

PORT LAVACA CDBG MIT APPLICATION PACKAGE

The City of Port Lavaca is giving notice of the City's intent to submit an application to the Texas General Land Office (GLO) for a Texas Community Development Block Grant – Mitigation (CDBG-MIT) Program. The proposed total of the City's grant application(s) is over \$31 million, to be used for the following project(s) in, Port Lavaca, Texas.

1. Living Shoreline Project \$13,778,748 (Coastal Resiliency Program)
2. Corporation Drainage Improvements \$17,476,225 (Harvey Competition)

The Projects' details can be viewed at the City's website. <https://portlavaca.org/> or Port Lavaca City Hall during regular business hours located at 202 North Virginia, Port Lavaca, Texas, 77979.

The City will receive public comments for fourteen (14) days from the date of this posting, until October 21, 2020. The public is encouraged to submit comments to Jody Weaver, City Engineer, at 202 North Virginia, Port Lavaca, Texas, 77979 or via email jweaver@portlavaca.org. All input must be received by 5:00pm on October 21, 2020. Comments will be incorporated into the draft application documents, as appropriate, that will mitigate the devastating effects of natural disasters as well ensure the project(s) are in line with environmental regulations, affirmatively further fair housing activities, and, if applicable, minimizing displacement of persons by project activities.

Upon the expiration of this comment period the City will review and address the public comments in the proposed application. For more information, contact Jody Weaver, City Engineer, at 361-827-3601.

Para más información en español, comuníquese con Maricela Gonzales al mgonzales@portlavaca.org y 361-827-3601.

Attachments include

1. Projects' Scope of Work
2. Cost Estimates
3. Maps
4. Area of Benefit to residents map

**PORT LAVACA
 CORPORATION DITCH**

Proposed Improvements – Scope-of-Work Description
 October 2, 2020

Introduction. The following description is for defining the scope-of-work of proposed improvements to the Corporation Ditch in Port Lavaca, Texas in order to effect a reduction in the risk of impacts from upland rainfall events that may produce runoff that could cause flooding in neighborhoods and properties that drain to Corporation Ditch.

Photographs included below were taken during Mott MacDonald field reconnaissance team members Sara McNeil, Kendal Morrow, Monica Camacho and Steve Synovitz on Thursday, September 24, 2020. Note that Tropical Storm Beta made landfall in Port Lavaca only 3 days prior, on Monday, September 21, 2020. The team observed some evidence of storm surge impacts at the outfall of Corporation Ditch (floatable debris lines approximately 4-feet above the water surface of the Bay during the reconnaissance).

The description that follows begins at the outfall of Corporation Ditch into Lavaca Bay and works upstream. Major features along the way are described and a scope-of-work for proposed improvements within each of four sections are included. Those four sections are:

1. **Lavaca Bay to S. Virginia Street (FM 1090)**
2. **S. Virginia Street (FM 1090) to W. Austin Street (TX - 238)**
3. **W. Austin Street (TX – 238) to W. Main Street (U.S. - 87)**
4. **Upstream of W. Main Street (U.S. - 87)**





**CDBG-MIT: Budget Justification of Retail Costs
(Former Table 2)**

Cost Verification Controls must be in place to assure that construction costs are reasonable and consistent with market costs at the time and place of construction.

