019		2019		
Plan Type			PPO 500	HF 1000	HF 1500
Subscriber Enrollment			178	137	86
% of Subscriber Enrollment			44.4%	34.2%	21.4%
HSA or HRA Contribution		\$1,000 EE \$2,000 FAM	n/a	\$500 EE \$1,000 Fam	\$500 EE \$1,000 Fam
Individual Deductible	\$1,635	\$2,681	\$500	\$1,000	\$1,500
Family Deductible	\$3,588	\$5,266	\$1,500	\$3,000	\$4,500
Individual Out of Pocket	\$4,299	\$4,583	\$3,500	\$3,000	\$4,200
Family Out of Pocket	\$8,764	\$8,971	\$10,500	\$9,000	\$12,600
Coinsurance	20%	20%	20%	20%	20%
Office Visits/Dr. Services	\$25 PCP Copay / \$50 Specialist	Ded/Coin	\$25 Copay / \$40 Specialist	20% after deductible	20% after deductible
Urgent Care	\$60 Copay	Ded/Coin	\$40 Copay	20% after deductible	20% after deductible
Emergency Room	\$200 Copay + Coinsurance	Ded/Coin	\$150 Copay / 20% after deductible	\$150 Copay / 20% after deductible	\$150 Copay / 20% after deductible
Inpatient Surgery	20% after deductible	Ded/Coin	20% after deductible	20% after deductible	20% after deductible
Pharmacy - Retail Only	Tier 1 - \$10 Tier 2 - \$35 Tier 3 - \$60	Ded/Coin	Tier 1 - \$10 Tier 2 - \$30 Tier 3 - \$60	Tier 1 - \$10 Tier 2 - \$30 Tier 3 - \$60	Tier 1 - \$10 Tier 2 - \$30 Tier 3 - \$60



# Benchmarking Medical Plan Cost / Contributions

Employee Contributions	Benchmark	Benchmark	La Porte		
Plan	Non HDHP	HDHP	PPO 500	HF 1000	HF 1500
Employee	\$66	\$29	\$50	\$23	\$15
EE + Spouse	\$461	\$305	\$276	\$184	\$105
EE + Child	\$336	\$213	\$255	\$169	\$95
EE + Family	\$669	\$437	\$315	\$222	\$121

Per Capita Cost	Average of All Cities	La Porte
Total Per Capita Cost	\$12,821	\$17,587
Employer Per Capita Cost	\$10,601	\$15,753
Employee Per Capita Cost	\$2,220	\$1,834

Per Capita Cost	Average of All Cities	La Porte
% Employer Funded	82.7%	89.6%
% Employee Funded	17.3%	10.4%

Thank you!

## **REQUEST FOR CITY COUNCIL AGENDA ITEM**

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>
<b>Requested By:</b> <u>Councilmember Chuck Engelken</u>
<b>Department:</b> <u>Parks &amp; Recreation</u>
<b>Report:</b> _____ <b>Resolution:</b> _____ <b>Ordinance:</b> _____

<b><u>Budget</u></b>
<b>Source of Funds:</b> _____
<b>Account Number:</b> _____
<b>Amount Budgeted:</b> _____
<b>Amount Requested:</b> _____
<b>Budgeted Item:</b> YES    NO

**Exhibit:** Facility Maintenance Responsibilities  
**Exhibit:**

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Chuck Engelken

Councilmember Engelken has requested a discussion about the current processes and what policy or procedures need to be made on maintaining all city facilities. Moreover, he has asked, should this activity be handled in-house or contracted out? The Facility Maintenance Division of the Parks & Recreation Department consists of five (5) staff members. These five (5) facilities staff maintain and repair all city buildings, pools, splash parks, and parks. A list of those facilities are listed in the attached exhibit. Those five staff members and their responsibilities are listed below:

1. Building Maintenance Supervisor
  - Supervise 4 maintenance employees
  - Assign work requests
  - Assist with repairs and replacements
  - Plans and coordinates projects
  - Coordinates electrical and lighting for events
  - Certified Pool Operator (pool equipment repairs & chemical adjustments)
  - Orders supplies (custodial, pool chemicals, replacement parts)
  - Assist City departments with budgeted repairs or replacements
2. Building Maintenance Technician II
  - Complete assigned work requests
  - Complex electrical, lighting, and plumbing repairs
  - Routine evaluations of boiler and heating equipment
  - Complete large in-house projects for multiple departments
  - Assist the Maintenance Tech I and Pool Technician with complex repairs
3. Building Maintenance Technician I
  - Complete assigned work requests
  - HVAC 90-day maintenance program citywide (filters, belts, and coil cleaning)

- Water filter replacements (all ice machines and drinking fountains)
  - Battery replacements (alarms, fire panels, and smoke detectors)
4. Pool Technician
- Certified Pool Operator
  - Maintain water quality in 5 pools and 3 splash parks
  - Remove leaves & vacuum pools
  - Repair pool equipment
  - Provide chemicals for all pool facilities
  - Complete off-season repairs
5. Parks Custodian
- Clean and prepare rental facilities
  - Pick-up and dispose of trash in all Parks and along trails
  - Clean Depot facility weekly
  - Pressure wash entries and leading sidewalks
  - Stock and supply all facilities with restroom and cleaning supplies
  - Strip and wax floors with vinyl composition tile

Currently, if an employee encounters an issue or problem at a facility or park, they fill out a work request email. That email is received by staff and assigned to the proper technician or contractor. The work request is then followed-up on and closed-out once the repair is complete.

Aside from staff-reported issues, three of the staff will perform monthly building assessments, as time allows. These assessments focus on the mechanical and functionality parts of a facility, not the aesthetics (walls dings, floors, etc.). If a department has an issue with how something looks, that issue should be brought to the attention of that department head, which will then put in a budget request for the item. Facility Maintenance staff do not have much interaction with aesthetic repairs (painting, carpet, flooring, etc.) unless there is a specific request for help from a department.

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**Action Required by Council:**

Provide staff direction regarding facility maintenance policy and procedures.

---

**Approved for City Council Agenda**

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**Corby D. Alexander**

---

**Date**

## FACILITY MAINTENANCE RESPONSIBILITIES

Buildings	Pools
5 Points-Town Plaza	Fairmont
Animal Shelter	Fitness Center
Brookglen Recreation Center (includes custodial)	Northwest
Brookglen Splash Park Restroom (includes custodial)	San Jacinto
Charles Walker-Jennie Riley Center (includes custodial)	Wave Pool
City Hall	<b>Splash Parks</b>
Community Library	Brookglen
Depot-Caboose, Library, & Carriage House (includes custodial)	Dr. Martin Luther King, Jr.
EMS Headquarters	Fairmont
Evelyn Kennedy Civic Center (includes custodial)	<b>Parks/Other (trash, lights, water fountains, etc.)</b>
Fairmont Baseball Concession/Restrooms (includes custodial)	
Fairmont Pool building (includes custodial)	Bay Oaks
Farrington Storage	Brookglen
Fire Station 1	Bus Stops 5 Locations
Fire Station 2	Central
Fire Station 3	Creekmont
Fire Station 4	Dr. Martin Luther King Jr. Park
Fire Training Facility	Entrance signs, 5 locations
Golf Course	Fairmont
Historic Colored School House	Fourteenth Street
LCB Softball Concession (includes custodial)	Gateway on Main Street
Lomax Rodeo Arena, Concession, Storage (includes custodial)	Glen Meadows
MLK Splash Park Restroom (includes custodial)	Heritage Park
Municipal Court	Klein Retreat
Northwest Pool Building (includes custodial)	LCB Nature Trail
Northwest Soccer Concession (includes custodial)	Linier Trail
Original City Hall (includes custodial)	Little Cedar Bayou
Pecan Park Facilities	Lomax
Police Department	Northwest
Public Works	Ohio Street
Records Retention Storage Building	Pete Gilliam
Recreation & Fitness Center/Senior Center	Pfeiffer
San Jacinto Pool Building (includes custodial)	Pine Bluff
Sea Breeze Restroom and Pier (includes custodial)	Seabreeze
Special Programs Center	Spenwick
Sylvan Beach Pier	Tom Brown
Waste Water Treatment Plant	Woodfalls
Wave Pool Building	

# FACILITY MAINTENANCE RESPONSIBILITIES

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Rosalyn Epting, Director of Parks &amp; Rec</u>
Department: <u>Parks &amp; Recreation</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Library Flooring Photos  
 Exhibit:

### **SUMMARY & RECOMMENDATION**

This request is to replace all flooring and repaint the Library.

The attached exhibit shows pictures of the current flooring at the Library. As noted in the picture, carpet is worn, torn, and stained. The vinyl composition tile is also outdated and worn. This proposal is to replace all carpet with carpet tiles that can be changed out individually when needed. Also, this proposal includes the replacement of all tile areas with vinyl tile that will be similar to what was recently installed in City Hall. In addition to the flooring, the facility will need to be repainted.

Below are cost estimates for replacement of flooring and repainting the Library:

Carpet	\$ 86,371
Vinyl Tile	\$ 9,974
Any 4" base required (\$1.60 per lineal foot), painting, & contingency	\$ 23,655
<b>Total Request</b>	<b>\$120,000</b>

#### **Action Required by Council:**

Provide staff direction regarding adding money to the budget to replace flooring and repaint Library.

#### **Approved for City Council Agenda**

\_\_\_\_\_  
 Corby D. Alexander

\_\_\_\_\_  
 Date

# LIBRARY FLOORING PICTURES



## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember John Zemanek</u>
Department: <u>Parks &amp; Recreation</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Ex 1 – Senior Center Expansion  
Exhibit: Ex 2 – Fitness Center on the Bay  
Exhibit: Ex 3 – EDC Debt Capacity

---

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember John Zemanek.

At the October 8, 2018, City Council meeting, the Council provided staff direction on how to move forward with the discussions concerning the Fitness Center. Staff was asked to engage a subcommittee of two Councilmembers and staff and bring back cost estimates for building a new facility on the water and renovations of the existing fitness center facility. Councilmembers Jay Martin and John Zemanek were appointed to the subcommittee.

The committee developed two options:

- **Option 1 – Senior Center Expansion (Exhibit 1)**  
Renovation with a south expansion and a fitness equipment room added between the Recreation & Fitness Center and SPORT. Estimated cost is \$12 million and does not include land acquisition cost.
  
- **Option 2 – Fitness Center on the Bay (Exhibit 2)**  
New 57,165 square foot facility at the Klein Retreat property, with an estimated cost of \$30 million.

Attached is a spreadsheet with the Economic Development Fund Debt Capacity (Exhibit 3). The yellow highlighted line estimates funding an additional \$11 million towards this project for 20 years at a 4.75% interest rate. Please note that approximately \$3.2 million has already been set aside for this project between the General Fund and EDC.

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#### **Action Required by Council:**

Provide staff direction regarding adding money to the budget for new or renovated Recreation & Fitness Center.

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#### **Approved for City Council Agenda**

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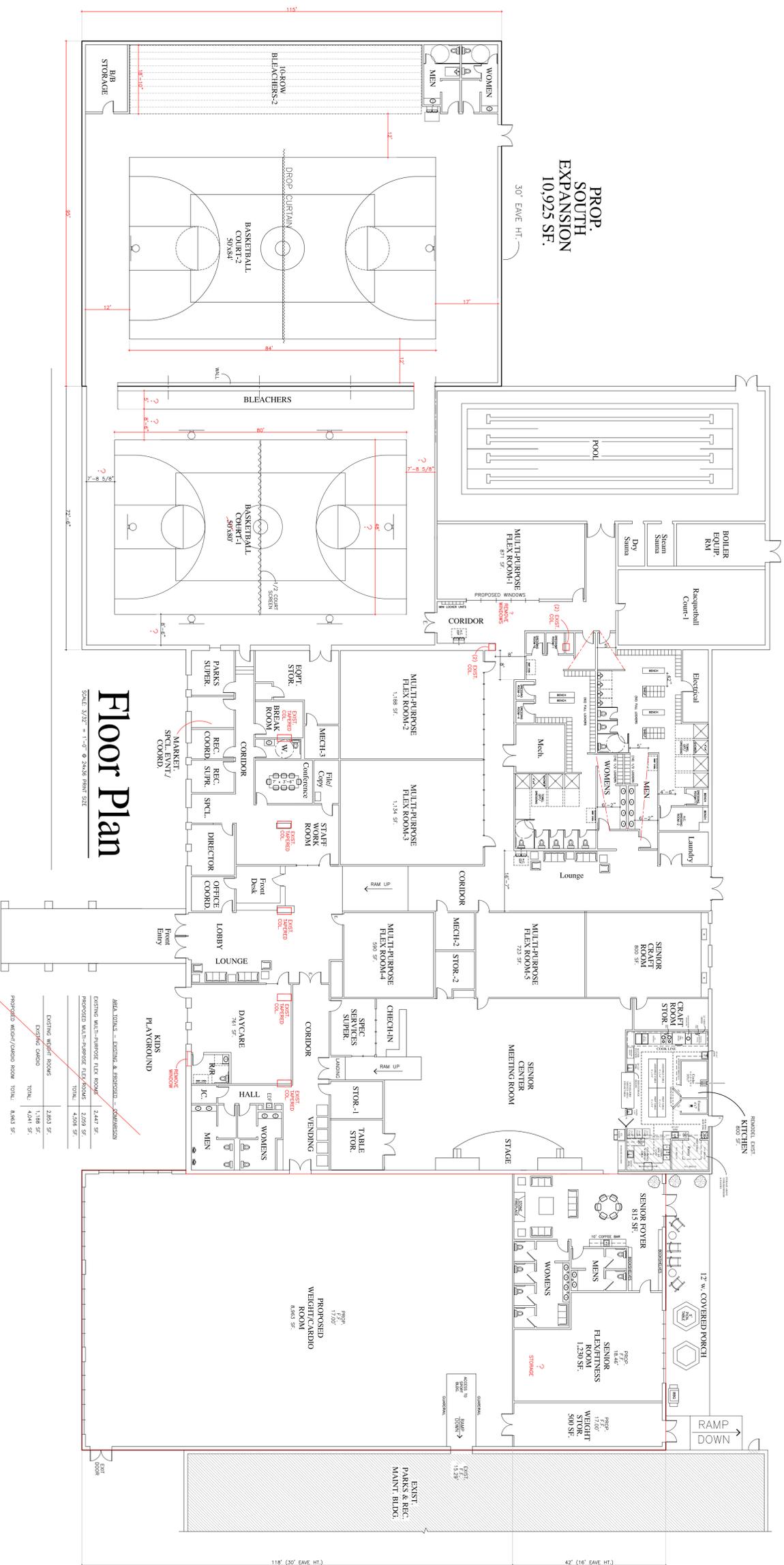
**Corby D. Alexander**

---

**Date**

# Senior Center Expansion - 1322 S Broadway St., La Porte, TX 77571

## OPTION 3



# Fitness Center on the Bay

TOTAL BUILDING = 57,165 SF., F.F. = 22.50'

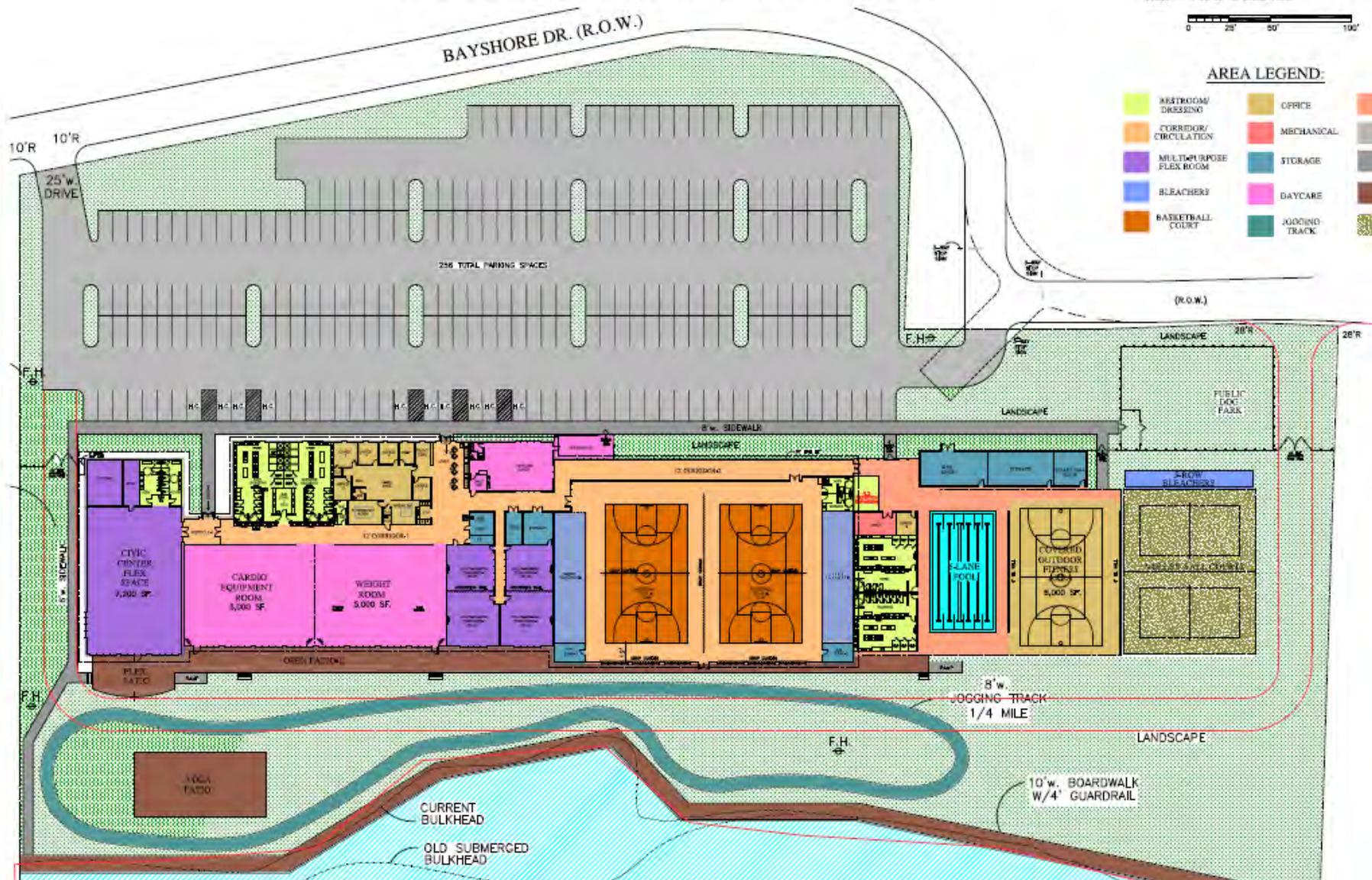
## PLOT PLAN

SCALE: 1" = 30'-0" @ 24x36 PLOT



### AREA LEGEND:

	BESTROOM/ DRESSING		OFFICE		OUTDOOR CIRCULATION (UNDER ROOF)
	CORRIDOR/ CIRCULATION		MECHANICAL		PARKING LOT
	MULTI-PURPOSE FLEX ROOM		STORAGE		SIDEWALK
	BLEACHERS		DAYCARE		OUTDOOR CIRCULATION
	BASKETBALL COURT		JOGGING TRACK		SAND



**City of La Porte  
Economic Development Fund  
Projections**

	Estimated 2019	Estimated 2020	Estimated 2021	Estimated 2022	Estimated 2023	Estimated 2024	Estimated 2025	Estimated 2026	Estimated 2027	Estimated 2028	Estimated 2029	Estimated 2030	Estimated 2031	Estimated 2032	Estimated 2033	Estimated 2034
<b>Revenues</b>																
Sales and use taxes	2,500,000	2,562,500	2,626,563	2,692,227	2,759,532	2,828,521	2,899,234	2,971,714	3,046,007	3,122,157	3,200,211	3,280,217	3,362,222	3,446,278	3,532,435	3,620,745
Interest	30,000	30,750	31,519	32,307	33,114	33,942	34,791	35,661	36,552	37,466	38,403	39,363	40,347	41,355	42,389	43,449
<b>Total Revenues</b>	<u>2,530,000</u>	<u>2,593,250</u>	<u>2,658,081</u>	<u>2,724,533</u>	<u>2,792,647</u>	<u>2,862,463</u>	<u>2,934,024</u>	<u>3,007,375</u>	<u>3,082,559</u>	<u>3,159,623</u>	<u>3,238,614</u>	<u>3,319,579</u>	<u>3,402,569</u>	<u>3,487,633</u>	<u>3,574,824</u>	<u>3,664,194</u>
<b>Expenditures</b>																
Operations	681,745	702,197	723,263	744,961	767,310	790,329	814,039	838,460	863,614	889,523	916,208	943,695	972,005	1,001,166	1,031,200	1,062,136
<b>Total Expenditures</b>	<u>681,745</u>	<u>702,197</u>	<u>723,263</u>	<u>744,961</u>	<u>767,310</u>	<u>790,329</u>	<u>814,039</u>	<u>838,460</u>	<u>863,614</u>	<u>889,523</u>	<u>916,208</u>	<u>943,695</u>	<u>972,005</u>	<u>1,001,166</u>	<u>1,031,200</u>	<u>1,062,136</u>
<b>Revenues over expenditures</b>	1,848,255	1,891,053	1,934,818	1,979,572	2,025,337	2,072,133	2,119,985	2,168,915	2,218,945	2,270,101	2,322,406	2,375,885	2,430,563	2,486,467	2,543,623	2,602,058
<b>Other Financing Uses</b>																
* Debt Service	(1,033,362)	(1,004,822)	(773,470)	(778,753)	(785,255)	(788,000)	(776,739)	(130,111)	(131,481)	(130,255)	(131,241)	-	-	-	-	-
Proposed Debt Service - 2020		(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)	(750,000)
Capital Outlay	(1,835,700)															
Transfer Cap Outlay - fund 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total other financing uses</b>	<u>(2,869,062)</u>	<u>(1,754,822)</u>	<u>(1,523,470)</u>	<u>(1,528,753)</u>	<u>(1,535,255)</u>	<u>(1,538,000)</u>	<u>(1,526,739)</u>	<u>(880,111)</u>	<u>(881,481)</u>	<u>(880,255)</u>	<u>(881,241)</u>	<u>(750,000)</u>	<u>(750,000)</u>	<u>(750,000)</u>	<u>(750,000)</u>	<u>(750,000)</u>
<b>Net change in fund balance</b>	(1,020,807)	136,230	411,348	450,820	490,081	534,133	593,246	1,288,804	1,337,464	1,389,846	1,441,165	1,625,885	1,680,563	1,736,467	1,793,623	1,852,058
<b>Fund balance beginning</b>	4,041,257	3,020,450	3,156,680	3,568,028	4,018,848	4,508,929	5,043,062	5,636,308	6,925,112	8,262,576	9,652,422	12,177,404	13,803,289	15,483,852	17,220,319	19,013,943
<b>Fund balance ending</b>	<u>3,020,450</u>	<u>3,156,680</u>	<u>3,568,028</u>	<u>4,018,848</u>	<u>4,508,929</u>	<u>5,043,062</u>	<u>5,636,308</u>	<u>6,925,112</u>	<u>8,262,576</u>	<u>9,652,422</u>	<u>11,093,587</u>	<u>13,803,289</u>	<u>15,483,852</u>	<u>17,220,319</u>	<u>19,013,943</u>	<u>20,866,001</u>
<b>Coverage Ratio on 2020 Bonds</b>																
Avg Annual (1)	3.37	3.46	3.54	3.63	3.72	3.82	3.91	4.01	4.11	4.21	4.32	4.43	4.54	4.65	4.77	4.89
Actual Annual		3.46	3.54	3.63	3.72	3.82	3.91	4.01	4.11	4.21	4.32	4.43	4.54	4.65	4.77	4.89

(1) Assumes Avg Annual of \$750,000 over 15 years

(2) Assumes current debt obligation ends in 2029;

(3) Revenue growth 2.5% Expense growth 3%

(4) Removes \$1,083,000 from fund balance for bond converts- 2029

\* Debt service payments for Library, Bay Area Trunk Sewer, Ballfields, and Canada Road;

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: March 23, 2019

Requested By: Councilmember Kristin Martin

Department: Public Works

Report: \_\_\_\_\_ Resolution: \_\_\_\_\_ Ordinance \_\_\_\_\_

Exhibits: 2010 Concrete Street Program/Drainage Study

Exhibits: 2011 Concrete Street Program Study

### Budget

Source of Funds: \_\_\_\_\_

Account Number: \_\_\_\_\_

Amount Budgeted \_\_\_\_\_

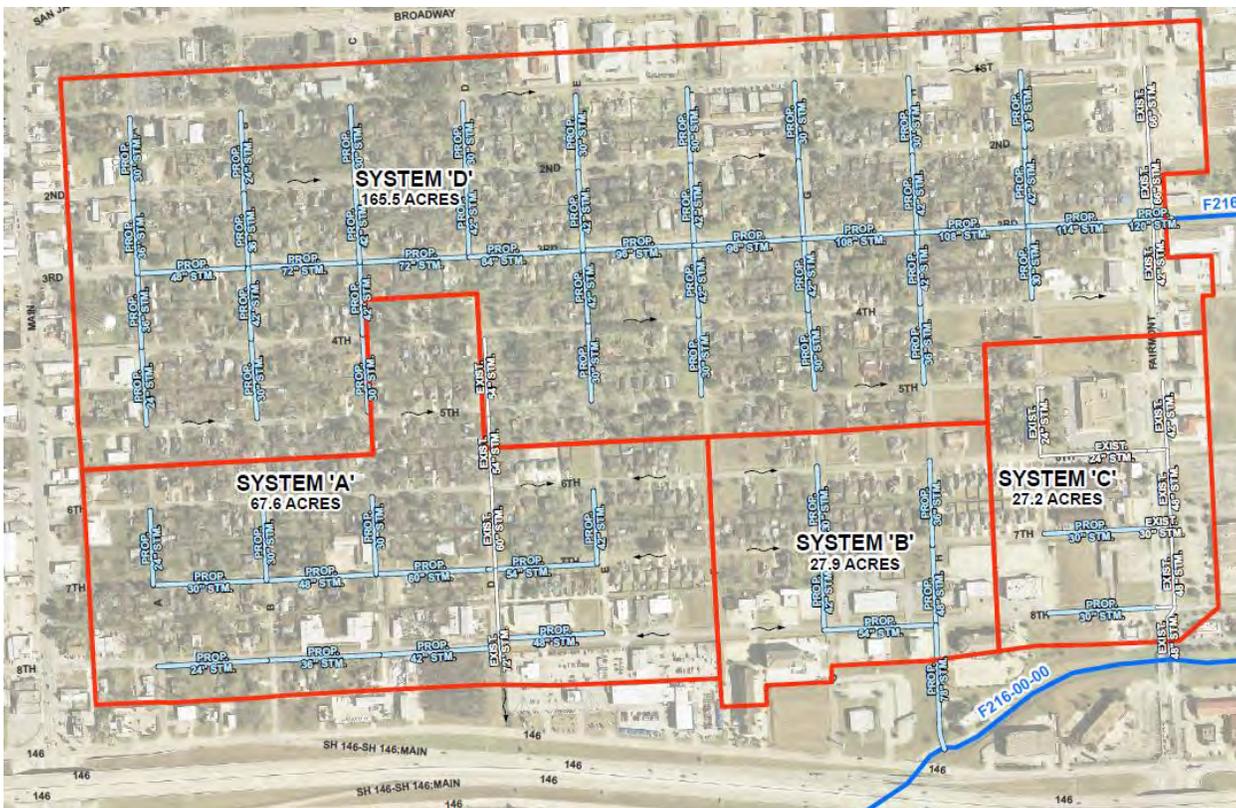
Amount Requested: \_\_\_\_\_

Budgeted Item: \_\_\_\_\_

### SUMMARY & RECOMMENDATION

This item is requested by Councilmember Kristin Martin.

The May 2011 Concrete Street Program Study identified eleven (11) phases of construction for the area bordered from Main Street to Fairmont Parkway, and from Broadway to SH 146. Phases 1-4 and a portion of Phase 5 have been completed with the '3<sup>rd</sup> Street Paving & Drainage Project' and other in-house projects. The 7<sup>th</sup> Street paving improvements are the ninth phase of construction in the study. Prior phases not completed include drainage improvements leading to the 7<sup>th</sup> Street paving. The improvements include systems A, B, and C as shown on Exhibit 5 of the attached 2011 Concrete Street Program Report.



The estimated cost for construction including drainage, sidewalks, and paving along 7<sup>th</sup> Street is \$4,400,000, including a 20% contingency. Additional expenses in this project will be survey, geotechnical, preliminary engineering, and design. Bid and construction phases will include engineering and construction materials testing at an estimated cost of \$890,000. Total project cost is estimated at \$5,290,000.

This project could be designed and constructed in phases at an increased project cost.

**Project Benefits, Liabilities, and Operating Cost:**

**Benefits:**

- The concrete pavement will have a 50-year minimum lifespan, compared to a 10 to 20-year lifespan with asphalt.
- Increased traffic safety with the elimination of ditches and driveway cross pipes.
- Storm water drainage will be immediately improved adjacent to the project and will allow for additional drainage improvements to the east and west of 7<sup>th</sup> Street as far as 5<sup>th</sup> and 8<sup>th</sup> Streets with future projects.
- Sheet flow will be established for major flood events.
- Pedestrian traffic will be enhanced with the installation of sidewalks.
- Elimination of open ditch maintenance.

**Liabilities of Maintaining the Status Quo:**

- The City will continue to maintain asphalt pavement and mow open ditches as needed.
- Drainage issues will remain in the immediate area.
- Major flooding will still be possible if sheet flow is not established
- Future drainage projects will not be feasible.
- Pedestrian traffic will remain at a higher risk level.
- Open ditch maintenance necessary

**Operating Costs:**

- Street sweeping curb and gutter streets will have a minimal increase. This will be offset by the elimination of open ditch maintenance.

---

**Action Required by Council:**

Provide staff direction regarding 7<sup>th</sup> Street drainage and pavement improvements.

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**Approved for City Council Agenda**

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**Corby D. Alexander, City Manager**

---

**Date**

# City of La Porte, Texas



## 2010 Concrete Street Program for the City of La Porte – Drainage Study

CobbFendley Project No. 1012-056-00

May 2011

Submitted By:



Civil Engineering • Construction Management • GIS/CADD • Land Development • Land Surveying  
Municipal • Right-of-Way • Site Development • Subsurface Utility Engineering  
Hydraulics/Hydrology • Telecommunications • Transportation • Utility Coordination

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### MAPS AND EXHIBITS

1. Vicinity Map
2. Project Area Map
3. Existing Conditions Drainage Area Map
4. Effective FEMA Flood Insurance Rate Map
5. Proposed Conditions Drainage Area Map

### APPENDIX

- Hydrologic Calculations
- HouStorm Output Tables

## EXECUTIVE SUMMARY

This study presents the results of a drainage study for the La Porte Concrete Street Program which provides a basis for the future storm sewer design of the existing neighborhood bounded by Main Street, South Broadway, Fairmont Parkway and SH 146 in the City of La Porte, Harris County, Texas. The La Porte Concrete Street Program envisions replacement of existing asphalt and concrete streets with the phased construction of concrete curb and gutter streets combined with a proposed storm sewer trunk capable of conveying a 5-year design storm event.

The existing condition neighborhood is well established with a grid-pattern layout, and is drained by a combination system of roadside ditches, culverts and closed storm sewers. There are currently several concrete curb and gutter streets within the limits of this project area with storm sewers which were constructed in the 1960's. The existing storm system drains approximately 282 acres, or 0.44 square miles. The land generally slopes to the south at an average two percent slope, with 5<sup>th</sup> Street serving as the drainage divide in the east-west direction. Elevations range from 20 feet in the northern portion of the project area to 14 feet in the southern area.

The existing condition project area is currently divided into four (4) individual drainage systems, with outfalls located at D Street (west of 8<sup>th</sup> Street), H Street (west of 8<sup>th</sup> Street), Fairmont Parkway at Little Cedar Bayou (HCFCD Unit #F216-00-00), and 3<sup>rd</sup> Street (south of Fairmont Parkway). All outfalls are within the Little Cedar Bayou watershed.

The proposed drainage plan includes the replacement of all roadside ditches and driveway culverts with concrete curb and gutter streets, sidewalks, inlets, and an underground storm sewer system within the project limits. The drainage concept utilized to design the proposed storm sewer for this project was to construct a storm sewer trunk which was capable of conveying flow to each of the existing condition outfalls for Systems A, B and C with an equal or lesser amount of flow than in the existing condition. This was accomplished by reducing the overall contributing drainage areas for Systems A, B and C and re-routing the remaining drainage areas to flow toward the 3<sup>rd</sup> Street storm sewer trunk outfall. The proposed storm sewer layout and proposed drainage system boundaries are shown in Exhibit 5.

Through this analysis we have determined that the proposed storm sewer plan will result in no impacts to Little Cedar Bayou since all proposed condition flows draining to Little Cedar Bayou are less than or equal to the existing condition flows for Systems A, B and C. In accordance with the City of La Porte's Storm Water Drainage Criteria, detention is not required to mitigate the increased flow at the 3<sup>rd</sup> Street outfall due to its relative proximity to Galveston Bay as the outfall is located downstream of SH 146.

## **SECTION 1 - INTRODUCTION**

### *1.1 Project Name and Purpose*

“2010 Concrete Street Program for the City of La Porte” - Drainage Study

The purpose of the project is to examine and recommend changes to the existing drainage infrastructure by designing a “backbone” storm sewer network. This proposed storm sewer network will be designed to accommodate a 5-year storm event for full development of the area.

### *1.2 Project Limits*

The detailed hydraulic study is limited to the storm sewer systems bounded by 8<sup>th</sup> Street to the west, 1<sup>st</sup> Street to the east, A Street to the north, and Fairmont Parkway to the south. The entire project is located within the City of La Porte, Harris County, Texas.

### *1.3 Project Objectives*

Project objectives include:

- Analyze the existing hydrologic and hydraulic conditions within project limits to quantify the amount of flow in the existing condition
- Create a proposed overall storm sewer plan for the project location and to provide conveyance capacity for the 5-year design storm event
- Address any impacts associated with the proposed improvements

### *1.4 Assumptions and Constraints*

Survey data obtained in March 2011 provided elevations at the existing outfall locations. Roadway and natural ground elevations were delineated from 2002 Light Detection and Ranging (LiDAR) data. The existing storm sewer is based on available record drawings and on-site observations. Land use determination is based upon current aerial photography.

Based on record drawings and information obtained from the City of La Porte, Broadway Street flows south from G Street, through Fairmont Parkway, outfalling into F216-00-00 approximately 2,300 feet to the south. This storm sewer however is also interconnected with the Fairmont Parkway storm sewer via 2-36” RCPs. Since storm sewer improvements along Fairmont Parkway are considered beyond the scope of this study, it was assumed that all flow from Broadway to the east exists as a separate system and therefore is not included in this drainage study.

### *1.5 Prior Studies*

“City Wide Drainage Study” City of La Porte, January 2009 by Klotz Associates, Inc.

“Watershed Study for the Little Cedar Bayou Watershed”, January 2000 by Binkley & Barfield, Inc.

“Flood Insurance Study (FIS)” prepared by the U.S. Army Corps of Engineers

## SECTION 2 - EXISTING CONDITIONS

### 2.1 Location and Topography

The project area is located entirely within the City of La Porte, Harris County, Texas, and includes 1<sup>st</sup> through 8<sup>th</sup> Streets and A Street through Fairmont Parkway (see Exhibit 1 – Vicinity Map and Exhibit 2 – Project Area Map). The total land area represented is approximately 282 acres (0.44 square miles). The land generally slopes southward at an average two percent slope. 5<sup>th</sup> Street serves as the high point in the east-west direction. Elevations range from 20 feet in the northern region to 14 feet in the southern region.

The overall project area in the existing condition is divided into four (4) separate drainage systems based upon where each system outfalls. The existing condition drainage area map can be seen in Exhibit 3.

System A serves D Street northward, covering an area of approximately 107 acres. The storm system is comprised of roadside ditches and driveway culverts, with storm sewer trunk lines running south along 4<sup>th</sup> Street and west along D Street. This system outfalls into a grass lined ditch to the west of 8<sup>th</sup> Street, flowing off-site into a 6'x6' box culvert below SH146.

System B serves the central-western portion of the project area, draining approximately 50 acres. The storm system is comprised entirely of roadside ditches and driveway culverts, flowing to the south and west. This system outfalls west of the 8<sup>th</sup> Street and H Street intersection into Little Cedar Bayou, through a 36" corrugated metal pipe (CMP), along with an 8-foot overflow weir.

System C serves the southwestern portion of the project area, draining approximately 38 acres. The storm system is comprised of roadside ditches and driveway culverts, as well as storm sewer at some locations along I Street and 6<sup>th</sup> Street. The system flows into the Fairmont Parkway storm sewer, then outfalling to the west into Little Cedar Bayou through a 48" RCP.

System D serves the southeastern portion of the project area, draining approximately 81 acres. The storm system is comprised of roadside ditches and driveway culverts, with storm sewer trunk lines running south along 2<sup>nd</sup> Street and 4<sup>th</sup> Street. This system flows into the Fairmont Parkway storm sewer, then outfalling south of 3<sup>rd</sup> Street into F216-04-00 through a 72" reinforced concrete pipe (RCP).

## *2.2 Land Use*

The project area is primarily residential, with a majority of lots less than  $\frac{1}{4}$  acre in area. Some commercial development exists along Main, Broadway, Fairmont, and 8<sup>th</sup> Street.

## *2.3 HCFCD Facilities and Unit Numbers*

The project area is served by Little Cedar Bayou (F216-00-00) and its tributary F216-04-00. Little Cedar Bayou has been studied by the Federal Emergency Management Agency (FEMA) and issued a Flood Insurance Rate Map (FIRM) depicting base flood elevations as well as the limits of the 100-year floodplain (see Exhibit 4).

## SECTION 3 - HYDROLOGY AND HYDRAULICS

### 3.1 Analysis Objective

The objective of this analysis is to determine the existing flows associated with each drainage system, identify any existing structural deficiencies (undersized storm sewer, inadequate outfall pipes, etc.), develop a proposed storm sewer system capable of conveying the 5-year storm event, and address any impacts associated with the proposed improvements.

The hydrologic and hydraulic methodologies for the project followed the City of La Porte's Public Improvement Criteria Manual, Chapter 5 – "Storm Water Design Criteria", dated June 16<sup>th</sup>, 2009. The study utilized HouStorm software in the design of the proposed storm sewer systems.

### 3.2 Hydrologic Methodology

The existing drainage area boundaries were determined based on overland sheet flow patterns, parcel boundaries, and existing storm sewer. Overland flow patterns were based on available LiDAR data and known channel configurations. Drainage lines and catchment boundaries were delineated using ArcHydro, an extension application of ArcGIS by ESRI. Based on this information, four (4) drainage systems were identified.

The existing drainage calculations were based on a 5-year design storm event as required by the City of La Porte Drainage Criteria. Flows were calculated using the Rational Formula, expressed as:

$$Q = I \times (CA)$$

Where	Q	=	5-year peak discharge (cfs)
	I	=	Rainfall intensity (in/hr)
	C	=	Runoff coefficient (-)
	A	=	Drainage area (ac)

The runoff coefficient was determined by using values defined by the La Porte Storm Water Drainage Criteria. In areas where multiple land uses are present, a weighted C-value was calculated. The rainfall intensity is based on the IDF Curves provided within the Drainage Criteria. The Time of Concentration for each drainage area was calculated from the hydraulic flow path of each drainage area. For simplicity, the flow path in each system was divided into three categories: overland, roadside ditch, and storm sewer, with average velocities of 0.5 fps, 1.5 fps, and 3.0 fps, respectively. The time of concentration was determined as the combination of the overland, drainage ditch, and storm sewer flow time. The existing hydrologic calculations are included in Appendix A.

### *3.3 Pre-Project Conditions*

Significant drainage improvements have been completed recently in the western portion of the subdivision, especially along 8<sup>th</sup> Street. These improvements include ditch reshaping/re-grading, additional driveway culverts, and outfall improvements.

## SECTION 4 - PROPOSED DRAINAGE PLAN

### 4.1 Description

The proposed drainage plan will serve as a storm water master plan for the entire subdivision within project limits. The plan will replace all roadside ditches and driveway culverts with curb and gutter streets, inlets, and an underground storm sewer network. The proposed plan continues to utilize the four existing outfall locations, dividing the project into four (4) drainage systems (refer to Exhibit 5 – Proposed Conditions Drainage Area Map).

The proposed drainage plan was designed to limit the 5-year discharge in Systems A, B and C to a rate which was equivalent or below the existing condition by shrinking the drainage area, then re-routing the remaining area to flow toward the 3<sup>rd</sup> Street outfall.

### 4.2 Hydrological Analysis

The proposed drainage plan incorporated the existing outfall locations and replaced the existing roadside ditches and driveway culverts with the proposed storm sewer. To help alleviate additional costs, the existing storm infrastructure was utilized where possible. These existing storm sewers will need to be inspected to ensure that they are still in good serviceable condition prior to construction.

Each drainage system was subdivided into smaller areas in order to provide for a manhole-level hydraulic design and analysis. Runoff coefficients were increased to reflect proposed pavement throughout the subdivision. The time of concentration, 5-year rainfall intensities, and the resulting 5-year peak flows were then recalculated using methodology described earlier. Table 1 below, shows the difference in drainage area composition. Table 1 identifies how drainage areas were re-delineated in the proposed condition to reroute the majority of the flow down 3<sup>rd</sup> Street to the outfall. Detailed hydrologic calculations for the proposed condition are located in Appendix A.

System	Existing Condition		Proposed Condition	
	Area (acres)	C-Value (-)	Area (acres)	C-Value (-)
A	106.81	0.60	67.60	0.65
B	49.73	0.67	27.90	0.69
C	37.97	0.72	27.20	0.74
D	87.81	0.62	165.50	0.65

**Table 1: Existing vs. Proposed Drainage Area Composition Comparison**

In the proposed hydrologic model, there is an increase in imperviousness throughout the project area due to sidewalk and roadway improvements. The total additional imperviousness was calculated for each drainage area, which translated into an increase of the runoff coefficient in the proposed model. The proposed hydrologic calculations are included in Appendix A.

### 4.3 Hydraulic Analysis

The proposed storm sewer system was designed to provide conveyance capacity for the 5-year storm event as defined by the City of La Porte's Storm Water Drainage Criteria. A plan view layout of the proposed storm sewer is located in Exhibit 5 – Proposed Conditions Drainage Area Map. Detailed hydraulic calculations from HouStorm are located in Appendix B.

For the proposed storm sewer system, a 5-year steady state design and analysis was performed using HouStorm software. HouStorm is an updated release of TxDOT WinStorm 3.05 Storm Drainage Design software. The software utilized Manning's equation to determine peak discharges and pipe capacities. The City of La Porte drainage criteria indicates that the starting tailwater elevations for storm sewer analysis should be set to the 25-year water surface elevation, 80% the height of the receiving channel or top-of-pipe, whichever was highest. Since no 25-year water surface elevation data was available, the effective HEC-RAS model 10-year water surface elevation was used. It should be noted that the 10-year water surface elevation was approximately equal to the 80% full requirement.

The System A proposed storm sewer layout flows toward D Street, and then west into the existing outfall channel. The outfall channel flows west into a 6'x6' box culvert passing under SH 146, then into an open channel, eventually combining with Little Cedar Bayou. Proposed storm sewer sizes range from 24" to 60". The existing storm sewer along D Street was retained in the proposed model since it was determined to be of adequate size for the 5-year storm event. (Note: the 8<sup>th</sup> Street proposed storm sewer was modeled separately in HouStorm since it is not directly connected to the existing 72" D Street storm sewer, though it shares the same outfall channel.) The proposed improvements resulted in a reduction of flow in the 5-year design event of 6 cfs.

The System B proposed storm sewer layout flows toward H Street, outfalling to the west into Little Cedar Bayou. Proposed storm sewer sizes range from 30" to 78" at the outfall into Little Cedar Bayou. The proposed improvements resulted in proposed condition flow which was 3 cfs less than the existing condition.

The System C proposed storm sewer layout flows south toward Fairmont Parkway. It was decided to reuse the existing storm sewer along Fairmont, though being slightly under capacity for the 5-year storm event.

30" RCPs were added along 7<sup>th</sup> Street and 8<sup>th</sup> Street. The Fairmont storm sewer flows west, outfalling through a 48" RCP into Little Cedar Bayou. The proposed improvements resulted in a 5-year peak flow reduction of 9 cfs.

The System D proposed storm sewer incorporates a main trunk line along 3<sup>rd</sup> Street, flowing south across Fairmont Parkway, outfalling into F216-04-00. Pipe sizes range from 24" to 120" at the outfall. The storm sewer along Fairmont Parkway was retained in the proposed model. The proposed improvements resulted in a 5-year peak flow increase of 291 cfs above the existing condition. This increase is associated with the additional 78 acres rerouted from Systems A, B and C into this system, the increase in imperviousness from the proposed pavement, and the shorter time of concentration related to the replacement of roadside ditches with storm sewer.

Storm sewer sizes in the proposed drainage plan were based on the City of La Porte's 5-year storm event design criteria. Moreover, the storm sewer systems were designed with shallow slopes in order to maintain flow velocities as near to 3 feet per second as possible. During future design/construction phases of this program, alternate pipe shapes and/or slopes can be utilized to address cover issues or other utility conflicts once a full topographic and utility survey is completed.

Table 2 shows a comparison between the existing and proposed condition 5-year peak flows for each system. It is necessary to point out that the overall flows in the proposed condition for Systems A, B and C are less than the calculated existing condition flows. Although System D indicates there is a significant increase in flow, this increase is allowable per the City of La Porte's Public Improvement Criteria Manual Storm Water Design Criteria since the outfall is downstream of SH 146, in close proximity to Galveston Bay and there are no homes or businesses downstream to impact.

System	Existing Condition	Proposed Condition
	5-yr Q (cfs)	5-yr Q (cfs)
A	247.90	241.77
B	113.40	110.40
C	125.26	115.80
D	215.30	506.35

**Table 2: Existing vs. Proposed 5-Year Peak Flows**

#### 4.4 Outfall Considerations

##### *D Street Outfall*

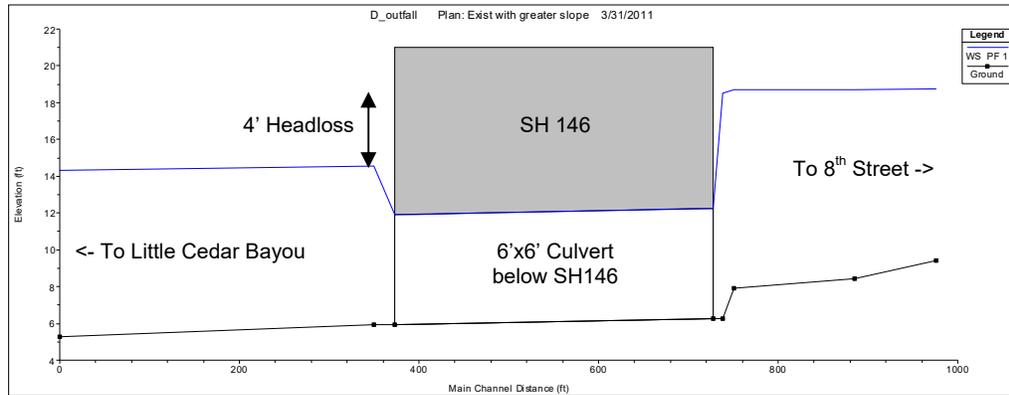
The D Street outfall serves System A in both the existing and proposed condition drainage models. The previous drainage study (Klotz, 2009) identified multiple flood complaints near this location. The outfall exists as a 55-foot wide, 8-foot deep open channel, which flows into a 6'x6' box culvert which flows under SH146. The culvert flows west into another open channel and eventually drains into Little Cedar Bayou.

To accurately model the 6'x6' box culvert, an additional drainage area was delineated for flow coming from SH 146 into the culvert. This flow, approximately 100 cfs, was added to the existing flow from System A, for a total of 348 cfs flowing through the box culvert below the highway. Using the orifice equation to determine the headloss through the 6'x6' box culvert below SH146, the 5-year storm event resulted in a 4-foot headloss through the culvert. The orifice equation is defined as:

$$Q = C_o A \sqrt{2gH}$$

Where	Q	=	Orifice flow capacity (cfs)
	C <sub>o</sub>	=	Orifice coefficient (0.6)
	A	=	Cross sectional area (sf)
	g	=	32.2 feet / sec <sup>2</sup>
	H	=	Head differential (ft)

The HEC-RAS model for Little Cedar Bayou indicates that the 10-year water surface elevation for this location is approximately 14.32'. When this elevation is combined with this amount of headloss through the 6'x6' box culvert under SH 146 the starting tailwater for System A would be approximately 18.5'. This starting water surface elevation would inundate the surrounding area regardless if there were any drainage improvements made within the project location (see Figure 1 below). Granted, this is not an apples to apples comparison since we are comparing a 5-year storm sewer flow to a water surface elevation generated by a 10-year rainfall event. This comparison still identifies a potential problematic area which can result in unwanted ponding within the project area. Refer to Exhibit 2 – Project Area Map for the existing contour map.



**Figure 1: Headloss through 6’x6’ Culvert below SH 146.**

In order to avoid any additional impacts at this outfall location or downstream, the proposed condition drainage plan was designed to limit the flow from System A to a rate which is below the existing condition. Re-routing flows south toward the H Street outfall, while offering some improvement at D Street, would introduce impacts downstream due to increased runoff. Another option to alleviate unwanted ponding within System A would be to install an additional cross culvert under SH 146 to convey the flow, and then to analyze the capacity of the F216-00-00 detention basin currently under development to receive the additional runoff.

### *H Street Outfall*

The H Street outfall, west of 8th Street, exists as a combination 36” corrugated metal pipe and 8-foot overflow weir serving System B. The outfall discharges into Little Cedar Bayou downstream of SH146. The weir equation below was used in conjunction with the orifice equation to calculate the conveyance capacity of this outfall.

$$Q = C_w L_w H^{3/2}$$

- Where
- Q = Weir flow capacity (cfs)
  - C<sub>w</sub> = Weir coefficient (2.80)
  - L<sub>w</sub> = L – 0.2H
  - L = Weir width (ft)
  - H = Head above weir (ft)

With an average weir width of 11 feet and the receiving channel water surface elevation set to 10.3’ (80% of the channel height), the existing 5-year discharge of 113 cfs through the combined weir and orifice structure results in an upstream water surface elevation of 13.4.’

This outfall structure was replaced in the proposed condition model with a 78" RCP extending from 8<sup>th</sup> Street to the Bayou. This was proposed for multiple reasons. The flowline of the existing 36" CMP is too shallow to accommodate a 5-year storm sewer system upstream. Also, the existing 36" CMP serves as a restrictor, causing the water to pond upstream until the overflow weir is utilized. The proposed 78" RCP has adequate capacity to convey the 5-year storm event without the overflow weir. As reported earlier, the proposed 5-year discharge is less than existing conditions.

### *Fairmont Parkway @ SH 146*

The System C proposed storm sewer outfalls into the existing system along Fairmont Parkway. The existing storm sewer flows west from 5<sup>th</sup> Street to Little Cedar Bayou west of 8<sup>th</sup> Street through a 48" RCP.

This storm sewer and outfall was kept as existing in the proposed drainage plan. While slightly under capacity for the 5-year storm event, the hydraulic grade line along the trunk line remains below gutter. Refer to Appendix B for System C proposed storm sewer calculations.

### *3<sup>rd</sup> Street Outfall*

The System D storm sewer crosses Fairmont Parkway at 3<sup>rd</sup> Street, outfalling into F216-04-00 to the south. The channel flows south, eventually outfalling into Little Cedar Bayou 1,800 feet downstream. A 550-foot, 84" RCP has been installed on the channel along the wastewater treatment plant (approximately 650 feet south of Fairmont Parkway). The channel upstream of the wastewater treatment plant is approximately 6 feet deep and 50 feet wide. The channel is a grass-lined channel, with a slope ranging from 0.2% to 0.4%. The existing channel and culvert configuration has capacity to convey the existing 5-year storm event downstream within banks.

In the proposed drainage plan, the existing 78" RCP at the System D outfall was replaced with a 120" RCP to convey the increased flow in the 5-year storm event. Additional capacity will be required in F216-04-00 to convey the proposed flow. The existing channel is partially filled with sediment and debris upstream of the 84" pipe near the treatment plant. It is necessary to clean out the sediment and debris, thus restoring the channel to its originally designed full conveyance capacity. Additionally, in order to provide sufficient capacity to convey the proposed condition flow, an additional culvert alongside the existing 84" pipe at the treatment plant will be required. As an alternative, it may be possible to redesign the headwall above the culvert to include a weir structure to allow flow to pass over the culvert once the capacity of the 84" pipe is exceeded. A final alternative to increase conveyance capacity within F216-04-00 would be

to remove the 84" pipe all together. It should be noted that this pipe was originally designed to alleviate channel bank failures near the treatment plant. Thus, this alternative might prove to be counter productive in the long run. Considering these alternative channel configurations, it is not anticipated that improvements along F216-04-00 will require additional right-of-way.

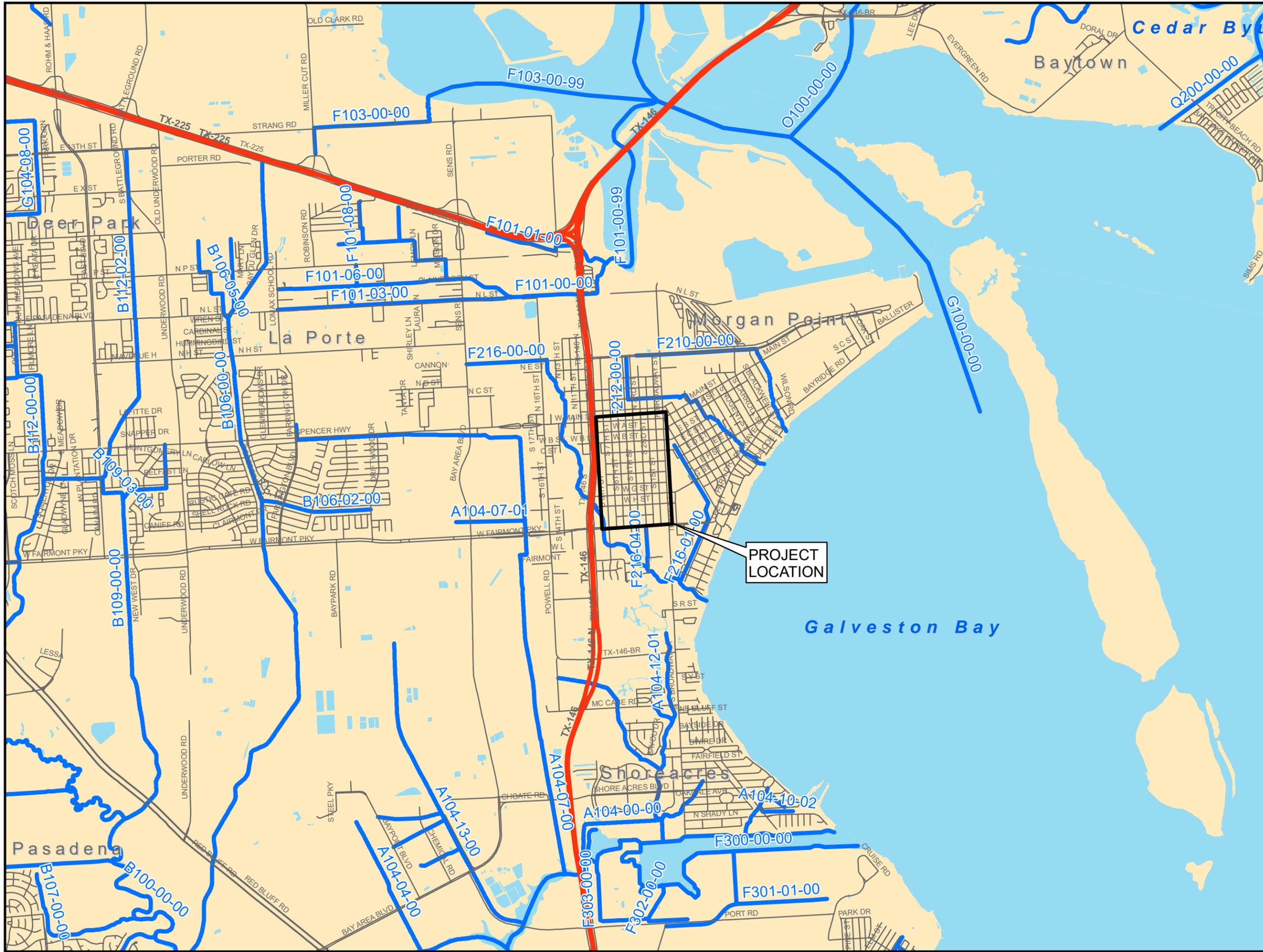
As stated previously, although System D indicates there is a significant increase in flow, this increase is allowable per the City of La Porte's Design Criteria because the outfall is downstream of SH 146, in close proximity to Galveston Bay, and there are no homes or businesses downstream to impact. Also, it is necessary to point out that the increased flow from the proposed project improvements will not result in a change to the FEMA effective 100-year floodplain. The 100-year floodplain for this area is based upon a coastal flooding elevation of 12.5' and is not directly related to riverine flooding.

## **SECTION 5 - CONCLUSION**

The La Porte Concrete Street Program envisions using a phased approach to replace the present day streets within this project area with concrete curb and gutter streets in combination with a proposed storm sewer trunk capable of conveying a 5-year design storm event.

The overall proposed drainage master plan includes the replacement of all roadside ditches and driveway culverts with concrete curb and gutter streets, sidewalks, inlets, and an underground storm sewer system within the project limits. The drainage concept utilized to design the proposed storm sewer for this project was to construct a storm sewer trunk which is capable of conveying flow to each of the existing condition outfalls for Systems A, B and C with an equal or lesser amount of flow than in the existing condition. This was accomplished by reducing the overall area contributing to the outfalls for Systems A, B, and C. The remainder of the flow is rerouted (along with the flows from System D) to flow toward the 3rd Street storm sewer trunk outfall. The proposed storm sewer layout and drainage system boundaries are shown in Exhibit 5.

Through this analysis we have determined that the proposed storm sewer plan will result in no impacts to Little Cedar Bayou upstream of SH 146 for the future developed condition since all flows in the proposed condition are less than the calculated existing condition flows. In accordance with the City of La Porte's Storm Water Drainage Criteria, detention is not required to mitigate the increased flow at the 3rd Street outfall due to its relative proximity to Galveston Bay as it is downstream of SH 146.



**LEGEND**

- HCFCD CHANNELS
- PROJECT LOCATION

PROJECT LOCATION



**EXHIBIT 1**

**CobbFendley**  
 Texas Registration No. 274  
 13430 Northwest Freeway, Suite 1100  
 Houston, Texas 77040  
 713.462.3242 | fax 713.462.3262 | www.cobfen.com  
 JOB NO. 1012056

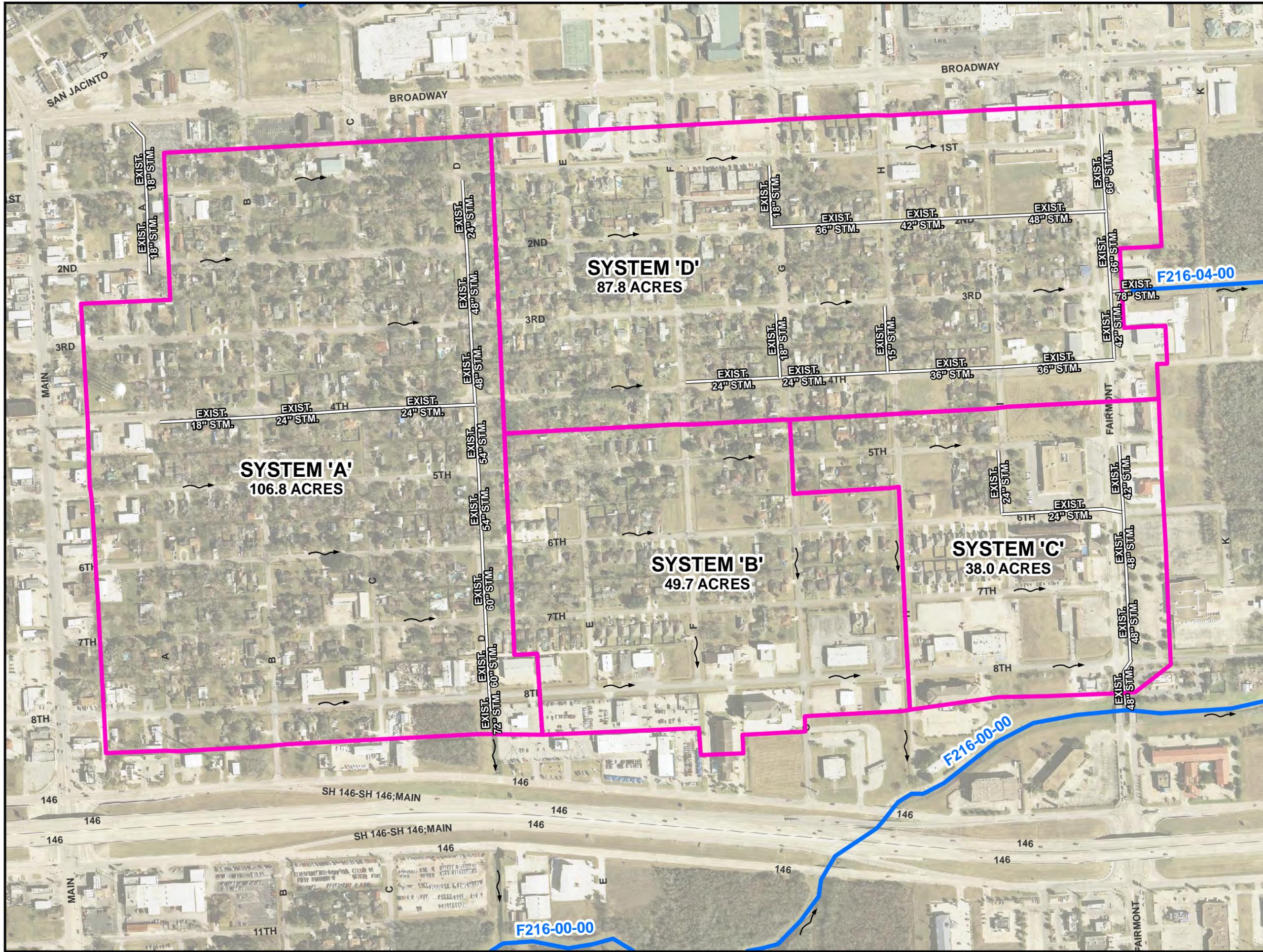
CITY OF LAPORTE  
 LAPORTE, TEXAS

LAPORTE CONCRETE  
 PAVING PROGRAM

**VICINITY MAP**

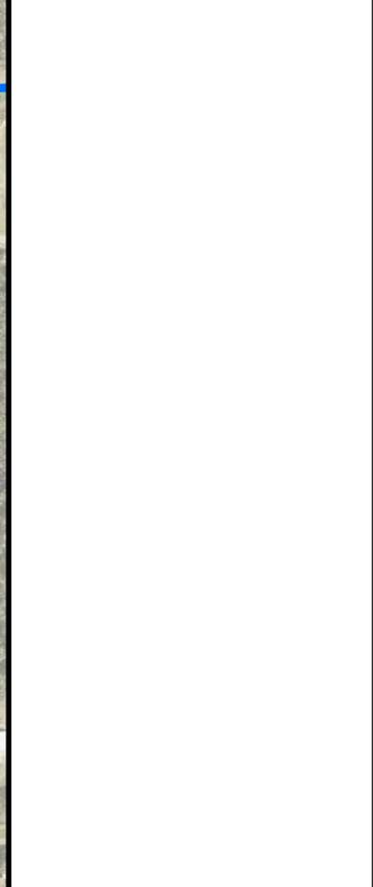
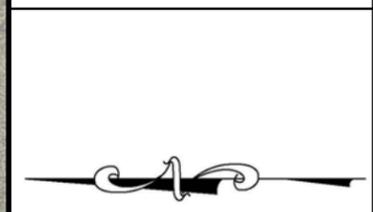
SUBMITTED:	DESIGNED BY: CA
SCALE: 1" = 4000'	DRAWN BY: CE
DATE: 4/18/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F.B. NO:	





**LEGEND**

- EXISTING DRAINAGE AREA
- EXISTING STORM SEWER
- HCFC CHANNELS
- ~ FLOW DIRECTION



**EXHIBIT 3**

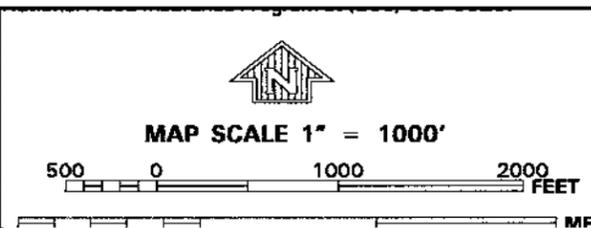
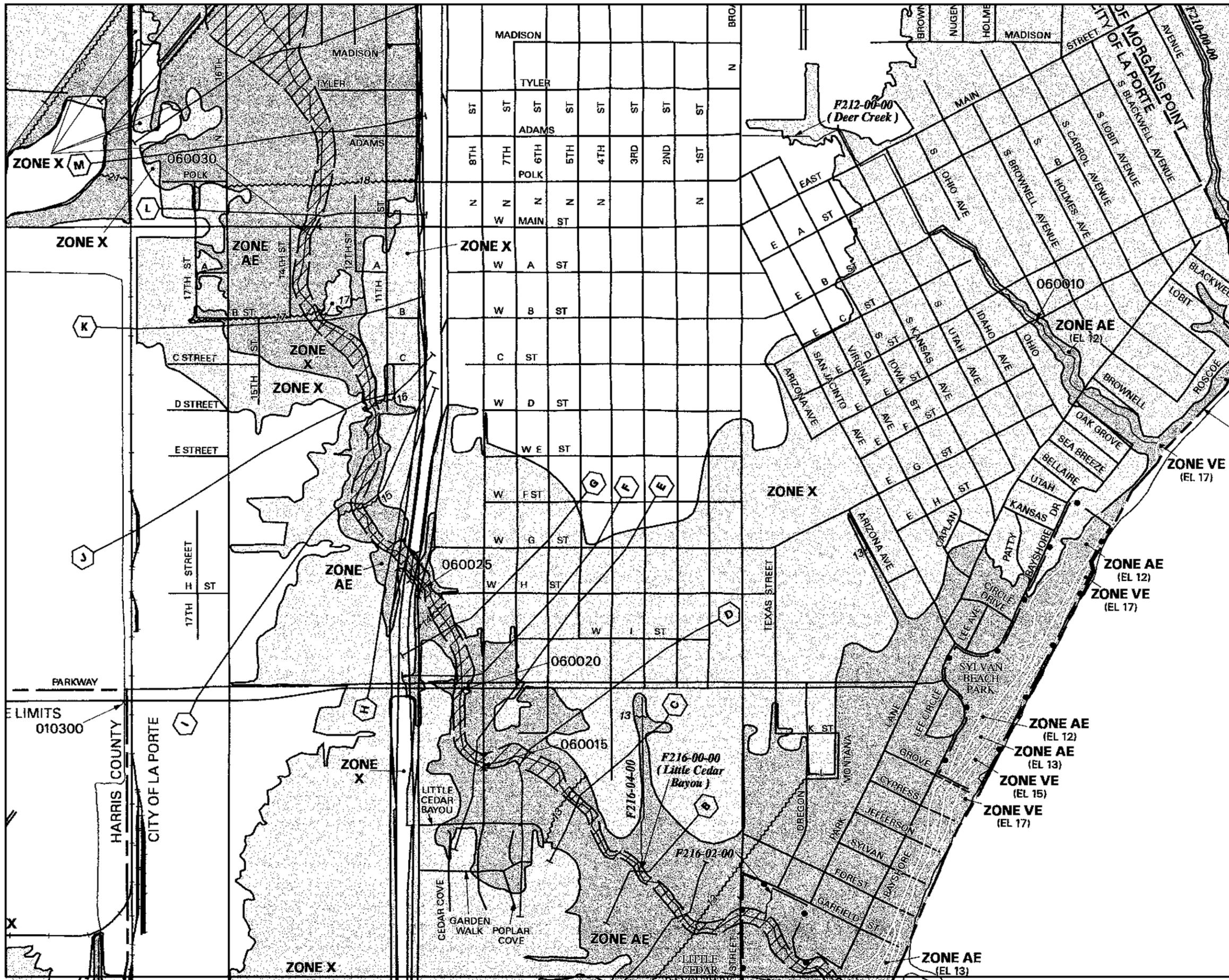
**CobbFendley**  
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 13430 Northwest Freeway, Suite 1100  
 Houston, Texas 77040  
 713.462.3242 | fax 713.462.3262 | www.cobfen.com  
 JOB NO. 1012056

CITY OF LAPORTE  
 LAPORTE, TEXAS

LAPORTE CONCRETE  
 PAVING PROGRAM

**EXISTING CONDITION  
 DRAINAGE AREA MAP**

SUBMITTED:	DESIGNED BY: CA
SCALE: 1" = 400'	DRAWN BY: CE
DATE: 4/18/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F.B. NO:	



PANEL 0945L

## FIRM FLOOD INSURANCE RATE MAP

HARRIS COUNTY,  
TEXAS  
AND INCORPORATED AREAS

PANEL 945 OF 1150

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MORGANS POINT, CITY OF	48005	0945	L
LA PORTE, CITY OF	48547	0945	L
HARRIS COUNTY, UNINCORPORATED AREAS	48057	0945	L
PARADISE, CITY OF	48067	0945	L

