Controller's Office

To the Honorable Mayor and City Council of the City of Houston, Texas:

I hereby certify, with respect to the money required for the contract, agreement, obligation or expenditure contemplated by the ordinance set out below that:

( ) Funds have been encumbered out of funds previously appropriated for such purpose.

( ) Funds have been certified and designated to be appropriated by separate ordinance to be approved prior to the approval of the ordinance set out below.

( ) Funds will be available out of current or general revenue prior to the maturity of any such obligation.

( ) No pecuniary obligation is to be incurred as a result of approving the ordinance set out below.

( ) The money required for the expenditure or expenditures specified below is in the treasury, in the fund or funds specified below, and is not appropriated for any other purposes.

( ) A certificate with respect to the money required for the expenditure or expenditures specified below is attached hereto and incorporated hereby this reference.

(✓) Other – Grant Funds ~~Available~~ Application

Date: 10-6, **20**20

City Controller of the City of Houston, Texas

FUND REF: MC **AMOUNT:** $2 **ENCUMB. NO.:** GN3037-21

City of Houston, Texas Ordinance No. 2020-851

AN ORDINANCE APPROVING AND AUTHORIZING THE SUBMISSION OF SEVEN (7) GRANT APPLICATIONS FOR GRANT ASSISTANCE TO THE TEXAS GENERAL LAND OFFICE FOR FLOOD MITIGATION PROJECTS THROUGH THE FEDERAL HOUSING AND URBAN DEVELOPMENT DEPARTMENT'S COMMUNITY DEVELOPMENT BLOCK GRANT – MITIGATION PROGRAM; DECLARING THE CITY'S ELIGIBILITY FOR SUCH GRANT; AUTHORIZING THE DIRECTOR OF THE CITY OF HOUSTON'S DEPARTMENT HOUSTON PUBLIC WORKS ("DIRECTOR") TO ACT AS THE CITY'S REPRESENTATIVE IN THE APPLICATION PROCESS, TO ACCEPT SUCH GRANT FUNDS, IF AWARDED, AND TO APPLY FOR AND ACCEPT ALL SUBSEQUENT AWARDS, IF ANY, PERTAINING TO THE PROGRAM; CONTAINING PROVISIONS RELATING TO THE SUBJECT; AND DECLARING AN EMERGENCY.

* * * *

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HOUSTON, TEXAS:

Section 1. The City Council hereby approves and authorizes the contract, agreement or other undertaking described in the title of this Ordinance, in substantially the form as shown in the document which is attached hereto and incorporated herein by this reference. The Mayor is hereby authorized to execute such document and all related documents on behalf of the City of Houston. The City Secretary is hereby authorized to attest to all such signatures and to affix the seal of the City to all such documents.

Section 2. The Mayor is hereby authorized to take all actions necessary to effectuate the City's intent and objectives in approving such agreement, agreements or other undertaking described in the title of this ordinance, in the event of changed circumstances. The City Secretary is authorized to attest to all signatures and to affix the seal of the City to all documents.

Section 3. The City Attorney is hereby authorized to take all action necessary to enforce all legal obligations under said contract without further authorization from Council.

Section 4. There exists a public emergency requiring that this Ordinance be passed finally on the date of its introduction as requested in writing by the Mayor; therefore, this Ordinance shall be passed finally on such date and shall take effect immediately upon its passage and approval by the Mayor; however, in the event that the Mayor fails to sign this Ordinance within five days after its passage and adoption, it shall take effect in accordance with Article VI, Section 6, Houston City Charter.

PASSED AND ADOPTED this 7th **day of** October **, 20** 20

APPROVED this _____ day of _____, 20___.

_____
Mayor of the City of Houston, Texas

Pursuant to Article VI, Section 6, Houston City Charter, the effective date of the foregoing Ordinance is OCT 13 2020.

_____
City Secretary

CAPTION PUBLISHED IN DAILY COURT REVIEW DATE: OCT 13 2020

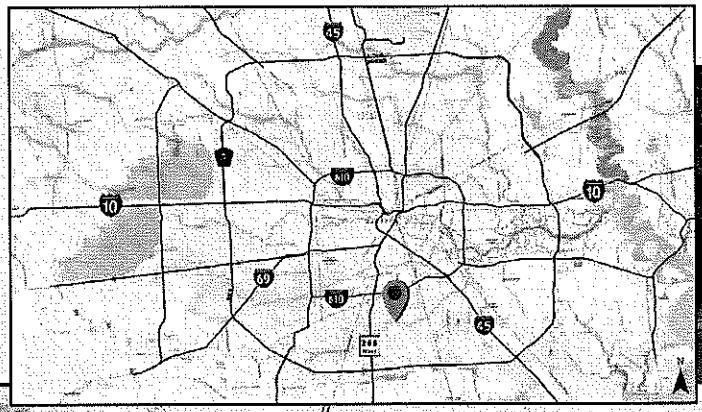
FUNDING SOURCE:
$484,262,200.06 – Fund 5430 – Federal State Local – HPW Pass thru DDSRF
$ 29,144,680.00 – Fund TBD - Local Share Amount

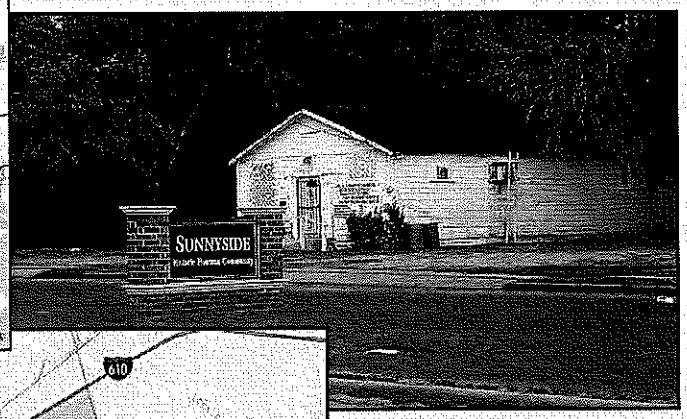
(Prepared by Legal Dept. Marina Bars)
(MNB/sjl 09/15/2020) Assistant City Attorney
(Requested by Carol Ellinger Haddock, P.E., Director, Houston Public Works)
(L.D. File No. 0632000386001)

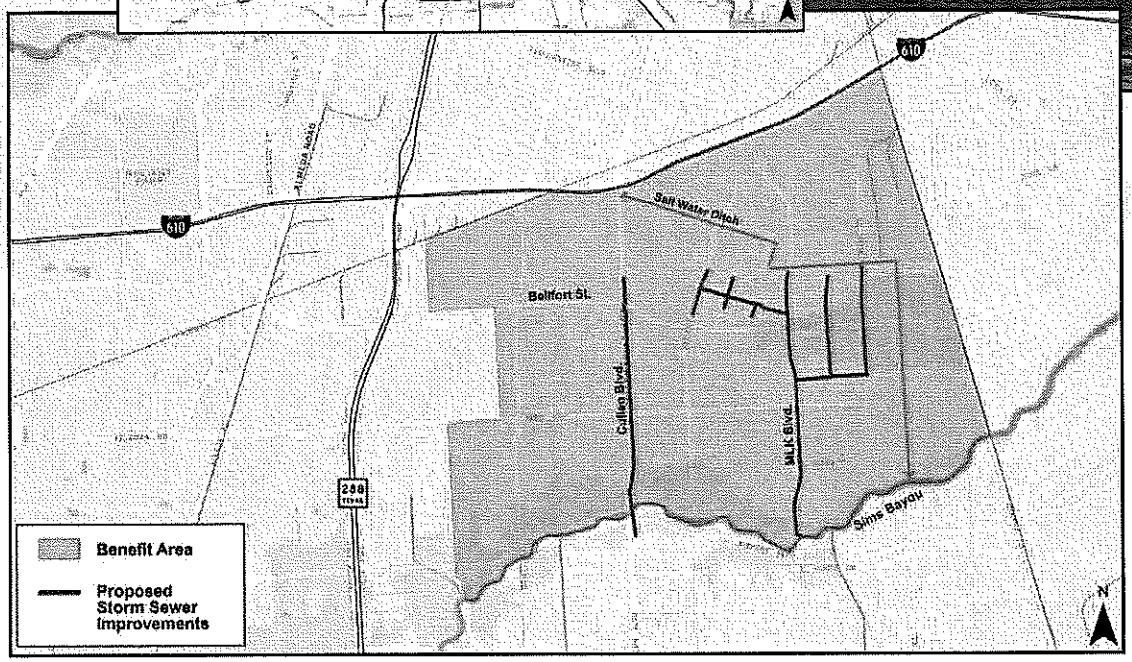
AYE	NO	
✓		**MAYOR TURNER**
• • • •	• • • •	**COUNCIL MEMBERS**
✓		PECK
✓		DAVIS
✓		KAMIN
✓		EVANS-SHABAZZ
✓		MARTIN
✓		THOMAS
✓		TRAVIS
✓		CISNEROS
✓		GALLEGOS
✓		POLLARD
✓		MARTHA CASTEX-TATUM
✓		KNOX
✓		ROBINSON
✓		KUBOSH
✓		PLUMMER
✓		ALCORN
CAPTION	ADOPTED	

Rev. 5/18

HOUSTON SUNNYSIDE AREA FLOOD MITIGATION







Scope of Work	The project area bounded by Cullen Blvd. on the west, Salt Water Ditch (HCFCD Channel C118-00-00) on the north and east, and Sims Bayou on the south. The project includes new storm sewer trunk systems on Cullen Blvd. and MLK Blvd., new storm sewer systems on Crestmont St., Southbank, and Vasser Rd., and storm sewer improvements on Jutland Rd., Herschelwood St., and Lyndhurst Dr. The project will also require construction of detention basins to mitigate the improvements.
Budget	**$111,251,647**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Sunnyside Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions in the Sunnyside and South Park areas.

The Sunnyside Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by more rapidly conveying water from the identified service areas to reduce flooding. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

The H&H modeling identified flooding issues under existing conditions, including structures inundated and ponding above the curb (6 inches of water) that impacts safe roadway mobility. The impacts are further validated by other data points including FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and/or calls for service.

The Sunnyside Area drainage infrastructure was constructed beginning in the 1950's. The Area is also served by Salt Water Ditch (Harris County Flood Control District Channel C118-00-00) as well as Channels C122-00-00 and C128-00-00. All drainage infrastructure drains to Sims Bayou (Channel C100-00-00). The existing drainage system is a mix of curb and gutter and roadside ditch systems and provides less than 10-year level of service (LOS) under Atlas 14 rainfall. The H&H models show that 9,123 properties are inundated in the 100-year rain event, and 92.3 miles of street experience more than 6 inches of water.

The proposed project will replace and improve existing storm sewers and construct larger trunks throughout the neighborhood. The proposed improvements will increase the capacity of the existing system, increasing the LOS to 25-year, reduce ponding on 12.6 miles of street, and remove 3,460 properties from flood risk.

Project Summary

- **Proposed Improvements**
- Replace or improve storm sewer systems on the following streets:
    - Martin Luther King Boulevard, Salt Water Ditch - Sims Bayou
        - 19,500 LF of 10'x10' RCB
        - 88 Type "BB" inlets
        - 44 manholes
    - Southbank Street, Salt Water Ditch - Beldart St.
        - 3,000 LF of 60" RCP
        - 33 Type "BB" inlets
        - 13 manholes

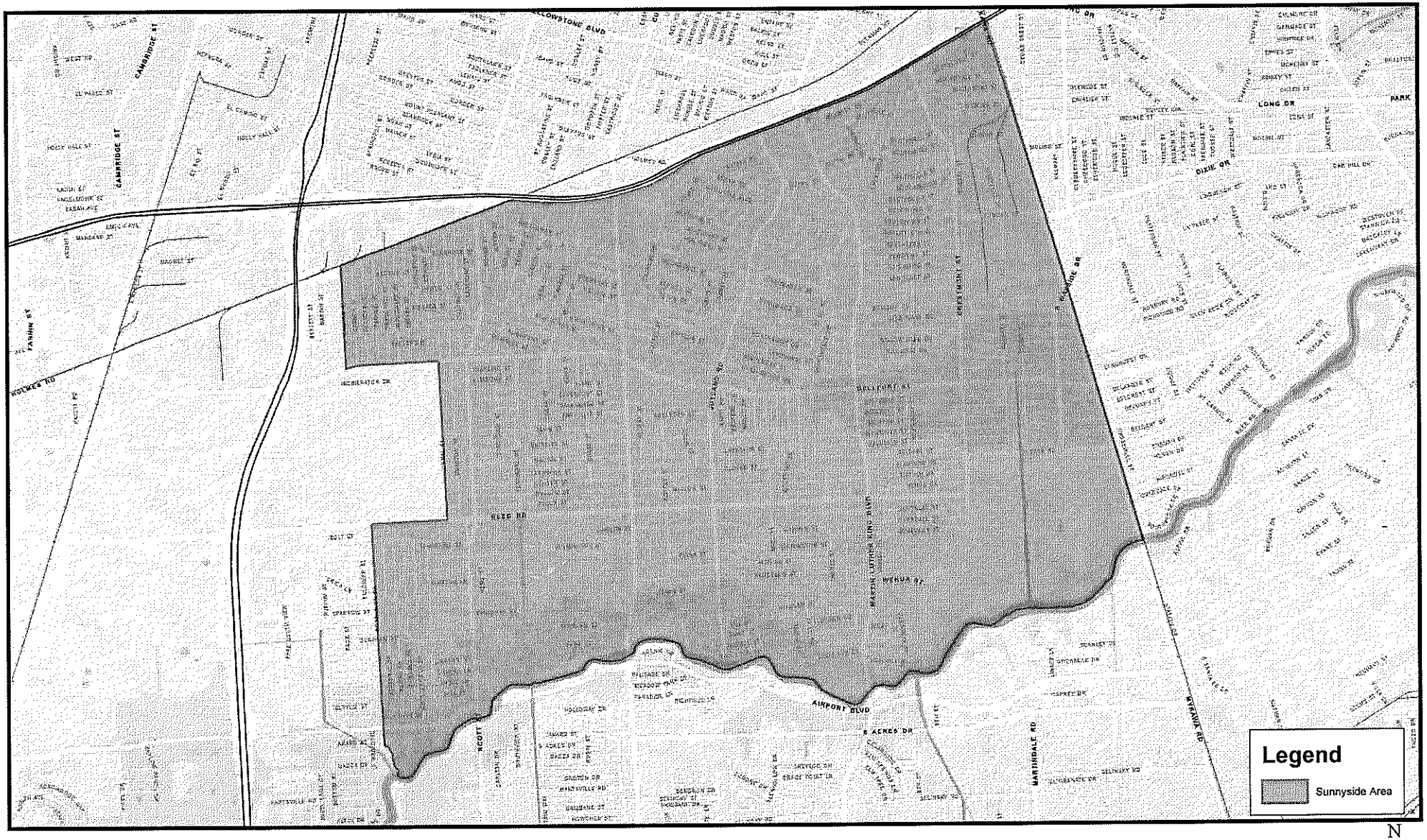
- 5,000 SY of 6" reinforced concrete pavement
- 3,750 LF of 6" concrete curb
- 2,100 SY of 5' concrete sidewalk

- Crestmont Street, Salt Water Ditch - Beldart St.
  - 3,150 LF of 60" RCP
  - 33 Type "BB" inlets
  - 12 manholes
  - 5,000 SY of 6" reinforced concrete pavement
  - 3,750 LF of 6" concrete curb
  - 2,100 Sy of 5' concrete sidewalk
- Between Beldart Street and Flamingo Drive, Crestmont St. - MLK Blvd.
  - 1,330 LF of 10'x8' RCB
  - 8 manholes
- Jutland Road, Crane St. Willow Glen Dr. - Pensdale St.
  - 1,710 LF of 48" RCP
  - 14 Type "BB" inlets
  - 10 manholes
  - 3,230 SY of 6" reinforced concrete pavement
  - 3,140 LF of 6" concrete curb
  - 1,520 SY of 5' concrete sidewalk
- Herschelwood Drive, Willow Glen Dr. - Windemere St.
  - 1,120 LF of 48" RCP
  - 12 Type "BB" inlets
  - 7 manholes
  - 2,120 SY of 6" reinforced concrete pavement
  - 1,880 LF of 6" concrete curb
  - 820 SY of 5' concrete sidewalk
- St. Lo Road, Lyndhurst Dr. - Windemere St.
  - 450 LF of 48" RCP
  - 2 Type "BB" inlets
  - 2 manholes
  - 600 SY of 6" reinforced concrete pavement
  - 450 LF of 6" concrete curb
  - 250 SY of 5' concrete sidewalk
- Lyndhurst Drive, Jutland Rd. - MLK Blvd.
  - 3,110 LF of 6'x5' RCB
  - 12Type "BB" inlets
  - 2 manholes
  - 4,000 SY of 6" reinforced concrete pavement
  - 1,000 LF of 6" concrete curb
  - 560 SY of 5' concrete sidewalk
- Cullen Boulevard, Briscoe St. - Sims Bayou
  - 985 LF of 10'x5' RCB

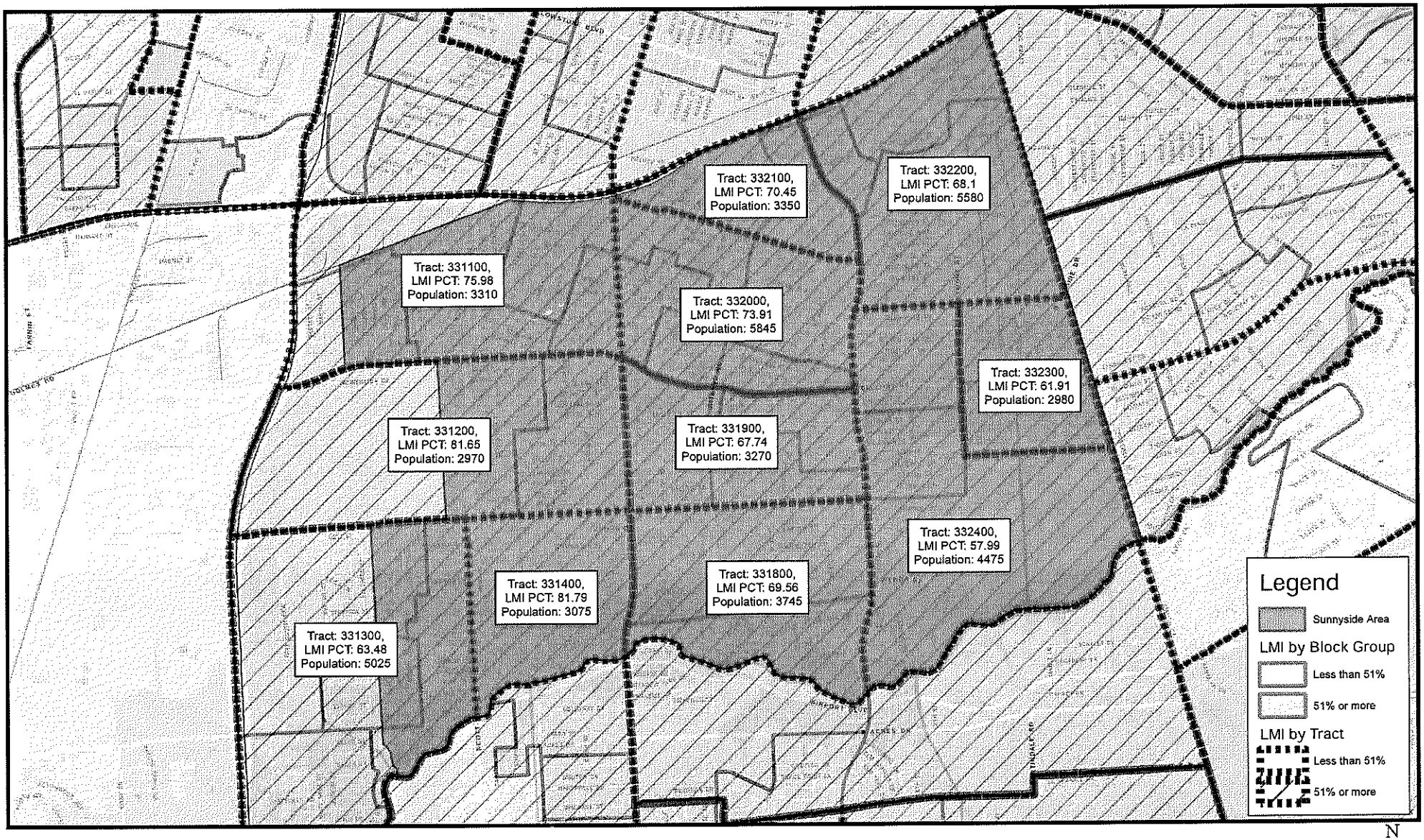
        - 14,110 LF of 10'x8' RCB
        - 48 Type "BB" inlets
        - 28 manholes
        - 1,600 SY of 6" reinforced concrete pavement
        - 950 LF of 6" concrete curb
        - 800 SY of 5' concrete sidewalk
- Construct the following dry-bottom detention facility with green space, pedestrian trail, and amenities to contribute to the overall required mitigation volume of 55 acre-feet:
    - Detention Basin D, 679 acre-feet (15 feet deep)
    - Detention Pond E, 435 acre-feet (11 feet deep)

MAPPING

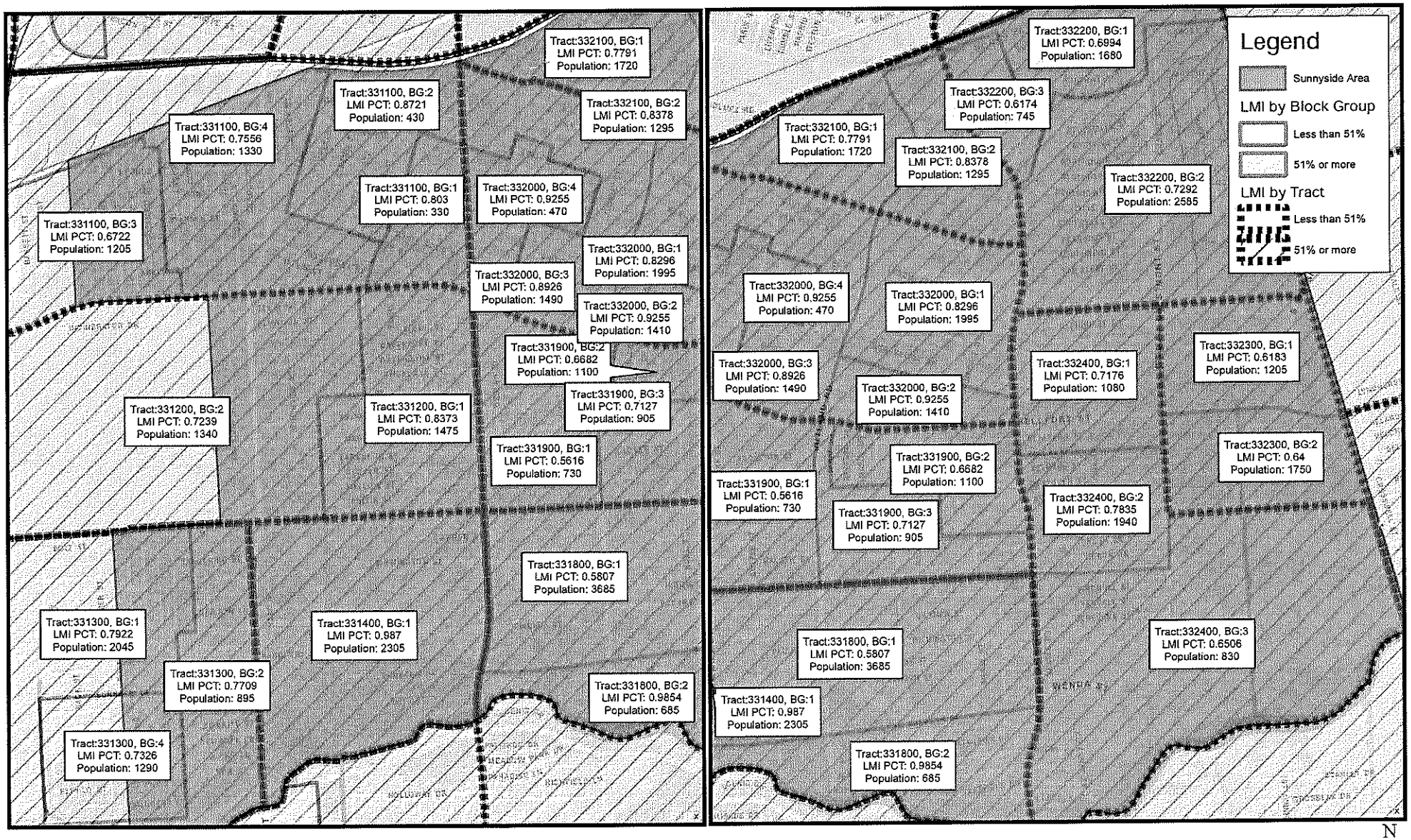
Section 2 of 3: ***Mapping***



Location Map: Latitude 29.665045, Longitude -95.345983



Beneficiary Map: Entire Sunnyside Area



Beneficiary Map: West and East Insets - Sunnyside Area

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

SUNNYSIDE	
Grand Total	$111,251,647.34

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local	CDBG-MIT
Construction	$ 83,880,010.50	$ 7,669,340.44	$ 76,210,670.06
Engineering	$ 12,582,001.58	$ 1,646,689.65	$ 10,935,311.93
Acquisition	$ 4,724,034.00	$ 618,265.53	$ 4,105,768.47
Environmental	$ 5,032,800.63	$ 658,675.86	$ 4,374,124.77
Administration	$ 5,032,800.63	$ 658,675.86	$ 4,374,124.77

TOTAL	$ 111,251,647.34	$ 11,251,647.34	$ 100,000,000.00

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 Houston
Site/Activity Title:	Houston Sunnyside Flood Mitigation
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
General Items						
Traffic Control and Regulation, including signs, barrels, barricades, and flagmen	$ 1,021,000.00	LS	1	$ 1,021,000.00	$ -	$ 1,021,000.00
Temporary Sediment Control including inlet protection barrier, Stage I and II inlets and existing inlets, including filter fabric fence, gravel bags, repair and replacement, maintenance and removal of sediments, complete in place the sum of:	$ 590,000.00	LS	1	$ 590,000.00	$ -	$ 590,000.00
Utility Conflicts / Relocation/Adjustment/Landscaping	$ 4,572,500.00	LS	1	$ 4,572,500.00	$ -	$ 4,572,500.00
					Subtotal General Items:	$ 6,183,500.00
Paving Items						
Existing Concrete pavement removal, complete in place the sum of:	$ 7.00	SY	21,550	$ 150,850.00	$ -	$ 150,850.00
6" thick reinforced concrete pavement, including reinforcement, joints and grading, complete in place the sum of:	$ 80.00	SY	21,550	$ 1,724,000.00	$ -	$ 1,724,000.00
11" thick reinforced concrete pavement, including reinforcement, joints and grading, complete in place the sum of:	$ 100.00	SY	-	$ -	$ -	$ -
8" lime stabilized subgrade, including grading, mixing, compacting and curing, complete in place the sum of:	$ 4.00	SY	26,410	$ 105,640.00	$ -	$ 105,640.00
Lime for lime stabilized subgrade (7% minimum by dry weight), complete in place the sum of:	$ 165.00	TON	755	$ 124,575.00	$ -	$ 124,575.00
6" concrete curb, including reinforcement and joints, complete in place the sum of:	$ 5.00	LF	14,920	$ 74,600.00	$ -	$ 74,600.00
5' concrete sidewalk, complete in place the sum of:	$ 65.00	SY	8,150	$ 529,750.00	$ -	$ 529,750.00
Concrete curb ramp per ADA requirements, complete in place the sum of:	$ 2,000.00	EA	70	$ 140,000.00	$ -	$ 140,000.00
Driveway Reconnection	$ 125,900.00	LS	1	$ 125,900.00	$ -	$ 125,900.00
					Subtotal Paving Items:	$ 2,975,315.00
Drainage Items						
Remove existing storm sewer, all sizes and all depths, complete in place the sum of:	$ 30.00	LF	41,205	$ 1,236,150.00	$ -	$ 1,236,150.00
Remove existing storm sewer inlet/manhole, complete in place the sum of:	$ 600.00	EA	372	$ 223,200.00	$ -	$ 223,200.00
48" RCP, ASTM C76, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 250.00	LF	3,280	$ 820,000.00	$ -	$ 820,000.00
60" RCP, ASTM C76, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 350.00	LF	6,150	$ 2,152,500.00	$ -	$ 2,152,500.00
96" RCP, ASTM C76, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 500.00	LF	-	$ -	$ -	$ -
5'x4' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 325.00	LF	-	$ -	$ -	$ -
6'x5' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 490.00	LF	3,110	$ 1,523,900.00	$ -	$ 1,523,900.00
9'x6' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 800.00	LF	-	$ -	$ -	$ -
10'x5' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 808.00	LF	985	$ 795,880.00	$ -	$ 795,880.00
10'x6' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 845.00	LF	-	$ -	$ -	$ -
10'x7' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 865.00	LF	-	$ -	$ -	$ -
10'x8' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 900.00	LF	15,440	$ 13,896,000.00	$ -	$ 13,896,000.00
10'x9' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 905.00	LF	-	$ -	$ -	$ -
10'x10' RCB, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place the sum of:	$ 916.00	LF	19,500	$ 17,862,000.00	$ -	$ 17,862,000.00
Manholes (For 48" to 72" Dia. Pipe) (All Typ)	$ 6,340.00	EA	46	$ 291,640.00	$ -	$ 291,640.00
Manholes (For 78" Dia. Pipe and Larger) (All Types)	$ 16,500.00	EA	80	$ 1,320,000.00	$ -	$ 1,320,000.00
Inlets (Type BB with grate)	$ 3,000.00	EA	242	$ 726,000.00	$ -	$ 726,000.00
Detention Excavation, piping, stabilization, complete in place	$ 20.00	CY	-	$ -	$ -	$ -
Detention Excavation, piping, stabilization, complete in place	$ 10.00	CY	-	$ -	$ -	$ -
Detention Excavation, haul off, piping, stabilization, complete in place	$ 12.00	CY	1,209,750	$ 14,517,000.00	$ -	$ 14,517,000.00
					Subtotal Drainage Items:	$ 55,364,270.00
TOTAL				$ 64,523,085.00	$ -	$ 64,523,085.00
					Estimated Probable Cost of Construction:	$ 64,523,085.00
					30% Contingency:	$ 19,356,925.50
					Total Estimated Probable Cost of Construction:	$ 83,880,010.50
Engineering (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 12,582,001.58
Environmental Investigation and Permitting (6%)						$ 5,032,800.63
Grant Administration (6%)						$ 5,032,800.63
OPCC Including Professional Services						$ 106,527,613.34