Applicant/Subrecipient:	City of Port Lavaca, Texas					
Site/Activity Title:	Corporation Ditch Drainage Enhancements					
Eligible Activity:						
Materials/Facilities/Services	\$/Unit	Unit	Quantity	Construction	Acquisition	Total
Civil Components:						
Land Purchase	\$15,000	AC	13.5	\$0	\$202,500	\$202,500
SWPPP	\$5	LF	17,300	\$86,500	\$0	\$86,500
Detention Excavation	\$20	CY	21,000	\$420,000	\$0	\$420,000
Railroad Crossing	\$1,475,000	LS	1	\$1,475,000	\$0	\$1,475,000
Street/Highway Crossingw	\$2,511,000	LS	1	\$2,511,000	\$0	\$2,511,000
Trapezoidal Earth Channel	\$200	LF	5,100	\$1,020,000	\$0	\$1,020,000
Rectangular Concrete Channel	\$3,740,000	LS	1	\$3,740,000	\$0	\$3,740,000
Lateral Storm Drain Piping	\$750,000	LS	1	\$750,000	\$0	\$750,000
Fencing & Gates	\$50	LF	2,400	\$120,000	\$0	\$120,000
Revegetation	\$128,600	LS	1	\$128,600	\$0	\$128,600
Marine Components:						
Site work/ contractor surveys	\$50,000	LS	1	\$50,000	\$0	\$50,000
Environmental Protection	\$422,000	LS	1	\$422,000	\$0	\$422,000
Jetties	\$810	LF	950	\$769,500	\$0	\$769,500
Breakwaters	\$810	LF	1,900	\$1,539,000	\$0	\$1,539,000
Dredging	\$6	CY	4,500	\$27,000	\$0	\$27,000
Bluff Slope grading	\$3	CY	1300	\$3,900	\$0	\$3,900
Bluff Slope protection	\$350	LF	2,100	\$735,000	\$0	\$735,000
TOTAL				\$13,797,500	\$202,500	\$14,000,000

1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.

Annual O&M Budget for Port Lavaca Street Department for 2019-2020 is approximately \$3 Million. We assumed 1.67% of this annual budget would need to be earmarked for annual O&M of the project = \$50,000.

2. Identify and explain any special engineering activities.

Corporation Ditch crosses beneath an active RR spur; will need a condition assessment above and below the water; and assumed replacement of existing culverts with either jacked box culverts or slip-lining depending upon the results of hydraulic analysis.



Seal

Date:	10/5/2020
Phone Number:	361.548.7886

Signature of Registered Engineer/Architect Responsible For Budget Justification:

Scope of Work. The proposed scope-of-work for the project is described below.

1. Lavaca Bay to S. Virginia Street (FM 1090)



- Jetties on each side of the Corporation Ditch outfall into Lavaca Bay will be constructed as part of the Harbor of Refuge coastal protection barrier restoration portion of the grant project; the costs of which will be included in that phase of the work.
- In addition, a naturally occurring sand bar across the mouth of the channel outfall will be removed under that phase of the project.



- Existing channel geometry, adjacent wetlands, trees and riparian zones and nearby private property grass areas shall be protected-in-place. By observation, depending upon which storm event dominates the drainage (storm surge or upland rainfall or a combination of both) it is assumed that the channel hydraulics are being controlled either by storm surge, or by an upstream set of culverts at a railroad crossing and/or S. Virginia Street (FM 1090). During the design phase, a hydraulic analysis of the Corporation Ditch will be performed to verify this assumption. Therefore, it does not appear that any improvements to the existing channel geometry between the railroad crossing and the outfall into Lavaca Bay are warranted.



- At the railroad crossing, there are two metal culverts that convey the stormwater flows. During the design phase, an inspection of these culverts will be performed to determine their condition. Depending upon the results of the hydraulic analysis, these culverts will either need to be replaced or could be slip-lined. For budget purposes, the assumption is that the existing culverts will need to be replaced by jacking four (4) 8-foot x 10-foot box culverts under the railroad, 85 linear feet for each box culvert.