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

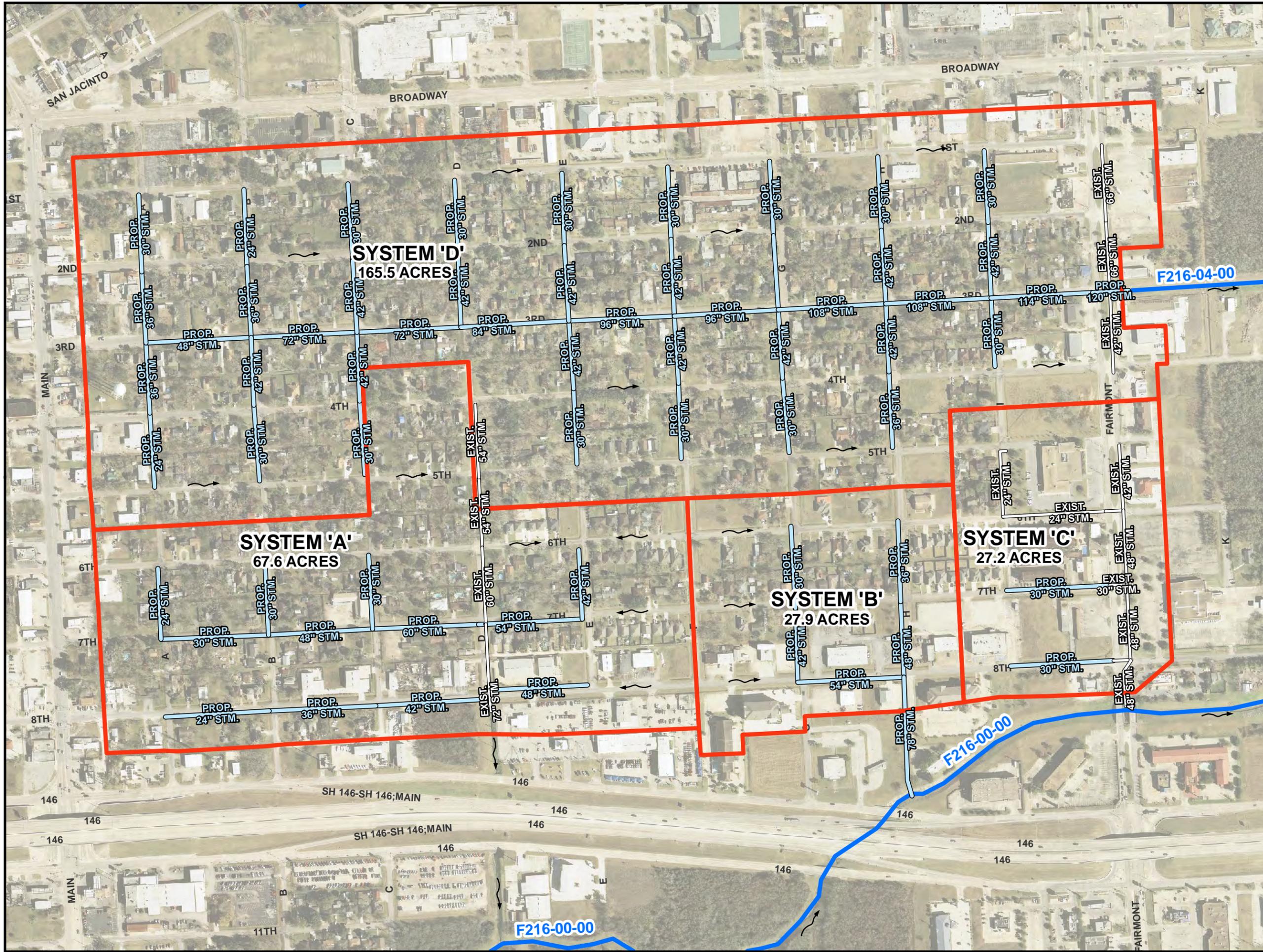
**MAP NUMBER**  
48201C0945L

**MAP REVISED:**  
JUNE 18, 2007

  
Federal Emergency Management Agency

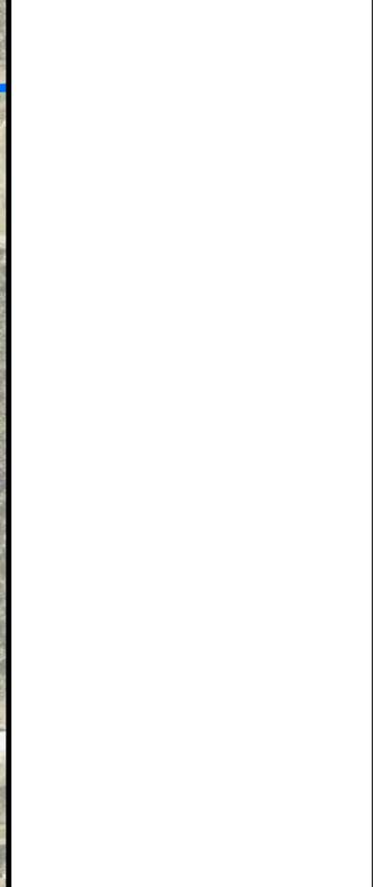
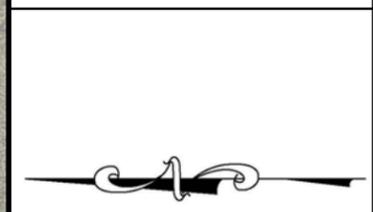
EXHIBIT 4

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



**LEGEND**

- PROPOSED DRAINAGE AREA
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- HCFCD CHANNELS
- ~ FLOW DIRECTION



**EXHIBIT 5**

**CobbFendley**  
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JOB NO. 1012056

CITY OF LAPORTE  
LAPORTE, TEXAS

LAPORTE CONCRETE  
PAVING PROGRAM

**PROPOSED CONDITION  
DRAINAGE AREA MAP**

SUBMITTED: SCALE: 1" = 400' DATE: 4/18/11 SURVEY BY: F B NO:	DESIGNED BY: CA DRAWN BY: CE SHEET No.: 1 OF 1 DWG. NO:
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APPENDIX A  
HYDROLOGIC CALCULATIONS

Existing Overall Drainage Area Calculations

SYSTEM	AREA (AC)	C-VALUE (-)	OVERLAND		DITCH		CONCRETE		TOTAL TC (MIN)	5-YR I (IN/HR)	5-YR Q (CFS)	100-YR I (IN/HR)	100-YR Q (CFS)
			LENGTH (FT)	TC (MIN)	LENGTH (FT)	TC (MIN)	LENGTH (FT)	TC (MIN)					
A	106.81	0.60	146	4.87	1,241	13.78	2,400	13.33	31.99	3.87	247.90	6.31	404.64
B	49.73	0.67	150	4.99	3,197	35.52	46	0.25	40.76	3.40	113.40	5.64	187.82
C	37.97	0.72	41	1.37	1,030	11.45	1,716	9.53	22.35	4.58	125.26	7.32	200.12
D	87.81	0.62	138	4.61	1,218	13.53	2,245	12.47	30.61	3.95	215.30	6.44	350.49
SH146	30.69	0.65	170	5.67	220	2.44	1,822	10.12	18.23	4.99	99.55	7.88	157.17

APPENDIX A  
HYDROLOGIC CALCULATIONS

Proposed Drainage Area Calculations

DRAINAGE AREA	AREA (AC)	C-VALUE (-)	OVERLAND		DITCH		CONCRETE		TOTAL TC (MIN)	5-YR I (IN/HR)	5-YR Q (CFS)	100-YR I (IN/HR)	100-YR Q (CFS)
			LENGTH (FT)	TC (MIN)	LENGTH (FT)	TC (MIN)	LENGTH (FT)	TC (MIN)					
<b>SYSTEM A</b>													
6A	2.16	0.63	145	4.83	0	0.00	270	1.50	6.33	6.12	8.32	9.36	12.72
7A	2.21	0.63	160	5.33	0	0.00	250	1.39	6.72	6.12	8.51	9.36	13.02
6B	3.49	0.63	150	5.00	0	0.00	390	2.17	7.17	6.12	13.46	9.36	20.59
7B	3.62	0.63	150	5.00	0	0.00	380	2.11	7.11	6.12	13.96	9.36	21.35
6C	3.49	0.63	150	5.00	0	0.00	370	2.06	7.06	6.12	13.45	9.36	20.56
7C	3.49	0.63	150	5.00	0	0.00	350	1.94	6.94	6.12	13.46	9.36	20.59
7D	3.52	0.63	145	4.83	0	0.00	325	1.81	6.64	6.12	13.57	9.36	20.75
4D	3.58	0.63	160	5.33	0	0.00	320	1.78	7.11	6.12	13.83	9.36	21.15
5D	3.49	0.63	140	4.67	0	0.00	370	2.06	6.72	6.12	13.45	9.36	20.57
6D	3.56	0.63	150	5.00	0	0.00	365	2.03	7.03	6.12	13.75	9.36	21.03
6F	3.42	0.63	140	4.67	0	0.00	340	1.89	6.56	6.12	13.20	9.36	20.19
6E	3.48	0.63	140	4.67	0	0.00	420	2.33	7.00	6.12	13.44	9.36	20.55
7F	3.45	0.63	110	3.67	0	0.00	500	2.78	6.44	6.12	13.30	9.36	20.34
7E	3.47	0.63	75	2.50	0	0.00	550	3.06	5.56	6.12	13.37	9.36	20.45
8F	3.98	0.80	155	5.17	0	0.00	340	1.89	7.06	6.12	19.50	9.36	29.82
8E	3.88	0.80	160	5.33	0	0.00	430	2.39	7.72	6.12	19.02	9.36	29.08
<b>SYSTEM A (8TH STREET)</b>													
8A	2.21	0.63	206	6.87	0	0.00	120	0.67	7.53	6.12	8.54	9.36	13.06
8B	3.76	0.63	140	4.67	0	0.00	350	1.94	6.61	6.12	14.50	9.36	22.18
8C	3.61	0.63	145	4.83	0	0.00	350	1.94	6.78	6.12	13.94	9.36	21.33
8D	3.61	0.63	145	4.83	0	0.00	370	2.06	6.89	6.12	13.93	9.36	21.30
<b>SYSTEM B</b>													
6G	3.51	0.63	80	2.67	0	0.00	765	4.25	6.92	6.12	13.55	9.36	20.73
7G	3.55	0.63	80	2.67	0	0.00	560	3.11	5.78	6.12	13.69	9.36	20.94
8G	4.88	0.75	0	0.00	0	0.00	760	4.22	4.22	6.12	22.41	9.36	34.28
6I	1.79	0.63	140	4.67	0	0.00	200	1.11	5.78	6.12	6.92	9.36	10.59
6H	3.43	0.63	140	4.67	0	0.00	600	3.33	8.00	6.12	13.25	9.36	20.26
7I	1.84	0.80	140	4.67	0	0.00	200	1.11	5.78	6.12	9.02	9.36	13.79
7H	3.50	0.63	140	4.67	0	0.00	365	2.03	6.69	6.12	13.52	9.36	20.67
8I	1.79	0.80	140	4.67	0	0.00	200	1.11	5.78	6.12	8.78	9.36	13.42
8H	3.59	0.75	0	0.00	0	0.00	600	3.33	3.33	6.12	16.50	9.36	25.24
<b>SYSTEM C</b>													
5J	3.36	0.63	140	4.67	0	0.00	460	2.56	7.22	6.12	12.95	9.36	19.81
6J	3.43	0.63	140	4.67	0	0.00	200	1.11	5.78	6.12	13.24	9.36	20.25
6K	1.86	0.80	140	4.67	0	0.00	200	1.11	5.78	6.12	9.13	9.36	13.96
7J	3.45	0.80	140	4.67	0	0.00	200	1.11	5.78	6.12	16.91	9.36	25.86
7K	1.87	0.80	140	4.67	0	0.00	200	1.11	5.78	6.12	9.15	9.36	13.99
8J	3.25	0.63	140	4.67	0	0.00	200	1.11	5.78	6.12	12.55	9.36	19.19
8K	1.82	0.63	140	4.67	0	0.00	200	1.11	5.78	6.12	7.01	9.36	10.72
5K	1.84	0.80	210	7.00	0	0.00	150	0.83	7.83	6.12	9.01	9.36	13.79
OFF4	1.65	0.85	180	6.00	0	0.00	190	1.06	7.06	6.12	8.59	9.36	13.13
OFF3	1.68	0.85	180	6.00	0	0.00	150	0.83	6.83	6.12	8.74	9.36	13.37
OFF2	1.68	0.85	180	6.00	0	0.00	160	0.89	6.89	6.12	8.75	9.36	13.39
OFF1	1.33	0.85	180	6.00	0	0.00	170	0.94	6.94	6.12	6.94	9.36	10.61
<b>SYSTEM D</b>													
5A	2.17	0.63	145	4.83	0	0.00	260	1.44	6.28	6.12	8.38	9.36	12.82

APPENDIX A  
HYDROLOGIC CALCULATIONS

Proposed Drainage Area Calculations

DRAINAGE AREA	AREA (AC)	C-VALUE (-)	OVERLAND		DITCH		CONCRETE		TOTAL TC (MIN)	5-YR I (IN/HR)	5-YR Q (CFS)	100-YR I (IN/HR)	100-YR Q (CFS)
			LENGTH (FT)	TC (MIN)	LENGTH (FT)	TC (MIN)	LENGTH (FT)	TC (MIN)					
4A	2.19	0.80	145	4.83	0	0.00	250	1.39	6.22	6.12	10.72	9.36	16.40
1A	2.99	0.63	150	5.00	0	0.00	280	1.56	6.56	6.12	11.52	9.36	17.61
2A	2.99	0.63	150	5.00	0	0.00	280	1.56	6.56	6.12	11.52	9.36	17.62
3A	2.36	0.63	145	4.83	0	0.00	240	1.33	6.17	6.12	9.09	9.36	13.91
5B	3.51	0.63	140	4.67	0	0.00	380	2.11	6.78	6.12	13.54	9.36	20.71
4B	3.56	0.63	140	4.67	0	0.00	400	2.22	6.89	6.12	13.73	9.36	20.99
1B	2.70	0.63	140	4.67	0	0.00	330	1.83	6.50	6.12	10.40	9.36	15.90
2B	2.76	0.63	140	4.67	0	0.00	340	1.89	6.56	6.12	10.64	9.36	16.27
3B	3.77	0.63	160	5.33	0	0.00	380	2.11	7.44	6.12	14.55	9.36	22.25
5C	3.43	0.63	150	5.00	0	0.00	340	1.89	6.89	6.12	13.21	9.36	20.21
4C	3.49	0.63	150	5.00	0	0.00	330	1.83	6.83	6.12	13.47	9.36	20.60
1C	3.49	0.63	145	4.83	0	0.00	350	1.94	6.78	6.12	13.46	9.36	20.59
2C	3.49	0.63	130	4.33	0	0.00	390	2.17	6.50	6.12	13.47	9.36	20.60
3C	3.72	0.63	150	5.00	0	0.00	370	2.06	7.06	6.12	14.36	9.36	21.96
1D	3.54	0.63	145	4.83	0	0.00	380	2.11	6.94	6.12	13.66	9.36	20.90
2D	3.52	0.63	130	4.33	0	0.00	412	2.29	6.62	6.12	13.57	9.36	20.75
3D	3.75	0.63	145	4.83	0	0.00	310	1.72	6.56	6.12	14.48	9.36	22.15
5E	3.50	0.63	150	5.00	0	0.00	350	1.94	6.94	6.12	13.50	9.36	20.64
4E	3.62	0.63	135	4.50	0	0.00	470	2.61	7.11	6.12	13.97	9.36	21.36
1E	3.49	0.65	140	4.67	0	0.00	340	1.89	6.56	6.12	13.90	9.36	21.25
2E	3.51	0.63	150	5.00	0	0.00	360	2.00	7.00	6.12	13.52	9.36	20.68
3E	3.69	0.80	150	5.00	0	0.00	320	1.78	6.78	6.12	18.09	9.36	27.67
5F	3.46	0.63	150	5.00	0	0.00	350	1.94	6.94	6.12	13.36	9.36	20.43
4F	3.61	0.63	140	4.67	0	0.00	300	1.67	6.33	6.12	13.94	9.36	21.32
1F	3.50	0.70	145	4.83	0	0.00	350	1.94	6.78	6.12	14.99	9.36	22.92
2F	3.57	0.63	150	5.00	0	0.00	335	1.86	6.86	6.12	13.78	9.36	21.08
3F	3.65	0.63	160	5.33	0	0.00	360	2.00	7.33	6.12	14.09	9.36	21.55
5G	3.54	0.63	145	4.83	0	0.00	340	1.89	6.72	6.12	13.66	9.36	20.89
4G	3.68	0.63	150	5.00	0	0.00	340	1.89	6.89	6.12	14.19	9.36	21.70
1G	3.51	0.70	0	0.00	0	0.00	750	4.17	4.17	6.12	15.03	9.36	22.99
2G	3.55	0.63	150	5.00	0	0.00	355	1.97	6.97	6.12	13.68	9.36	20.93
3G	3.63	0.63	145	4.83	0	0.00	350	1.94	6.78	6.12	14.02	9.36	21.43
5I	1.79	0.63	140	4.67	0	0.00	210	1.17	5.83	6.12	6.89	9.36	10.53
5H	3.44	0.63	135	4.50	0	0.00	330	1.83	6.33	6.12	13.26	9.36	20.28
4H	3.57	0.63	150	5.00	0	0.00	355	1.97	6.97	6.12	13.76	9.36	21.04
1H	3.49	0.60	140	4.67	0	0.00	390	2.17	6.83	6.12	12.81	9.36	19.60
2H	3.51	0.63	155	5.17	0	0.00	370	2.06	7.22	6.12	13.54	9.36	20.71
3H	3.58	0.63	150	5.00	0	0.00	370	2.06	7.06	6.12	13.83	9.36	21.15
4I	3.58	0.55	145	4.83	0	0.00	460	2.56	7.39	6.12	12.07	9.36	18.46
1I	3.39	0.75	145	4.83	0	0.00	280	1.56	6.39	6.12	15.56	9.36	23.79
2I	3.56	0.63	150	5.00	0	0.00	350	1.94	6.94	6.12	13.73	9.36	21.00
3I	3.63	0.63	150	5.00	0	0.00	340	1.89	6.89	6.12	14.00	9.36	21.41
4J	3.57	0.65	140	4.67	0	0.00	360	2.00	6.67	6.12	14.20	9.36	21.72
OFF5	1.82	0.85	225	7.50	0	0.00	180	1.00	8.50	6.12	9.47	9.36	14.48
1J	3.54	0.75	165	5.50	0	0.00	415	2.31	7.81	6.12	16.24	9.36	24.84
OFF8	1.93	0.85	225	7.50	0	0.00	160	0.89	8.39	6.12	10.05	9.36	15.38
2J	3.65	0.63	155	5.17	0	0.00	340	1.89	7.06	6.12	14.09	9.36	21.55
OFF7	2.01	0.85	225	7.50	0	0.00	160	0.89	8.39	6.12	10.47	9.36	16.01
3J	3.84	0.63	155	5.17	0	0.00	320	1.78	6.94	6.12	14.82	9.36	22.67
OFF6	0.68	0.85	50	1.67	0	0.00	160	0.89	2.56	6.12	3.54	9.36	5.41

PROJECT NAME : La Porte Concrete Street Program  
 JOB NUMBER : 1012-056  
 PROJECT DESCRIPTION : 5-yr Storm Sewer Design - System A

PROJECT File: D:\cfa\2010\12056.la\_porte\_concrete\ENG\H&H\HouStorm\Prop System

DESIGN FREQUENCY : 5 Years  
 MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 5 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
6A	0.63	2.16	6.33	10.00	6.12	0.000	8.332
7A	0.63	2.21	6.72	10.00	6.12	0.000	8.525
6B	0.63	3.49	7.17	10.00	6.12	0.000	13.462
7B	0.63	3.62	7.11	10.00	6.12	0.000	13.964
6C	0.63	3.49	7.06	10.00	6.12	0.000	13.462
7C	0.63	3.49	6.94	10.00	6.12	0.000	13.462
7D	0.63	3.52	6.64	10.00	6.12	0.000	13.578
4D	0.63	3.58	7.11	10.00	6.12	0.000	13.809
5D	0.63	3.49	6.72	10.00	6.12	0.000	13.462
6D	0.63	3.56	7.03	10.00	6.12	0.000	13.732
6F	0.63	3.42	6.56	10.00	6.12	0.000	13.192
6E	0.63	3.48	7.00	10.00	6.12	0.000	13.424
7F	0.63	3.45	6.44	10.00	6.12	0.000	13.308
7E	0.63	3.47	5.56	10.00	6.12	0.000	13.385
8F	0.8	3.98	7.06	10.00	6.12	0.000	19.495
8E	0.8	3.88	7.72	10.00	6.12	0.000	19.005

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumul at. Dr. Area (acres)	Cumul at. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Addi ti onal Q in Node (cfs)	Total Di sch. (cfs)
6C	JctBx	0.630	3.49	10.00	6.12		0.00	13.462
7C	JctBx	0.630	18.46	11.53	5.87		0.00	68.272
7D	JctBx	0.630	21.98	13.36	5.60		0.00	77.492
4D	JctBx	0.630	3.58	10.00	6.12		0.00	13.809
5D	JctBx	0.630	7.07	10.00	6.12		0.00	27.272
6D	JctBx	0.630	10.63	10.00	6.12		0.00	41.004
6F	JctBx	0.630	3.42	10.00	6.12		0.00	13.192
6E	JctBx	0.630	6.90	10.00	6.12		0.00	26.616
7F	JctBx	0.630	3.45	10.00	6.12		0.00	13.308
7E	JctBx	0.630	13.82	10.00	6.12		0.00	53.309
MH2	JctBx	0.630	46.43	13.46	5.58		0.00	163.263
8F	JctBx	0.800	3.98	10.00	6.12		0.00	19.495
8E	JctBx	0.800	7.86	10.00	6.12		0.00	38.500
MH1	JctBx	0.655	54.29	14.05	5.50		0.00	195.474
6A	JctBx	0.630	2.16	10.00	6.12		0.00	8.332
7A	JctBx	0.630	4.37	10.00	6.12		0.00	16.857

Prop System A 5-yr. txt

6B	JctBx	0.630	3.49	10.00	6.12	0.00	13.462
7B	JctBx	0.630	11.48	10.00	6.12	0.00	44.283
OUT	Outl t	0.655	54.29	14.05	5.50	0.00	195.474

Conveyance Configuration Data

Run #	Node US	I. D. DS	FlowLine US (ft)	El ev. DS (ft)	Shape #	Span (ft)	Ri se (ft)	Length (ft)	Sl ope (%)	n_val ue
1	6A	7A	11.85	11.29	Cir 1	0.00	2.00	313.8	0.178	0.013
2	7A	7B	10.79	9.83	Cir 1	0.00	2.50	477.1	0.201	0.013
3	6B	7B	10.32	9.83	Cir 1	0.00	2.50	320.8	0.153	0.013
4	7B	7C	8.33	7.83	Cir 1	0.00	4.00	462.3	0.108	0.013
5	6C	7C	9.82	9.33	Cir 1	0.00	2.50	326.7	0.150	0.013
6	7C	7D	6.83	6.45	Cir 1	0.00	5.00	471.0	0.081	0.013
7	7D	MH2	6.45	6.41	Cir 1	0.00	5.00	32.6	0.123	0.013
8	4D	5D	6.81	6.77	Cir 1	0.00	4.50	33.6	0.119	0.013
9	5D	6D	6.77	6.72	Cir 1	0.00	4.50	34.6	0.145	0.013
10	6D	MH2	6.72	6.41	Cir 1	0.00	5.00	309.3	0.100	0.013
11	6F	6E	9.58	9.53	Cir 1	0.00	2.50	32.6	0.153	0.013
12	6E	7E	8.53	8.26	Cir 1	0.00	3.50	307.5	0.088	0.013
13	7F	7E	9.30	9.26	Cir 1	0.00	2.50	32.6	0.123	0.013
14	7E	MH2	7.26	6.91	Cir 1	0.00	4.50	427.9	0.082	0.013
15	MH2	MH1	6.41	6.12	Cir 1	0.00	5.00	292.7	0.099	0.013
16	8F	8E	9.51	9.47	Cir 1	0.00	3.00	32.6	0.123	0.013
17	8E	MH1	8.47	8.12	Cir 1	0.00	4.00	436.3	0.080	0.013
18	MH1	OUT	6.12	6.09	Cir 1	0.00	6.00	38.7	0.078	0.013

Conveyance Hydraulic Computations. Tailwater = 12.090 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Cri t. El ev US (ft)	Fr. Sl ope (%)	Depth Uni f. (ft)	Actual (ft)	Vel oci ty Uni f. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	13.76	13.61	20.95	0.134	1.45	2.00	3.43	2.65	8.3	9.6	0.000
2	13.61	13.45	20.13	0.167	1.88	2.50	4.25	3.43	16.9	18.5	0.000
3	13.60	13.45	20.57	0.107	1.76	2.50	3.65	2.74	13.5	16.1	0.000
4	13.45	13.38	20.22	0.094	3.06	4.00	4.29	3.52	44.3	47.4	0.000
5	13.53	13.38	19.66	0.107	1.77	2.50	3.63	2.74	13.5	16.0	0.000
6	13.38	13.32	19.83	0.068	3.79	5.00	4.28	3.48	68.3	74.3	0.000
7	13.32	13.31	18.93	0.088	3.54	5.00	5.22	3.95	77.5	91.6	0.000
8	13.63	13.59	19.56	0.005	1.38	4.50	3.34	0.87	13.8	68.1	0.000
9	13.59	13.55	18.80	0.019	1.88	4.50	4.33	1.71	27.3	75.1	0.000
10	13.55	13.31	17.28	0.025	2.49	5.00	4.20	2.09	41.0	82.8	0.000
11	13.43	13.41	17.35	0.103	1.73	2.50	3.64	2.69	13.2	16.1	0.000
12	13.41	13.35	18.75	0.069	2.57	3.50	3.51	2.77	26.6	29.9	0.000
13	13.36	13.35	17.40	0.104	1.89	2.50	3.33	2.71	13.3	14.4	0.000
14	13.35	13.31	18.15	0.073	3.48	4.50	4.04	3.35	53.3	56.5	0.000
15	13.31	12.17	19.12	0.390	5.00	5.00	8.31	8.31	163.3	82.3	0.000
16	12.25	12.23	16.32	0.085	2.10	2.76	3.69	2.86	19.5	23.5	0.000
17	12.23	12.17	16.61	0.071	3.09	4.00	3.69	3.06	38.5	40.9	0.000
18	12.17	12.09	18.38	0.211	6.00	6.00	6.91	6.91	195.5	118.4	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.

Prop System A 5-yr. txt

This length may also be used as Pay Item.  
 Using hydraulic length, from node center to node center, may result in profile error,  
 and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	1	313.76
Circular	Concrete	2.5	0.0	5	1189.69
Circular	Concrete	4.0	0.0	2	898.61
Circular	Concrete	5.0	0.0	4	1105.63
Circular	Concrete	4.5	0.0	3	496.07
Circular	Concrete	3.5	0.0	1	307.5
Circular	Concrete	3.0	0.0	1	32.59
Circular	Concrete	6.0	0.0	1	38.7

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Junction Box		0.0	0.0	0.0	0.0	0.0	18
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

- Runoff Frequency of: 5 Years
- Run# 18 Insufficient capacity.
- Run# 15 Insufficient capacity.

PROJECT NAME : La Porte Concrete Street Program  
 JOB NUMBER : 1012-056  
 PROJECT DESCRIPTION : 5-yr Storm Sewer Design - System 8th Street

PROJECT File: D:\cfa\2010\12056.La\_porte\_concrete\ENG\H&H\HouStorm\Prop System

DESIGN FREQUENCY : 5 Years  
 MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 5 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
8A	0.63	2.21	7.53	10.00	6.12	0.000	8.525
8B	0.63	3.76	6.61	10.00	6.12	0.000	14.504
8C	0.63	3.61	6.78	10.00	6.12	0.000	13.925
8D	0.63	3.61	6.89	10.00	6.12	0.000	13.925

Cumulative Junction Discharge Computations

Node I. D.	Node Type	Weighted C-Value	Cumul at. Dr. Area (acres)	Cumul at. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
8A	JctBx	0.630	2.21	10.00	6.12		0.00	8.525
8B	JctBx	0.630	5.97	10.00	6.12		0.00	23.029
8C	JctBx	0.630	9.58	11.87	5.82		0.00	35.108
8D	JctBx	0.630	13.19	13.57	5.57		0.00	46.257
OUT	Outlt	0.630	13.19	13.57	5.57		0.00	46.257

Conveyance Configuration Data

Run #	Node US	I. D. DS	FlowLine US (ft)	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n_value
1	8A	8B	13.62	12.79	Cir 1	0.00	2.00	461.0	0.180	0.013
2	8B	8C	11.79	11.22	Cir 1	0.00	3.00	473.6	0.120	0.013
3	8C	8D	10.72	10.02	Cir 1	0.00	3.50	468.7	0.149	0.013
4	8D	OUT	9.52	9.44	Cir 1	0.00	4.00	61.4	0.130	0.013

Conveyance Hydraulic Computations. Tailwater = 13.440 (ft)

Run #	Hyd. US (ft)	Gr. Line DS (ft)	Crit. Elev. US (ft)	Fr. Slope (%)	Depth Uni f. (ft)	Actual (ft)	Velocity Uni f. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Loss (ft)
1	15.09	14.23	18.15	0.141	1.47	1.47	3.45	3.45	8.5	9.6	0.000

Prop System 8th 5-yr. txt											
2	14.23	13.59	20.68	0.118	2.44	2.44	3.74	3.74	23.0	23.2	0.000
3	13.59	13.46	19.16	0.121	2.60	3.44	4.59	3.66	35.1	39.0	0.000
4	13.46	13.44	19.02	0.103	2.94	4.00	4.68	3.68	46.3	52.1	0.000

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SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

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NOTE:

The convey length should be from upstream to downstream inside box.  
 This length may also be used as Pay Item.  
 Using hydraulic length, from node center to node center, may result in profile error,  
 and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	1	461.02
Circular	Concrete	3.0	0.0	1	473.59
Circular	Concrete	3.5	0.0	1	468.71
Circular	Concrete	4.0	0.0	1	61.41

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Junction Box		0.0	0.0	0.0	0.0	0.0	4
Outlet		0.0	0.0	0.0	0.0	0.0	1

=====

END

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NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 5 Years

PROJECT NAME : La Porte Concrete Street Program  
 JOB NUMBER : 1012-056  
 PROJECT DESCRIPTION : 5-yr Storm Sewer Design - System B

PROJECT File: D:\cfa\2010\12056.La\_porte\_concrete\ENG\H&H\HouStorm\Prop System

DESIGN FREQUENCY : 5 Years  
 MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 5 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
6G	0.63	3.51	6.92	10.00	6.12	0.000	13.539
7G	0.63	3.55	5.78	10.00	6.12	0.000	13.694
8G	0.75	4.88	4.22	10.00	6.12	0.000	22.409
6I	0.63	1.79	5.78	10.00	6.12	0.000	6.905
6H	0.63	3.43	8.00	10.00	6.12	0.000	13.231
7I	0.8	1.84	5.78	10.00	6.12	0.000	9.013
7H	0.63	3.50	6.69	10.00	6.12	0.000	13.501
8I	0.8	1.79	5.78	10.00	6.12	0.000	8.768
8H	0.75	3.59	3.33	10.00	6.12	0.000	16.486

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumul at. Dr. Area (acres)	Cumul at. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q in Node (cfs)	Total Disch. (cfs)
6G	JctBx	0.630	3.51	10.00	6.12		0.00	13.539
7G	JctBx	0.630	7.06	10.00	6.12		0.00	27.233
8G	JctBx	0.679	11.94	10.22	6.08		0.00	49.333
6I	JctBx	0.630	1.79	10.00	6.12		0.00	6.905
6H	JctBx	0.630	5.22	10.00	6.12		0.00	20.135
7I	JctBx	0.800	1.84	10.00	6.12		0.00	9.013
7H	JctBx	0.660	10.56	10.00	6.12		0.00	42.649
8I	JctBx	0.800	1.79	10.00	6.12		0.00	8.768
8H	JctBx	0.689	27.88	12.32	5.75		0.00	110.355
OUT	Outl t	0.689	27.88	12.32	5.75		0.00	110.355

Conveyance Configuration Data

Run #	Node US	I.D. DS	Flowline US (ft)	El ev. DS (ft)	Shape #	Span (ft)	Ri se (ft)	Length (ft)	Sl ope (%)	n_val ue
1	6G	7G	8.25	7.78	Cir 1	0.00	2.50	362.6	0.130	0.013
2	7G	8G	6.78	6.48	Cir 1	0.00	3.50	328.2	0.091	0.013
3	8G	8H	5.48	5.15	Cir 1	0.00	4.50	470.2	0.070	0.013
4	6I	6H	8.43	8.38	Cir 1	0.00	2.00	30.0	0.167	0.013

Prop System B 5-yr. txt										
5	6H	7H	7.38	6.99	Cir 1	0.00	3.00	358.4	0.109	0.013
6	7I	7H	8.04	7.99	Cir 1	0.00	2.00	30.0	0.167	0.013
7	7H	8H	5.99	5.65	Cir 1	0.00	4.00	334.0	0.102	0.013
8	8I	8H	7.71	7.65	Cir 1	0.00	2.00	30.0	0.200	0.013
9	8H	OUT	3.15	2.80	Cir 1	0.00	6.50	585.2	0.060	0.013

Conveyance Hydraulic Computations. Tailwater = 9.300 (ft)

Run #	Gr. Line		Crit. Elev US (ft)	Fr. Slope (%)	Depth		Velocity		Q (cfs)	Cap (cfs)	Junc Loss (ft)
	US (ft)	DS (ft)			Uni f. (ft)	Actual (ft)	Uni f. (f/s)	Actual (f/s)			
1	10.13	9.50	14.70	0.108	1.88	1.88	3.41	3.41	13.5	14.8	0.000
2	9.50	9.47	15.46	0.073	2.58	2.99	3.58	3.11	27.2	30.5	0.000
3	9.47	9.41	16.12	0.062	3.48	4.26	3.74	3.17	49.3	52.3	0.000
4	9.72	9.63	13.74	0.092	1.29	1.29	3.23	3.23	6.9	9.3	0.000
5	9.63	9.47	15.40	0.090	2.25	2.48	3.54	3.22	20.1	22.1	0.000
6	9.60	9.47	14.04	0.157	1.59	1.59	3.36	3.36	9.0	9.3	0.000
7	9.47	9.41	15.08	0.087	3.06	3.76	4.13	3.48	42.6	46.0	0.000
8	9.42	9.41	14.59	0.149	1.44	1.76	3.63	2.99	8.8	10.2	0.000
9	9.41	9.30	14.40	0.044	4.67	6.50	4.32	3.33	110.4	128.8	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.  
 This length may also be used as Pay Item.  
 Using hydraulic length, from node center to node center, may result in profile error,  
 and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.5	0.0	1	362.62
Circular	Concrete	3.5	0.0	1	328.18
Circular	Concrete	4.5	0.0	1	470.16
Circular	Concrete	2.0	0.0	3	90.0
Circular	Concrete	3.0	0.0	1	358.44
Circular	Concrete	4.0	0.0	1	334.02
Circular	Concrete	6.5	0.0	1	585.18

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Juncti on Box		0.0	0.0	0.0	0.0	0.0	9
Outlet		0.0	0.0	0.0	0.0	0.0	1

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 END  
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NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 5 Years

PROJECT NAME : La Porte Concrete Street Program  
 JOB NUMBER : 1012-056  
 PROJECT DESCRIPTION : 5-yr Storm Sewer Design - System C

PROJECT File: D:\cfa\2010\12056.La\_porte\_concrete\ENG\H&H\HouStorm\Prop System

DESIGN FREQUENCY : 5 Years  
 MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 5 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
5J	0.63	3.36	7.22	10.00	6.12	0.000	12.961
6J	0.63	3.43	5.78	10.00	6.12	0.000	13.231
6K	0.8	1.86	5.78	10.00	6.12	0.000	9.111
7J	0.8	3.45	5.78	10.00	6.12	0.000	16.899
7K	0.8	1.87	5.78	10.00	6.12	0.000	9.160
8J	0.63	3.25	5.78	10.00	6.12	0.000	12.536
8K	0.63	1.82	5.78	10.00	6.12	0.000	7.020
5K	0.8	1.84	7.83	10.00	6.12	0.000	9.013
OFF4	0.85	1.65	7.06	10.00	6.12	0.000	8.587
OFF3	0.85	1.68	6.83	10.00	6.12	0.000	8.743
OFF2	0.85	1.68	6.89	10.00	6.12	0.000	8.743
OFF1	0.85	1.33	6.94	10.00	6.12	0.000	6.922

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumul at. Dr. Area (acres)	Cumul at. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Addi ti onal Q in Node (cfs)	Total Di sch. (cfs)
5J	JctBx	0.630	3.36	10.00	6.12		0.00	12.961
6J	JctBx	0.630	6.79	10.00	6.12		0.00	26.192
6K	JctBx	0.667	8.65	10.40	6.05		0.00	34.903
7J	JctBx	0.800	3.45	10.00	6.12		0.00	16.899
7K	JctBx	0.800	5.32	10.00	6.12		0.00	26.059
8J	JctBx	0.630	3.25	10.00	6.12		0.00	12.536
8K	JctBx	0.630	5.07	10.00	6.12		0.00	19.557
5K	JctBx	0.800	1.84	10.00	6.12		0.00	9.013
OFF4	JctBx	0.824	3.49	10.00	6.12		0.00	17.600
OFF3	JctBx	0.729	13.82	10.52	6.03		0.00	60.751
OFF2	JctBx	0.757	20.82	11.42	5.89		0.00	92.733
OFF1	JctBx	0.738	27.22	12.19	5.77		0.00	115.804
OUT	Outl t	0.738	27.22	12.19	5.77		0.00	115.804

Conveyance Confi gurati on Data

Run #	Node US	I.D. DS	FlowLi ne US	El ev. DS	Shape #	Span	Ri se	Length	Sl ope	n_val ue
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			(ft)	Prop System C (ft)	5-yr. txt (ft)	(ft)	(ft)	(ft)	(%)	
1	5J	6J	7.41	7.03	Cir 1	0.00	2.50	289.9	0.131	0.013
2	6J	6K	6.53	5.80	Cir 1	0.00	3.00	455.8	0.160	0.013
3	6K	OFF3	6.80	6.65	Cir 1	0.00	2.00	77.6	0.193	0.013
4	7J	7K	6.37	5.54	Cir 1	0.00	2.50	456.1	0.182	0.013
5	7K	OFF2	5.54	5.43	Cir 1	0.00	2.50	77.6	0.142	0.013
6	8J	8K	5.25	4.66	Cir 1	0.00	2.50	456.1	0.129	0.013
7	8K	OFF1	4.66	4.55	Cir 1	0.00	2.50	77.2	0.143	0.013
8	5K	OFF4	6.94	6.79	Cir 1	0.00	2.00	76.3	0.197	0.013
9	OFF4	OFF3	5.29	4.65	Cir 1	0.00	3.50	288.9	0.222	0.013
10	OFF3	OFF2	4.65	3.93	Cir 1	0.00	4.00	328.0	0.220	0.013
11	OFF2	OFF1	3.93	3.05	Cir 1	0.00	4.00	339.4	0.259	0.013
12	OFF1	OUT	3.05	2.44	Cir 1	0.00	4.00	208.8	0.292	0.013

Conveyance Hydraulic Computations. Tailwater = 6.440 (ft)

Run #	Hyd. US (ft)	Gr. line DS (ft)	Crit. Elev US (ft)	Fr. Slope (%)	Depth Uni f. (ft)	Actual (ft)	Velocity Uni f. (f/s)	Actual (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1	11.29	11.19	13.07	0.099	1.81	2.50	3.41	2.64	13.0	14.9	0.000
2	11.19	11.16	12.52	0.153	2.41	3.00	4.30	3.71	26.2	26.8	0.000
3	11.16	9.33	11.91	2.360	2.00	2.00	11.11	11.11	34.9	10.0	0.000
4	9.56	9.50	11.91	0.168	1.97	2.50	4.07	3.44	16.9	17.6	0.000
5	9.50	9.19	12.52	0.400	2.50	2.50	5.31	5.31	26.1	15.5	0.000
6	8.13	7.96	11.97	0.093	1.77	2.50	3.38	2.55	12.5	14.8	0.000
7	7.96	7.79	12.40	0.225	2.50	2.50	3.98	3.98	19.6	15.6	0.000
8	9.91	9.88	11.97	0.157	1.48	2.00	3.61	2.87	9.0	10.1	0.000
9	9.88	9.33	11.97	0.030	1.48	3.50	4.56	1.83	17.6	47.6	0.000
10	9.33	9.19	11.91	0.177	2.97	4.00	6.07	4.83	60.8	67.6	0.000
11	9.19	7.79	12.52	0.413	4.00	4.00	7.38	7.38	92.7	73.5	0.000
12	7.79	6.44	12.40	0.644	4.00	4.00	9.22	9.22	115.8	78.0	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.  
This length may also be used as Pay Item.  
Using hydraulic length, from node center to node center, may result in profile error,  
and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.5	0.0	5	1356.8
Circular	Concrete	3.0	0.0	1	455.79
Circular	Concrete	2.0	0.0	2	153.84
Circular	Concrete	3.5	0.0	1	288.93
Circular	Concrete	4.0	0.0	3	876.22

NODES:

Type of Inlet Structure	Type of Gate	Inlet Length (ft)	Gate Width (ft)	Gate Length (ft)	Gate Area (ft)	Gate Perimeter (ft)	Quantity (each)
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	Prop System C 5-yr. txt					
Junction Box	0.0	0.0	0.0	0.0	0.0	12
Outlet	0.0	0.0	0.0	0.0	0.0	1
=====END=====						

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 5 Years  
Decreasing conduit size @ downstream Run# 3  
Run# 12 Insufficient capacity.  
Run# 7 Insufficient capacity.  
Run# 11 Insufficient capacity.  
Run# 5 Insufficient capacity.  
Run# 3 Insufficient capacity.

PROJECT NAME : La Porte Concrete Street Program  
 JOB NUMBER : 1012-056  
 PROJECT DESCRIPTION : 5-yr Storm Sewer Design - System D

PROJECT File: D:\cfa\2010\12056.la\_porte\_concrete\ENG\H&H\HouStorm\Prop System

DESIGN FREQUENCY : 5 Years  
 MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 5 Years

Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
5A	0.631	2.17	6.28	10.00	6.12	0.000	8.388
4A	0.799	2.19	6.22	10.00	6.12	0.000	10.715
1A	0.629	2.99	6.56	10.00	6.12	0.000	11.511
2A	0.629	2.99	6.56	10.00	6.12	0.000	11.511
3A	0.631	2.36	6.17	10.00	6.12	0.000	9.123
5B	0.63	3.51	6.78	10.00	6.12	0.000	13.531
4B	0.629	3.56	6.89	10.00	6.12	0.000	13.715
1B	0.63	2.70	6.50	10.00	6.12	0.000	10.409
2B	0.63	2.76	6.56	10.00	6.12	0.000	10.654
3B	0.631	3.77	7.44	10.00	6.12	0.000	14.572
5C	0.63	3.43	6.89	10.00	6.12	0.000	13.225
4C	0.63	3.49	6.83	10.00	6.12	0.000	13.470
1C	0.63	3.49	6.78	10.00	6.12	0.000	13.470
2C	0.63	3.49	6.50	10.00	6.12	0.000	13.470
3C	0.632	3.72	7.06	10.00	6.12	0.000	14.389
1D	0.63	3.54	6.94	10.00	6.12	0.000	13.654
2D	0.631	3.52	6.62	10.00	6.12	0.000	13.593
3D	0.629	3.75	6.56	10.00	6.12	0.000	14.450
5E	0.629	3.50	6.94	10.00	6.12	0.000	13.470
4E	0.63	3.62	7.11	10.00	6.12	0.000	13.960
1E	0.65	3.49	6.56	10.00	6.12	0.000	13.899
2E	0.63	3.51	7.00	10.00	6.12	0.000	13.531
3E	0.802	3.69	6.78	10.00	6.12	0.000	18.124
5F	0.63	3.46	6.94	10.00	6.12	0.000	13.348
4F	0.632	3.61	6.33	10.00	6.12	0.000	13.960
1F	0.7	3.50	6.78	10.00	6.12	0.000	15.001
2F	0.63	3.57	6.86	10.00	6.12	0.000	13.776
3F	0.63	3.65	7.33	10.00	6.12	0.000	14.082
5G	0.63	3.54	6.72	10.00	6.12	0.000	13.654
4G	0.63	3.68	6.89	10.00	6.12	0.000	14.205
1G	0.701	3.51	4.17	10.00	6.12	0.000	15.062
2G	0.631	3.55	6.97	10.00	6.12	0.000	13.715
3G	0.631	3.63	6.78	10.00	6.12	0.000	14.021
5I	0.626	1.79	5.83	10.00	6.12	0.000	6.858
5H	0.631	3.44	6.33	10.00	6.12	0.000	13.286
4H	0.63	3.57	6.97	10.00	6.12	0.000	13.776
1H	0.599	3.49	6.83	10.00	6.12	0.000	12.797
2H	0.63	3.51	7.22	10.00	6.12	0.000	13.531
3H	0.631	3.58	7.06	10.00	6.12	0.000	13.838
4I	0.55	3.58	7.39	10.00	6.12	0.000	12.062
1I	0.749	3.39	6.39	10.00	6.12	0.000	15.552

Prop System D 5-yr.txt

2I	0.629	3.56	6.94	10.00	6.12	0.000	13.715
3I	0.631	3.63	6.89	10.00	6.12	0.000	14.021
4J	0.65	3.57	6.67	10.00	6.12	0.000	14.205
OFF5	0.852	1.82	8.50	10.00	6.12	0.000	9.490
1J	0.749	3.54	7.81	10.00	6.12	0.000	16.225
OFF8	0.85	1.93	8.39	10.00	6.12	0.000	10.041
2J	0.63	3.65	7.06	10.00	6.12	0.000	14.082
OFF7	0.851	2.01	8.39	10.00	6.12	0.000	10.470
3J	0.63	3.84	6.94	10.00	6.12	0.000	14.817
OFF6	0.853	0.68	2.56	10.00	6.12	0.000	3.551

Cumulative Junction Discharge Computations

Node I. D.	Node Type	Weighted C-Value	Cumul at. Dr. Area (acres)	Cumul at. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Addi ti onal Q i n Node (cfs)	Total Di sch. (cfs)
5A	JctBx	0.631	2.17	10.00	6.12		0.00	8.388
4A	JctBx	0.716	4.36	10.00	6.12		0.00	19.103
1A	JctBx	0.629	2.99	10.00	6.12		0.00	11.511
2A	JctBx	0.629	5.98	10.00	6.12		0.00	23.022
3A	JctBx	0.659	12.70	10.00	6.12		0.00	51.248
5B	JctBx	0.630	3.51	10.00	6.12		0.00	13.531
4B	JctBx	0.629	7.07	10.00	6.12		0.00	27.247
1B	JctBx	0.630	2.70	10.00	6.12		0.00	10.409
2B	JctBx	0.630	5.46	10.00	6.12		0.00	21.062
3B	JctBx	0.643	29.00	11.27	5.91		0.00	110.184
5C	JctBx	0.630	3.43	10.00	6.12		0.00	13.225
4C	JctBx	0.630	6.92	10.00	6.12		0.00	26.695
1C	JctBx	0.630	3.49	10.00	6.12		0.00	13.470
2C	JctBx	0.630	6.98	10.00	6.12		0.00	26.940
3C	JctBx	0.638	46.62	13.00	5.65		0.00	168.014
1D	JctBx	0.630	3.54	10.00	6.12		0.00	13.654
2D	JctBx	0.630	7.06	10.00	6.12		0.00	27.247
3D	JctBx	0.637	57.43	14.13	5.49		0.00	200.708
5E	JctBx	0.629	3.50	10.00	6.12		0.00	13.470
4E	JctBx	0.629	7.12	10.00	6.12		0.00	27.430
1E	JctBx	0.650	3.49	10.00	6.12		0.00	13.899
2E	JctBx	0.640	7.00	10.00	6.12		0.00	27.430
3E	JctBx	0.644	75.24	15.41	5.32		0.00	258.004
5F	JctBx	0.630	3.46	10.00	6.12		0.00	13.348
4F	JctBx	0.631	7.07	10.00	6.12		0.00	27.308
1F	JctBx	0.700	3.50	10.00	6.12		0.00	15.001
2F	JctBx	0.665	7.07	10.00	6.12		0.00	28.777
3F	JctBx	0.644	93.03	16.68	5.17		0.00	309.735
5G	JctBx	0.630	3.54	10.00	6.12		0.00	13.654
4G	JctBx	0.630	7.22	10.00	6.12		0.00	27.859
1G	JctBx	0.701	3.51	10.00	6.12		0.00	15.062
2G	JctBx	0.666	7.06	10.00	6.12		0.00	28.777
3G	JctBx	0.644	110.94	17.74	5.04		0.00	360.599
5I	JctBx	0.626	1.79	10.00	6.12		0.00	6.858
5H	JctBx	0.629	5.23	10.00	6.12		0.00	20.144
4H	JctBx	0.630	8.80	10.00	6.12		0.00	33.920
1H	JctBx	0.599	3.49	10.00	6.12		0.00	12.797
2H	JctBx	0.614	7.00	10.00	6.12		0.00	26.328
3H	JctBx	0.641	130.32	18.93	4.92		0.00	410.851
4I	JctBx	0.550	3.58	10.00	6.12		0.00	12.062
1I	JctBx	0.749	3.39	10.00	6.12		0.00	15.552
2I	JctBx	0.688	6.95	10.00	6.12		0.00	29.267
3I	JctBx	0.641	144.48	19.99	4.81		0.00	445.182
4J	JctBx	0.650	3.57	10.00	6.12		0.00	14.205

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OFF5	JctBx	0.718	5.39	10.00	6.12	0.00	23.695
1J	JctBx	0.749	3.54	10.00	6.12	0.00	16.225
OFF8	JctBx	0.784	5.47	10.00	6.12	0.00	26.267
2J	JctBx	0.630	3.65	10.00	6.12	0.00	14.082
OFF7	JctBx	0.746	11.13	10.26	6.08	0.00	50.447
3J	JctBx	0.641	148.32	21.02	4.71	0.00	447.313
OFF6	JctBx	0.651	165.52	21.11	4.70	0.00	506.351
OUT	Outl t	0.651	165.52	21.11	4.70	0.00	506.351

Conveyance Configuration Data

Run #	Node US	I. D. DS	FlowLi ne US (ft)	El ev. DS (ft)	Shape #	Span (ft)	Ri se (ft)	Length (ft)	Sl ope (%)	n_val ue
1	5A	4A	17.48	16.89	Cir 1	0.00	2.00	328.3	0.180	0.013
2	4A	3A	15.89	15.55	Cir 1	0.00	3.00	311.3	0.109	0.013
3	1A	2A	16.90	16.46	Cir 1	0.00	2.50	339.8	0.129	0.013
4	2A	3A	15.96	15.55	Cir 1	0.00	3.00	315.1	0.130	0.013
5	3A	3B	14.55	13.94	Cir 1	0.00	4.00	467.4	0.131	0.013
6	5B	4B	16.15	15.71	Cir 1	0.00	2.50	335.8	0.131	0.013
7	4B	3B	14.71	14.44	Cir 1	0.00	3.50	300.1	0.090	0.013
8	1B	2B	17.14	16.29	Cir 1	0.00	2.00	339.8	0.250	0.013
9	2B	3B	15.29	14.94	Cir 1	0.00	3.00	315.1	0.111	0.013
10	3B	3C	11.94	11.61	Cir 1	0.00	6.00	469.7	0.070	0.013
11	5C	4C	15.81	15.39	Cir 1	0.00	2.50	325.0	0.129	0.013
12	4C	3C	14.39	14.11	Cir 1	0.00	3.50	305.0	0.092	0.013
13	1C	2C	15.84	15.40	Cir 1	0.00	2.50	340.5	0.129	0.013
14	2C	3C	14.40	14.11	Cir 1	0.00	3.50	318.4	0.091	0.013
15	3C	3D	11.61	10.87	Cir 1	0.00	6.00	461.8	0.160	0.013
16	1D	2D	15.09	14.66	Cir 1	0.00	2.50	331.7	0.130	0.013
17	2D	3D	13.66	13.37	Cir 1	0.00	3.50	319.6	0.091	0.013
18	3D	3E	9.87	9.41	Cir 1	0.00	7.00	461.8	0.100	0.013
19	5E	4E	14.62	14.18	Cir 1	0.00	2.50	333.7	0.132	0.013
20	4E	3E	13.18	12.91	Cir 1	0.00	3.50	301.2	0.090	0.013
21	1E	2E	14.63	14.21	Cir 1	0.00	2.50	320.2	0.131	0.013
22	2E	3E	13.21	12.91	Cir 1	0.00	3.50	333.8	0.090	0.013
23	3E	3F	8.41	7.99	Cir 1	0.00	8.00	469.3	0.090	0.013
24	5F	4F	14.19	13.76	Cir 1	0.00	2.50	333.8	0.129	0.013
25	4F	3F	12.76	12.49	Cir 1	0.00	3.50	297.3	0.091	0.013
26	1F	2F	14.27	13.79	Cir 1	0.00	2.50	320.1	0.150	0.013
27	2F	3F	12.79	12.49	Cir 1	0.00	3.50	340.3	0.088	0.013
28	3F	3G	7.99	7.43	Cir 1	0.00	8.00	461.8	0.121	0.013
29	5G	4G	13.64	13.21	Cir 1	0.00	2.50	330.5	0.130	0.013
30	4G	3G	12.21	11.93	Cir 1	0.00	3.50	302.5	0.093	0.013
31	1G	2G	13.72	13.23	Cir 1	0.00	2.50	329.0	0.149	0.013
32	2G	3G	12.23	11.93	Cir 1	0.00	3.50	329.0	0.091	0.013
33	3G	3H	6.43	6.00	Cir 1	0.00	9.00	477.6	0.090	0.013
34	5I	5H	13.79	13.73	Cir 1	0.00	2.00	30.0	0.200	0.013
35	5H	4H	12.73	12.37	Cir 1	0.00	3.00	335.7	0.107	0.013
36	4H	3H	11.87	11.50	Cir 1	0.00	3.50	300.5	0.123	0.013
37	1H	2H	13.22	12.80	Cir 1	0.00	2.50	325.6	0.129	0.013
38	2H	3H	11.80	11.50	Cir 1	0.00	3.50	326.9	0.092	0.013
39	3H	3I	6.00	5.49	Cir 1	0.00	9.00	468.4	0.109	0.013
40	4I	3I	12.38	11.99	Cir 1	0.00	2.50	302.9	0.129	0.013
41	1I	2I	12.77	12.29	Cir 1	0.00	2.50	317.4	0.151	0.013
42	2I	3I	11.29	10.99	Cir 1	0.00	3.50	336.1	0.089	0.013
43	3I	3J	4.99	4.54	Cir 1	0.00	9.50	450.5	0.100	0.013
44	4J	OFF5	4.66	4.59	Cir 1	0.00	3.50	44.0	0.159	0.013
45	OFF5	OFF6	4.59	3.99	Cir 1	0.00	3.50	301.7	0.199	0.013
46	1J	OFF8	11.90	11.82	Cir 1	0.00	2.50	44.0	0.182	0.013

Prop System D 5-yr. txt										
47	OFF8	OFF7	8.82	8.66	Cir 1	0.00	5.50	321.2	0.050	0.013
48	2J	OFF7	11.73	11.66	Cir 1	0.00	2.50	44.0	0.159	0.013
49	OFF7	OFF6	8.66	8.49	Cir 1	0.00	5.50	357.1	0.048	0.013
50	3J	OFF6	4.54	4.49	Cir 1	0.00	9.50	44.0	0.114	0.013
51	OFF6	OUT	3.99	3.91	Cir 1	0.00	10.0	75.8	0.106	0.013

Conveyance Hydraulic Computations. Tailwater = 13.910 (ft)

Run #	Gr. line		Critt. Elev US (ft)	Fr. Slope (%)	Depth		Velocity		Q (cfs)	Cap (cfs)	Junc Loss (ft)
	US (ft)	DS (ft)			Uni f. (ft)	Actual (ft)	Uni f. (f/s)	Actual (f/s)			
1	18.93	18.05	21.21	0.136	1.45	1.45	3.44	3.44	8.4	9.6	0.000
2	18.05	17.78	20.40	0.081	2.16	2.23	3.51	3.38	19.1	22.1	0.000
3	18.56	18.30	18.63	0.078	1.66	1.84	3.33	2.97	11.5	14.8	0.000
4	18.30	17.78	19.41	0.118	2.34	2.34	3.89	3.89	23.0	24.2	0.000
5	17.78	16.77	19.16	0.126	3.23	3.23	4.71	4.71	51.2	52.1	0.000
6	18.03	17.31	20.39	0.108	1.88	1.88	3.43	3.43	13.5	14.9	0.000
7	17.31	16.77	19.41	0.073	2.60	2.60	3.56	3.56	27.2	30.3	0.000
8	18.65	17.61	19.25	0.210	1.51	1.51	4.09	4.09	10.4	11.4	0.000
9	17.61	16.77	18.71	0.099	2.32	2.32	3.59	3.59	21.1	22.3	0.000
10	16.77	16.49	20.17	0.067	4.83	4.88	4.52	4.48	110.2	112.7	0.000
11	17.66	16.93	19.26	0.103	1.85	1.85	3.40	3.40	13.2	14.8	0.000
12	16.93	16.49	20.03	0.070	2.54	2.54	3.57	3.57	26.7	30.6	0.000
13	17.72	16.97	18.00	0.107	1.88	1.88	3.41	3.41	13.5	14.8	0.000
14	16.97	16.49	19.52	0.071	2.57	2.57	3.56	3.56	26.9	30.5	0.000
15	16.49	15.56	20.04	0.156	4.88	4.88	6.83	6.83	168.0	170.3	0.000
16	16.98	16.26	17.92	0.110	1.89	1.89	3.42	3.42	13.7	14.8	0.000
17	16.26	15.56	17.18	0.073	2.60	2.60	3.56	3.56	27.2	30.4	0.000
18	15.56	14.60	17.87	0.098	5.69	5.69	5.99	5.99	200.7	202.5	0.000
19	16.49	15.65	18.72	0.107	1.87	1.87	3.43	3.43	13.5	15.0	0.000
20	15.65	14.60	17.64	0.074	2.63	2.63	3.54	3.54	27.4	30.3	0.000
21	16.54	15.72	16.52	0.114	1.91	1.91	3.45	3.45	13.9	14.9	0.000
22	15.72	14.60	18.73	0.074	2.63	2.63	3.54	3.54	27.4	30.3	0.000
23	14.60	14.37	18.29	0.079	6.19	6.38	6.18	6.01	258.0	274.0	0.000
24	16.06	15.25	17.64	0.105	1.87	1.87	3.40	3.40	13.3	14.8	0.000
25	15.25	14.37	17.53	0.073	2.60	2.60	3.57	3.57	27.3	30.4	0.000
26	16.20	15.39	15.72	0.133	1.93	1.93	3.68	3.68	15.0	16.0	0.000
27	15.39	14.37	15.86	0.081	2.76	2.76	3.53	3.53	28.8	30.0	0.000
28	14.37	14.00	16.96	0.114	6.38	6.57	7.21	7.01	309.7	319.0	0.000
29	15.53	14.79	15.31	0.110	1.89	1.89	3.42	3.42	13.7	14.9	0.000
30	14.79	14.00	15.55	0.076	2.63	2.63	3.60	3.60	27.9	30.7	0.000
31	15.67	14.87	15.06	0.134	1.95	1.95	3.66	3.66	15.1	15.9	0.000
32	14.87	14.00	14.00	0.081	2.71	2.71	3.60	3.60	28.8	30.5	0.000
33	14.00	13.99	13.68	0.083	7.10	7.99	6.70	6.04	360.6	376.3	0.000
34	15.00	15.00	13.79	0.091	1.21	1.27	3.46	3.25	6.9	10.2	0.000
35	15.00	14.63	13.86	0.090	2.27	2.27	3.50	3.50	20.1	21.9	0.000
36	14.63	13.99	14.68	0.113	2.76	2.76	4.17	4.17	33.9	35.5	0.000
37	15.02	14.32	14.66	0.097	1.80	1.80	3.39	3.39	12.8	14.8	0.000
38	14.32	13.99	13.97	0.068	2.52	2.52	3.56	3.56	26.3	30.6	0.000
39	13.99	13.98	14.43	0.107	7.38	8.49	7.36	6.61	410.9	413.8	0.000
40	14.10	13.98	11.81	0.086	1.72	1.99	3.35	2.88	12.1	14.8	0.000
41	14.76	14.08	13.21	0.143	1.99	1.99	3.71	3.71	15.6	16.0	0.000
42	14.08	13.98	11.74	0.084	2.79	2.99	3.56	3.34	29.3	30.2	0.000
43	13.98	13.93	14.93	0.094	7.57	9.39	7.35	6.29	445.2	457.8	0.000
44	14.42	14.36	14.01	0.020	1.44	3.50	3.81	1.48	14.2	40.3	0.000
45	14.36	13.92	12.00	0.055	1.81	3.50	4.73	2.46	23.7	45.1	0.000
46	14.18	14.16	12.99	0.155	1.90	2.34	4.04	3.40	16.2	17.6	0.000
47	14.16	14.02	12.00	0.006	2.26	5.36	2.86	1.11	26.3	75.3	0.000
48	14.04	14.02	14.72	0.117	1.79	2.36	3.75	2.94	14.1	16.4	0.000
49	14.02	13.92	12.00	0.022	3.35	5.43	3.33	2.13	50.4	73.6	0.000

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50	13.93	13.92	14.39	0.095	7.20	9.43	7.76	6.32	447.3	488.3	0.000
51	13.92	13.91	12.00	0.093	7.73	10.00	7.77	6.45	506.4	539.5	0.000

SUMMARY OF STORM DRAIN STRUCTURE QUANTITIES

NOTE:

The convey length should be from upstream to downstream inside box.  
 This length may also be used as Pay Item.  
 Using hydraulic length, from node center to node center, may result in profile error,  
 and this length should not be used as Pay Item.

LINKS:

Type of Convey Structure	Material	Rise (ft)	Span (ft)	Number of Links of this type	Quantity (ft)
Circular	Concrete	2.0	0.0	3	698.16
Circular	Concrete	3.0	0.0	4	1277.16
Circular	Concrete	2.5	0.0	16	4673.93
Circular	Concrete	4.0	0.0	1	467.38
Circular	Concrete	3.5	0.0	15	4456.31
Circular	Concrete	6.0	0.0	2	931.44
Circular	Concrete	7.0	0.0	1	461.76
Circular	Concrete	8.0	0.0	2	931.05
Circular	Concrete	9.0	0.0	2	946.02
Circular	Concrete	9.5	0.0	2	494.52
Circular	Concrete	5.5	0.0	2	678.27
Circular	Concrete	10.0	0.0	1	75.8

NODES:

Type of Inlet Structure	Type of Grate	Inlet Length (ft)	Grate Width (ft)	Grate Length (ft)	Grate Area (ft)	Grate Perimeter (ft)	Quantity (each)
Junction Box		0.0	0.0	0.0	0.0	0.0	51
Outlet		0.0	0.0	0.0	0.0	0.0	1

END

NORMAL TERMINATION OF HOUSTORM.

Warning Messages for current project:

Runoff Frequency of: 5 Years

Upstream HGL exceeds critical elevation (Design) at node Id= OFF6 Run # 51  
 Upstream HGL exceeds critical elevation (Design) at node Id= OFF5 Run # 45  
 Upstream HGL exceeds critical elevation (Design) at node Id= OFF7 Run # 49  
 Upstream HGL exceeds critical elevation (Design) at node Id= 4J Run # 44  
 Upstream HGL exceeds critical elevation (Design) at node Id= OFF8 Run # 47  
 Upstream HGL exceeds critical elevation (Design) at node Id= 4I Run # 40  
 Upstream HGL exceeds critical elevation (Design) at node Id= 2I Run # 42  
 Upstream HGL exceeds critical elevation (Design) at node Id= 1J Run # 46  
 Upstream HGL exceeds critical elevation (Design) at node Id= 3G Run # 33  
 Upstream HGL exceeds critical elevation (Design) at node Id= 2H Run # 38  
 Upstream HGL exceeds critical elevation (Design) at node Id= 1I Run # 41  
 Upstream HGL exceeds critical elevation (Design) at node Id= 2G Run # 32  
 Upstream HGL exceeds critical elevation (Design) at node Id= 5H Run # 35  
 Upstream HGL exceeds critical elevation (Design) at node Id= 1H Run # 37  
 Upstream HGL exceeds critical elevation (Design) at node Id= 5G Run # 29  
 Upstream HGL exceeds critical elevation (Design) at node Id= 1G Run # 31  
 Upstream HGL exceeds critical elevation (Design) at node Id= 5I Run # 34

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Upstream HGL exceeds critical elevation (Design) at node Id= 1F Run # 26  
Upstream HGL exceeds critical elevation (Design) at node Id= 1E Run # 21

# City of La Porte, Texas



## Report for: Concrete Street Program Study

CobbFendley Project No. 1012-056-00

JULY 2011

Submitted By:



Civil Engineering • Construction Management • GIS/CADD • Land Development • Land Surveying  
Municipal • Right-of-Way • Site Development • Subsurface Utility Engineering  
Hydraulics/Hydrology • Telecommunications • Transportation • Utility Coordination

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## EXECUTIVE SUMMARY

The City of La Porte (City) awarded Cobb Fendley Associates, Inc. (CobbFendley) the contract to perform this *Concrete Street Program Study* (Study) on December 13, 2010. Its purpose was to determine the engineering and construction costs associated with the phased construction of concrete streets with curb and gutter, and their associated storm sewers for all streets within the area bounded by West Main Street to the north, South Broadway to the east, Fairmont Parkway to the south, and State Highway 146 to the west. It would identify streets that are candidate collectors to improve access, traffic flow and pedestrian movement. It would also identify existing low-volume streets or street segments that are candidates for abandonment or re-purposing as future public improvements.

A comprehensive drainage study entitled *2010 Concrete Street Program for the City of La Porte - Drainage Study* and dated May 2011 was prepared by CobbFendley under separate cover for this Study. The proposed drainage plan satisfies City requirements and will serve as the storm water master plan for the project area. It will use the four existing outfalls while replacing roadside ditches and driveway culverts with inlets, underground storm sewer networks, and concrete streets with curb and gutter. Also, to the extent possible, it will use existing available storm sewer systems.

CobbFendley recommends widening the pavement of South 3rd Street and South 8th Street (a Harris County road) to serve as the two north-south collectors and West A Street and West G Street to serve as the two east-west collectors, all with 8 ft. to 10 ft. wide sidewalks on both sides; widening the streets narrower than 28 ft. to 28 ft. with 5 ft. wide sidewalks on both sides; and widening streets wider than 28 ft. to 36 ft. with oversized sidewalks on both sides. Based on available information, no additional rights-of-way are necessary at this time.

Four east-west streets that do not serve as significant transportation connectors between South 8<sup>th</sup> Street and South Broadway were identified for pavement area reduction: West C Street, West D Street, West E Street and West F Street. Two options to reduce their pavement area are identified in this Study.

The first ten construction phases identified in this Study place a priority on the construction of the storm sewer outfall structures, trunk storm sewer systems and the two north-south and two east-west collector roadway sections. Subsequent phases (15 to 20) complete the storm sewer system networks and street pavement improvements throughout the project area. For planning purposes, the budget for each construction phase defined herein has been held to approximately \$1.5M: an amount which the City agreed is feasible on an annual basis. The composition and sequence of the construction phases are for planning purposes only. The City may reorder, subdivide, combine or eliminate a phase or phases, or exclude or supplement the improvements within a phase or phases as available funding permits. The total estimated engineering and construction cost for the all of the phases associated with this Study is \$42.3M.

## AUTHORIZATION

The City of La Porte (City) awarded Cobb Fendley Associates, Inc. (CobbFendley) the contract to perform the *Concrete Street Program Study* (Study) on December 13, 2010. The City authorized CobbFendley to proceed with the work by letter dated December 21, 2010.

## PROJECT OVERVIEW

The Study was identified during a City Council retreat held in the summer of 2010. Its purpose would be to determine the engineering and construction costs associated with the phased construction of concrete streets with curb and gutter, and their associated storm sewers for all streets within the area bounded by West Main Street to the north, South Broadway to the east, Fairmont Parkway to the south, and State Highway 146 to the west (see **Exhibit 1**).

The Study would develop and present a Phased Construction Plan (Plan) for storm sewer systems to replace the existing combination drainage systems comprising roadside ditches, driveway culverts and storm sewers. Construction of the “backbone” or trunk storm sewer systems would be accomplished in the Plan’s early phases. Subsequent phases would include construction of the storm sewer systems’ networks. Existing roadways, which would be demolished to facilitate construction of the storm sewer systems, would be replaced with concrete streets with curb and gutter. The final phases of the Plan would include replacement of the remainder of the project area’s existing roadways with concrete streets with curb and gutter.

The Study would identify streets that are candidate collectors to improve access, traffic flow and pedestrian movement. Throughout the project area consideration would be given to the need to preserve or provide on-street parking to serve existing residents and businesses.

The Study would identify existing low-volume streets or street segments that are candidates for abandonment or re-purposing as future public improvements.

## DRAINAGE DESIGN

The complete drainage study associated with this project was prepared by CobbFendley. It is presented under separate cover in a report entitled: *2010 Concrete Street Program for the City of La Porte - Drainage Study* Dated May 2011, the Drainage Study is currently under review by the Harris County Flood Control District (HCFCD). Pertinent findings, analyses and recommendations from the Drainage Study are included herein for the reader’s convenience.

The Drainage Study investigates, analyzes and recommends changes to the project area’s existing drainage infrastructure; including a trunk storm sewer network. This proposed trunk storm sewer network is designed to accommodate a 5-year storm event for full development of the project area. Drainage objectives included:

- Analyzing the existing hydrologic and hydraulic conditions within project area to quantify the amount of flow in the existing condition;
- Creating a proposed overall storm sewer plan for the project area which provides conveyance capacity for the 5-year design storm event; and
- Addressing any impacts associated with the proposed improvements.

### **Description**

The project area is located entirely within the City of La Porte, Harris County, Texas (see **Exhibit 2**). The total land area represented is approximately 282 acres (0.44 square miles). The land generally slopes southward at an average of 0.2% slope. Elevations range from 20 feet in the northern region to 14 feet in the southern region. South 5<sup>th</sup> Street serves as the drainage divide in the east-west direction. Land use along the project area's perimeter, including West Main Street, South Broadway Street, Fairmont Parkway and South 8<sup>th</sup> Street, is general commercial (GC); whereas the majority of the remainder of the project area is low density residential (R-1), with the most lots less than ¼ acre in area.