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

2. Identify and explain any special engineering activities.

Seal	Date: Phone Number: Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston						
Site/Activity Title:	Houston Sunnyside Flood Mitigation						
Eligible Activity:	Acquisition						
Materials/Facilities/Services	**$/Unit**	**Unit**	**Quantity**	**Construction**	**Acquisition**	**Total**	
Pond 1	$ -	LS	1	$ -	$ 4,250,406.00	$	4,250,406.00
Pond 2	$ -	LS	1	$ -	$ 473,628.00	$	473,628.00
					Subtotal Acquisition:	$	4,724,034.00
TOTAL				$ -	$ 4,724,034.00	$	4,724,034.00

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

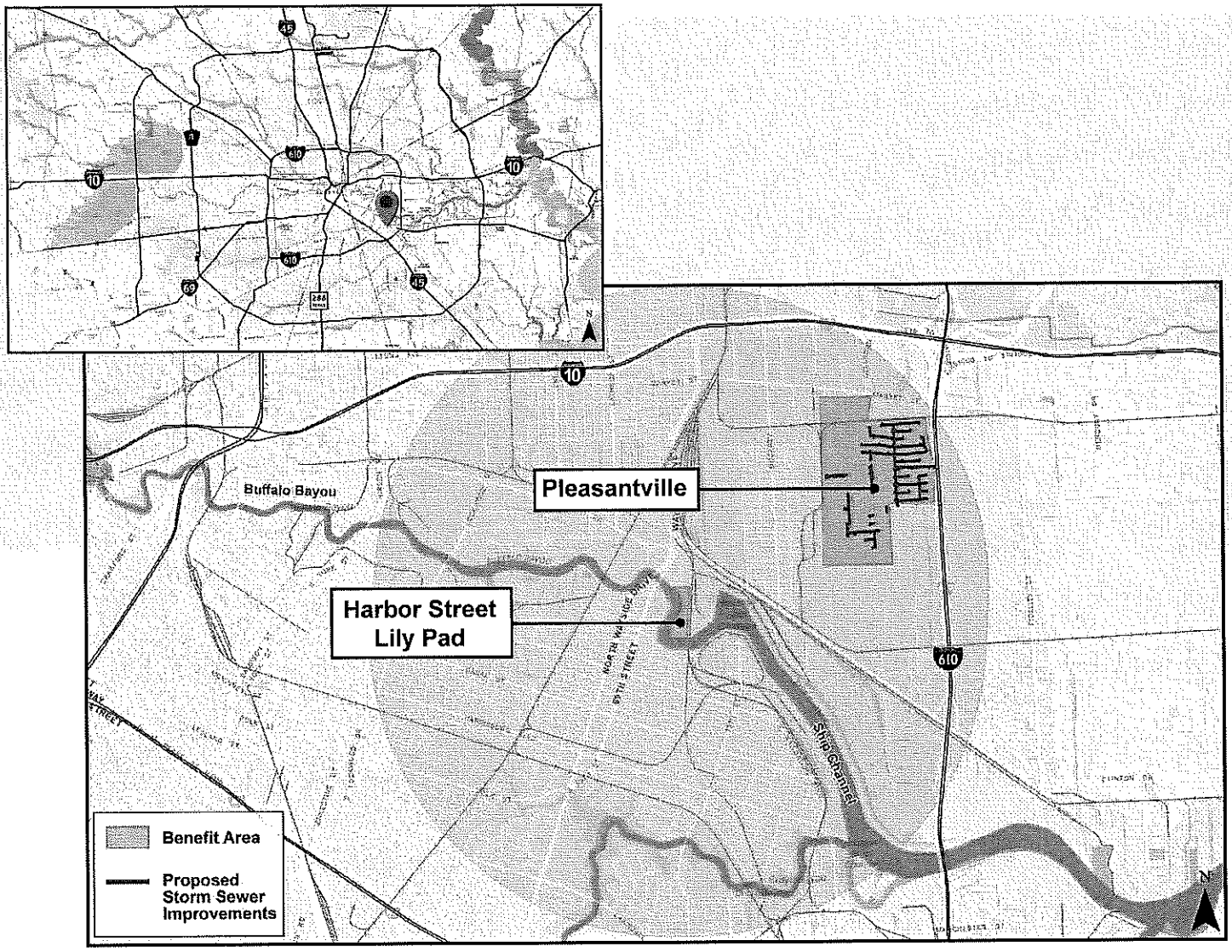
2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

HOUSTON PORT AREA FLOOD MITIGATION



Scope of Work	The Pleasantville project area is bounded by Market St. to the north, IH 610 Loop to the east, Port of Houston Authority to the south, and Demaree Ln. to the west. The project includes storm sewer improvements on nearly every street in the neighborhood to improve conveyance capacity of the complete system. This project also includes construction of a detention basin on the Port of Houston property to mitigate the improvements. The Harbor Street Lily Pad project includes a proposed community center and a pedestrian bridge.
Budget	**$99,021,350**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)
Partner	Port Houston, Buffalo Bayou Partnership

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Port Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions in the Pleasantville, Central Park, and Magnolia Park areas.

The Port Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by more rapidly conveying water from the identified service areas to reduce flooding and by establishing a "lilypad" central to the service area. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

The H&H modeling identified flooding issues under existing conditions, including structures inundated and ponding above the curb (6 inches of water) that impacts safe roadway mobility. The impacts are further validated by other data points including FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and/or calls for service.

The Pleasantville neighborhood drainage infrastructure was constructed beginning in the 1950's. The system is connected to major trunklines along IH-610 that outfall to Buffalo Bayou. The existing drainage system is curb and gutter and provides less than 2-year level of service (LOS) under Atlas 14 rainfall. The H&H models show that 801 properties are inundated in the 100-year rain event, and 21.8 miles of street experience more than 6 inches of water.

The proposed project will replace and improve existing storm sewers and construct larger trunks throughout the neighborhood. The proposed improvements will increase the capacity of the existing system, increasing the LOS to 100-year, reduce ponding on 3.1 miles of street, and remove 729 properties from flood risk. Construction of a new Community & Disaster Recovery Center ("lilypad") is also being proposed under this project. This new Center will serve as a point of refuge and a response and recovery command center during and immediately following large storm events. The Center will benefit residents in the Pleasantville neighborhood as well as the Central Park and Magnolia Park neighborhoods, at a minimum within a 2-mile radius.

Project Summary

- **Proposed Improvements**
- Replace or improve storm sewer systems on the following streets:
    - Berndale Street, Gellhorn St. - Ledwicke St.
        - 121 LF of 24" RCP
        - 414 LF of 36" RCP

        - 723 LF of 28" RCP
        - 4 Type "BB" inlets
        - 4 48" manholes
        - 3,886 SY of pavement replacement
        - 2,515 LF of 6" concrete curb
    - Bucroft Street, Pleasantville Dr. - Gellhorn St.
        - 36 LF of 24" RCP
        - 940 LF of 48" RCP
        - 4 Type "BB" inlets
        - 1 48" manhole
        - 2,864 SY of pavement replacement
        - 1,853 LF of concrete curb
    - Candy Street, Berndale St. - Laurentide St.
        - 316 LF of 24" RCP
        - 924 LF of 42" RCP
        - 265 LF of 48" RCP
        - 9 Type "BB" inlets
        - 4 48" manholes
        - 4,417 SY of pavement replacement
        - 2,858 LF of concrete curb
    - Cargill Street, Demaree St. - Pleasantville Dr.
        - 155 LF of 24" RCP
        - 2 Type "BB" inlets
        - 455 SY of pavement replacement
        - 295 LF of concrete curb
    - Cowart Street, Gellhorn St. - Ledwicke St.
        - 147 LF of 24" RCP
        - 294 LF of 42" RCP
        - 661 LF of 48" RCP
        - 1,272 LF of 60" RCP
        - 3 Type "BB" inlets
        - 6 48" manholes
        - 6,969 SY of pavement replacement
        - 4,510 LF of concrete curb
    - Fanette Street, Ledwicke St. - Laurentide St.
        - 96 LF of 24" RCP
        - 560 LF of 36" RCP
        - 5 Type "BB" inlets
        - 2 48" manholes
        - 2,029 SY of pavement replacement
        - 1,313 LF of concrete curb
    - Fillmore Street, Silverdal St. - Gellhorn St.
        - 161 LF of 24" RCP

        - 2 Type "BB" inlets
        - 472 SY of pavement replacement
        - 305 LF of concrete curb
    - Flossie Mae Street, Ledwicke St. - Laurentide St.
        - 227 LF of 24" RCP
        - 253 LF of 42" RCP
        - 776 LF of 54" RCP
        - 8 Type "BB" inlets
        - 6 48" manholes
        - 3,686 SY of pavement replacement
        - 2,385 LF of concrete curb
    - Gellhorn Drive, Northton St. - Berndale St.
        - 362 LF of 24" RCP
        - 983 LF of 30" RCP
        - 800 LF of 36" RCP
        - 245 LF of 42" RCP
        - 11 Type "BB" inlets
        - 5 48" manholes
        - 7,200 SY of pavement replacement
        - 4,659 LF of concrete curb
    - Guinevere Street, Quaker St. - Laurentide St.
        - 176 LF of 24" RCP
        - 150 LF of 36" RCP
        - 267 LF of 54" RCP
        - 822 LF of 72" RCP
        - 5 Type "BB" inlets
        - 5 48" manholes
        - 4,269 SY of pavement replacement
        - 2,762 LF of concrete curb
    - Josie Street, Ledwicke St. - Laurentide St.
        - 146 LF of 24" RCP
        - 256 LF of 42" RCP
        - 436 LF of 54" RCP
        - 6 Type "BB" inlets
        - 5 48" manholes
        - 2,457 SY of pavement replacement
        - 1,590 LF of concrete curb
    - Laurentide Street, Cowart St. - Berndale St.
        - 294 LF of 24" RCP
        - 325 LF of 30" RCP
        - 5 Type "BB" inlets
        - 5 48" manholes
        - 1,819 SY of pavement replacement

        - 1,177 LF of concrete curb
    - Ledwicke Street, Guinevere St. - Candy St.
        - 204 LF of 24" RCP
        - 250 LF of 8'x5' RCB
        - 271 LF of 10'x5' RCB
        - 285 LF of 10'x6' RCB
        - 513 LF of 10'x7' RCB
        - 286 LF of 10'x8' RCB
        - 1,286 LF of 10'x10' RCB
        - 5 Type "BB" inlets
        - 4 48" manholes
        - 9,086 SY of pavement replacement
        - 5,880 LF of concrete curb
    - Northton Street, Silverdale St. - Gellhorn St.
        - 106 LF of 24" RCP
        - 2 Type "BB" inlets
        - 310 SY of pavement replacement
        - 201 LF of concrete curb
    - Novic Street, Demaree Ln. - Pleasantville Dr.
        - 404 LF of 24" RCP
        - 276 LF of 30" RCP
        - 277 LF of 36" RCP
        - 151 LF of 48" RCP
        - 11 Type "BB" inlets
        - 4 48" manholes
        - 3,251 SY of pavement replacement
        - 2,104 LF of concrete curb
    - Othello Street, Silverdale St – Gellhorn St. & Ledwicke St. - Quaker St.
        - 125 LF of 24" RCP
        - 674 LF of 42" RCP
        - 4 Type "BB" inlets
        - 1 48" manholes
        - 2,344 SY of pavement replacement
        - 1,517 LF of concrete curb
    - Pattibob Street, Ledwicke St. - Laurentide St.
        - 40 LF of 24" RCP
        - 84 LF of 30" RCP
        - 181 LF of 42" RCP
        - 602 LF of 60" RCP
        - 581 LF of 66" RCP
        - 6 Type "BB" inlets
        - 3 48" manholes
        - 4,367 SY of pavement replacement

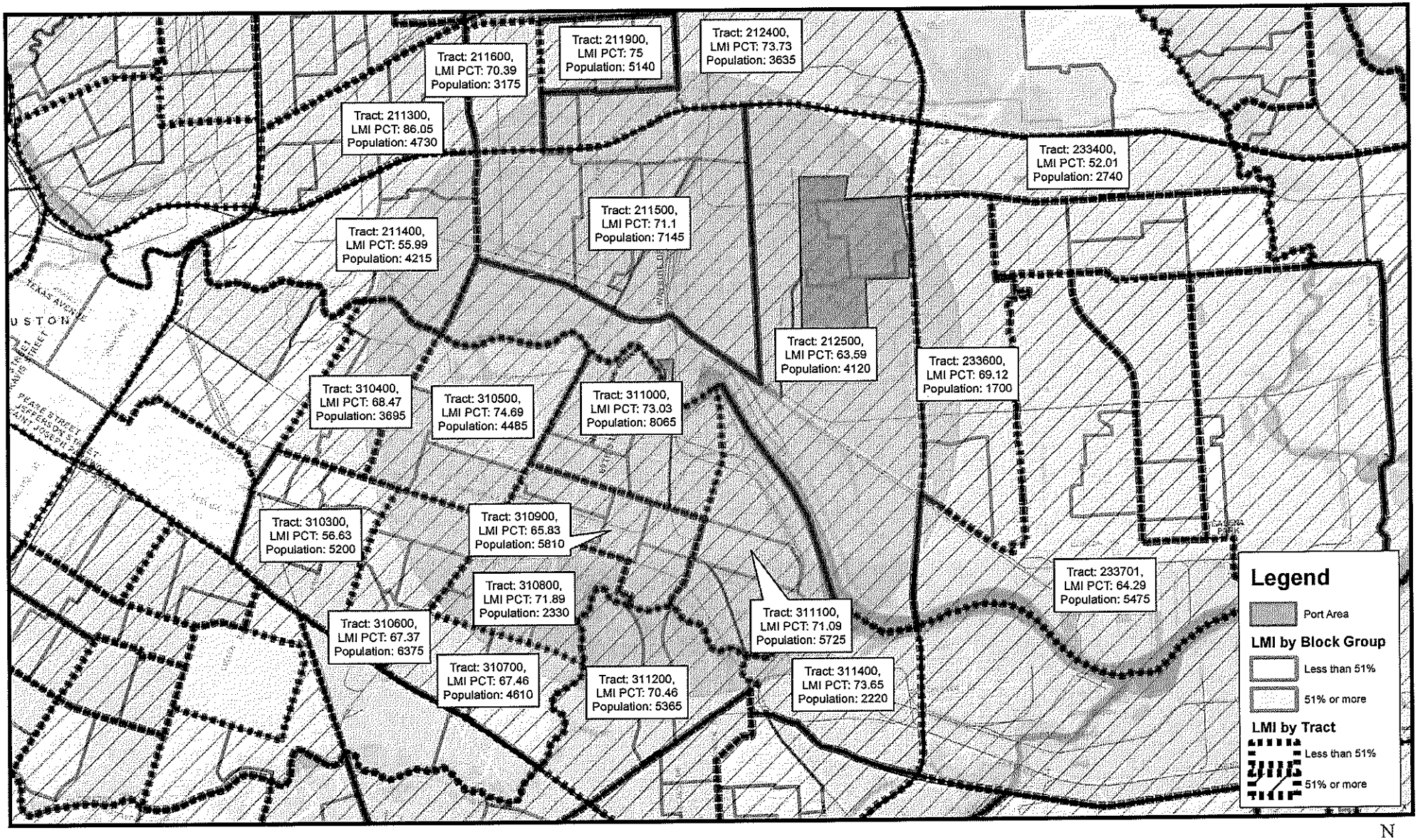
        - 2,826 LF of concrete curb
    - Pleasantville Drive, Bucroft St. - Tilgham St.
        - 16 LF of 24" RCP
        - 88 LF of 30" RCP
        - 417 LF of 42" RCP
        - 1,025 LF of 48" RCP
        - 5 Type "BB" inlets
        - 6 48" manholes
        - 4,611 SY of pavement replacement
        - 2,984 LF of concrete curb
    - Quaker Street, Guinevere St. - Josie St.
        - 269 LF of 42" RCP
        - 567 LF of 60" RCP
        - 4 48" manholes
        - 2,452 SY of pavement replacement
        - 1,587 LF of concrete curb
    - Richcroft Street, Silverdale St. - Gellhorn St.
        - 357 LF of 24" RCP
        - 2 Type "BB" inlets
        - 1,047 SY of pavement replacement
        - 678 LF of concrete curb
    - Silverdale Street, Northton St. - Guinevere St.
        - 64 LF of 24" RCP
        - 82 LF of 30" RCP
        - 4 Type "BB" inlets
        - 1 48" manholes
        - 428 SY of pavement replacement
        - 277 LF of concrete curb
    - Tilgham Street, Demaree Ln. - Laurentide St.
        - 184 LF of 24" RCP
        - 744 LF of 42" RCP
        - 664 LF of 48" RCP
        - 817 LF of 60" RCP
        - 9 Type "BB" inlets
        - 7 48" manholes
        - 7,070 SY of pavement replacement
        - 4,575 LF of concrete curb
    - Wiggins Street, Pleasantville Dr. - Gellhorn St. & Ledwicke St. - Laurentide St.
        - 96 LF of 24" RCP
        - 600 LF of 42" RCP
        - 252 LF of 54" RCP
        - 3Type "BB" inlets

        - 2 48" manholes
        - 2,785 SY of pavement replacement
        - 1,802 LF of concrete curb
- Construct a new Community & Disaster Recovery Center
    - Community & Disaster Recovery Center building
    - Pedestrian bridges and trailways to connect Center to existing pedestrian routes and access
    - Stormwater wetlands to provide resilience to extreme events

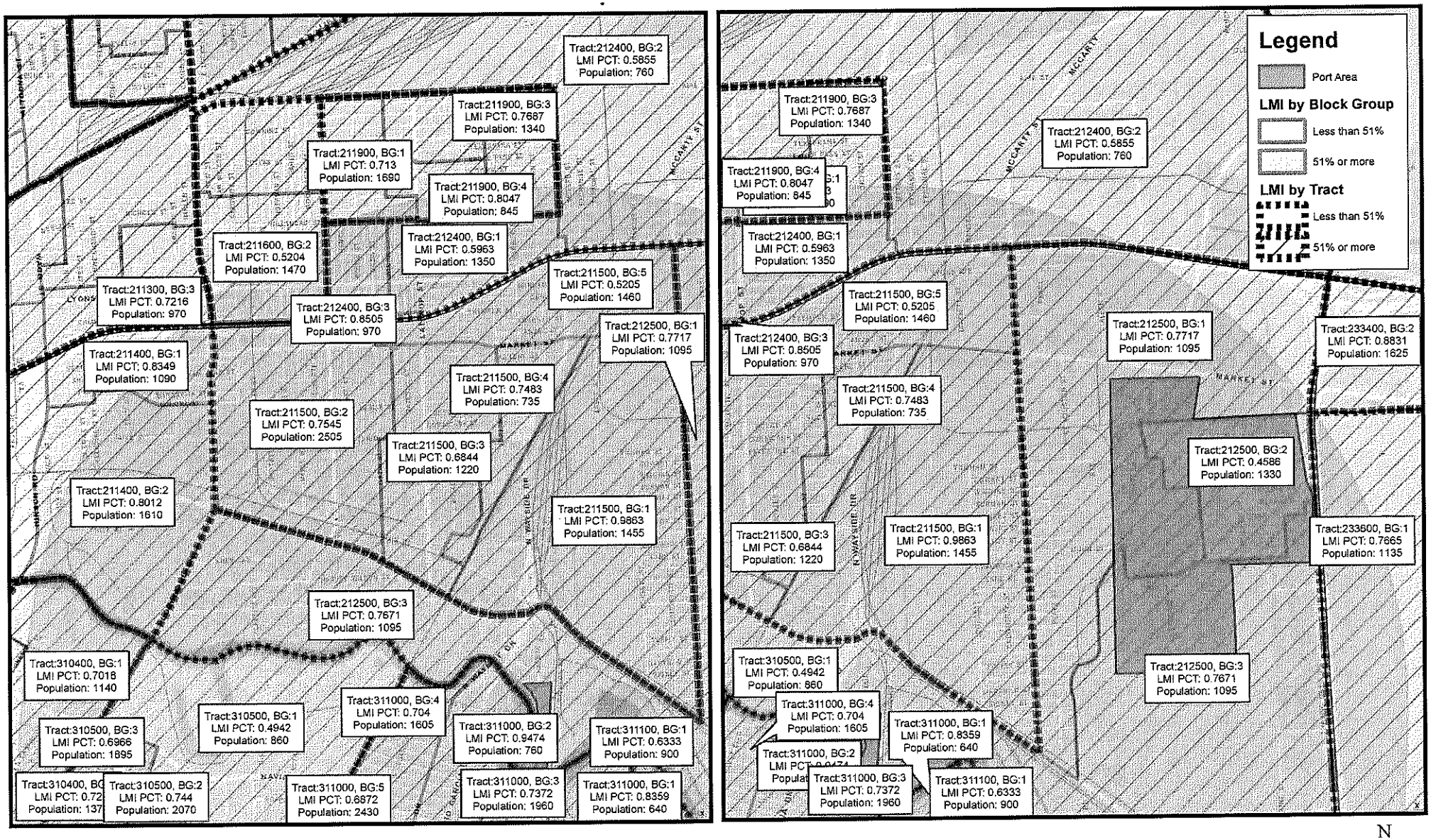
MAPPING

Section 2 of 3: ***Mapping***

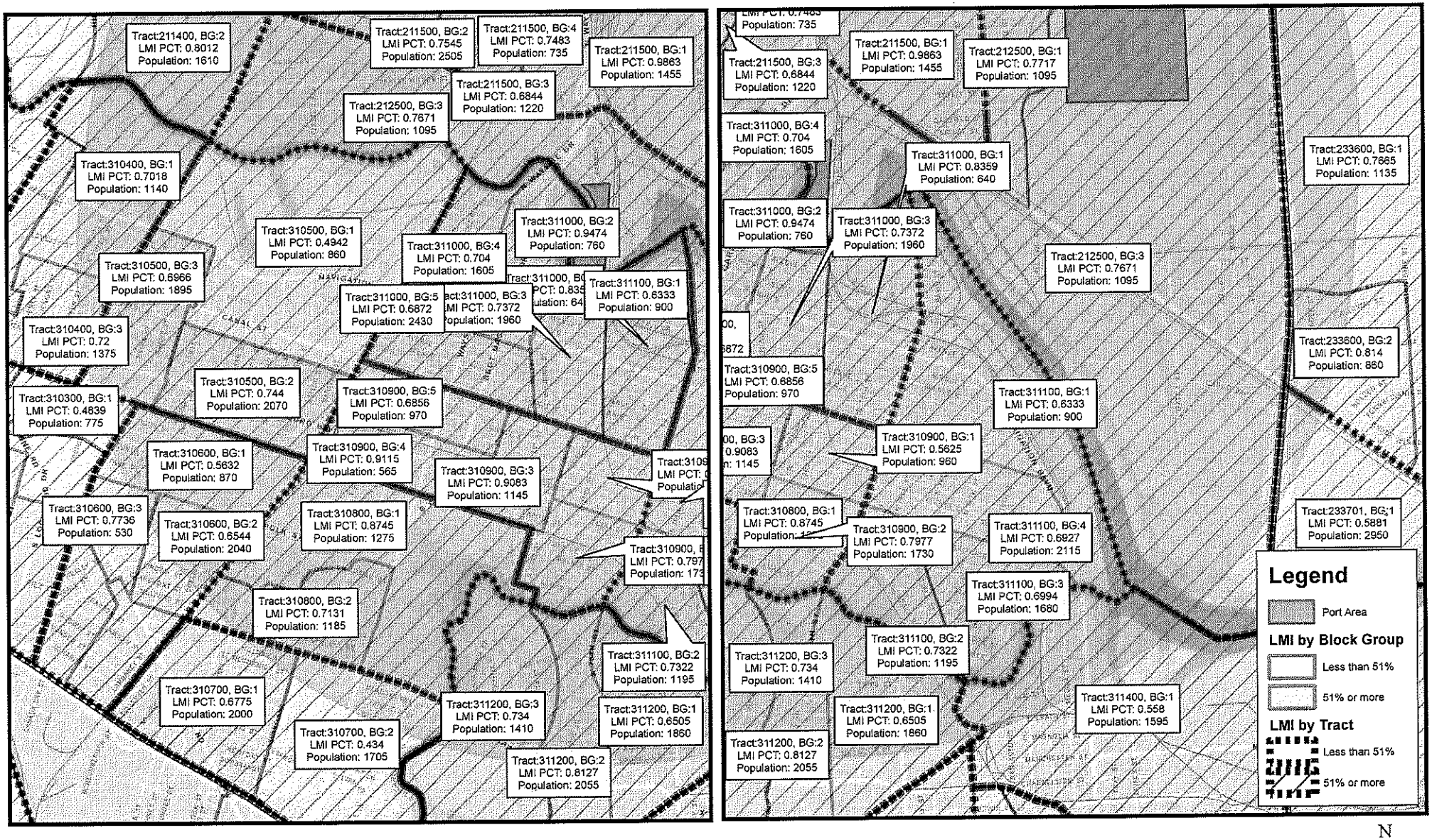
Location Map: Latitude 29.762018, Longitude -95.273985



Beneficiary Map: Entire Port Area



Beneficiary Map: Northwest and Northeast Insets - Port Area



Beneficiary Map: Southwest and Southeast Insets - Port Area

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

PORT AREA	
Grand Total	$99,021,350.52

	FUNDING SOURCES			
BUDGET CATEGORIES	Estimated Cost	Local	BBP	CDBG-MIT
Construction	$ 63,571,866.56	$ 245,421.47	$ 390,297.20	$ 62,936,147.89
Engineering	$ 9,535,779.98	$ 36,813.22	$ 58,544.58	$ 9,440,422.18
Acquisition	$ -	$ -	$ -	$ -
Environmental	$ 22,099,391.99	$ 197,576.09	$ 23,417.83	$ 21,878,398.07
Administration	$ 3,814,311.99	$ 14,725.29	$ 23,417.83	$ 3,776,168.87
TOTAL	$ 99,021,350.52	$ 494,536.07	$ 495,677.44	$ 98,031,137.01

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 Houston					
Site/Activity Title:	Houston Port Area Flood Mitigation					
Eligible Activity:	Flood control and drainage improvements					
Materials/Facilities/Services	**$/Unit**	**Unit**	**Quantity**	**Construction**	**Acquisition**	**Total**
Remove and dispose of existing asphaltic pavements (all thickness, including base and subgrade, w/ or w/o curb, all depths)	$ 7.00	SY	60,806	$ 425,642.00	$ -	$ 425,642.00
Removing and disposing of concrete pavements (including all thickness, w/ or w/o asphalt, including base & subgrade, w/ or w/o curb, all depths)	$ 10.00	SY	7,189	$ 71,890.00	$ -	$ 71,890.00
Hot-Mix asphaltic pavement (all thickness, including surfacing, base, and subgrade)	$ 45.00	SY	60,806	$ 2,736,270.00	$ -	$ 2,736,270.00
Concrete pavement (all thickness, including curb and gutter, base, and subgrade)	$ 75.00	SY	7,189	$ 539,175.00	$ -	$ 539,175.00
Manholes (For 42" diameter pipe and smaller; all types)	$ 3,500.00	EA	31	$ 108,500.00	$ -	$ 108,500.00
Manholes (For 48" to 72" diameter pipe and smaller; all types)	$ 6,500.00	EA	25	$ 162,500.00	$ -	$ 162,500.00
Manholes (For 72" diameter pipe and larger; all types)	$ 16,500.00	EA	19	$ 313,500.00	$ -	$ 313,500.00
Remove and dispose 18-inch diameter storm sewer, all types	$ 8.00	LF	11,891	$ 95,128.00	$ -	$ 95,128.00
Remove and dispose 21-inch diameter storm sewer, all types	$ 12.00	LF	1,467	$ 17,604.00	$ -	$ 17,604.00
Remove and dispose 24-inch diameter storm sewer, all types	$ 15.00	LF	4,034	$ 60,510.00	$ -	$ 60,510.00
Remove and dispose 30-inch diameter storm sewer, all types	$ 30.00	LF	1,940	$ 58,200.00	$ -	$ 58,200.00
Remove and dispose 36-inch diameter storm sewer, all types	$ 32.00	LF	1,180	$ 37,760.00	$ -	$ 37,760.00
Remove and dispose 42-inch diameter storm sewer, all types	$ 35.00	LF	549	$ 19,215.00	$ -	$ 19,215.00
Remove and dispose 54-inch diameter storm sewer, all types	$ 40.00	LF	562	$ 22,480.00	$ -	$ 22,480.00
Remove and dispose 60-inch diameter storm sewer, all types	$ 42.00	LF	824	$ 34,608.00	$ -	$ 34,608.00
Remove and dispose 66-inch diameter storm sewer, all types	$ 44.00	LF	1,001	$ 44,044.00	$ -	$ 44,044.00
Remove Storm Manhole (All depths, all types)	$ 560.00	EA	66	$ 36,960.00	$ -	$ 36,960.00
24-inch RCP	$ 115.00	LF	3,830	$ 440,450.00	$ -	$ 440,450.00
30-inch RCP	$ 150.00	LF	1,838	$ 275,700.00	$ -	$ 275,700.00
36-inch RCP	$ 180.00	LF	2,201	$ 396,180.00	$ -	$ 396,180.00
42-inch RCP	$ 215.00	LF	4,856	$ 1,044,040.00	$ -	$ 1,044,040.00
48-inch RCP	$ 250.00	LF	4,428	$ 1,107,000.00	$ -	$ 1,107,000.00
54-inch RCP	$ 315.00	LF	1,731	$ 545,265.00	$ -	$ 545,265.00
60-inch RCP	$ 375.00	LF	3,258	$ 1,221,750.00	$ -	$ 1,221,750.00
66-inch RCP	$ 425.00	LF	581	$ 246,925.00	$ -	$ 246,925.00
72-inch RCP	$ 485.00	LF	822	$ 398,670.00	$ -	$ 398,670.00
8-foot by 5-foot RCB	$ 660.00	LF	250	$ 165,000.00	$ -	$ 165,000.00
10-foot by 5-foot RCB	$ 850.00	LF	271	$ 230,350.00	$ -	$ 230,350.00
10-foot by 6-foot RCB	$ 880.00	LF	285	$ 250,800.00	$ -	$ 250,800.00
10-foot by 7-foot RCB	$ 920.00	LF	513	$ 471,960.00	$ -	$ 471,960.00
10-foot by 8-foot RCB	$ 960.00	LF	286	$ 274,560.00	$ -	$ 274,560.00
10-foot by 10-foot RCB	$ 1,300.00	LF	1,286	$ 1,671,800.00	$ -	$ 1,671,800.00
Remove Inlet	$ 750.00	EA	115	$ 86,250.00	$ -	$ 86,250.00
Replace Inlet (Type BB)	$ 3,500.00	EA	115	$ 402,500.00	$ -	$ 402,500.00
Storm Junction Box, Cast in place or Precast	$ 20,000.00	EA	17	$ 340,000.00	$ -	$ 340,000.00
Trench Safety System	$ 2.00	LF	26,661	$ 53,322.00	$ -	$ 53,322.00
Concrete Pilot Channel (5" Thick Concrete)	$ 70.00	SY	922	$ 64,540.00	$ -	$ 64,540.00
Headwall/Wingwall	$ 12,000.00	EA	2	$ 24,000.00	$ -	$ 24,000.00
Detention Pond Excavation	$ 8.00	CY	457,127	$ 3,657,016.00	$ -	$ 3,657,016.00
Mobilization (4% of Construction Subtotal)	$ 726,082.56	LS	1	$ 726,082.56	$ -	$ 726,082.56
Contingency (30% of Construction Subtotal)	$ 5,664,000.00	LS	1	$ 5,664,000.00		$ 5,664,000.00
Construction Subtotal						$ 24,542,146.56
Engineering Design (15% of Construction Subtotal)	$ 3,681,321.98	LS	1	$ 3,681,321.98	$ -	$ 3,681,321.98
Environmental Investigation and Permitting (6% of Construction Subtotal)	$ 1,472,528.79	LS	1	$ 1,472,528.79	$ -	$ 1,472,528.79
Disposal of excavated material	$ 40.00	CY	457,127	$ 18,285,080.00	$ -	$ 18,285,080.00
Grant Administration (6% of Construction Subtotal)	$ 1,472,528.79	LS	1	$ 1,472,528.79	$ -	$ 1,472,528.79
TOTAL				$ 49,453,606.13	$ -	$ 49,453,606.12

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

There are no projected operation and maintenance costs associated with the proposed activities.