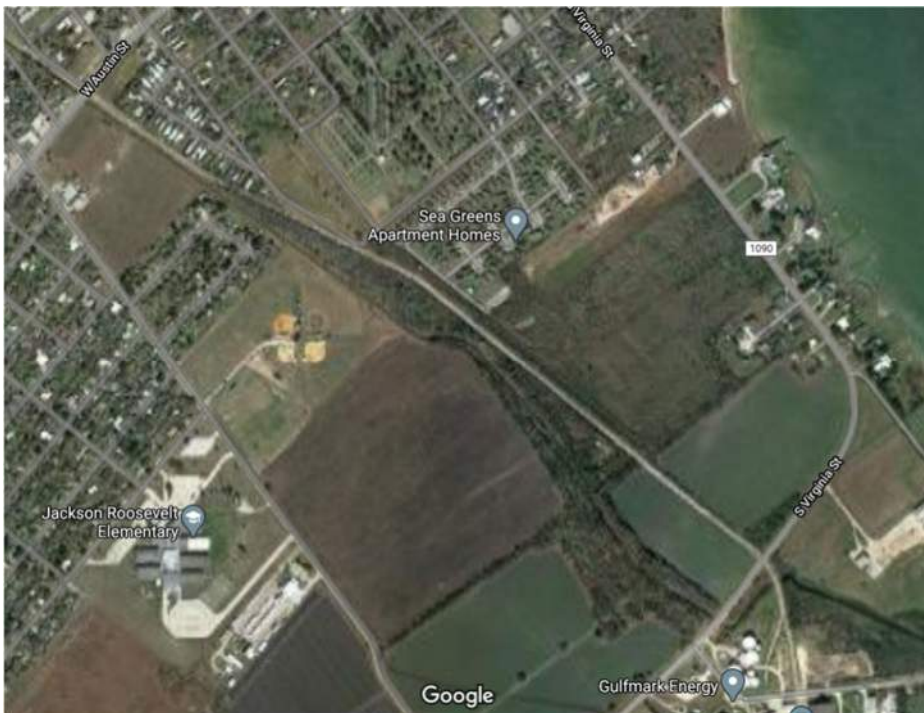
- At the S. Virginia Street (FM 1090) crossing, the existing box culverts under the highway have a low clearance that catches woody debris. There is also a steel-cased aerial sewer crossing that also appears to be a potential debris catcher. By observation, it appears that this location may be the hydraulic control for rainfall events with little to moderate (< 5-feet) storm surge. FEMA FIRM maps show a 14-foot storm surge for the 100-year storm surge event. For budget purposes, the assumption is that the existing culverts will need to be replaced with five (5) 6-foot x 10-foot box culverts, 90 linear feet for each box culvert. Options for relocating the sanitary sewer will also be investigated during the design phase.





1	COAST TO UPSTREAM S VIRGINIA ST	Unit	Quantity	Price/Unit	Total Price	
1	Mobilization/Demobilization	LS	1	\$ 125,000.00	\$ 125,000.00	
2	Land Purchase	AC	0	\$ 15,000.00	\$ -	
3	SWPPP	LF	3,700	\$ 5.00	\$ 18,500.00	
4	Detention Excavation	CY	0	\$ 20.00	\$ -	
5	Railroad Crossing (Including LF of Each Box Culvert)	LF	340	\$ 3,750.00	\$ 1,275,000.00	
6	Street/Highway Crossing (Including LF of Each Box Culvert)	LF	450	\$ 2,700.00	\$ 1,215,000.00	
7	Trapezoidal Earth Channel (Assumes 10 CY PER LF)	LF	0	\$ 200.00	\$ -	
8	Rectangular Concrete Channel	LF	0	\$ 3,600.00	\$ -	
9	Maintenance Trail	SF	0	\$ 7.00	\$ -	
10	Lateral Storm Drain Piping	LS	1	\$ 50,000.00	\$ 50,000.00	
11	Fencing & Gates	LF	0	\$ 50.00	\$ -	
12	Revegetation	LF	0	\$ 100.00	\$ -	\$ 2,683,500.00

2. S. Virginia Street (FM 1090) to W. Austin Street (TX - 238)



- The segment of Corporation Ditch from S. Virginia Street (FM 1090) to W. Austin Street (TX – 238) is dominated by forested riparian areas, agricultural row crops, a City baseball park and one residential sub-division. The design strategy for this segment is to purchase a 50-foot wide strip of land, where there is open area adjacent to the existing channel. This will allow for a widening of the channel without detrimental impacts to existing riparian areas – i.e. those areas should be protected-in-place as they serve a value role in reducing runoff and erosion, trapping floatable debris and sediment, and improving the aesthetic value of the channel corridor. Thus, the budget items for consideration in this reach include some minor purchase of strips of land; widening of the channel by excavation; and reducing the steepness of the channel side slope along the not-forested bank.





- Existing lateral storm pipes along this reach will need to be reconstructed at their respective outfalls into the channel, where the new channel geometry will require reconstruction of those laterals.



- The proposed channel widening will need to be adjusted to avoid encroaching upon the City's baseball field and an associated light pole; and will need to avoid encroaching upon the rear fence line of an existing residential subdivision, while still allowing for a maintenance access corridor.