The project area is served by HCFCFCD Unit No. F216-00-00 (Little Cedar Bayou), and its tributary F216-04-00. Little Cedar Bayou has been studied by the Federal Emergency Management Agency (FEMA) and has been issued a Flood Insurance Rate Map (FIRM) depicting base flood elevations and the limits of the 100-year floodplain (see **Exhibit 3**).

### **Existing Condition**

The existing drainage area boundaries were determined based on overland sheet flow patterns, parcel boundaries, and existing storm sewers. Overland flow patterns were based on available LiDAR data and known channel configurations. Drainage lines and catchment boundaries were delineated using ArcHydro (an extension application of ArcGIS by ESRI). Based on this information, the project area in the existing condition was divided into four separate drainage systems. The existing condition drainage area map can be seen in **Exhibit 4**.

- System A serves the northern one-third portion of the project area from West A Street to West D Street and South 8<sup>th</sup> Street to South 1<sup>st</sup> Street; draining approximately 107 acres. The storm system comprises roadside ditches and driveway culverts, with storm sewer trunk lines running south along South 4<sup>th</sup> Street and west along West D Street. This system discharges into a grass-lined ditch to the west of South 8<sup>th</sup> Street, flowing off-site into a 6-ft. x 6-ft. box culvert beneath SH146. The system is currently less than a 2-year design capacity.

- System B serves the central-western portion of the project area from West E Street to West H Street and from South 8<sup>th</sup> Street to South 5<sup>th</sup> Street; draining approximately 50 acres. The storm system comprises roadside ditches and driveway culverts which flow to the south and west. This system converges along West H Street and discharges west of South 8th Street into Little Cedar Bayou through both a 36-in. corrugated metal pipe and an 8-ft. overflow weir. The system is currently less than a 2-year design capacity.
- System C serves the southwestern portion of the project area from West H Street to Fairmont Parkway and from South 8<sup>th</sup> Street to South 5<sup>th</sup> Street; draining approximately 38 acres. The storm system comprises roadside ditches and driveway culverts, with storm sewers at some locations along West I Street, South 6th Street and Fairmont Parkway. The system flows into the Fairmont Parkway storm sewer which discharges to the west of South 8<sup>th</sup> Street directly into Little Cedar Bayou through a 48-in. reinforced concrete pipe. The system is currently less than a 2-year design capacity.
- System D serves the southeastern one-third portion of the project area from West E Street to Fairmont Parkway and from South 4<sup>th</sup> Street to South 1<sup>st</sup> Street; draining approximately 81 acres. The storm system comprises roadside ditches and driveway culverts, with storm sewer trunk lines running south along South 2nd Street and South 4th Street. This system flows into the Fairmont Parkway storm sewer which converges at South 3<sup>rd</sup> Street and discharges into F216-04-00 through a 72-in. reinforced concrete pipe. The system is currently less than a 2-year design capacity.

### **Proposed Condition**

The proposed drainage calculations were based on a 5-year design storm event as required by City drainage criteria. Flows were calculated using the rational formula. The runoff coefficient was determined by using values defined by the City drainage criteria. In areas where multiple land use types were present, weighted C-values were calculated. Rainfall intensities were based on the City's IDF curves. Times of Concentration for each drainage area were calculated from the hydraulic flow path in each drainage area using 0.5 fps for overland, 1.5 fps for drainage ditches and 3 fps for storm sewers.

The proposed drainage area boundaries were designed to decrease the runoff volume from Systems A, B, and C to a volume less than or equal to the existing condition. This was accomplished by reducing the areas of these three drainage areas and re-routing the flow from the orphaned areas into System D. In the proposed hydrologic model, there is an increase in imperviousness throughout the project area due to sidewalk and roadway

improvements. The total additional imperviousness was calculated for each drainage area, which translated into an increase of the runoff coefficient in the proposed model.

The proposed drainage plan will serve as the storm water master plan for the project area. It will use the four existing outfalls while replacing roadside ditches and driveway culverts with inlets, underground storm sewer networks, and concrete streets with curb and gutter. Also, to the extent possible, the proposed drainage plan will use existing available storm sewer systems (see **Exhibit 5**). During future design phases of this program, alternate pipe shapes and slopes can be utilized to address cover issues or utility-related conflicts once a full topographic and utility survey is completed. However, based on a limited survey, some potential utility conflicts were identified along the South 3<sup>rd</sup> Street trunk sewer.

- System A serves the northwestern portion of the project area from West A Street to West F Street and South 8<sup>th</sup> Street to South 6<sup>th</sup> Street; draining approximately 68 acres. The storm system comprises pipes ranging from 24-in. to 60-in. The existing storm sewer (54-in. to 72-in.) in West D Street was retained since it can convey the design flow. This system will continue to discharge into a grass-lined ditch to the west of South 8th Street and flow off-site into a 6-ft. x 6-ft. box culvert beneath SH146.
- System B serves the central-western portion of the project area from West F Street to West H Street and from South 8<sup>th</sup> Street to South 5<sup>th</sup> Street; draining approximately 28 acres. The storm system comprises pipes ranging from 30-in. to 78-in. This system converges along West H Street and will discharge west of South 8th Street into Little Cedar Bayou.
- System C serves the southwestern portion of the project area from West H Street to Fairmont Parkway and from South 8<sup>th</sup> Street to South 5<sup>th</sup> Street; draining approximately 27 acres. The storm system comprises 30-in. pipes. The existing storm sewers (24-in. to 48-in.) in West I Street, South 6<sup>th</sup> Street, South 7<sup>th</sup> Street, and Fairmont Parkway were retained since each can convey the design flow. This system converges along Fairmont Parkway and will continue to discharge to the west of South 8<sup>th</sup> Street directly into Little Cedar Bayou through a proposed 48-in. reinforced concrete pipe.
- System D serves the eastern half of the project area from West A Street to Fairmont Parkway and from South 5<sup>th</sup> Street to South 1<sup>st</sup> Street; draining approximately 165 acres. The storm system comprises pipes ranging from 24-in. to 120-in. This system flows into a proposed trunk sewer (48-in. to 114-in.) in South 3<sup>rd</sup> Street. The existing storm sewer (42-in. to 66-in.) in Fairmont Parkway was retained since it can convey the design flow. This system converges in Fairmont Parkway at South 3<sup>rd</sup> Street and will continue to discharge into F216-04-00 through a proposed 120-in. reinforced concrete pipe. Although the proposed System D has a significant increase in flow from the

existing condition, this increase is allowable per the City's design criteria because the outfall is downstream of SH 146, in close proximity to Galveston Bay: there are no homes or businesses downstream to impact. Also, it is important to note that the increased flow from the proposed improvements will not result in a change to the FEMA effective 100-year floodplain. The 100-year floodplain for this area is based upon a coastal flooding elevation of 12.5 feet and is not directly related to riverine flooding.

## **PAVEMENT IMPROVEMENTS/PAVEMENT AREA REDUCTION**

### **Existing Rights-of-Way**

All of the streets within the project area have 60-ft. wide rights-of-way except South 3<sup>rd</sup> Street, South 8<sup>th</sup> Street, West B Street, West D Street, West F Street and West G Street which have 80-ft. wide rights-of-way. Note that South 8<sup>th</sup> Street is a Harris County road. Infrastructure improvements within this right-of-way must be coordinated with the Harris County Public Infrastructure Department –Architecture and Engineering Division and Harris County Precinct Two.

### **Existing Roadway Sections**

The majority of the existing roadway sections within the project area comprise 20-ft. wide, two-lane, two-way asphalt-paved roads with roadside, open-ditch drainage systems. Several have roadway sections comprising 36-ft. wide, two-lane, two-way asphalt-paved roads with roadside, open-ditch drainage systems. These include:

- South 1<sup>st</sup> Street from West Main Street to West B Street;
- South 2<sup>nd</sup> Street from West Main to South D Street;
- West A Street from South 3<sup>rd</sup> Street to South Broadway Street; and
- West G Street from South 4<sup>th</sup> Street to South Broadway Street.

There are also several roadway sections comprising concrete streets with curb and gutter and closed-conduit storm sewer systems (see **Exhibit 6**). These include:

- South 4<sup>th</sup> Street from West A Street to West H Street;
- West D Street from South 6<sup>th</sup> Street to South Broadway Street; and
- West G Street from South 4<sup>th</sup> Street to South Broadway Street.

### **Existing On-Street Parking**

As mentioned above, land use along the project area's perimeter is general commercial, and its interior is primarily low density residential. Many of the businesses in the commercial areas have insufficient off-street parking capacity. This shortfall is supplemented by existing

on-street parking<sup>1</sup> along West Main Street, South Broadway Street, Fairmont Parkway and South 8<sup>th</sup> Street and the streets or alleys behind and parallel to these streets. Within the project area's low density residential interior there are both institutional and multi-family uses including, but not limited to churches at both the South 1<sup>st</sup> Street - West B Street intersection and South 7<sup>th</sup> Street - West C Street intersection, and apartments near the South 1<sup>st</sup> Street - West G Street intersection and South 6<sup>th</sup> Street - Fairmont Parkway intersection. As in the commercial areas, insufficient off-street parking for these facilities is supplemented by existing on-street parking capacity (see **Exhibit 7**).

### **Existing Pavement Area**

There are several existing streets and street segments within the interior of the project area that appear to have low traffic volumes. These can be reconstructed using narrower width pavement, restriped, resigned, realigned, partially or wholly abandoned, or any feasible combination thereof to reduce pavement area, reduce traffic volume, reduce future pavement maintenance costs, be re-purposed as a public improvement, or combination.

## **FINDINGS AND RECOMMENDATIONS**

### **Proposed Rights-of-Way**

Based on available information and given the schematic nature of this Study, no additional rights-of-way are foreseen as necessary at this time.

### **Proposed Roadway Sections**

This Study was commissioned for the purpose of determining the feasibility and cost to reconstruct all of the roadway sections within the project area from asphalt with open ditch drainage to concrete (6 in. and 7 in. thick with curb and gutter) with storm sewer drainage. The recommended roadway sections fall into one of three categories as follows:

- Streets narrower than 28 ft. shall be widened to 28 ft. with 5 ft. wide sidewalks on both sides;
- Streets wider than 28 ft. shall be widened to 36 ft. with oversized sidewalks on both sides; and
- Two east-west streets and two north-south streets shall be widened to 36 ft. to serve as traffic collectors between the four perimeter streets, provide more traffic connectivity, and provide more on-street parking capacity. Oversized sidewalks are recommended on both sides of these streets to better facilitate pedestrian flow.

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<sup>1</sup> An area designated for or where parallel (or head-in) vehicle parking is permitted usually along the curb lane(s) of a curbed street, or along the edge of pavement or unpaved shoulder (or combination) of an un-curbed street. In all cases the parking occurs within the limits of the street's right-of-way.

These sidewalks can be provided in place of what was previously the unusable area for the roadside drainage ditches.

CobbFendley recommends widening the pavement of South 3<sup>rd</sup> Street and South 8<sup>th</sup> Street to serve as the project area's two north-south collectors. Additional reasons include:

- The rights-of-way of both streets are 80 ft.;
- South 3<sup>rd</sup> Street is the location for the System D trunk storm sewer system;
- South 8<sup>th</sup> Street is a Harris County roadway and cost sharing opportunities may be available to the City. In coordinating with Harris County, the City should note that the total construction cost (in three separate phases) is estimated at \$3.2M per this Study.

CobbFendley recommends widening the pavement of West A Street and West G Street to serve as the project area's two east-west collectors. Additional reasons include:

- Additional on-street parking capacity one block south of and parallel to West Main Street will benefit the West Main Street businesses;
- A portion of West G Street is already 36 ft. wide concrete pavement with curb and gutter;
- West G Street extends the full width of the project area from the northbound frontage road of SH 146 to South Broadway; and
- There is an existing traffic signal at the West G Street – South Broadway intersection to contribute to the street's role as a collector.

See **Exhibit 8**

### **Potential Savings**

The city could potentially realize some cost savings by preserving some of the existing concrete streets (See **Exhibit 6**) which have a total area of about 13,500 square yards.

Although the existing concrete streets would likely require the intersections to be reconstructed with adequate drainage inlets, the City could potentially save up to \$300,000 if at least 50% of the streets could be salvaged as determined on a phase-by-phase basis (not included in current cost estimate).

### **Proposed On-Street Parking**

Any plan to reconstruct the existing streets in the project area, especially where reduced pavement area is a criterion, must address the preservation of existing on-street parking capacity. Using existing land use and available on-street parking, the following ratios were derived as a planning tool to assure that existing parking capacity is maintained. These are for reference only; actual ratios should be determined during final design:

- Low density residential (R-1): 20 sq. yd./acre
- General commercial (GC): 55 sq. yd./acre
- (MS, MSO) Main Street (MS): 80 sq. yd./acre
- Main Street Overlay (MSO): 80 sq. yd./acre

### **Proposed Pavement Area Reduction**

The grid pattern of the existing interior streets facilitates opportunities to reduce the paving footprint that other layouts cannot. Four east-west streets that do not serve as significant transportation connectors between South 8<sup>th</sup> Street and South Broadway were identified: West C Street, West D Street, West E Street and West F Street. Two options to reduce their pavement area were identified as follows:

- Option A

This option consists of reconstructing the four streets' roadway sections to 12 ft. wide by 6 in. thick concrete pavement without curbs, with open ditch drainage systems, and rough-graded shoulders which allow ample width for on-street parking. This pavement area footprint will be less than the proposed 28 ft. wide pavement recommended in this Study. It will also be less than the existing width of approximately 20 ft. (see **Exhibit 9**).

This option will save the City approximately \$500,000 in capital costs (see construction cost estimate below) and it could save the City up to 50% in maintenance costs because the paving area will be over 50% less than that proposed for the surrounding streets.

- Option B

This option consists of erecting bollards at mid-block in the four streets to prohibit the flow of east-west through traffic. Local residents would have access for parking, or other use. Each street would be signed "No Outlet" along South 3<sup>rd</sup> Street, South 4<sup>th</sup> Street, South 5<sup>th</sup> Street, South 6<sup>th</sup> Street, South 7<sup>th</sup> Street (with the exception of West D Street and West E Street), and South 8<sup>th</sup> Street (with the exception of West D Street and West E Street). These latter two blocks must remain open to provide residents access to the alley that connects West D Street and West E Street between South 7<sup>th</sup> Street and South 8<sup>th</sup> Street. This option would allow seven, one-half blocks of pavement to be demolished leaving grass-covered rights-of-way for public use: there are no driveways on these half-blocks (see **Exhibit 10**).

In considering the cost for this option, two pavement types were considered: concrete and open-cell (permeable) concrete pavers. Both pavement widths would be 20 ft. wide; however the concrete would be 6 in. thick and the pavers would be their manufactured height. The roadway section comprises the pavement without curbs, with open ditch

drainage system, and rough-graded shoulders which allow ample width for on-street parking.

The 20 ft. by 6 in. concrete pavement may save the city up to \$250,000 in capital costs (see construction cost estimate below) and it could save the City up to 50% in maintenance costs because the paving area will be less than that proposed for the surrounding streets and the mid-block bollards will eliminate traffic thus extending the life of the pavement. However, the most beneficial variation would be to have grass-covered rights-of-way functional enough to accommodate parking needs, while also serving as an aesthetically pleasing park-type recreational area.

In any scenario which prevents or significantly reduces the volume of through-traffic on a roadway, whether by reduced pavement width, signing, striping, barriers, or other traffic calming measure(s), the City must consider the potential negative impacts to such services as public transportation, and police, fire, and emergency medical access. The City must also consider potential impacts to pedestrian safety and handicap accessibility.

### **Overland Flow Conveyance**

Although the proposed plan transforms all the storm sewer systems from less than a 2-year design to a 5-year design, the proposed street elevations as constructed from one phase to another will also play an important role in the overall plan effectiveness. As the streets are constructed they will act as conveyance channels for overland flow during large storm events, therefore it will be important for city staff to closely review the phased designs to make sure that they generally move storm water toward West D Street , West H Street, and South 3<sup>rd</sup> Street and their respective outfalls (see **Exhibit 11**).

## **CONSTRUCTION COST**

The construction cost of the improvements associated with this Study (see **Appendix A**) are based on current bids from Harris County's Capital Projects' bid tabulations, Texas Department of Transportation's average low bid prices, and other construction bid information that CobbFendley has accumulated from the City of La Porte and other municipalities in the greater Houston area. The cost estimates included herein are as follows:

- Cost Estimate 1 - Overall Construction, Engineering, Surveying, and Contingencies
- Cost Estimate 2 - Overall Construction and Phases 1-10
- Cost Estimate 3 - Overall Construction and Pavement Reduction Options

The various categories in the estimates include:

- General (mobilization, traffic control etc.);
- Paving;

- Demolition;
- Storm sewer system;
- Miscellaneous utility (minimal sanitary sewer and water line adjustments);
- Engineering and surveying; and
- Contingency (20%).

The contingency used in the overall cost estimate is considered reasonable and conservative for the schematic level design proposed in this Study. It increases the budget to account for known and unknown items that may be identified during preliminary and final design.

Cost estimate items of additional interest:

- Improvements to existing channels may cost more than expected or additional channel improvements may be required.
- The impacts for the storm sewer outfalls near Fairmont Parkway, West H Street, West D Street, and the storm sewer upstream of the Arizona Ditch are considered to be mitigated by reducing the drainage areas to their respective outfalls. However, the drainage area for the South 3<sup>rd</sup> Street outfall at Fairmont Parkway has been increased to relieve the impacts to the other outfalls. Therefore, an item for Channel Improvements Downstream (\$250,000) has been included to make provision for channel improvements to the South 3<sup>rd</sup> Street ditch downstream of the outfall adjacent to the wastewater treatment plant. Although the Drainage Study recommends improvements to the South 3<sup>rd</sup> Street ditch, it will alleviate the need for major improvements to the other outfall ditches. The channel improvements to the South 3<sup>rd</sup> Street ditch will most likely be in the form of an earthen or concrete-paved trapezoidal weir structure on top of the existing culvert adjacent to the wastewater treatment plant. However, the improvements could take the form of an additional culvert or the complete re-opening of the channel. The provision in the estimate for the channel improvements is based on the weir approach.
- The existing waterlines, especially the water services to the residences and businesses, could be shallow and require lowering to be compatible with the proposed street construction. This could create a major cost that exceeds the \$400,000 in the Misc. Utility item.

CobbFendley has a comprehensive list of bid items and unit costs based on a familiarity with construction project contracts in the City of La Porte; however construction prices can vary significantly over time.

## CONSTRUCTION PHASING

For planning purposes, the budget for each construction phase defined herein has been held to approximately \$1.5M: an amount which the City agreed is feasible on an annual basis. The composition and sequence of the construction phases are for planning purposes only. The City may reorder, sub-divide, combine or eliminate a phase or phases, or exclude or supplement the improvements within a phase or phases as available funding permits.

### Approach

The construction phasing approach for the Study places an early priority on the construction of the storm sewer outfall structures for System D (South 3<sup>rd</sup> Street beneath and south of Fairmont Parkway), and System B (West H Street from South 8<sup>th</sup> Street to Little Cedar Bayou). The next two phases simultaneously complete the construction of the System D trunk sewer and the reconstruction of South 3<sup>rd</sup> Street from West Main Street to Fairmont Parkway to a 36-ft. wide collector. Similarly, Phases 5 and 6 simultaneously complete the construction of the storm sewer improvements in and reconstruction of South 8<sup>th</sup> Street from West Main Street to Fairmont Parkway to a 36-ft. wide collector. Phases 7 through 10 complete the majority or all of the storm sewer and paving improvements in West A Street, West G Street, West H Street and South 7<sup>th</sup> Street (see descriptions following and **Exhibit 12**). Phase 11 and greater complete all of the remaining storm sewer and roadway improvements within the project area. Including Phase 11, approximately 15 to 20 additional phases are estimated (see **Exhibit 13**).

### Phase 1

- Construct the downstream channel improvements to F126-04-00
- Construct the 120-in. storm sewer and outfall structure in line with South 3<sup>rd</sup> Street from Fairmont Parkway south to F126-04-00
- Construct 114-in. through 108-in. storm sewer in South 3<sup>rd</sup> Street from Fairmont Parkway to West H Street
- Construct the 36-ft. wide pavement and other improvements in South 3<sup>rd</sup> Street from Fairmont Parkway to West H Street
- Potential conflict with existing 18 in. sanitary sewer is likely resolved with a conflict manhole (see **Exhibit 14**)
- Benefits: Completion of South 3<sup>rd</sup> Street outfall structure and downstream channel improvements to F126-04-00; extension of pavement and System D trunk sewer system improvements in South 3<sup>rd</sup> Street.

### Phase 2

- Construct the 78-in. storm sewer and outfall structure at Little Cedar Bayou in line with West H Street from the bayou to South 8<sup>th</sup> Street

- Construct the 30-in. storm sewer in South 8<sup>th</sup> Street from Fairmont Parkway to West I Street
- Construct the 54-in. storm sewer in South 8<sup>th</sup> Street from West H Street to West G Street
- Construct paving and other improvements in South 8<sup>th</sup> Street from Fairmont Parkway to West G Street and in South H Street west to the pavement limit
- Benefits: Completion of the System B outfall to Little Cedar Bayou.

### Phase 3

- Construct the 108-in. through 84-in. storm sewer in South 3<sup>rd</sup> Street from West H Street to West D Street
- Construct the 36-ft. wide pavement and other improvements in South 3<sup>rd</sup> Street from West H Street to West D Street
- Potential conflict with existing 8 in. sanitary sewer is likely avoided (see **Exhibit 14**)
- Benefits: Extension of pavement and System D trunk sewer in South 3<sup>rd</sup> Street.

### Phase 4

- Construct the 72-in. through 48-in. storm sewer in South 3<sup>rd</sup> Street from West D Street to West A Street
- Construct the 36-ft. wide pavement and other improvements in South 3<sup>rd</sup> Street from West D Street to West Main Street
- Potential conflict with existing 8 in. sanitary sewer is likely avoided (see **Exhibit 14**)
- Benefits: Completion of pavement and System D trunk sewer system improvements in South 3<sup>rd</sup> Street from Fairmont Parkway to West Main Street.

### Phase 5

- Construct the 48-in. through 24-in. storm sewer in South 8<sup>th</sup> Street from West E Street to West A Street
- Construct 36-ft. wide pavement and other improvements in South 8<sup>th</sup> Street from West E Street to West Main Street
- Benefits: Extension of pavement and completion of System A storm sewer in South 8<sup>th</sup> Street.

### Phase 6

- Construct the 42-in. storm sewer in West G Street from South 8<sup>th</sup> Street to South 7<sup>th</sup> Street

- Construct 36-ft. wide pavement and other improvements in South 8<sup>th</sup> Street from West G Street to West E Street
- Construct 36-ft. wide pavement and other improvements in West G Street from the northbound frontage road of SH 146 to South to 7<sup>th</sup> Street
- Benefits: Completion of pavement and System B storm sewer in South 8<sup>th</sup> Street from Fairmont Parkway to West Main Street. Extension of pavement and System B storm sewer in West G Street.

#### **Phase 7**

- Construct the 60-in. through 30-in. storm sewer in South 7<sup>th</sup> Street from West E Street to West A Street
- Construct the paving and other improvements in South 7<sup>th</sup> Street from West Main Street to West E Street.
- Benefits: Extension of pavement and System A storm sewer in South 7<sup>th</sup> Street

#### **Phase 8**

- Construct the 24-in. through 36-in. storm sewers in West A Street from South 7<sup>th</sup> Street to South 2<sup>nd</sup> Street
- Construct the paving and other improvements in West A Street the northbound frontage road of SH 146 to South 2<sup>nd</sup> Street
- Benefits: Extension of pavement and System A and System D storm sewer in West A Street

#### **Phase 9**

- Construct the 30-in. storm sewer in West A Street from South 2<sup>nd</sup> Street to South 1<sup>st</sup> Street
- Construct the 30-in. storm sewer in West G street from South 3<sup>rd</sup> Street to South 1<sup>st</sup> Street
- Construct the 42-in. through 30-in. storm sewer in West H Street from South 3<sup>rd</sup> Street to South 1<sup>st</sup> Street
- Construct the paving and other improvements in West A Street from South 2<sup>nd</sup> Street to Broadway
- Construct the paving and other improvements in West G Street from South 3<sup>rd</sup> Street to Broadway
- Construct the paving and other improvements in West H Street from South 3<sup>rd</sup> Street to Broadway
- Benefits: Flood mitigation in the Repetitive Flooding Area northeast of the South 1<sup>st</sup> Street-West H Street intersection; Completion of West A Street within the project limits

### Phase 10

- Construct the 42-in. through 30-in. storm sewer in West G Street from South 7<sup>th</sup> Street to South 3<sup>rd</sup> Street
- Construct the 48-in. through 36-in. storm sewer in West H Street from South 8<sup>th</sup> Street to South 6<sup>th</sup> Street
- Construct the 36-ft. wide pavement and other improvements in West G Street from South 7<sup>th</sup> Street to South 3<sup>rd</sup> Street
- Construct the paving and other improvements in West H Street from South 8<sup>th</sup> Street to South 5<sup>th</sup> Street
- Benefits: Completion of West G Street within the project limits

### Phases 11 and Greater

For planning purposes, the budget for each construction phase defined herein has been held to approximately \$1.5M: an amount which the City agreed is feasible on an annual basis. The composition and sequence of the construction phases are for planning purposes only. The City may reorder, sub-divide, combine or eliminate a phase or phases, or exclude or supplement the improvements within a phase or phases as available funding permits.

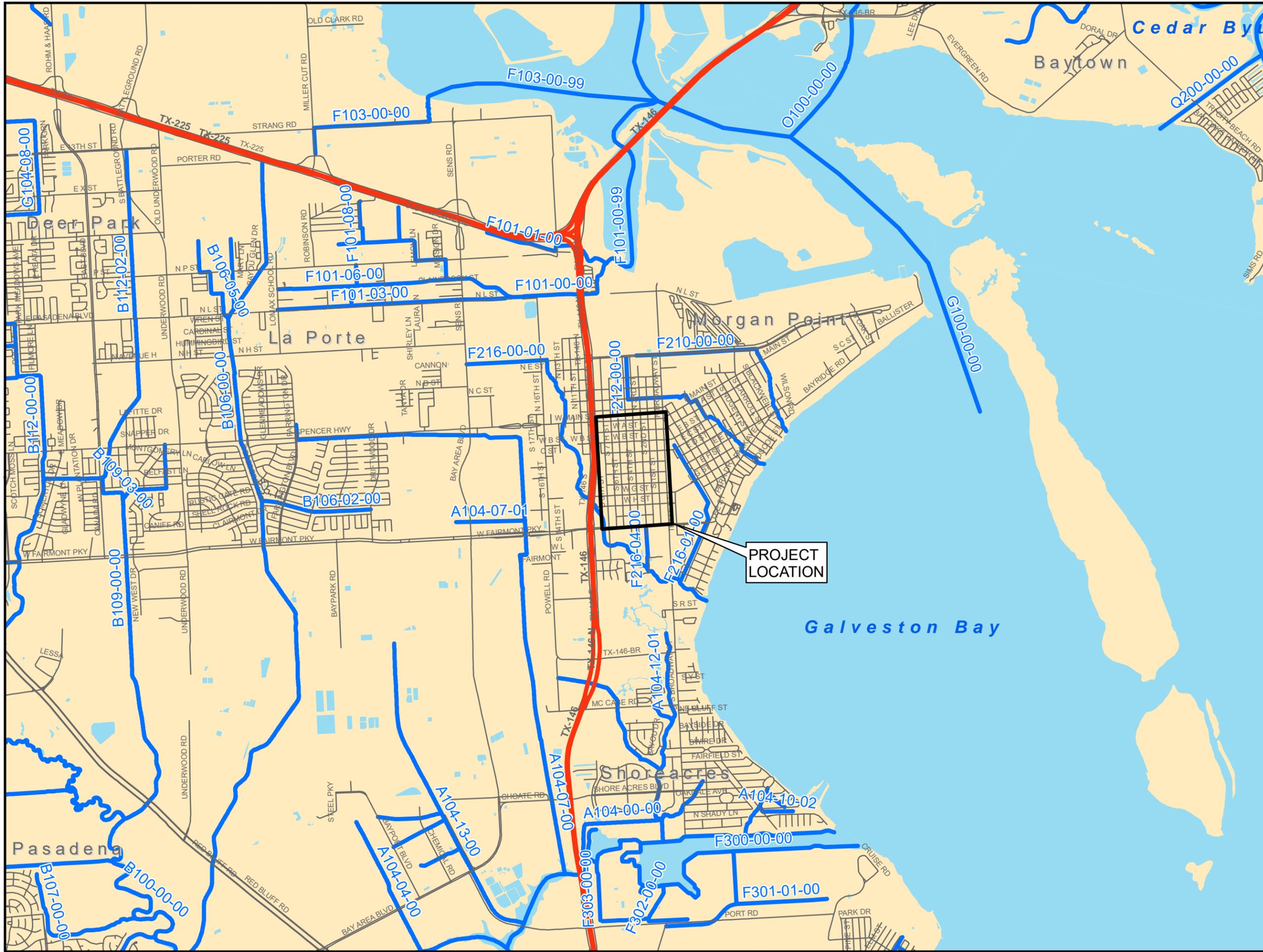
**Exhibit 13** shows the remaining portions of the project that can be planned in the future based on the methodology of using the north-south and east-west streets to determine the project scope from year to year. The phases can generally be described as full-width roadway construction within the rights-of-way that consist of either five to six blocks in the north-south direction, seven to eight blocks in the east-west direction, or some combination thereof. Additionally, the City will have ten phases of similar construction to compare and use to modify the phasing approach described herein. In addition, the total number of 100 ft. stations (639) has been provided on the cost estimate which, when divided by the overall cost, provides an average of approximately \$660 per linear foot for all engineering and construction costs associated with the improvements. As each construction phase commences, the City can check the actual cost per linear foot against this average. The City can also continually improve upon this average cost metric as a tool to make informed planning decisions over time and with respect to the ultimate build-out of the entire project area.

### CONCLUSION

This Study satisfies the City's scope of work by having:

- Prepared schematic designs for four storm drainage systems in accordance with City requirements to serve the project area;
- Examined existing rights-of-way widths of all the streets within the project area;

- Identified two east-west streets (West N Street and West G Street) to serve as collectors between the northbound frontage road of SH 146 and South Broadway;
- Identified two north-south streets (South 3<sup>rd</sup> Street and South 8<sup>th</sup> Street) to serve as collectors between West Main Street and Fairmont Parkway;
- Identified four east-west streets that do not serve as significant transportation connectors between South 8th Street and South Broadway Street (West C Street, West D Street, West E Street and West F Street) and presented two schematic level options to reduce their pavement areas;
- Developed ten priority phases each with a construction budget of approximately \$1.5M to construct the storm sewer outfall structures, trunk storm sewer systems and the two north-south and two east-west collector roadway sections, and fifteen to twenty subsequent phases to complete the remaining storm sewer system networks and street pavement improvements throughout the project area; and
- Prepared preliminary estimates (including 20% contingency) for the engineering and construction costs associated with overall construction.



**LEGEND**

- HCFCD CHANNELS
- PROJECT LOCATION

PROJECT LOCATION



**EXHIBIT 1**

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 13430 Northwest Freeway, Suite 1100  
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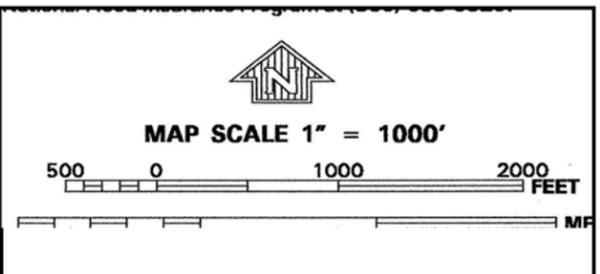
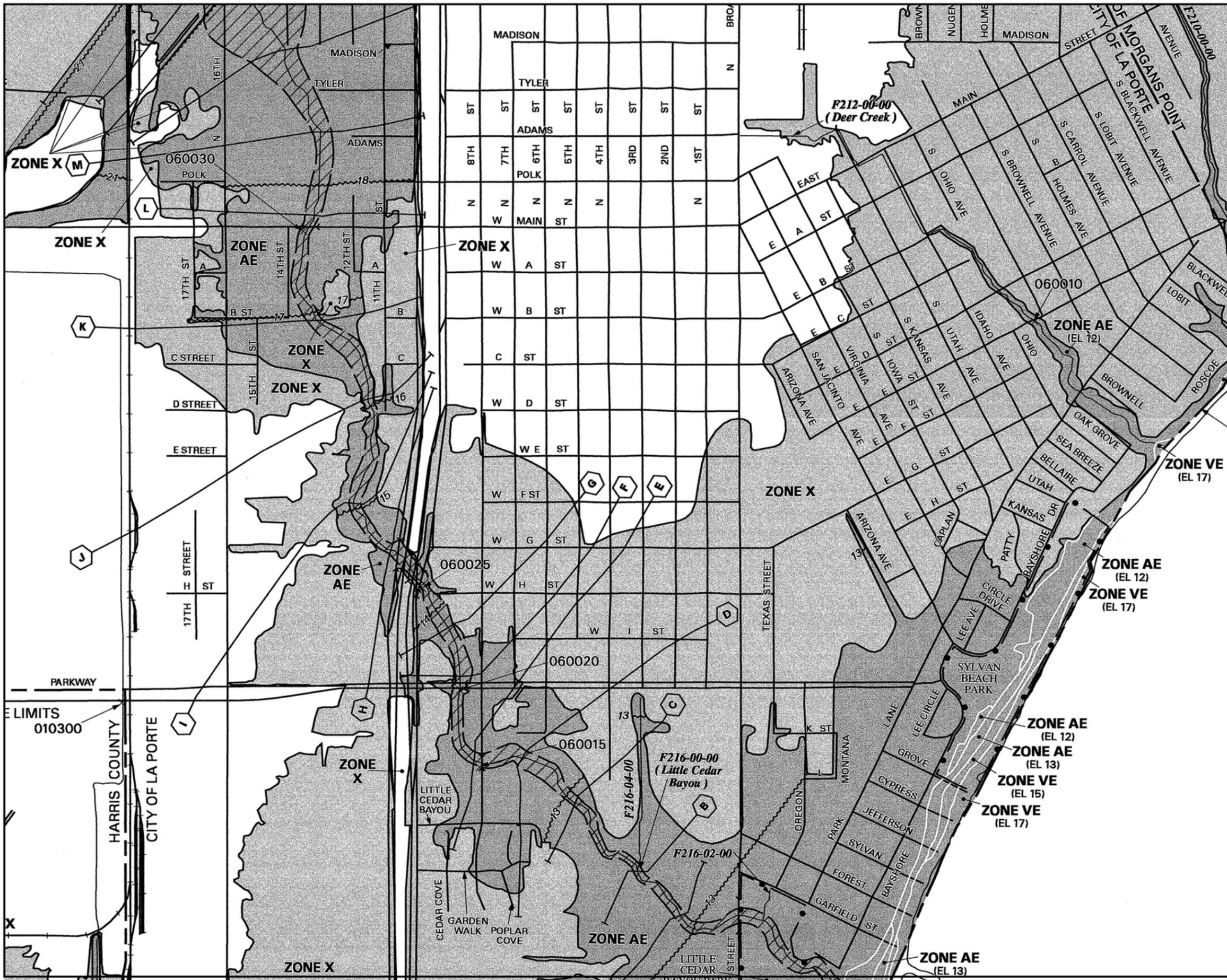
CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

**VICINITY MAP**

SUBMITTED:	DESIGNED BY: CA
SCALE: 1" = 4000'	DRAWN BY: CE
DATE: 4/18/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F.B. NO:	





PANEL 0945L

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
 HARRIS COUNTY,  
 TEXAS  
 AND INCORPORATED AREAS

PANEL 945 OF 1150  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MORGANS POINT, CITY OF	480305	0945	L
LA PORTE, CITY OF	485487	0945	L
HARRIS COUNTY, UNINCORPORATED AREAS	480267	0945	L
PARADENA, CITY OF	480367	0945	L

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

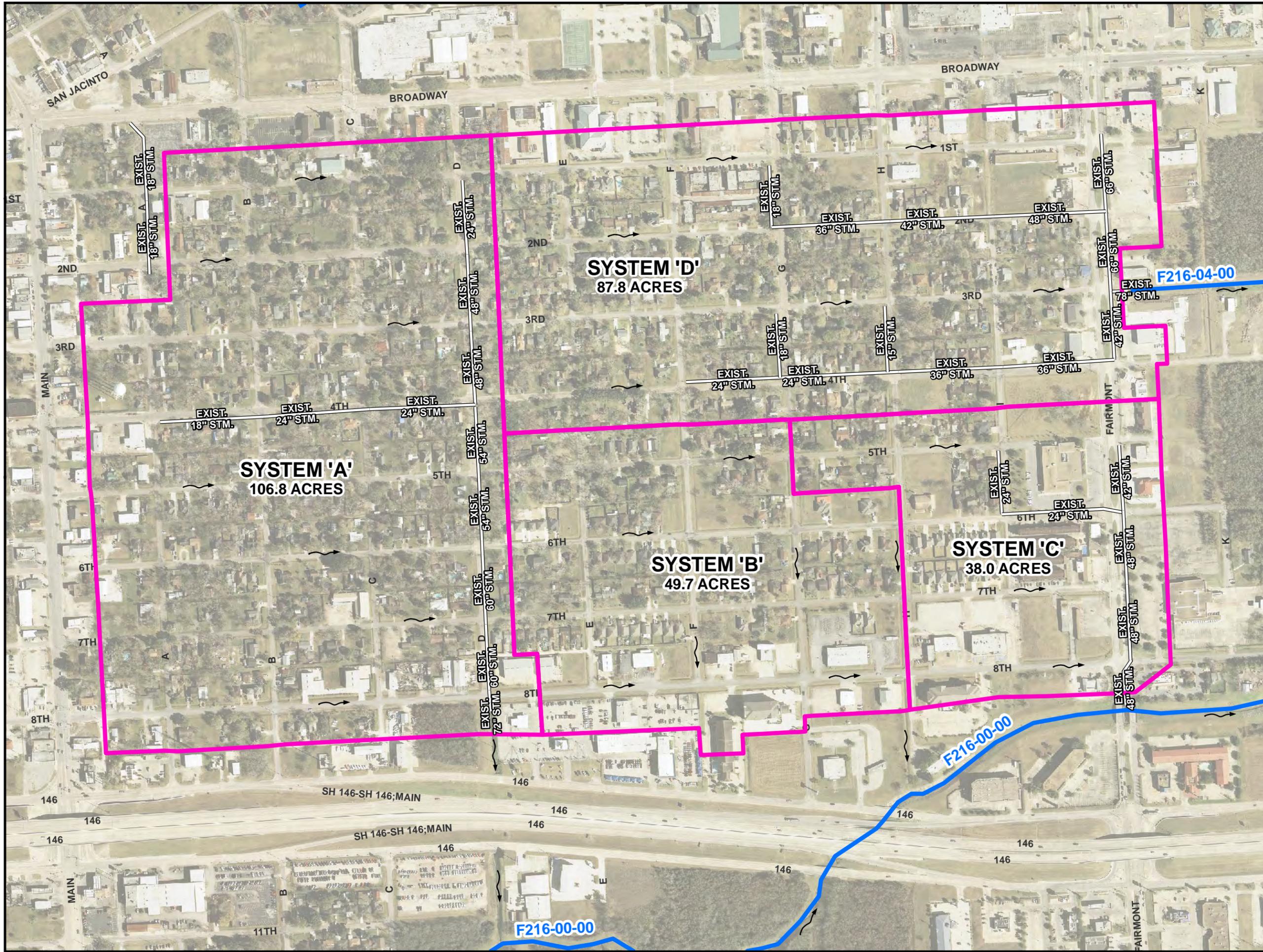
**MAP NUMBER**  
48201C0945L

**MAP REVISED:**  
JUNE 18, 2007

  
 Federal Emergency Management Agency

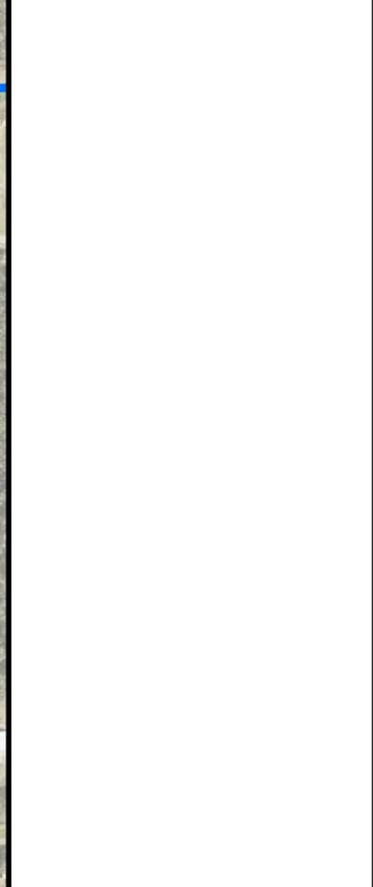
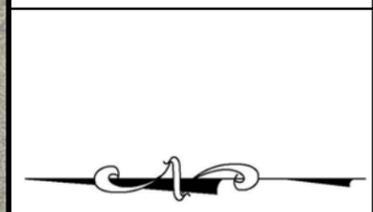
**EXHIBIT 3**

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



**LEGEND**

- █ EXISTING DRAINAGE AREA
- EXISTING STORM SEWER
- █ HCFCD CHANNELS
- ~ FLOW DIRECTION



**EXHIBIT 4**

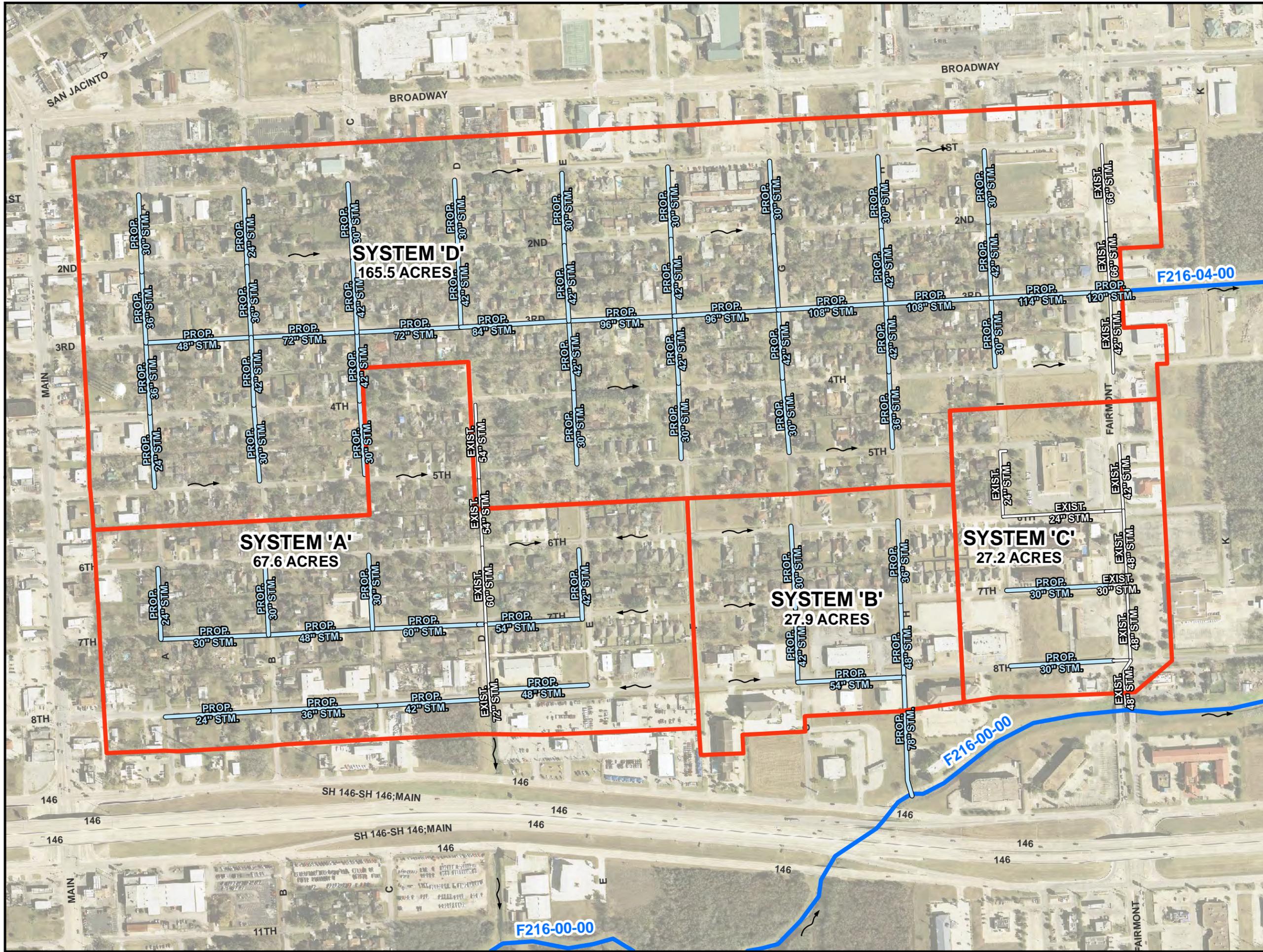
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CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

**EXISTING CONDITION  
 DRAINAGE AREA MAP**

SUBMITTED:	DESIGNED BY: CA
SCALE: 1" = 400'	DRAWN BY: CE
DATE: 4/18/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F.B. NO:	



**LEGEND**

- PROPOSED DRAINAGE AREA
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- HCFCD CHANNELS
- ~ FLOW DIRECTION



**EXHIBIT 5**

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CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

**PROPOSED CONDITION  
 DRAINAGE AREA MAP**

SUBMITTED:	DESIGNED BY: CA
SCALE: 1" = 400'	DRAWN BY: CE
DATE: 4/18/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F B NO:	



**CONCRETE PAVING LEGEND**

EXISTING  
CONC. STREETS



**EXHIBIT 6**

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**CITY OF LAPORTE  
LAPORTE, TEXAS**

**CONCRETE STREET  
PROGRAM STUDY**

**EXISTING CONCRETE  
STREET PLAN**

SUBMITTED:  
SCALE: 1"=400'  
DATE: 7/11/11  
SURVEY BY:  
F. B. NO:

DESIGNED BY:HL  
DRAWN BY:HL  
SHEET No.: 1 OF 1  
DWG. NO:



**ZONING LEGEND**

- (R-1) LOW DENSITY RESIDENTIAL (183.10 ACRES)
- (GC) GENERAL COMMERCIAL (114.86 ACRES)
- (MS,MSO) MAIN STREET & MAIN STREET OVERLAY (35.60 ACRES)

**ZONED USE PARKING PROVISIONS**

- (R-1) LOW DENSITY RESIDENTIAL (20 SY/AC) 3,700 SY
- (GC) GENERAL COMMERCIAL (55 SY/AC) 6,400 SY
- (MS,MSO) MAIN STREET & MAIN STREET OVERLAY (80SY/AC) 2,900SY

NOTE: THE QUANTITIES PROVIDED ARE BASED SOLELY ON THE EXISTING CONDITIONS ROUNDED TO NEAREST 100 SY AND HAVE BEEN USED IN THE COST ESTIMATE FOR BUDGET PLANNING PURPOSES.



**EXHIBIT 7**

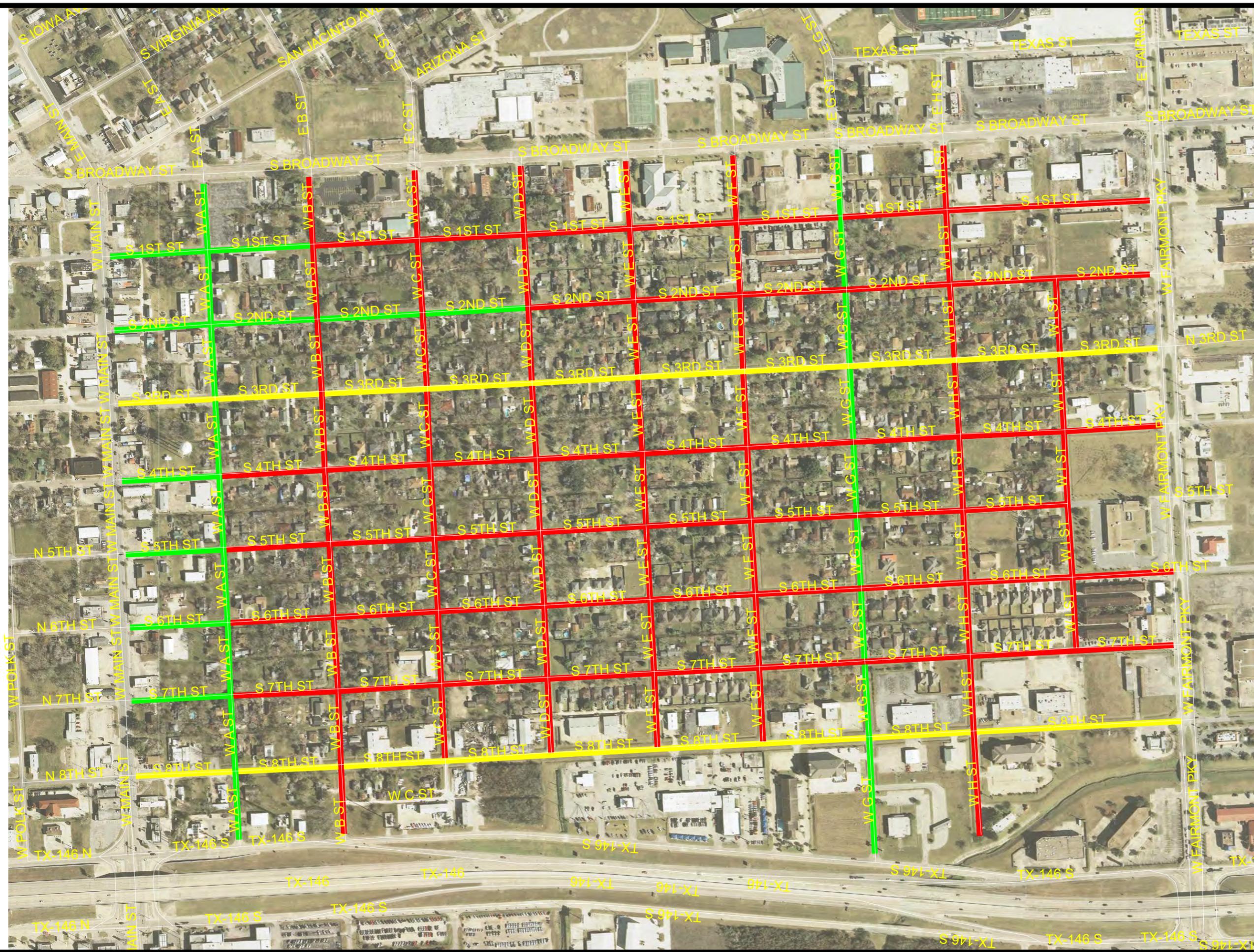
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**CITY OF LAPORTE  
 LAPORTE, TEXAS**

**CONCRETE STREET  
 PROGRAM STUDY**

**LAND USE MAP &  
 PARKING PROVISIONS**

SUBMITTED: SCALE: 1"=400' DATE: 7/11/11 SURVEY BY: F. B. NO:	DESIGNED BY:HL DRAWN BY:HL SHEET No.: 1 OF 1 DWG. NO:
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**CONCRETE PAVING LEGEND**

- 36 FT. WIDE WITH (2) 8' SIDEWALKS
- 36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK
- 28 FT. WIDE WITH (2) 5' SIDEWALKS

- NOTES:**
1. PAVEMENT THICKNESS SHALL BE 7 INCH MIN. FOR 36 FT. WIDE PAVEMENT AND 6 INCH MIN. FOR 28 FT. WIDE PAVEMENT.
  2. ALL ROADSIDE PARKING AREA FOR MULTI-FAMILY AND COMMERCIAL USES SHALL BE ACCOMMODATED FOR AS EACH PHASE IS PREPARED FOR CONSTRUCTION.
  3. THE ROW WIDTH IS 80 FT. FOR "B", "D", "F", "H", "3RD", AND "8TH" STREET. THE ROW WIDTH FOR ALL OTHER STREETS IS 60 FT.



**EXHIBIT 8**

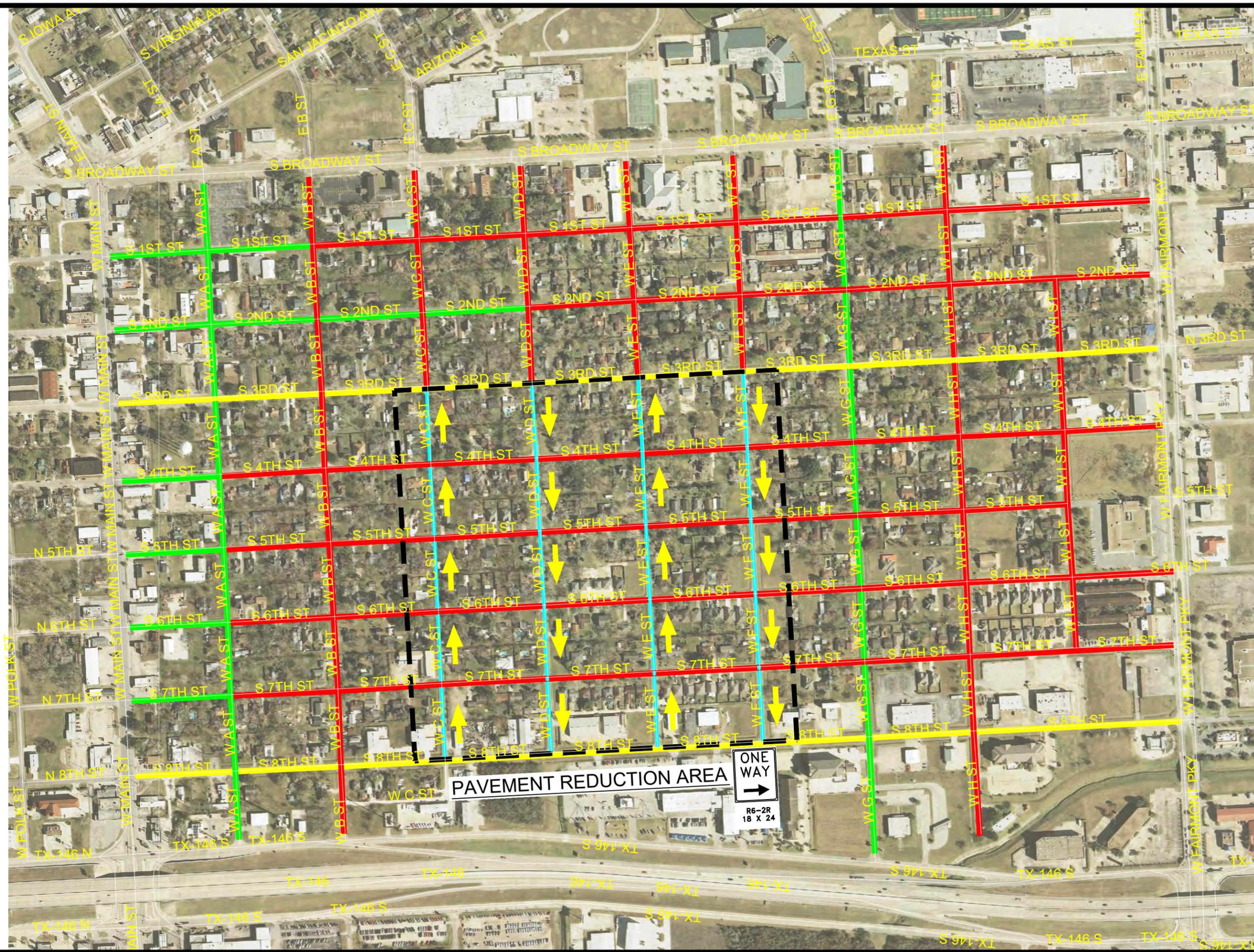
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**CITY OF LAPORTE  
 LAPORTE, TEXAS**

**CONCRETE STREET  
 PROGRAM STUDY**

**PROPOSED CONCRETE  
 STREET PAVING PLAN**

SUBMITTED:	DESIGNED BY:HL
SCALE: 1"=400'	DRAWN BY:HL
DATE: 7/11/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F B NO:	



**CONCRETE PAVING LEGEND**

- 36 FT. WIDE WITH (2) 8' SIDEWALKS █
- 36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK █
- 28 FT. WIDE WITH (2) 5' SIDEWALKS █
- 12 FT. WIDE WITH (2) 5' SIDEWALK █

- NOTES:**
1. PAVEMENT THICKNESS SHALL BE 7 INCH MIN. FOR 36 FT. WIDE PAVEMENT AND 6 INCH MIN. FOR 28 FT. WIDE PAVEMENT.
  2. ALL ROADSIDE PARKING AREA FOR MULTI-FAMILY AND COMMERCIAL USES SHALL BE ACCOMMODATED FOR AS EACH PHASE IS PREPARED FOR CONSTRUCTION.
  3. THE ROW WIDTH IS 80 FT. FOR "B", "D", "F", "H", "3RD", AND "8TH" STREET. THE ROW WIDTH FOR ALL OTHER STREETS IS 60 FT.
  4. PAVEMENT REDUCTION OPTION "A" CONSISTS OF CONSTRUCTING (4) ONE-WAY STREETS TO INCLUDE: STREETS "C", "D", "E", AND "F" BETWEEN 3RD AND 8TH STREET. THE PROPOSED STREETS FOR THIS OPTION ARE TO BE 12 FT. WIDE, 6 INCH THICK, CURBLESS, AND ROUGH-GRADED BEYOND THE EDGE OF PAVEMENT IN A MANNER SIMILAR TO THE EXISTING CONDITIONS TO ALLOW AMPLE SHOULDER PARKING.



**EXHIBIT 9**

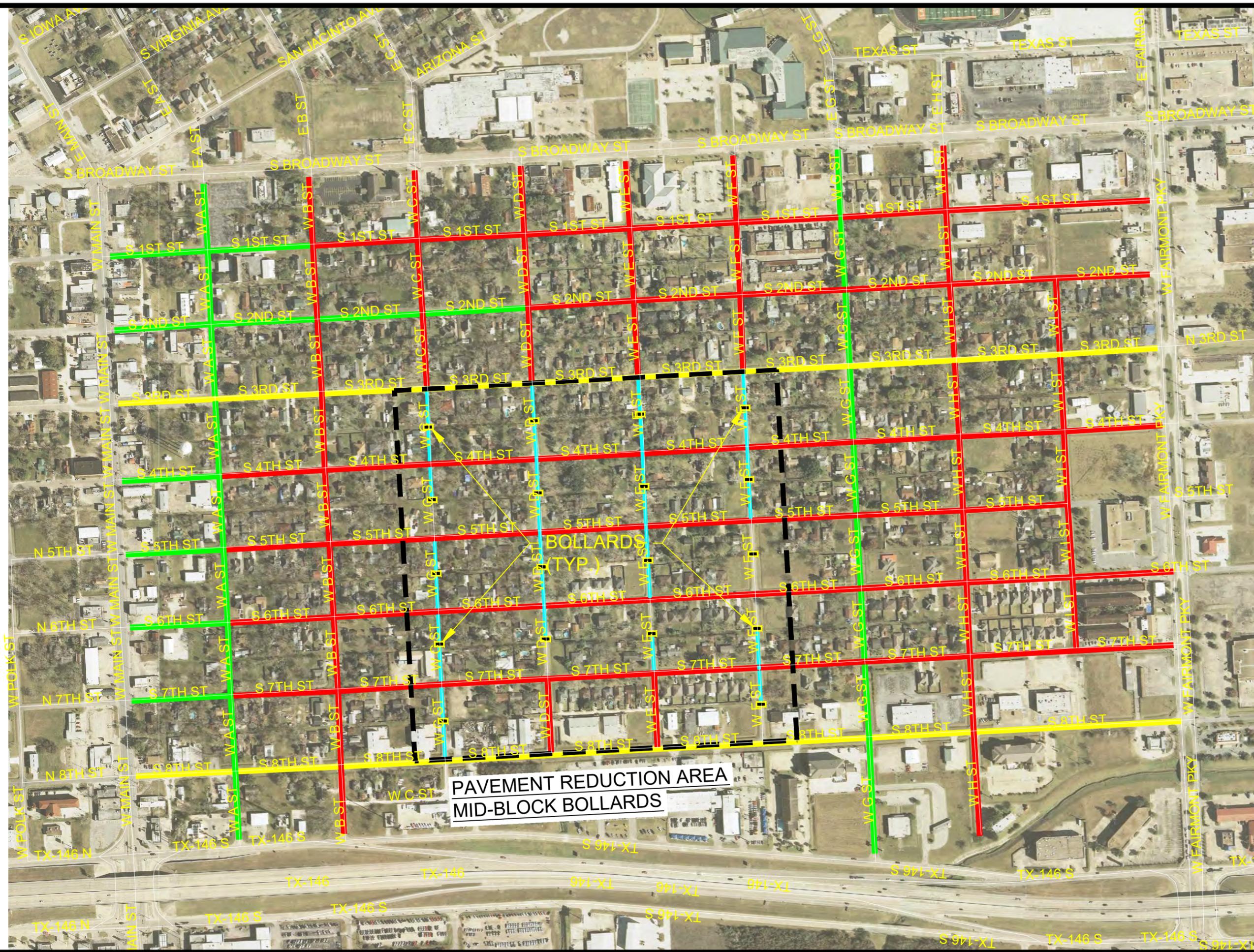
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CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

PAVEMENT REDUCTION PLAN  
 OPTION "A", ONE-WAY

SUBMITTED:	DESIGNED BY: HL
SCALE: 1"=400'	DRAWN BY: HL
DATE: 7/11/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO.:
F B NO.:	



**CONCRETE PAVING LEGEND**

- 36 FT. WIDE WITH (2) 8' SIDEWALKS █
- 36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK █
- 28 FT. WIDE WITH (2) 5' SIDEWALKS █
- 20 FT. WIDE WITH (2) 5' SIDEWALK █

- NOTES:**
1. PAVEMENT THICKNESS SHALL BE 7 INCH MIN. FOR 36 FT. WIDE PAVEMENT AND 6 INCH MIN. FOR 28 FT. WIDE PAVEMENT.
  2. ALL ROADSIDE PARKING AREA FOR MULTI-FAMILY AND COMMERCIAL USES SHALL BE ACCOMMODATED FOR AS EACH PHASE IS PREPARED FOR CONSTRUCTION.
  3. THE ROW WIDTH IS 80 FT. FOR "B", "D", "F", "H", "3RD", AND "8TH" STREET. THE ROW WIDTH FOR ALL OTHER STREETS IS 60 FT.
  4. PAVEMENT REDUCTION OPTION "B" CONSISTS OF CONSTRUCTING MID-BLOCK BOLLARDS TO PROHIBIT THRU TRAFFIC ON THE FOLLOWING STREETS: "C", "D", "E", AND "F" BETWEEN 3RD AND 8TH STREET WITH THE EXCEPTIONS OF THE BLOCKS ON "D" AND "E" STREET BETWEEN 7TH AND 8TH STREETS. THE PROPOSED STREETS FOR THIS OPTION ARE TO BE 20 FT. WIDE, 6 INCH THICK, CURBLESS, AND ROUGH-GRADED BEYOND THE EDGE OF PAVEMENT IN A MANNER SIMILAR TO THE EXISTING CONDITIONS TO ALLOW AMPLE SHOULDER PARKING AND TWO-WAY TRAFFIC.



**PAVEMENT REDUCTION AREA  
MID-BLOCK BOLLARDS**

**BOLLARDS  
(TYP.)**

**EXHIBIT 10**

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 JOB NO. 1012056

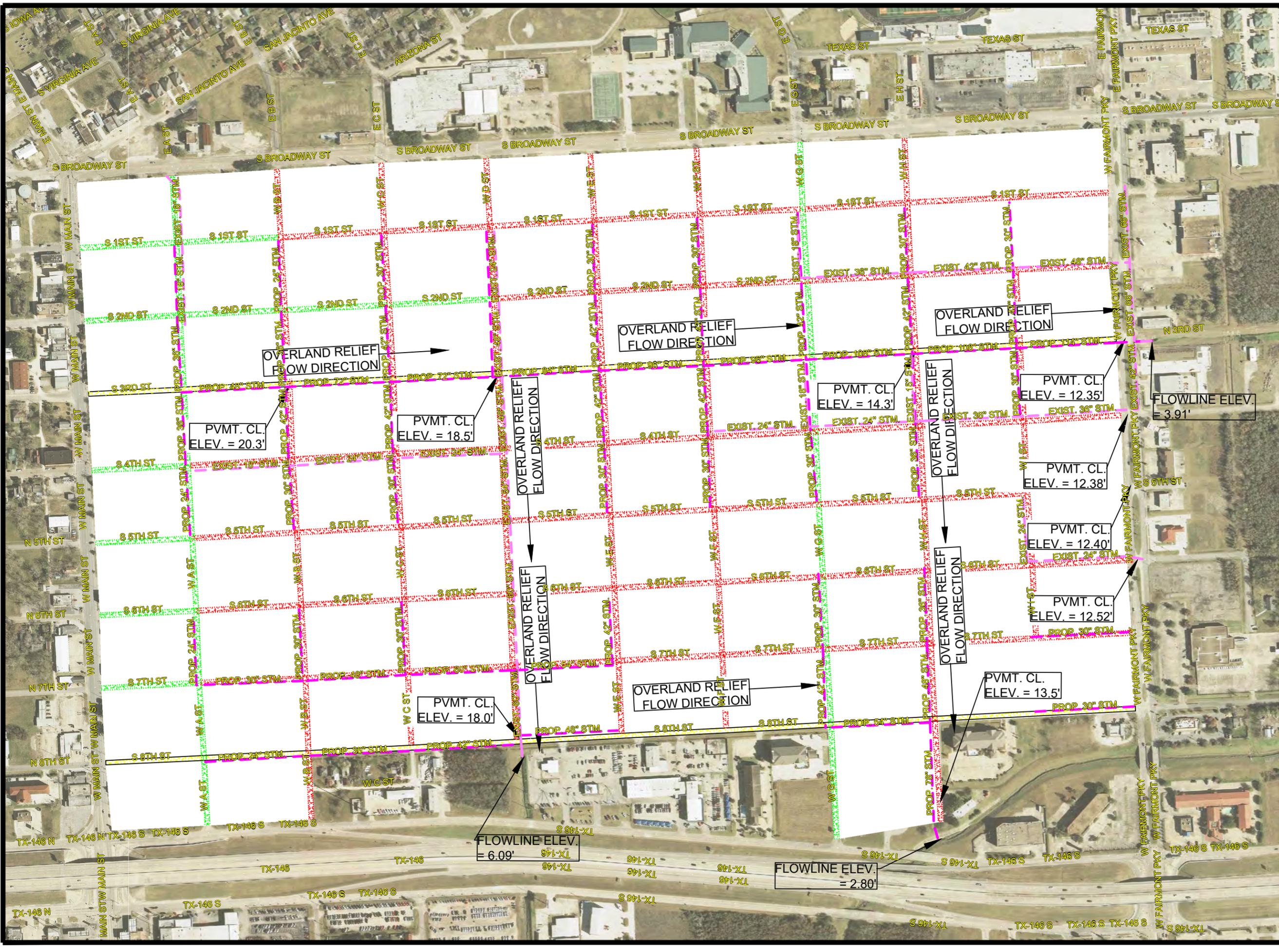
**CITY OF LAPORTE  
LAPORTE, TEXAS**

**CONCRETE STREET  
PROGRAM STUDY**

**PAVEMENT REDUCTION PLAN  
OPTION "B", MID-BLOCK BOLLARDS**

SUBMITTED: SCALE: 1"=400' DATE: 7/11/11 SURVEY BY: F. B. NO:	DESIGNED BY: HL DRAWN BY: HL SHEET No.: 1 OF 1 DWG. NO:
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**CONCRETE PAVING LEGEND**

- 36 FT. WIDE WITH (2) 8' SIDEWALKS
- 36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK
- 28 FT. WIDE WITH (2) 5' SIDEWALKS

**STORM & UTILITY LEGEND**

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER

**RELIEF FLOW NOTES:**

1. DURING DESIGN OF INDIVIDUAL PHASES, THE DESIGN ELEVATIONS REQUIRED TO PROVIDE DIRECTIONAL OVERLAND RELIEF DURING LARGE STORM EVENTS SHOULD BE IN GENERAL CONFORMANCE WITH THE SCHEMATIC DESIGNS PER THIS MAP.



EXHIBIT 11

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CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

OVERLAND RELIEF  
 DIRECTIONAL FLOW MAP

SUBMITTED:	DESIGNED BY: HL
SCALE: 1"=400'	DRAWN BY: HL
DATE: 7/11/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO.:
F. B. NO.:	



### CONCRETE PAVING LEGEND

36 FT. WIDE WITH (2) 8' SIDEWALKS	
36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK	
28 FT. WIDE WITH (2) 5' SIDEWALKS	

### STORM & UTILITY LEGEND

EXISTING WATER LINE	
EXISTING SANITARY SEWER	
EXISTING STORM SEWER	
PROPOSED STORM SEWER	

### PHASING LEGEND

PHASE 1	
PHASE 2	
PHASE 3	
PHASE 4	
PHASE 5	
PHASE 6	
PHASE 7	
PHASE 8A,B	
PHASE 9	
PHASE 10	

### PHASING NOTES:

THE PROPOSED PHASING GIVES CONSIDERATION TO THE NEED TO RELIEVE DRAINAGE ISSUES IN THE (4) REPETITIVE FLOODING AREAS [RFA] AS IDENTIFIED VIA CITY OFFICIALS AND MARKED PER THIS MAP. THEREFORE, THE PAVING AND DRAINAGE IMPROVEMENTS FOR THESE AREAS ARE PLANNED FOR THE FIRST (10) PHASES AND SPECIFICALLY FOR PHASES 3, 7, 8, AND 9.