2. Identify and explain any special engineering activities.

An environmental assessment is required for the project area. Design & construction management services will also be required.

Seal

Date:

Phone Number:

Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston					
Site/Activity Title:	Houston Port Area Flood Mitigation					
Eligible Activity:	Public Facilities					
Materials/Facilities/Services	**$/Unit**	**Unit**	**Quantity**	**Construction**	**Acquisition**	**Total**
Community & Disaster Recovery Center	$ 10,500,000.00	EA	1	$ 10,500,000.00	$ -	$ 10,500,000.00
Parking (per vehicle)	$ 400.00	EA	250	$ 100,000.00	$ -	$ 100,000.00
Pedestrian Bridge	$ 6,000,000.00	EA	1	$ 6,000,000.00	$ -	$ 6,000,000.00
Bridge Approaches	$ 750,000.00	EA	2	$ 1,500,000.00	$ -	$ 1,500,000.00
Boat Dock	$ 500,000.00	EA	1	$ 500,000.00		$ 500,000.00
Bank Stabilization (2 acres)	$ 2,000,000.00	EA	1	$ 2,000,000.00	$ -	$ 2,000,000.00
Site Work / Landscaping/ Walkways	$ 145.00	SY	48400	$ 7,018,000.00	$ -	$ 7,018,000.00
Site & Trail Lighting	$ 500,000.00	EA	1	$ 500,000.00	$ -	$ 500,000.00
Stormwater Detention Pond	$ 750,000.00	EA	1	$ 750,000.00	$ -	$ 750,000.00
Mobilization (4% of Construction Subtotal)	$ 1,154,720.00	LS	1	$ 1,154,720.00	$ -	$ 1,154,720.00
Contingency (30% of Construction Subtotal)	$ 9,007,000.00	LS	1	$ 9,007,000.00		$ 9,007,000.00
Construction Subtotal						$ 39,029,720.00
Engineering Design (15% of Construction Subtotal)	$ 5,854,458.00	LS	1	$ 5,854,458.00	$ -	$ 5,854,458.00
Environmental Investigation and Permitting (6% of Construction Subtotal)	$ 2,341,783.20	LS	1	$ 2,341,783.20	$ -	$ 2,341,783.20
Grant Administration (6% of Construction Subtotal)	$ 2,341,783.20	LS	1	$ 2,341,783.20	$ -	$ 2,341,783.20
TOTAL				$ 49,567,744.40	$ -	$ 49,567,744.40

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

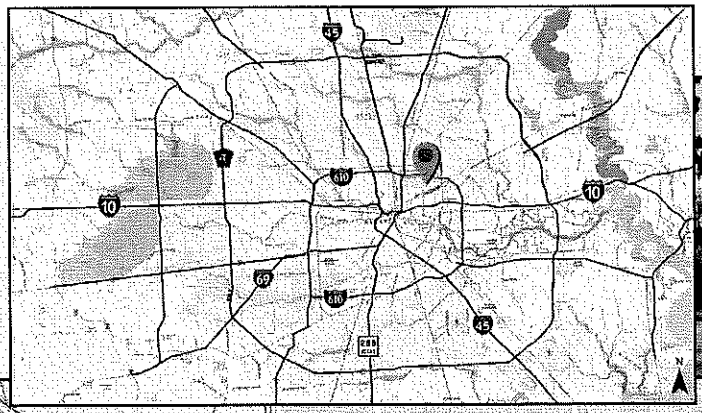
2. Identify and explain any special engineering activities.

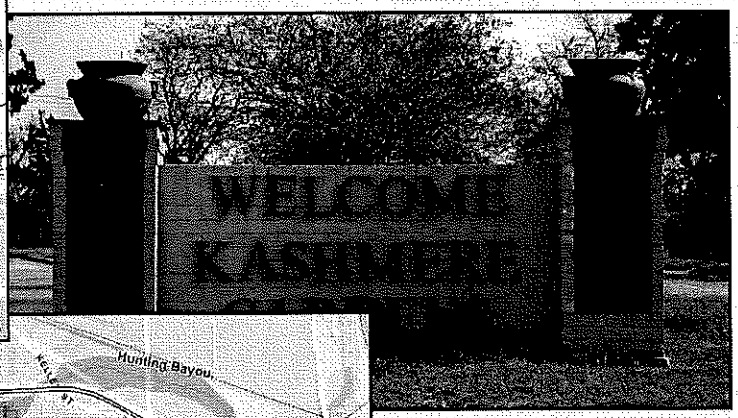
Date:	
Phone Number:	

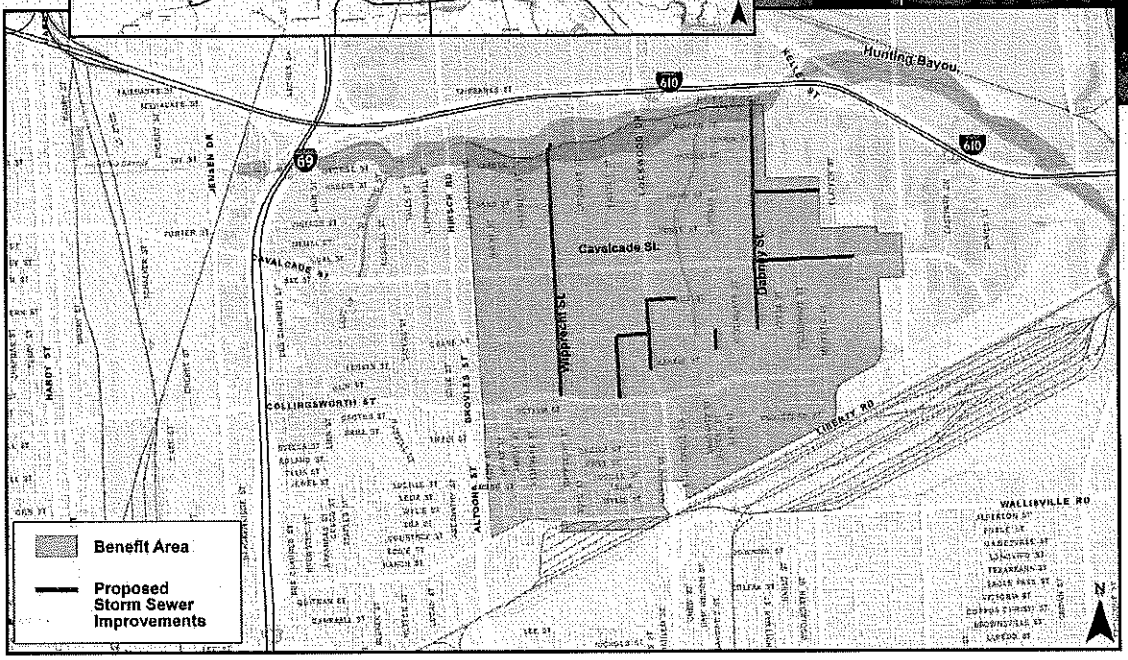
Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

HOUSTON KASHMERE GARDENS AREA FLOOD MITIGATION







Scope of Work	The project area is located in the eastern half of the Kashmere Gardens neighborhood, bounded by Wipprech St. on the west, Liberty Rd. on the south, Homestead Rd. on the east, and Hunting Bayou on the north. The project includes major storm sewer improvements beneath Wipprecht St., Pickfair St., Crane St., Lockwood Dr., Marcus St., Dabney St., Rand St., and Cavalcade St., improvements to roadside ditch systems and culverts east of Channel H110-00-00, and sewer inlet replacement in the area southwest of Channel H110-00-00. Green storm water infrastructure improvements will be constructed in the western portion of the project area. The project will also include construction of detention basins that will incorporate pedestrian trails and green space amenities.
Budget	**$94,879,585**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Houston Kashmere Gardens Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions in the Kashmere Gardens area.

The Houston Kashmere Gardens Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by more rapidly conveying water from the identified service areas to reduce flooding. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

The H&H modeling identified flooding issues under existing conditions, including structures inundated and ponding above the curb (6 inches of water) that impacts safe roadway mobility. The impacts are further validated by other data points including FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and/or calls for service.

The Kashmere Gardens Area neighborhood drainage infrastructure was constructed beginning in the 1930's. Harris County Flood Control (HCFCD) Channel H110-00-00 provides drainage for much of the area, conveying water to Hunting Bayou. The existing drainage system is a mix of curb and gutter and roadside ditch systems and provides less than 2-year level of service (LOS) under Atlas 14 rainfall. The H&H models show that 1,389 properties are inundated in the 100-year rain event, and 16.7 miles of street experience more than 6 inches of water.

The proposed project will replace and improve existing storm sewers, convert some existing roadside ditches to curb and gutter with storm sewers, improve existing roadside ditches and driveway culverts, and replace existing inlets with larger inlets. The proposed improvements will increase the capacity of the existing system, increasing the LOS to 50-year, reduce ponding on 14.1 miles of street, and remove 1,392 properties from flood risk. Green storm water infrastructure will also be constructed to supplement grey infrastructure improvements to increase the overall drainage benefits in the area. Detention basins will be constructed to mitigate the proposed infrastructure improvements, and these basins will include park amenities and trails.

Project Summary

- **Proposed Improvements**
- Replace or improve storm sewer systems on the following streets:
    - Wipprecht Street, Collingsworth St. - Hunting Bayou

- 482 LF of 24" RCP
- 4,560 LF of 12'x8' RCB
- 4 junction boxes
- 32 Type "BB" inlets
- 16 48" manholes
- 15,763 SY of 11" reinforced concrete pavement
- 5,500 SF 6" concrete driveway replacement
- 9,795 LF of 6" concrete curb
- 39,728 SF of sidewalk replacement/improvement

- Marcus Street, Lockwood Dr. - Channel H110-00-00
  - 30 LF of 24" RCP
  - 1,048 LF of 6'x4' RCB
  - 1 12'x12' junction box
  - 2 Type "BB" inlets
  - 1 Type "C" manhole
  - 2,044 SY of 11" reinforced concrete pavement
  - 4,250 SF 6" concrete driveway replacement
  - 1,510 LF of 6" concrete curb
  - 7,450 SF of sidewalk replacement/improvement
- Lockwood Drive, Crane St. - Marcus St.
  - 820 LF of 24" RCP
  - 2,338 LF of 6'x4' RCB
  - 4 junction boxes
  - 16 Type "BB" inlets
  - 4 Type "C" manholes
  - 13,500 SY of 11" reinforced concrete pavement
  - 7,931 SF 6" concrete driveway replacement
  - 9,167 LF of 6" concrete curb
  - 17,581 SF of sidewalk replacement/improvement
- Crane Street, Pickfair St. - Lockwood Dr.
  - 380 LF of 6'x3' RCB
  - 4 junction boxes
  - 1,664 SY of 11" reinforced concrete pavement
  - 4,837 SF 6" concrete driveway replacement
  - 1,220 LF of 6" concrete curb
  - 6,250 SF of sidewalk replacement/improvement
- Pickfair Street, Crane St. - Collingsworth St.
  - 283 LF of 24" RCP
  - 1,218 LF of 6'x3' RCB
  - 5 junction boxes
  - 10 Type "BB" inlets
  - 2 Type "C" manholes
  - 4,567 SY of 11" reinforced concrete pavement
  - 6,159 SF 6" concrete driveway replacement

        - 2,974 LF of 6" concrete curb
        - 13,448 SF of sidewalk replacement/improvement
    - Cavalcade Street, Dabney St. - Blaffer St.
        - 250 LF of 36" RCP
        - 1,831 LF of 10'x5' RCB
        - 1 junction boxes
        - 8 Type "BB" inlets
        - 5 Type "C" manholes
        - 14,123 SY of 11" reinforced concrete pavement
        - 5,030 SF 6" concrete driveway replacement
        - 7,542 LF of 6" concrete curb
        - 16,445 SF of sidewalk replacement/improvement
    - Hoffman Street, makeig St. - Crane St.
        - 42 LF of 24" RCP
        - 375 LF of 54" RCP
        - 2 Type "BB" inlets
        - 2 48" manholes
        - 750 SY of 11" reinforced concrete pavement
        - 350 SF 6" concrete driveway replacement
        - 283 LF of 6" concrete curb
        - 2,850 SF of sidewalk replacement/improvement
    - Dabney Street, Crane St. - Hunting Bayou
        - 240 LF of 24" RCP
        - 4,168 LF of 10'x8' RCB
        - 6 junction boxes
        - 22Type "BB" inlets
        - 4 48" manholes
        - 13,968 SY of 11" reinforced concrete pavement
        - 4,200 SF 6" concrete driveway replacement
        - 8,966 LF of 6" concrete curb
        - 38,404 SF of sidewalk replacement/improvement
    - Rand Street, Dabney St. - Majestic St.
        - 225 LF of 24" RCP
        - 1,350 LF of 36" RCP
        - 14 Type "BB" inlets
        - 10 Type "C" manholes
        - 4,596 SY of 11" reinforced concrete pavement
        - 560 SF 6" concrete driveway replacement
        - 2,902 LF of 6" concrete curb
        - 12,859 SF of sidewalk replacement/improvement
- Replace existing Type "B" inlets with Type "BB" inlets on the following streets:
    - Octavia Street, Schweikhardt St. - Wipprecht St.
    - Engleford Street, Schweikhardt St. - Wipprecht St.
    - Salina Street, Schweikhardt St. - Wipprecht St.

- Jewel Street, Wipprecht St. - Cushing St.
- Lucille Street, Wipprecht St. - Cushing St.
- Wylie Street, Fontinot St. - Cushing St.
- Liberty Street, Wipprecht St. - Cushing St.
- Wipprecht Street, Collingsworth St. - Octavia St.
- Solo Street, Wylie St. - Liberty St.
- Pickfair Street, Collingsworth St. - Engleford St.
- Fontinot Street, Evella St. - Lelia St.
- Erastus Street, Salina St. - Liberty St.

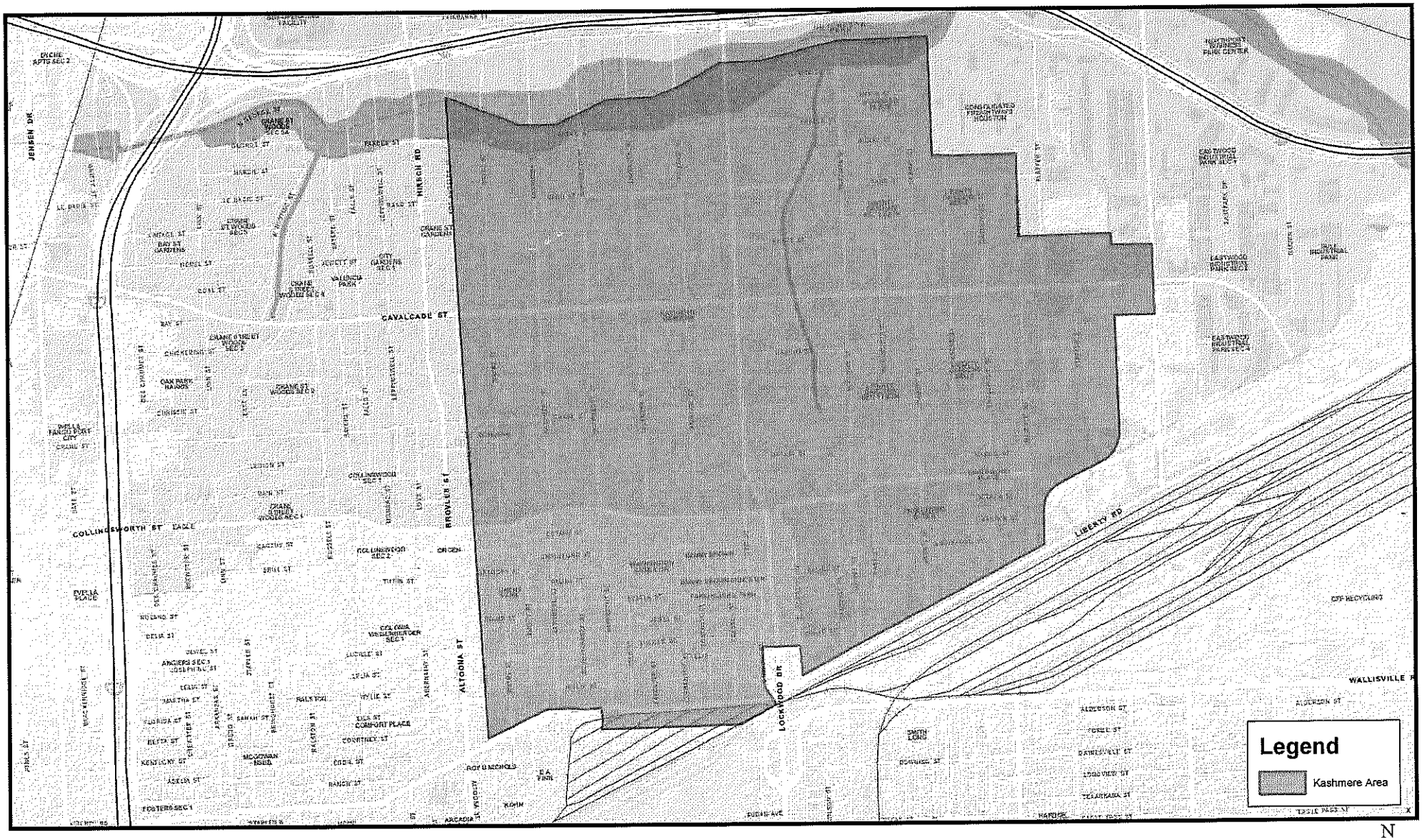
- Desilt and improve existing roadside ditches, replace culverts, and repair disturbed driveways on the following streets:
  - Schweikhardt Street, Lelia St. - Octavia St.
  - Octavia Street, Schweikhardt St. - Wipprecht St.
  - Engleford Street, Schweikhardt St. - Wipprecht St.
  - Engleford Street, 3rd St. - Erastus St.
  - Salina Street, Lockwood Dr. - Rupert St.
  - Lucille Street, Cushing St. - Rupert St.
  - Sakowitz Street, Liberty Rd. - Makeig St.
  - Makeig Street, Lockwood Dr. - Majestic St.
  - Hoffman Street, Collingsworth St. - Hunting Bayou
  - Rupert Street, Liberty Rd. - Collingsworth St.
  - Easy Street, Liberty Rd. - Makeig St.
  - Woolworth Street, Makeig St. - Hilary St.
  - Dabney Street, Liberty Rd. - Crane St.
  - Englewood Street, Liberty Rd. - Rand St.
  - Majestic Street, Liberty Rd. - Rand St.
  - Salina Street, west of Englewood St.
  - Granton Street, Englewood St. - Majestic St.
  - Octavia Street, Englewood St. - Majestic St.
  - Makeig Street, Majestic St. - Kress St.
  - Marcus Street, Lockwood Dr. - Hoffman St.
  - Bunte Street, Lockwood Dr. - Hoffman St.
  - Rand Street, Lockwood Dr. - Dabney St.
  - Hilary Street, Hoffman St. - Dabney St.
  - Pardee Street, Lockwood Dr. - Dabney St.
  - Lufkin Street, Hoffman St. - Dabney St.
  - Minden Street, Channel H110-00-00 to Dabney St.
- Construct the following dry-bottom detention facility with green space, pedestrian trail, and amenities to contribute to the overall required mitigation volume of 55 acre-feet:
  - Detention Basin A, 21.72 acre-feet (8 feet deep)
  - Detention Pond C, 4.05 acre-feet (7 feet deep)
  - Detention Pond F, 4.38 acre-feet (8 feet deep)
  - Detention Pond K, 2.37 acre-feet (10 feet deep)

- Detention Pond M, 3.78 acre-feet (5 feet deep)
- Detention Pond N, 4.99 acre-feet (7 feet deep)
- Detention Pond Q, 10.30 acre-feet (11 feet deep)
- Detention Pond R, 13.35 acre-feet (10 feet deep)

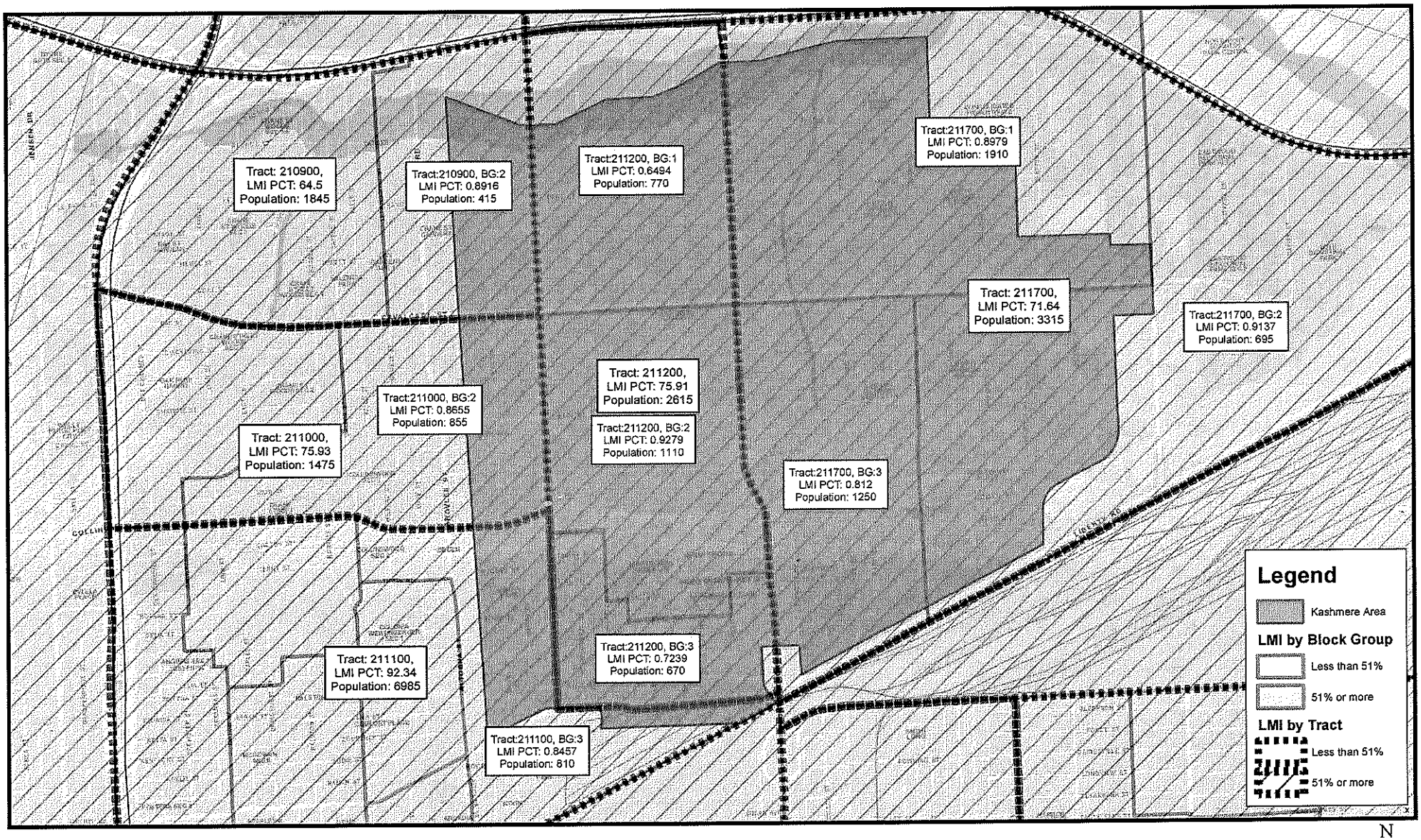
- Install green stormwater infrastructure on the following streets:
  - Cavalcade Street, Pickfair St. - H110-00-00
    - 1,555 LF of structured rain gardens
    - 1,111 SY of landscape improvements
    - 17 concrete drive replacements with culverts
    - 1,037 SY of sidewalk replacement
    - 4 ADA ramps
  - Lockwood Drive, Liberty Rd. - Hunting Bayou
    - 10,000 LF of structured rain gardens
    - 124 concrete drive replacements with culverts
  - Crane Street, Hirsch St. - Lockwood Dr.
    - 4,898 LF of ditch improvements
    - 8,980 SY of landscape improvements
    - 43 concrete drive replacements with culverts
    - 2,060 SY of sidewalk replacement
    - 12 ADA ramps
  - Los Angeles Street, Collingsworth St. - IH-610
    - 8,724 LF of ditch improvements
    - 20,356 SY of landscape improvements
    - 95 concrete drive replacements with culverts
    - 1,483 SY of sidewalk replacement
    - 22 ADA ramps
  - Wayne Street, Liberty Rd. - IH-610
    - 12,230 LF of ditch improvements
    - 24,460 SY of landscape improvements
    - 124 concrete drive replacements with culverts
    - 2,698 SY of sidewalk replacement
    - 40 ADA ramps
  - Kashmere Street, Liberty Rd. - IH-610
    - 11,944 LF of ditch improvements
    - 26,542 SY of landscape improvements
    - 163 concrete drive replacements with culverts
    - 1,031 SY of sidewalk replacement
    - 52 ADA ramps

MAPPING

Section 2 of 3: ***Mapping***



Location Map: Latitude 29.797898, Longitude -95.31633



Beneficiary Map

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

KASHMERE GARDENS	
Grand Total	$94,879,858.50

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local	CDBG-MIT
Construction	$ 71,854,219.29	$ 718,542.19	$ 71,135,677.10
Engineering	$ 10,778,132.89	$ 107,781.33	$ 10,670,351.56
Acquisition	$ 3,625,000.00	$ 36,250.00	$ 3,588,750.00
Environmental	$ 4,311,253.16	$ 43,112.53	$ 4,268,140.63
Administration	$ 4,311,253.16	$ 43,112.53	$ 4,268,140.63

TOTAL	$ 94,879,858.50	$ 948,798.58	$ 93,931,059.92

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 Houston
Site/Activity Title:	Houston Kashmere Gardens Flood Mitigation
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Wipprecht Street (Collingsworth Street to Hunting Bayou - P1)						
Mobilization	$ 800,000.00	LS	1	$ 800,000.00	$ -	$ 800,000.00
Traffic Control & Regulation	$ 350,000.00	LS	1	$ 350,000.00	$ -	$ 350,000.00
SWPPP	$ 120,000.00	LS	1	$ 120,000.00	$ -	$ 120,000.00
Tree Mitigation	$ 65,000.00	LS	1	$ 65,000.00	$ -	$ 65,000.00
Adjusting Manholes, inlets, and valve boxes to grade	$ 750.00	EA	14	$ 10,500.00	$ -	$ 10,500.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	1855	$ 129,850.00	$ -	$ 129,850.00
48-Inch Diameter Manhole for RCB	$ 4,200.00	EA	16	$ 67,200.00	$ -	$ 67,200.00
Remove and Dispose Manholes all Sizes/Depth	$ 900.00	EA	11	$ 9,900.00	$ -	$ 9,900.00
Adjust Manhole Frame and Cover to New Grade	$ 750.00	EA	2	$ 1,500.00	$ -	$ 1,500.00
Remove and Dispose Inlets all Sizes/Depth	$ 600.00	EA	16	$ 9,600.00	$ -	$ 9,600.00
Remove and Dispose Culvert 12" to 18"	$ 12.00	LF	555	$ 6,657.60	$ -	$ 6,657.60
Remove and Dispose Storm Pipe 24-Inch Diameter	$ 12.00	LF	851	$ 10,212.00	$ -	$ 10,212.00
Remove and Dispose Storm Pipe 30-Inch Diameter	$ 14.00	LF	406	$ 5,684.00	$ -	$ 5,684.00
Remove and Dispose Storm Pipe 36-Inch Diameter	$ 16.00	LF	1720	$ 27,520.00	$ -	$ 27,520.00
Remove and Dispose Storm Pipe 42-Inch Diameter	$ 18.00	LF	303	$ 5,454.00	$ -	$ 5,454.00
Trench Safety System for Storm Sewer Trench Excavation	$ 5.00	LF	5042	$ 25,210.00	$ -	$ 25,210.00
Junction Box	$ 18,000.00	EA	4	$ 72,000.00	$ -	$ 72,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	482	$ 40,970.00	$ -	$ 40,970.00
12' x 8' RCB	$ 1,220.00	LF	4560	$ 5,563,200.00	$ -	$ 5,563,200.00
Type "BB" Inlet	$ 3,800.00	EA	32	$ 121,600.00	$ -	$ 121,600.00
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	15763	$ 110,344.11	$ -	$ 110,344.11
Excavation & Haul off	$ 15.00	CY	6800	$ 102,000.00	$ -	$ 102,000.00
Lime Stabilized Subgrade 8-Inch Thick	$ 4.00	SY	15763	$ 63,053.78	$ -	$ 63,053.78
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	284	$ 42,561.30	$ -	$ 42,561.30
Reinforced Concrete Pavement 11-Inch Thick	$ 70.00	SY	15763	$ 1,103,441.11	$ -	$ 1,103,441.11
Concrete Driveways Including Excavation 6-Inch Thick	$ 10.00	SF	5500	$ 55,000.00	$ -	$ 55,000.00
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	9795	$ 176,310.00	$ -	$ 176,310.00
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	39278	$ 255,307.00	$ -	$ 255,307.00
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	120	$ 2,400.00	$ -	$ 2,400.00
8-Inch Diameter Water Line by Open-Cut with Restrained Joints	$ 110.00	LF	61	$ 6,710.00	$ -	$ 6,710.00
6-Inch Diameter Water Line by Open-Cut with Restrained Joints	$ 80.00	LF	67	$ 5,360.00	$ -	$ 5,360.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	54	$ 48,600.00	$ -	$ 48,600.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	50	$ 62,500.00	$ -	$ 62,500.00
Marcus Street (Lockwood Drive to Channel H110-00-00 - P2)						