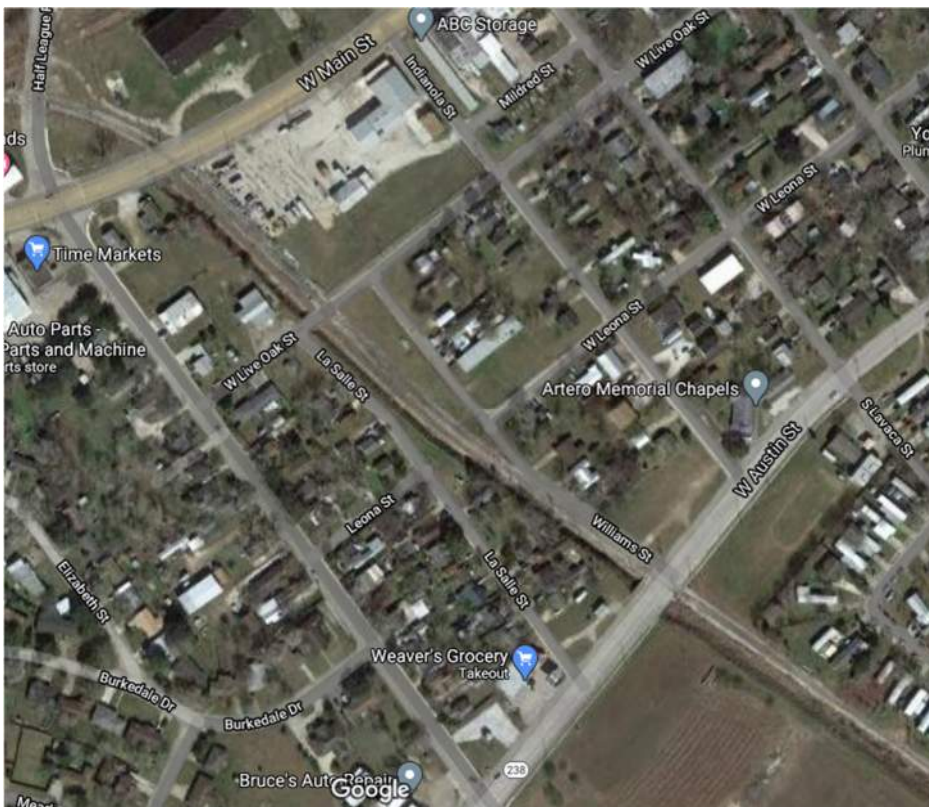


- At the W. Austin Street (TX - 238) crossing, the existing box culverts under the street will be replaced; for budget purposes, we are assuming three (3) 5-foot x 8-foot box culverts, 80 linear feet for each box culvert.



2	UPSTREAM S VIRGINIA ST TO UPSTREAM W AUSTIN ST.					
1	Mobilization/Demobilization	LS	1	\$ 125,000.00	\$ 125,000.00	
2	Land Purchase	AC	10	\$ 15,000.00	\$ 150,000.00	
3	SWPPP	LF	10,200	\$ 5.00	\$ 51,000.00	
4	Detention Excavation	CY	0	\$ 20.00	\$ -	
5	Railroad Crossing (Including LF of Each Box Culvert)	LF	0	\$ -	\$ -	
6	Street/Highway Crossing (Including LF of Each Box Culvert)	LF	240	\$ 2,700.00	\$ 648,000.00	
7	Trapezoidal Earth Channel (Assumes 10 CY PER LF)	LF	5,100	\$ 200.00	\$ 1,020,000.00	
8	Rectangular Concrete Channel	LF	0	\$ 3,600.00	\$ -	
9	Maintenance Trail	SF	0	\$ 7.00	\$ -	
10	Lateral Storm Drain Piping	LS	1	\$ 200,000.00	\$ 200,000.00	
11	Fencing & Gates	LF	0	\$ 50.00	\$ -	
12	Revegetation	LF	5,100	\$ 25.00	\$ 127,500.00	\$ 2,321,500.00

3. W. Austin Street (TX - 238) to W. Main Street (U.S. - 87)



- The segment of Corporation Ditch from W. Austin Street (TX - 238) to W. Main Street (U.S. - 87) is a concrete-lined trapezoidal channel. Power poles and the railroad corridor run adjacent to the channel. There are numerous storm drain laterals that convey stormwater runoff from adjacent residential neighborhoods into the channel. For budget purposes we are assuming that this trapezoidal channel will be replaced with a rectangular channel, 30-feet wide by 10-feet deep. Security fencing will need to be installed along both sides to keep people from falling into the channel.