EXHIBIT 12

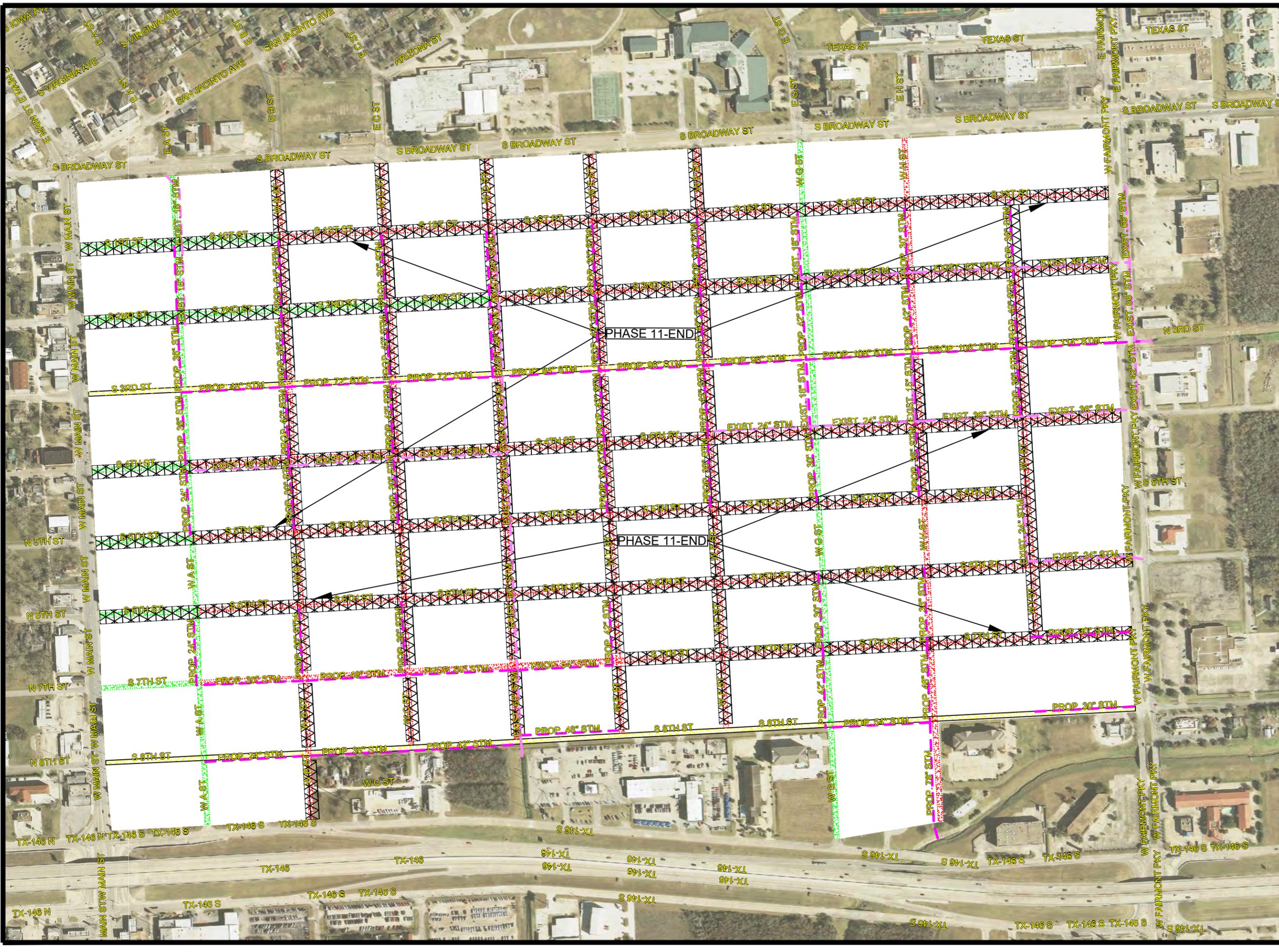
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CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

PHASING PLAN  
 PHASES 1 TO 10

SUBMITTED:	DESIGNED BY:HL
SCALE: 1"=400'	DRAWN BY:HL
DATE: 7/11/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F. B. NO:	



**CONCRETE PAVING LEGEND**

- 36 FT. WIDE WITH (2) 8' SIDEWALKS
- 36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK
- 28 FT. WIDE WITH (2) 5' SIDEWALKS

**STORM & UTILITY LEGEND**

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER

**PHASING LEGEND**

- PHASE 11-END

**PHASING NOTES:**

1. PHASES 11 - END IF PERFORMED IN PHASES THAT COST APPROXIMATELY \$1.5 MILLION PER PHASE WILL LIKELY REQUIRE 15-20 ADDITIONAL PHASES TO ACHIEVE PROJECT COMPLETION.
2. FOR PLANNING PURPOSES, THE PHASES CAN GENERALLY BE DESCRIBED AS FULL-WIDTH ROADWAY CONSTRUCTION WITHIN THE RIGHT-OF-WAY THAT CONSISTS OF 5-6 BLOCKS IN THE NORTH/SOUTH DIRECTION OR 7-8 BLOCKS IN THE EAST/WEST DIRECTION.
3. THE DOWNSTREAM CHANNEL IMPROVEMENTS FOR THE "3RD STREET OUTFALL", OTHERWISE KNOWN AS THE WEIR CONSTRUCTION FOR THE CULVERT NEAR THE WASTEWATER TREATMENT PLANT IS RECOMMENDED FOR CONSTRUCTION IN PHASE 1 BUT MUST BE CONSTRUCTED BY PHASE 11.



**EXHIBIT 13**

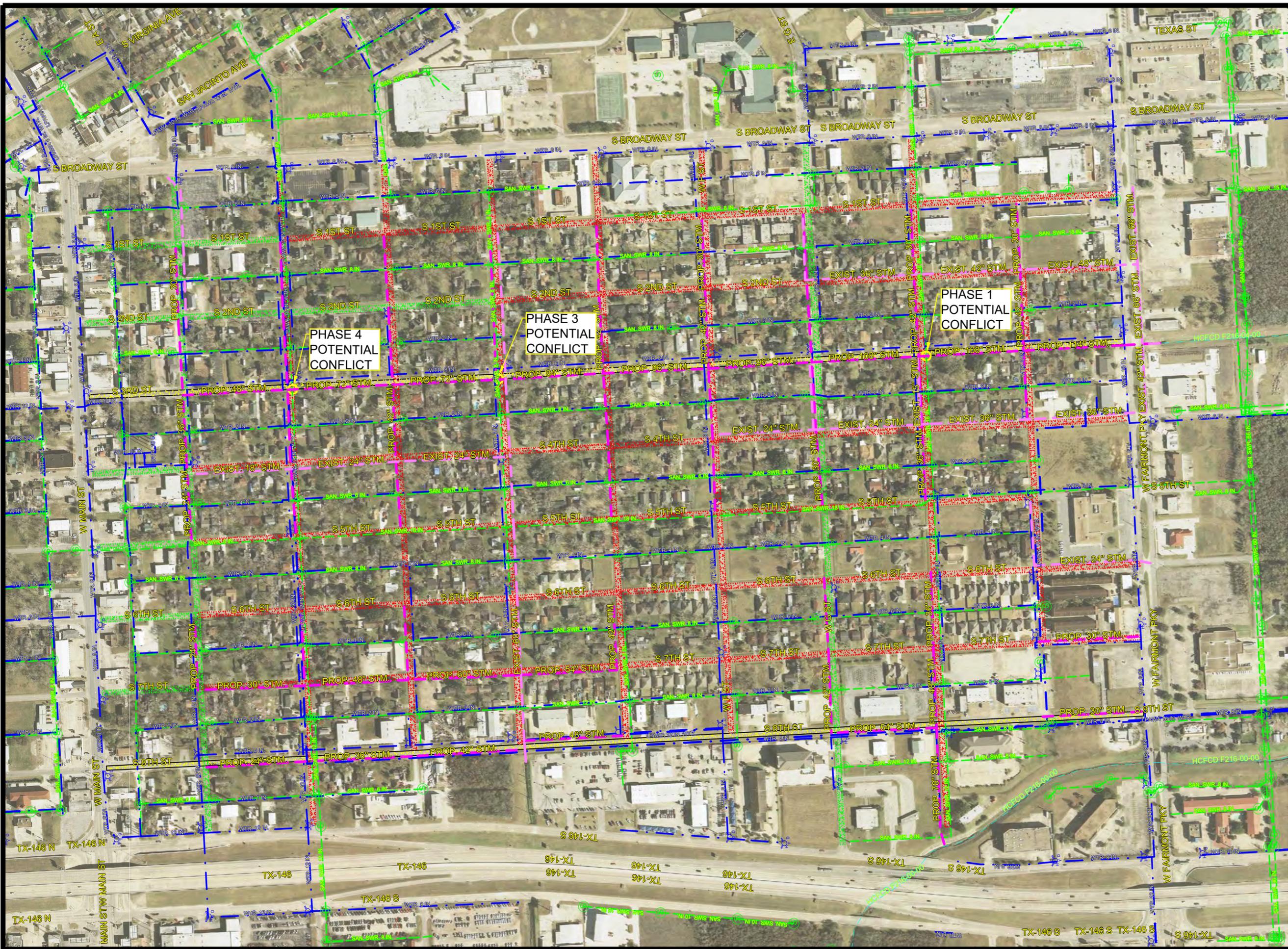
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**CITY OF LAPORTE  
 LAPORTE, TEXAS**

**CONCRETE STREET  
 PROGRAM STUDY**

**PHASING PLAN  
 PHASES 11 TO END**

SUBMITTED:	DESIGNED BY:HL
SCALE: 1"=400'	DRAWN BY:HL
DATE: 7/11/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F B NO:	



**CONCRETE PAVING LEGEND**

- 36 FT. WIDE WITH (2) 8' SIDEWALKS
- 36 FT. WIDE WITH (1) 8' SIDEWALK (1) 10' SIDEWALK
- 28 FT. WIDE WITH (2) 5' SIDEWALKS

**STORM & UTILITY LEGEND**

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER



EXHIBIT 14

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CITY OF LAPORTE  
 LAPORTE, TEXAS

CONCRETE STREET  
 PROGRAM STUDY

EX. CONDITIONS & UTILITIES & PROP.  
 PAVING & STORM SEWER

SUBMITTED:	DESIGNED BY:HL
SCALE: 1"=400'	DRAWN BY:HL
DATE: 7/11/11	SHEET No.: 1 OF 1
SURVEY BY:	DWG. NO:
F B NO:	

**Client: City of LaPorte Project Name: Concrete Street Program Study Date: 7/7/2011**  
**Cost Estimate 1 - Overall Construction, Engineering, Surveying, and Contingencies**

				OVERALL PROJECT	
Item No.	Item Description	Unit	Quantity	Unit Price	Extended Price
<b>BASE BID ITEMS: For 639 STA. of Roadway</b>					
<b>GENERAL</b>					
1	Mobilization	LS	1	\$ 1,278,000.00	\$ 1,278,000.00
2	Traffic Control and Regulations	LS	1	\$ 639,000.00	\$ 639,000.00
3	Remove and Replace all signage	LS	1	\$ 223,650.00	\$ 223,650.00
4	Clearing and Grubbing	LS	1	\$ 191,700.00	\$ 191,700.00
5	SWPPP Protection	LS	1	\$ 127,800.00	\$ 127,800.00
6	Sodding	SY	224,000	\$ 3.50	\$ 784,000.00
<b>GENERAL ITEM SUBTOTAL</b>					<b>\$ 3,244,150.00</b>
<b>PAVING</b>					
7	Roadway Excavation	STA	639	\$ 1,800.00	\$ 1,150,200.00
8	7" Reinforced Concrete Pavement, complete-in-place	SY	84,000	\$ 45.00	\$ 3,780,000.00
9	6" Reinforced Concrete Pavement, complete-in-place	SY	135,200	\$ 35.00	\$ 4,732,000.00
9	6" Lime Stabilized Subgrade	SY	249,000	\$ 2.50	\$ 622,500.00
10	6" Reinforced Concrete Curb	LF	127,800	\$ 3.00	\$ 383,400.00
11	Lime (8%)	TON	5,400	\$ 160.00	\$ 864,000.00
12	7" Reinforced Concrete Driveways	SY	10,000	\$ 47.00	\$ 470,000.00
13	6" Reinforced Concrete Driveways	SY	41,100	\$ 37.00	\$ 1,520,700.00
14	Adjust Existing Inlets, Manholes, and Valve Boxes to Grade	LS	1	\$ 95,850.00	\$ 95,850.00
15	4" Concrete Sidewalk, complete-in-place	SF	544,000	\$ 4.50	\$ 2,448,000.00
16	Curb Ramps, complete-in-place	EA	340	\$ 1,500.00	\$ 510,000.00
17	5" Concrete Trail (8 or 10 ft wide, Complete-in-Place	SF	95,000	\$ 5.00	\$ 475,000.00
18	Parking Off-Street, 6" Concrete Pavement, 6" Curb, and 6" Sub-grade, complete-in-place	SY	13,000	\$ 42.00	\$ 546,000.00
<b>PAVING ITEM SUBTOTAL</b>					<b>\$ 17,597,650.00</b>
<b>DEMOLITION</b>					
19	Remove and Dispose of Pavement, Street, Drives, and Sidewalk, All Thicknesses (02221)	SY	162,900	\$ 4.00	\$ 651,600.00
20	Remove and Dispose of Storm Sewer - pipe size 15" and less	LF	3,200	\$ 8.00	\$ 25,600.00
21	Remove and Dispose of Storm Sewer - pipe size 18"	LF	9,300	\$ 10.00	\$ 93,000.00
22	Remove and Dispose of Storm Sewer - pipe size 24"	LF	15,600	\$ 12.00	\$ 187,200.00
23	Remove and Dispose of Storm Sewer - pipe size 30"-42"	LF	5,600	\$ 14.00	\$ 78,400.00
<b>DEMOLITION ITEM SUBTOTAL</b>					<b>\$ 1,035,800.00</b>
<b>STORM SEWER</b>					
23	Inlets and Manholes (Conc.) - All types and depths	EA	980	\$ 2,600.00	\$ 2,548,000.00
23	12" Drain Basins	EA	960	\$ 675.00	\$ 648,000.00
24	8" PVC Storm Sewer	LF	35,200	\$ 20.00	\$ 704,000.00
25	24" Storm Sewer	LF	24,200	\$ 55.00	\$ 1,331,000.00
26	30" Storm Sewer	LF	4,400	\$ 70.00	\$ 308,000.00
27	36" Storm Sewer	LF	8,500	\$ 80.00	\$ 680,000.00
28	42" Storm Sewer	LF	1,800	\$ 90.00	\$ 162,000.00
29	48" Storm Sewer	LF	2,100	\$ 100.00	\$ 210,000.00
30	54" Storm Sewer	LF	600	\$ 150.00	\$ 90,000.00
31	60" Storm Sewer	LF	1,400	\$ 210.00	\$ 294,000.00
32	66" Storm Sewer	LF	100	\$ 260.00	\$ 26,000.00
33	72" Storm Sewer	LF	1,000	\$ 300.00	\$ 300,000.00
34	78" Storm Sewer	LF	100	\$ 325.00	\$ 32,500.00
35	84" Storm Sewer	LF	500	\$ 425.00	\$ 212,500.00
36	96" Storm Sewer	LF	1,000	\$ 450.00	\$ 450,000.00
37	108" Storm Sewer	LF	1,000	\$ 475.00	\$ 475,000.00
38	114" Storm Sewer	LF	700	\$ 500.00	\$ 350,000.00
39	Channel Improvements Downstream of 3rd Street Outfall (Weir or culvert, and etc.)	LS	1	\$ 250,000.00	\$ 250,000.00
<b>STORM SEWER ITEM SUBTOTAL</b>					<b>\$ 9,071,000.00</b>
<b>MISC. UTILITY ITEM SUBTOTAL</b>					
40	General Utility Adjustments	LS	1	\$ 400,000.00	\$ 400,000.00
<b>MISC UTILITY ITEM SUBTOTAL</b>					<b>\$ 400,000.00</b>
<b>BASE BID ITEM SUBTOTAL</b>					<b>\$ 31,348,600.00</b>
<b>Engineering, Surveying, and Contingencies</b>					
1	Surveying	LS	1	\$ 515,000.00	\$ 515,000.00
2	Engineering(Design and Construction including Geo-tech)	LS	1	\$ 4,150,000.00	\$ 4,150,000.00
3	Contingencies (20%)	LS	1	\$ 6,269,720.00	\$ 6,269,720.00
<b>Engineering, Surveying, and Contingency Item Subtotal</b>					<b>\$ 10,934,720.00</b>
<b>ESTIMATED TOTAL COST</b>					<b>\$ 42,283,320.00</b>

**Client: City of LaPorte Project Name: Concrete Street Program Study Date: 7/7/2011**  
**Cost Estimate 2 - Overall Construction and Phases 1-10**

				OVERALL PROJECT (Construction only)		PHASE 1		PHASE 2		PHASE 3		PHASE 4	
						Quantity	Extended Price						
Item No.	Item Description	Unit	Quantity	Unit Price	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price
<b>BASE BID ITEMS: For 639 STA. of Roadway</b>				<b>Overall Project</b>									
<b>GENERAL</b>													
1	Mobilization	LS	1	\$ 1,278,000.00	\$ 1,278,000.00	1	\$ 200,000.00	1	\$ 36,000.00	1	\$ 38,000.00	1	\$ 37,000.00
2	Traffic Control and Regulations	LS	1	\$ 639,000.00	\$ 639,000.00	1	\$ 75,000.00	1	\$ 18,000.00	1	\$ 19,000.00	1	\$ 18,500.00
3	Remove and Replace all signage	LS	1	\$ 223,650.00	\$ 223,650.00	1	\$ 3,500.00	1	\$ 6,300.00	1	\$ 6,650.00	1	\$ 6,475.00
4	Clearing and Grubbing	LS	1	\$ 191,700.00	\$ 191,700.00	1	\$ 3,000.00	1	\$ 5,400.00	1	\$ 5,700.00	1	\$ 5,550.00
5	SWPPP Protection	LS	1	\$ 127,800.00	\$ 127,800.00	1	\$ 2,000.00	1	\$ 3,600.00	1	\$ 3,800.00	1	\$ 3,700.00
6	Sodding	SY	224,000	\$ 3.50	\$ 784,000.00	3,500	\$ 12,250.00	6,300	\$ 22,050.00	6,650	\$ 23,275.00	6,475	\$ 22,662.50
<b>GENERAL ITEM SUBTOTAL</b>					<b>\$ 3,244,150.00</b>		<b>\$ 295,750.00</b>		<b>\$ 91,350.00</b>		<b>\$ 96,425.00</b>		<b>\$ 93,887.50</b>
<b>PAVING</b>													
7	Roadway Excavation	STA	639	\$ 1,800.00	\$ 1,150,200.00	10	\$ 18,000.00	18	\$ 32,400.00	19	\$ 34,200.00	19	\$ 33,300.00
8	7" Reinforced Concrete Pavement, complete-in-place	SY	84,000	\$ 45.00	\$ 3,780,000.00	4,000	\$ 180,000.00	7,200	\$ 324,000.00	7,600	\$ 342,000.00	7,400	\$ 333,000.00
9	6" Reinforced Concrete Pavement, complete-in-place	SY	135,200	\$ 35.00	\$ 4,732,000.00	2,000	\$ 70,000.00	3,600	\$ 126,000.00	3,800	\$ 133,000.00	3,700	\$ 129,500.00
9	6" Lime Stabilized Subgrade	SY	249,000	\$ 2.50	\$ 622,500.00	4,500	\$ 11,250.00	8,100	\$ 20,250.00	8,550	\$ 21,375.00	8,325	\$ 20,812.50
10	6" Reinforced Concrete Curb	LF	127,800	\$ 3.00	\$ 383,400.00	1,667	\$ 5,000.00	3,000	\$ 9,000.00	3,167	\$ 9,500.00	3,083	\$ 9,250.00
11	Lime (8%)	TON	5,400	\$ 160.00	\$ 864,000.00	100	\$ 28,800.00	180	\$ 28,800.00	190	\$ 30,400.00	185	\$ 29,600.00
12	7" Reinforced Concrete Driveways	SY	10,000	\$ 47.00	\$ 470,000.00	160	\$ 7,520.00	288	\$ 13,536.00	304	\$ 14,288.00	296	\$ 13,912.00
13	6" Reinforced Concrete Driveways	SY	41,100	\$ 37.00	\$ 1,520,700.00	650	\$ 24,050.00	1,170	\$ 43,290.00	1,235	\$ 45,695.00	1,203	\$ 44,492.50
14	Adjust Existing Inlets, Manholes, and Valve Boxes to Grade	LS	1	\$ 95,850.00	\$ 95,850.00	1	\$ 1,500.00	1	\$ 2,700.00	1	\$ 2,850.00	1	\$ 2,775.00
15	4" Concrete Sidewalk, complete-in-place	SF	544,000	\$ 4.50	\$ 2,448,000.00	8,500	\$ 38,250.00	15,300	\$ 68,850.00	16,150	\$ 72,675.00	15,725	\$ 70,762.50
16	Curb Ramps, complete-in-place	EA	340	\$ 1,500.00	\$ 510,000.00	5	\$ 7,500.00	9	\$ 13,500.00	10	\$ 14,250.00	9	\$ 13,875.00
17	5" Concrete Trail (8 or 10 ft wide, Complete-in-Place	SF	95,000	\$ 5.00	\$ 475,000.00	1,500	\$ 63,000.00	2,700	\$ 113,400.00	2,850	\$ 119,700.00	2,775	\$ 116,550.00
18	Parking Off-Street, 6" Concrete Pavement, 6" Curb, and 6" Sub-grade, complete-in-place	SY	13,000	\$ 42.00	\$ 546,000.00	200	\$ 8,400.00	360	\$ 15,120.00	380	\$ 15,960.00	370	\$ 15,540.00
<b>PAVING ITEM SUBTOTAL</b>					<b>\$ 17,597,650.00</b>		<b>\$ 450,470.00</b>		<b>\$ 810,846.00</b>		<b>\$ 855,893.00</b>		<b>\$ 833,369.50</b>
<b>DEMOLITION</b>													
19	Remove and Dispose of Pavement, Street, Drives, and Sidewalk, All Thicknesses (02221)	SY	162,900	\$ 4.00	\$ 651,600.00	2,600	\$ 10,400.00	4,680	\$ 18,720.00	4,940	\$ 19,760.00	4,810	\$ 19,240.00
20	Remove and Dispose of Storm Sewer - pipe size 15" and less	LF	3,200	\$ 8.00	\$ 25,600.00	20	\$ 160.00	20	\$ 160.00	20	\$ 160.00	20	\$ 160.00
21	Remove and Dispose of Storm Sewer - pipe size 18"	LF	9,300	\$ 10.00	\$ 93,000.00	60	\$ 600.00	60	\$ 600.00	60	\$ 600.00	60	\$ 600.00
22	Remove and Dispose of Storm Sewer - pipe size 24"	LF	15,600	\$ 12.00	\$ 187,200.00	120	\$ 1,440.00	120	\$ 1,440.00	120	\$ 1,440.00	120	\$ 1,440.00
23	Remove and Dispose of Storm Sewer - pipe size 30"-42"	LF	5,600	\$ 14.00	\$ 78,400.00	40	\$ 560.00	40	\$ 560.00	40	\$ 560.00	40	\$ 560.00
<b>DEMOLITION ITEM SUBTOTAL</b>					<b>\$ 1,035,800.00</b>		<b>\$ 13,160.00</b>		<b>\$ 21,480.00</b>		<b>\$ 22,520.00</b>		<b>\$ 22,000.00</b>
<b>STORM SEWER</b>													
23	Inlets and Manholes (Conc.) - All types and depths	EA	980	\$ 2,600.00	\$ 2,548,000.00	20	\$ 52,000.00	36	\$ 93,600.00	38	\$ 98,800.00	37	\$ 96,200.00
23	12" Drain Basins	EA	960	\$ 675.00	\$ 648,000.00	20	\$ 13,500.00	36	\$ 24,300.00	38	\$ 25,650.00	37	\$ 24,975.00
24	8" PVC Storm Sewer	LF	35,200	\$ 20.00	\$ 704,000.00	550	\$ 11,000.00	990	\$ 19,800.00	1,045	\$ 20,900.00	1,018	\$ 20,350.00
25	24" Storm Sewer	LF	24,200	\$ 55.00	\$ 1,331,000.00	380	\$ 20,900.00	684	\$ 37,620.00	722	\$ 39,710.00	703	\$ 38,665.00
26	30" Storm Sewer	LF	4,400	\$ 70.00	\$ 308,000.00	0	\$ -	800	\$ 56,000.00	0	\$ -	0	\$ -
27	36" Storm Sewer	LF	8,500	\$ 80.00	\$ 680,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
28	42" Storm Sewer	LF	1,800	\$ 90.00	\$ 162,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
29	48" Storm Sewer	LF	2,100	\$ 100.00	\$ 210,000.00	0	\$ -	0	\$ -	0	\$ -	475	\$ 47,500.00
30	54" Storm Sewer	LF	600	\$ 150.00	\$ 90,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
31	60" Storm Sewer	LF	1,400	\$ 210.00	\$ 294,000.00	0	\$ -	475	\$ 26,125.00	0	\$ -	0	\$ -
32	66" Storm Sewer	LF	100	\$ 260.00	\$ 26,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
33	72" Storm Sewer	LF	1,000	\$ 300.00	\$ 300,000.00	0	\$ -	0	\$ -	0	\$ -	950	\$ 285,000.00
34	78" Storm Sewer	LF	100	\$ 325.00	\$ 32,500.00	0	\$ -	700	\$ 227,500.00	0	\$ -	0	\$ -
35	84" Storm Sewer	LF	500	\$ 425.00	\$ 212,500.00	0	\$ -	0	\$ -	475	\$ 47,500.00	0	\$ -
36	96" Storm Sewer	LF	1,000	\$ 450.00	\$ 450,000.00	0	\$ -	0	\$ -	950	\$ 142,500.00	0	\$ -
37	108" Storm Sewer	LF	1,000	\$ 475.00	\$ 475,000.00	475	\$ 47,500.00	0	\$ -	475	\$ 47,500.00	0	\$ -
38	114" Storm Sewer	LF	700	\$ 500.00	\$ 350,000.00	650	\$ 97,500.00	0	\$ -	0	\$ -	0	\$ -
39	Channel Improvements Downstream of 3rd Street Outfall (Weir or culvert, and etc.)	LS	1	\$ 250,000.00	\$ 250,000.00	1	\$ 250,000.00	0	\$ -	0	\$ -	0	\$ -
<b>STORM SEWER ITEM SUBTOTAL</b>					<b>\$ 9,071,000.00</b>		<b>\$ 492,400.00</b>		<b>\$ 484,945.00</b>		<b>\$ 422,560.00</b>		<b>\$ 512,690.00</b>
<b>MISC. UTILITY ITEMS</b>													
40	General Utility Adjustments	LS	1	\$ 400,000.00	\$ 400,000.00	1	\$ 6,500.00	1	\$ 11,700.00	1	\$ 12,350.00	1	\$ 12,025.00
<b>MISC UTILITY ITEM SUBTOTAL</b>					<b>\$ 400,000.00</b>		<b>\$ 6,500.00</b>		<b>\$ 11,700.00</b>		<b>\$ 12,350.00</b>		<b>\$ 12,025.00</b>
<b>BASE BID ITEM TOTAL</b>					<b>\$ 31,348,600.00</b>		<b>\$ 1,258,280.00</b>		<b>\$ 1,420,321.00</b>		<b>\$ 1,409,748.00</b>		<b>\$ 1,473,972.00</b>

**Client: City of LaPorte Project Name: Concrete Street Program Study Date: 7/7/2011**  
**Cost Estimate 3 - Overall Construction and Pavement Reduction Options**

				OVERALL PROJECT (Construction only)		CURRENTLY INCLUDED IN OVERALL BASE CASE (28' CONC. W/ CURB)		OPTION "A" ONE-WAY CASE (12' CONC. W/OUT CURB)		OPTION "B" MID-BLOCK BOLLARD CASE (20' CONC. W/OUT CURB - TWO WAY ST.)		OPTION "B" MID-BLOCK BOLLARD CASE GRASSY PAVER W/OUT - TWO WAY ST.) (20' CURB)	
Item No.	Item Description	Unit	Quantity	Unit Price	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price
<b>BASE BID ITEMS: For 639 STA. of Roadway</b>													
<b>GENERAL</b>													
1	Mobilization	LS	1	\$ 1,278,000.00	\$ 1,278,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
2	Traffic Control and Regulations	LS	1	\$ 639,000.00	\$ 639,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
3	Remove and Replace all signage	LS	1	\$ 223,650.00	\$ 223,650.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
4	Clearing and Grubbing	LS	1	\$ 191,700.00	\$ 191,700.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
5	SWPPP Protection	LS	1	\$ 127,800.00	\$ 127,800.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
6	Sodding	SY	224,000	\$ 3.50	\$ 784,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>GENERAL ITEM SUBTOTAL</b>					<b>\$ 3,244,150.00</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>
<b>PAVING</b>													
7	Roadway Excavation	STA	639	\$ 1,800.00	\$ 1,150,200.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
8	7" Reinforced Concrete Pavement, complete-in-place	SY	84,000	\$ 45.00	\$ 3,780,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
9	6" Reinforced Concrete Pavement, complete-in-place	SY	135,200	\$ 35.00	\$ 4,732,000.00	22,050	\$ 771,750.00	9,450	\$ 330,750.00	15,750	\$ 551,250.00	15,750	\$ 551,250.00
9	6" Lime Stabilized Subgrade	SY	249,000	\$ 2.50	\$ 622,500.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
10	6" Reinforced Concrete Curb	LF	127,800	\$ 3.00	\$ 383,400.00	14,000	\$ 42,000.00	0	\$ -	0	\$ -	0	\$ -
11	Lime (8%)	TON	5,400	\$ 160.00	\$ 864,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
12	7" Reinforced Concrete Driveways	SY	10,000	\$ 47.00	\$ 470,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
13	6" Reinforced Concrete Driveways	SY	41,100	\$ 37.00	\$ 1,520,700.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
14	Adjust Existing Inlets, Manholes, and Valve Boxes to Grade	LS	1	\$ 95,850.00	\$ 95,850.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
15	4" Concrete Sidewalk, complete-in-place	SF	544,000	\$ 4.50	\$ 2,448,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
16	Curb Ramps, complete-in-place	EA	340	\$ 1,500.00	\$ 510,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
17	5" Concrete Trail (8 or 10 ft wide, Complete-in-Place	SF	95,000	\$ 5.00	\$ 475,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
18	Parking Off-Street, 6" Concrete Pavement, 6" Curb, and 6" Sub-grade, complete-in-place	SY	13,000	\$ 42.00	\$ 546,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>PAVING ITEM SUBTOTAL</b>					<b>\$ 17,597,650.00</b>		<b>\$ 813,750.00</b>		<b>\$ 330,750.00</b>		<b>\$ 551,250.00</b>		<b>\$ 551,250.00</b>
<b>DEMOLITION</b>													
19	Remove and Dispose of Pavement, Street, Drives, and Sidewalk, All Thicknesses (02221)	SY	162,900	\$ 4.00	\$ 651,600.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
20	Remove and Dispose of Storm Sewer - pipe size 15" and less	LF	3,200	\$ 8.00	\$ 25,600.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
21	Remove and Dispose of Storm Sewer - pipe size 18"	LF	9,300	\$ 10.00	\$ 93,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
22	Remove and Dispose of Storm Sewer - pipe size 24"	LF	15,600	\$ 12.00	\$ 187,200.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
23	Remove and Dispose of Storm Sewer - pipe size 30"-42"	LF	5,600	\$ 14.00	\$ 78,400.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>DEMOLITION ITEM SUBTOTAL</b>					<b>\$ 1,035,800.00</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>
<b>STORM SEWER</b>													
23	Inlets and Manholes (Conc.) - All types and depths	EA	980	\$ 2,600.00	\$ 2,548,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
23	12" Drain Basins	EA	960	\$ 675.00	\$ 648,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
24	8" PVC Storm Sewer	LF	35,200	\$ 20.00	\$ 704,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
25	24" Storm Sewer	LF	24,200	\$ 55.00	\$ 1,331,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
26	30" Storm Sewer	LF	4,400	\$ 70.00	\$ 308,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
27	36" Storm Sewer	LF	8,500	\$ 80.00	\$ 680,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
28	42" Storm Sewer	LF	1,800	\$ 90.00	\$ 162,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
29	48" Storm Sewer	LF	2,100	\$ 100.00	\$ 210,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
30	54" Storm Sewer	LF	600	\$ 150.00	\$ 90,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
31	60" Storm Sewer	LF	1,400	\$ 210.00	\$ 294,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
32	66" Storm Sewer	LF	100	\$ 260.00	\$ 26,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
33	72" Storm Sewer	LF	1,000	\$ 300.00	\$ 300,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
34	78" Storm Sewer	LF	100	\$ 325.00	\$ 32,500.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
35	84" Storm Sewer	LF	500	\$ 425.00	\$ 212,500.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
36	96" Storm Sewer	LF	1,000	\$ 450.00	\$ 450,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
37	108" Storm Sewer	LF	1,000	\$ 475.00	\$ 475,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
38	114" Storm Sewer	LF	700	\$ 500.00	\$ 350,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
39	Channel Improvements Downstream of 3rd Street Outfall (Weir or culvert, and etc.)	LS	1	\$ 250,000.00	\$ 250,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>STORM SEWER ITEM SUBTOTAL</b>					<b>\$ 9,071,000.00</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>
<b>MISC. UTILITY ITEMS</b>													
40	General Utility Adjustments	LS	1	\$ 400,000.00	\$ 400,000.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>MISC UTILITY ITEM SUBTOTAL</b>					<b>\$ 400,000.00</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>
<b>BASE BID ITEM SUBTOTAL</b>					<b>\$ 31,348,600.00</b>		<b>\$ 813,750.00</b>		<b>\$ 330,750.00</b>		<b>\$ 551,250.00</b>		<b>\$ 551,250.00</b>
<b>ALTERNATE PAVEMENT REDUCTION ITEMS</b>													
1	Grassy Pavers (2"x2' mats)	SF	0	\$ 1.50	\$ -	0	\$ -	0	\$ -	0	\$ -	140,000	\$ 210,000.00
2	6" Crushed Concrete	TON	0	\$ 30.00	\$ -	0	\$ -	0	\$ -	0	\$ -	5,000	\$ 150,000.00
3	2" Clean Sand	TON	0	\$ 20.00	\$ -	0	\$ -	0	\$ -	0	\$ -	1,700	\$ 34,000.00
4	Bollards	LS	0	\$ 10,000.00	\$ -	0	\$ -	0	\$ -	0	\$ -	1	\$ 10,000.00
<b>ALTERNATE PAVING REDUCTION ITEM SUBTOTAL</b>					<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ 404,000.00</b>
<b>BASE PLUS ALTERNATE BID ITEM TOTAL FOR SCENARIO</b>					<b>\$ 31,348,600.00</b>		<b>\$ 813,750.00</b>		<b>\$ 330,750.00</b>		<b>\$ 551,250.00</b>		<b>\$ 955,250.00</b>

**Client: City of LaPorte Project Name: Concrete Street Program Study Date: 7/7/2011**  
**Cost Estimate 2 - Overall Construction and Phases 1-10**

				PHASE 5		PHASE 6		PHASE 7		PHASE 8		PHASE 9		PHASE 10	
				Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price
Item No.	Item Description	Unit	Quantity	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price	Quantity	Extended Price
<b>BASE BID ITEMS: For 639 STA. of Roadway</b>				<b>Overall Project</b>											
<b>GENERAL</b>															
1	Mobilization	LS	1	1	\$ 45,000.00	1	\$ 42,000.00	1	\$ 46,000.00	1	\$ 50,000.00	1	\$ 46,000.00	1	\$ 48,000.00
2	Traffic Control and Regulations	LS	1	1	\$ 22,500.00	1	\$ 21,000.00	1	\$ 23,000.00	1	\$ 25,000.00	1	\$ 23,000.00	1	\$ 24,000.00
3	Remove and Replace all signage	LS	1	1	\$ 7,875.00	1	\$ 7,350.00	1	\$ 8,050.00	1	\$ 8,750.00	1	\$ 8,050.00	1	\$ 8,400.00
4	Clearing and Grubbing	LS	1	1	\$ 6,750.00	1	\$ 6,300.00	1	\$ 6,900.00	1	\$ 7,500.00	1	\$ 6,900.00	1	\$ 7,200.00
5	SWPPP Protection	LS	1	1	\$ 4,500.00	1	\$ 4,200.00	1	\$ 4,600.00	1	\$ 5,000.00	1	\$ 4,600.00	1	\$ 4,800.00
6	Sodding	SY	224,000	7,875	\$ 27,562.50	7,350	\$ 25,725.00	8,050	\$ 28,175.00	8,750	\$ 30,625.00	8,050	\$ 28,175.00	8,400	\$ 29,400.00
<b>GENERAL ITEM SUBTOTAL</b>					<b>\$ 114,187.50</b>		<b>\$ 106,575.00</b>		<b>\$ 116,725.00</b>		<b>\$ 126,875.00</b>		<b>\$ 116,725.00</b>		<b>\$ 121,800.00</b>
<b>PAVING</b>															
7	Roadway Excavation	STA	639	24	\$ 43,200.00	21	\$ 37,800.00	24	\$ 43,200.00	25	\$ 45,000.00	25	\$ 45,000.00	25	\$ 45,000.00
8	7" Reinforced Concrete Pavement, complete-in-place	SY	84,000	9,000	\$ 405,000.00	8,400	\$ 378,000.00	9,200	\$ 414,000.00	10,000	\$ 450,000.00	9,200	\$ 414,000.00	9,600	\$ 432,000.00
9	6" Reinforced Concrete Pavement, complete-in-place	SY	135,200	4,500	\$ 157,500.00	4,200	\$ 147,000.00	4,600	\$ 161,000.00	5,000	\$ 175,000.00	4,600	\$ 161,000.00	4,800	\$ 168,000.00
9	6" Lime Stabilized Subgrade	SY	249,000	10,125	\$ 25,312.50	9,450	\$ 23,625.00	10,350	\$ 25,875.00	11,250	\$ 28,125.00	10,350	\$ 25,875.00	10,800	\$ 27,000.00
10	6" Reinforced Concrete Curb	LF	127,800	3,750	\$ 11,250.00	3,500	\$ 10,500.00	3,833	\$ 11,500.00	4,167	\$ 12,500.00	3,833	\$ 11,500.00	4,000	\$ 12,000.00
11	Lime (8%)	TON	5,400	225	\$ 36,000.00	210	\$ 33,600.00	230	\$ 36,800.00	250	\$ 40,000.00	230	\$ 36,800.00	240	\$ 38,400.00
12	7" Reinforced Concrete Driveways	SY	10,000	360	\$ 16,920.00	336	\$ 15,792.00	368	\$ 17,296.00	400	\$ 18,800.00	368	\$ 17,296.00	384	\$ 18,048.00
13	6" Reinforced Concrete Driveways	SY	41,100	1,463	\$ 54,112.50	1,365	\$ 50,505.00	1,495	\$ 55,315.00	1,625	\$ 60,125.00	1,495	\$ 55,315.00	1,560	\$ 57,720.00
14	Adjust Existing Inlets, Manholes, and Valve Boxes to Grade	LS	1	1	\$ 3,375.00	1	\$ 3,150.00	1	\$ 3,450.00	1	\$ 3,750.00	1	\$ 3,450.00	1	\$ 3,600.00
15	4" Concrete Sidewalk, complete-in-place	SF	544,000	19,125	\$ 86,062.50	17,850	\$ 80,325.00	19,550	\$ 87,975.00	21,250	\$ 95,625.00	19,550	\$ 87,975.00	20,400	\$ 91,800.00
16	Curb Ramps, complete-in-place	EA	340	11	\$ 16,875.00	11	\$ 15,750.00	12	\$ 17,250.00	13	\$ 18,750.00	12	\$ 17,250.00	12	\$ 18,000.00
17	5" Concrete Trail (8 or 10 ft wide, Complete-in-Place	SF	95,000	3,375	\$ 141,750.00	3,150	\$ 132,300.00	0	\$ -	0	\$ -	0	\$ -	0	\$ -
18	Parking Off-Street, 6" Concrete Pavement, 6" Curb, and 6" Sub-grade, complete-in-place	SY	13,000	450	\$ 18,900.00	420	\$ 17,640.00	460	\$ 19,320.00	500	\$ 21,000.00	460	\$ 19,320.00	480	\$ 20,160.00
<b>PAVING ITEM SUBTOTAL</b>					<b>\$ 1,016,257.50</b>		<b>\$ 945,987.00</b>		<b>\$ 892,981.00</b>		<b>\$ 968,675.00</b>		<b>\$ 894,781.00</b>		<b>\$ 931,728.00</b>
<b>DEMOLITION</b>															
19	Remove and Dispose of Pavement, Street, Drives, and Sidewalk, All Thicknesses (02221)	SY	162,900	5,850	\$ 23,400.00	5,460	\$ 21,840.00	5,980	\$ 23,920.00	6,500	\$ 26,000.00	5,980	\$ 23,920.00	6,240	\$ 24,960.00
20	Remove and Dispose of Storm Sewer - pipe size 15" and less	LF	3,200	20	\$ 160.00	20	\$ 160.00	20	\$ 160.00	20	\$ 160.00	20	\$ 160.00	20	\$ 160.00
21	Remove and Dispose of Storm Sewer - pipe size 18"	LF	9,300	60	\$ 600.00	60	\$ 600.00	60	\$ 600.00	60	\$ 600.00	60	\$ 600.00	60	\$ 600.00
22	Remove and Dispose of Storm Sewer - pipe size 24"	LF	15,600	120	\$ 1,440.00	120	\$ 1,440.00	120	\$ 1,440.00	120	\$ 1,440.00	120	\$ 1,440.00	120	\$ 1,440.00
23	Remove and Dispose of Storm Sewer - pipe size 30"-42"	LF	5,600	40	\$ 560.00	40	\$ 560.00	40	\$ 560.00	40	\$ 560.00	40	\$ 560.00	40	\$ 560.00
<b>DEMOLITION ITEM SUBTOTAL</b>					<b>\$ 26,160.00</b>		<b>\$ 24,600.00</b>		<b>\$ 26,680.00</b>		<b>\$ 28,760.00</b>		<b>\$ 26,680.00</b>		<b>\$ 27,720.00</b>
<b>STORM SEWER</b>															
23	Inlets and Manholes (Conc.) - All types and depths	EA	980	45	\$ 117,000.00	42	\$ 109,200.00	46	\$ 119,600.00	50	\$ 130,000.00	46	\$ 119,600.00	48	\$ 124,800.00
23	12" Drain Basins	EA	960	45	\$ 30,375.00	42	\$ 28,350.00	46	\$ 31,050.00	50	\$ 33,750.00	46	\$ 31,050.00	48	\$ 32,400.00
24	8" PVC Storm Sewer	LF	35,200	1,238	\$ 24,750.00	1,155	\$ 23,100.00	1,265	\$ 25,300.00	1,375	\$ 27,500.00	1,265	\$ 25,300.00	1,320	\$ 26,400.00
25	24" Storm Sewer	LF	24,200	855	\$ 47,025.00	798	\$ 43,890.00	874	\$ 48,070.00	950	\$ 52,250.00	874	\$ 48,070.00	912	\$ 50,160.00
26	30" Storm Sewer	LF	4,400	0	\$ -	0	\$ -	475	\$ 33,250.00	0	\$ -	475	\$ 33,250.00	900	\$ 63,000.00
27	36" Storm Sewer	LF	8,500	475	\$ 38,000.00	0	\$ -	0	\$ -	950	\$ 76,000.00	950	\$ 76,000.00	450	\$ 36,000.00
28	42" Storm Sewer	LF	1,800	0	\$ -	475	\$ 42,750.00	0	\$ -	0	\$ -	950	\$ 85,500.00	0	\$ -
29	48" Storm Sewer	LF	2,100	475	\$ 47,500.00	0	\$ -	450	\$ 45,000.00	0	\$ -	0	\$ -	450	\$ 45,000.00
30	54" Storm Sewer	LF	600	0	\$ -	0	\$ -	450	\$ 67,500.00	0	\$ -	0	\$ -	0	\$ -
31	60" Storm Sewer	LF	1,400	100	\$ 5,500.00	0	\$ -	450	\$ 24,750.00	0	\$ -	0	\$ -	0	\$ -
32	66" Storm Sewer	LF	100	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
33	72" Storm Sewer	LF	1,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
34	78" Storm Sewer	LF	100	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
35	84" Storm Sewer	LF	500	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
36	96" Storm Sewer	LF	1,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
37	108" Storm Sewer	LF	1,000	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
38	114" Storm Sewer	LF	700	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
39	Channel Improvements Downstream of 3rd Street Outfall (Weir or culvert, and etc.)	LS	1	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -
<b>STORM SEWER ITEM SUBTOTAL</b>					<b>\$ 310,150.00</b>		<b>\$ 247,290.00</b>		<b>\$ 394,520.00</b>		<b>\$ 319,500.00</b>		<b>\$ 418,770.00</b>		<b>\$ 377,760.00</b>
<b>MISC. UTILITY ITEMS</b>															
40	General Utility Adjustments	LS	1	1	\$ 14,625.00	1	\$ 13,650.00	1	\$ 14,950.00	1	\$ 16,250.00	1	\$ 14,950.00	1	\$ 15,600.00
<b>MISC. UTILITY ITEM SUBTOTAL</b>					<b>\$ 14,625.00</b>		<b>\$ 13,650.00</b>		<b>\$ 14,950.00</b>		<b>\$ 16,250.00</b>		<b>\$ 14,950.00</b>		<b>\$ 15,600.00</b>
<b>BASE BID ITEM TOTAL</b>					<b>\$ 1,481,380.00</b>		<b>\$ 1,338,102.00</b>		<b>\$ 1,445,856.00</b>		<b>\$ 1,460,060.00</b>		<b>\$ 1,471,906.00</b>		<b>\$ 1,474,608.00</b>

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Ray Nolen, EMS Chief</u>
Department: <u>EMS</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit:  
Exhibit:

### **SUMMARY & RECOMMENDATION**

EMS Headquarters (10428 Spencer) has a need to expand and remodel in order to address an outdated coed dormitory design and the lack of any training room area for paramedics to train. EMS Headquarters was renovated in 2007 to house EMS operations and is now in need of an expansion and remodel to address an outdated coed dormitory design and the lack of any training room area for paramedics.

#### **Dormitory Concerns:**

Traditionally, fire and EMS stations have featured a large coed dormitory with individual beds or bunk beds, however, privacy has become a priority as more women now join the profession and the utilization of private dorms is now becoming the norm for these type facilities.

A growing number of individuals in the fire and EMS workforce are expressing their continued desire for more privacy when at the station and not on calls. Individual sleeping quarters allows everyone equal space and privacy, whatever the personnel composition on a particular shift is.

Individual sleeping quarters provide a private area to sleep (a big plus when people snore), a place to change besides the restroom, and a private space when an individual needs some time alone.

#### **Proposed Dormitory Expansion Project:**

The primary goal of this project is to address the privacy concerns with the current coed dormitory design. Also, the project will enable us to remodel the existing dormitory space into a badly needed classroom for our paramedics to train without having to relocate to the Police Department or the Fire Department

Conceptually, we would like to build private dorms on the east side of the apparatus bay by taking in the adjacent parking spaces and extending the parking lot east to the LPISD school parent pickup driveway.

For the FY2019-20 budget period, we are requesting funding to perform a feasibility analysis and cover design costs if feasible.

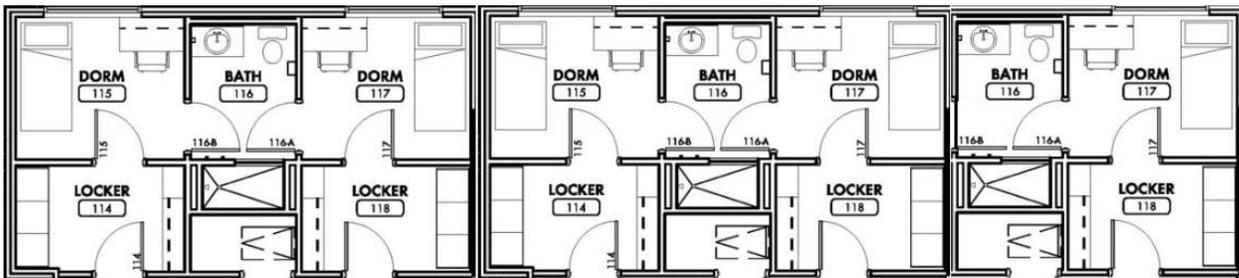
The dimensions of the proposed private dormitory expansion is 64' X 19' or 1,216 sq. ft. and should accommodate a total of five (5) dorms with male and female restroom and shower facilities. The remodeled coed dorm area would then be converted to a training room of an estimated 816 sq. ft.

Below is a rendering of the proposed private dorm dormitory and the parking lot extension project.



### Conceptual Dorm Design:

Two paramedics share one Jack-and-Jill bathroom. The locker vestibule allows shift personnel to store belongings.



### Cost Estimates:

Estimated costs are based on data received from area fire departments that have recently built or expanded fire stations:

- Feasibility Study \$5,000 – \$7,000
- Design/Architect \$40,000
- Construction 1,216 sq. ft. w/ Parking Lot = \$350,000 - \$500,000
  
- **Total Estimated Cost \$395,000 - \$500,000**

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**Action Required by Council:**

Provide staff direction regarding adding money to the budget for the expansion & remodel at EMS Headquarters.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

## REQUEST FOR CITY COUNCIL AGENDA ITEM

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>
<b>Requested By:</b> <u>Ray Nolen, EMS Chief</u>
<b>Department:</b> <u>EMS</u>
<b>Report:</b> <u>    </u> <b>Resolution:</b> <u>    </u> <b>Ordinance:</b> <u>    </u>

<b><u>Budget</u></b>
<b>Source of Funds:</b> _____
<b>Account Number:</b> _____
<b>Amount Budgeted:</b> _____
<b>Amount Requested:</b> _____
<b>Budgeted Item:</b> YES    NO

**Exhibit:**  
**Exhibit:**

### SUMMARY & RECOMMENDATION

The current EMS staffing configuration requires the position of Assistant Chief (non-exempt) to fill one of the three shifts as a shift commander working on a 48/96 shift rotation. Having the position of Assistant Chief on this type of work schedule for an EMS that is as progressive as ours poses several negative challenges for EMS. In an effort to reduce and/or alleviate those challenges and to pursue a better level of efficiency and enhancement of our level of customer service delivery, this is a request for a third Captain to enable the Assistant Chief position to be transitioned to a regular 40-hour work week.

In 2006, EMS consisted of a total of 19 staff members staffing two ambulances 24/7, responding to a call volume of 3100 calls. In 2007, EMS took over patient billing from the Finance Department and acquired one Billing Specialist position. In 2011, EMS added a third ambulance to our response fleet, requiring the addition of 6 more paramedics. Currently, EMS employees total 24 staff members that are on 24-hour shifts and 2 staff members that are on 8-hour shifts. During the past 13 years, EMS has experienced a 32% increase in call volume and a 37% increase in staffing.

#### **Discussion:**

**Administratively:** Due to the Assistant Chief being on a 24-hour shift, she routinely does not get off until 3-4 hours after her shift ends due to needing to follow up on emails and phone calls from the day before coupled with the ongoing need to follow-up with a subordinate staff member that is coming on shift that she has not seen for 5-7 days.

The Assistant Chief being on regular 40-hour work week in an (exempt) position would better assist me in overall day-to-day operations, provide better billing involvement and oversight, eliminate her overtime, and provide for that position to cover for other command staff members while off without having to pay overtime for at least 8 hours of their shift.

**Billing:** When on duty and usually after around 6 p.m., the Assistant Chief will push her administrative duties aside to start working on assisting with billing efforts and this routinely occurs until around 4 a.m. in the morning and oftentimes even from her home.

Transitioning the Assistant Chief to a regular 40-hour work week would allow this position the opportunity to not only perform the duties of this position in a more efficient and effective manner but also double as our second

billing specialist to provide better assistance and oversight to our current Billing Specialist who currently only gets assistance every third day.

**Fiscal Impact - Based on Estimates:**

Assistant Chief – (Minimal to No Initial Impact)

- Transition from EMS paygrade EM5 to Grade 034
- Repurpose replaced EMS Chief car for 2 years
- Exempt - Eliminate this position’s overtime

Captain

- EMS Paygrade EM4 \$57,289 to \$77,509 annually with an estimated first year new Captain promotion of \$63,000
- Estimated Benefit Cost - \$19,000

Total Annually - \$82,000

- ❖ Compensation w/Benefits

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**Action Required by Council:**

Provide staff direction regarding adding money to the budget for an additional new captain position to the EMS staff.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Donald Ladd, Asst. Fire Chief</u>
Department: <u>Fire Department</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Fireblast Global Presentation  
Exhibit:

### **SUMMARY & RECOMMENDATION**

Currently, the City of La Porte fire training facility has benefitted the La Porte Fire Department in many ways over the past 30 years. Combined with changes in NFPA codes and the fact that the community is growing toward the fire field, staff believes that now is the time for the City Council to consider upgrading the fire training facilities to propane. There are numerous advantages to using propane as opposed to 'Class A' type fuels, with the most important being that propane props are safer than 'Class A' fuels. Also, propane is better for the environment and has no irritating smell. Propane allows the Fire Department to save valuable training time because there is no major clean up after or between uses.

#### **Factors to Consider:**

- Safety:
  - Instant fire shut off
  - Nontoxic smoke
  - Reduction of heat within minutes of shut down
  - Temperature control not to exceed 500 degrees
  - Controlled fire areas
- Environmental:
  - Complaints about the smell of smoke in the surrounding areas
  - Smoke clouds across the area.
- Training
  - Reset time between evolutions in minimal
  - Building can be used as a smoke house only
  - Little cleanup at end of training session
  - Allows for total control of size of fire

#### **Cost Estimate:**

The Fire Department proposes that the City utilize General Fund fund balance to pay for the project, and then allow the Fire Control Board to repay the cost over 4-5 years, with the plan based on total costs. The initial expense of the remodel is estimated at \$1.2 million.

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**Action Required by Council:**

Provide staff direction regarding adding money to the budget for the fire field propane project.

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**Approved for City Council Agenda**

\_\_\_\_\_  
**Corby D. Alexander**

\_\_\_\_\_  
**Date**

## Fireblast Global

- Firefighting, Emergency Response and Civil Defense
- Simulation & Training Solutions
- Corporate Capabilities

La Porte Fire Department, Texas

# Delivery Experience – Live Fire Training Facilities

## Regional & Municipal Fixed Facility Training Centers



Municipal Fire Training Center  
Chino, CA



Municipal Fire Training Center  
Cape Fear, NC



Municipal Fire Training Center  
Anchorage, AK



Municipal Fire Training Center  
Edmond, OK



Municipal Fire Training Center  
School Craft, MI



Municipal Fire Training Center  
Shelby, AL



Municipal Fire Training Center  
Carlsbad, CA



Municipal Fire Training Center  
South Bend, IN.



Municipal Fire Training Center  
Carlsbad, CA



Municipal Fire Training Center  
Yuma, AZ



Municipal Fire Training Center  
Phoenix, AZ



Municipal Fire Training Center  
Temple, TX



Municipal Fire Training Center  
North Shore, WA



Municipal Fire Training Center  
Visalia, CA



Municipal Fire Training Center  
Forsythe, NC



- 29 Fire Points
- Spreads & Extensions on Each Level
- Fires on 8<sup>th</sup> Floor



- 16 Fire Points
- Spreads & Extensions in Every Room
- No equipment spaces available

## *Advanced Live Fire Systems*

- ❑ Fireblast Live Fire Systems Produce 4.2 MBTU's /hr (Per Burner)
- ❑ Realistic Flame Production
- ❑ Designed for Expansion and Upgrades

## Control System Overview

- ❑ One Operating System/ **Two** Configurations
- ❑ Expandable platforms sensibly designed to maximize **Training Value**



# Wall Mount



## *Rack Mount*



# Safety Systems

# Safety



01/31/18 7:02:39am  **OVERVIEW** Superuser

BED	FLASH	STOVE	FLASH	SOFA	ENGINE
IPM	IPM	IPM	IPM	IPM	IPM
IGNITES LEFT LOCKED	IGNITES LEFT LOCKED	IGNITES LEFT LOCKED	IGNITES LEFT LOCKED	IGNITES LEFT LOCKED	IGNITES LEFT LOCKED
OUTPUT 0 %	OUTPUT 0 %	OUTPUT 0 %	OUTPUT 0 %	OUTPUT 0 %	OUTPUT 0 %
TIME LEFT 0 Secs	TIME LEFT 0 Secs	TIME LEFT 0 Secs	TIME LEFT 0 Secs	TIME LEFT 0 Secs	TIME LEFT 0 Secs
 PURGE	 PURGE	 PURGE	 PURGE	 PURGE	 PURGE

EXHAUST FAN 1

EXHAUST FAN 2

EXHAUST FAN 3

LEVEL 1		LEVEL 2		LEVEL 3	
SMOKE	AUTO TIMES (Secs)	SMOKE	AUTO TIMES (Secs)	SMOKE	AUTO TIMES (Secs)
OFF	ON   OFF	OFF	ON   OFF	OFF	ON   OFF
ON	0.0   0.0	ON	0.0   0.0	ON	0.0   0.0
AUTO	0   0	AUTO	0   0	AUTO	0   0

WELCOME

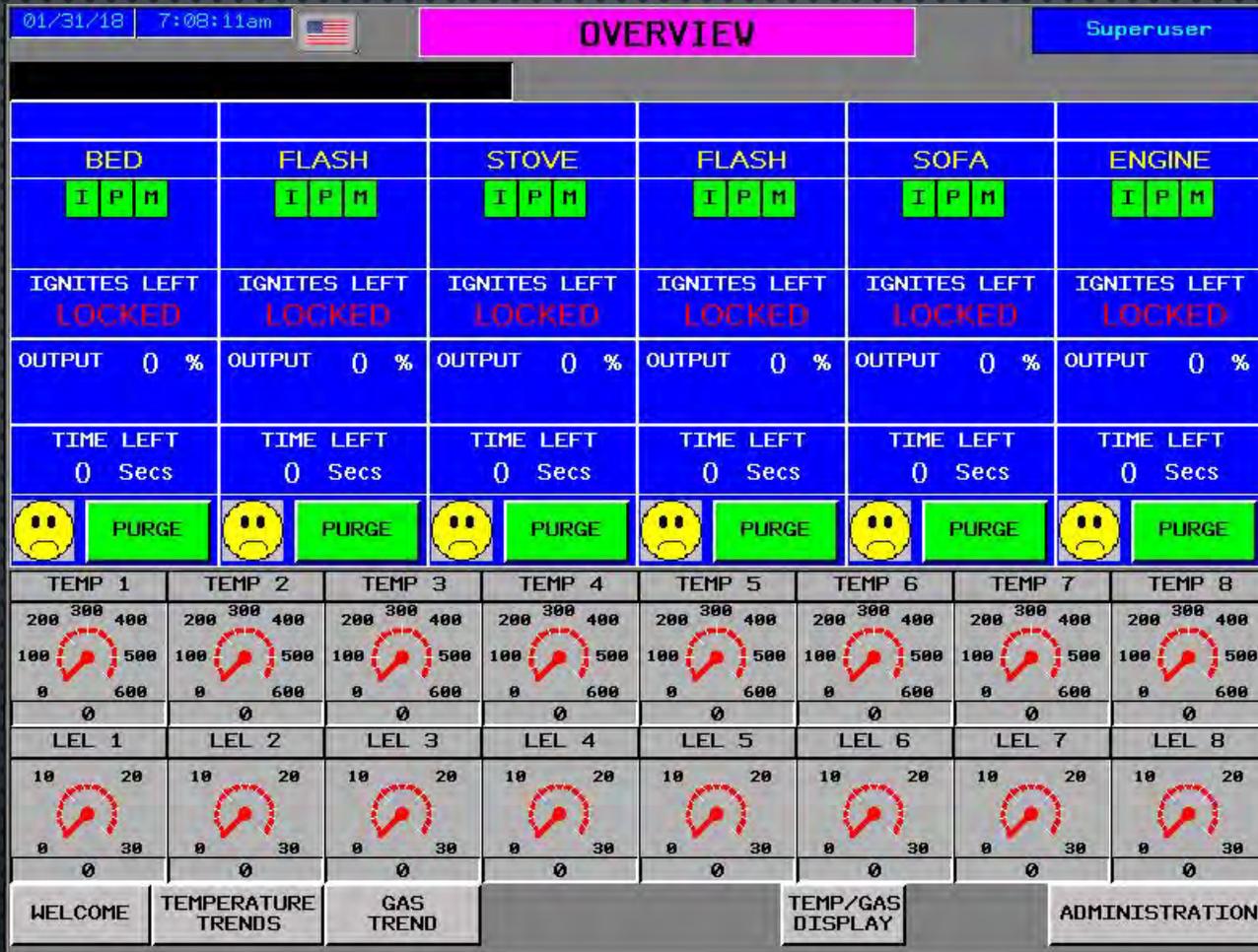
TEMPERATURE TRENDS

GAS TREND

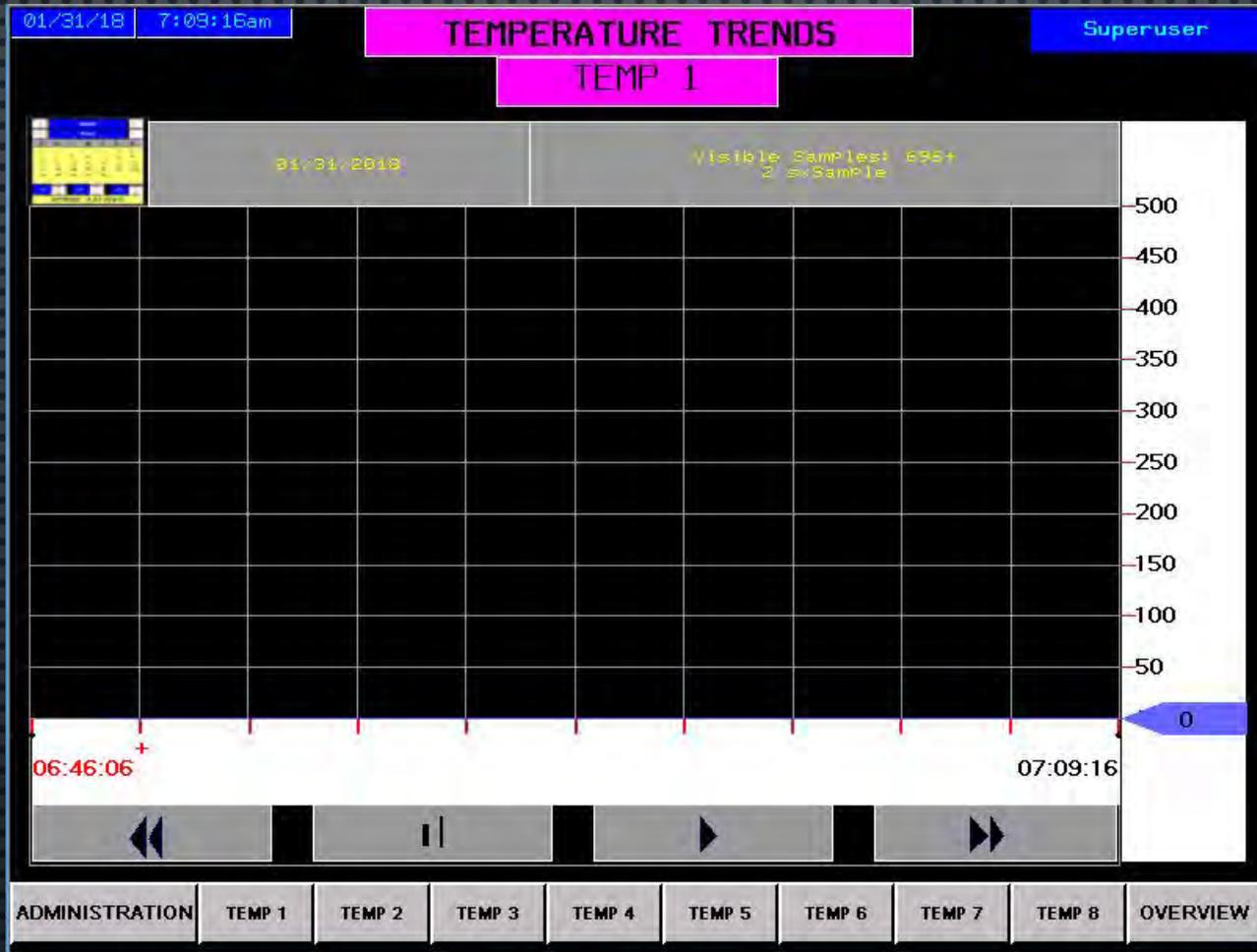
TEMP/GAS DISPLAY

ADMINISTRATION

□ Six (6) Ignition Points for Extension and Flame Spread Capability



## ❑ Independent Gas Detection and Temperature Monitor



## ❑ Data Logging and Trending

## Wireless Operator Control

- ✓ Vacant Operator Awareness
- ✓ UL Compliant E-Stop
- ✓ One Touch Operation
- ✓ Rechargeable Battery System



# Safety Systems

- ✓ IR Drawn-Sample Gas Detection
- ✓ Built in Moisture Protection and Dryer System
- ✓ Drawn Sample Gas Detection is a Fireblast Standard

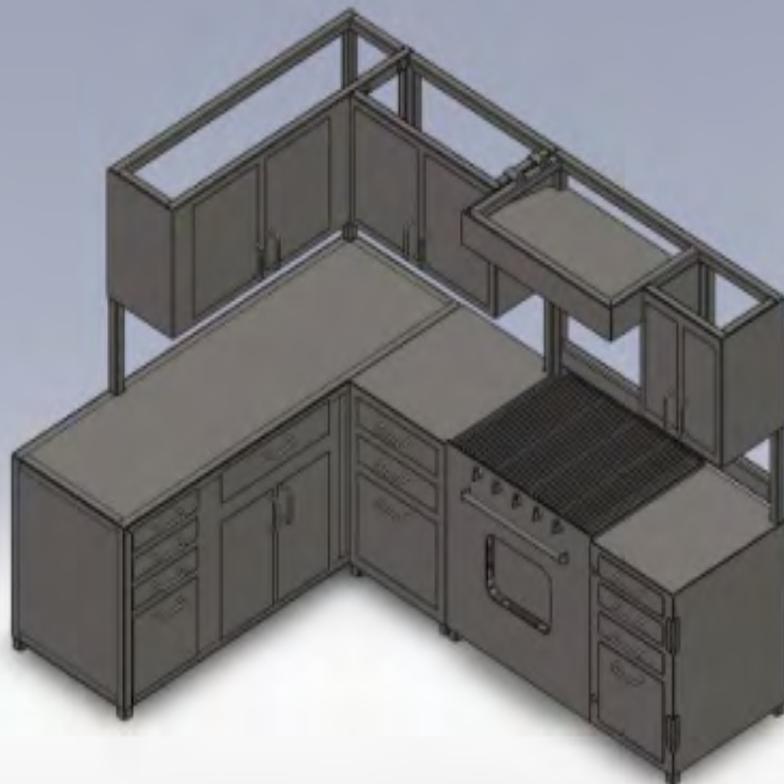


## *Prop Features*

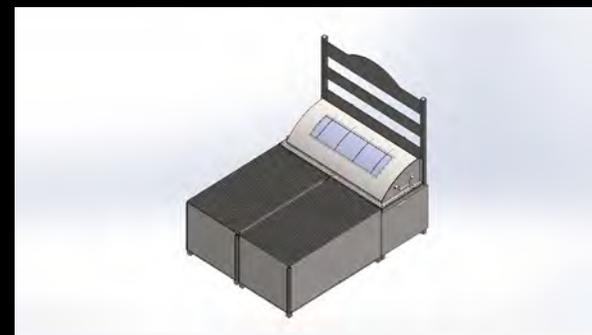
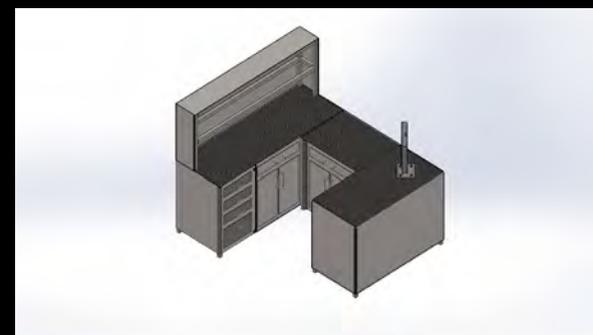
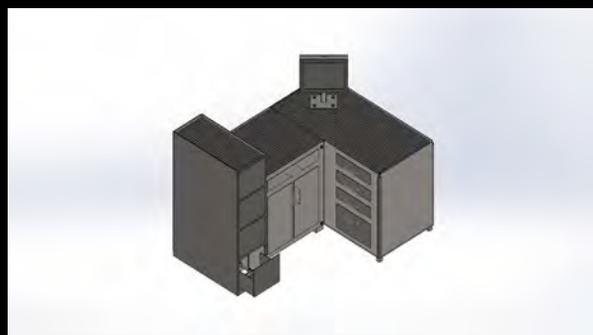
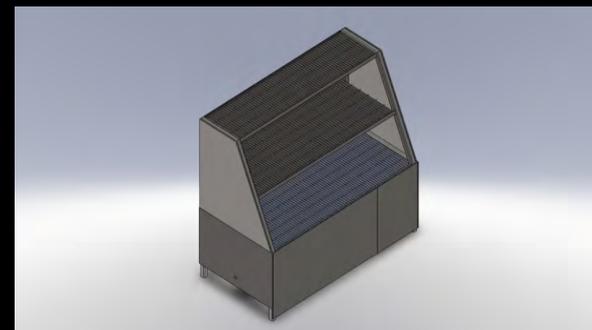
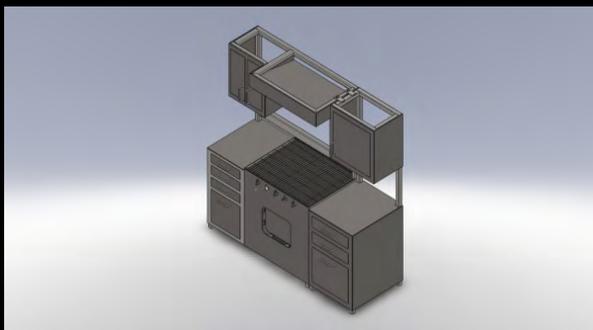
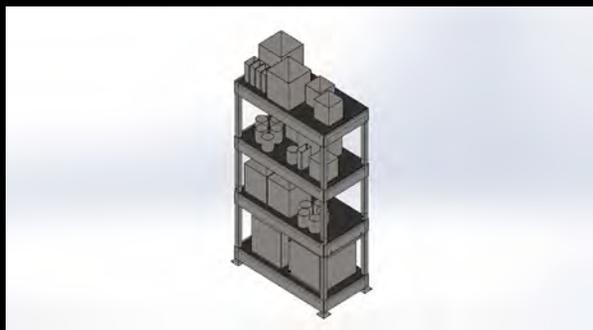
- Interchangeable mock ups or HD Heavy Duty design
- Patented Quick Burner Technology
- Wet / dry combo burner system



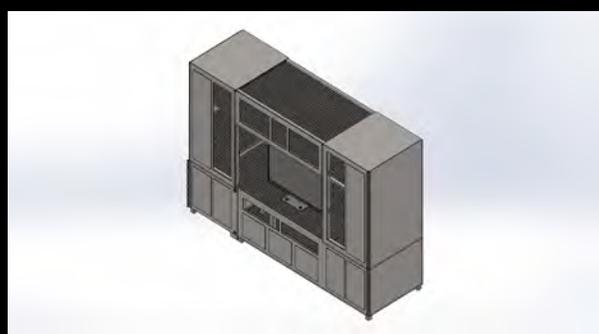
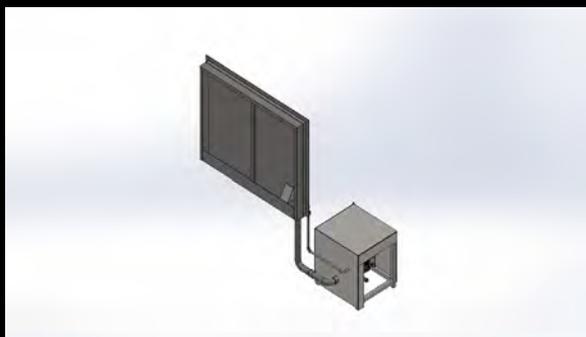
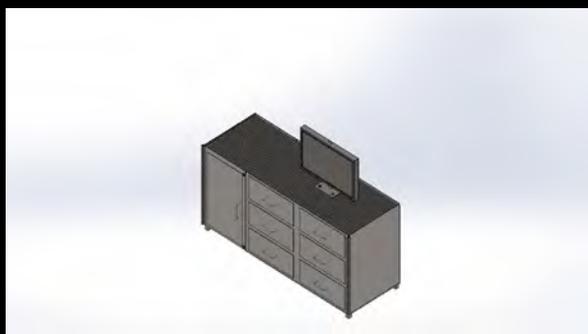
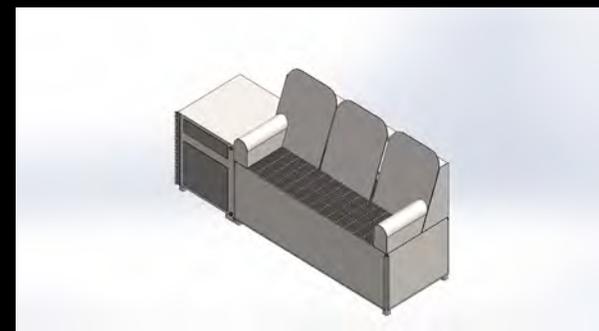
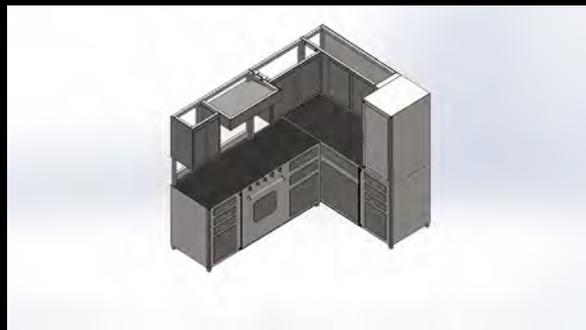
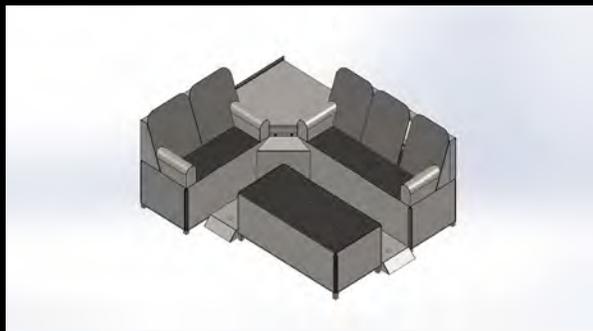
## *HD Series Prop Design*



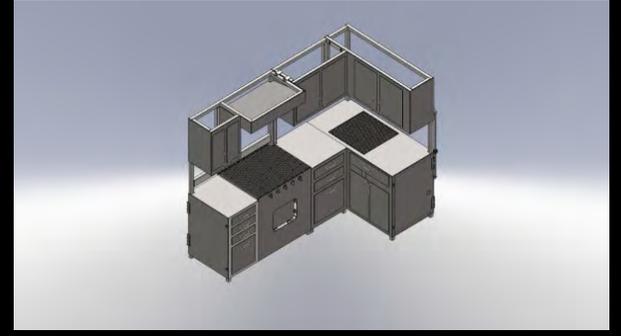
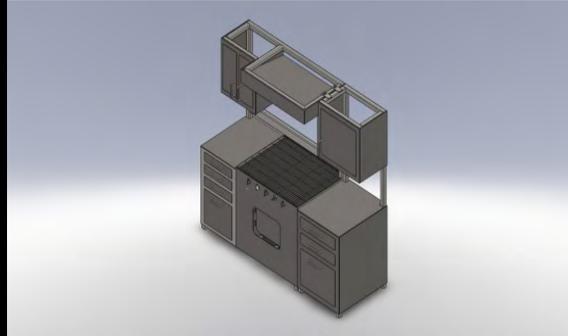
# HD Series Prop Design



# HD Series Prop Design



# HD Series Prop Comparison



## *HD Series Extension Fires and Flame Spread*



# Hallway Flashover



# Quick Burner™ Advantage

## Features

- ❑ Removable Burner Device
- ❑ Reduced Maintenance Travel
- ❑ Limits Maintenance Down Time
- ❑ Extends Prop Life



## *Smoke Distribution System*

- ❑ Integrated smoke system with 60,000 cfm output



## Thermal Lining System



Density	65 lb/sf – (1041 kg/m <sup>3</sup> )
Insulating Media	Calcium Silicate
Panel Dimensions	2ft x 2ft
Panel Thickness	1 in
Sub-Framing System	Hot dipped galvanized channel
Max Operating Temperature	2000°F (1093°C).
Weight of System	6.4 lb/sf
Flexural Strength	1400 psi
Comprehensive Strength	3000 psi
Cold Face Temp @1000°F- HF	107°F - (@ 537°C is 42°C)
Cold Face Temp @1500°F- HF	125°F - (@ 816°C is 52°C)
Air Gap (Steel Building)	7 in
Air Gap (Concrete Building)	4 in
Water Resistance	Yes
Thermal Conductivity @1000°F	1.95
Thermal Image Quality	Good
Thermal Reaction	Normal

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Alex Osmond, General Manager</u>
Department: <u>Bay Forest Golf Course</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Vendor Quotes  
Exhibit: Repair Details for Drainage & Cart Paths

### **SUMMARY & RECOMMENDATION**

Bay Forest Golf Course still has some remaining original carts paths that are over 30 years old. Over the last few years, with the extreme weather conditions the golf course has experience, these cart paths have deteriorated. These cart paths make it very uncomfortable for our customers and are detrimental to our cart fleet.