Mobilization	$ 100,000.00	LS	1	$ 100,000.00	$ -	$ 100,000.00
Traffic Control & Regulation	$ 45,000.00	LS	1	$ 45,000.00	$ -	$ 45,000.00
SWPPP	$ 15,000.00	LS	1	$ 15,000.00	$ -	$ 15,000.00
Tree Mitigation	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Adjusting Manholes, inlets, and valve boxes to grade	$ 750.00	EA	1	$ 750.00	$ -	$ 750.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	180	$ 12,600.00	$ -	$ 12,600.00
Type C Manhole for 48-Inch Diameter Sewers	$ 15,000.00	EA	1	$ 15,000.00	$ -	$ 15,000.00
Junction Box	$ 18,000.00	EA	1	$ 18,000.00	$ -	$ 18,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	30	$ 2,550.00	$ -	$ 2,550.00
6' x 4' RCB	$ 580.00	LF	1048	$ 607,840.00	$ -	$ 607,840.00
Type "BB" Inlet	$ 3,800.00	EA	2	$ 7,600.00	$ -	$ 7,600.00
Remove/Dispose Conc Driveway 6-inch Thick/More	$ 3.00	SY	472	$ 1,416.63	$ -	$ 1,416.63
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	2044	$ 14,308.17	$ -	$ 14,308.17
Excavation & Haul off	$ 15.00	CY	1150	$ 17,250.00	$ -	$ 17,250.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	2044	$ 8,176.10	$ -	$ 8,176.10
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	37	$ 5,518.87	$ -	$ 5,518.87
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	2044	$ 143,081.70	$ -	$ 143,081.70
Concrete Driveways Including Excavation 6-Inch Thick	$ 10.00	SF	4250	$ 42,498.89	$ -	$ 42,498.89
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	1510	$ 27,179.42	$ -	$ 27,179.42
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	7450	$ 48,426.96	$ -	$ 48,426.96
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	80	$ 1,600.00	$ -	$ 1,600.00
8-Inch Diameter Water Line by Open-Cut with Restrained Joints	$ 110.00	LF	88	$ 9,680.00	$ -	$ 9,680.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	7	$ 6,300.00	$ -	$ 6,300.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	7	$ 8,750.00	$ -	$ 8,750.00
Fire Hydrant Assembly, All Depths, Including 6-Inch Diameter Gate Valve and Box	$ 10,000.00	EA	1	$ 10,000.00	$ -	$ 10,000.00
Lockwood Drive (Crane Street to Marcus Street - P2)						
Mobilization	$ 320,000.00	LS	1	$ 320,000.00	$ -	$ 320,000.00
Traffic Control & Regulation	$ 180,000.00	LS	1	$ 180,000.00	$ -	$ 180,000.00
SWPPP	$ 65,000.00	LS	1	$ 65,000.00	$ -	$ 65,000.00
Tree Mitigation	$ 36,000.00	LS	1	$ 36,000.00	$ -	$ 36,000.00
Adjusting Manholes, inlets, and valve boxes to grade	$ 750.00	EA	12	$ 9,000.00	$ -	$ 9,000.00
Type C Manhole for 48-Inch Diameter Sewers	$ 15,000.00	EA	4	$ 60,000.00	$ -	$ 60,000.00
Remove and Dispose Manholes all Sizes/Depth	$ 900.00	EA	6	$ 5,400.00	$ -	$ 5,400.00
Adjust Manhole Frame and Cover to New Grade	$ 750.00	EA	2	$ 1,500.00	$ -	$ 1,500.00
Remove and Dispose Inlets all Sizes/Depth	$ 600.00	EA	10	$ 6,000.00	$ -	$ 6,000.00
Remove and Dispose Storm Pipe 24-Inch Diameter	$ 12.00	LF	1011	$ 12,132.00	$ -	$ 12,132.00
Junction Box	$ 18,000.00	EA	3	$ 54,000.00	$ -	$ 54,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	820	$ 69,700.00	$ -	$ 69,700.00
6' x 4' RCB	$ 580.00	LF	2338	$ 1,356,040.00	$ -	$ 1,356,040.00
Type "BB" Inlet	$ 3,800.00	EA	16	$ 60,800.00	$ -	$ 60,800.00
Remove/Dispose Conc Driveway 6-inch Thick/More	$ 3.00	SY	881	$ 2,643.51	$ -	$ 2,643.51
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	13500	$ 94,499.84	$ -	$ 94,499.84

Excavation & Haul off	$ 15.00	CY	1250	$ 18,750.00	$ -	$ 18,750.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	13500	$ 53,999.91	$ -	$ 53,999.91
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	243	$ 36,449.94	$ -	$ 36,449.94
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	13500	$ 944,998.40	$ -	$ 944,998.40
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	7931	$ 79,305.35	$ -	$ 79,305.35
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	9167	$ 165,001.19	$ -	$ 165,001.19
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	17581	$ 114,277.52	$ -	$ 114,277.52
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	160	$ 3,200.00	$ -	$ 3,200.00
12-Inch Diameter Water Line by Open-Cut	$ 140.00	LF	132	$ 18,480.00	$ -	$ 18,480.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	18	$ 16,200.00	$ -	$ 16,200.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	20	$ 25,000.00	$ -	$ 25,000.00
Fire Hydrant Assembly, All Depths, Including 6-Inch Diameter Gate Valve and Box	$ 10,000.00	EA	4	$ 40,000.00	$ -	$ 40,000.00
Crane Street (Pickfair Street to Lockwood Drive - P2)						
Mobilization	$ 65,000.00	LS	1	$ 65,000.00	$ -	$ 65,000.00
Traffic Control & Regulation	$ 34,000.00	LS	1	$ 34,000.00	$ -	$ 34,000.00
SWPPP	$ 11,000.00	LS	1	$ 11,000.00	$ -	$ 11,000.00
Tree Mitigation	$ 6,500.00	LS	1	$ 6,500.00	$ -	$ 6,500.00
Adjusting Manholes, Inlets, and valve boxes to grade	$ 750.00	EA	1	$ 750.00	$ -	$ 750.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	210	$ 14,700.00	$ -	$ 14,700.00
6' x 3' RCB	$ 520.00	LF	380	$ 197,600.00	$ -	$ 197,600.00
Remove/Dispose Conc Driveway 6-inch	$ 3.00	SY	537	$ 1,612.22	$ -	$ 1,612.22
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	1309	$ 9,160.00	$ -	$ 9,160.00
Excavation & Haul off	$ 15.00	CY	655	$ 9,825.00	$ -	$ 9,825.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	1664	$ 6,656.00	$ -	$ 6,656.00
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	30	$ 4,492.80	$ -	$ 4,492.80
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	1664	$ 116,480.00	$ -	$ 116,480.00
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	4837	$ 48,366.65	$ -	$ 48,366.65
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	1220	$ 21,960.00	$ -	$ 21,960.00
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	6250	$ 40,625.00	$ -	$ 40,625.00
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	80	$ 1,600.00	$ -	$ 1,600.00
12-Inch Diameter Water Line by Open-Cut	$ 140.00	LF	213	$ 29,820.00	$ -	$ 29,820.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	5	$ 4,500.00	$ -	$ 4,500.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	5	$ 6,250.00	$ -	$ 6,250.00
12-Inch Diameter Wet Connection	$ 1,600.00	EA	1	$ 1,600.00	$ -	$ 1,600.00
8-Inch Diameter Wet Connection	$ 1,200.00	EA	1	$ 1,200.00	$ -	$ 1,200.00
Fire Hydrant Assembly, All Depths, Including 6-Inch Diameter Gate Valve and Box	$ 10,000.00	EA	1	$ 10,000.00	$ -	$ 10,000.00
Pickfair Street (Crane Street to Collingsworth Street - P2)						
Mobilization	$ 150,000.00	LS	1	$ 150,000.00	$ -	$ 150,000.00
Traffic Control & Regulation	$ 60,000.00	LS	1	$ 60,000.00	$ -	$ 60,000.00
SWPPP	$ 25,000.00	LS	1	$ 25,000.00	$ -	$ 25,000.00
Tree Mitigation	$ 23,000.00	LS	1	$ 23,000.00	$ -	$ 23,000.00
Adjusting Manholes, Inlets, and valve boxes to grade	$ 750.00	EA	2	$ 1,500.00	$ -	$ 1,500.00

Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	240	$ 16,800.00	$ -	$ 16,800.00
Type C Manhole for 48-Inch Diameter Sewers	$ 15,000.00	EA	2	$ 30,000.00	$ -	$ 30,000.00
Remove and Dispose Manholes all Sizes/Depth	$ 900.00	EA	4	$ 3,600.00	$ -	$ 3,600.00
Remove and Dispose Inlets all Sizes/Depth	$ 600.00	EA	10	$ 6,000.00	$ -	$ 6,000.00
Remove and Dispose Storm Pipe 24-Inch Diameter	$ 12.00	LF	1800	$ 21,600.00	$ -	$ 21,600.00
Junction Box	$ 18,000.00	EA	5	$ 90,000.00	$ -	$ 90,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	283	$ 24,055.00	$ -	$ 24,055.00
6' x 3' RCB	$ 520.00	LF	1218	$ 633,360.00	$ -	$ 633,360.00
Type "BB" Inlet	$ 3,800.00	EA	10	$ 38,000.00	$ -	$ 38,000.00
Remove/Dispose Conc Driveway 6-inch Thick/More	$ 3.00	SY	684	$ 2,052.84	$ -	$ 2,052.84
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	4567	$ 31,966.67	$ -	$ 31,966.67
Excavation & Haul off	$ 15.00	CY	2650	$ 39,750.00	$ -	$ 39,750.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	4567	$ 18,266.67	$ -	$ 18,266.67
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	82	$ 12,330.00	$ -	$ 12,330.00
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	4567	$ 319,666.67	$ -	$ 319,666.67
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	6159	$ 61,585.28	$ -	$ 61,585.28
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	2974	$ 53,530.63	$ -	$ 53,530.63
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	13448	$ 87,411.48	$ -	$ 87,411.48
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	80	$ 1,600.00	$ -	$ 1,600.00
8-Inch Diameter Water Line by Open-Cut with Restrained Joints	$ 110.00	LF	60	$ 6,600.00	$ -	$ 6,600.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	10	$ 9,000.00	$ -	$ 9,000.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	10	$ 12,500.00	$ -	$ 12,500.00
8-Inch Diameter Wet Connection	$ 1,200.00	EA	1	$ 1,200.00	$ -	$ 1,200.00
6-Inch Diameter Wet Connection	$ 1,000.00	EA	1	$ 1,000.00	$ -	$ 1,000.00
Fire Hydrant Assembly, All Depths, Including 6-Inch Diameter Gate Valve and Box	$ 10,000.00	EA	2	$ 20,000.00	$ -	$ 20,000.00
Calvacade Street (Dabney Street to Blaffer Street - P3)						
Mobilization	$ 450,000.00	LS	1	$ 450,000.00	$ -	$ 450,000.00
Aluminum Signs (Ground Mounted)-Furnish & Install	$ 150,000.00	LS	1	$ 150,000.00	$ -	$ 150,000.00
SWPPP	$ 85,000.00	LS	1	$ 85,000.00	$ -	$ 85,000.00
Tree Mitigation	$ 25,000.00	LS	1	$ 25,000.00	$ -	$ 25,000.00
Adjusting Manholes, inlets, and valve boxes to grade	$ 750.00	EA	14	$ 10,500.00	$ -	$ 10,500.00
Trench Safety System for Sanitary Sewer Trench Excavation	$ 2.00	LF	3236	$ 6,472.00	$ -	$ 6,472.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	992	$ 69,440.00	$ -	$ 69,440.00
Type C Manhole On Box Culvert	$ 4,200.00	EA	5	$ 21,000.00	$ -	$ 21,000.00
Remove and Dispose Storm Pipe 24-Inch Diameter	$ 12.00	LF	250	$ 3,000.00	$ -	$ 3,000.00
Junction Box 10 FTx 10 FT	$ 18,000.00	EA	1	$ 18,000.00	$ -	$ 18,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	250	$ 21,250.00	$ -	$ 21,250.00
10' x 5' RCB	$ 780.00	LF	1831	$ 1,428,180.00	$ -	$ 1,428,180.00
Type "BB" Inlet	$ 3,800.00	EA	8	$ 30,400.00	$ -	$ 30,400.00
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	14123	$ 98,861.00	$ -	$ 98,861.00
Excavation & Haul off	$ 15.00	CY	7355	$ 110,325.00	$ -	$ 110,325.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	14123	$ 56,492.00	$ -	$ 56,492.00

Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	254	$ 38,132.10	$ -	$ 38,132.10
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	14123	$ 988,610.00	$ -	$ 988,610.00
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	5030	$ 50,300.00	$ -	$ 50,300.00
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	7542	$ 135,756.00	$ -	$ 135,756.00
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	16445	$ 106,892.50	$ -	$ 106,892.50
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	120	$ 2,400.00	$ -	$ 2,400.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	18	$ 16,200.00	$ -	$ 16,200.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	20	$ 25,000.00	$ -	$ 25,000.00
Hoffman Street (Crane Street to Pond C - P4)						
Mobilization	$ 22,000.00	LS	1	$ 22,000.00	$ -	$ 22,000.00
Traffic Control & Regulation	$ 10,000.00	LS	1	$ 10,000.00	$ -	$ 10,000.00
SWPPP	$ 8,500.00	LS	1	$ 8,500.00	$ -	$ 8,500.00
Tree Mitigation	$ 5,600.00	LS	1	$ 5,600.00	$ -	$ 5,600.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	85	$ 5,950.00	$ -	$ 5,950.00
48-Inch Diameter Manhole for RCB	$ 4,200.00	EA	2	$ 8,400.00	$ -	$ 8,400.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	42	$ 3,570.00	$ -	$ 3,570.00
54-inch Diameter Storm Sewer by open cut	$ 320.00	LF	375	$ 120,000.00	$ -	$ 120,000.00
Type "BB" Inlet	$ 3,800.00	EA	2	$ 7,600.00	$ -	$ 7,600.00
Remove/Dispose reinforced concrete with or without base including existing Metro bus pad	$ 7.00	SY	750	$ 5,250.00	$ -	$ 5,250.00
Lime Stabillzed Subgrade 8-inch Thick	$ 4.00	SY	750	$ 3,000.00	$ -	$ 3,000.00
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	14	$ 2,025.00	$ -	$ 2,025.00
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	750	$ 52,500.00	$ -	$ 52,500.00
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	350	$ 3,500.00	$ -	$ 3,500.00
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	283	$ 5,094.00	$ -	$ 5,094.00
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	2850	$ 18,525.00	$ -	$ 18,525.00
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	40	$ 800.00	$ -	$ 800.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	4	$ 3,600.00	$ -	$ 3,600.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	4	$ 5,000.00	$ -	$ 5,000.00
Dabney Street (Crane Street to Hunting Bayou - P5)						
Mobilization	$ 690,000.00	LS	1	$ 690,000.00	$ -	$ 690,000.00
Traffic Control & Regulation	$ 225,000.00	LS	1	$ 225,000.00	$ -	$ 225,000.00
SWPPP	$ 98,000.00	LS	1	$ 98,000.00	$ -	$ 98,000.00
Tree Mitigation	$ 60,000.00	LS	1	$ 60,000.00	$ -	$ 60,000.00
Adjusting Manholes, inlets, and valve boxes to grade	$ 750.00	EA	10	$ 7,500.00	$ -	$ 7,500.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	1596	$ 111,720.00	$ -	$ 111,720.00
48-Inch Diameter Manhole for RCB	$ 4,200.00	EA	4	$ 16,800.00	$ -	$ 16,800.00
Trench Safety System for Storm Sewer Trench Excavation	$ 5.00	LF	4168	$ 20,840.00	$ -	$ 20,840.00
Junction Box 10 FTx 10 FT	$ 18,000.00	EA	6	$ 108,000.00	$ -	$ 108,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	240	$ 20,400.00	$ -	$ 20,400.00
10' x 8' RCB	$ 1,150.00	LF	4168	$ 4,793,200.00	$ -	$ 4,793,200.00
Type "BB" Inlet	$ 3,800.00	EA	22	$ 83,600.00	$ -	$ 83,600.00
Remove/Dispose Pavement with Base 12 inch Thick	$ 7.00	SY	13968	$ 97,772.89	$ -	$ 97,772.89

Excavation & Haul off	$ 15.00	CY	6580	$ 98,700.00	$ -	$ 98,700.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	13968	$ 55,870.22	$ -	$ 55,870.22
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	251	$ 37,712.40	$ -	$ 37,712.40
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	13968	$ 977,728.89	$ -	$ 977,728.89
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	4200	$ 42,000.00	$ -	$ 42,000.00
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	8966	$ 161,388.00	$ -	$ 161,388.00
Sidewalk 5-1/2-Inch Thick	$ 6.50	SF	38404	$ 249,626.00	$ -	$ 249,626.00
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	120	$ 2,400.00	$ -	$ 2,400.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	40	$ 36,000.00	$ -	$ 36,000.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	48	$ 60,000.00	$ -	$ 60,000.00
Rand Street (Dabney Street to Majestic Street - P6)						
Mobilization	$ 125,000.00	LS	1	$ 125,000.00	$ -	$ 125,000.00
Traffic Control & Regulation	$ 45,000.00	LS	1	$ 45,000.00	$ -	$ 45,000.00
SWPPP	$ 35,000.00	LS	1	$ 35,000.00	$ -	$ 35,000.00
Tree Mitigation	$ 15,000.00	LS	1	$ 15,000.00	$ -	$ 15,000.00
Service stubs or reconnections with or without stack on sanitary sewer	$ 70.00	LF	126	$ 8,820.00	$ -	$ 8,820.00
Type C Manhole for 36-Inch Diameter Sewers	$ 4,200.00	EA	10	$ 42,000.00	$ -	$ 42,000.00
24-inch Diameter Storm Sewer by open cut	$ 85.00	LF	225	$ 19,125.00	$ -	$ 19,125.00
36-inch Diameter Storm Sewer by open cut	$ 160.00	LF	1350	$ 216,000.00	$ -	$ 216,000.00
Type "BB" Inlet	$ 3,800.00	EA	14	$ 53,200.00	$ -	$ 53,200.00
Remove/Dispose Pavement with Base	$ 7.00	SY	4596	$ 32,169.67	$ -	$ 32,169.67
Excavation & Haul	$ 18.00	CY	1532	$ 27,574.00	$ -	$ 27,574.00
Lime Stabilized Subgrade 8-inch Thick	$ 4.00	SY	4596	$ 18,382.67	$ -	$ 18,382.67
Lime for Lime Stabilized Subgrade (Dry Weight)	$ 150.00	TON	83	$ 12,408.30	$ -	$ 12,408.30
Reinforced Concrete Pavement 11-inch Thick	$ 70.00	SY	4596	$ 321,696.67	$ -	$ 321,696.67
Concrete Driveways Including Excavation 6-inch Thick	$ 10.00	SF	560	$ 5,600.00	$ -	$ 5,600.00
6-Inch Concrete Curb (Monolithic)	$ 18.00	LF	2902	$ 52,236.00	$ -	$ 52,236.00
Sidewalk 4-1/2-Inch Thick	$ 6.50	SF	12859	$ 83,583.50	$ -	$ 83,583.50
Wheelchair Ramps and Sidewalks, Complete in Place	$ 20.00	SF	80	$ 1,600.00	$ -	$ 1,600.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Short Side	$ 900.00	EA	6	$ 5,400.00	$ -	$ 5,400.00
3/4-Inch to 1-Inch Diameter Water Taps and Copper Service Line with Meter Box, Long Side	$ 1,250.00	EA	7	$ 8,750.00	$ -	$ 8,750.00
Roadside Ditch Improvements						
Mobilization	$ 450,000.00	LS	1	$ 450,000.00	$ -	$ 450,000.00
Traffic Control & Temporary Pavement	$ 150,000.00	LS	1	$ 150,000.00	$ -	$ 150,000.00
SWPPP	$ 98,000.00	LS	1	$ 98,000.00	$ -	$ 98,000.00
Desilt Roadside Ditch	$ 12.00	LF	45500	$ 546,000.00	$ -	$ 546,000.00
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	546	$ 3,549,000.00	$ -	$ 3,549,000.00
Inlet Replacement						
Mobilization	$ 55,000.00	LS	1	$ 55,000.00	$ -	$ 55,000.00
Traffic Control & Temporary Pavement	$ 35,000.00	LS	1	$ 35,000.00	$ -	$ 35,000.00
SWPPP	$ 40,000.00	LS	1	$ 40,000.00	$ -	$ 40,000.00
Replace B inlets with BB inlets	$ 3,800.00	EA	65	$ 247,000.00	$ -	$ 247,000.00
Sawcut Pavement/Curb and Replace	$ 8,500.00	EA	65	$ 552,500.00	$ -	$ 552,500.00
DETENTION POND Q						
Mobilization	$ 50,000.00	LS	1	$ 50,000.00	$ -	$ 50,000.00

Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	16617	$ 415,433.33	$ -	$ 415,433.33
Backslope Drain & Swale	$ 41,543.33	LS	1	$ 41,543.33	$ -	$ 41,543.33
Outfall & Extreme Event Overflow	$ 62,315.00	LS	1	$ 62,315.00	$ -	$ 62,315.00
Intake Pipe	$ 124,630.00	LS	1	$ 124,630.00	$ -	$ 124,630.00
Hydromulch Seeding	$ 5,000.00	AC	3	$ 12,500.00	$ -	$ 12,500.00
Sodding	$ 5.00	SY	1500	$ 7,500.00	$ -	$ 7,500.00
Concrete Pilot Channel	$ 35,000.00	LS	1	$ 35,000.00	$ -	$ 35,000.00
DETENTION POND K						
Mobilization	$ 25,000.00	LS	1	$ 25,000.00	$ -	$ 25,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	3824	$ 95,590.00	$ -	$ 95,590.00
Backslope Drain & Swale	$ 9,559.00	LS	1	$ 9,559.00	$ -	$ 9,559.00
Outfall & Extreme Event Overflow	$ 14,338.50	LS	1	$ 14,338.50	$ -	$ 14,338.50
Intake Pipe	$ 28,677.00	LS	1	$ 28,677.00	$ -	$ 28,677.00
Hydromulch Seeding	$ 5,000.00	AC	1	$ 5,000.00	$ -	$ 5,000.00
Sodding	$ 5.00	SY	500	$ 2,500.00	$ -	$ 2,500.00
Concrete Pilot Channel	$ 20,000.00	LS	1	$ 20,000.00	$ -	$ 20,000.00
DETENTION POND R						
Mobilization	$ 35,000.00	LS	1	$ 35,000.00	$ -	$ 35,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	7663	$ 191,583.33	$ -	$ 191,583.33
Backslope Drain & Swale	$ 19,158.33	LS	1	$ 19,158.33	$ -	$ 19,158.33
Outfall & Extreme Event Overflow	$ 28,737.50	LS	1	$ 28,737.50	$ -	$ 28,737.50
Intake Pipe	$ 57,475.00	LS	1	$ 57,475.00	$ -	$ 57,475.00
Hydromulch Seeding	$ 5,000.00	AC	2	$ 10,000.00	$ -	$ 10,000.00
Sodding	$ 5.00	SY	800	$ 4,000.00	$ -	$ 4,000.00
Concrete Pilot Channel	$ 25,000.00	LS	1	$ 25,000.00	$ -	$ 25,000.00
DETENTION POND N						
Mobilization	$ 38,000.00	LS	1	$ 38,000.00	$ -	$ 38,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	8051	$ 201,263.33	$ -	$ 201,263.33
Backslope Drain & Swale	$ 20,126.33	LS	1	$ 20,126.33	$ -	$ 20,126.33
Outfall & Extreme Event Overflow	$ 30,189.50	LS	1	$ 30,189.50	$ -	$ 30,189.50
Intake Pipe	$ 60,379.00	LS	1	$ 60,379.00	$ -	$ 60,379.00
Hydromulch Seeding	$ 5,000.00	AC	2	$ 10,000.00	$ -	$ 10,000.00
Sodding	$ 5.00	SY	650	$ 3,250.00	$ -	$ 3,250.00
Concrete Pilot Channel	$ 15,000.00	LS	1	$ 15,000.00	$ -	$ 15,000.00
DETENTION POND F						
Mobilization	$ 32,000.00	LS	1	$ 32,000.00	$ -	$ 32,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	7066	$ 176,660.00	$ -	$ 176,660.00
Backslope Drain & Swale	$ 17,666.00	LS	1	$ 17,666.00	$ -	$ 17,666.00
Outfall & Extreme Event Overflow	$ 26,499.00	LS	1	$ 26,499.00	$ -	$ 26,499.00
Intake Pipe	$ 52,998.00	LS	1	$ 52,998.00	$ -	$ 52,998.00
Hydromulch Seeding	$ 5,000.00	AC	1	$ 7,000.00	$ -	$ 7,000.00
Sodding	$ 5.00	SY	500	$ 2,500.00	$ -	$ 2,500.00
Concrete Pilot Channel	$ 12,000.00	LS	1	$ 12,000.00	$ -	$ 12,000.00
DETENTION POND A						
Mobilization	$ 150,000.00	LS	1	$ 150,000.00	$ -	$ 150,000.00
Traffic Control & Temporary Pavement	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
SWPPP	$ 15,000.00	LS	1	$ 15,000.00	$ -	$ 15,000.00

Tree Mitigation	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
Excavation and Haul	$ 25.00	CY	35042	$ 876,040.00	$ -	$ 876,040.00
Backslope Drain & Swale	$ 87,604.00	LS	1	$ 87,604.00	$ -	$ 87,604.00
Outfall & Extreme Event Overflow	$ 131,406.00	LS	1	$ 131,406.00	$ -	$ 131,406.00
Intake Pipe	$ 262,812.00	LS	1	$ 262,812.00	$ -	$ 262,812.00
Hydromulch Seeding	$ 5,000.00	AC	5	$ 25,000.00	$ -	$ 25,000.00
Sodding	$ 5.00	SY	1800	$ 9,000.00	$ -	$ 9,000.00
Concrete Pilot Channel	$ 35,000.00	LS	1	$ 35,000.00	$ -	$ 35,000.00
DETENTION POND C						
Mobilization	$ 30,000.00	LS	1	$ 30,000.00	$ -	$ 30,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	6534	$ 163,350.00	$ -	$ 163,350.00
Backslope Drain & Swale	$ 16,335.00	LS	1	$ 16,335.00	$ -	$ 16,335.00
Outfall & Extreme Event Overflow	$ 24,502.50	LS	1	$ 24,502.50	$ -	$ 24,502.50
Intake Pipe	$ 49,005.00	LS	1	$ 49,005.00	$ -	$ 49,005.00
Hydromulch Seeding	$ 5,000.00	AC	1	$ 6,500.00	$ -	$ 6,500.00
Sodding	$ 5.00	SY	450	$ 2,250.00	$ -	$ 2,250.00
Concrete Pilot Channel	$ 12,000.00	LS	1	$ 12,000.00	$ -	$ 12,000.00
DETENTION POND M						
Mobilization	$ 280,000.00	LS	1	$ 280,000.00	$ -	$ 280,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 8,000.00	LS	1	$ 8,000.00	$ -	$ 8,000.00
Tree Mitigation	$ 2,000.00	LS	1	$ 2,000.00	$ -	$ 2,000.00
Excavation and Haul	$ 25.00	CY	6098	$ 152,460.00	$ -	$ 152,460.00
Backslope Drain & Swale	$ 15,246.00	LS	1	$ 15,246.00	$ -	$ 15,246.00
Outfall & Extreme Event Overflow	$ 22,869.00	LS	1	$ 22,869.00	$ -	$ 22,869.00
Intake Pipe	$ 45,738.00	LS	1	$ 45,738.00	$ -	$ 45,738.00
Hydromulch Seeding	$ 5,000.00	AC	1	$ 6,500.00	$ -	$ 6,500.00
Sodding	$ 5.00	SY	450	$ 2,250.00	$ -	$ 2,250.00
Concrete Pilot Channel	$ 12,000.00	LS	1	$ 12,000.00	$ -	$ 12,000.00
Park & Trail						
Mobilization	$ 120,000.00	LS	1	$ 120,000.00	$ -	$ 120,000.00
Traffic Control & Temporary Pavement	$ 5,000.00	LS	1	$ 5,000.00	$ -	$ 5,000.00
SWPPP	$ 15,000.00	LS	1	$ 15,000.00	$ -	$ 15,000.00
Tree Mitigation	$ 65,000.00	LS	1	$ 65,000.00	$ -	$ 65,000.00
Trailhead, Bench, Trash Can, Canopy	$ 185,000.00	EA	5	$ 925,000.00	$ -	$ 925,000.00
Trail	$ 10.50	SF	38400	$ 403,200.00	$ -	$ 403,200.00
SUB TOTAL				$ 42,199,190.0	$ -	$ 42,199,190.00
1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.						
2. Identify and explain any special engineering activities.						
Risk Assessment Mark-Ups						
Construction Contingency (30%)	$ 12,659,757.00	EA	1	$ 12,659,757.00	$ -	$ 12,659,757.00
SUB TOTAL				$ 12,659,757.0	$ -	$ 12,659,757.00
Soft Costs						
Engineering (Design and Bidding) (15%)	$ 8,228,842.05	EA	1	$ 8,228,842.05	$ -	$ 8,228,842.05
Environmental Investigation and Permitting	$ 3,291,536.82	EA	1	$ 3,291,536.82	$ -	$ 3,291,536.82
Grant Administration (6%)	$ 3,291,536.82	EA	1	$ 3,291,536.82	$ -	$ 3,291,536.82
SUB TOTAL				$ 6,583,073.6	$ -	$ 14,811,915.69
TOTAL				$ 61,442,020.6	$ -	$ 69,670,862.69

Date:	
Phone Number:	

Signature of Registered Engineer/Architect Responsible For Budget Justification:


Seal

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 Houston
Site/Activity Title:	Houston Kashmere Gardens Flood Mitigation
Eligible Activity:	Natural or Green Infrastructure