- At the W. Live Oak Street crossing, the existing box culverts under the street will be replaced; for budget purposes, we are assuming three (3) 5-foot x 8-foot box culverts, 80 linear feet for each box culvert.



- The Corporation Ditch turns into an underground box culvert at W. Main Street (U.S. – 87). For budget purposes, it is assumed that this box culvert will not need replacement.



3	UPSTREAM W AUSTIN ST. TO UPSTREAM W. MAIN ST.					
1	Mobilization/Demobilization	LS	1	\$ 125,000.00	\$ 125,000.00	
2	Land Purchase	AC	0	\$ 15,000.00	\$ -	
3	SWPPP	LF	2,400	\$ 5.00	\$ 12,000.00	
4	Detention Excavation	CY	0	\$ 20.00	\$ -	
5	Railroad Crossing (Including LF of Each Box Culvert)	LF	0	\$ -	\$ -	
6	Street/Highway Crossing (Including LF of Each Box Culvert)	LF	240	\$ 2,700.00	\$ 648,000.00	
7	Trapezoidal Earth Channel (Assumes 10 CY PER LF)	LF	0	\$ 200.00	\$ -	
8	Rectangular Concrete Channel	LF	1,200	\$ 2,700.00	\$ 3,240,000.00	
9	Maintenance Trail	SF	0	\$ 7.00	\$ -	
10	Lateral Storm Drain Piping	LS	1	\$ 300,000.00	\$ 300,000.00	
11	Fencing & Gates	LF	2,400	\$ 50.00	\$ 120,000.00	
12	Revegetation	LF	0	\$ -	\$ -	\$ 4,445,000.00

4. Upstream of W. Main Street (U.S. - 87)



- There are several challenges upstream of W. Main Street (U.S. – 87) including: A. Several railroad and roadway crossings; B. Inefficient conveyance of stormwater runoff into the Corporation Ditch underground box culvert; and, C. Ineffective drainage pipe inlets and a potential choke point (5' x 5' concrete box into a 60-inch CMP) at one of the old railroad crossings.
- The drainage system continues upstream into the local residential neighborhoods via a 54-inch, 48-inch and 42-inch underground storm pipe in Half League Road.









- Currently, there is a new storm drain system improvement project that is under construction in this neighborhood and which will tie into the system at Half League Road.



- Improvements in this reach will include more efficient lateral tie-ins to the Corporation Ditch underground box culvert as well as three locations earmarked for detention, which, if obtained, can help to lessen the impact of stormwater runoff on the downstream system. This might also allow for a reduction in the sizing of the drainage components (channel and boxes) downstream as well, depending upon the magnitude of the detention facilities.