The right side of hole #18 are some of our steepest slopes. The edge next to the water has been eroding away through the years and makes it perilous for cart traffic. The installation of new bulkheads are needed to level these areas up and to stop the erosion.

There are culverts in need of repair in three (3) different locations. The culverts now in place have been or will be compromised in the near future. Along with new culverts, a new bulkhead will be needed to shore up these areas.

The original fairway and rough underground drainage has become filled and/or collapsed over the last 30 years and is in need of replacement. Sink hole areas have developed in other areas as well warranting new drainage installation.

Overall, Bay Forest is in need of infrastructure repair to return the course into the condition that makes Bay Forest the place to play in eastern Harris County.

#### Cost Estimates:

- Cart Path Repair (remove and install 78,204 sq. ft. of 4" thick cart paths with #4 rebar 3000 PSI concrete @ \$10 per sq. ft.) - \$782,040
- New bulkhead at Hole #18 (1,270 linear ft. @ \$109) - \$138,400
- Install three 30" Drain Pipe at \$6,200 per location - \$18,600
- Install 100 linear ft. of bulkhead at each 30 in. drain location to deter in erosion @ \$109 per linear ft. - \$32,700
- Install 15,000 linear ft. of New Drainage on Holes #4, 5, 7, 8, 10, 11, 12, 16 and Chipping Green Area - \$18,640
- 10% Contingency - \$99,038
- **Total Cost - \$1,089,418**

Staff's plan would be to implement these CIP infrastructure improvements over the next 5 years, completing 20% per year (\$217,884 per year).

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**Action Required by Council:**

Provide staff direction regarding adding money to the budget for needed infrastructure repair at Bay Forest Golf Course.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**



# QUOTE

Date: 2/28/19

Mike Caldwell  
 Office: 281-471-2422  
 Mobile: 254-652-4310  
[caldwellm@laportetx.gov](mailto:caldwellm@laportetx.gov)

To: City of La Porte  
 Bay Forest Golf Course  
 201 Bay Forest Drive  
 La Porte, TX 77571

Salesperson	Job	Payment Terms	Date
Robert Crawley	Bay Forest Golf Course	Upon Receipt	2/28/19

Qty	Unit	Description	Unit Price	Line Total
685	ft	Wooden Bulkhead	\$109.00	\$ 74,665.00
1	LS	Install 30' Drain Pipe (See Attached Drawing)	\$6,200.00	\$6,200.00
			Sub-Total	\$80,865.00
			<b>Total</b>	<b>\$80,865</b>

Make all checks payable to Crawley's Shoreline Construction, Inc.  
 Thank you for your business!

225 Jordan Rd. Baytown, TX 77523



# CRAWLEY'S SHORELINE CONSTRUCTION INC.

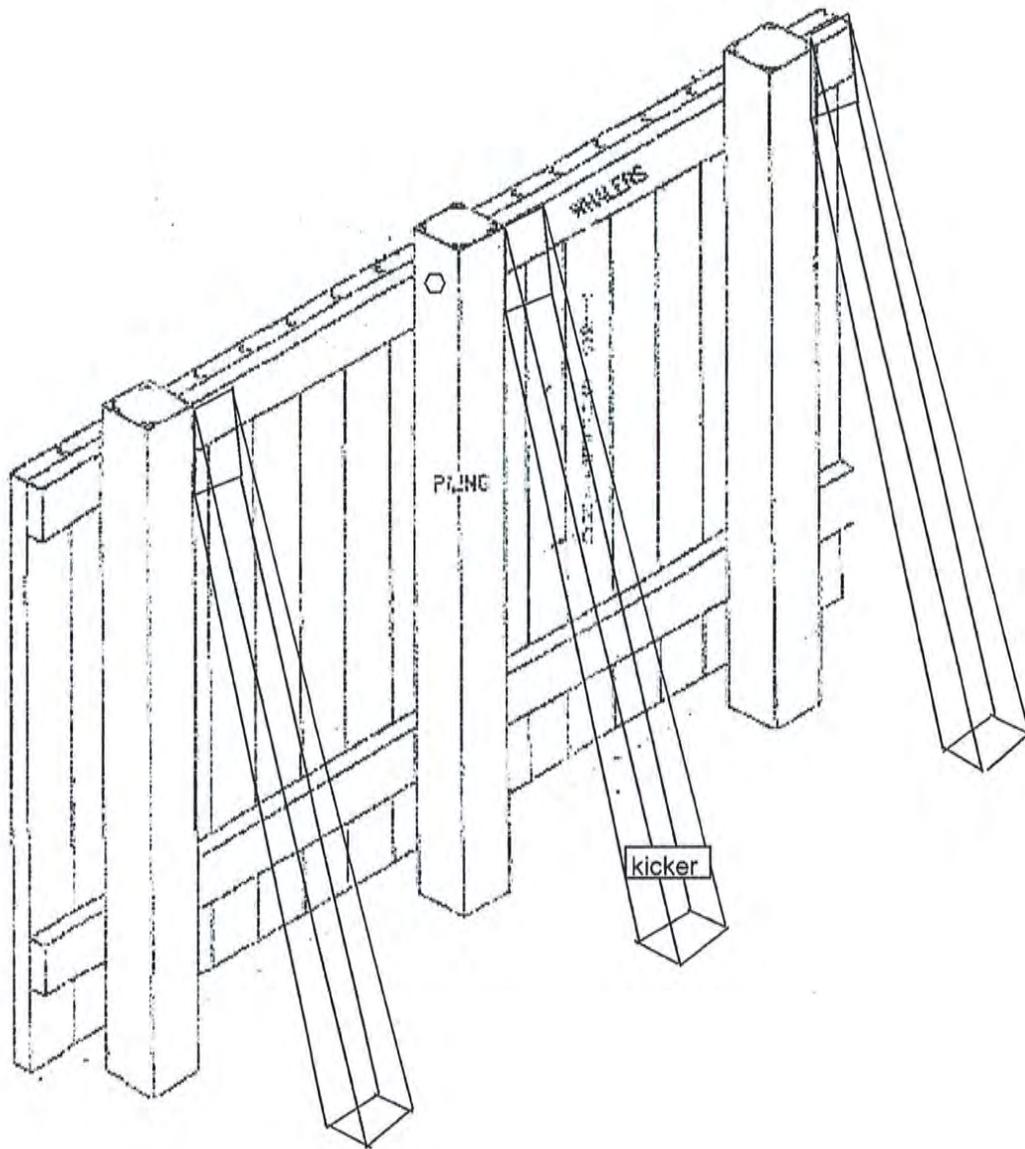


ALL WATERFRONT MAINTENANCE  
225 JORDAN RD BAYTOWN, TX 77520

OFFICE 281-383-3665  
CELL 713-253-1107  
FAX 281-573-4018  
HOME 281-383-2883

**Robert Crawley**

PILING - 6x6x8  
T&G SHEETING - 2X10X6  
WHALERS - 3X8X20  
FILTER CLOTH





## **Drainage**

4in. perforated drain pipe \$65.00 per 100ft. roll.

12in. catch basin with grate \$60 per basin

4inch Fittings

Tees-\$7.01 a piece

90 (elbow)-8.75 a piece

45 (elbow)-\$11.70 a piece

Connecting coupling-\$3.40 a piece

Adapters-\$5.15 a piece

Blocks-\$3.70 a piece

Areas for Drainage:

- Right and left side of #4 fairway
- Right side of #5
- Right rough of #7 fairway
- Left of #8 Tee
- Left of #10 fairway
- Left of 11 by humps
- Right side of 12
- Left side of 16 through to behind putting green

Cost Totals:

15,000 feet of drain pipe \$9,800

Couplings and fittings \$3,320

Drain basins w/grates \$2,320

Estimated total for pipe and fittings: \$15,440

In addition to the pipe and fittings pea gravel is also necessary for proper drainage installation.

3/8in. pea gravel-\$40 a ton, \$800 per load.

Loads needed: 4 at an estimated cost of \$3,200

## **Cart Path Repair & Replacement**

Replacement:

#1tee to #1 green: 2,650ft. @6ft. wide=15,590 sq. feet

#2tee to #2 green: 1,490ft. @6ft. wide=8940 sq. feet

#3tee to #3 green: 735ft. @6ft. wide=4,410 sq. feet

#3 green to 8 green: 922ft. @ 6ft. wide=5,532 sq. feet

#10 tee to #10 green: 1,637ft. @6ft. wide=9,822 sq. feet

#16 tee to #16 green: 1,480ft. @ 6ft. wide=8880 sq. feet

#16 green to #17 tee and up #18 tee to #18 green: 2,20 @6ft wide=12,720 sq. feet

Total sq. footage to be replace is 66,204 @ a cost of \$10 per square foot= \$662,040

Repair:

There is roughly another 2,000 feet of cart path to be repaired throughout the golf course minus the holes listed above. This also be 6ft. wide.

Total sq. footage to be repaired is 12,000 @ a cost of \$10 per sq. foot= \$120,000

Total cost for cart path project: \$782,040

## REQUEST FOR CITY COUNCIL AGENDA ITEM

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>
<b>Requested By:</b> <u>Grady Parker, IT Manager</u>
<b>Department:</b> <u>Information Technology</u>
<b>Report:</b> ____ <b>Resolution:</b> ____ <b>Ordinance:</b> ____

<b><u>Budget</u></b>
<b>Source of Funds:</b> _____
<b>Account Number:</b> _____
<b>Amount Budgeted:</b> _____
<b>Amount Requested:</b> _____
<b>Budgeted Item:</b> YES    NO

**Exhibit:** PFN Planned Map  
**Exhibit:** Vendors Quote

### SUMMARY & RECOMMENDATION

This item was requested to be brought back this year as a follow-up from last year's budget process.

Private Fiber Network (PFN) is a fiber optic solution to meet the growing needs of the City of La Porte's support staff. PFN interconnects various city owned and operated facilities Local Area Networks (LAN) using a dedicated private fiber throughout the city, enabling the city support staff to share network resources from a centralized location (La Porte Police Department). Our proposed PFN will offer 1Gbps at each connected locations.

Currently, the city has a dedicated AT&T copper connection at all of our managed facilities, except those facilities without internet (see below) and Brookglen, Pecan Park and Jennie Riley, which are serviced by Comcast. The Train Depot Museum and all outdoor public pools uses AT&T MiFi device for internet connectivity. Currently, the AT&T speeds are capped at 500Mbps, which is half the speed of our proposed PFN. The City is in the second year of a five year contract with AT&T, which requires us to pay \$220,000 annually. Staff anticipates the cost increasing once our contract ends in three years.

The anticipated total cost of building our own PFN is \$2,250,477.18. As a result of changing the scope of work from connecting only 13 locations to now connecting all 32 city owned facilities back to the police department, the cost is higher than what was presented last year. Staff anticipates a return on investment (ROI) after the system has been in place for ten (10) years.

PFN cost breakdown:

- About 16.5 miles of SCH 40 PVC installed by way of directional drilling
- The fiber pathway will interconnect 32 separate city owned facilities back to the IT datacenter located at the police department.
- There will be 9 fiber pull boxes. Each pull box will have 4 fiber stands accessible for future use.

Currently, the following City locations do not have internet connectivity and will need to be provided some type of connectivity in the near future:

- Evelyn Kennedy
- Historic Colored School House
- Lomax Arena
- Original City Hall

- Public Library
- Records Storage Building next to City Hall
- Sea Breeze Park
- Five Points

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**Action Required by Council:**

Provide staff direction regarding adding money to the budget a private fiber network.

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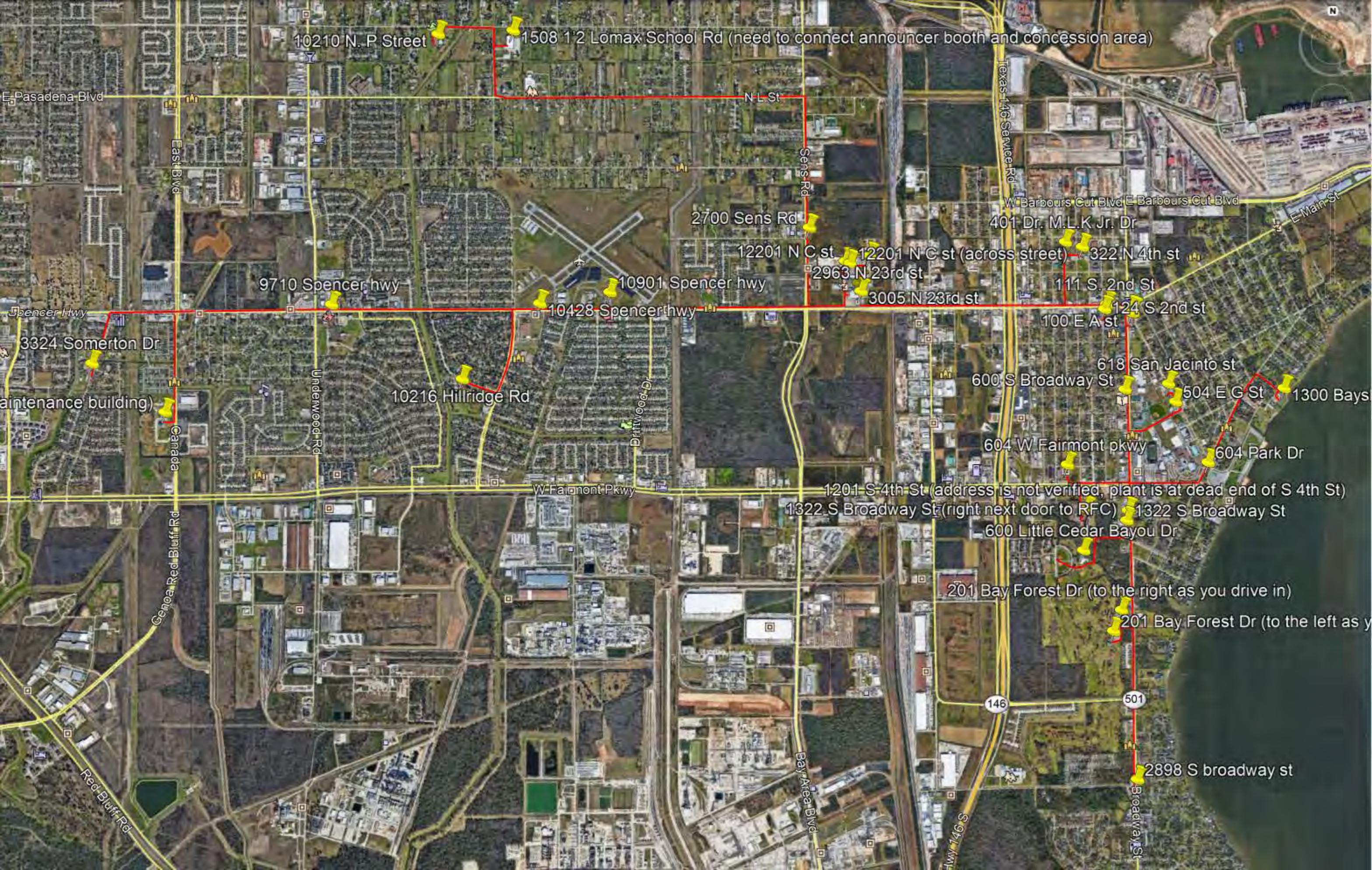
**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**



10210 N. P Street

1508 1/2 Lomax School Rd (need to connect announcer booth and concession area)

N L St

2700 Sens Rd

12201 N C st

12201 N C st (across street)

322 N 4th st

2963 N 23rd st

3005 N 23rd st

111 S. 2nd St

124 S 2nd st

9710 Spencer hwy

10901 Spencer hwy

10428 Spencer hwy

100 E A st

3324 Somerton Dr

10216 Hillridge Rd

600 S Broadway St

618 San Jacinto st

504 E G St

1300 Bays

604 W Fairmont pkwy

604 Park Dr

1201 S 4th St (address is not verified, plant is at dead end of S 4th St)

1322 S Broadway St (right next door to RFC)

1322 S Broadway St

600 Little Cedar Bayou Dr

201 Bay Forest Dr (to the right as you drive in)

201 Bay Forest Dr (to the left as you drive in)

146

501

2898 S Broadway st

Pasadena Blvd

East Blvd

Spencer Hwy

Maintenance building

Canada

Underwood Rd

Driftwood Dr

W Fairmont Pkwy

Red Bluff Rd

Bay Area Blvd

Hwy 146 S

Broadway St

Texas 146 Service Rd

W Barbour's Cut Blvd E Barbour's Cut Blvd

401 Dr. M.L.K Jr. Dr

E Main St



DIR#: DIR-TSO-3725

February 25, 2019

Attention: Grady Parker

Re: Capital Improvement Fiber Project

Triumph Cabling Systems is pleased to provide a quote on the installation of about 16.5 miles of SCH 40 PVC conduit by way of directional drilling for the City of La Porte. The pathway shall connect 32 separate buildings to the La Porte Police department MDF (see map for locations). When the conduit reaches the destination the conduit shall switch to a 2" EMT conduit as it raises up the wall and enters the building. A coring charge is included for each building. Six strands of single mode fiber shall be routed to each of the 32 buildings connecting back to the police department MDF. Each Strand shall be terminated with a type LC connector and shall be routed to each buildings MDF. When the fiber lands in the MDFs, a wall mounted cabinet shall be installed to provide protection for the fiber. Orange inner duct shall be installed as needed to protect the fiber once it enters a building. Triumph shall also leave at least 4 fiber strands inside of each of the 9 pullbox locations specified by the owner, for future use. Triumph will locate where known utilities are marked or identified. Triumph will utilize the one call locate system to have the existing public utilities located. The Client, at the Client's expense, will locate private lines (water, sewer, power, sprinkler, coax, telephone, etc.). Location marks must be within 18 inches of the actual underground facility and meet American Public Works Association guidelines. Triumph is not responsible for any damages that occur as a result of inaccurately located, missed, or unmarked lines or facilities. Client shall provide all blueprints, diagrams and other documents necessary to accurately identify all private underground utility lines and facilities. For any private utility line or facility which was not properly located and marked by Client, Triumph shall not be responsible for any direct or consequential damages to such line or facility, including damages caused by directional boring or trenching. Triumph has excluded any network equipment, copper cables, grounding wire, grounding busbars and removal/replacement of landscape greenery. This proposal is based on normal business hours.

<b>Mat'ls &amp; Expenses</b>	\$351,718.50
<b>Total Labor Costs:</b>	\$1,898,758.68
<b>Total Project Cost:</b>	\$2,250,477.18

Please call with any questions @ 713-465-9988

Thank You for the opportunity,

Nicholas Tahtinen  
Account Executive

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

Print Name: \_\_\_\_\_



# Estimate

Date: 2/25/2019

Company: City of La Porte  
 Customer: Grady Parker  
 Address:  
 Phone Number:

Manufacturer	Part Number	Description	Qty	Unit
Triumph	General	Boring	87820	Ft
Corning	024ZU4-T4F22D20	24 Strand SM Fiber OSP Non Armored	22200	Ft
Corning	006ZU4-T4F22D20	6 Strand SM Fiber OSP Non Armored	12100	Ea
Corning	144ZU4-T4F22D20	144 Strand SM Fiber OSP Non Armored	27550	Ea
Corning	048ZU4-T4F22D20	48 Strand SM Fiber OSP Non Armored	24900	Ea
Corning	CCH-CS24-A9-POORE	24 Strand LC splice cassetts	8	Ea
Corning	CCH-CS12-A9-POORE	12 Strand LC splice cassetts	32	Ea
Corning	040402G5120003M	Duplex LC jumpers	228	Ea
Corning	WCH-04P	Wall mounted Fiber enclosure	32	Ea
Corning	WCLLC-12P	Wall Mounted Fiber enclosure	2	Ea
Hubble	PG2436BA30	Pull Boxes	205	Ea
Thomas	Plenum Gard Corr Orange	1" Orange Innerduct	400	Ft
General	PVC-2	2" PVC Sch 40	87820	Ft
General	2-EMT	2" EMT conduit	400	Ft
General	LB-2	2" LB	34	Ea
Thomas	78599102547	2" EMT couplers	68	Ea
Bridgeport	1925	2" Double hole conduit strap	102	Ea
Triumph	General	Coring Charge	34	Ea
Triumph	General	Concrete Demo	6	Ea
Triumph	General	Concrete Restoration	6	Ea
Triumph	General	Misc. intallation items	1	Ea
Triumph	General	Fiber Testing and Certification	456	Ea
Triumph	General	Project Management	1	Ea

Materials and Expenses \$351,718.50

Total Labor Costs: \$1,898,758.68

Sales Tax Not Included

Total Project Cost: \$2,250,477.18

PRICE GOOD UNTIL 3/27/2019

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Attachment 1 - Scope of Work

### 1.0 General / Project Overview

- 1.01 TRIUMPH shall furnish and install materials associated with a structured cabling system at the facility providing a certified design and installation. This installation will be per the floor plans and directions provided by and as further described below. Please see attached Bill of Materials sheet for a listing of materials and labor associated with this project.
- 1.02 There are no LAN Electronics included in this scope of work.
- 1.04 TRIUMPH shall properly firestop all fire wall penetrations. TRIUMPH shall fill with putty/caulk/bricks as required by the solution/product used and the prevailing standard.

### 2.0 Secondary Conduit Entrance

- 2.01 TRIUMPH shall furnish and install one 4-inch underground HDPE conduit approximately 16.5 miles. Triumph shall furnish and install a 24-inch x 36-inch x 24-inch handhole w/ lid as needed. At the building, TRIUMPH shall 'turn-up' the conduit and transition to galvanized pipe which shall extend approximately 10 feet above grade to an exterior metallic pullbox.
- 2.02 TRIUMPH shall core-drill the exterior wall to provide building access out of the pullbox described above. The core-drill shall be above the interior drop-ceiling level and shall slope slightly downward from inside-to-outside. Following cabling installation, the hole shall be sealed to prevent moisture and conditioned air movement (cabling and sealing, by others).
- 2.04 TRIUMPH shall furnish and install one 1 inch corrugated innerducts from the building entrée point to each buildings MDF to provide protection for the fiber.

### 3.0 OSP Construction

- 3.01 All Sidewalks, streets, alleyways, gutters and façade items along the cable pathway and around the entrance facilities will be replaced to its original condition or better. All conditions will be videotaped prior to construction activities to provide information of pre-existing conditions. TRIUMPH reserves the right to replace sod, trees, and/or shrubbery during favorable times of the year to ensure growth of the replaced items. This will not preclude acceptance and payment of the project if substantial completion and operation of the network has been achieved.
- 3.02 TRIUMPH will provide forty-eight hours prior notice to the building owner and/or designated representative to arrange unrestricted access. It is recommended that these site visits be conducted in the presence of the building owner's representative(s). Videotape shall be made as a record of pre-existing conditions. This videotape will remain the property of TRIUMPH during and after project completion as a record of the project documentation.
- 3.03 Client and building owner must approve all penetrations into building structures, in writing, before commencement of work. All penetrations into building will be sealed around the conduits (sleeves) to help prevent water penetration or other material from intruding into structure from around the metal conduit sleeve.
- 3.04 TRIUMPH shall place the conduit described above using directional boring as the primary method of installation. This is preferred due to the minimal impact upon the conduit route's environmental conditions. Directional boring techniques may reduce the restoration requirements of the project. Restoration efforts are directly affected by the utility density along the route and with the level of landscaping encountered along the parkways and around buildings.
- 3.05 TRIUMPH shall place a portion of the conduit for this installation using open trenching methods. When trenching methods are utilized, during backfill activities, TRIUMPH shall place a warning tape above the conduit to alert any future excavator of the presence of an underground facility. This Warning Tape will be placed approximately 18-inches below the existing ground surface. The tape may contain specific information about the owner of the facility, including contact information.
- 3.06 Prior to underground conduit placement operations, TRIUMPH shall notify all utilities and agencies of the pending construction through a State-Approved One-Call service as required by law. TRIUMPH may elect to "pot-hole" the marked utilities for location verification.  
  
Note: Delays by Member Utilities in locating facilities in the public right-of-way or on private property may effect the timeline of this project. These types of delays are outside the control of TRIUMPH.
- 3.07 Grade-mounted hand-holes will be constructed of a fiberglass-reinforced aggregate matrix bound with polymer resin or reinforced concrete. The hand-hole cover will be mounted flush with existing grade and constructed with a load rating of AASHTO H-20. All conduits entering or exiting hand-holes will be sealed to prevent the movement of water through the duct.
- 3.08 Excavated surface areas shall be restored to equal or better than their state prior to construction.

#### **4.0 Rock Clause**

- 4.01 An additional charge may apply if solid rock is encountered while directional boring. In the event solid rock is encountered, TRIUMPH shall notify Client in writing prior to incursion of additional fees related to the rock.

#### **7.0 Backbone Cabling**

- 7.03 TRIUMPH shall furnish and install non armored singlemode OSP rated optical fiber cable approximately 16.5 miles from the Main Distribution Frame in the police station to each of the 32 Intermediate Distribution Frames described by owner. Each location shall receive 6 strands of singlemode fiber. Each of the 9 intersections specified by the owner shall receive a minimum of 4 fiber strands.
- 7.06 TRIUMPH shall terminate the optical fiber cabling with LC style splice cassetts
- 7.07 TRIUMPH shall furnish and install wall-mounted fiber enclosures equipped with splice cassetts to house the optical fiber terminations.

#### **8.0 Quality of Work**

- 8.01 TRIUMPH's installation practices will be per EIA/TIA Telecommunications Building Wiring Standards, the BICSI Telecommunication Distribution Methods Manual and local building codes.
- 8.03 All work shall be done in accordance with drawings, written specifications, any supplemental information, and industry standards.
- 8.04 All work shall be executed in a neat and workmanlike manner providing a thorough and complete installation.
- 8.05 Any work considered sub-standard shall be reported to TRIUMPH for immediate corrective action.
- 8.06 TRIUMPH shall be responsible on a daily basis for cleanup of all debris resulting from work completed by TRIUMPH. Upon completion, TRIUMPH shall remove all tools, equipment, or debris present as a result of TRIUMPH's section of the project.

#### **9.0 Schedule**

- 9.01 TRIUMPH's normal work schedule for this project shall be Monday - Friday, 7:00am - 4:00pm. Work outside of this time frame requires the approval of TRIUMPH, or overtime rates will be charged using a Change Order.
- 9.02 Refer to the attached 'Assumptions' list for additional schedule information.

#### **10.0 Project Management/Coordination**

- 10.01 TRIUMPH shall provide project management/coordination to monitor and coordinate all work related to this Scope Of Work.
- 10.02 TRIUMPH shall provide qualified supervision.

#### **11.0 Warranty**

- 11.01 TRIUMPH's proposal includes a 5-year labor warranty and a manufacturer's application warranty.
- 11.02 TRIUMPH warrants: (i) For a period of three (3) years following completion of the Project, Services provided will have been performed in a workmanlike manner and (ii) Any material provided will be free from defects for a period of three (3) years after completion of the project.
- 11.03 If TRIUMPH responds to a request for repairs during this warranty period and the problem is not covered by the contracted warranties, TRIUMPH will invoice and Client agrees to pay TRIUMPH a minimum three (3)-hour service charge.
- 11.04 All manufacturers' warranties will be passed through to Client.

#### **12.0 Facility Damage**

- 12.01 TRIUMPH takes all necessary steps to protect all received materials from damage.
- 12.02 TRIUMPH is responsible for handling any damage claims occurring as a result of performing work, i.e. damaged voice and/or data hardware, broken ceiling tiles, damaged walls, etc.

**13.0 Changes to the Scope of Work**

- 13.01 After the project begins TRIUMPH will not perform any verbally-requested change orders. TRIUMPH strives to be flexible and work with customer needs. Any work not specifically outlined within this Scope of Work is Out of Scope and may be subject to the Change Order process. TRIUMPH has taken due diligence to provide accurate counts of equipment, cable footage, etc. based on the information provided.
- 13.02 If additional connections are needed, TRIUMPH can provide these connections with a Change Order.
- 13.03 All Change Orders must be accepted and approved by Client and TRIUMPH prior to commencement of work.

**14.0 Project 'As-Built' Documentation**

- 14.01 TRIUMPH shall provide the Client with labeling convention and numbering scheme for authorization prior to start of work.
- 14.02 TRIUMPH shall keep a set of drawings and will record the progress of installation.
- 14.03 Within 30 days of project completion, TRIUMPH shall provide 'as-built' drawings that accurately reflect the installation, termination and labeling of all wiring and installed cable plant associated with this installation.
- 14.04 TRIUMPH will provide drawings in VISIO/AutoCAD format when provided the source documents (backgrounds) in electronic format. If electronic format drawings are not available, TRIUMPH shall furnish 'marked-up' hardcopy 'as-built' drawings only.
- 14.05 TRIUMPH will provide one hard copy and one soft copy (when applicable).

**15.0 Cable Testing and Verification**

- 15.01 TRIUMPH will test all drops using a hand-held,Fluke DTX test set. The test results will be provided in both hard-copy and electronic version upon request.
- 15.02 Testing shall verify that all cabling is functional at the level which is the current standard and meets the operational specifications for each type of wiring.

**16.0 Labeling Specifications**

- 16.01 TRIUMPH shall label all installed fiber strands, fiber enclosures, and splice cassetts in accordance with 's requirements.

**17.0 Invoicing**

- 17.01 TRIUMPH will do milestone billing based on completed tasks and overall project completion. A typical payment plan: project material invoiced upon contract signing and monthly invoicing for work completed ."

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: \_\_\_\_\_  
Print Name: \_\_\_\_\_

## **Attachment 2 - Assumptions**

### **1.0 General**

- 1.01 Client agrees to all terms and conditions herein, including payment terms and the timely return of Client Acceptance Form(s) provided upon project completion.
- 1.02 This proposal is based on the award of the entire scope of work. A reduction in the scope of work may increase the price of other work items.
- 1.03 Any new cable pathways (conduit, innerduct, pull-boxes, etc.) included in this proposal, shall be considered Client-owned.

### **2.0 Exclusions**

- 2.01 This proposal does not include any bid, performance or payment bonds (or associated costs).
- 2.02 This proposal does not include bringing the existing facilities up to code.
- 2.03 This proposal does not include assembly/reassembly of modular furniture.
- 2.04 This proposal does not include any network equipment, or Labor to install equipment. Does not include any UPS, fire rated plywood, cable tray, or any Audio Video materials and labor.

### **3.0 Schedule**

- 3.01 TRIUMPH will perform this job in its entirety only and all work will be performed within TRIUMPH's normal work schedules, unless Client contracts for premium work scheduling.
- 3.02 This proposal assumes all material and /or equipment will be transported standard ground fashion. No air freight or expedite costs are included.
- 3.03 Any delays caused by outside parties (i.e., the Client, general contractor, electricians or contract vendors other than TRIUMPH) will be documented and presented to the Point of Contact for resolution.

### **4.0 Existing Conditions**

- 4.01 TRIUMPH assumes there are no abnormal environmental or hazardous conditions on the Client's premise which would require extraordinary safety and/or regulatory functions, activities, permits or certifications for TRIUMPH to perform the required work.
- 4.02 TRIUMPH assumes the client will provide free and clear cable pathways for the installation of the proposed cable system. Additional time, labor, and material required by TRIUMPH to make pathways free and clear shall be at Client's expense.
- 4.03 Existing conduit must be usable, undamaged, and have room to place additional cable/s. If existing conduit is not usable the Client will incur additional costs. If rodding or placing a pull string is required, the Client will be responsible for the additional cost.
- 4.04 The attached Scope of Work does not include abandoned cable removal. TRIUMPH can provide this service at time and materials rate and an estimate of time. This change to the scope of work can be addressed with a Job Change Order.
- 4.05 TRIUMPH assumes an existing Building Ground System meets local, state, and national electrical codes within each distribution frame. Additional work performed by TRIUMPH to provide code or standard compliance shall be at Client's expense.
- 4.06 TRIUMPH does not guarantee Client's existing cable infrastructure

**5.0 Client Responsibilities**

- 5.01 Client is responsible for furnishing floor plans with desired outlet locations prior to contract signing.
  
- 5.02 Client will be responsible for identifying all areas containing asbestos, lead paint, and /or other hazardous materials. Client will also be responsible for the removal and /or abatement of all hazardous materials and any associated costs.
  
- 5.03 Client shall provide a suitable and safe environment for TRIUMPH work at Client's premises. Prior to TRIUMPH's commencement of the work proposed hereunder, Client shall advise TRIUMPH of the presence on Client's premises of any substance or material that is classified as a hazardous material, hazardous chemical, hazardous substance, pollutant, contaminant, or toxic substance under any federal, state, or local law, regulation or ordinance ("Laws") related to the pollution or protection of air, ground or surface water, soil or other environmental media or occupational health and safety ("Hazardous Substance") or any other environmental or safety hazard.
  
- 5.04 Client understands and agrees that TRIUMPH does not handle, remove, or dispose of Hazardous Substances on Client's premises. If TRIUMPH would have to disturb, handle, or remove known or presumed Hazardous Substances in order to perform its services, including but not limited to drilling through floors, walls, or other surfaces that contain or may contain Hazardous Substances or otherwise disturb Hazardous Substances in order for TRIUMPH to perform services, then Client must undertake such activity and handle or remove the Hazardous Substance at its own cost and expense in accordance with applicable Laws and to TRIUMPH's satisfaction before TRIUMPH initiates services.
  
- 5.05 If, during its performance of services, TRIUMPH's employees, subcontractors, or agents encounter a Hazardous Substance or other environmental or safety hazard, TRIUMPH may suspend its performance until Client, at its own expense, completes the clean up and removal of the Hazardous Substance in accordance with applicable Laws or removes hazards to TRIUMPH's satisfaction. Client's failure to abate a Hazardous Substance or hazard within thirty (30) days of TRIUMPH's suspension of performance pursuant to this clause shall constitute a material breach for which TRIUMPH may terminate this contract or the applicable order. Client shall pay TRIUMPH for any costs, expenses, fines, or penalties incurred by TRIUMPH as a result of the presence of the Hazardous Substance or hazard and its suspension of performance.
  
- 5.06 Client will provide all building entrances, core drills and/or openings that are required to place facilities on the premise. TRIUMPH can provide these services at an additional cost, if Client desires.
  
- 5.07 Client is responsible for all costs associated with permits, easements and / or right-of-ways.
  
- 5.09 Client is responsible for providing the latest construction schedule from the General Contractor in order to coordinate with the ceiling tile contractor and the furniture contractor schedule prior to the commencement of telecommunications cabling work.
  
- 5.10 Client is responsible to obtain approval (separate from this proposal) by the regulated Telco outside plant/BIC engineer prior to installing any cable pathway structures (metallic conduit, duct, inner-duct, pull-boxes, etc.) designed to support regulated services cabling. Any changes to this proposal required by the regulated Telco outside plant/BIC engineer may result in additional costs to Client.

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: \_\_\_\_\_  
Print Name: \_\_\_\_\_

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Rosalyn Epting, Director of Parks &amp; Rec</u>
Department: <u>Parks &amp; Recreation</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Current Northwest Park Lighting  
 Exhibit: Current Little Cedar Bayou Park Lighting

### SUMMARY & RECOMMENDATION

This request is to convert all field lighting at Northwest Park and Little Cedar Bayou Park to LEDs over a two-year period, in the total amount of \$913,395. The lighting at both parks were installed in 1986. Subsequent to 1986, the lights have been repaired and replaced on an as-needed basis. Changing the lights will not only improve the lighting for users, but it will provide electrical cost savings. The electrical savings over a 25-year period is listed below. This number is based on 800 annual hours of usage at each facility (plus 133 hours for metal halide light warm up time) at a rate of \$0.04278 per kWh.

	New LED Estimated Annual Electric Cost	Current Metal Halide Annual Estimated Electric Cost	25-Year Savings
<b>Northwest Park</b>	\$2,868.69	\$11,538.27	\$216,739.50
<b>Little Cedar Bayou Park</b>	\$3,131.87	\$15,349.81	\$305,448.33

- **Northwest Park (Year 1): \$523,950**

The current lighting poles are made of wood and many are leaning (Ex. 1). This project would include 23 new galvanized steel poles and 109 lights with 750W LED Light Fixtures with visors. The new lights would include a 10-year maintenance-free warranty. Once installed, the lights will be operated electronically and have the ability to be scheduled when they are needed.

Quoted Price	\$499,000
5% Contingency	\$ 24,950
<b>Total Request for Northwest Park</b>	<b>\$523,950</b>

- **Little Cedar Bayou Park (Year 2): \$389,445**

The current lighting poles are made of steel and are in acceptable condition (Ex. 2). This retrofit would replace 119 lights with 750W LED Light Fixtures with visors. The new fixtures will include a standard 10-year warranty. Once installed, the lights will be operated electronically and have the ability to be scheduled when they are needed.

Quoted Price	\$370,900
5% Contingency	\$ 18,545
<b>Total Request for Northwest Park</b>	<b>\$389,445</b>

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**Action Required by Council:**

Provide staff direction regarding adding funds to the budget to convert the lights to LEDs at Northwest Park and Little Cedar Bayou Park over a two-year period.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

---

**Date**

## CURRENT LIGHTS AT NORTHWEST PARK



## CURRENT LIGHTS AT LITTLE CEDAR BAYOU PARK



## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember Danny Earp</u>
Department: <u>Parks &amp; Recreation</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

- Exhibit: Aerial of Klein Retreat Property  
 Exhibit: Example of Playgrounds  
 Exhibit: Example of Restrooms  
 Exhibit: Example of Shade Structures

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Danny Earp.

This request is to convert Klein Retreat into a park. An aerial view of the location has been included as Exhibit 1. There are two existing metal shade structures on the property; one is 22' x 70' and the other is 30' x 50'.

The chart below shows multiple options for equipment and estimated pricing. If something different is requested, staff will obtain the pricing.

Playground (examples in Exhibit 2 of Seabreeze, Tom Brown, Lomax, and Little Cedar Bayou)	\$33,000-\$100,000
Accessible Playground including various equipment for wheelchairs and rubber ground covering	\$700,000 and up
Restrooms (examples in Exhibit 3 of MLK and Pecan)	\$60,000-\$120,000
Material Shade Structures (examples in Exhibit 4 of different structures at the Wave Pool, not including cement pads)	\$3,834-\$9,462
Metal Shade Structure similar to the one going up at Fairmont 107' x 62' (including lighting & electrical)	\$120,000
Parking Lot similar to Pecan's addition of 95 spaces	\$350,000
Barbecue pit	\$294
Picnic table	\$1,116
Bench	\$576
Garbage can	\$668
Signage	\$1,000

Please note that if this park were to receive a large amount of weekend traffic, additional staffing or a contractor will be needed to keep the property clean.

Currently, the Parks & Recreation Department is in the process of updating its Master Plan. Staff recommends this property to be included in the updating of the Master Plan to determine the best options for its use.

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**Action Required by Council:**

Provide staff direction regarding adding funds to the budget to convert Klein Retreat into a park.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

# KLEIN RETREAT PROPERTY



## PLAYGROUND OPTIONS

### Little Cedar Bayou Playground

Installed 2018

Approximately 81' x 120'

\$100,000 (including ground cover + grant on main structures)



### Lomax Playground

Installed 2017

Approximately 39' x 54'

\$58,000 (including ground cover + grant on main structure)



## PLAYGROUND OPTIONS

### Tom Brown Playground

Installed 2017

Approximately 35' x 45'

\$38,000 (including ground cover + grant on the main structure, not including swings)



### Seabreeze Playground

Installed 2019

Approximately 40' x 53'

\$33,000 (including ground cover + grant on the main structure)



# RESTROOM OPTIONS

## MLK Park Restroom

Installed 2016  
Cost \$120,000



## Pecan Park Restroom

Installed 2018  
Cost \$60,000



## SHADE STRUCTURES

Wave Pool Large Shade Structure

Installed 2018

19' x 30' Structure with cement pad

\$15,078 (Shade \$9,462 + Cement Pad \$5,616)



Wave Pool Small Shade Structure

Installed 2018

12' x 12' Structure (cement pads were existing)

Cost \$3,834



## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember Nancy Ojeda</u>
Department: <u>Parks &amp; Recreation</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

- Exhibit: Ex1: Multi-Station Option Examples  
Exhibit: Ex2: Map of Multi-Station Proposed Location  
Exhibit: Ex3: Individual Unit Options  
Exhibit: Ex4: Map of Individual Units' Proposed Locations

### SUMMARY & RECOMMENDATION

This item is requested by Councilmember Nancy Ojeda.

Councilmember Ojeda is requesting to place outdoor fitness equipment at Fairmont Park. Attached are exhibits with options for equipment.

- **Option 1: Multi-Station Training Area**

This option would contain one large area where multiple pieces are put together to form a training circuit. Exhibit 1 (Ex1: Multi-station Training Area) illustrates two options for this equipment. The price varies based on the number of pieces the circuit contains. Exhibit 2 (Multi-station Option at Fairmont Park) shows a map of the proposed location for a multi-station training circuit.

**Cost Estimates (includes rubber ground cover):**

- 12-Piece Training Circuit \$60,000
- 10-Piece Training Circuit \$50,000

- **Option 2: Individual Units Spaced Along Walkway**

This option would contain multiple pieces spaced out along the walkway in the park. Exhibit 3 (Separate Pieces along the Sidewalk) depicts some examples of equipment that can be used at the location. If the City Council desires different pieces of equipment, there are other fitness pieces available. Exhibit 4 shows a map with the proposed location of the five pieces. The total cost estimate for the five pieces shown in Exhibit 3, with rubber ground cover is \$40,000.

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**Action Required by Council:**

Provide staff direction regarding adding money to the budget for the addition of outdoor fitness equipment to Fairmont Park

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**Approved for City Council Agenda**

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**Corby D. Alexander**

---

**Date**

## EX 1: MULTI-STATION TRAINING AREA

### 12 TRAINING STATIONS

23' x 53' Area

Rough Estimate for equipment + install + rubber ground cover = \$60,000



### 10 TRAINING STATIONS

18' x 51' Area

Rough Estimate for equipment + install + rubber ground cover = \$50,000



**EX 2: MULTI-STATION OPTION AT FAIRMONT PARK**



### EX 3: SEPARATE PIECES ALONG THE SIDEWALK

5 SEPARATE PIECES (multiple options to choose from)

Rough Estimate for equipment + install + rubber ground cover = \$40,000



## EX 4: INDIVIDUAL UNIT OPTION AT FAIRMONT PARK



## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember Nancy Ojeda</u>
Department: <u>Public Works</u>
Report: _____ Resolution: _____ Ordinance: _____

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Partial Paving Map  
Exhibit:

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Nancy Ojeda.

Currently, the City's recycling center in the rear of the Public Works facility is paved with asphalt millings over limestone. Staff has been requested to provide information to pave the parking lot area of the recycling center. Staff has provided three (3) options for paving this area below:

1. The cost to pave the entire area with asphalt:
  - \$36,000 added to annual asphalt overlay contract
  - \$66,000 Stand-alone asphalt contract bid

Staff does not recommend asphalt in the recycle area due to heavy fork truck traffic with turning, raising and lower containers will result in ruts, holes and wear in the asphalt.

2. The cost to pave the entire area with concrete:
  - \$100,000 added to the annual concrete replacement contract
  - \$82,000 utilizing in-house personnel and equipment
3. The cost to partially pave the area with concrete:
  - \$80,000 added to the annual concrete replacement contract
  - \$68,000 utilizing in-house personnel and equipment

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#### **Action Required by Council:**

Provide staff direction regarding adding money to the budget to pave the City recycling area at the Public Works facility.

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#### **Approved for City Council Agenda**

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**Corby D. Alexander**

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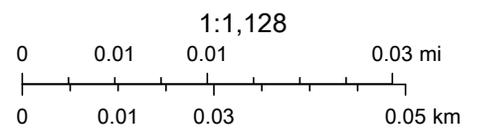
**Date**

# La Porte Recycling Center



2/19/2019 1:03:21 PM

-  Override 1
-  Base Map Layer - City Limits
-  Parcel Layer - All Parcels



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember Nancy Ojeda</u>
Department: <u>Public Works</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Location Map  
Exhibit: Construction Cost Estimates #1, #2, #3 & #4

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Nancy Ojeda.

The City adopted a trail masterplan in 2003 that outlined a plan to improve the connectivity of pedestrian and bicycle traffic throughout the City. Since the plan's adoption, the City has made great progress implementing and constructing portions of the trail system.

While the plan does improve mobility throughout many areas of the City there are locations not in the plan that should be considered. One such area that is not included as a site for a trail or sidewalk per the plan is south central Fairmont Park.

The request by Councilmember Ojeda is for construction of sidewalk connectivity from the southwest corner of Farrington and Collingswood to the Fairmont Park entrance or 'Section 1' in the attachments. This construction cost is estimated at \$58,000 for 'Section 1'. While looking at the area staff noticed other locations without sidewalks that may be considered by Council. They are noted as 'Sections 2, 3, and 4'. They lead to the stores at the intersection of Farrington and Fairmont Parkway. Another route to consider is from Farrington and Collingswood deeper into the neighborhood and to Fairmont West. The total construction cost for the other locations is \$163,000. According to LPISD, the addition of these sidewalks **will not** have an impact to the current bus services.

All of these locations can be constructed using the updated Sidewalk and Ramp Project plans and specifications. They cannot be funded from the project fund due to state regulations not allowing new construction with street tax funds from sales tax.

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#### **Action Required by Council:**

Provide staff direction regarding adding money to the budget for the construction of sidewalk connectivity in the Fairmont Park area.

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#### **Approved for City Council Agenda**

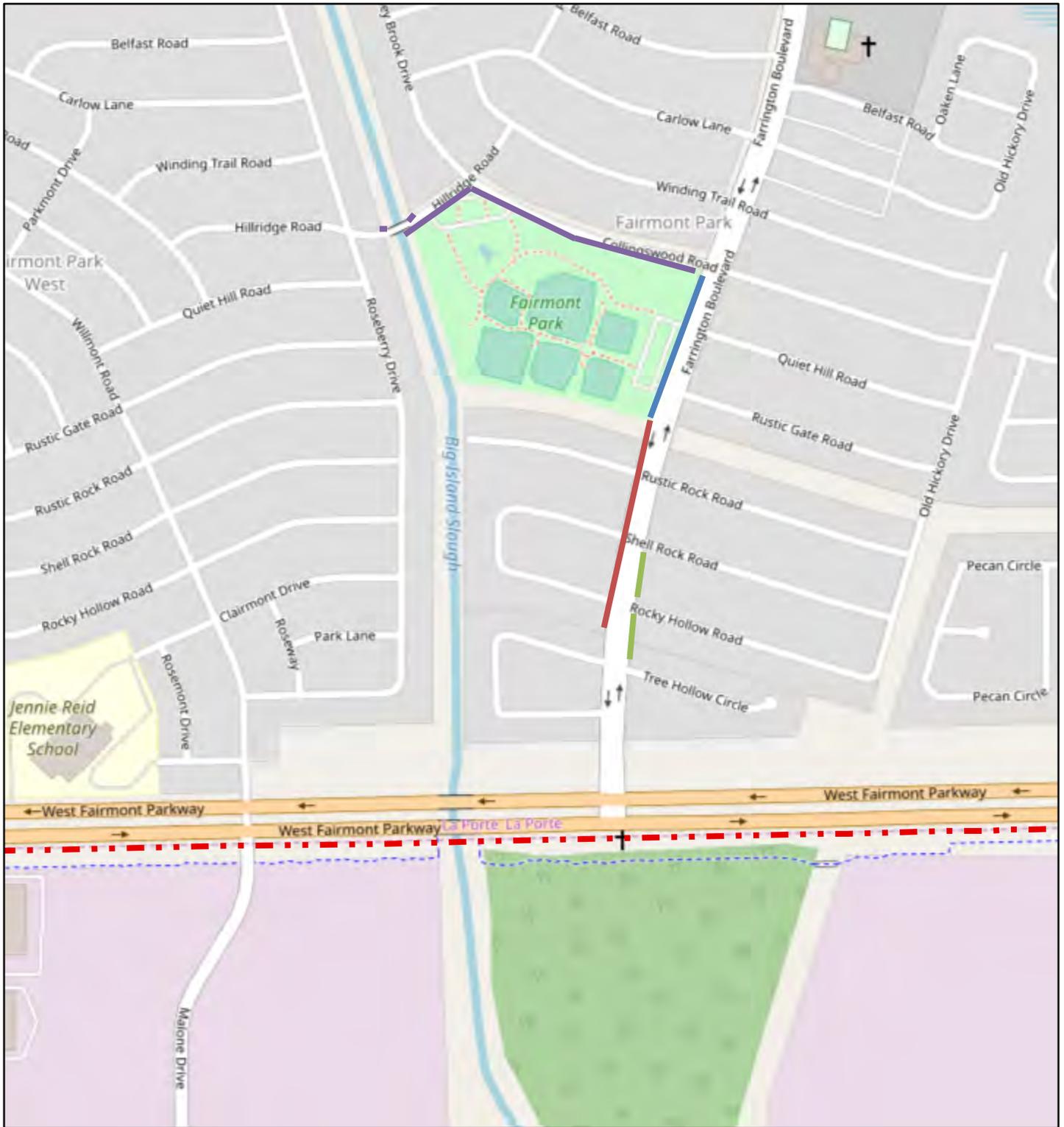
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**Corby D. Alexander**

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**Date**

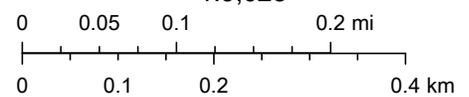
# Additional Sidewalks to Fairmont Park Area



2/13/2019 2:00:27 PM

1:9,028

- Lines
- Override 3
  - Override 1 — Override 4
  - Override 2  Base Map Layer - City Limits



© OpenStreetMap (and) contributors, CC-BY-SA

**Project Summary Sheet**

**Date:** 2/8/2019  
**Project Name:** Farrington St. Sidewalks Section 1  
**Project Limits:** Collingswood Rd. to City of LaPorte Water Tower  
**Council District:**  
**Fiscal Year:** TBD

**Funding Information**

Funding and Year	Amount
TBD	\$58,000
<b>Total Funding</b>	<b>\$58,000</b>

**Cost Information**

Category	Cost
Construction	\$57,722.00
<b>*Total Cost</b>	<b>\$58,000</b>

\*Rounded To Nearest \$1K



**Project Description**

*Section 1*

Construct approximately 680 LF of 4' sidewalk on the west side of Farrington St. from Collingswood Rd. to the City of La Porte's water tower, stopping 20' north of the drainage ditch. This section of the project has (2) commercial driveways that potential may need to be removal and replacement in order to ensure ADA compliance.



SECTION 2

**Project Summary Sheet**

**Date:** 2/8/2019  
**Project Name:** Farrington St. Sidewalks Section 2  
**Project Limits:** City of LaPorte Water Tower to Rocky Hollow Rd.  
**Council District:**  
**Fiscal Year:** TBD



Funding Information	
Funding and Year	Amount
TBD	\$52,000
<b>Total Funding</b>	<b>\$52,000</b>

Cost Information	
Category	Cost
Construction	\$51,540.65
<b>*Total Cost</b>	<b>\$52,000</b>

\*Rounded To Nearest \$1K

**Project Description**

*Section 2*

Construct approximately 800 LF of 4' sidewalk on the west side of Farrington St. from the City of La Porte's water tower to approximately 160L south of Roacky Hollow to tie into existing side walk along Farrington St. Construction will include 85 LF of pedestrain safety railing at the ditch. This construction of sidewalk will make connectivity to existing sidewalk and curb ramps on the west side of Farrington St. from W. Fairmont Parkway to Spencer Highway.



**Project Summary Sheet**

**Date:** 2/8/2019  
**Project Name:** Farrington St. Sidewalks Section 3  
**Project Limits:** Tree Hollow Circle to Rustic Rock  
**Council District:**  
**Fiscal Year:** TBD



**Funding Information**

Funding and Year	Amount
TBD	\$18,000
<b>Total Funding</b>	<b>\$18,000</b>

**Cost Information**

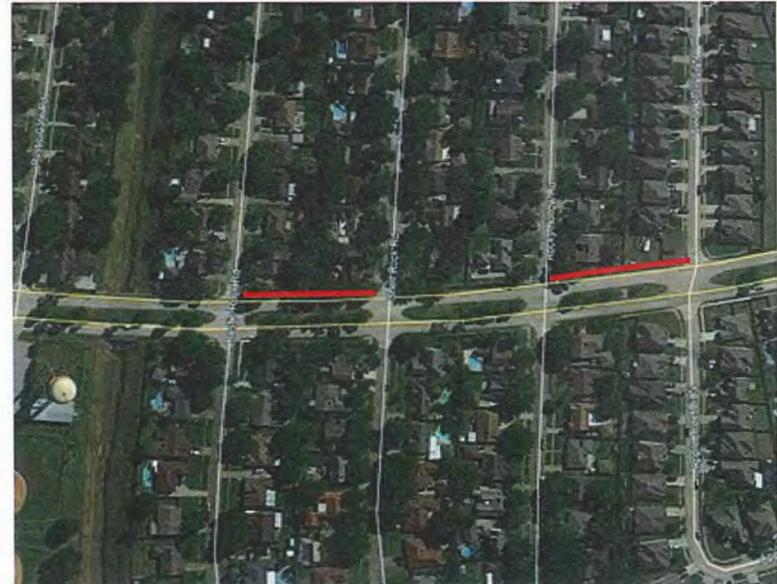
Category	Cost
Construction	\$17,591.00
<b>*Total Cost</b>	<b>\$18,000</b>

\*Rounded To Nearest \$1K

**Project Description**

*Section 3*

Construct approximately 110LF of 4' sidewalk on the east side of Farrington St. near Tree Hollow. Also included in this estiment is removal and replace of approximately 340 LF of sidewalk on the east side that are considered trip hazzards.



**Project Summary Sheet**

**Date:** 2/8/2019  
**Project Name:** Farrington St. Sidewalks Section 4  
**Project Limits:** Collingswood between Farrington and Hillridge  
**Council District:**  
**Fiscal Year:** TBD

Funding Information	
Funding and Year	Amount
TBD	\$93,000
<b>Total Funding</b>	<b>\$93,000</b>

Cost Information	
Category	Cost
Construction	\$92,900.94
<b>*Total Cost</b>	<b>\$93,000</b>

\*Rounded To Nearest \$1K



**Project Description**

**Section 4**

Construct approximately 1600 LF of 4' sidewalk on Collingswood along Fairmount Park to allow connectivity from Farrington Dr. to Hillridge Rd. This section will also allow connectivity from Hillridge Rd. south towards the Big Island Slough Bridge, add sidewalk on both sides of Hillridge into the neighborhood southwest of Collingswood.



## REQUEST FOR CITY COUNCIL AGENDA ITEM

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>	<b><u>Budget</u></b>
<b>Requested By:</b> <u>Councilmember Nancy Ojeda</u>	<b>Source of Funds:</b> _____
<b>Department:</b> <u>Administration</u>	<b>Account Number:</b> _____
<b>Report:</b> ____ <b>Resolution:</b> ____ <b>Ordinance:</b> _____	<b>Amount Budgeted:</b> _____
<b>Exhibit:</b> <u>Dogwood Arts Sculpture Samples</u>	<b>Amount Requested:</b> _____
<b>Exhibit:</b> _____	<b>Budgeted Item:</b> YES    NO

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### SUMMARY & RECOMMENDATION

Public art adds uniqueness to a community and brings life to public spaces. In the past few years La Porte, along with our surrounding cities have taken steps to bring art to our cities.

Few cities of our size across the state have any form of consistent arts support, even fewer support the visual arts. Unsurprisingly, there is a significant cost difference between sculpture and painting. The City would also have to determine whether or not they wanted to simply provide grants or create a whole new program managing and promoting the arts, or some hybrid.

If we were to go in the hybrid direction, Dogwood Arts in Knoxville, TN would serve as good inspiration. Their “Art in Public Places” program puts sculptures in area parks, obviously benefitting the City, but also the artist, working as a gallery for potential buyers. La Porte could offer to fund up to a certain dollar amount of a project under the conditions it is displayed in city open spaces for one year and the City has first right of refusal when it comes to purchasing a piece with the initial grant amount taken off the price. A similar program could be started in City Hall for traditional paintings. Cost of sculpture in Dogwood ranges from \$2,500 to \$125,000, most in the \$2,500 to \$25,000 range, which is in line for other non-metropolises. Some potential locations with higher traffic could be Main Street, City Hall, or Pecan Park.

A program like this could be ran and financed much like our façade grant program where we put a sum of money in an account which rolls over from year to year until it is empty. If we are interested in sculpture, \$50,000 would be sufficient for an initial test run. In staff’s opinion, quantifiable success would be one sculpture and two to three paintings supported a year.

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#### **Action Required by Council:**

Discuss and consider adding money to the budget to create a La Porte visual arts grant and program.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

Sculpture throughout Knoxville, Oak Ridge and Alcoa, Tennessee from the Dogwood Arts Art In Public Places Programs



## REQUEST FOR CITY COUNCIL AGENDA ITEM

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>
<b>Requested By:</b> <u>Councilmember Nancy Ojeda</u>
<b>Department:</b> <u>Parks &amp; Recreation/ CMO</u>
<b>Report:</b> <u>    </u> <b>Resolution:</b> <u>    </u> <b>Ordinance:</b> <u>    </u>

<b><u>Budget</u></b>
<b>Source of Funds:</b> _____
<b>Account Number:</b> _____
<b>Amount Budgeted:</b> _____
<b>Amount Requested:</b> _____
<b>Budgeted Item:</b> YES    NO

**Exhibit:** Main Street Planter Photos  
**Exhibit:**

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Nancy Ojeda.

The Houston-Galveston Area Council (HGAC) considers attractive streetscaping a fundamental of downtown revitalization. Current planters in downtown La Porte are in good shape, but neither attractive, nor well cared for. When these planters were initially constructed, the responsibility was placed on store owners to care for their own planters. Currently, some owners care for their planters, while others do not. Any new planters installed would be overseen by the City's Parks and Recreation Department maintenance umbrella.

There are a variety of options available for planters, not just in shape but in material as well. Fiber glass can be done in the \$800-\$900 range per planter, plastic in the \$600-\$750 range and concrete in the range of \$450-\$550. The cost of planting new, hardy flowers would be about \$50 per planter.

Currently, we have thirteen (13) planters on Main Street between 4<sup>th</sup> Street and Broadway Street, and all but one are located on the north side of the street. These planters are placed at irregular intervals between 0' and 390' away from the one before it. No matter what direction the City Council decides to take on this issue, staff recommends that those distances should be standardized. Street blocks fronting Main Street were platted at 266' across, this would mean standardization of new planters at two per block would mean 16 new planters, costing between \$8,000 and \$15,200.

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#### **Action Required by Council:**

Provide staff direction regarding adding money to the budget to either update or replace planters on Main Street.

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#### **Approved for City Council Agenda**

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**Corby D. Alexander**

---

**Date**

Main Street Planters





## **REQUEST FOR CITY COUNCIL AGENDA ITEM**

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>
<b>Requested By:</b> <u>Councilmember Nancy Ojeda</u>
<b>Department:</b> <u>Parks &amp; Recreation/ CMO</u>
<b>Report:</b> <u>    </u> <b>Resolution:</b> <u>    </u> <b>Ordinance:</b> <u>    </u>

<b><u>Budget</u></b>
<b>Source of Funds:</b> _____
<b>Account Number:</b> _____
<b>Amount Budgeted:</b> _____
<b>Amount Requested:</b> _____
<b>Budgeted Item:</b> YES    NO

**Exhibit:** Youth Advisory Council Guide  
**Exhibit:**

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Nancy Ojeda.

Councilmember Ojeda would like for the City to set aside \$5,000 as startup funds for the creation of a Youth Advisory Commission (YAC), which is overseen by the Texas Municipal League. There is an annual conference for YAC at a cost of \$50 per attendee, which includes admission to all summit sessions and events, continental breakfast on Saturday and Sunday, lunch on Saturday, and an event T-shirt. The 19<sup>th</sup> Annual YAC Summit was held in Fort Worth at the Trinity County College – Trinity River Campus this past month. Additional travel costs for the annual conference would be hotel lodging, meals on Friday & Saturday evening and lunch on Sunday, along with gasoline costs.

There are dozens of YACs operating across the state, each with their own personality. Some focus on community service, others concentrate on peer involvement, and some operate as mini-city councils that deliberate issues and make recommendations. All give the youth a voice and a stake in their city government. YACs provide cities with energetic volunteers for civic projects, give city leaders a fresh viewpoint on issues challenging our cities, and create a sense of accomplishment for our youth. The benefit of YACs works both ways – youth have an outlet to affect change in their community and have a place to interact with their peers and adults on issues of importance to their community. On the flip side, the city creates an outlet to not only engage youth but to harness their energy and ideas. YACs can be involved in a number of projects in La Porte; the ideas are endless, but could include: advise city council on teen-related issues, participate in city events (Mardi Gras on Main, Christmas on Main, National Night Out), assist with city-wide clean-up/recycling events, participate in picking up trash at parks and trails, and develop fund raisers to support their organization or special events.

In order for us to move forward with this budget item, staff has reached out LPISD for feedback but to-date has not heard back from them. If the City is not able to partner with LPISD for this program, the City's Parks & Recreation Department staff is very capable of managing the operations of this new program.

Staff has included a link to provide you with more information about the program [https://www.tml.org/mem\\_youth](https://www.tml.org/mem_youth) . Also, staff has included the YAC Guide, which provides more information about the program. Students would be responsible for developing a mission statement, bylaws, recruitment materials, meeting agendas, meeting minutes, fund raisers and organizing events. Staff believes this would be a great program for the youth in La Porte.

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**Action Required by Council:**

Provide staff direction regarding adding \$5,000 to the budget to startup a La Porte Youth Advisory Council program to send students to the annual YAC conference hosted by TML.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

---

**Date**

# Youth Advisory Commissions

## Updated January 2017

### What is a YAC?

Every city, regardless of its size or location, shares a common resource—arguably its greatest resource—its youth. Creating safe and enriching environments that our children can thrive in is really what it is all about. Moving beyond satisfying these core needs, your city can also tap in to youth perspective, creativity, and energy by creating a youth advisory commission (YAC).

There are dozens of YACs operating across the state, each with their own personality. Some focus on community service, others concentrate on peer involvement, and some operate as mini-city councils that deliberate issues and make recommendations. All give youth a voice and a stake in their city government. YACs provide cities with energetic volunteers for civic projects, give city leaders a fresh viewpoint on issues challenging our cities, and create a sense of accomplishment for our youth.



Borger Youth Advisory Council, February 2014

From City of Muleshoe Youth Advisory Council Commitment Pledge:

*The goal of the Muleshoe Youth Advisory Council is to develop a group of youth leaders who are committed to learning about local government and the roles youth can have in it. Muleshoe YAC will also learn to make a difference in our community and the lives of other youth, recognizing their voice and using it and representing other youth in the City of Muleshoe. Time, effort, and commitment are involved.*

From the Lake Jackson Youth Advisory Commission flyer:

*Why should I join YAC?*

- *Be a voice for the youth of Lake Jackson*
- *Meet new people*
- *Have fun*
- *Volunteer in the community*
- *Be involved in city activities by being a part of the city*

## Benefits

The benefit of YACs works both ways. Youth have an outlet to affect change in their community and have a place to interact with their peers and adults on issues of importance to their community. On the flip side, the city creates an outlet to not only engage youth but to harness their energy and ideas.