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Cavalcade Street (Pickfair Street to H110-00-00)						
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	17	$ 110,500.00	$ -	$ 110,500.00
Structured Rain Garden	$ 600.00	LF	1555	$ 933,000.00	$ -	$ 933,000.00
Sidewalk	$ 58.50	SY	1037	$ 60,645.02	$ -	$ 60,645.02
ADA Ramp	$ 2,000.00	EA	4	$ 8,000.00	$ -	$ 8,000.00
Landscape Improvements	$ 31.50	SY	1111	$ 35,000.00	$ -	$ 35,000.00
Lockwood Drive (Liberty Road to Hunting Bayou)						
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	124	$ 806,000.00	$ -	$ 806,000.00
Structured Rain Garden	$ 600.00	LF	10000	$ 6,000,000.00	$ -	$ 6,000,000.00
Crane Street (Hirsch Street to Lockwood Drive)						
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	43	$ 279,500.00	$ -	$ 279,500.00
Ditch Improvements	$ 15.00	LF	4898	$ 73,470.00	$ -	$ 73,470.00
Sidewalk	$ 58.50	SY	2060	$ 120,510.00	$ -	$ 120,510.00
ADA Ramp	$ 2,000.00	EA	12	$ 24,000.00	$ -	$ 24,000.00
Landscape Improvements	$ 9.00	SY	8980	$ 80,820.00	$ -	$ 80,820.00
Los Angeles Street (Collingsworth Street to IH-610)						
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	95	$ 617,500.00	$ -	$ 617,500.00
Ditch Improvements	$ 15.00	LF	8724	$ 130,860.00	$ -	$ 130,860.00
Sidewalk	$ 58.50	SY	1483	$ 86,755.50	$ -	$ 86,755.50
ADA Ramp	$ 2,000.00	EA	22	$ 44,000.00	$ -	$ 44,000.00
Landscape Improvements	$ 9.00	SY	20356	$ 183,204.00	$ -	$ 183,204.00
Wayne Street (Liberty Road to IH-610)						
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	124	$ 806,000.00	$ -	$ 806,000.00
Ditch Improvements	$ 15.00	LF	12230	$ 183,450.00	$ -	$ 183,450.00
Sidewalk	$ 58.50	SY	2698	$ 157,833.00	$ -	$ 157,833.00
ADA Ramp	$ 2,000.00	EA	40	$ 80,000.00	$ -	$ 80,000.00
Landscape Improvements	$ 9.00	SY	24460	$ 220,140.00	$ -	$ 220,140.00
Kashmere Street (Liberty Road to IH-610)						
Replace Driveway Culvert & Pavement	$ 6,500.00	EA	163	$ 1,059,500.00	$ -	$ 1,059,500.00
Ditch Improvements	$ 15.00	LF	11944	$ 179,160.00	$ -	$ 179,160.00
Sidewalk	$ 58.50	SY	1031	$ 60,313.50	$ -	$ 60,313.50
ADA Ramp	$ 2,000.00	EA	52	$ 104,000.00	$ -	$ 104,000.00
Landscape Improvements	$ 9.00	SY	26542	$ 238,878.00	$ -	$ 238,878.00
SUB TOTAL				$ 12,683,039.02	$ -	$ 12,683,039.02
1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.						
2. Identify and explain any special engineering activities.						
Risk Assessment Mark-Ups						
Construction Contingency (30%)	$ 3,804,911.70	EA	1	$ 3,804,911.70	$ -	$ 3,804,911.70
Mobilization (4%)	$ 507,321.56	EA	1	$ 507,321.56	$ -	$ 507,321.56
SUB TOTAL				$ 4,312,233.27	$ -	$ 4,312,233.27
Soft Costs						
Engineering (Design and Bidding) (15%)	$ 2,549,290.84	EA	1	$ 2,549,290.84	$ -	$ 2,549,290.84
Environmental Investigation and Permitting	$ 1,019,716.34	EA	1	$ 1,019,716.34	$ -	$ 1,019,716.34
Grant Administration (6%)	$ 1,019,716.34	EA	1	$ 1,019,716.34	$ -	$ 1,019,716.34
SUB TOTAL				$ 4,588,723.52	$ -	$ 4,588,723.52
TOTAL				$ 21,583,995.80	$ -	$ 21,583,995.81

Seal	Date: Phone Number: Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston
Site/Activity Title:	Houston Kashmere Gardens Flood Mitigation
Eligible Activity:	Acquisition

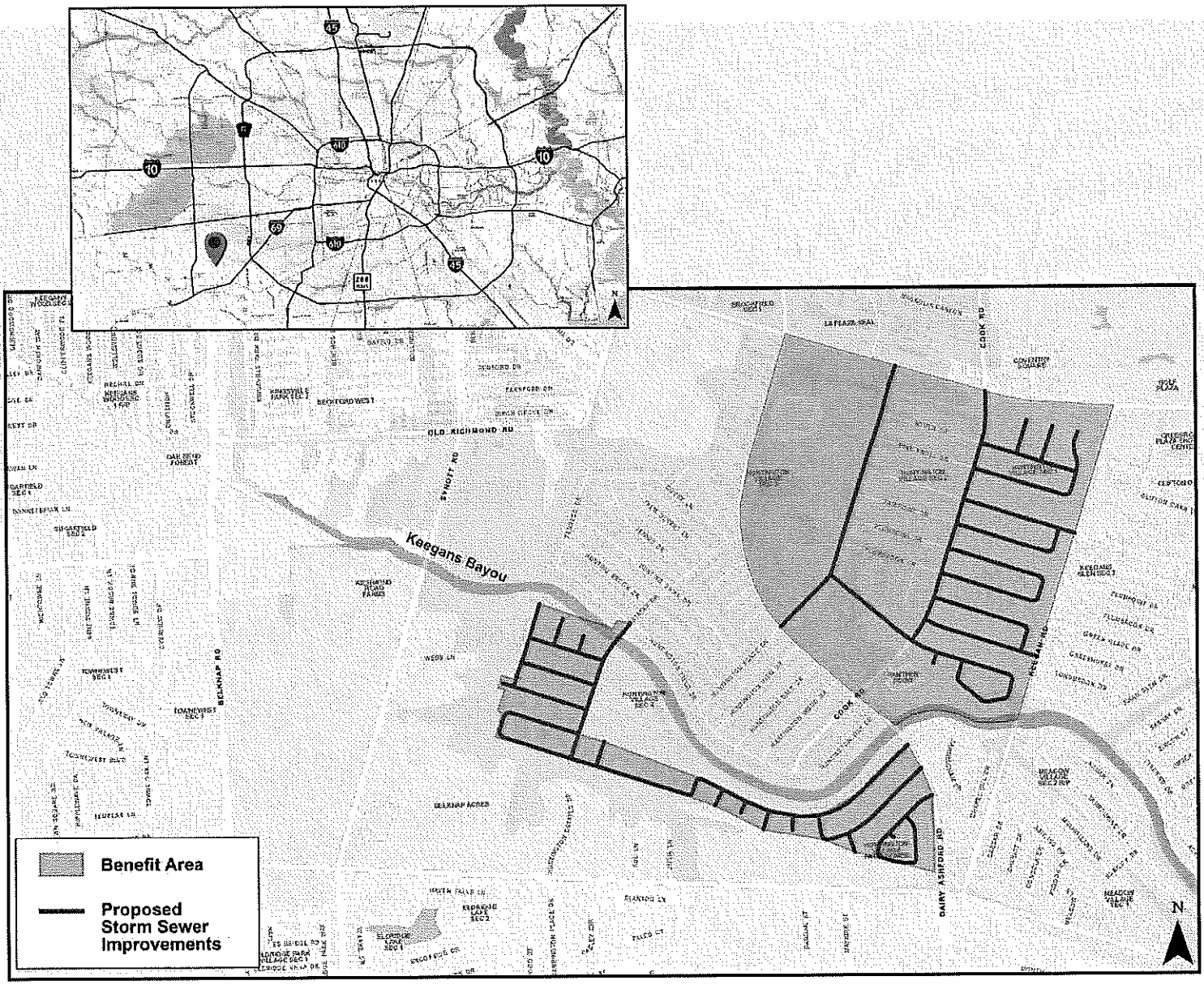
Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
			DETENTION POND Q			
Pond A	$ -	LS	1	$ -	$ 1,224,000.00	$ 1,224,000.00
Pond C	$ -	LS	1	$ -	$ 818,000.00	$ 818,000.00
Pond F	$ -	LS	1	$ -	$ 773,000.00	$ 773,000.00
Pond K	$ -	LS	1	$ -	$ 130,000.00	$ 130,000.00
Pond N	$ -	LS	1	$ -	$ 680,000.00	$ 680,000.00
Pond Q	$ -	LS	1	$ -	$ -	$ -
Pond R	$ -	LS	1	$ -	$ -	$ -
	$ -					
SUB TOTAL				$ -	$ 3,625,000.00	$ 3,625,000.0
1. Identify and explain the annual projected operation and maintenance costs associated with the proposed activities.						
2. Identify and explain any special engineering activities.						
TOTAL				$ -	$ 3,625,000.0	$ 3,625,000.0

Date:	
Phone Number:	

Signature of Registered Engineer/Architect Responsible For Budget Justification:

Seal

HOUSTON HUNTINGTON VILLAGE AREA FLOOD MITIGATION



Scope of Work	Huntington Village is a residential neighborhood that is bisected by Keegan Bayou. The neighborhood comprises of a curb and gutter drainage system and located in both the 100-year and 500-year floodplain. The proposed project is to improve the drainage system in the neighborhood and reduce structural flood loss.
Budget	**$78,588,284**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)
Partner	International Management District

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Houston Huntington Village Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions.

The Houston Huntington Village Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by removing and detaining water from the service area to reduce flooding. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

H&H modeling indicates that impacts, under existing conditions, include inundated structures and ponding above the curb (6-inches) that impacts safe roadway mobility. The impacts are further validated by FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and calls for service to the City.

The Huntington Village Area drainage systems were constructed between 1974-1975 and do not have sufficient capacity to drain a 2- year or 100-year Atlas 14 rainfall. Major trunk lines are located on Cook Rd, Huntington Place, and Dairy Ashford. The existing drainage system is a curb and gutter system. H&H models show that 147 properties are inundated in the 100-year rain event, and 12.49 miles of street experience more than 6-inches of water.

The project includes improvements to conveyance infrastructure, including streets and storm network, and water and wastewater infrastructure. The improvements for the two sites are detailed below. The proposed improvements will reduce ponding and remove at least 105 properties from flood risk. The drainage system level of service will improve from to accommodate a 100-year storm in the northern section and a 10-year storm in the southern section. Replacement of failing and aging wastewater mains will protect from overflows.

Project Summary

The Houston Huntington Village Area Flood Mitigation Project will include two sites: Huntington Village Area North and Huntington Village Area South. The project includes improvements to conveyance infrastructure, including streets and storm network, and water and wastewater infrastructure. The improvements for the two sites are detailed below.

- **Proposed Improvements – Huntington Village Area North:** – Upsize and replace conveyance infrastructure to provide 100-year LOS.
    - Proposed storm network upgrades
        - 2331 linear ft of 24-inch pipe
        - 561 linear ft of 36-inch pipe
        - 474 linear ft of 72-inch pipe
        - 8883 linear ft of 8x4 RCB

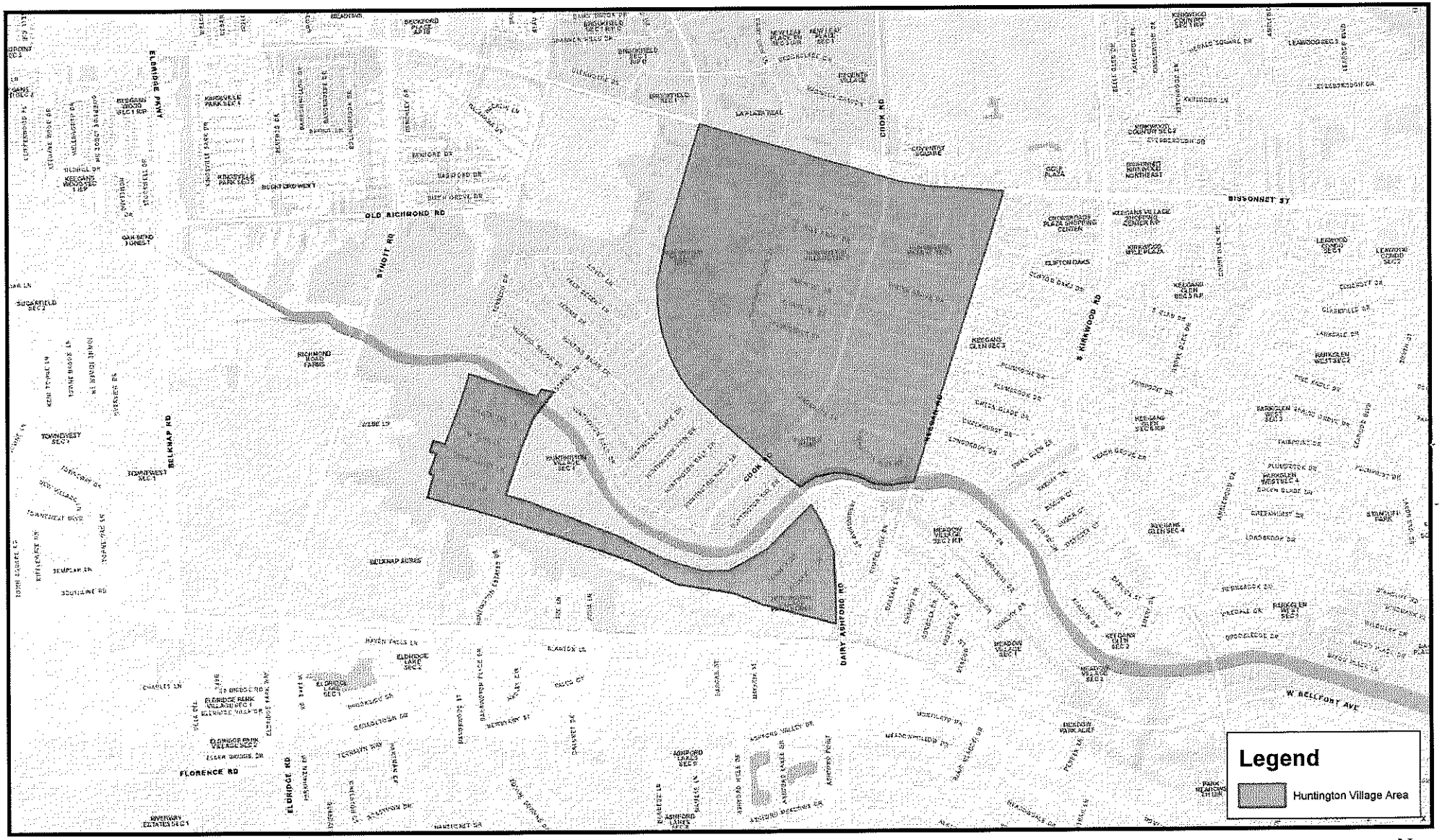
        - 1192 linear ft of 8x6 RCB
        - 4296 linear ft of 10x8 RCB
        - 5520 linear ft of 10x10 RCB
        - Replace and add Curb Inlets of all type and sizes
        - Replace and add Manholes of all type and sizes
    - Proposed street reconstruction
        - 6" Reinforced Concrete Pavement
        - 8" Lime Stabilized Subgrade
        - 6" Concrete Curb
        - Expansion Joint
        - 6" Concrete for Driveways
        - Sidewalks

- **Proposed Improvements – Huntington Village Area South:** Upsize and replace conveyance infrastructure to provide 10-year LOS. Replace failing and aging water and wastewater mains to prevent overflows.
    - Proposed storm network upgrades
        - 4110 linear ft of 24-inch pipe
        - 2320 linear ft of 30-inch pipe
        - 1200 linear ft of 36-inch pipe
        - 600 linear ft of 42-inch pipe
        - 1130 linear ft of 48-inch pipe
        - 2190 linear ft of 54-inch pipe
        - 530 linear ft of 60-inch pipe
        - 220 linear ft of 66-inch pipe
        - 85 linear ft of 30-inhc CMP
        - 423 linear ft of 12x6 RCB
        - Replace and add Curb Inlets of all type and sizes
        - Replace and add Manholes of all type and sizes
    - Proposed street reconstruction
        - 6" Reinforced Concrete Pavement
        - 8" Lime Stabilized Subgrade
        - 6" Concrete Curb
        - Expansion Joint
        - 6" Concrete for Driveways
        - Sidewalks
    - Proposed water main replacement
        - 8-inch steel encasement pipe
        - 16-inch steel encasement pipe
        - 4-inch diameter water line
        - 6-inch diameter water line
        - 8-inch diameter water line
        - 6-inch diameter water line with restrained joints

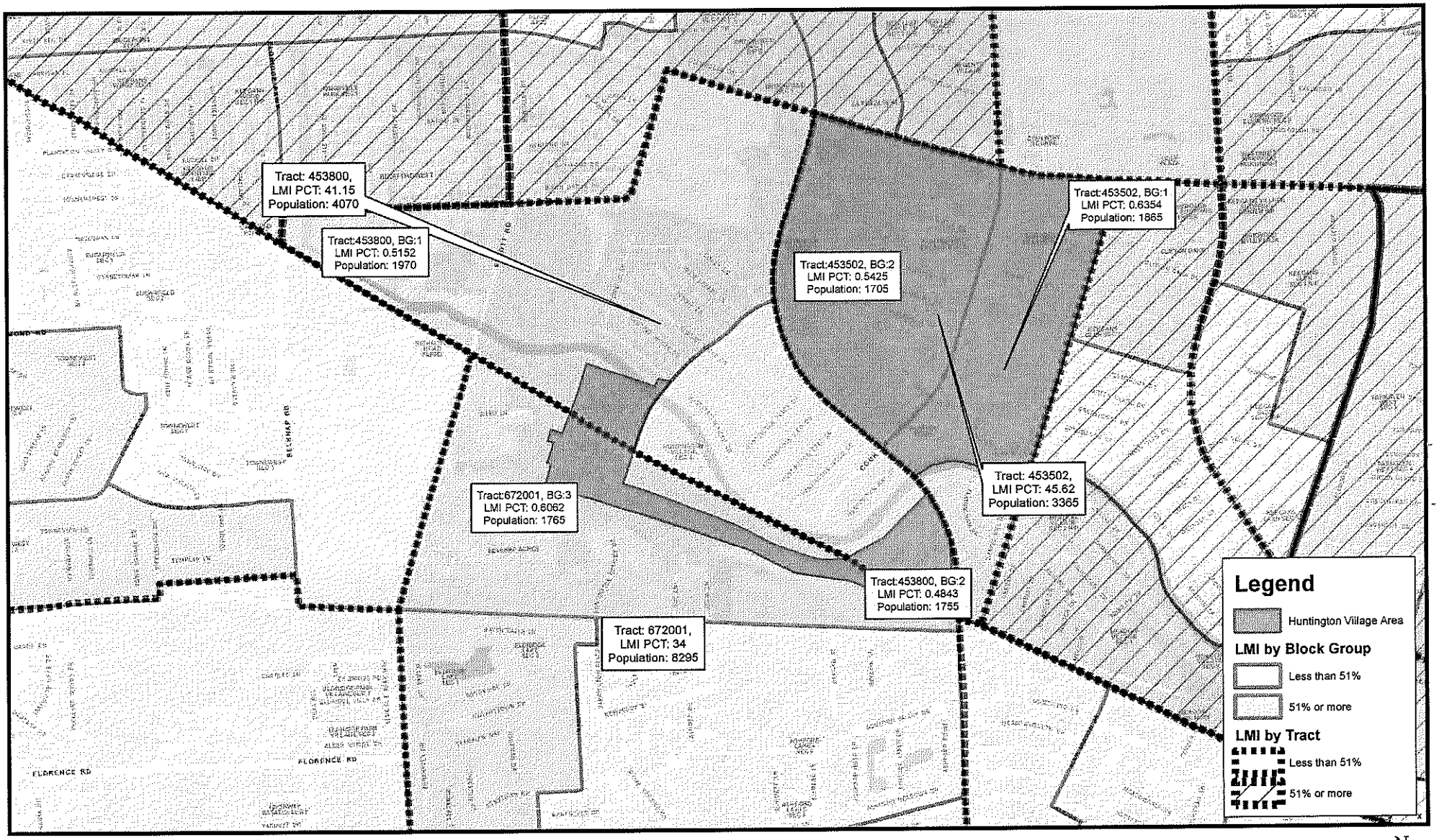
        - 8-inch diameter water line with restrained joints
        - Replace Meter Boxes
        - Replace Fire Hydrant Assemblies
    - Proposed wastewater main replacement
        - 8-inch steel split casing
        - 16-inch steel split casing
        - 20-inch steel split casing

MAPPING

Section 2 of 3: ***Mapping***



Location Map: Latitude 29.670589, Longitude -95.599987



Beneficiary Map

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

HUNTINGTON VILLAGE	
Grand Total	$78,588,284.42

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local	CDBG-MIT
Construction	$ 64,041,055.21	$ 640,410.55	$ 63,400,644.66
Engineering	$ 6,862,302.59	$ 68,623.03	$ 6,793,679.56
Acquisition	$ -	$ -	$ -
Environmental	$ 3,842,463.31	$ 38,424.63	$ 3,804,038.68
Administration	$ 3,842,463.31	$ 38,424.63	$ 3,804,038.68

TOTAL	$ 78,588,284.42	$ 785,882.84	$ 77,802,401.58

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 Houston					
Site/Activity Title:	Houston Hunting Village Flood Mitigation - Huntington Village North					
Eligible Activity:	Flood control and drainage improvements					
Materials/Facilities/Services	**$/Unit**	**Unit**	**Quantity**	**Construction**	**Acquisition**	**Total**
Paving Items						
Remove and Dispose of Existing Pavement and Curb - Assumes all concrete pavement thicknesses with or without asphalt overlay	$ 5.00	SY	73,869	$ 369,344.44	$ -	$ 369,344.44
Remove and Dispose of Existing Driveways and Sidewalks	$ 6.00	SY	42,411	$ 254,466.67	$ -	$ 254,466.67
6" Reinforced Concrete Pavement (Complete in Place)	$ 45.00	SY	73,869	$ 3,324,100.00	$ -	$ 3,324,100.00
Lime Stabilized Subgrade (8" thick)	$ 5.00	SY	85,233	$ 426,166.67	$ -	$ 426,166.67
Lime-for Lime stabilized Subgrade (43 lb./SY)	$ 187.00	TON	1,833	$ 342,680.62	$ -	$ 342,680.62
6" Concrete Curb	$ 4.00	LF	46,100	$ 184,400.00	$ -	$ 184,400.00
Expansion Joint	$ 6.00	LF	8,630	$ 51,779.25	$ -	$ 51,779.25
6" Concrete for Driveways	$ 6.00	SF	126,000	$ 756,000.00	$ -	$ 756,000.00
4 1/2" Concrete for Sidewalks	$ 9.00	SF	255,700	$ 2,301,300.00	$ -	$ 2,301,300.00
Sodding	$ 5.00	SY	51,346	$ 256,727.78	$ -	$ 256,727.78
Traffic Signal/Intersection	$ 325,000.00	LS	1	$ 325,000.00	$ -	$ 325,000.00
Street Light Removal	$ 300.00	EA	110	$ 33,000.00	$ -	$ 33,000.00
Street Lights	$ 165,000.00	LS	1	$ 165,000.00	$ -	$ 165,000.00
Ancillary Items (10% of Paving Items not including Street Lights)	$ 862,496.54	LS	1	$ 862,496.54	$ -	$ 862,496.54
General Items (10% of Paving Items not including Street Lights)	$ 862,496.54	LS	1	$ 862,496.54	$ -	$ 862,496.54
					Subtotal Paving Items:	$ 10,514,958.51

Storm Sewer Items						
Remove Storm Sewer Pipe (All Sizes)	$ 20.00	LF	10,036	$ 200,720.00	$ -	$ 200,720.00
Remove Inlets (All Types)	$ 332.00	EA	138	$ 45,816.00	$ -	$ 45,816.00
Remove Manholes (All Types, All Depths)	$ 377.00	EA	67	$ 25,259.00	$ -	$ 25,259.00
Curb Inlets (All Types)	$ 2,244.00	EA	106	$ 237,864.00	$ -	$ 237,864.00
Manholes (For 42" Dia. Pipe and Smaller) (All Types)	$ 3,384.00	EA	20	$ 67,680.00	$ -	$ 67,680.00
Manholes (For 48" to 72" Dia. Pipe) (All Types)	$ 5,384.00	EA	13	$ 69,992.00	$ -	$ 69,992.00
Manhole for Concrete Box Sewers	$ 18,000.00	EA	4	$ 72,000.00	$ -	$ 72,000.00
24-inch RCP	$ 88.00	LF	2,331	$ 205,128.00	$ -	$ 205,128.00
36-inch RCP	$ 137.00	LF	561	$ 76,857.00	$ -	$ 76,857.00
72-inch RCP	$ 438.00	LF	474	$ 207,612.00	$ -	$ 207,612.00
8-foot by 4-footbox storm sewer by open cut	$ 655.00	LF	8,883	$ 5,818,365.00	$ -	$ 5,818,365.00
8-foot by 6-foot box storm sewer by open cut	$ 756.00	LF	1,192	$ 901,152.00	$ -	$ 901,152.00
10-foot by 8-foot box storm sewer by open cut	$ 1,172.00	LF	4,296	$ 5,034,912.00	$ -	$ 5,034,912.00
10-foot by 10-foot box storm sewer by open cut	$ 1,350.00	LF	5,520	$ 7,452,000.00	$ -	$ 7,452,000.00
Trench Safety System	$ 1.00	LF	23,257	$ 23,257.00	$ -	$ 23,257.00
Outfall Structures	$ 150,000.00	LS	1	$ 150,000.00	$ -	$ 150,000.00
Ancillary Items (10% of Paving Items not including Street Lights)	$ 2,043,861.40	LS	1	$ 2,043,861.40	$ -	$ 2,043,861.40
General Items (10% of Paving Items not including Street Lights)	$ 2,043,861.40	LS	1	$ 2,043,861.40	$ -	$ 2,043,861.40
					Subtotal Storm Sewer Items:	$ 24,676,336.80
					Total Estimated Cost of Construction	$ 35,191,295.31
Contingency (30%)						$ 10,557,388.59
Engineering Fee Estimate (Design, Bidding, Survey, Geotechnical, Constructioh Phase Services) (15%)						$ 6,862,302.59
Administration Fee (6%)						$ 2,744,921.03
Environmental Investigation and Permitting (6%)						$ 2,744,921.03
					TOTAL	$ 58,100,828.55

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

2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston
Site/Activity Title:	Houston Hunting Village Flood Mitigation - Huntington Village South
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Basic Items						
Mobilization, Maximum Bid Price	$ 250,000.00	LS	1	$ 250,000.00	$ -	$ 250,000.00
Traffic control and regulation, including installation, maintenance and removal of barricades, barrels, signs, low profile concrete barrier, etc.	$ 275,000.00	LS	1	$ 275,000.00	$ -	$ 275,000.00
Flagmen	$ 200,000.00	LS	1	$ 200,000.00	$ -	$ 200,000.00
Inlet Protection Barrier (Gravel Bags)	$ 5.50	LF	1,820	$ 10,010.00	$ -	$ 10,010.00
Filter Fabric Fence	$ 1.65	LF	200	$ 330.00	$ -	$ 330.00
					Subtotal Basic Items:	$ 735,340.00
Storm Sewer Items						
Type C manhole for 42-inch diameter and smaller sewers	$4,600.00	EA	53	$ 243,800.00	$ -	$ 243,800.00
Type C manhole for 48-inch to 72-inch diameter sewers	$8,280.00	EA	26	$ 215,280.00	$ -	$ 215,280.00
Manhole for Concrete Box Storm Sewers	$5,275.00	LF	1	$ 5,275.00	$ -	$ 5,275.00
Extra Depth for Type C manhole	$250.00	LF	51	$ 12,675.00	$ -	$ 12,675.00
Precast Junction Box with Lid or Grate Top for Storm Sewer	$10,660.00	LF	2	$ 21,320.00	$ -	$ 21,320.00
Abandon-In-Place Storm Pipe 24-inch dia	$28.00	LF	4,658	$ 130,424.00	$ -	$ 130,424.00
Abandon-In-Place Storm Pipe 30-inch dia	$36.00	LF	925	$ 33,300.00	$ -	$ 33,300.00
Abandon-In-Place Storm Pipe 36-inch dia	$47.00	EA	2,222	$ 104,434.00	$ -	$ 104,434.00
Abandon-In-Place Storm Pipe 42-inch dia	$60.00	EA	774	$ 46,440.00	$ -	$ 46,440.00
Remove/Dispose Storm Pipe 24-inch dia	$16.00	LF	3,079	$ 49,264.00	$ -	$ 49,264.00
Remove/Dispose Storm Pipe 48-inch dia	$24.00	EA	648	$ 15,552.00	$ -	$ 15,552.00
Remove/Dispose 42-inch dia CMP	$22.00	LF	69	$ 1,518.00	$ -	$ 1,518.00
Remove/Dispose of Existing Inlets	$445.00	LF	73	$ 32,485.00	$ -	$ 32,485.00
Remove/Dispose of Existing Manholes all Sizes/Depths	$490.00	LF	11	$ 5,390.00	$ -	$ 5,390.00
Abandon Manholes all Sizes/Depths	$490.00	LF	41	$ 20,090.00	$ -	$ 20,090.00
Adjust Existing Manholes	$425.00	LF	3	$ 1,275.00	$ -	$ 1,275.00
Trench Safety System	$2.50	LF	11,018	$ 27,545.00	$ -	$ 27,545.00
Connect Proposed Storm Sewer to Existing Manhole, All Sizes	$300.00	LF	2	$ 600.00	$ -	$ 600.00
24" RCP Storm Sewer, All Depths	$145.00	LF	5,166	$ 749,070.00	$ -	$ 749,070.00
30" RCP Storm Sewer, All Depths	$234.00	EA	1,942	$ 454,428.00	$ -	$ 454,428.00
36" RCP Storm Sewer, All Depths	$269.00	EA	897	$ 241,293.00	$ -	$ 241,293.00
42" RCP Storm Sewer, All Depths	$310.00	EA	898	$ 278,380.00	$ -	$ 278,380.00
48" RCP Storm Sewer, All Depths	$370.00	LF	828	$ 306,360.00	$ -	$ 306,360.00
54" RCP Storm Sewer, All Depths	$400.00	LF	1,965	$ 786,000.00	$ -	$ 786,000.00
60" RCP Storm Sewer, All Depths	$432.00	LF	128	$ 55,296.00	$ -	$ 55,296.00
66" RCP Storm Sewer, All Depths	$472.00	LF	198	$ 93,456.00	$ -	$ 93,456.00
30" CMP Storm Sewer, All Depths	$210.00	LF	85	$ 17,850.00	$ -	$ 17,850.00
12-Foot by 6-Foot Box Storm Sewer by Open Cut	$600.00	LF	423	$ 253,800.00	$ -	$ 253,800.00
Prefabricated Joint for 12-Foot by 6-Foot Box Storm Sewer	$3,000.00	EA	1	$ 3,000.00	$ -	$ 3,000.00
Type "B8" Inlet, All Depths	$3,400.00	EA	87	$ 295,800.00	$ -	$ 295,800.00
Brick Plug (48" Pipe)	$2,000.00	EA	1	$ 2,000.00	$ -	$ 2,000.00
Concrete Channel Lining 8"	$432.00	CY	17	$ 7,344.00	$ -	$ 7,344.00
Slope Riprap 80 lb to 150 lb evenly graded min 18-inch mat thickness as shown on plans at outfalls	$90.00	SY	43	$ 3,897.00	$ -	$ 3,897.00
					Subtotal Storm Sewer Items:	$ 4,514,641.00