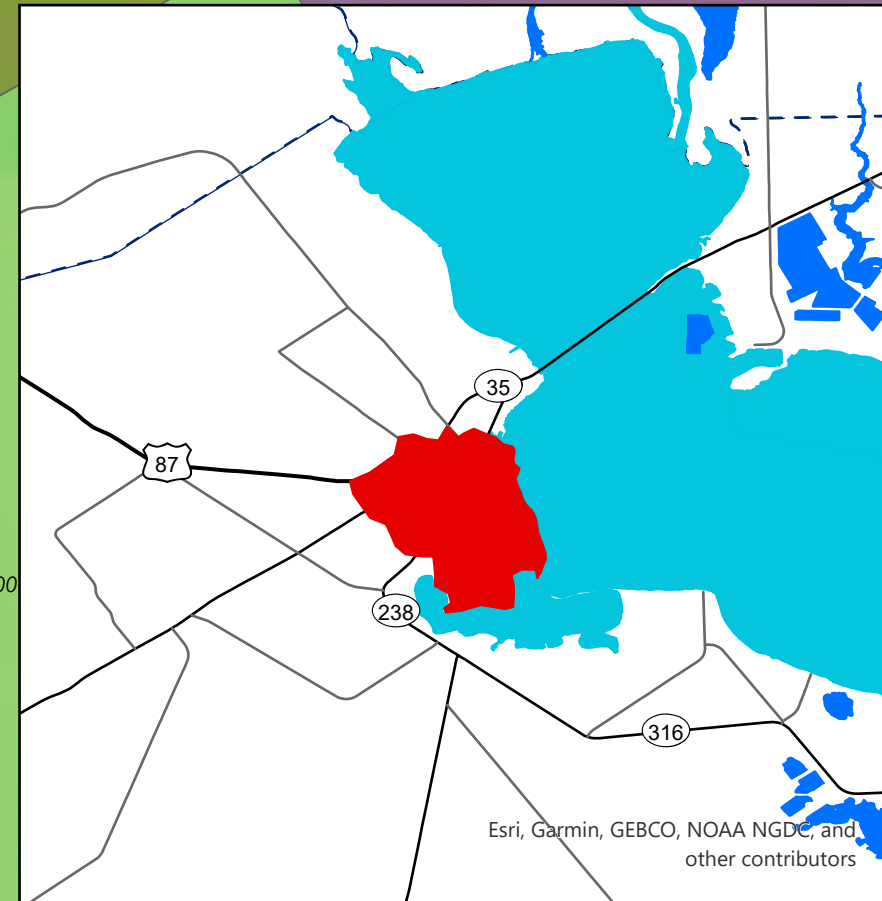
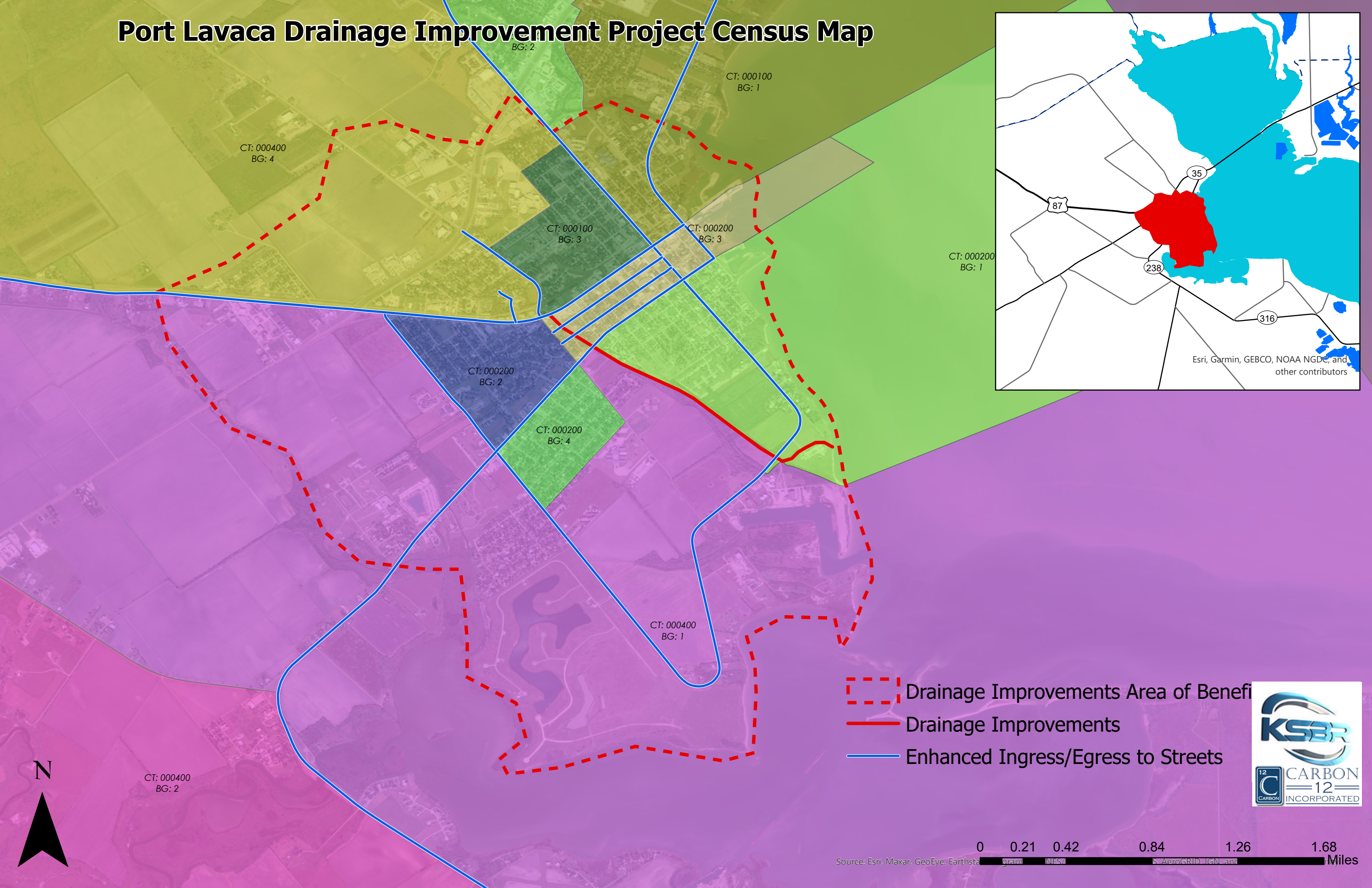