Rockwall Youth Advisory Council, February 2014

## YAC Projects

YACs are involved in a number of projects in their communities. Below is a short sampling of successful projects that YACs have performed. We encourage you to get creative and help us add to this list.

- Advise the city council on teen-related issues (Bryan, Burleson, Flower Mound, Kyle)
- Movie in the park (Muleshoe)
- School supply give away program (Port Arthur)
- Family fun night (Cedar Hill)
- Hip hop summit (DeSoto)
- 5K run to support a charity (Muleshoe)
- Fun and educational lock-in (Arlington)
- Learn about all areas of city government (North Richland Hills, Rockwall, Borger, Muleshoe)
- Create luminaries for Relay for Life (Killeen)
- Fundraising and item drive for those in need (Belton, Killeen, Pearland)

- Adopt-a-roadway (Killeen)
- Teens in the drivers seat campaign (Garland)
- Partner with the city's local chapter of Keep Texas Beautiful (Lake Jackson, Killeen)
- Holiday events (Easter Hunt, Tree Lighting, Christmas Carnival, etc.) (Cedar Killeen, Lake Jackson, University Park)
- Reports/presentations to city council (Borger, Burleson, Rockwall, University Park)
- Intern with city officials (Borger)
- Four community service projects a year (Arlington)
- Annual teen talk event (Garland)
- Black history talent show (Abilene)
- Mock city council meetings (Muleshoe)
- Youth engagement awards program (Grand Prairie)
- Photo projects (DeSoto)
- Annual youth conference (Killeen)
- Teen survey (Baytown)
- Advocate a municipal issue before state legislative leaders (Borger)
- Assist at city festivals/events (University Park)
- Provide training to YAC members (college prep, leadership, teamwork, diversity training, healthy habits, professional image) (Port Arthur, Rockwall)
- Career fest (Austin)
- Host a prom for senior citizens or a father-daughter dance (Copperas Cove)
- Civic literacy event (Fort Worth)
- Assist with city-wide clean-up and/or recycling efforts (University Park)

- Volunteer at various local organization (Killeen, University Park)
- Join forces with local schools on projects (Hutto)
- Improve speaking and presentation skills (Borger)
- Network with other youth (Bryan)
- Develop public service announcements on issues of importance to youth (Garland)
- Host the Texas Youth Advisory Commission Summit (Garland, Killeen, DeSoto, Port Arthur, Rockwall, Pearland)

### How to Form a YAC

**Get buy in and feedback from your youth.** Talk with the youth in your community. Ask them if a youth commission would be an appropriate forum for their participation.

**Back it up on paper.** Work with your youth to develop YAC bylaws. These bylaws should outline the duties and responsibilities of the commission. Several YACs have also been established by city ordinance as well.

**Keep it going.** Maintaining your YAC requires an enthusiastic champion within city hall and a plan for recruiting new members. Your adult leader/cheerleader will need to take an active role in recruitment—whether it is reaching out to local schools, holding an open house at city hall, or tapping current members to recruit their peers.



Abilene's Carver Youth Council, February 2014

## How TML Can Help

The formation of youth advisory commissions in cities across the state is a priority of the Texas Municipal League (TML) Board of Directors. In 2003, then-TML President Jackie Levingston championed the issue, and today more than 45 Texas cities have programs that involve youth. This initiative provides cities with energetic volunteers for civic projects, gives city leaders a fresh perspective on issues challenging our cities, and creates a sense of accomplishment for our youth.

The sky is the limit in regards to the types of projects your YAC can undertake. A great way for adult leaders and youth to connect to new ideas and spark innovation is to meet with other youth groups. TML has two terrific outlets to do just that.

1. Join the YouthNet Listserv at [www.netqa.org/youthnet](http://www.netqa.org/youthnet).

The YouthNet listserv is an easy way to collaborate on youth-focused city initiatives, projects, and issues. YouthNet is a complimentary service open to all TML member city officials.

2. Attend the annual Texas Youth Advisory Commission Summit. TML is proud to sponsor an annual youth summit. The first Texas Youth Advisory Commission Summit was held in Woodway in 2001. Nearly 50 city officials and youth leaders attended the summit.

In 2003, the TML board approved the sponsorship of the YAC summit. This commitment continues today as well as the summit's success. More recently, the 2014 summit in Rockwall attracted 302 participants from 29 cities, and the 2015 summit in Killeen attracted 305 participants from 22 cities.

Over the years, participants have been exposed to exciting careers (from lawmakers to film-makers), have heard from inspiring speakers, have forged lasting friendships, have exchanged ideas, have served those in need through a variety of community service projects, and have had fun.

For more information about the upcoming annual summit (which is usually held in February), go to [www.yacsummit.org](http://www.yacsummit.org).

## YACs in Texas

Why reinvent the wheel? Reach out to existing YACs for example mission statements, recruitment materials, guidelines, applications, meeting agendas, meeting minutes, and project descriptions.

[Abilene's Carver Youth Council](#)

[Arlington Mayor's Youth Commission](#)

[Austin Youth Council](#)  
[Baytown Youth Advisory Commission](#)  
[Belton Youth Advisory Commission](#)  
[Borger Youth Advisory Council](#)  
[Bryan Youth Advisory Commission](#)  
[Burleson Mayor's Youth Council](#)  
[Cedar Hill Mayor's Youth Council](#)  
[Cibolo Youth Council](#)  
[Copperas Cove Youth Advisory Council](#)  
[DeSoto Youth Advisory Council](#)  
[Flower Mound Youth Action Council](#)  
[Fort Worth Youth Advisory Board](#)  
[Frisco Mayor's Youth Council](#)  
[Garland Youth Council](#)  
[Georgetown Youth Advisory Board](#)  
[Grand Prairie Youth Council](#)  
[Houston Mayor's Youth Council](#)  
[Hutto Youth Advisory Task Force](#)  
[Irving Youth Council](#)  
[Jacinto City's Youth Council](#)  
[Kennedale Youth Advisory Council](#)  
[Killeen Youth Advisory Commission](#)  
[Kyle Area Youth Advisory Council](#)  
[Lake Jackson Youth Advisory Commission](#)  
[Lancaster Youth Advisory Committee](#)  
[Laredo Youth Council](#)  
[Missouri City Mayor's Youth Commission](#)  
[Muleshoe Youth Advisory Council](#)  
[North Richland Hills Youth Advisory Committee](#)  
[Pearland Youth Action Council](#)  
[Port Arthur Youth Advisory Council](#)

[Rockwall Youth Advisory Council](#)

[San Antonio Youth Commission](#)

[San Marcos Youth Commission](#)

[Sugar Land Mayor's Youth Advisory Council](#)

[University Park Youth Advisory Commission](#)

[Waco Youth Council](#)

[Wylie Youth Council](#)

[National League of Cities Youth Education and Families](#)

**For more information about YACs and the YAC Summit, contact Gray Bulman ([gray@tml.org](mailto:gray@tml.org), 512-231-7406) or Rachael Pitts ([rpitts@tml.org](mailto:rpitts@tml.org), 512-231-7472).**

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember Chuck Engelken</u>
Department: <u>Office of Emergency Management</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

Exhibit: Shelter in Place Plans, Polices, & Procedures  
Exhibit:

### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Chuck Engelken

Councilmember Engelken has requested a discussion about the current shelter in place processes and procedures. Moreover, he would like to discuss efficiencies in the processes from a citizens point-of-view.

The City of La Porte has several plans, policies, and procedures that establish an operational framework and guidelines for response to a hazardous materials incident. The response to a chemical emergency involves coordination between multiple departments and agencies who share responsibility for various response activities. The written plans and procedures the City has in place reflect these different duties. The level of response and support required depends on the circumstances of each event.

The attached overview provides an explanation of the process that takes place once notification of a potential hazardous materials incident has been received by the City. The attachment references excerpts from three annexes to the City's Emergency Operations Plan, 1) the Emergency Operations Center (EOC) Standard Operating Guidelines, 2) Dispatch Procedures for a Level 2 or 3 incident, and 3) EHCMA Industrial Incident Communications Handbook. While each department may have additional procedures that provide guidance for response activities or sheltering City buildings in place, this overview primarily focuses on the basic process flow that takes place during response to a chemical emergency.

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#### **Action Required by Council:**

Provide staff direction regarding the Office of Emergency Management on the City's Shelter in Place plans, policies, and procedures.

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#### **Approved for City Council Agenda**

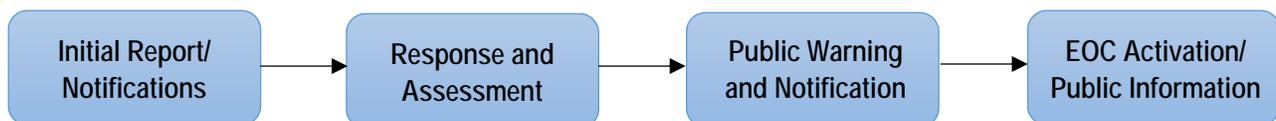
\_\_\_\_\_  
Corby D. Alexander

\_\_\_\_\_  
Date

# OVERVIEW: SHELTER IN PLACE PLANS, POLICIES, AND PROCEDURES

The City has an Emergency Operations Plan that includes a Basic Plan with twenty-two (22) different annexes. This plan describes the City's emergency response organization, assigns responsibilities for various emergency tasks, and describes who does what, when, and how during all phases of emergency management. The primary annexes related to chemical emergencies are: (1) Annex A: Warning; (2) Annex I: Public Information; and (3) Annex Q: Hazardous Materials. These annexes outline the basic framework for how the City will respond during a chemical emergency, and show that it is a coordinated effort among multiple departments and agencies to respond to an incident, determine what actions to take, activate warning systems, and keep the public informed. In addition to the Emergency Operations Plan, there are various departmental policies and procedures that may be implemented during a chemical emergency.

## Basic Process Flow during a Chemical Emergency:



Annex Q, Hazardous Materials, describes the concept of operations that will take place during response to a chemical emergency, from the initial incident report to activation of warning systems. The Dispatch Center will receive initial notification of an incident, and direct responders to the scene. Notification that hazardous materials are involved may be provided in an initial report, or discovered upon arrival at the scene.

## Incident Occurring at a Facility:

For a hazardous materials incident that occurs at a facility in the area, the Dispatch Center may receive notification via the Emerge/E-Notify system. Different levels are used to indicate the severity of an incident (Level 1, 2, or 3). The Office of Emergency Management receives these notifications via text and email, at the same time they are received by Dispatch. For a Level 2 or 3 incident, Dispatch will contact the Emergency Management Coordinator (EMC) or his/her designee to discuss what actions, if any, should be taken as a result of the notification. The facility making the notification will be contacted for more information. The facility may provide recommended protective actions for the community. Based on information provided to Dispatch and/or information gathered at the scene, the EMC will coordinate with the Fire Department to determine any affected areas and protective actions necessary for the public. This level of coordination may not occur if the EMC determines that a Shelter in Place is immediately required to protect lives. The initial actions taken depend on the perceived or actual threat to the community.

In response to a hazardous materials incident, initial on scene responders will establish an Incident Command Post (ICP). Regular communication will occur between the Incident Commander and EMC, or their designees, to ensure continued coordination and information sharing. In determining the affected areas, and necessary protective actions, the Fire Department and EMC will consider the materials being released (if known), the quantity being release, wind direction and wind speed, and size of the area that may be impacted. To determine the affected area, first responders and the Office of Emergency Management may utilize a variety of available resources, including: plume cloud modeling or fence line detection systems utilized by the responsible facility; the Emergency Response Guidebook; computerized release modeling systems; the WISER phone app or other plume cloud modeling apps; and assistance from outside agencies.

## Incident Command/Emergency Operations Center:

The Incident Commander will typically provide warning to, and implement protective actions for, the public in the immediate vicinity of the incident site. The Office of Emergency Management/Emergency Operations Center (EOC) will oversee dissemination of warning information and implementation of protective actions for the public beyond the immediate incident site. Based on the size of the incident or level of support needed, the EOC may be activated. The Incident Command Post will concentrate on immediate response actions at the incident site, and direct activities of deployed emergency response elements. Initially, the Office of Emergency Management will handle incident support activities and other tasks, such as

emergency public information.

Community Warning/Public Information:

Annex A, Warning, and Annex I, Public Information, outline the responsibilities for activating the warning systems, ensuring readiness of public information systems and messages, and disseminating information to the public. This is a coordinated effort with shared responsibility among various departments. The Office of Emergency Management has implemented systems that allow for immediate notification to the public to provide initial warning instructions as fast as possible.

For certain types of time-sensitive warnings, the Dispatch Center may be authorized to activate the local warning systems to warn the public immediately. In other situations, the message must be approved prior to activation of the warning systems. The EOC may be activated and assume responsibility for formulating warning messages and public instructions, which may then be disseminated via Dispatch, independent notification systems, and contact with the media.

If it is determined that a Shelter in Place should be implemented, the initial warning alert will likely be activated by Dispatch. The table below shows the City's current notification systems, and which systems can be initially activated by Dispatch utilizing the Emerge system. Any messages activated through the Emerge system are pre-recorded/pre-scripted. This allows Dispatch to alert the community, or portions of the community, without spending time to develop and record a warning message. The Office of Emergency Management, in coordination with the EOC's Public Information Officer (PIO) Team, will then work to provide updated details to the community as quickly as possible via the systems listed below.

**City Notification Systems**

Systems Used by the City	Systems Activated by Dispatch Using Emerge
Swift911 Phone Notification System (phone, email, and text)	Swift911 Phone Notification System
Outdoor Warning Sirens (13)	Outdoor Warning Sirens
Alertus Beacons and Computer Alerts	Alertus Beacons and Computers
Social Media (Facebook/Twitter)	AM 830/Flashing Roadway Signs
City's Website	*Emerge is used for the Tuesday Test, Saturday Siren Test, and during a Shelter in Place emergency
Ready LP App Push Notifications	
E-Notify and CAER Online	
AM 830/Flashing Roadway Signs	

If the EOC has been activated for an emergency situation, the EOC Manager will normally determine the need for additional warning and instructions. The PIO Team staff will work with the EOC Manager to formulate additional warning messages and instructions, which will be continually disseminated via the systems described above. The Emergency Management Coordinator (EMC), or EOC Manager during an EOC activation, will continue to provide direction on public information needs until the incident has been resolved.

All Clear and Incident Review:

Once the on-scene Incident Commander has determined the threat has ended, the Incident Commander will notify the EMC/EOC Manager that an All Clear can be issued. Once the All Clear has been issued, this information will be disseminated to the public.

After the incident, the EMC will work with other departments and staff to conduct an After Action Review to identify aspects that went well with the response, and areas that need improvement. This review results in various action items that are taken to improve response in the future. It is shared with all involved parties, and the EOC team staff. This allows for continual improvement to better serve our community during an emergency or disaster.

## REQUEST FOR CITY COUNCIL AGENDA ITEM

Agenda Date Requested: <u>March 23, 2019</u>
Requested By: <u>Councilmember Chuck Engelken</u>
Department: <u>Human Resources &amp; Police Department</u>
Report: <u>    </u> Resolution: <u>    </u> Ordinance: <u>    </u>

<b><u>Budget</u></b>
Source of Funds: _____
Account Number: _____
Amount Budgeted: _____
Amount Requested: _____
Budgeted Item: YES    NO

- Exhibit: TML Reporting for Lost Time
- Exhibit: Chapter 3 – Cell Phone Policy
- Exhibit: Chapter 9 – Employee Safety
- Exhibit: COLP Safety Manual
- Exhibit: LPPD High Traffic Intersection Data
- Exhibit: City Safety Presentation

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### **SUMMARY & RECOMMENDATION**

This item is requested by Councilmember Chuck Engelken.

As it relates to City of La Porte employee safety, Councilmember Engelken has requested a discussion concerning the following items:

1. An analysis of the number of vehicle accidents (preventable and non-preventable) and associated cost for the last five (5) years.
2. Does city have a mobile device policy?
3. Open discussion on pros and cons on safety related policies for the city.
4. Number of recordable injuries and associated cost, along with the number of lost time or DART 's for past five (5) years.
5. Does the city have a safety policy for employees to follow?
6. What are the most dangerous intersections in the city and what is being done to make them safer?

Staff will present relevant data and applicable policies addressing the following items:

- Historic numbers and associated costs of vehicular accidents involving City vehicles.
- Recordable injuries and associated lost time.
- Percentages of incidents that were deemed preventable/non-preventable
- Review of current City safety policies including any covering use of mobile devices while driving.
- A review of the streets and intersections where most vehicle accidents occur.

Staff will provide input and information as part of an open discussion on the pros/cons of current safety policies and practices.

---

### **Action Required by Council:**

A discussion on direction to staff regarding safety focused actions moving forward.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

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**Date**

# City Safety Programs





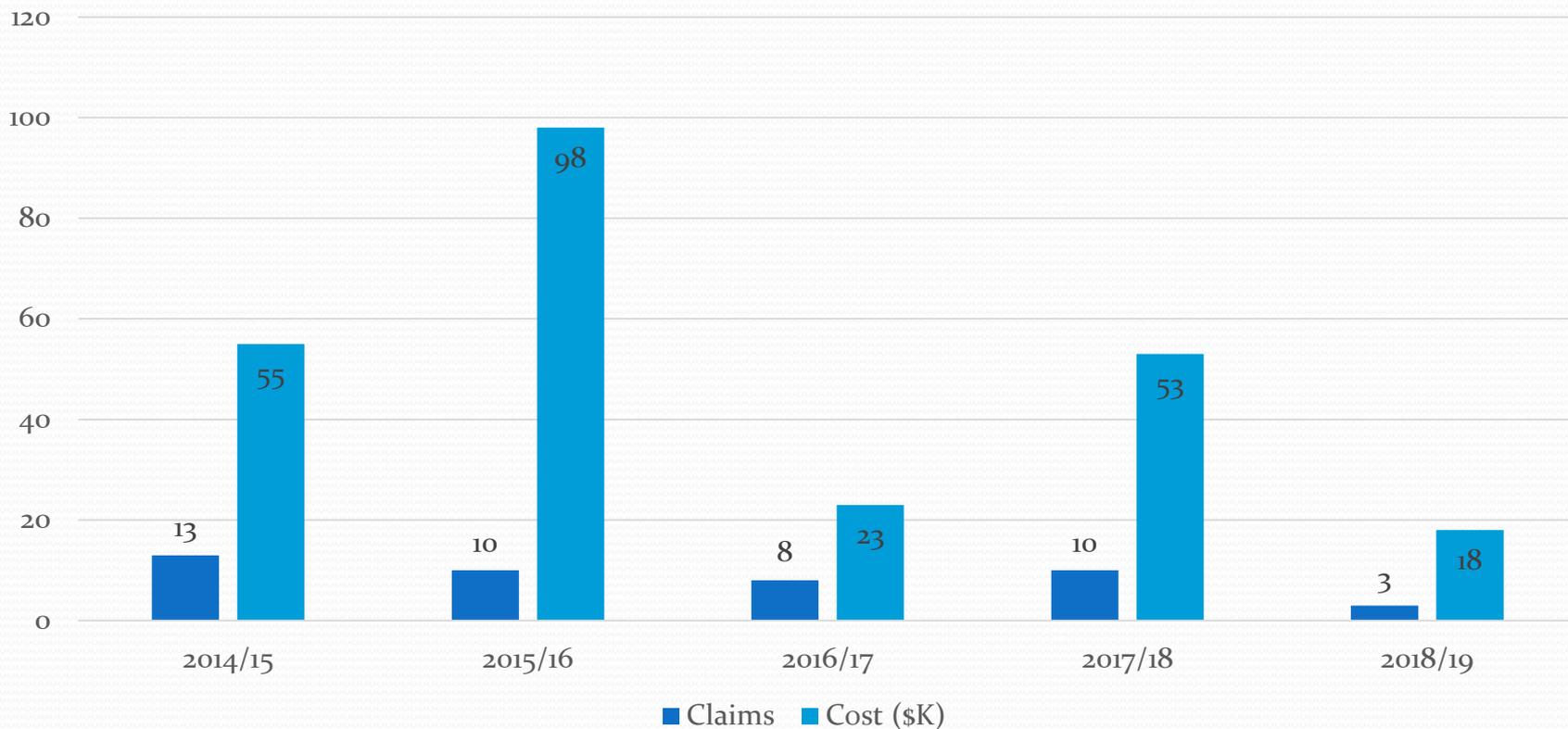
# Policies

- Chapter 9 of the Employee Handbook covers reporting of injuries and incidents
- Chapter 3 Section 22 prohibits use of cell phones while driving City-owned/-leased vehicles
- A more detailed City safety manual is currently being reviewed and updated by the Risk & Safety Specialist and Safety committee



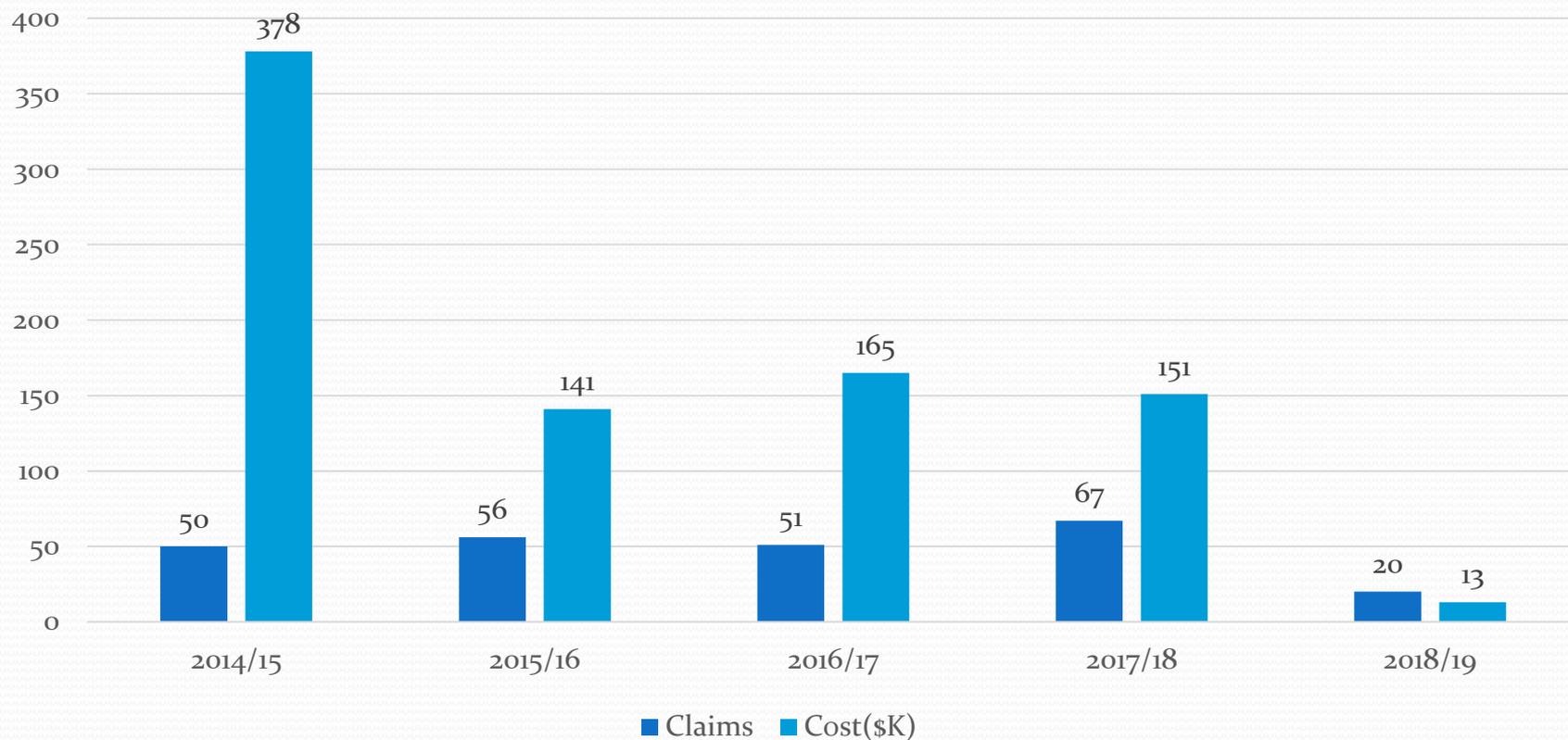
# Automobile Claims

## Vehicle Claims and Associated Costs





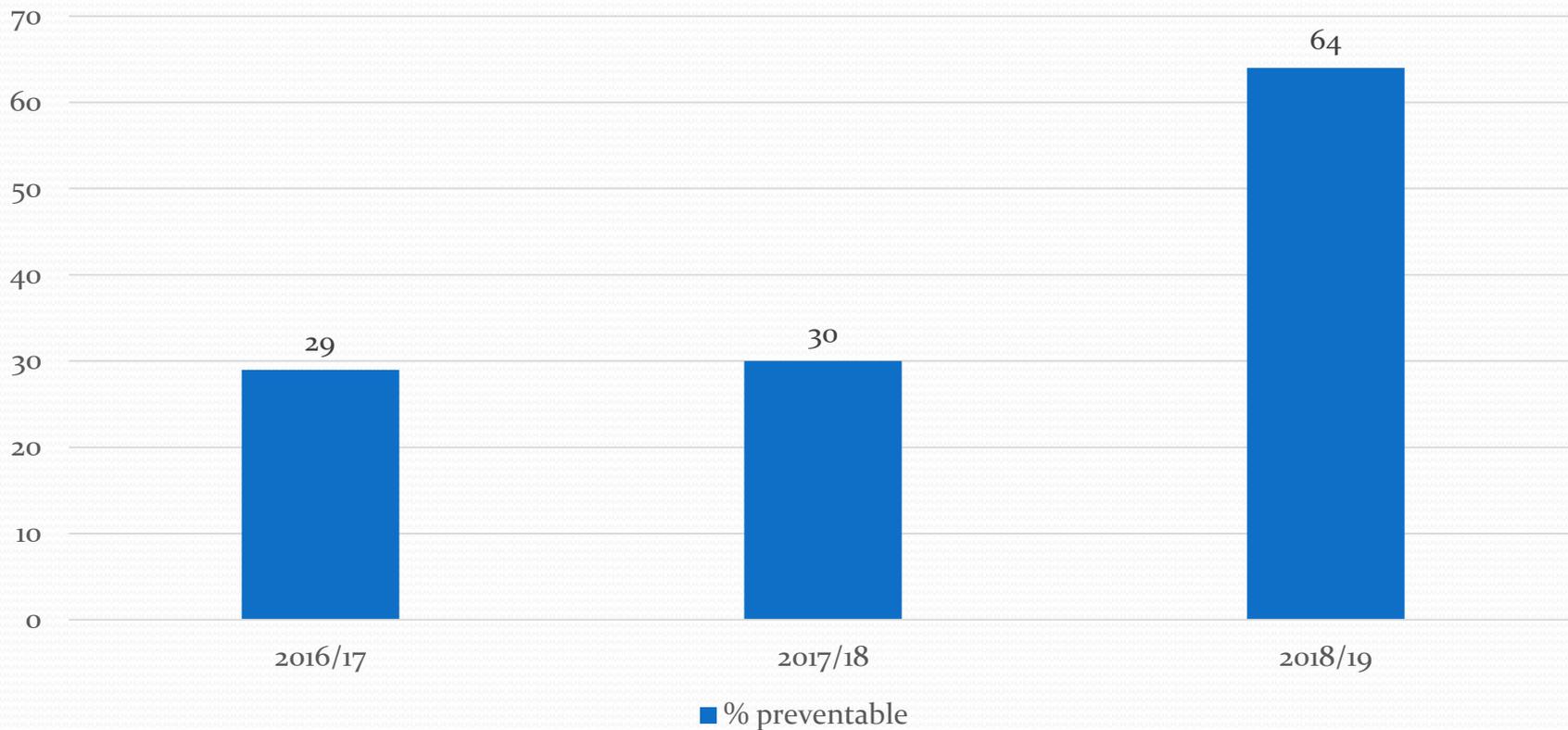
# Workers Comp Claims





# Incident Reporting

% preventable





# Safety Committee

- Met for first time as a group on February 21
  - Reviewed incidents of the quarter and determined preventable/non-preventable
  - Discussed improvements to the incident reporting form and procedure
- Future actions include:
  - Targeted training
  - Safety manual updates
  - Safety program slogan and events

## TML Reporting for Workers Compensation Lost Time

<b>FY 15/16</b>	<u>No. of Incidents</u>		
	10	20%	More than 7 days of lost time
	8	16%	7 or less than 7 days of Lost Time
	32	64%	No Lost time
	50		

<b>FY 15/16</b>	<u>No. of Incidents</u>		
	8	14%	More than 7 days of lost time
	7	13%	7 or less than 7 days of Lost Time
	41	73%	No Lost time
	56		

<b>FY 16/17</b>	<u>No. of Incidents</u>		
	9	17%	More than 7 days of lost time
	10	20%	7 or less than 7 days of Lost Time
	32	63%	No Lost time
	51		

<b>FY 17/18</b>	<u>No. of Incidents</u>		
	4	6%	More than 7 days of lost time
	5	8%	7 or less than 7 days of Lost Time
	57	86%	No Lost time
	66		

<b>FY 18/19</b>	<u>No. of Incidents</u>		
	0	0%	More than 7 days of lost time
	1	5%	7 or less than 7 days of Lost Time
	19	95%	No Lost time
	20		

or excessive use of City equipment for personal use. Any personal use of City property should meet the following guidelines:

1. It should be infrequent and of short duration (A short telephone conversation)
2. It should be for a compelling reason and not for mere convenience (A telephone call to arrange with a spouse to pick-up a child after school)
3. It should not interfere with the employee's performance of job duties (The use did not prevent the employee from completing the job duties)
4. It should not result in any additional charge to the City (Long distance telephone charge)
5. It must not be used for personal monetary gain or the employee's personal business (Selling products over the phone or internet)

### **3.22 Cell Phone Usage**

The City recognizes that many employees have cell phones that they bring to work. Cell phones may belong to the employee or be provided for the employee's use by the City. Employees are not permitted to use cell phones while driving a City owned/leased vehicle. The use of cell phones, including those with a camera, at work must not interfere with job duties or performance. Employees must not allow cell phone use to become disruptive or interfere with their own or a co-worker's ability to do their jobs. Employees who use cell phones to violate City policy, including the City's Sexual and Other Unlawful Harassment Policy, will be subject to disciplinary action, up to and including discharge.

### **3.23 Internet Usage**

The City provides Internet access, email, telephones, voice mail, and fax communication systems for use by City employees in the performance of their job duties. These communication devices are referred to collectively in this policy as "electronic communications systems" or "systems." These electronic communications systems are designed to support and enhance the communication, research and information capabilities of City employees and to encourage work-related communication and sharing of information resources within the City. This policy governs user behavior pertaining to access and usage of the City's electronic communications systems. This policy applies to all City employees, contractors, volunteers and other affiliates who use the City's electronic communications systems. The City's electronic communications systems access must be used in a professional, responsible, efficient, ethical and legal manner. All correspondence is subject to the Public Information Act.

**Internet. Instant Message and email access** - Users desiring email access must obtain written permission from their Department Director. Users must acknowledge an understanding of this policy and its guidelines as a condition of receiving an email access account. Failure to adhere to this policy and its guidelines may result in suspending or revoking the offender's privilege of access and/or other disciplinary action under City policies, up to and including termination of employment.

## **CHAPTER NINE**

### **EMPLOYEE SAFETY**

#### **9.01 General Safety**

The City of La Porte desires to provide a safe working environment for its employees. To accomplish this, the City will provide all reasonable safeguards to ensure safe working conditions. The City recognizes the need to follow good safety principles, and therefore, believes that no job is so important and no order is so urgent that we cannot take time to perform our work safely. The cooperation of all City employees in observing safety rules and procedures will provide safe working conditions and accident free performance, which will benefit both the employees and the citizens of La Porte.

#### **9.02 Job Injuries**

An employee must immediately notify his/her supervisor of any on the job injury. Failure to notify the supervisor is grounds for disciplinary action. The supervisor shall notify the Human Resources Manager immediately.

The supervisor shall complete an Incident Report and submit it to the Human Resources Office within two (2) days of the incident.

#### **9.03 Hazard Reporting**

It is the responsibility of each employee to identify dangerous and hazardous conditions in and around their work area and report them to their supervisor, so that corrective action can be taken.

#### **9.04 Incidents and Claims**

Employees must immediately notify his/her supervisor of any incident or claim involving the City of La Porte. The supervisor shall notify the Department Director and the Human Resources Manager immediately.

The supervisor shall complete an Incident Report and submit it to the Human Resources Department within two (2) days.

# CITY OF LA PORTE SAFETY MANUAL

*Think Safety! Today - Tomorrow - Always*



EFFECTIVE DATE: May 2, 2005

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### SECTION III: GENERAL SAFETY RULES, PRACTICES AND PROCEDURES

(Departmental policy shall take precedence if more stringent or there is a conflict with the rules below)

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## **SECTION I**

# **ACCIDENT PREVENTION PLAN COMPONENTS**

**City of La Porte**

**TEAM SAFETY PROCESS**

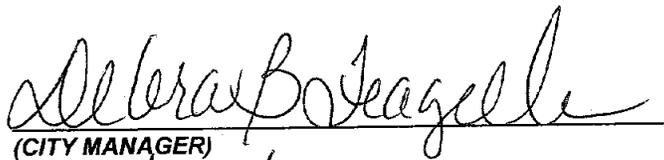
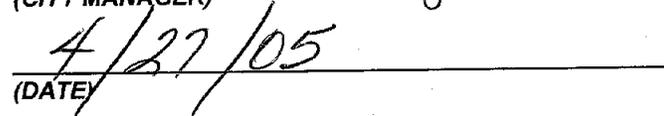
**MANAGEMENT STATEMENT**

Dear Employees:

The success of the City of La Porte depends upon our efficient use of resources to produce high quality service for the citizens of our community. Our most important resource is our employees. To protect this resource, we are committed to providing a safe and healthy work place for all employees by establishing and maintaining an effective safety and health program. Safety and health must be an organizational **priority** and fundamental to the operation of the City of La Porte.

The responsibility for safety resides with each of us. We are each challenged to stay aware and to take responsibility for our own safety and the safety of our co-workers. To ensure the success of our safety and health process, we shall all give our full participation and support to the safety policies and procedures that have been developed to protect us. Working safely and in accordance with established safety policy and procedure is an absolute requirement for all employees, supervisors and managers. Pursuant thereto, it shall be the practice of the City to include safety in the evaluation of employees at all levels to ensure that team responsibility and accountability are maintained.

**Think Safety! Today - Tomorrow - Always**

  
(CITY MANAGER)  
  
(DATE)

# **SAFETY TEAM RESPONSIBILITIES**

## ***City of La Porte***

### **MANAGEMENT SAFETY RESPONSIBILITIES:**

Management is responsible for providing a place of employment that is free from recognized hazards that could result in injuries or accidents. Since it is impossible for managers to personally observe all employee activities, management must assure that all supervisors are trained and are aware of their safety responsibilities. Other safety responsibilities for managers include:

1. Provide leadership and direction concerning safety activities.
2. Participate actively in the continuous evaluation of the safety program.
3. Set goals concerning safety performance within your department.
4. Review losses for potential trends on a regular basis.
5. Enforce all safety rules.
6. Participate in facility and work site audits.
7. Participate and support all accident investigation activities.
8. Review accident reports and recommend corrective actions.

### **SUPERVISOR SAFETY RESPONSIBILITIES:**

Safety is as much a part of the supervisor's responsibility as is getting the job done efficiently. Among the important safety responsibilities of each and every supervisor are:

1. Familiarize yourself with and enforce the safety rules and regulations that have been established by applicable local, state and federal organizations. These regulations are intended to set minimum standards for safety and the contents of the regulations should be enforced as minimum safety requirements for all activities on our work sites or in our facilities.
2. Correct or have corrected all reported hazards. Operating under known hazardous conditions will not be tolerated.
3. Do not permit new or inexperienced employees under your supervision to work with power tools, machinery or complex equipment without proper instruction and training.
4. Give adequate instructions. Do not assume that an employee knows how to do a job unless you personally have knowledge that the person can perform the task correctly.
5. Ensure tools, equipment and machinery being used in the workplace are in proper working condition.
6. Ensure that proper personal protective equipment is available and used by employees when necessary or required.
7. Always set a good example in safety, such as wearing the proper safety equipment (safety glasses, hard hats, etc.) following policies/procedures, using seat belts, etc.
8. Do not allow the use of unsafe tools or equipment.

## **SUPERVISOR SAFETY RESPONSIBILITIES (Continued):**

9. Consistently enforce the requirements of the organization's safety program and any associated rules or policies.
10. Ensure that all employees have access to a copy of the organization's safety program.
11. Encourage safety suggestions from employees under your supervision.
12. Obtain prompt first aid for injured employees.
13. Participate in accident or incident investigations involving your employees.
14. Conduct audits of all work areas and facilities on a regular basis in an effort to improve housekeeping, eliminate unsafe conditions and encourage safe work practices.

## **EMPLOYEE SAFETY RESPONSIBILITIES:**

All employees bear a certain amount of responsibility in any safety program. You must be aware that your actions, mental state, physical condition, and attitude directly affect the safety of yourself and your fellow employees. All employees will:

1. Know your job, follow instructions, and think before you act.
2. Use your protective equipment (eye protection, hard hats, gloves, etc.) as the job requires.
3. Work according to good safety practices as posted, instructed, and/or discussed.
4. Refrain from any unsafe act that might endanger yourself or your fellow workers.
5. Use all safety devices provided for your protection.
6. Report any unsafe situation or act to your supervisor immediately.
7. Assume responsibility for thoughtless or deliberate acts that may cause injury to yourself or your fellow workers.
8. Abide by all policies, procedures, rules, etc. associated with the City of La Porte's Safety Program. A copy of this Program is available at anytime upon request.
9. Never operate equipment that you are unfamiliar with or not trained to use. Also, equipment that is defective or in need of repair shall not be used and must be reported to your supervisor.
10. Report all accidents/incidents to your supervisor as soon as they occur.

***City of La Porte***  
**ACCIDENT/INCIDENT ANALYSIS POLICY**

The Safety Coordinator will review all injuries, property damage, accident investigation reports, unsafe condition reports and work site inspection reports that have occurred or been completed over the past year to determine if injury or hazard trends are developing. Where potential trends are identified, the cause(s) will be determined to assist in the implementation of corrective actions for the trend(s). The Safety Coordinator will recommend and initiate prompt corrective actions as needed to eliminate or reduce hazardous exposures to employees. The Safety Coordinator will follow up on the effectiveness of the corrective actions to assure the situations have been abated or are in the process of being corrected.

The attached "Accident/Incident Analysis" form\* shall be used to document this accident/incident analysis. If there were no reported injuries or incidents during the analysis period, the attached form should still be completed as documentation of the activity. Items to be addressed during the analysis may include progress on previous corrective actions, trends, safety meeting and inspection reports, etc. This documentation will be kept on file for a period of at least five years.

**City of La Porte**  
**ACCIDENT/INCIDENT ANALYSIS FORM**

Date: \_\_\_\_\_ For Calendar Year \_\_\_\_\_

**Prior year's data shall be reviewed for trends.**

- Accidents/Injuries Reviewed:
  
- Accident Investigation Reports Reviewed:
  
- Inspection Reports Reviewed:
  
- Other Reports That Were Reviewed:

Identified Trends:

Corrective Action(s) (Include responsible party for implementation):

Prior year's corrective action(s) status:

Review completed by (List all employees, and their titles, that participated):

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**Attach additional sheets, if needed.**

## ***City of La Porte*** **RECORDKEEPING POLICY**

It is the policy of the City of La Porte to maintain records of all safety and health documents for a minimum of five years (longer if required by law), unless otherwise specified in the Plan. The Safety Coordinator will ensure that records maintained by the City of La Porte will include, but are not limited to:

### **INJURY LOSS RECORDS:**

A copy of each Texas Workers' Compensation Form TWCC-1 (Employer's First Report of Injury) shall be on file in the Human Resources Dept.

A copy of each Texas Workers' Compensation Form TWCC-6 (Supplemental Report of Occupational Injury or Illness) shall also be kept in the above-mentioned location.

Claim/loss information from TML-IRP, insurance carriers, etc. (all lines of coverage) shall be maintained in files at the Human Resources Dept. This information can be used for various means of trend analysis.

### **ACCIDENT INVESTIGATION REPORTS:**

The Safety Coordinator will ensure that an accident investigation report is completed for each reported accident or incident. A copy of all completed accident investigation reports will be maintained in the Human Resources Dept. A City of La Porte approved accident investigation report form shall be used to document accident investigation data. (See Accident Investigation Policy for more specific information.)

### **INSPECTION REPORTS:**

A file will be maintained with the Safety Coordinator/Dept. of Origin for all inspection reports required in the Safety Program (Work site Inspection Reports, Vehicle Inspection Reports, etc). The Safety Coordinator/Dept. of Origin will ensure that all required inspection reports are completed in a timely manner. The work site inspection reports will be completed by the Safety Coordinator/Dept. of Origin and the vehicle inspection reports will be completed by the Dept. of Origin. Only City of La Porte approved inspection forms will be used. Corrective action will be documented for any deficiencies noted on the inspection reports.

**(Include any other inspection/audit reports that will be used as part of the safety program.)**

### **SAFETY MEETINGS/TRAINING RECORDS:**

Documentation of monthly safety meetings and other training records will be maintained at the Department of Origin. Only City of La Porte approved safety meeting forms shall be used to document the activities. When safety meetings are used as training activities, it should be duly noted on the form. The individual conducting the safety / training meeting is responsible for turning-in a copy of the safety meeting form to the Department of Origin. The Safety Coordinator/Department of Origin will ensure that the meetings are held on at least a monthly basis.

**ACCIDENT/INCIDENT ANALYSIS:**

A file containing Accident/Incident Analysis reports, using the City of La Porte's form, will be maintained in the Human Resources Dept. and the Department of Origin.

**REVIEWS OF THE SAFETY PROGRAM:**

A file containing Reviews of the Safety Program reports, using the City of La Porte's form, will be maintained in the Human Resources Dept.

**ACCIDENT PREVENTION PLAN --- 12 MONTH PLANNING CHART**

A Planning Chart should be included in the Plan to outline the required activities, the person responsible, the designated form, and frequencies for the activities. Each person with assigned responsibilities should receive a copy of the completed Chart as a guideline for their assigned duties. During scheduled program reviews, the current chart should be reviewed and modified as necessary to accommodate planned activities for the upcoming year. Any noted weaknesses in the previous year's activities should be so noted and corrective actions implemented to assure activities are completed as stated in the plan.



**City of La Porte**  
**SAFETY EDUCATION & TRAINING POLICY**

**SAFETY MEETINGS/TRAINING:**

Safety meetings are an effective way to encourage, educate and train employees on safe work practices and will be held on a **monthly** basis. Safety meetings will normally be conducted by The Department of Origin. Discussions of safety rules, possible hazards to be encountered in future job duties or changes in procedures or equipment are some topics that should be covered on a regular basis. All safety meetings will be documented as to the date, attendance and topic discussed. The City of La Porte's form will be used to document the safety meetings.

Subjects to be addressed during the safety meetings will include, but not limited to, the following:

- Hazards associated with the work place
- Hazards of particular jobs or tasks
- Emergency procedures
- Hazard communication
- Specific equipment operation training
- Employee reporting requirements
- Office safety
- Driving safety
- Machinery safety
- Contractor safety requirements
- Back injury prevention
- Housekeeping
- Fire Safety

**DOCUMENTATION OF SAFETY MEETING/TRAINING:**

Documentation from any safety meeting/training courses **attended** by employees, supervisors or managers will also be kept for recordkeeping purposes. Documentation associated with safety meetings and training will be kept with the Dept. of Origin. Employees who do not attend regularly scheduled safety meetings or training activities will be identified and scheduled to attend makeup training. Documentation will be available for employees that attend makeup training.

## **ONGOING TRAINING:**

The Dept. of Origin will provide ongoing safety training in the following areas as the need arises:

- New equipment purchases.
- New/changes in operations.
- Identified areas of increased accidents.
- Newly identified areas of exposure.

## **NEW EMPLOYEE SAFETY ORIENTATION:**

The Dept. of Origin will provide an orientation to all new employees to address the hazards of their position. This will include a review of all safety rules, policies/procedures, equipment, etc. that are applicable to the new employee's area of assignment. The new employees will be given an opportunity to ask any relevant questions that may pertain to their assigned duties. Documentation on the City of La Porte's New Employee Safety Orientation Form will be maintained in the Dept of Origin.

New employees' work activities will be limited to **non-safety sensitive** activities until the safety orientation is completed.

## **REPORTING UNSAFE ACTS/UNSAFE CONDITIONS:**

All employees are encouraged and required to report any unsafe acts or unsafe conditions. This report will be made using the attached "Employee Report of Unsafe Act/Unsafe Condition Form." (The routing of the form will be as indicated on the form.)

**City of La Porte**  
**SAFETY MEETING ATTENDANCE FORM\***

Date Presented: \_\_\_\_\_ Presented By: \_\_\_\_\_

Topic(s) Discussed: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Printed Name:**

**Signature:**

\_\_\_\_\_  
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\_\_\_\_\_

Date of Next Scheduled Safety Meeting: \_\_\_\_\_

Topic(s) for Next safety Meeting: \_\_\_\_\_

**\*Attach Copy of Training Materials/Handouts Used**

## City of La Porte NEW EMPLOYEE SAFETY ORIENTATION RECORD\*

Employee Name: \_\_\_\_\_ Date Employed: \_\_\_\_\_

Job Title: \_\_\_\_\_ Assigned Work Area: \_\_\_\_\_

	Date Completed	Supervisor's Initials	Employee's Initials
Overall Safety Program discussed with employee.	_____	_____	_____
General Safety Rules and safety rules specific to job duty discussed with employee.	_____	_____	_____
Employee safety responsibilities reviewed with employee: Where and when to report unsafe conditions; how/when/where to report injuries; care & use of tools & equipment; etc.	_____	_____	_____
General hazards in workplace reviewed.	_____	_____	_____
Substance Abuse Policy discussed with and signed by employee.	_____	_____	_____
Hazardous chemicals, including MSDS, discussed with employee.	_____	_____	_____
Proper lifting and materials handling discussed with employee.	_____	_____	_____
Identified past safety problem areas in employee's job duty area discussed with employee.	_____	_____	_____
Recordkeeping systems discussed with employee.	_____	_____	_____
Office safety discussed with employee.	_____	_____	_____
Reviewed evacuation and emergency action procedures.	_____	_____	_____
Identify location of fire extinguishers and use of those extinguishers.	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

\*Copy to employee's personnel file.

**City of La Porte**  
**EMPLOYEE PROACTIVE SAFETY REPORT FORM**

**EMPLOYEE COMPLETES SECTION BELOW AND GIVES TO SUPERVISOR:**

Employee \_\_\_\_\_

Department \_\_\_\_\_

Date \_\_\_\_\_ Time \_\_\_\_\_

Location \_\_\_\_\_

Hazard or Problem \_\_\_\_\_

\_\_\_\_\_

Suggestions \_\_\_\_\_

\_\_\_\_\_

**SUPERVISOR COMPLETES SECTION BELOW AND GIVES TO MANAGER:**

Supervisor \_\_\_\_\_

Department \_\_\_\_\_

Date Received \_\_\_\_\_

Action Taken \_\_\_\_\_

\_\_\_\_\_

Date Action Was Taken \_\_\_\_\_

\_\_\_\_\_

**MANAGER REVIEW:**

Date Received \_\_\_\_\_ Type of Hazard \_\_\_\_\_

\_\_\_\_\_

Manager Reviewing Condition \_\_\_\_\_

Review Comments/Action to Correct \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
*Signature of Manager*

## ***City of La Porte*** **Safety Training and Observation Program**

An effective and efficient safety and loss prevention program is based on working conditions being free of hazards and proper safe job performance. One positive action supervisors and management should take in accident prevention is to provide safety training to their employees. The results of this training are readily visible and impact greatly on the safety and loss prevention program. It is essential that safety training be conducted efficiently in order to provide for accident prevention.

Although training will not solve all problems, it is essential to the overall process of accident prevention. The safety training program shall incorporate trainer qualities, training needs and objectives, and a plan according to the needs of the organization. The STOP program will consist of participation and support from all levels of the City and incorporate the principles and practices set forth in the Safety Team Responsibilities section of this manual. This section outlines the process for establishing and conducting safety observations/audits/inspections by team members. Also, the safety rules, practices and procedures section of this manual outlines the areas of focus for the City's safety concerns and therefore its list of training topics to be addressed in the training aspect of the STOP program.

## ***City of La Porte*** **SAFETY AUDIT/INSPECTION POLICY**

A documented self inspection of facilities and job sites will be conducted by the Dept. of Origin on a quarterly basis in an effort to detect unsafe acts or unsafe conditions and initiate corrective action(s) as soon as possible. An employee(s) may be requested to assist the Dept. of Origin in conducting the inspections. A copy of the attached "Work Safety Analysis/Observation Form" will be completed for each work site and the completed forms will be maintained with the Dept. of Origin.

Individual employees are responsible for inspecting their work areas for possible hazards on a continual basis. Any potential hazards will be reported to supervisory personnel immediately and may also be reported using the "Employee Proactive Safety Report Form."

Employees assigned to drive City of La Porte vehicles will complete a visual vehicle inspection prior to operating a vehicle. A vehicle inspection report will be filed with the Dept. of Origin anytime vehicle maintenance is required.

***Corrective action/s should be documented on the reports for any identified deficiencies.***

Audit/Inspection records should be maintained for at least two years. In addition, all maintenance records should be kept for the life of the vehicle.

**City of La Porte**  
**FACILITY SAFETY INSPECTION FORM**  
**(Required Quarterly)**

Person Conducting Inspection: \_\_\_\_\_

Date: \_\_\_\_\_ Location of Inspection: \_\_\_\_\_

Area	Satisfactory		Corrective Action
	Yes	No	
Is Housekeeping Clean/Orderly	___	___	_____
Are Floors in Good Condition	___	___	_____
Proper Lifting Procedures Practiced	___	___	_____
Condition of Hand Tools	___	___	_____
Condition of Power Tools	___	___	_____
Equipment Guards	___	___	_____
Personal Protective Equipment Used	___	___	_____
Is Material Storage Adequate	___	___	_____
Fire Extinguishers	___	___	_____
Chemical Handling/Use	___	___	_____
Are All Chemical Containers Labeled	___	___	_____
First Aid Kit	___	___	_____
Are Grounds in Place on All Electrical Equipment	___	___	_____
Electrical Cords in Good Condition	___	___	_____
Is Lighting Adequate in all Areas	___	___	_____
Condition of Ladders Adequate	___	___	_____
Safety Signs Posted Where Needed	___	___	_____
Office Condition	___	___	_____
Fall Hazards Addressed	___	___	_____
Condition of Scaffolds	___	___	_____

General Safety Inspection Form - Page 2

Area	Satisfactory		Corrective Action
	YES	NO	
Condition of Machinery (List types of machinery on the work sites.)	_____	_____	_____
Have all employees received training on the proper operation of all machinery at the work site?	_____	_____	_____
Are all assigned operators qualified to operate the machinery?	_____	_____	_____
<b>Since Last Inspection:</b>			
Have Safety Meetings been held with all employees?	_____	_____	_____
Have all new employees received a new employee orientation?	_____	_____	_____
Have all accidents been investigated?	_____	_____	_____
Are current safety rules sufficient for the operations in the area?	_____	_____	_____
Have MSDS's been submitted by all subcontractors or vendors?	_____	_____	_____
<b>List any other conditions not addressed above that need attention:</b>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**\*\* Completed report must be turned in to the Dept. of Origin and HR with listed corrective actions for any deficiencies!**

**City of La Porte**  
**WORK SAFETY ANALYSIS/OBSERVATION FORM**

Completed by: \_\_\_\_\_

Date: \_\_\_\_\_ Location: \_\_\_\_\_

<u>Area</u>	<u>Satisfactory</u>		<u>Corrective Action</u>
	Yes	No	
<b>PERSONAL PROTECTIVE EQUIPMENT</b>			
Eye Protection	___	___	_____
Head Protection	___	___	_____
Hand Protection	___	___	_____
Foot Protection	___	___	_____
Hearing Protection	___	___	_____
Respiratory Protection	___	___	_____
Fall Protection	___	___	_____
_____	___	___	_____
_____	___	___	_____
<b>TRAFFIC CONTROL</b>			
Warning Signs	___	___	_____
Barricades/Barriers and Cones	___	___	_____
Flagger (Stop/Slow Paddle)	___	___	_____
High Visibility Vest	___	___	_____
_____	___	___	_____
<b>MATERIAL HANDLING</b>			
Proper Lifting Techniques	___	___	_____
Condition of Lifting Accessories	___	___	_____
Adequate Number of Personnel	___	___	_____
_____	___	___	_____

<u>Area</u>	<u>Satisfactory</u>		<u>Corrective Action</u>
	Yes	No	
<b>GENERAL ISSUES</b>			
Fire Protection	_____	_____	_____
Compressed Gas Cylinders	_____	_____	_____
Material Safety Data Sheets	_____	_____	_____
First-Aid Kit	_____	_____	_____
Lockout/Tagout	_____	_____	_____
Housekeeping	_____	_____	_____
Machine Guarding	_____	_____	_____
Condition of Machinery	_____	_____	_____
Condition of Portable Power Tools	_____	_____	_____
Condition of Hand Tools	_____	_____	_____
Condition of Electrical Cords	_____	_____	_____
Use of Ground Fault Circuit Interrupter	_____	_____	_____
All applicable permits completed	_____	_____	_____

**BRIEFLY LIST WORK TASKS:**

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_

**BRIEFLY LIST HAZARDS ASSOCIATED WITH WORK TASKS:**

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_

**HOW WILL HAZARDS BE ELIMINATED/CONTROLLED?**

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

(Completed report must be turned in to the Department of Origin with listed corrective actions for any deficiencies).

**City of La Porte**  
**VEHICLE INSPECTION FORM**  
 (Done when maintenance/repair is required)

Date \_\_\_\_\_

Insp. Sticker Exp. Date \_\_\_\_\_

Odometer Reading \_\_\_\_\_

License Plate No. \_\_\_\_\_

CONDITION								
ITEM	Sat.	Un. Sat.	ITEM	Sat.	Un. Sat.	ITEM	Sat.	Un. Sat.
Horn			Transmission Fluid			Front Bumper		
Mirrors			Brakes			Grill		
Glass			Play in Steering Wheel			Lt. Frt. Fender		
Battery			Exhaust System			Rt. Frt. Fender		
Engine			Head Lights			Hood		
Windshield Wp.			Parking Lights			Left Doors		
Power Steering			Tail Lights			Right Doors		
Turn Indicator			Brake Lights			Rear Bumper		
4-Way Flashers			Back-up Lights			Top		
			Tires			Seats		
			Seat Belts					

Explain all items shown as unsatisfactory in the "remarks" section.

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**This report *must* be signed by the employee who performed the inspection! \*\* Completed report will be turned in to the Department of Origin.**

\_\_\_\_\_  
 Employee's (Driver's) Signature

**City of La Porte**  
**MACHINERY/EQUIPMENT INSPECTION FORM**  
 (Required on an as used basis)

Date \_\_\_\_\_

Insp. Sticker Exp. Date (If Applicable) \_\_\_\_\_

Odometer Reading \_\_\_\_\_ Hour Meter (If Applicable) \_\_\_\_\_

Equipment No. or License Plate No. \_\_\_\_\_

CONDITION											
ITEM	Sat.	Un Sat.	N/A	ITEM	Sat.	Un Sat.	N/A	ITEM	Sat.	Un Sat.	N/A
Battery				Horn				Turn Indicator			
Motor Oil				Mirrors				4-Way Flashers			
Engine				Glass				Overhead Lights			
Engine Coolant				Windshield Wipers				Brakes			
Transmission Fluid				Steering				Head Lights			
Exhaust System				Seat Belts				Tail Lights			
Hydraulic Fluid				Seat				Brake Lights			
Hydraulic Oil Lines				Fuel				Tires			
Roll Over Protection				Back-up Alarm				Outriggers			
First Aid Kit				Gauges				Mud Flaps			
				Doors				Steps/ Handrails			
				Safety Equipment: Flares, Flags, Cones, Chock Blocks, Etc.				Operation of Implements			
								Fire Extinguisher			

Explain all items shown as unsatisfactory in the "remarks" section.

Remarks: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**This report *must be signed by the employee who performed the inspection!* \*\* Completed report will be turned in to the Department of Origin.**

\_\_\_\_\_  
 Employee's (Driver's) Signature

## ***City of La Porte***

# **ACCIDENT/INCIDENT INVESTIGATION POLICY**

It is the policy of the City of La Porte to investigate all work-related accidents or incidents that result in or could potentially have resulted in injury or property damage. As nearly all accidents and incidents have their own unique characteristics, only general rules and procedures can be outlined here.

The standard Incident Report will be used for both initial and final investigations. (The bottom of the report shall be marked to indicate whether it is an initial or final report.)

### **RESPONSIBILITIES:**

1. Employees must immediately report to their supervisor any on-the-job injury or illness they sustain, or suspect they have sustained, no matter how minor. They must also report any incidents that had the potential for injury to employees or third parties and any instances where property damage occurred.
2. Supervisors shall first respond to the immediate medical needs of any injured persons. Then, they should begin reporting and investigative activities as described in this policy. The Safety Coordinator will investigate all serious accidents at the time they occur with assistance from the involved department.
3. Witnesses to the event that resulted in the accident or incident will provide statements about what they observed. The witnesses may also be asked to participate in the initial and/or final investigations.
4. The Safety Coordinator is responsible for receiving the initial reports of injury or property damage and forwarding them to the appropriate insurance representatives in a timely manner.
5. The Safety Coordinator is responsible for reviewing the initial accident/incident report, and then setting the time and place for the final investigation.

### **PROCEDURES:**

#### **Initial Notification**

Employees are responsible for reporting all injuries, illnesses or incidents as described earlier in this policy. Failure to report any injury or incident may be cause for disciplinary action. (In the event of a serious or disabling injury, fellow employees must assume this reporting responsibility.)

#### **Initial Treatment**

Any injury shall be treated by the supervisor or other available personnel in accordance with their individual abilities and the severity of the injury. During normal working hours, the City's designated medical provider will be used for treating on the job injuries. After working hours will be a local hospital emergency room.

## **Accident/Incident Investigation Policy-continued**

The first responders to any incident scene will be responsible for securing the area to prevent further damage or injury and also protecting the integrity of the incident scene until an investigation can be initiated.

Any incident involving possible exposures to blood borne pathogens, communicable diseases, or any other contagious substance shall be handled in accordance with those specific policies or procedures regarding that particular incident.

Injured employees are to be transported for medical treatment either by ambulance or another person depending on the severity of the injury. Injured employees should never be allowed to transport themselves for initial medical treatment, but they may transport themselves for follow-up visits if the injury does not impair their driving abilities.

If an employee refuses medical treatment for an on-the-job injury, the investigation report should be completed and the employee's signature used to document the event.

### **Further Notification**

The Safety Coordinator must be contacted within twenty-four (24) hours following the occurrence of an accident or incident to assure an initial worker's compensation report is completed and forwarded to the appropriate insurance representative.

### **Drug/Alcohol Policy Requirements**

**Post accident drug/alcohol screens shall be required per City policy.**

### **Initial Investigation**

The supervisor shall immediately protect all other persons from the hazards that caused the initial problem and also preserve the area where the incident occurred for investigation. After the injured persons have been attended to, and the site is secure, the supervisor should begin the initial investigation. The initial investigation should include:

- (1) Statement from the injured employee
- (2) Statement(s) from witnesses if deemed necessary
- (3) Photographs or sketches of area if deemed necessary
- (4) Completion of the accident/incident report in its entirety
- (5) Corrective action/s as soon as possible

### **Initial Report**

An initial report will be completed for all accidents and incidents within twenty-four (24) hours of occurrence. The immediate supervisor of the employee will complete the initial investigation and report as soon as possible after the occurrence. The initial report will be turned in to the Safety Coordinator during normal work hours.

### **Final Investigation**

Within a reasonable amount of time after the original accident or incident, a final investigation will take place if deemed necessary. Attendance at the investigation meeting will include the following personnel: injured employee, injured employee's supervisor, witnesses, safety coordinator, and any others deemed necessary for a complete investigation.

## **Accident/Incident Investigation Policy--continued**

The final investigation will include:

- (1) Description of the event by the involved persons
- (2) Accounts of witnesses
- (3) Input from supervision
- (4) Listing of causes
- (5) Development of corrective actions.

Basically, the investigation must answer the following questions:

- Who was injured or what was damaged?
- When did the accident/incident occur?
- Where did the accident/incident occur?
- Why did the accident/incident occur?
- What caused the accident/incident to occur?
- How can it be prevented from occurring again?

The Safety Coordinator and Dept. of Origin will take joint responsibility for issuing the final report. The final investigation report will reflect all changes from the initial report and also must include:

- (1) Finalized corrective actions.
- (2) Assigned completion dates for all corrective actions.
- (3) Assigned persons to complete the corrective actions. The persons assigned the corrective actions shall also be required to sign-off on the final report when the corrective actions have been completed.

Copies of the final report should be provided to:

- (1) Personnel Manager
- (2) Risk Manager/Safety Representative
- (3) Department Manager

# CITY OF LA PORTE INCIDENT REPORT

<b>Classification</b>	Personal: <input type="checkbox"/>	Vehicle: <input type="checkbox"/>	Property: <input type="checkbox"/>
Date Received: _____	Date Reviewed: _____		
Preventable: <input type="checkbox"/>	Non-Preventable: <input type="checkbox"/>		
Recommendations Made: <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	

**All information must be completed on this form at time of incident and forwarded to Human Resources ASAP**

EMPLOYEE INFORMATION				
Name: _____	Title: _____	Division: _____		
Mailing Address: _____				
	Street or PO Box	City	State	Zip
Hire Date: _____	Supervisor: _____	Birthdate: _____		
SS Number: _____	DL Number: _____	Home Phone: _____		
Marital Status: _____	Spouse's Name: _____	# of Children: _____		

DESCRIPTION OF INCIDENT			
Incident Date: _____	Time: _____	AM PM	Please Circle
Location of Incident: _____			
Description of Incident: _____			

I agree that the above description of incident is true and correct.

EMPLOYEE SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_

SUPERVISOR SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_

**IF THE ACCIDENT WAS A PERSONAL INJURY THE INFORMATION BELOW MUST BE FILLED OUT**

Did you require medical attention by a Doctor?  Yes  No

If you answered yes to this question, please complete the following:

Name of Hospital or Clinic: \_\_\_\_\_ Doctors Name? \_\_\_\_\_

Were you released to come back to work?  Yes  No

**\*\*Note: If you required medical attention you must return all Medical Information from the Doctor to Human Resources immediately following your visit.\*\***

**WITNESSES, IF ANY:**

1) Name: \_\_\_\_\_ 2) Name: \_\_\_\_\_

**INVESTIGATOR'S COMMENTS**

NOTE: Incident must be investigated at time of occurrence.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CITY OF LA PORTE**  
**INCIDENT REPORT - Page 2**

**CITY VEHICLE**

CITY ID NUMBER: \_\_\_\_\_ TYPE UNIT: \_\_\_\_\_ VIN #: \_\_\_\_\_  
YEAR: \_\_\_\_\_ MAKE: \_\_\_\_\_ MODEL: \_\_\_\_\_  
LICENSE PLATE NO.: \_\_\_\_\_ LOCATION OF INCIDENT: \_\_\_\_\_  
POLICE REPORT ATTACHED:  YES  NO CASE NUMBER: \_\_\_\_\_  
DESCRIBE DAMAGE TO CITY VEHICLE: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DRAW OUTLINE OF AREA AND INCIDENT**

**PRIVATE VEHICLE**

DRIVER'S NAME: \_\_\_\_\_ TELEPHONE NO.: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_  
OWNER'S NAME AND ADDRESS: \_\_\_\_\_  
VEHICLE YEAR: \_\_\_\_\_ MAKE: \_\_\_\_\_ MODEL: \_\_\_\_\_  
LICENSE PLATE NO.: \_\_\_\_\_ DESCRIBE DAMAGE TO VEHICLE: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PROPERTY DAMAGE**

OWNER'S NAME: \_\_\_\_\_ TELEPHONE NO.: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_  
DESCRIBE DAMAGE IN DETAIL: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

***City of La Porte***  
**SAFETY PROGRAM REVIEW/REVISION POLICY**

The Safety Coordinator and all departments will at least once per year review the entire Safety Program for revisions to meet exposures within the current operations. Areas that will be evaluated include: operations added, equipment added/changed, changes in environmental conditions, adequacy of personal protective equipment, etc. In addition, procedures should be reviewed to make sure they are still applicable.

Upon changes in the Safety Program, all employees will be informed of these changes and provided proper training as needed. The Safety Coordinator and all applicable departments will ensure that changes or revisions are added to the written Safety Program in a timely manner.

This review will be documented on the attached form and maintained with the Dept. of Origin. A five-year history of completed forms should be maintained.

**City of La Porte**  
**REVIEW OF SAFETY PROGRAM FORM**

Date of Review \_\_\_\_\_

Review of the Seven Components: \_\_\_\_\_

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New Exposures Identified: \_\_\_\_\_

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Action Taken to Control Exposures:

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Reviewed By ( *Name(s) and Title(s)* ):

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*(Various Managers, Supervisors or Employees May Participate in the Review.)*

**SECTION II**

**GENERAL ADMINISTRATIVE POLICIES AND PROGRAMS**

**City of La Porte**  
**WRITTEN HAZARD COMMUNICATION PROGRAM**

**I. General Information**

The Texas Hazard Communication Act (THCA), codified as Chapter 502 of the Texas Health and Safety Code (HSC), requires all public employers in Texas to provide their employees with information regarding hazardous chemicals to which employees may be exposed in their workplace. In order to comply with Section 502.009(b) of the THCA and Section 295.7(a) of the THCA Rules (Title 25 of the Texas Administrative Code (TAC), Section 295.1- 295.12), the following written Hazard Communication Program has been established for the City of La Porte.

The master copy of the written hazard communication program will be maintained in Human Resources Dept. Copies of the written program will be modified as needed for each separate workplace where hazardous chemicals are used or stored and a copy maintained at each workplace. The written program will be available to all interested employees and their representatives upon request.

To facilitate administration of and compliance with the THCA, the following levels of responsibility have been established:

1. The Safety Coordinator and applicable Department Directors will have overall responsibility for administering and maintaining this program and ensuring that it meets all requirements of the THCA.
2. Supervisors will be responsible for knowing their requirements under the Act and for the compliance of their employees.
3. Individual employees will be responsible for knowing their requirement under the Act and accountable for their individual compliance.

## II. Exemptions

- A. The following chemicals are exempt from the requirements of the THCA and are outside the scope of this written program:
1. Hazardous waste that is subject to regulation by the Texas Commission on Environmental Quality and/or the U.S. Environmental Protection Agency.
  2. A chemical in a laboratory under the direct supervision or guidance of a "technically qualified individual" if:
    - a. Labels on incoming containers of chemicals are not removed or defaced,
    - b. This employer complies with Sections 502.006 and 502.009 of the THCA with respect to laboratory employees; and
    - c. The laboratory is not used primarily to produce hazardous chemicals in bulk for commercial purposes.
  3. Tobacco or tobacco products.
  4. Wood or wood products.
  5. Articles formed to a specific shape or design during manufacture and that do not release or otherwise result in exposure to a hazardous chemical under normal conditions of use.
  6. Food, drugs, cosmetics or alcoholic beverages.
  7. Consumer products or hazardous substances used in the workplace in the same manner as normal consumer use and if the use results in a duration and frequency of exposure that is not greater than exposures experienced by a consumer.
  8. Radioactive waste.

## III. Workplace Chemical List

- A. The City will develop and maintain a list of hazardous chemicals normally present in the workplace in excess of 55 gallons or 500 pounds (these can be found in the **Tier Two Report** the City files each year with the Texas Dept. of Health). This Workplace Chemical List will be developed for each **workplace** where such quantities of hazardous chemicals are used or stored and will be available for review by employees and their designated representatives.
- B. The Safety Coordinator will be responsible for reviewing and updating the Workplace Chemical List(s) for the City as necessary.
- C. The Workplace Chemical List will be maintained for at least 30 years.
- D. Further information on each noted chemical can be obtained by reviewing Material Safety Data Sheets (MSDSs) located in each workplace where these hazardous chemicals are used or stored.

#### **IV. Material Safety Data Sheets**

- A. The Department of Origin will maintain a current and appropriate Material Safety Data Sheet (MSDS) for each hazardous chemical purchased.
- B. The Department of Origin will be responsible for its MSDSs and will ensure that:
  - 1. Incoming MSDSs are reviewed for new and significant health/safety information and that any new information is passed on to the affected employees.
  - 2. Hazardous chemicals received without an MSDS are withheld from use until a current MSDS is obtained.
  - 3. Missing MSDSs are requested from an appropriate source (e.g., chemical manufacturer, distributor, or electronic database) within 30 days from receipt of the hazardous chemical.
  - 4. Affected employees are provided a description of any alternative system (such as electronic databases) being used in lieu of actual MSDSs.
  - 5. Emergency responders are provided MSDSs as soon as practical upon request.
- C. MSDS files for all applicable departments will be kept in the Department of Origin.
- D. MSDSs will be readily available for review by employees or their designated representatives upon request.

## V. Chemical Container Labels

- A. All **containers** of hazardous chemicals used or stored by the City of La Porte will be appropriately labeled.
- B. Department Supervision and Management will be responsible for the hazardous chemical labeling system and will verify that:
  - 1. All **primary containers** of hazardous chemicals are clearly labeled to include:
    - a. The identity of the chemical as it appears on the MSDS.
    - b. The appropriate hazard warnings.
    - c. The name and address of the manufacturer.
  - 2. All **secondary containers** of hazardous chemicals are clearly labeled to include:
    - a. The identity of the chemical as it appears on the MSDS.
    - b. The appropriate hazard warnings.
  - 3. A description of alternative labeling systems, if used, is provided to employees. Examples of alternative labeling systems are the National Fire Protection Association (NFPA) 704m Standard and the Hazardous Materials Information Systems (HMIS) Standard.
  - 4. Every effort will be made to label pipes that carry materials that could be hazardous. Labeling can be specific markings identifying the contents of the pipes. If hazardous chemicals run through the pipes, the potential hazards and necessary safety precautions relative to the chemicals must be obtained and given to the employees working in the area.
  - 5. Any empty container being considered for re-use must be fully cleaned and all labels removed prior to its use.
- C. The Department Supervision and Management will rely on the chemical manufacturers or distributors to provide labels which meet the above requirements for primary containers of all hazardous chemicals purchased, and will re-label containers only when the label is illegible or otherwise does not meet the above requirements.