Paving/Roadway Items						
Remove and replace existing curb drains with 4-inch diameter high-density polyethylene pipe storm sewer, including thickened sidewalk, complete-in-place	$100.00	LF	372	$ 37,200.00	$ -	$ 37,200.00
Removal, Replacement and/or Relocation of Existing Mailboxes if required, All Sizes, All Materials Adapters and Appurtenances, Complete In Place	$100.00	LS	410	$ 41,000.00	$ -	$ 41,000.00
Removing and disposing of Concrete pavements (all thickness, w/ or w/o Asphalt, including base & subgrade, w/ or w/o curb, all depth)	$6.00	SY	58,441	$ 350,646.00	$ -	$ 350,646.00
Remove/Dispose Conc Sidewalk 4-inch thick/More	$4.00	SY	12,830	$ 51,320.00	$ -	$ 51,320.00
Remove/Dispose Conc Driveway 6-inch thick/More	$6.00	SY	11,547	$ 69,280.80	$ -	$ 69,280.80
Remove and dispose of existing wheel chair ramps	$4.00	SY	179	$ 717.78	$ -	$ 717.78
Roadway excavation, including removal of waste disposal	$18.00	CY	4,600	$ 82,800.00	$ -	$ 82,800.00
Borrow / embankment	$18.00	CY	1,400	$ 22,400.00	$ -	$ 22,400.00
Lime Stabilized Subgrade 8-inch thick	$8.50	SY	63,662	$ 541,127.00	$ -	$ 541,127.00
Lime for Lime stabilized Subgrade (DRY WEIGHT) (48 LB/SY)	$175.00	TON	1,528	$ 267,380.40	$ -	$ 267,380.40
6-inch Reinforced Concrete Pavement	$55.00	SY	49,730	$ 2,735,150.00	$ -	$ 2,735,150.00
High Early Strength Reinforced Con Pav 6-inch thick	$87.50	LF	6,423	$ 562,012.50	$ -	$ 562,012.50
Sawcut	$7.00	SY	271	$ 1,897.00	$ -	$ 1,897.00
Concrete Driveways including Excavation 6-inch thick	$8.00	LF	11,632	$ 93,054.40	$ -	$ 93,054.40
6-inch Concrete Curb (Monolithic)	$5.00	SF	23,230	$ 116,150.00	$ -	$ 116,150.00
Sidewalk 4-1/2-inch thick	$7.00	SF	154,788	$ 1,083,516.00	$ -	$ 1,083,516.00
Wheel Chair Ramp, Complete In Place	$19.00		2,257	$ 42,878.78	$ -	$ 42,878.78
					Subtotal Paving/Roadway Items:	$ 6,098,530.66
Landscaping Items						
Hydromulch Seeding, Complete In Place	$ 4,000.00	AC	8.5	$ 34,000.00	$ -	$ 34,000.00
Sodding	$ 4.30	SY	7,595	$ 32,658.50	$ -	$ 32,658.50
					Subtotal Landscaping Items:	$ 66,658.50
ADDITIONAL WORK ITEMS						
TDLR Inspection	$ 2,000.00	EA	1	$ 2,000.00	$ -	$ 2,000.00
2-inch Street Lighting PVC Conduit Schedule 40, including fiber pulling cords and CNP street light turn-ups.	$ 10.00	LF	9,345	$ 93,450.00	$ -	$ 93,450.00
Install Electric Pull Boxes (Pull boxes are furnished by CenterPoint Energy)	$ 500.00	EA	24	$ 12,000.00	$ -	$ 12,000.00
					Subtotal Additional Work Items:	$ 107,450.00
SIGNING AND PAVEMENT MARKING ITEMS						
Blast Clean Preparation for 4" Pavement Markings, All Types	$1.00	LF	$ 194.00	$ 194.00	$ -	$ 194.00
Blast Clean Preparation for Symbol & Word Pavement Marking, All Types	$5.00	EA	$ 2.00	$ 10.00	$ -	$ 10.00
Reflective Pavement Marker (Blue)	$5.00	EA	$ 32.00	$ 160.00	$ -	$ 160.00
4" White Thermoplastic Pavement Markings	$2.00	LF	$ 194.00	$ 388.00	$ -	$ 388.00
Handicap Symbol, Thermoplastic Pavement Markings	$160.00	EA	$ 2.00	$ 320.00	$ -	$ 320.00
Remove and Reinstall Signs on New Sign Poles, Hardware and Foundations at Locations Listed on Plans, Existing in the Field, or as Directed by the Engineer	$750.00	EA	$ 24.00	$ 18,000.00	$ -	$ 18,000.00
New Signs	$300.00	EA	$ 2.00	$ 600.00	$ -	$ 600.00
					Subtotal Signing and Pavement Marking Items:	$ 19,672.00

Water Main Items						
8-inch steel encasement pipe	$300.00	LF	20	$ 6,000.00	$ -	$ 6,000.00
16-inch steel encasement pipe	$500.00	LF	219	$ 109,500.00	$ -	$ 109,500.00
4-inch diameter water line, by trenchless construction	$60.00	LF	1,832	$ 109,920.00	$ -	$ 109,920.00
6-inch diameter water line, by trenchless construction	$70.00	LF	1,236	$ 86,520.00	$ -	$ 86,520.00
8-inch diameter water line, by trenchless construction	$80.00	LF	12,830	$ 1,026,400.00	$ -	$ 1,026,400.00
6-inch diameter water line, by trenchless construction with restrained joints	$80.00	LF	315	$ 25,200.00	$ -	$ 25,200.00
8-inch diameter water line, by trenchless construction with restrained joints	$90.00	LF	1,860	$ 167,400.00	$ -	$ 167,400.00
3/4-inch to 1-inch diameter watertaps and copper service line with meter box, short side	$750.00	EA	217	$ 162,750.00	$ -	$ 162,750.00
3/4-inch to 1-inch diameter watertaps and copper service line with meter box, long side	$1,600.00	EA	171	$ 273,600.00	$ -	$ 273,600.00
Trench Safety System	$2.50	LF	1,240	$ 3,100.00	$ -	$ 3,100.00
Wet Connection	$1,000.00	EA	5	$ 5,000.00	$ -	$ 5,000.00
Cut, plug, and abandon existing 4-inch diameter water line	$475.00	EA	1	$ 475.00	$ -	$ 475.00
Cut, plug, and abandon existing 6-inch diameter water line	$625.00	EA	6	$ 3,750.00	$ -	$ 3,750.00
Cut, plug, and abandon existing 8-inch diameter water line	$800.00	EA	33	$ 26,400.00	$ -	$ 26,400.00
Grout Fill Water Line	$10.00	LF	630	$ 6,300.00	$ -	$ 6,300.00
Remove and Salvage Fire Hydrant	$370.00	EA	41	$ 15,170.00	$ -	$ 15,170.00
Fire hydrant assembly, including 6-inch diameter gate valve and box	$4,500.00	EA	40	$ 180,000.00	$ -	$ 180,000.00
					Subtotal Water Main Items:	$ 2,207,485.00
WASTEWATER ITEMS						
8-inch steel split casing	$390.00	LF	20	$7,800.00	$ -	$ 7,800.00
16-inch steel split casing	$650.00	LF	120	$78,000.00	$ -	$ 78,000.00
20-inch steel split casing	$780.00	LF	60	$46,800.00	$ -	$ 46,800.00
Adjustment of existing manhole and frame and cover to new grade	$425.00	EA	44	$18,700.00	$ -	$ 18,700.00
					Subtotal Wastewater Items	$ 151,300.00

TREE PROTECTION ITEMS						
Remove Tree 0 to 11.99"	$90.00	EA	52	$4,680.00	$ -	$ 4,680.00
Remove Tree 12 to 29.99"	$250.00	EA	14	$3,500.00	$ -	$ 3,500.00
Remove Tree 30 to 45"	$475.00	EA	1	$475.00	$ -	$ 475.00
Plant 4" Tree with 100 Gallon Container	$800.00	EA	28	$22,400.00	$ -	$ 22,400.00
Clearance Prune Tree	$50.00	EA	557	$27,850.00	$ -	$ 27,850.00
Install Tree Protection Fence (Up to 5000 LF)	$3.22	LF	5,000	$16,100.00	$ -	$ 16,100.00
Install Root Pruning Trench	$5.00	LF	3,093	$15,465.00	$ -	$ 15,465.00
Install Zero Curb Cutback	$9.00	LF	4,420	$39,780.00	$ -	$ 39,780.00
Install Checkerplate Sidewalk Construction	$32.00	SF	2,720	$87,040.00	$ -	$ 87,040.00
Urban Forestry Monitoring	$85.00	HR	44	$3,740.00	$ -	$ 3,740.00
Hand Dig Tap and Lead/Water Line Fitting/Fire Hydrant	$190.00	EA	26	$4,940.00	$ -	$ 4,940.00
Hand Dig Service Lead	$100.00	EA	17	$1,700.00	$ -	$ 1,700.00
					Subtotal Tree Protection Items	$ 227,670.00
					Total Estimated Cost of Construction	$ 14,128,747.16
30% Contingency (Excludes Mobilization)						$ 4,163,624.15
Engineering Fee Estimate (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ -
Administration (6%)						$ 1,097,542.28
Environmental Investigation and Permitting (6%)						$ 1,097,542.28
					TOTAL	$ 20,487,455.87

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

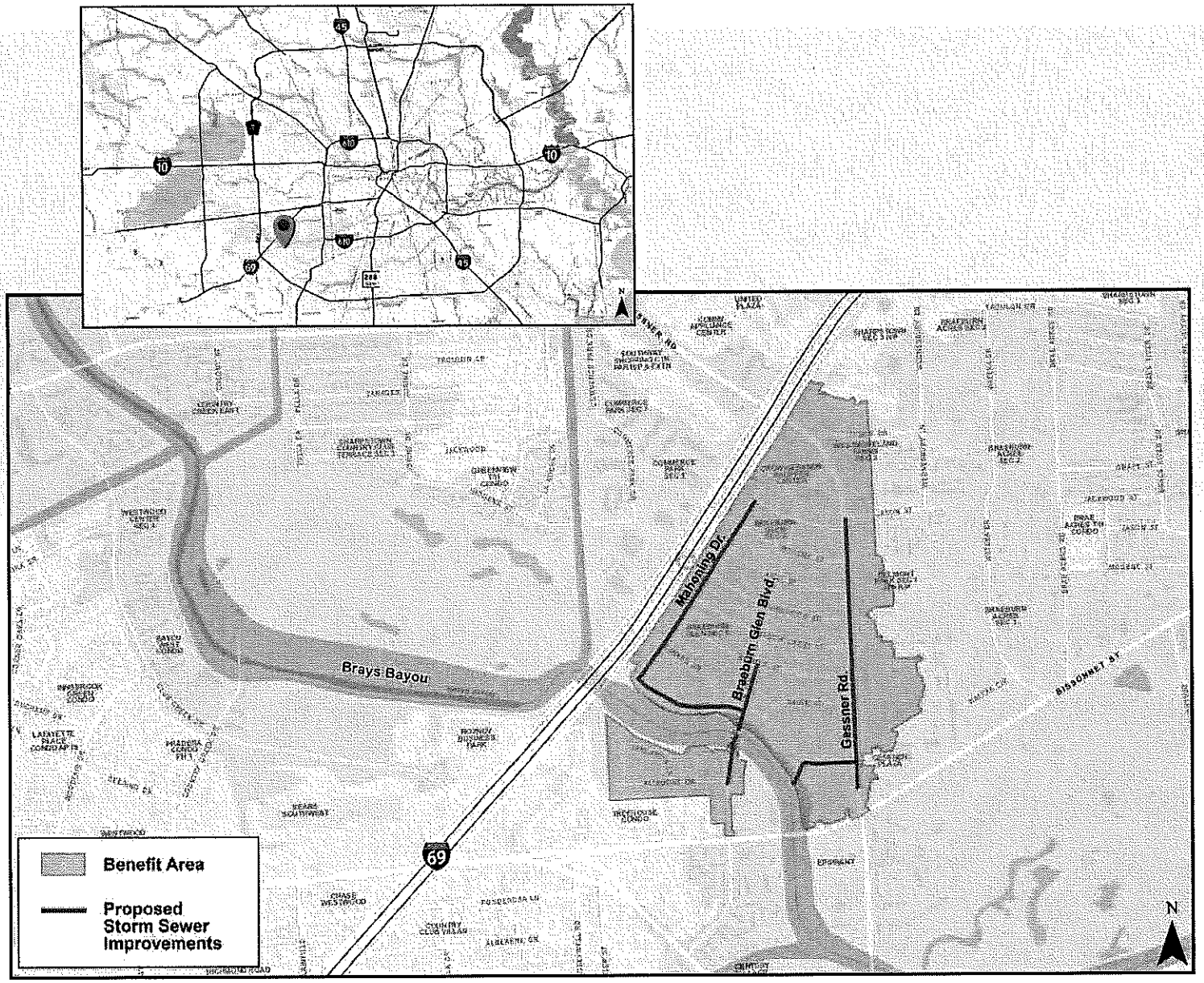
2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

HOUSTON BRAEBURN GLEN AREA FLOOD MITIGATION



Scope of Work	Braeburn Glen neighborhood is located close to the Sharpstown area, south of US 59 and north of Brays Bayou. The proposed project will upgrade storm sewer trunk lines in the neighborhood along Gessner Rd, Mahoning Dr, and Braeburn Glen Blvd.
Budget	**$6,378,191**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Houston Braeburn Glen Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions.

The Houston Braeburn Glen Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by removing water from the service area to reduce flooding. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

H&H modeling indicates that impacts, under existing conditions, include inundated structures and ponding above the curb (6-inches) that impacts safe roadway mobility. The impacts are further validated by FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and calls for service to the City of Houston.

The Braeburn Glen neighborhood drainage infrastructure was constructed in the late 1950's and early 1960's and does not adequately serve the 2-year and 100-year Atlas 14 rainfall events. The drainage system in the area is primarily curb and gutters. There is significant ponding throughout and flood losses closer to Brays Bayou. H&H models show approximately 4.8 miles of streets experience ponding greater than 6-inches affecting mobility, 117 parcels have greater than 3-inches of water and 9 structures with structural impacts.

The proposed project includes upsizing of the existing stormwater system with approximately 4,995 linear feet of new pipes that vary in size from 24-inches to 66-inches. Approximately 74 new inlets and 27 manholes will be installed alongside the new storm sewers. With the improved drainage system, ponding is reduced on 3.7 miles of street and 6 structures are removed from potential flood damage.

The reduced ponding will allow for greater accessibility and reliability along Metro bus route #46, as well as bicycle facilities on Braeburn Glen Boulevard, Gessner Road, and the Bayou Greenway trail. Reduced ponding on the major thoroughfare Gessner Road will also improve residential access throughout the area as it provides access to retail lifelines such as grocery stores and major evacuation routes, such as IH-69.

Project Summary

The Houston Braeburn Glen Area Flood Mitigation Project will include one site. The project proposes improvements to conveyance infrastructure, including streets and storm network. Lateral improvement will be completed on Mahoning Drive and Valley View Lane.

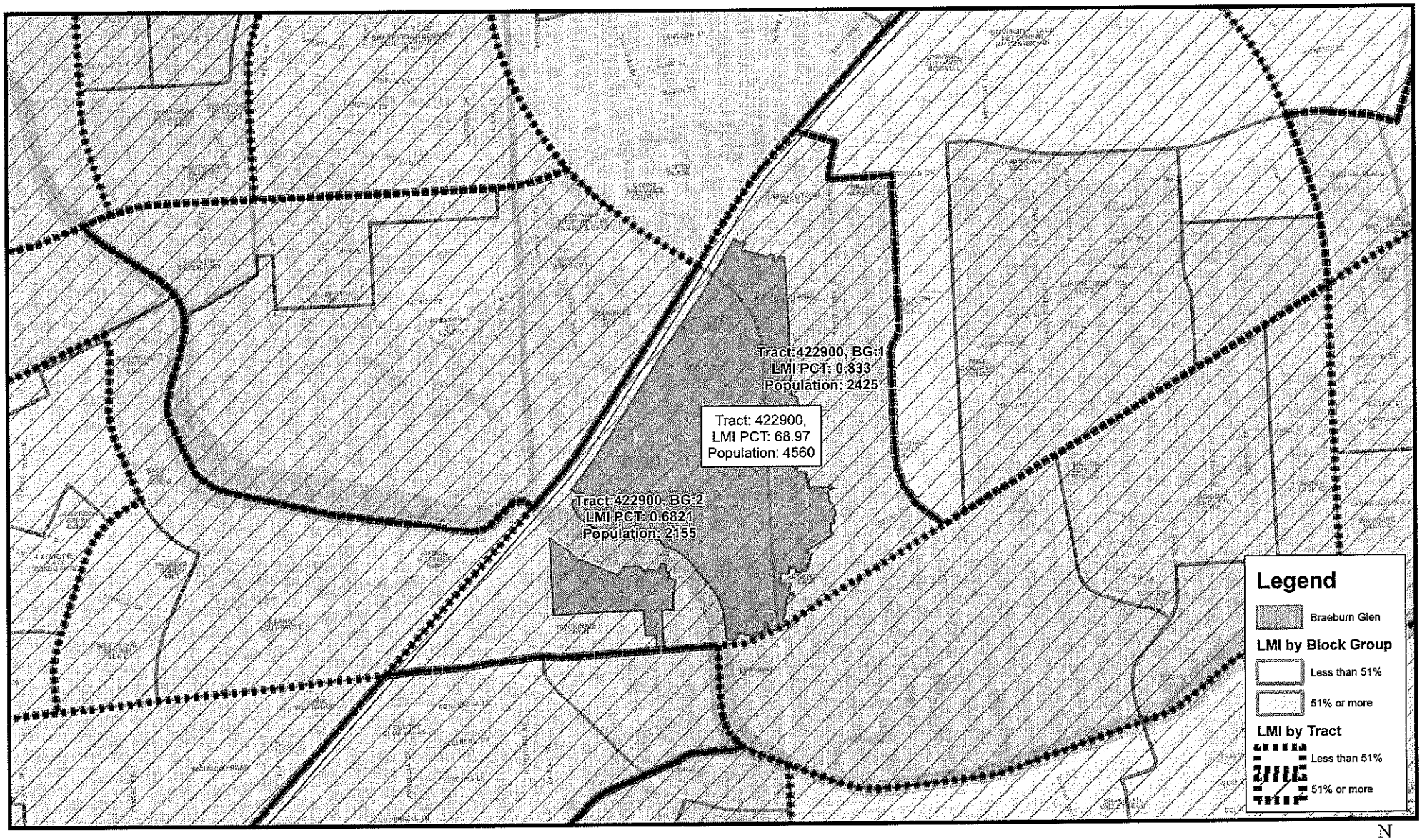
- **Proposed Improvements – Braeburn Glen:** Replace and upsize existing drainage system to provide 100-year level of service.

- Proposed storm network upgrades
  - 556 linear ft of 24-inch RCP
  - 824 linear ft of 30-inch RCP
  - 413 linear ft of 36-in RCP
  - 136 linear ft of 42-in RCP
  - 595 linear ft of 48-in RCP
  - 276 linear ft of 54-in RCP
  - 1,140 linear ft of 60-in RCP
  - 1,055 linear ft of 66-in RCP
  - 14,980 linear ft of 7-inch reinforced concrete pavement
  - 6" Reinforced Concrete Pavement
  - 8" Lime Stabilized Subgrade
  - 6" Concrete Curb
  - 6" Concrete for Driveways
  - Sidewalks

MAPPING

Section 2 of 3: ***Mapping***

Location Map: Latitude 29.681969, Longitude -95.530663



Beneficiary Map

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

BRAEBURN GLEN	
Grand Total	$6,378,191.58

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local	CDBG-MIT
Construction	$ 5,022,198.09	$ 50,221.98	$ 4,971,976.11
Engineering	$ 753,329.71	$ 7,533.30	$ 745,796.41
Acquisition	$ -	$ -	$ -
Environmental	$ 301,331.89	$ 3,013.32	$ 298,318.57
Administration	$ 301,331.89	$ 3,013.32	$ 298,318.57

TOTAL	$ 6,378,191.58	$ 63,781.92	$ 6,314,409.66

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 Houston
Site/Activity Title:	Houston Braeburn Glen Flood Mitigation
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Paving/ Roadway Items						
Remove and dispose of existing pavement and curb	$6.00	SY	7,213	$43,278.00	$ -	$43,278.00
Remove and dispose of existing driveways and sidewalks	$5.00	SY	822	$4,110.00	$ -	$4,110.00
7" REINFORCED CONCRETE PAVEMENT (COMPLETE IN PLACE)	$45.00	CY	14,980	$674,100.00	$ -	$674,100.00
Lime Stabilized Subgrade 6" thick	$3.00	SY	14,980	$44,940.00	$ -	$44,940.00
Lime (6%, 7% by weight)	$160.00	TON	185	$29,600.00	$ -	$29,600.00
6" Concrete Curb	$4.00	LF	9,987	$39,948.00	$ -	$39,948.00
6" Concrete for driveways	$8.00	SY	7,400	$59,200.00	$ -	$59,200.00
4-1/2" Concrete for Sidewalks	$7.00		49,934	$349,538.00	$ -	$349,538.00
Storm Sewer						
Remove Storm Sewer pipe (all types)	$ 20.00	LF	4,993	$ 99,860.00	$ -	$ 99,860.00
Remove inlets	$ 370.00	EA	74	$ 27,380.00	$ -	$ 27,380.00
Remove Manholes	$ 390.00	EA	27	$ 10,530.00	$ -	$ 10,530.00
Curb Inlets	$ 2,780.00	EA	74	$ 205,720.00	$ -	$ 205,720.00
MANHOLES (FOR 42" DIA. PIPE OR SMALLER) (ALL TYPES)	$ 3,470.00	EA	12	$ 41,640.00	$ -	$ 41,640.00
MANHOLES (FOR 48" TO 72" DIA. PIPE) (ALL TYPES)	$ 6,000.00	EA	15	$ 90,000.00	$ -	$ 90,000.00
24-inch RCP	$ 95.00	LF	556	$ 52,820.00	$ -	$ 52,820.00
30-inch RCP	$ 120.00	LF	824	$ 98,880.00	$ -	$ 98,880.00
36-inch RCP	$ 160.00	LF	413	$ 66,080.00	$ -	$ 66,080.00
42-inch RCP	$ 180.00	LF	136	$ 24,480.00	$ -	$ 24,480.00
48-inch RCP	$ 210.00	LF	595	$ 124,950.00	$ -	$ 124,950.00
54-inch RCP	$ 270.00	LF	276	$ 74,520.00	$ -	$ 74,520.00
60-inch RCP	$ 295.00	LF	1140	$ 336,300.00	$ -	$ 336,300.00
66-inch RCP	$ 360.00	LF	1055	$ 379,800.00	$ -	$ 379,800.00
Add 10% for ancillary items under storm sewer items in 410	$ 163,296.00		1	$ 163,296.00	$ -	$ 163,296.00
Add 10% for general items under storm sewer items in 410	$ 163,296.00		1	$ 163,296.00	$ -	$ 163,296.00
Basic Items						
Traffic Control and regulation	$ 275,000.00	LS	1	$ 275,000.00	$ -	$ 275,000.00
Flagmen	$ 200,000.00	LS	1	$ 200,000.00	$ -	$ 200,000.00
Mobilization (5%)						$ 183,963.30
					Total Construction	**$3,863,229.30**
Contingency (30%)						$ 1,158,968.79
Engineering Fee (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 753,329.71
Administration (6%)						$ 301,331.89
Environmental Investigation and Permitting (6%)						$ 301,331.89
TOTAL	$ 816,550.00			$ 3,679,266.00	$ -	$6,378,191.58

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

2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal	Signature of Registered Engineer/Architect Responsible For Budget Justification:

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Date : 2020/10/05

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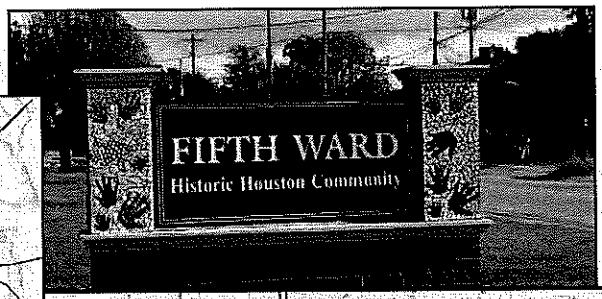
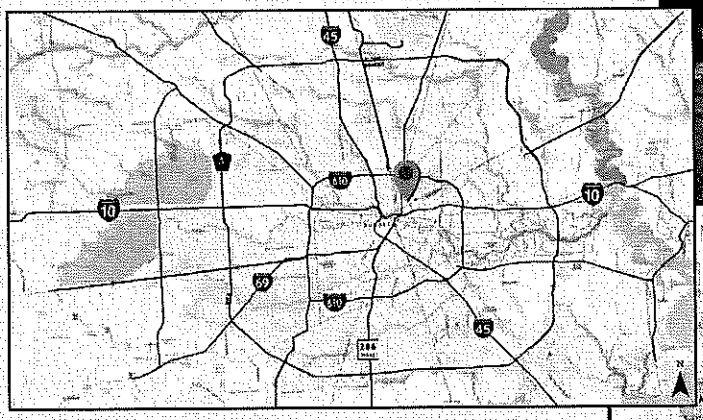
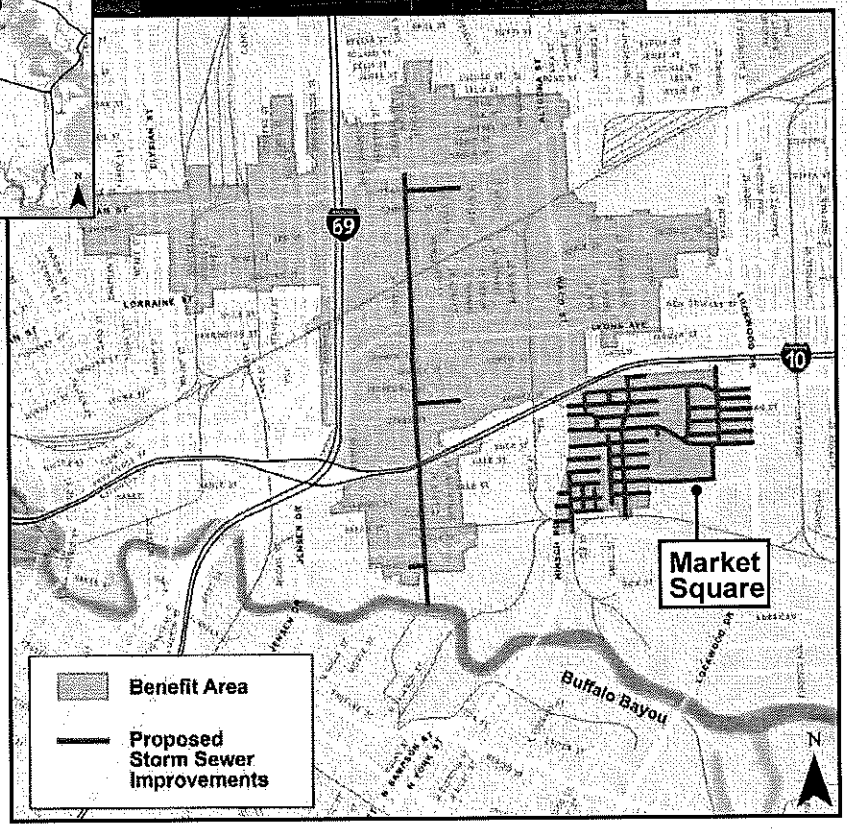
HOUSTON FIFTH WARD AREA FLOOD MITIGATION







Scope of Work	The Fifth Ward area is bounded to the north by Quitman Street, Cochran Street on the west, Buffalo Bayou on the south and Lockwood Drive on the east. The majority of the area drains directly to Buffalo Bayou; portions north of Quitman Street drain to Hunting Bayou. The project consists of a 1.5 mile drainage trunk system on Gregg Street from Liberty to Buffalo Bayou. Market Square is located in east Houston, south of IH-10, between Lockwood and Hirsch Rd. The project will improve drainage infrastructure with upgraded storm trunk on Buck St., Schweikhardt St.,and Coke St. The drainage system will also include a new 3 x 108-inch trunk system tying to Japhet Creek.
Budget	**$115,021,697**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)

HOUSTON PUBLIC WORKS

For more info or questions contact:
drainage.study@houstontx.gov

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Houston Fifth Ward Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions in the Greater Fifth Ward and Market Square areas.

The Houston Fifth Ward Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by more rapidly conveying water from the identified service areas to reduce flooding. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

The H&H modeling identified flooding issues under existing conditions, including structures inundated and ponding above the curb (6 inches of water) that impacts safe roadway mobility. The impacts are further validated by other data points including FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and/or calls for service.

The Fifth Ward Area neighborhood drainage infrastructure was constructed between 1947 and 1965. The existing drainage system is a curb and gutter system and provides less than 2-year level of service (LOS) under Atlas 14 rainfall. The H&H models show that 1,240 properties are inundated in the 100-year rain event, and 13 miles of street experience more than 6 inches of water.

The proposed project will introduce a new trunk system to provide an improved drainage outfall, conveying storm water from north of the Union Pacific Railroad, under IH-10, to Buffalo Bayou. The system will relieve the drainage system to the east, reduce ponding on 9 miles of street and remove 915 properties from flood risk The overall trunk system will provide resiliency in the neighborhood and create reliable access for Fire Station #19 and Metro buses.

The Market Square drainage system does not convey Atlas 14 the 100-year rainfall event. The H&H models show 127 properties inundated during the 100-year event and 2 miles of inundated streets. Proposed work in Market Square will increase conveyance through the neighborhood to Japhet Creek, removing 126 properties from flood risk and eliminating all street ponding. These improvements will also benefit areas north of Market Square by reducing street ponding.