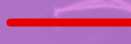

4	UPSTREAM W. MAIN ST.					
1	Mobilization/Demobilization	LS	1	\$ 125,000.00	\$ 125,000.00	
2	Land Purchase	AC	4	\$ 15,000.00	\$ 52,500.00	
3	SWPPP	LF	1,000	\$ 5.00	\$ 5,000.00	
4	Detention Excavation	CY	21,000	\$ 20.00	\$ 420,000.00	
5	Railroad Crossing (Including LF of Each Box Culvert)	LF	200	\$ 1,000.00	\$ 200,000.00	
6	Street/Highway Crossing (Including LF of Each Box Culvert)	LF	0	\$ 3,600.00	\$ -	
7	Trapezoidal Earth Channel (Assumes 10 CY PER LF)	LF	0	\$ 200.00	\$ -	
8	Rectangular Concrete Channel	LF	0	\$ 3,600.00	\$ -	
9	Maintenance Trail	SF	0	\$ 7.00	\$ -	
10	Lateral Storm Drain Piping	LS	1	\$ 200,000.00	\$ 200,000.00	
11	Fencing & Gates	LF	0	\$ 50.00	\$ -	
12	Revegetation	LF	0	\$ 100.00	\$ -	\$ 1,002,500.00

Project Cost Opinion Summary:

Port Lavaca Corporation Ditch Conceptual Opinion of Probable Construction Costs				
				last updated: 9/29/2020
Item	Quantity	Unit	Unit cost	Total
Civil Components				
Mobilization/Demobilization	1	LS	\$ 500,000.00	\$500,000
Land Purchase	14	AC	\$ 15,000.00	\$202,500
SWPPP	17,300	LF	\$ 5.00	\$86,500
Detention Excavation	21,000	CY	\$ 20.00	\$420,000
Railroad Crossing (Including LF of Each Box Culvert)	1	LS	\$1,475,000	\$1,475,000
Street/Highway Crossing (Including LF of Each Box Culvert)	1	LS	\$2,511,000	\$2,511,000
Trapedoidal Earth Channel (Assumes 10 CY PER LF)	5,100	LF	\$ 200.00	\$1,020,000
Rectangular Concrete Channel	1	LS	\$3,240,000	\$3,240,000
Maintenance Trail	0	SF	\$ 7.00	\$0
Lateral Storm Drain Piping	1	LS	\$ 750,000.00	\$750,000
Fencing & Gates	2,400	LF	\$ 50.00	\$120,000
Revegetation	1	LS	\$127,500	\$127,500
Construction total				\$10,452,500
Engineering	1	LS	10%	\$1,045,250
Construction Administration	1	LS	5%	\$522,625
Grant Administration	1	LS	8%	\$836,200
Total	Total			\$12,856,575

Port Lavaca Drainage Improvement Project Census Map



-  Drainage Improvements Area of Benefit
-  Drainage Improvements
-  Enhanced Ingress/Egress to Streets



0 0.21 0.42 0.84 1.26 1.68 Miles

Source: Esri, Maxar, GeoEye, Earthstar, DigitalGlobe, GeoEye, IGN, Aerogrid, IGN, and others