## VI. Employee Training Program

- A. All (--applicable Departments--) will provide an education and training program to **all employees** who routinely use or handle hazardous chemicals in their workplace.
- B. Department Supervision and Management will be responsible for the employee training program and will ensure that:
  - 1. Appropriate training is provided to all covered employees and includes:
    - a. The use of information provided on MSDSs and chemical container labels.
    - b. The location of hazardous chemicals present in the employees' work areas.
    - c. The physical and health effects of exposure.
    - d. Proper use of personal protective equipment.
    - e. Safe handling of hazardous chemicals.
    - f. First aid treatment for exposure to hazardous chemicals.
    - g. Safety instruction on clean-up and disposal of hazardous chemicals.
  - 2. Required training records are maintained and include:
    - a. The date of the training session.
    - b. A legible list of all employees attending the training session.
    - c. The subjects covered.
    - d. The name of the instructors.
  - 3. All covered employees are identified and incorporated into the training program.
  - 4. Employees are provided information concerning the hazardous chemicals to which they may be exposed during the performance of non-routine tasks.
  - 5. New employees are trained prior to their being required to use or handle a hazardous chemical.
  - 6. The need and frequency for periodic/refresher training is assessed. Employees subject to these training requirements will sign an attendance roster for each training session attended, verifying that they received and understood the information.

## **X. Maintaining Employee Rights**

- A. The City of La Porte shall not discipline, harass, or discriminate against any employee for filing complaints, assisting inspectors of the Texas Department of Health, participating in proceedings related to the Texas Hazard Communication Act, or exercising any rights under the Act.
- B. Employees cannot waive their rights under the Texas Hazard Communication Act. A request or requirement for such a waiver by an employer violates the Act.

## **XI. Informing Contractors**

Before a contractor commences work in and for the City of La Porte, the Department Coordinator and/or Supervisor who controls the work area will be responsible for:

1. Informing the contractor of its rights under the Act.
2. Providing a copy of the Workplace Chemical List.
3. Providing copies of all MSDSs for the hazardous chemicals that they may be exposed to in the workplace.
4. Having the contractor provide MSDSs for any hazardous chemicals they will be bringing into the City of La Porte to which the City's employees may be exposed.

# **City of La Porte**

## **DISCIPLINARY SUMMARY**

### **Safety Reprimands:**

Should employees be observed not following documented safety rules/procedures, the attached Employee Reprimand form shall be used. Supervision and Management will have the ultimate responsibility for the safety compliance of their employees.

The City has developed a progressive disciplinary policy that applies to the safety and health program of the organization. This disciplinary policy is a tool to ensure enforcement of the rules and procedures for a safe and healthful working environment. The policy herein applies to all employee levels of the organization, thereby requiring accountability by all employees.

### **Verbal Warnings:**

Supervision and Management may issue verbal warnings to employees that commit minor infractions or violations of the safety rules or safe work practices. Continued violations or verbal warnings will lead to more stringent action.

### **Written Warnings:**

Supervision and Management may issue written warnings for the following:

- Repeated minor violations of safety rules or procedures.
- Single serious violations of a rule or procedure that could have potentially resulted in injury to themselves or another employee or could have caused property damage.
- Activities that could potentially result in injury or property damage.

### **Disciplinary Leave:**

Supervision and Management may recommend and management may institute disciplinary leave for the above reasons and the following:

- A single serious violation of a rule or procedure that results in injury to an employee or property damage.
- Repeated violations or non-conformance to safety rules/procedures.

### **Termination:**

Supervision and Management may recommend and may concur in the termination of any employee for repeated serious violations of the above circumstances.

### **Documentation:**

The Department of Origin and Human Resources Dept. will maintain records of disciplinary action. Violations of the City's safety rules, regulations or procedures will be documented by filling out an "Employee Reprimand" report on the employee. The report will state the type of violation and corrective action(s) taken. The employee must read and sign the report acknowledging that they understand the seriousness of the violation.

**City of La Porte**  
**EMPLOYEE REPRIMAND FORM**  
(Use only in the absence of a pre-established departmental form)

Date: \_\_\_\_\_

Employee Name: \_\_\_\_\_

Employee Position: \_\_\_\_\_

Location: \_\_\_\_\_

Regarding: Policy, Procedure, Safety, Following Instructions, Other

Describe:\* \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Employee's Signature

\_\_\_\_\_  
Supervisor's Signature

EMPLOYEE IS:

\_\_\_\_\_ RETURNED TO DUTY.  
(Date)

\_\_\_\_\_ SUSPENDED FOR \_\_\_\_\_ DAYS.  
(Date)

\_\_\_\_\_ TERMINATED.  
(Date)

Maintain documentation of the employee reprimand in Personnel Records.

**\*State safety rule/procedure violated.**

# **City of La Porte**

## **SAFETY TEAM COMMITTEE**

### **SAFETY TEAM COMMITTEE ORGANIZATION**

A Safety Team Committee shall be established for the City of La Porte to foster workplace safety and help in the identification of corrective measures needed to eliminate or control recognized safety and health hazards. The Committee will consist of members from all levels of our organization:

### **RESPONSIBILITIES**

The Committee will continuously assist in evaluating the effectiveness of control measures used to protect employees from safety and health hazards in the workplace. The committee will also make recommendations as to any adjustments needed to improve any components of the safety program.

The Committee will be responsible for assisting management in reviewing and updating workplace safety rules based on accident investigation findings, inspection findings, employee reports of unsafe acts or unsafe conditions and employee suggestions/complaints. These reviews will be conducted on an ongoing basis during monthly meetings and will focus on hazard/injury analysis and possible developing trends. Resources used during these analyses will include TWCC-1 Forms, Accident Investigation Reports, TML-IRP Loss Runs, and other insurance carrier loss runs. The Chairperson of the Committee will maintain a copy of these records for reference as needed. The Committee will provide a written notification of any identified trends to all City Departments.

The Committee will assist management in continually evaluating employee accident prevention programs in an effort to promote safety awareness and employee participation in the safety program. This evaluation will involve conducting periodic safety inspections, observing work practices, reviewing accident causes, and suggesting recommendations for corrective measures. Responsibilities may also include updating or rewriting of policies or procedures as evaluations identify possible deficiencies.

The Committee members will regularly participate in safety training activities and will also be responsible for assisting management in monitoring the effectiveness of workplace safety education and training sessions. Members of the Committee will participate in the development of improvements for identified deficiencies in the education and training programs.

### **MEETINGS**

The Committee meetings will be held as determined by the Committee members. The Safety Coordinator or a designee will chair all meetings and be responsible for recording the minutes of each meeting. A copy of the finalized minutes will be forwarded to each member of the Committee and will be posted in the workplace for all employees to review.

**City of La Porte**  
**SAFETY TEAM COMMITTEE MINUTES/TRENDS ANALYSIS REPORT FORM**

<b>Date:</b>	<b>Time:</b>	<b>Location:</b>
--------------	--------------	------------------

**Members in attendance:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Previous Action Items:**

**Suggestions from Employees:**

- **Review of Accidents (TWCC-1s and injury log) since previous meeting:**
  
- **Review of Accident Investigation Reports (motor vehicle accidents and employee injury accidents) since previous meeting:**
  
- **Identified trends, if any:**
  
- **Recommendations for Prevention:**

**Recommendations from Safety Inspection Reports (facilities, jobsites, vehicles, equipment):**

**Safety Training Recommendations:**

**Recommended Updates to Safety Program:**

**Comments:**

<b>Prepared By:</b>	<b>Date:</b>
---------------------	--------------

**Attach additional sheets, if needed.**

**City of La Porte**  
**VEHICLE OPERATOR STANDARDS**

1. **POLICY**

All employees authorized to operate City of La Porte vehicles, motorized equipment, or who operate personal vehicles on City related business, shall be subject to the standards established in this policy. Pool and take-home vehicles owned by the City and provided for use to employees shall be used to conduct **only official business** of the City of La Porte.

2. **PURPOSE**

This policy establishes minimum standards for the qualification of employees and applicants to operate City of La Porte vehicles and motorized equipment.

3. **SCOPE**

This policy shall apply to:

- 3.1 Employees driving City of La Porte owned, leased, or rented vehicle or motorized equipment.
- 3.2 Employees receiving a monthly car allowance, or who use personal vehicles for City of La Porte related business.
- 3.3 Applicants for positions which require the operation of City of La Porte vehicles or equipment.

4. **DEFINITIONS**

- 4.1 **City of La Porte Vehicles** - any passenger car, pickup, truck, or other similar vehicle that is owned, leased, rented, or otherwise under the care, custody, or control of the City being used in the furtherance of City business. For purposes of this standard, a City vehicle may include vehicles driven by employees receiving a car allowance and personal vehicles.
- 4.2 **Motorized Equipment** - this category includes, but is not limited to, backhoes, dozers, mower-tractors, loaders, graders, and other similar heavy/operational equipment.
- 4.3 **Preventable Accident** - any accident involving a City of La Porte vehicle or piece of motorized equipment which results in property damage and/or personal injury in which the driver in question failed to exercise every reasonable precaution to prevent the accident. The preventability of an accident shall be determined from the investigative results of the appropriate law enforcement agency.
- 4.4 **Personal Vehicles** - privately owned vehicles used in the conduct of City business, and for the use of which the driver is eligible to claim mileage reimbursement.
- 4.5 **Driving Records** - the complete driving history of an employee as can be discerned from any official records.

5. **RESPONSIBILITIES**

Employees who drive City of La Porte vehicles or operate motorized equipment in the course of their employment shall be required to meet the following minimum conditions of eligibility for driving/operating privileges:

- 5.1 Have reached the age of eighteen (18) years to operate City vehicles or equipment.

- 5.2 Be physically qualified to hold a driver's license and to safely operate a City vehicle or motorized equipment.
- 5.3 Have current valid Texas driver's license in the appropriate class as established on the official description for the position.
- 5.4 Wear seat belts and other relevant safety equipment when operating City vehicles or motorized equipment when appropriate.
- 5.5 Observe all City vehicle and traffic related policies.
- 5.6 Observe all laws and ordinances relating to the operation of City vehicles or motorized equipment.
- 5.7 Be responsible for the proper care and use of vehicles or motorized equipment. This includes maintaining City vehicle/motorized equipment interiors and exteriors, regularly servicing these items and reporting maintenance needs to the supervisor, and operating all City vehicles/motorized equipment in a manner that conserves fuel and reduces depreciation.
- 5.8 Employees receiving car allowance shall fulfill all current legal regulations such as insurance, inspection, and registration.

**6. OPERATOR STANDARDS - APPLICANTS**

Applicants for positions requiring the operation of City of La Porte vehicles or motorized equipment **shall not** be eligible for driving/operating privileges if the total points assigned to their driving record is 10 or more.

<b>VIOLATIONS/CONVICTIONS (FIVE YEAR HISTORY)</b>	<b>POINTS</b>
6.1 License suspension, revocation	10
6.2 Driving while intoxicated or under the influence of narcotics	10
6.3 Any serious violation - e.g. reckless driving, endangering lives of others, etc.	10
6.4 Any speeding violation	3
6.5 Any standard moving violation, i.e., careless driving, stop sign, lane crossover, failure to signal, failure to keep right, following too close, etc.	2
6.6 Any chargeable bodily injury accident	3
6.7 Any chargeable property damage accident	3

**7. OPERATOR STANDARDS - EMPLOYEES**

Employees currently in a position requiring them to operate City vehicles or motorized equipment **shall not** be eligible to operate vehicles if the total points assigned to their driving record is 10 or more.

<b>VIOLATIONS/CONVICTIONS (FIVE YEAR HISTORY)</b>	<b>POINTS</b>
7.1 License suspension, revocation	10

## Vehicle Operator Standards – continued

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7.2	Driving while intoxicated or under the influence of narcotics	10
7.3	Any serious violation - e.g. reckless driving, endangering lives of others, racing	10
7.4	Any speeding violation	3
7.5	Any standard moving violation, i.e., careless driving, stop sign, lane crossover, failure to signal, failure to keep right, following too close, etc.	2
7.6	Any chargeable bodily injury accident	3
7.7	Any chargeable property damage accident	3

## 8. PROCEDURES

The following procedures shall be observed under this policy:

- 8.1 Employees operating City of La Porte vehicles or motorized equipment must report to their supervisors any accident involving said vehicles as soon as possible and no later than twenty-four (24) hours of the occurrence.
- 8.2 Employees who are in jobs that require the driving/operating of City vehicles or motorized equipment **shall report** any driver's license suspensions to their immediate supervisor within **twenty-four** hours of the suspension.
- 8.3 Failure to report license suspensions; or failure to maintain the required driver's license; or failure to meet minimum driving record criteria will be sufficient grounds for removal from driving privileges and may subject the employee to disciplinary action.
- 8.4 On an annual basis the Human Resources Department will review the list of all personnel who have driving or motorized equipment operation responsibilities. This list shall include the employee's name, date of birth, and current driver's license number. All such employees will then have their driving record status reviewed through a motor vehicle record check. The motor vehicle record reflects the past three years driving record. The applicable Department Director will be notified of any employee whose driving record fails the criteria set forth in this policy.
- 8.5 Employees who have been ruled ineligible (except for offenses listed under 7.2 of this policy) for driving privileges may have their privileges reinstated provided the employee successfully completes a Defensive Driver Training Program approved by their Dept. Director and submits evidence of satisfactory completion to their Supervisor.  
  
An employee who has been ruled ineligible for driving privileges may use the defensive driving course option only once every three (3) years in order to have his/her eligibility status reinstated.
- 8.6 Employees who have been ruled ineligible to drive City vehicles or equipment due to their driving record may, at the City's sole discretion be:
  - (a) Assigned non-driving responsibilities within their current department, if available; or

### Vehicle Operator Standards - continued

- (b) Transferred to another department and assigned non-driving responsibilities, if available; or
- (c) Dismissed, if neither of the above alternatives can be achieved within **twenty (20)** working days. All non-driving responsibilities must have prior approval of the Department Director.

8.7 Employees who receive a car allowance and become ineligible for driving privileges shall have their car allowance revoked and shall be forbidden to drive on City related business until such time as they have been found eligible by policy to have driving privileges re-instated. Mileage reimbursement recipients who become ineligible for driving privileges shall be forbidden to drive their personal vehicles on City related business until such time as they have been found eligible by policy to have driving privileges re-instated.

## **City of La Porte**

### **Return to Work Program**

The City is committed to providing a safe and healthy workplace for our employees. Preventing injuries and illnesses is of primary concern. If an employee is injured on the job, we will use our return to work process to provide assistance. We will get immediate, appropriate medical attention for employees who are injured on the job, and we will attempt to create opportunities for them to return to safe, productive work as soon as medically possible.

Our ultimate goal is to return injured employees to their original jobs. If an injured employee is unable to perform all the tasks of the original job, we will make every effort to provide alternative productive work that meets the injured employee's capabilities. The support and participation of management and all employees are essential for the success of our return to work process.

If an injured employee receives a partial or light duty medical release from their doctor and if light duty can be arranged and/or approved by the Department Director, the employee may be placed on light duty until a full release from their doctor is obtained. The light duty medical release statement must indicate what limitations have been placed on the employee. Upon full release by the physician, the employee shall be removed from light duty.

When an employee is injured the process shall be as follows **(1)** get prompt medical attention if necessary, **(2)** report the accident as soon as possible, **(3)** complete an accident report and submit to the Safety Coordinator within twenty-four (24) hours, **(4)** if medical attention is required, the supervisor should transport the employee to the doctor, **(5)** the supervisor can speak to the doctor after the exam if desired, the requirements of the HIPAA laws **do not** apply to worker's compensation cases (on the job injuries), **(6)** if the doctor takes the employee off work, the employee shall contact the Safety Coordinator on a weekly basis while on injury leave. The Safety Coordinator will maintain contact with the employee on an as needed basis until the employee returns to work, and **(7)** when the doctor releases the employee to light duty, supervision and management shall attempt to develop an alternative work assignment.

## Facility Evacuation/Sheltering Plan

(Where applicable, facility specific plans will take precedence)

### Purpose and Scope:

This plan shall be implemented with regard to evacuation of employees and citizens from City facilities. The sole objective of this program is to protect the citizens and employees that are occupying public buildings at the time an emergency should occur. This program will require the total commitment of everyone to insure that buildings are totally evacuated in an orderly manner. This shall be the case not only in an actual emergency but during drills that will be occurring at the different City facilities.

This plan will consist of the following: (1) building surveys to determine primary and secondary evacuation routes by work area/zone, (2) location of outside assembly points where each work area will assemble to check and be sure that everyone is accounted for, (3) placement of evacuation signs to direct occupants what to do in the event of an emergency, and (4) activation of the emergency notification system in place within a given facility. Employees shall be trained and informed of this evacuation plan and its requirements.

### Work Area/Zone Responsibility:

There will be one person in each work area and a back-up person assigned to be an area monitor for their building zone/area. Monitors will be responsible for making sure all occupants are accounted for in the event of an evacuation, check all public access areas for the evacuation of all occupants in the building, provide security at building entrances until emergency personnel arrive and secure the scene, and confirm that any monies (i.e., utility billing, inspections, tax offices) in the facility have been secured according to the procedure established for that particular building.

### Evacuation Operations:

**Goal** - Evacuation within **four (4) minutes** of all occupants in the entire building.

The involved zone/work area will activate the emergency notification system at which time **everyone** will evacuate the building and assemble at their assigned assembly point. While the building is being evacuated, the zone monitor will check all public access areas to ascertain that their area is totally evacuated of all occupants. If an employee is away from their assigned work zone/area they shall evacuate with the zone that they are in at the time of the alarm. Once outside, they shall report to their regularly assigned assembly point in order to be accounted for by their zone monitor. Everyone is to **remain outside** at their assembly point until the all clear is given to re-enter the building.

### Sheltering Operations:

Employees may be required to stay or go **inside** in the event of an emergency. Should the shelter in place community warning system be activated and or the emergency notification system be activated at a specific facility, employees will be alerted to shelter in place. The area monitor system described above shall be utilized when employees are required to **remain inside**. Shelter in place simply means to remain or go inside until an all-clear is given to return to normal conditions. Individual facilities will be responsible for their specific needs beyond the general requirements. The general protocol includes immediately going/remaining inside, closing all doors and windows, shutting down the HVAC system, staying off phones, and remaining calm while awaiting all-clear instructions from the area monitor.

**SECTION III**

**GENERAL ADMINISTRATIVE POLICIES AND PROGRAMS**

### SECTION III: GENERAL SAFETY RULES, PRACTICES AND PROCEDURES

(Departmental policy shall take precedence if more stringent or there is a conflict with the rules below)

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## **Aggressive Animal Awareness**

1. Any employees who are likely to encounter an aggressive animal during the performance of their normal duties, such as policemen, firemen, meter readers, utility workers, etc. should be provided basic instructions to protect themselves.
2. Call animal control immediately if you contact an aggressive animal.
3. Clear the area of other people while waiting for animal control. Crowds may scare the animal and cause it to attack.
4. Call for the animal's owner or handler.
5. Do not run away unless you are certain of quickly reaching a place of safety.
6. Back away slowly while continuing to speak in a firm, calm voice.
7. Back against any available object to prevent an attack from the rear if more than one animal is present.
8. If attacked, use a baton, billy club or stick to strike the animal rather than throwing anything at it. Sprays may also be useful as a deterrent if available, but should only be used if you are not downwind and have been made familiar with its use.
9. Do not back an animal into a corner, as this may cause it to attack.

1. Operators shall be adequately trained and qualified to operate the equipment. The operators shall become thoroughly familiar with the equipment before using it and they must understand the contents of the operator's manual.
2. The operator is responsible for inspecting the equipment before it is used. The brakes and controls shall also be tested by the operator prior to use. (Needed repairs shall be reported immediately.) Observe proper maintenance and repair of all pivot pins, hydraulic cylinders, hoses, snap rings and main attachment bolts daily.
3. Seat belts shall be worn on all equipment with rollover protection.
4. Operators should maintain "three points of contact" with the equipment when entering or exiting. This will allow the operator to regain their balance if a slip occurs.
5. Back-up alarms are a useful warning device and should be used when possible, especially on larger vehicles and equipment that may severely restrict your view to the rear of the vehicle. If an alarm is not present, the operator should honk his horn to warn others of the moving vehicle. Back-up alarms should be operable at all times.
6. Only the operator shall be allowed on the equipment during operation, unless a seat is provided for another occupant.
7. Employees shall never be allowed to ride in the bucket or use the bucket for an elevated platform.
8. Walk around the equipment to observe for children and others before starting up. Consider the use a spotter when backing the equipment.
9. Keep bystanders in the clear while operating the equipment. No one is allowed in a ditch while a backhoe is excavating.
10. Locate underground utility lines and overhead power lines before starting to dig. (Always contact utility companies to physically locate any underground lines.) Do not operate a backhoe within 10 feet of an overhead electrical line. Hand-dig in the vicinity of all known underground utility lines and pipelines.
11. Never attempt to lift loads in excess of the equipment's capacity.
12. Never allow anyone to get under the equipment or reach through the lift arms while the bucket is raised.
13. Relieve the pressure in any hydraulic lines before disconnecting them to make repairs. Any hydraulic implements that are not relieved, shall be physically blocked to protect against mashing injuries during maintenance or repair activities. Physical blocks may include safety stands, timbers, cinder blocks, etc. that can withstand the force.
14. Use care at all times to maintain proper stability. Drive at safe speeds over rough ground, on slopes, when crossing ditches and when turning corners.
15. To prevent upsets when operating on a slope, avoid using the full reach and swinging a loaded bucket to the downhill side.
16. Always center and raise the boom before moving to a new location.
17. Do not attempt to exit the equipment while it is still in motion. Apply the parking brake and shut down the engine before leaving equipment.

### **Backhoe/Loader Safety - continued**

18. Lubrication activities or mechanical adjustments shall not be attempted while the equipment is running if there is a possibility of contacting a pulley, belt, shaft, etc. that is in motion.
19. Park the equipment on level ground when possible. As a minimum, the bucket should be lowered, the brakes set, the transmission engaged and engine killed when parking.
20. Use care in attaching towing lines to the equipment. Pulling from the tractor rear axle or any point above the axle may cause an accident.
21. Slow moving placards and other warning devices should be used to help other motorists in spotting the slow-moving vehicle from a safe distance.

## **BLOODBORNE PATHOGEN SAFETY**

1. Due to potential hazards associated with bloodborne pathogens that cause diseases such as hepatitis and AIDS, care shall be taken to eliminate contact with blood and body fluids.
2. Universal precautions (treating all body fluids as potentially infectious) must be observed at all times.
3. Preventative immunizations and vaccinations shall be offered to affected employees upon request.
4. Use of appropriate gloves, gowns, faceshields, masks and eye protection may be necessary to prevent potentially infectious materials from passing through or reaching an employee's work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes. A specialized mask for administering CPR should be used.
5. Employees shall wash hands and other contaminated body areas and remove all contaminated clothing immediately after administering first aid.
6. Employees shall immediately report all exposures to blood and body fluids to their supervisor so post-exposure care can be initiated.
7. Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures, or contact with blood or potentially infectious materials.
8. Infectious waste shall be placed in closable, leak-proof containers with proper labels and must be disposed of in a proper manner. Any used needles, syringes, etc. should be placed in an approved "sharps" container that will prevent accidental contact with the sharp edge.

## CHAIN SAW SAFETY

1. Employees operating powered trimming equipment shall, as a minimum, wear safety glasses and/or faceshields and hearing protection. Other personal protective equipment such as chaps, gloves, fall protection, etc. should also be evaluated to gauge its need.
2. When starting a chain saw, it shall be placed on or against a solid support.
3. The operator shall grip the chain saw with both hands during the entire cutting operation.
4. The saw bumper shall be against the tree or limb before starting a cut.
5. Chain saw operators shall regularly clear the immediate area around their work to make certain that brush/limbs will not interfere with the chain saw or operator.
6. Chain saws shall not be modified in such a way to allow locking of controls in the "on" position.
7. The chain saw engine or motor shall be stopped when:
  - a. Working on any part of the chain or cutting bar.
  - b. Being moved from one location to another.
  - c. The unit is unattended.
8. Gasoline driven chain saw engines shall be stopped when being refueled. If gasoline is spilled on the chain saw during refueling, it shall be wiped off before the engine is started.
9. A gasoline driven chain saw shall not be used above shoulder level. Employees shall not approach the chain saw operator within the reach of the saw blade while it is in operation.
10. Ropes, pulleys, etc. should be used as necessary to lower larger limbs that may endanger persons and property if allowed to "free-fall".
11. The proper use of fall protection and/or ladders should be reviewed with all employees prior to working from a position other than ground level.

## **COLD AND HEAT RELATED ILLNESSES AWARENESS**

### **Cold Related Illnesses**

Hypothermia is when the body's temperature drops below normal causing uncontrollable shivering, weakness, drowsiness, disorientation, unconsciousness, and even death. Persons working outdoors during the winter months should follow the guidelines listed below:

1. Dress in layers.
2. Keep dry.
3. Work with co-workers when possible.

### **Heat Related Illnesses**

Heat stroke, heat exhaustion, heat cramps and heat rash are health related problems associated with working in hot environments. Heat related illnesses can be caused by prolonged exposure to hot temperatures, limited fluid intake, or failure of temperature regulation mechanisms in the brain.

The most serious health disorder associated with working in a hot environment is heat stroke. Symptoms of heat stroke include hot dry skin, no sweating, high body temperature, rapid heartbeat, mental confusion or a loss of consciousness. While medical help is being called, the victim should be moved to a cool area and his/her clothing soaked with cool water. Vigorous fanning of the body will increase cooling. Death can occur if prompt first aid and medical help is not given.

Heat exhaustion occurs as a result of excess fluid loss and failure to replace the minerals and fluid lost during sweating. Signs of heat exhaustion include extreme weakness or fatigue, giddiness, nausea or headaches. The skin is clammy and moist and the body temperature is relatively normal. The best treatment for heat exhaustion involves resting in a cool place and drinking plenty of fluids.

Heat cramps are painful muscle spasms, which are caused by excessive fluid and salt loss. Such cramps can be treated by consuming fluid replacement beverages.

Heat rash is likely to occur in hot and humid environments where sweat cannot be easily evaporated from the skin surface. It can be prevented by resting in a cool place and allowing the skin to dry.

By following a few basic precautions, health problems associated with working in hot environments can be prevented:

1. Those unaccustomed to working in the heat should be given time to adjust to work in a hot environment.
2. Wear light, loose fitting clothing and protect yourself by wearing a hat. Sunscreen should also be used when prolonged exposures to sunlight may be possible.
3. Drink plenty of fluids to help prevent dehydration. Eight to ten (8-10) ounces of fluid are recommended every ten to fifteen (10-15) minutes when working in extremely hot or humid conditions. Beverages containing alcohol or caffeine should be avoided.
4. Alternate work and rest periods. Heavy work should be scheduled for the cooler parts of the day if possible.
5. Educate employees on the symptoms, treatments and preventive measures for heat related problems.

1. Never attempt to lift compressed gas cylinders with an electromagnet. Where cylinders must be handled by a crane or derrick, as on work sites, the cylinders shall be lifted in a cradle or suitable platform, not by the valve protector cap. Do not lift with slings or chokers. Extreme care must be exercised to prevent dropping or bumping of the cylinders.
2. Cylinders, whether full or empty, shall be stored in a rack, chained or otherwise secured to prevent them from falling.
3. Do not use cylinders as rollers, supports or for any other use other than its designed purpose.
4. Cylinders shall have their contents properly identified. Empty cylinders shall be plainly marked "EMPTY" or "MT", and the valves shall be closed.
5. Oxygen cylinders in storage shall not be stored near flammable or highly combustible materials, such as oil, grease, fuel, other fuel gas cylinders, etc. In addition, no cylinders shall be stored in areas where there is an exposure to direct sunlight.
6. Welding or cutting of any pipeline, tank, empty container or piece of equipment shall not be performed until it is assured that the object is free from flammable materials or an explosive mixture of gases. Before welding or cutting begins, the hazardous materials shall be removed or it shall be vented to the atmosphere to prevent a possible explosion from the expansion of trapped gases.
7. Cylinders shall not be placed where they might become part of an electric current or within five feet of an electrical outlet. Cylinders shall not be allowed to come in contact with energized conductors, ground wires from electrical equipment or welding machines.
8. Valves of compressed gas cylinders shall be opened slowly and with the proper wrench.
9. Before the regulator is removed from a cylinder, the valve shall be closed and all pressure released from the regulator. Use regulators and pressure gauges only with gases for which they are designed and intended. Do not attempt to repair or alter cylinders, valves or attachments. Any changes in the cylinders shall only be performed by the supplier or manufacturer.
10. Leaking cylinders shall not be used. Such cylinders shall be taken away from sources of ignition and the supervisor notified. Leaking compressed gas cylinders shall be taken out of service immediately and handled as follows:
  - a) Close the valves and take the cylinder outdoors well away from any source of ignition.
  - b) Properly tag or mark the cylinder.
  - c) If the leak occurs at a fuse plug or other safety device, take the cylinder outdoors well away from any potential ignition source and open the cylinder valve slightly to allow the contents to escape slowly. Tag the cylinder to warn others. (The environmental and health effects of the contents must be evaluated prior to allowing the cylinder to bleed-down.)
  - d) Post warnings against approaching with lit cigarettes or other potential ignition sources.
  - e) Promptly notify the supplier and follow their instructions for handling/returning the cylinder.
11. Do not remove or change the marks and/or numbers stamped on compressed gas cylinders. In addition, any labels shall be left in place for identification purposes.

## COMPRESSED GAS CYLINDER SAFETY - continued

12. Cylinders that are heavy or difficult to carry by hand may be rolled on their bottom edge, but they should never be dragged.
13. Do not tamper with safety devices in valves or on cylinders.
14. Consult the supplier of the gas or the appropriate Material Safety Data Sheet (MSDS) when there are doubts concerning the proper handling of a compressed gas cylinder or its contents.
15. When cylinders are transported:
  - (1) Load to allow as little movement as possible.
  - (2) Secure them to prevent violent contact or falling.
  - (3) Remove regulators and put valve protection caps in place.

## CONFINED SPACE SAFETY

1. All potential hazards shall be evaluated prior to entry into a confined space.
2. Only employees who have been properly trained on the hazards associated with confined space work shall be allowed to enter a confined space.
3. If work is to be performed in a confined space, a written permit system shall be followed. The entry supervisor shall complete the written permit prior to entry to ensure that all safety equipment is in place and acceptable entry conditions are present.
4. Before any entrance cover to a confined or enclosed space is removed, it shall be determined that there are no temperature or pressure differences, or other hazardous conditions that may injure the employees removing the cover.
5. No smoking shall be permitted in a confined space or near the entrance/exit area.
6. When covers are removed from confined or enclosed spaces, the opening shall be guarded by a railing, temporary cover, or other temporary barrier.
7. Before an employee enters a confined space, the internal atmosphere shall be tested for oxygen content, flammable gases and vapors, and potential toxic air contaminants. Approved and calibrated testing equipment shall be used to measure the concentration of the various gases.
8. If an oxygen deficiency is found, or if flammable or toxic gases or vapors are detected, the space shall be continuously tested and forced ventilation shall be used to maintain oxygen at a safe level and to prevent a hazardous concentration of flammable or toxic gases and vapors.
9. Electric welding, gas welding, cutting, or any other hot work shall not be performed on the interior, exterior, or near the openings of any confined or enclosed space that may contain flammable or explosive gases or vapors until the space has been properly cleared. Monitoring shall be continuous during any hot work activities.
10. If a hazard-increasing work activity is to take place in a confined or enclosed space (i.e., welding, painting, working with solvents and coating), the air in the space shall be continuously tested for the presence of flammable or toxic gases and vapors or insufficient oxygen. Forced ventilation shall be used as required.
11. Before employees are allowed to enter a confined space, all electrical and mechanical energy sources that could affect the employees working in the space shall be physically rendered inoperative, locked out, and tagged. If required, the space shall be drained, vented, and cleaned.
12. A properly trained attendant shall be stationed outside the confined space. The attendant shall maintain continuous communication with the employees authorized to be in the confined space. The attendant shall be able to recognize confined-space hazards and changing conditions in the confined space that could affect employees in the space. In the event of an emergency, the attendant shall not enter the confined space but shall be able to summon emergency and rescue services.
13. All employees required to enter a confined or enclosed space shall be equipped with a body harness and lifeline monitored by a properly trained attendant. Other personal protective equipment and rescue devices may also be required depending on the situation.
14. Compressed gas cylinders, other than breathing air, shall not be taken into a confined space.

### **Confined Space Safety - continued**

15. While work is being performed in an enclosed space, a person with CPR and basic first aid training shall be immediately available to render emergency assistance if there is reason to believe that a hazard may exist in the space or if a hazard exists because of traffic patterns in the area of the opening used for entry.
16. Necessary rescue personnel and equipment shall be available in the event of an emergency.
17. Safe access to the confined space shall be maintained at all times. If possible, all cords, hoses, leads, etc., shall be routed through an entrance other than the employee access into the confined space.
18. If at any time a confined space remains unoccupied for longer than one hour without continuous air monitoring, the original permit shall be rendered closed and re-issuance required.

## **DUMP TRUCK SAFETY**

1. Employees or other individuals shall not be carried in the bed for transportation purposes.
2. Employees shall not remain in the cab when the bed is being loaded unless the cab is protected against impact.
3. Check overhead clearances before raising the bed. Be aware of overhead electrical lines.
4. Be sure hoist is not engaged before moving the truck.
5. Loose material shall be covered to prevent blowing debris and spillage.
6. Close windows during loading/unloading to control dust accumulation inside the cab.
7. Operators of dump trucks must possess a valid Commercial Drivers License.
8. Operators are responsible for cleaning debris, mud, rocks, etc. from the bed, fenders and other body parts that may become dislodged during travel.
9. Back-up alarms are a useful warning device and should be used when possible, especially on larger vehicles and equipment that may severely restrict your view to the rear of the vehicle. If an alarm is not present, the operator should honk his horn to warn others of the moving vehicle. Back-up alarms should be operable at all times.
10. All mirrors should be maintained in clean, good working condition and adjusted to assist the operator in viewing obstructions or other vehicles.
11. Operators should maintain "three points of contact" with the equipment when entering or exiting the cab. This will allow the operator to regain their balance if a slip occurs.

**For additional safety information, also see "General Safety Rules for Motor Vehicle and Equipment Operation" section of this manual.**

## ELECTRICAL SAFETY

1. Consider all wires as dangerous and do not permit any object being handled to come in contact with electrical lines. The insulation on the wire is no guarantee that it will not cause instant death. Employees other than electricians must never attempt to determine if a wire is energized.
2. All electrical tools, equipment, extension cords etc. shall be inspected on a regular basis. All faulty equipment shall be reported immediately to your supervisor. Lockout or tag the equipment so that others are aware the equipment is damaged. The tool, equipment or cord shall not be used if it has any defects, such as bad insulation, missing grounds, loose prongs, etc.
3. All electrical equipment shall be properly grounded.
4. Extension cords should not be used in wet or damp areas. For adequate protection, a Ground Fault Circuit Interrupter (GFCI) should be used to protect employees in wet or damp locations.
5. All circuit breakers shall be identified as to use. Maintain clear access to electrical panels and main power sources at all times. Electrical panels and boxes should be securely fastened.
6. All electrical panel boards, boxes, disconnects, switch gears, etc. shall be covered or isolated to prevent accidental contact with energized parts and to protect equipment and wiring from potential contamination.
7. Before work begins at a job site, the location of electrical lines (underground and above) shall be determined and precautions taken to prevent accidental contact.
8. Electrical Lockout/Tagout procedures shall be used when circuits or electrical equipment are being worked on.
9. Electrical cables passing through work areas shall be covered or elevated to protect them from damage, which could create a shock hazard.
10. Metal ladders shall not be used when working near electrical circuits.
11. Exposed light bulbs or fluorescent tubes shall be guarded or recessed in reflectors to prevent accidental breakage.
12. To aid in the prevention of electrical shock, 120-volt, single-phase, temporary receptacles used at work sites should be used with a GFCI. If a GFCI is not available, an assured equipment grounding conductor program may be used for added protection. Another option in protection from electrical shock involves the use of double-insulated equipment.
13. Because electrical shock can stop the heart and lungs from operating efficiently, be sure that workers involved in activities around hazardous energy levels know cardiopulmonary resuscitation (CPR) and rescue procedures. Any victim of electrical shock should be administered CPR immediately after the electrical shock if heart or lung failure is suspected. The CPR should be continued until the person is revived or medical personnel arrive at the site.

## **Emergency Medical Services Safety**

1. Protective Personal Equipment shall consist of gloves, face protection, isolation kits
2. Employees must use proper hand washing techniques. Wash hands after every patient contact and any skin exposure with copious amounts of water and soap.
3. Hazardous materials shall be handled only by those of specialized training.
4. Always observe safe distances when positioning ambulances on scenes with vehicles displaying placard readings.
5. Survey the scene and be aware of the patient and scene conditions for possible physical confrontations and/or unsafe conditions. Utilize PD for any potential physical contacts with patients.
6. When backing up an emergency vehicle the crew should visually make contact with all unmovable objects.
7. When arriving at traffic collisions where a threat of safety potentially exists, use the physical vehicle for a barrier between you and the victim.
8. All emergency lighting, sirens and air horns shall be utilized when enroute to calls or responding emergency traffic to hospitals.
9. Ensure proper communication equipment is ready for use at the beginning of each shift.
10. Use proper lifting techniques for all patient mobilization
11. Follow all motor vehicle traffic laws.

## **ERGONOMICS SAFETY**

### **Work Stations**

Chairs should be easily adjustable and provide good lumbar support. If feet cannot rest firmly on the ground, a footrest may be provided. Chairs with a five-point base are recommended due to the stability that is provided.

Sufficient leg room must be allowed for seated operators.

Position the monitor directly in front of the operator. The operator's eyes should be level with the top of the screen. Viewing distance between the user's eyes and the screen should be approximately 16 to 22 inches.

The equipment or sources of light should be positioned so that glare or bright reflections on the display screen are minimized.

Adjust the height of the chair and/or keyboard so that the shoulder-elbow-arm angle is approximately 70-90 degrees.

Keyboard heights and placement should be adjustable. Use a cushioned palm rest if needed to keep user's hands and fingers in the same plane as the forearm and avoid resting wrists and forearms on sharp table edges.

Work surface heights should range from 23 to 28 inches for seated work stations. In addition, your work area should be well organized with routine operations within easy reach and easily accessible.

Document holders should be placed adjacent to and at the same height as the display screen.

Operators should adjust positions frequently and get up and move around to help avoid fatigue.

### **Lighting, Noise and Heat**

Adequate but not excessive heat should be provided.

Windows should be equipped with adjustable blinds.

Use task lighting where extra illumination is required.

Noise above 85 to 90 decibels (dBA) may be harmful to workers. When exposed to high noise levels, employees shall utilize hearing protection equipment to ensure proper working conditions.

Whenever possible, isolate noisy machines and equipment in a remote location.

Tailor work practices to prevent heat/cold-related disorders. Employees exposed to hot environments must know the appropriate medical steps to counteract potentially life threatening situations such as hypothermia, heat stroke, heat exhaustion, and heat cramps.

## **FIRE EXTINGUISHER AWARENESS**

1. Employees shall be familiar with both the location and the operation of all fire protection equipment in the vicinity of their work area.
2. Fire extinguishers should be "wall-mounted" in an easily accessible location not more than five feet above floor level. If an extinguisher cannot be easily seen, a sign indicating the extinguisher's location should also be posted. Except for actual use or inspection purposes, employees shall not move or remove such equipment without proper authority.
3. Fire extinguishers shall not be blocked or hidden behind material or machines.
4. Fire extinguishers shall be visually inspected at least once a month and service inspected annually.
5. Employees shall know the classes of fires and the proper extinguishing agent to be used. Employees shall be trained on the primary fire exposures in their immediate work area.
6. Class A-for fires in paper, wood, or cloth  
Class B-for flammable liquid fires  
Class C-for electrical fires  
Class D-for combustible metal fires

A multi-purpose "ABC" fire extinguisher will extinguish most types of fires.

7. Remember how to operate most extinguishers:  

<b>Pull</b>	-	the pin.
<b>Aim</b>	-	at the base of the fire.
<b>Squeeze</b>	-	the handle.
<b>Sweep</b>	-	from side to side.

## FIRST AID

1. All injuries, regardless of how minor, shall be reported to your supervisor.
2. Preplanning for a potential emergency situation is most valuable. All employees shall be aware of the medical services available and how to obtain them. Emergency phone numbers shall be posted in all work areas.
3. Where first aid kits are supplied, employees shall be familiar with the location, contents, and the instructions given with the first aid kit.
4. The contents of the first aid kits shall be inspected each month and expended items replaced. Personal medication shall not be kept in first aid kits.
5. Where the eyes or body may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided for emergency use.

## **FORKLIFT SAFETY**

1. Forklifts shall only be operated by authorized persons who have been properly trained in their use. This training should be documented and consistently used with all authorized operators and trainees.
2. The operator is responsible for inspecting the equipment before it is used. The brakes and controls shall also be tested by the operator prior to use. (Needed repairs shall be reported immediately.)
3. Equipment shall be operated at a safe speed for existing conditions. Go slowly around corners. Avoid holes, loose material etc.
4. Seat belts shall be worn when operating a forklift with rollover protection.
5. Clearances shall be checked in all directions, particularly overhead clearances.
6. Forklifts shall not be fueled while the engine is running.
7. Forks shall be placed under the load as far as possible. Loads should not be raised or lowered while traveling. Loaded or empty, forks should be carried as low as possible, but high enough to clear uneven surfaces. (Usually about 6-12 inches on level surfaces.)
8. Operators shall always face the direction of travel and also keep their arms and legs inside operator's compartment.
9. Load limits as specified by the manufacturer shall not be exceeded.
10. Do not travel with the load raised as this causes the center of gravity to rise, which may affect the tipping potential.
11. Only the operator shall be allowed on the equipment during operation, unless a seat is provided for another occupant.
12. A secured platform specifically designed for that purpose must be used when lifting personnel.
15. Unattended forklifts (operator 25 feet away or forklift not in his view) shall have the load fully lowered, controls neutralized, power shut off and brakes set.

Equipment with internal combustion engines shall not be operated in enclosed areas for long periods of time so as not to exceed the allowable levels of carbon monoxide.

## **GENERAL FIRE PERSONNEL SAFETY**

### **Personnel Safety on Vehicles**

1. All personnel riding on the apparatus must be seated with seat belts fastened, while the apparatus is moving.
2. Do not ride or allow passengers outside the cab or canopy of any department vehicle while in motion.
3. Do not open or attempt to exit through the doors of the apparatus while it is in motion. Use steps and hand rails/holds when entering or exiting apparatus and maintain "three points of contact" at all times.
4. Where backing-up is necessary, use a "spotter" to guide you. When a "spotter" is unavailable, dismount and walk around the vehicle to ensure that you have an unobstructed path, before backing. Back-up alarms should be in place and operational at all times. If the back-up alarm is not functioning, the operator must honk the horn while backing.
5. Ensure steps and hand rails/holds are used when entering or exiting apparatus/vehicles. Personnel should maintain "three points of contact" when entering or exiting apparatus/vehicles.

### **Fire Station Safety**

1. Mop or clean up any oil, hydraulic fluid, water, grease or other fluids from floors, bays or walkways in the apparatus storage area immediately upon detection.
2. Do not run extension cords or other electrical power cords across doorways or aisles, between desks, or under vehicles.
3. Clean up all spills immediately, especially wet spots around drink and coffee machines, in bathrooms, kitchen and hallways.
4. Do not point a charged compressed air hose at anyone or use it to clean your clothing or the work area.
5. Do not use oxygen as a substitute for compressed air.
6. Do not stand on a ladder that "wobbles", or that leans to the left or right of center. A ladder or a step stool should be used when retrieving items above your head. Chairs, buckets, boxes, etc. should not be used in place of ladders.
7. All wet or slick floors should be marked with a yellow "Wet Surface" or "Freshly Mopped" sign. Employees shall avoid such areas until the signs are removed.
8. Do not run on stairs or steps. Steps should be taken one at a time.
9. Handrails will be used when using stairs or ramps.
10. Do not block your own view by carrying large or bulky objects; use a dolly or a hand truck, or get assistance from a fellow firefighter.
11. Do not place a ladder at a blind corner or doorway without diverting foot traffic by blocking or roping off the area.
12. Do not jump from trucks, platforms, ladders, roofs or other elevated places.
13. Horseplay will not be tolerated from any employees.
14. Inspect all tools prior to use. In addition, always use the proper tool for the job.
15. Only activities authorized by the department will be allowed for the purpose of physical fitness.
16. Proper housekeeping must be maintained throughout all facilities all the time.

### **Search and Rescue**

1. Firefighters must operate in teams consisting of a minimum of two firefighters.
2. Firefighters must not enter a burning structure without prior approval from their supervisor or the incident commander.
3. Assume that all downwind or "confined" atmospheres encountered at a search and rescue scene are contaminated unless your supervisor or incident commander has told you otherwise.
4. Use SCBA or supplied air respirators during extraction unless your supervisor or incident commander has told you that the atmosphere is safe.

## **Fire Ground Safety Rules**

1. When arriving at the fire scene, firefighters must not remove their seatbelts until the apparatus has come to a complete stop.
2. Do not get off the apparatus unless you have been specifically told to do so by the apparatus officer.
3. Use steps and hand rails/holds when entering or exiting apparatus and maintain "three points of contact" at all times.
4. Do not run when working at fire scenes.
5. Do not "freelance"; always work in teams of two, and do not separate for any reason.
6. Do not enter a structure fire by yourself for any reason.
7. Never enter a burning structure if you are not wearing your self-contained breathing apparatus.
8. Do not enter a structure that is displaying the signs of "breathing" (back draft).
9. Prior to entering a burning structure, you must let the incident commander know what your intentions are by contacting him over the radio, or by telling him face to face.
10. Prior to entering a burning structure, the hose line must be opened and operationally tested outside the structure in order to ensure it is fully functional (charged); pull back on the nozzle valve handle to the "open" position and allow air to escape to the point at which a solid stream of water is flowing from the nozzle. Do not enter a burning structure without the protection of a charged hose line.
11. Firefighters must use full protective clothing, including hood, gloves, SCBA, etc. for interior firefighting.
12. Firefighting teams within a burning structure must have constant radio communication with the incident commander.
13. Interior crews must stay together, and must maintain constant communication between each other and the incident commander outside the structure.
14. If, for any reason, one member of a team must leave the interior of a structure, both firefighters must leave the structure.
15. Do not "straddle" charged hose lines.
16. Open valves to charged hose lines slowly to prevent injuring the firefighters at the end of the hose.
17. Before "shutting down" any charged lines, or when a low water situation exists, the pump operator must notify the firefighters at the working end.
18. Firefighters operating in or near streets or roads must wear their helmets and reflective traffic vests, or full protective clothing, for visibility to oncoming traffic.
19. When utilizing pike poles to clean out hot spots or while conducting salvage and overhaul operations, do not pull the debris down toward your body; push it down and away from your body.
20. Self-contained breathing apparatus must be worn during all phases of firefighting, salvage and overhaul, unless the incident commander tells you otherwise.

## **Vehicle Fires**

1. Never approach vehicle fires without using full protective equipment clothing, including hoods, gloves, SCBA, etc.
2. Prior to attacking a vehicle fire, "open" and operationally check the hose line from a safe distance to be sure it is fully functional; pull back on the nozzle valve handle to the "open" position and allow air to escape to the point at which a solid stream of water is flowing from the nozzle.
3. Use the wheel blocks to chock the wheels of the burning vehicle, when possible, to prevent it from rolling.
4. When possible, approach vehicle fires upwind, downhill, and in a low crouch, with the hose nozzle opened to the "full fog position".
5. Only "pop" hoods open when there is another firefighter present with a charged and tested hose line, standing by to attack the potential flare up of fire once the hood is opened.

## **Emergency Vehicle Operation**

1. Warn other vehicular traffic by using sirens, horns, and warning lights when en-route to an emergency.
2. "Cover the brake" with your foot, as you are driving, when you feel there is possible danger.
3. Slow down and be prepared to stop when approaching any intersection.
4. Proceed past a stop signal or a stop sign, only after coming to a complete stop first.
5. Operate with due regard for the safety of others.
6. Do not "push" vehicles through intersections into traffic.
7. Low beam headlights must be on during emergency response.
8. Slow down when you are followed by a tailgater.
9. Do not pass other emergency vehicles during an emergency response. When passing is necessary, the passing arrangement must be made through radio communications.
10. Follow your local policy on emergency driving and the traffic laws related to emergency vehicle operations.
11. Avoid backing of vehicles when possible. Where backing-up is necessary, use a "spotter" to guide you. When a "spotter" is unavailable, dismount and walk around the vehicle to ensure that you have an unobstructed path, before backing.

**Police Officer Safety**

1. Officers on patrol shall:
  - Wear all department-issued body armor.
  - Have an assist officer present for making arrests when possible.
  - Follow department policy and procedure on use of force.
  - Wait for backup to arrive when possible.
  - Always be alert and prepared during an incident.
  - Approach all incident scenes anticipating any possible dangers.
  - During "foot" pursuits, swing wide around corners of buildings or other blind areas.
  - Do not shine a flashlight directly in front of your body; hold it to your side.
  - Handcuff all subjects before proceeding with your search.
2. Officers performing traffic control shall:
  - Be aware of the terrain and associated exposures in the area.
  - Never turn your back on approaching traffic.
  - Wear reflective vests and gloves at all times.
  - When directing traffic, position yourself to limit your exposure and in a way that makes you as visible as possible.
  - Use clear easily understood signals with the drivers.
  - Maintain communication with other officers assisting in the traffic control.
  - Strike flares away from your body and be aware of possible burn hazards. Flares should be extinguished by smothering them in the dirt.
  - Establish a safety zone at accident scenes by posting cones, lighting flares, positioning flaggers, and/or parking your vehicle to divert traffic.
3. During vehicle stops, officers shall:
  - Position the patrol car behind the vehicle you are pulling over to provide a barrier between you and oncoming traffic.
  - Wait until oncoming traffic is clear before exiting your vehicle.
  - As you approach the vehicle, observe the driver and passengers by looking in the suspect's side or rear view mirrors.
  - Minimize your exposure to the driver and passengers by standing just to the rear of the suspect's vehicle.
  - Keep your attention on the subject(s) during the length of the vehicle stop; stay alert.
4. During searches and seizures, officers shall:
  - Follow established stance methods and search patterns.
  - During vehicle searches, officers must be cognizant of reaching into areas that have not first been viewed.
5. When transporting suspects, officers shall:
  - Handcuff all suspects before transporting.
  - Prisoners will be placed in the back seat with the seat belt fastened.
  - Prisoners will not be left unattended in a patrol car when at all possible.
  - All non-police personnel will be frisked/searched for weapons before being permitted into the patrol car.

**Firearm Safety**

1. Do not modify your weapon in any way without departmental approval.
2. Lock and unload the firearm before handing it to another person. Do not point the muzzle of the firearm toward anyone when handing it to another person.
3. Keep your finger out of the trigger guard until you are ready to fire.

4. Do not handle a firearm if you are taking medication from a container whose label indicates that the medication "may cause drowsiness or dizziness" or other adverse side effects.
5. Do not point a firearm at anyone unless you intend to use deadly force in the line of duty.
6. Leave the firearm in its holster or rack until it is needed.
7. Do not conduct firearm practice alone.
8. When unloading the firearm, do not try to catch the casings.
9. Keep the muzzle pointed toward the target when loading and unloading the firearm.
10. Return your weapon to its holster or rack when finished firing and close the holster strap over the firearm.
11. Anytime a firearm is discharged in the line of duty, it must be reported to your supervisor immediately.

### **Firing Range Safety**

1. Do not anticipate a command.
2. Follow the instructions of the firearm instructor.
3. Do not turn around while holding a firearm in the firing line.
4. Wear eye and hearing protection when firing on the range site.
5. In case of a misfire, raise your non-shooting hand to signal the firearm instructor and keep the firearm pointed down range until the firearm instructor has inspected the weapon. Do not attempt to "re-shoot" the shell that misfired.
6. Do not go in front of the firing line until it has been cleared and the command is given to go forward.

### **Vehicle Inspection**

1. At the beginning of each shift, each officer will inspect their assigned patrol vehicle documenting the results of the inspection.
2. Any deficiencies that prevent the vehicle from being operated safely will be noted on the vehicle inspection report. The report will then be turned in to your supervisor for review.
3. Vehicles that have been deemed inoperable will not be driven for patrol duties until the deficiency is corrected.
4. Officers should understand the basic operation requirements of their assigned vehicle and monitor those that can be viewed when refueling. Items that should be checked include tires, oil, transmission fluid, windshield washer fluid, coolant, etc.

### **Emergency Vehicle Operation**

1. Warn other vehicular traffic by using sirens, horns, and warning lights when en-route to an emergency.
2. "Cover the brake" with your foot, as you are driving, when you feel there is possible danger.
3. Slow down and be prepared to stop when approaching any intersection.
4. Operate with due regard for the safety of others.
5. Do not "push" vehicles through intersections into traffic.
6. Headlights must be on during emergency response.
7. Slow down when you are followed by a tailgater.
8. Avoid backing of vehicles when possible. Where backing-up is necessary, use a "spotter" to guide you. When a "spotter" is unavailable, dismount and walk around the vehicle to ensure that you have an unobstructed path, before backing.

1. Employees who are authorized to operate City of La Porte vehicles or personally owned vehicles on City business must have a valid Texas Driver's license for the class vehicle they operate and must notify their supervisor immediately should the license be suspended or revoked.
2. Motor vehicle record checks will be conducted annually on all employees who have driving or motorized equipment operation responsibilities.
3. The Certificate of insurance coverage and other required documents, along with accident forms should be carried in all City owned vehicles.
4. All drivers of City vehicles must be familiar with and abide by all applicable state, federal and local traffic regulations.
5. All drivers/operators shall be responsible for the proper care and use of vehicles and motorized equipment. This includes maintaining City vehicle/motorized equipment interiors and exteriors, regularly servicing these items and reporting maintenance needs to the supervisor.
6. A driver/operator shall not permit any unauthorized persons to drive, operate or ride in or on a City vehicle. Riders shall not be allowed on running boards, tailgates, fenders, bumpers, atop cabs, on tow bars or towed equipment. (Exceptions may include operator trainees and mechanics sharing operator positions.)
7. Every accident involving personal injury or property damage shall be reported to your supervisor immediately.
8. Where seat belts are provided, they shall be worn as provided by law. The size of the vehicle or equipment does not excuse the operator from the seat belt requirement.
9. Equipment on all City motor vehicles must conform to state, federal, and Department of Transportation (DOT) regulations.
10. When possible, park so that backing is not required. Should backing be unavoidable, all vehicle operators should honk prior to backing.
11. Extreme caution shall be exercised when backing any vehicle. If another employee is present, he/she shall act as a "spotter" to assist the driver in backing safely. Drivers shall stop immediately if they lose sight of the "spotter".
12. Back-up alarms are a useful warning device and should be used when possible, especially on larger vehicles and equipment that may severely restrict your view to the rear of the vehicle. If an alarm is not present, the operator should honk his horn to warn others of the moving vehicle.
13. Unsafe and discourteous driving practices such as road hogging, disregarding the rights of pedestrians, violating traffic regulations, and deliberate recklessness of any kind are prohibited.
14. Getting in or out of a vehicle/mobile equipment while it is in motion is prohibited, as is riding anywhere on the vehicle/mobile equipment not designed for passengers. Do not get out of a vehicle/mobile equipment and leave the motor running, or drive/operate with a door ajar.
15. Personnel should maintain three-points of contact with mobile equipment when entering and exiting to help in maintaining balance if a slip occurs. Many injuries occur as a result of slips and this should help control that exposure. In addition, the condition of handrails, steps, etc. should be inspected regularly.
16. Smoking is prohibited in any area where fueling is being performed.
17. Except in emergencies, gasoline must not be carried inside passenger cars or the cabs of trucks. Gasoline shall be transported in approved safety containers and sealed tight to prevent the leakage of gasoline or gasoline vapors.
18. Garage doors must remain open for adequate ventilation anytime motor engines are running.

## General Safety Rules – Motor Vehicle and Equipment Operation - continued

19. Keys shall be removed from unattended vehicles and equipment and the engine shut off. Doors should be locked for security purposes.
20. Driving a vehicle under the influence of alcohol or any controlled substance will not be tolerated. Never attempt to perform work or drive a vehicle when you are impaired by alcohol, medication or drugs.
21. Picking up hitchhikers is dangerous and prohibited.
22. Before starting out in your vehicle in the morning, clear all windows of any frost, ice or dew. Cleaning only a small place on a windshield does not allow for proper visibility.
23. **Driving is a full attention job. Drivers should not engage in other activities, such as use of phones, updating records, etc. while operating a vehicle under non-emergency circumstances. The vehicle should be pulled off the road and stopped before performing these activities.**
24. Driving at the maximum posted speed limit can be too fast for safety in some situations. The drivers of all vehicles must use good judgement and proceed at a pace suitable to conditions of the vehicle, road, traffic and weather.
24. All vehicle cabs should be kept clean to reduce distractions to drivers and interference with the operation of the vehicle or equipment.
25. All vehicles and motorized equipment having headlights should be operated with the headlights on at all times to enhance driving safety.
26. The use of all tobacco products in City vehicles is prohibited.

## STOPPING/PARKING ON ROADWAYS

1. When it is necessary to stop/park on the roadway, extreme caution shall be used and every effort made to avoid stopping/parking in/on roadways.
2. A rotating beacon shall be used if so equipped.
3. Tail lights/emergency flashers shall be used.
4. If work is in progress, traffic control devices shall be used in accordance with the Texas Manual on Uniform Traffic Control Devices, Part VI. Please see additional information in the Work Zone Traffic Control section of this manual.

## INSPECTION OF VEHICLES AND EQUIPMENT

1. Equipment operators shall utilize checklists to inspect equipment before going to work by inspecting windshield wipers, signals, horn, lights, reflectors, tires, fluid levels, etc. to determine if they are in good operating condition prior to operation. Vehicle operators shall visually inspect vehicles driven on a routine basis to include the above equipment.
2. The driver/operator shall determine that brakes are in good operating condition before using the vehicle or equipment. If brakes are not working properly, they must be corrected **before** use.
3. The driver/operator shall report all defects promptly. Items that affect safety shall be repaired **prior** to continued use.
4. All vehicles and mobile equipment shall be re-fueled by the last operator upon the fuel level being at or below one-quarter tank of fuel. This is justified for reasons of safety, emergency, and common courtesy.

For additional information, please refer to the City of La Porte's Vehicle Operator Standards.

## GENERAL OFFICE SAFETY

1. Employees shall walk cautiously up and down stairs and use handrails whenever possible.
2. Caution shall be exercised when walking around blind corners.
3. Desk drawers and file cabinets shall be kept closed when not in use.
4. Only one drawer of a file cabinet shall be pulled out at a time.
5. Boxes, chairs, buckets, etc. shall not be used in place of ladders.
6. The floor shall be kept clear of tripping hazards such as telephone cords, electrical extension cords, paper cartons, etc.
7. Employees mopping or waxing floors shall place warning signs to alert co-workers of the potential for slippery floors. In addition, all liquid spills shall be cleaned up immediately and signs put in place until the hazard is alleviated.
8. Material shall be stored on shelves in a manner to prevent falling; heavy objects shall be placed on lower shelves.
9. Hallways and aisles shall be kept clear of obstructions.
10. All emergency exits, electrical panels, fire extinguishers, and emergency equipment shall be kept clear of all obstructions.
11. Solvents or other toxic substances shall be used only with adequate personal protection or in well-ventilated areas. Material Safety Data Sheets (MSDS) should be accessible to all employees who are using these substances.
12. Employees shall not attempt to clean, oil or adjust any machine that is running. If the machine is not equipped with a starting switch that can be locked in the "off" position, it shall be disconnected from the power source.
13. Unsafe electrical cords, faulty equipment, or any other hazardous condition shall be reported and taken out of service until the repairs are completed.
14. Broken glass and other sharp objects shall not be placed in wastepaper containers.
15. In the interest of fire safety, open flame shall not be allowed in the workplace, this would include open flame candles, cigarette lighters, and similar objects that emit an open flame.

1. Read and follow the manufacturer's directions carefully when applying any finishing materials, such as lacquer, enamel, paint, etc. If questions arise as to the hazards of the substance, refer to the applicable Material Safety Data Sheet (MSDS).
2. Personal protective equipment, as recommended by the manufacturer, shall be used when applying the products.
3. Any spray painting must be done with an adequate amount of clearance from any potential sources of ignition. When possible, painting should be performed in isolated areas where ignition sources do not exist or are very minimal.
4. Proper ventilation and/or adequate respiratory protection must be addressed before any application begins.
5. Any flammable substances, such as paints, thinners, etc., must be stored in proper storage areas or in a UL listed metal storage cabinet.
6. Any flammable substances removed from their original containers shall be stored in UL listed storage containers, if the original container will not meet the requirements.
7. Bond metal containers when transferring flammable liquids, especially those that are known Class I flammable liquids. Refer to Material Safety Data Sheets for flammability information.
8. Use the proper type of respirator at all times when applying toxic paints. If questions arise as to the toxicity of the paint, refer to the applicable Material Safety Data Sheet (MSDS).
9. All employees required to use respirators shall be trained on the proper use of the assigned respirator. The employees shall also be made aware of any limitations of the respiratory protection.
10. Never have more than one day's supply of flammable substances outside of an approved storage area.
11. Clean up all spills promptly and in accordance with the requirements on the Material Safety Data Sheet (MSDS).
12. Dispose of oily, paint or solvent-soaked rags in metal containers with tight fitting lids to prevent possible chemical reactions that may result in "spontaneous combustion".
13. Use properly designed and erected ladders, scaffolds, elevated mobile work platforms, etc., when painting above ground level. Do not work or place elevated equipment within 10 feet of power lines.
14. When using spray guns and compressed air:
  - Follow all rules concerning the safe handling of combustible and flammable materials.
  - Exercise caution in the handling of compressed air equipment.
  - Adjust and regulate the air pressure on the spray gun before starting work.
  - Clean the spray gun and other equipment thoroughly after each use.
15. Read and follow the manufacturer's directions carefully when applying any finishing materials, such as lacquer, enamel, paint, etc. If questions arise as to the hazards of the substance, refer to the applicable Material Safety Data Sheet (MSDS).

## **General Painting Safety Rules - continued**

16. Personal protective equipment, as recommended by the manufacturer, shall be worn when applying the products.
17. If a spray booth is available, it should be used whenever possible. All employees should be trained on the use of the booth ventilation system and it should be in operation during every spraying operation.

## GENERAL SAFETY RULES

1. Each employee shall be required to comprehend and abide by the contents of this Safety Program.
2. All accidents, no matter how minor, shall be reported immediately to your supervisor.
3. All hazardous conditions, actions and/or practices shall be reported to your supervisor.
4. Work areas, including the inside and outside of vehicles and buildings, shall be kept clean and orderly at all times.
5. Employees shall only operate equipment/tools that they are trained and authorized to operate.
6. Smoking shall be prohibited in areas where there is a danger to equipment, materials, coworkers or buildings, or where "No Smoking" signs are posted.
7. Employees shall use all safety devices and personal protective equipment provided for their protection.
8. Employees shall wear clothing and shoes suitable for the particular work they are doing.
9. Employees shall use assisted lifting devices or obtain assistance from a coworker when lifting heavy objects.
10. Guards shall never be removed except when authorized to make repairs or adjustments. Replace guard immediately upon completion of work.
11. Before starting work on any machine or equipment that is out of service, employees shall render the equipment or machine inoperative and attach a lockout device to the equipment control.
12. The use of drugs and alcohol during working hours is prohibited. Any employee reporting for work under the influence of alcohol or controlled substances shall be subject to disciplinary action.
13. Any employee taking prescription drugs or over-the-counter drugs that could impair assigned work shall report this fact to the supervisor as required by the Alcohol and Controlled Substances Policy.
14. Employees shall not engage in practical jokes or horseplay.

1. All rotating pulleys, gears, shafts and belts on compressors, motors, etc. shall be properly guarded. No equipment or machinery shall be operated while required guards are not in place.
2. Drain valves on air compressors should be opened frequently to prevent the accumulation of liquid.
3. Safety-relief valves will be installed on all compression tanks. These valves will be tested periodically to ensure their proper operation.
4. Never use compressed air to clean your hands or to blow dirt from clothing or your body.
5. When using compressed air for cleaning purposes, it must be kept at a level below 30 pounds per square inch (PSI).
6. If compressed gas cylinders are stored inside a building, the area will be kept dry and well ventilated. Oxygen and fuel gas cylinders must be stored separately.
7. Cylinder carts, other than those designed to hold cylinders in an upright position, are prohibited. Upright cylinder carts must be equipped with a chain, bar or some other device that will act to stabilize the cylinders. If gauges are not attached to the cylinders, valve caps must be in place.
8. Signage similar to the following must be posted in any cylinder storage areas. "DANGER - NO SMOKING, MATCHES, OR OPEN FLAMES".
9. Radial bench saws shall be equipped with a hood guard, forward travel stop and the head shall automatically return to starting position when released.
10. A face shield and safety glasses shall be worn while grinding. Any grinding equipment without proper safety features is not allowed in the work place. Abrasive wheels shall only be used on machines that have guards that cover the spindle end, nut and flange projections.
11. Grinder work rests must be designed to be adjustable to compensate for wheel wear. Work rests should be adjusted with a maximum clearance of 1/8" to help prevent work from jamming. Tongue guards must also be adjusted to within 1/8".
12. When replacing abrasive wheels, follow the manufacturer's directions for proper installation and inspection. All grinding wheels must be inspected prior to installation to insure that the RPM rating of the wheel is correct for the grinder's RPM.
13. Identify and label all electrical control devices, such as circuit breakers, fuses, disconnects, etc.
14. All electrical outlets, including wall receptacles, extension cords, etc. must have an independent, third-wire ground system.
15. All electrical tools and equipment shall be effectively grounded unless the tool is an approved double-insulated type.
16. All electrical junction boxes shall have protective covers. All such boxes must have sufficient access space.
16. Stored materials should be stacked in such a manner as not to create a hazard. Stack containers, boxes, parts, etc. in an orderly fashion to ensure stable stacking heights.

### **General Shop Safety - continued**

18. Heavy bulky materials should be stored on lower shelves to minimize chances of injury due to falling objects.
19. Elevated storage platforms over four (4) feet in height from floor level shall have standard handrails (includes a mid-rail and a top handrail) and toe boards. The handrails will be constructed of metal or wood sufficient to withstand 200 pounds of top rail pressure.
20. Proper signage, such as "NO SMOKING" signs, will be installed in all areas where flammable or easily combustible materials are stored.
21. Hooks used on hoisting equipment shall be equipped with a safety latch to help prevent dropping of any lifted load.
22. The hoisting capacity of any hoisting equipment shall be printed clearly on the frame in lettering that is large enough to be read from ground level. All cranes shall be inspected on at least a monthly basis to assure their proper operation and condition.
23. All shops shall have at least two accessible exits for emergency evacuations.
24. Any doors not designated as exits, but may be mistaken for exits should be clearly marked "NOT AN EXIT".
25. All exits shall be identified by a clearly visible, illuminated, "EXIT" sign.
26. Only approved containers are to be used for the storage of flammable and combustible materials. Approved containers can be identified by the presence of a label from a certifying organization such as Underwriters Laboratories.
27. Safety cans shall be painted red and clearly marked to identify the contents. Only approved pumps or self-closing faucets are to be used for dispensing flammable or combustible liquids.
28. No guard shall be removed from any machine or piece of equipment except to perform required maintenance. Guards removed to perform maintenance operations shall be replaced immediately after the completion of the work.

## GENERAL STORAGE YARD SAFETY

1. All vehicles shall have the emergency brake set when parked on a slope or down grade. Consideration should also be given to the use of chocks in these situations.
2. All vehicles and equipment shall be parked in a position that does not require backing whenever possible. When backing a truck or machinery in the yard, use a spotter to assist you into position.
3. Proper personal protective equipment should be evaluated before performing any work in the yard. It is not possible to identify all personal protective equipment that may be required due to the various types of assignments in that area.
4. Miscellaneous tools, equipment and material should be stored on pallets instead of being placed on the ground. Pallets should be stacked in a way that ensures their stability. Stability may be influenced by many items such as the stability of the ground, the height of the stacked material, the configuration of the stacking, etc.
5. Always roll pipe from the ends or from behind to avoid placing your body in the pipe's path.
6. All pipe racks will be fitted with pipe stops to prevent pipe roll-off. Stripping should also be used at the ends of the pipe to act as spacers.
7. All aboveground fuel storage tanks should be protected on all four sides with heavy-duty guard posts and crash rails. Emergency cut-off switches shall also be installed near the pumping equipment and a fire extinguisher should be readily accessible.
8. A diking system capable of holding the volume of the above ground storage tank should be constructed to help control potential spills.

## GENERAL TOOL SAFETY

1. All tools shall be of an approved type and maintained in good condition.
2. All tools shall be examined prior to use to ensure adequate working condition.
3. Defective tools shall be tagged to prevent their use and removed from the job site.
4. Employees shall always use the proper tools for the job.
5. Employees shall be trained on the correct use, hazards and limitations of tools used in the workplace.
6. Gloves should be worn when they provide protection to the employee without increasing the chances of the employee becoming entangled at the point of operation.
7. Tools shall not be left unsecured in elevated places. Tethering is recommended in areas where tools may fall to a lower level.
8. Impact tools, such as chisels, hammers and punches that become mushroomed or cracked shall be dressed or replaced.
9. Chisels and punches, etc. shall be held with a safe holding device, such as vice grips or pliers to avoid injury to employee's hand.
10. Wrenches with sprung or damaged jaws shall not be used.
11. Wooden handles that are loose, cracked or splintered shall be replaced, not taped or lashed.
12. Power tools shall be disconnected from any power source while repairs or adjustments are being made.
13. Carrying and storing tools:
  - Never carry sharp tools in your pockets unless the edges are protected.
  - Do not carry tools in your hands while climbing a ladder. Hoist them with a rope or use an approved utility belt.
  - Protect your tools from falling when working from a scaffold, ladder or other elevated work areas.
15. Do not leave tools lying around where they may cause a trip/fall hazard. Tools no longer needed for the job shall be returned to their proper location.

## GENERAL WELDING AND CUTTING SAFETY

1. Welding and cutting shall only be performed by experienced and properly trained personnel.
2. The work area shall be inspected for potential fire hazards before any cutting or welding is performed.
3. When welding or cutting in elevated positions, precautions shall be taken to prevent sparks and hot metal from falling onto people or material below.
4. Suitable fire extinguishing equipment shall be immediately available at all locations where welding and cutting equipment is used.
5. Proper strikers shall be used in lighting torches. Matches and cigarette lighters shall not be used.
6. A fire watch shall be maintained whenever welding or cutting is performed in locations where combustible materials present a potential fire hazard. A fire check should be made of the entire area after completion of welding or cutting activities.
7. Machinery, tanks, equipment, shafts or pipes that could contain explosive or flammable materials shall be thoroughly cleared and decontaminated prior to the application of heat.
8. In dusty or gaseous spaces where there is a possibility of an explosion, welding or cutting equipment shall not be used until the space is adequately ventilated.
9. Adequate ventilation or approved respiratory equipment shall be used while welding in confined spaces or while cutting, brazing or welding zinc, brass, bronze, stainless steel, galvanized or lead coated materials.
10. Welders shall wear clothing made of fire resistant fabrics, gloves, appropriate footwear, sleeves and a buttoned collar. All protective clothes and equipment should be worn in a manner that provides the most efficient protection from slag or other hot material.
11. When using an arc welder, use No. 10 or No. 12 shade lenses. When using acetylene torches for welding or cutting, use No. 5 or No. 6 shade lenses.
12. Regular shaded safety glasses do not provide adequate protection for welding or cutting operations.
13. Proper eye protection in the form of safety glasses and a face shield should be worn during any portable grinding activities. Safety glasses should also be worn during any slag chipping activities.

## **GAS WELDING**

1. Suitable eye protection, protective gloves and clothing shall be worn during welding or cutting operations or while cleaning scale from welds. Helpers or attendants shall wear proper eye protection. Other employees shall not observe welding operations unless they use approved eye protection.
2. Matches shall not be used to light a torch. A torch shall not be lit on hot work.
3. When gas-welding equipment is not in use, the cylinder valves shall be closed and the pressure in the hose released.
4. Gas hoses shall not be positioned so they create tripping/slipping hazards.
5. Always inspect oxygen or fuel gas hoses for leaks, burn spots, worn places, or other defects before pressurizing.

## **ELECTRIC WELDING**

1. No electric welding machine, either A. C. or D.C., shall be operated until the frame or case of the machine is electrically grounded for protection from potential shock hazards.
2. All ground and electrode lead cables will be inspected before use for bad or damaged connectors. Only connectors designed for joining or connecting will be used for that purpose.
3. Welders shall wear an approved welding helmet, proper protective gloves and fire-resistant clothing during welding activities. Proper eye protection in the form of safety glasses and/or a faceshield should be worn by the welder and any helpers in the area when chipping slag, grinding, etc. Other employees shall not observe electric welding operations unless they use approved eye protection.
4. Welders shall wear proper eye protection to guard against flying particles when the helmet is raised.
5. Welding screens shall be used whenever practical to help control potential ultraviolet light exposures to other personnel in the area.
6. Welding machines will be placed at least 4 feet apart.
7. Fire fighting equipment should be placed in the immediate area and a fire watch used as necessary to control any fire potential.

1. Material handling equipment should be provided to limit manual (people) material handling.
2. Employees should be trained in proper lifting techniques.
3. Battery charging areas need to be adequately ventilated and ignition sources removed from the area. Eye washes and safety showers should be provided and used.
4. The City's Hazard Communication Program must be followed with regard to potential exposure to chemical hazards.
5. Equipment and tools need to be inspected to ensure that electrical cords and other components are in good condition. Items not passing inspection should be replaced immediately.
6. The City's lockout/tagout program should be followed when working on electrical or other machines and equipment that may contain hazardous energy sources.
7. Tools and machines should be inspected and properly guarded.
8. Employees should be trained to properly use tools and equipment and be provided and use appropriate personal protective equipment.
9. Flammable liquids and gases safety precautions should include the elimination of ignition sources, adequate ventilation, approved flammable liquid containers, appropriate disposal of oily rags, proper grounding when dispensing flammable liquids, and use of appropriate personal protective equipment.
10. Housekeeping should include keeping walking/working surfaces clear of slip/trip/fall hazards, storage areas from being overloaded and tools properly stored.
11. Ladders should be of the non-conductive type and used according to the safety directions labeled on the ladder (i.e., do not use top step of ladder to stand on, etc.)
12. Welding precautions should include proper ventilation, work area clear of combustible/flammable materials, proper personal protective equipment, proper storage of oxygen and acetylene cylinders, use of tarps/screens when arc welding, and fire extinguishers available.
13. Seek appropriate shelter for pending weather conditions when working outside including protection from heat and cold. Dress appropriately and avoid dehydration.
14. Follow all manufacturers' safety precautions when operating mowing or landscaping equipment including the use of proper personal protective equipment.
15. Equipment provided with seat belts requires the use of the seat belts during operation.
16. Guards must be inspected prior to using equipment and in place during operation.
17. Trenching/excavations require appropriate safety/protective systems, training, and proper utility locates prior to digging.
18. Employees need to be trained to identify harmful animals, insects, and plants. First aid kits shall be supplied with the appropriate treatment items.

## **GROUNDS MAINTENANCE SAFETY**

### **Power Lawn Mowers and Edgers**

1. All power lawn mowers shall be equipped with adequate guards, which shall remain in place while the mower is in use.
2. Prior to making adjustments, inspections, or repairs, the employees shall permit the mower to come to a complete stop. A spark plug wire shall be removed if necessary for energy control.
3. When operating a mower or edger, the employee shall:
  - a. Remove any rocks, pieces of wire or other foreign objects from the area.
  - b. Avoid directing the discharge opening toward themselves or other individuals in the vicinity.
  - c. When mowing on a slope or incline, mow across the face of the slope.
  - d. Wear proper personal protective equipment for the task being performed. Necessary personal protective equipment may include safety glasses, goggles, faceshields, hearing protection and work boots.

### **Chippers**

1. Chippers shall never be parked directly under the tree being trimmed.
2. If the chipper is parked on or near the roadway, advance warning signs, flaggers, cones, etc. shall be used to identify and protect the work area.
3. Spectators shall never be allowed to stand near the machine while feeding brush into the chipper.
4. Employees shall never place hands or other parts of the body into the brush chipper while the chipper is in operation.
5. The battery cables shall be disconnected prior to performing any task that may potentially put you in contact with the cutting blades.
6. Tools or other metallic objects shall not be used to push brush into the chipper.
7. The ignition key shall be removed when the chipper is left unattended.
8. Safety glasses and hearing protection will be worn by all employees near the chipper and other personal protective equipment may be necessary depending on the activity. In addition, workers must be aware of entanglement hazards involving loose fitting clothes, gloves, etc.
9. Employees shall be familiar with emergency "shut off" procedures and ensure that the emergency shut-off is operational prior to use.

## GENERAL LADDER SAFETY

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1. Wooden ladders shall not be painted so as to obscure a defect in the wood; only a clear, nonconductive finish shall be used.
2. All ladders shall be inspected regularly. Ladders with weakened, broken, or missing steps, broken side rails, or other defects shall be tagged and removed from service.
3. Ladders and scaffolds shall be sufficiently strong for their intended use. All ladders shall be capable of supporting at least 2.5 times the maximum intended load without failure.
4. Ladders shall not be placed in front of doors opening toward the ladder unless the door is open, locked, or guarded.
5. When ascending or descending ladders, employees shall have both hands free and shall face the ladder.
6. Only one employee shall work from a ladder at one time (except for hook-type ladders). If two employees are required, a second ladder shall be used.
7. Only City of La Porte supplied ladders shall be used by employees.
8. Ladders shall not be used as scaffold platforms unless specifically designed for that purpose.
9. Boxes, chairs, etc., shall not be used as ladders.
10. Portable metal ladders and other portable conductive ladders may not be used near exposed energized lines or equipment except in very specialized situations.
11. The use of stepladders above 20 feet is prohibited and the use of extension ladders above 24 feet is strongly discouraged.

***Note: All ladders used in fire service activities shall be NFPA approved.***

## STRAIGHT LADDERS

1. Portable straight ladders shall be equipped with nonskid bases or shoes.
2. The ladder shall be placed so that the distance between the bottom of the ladder and the supporting point is approximately one-fourth of the ladder length between the foot of the ladder and the upper support.
3. Straight ladders shall not be climbed beyond the third step from the top.
4. When working from a portable ladder, the ladder must be securely placed, held, tied, or otherwise made secure to prevent slipping or falling.
5. When dismounting from a ladder at an elevated position (such as a roof) the employee shall ensure that the ladder side rails extend at least 3 feet above the dismount position, or that grab bars are present.
6. Employees shall belt off to a ladder whenever both hands must be used for the job or a possibility of the employee falling from an elevated position exists.
7. Ladders shall not be spliced together to form a longer ladder, unless specifically designed to be used as a section ladder.
8. A ladder shall not be placed against an unsafe support.

## **STEP LADDERS**

1. The top step shall not be used, except for platform ladders.
2. Stepladder legs shall be fully spread and the spreading bars locked in place.
3. Stepladders shall not be used as straight ladders.
4. When an employee is working on a stepladder more than 10 feet high (except a platform ladder), another person shall hold the ladder or it should be tied to a support to prevent it from falling..

## DEFINITIONS

**Lockout and tagout** are methods of preventing equipment from being set in motion unexpectedly, which in turn may endanger workers.

**Lockout** is the placement of a lockout device on an energy-isolating device to ensure that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

**Lockout device** is a device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position thus preventing the energization of a machine or equipment.

**Tagout** is the placement of a prominent warning device, such as a tag, on an energy isolating device to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed. Does not offer the physical protection of lockout.

An **energy-isolating device** is a mechanical device that physically prevents the transmission or release of energy. These devices can include, but are not limited to, electrical circuit breakers, disconnect switches, block valves, slip blinds, slide gates, etc.

**Energy source** refers to any sources of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or any other energy.

An **affected employee** is an employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

An **authorized employee** is a person who uses locks and/or tags on machines or equipment while performing service or maintenance activities. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment, which must be locked and/or tagged.

## EMPLOYEE RESPONSIBILITIES

All equipment should be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Employees should never attempt to operate any switch, valve, or other energy isolating device that is locked or tagged out. Employees should be trained on the importance of lockout/tagout procedures. Only authorized employees who have been trained in the procedures should be allowed to apply lockout or tagout.

## PREPARATIONS FOR LOCKOUT/TAGOUT

Obtain the lockout/tagout procedures for the equipment. After a review of the procedure, determine if changes may be necessary in the procedure.

Identify all affected employees that may be impacted by the impending lockout/tagout.

Obtain necessary supplies, such as locks, tags, etc. that may be needed during the lockout or tagout.

## SEQUENCE OF EVENTS TO IMPLEMENT LOCKOUT/TAGOUT

1. Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the serving or maintenance.
2. The authorized employee should refer to the organization's written procedures to identify the type and magnitude of the energy that the machine or equipment utilizes. After identifying the type of energy source, the authorized employee should assure that he/she understands the hazards of the energy source and knows the methods to control the energy source.
3. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open switch, close valve, etc.).

### **Lock-out Tag-out Procedures -continued**

4. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).
5. Use lock(s) and/or tag(s) as necessary to prevent the accidental or inadvertent operation of the energy isolating device(s).
6. Any stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, air pressure, steam pressure, gas pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.
7. To ensure that the equipment is disconnected from the energy source(s), the authorized employee should follow these listed steps: (a) Check to make sure that no personnel are exposed to possible hazards; (b) Verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate; and (c) Return the operating control(s) to the "neutral" or "off" position after verifying the isolation of the equipment.
8. The equipment or machine should now be locked out.

### **SEQUENCE OF EVENTS TO RESTORE MACHINE OR EQUIPMENT TO NORMAL OPERATIONS**

1. Check the machine or equipment and the immediate area around the machine or equipment to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in the "neutral" position.
4. Remove the lockout and/or tagout devices and reenergize the machine or equipment.
5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.
6. Return or file used lockout and/or tagout devices.

### **EMPLOYEE TRAINING REQUIREMENTS**

The employer should provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage and removal of the energy controls are acquired by the employees.

Each authorized employee should receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy sources, and the methods and means necessary energy isolation and control.

Each affected employee should be instructed in the purpose and use of the energy control procedure.

All other employees whose work areas may or may not be in an area where energy control procedures may be utilized, should be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machine or equipment which are locked out or tagged out.

## **MATERIAL HANDLING SAFETY**

1. Before starting to lift or carry, check to ensure that the walkway is clear of all obstacles. Cautiously test the object to check its weight and center of gravity.
2. Before lifting, face the object and get as close as you can with feet slightly apart. Remember, bend at your knees not at your waist.
3. Use your legs to bring you to a standing position. Make the lift smooth and under control.
4. When carrying an object, grip it firmly and hold it as close to your body as possible.
5. Do not twist your body when lifting or setting an object down.
6. If necessary, obtain assistance in lifting heavy objects by utilizing additional personnel, power equipment or other types of assisted lifting devices.
7. When two or more persons carry a heavy object that is to be lowered or dropped, there shall be a pre-arranged signal for releasing the load.
7. When two or more persons are carrying an object, each employee, if possible, should face the direction in which the object is being carried. Crouch or squat with the feet close to the object to be lifted; secure good footing; take a firm grip; bend the knees; keep the back vertical; and lift by bending at the knees and using the leg and thigh muscles. Employees shall not attempt to lift beyond their capacity. Caution shall be taken when lifting or pulling in an awkward position.
8. Material shall not be thrown from place to place or person to person.
9. A safety line or tag line should be attached to help control loads as they are lifted to elevated work areas.

**Bins and Shelves**

1. Material shall be stored in such a manner that it will be safe from damage. Special care must be taken to assure that stored material poses no hazard to anyone working around it. Only lightweight material should be stored on top shelves.
2. Bins or shelves shall never be used as ladders.
3. Materials shall not be stored on the floor, in front of shelving.

**Stacking Material**

1. When material is stacked all possible precautions must be taken to assure that it will remain stable. The lower level must be blocked or tied to prevent slipping. The height of a stack of material should remain within reasonable limits.
2. When unloading and/or stacking poles or pipe, great care should be exercised to maintain a safe work environment. Do not stand on poles or pipe. Watch for pinch points, and stay out of the path of equipment during unloading. Avoid any contact with creosote, while unloading poles.

**Flammable Material**

1. Under no circumstances shall flammable materials be stored in an area where heat or potential ignition sources may affect the stability of the material.
2. All flammable materials shall be stored in a location that will not endanger life or property. Containers will be clearly and appropriately marked, in accordance with fire safety standards. In addition, storage facilities shall have a sign identifying the materials as "flammable".
3. Storage of open containers of flammable materials is prohibited. Container covers must be promptly replaced. Smoking will not be permitted inside any warehouse facility, or outside near flammable or combustible materials in the equipment yard.
4. Flammable liquids shall be used only for their designed purposes. Gasoline shall not be used for cleaning purposes or for starting or kindling fires.
5. All solvents should be kept in approved, properly labeled containers. Gasoline and other solvents of this class shall be handled and dispensed only in Underwriters Laboratories (UL) approved, properly labeled (yellow letters) red safety cans.
6. When pouring or pumping gasoline or other flammable liquids from one container to another, metallic contact shall be maintained between the pouring and receiving containers. Transferring of flammable liquids from one container to another shall be accomplished only in properly ventilated spaces free from ignition sources.
7. Strict adherence shall be paid to "No Smoking" and "Stop your Motor" signs at fuel dispensing locations.

**Housekeeping**

1. Work locations including vehicles, buildings, shops, yards, offices, cabs, etc. shall be kept clean and orderly at all times.
2. Combustible materials, such as oil-soaked rags, waste and shavings shall be kept in approved metal containers with metal lids. Containers shall be emptied as soon as practical.

### **Material Storage Safety - continued**

3. Both clean rags and used rags shall be kept in metal or metal lined bins having metal covers.
4. Permanent floors and platforms shall be kept free of dangerous projections or obstructions and shall be maintained reasonably free from oil, grease, or water. Where the type of operation produces slippery conditions, mats, grates, cleats or other methods shall be used to reduce the hazard from slipping.
5. Stairways, aisles, permanent roadways, walkways and material storage areas in yards shall be kept reasonably clear and free from obstructions, depressions and debris.
6. Materials and supplies shall be stored in an orderly manner so as to prevent their falling or spreading and to eliminate tripping and stumbling hazards.
7. Rubbish and unused clothing shall not be allowed to accumulate in lockers.
8. Paper and other combustible materials shall not be allowed to accumulate, and weeds or other range vegetation shall not be permitted to grow in or around storage areas, shops, substations, pole yards, buildings, fuel tanks or other structures.
9. Batteries shall be stored in a well-ventilated area protected from sparks or open flames.
11. All personnel will practice good housekeeping. Scrap material will be disposed of properly, the work area should be free of any loose material.

### **Smoking**

Smoking and/or any open flame shall **not** be permitted in areas where flammables or combustibles are present. Smoking will only be allowed in designated smoking areas and never in the vicinity of flammable materials. The absence of "No Smoking" signs shall not be considered authorization for smoking in hazardous locations.

## PERSONAL PROTECTIVE CLOTHING & EQUIPMENT – GENERAL REQUIREMENTS

1. All employees shall wear clothing suitable for their particular type of work. Loose clothing shall not be worn while working around or near moving machinery or equipment.
2. All department approved special protective clothing or protective devices shall be used by employees when departmental supervisors require their use.
3. Clothing that is soiled by oil or chemicals should be avoided to prevent skin irritations.
4. When work is performed in the vicinity of exposed energized parts of equipment, employees shall remove all exposed conductive articles, such as key or watch chains, rings, wrist watches or bands, if such articles increase the hazards associated with inadvertent contact with the energized parts.
5. Rings or jewelry shall not be worn while climbing on or off structures or vehicles while performing any task where the ring might get caught under or snagged by a projecting item. In addition, rings and wristwatches with metal case and watchbands shall not be worn while working on or near energized equipment or lines.
6. Department approved gloves shall be provided to and worn by all employees when work site operations could cause injury to the hands.
7. Gloves and long sleeves shall be worn to protect hands and arms when handling cement, brush, sharp objects, hot materials, acids and other chemicals, or when there is a possible exposure to poison ivy.
8. Department approved head protection shall be provided to and worn by employees when working in areas where possible danger or head injury exists from impact, falling or flying objects, or from electrical shock and burns.
9. Employees shall wear department approved eye and face protection where injury exists from flying objects, glare, liquid splashes, weed eaters, edgers, chemicals, grinding, sandblasting, and welding. Eye protection shall be kept in a sanitary and usable condition and shall be replaced when it becomes warped, scratched, or pitted.
10. Department approved hearing conservation devices shall be provided to and worn by all employees working in areas where a danger of noise exposure exceeds acceptable levels.
11. Employees shall wear footwear suitable to the type of work being performed. Safety boots or shoes shall be worn when required. Wearing of sandals, thongs, tennis shoes, loafers or similar footwear shall not be acceptable during working hours for employees serving in labor, maintenance, construction, or inspection positions.
12. Department approved life jackets or buoyant work vests shall be worn by all employees when working over or near water where the danger of drowning exists.
13. Department approved respiratory protection shall be worn in areas where dangerous air contamination, chlorine, gasses, vapors, fumes, dust, or other hazardous contaminants exist.
14. Employees required to work in or near the roadway shall wear high visibility clothing, garments, or reflective vests.
15. Department approved fall protection devices, such as harnesses, lanyards, etc., shall be used by all employees when working in an overhead position which may require use of both hands and when there is a danger of falling.
16. Protective clothing and equipment shall be used and maintained in accordance with manufacturer's recommendations.

## **PERSONAL PROTECTIVE EQUIPMENT – FIRE DEPARTMENT**

1. Full protective clothing shall meet NFPA standards and include the following: approved helmets, pants, coats, gloves, hoods, and boots.
2. Full protective clothing shall be worn at all times while engaged in any fire fighting activities or other emergencies unless a specific exception is made by departmental policy or the officer in charge deems safety and efficiency are not jeopardized.
3. An approved self-contained breathing apparatus shall be provided for and used by all personnel when working in areas where the atmosphere is hazardous, suspected of becoming hazardous, or may rapidly become hazardous.
4. Approved gloves shall be worn when engaged in fire fighting, overhaul, training with the hose and ladders, using hand or power tools, and any other situation where injuries to the hand are likely to occur.
5. Eye and face protection appropriate for the given hazard shall be provided for and used by all personnel exposed to that hazard.
6. Hearing protection shall be provided for and used when exposed to noise levels that exceed acceptable levels except in situations where the use of such protective equipment would create an additional hazard to the user.
7. Personnel who perform emergency medical care or are otherwise likely to be exposed to blood or other body fluids shall be provided with and use emergency medical garments, emergency medical face protection devices, and emergency medical gloves. (For additional information, please refer to the bloodborne pathogen section of this manual).
8. Personnel who engage in operations during hazardous material emergencies that may expose them to known chemicals in vapor form or unknown chemicals shall be provided with and use vapor-protective suits.
9. Personnel who engage in operations during hazardous material emergencies that may expose them to known chemicals in liquid-splash form shall be provided with and use liquid-splash suits.

**For additional guidance in the use of personal protective equipment, please refer to the Personal Protective Clothing and Equipment - General Requirements section of this manual.**

## **PERSONAL PROTECTIVE EQUIPMENT - POLICE DEPARTMENT**

1. Suitable eye and hearing protection shall be worn when personnel are firing weapons during training or other special operations.
2. When provided by the City of La Porte, body armor shall be worn by all Police Officers when on duty or during special operations unless otherwise noted.
3. Reflective vests and gloves shall be worn when directing traffic. A lighted baton is recommended when directing traffic any time between one hour before sunset, one hour after sunrise, or during inclement weather.
4. Disposable gloves shall be worn when handling any persons, clothing or equipment with bodily fluids on them. Masks in combination with eye protection devices shall be worn whenever splashes, spray, spatter, or droplets of potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated. (For additional information, please refer to the bloodborne pathogen section of this manual).
5. Plastic mouthpieces or other authorized barrier/resuscitation devices shall be used whenever an officer performs CPR or mouth-to-mouth resuscitation.
6. Personal protective equipment such as respirators, neoprene gloves, rubber boots, shoe covers, rubber aprons, and protective eyewear shall be used as necessary when handling flammable, corrosive, caustic, or poisonous chemicals.
7. Protective gear including respirators, vests, hoods, goggles, gloves, elbow/knee pads shall be utilized during tactical operations and by special units as needed.

**For additional guidance in the use of personal protective equipment, please refer to the Personal Protective Clothing and Equipment - General Requirements section of this manual.**

## PESTICIDE/HERBICIDE SAFETY

1. When applicable, all employees who apply pesticides or herbicides shall be licensed.
2. Before using any pesticide or herbicide, employees shall read the label carefully and follow the directions and precautions.
3. Pesticides shall be stored in a properly labeled, tightly sealed container and under lock and key at all times. The building, room, or structure shall be clearly marked with pesticide warnings.
4. Before handling any pesticide/herbicide, the user should review the material safety data sheet and label to identify any personal protective equipment that will be needed to prevent a possible exposure.
5. Mix the pesticides/herbicides in a well-ventilated, well-lit area. Mix only at recommended rates and apply only at specified dosages.
6. Check application equipment for leaking hoses or connections, plugged or worn nozzles, and examine the filter to ascertain that it is free of debris.
7. Employees shall avoid contact with skin or inhalation of mists or spray.
8. Material Safety Data Sheets (MSDS) shall be maintained and kept near material and storage locations.
9. Spray equipment shall be cleansed daily when using oil-based solutions.
10. Pesticides/herbicides shall not be stored or disposed of where they could contaminate people, property or waterways.
11. Empty containers shall be disposed of in a safe manner.
12. Pesticides/herbicides should only be applied under favorable time and weather conditions.
14. Do not eat, drink or use tobacco products while handling pesticides/herbicides.

## POISON IVY, OAK OR SUMAC AWARENESS

1. Sensitivity to these plants can vary and some people who do not appear sensitive may develop a sensitivity on later exposures.
2. Exposures to poison ivy, poison oak or sumac are greatest in the spring and summer months when the oil (urushiol) is most abundant.
3. Onset of the rash is from a few hours to several days after exposure. The skin becomes red, blisters appear, usually accompanied by itching. As symptoms progress, swelling and fever may develop.
4. Common poison ivy can be recognized by its three green, glossy leaflets that turn yellow in the fall.
5. Western poison oak can be recognized by its vine form and three leaflets that are green or brown in color with yellow veins and brownish/yellow stems. In addition, the leaves are covered with hair on the underside and there are groups of hairy, yellowish berries.
6. Poison sumac is recognizable as a woody shrub or small tree, five to twenty five feet tall and containing seven to thirteen leaflets per stem. The leaves turn red in the fall. Poison sumac has cream-colored berries that hang in loose groups from the branches.
7. If you are going to be in areas where you know poison oak or ivy is likely to grow, wear long pants and long sleeves, and if practical, gloves and boots. Your best protection is to identify the plant and avoid contact. For highly sensitive persons, a barrier cream can provide even greater protection.
8. Be aware that the plant's oily resin sticks to almost all surfaces and can even be carried in the wind (on particles of dust) when there is a fire burning.

If you think you have contacted poison ivy, follow these simple procedures:

1. Wash all exposed areas with cold running water as soon as you can. If this is done within five minutes, the water should neutralize or deactivate the urushiol in the plant's oil before it can bond with your skin and create a rash. Soap is not necessary and may even spread the oil.
2. If possible, change clothes. Wash all clothing outside with a water hose before taking it into the work area or home to prevent the oil from being transferred to furniture or rugs. Resinous oils can last on tools and clothing for months unless properly cleaned or laundered.
3. Mild rashes can be treated with lotions and by soaking in an oatmeal bath or covering the rash with wet compresses. Contact a physician for treatment of severe cases or if the irritation is not cleared up in three or four days.

## TIPS FOR PREVENTING WORKPLACE VIOLENCE

1. Recognize signs that may precede violence in your co-workers or customers and report them to your supervisor. Be cautious when you deal with a person who:
  - a. Makes verbal threats on the job about getting "even" with co-workers or with your employer for disciplinary action or dismissal
  - b. Regularly threatens or intimidates others
  - c. Claims people are out to get him or her
  - d. Talks a lot about weapons-and may own them
  - e. Holds grudges
  - f. Blames others for problems or setbacks
  - g. Gets angry very easily and often
  - h. Is defensive when criticized
2. Report the following behavior to you supervisor:
  - a. A customer that becomes unusually angry with you because of perceived slow service, perceived poor product quality or lack of information
  - b. A customer who talks abusively when making a telephone complaint
  - c. A customer who threatens you or co-workers
3. Respond effectively to a threatening or violent situation:
  - a. Take all threats seriously.
  - b. Stay calm and be polite-look the person in the eye and do not argue or threaten.
  - c. Address each customer with a friendly greeting when you are on the phone or meeting the customer in person.
  - d. Be courteous at all times.
  - e. Notify the police if you are frightened-or use a warning signal to alert co-workers.
  - f. Ask your employer for training to help you deal with the public
4. Protect yourself and co-workers on the job:
  - a. Keep security and police department numbers near your phone.
  - b. Know how to use an alarm or alert staff to possible danger.
  - c. Develop a "danger signal" you can use to alert others to possible danger.
  - d. Meet visitors in the lobby and escort them to your work area.
  - e. Report any unusual packages to appropriate personnel, do not open them.
  - f. Lock purses and personal belongings in a desk or locker.
  - g. Report signs of a break-in and missing items immediately.
5. Follow security policies and procedures:
  - a. Keep locked doors locked, do not prop them open.
  - b. Wear name tags or badges when required.
  - c. Do not share access cards or entry codes.
  - d. Do not allow non-employees (including ex-employees) to avoid sign-in and other visitor entry procedures
  - e. Do not engage in fistfights or other aggressive behavior at work.
  - f. Do not bring a weapon to work or leave one in your car.
  - g. Do not drink or use drugs at work, or work under the influence.
  - h. Report all threats and security violations.

6. Take special precautions when working late or alone:
  - a. Inform someone that you are working late.
  - b. Lock the door to your work area if you are alone.
  - c. Work near a phone.
  - d. Work with lights on.
  - e. Avoid using dark stairways or halls.
  - f. If working with others, try to leave and walk to transportation together.
  - g. Have your car keys ready as you leave the building.
  - h. Check under and inside your car before unlocking it.
  - i. Lock your car as soon as you are seated in it.
  - j. Walk confidently and quickly to show that you know where you are going and what you are doing.
  - k. Try to run away from an attacker if possible.
  - l. Yell if you are being attacked to alert others.
  - m. Give an attacker money or jewelry on demand.

## **REFUSE COLLECTION SAFETY**

### **Personal Protective Equipment**

1. Gloves should be worn by employees while handling cans, bags, boxes, etc.
2. Protective eyewear shall be available and worn whenever items that could cause an eye injury are being handled.
3. Appropriate footwear with anti-slip soles shall be worn. Leather work boots with good ankle support are recommended.
4. High visibility clothing shall be worn by employees at all times when working in or around the roadway.
5. Rainwear shall be provided for protection from the rain.

### **Material Handling**

1. Size up the load and the weight to be lifted. This is done by holding the container at the top and rocking it back and forth. If it is too heavy, get help.
2. Get a firm grip on the handle or top edge of the container with one hand, tip the container, then grasp the bottom edge of the container with the other hand.
3. If the waste is in boxes, check the weight and condition of the box before lifting. Grasp the box with the fingers and palm of one hand around the top of one corner of the box; place the other hand at the bottom near the opposite corner.
4. When handling plastic bags, always grab bags by the neck. Sharp objects can protrude through the bag and puncture hands and arms.
5. If the container is in an area where there are potholes or the ground is uneven, move the container to a safer area before attempting to lift.
6. Tips when lifting:
  - a) Size up the load
  - b) Keep feet apart, establish a good base of support
  - c) Bend at the knees and hips, not at the waist
  - d) Get a good grip
  - e) Keep the load close
  - f) Lift with your legs
  - g) Pivot, do not twist your body
  - h) Always dismount the truck before lifting

### **Control of Falls**

1. Jumping on or off a moving garbage truck shall be prohibited. When exiting or entering the truck, "three points of contact" should be maintained at all times to provide adequate control.
2. To get off the platform (step) at the back of the truck, wait until the truck has come to a complete stop. Make sure you have good footing when you reach the ground.
3. Step off onto wet grass or icy surfaces slowly and carefully.
4. Make sure your foot has made good contact with the platform or step before getting back onto the truck. Only signal the driver to move when you are ready.
5. Always look in the direction that the truck is traveling. Watch out for low hanging tree limbs, brush, utility poles, etc. Do not ride the platform with your body leaning out beyond the body of the truck any farther than necessary.

6. Do not lie, sit or squat on the platform while the truck is moving.
7. **Never** ride the platform while the truck is backing up, exceeding 10 miles per hour, or traveling more than .2 miles (three city blocks) without stopping. Spotters shall be used anytime a truck is backing up.
8. Watch for oil or grease on platforms, streets and sidewalks.

### **Packer Operation**

1. Never activate the packer while standing in front of it; always stand to the side with head and eyes turned away.
2. One crew member should be solely responsible for operating the packing mechanism.
3. The packer operator must be completely familiar with the location and operation of all controls and know how to stop the packer in an emergency.
4. Do not overload the hopper or stick hands in while the packer is operating.
5. The packing mechanism should be inspected and serviced according to the manufacturer's operating manual.

### **Vehicle Operation and Condition**

1. A spotter shall always be used anytime a truck is backing up. Standard agreed upon hand signals should be used. Anytime the spotter leaves the driver's view in the mirrors; the driver must stop immediately.
2. Trucks must be equipped with working back-up alarms.
3. The driver will use flashing lights whenever collections are being performed.
4. Know your vehicle's height and width clearances and be cautious near low hanging wires and tree limbs.
5. Keep your truck in good condition. A pre-trip and post-trip inspection shall be conducted each day.
6. A fire extinguisher, first aid kit, and water shall be provided on the trucks.
7. Keep bottles, cans, boxes, etc. off the floor of the cab.
8. When exiting the vehicle, get a good grip on the hand holds and exit the cab backwards. "Three points of contact" should be maintained at all times to provide adequate control.

## TRACTOR/SHREDDER SAFETY

1. The operator shall wear a securely fastened seat belt if the tractor/shredder is equipped with rollover protection.
2. Guards around chains, shafts, pulleys, gears, etc. shall always remain in place while the equipment is in operation.
3. Use caution when operating near slopes, cuts, depressions, drop-offs, soft shoulders, ditches, etc. Operators shall constantly watch for hidden objects and uneven ground. Hazardous areas shall be pre-cleaned and special hazards removed prior to mowing.
4. Use care when entering traffic areas, crossing railroad tracks, etc.
5. Operators should maintain "three points of contact" with the equipment when entering or exiting. This will allow the operator to regain their balance if a slip occurs.
6. Back-up alarms are a useful warning device and should be used when possible, especially on larger vehicles and equipment that may severely restrict your view to the rear of the vehicle. If an alarm is not present, the operator should honk his horn to warn others of the moving vehicle. Back-up alarms should be operable at all times.
7. Only the operator shall be allowed on the equipment during operation, unless a seat is provided for another occupant.
8. Lubrication activities or mechanical adjustments shall not be attempted while the equipment is running if there is a possibility of contacting a pulley, belt, shaft, etc. that is in motion.
9. Take sharp turns at low speed.
10. Proper personal protective equipment shall be worn at all times. On a tractor with an uncovered cab, the operator should as a minimum wear safety glasses and hearing protection. Other personal protective equipment such as gloves, faceshields, sleeves, boots, etc. should be evaluated for individual jobs. Sunscreen should also be used in areas where the operator may be exposed to sunlight for long periods of time.
11. Slow-moving placards and other warning devices should be used to help other motorists in spotting the slow-moving vehicle from a safe distance.

## TRENCHING AND EXCAVATION SAFETY

1. Before opening an excavation, all interferences such as trees, sidewalks, and foundations shall be removed or supported as necessary to protect employees and the public.
2. The estimated location of utility and other underground installations that may be encountered during excavation work shall be determined before opening the excavation.
3. When excavation operations approach the estimated location of underground installations, the exact location of the installation shall be determined by safe and acceptable means.
4. While the excavation is open, underground installations shall be protected, supported, or removed to safeguard employees.
5. Employees exposed to vehicular traffic shall wear "high visibility" vests or clothing.
6. A stairway, ladder, ramp, or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees. Ladders must extend 3 feet above the surface and be tied off if necessary.
7. No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials.
8. All mobile equipment (front-end loaders, bulldozers, and dump trucks) shall be equipped with a warning device such as a back-up alarm. When mobile equipment is operated adjacent to an excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be sloped away from the excavation.
9. In excavations deeper than four feet with the potential for a hazardous atmosphere or oxygen deficiency, air testing shall be conducted before employees can enter an excavation and as often as necessary to ensure the atmosphere remains safe. Ventilation or respiratory protection may be needed to protect employees from harmful atmospheres.
10. Daily inspections of the excavations and adjacent areas and protective systems shall be made by a competent person for evidence of situations that could result in a possible cave-in, failure of protective systems, hazardous atmospheres or other hazardous conditions. An inspection shall be conducted prior to the start of work, when there are changes in weather conditions, if the excavation has been left unattended for a period of time (such as lunch), and as needed.
11. Employees shall not work in excavations in which there is accumulated water or in an excavation in which water is accumulating unless adequate precautions have been taken to protect employees. The precautions necessary to protect employees adequately can include special support or shield systems, water removal, or the use of a body harness and lifeline.
12. Surface water shall be prevented from entering an excavation by utilizing diversion ditches, dikes, or other suitable means.
13. Excavations subject to run-off from heavy rains shall require an inspection by a competent person.
14. Excavated earth (spoil), materials, tools, and equipment shall be placed no closer than two feet from the edge of the excavation.
15. Where employees or equipment are required or permitted to cross over excavations, walkways or bridges with standard guardrails shall be provided.

### **Trenching and Excavation Safety - continued**

16. When excavations are left open, warning devices, barricades, or guardrails shall be placed to adequately protect employees and the public.
17. At the end of the workday, as much of the excavation as practical shall be closed.
18. Mechanical excavating equipment that is parked or operating on streets or highways shall be protected by proper warning devices.
19. Each employee in an excavation shall be protected from cave-ins by an adequate protective system (sloping, benching, shoring, or shielding), unless excavations are made entirely in stable rock, or are less than five feet deep and examination of the ground by a competent person provides no indication of a potential cave-in.
20. When choosing a protective system, a competent person shall take into consideration soil type, vibration sources, previously disturbed soil, layered soil, presence of water, heavy equipment work adjacent to the excavation, limited work area, and other hazard-increasing conditions.
21. Sloping, benching, shoring or shielding for excavations greater than 20 feet deep shall be designed by a registered professional engineer.
22. A "competent person" as used in this section shall mean one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.
23. The City's trench/excavation safety permit form shall be utilized at depths of five feet or greater.
24. Trenching/excavations deeper than four feet should be considered confined spaces and treated accordingly, including the issuance of a permit.

## WORK ZONE TRAFFIC CONTROL

Work zone safety is the adequate safeguarding or protecting of pedestrians, motorists, utility workers and equipment by the use of adequate barriers, warning signs, lights, flags, traffic cones, high level standards, barricade rope, flaggers, etc. on approaches to work areas, excavations, open manholes, parked equipment, etc.

Work zone traffic control is accomplished by the use of informative and protective devices, keeping in mind that a safe installation requires the use of these devices in relation to the location of the workers and equipment involved. The use of these devices must be coupled with proper planning, design, installation, inspection, maintenance and the use of good common sense. It is of utmost importance that the work area be properly identified and that warning devices clearly convey the message to the traveling public well in advance of arrival at the work area.

The public must be warned in advance, then regulated and guided through or around the work area. Proper work area protection shall be planned to ensure the safety and protection of the public, the worker, and the equipment.

1. If street construction or repair work is to be done, preparations will be made to ensure vehicle and pedestrian safety before work is allowed to begin.
2. If traffic is affected by the operation, proper signs must be used in advance of the work area, and the traffic control signs in and around the affected area are to be correctly placed and maintained for the duration of the period when work is being performed and traffic obstructions exist.
3. When barricades and signs are used overnight, supervisors will examine the work area for proper placement at the end of the workday.
4. All employees working in or near the roadway will wear reflective vests or suitable garments marked with or made of reflectorized or high visibility material while at the work site. Garments worn at night must be made of reflectorized material.
5. Lighted barricades will be used whenever possible for overnight protection.
6. Where traffic must be periodically stopped or obstructed by workers or equipment in a traveled portion of a roadway, a flagger wearing a reflective vest may be stationed. If lack of manpower exists, the roadway must be closed and the traffic detoured.
7. Flaggers will be used to slow or direct traffic where the approach to the work area does not provide adequate visibility to drivers. **The use of sign paddles (Stop/Slow) is preferred and should be used if available.**
8. All plates used to cover holes in the street on a temporary basis are to be spiked in place.
9. In any case where streets are significantly obstructed or closed for any period of time, the police, fire and other relevant departments will be notified of the situation and told approximately how long the closure will be in effect.
10. When pedestrian traffic is impeded, barricades, restrictive tape, rope or other restraint will be used to keep the public from the work site.
11. Holes in the sidewalk or parkway which must be left open will have perimeter protection. Protection of these areas will be in the form of physical barriers and warnings signs.

***For additional information, please refer to the most current publication of the Texas Manual on Uniform Traffic Control Devices Part VI.***

## Police Department's Efforts Toward Addressing High Traffic Intersections

Attached you'll find the data for the most dangerous intersections in our city. The bar graph at the top of each report lists the intersections in descending order.

SH146 at Fairmont Parkway is by far the most problematic intersection. Over the last couple of years, Sgt. Upchurch has spoken with TxDOT about this intersection and has asked for a safety survey to be conducted. Even though he received no feedback, it appears that they did the survey and are currently widening the intersection by adding turn lanes.

It seems that SH146 at SH225 and SH225 at Miller Cut Off will forever be an issue. Drivers simply don't slow down enough going either direction and have speed related accidents. Since receiving our first Selective Traffic Enforcement Program (STEP) grant, La Porte Police Department (LPPD) has been making speed related stops and issuing citations on SH225 and SH146. The reason why TxDOT's focus changed from citation driven enforcement to traffic stop and arrest driven enforcement is because the citations were not a deterrent to speeding. La Porte's speed compliance numbers on these roads have not improved when surveys were done.

In 2016, the compliance rate on 146 was 14% and 18% on 225

In 2017, the compliance rate on 146 was 12% and 9% on 225

In 2018, the compliance rate on 146 was 17% and 13% on 225

*(2018 was the last survey completed related to STEP)*

A majority of the accidents in the other "hot" intersections in the city are traffic control device related. Contributing factors include drivers disregarding red lights, turning too wide, and the most common factor is failing to control speed (drivers rear ending another at or near an intersection).

To address these issues, we have:

- Notified TxDOT about problems areas (SH146 and Fairmont Pkwy)
- Communicated with the traffic officers and STEP workers that they need to work these areas (STEP policy used to limit officers to certain intersections, now they work anywhere in their zones)

Since the 2019 STEP grant started in October 2018, LPPD has seen a significant reduction in accidents (in the last quarter of the year). An analysis of the number of accidents from October 1<sup>st</sup> thru December 31<sup>st</sup> from 2016, 2017, and 2018, are shown below:

<u>Year</u>	<u>Accidents</u>
2016	248
2017	230
2018	199

Hopefully this trend will carry-on. We will continue to monitor the problem areas and address any significant changes.

# La Porte Police Department

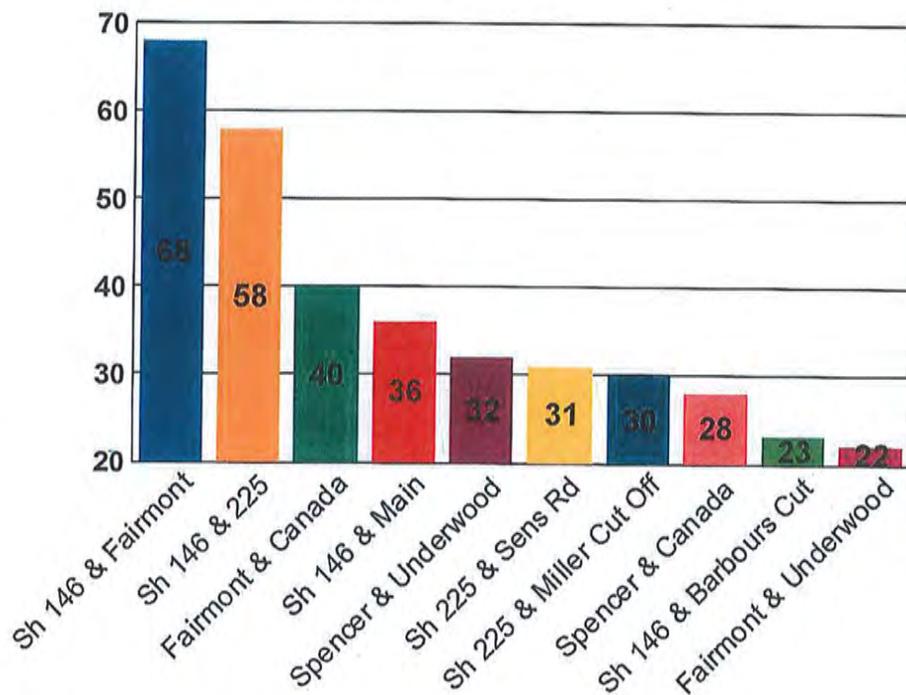
La Porte, Texas



2016

## Accidents by Major Roadway and Top 10 Accident Intersections

### Major Intersections



	Total
Sh 146 & Fairmont	68
Sh 146 & 225	58
Fairmont & Canada	40
Sh 146 & Main	36
Spencer & Underwood	32
Sh 225 & Sens Rd	31
Sh 225 & Miller Cut Off	30
Spencer & Canada	28
Sh 146 & Barbours Cut	23
Fairmont & Underwood	22
Spencer & Luella	17
Fairmont & Bay Area	14
Sens & N L St	12
Spencer & Myrtle Creek	11
Sh 146 & Wharton Weems	10
Sh 225 & Independence	10
Fairmont & Farrington	9
Fairmont & Luella	9
Fairmont & Bay Park	7
Fairmont & Broadway	5
Fairmont & Driftwood	4
Sens & N D St	4
Sens & N P St	4
Spencer & Farrington	4
Underwood & Myrtle Creek	2
Sens & N H St	1
Spencer & Bay Area	1

#### Top 10 Contributing Factors

FAILED TO CONTROL SPEED	227
DRIVER INATTENTION	97
BACKED WITHOUT SAFETY	72
FAILED TO DRIVE IN SINGLE LANE	53
DISREGARD STOP AND GO SIGNAL	42
FAILED TO YIELD ROW - PRIVATE DRIVE	42
CHANGED LANE WHEN UNSAFE	41
OTHER (EXPLAIN IN NARRATIVE)	34
FAILED TO YIELD ROW - STOP SIGN	29
FAILED TO YIELD ROW - OPEN INTERSECT	26

#### Major Roadways

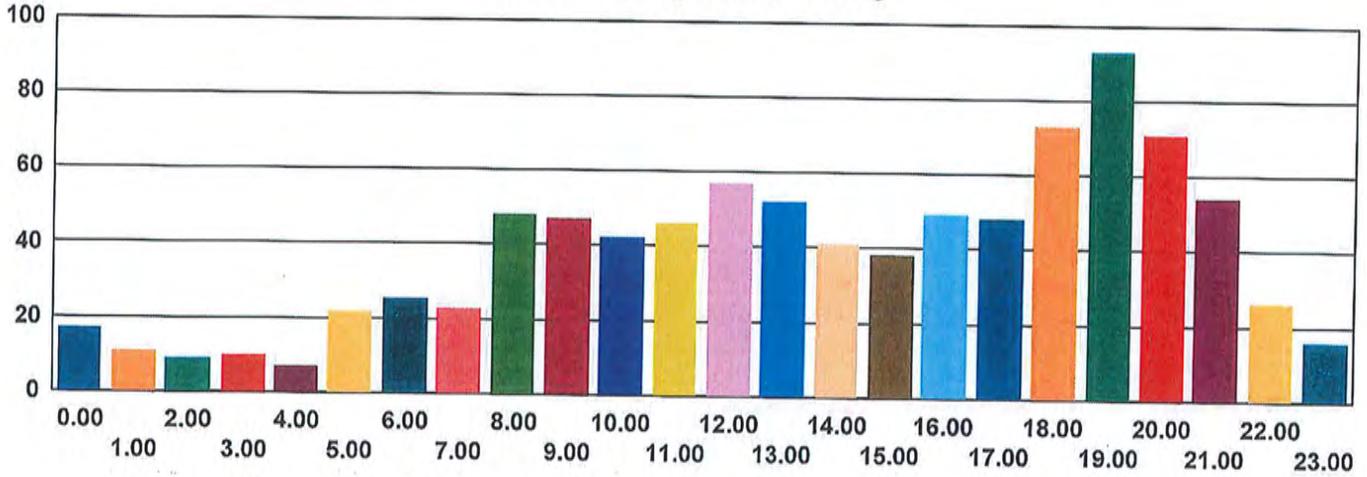
SH 146	268
SH 225	161
Broadway	60
Fairmont Pkwy	305
Sens Rd	81
Spencer Hwy	173
Underwood Rd	113
All Other Roads	532

2016

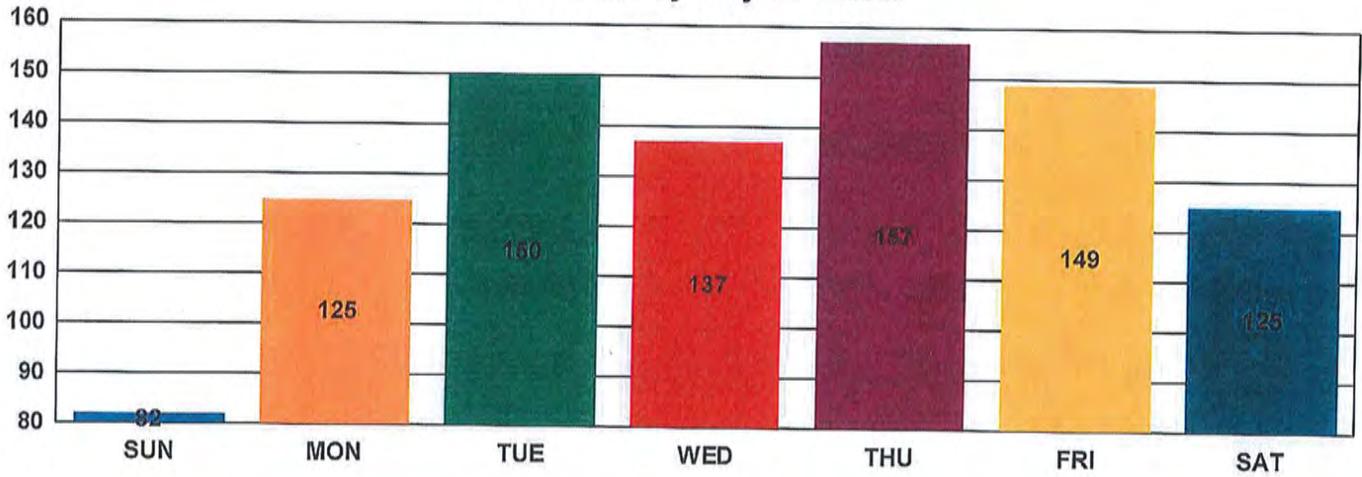
Accidents by Major Roadway and Top 10 Accident Intersections

	Total
Total	492

Accidents by Time of Day



Accidents by Day of Week



# La Porte Police Department

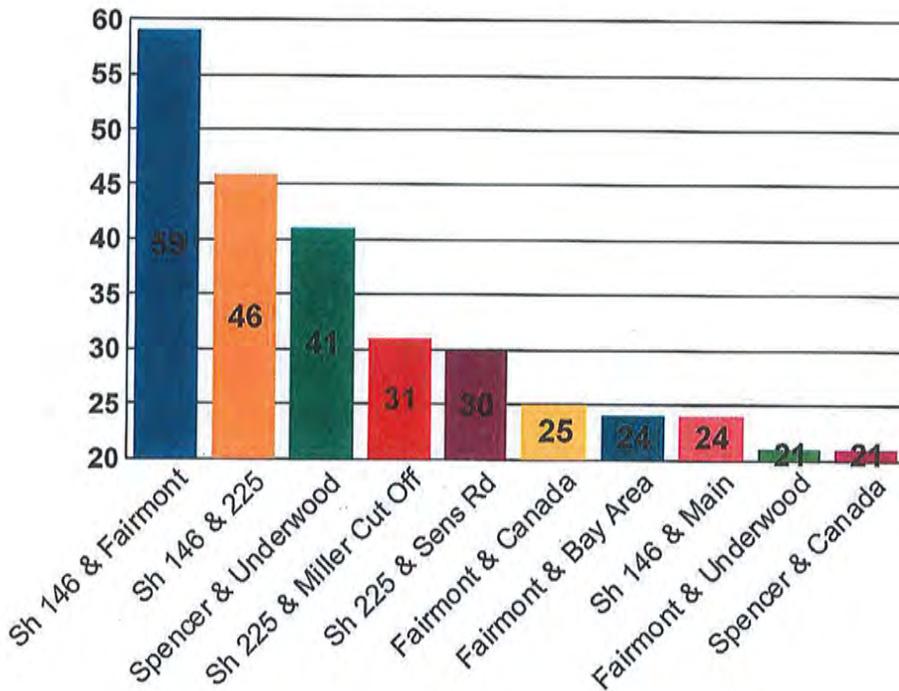
La Porte, Texas



2017

## Accidents by Major Roadway and Top 10 Accident Intersections

### Major Intersections



	Total
Sh 146 & Fairmont	59
Sh 146 & 225	46
Spencer & Underwood	41
Sh 225 & Miller Cut Off	31
Sh 225 & Sens Rd	30
Fairmont & Canada	25
Fairmont & Bay Area	24
Sh 146 & Main	24
Fairmont & Underwood	21
Spencer & Canada	21
Sh 146 & Barbours Cut	19
Fairmont & Bay Park	12
Fairmont & Driftwood	10
Sh 146 & Wharton Weems	8
Spencer & Luella	8
Fairmont & Farrington	7
Fairmont & Luella	6
Spencer & Bay Area	6
Spencer & Myrtle Creek	6
Spencer & Farrington	5
Sh 225 & Independence	4
Fairmont & Broadway	2
Sens & N H St	2
<b>Total</b>	<b>417</b>

#### Top 10 Contributing Factors

FAILED TO CONTROL SPEED	198
DRIVER INATTENTION	123
BACKED WITHOUT SAFETY	57
CHANGED LANE WHEN UNSAFE	50
FAILED TO YIELD ROW - PRIVATE DRIVE	41
OTHER (EXPLAIN IN NARRATIVE)	34
FAILED TO YIELD ROW - OPEN INTERSECTIONS	31
FAILED TO DRIVE IN SINGLE LANE	30
FAULTY EVASIVE ACTION	30
DISREGARD STOP AND GO SIGNAL	29

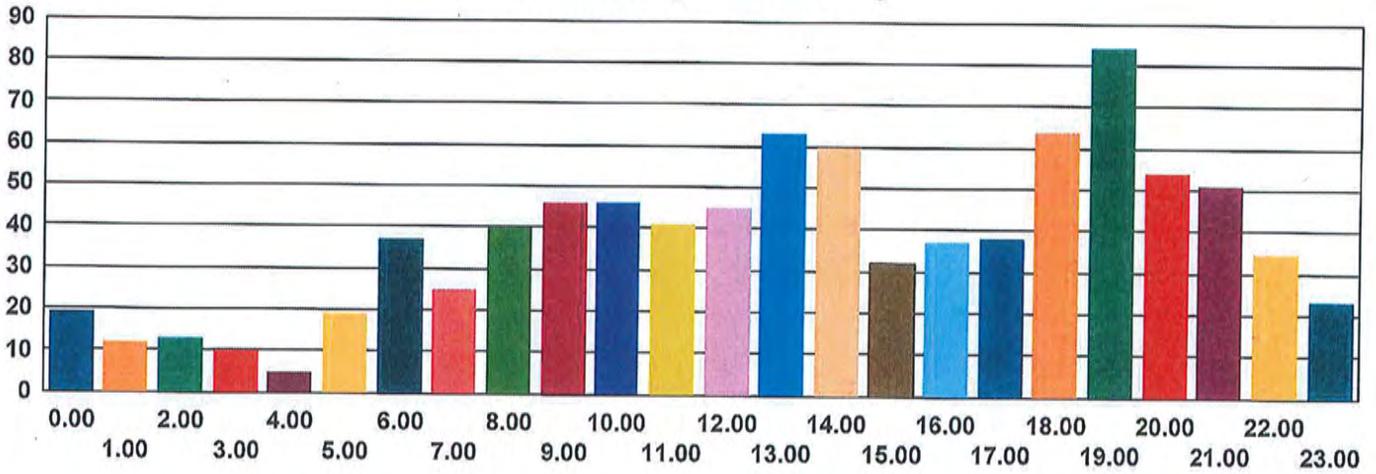
#### Major Roadways

SH 146	222
SH 225	137
Broadway	50
Fairmont Pkwy	289
Sens Rd	54
Spencer Hwy	175
Underwood Rd	114
All Other Roads	523

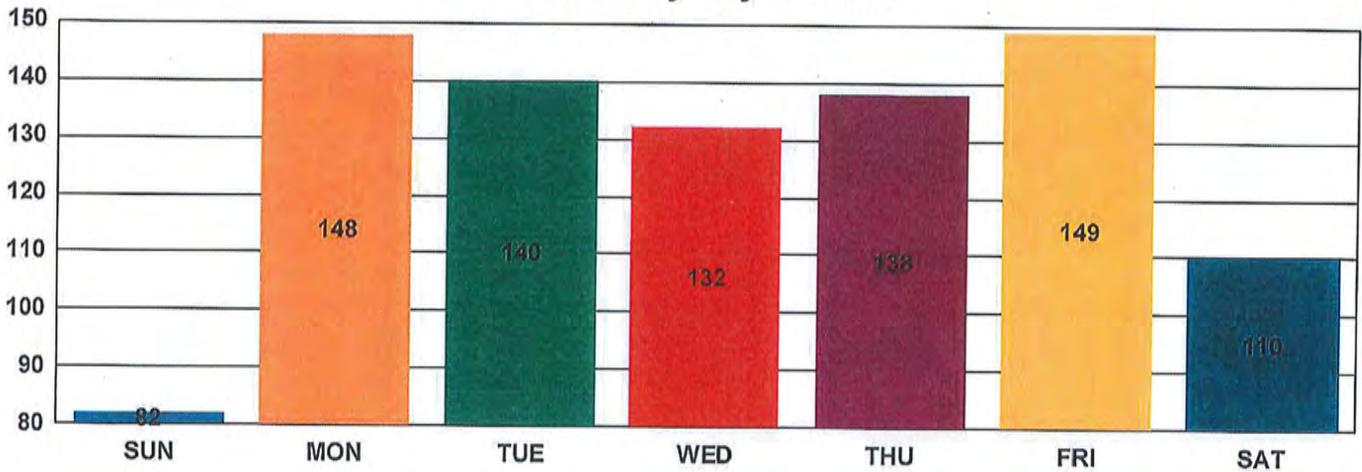
2017

Accidents by Major Roadway and Top 10 Accident Intersections

Accidents by Time of Day



Accidents by Day of Week



# La Porte Police Department

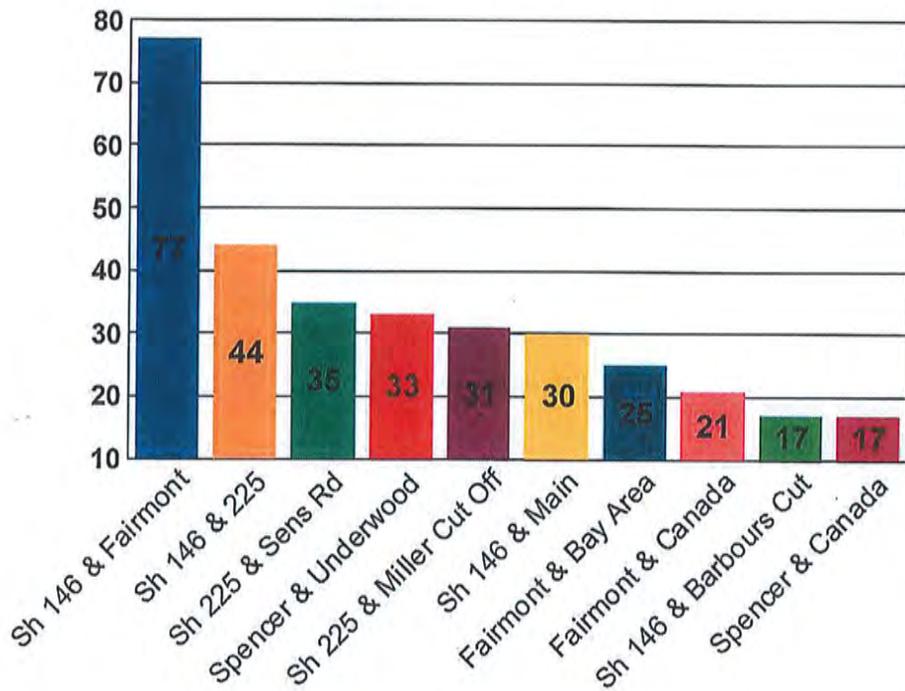
La Porte, Texas



## 2018

### Accidents by Major Roadway and Top 10 Accident Intersections

#### Major Intersections



	Total
Sh 146 & Fairmont	77
Sh 146 & 225	44
Sh 225 & Sens Rd	35
Spencer & Underwood	33
Sh 225 & Miller Cut Off	31
Sh 146 & Main	30
Fairmont & Bay Area	25
Fairmont & Canada	21
Sh 146 & Barbours Cut	17
Spencer & Canada	17
Fairmont & Farrington	12
Fairmont & Underwood	12
Fairmont & Bay Park	8
Spencer & Luella	8
Fairmont & Driftwood	7
Sh 146 & Wharton Weems	7
Sh 225 & Independence	7
Fairmont & Luella	6
Spencer & Bay Area	5
Spencer & Farrington	4
Sens & N P St	3
Fairmont & Broadway	2
Spencer & Myrtle Creek	2
Underwood & Myrtle Creek	2
Sens & N D St	1
Sens & N H St	1
<b>Total</b>	<b>417</b>

#### Top 10 Contributing Factors

FAILED TO CONTROL SPEED	199
DRIVER INATTENTION	136
BACKED WITHOUT SAFETY	68
CHANGED LANE WHEN UNSAFE	46
FAILED TO YIELD ROW - PRIVATE DRIVE	36
FAULTY EVASIVE ACTION	35
OTHER (EXPLAIN IN NARRATIVE)	35
FAILED TO YIELD ROW - TURNING LEFT	25
FOLLOWED TOO CLOSELY	23
FAILED TO DRIVE IN SINGLE LANE	22

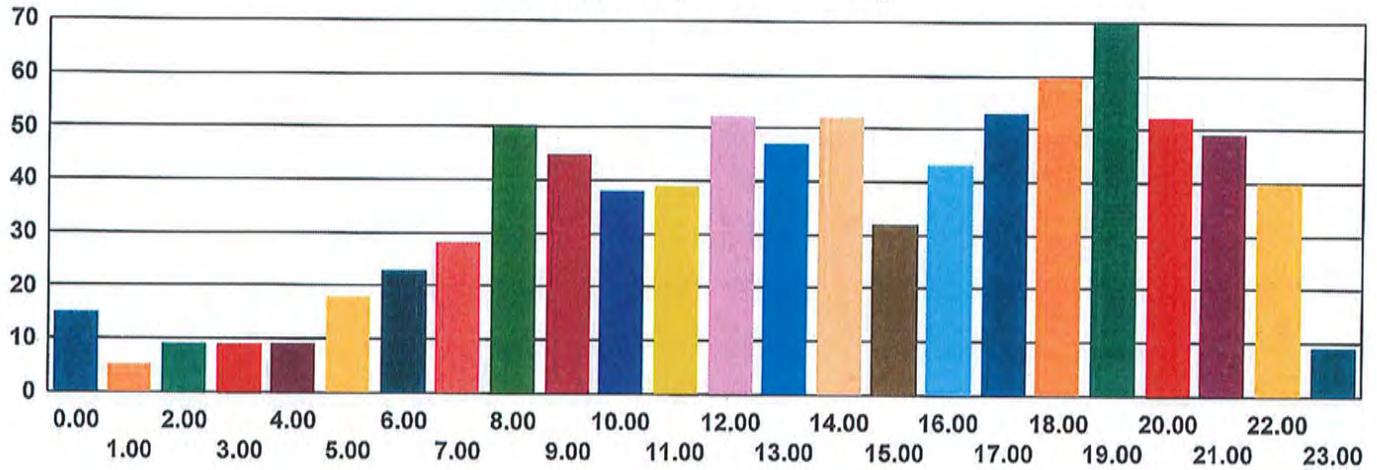
#### Major Roadways

SH 146	261
SH 225	152
Broadway	59
Fairmont Pkwy	278
Sens Rd	52
Spencer Hwy	155
Underwood Rd	91
All Other Roads	530

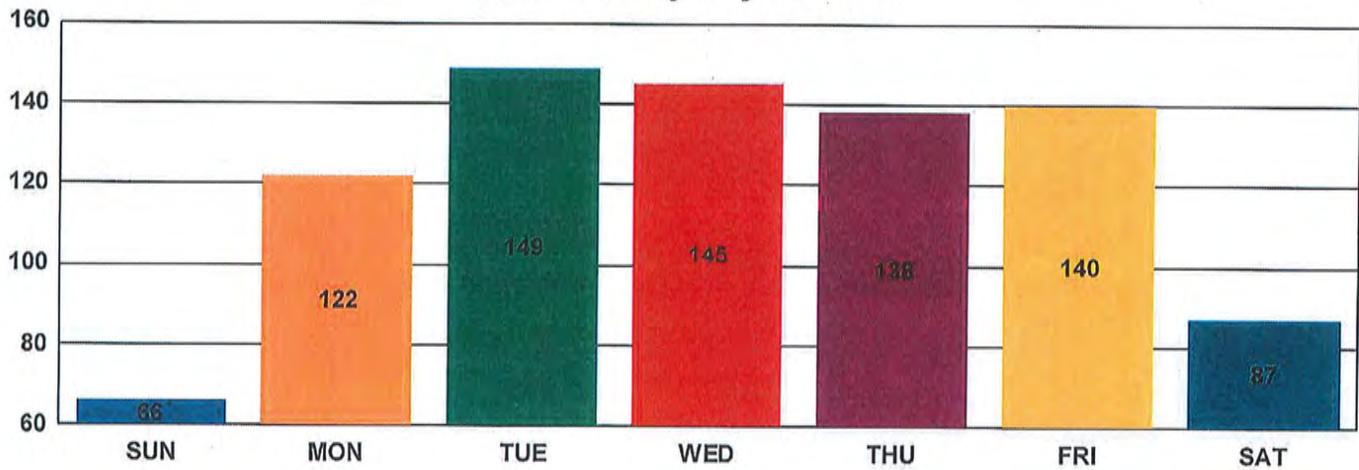
# 2018

## Accidents by Major Roadway and Top 10 Accident Intersections

### Accidents by Time of Day



### Accidents by Day of Week





4.00 – 4.19	4.00%
4.20 – 4.49	4.50%
4.50 – 5.00	5.00%

**Pros & Cons of Timing Change:**

<b>Current Practice</b>	<b>Move to Uniform Date</b>
Maintains current schedule; no disruption for employees.	Enables easier accounting of budgetary impact of increases.
Spreads out the work of preparing for and conducting evaluation meetings.	Creates a significant workload in a condensed period of time, especially for larger departments.
Makes a clearer accounting of budgetary impact more difficult.	Impacts 6-month increase and possibly creates some timing inequalities.

**Uniform Date Timeline Example:**

- Review period is 10/01-09/30 of each year.
- Reviews are completed and submitted by 11/1 of each year
- Related pay increases are effective 01/01
- The period between 11/1 and 01/01 is used to calibrate and account for budgetary impact
- Employees would need to be on payroll by a certain date to be eligible. Example: 4/1 (6-months prior) so that they have completed probationary period.
- An employee hired on 3/25/18 would complete their probationary period around 9/25/18 and be eligible for the merit plan. They would receive their first merit-based pay increase on 01/01/19, at around 9 months after their start date.
- An employee hired on 4/15/18 would complete their probationary period around 10/15/18 and not be eligible for the merit plan. They would wait until 01/01/20 to receive their first merit-based pay increase, at around 18 months after their start date.

**Action Required by Council:**

A discussion on direction to staff regarding the implementation of the performance evaluation and merit program.

**Approved for City Council Agenda**

\_\_\_\_\_  
Corby D. Alexander

\_\_\_\_\_  
Date

## REQUEST FOR CITY COUNCIL AGENDA ITEM

<b>Agenda Date Requested:</b> <u>March 23, 2019</u>
<b>Requested By:</b> <u>Lee Woodward, City Secretary</u>
<b>Department:</b> <u>CSO</u>
<b>Report:</b> <u>    </u> <b>Resolution:</b> <u>    </u> <b>Ordinance:</b> <u>    </u>

<b><u>Budget</u></b>
<b>Source of Funds:</b> _____
<b>Account Number:</b> _____
<b>Amount Budgeted:</b> _____
<b>Amount Requested:</b> _____
<b>Budgeted Item:</b> YES    NO

**Exhibit:**  
**Exhibit:**

### SUMMARY & RECOMMENDATION

Every organization handles its meetings a little differently, as is to be expected. Over the last few weeks the City Secretary has noted a few items and the Mayor suggested they be readied for discussion here.

1. At Council Committee meetings (Fiscal Affairs, 4B/Dev., Drainage), there is an agenda item to set the next meeting date. Each committee has set a regular schedule for its meetings, but acknowledges that from time to time there will be deviation due to holidays, availability of presentations, etc. The regular expected schedule is available to any who ask and can be posted on the website page for each committee, if desired.
  - With this understanding, is there any objection to removing the agenda item to set the date of the next meeting?
  
2. At recent meetings, Councilmember discussion and staff input has occurred before a motion has been made. Robert’s Rules of Order Newly Revised, 11th ed., p. 34, ll. 32-p. 35, ll.2 (there is lengthier additional material on the topic on p. 34) addresses this in part with the following – ‘The general rule against discussion without a motion is one of parliamentary procedure’s powerful tools for keeping business “on track,” and an observance of its spirit can be an important factor in making even a very small meeting rapidly moving and interesting.’
  - Is there any objection to having the presiding officer call for a motion before hearing staff or opening debate?
  
3. The City Secretary has been reviewing and updating the CSO and City Council webpages in an effort to increase transparency, provide information that may also be sought in public information requests, and improve general public awareness on the functioning of the Council and the CSO, particularly in regard to the candidacy and election process.
  - Is there any objection to posting the candidate packet and other candidate and election information on the elections webpage?
  
4. There has been a suggestion that Council meeting minutes include some reference to the remarks of those speaking in Public Comments.

5. You were emailed a few weeks about the computer monitors in the desk wells on the dais that show projected material. Some options are listed below for your consideration:

- Remove desk monitors and place covers on the wells; view projected material on iPads and ceiling monitors directed to Council; OR
- Place desk monitors on desktop and place covers on the wells to increase desk area for iPads and other material; OR
- No change.

If there is interest, iPad docking stations are also an option, either separately or in conjunction with the options above, making those devices more like a projection screen. (Important to remember is that both P&Z and ZBOA meeting use the monitors very frequently, we understand, so they need a viewing option (P&Z has iPads, but ZBOA does not), either desk monitors or hung screens or both.)

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**Action Required by Council:**

Provide staff direction regarding the above mentioned items in the City Secretary's Office.

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**Approved for City Council Agenda**

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**Corby D. Alexander**

---

**Date**