Project Summary

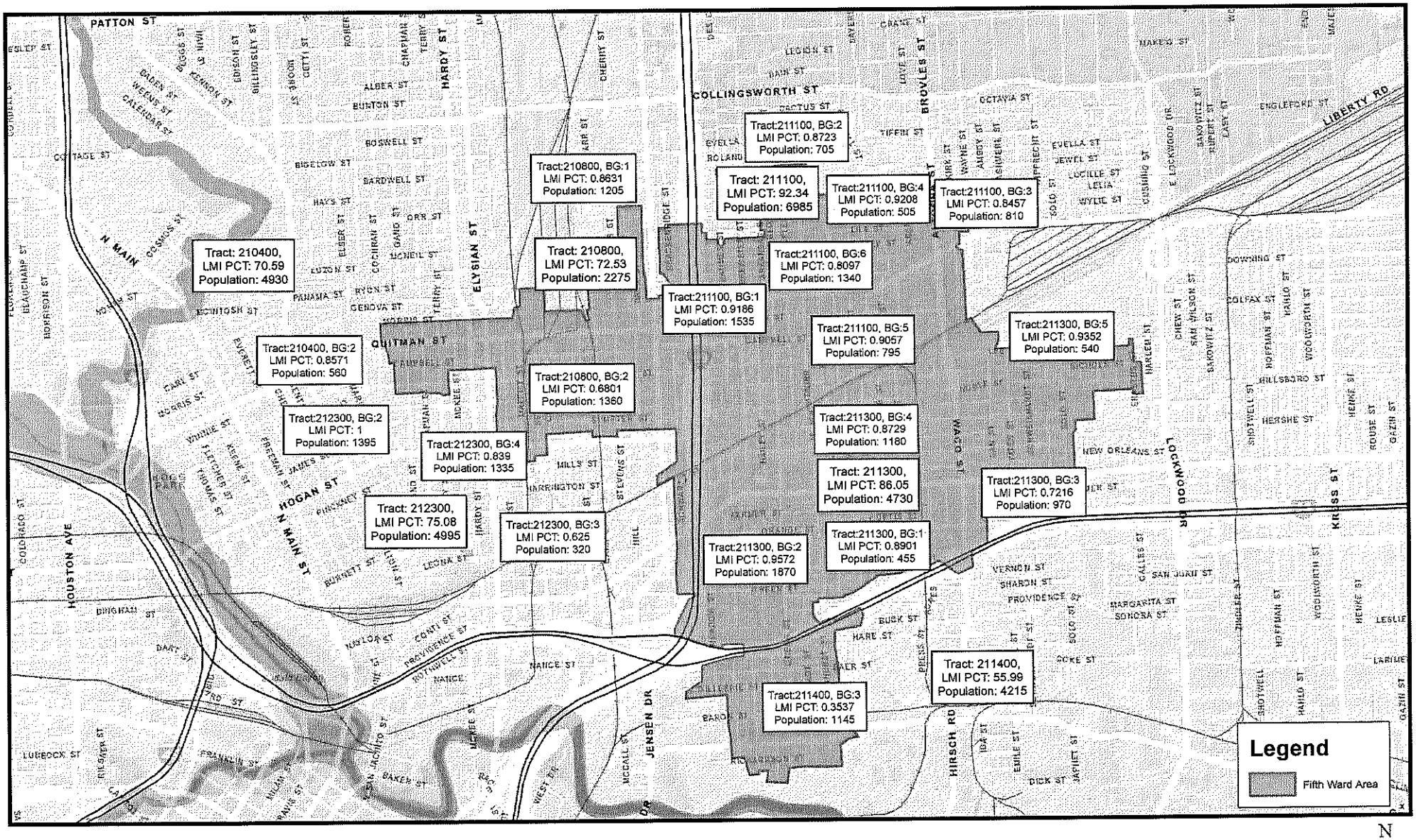
The Greater Fifth Ward Area Flood Mitigation project includes two sites: Fifth Ward trunk on Gregg Street and Market Square.

- **Proposed Improvements - 5th Ward:** The Fifth Ward trunk on Gregg Street will convey storm drainage 1.5 miles from the norther reach of Fifth Ward to Buffalo Bayou. New storm sewer trunk system on 1.5 miles of Gregg Street to provide 100-year LOS with reconstructed roadway from Liberty Road to Buffalo Bayou.
    - Gregg Street:
        - 205 linear ft of 24-inch RCP
        - 252 linear ft of 36-inch RCP
        - 2,325 linear ft of 48-inch RCP
        - 294 linear ft of 54-inch RCP
        - 285 linear ft of 72-inch RCP
        - 1,461 linear ft of 6x5 RCB
        - 528 linear ft of 6x6 RCB
        - 1,939 linear ft of 8x6 RCB
        - 7,445 linear ft of 9x7 RCB
        - 11,609 linear ft of 11x10 RCB
        - 1.5 miles of 10-inch concrete pavement
        - Sidewalks

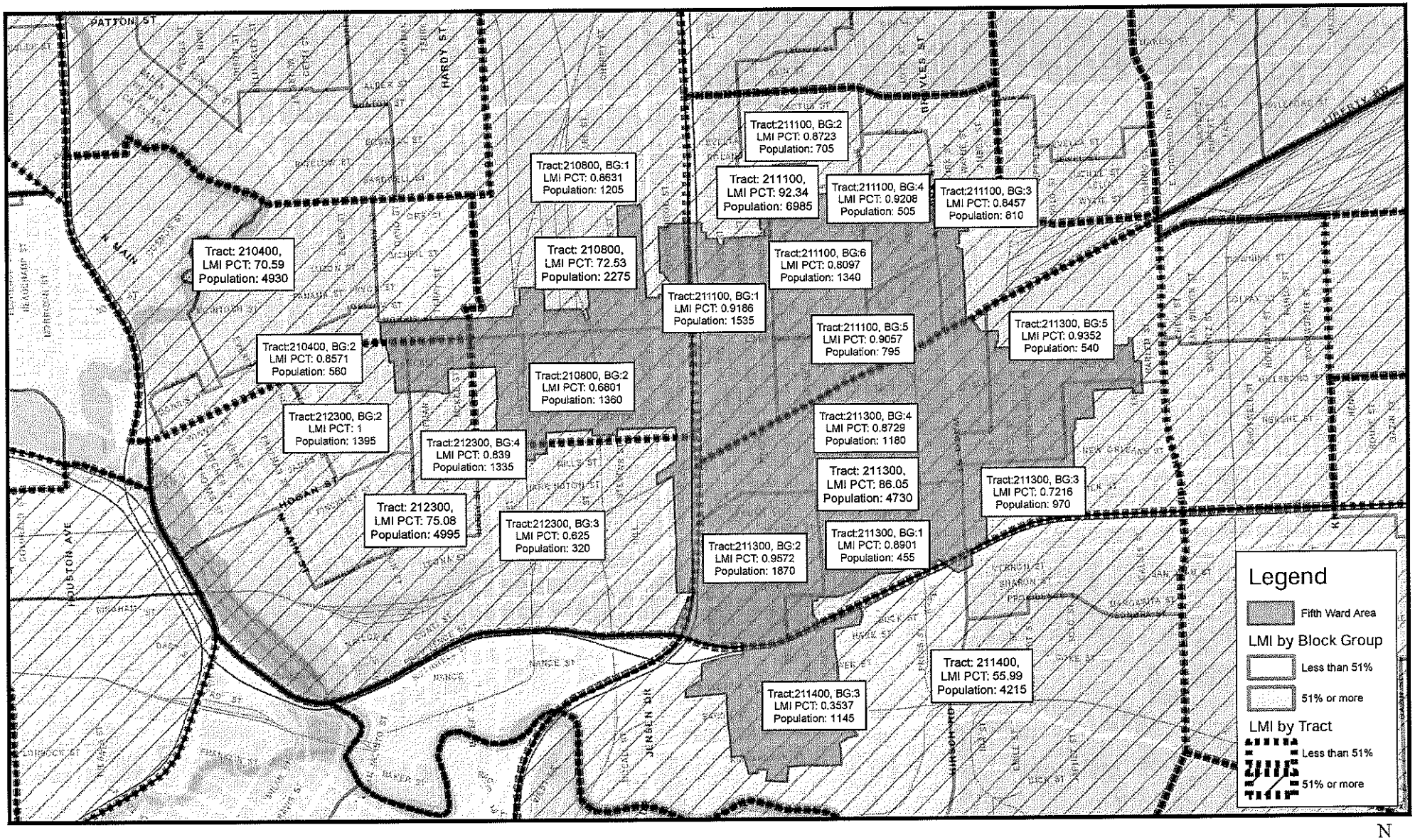
- **Proposed Improvements - Market Square:** The Market Square neighborhood project will improve the existing drainage system within the neighborhood and upsize trunk systems to G112-01 Japhet Creek. Streets, driveways, and sidewalks will be reconstructed where new drainage improvements are installed.
    - Proposed drainage system upgrades:
        - 3913 linear ft of 24-inch pipe
        - 883 linear ft of 36-inch pipe
        - 721 linear ft of 48-inch pipe
        - 607 linear ft of 60-inch pipe
        - 10283 linear ft of 96-inch pipe
        - 3790 linear ft of 108-inch pipe
        - 2535 linear ft of 5x9 RCB
        - 1016 linear ft of 5x10 RCB
        - 1454 linear ft of 10x10 RCB
        - 3.44 miles of 8-inch concrete pavement
        - Sidewalks

MAPPING

Section 2 of 3: ***Mapping***



Location Map: Latitude 29.779010, Longitude -95.335214



Beneficiary Map

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

FIFTH WARD	
Grand Total	$115,021,697.31

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local Share	CDBG-MIT
Construction	$ 90,568,265.59	$ 11,031,863.30	$ 79,536,402.29
Engineering	$ 13,585,239.84	$ 2,216,574.45	$ 11,368,665.39
Acquisition	$ -	$ -	$ -
Environmental	$ 5,434,095.94	$ 886,629.78	$ 4,547,466.16
Administration	$ 5,434,095.94	$ 886,629.78	$ 4,547,466.16

TOTAL	$ 115,021,697.31	$ 15,021,697.31	$ 100,000,000.00

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 Houston
Site/Activity Title:	Houston Fifth Ward Flood Mitigation - Fifth Ward
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Paving Item						
Removing Existing Pavement	$ 6.93	SY	43,304	$ 300,099.80	$ -	$ 300,099.80
Removing existing driveways	$ 5.78	SY	250,000	$ 1,443,750.00	$ -	$ 1,443,750.00
10" concrete	$ 75.08	SY	43304	$ 3,251,081.17	$ -	$ 3,251,081.17
Lime Stabilized Subgrade, 6" thick	$ 3.47	SY	43304	$ 150,049.90	$ -	$ 150,049.90
Lime (6%, 7% by weight)	$ 184.80	EA	536	$ 99,032.93	$ -	$ 99,032.93
6" Concrete Curb	$ 4.62	LF	21350	$ 98,637.00	$ -	$ 98,637.00
6" concrete for driveways	$ 9.24	SY	250000	$ 2,310,000.00	$ -	$ 2,310,000.00
4 1/2" concrete for sidewalks	$ 8.09	SY	106750	$ 863,073.75	$ -	$ 863,073.75
Storm Item						
Remove Storm Sewer	$ 24.20	LF	7684	$ 185,959.07	$ -	$ 185,959.07
Remove Inlets	$ 447.70	EA	144	$ 64,468.80	$ -	$ 64,468.80
Remove Manholes	$ 471.90	EA	41	$ 19,347.90	$ -	$ 19,347.90
Cub Inlets	$ 3,363.80	EA	144	$ 484,387.20	$ -	$ 484,387.20
MANHOLES (FOR 42" DIA. PIPE OR SMALLER) (ALL TYPES)	$ 4,198.70	EA	2	$ 8,397.40	$ -	$ 8,397.40
MANHOLES (FOR 48" TO 72" DIA. PIPE) (ALL TYPES)	$ 7,260.00	EA	7	$ 50,820.00	$ -	$ 50,820.00
MANHOLES (FOR 78" DIA. PIPE AND LARGER) (ALL TYPES)	$ 13,310.00	EA	36	$ 479,160.00	$ -	$ 479,160.00
24-INCH RCP	$ 114.95	LF	205	$ 23,616.48	$ -	$ 23,616.48
36-INCH RCP	$ 193.60	LF	252	$ 48,732.99	$ -	$ 48,732.99
48-INCH RCP	$ 254.10	LF	2325	$ 590,673.24	$ -	$ 590,673.24
54-INCH RCP	$ 326.70	LF	294	$ 96,059.60	$ -	$ 96,059.60
72-INCH RCP	$ 490.05	LF	285	$ 139,664.25	$ -	$ 139,664.25
6x5 RCB	$ 556.60	LF	1461	$ 813,448.64	$ -	$ 813,448.64
6x6 RCB	$ 580.80	LF	528	$ 306,528.82	$ -	$ 306,528.82
8x6 RCB	$ 859.10	LF	1939	$ 1,665,382.53	$ -	$ 1,665,382.53
9x7 RCB	$ 968.00	LF	7445	$ 7,206,798.72	$ -	$ 7,206,798.72
11x10 RCB	$ 1,573.00	LF	11609	$ 18,260,406.45	$ -	$ 18,260,406.45
DEWATERING (FOR BOX CULVERTS WITH 50 SF OR GREATER)	$ 30.25	LF	19054	$ 576,374.12	$ -	$ 576,374.12
TRENCH SAFETY SYSTEM	$ 2.42	LF	25885	$ 62,641.80	$ -	$ 62,641.80

General Items						
Traffic Signals	$ 250,000.00	EA	3	$ 750,000.00		$ 750,000.00
Railroad crossing and signals	$ 50,000.00	EA	1	$ 50,000.00		$ 50,000.00
Railroad Coordination/Agreements	$ 300,000.00	EA	1	$ 300,000.00		$ 300,000.00
Total Construction						**$ 40,698,592.55**
Contingency (30%)						$ 12,209,577.76
Engineering Fee (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 7,936,225.55
Administrative Costs (Delivery) (6%)						$ 3,174,490.22
Environmental Investigation and Permitting (6%)						$ 3,174,490.22
TOTAL	$ 635,323.86			$ 40,698,592.55	$ -	$ 67,193,376.30

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

2. Identify and explain any special engineering activities.

Seal	**Date:**
	Phone Number:
	Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston
Site/Activity Title:	Houston Fifth Ward Flood Mitigation - Market Square
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Paving/ Roadway Items						
Removing Existing Pavement	$ 6.00	SY	33,446	$ 200,677.98	$ -	$ 200,677.98
Removing existing driveways	$ 5.00	SY	7,737	$ 38,685.00	$ -	$ 38,685.00
Roadway Excavation	$ 16.00	CY	7,875	$ 126,000.00	$ -	$ 126,000.00
8" concrete pavement	$ 57.00	SY	47,964	$ 2,733,948.00	$ -	$ 2,733,948.00
Concrete for driveways	$ 8.00	LF	37,214	$ 297,712.00	$ -	$ 297,712.00
Lime Stabilized Subgrade, 6" thick	$ 3.00	SY	46,840	$ 140,520.00	$ -	$ 140,520.00
Lime (6%, 7% by weight)	$ 169.00	EA	843	$ 142,467.00	$ -	$ 142,467.00
6" Concrete Curb	$ 4.00	LF	23,164	$ 92,657.52	$ -	$ 92,657.52
6" concrete for driveways	$ 8.00	SY	37,214	$ 297,712.00	$ -	$ 297,712.00
4 1/2" concrete for sidewalks	$ 5.00	SY	91,720	$ 458,600.00	$ -	$ 458,600.00
Asphalt Surface Course - HMAC	$ 160.00		997	$ 159,473.60	$ -	$ 159,473.60
Broad Expansion Joint	$ 7.00	LF	4,206	$ 29,442.00	$ -	$ 29,442.00
Wheel Chair Ramps	$ 144.00	SY	2,699	$ 388,592.64	$ -	$ 388,592.64
Concrete Bus Pads	$ 39.00	SY	189	$ 7,383.87	$ -	$ 7,383.87
Topsoil	$ 2.00	SY	10,295	$ 20,590.56	$ -	$ 20,590.56
Sodding	$ 5.00	SY	10,295	$ 51,476.40	$ -	$ 51,476.40
Asphalt Milling	$ 8.00	SY	997	$ 7,973.68	$ -	$ 7,973.68
Storm Sewer						
Remove Storm Sewer	$ 15.00	LF	3,648	$ 54,720.00	$ -	$ 54,720.00
Remove Inlets	$ 381.00	EA	35	$ 13,335.00	$ -	$ 13,335.00
Remove Manholes	$ 361.00	EA	20	$ 7,220.00	$ -	$ 7,220.00
Curb Inlets	$ 2,997.00	EA	100	$ 299,700.00	$ -	$ 299,700.00
MANHOLES (FOR 42" DIA. PIPE OR SMALLER) (ALL TYPES)	$ 6,530.00	EA	13	$ 84,890.00	$ -	$ 84,890.00
MANHOLES (FOR 48" TO 72" DIA. PIPE) (ALL TYPES)	$ 6,530.00	EA	17	$ 111,010.00	$ -	$ 111,010.00
24-inch RCP	$ 118.00	LF	3914	$ 461,793.00	$ -	$ 461,793.00
36-inch RCP	$ 185.00	LF	883	$ 163,355.00	$ -	$ 163,355.00
48-inch RCP	$ 258.00	LF	722	$ 186,157.32	$ -	$ 186,157.32
60-inch RCP	$ 515.00	LF	607	$ 312,605.00	$ -	$ 312,605.00
96-inch RCP	$ 752.00	LF	10283	$ 7,732,816.00	$ -	$ 7,732,816.00
108-inch RCP	$ 876.00	LF	3790	$ 3,320,040.00	$ -	$ 3,320,040.00
5'x9' RCB	$ 731.00	LF	2536	$ 1,853,684.42	$ -	$ 1,853,684.42
5'x10' RCB	$ 876.00	LF	1016	$ 890,016.00	$ -	$ 890,016.00
10'x10' RCB	$ 1,339.00	LF	1454	$ 1,947,120.24	$ -	$ 1,947,120.24
TRENCH SAFETY SYSTEM	$ 2.00	LF	3648	$ 7,296.00	$ -	$ 7,296.00
Sanitary Sewer						
Sanitary Sewer Manholes	$ 4,326.00	EA	17	$ 73,542.00	$ -	$ 73,542.00
Abandon Existing Sanitary Sewer Manhole (All Types)	$ 1,633.00	EA	17	$ 27,761.00	$ -	$ 27,761.00
Abandon Existing Sanitary Sewer Pipe (All Types)	$ 62.00	EA	20	$ 1,240.00	$ -	$ 1,240.00
8" PVC Sanitary Open Cut	$ 124.00	LF	4329	$ 536,796.00	$ -	$ 536,796.00
10" PVC Sanitary Open Cut	$ 165.00	LF	1426	$ 235,245.45	$ -	$ 235,245.45
12" PVC Sanitary Open Cut	$ 185.00	LF	1720	$ 318,157.45	$ -	$ 318,157.45
6" Service Leads	$ 124.00	LF	2975	$ 368,900.00	$ -	$ 368,900.00
Service Stub and Connection to back lot services	$ 5,150.00	EA	17	$ 87,550.00	$ -	$ 87,550.00

Water						
8-inch Water Line	$ 103.00	LF	10884	$ 1,121,070.54	$ -	$ 1,121,070.54
12-inch Water Line	$ 144.00	LF	4277	$ 615,834.72	$ -	$ 615,834.72
3/4 - 1" Long Side	$ 1,545.00	EA	82	$ 126,690.00	$ -	$ 126,690.00
3/4 - 1" Short Side	$ 855.00	EA	132	$ 112,860.00	$ -	$ 112,860.00
Wet Connections	$ 3,708.00	EA	10	$ 37,080.00	$ -	$ 37,080.00
Cut, Plug and Abandon Existing 6" Water Line	$ 937.00	EA	18	$ 16,866.00	$ -	$ 16,866.00
Remove and Salvage Fire Hydrants	$ 412.00	EA	17	$ 7,004.00	$ -	$ 7,004.00
Fire Hydrants Assembly	$ 5,562.00	EA	33	$ 183,546.00	$ -	$ 183,546.00
Basic Items						
Traffic Control and regulation	$ 300,000.00	LS	1	$ 300,000.00	$ -	$ 300,000.00
Flagmen	$ 100,000.00	LS	1	$ 100,000.00	$ -	$ 100,000.00
Tree Protection	$ 600,000.00	LS	1	$ 600,000.00	$ -	$ 600,000.00
Placement of Permanent Signs	$ 30,000.00	LS	1	$ 30,000.00	$ -	$ 30,000.00
TPDES Requirement & Implementation of Stormwater Pollution Prevention Plan	$ 50,000.00	LS	1	$ 50,000.00	$ -	$ 50,000.00
Mobilization (5%)						$ 1,379,490.67
Total Construction						**$ 28,969,304.06**
Contingency (30%)						$ 8,690,791.22
Engineering Fee (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 5,649,014.29
Administrative Costs (Delivery) (6%)						$ 2,259,605.72
Environmental Investigation and Permitting (6%)						$ 2,259,605.72
TOTAL	$ 1,128,147.00			$ 27,589,813.39	$ -	$ 47,828,321.01

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

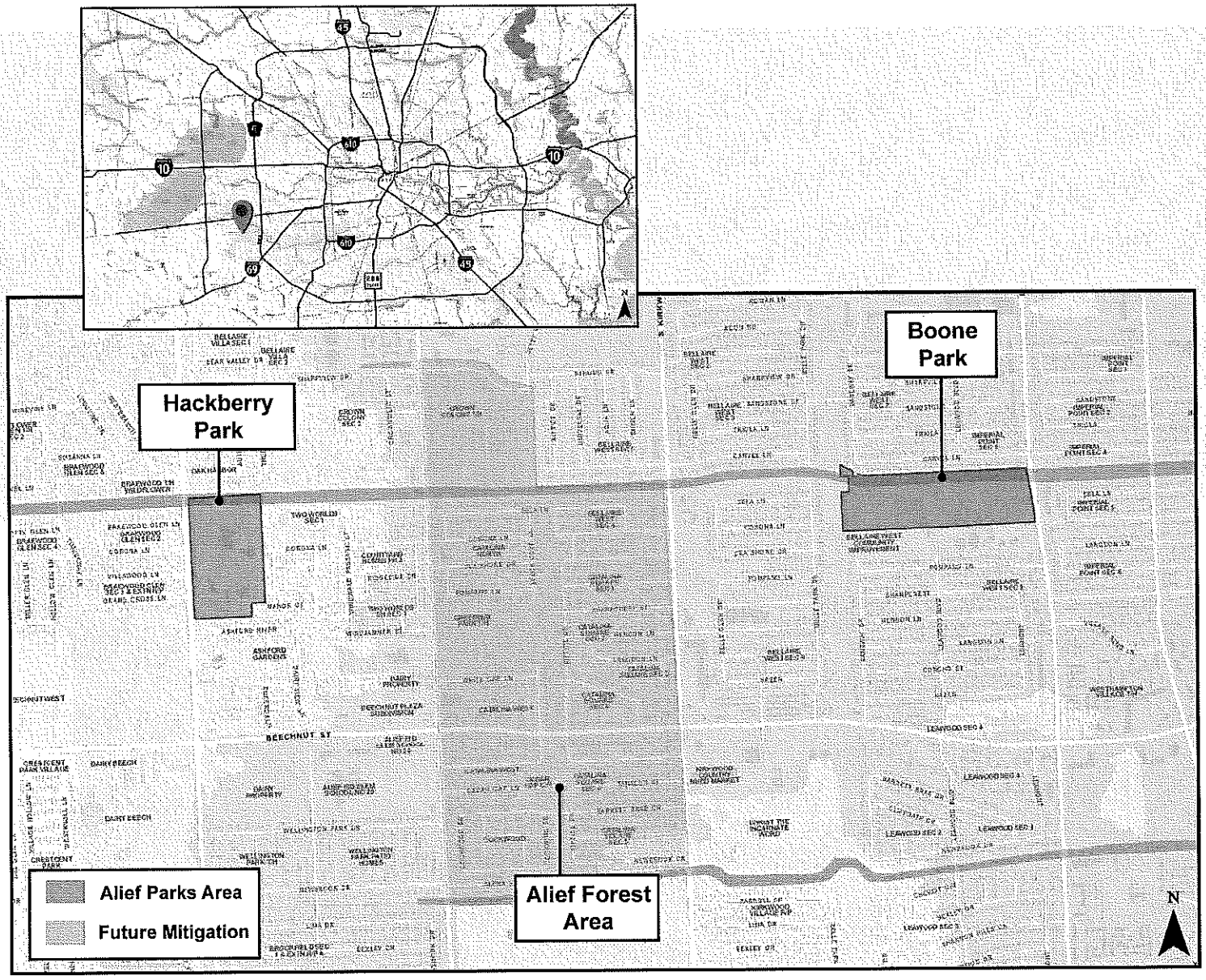
2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

HOUSTON ALIEF PARKS FLOOD MITIGATION



Scope of Work	Located in the Alief area, adjacent to the D-122 channel, Boone and Hackberry Park project would enhance the park with upgraded recreation detention soccer fields, walking trails, and water/detention feature. Approximately 40 acre-feet of detention would be created to help mitigate flooding to the nearby Alief neighborhood.
Budget	**$8,265,850**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)

Project
SCOPE OF WORK

Section 1 of 3: ***Project Scope of Work***

Hazard Mitigation

The Alief Parks Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions.

The Alief Parks Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by removing and detaining water from the identified service area to reduce flooding. The Alief Parks Area Flood Mitigation Project incorporates natural elements by reconfiguring existing City parks to detain stormwater and reduce impacts on surrounding neighborhoods located in the 100-year floodplain. Modeling shows that detention as is proposed in Boone and Hackberry Parks will be required to significantly mitigate flooding in surrounding neighborhoods. Additional drainage improvements are proposed in the City's Capital Improvement Program (CIP) and will be funded with local drainage fees.

Flood losses in the Alief Parks area are significant. Within the boundaries of Dairy Ashford to the west, Bellaire to the north, Boone Rd to the east, and Beechnut to the south, there are 203 FEMA single loss claims and 173 FEMA repetitive loss claims. There are 567 Individual Assistance claims within the same boundary from 2015 to 2018. The existing stormwater sewer system in the area was constructed primarily in the late 1960's and early 1970's and does not adequately convey Atlas 14 rainfall.

Proposed improvements include wet bottom detention areas and recreational detention areas in Boone and Hackberry Parks. Much of the area is located in the 100-year floodplain of Brays Bayou. The proposed improvements will create improved park space with recreational detention fields that can achieve nearly 40 acre-feet of detention volume between the two parks. Additional park amenities include wetlands habitat, trails, exercise areas, and picnic grounds.

Project Summary

Drainage infrastructure improvements are planned for the Alief area neighborhoods. The detention volume achieved through creating improved park space with recreational detention fields will supplement flood mitigation projects planned in the City CIP. Additional park amenities include wetlands habitat, trails, exercise areas, and picnic grounds.

Proposed Improvements – Boone Park:

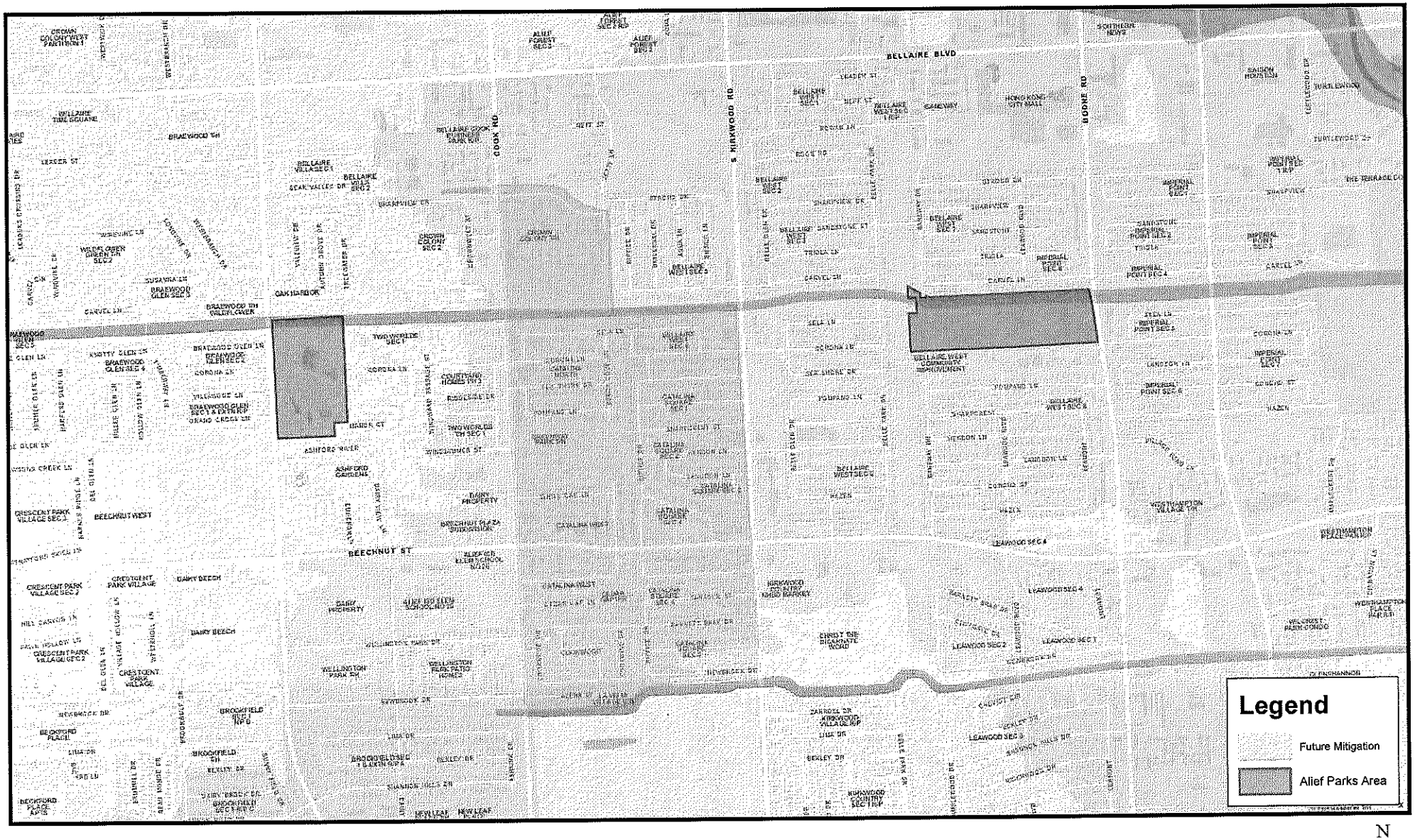
- Reconfigure parking lot and incorporate green infrastructure
- Recreational detention/sports fields (soccer fields, cricket pitch area)
- Replace and expand 4,700 linear feet of concrete walking trail
- Add picnic pavilion
- Add outdoor exercise facilities

Proposed Improvements – Hackberry Park:

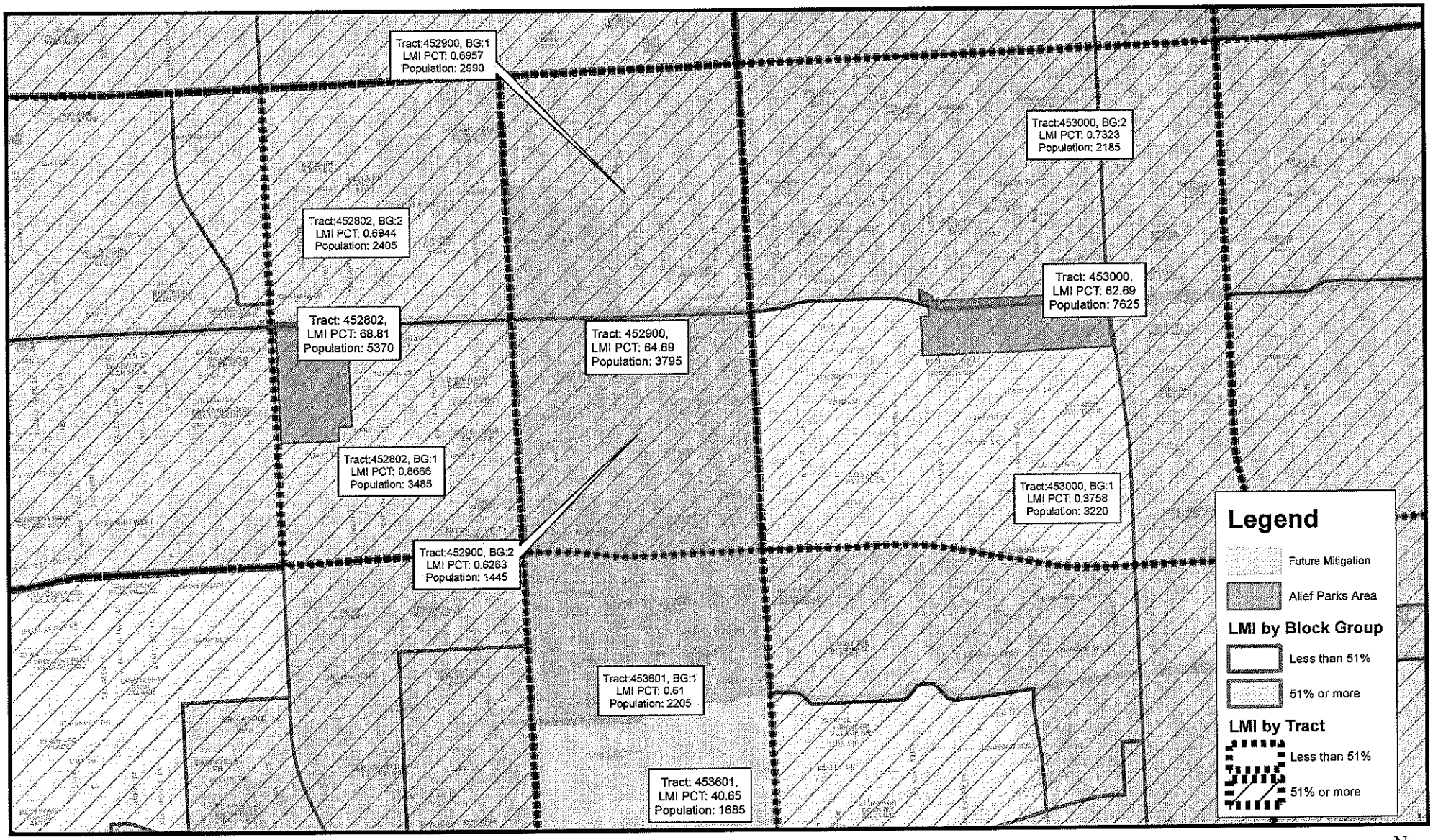
- Reconfigure parking lot and incorporate green infrastructure
- Expand wet bottom pond to create addition detention volume and wetland surrounding
- Add a fishing pier
- Create a bird habitat
- Add outdoor exercise areas
- Replace and expand 3,800 linear feet of concrete walking trail

MAPPING

Section 2 of 3: ***Mapping***



Location Map: Latitude 29.691821, Longitude -95.591792



Beneficiary Map

BUDGET & SOURCES OF FUNDING

Section 3 of 3: ***Budget and Sources of Funding***

ALIEF PARKS	
Grand Total	$8,265,850.39

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local	CDBG-MIT
Construction	$ 6,508,543.60	$ 65,085.44	$ 6,443,458.16
Engineering	$ 976,281.55	$ 9,762.82	$ 966,518.73
Acquisition	$ -	$ -	$ -
Environmental	$ 390,512.62	$ 3,905.12	$ 386,607.50
Administration	$ 390,512.62	$ 3,905.12	$ 386,607.50

TOTAL	$ 8,265,850.39	$ 82,658.50	$ 8,183,191.89

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 Houston
Site/Activity Title:	Houston Alief Parks Flood Mitigation - Boone Park
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
DETENTION ITEMS						
Site Preparation (Detn. & Amen)	$ 1,650.00	AC.	10.00	$ 16,500.00	$ -	$ 16,500.00
Excavation	$ 2.20	C.Y.	62,460.00	$ 137,412.00	$ -	$ 137,412.00
Haul, Spread and Dispose offsite	$ 16.50	C.Y.	62,460.00	$ 1,030,590.00	$ -	$ 1,030,590.00
Clay Liner at NWSE	$ 11.00	C.Y.	150.00	$ 1,650.00	$ -	$ 1,650.00
48" CMP	$ 165.00	L.F.	440.00	$ 72,600.00	$ -	$ 72,600.00
Timber Bent for 48" CMP	$ 2,200.00	EA.	2.00	$ 4,400.00	$ -	$ 4,400.00
SWQ Feature (Trash Rack)	$ 13,750.00	L.S.	1.00	$ 13,750.00	$ -	$ 13,750.00
Control Structure W/ Floatable Collection Screen	$ 16,500.00	EA.	1.00	$ 16,500.00	$ -	$ 16,500.00
Type "C" Manhole	$ 6,600.00	EA.	2.00	$ 13,200.00	$ -	$ 13,200.00
5-inch Concrete Slope Paving	$ 126.50	S.Y.	100.00	$ 12,650.00	$ -	$ 12,650.00
18-inch Grade I Rip Rap	$ 110.00	S.Y.	650.00	$ 71,500.00	$ -	$ 71,500.00
Remove Existing Type "A" Grate Inlet	$ 11,000.00	EA.	1.00	$ 11,000.00	$ -	$ 11,000.00
12" Multiflow for field drainage	$ 2.00	SY	19,850.00	$ 39,700.00	$ -	$ 39,700.00
Concrete Perimeter Swale	$ 180.00	LF	1,750.00	$ 315,000.00	$ -	$ 315,000.00
Hydro Mulch Seeding	$ 5,500.00	AC.	6.00	$ 33,000.00	$ -	$ 33,000.00
Sodding and grading on Basin Side Slopes	$ 6.75	SY	7,260.00	$ 49,005.00	$ -	$ 49,005.00
Coffer Dam	$ 11,000.00	EA.	2.00	$ 22,000.00	$ -	$ 22,000.00
Well Point	$ 22.00	LF	900.00	$ 19,800.00	$ -	$ 19,800.00
SWPPP	$ 27,500.00	L.S.	1.00	$ 27,500.00	$ -	$ 27,500.00
AMENITY ITEMS						
Irrigation for field	$ 45,000.00	LS	1.00	$ 45,000.00	$ -	$ 45,000.00
Remove and dispose of metal baseball fences	$ 4,400.00	EA.	4.00	$ 17,600.00	$ -	$ 17,600.00
Installation of soccer goals	$ 1,100.00	EA.	4.00	$ 4,400.00	$ -	$ 4,400.00
Remove and Replace existing concrete pad	$ 165.00	S.Y.	100.00	$ 16,500.00	$ -	$ 16,500.00
Remove and Replace existing light poles	$ 2,750.00	EA.	10.00	$ 27,500.00	$ -	$ 27,500.00
Reconfigure parking space	$ 9,200.00	EA.	48.00	$ 441,600.00	$ -	$ 441,600.00
Remove Trees	$ 300.00	EA.	10.00	$ 3,000.00	$ -	$ 3,000.00
Tree Planting	$ 500.00	EA.	60.00	$ 30,000.00	$ -	$ 30,000.00
Remove Existing Trails	$ 36.00	SY	4,500.00	$ 162,000.00	$ -	$ 162,000.00
Install Trails	$ 54.00	SY	4,500.00	$ 243,000.00	$ -	$ 243,000.00
Picnic Pavilion	$ 75,000.00	EA.	1.00	$ 75,000.00	$ -	$ 75,000.00
Outdoor Exercise Equipment	$ 70,000.00	EA.	1.00	$ 70,000.00	$ -	$ 70,000.00
Subtotal						**$ 3,043,357.00**
Contingency (30%)						$ 913,007.10
Engineering Fee (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 593,454.62
Environmental Investigation and Permitting (6%)						$ 237,381.85
Administration Fee (6%)						$ 237,381.85
TOTAL	$ 304,846.95			$ 3,043,357.00	$ -	$ 5,024,582.42

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

2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston
Site/Activity Title:	Houston Alief Parks Flood Mitigation - Hackberry Park
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
DETENTION ITEMS						
Site Preparation (Detn. & Amen)	$ 1,650.00	AC.	6.00	$ 9,900.00	$ -	$ 9,900.00
Demucking of Existing Ponds	$ 5.50	C.Y.	4,750.00	$ 26,125.00	$ -	$ 26,125.00
Excavation	$ 2.20	C.Y.	54,400.00	$ 119,680.00	$ -	$ 119,680.00
Haul, spread, and dispose offsite	$ 16.50	C.Y.	54,400.00	$ 897,600.00	$ -	$ 897,600.00
Clay Liner at NWSE	$ 11.00	C.Y.	330.00	$ 3,630.00	$ -	$ 3,630.00
36" CMP	$ 137.50	L.F.	650.00	$ 89,375.00	$ -	$ 89,375.00
Control structure with floatables collection screen	$ 16,500.00	EA	2.00	$ 33,000.00	$ -	$ 33,000.00
Type "C" Manhole	$ 6,600.00	EA	2.00	$ 13,200.00	$ -	$ 13,200.00
18-inch Grade I Rip Rap	$ 110.00	S.Y.	300.00	$ 33,000.00	$ -	$ 33,000.00
Hydromulch Seeding	$ 5,500.00	AC.	2.50	$ 13,750.00	$ -	$ 13,750.00
Sodding and grading on Basin Side Slopes	$ 6.75	SY	7,060.00	$ 47,655.00	$ -	$ 47,655.00
Pump	$ 55.00	Hr.	300.00	$ 16,500.00	$ -	$ 16,500.00
Well Point	$ 22.00	L.F.	900.00	$ 19,800.00	$ -	$ 19,800.00
SWPPP	$ 16,500.00	L.S.	1.00	$ 16,500.00	$ -	$ 16,500.00
AMENITY ITEMS						
Reconfigure parking space	$ 10,000.00	EA	20.00	$ 200,000.00	$ -	$ 200,000.00
Wildlife/ecosystem signage	$ 6,000.00	EA	1.00	$ 6,000.00	$ -	$ 6,000.00
Fishing pier/deck	$ 65,000.00	EA	1.00	$ 65,000.00	$ -	$ 65,000.00
Bird Habitat	$ 15,000.00	EA	1.00	$ 15,000.00	$ -	$ 15,000.00
Remove Existing Trails	$ 36.00	SY	3,300.00	$ 118,800.00	$ -	$ 118,800.00
Install Trails	$ 54.00	SY	3,300.00	$ 178,200.00	$ -	$ 178,200.00
Remove Trees	$ 300.00	EA.	35.00	$ 10,500.00	$ -	$ 10,500.00
Tree Planting	$ 500.00	EA.	60.00	$ 30,000.00	$ -	$ 30,000.00
Subtotal						**$ 1,963,215.00**
Contingency 30%						$ 588,964.50
Engineering (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 382,826.93
Environmental Investigation and Permitting (6%)						$ 153,130.77
Administration Fee (6%)						$ 153,130.77
TOTAL					$ -	**$ 3,241,267.97**

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

2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

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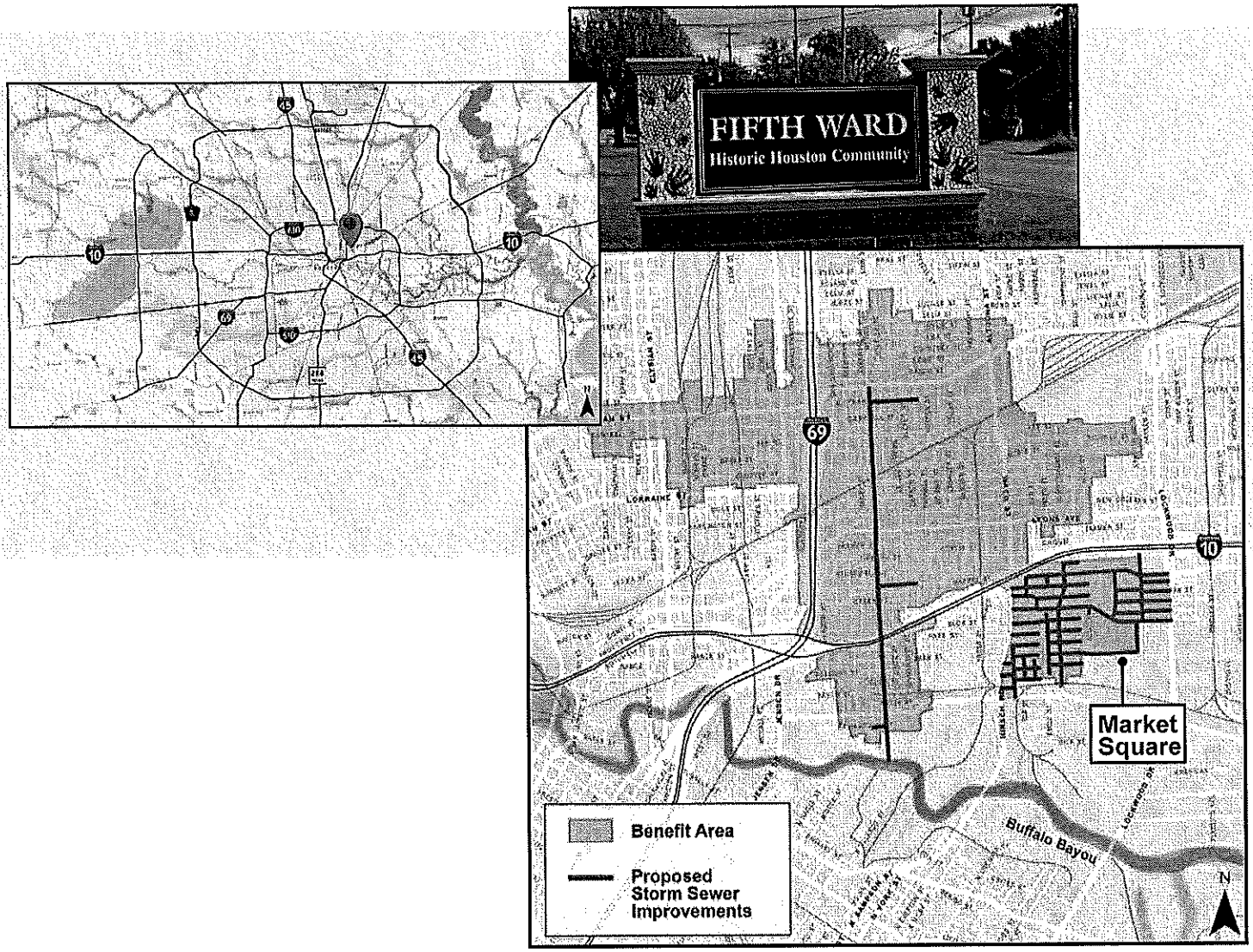
Signature of Registered Engineer/Architect Responsible For Budget Justification:

HOUSTON FIFTH WARD AREA FLOOD MITIGATION



Scope of Work	The Fifth Ward area is bounded to the north by Quitman Street, Cochran Street on the west, Buffalo Bayou on the south and Lockwood Drive on the east. The majority of the area drains directly to Buffalo Bayou; portions north of Quitman Street drain to Hunting Bayou. The project consists of a 1.5 mile drainage trunk system on Gregg Street from Liberty to Buffalo Bayou. Market Square is located in east Houston, south of IH-10, between Lockwood and Hirsch Rd. The project will improve drainage infrastructure with upgraded storm trunk on Buck St., Schweikhardt St.,and Coke St. The drainage system will also include a new 3 x 108-inch trunk system tying to Japhet Creek.
Budget	**$115,021,697**
Sources of Funding	Community Development Block Grant (CDBG) Mitigation and Dedicated Drainage and Street Reconstruction Fund (DDSRF)

HOUSTON PUBLIC WORKS

For more info or questions contact:
drainage.study@houstontx.gov

Project
SCOPE OF WORK

*Section 1 of 3: **Project Scope of Work***

Hazard Mitigation

The Houston Fifth Ward Area Flood Mitigation Project will address risks associated with hurricanes/tropical storms/tropical depressions in the Greater Fifth Ward and Market Square areas.

The Houston Fifth Ward Area Flood Mitigation Project will reduce the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by more rapidly conveying water from the identified service areas to reduce flooding. Dynamic hydraulic and hydrologic (H&H) modeling was used to identify existing ponding impacts and illustrate the benefits of reduced ponding associated with the proposed project.

The H&H modeling identified flooding issues under existing conditions, including structures inundated and ponding above the curb (6 inches of water) that impacts safe roadway mobility. The impacts are further validated by other data points including FEMA National Flood Insurance Program (NFIP) data, FEMA Individual Assistance (IA) data, and/or calls for service.

The Fifth Ward Area neighborhood drainage infrastructure was constructed between 1947 and 1965. The existing drainage system is a curb and gutter system and provides less than 2-year level of service (LOS) under Atlas 14 rainfall. The H&H models show that 1,240 properties are inundated in the 100-year rain event, and 13 miles of street experience more than 6 inches of water.

The proposed project will introduce a new trunk system to provide an improved drainage outfall, conveying storm water from north of the Union Pacific Railroad, under IH-10, to Buffalo Bayou. The system will relieve the drainage system to the east, reduce ponding on 9 miles of street and remove 915 properties from flood risk The overall trunk system will provide resiliency in the neighborhood and create reliable access for Fire Station #19 and Metro buses.

The Market Square drainage system does not convey Atlas 14 the 100-year rainfall event. The H&H models show 127 properties inundated during the 100-year event and 2 miles of inundated streets. Proposed work in Market Square will increase conveyance through the neighborhood to Japhet Creek, removing 126 properties from flood risk and eliminating all street ponding. These improvements will also benefit areas north of Market Square by reducing street ponding.

Project Summary

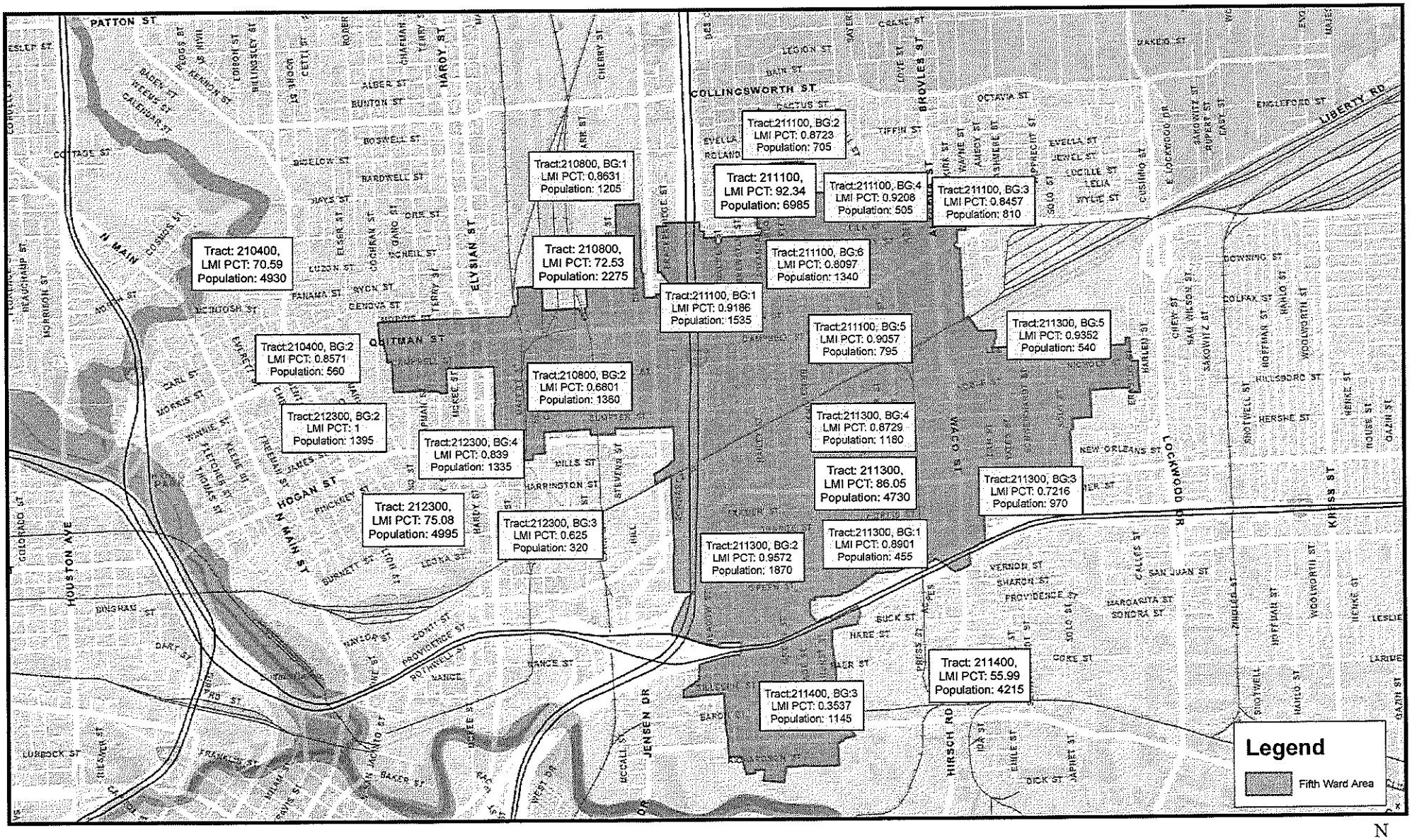
The Greater Fifth Ward Area Flood Mitigation project includes two sites: Fifth Ward trunk on Gregg Street and Market Square.

- **Proposed Improvements - 5th Ward:** The Fifth Ward trunk on Gregg Street will convey storm drainage 1.5 miles from the norther reach of Fifth Ward to Buffalo Bayou. New storm sewer trunk system on 1.5 miles of Gregg Street to provide 100-year LOS with reconstructed roadway from Liberty Road to Buffalo Bayou.
    - Gregg Street:
        - 205 linear ft of 24-inch RCP
        - 252 linear ft of 36-inch RCP
        - 2,325 linear ft of 48-inch RCP
        - 294 linear ft of 54-inch RCP
        - 285 linear ft of 72-inch RCP
        - 1,461 linear ft of 6x5 RCB
        - 528 linear ft of 6x6 RCB
        - 1,939 linear ft of 8x6 RCB
        - 7,445 linear ft of 9x7 RCB
        - 11,609 linear ft of 11x10 RCB
        - 1.5 miles of 10-inch concrete pavement
        - Sidewalks

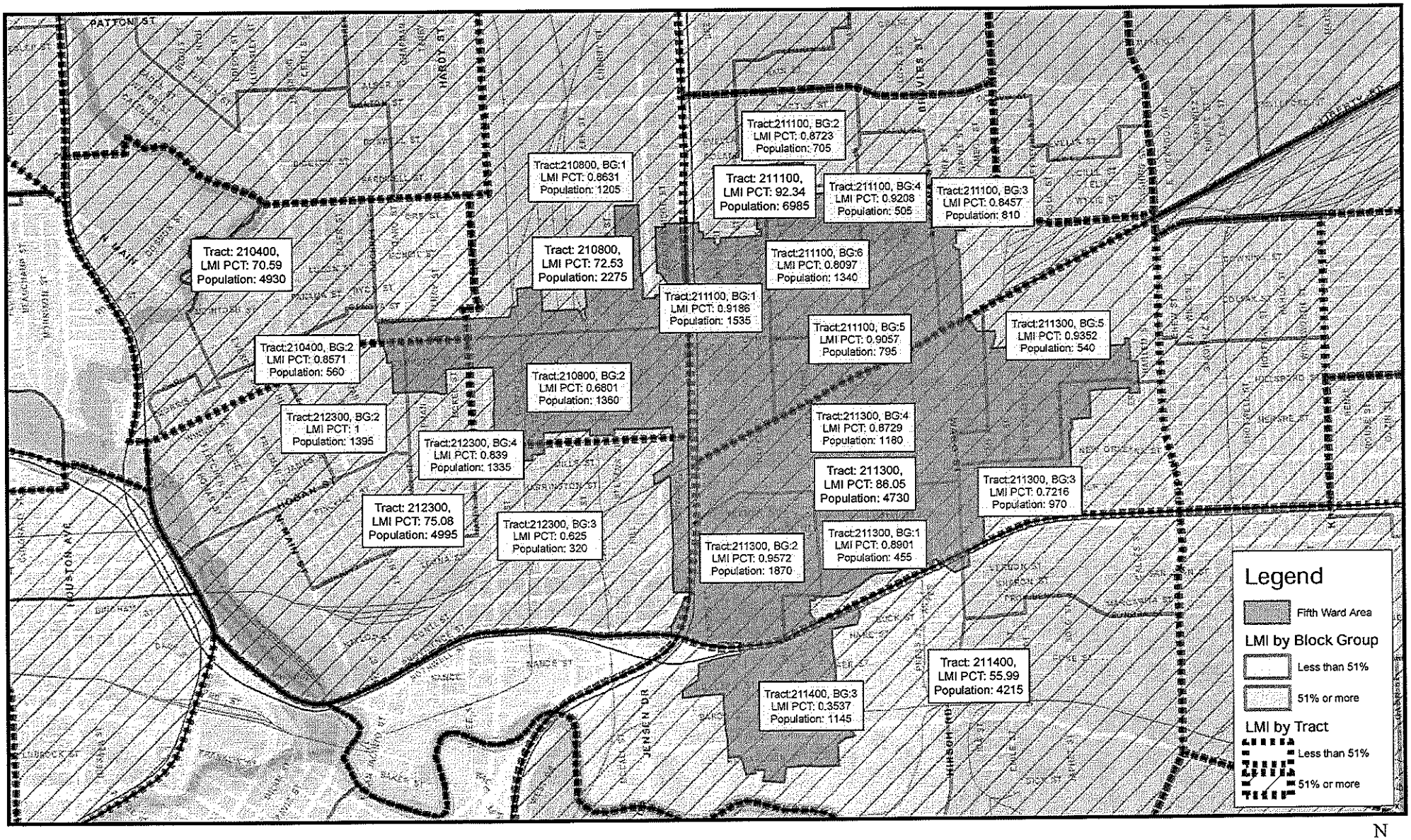
- **Proposed Improvements - Market Square:** The Market Square neighborhood project will improve the existing drainage system within the neighborhood and upsize trunk systems to G112-01 Japhet Creek. Streets, driveways, and sidewalks will be reconstructed where new drainage improvements are installed.
    - Proposed drainage system upgrades:
        - 3913 linear ft of 24-inch pipe
        - 883 linear ft of 36-inch pipe
        - 721 linear ft of 48-inch pipe
        - 607 linear ft of 60-inch pipe
        - 10283 linear ft of 96-inch pipe
        - 3790 linear ft of 108-inch pipe
        - 2535 linear ft of 5x9 RCB
        - 1016 linear ft of 5x10 RCB
        - 1454 linear ft of 10x10 RCB
        - 3.44 miles of 8-inch concrete pavement
        - Sidewalks

MAPPING

*Section 2 of 3: **Mapping***



Location Map: Latitude 29.779010, Longitude -95.335214



Beneficiary Map

BUDGET & SOURCES OF FUNDING

Section 3 of 3: Budget and Sources of Funding

FIFTH WARD	
Grand Total	$115,021,697.31

	FUNDING SOURCES		
BUDGET CATEGORIES	Estimated Cost	Local Share	CDBG-MIT
Construction	$ 90,568,265.59	$ 11,031,863.30	$ 79,536,402.29
Engineering	$ 13,585,239.84	$ 2,216,574.45	$ 11,368,665.39
Acquisition	$ -	$ -	$ -
Environmental	$ 5,434,095.94	$ 886,629.78	$ 4,547,466.16
Administration	$ 5,434,095.94	$ 886,629.78	$ 4,547,466.16

TOTAL	$ 115,021,697.31	$ 15,021,697.31	$ 100,000,000.00

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 Houston					
Site/Activity Title:	Houston Fifth Ward Flood Mitigation - Fifth Ward					
Eligible Activity:	Flood control and drainage improvements					
Materials/Facilities/Services	**$/Unit**	**Unit**	**Quantity**	**Construction**	**Acquisition**	**Total**
Paving Item						
Removing Existing Pavement	$ 6.93	SY	43,304	$ 300,099.80	$ -	$ 300,099.80
Removing existing driveways	$ 5.78	SY	250,000	$ 1,443,750.00	$ -	$ 1,443,750.00
10" concrete	$ 75.08	SY	43304	$ 3,251,081.17	$ -	$ 3,251,081.17
Lime Stabilized Subgrade, 6" thick	$ 3.47	SY	43304	$ 150,049.90	$ -	$ 150,049.90
Lime (6%, 7% by weight)	$ 184.80	EA	536	$ 99,032.93	$ -	$ 99,032.93
6" Concrete Curb	$ 4.62	LF	21350	$ 98,637.00	$ -	$ 98,637.00
6" concrete for driveways	$ 9.24	SY	250000	$ 2,310,000.00	$ -	$ 2,310,000.00
4 1/2" concrete for sidewalks	$ 8.09	SY	106750	$ 863,073.75	$ -	$ 863,073.75
Storm Item						
Remove Storm Sewer	$ 24.20	LF	7684	$ 185,959.07	$ -	$ 185,959.07
Remove inlets	$ 447.70	EA	144	$ 64,468.80	$ -	$ 64,468.80
Remove Manholes	$ 471.90	EA	41	$ 19,347.90	$ -	$ 19,347.90
Cub Inlets	$ 3,363.80	EA	144	$ 484,387.20	$ -	$ 484,387.20
MANHOLES (FOR 42" DIA. PIPE OR SMALLER) (ALL TYPES)	$ 4,198.70	EA	2	$ 8,397.40	$ -	$ 8,397.40
MANHOLES (FOR 48" TO 72" DIA. PIPE) (ALL TYPES)	$ 7,260.00	EA	7	$ 50,820.00	$ -	$ 50,820.00
MANHOLES (FOR 78" DIA. PIPE AND LARGER) (ALL TYPES)	$ 13,310.00	EA	36	$ 479,160.00	$ -	$ 479,160.00
24-INCH RCP	$ 114.95	LF	205	$ 23,616.48	$ -	$ 23,616.48
36-INCH RCP	$ 193.60	LF	252	$ 48,732.99	$ -	$ 48,732.99
48-INCH RCP	$ 254.10	LF	2325	$ 590,673.24	$ -	$ 590,673.24
54-INCH RCP	$ 326.70	LF	294	$ 96,059.60	$ -	$ 96,059.60
72-INCH RCP	$ 490.05	LF	285	$ 139,664.25	$ -	$ 139,664.25
6x5 RCB	$ 556.60	LF	1461	$ 813,448.64	$ -	$ 813,448.64
6x6 RCB	$ 580.80	LF	528	$ 306,528.82	$ -	$ 306,528.82
8x6 RCB	$ 859.10	LF	1939	$ 1,665,382.53	$ -	$ 1,665,382.53
9x7 RCB	$ 968.00	LF	7445	$ 7,206,798.72	$ -	$ 7,206,798.72
11x10 RCB	$ 1,573.00	LF	11609	$ 18,260,406.45	$ -	$ 18,260,406.45
DEWATERING (FOR BOX CULVERTS WITH 50 SF OR GREATER)	$ 30.25	LF	19054	$ 576,374.12	$ -	$ 576,374.12
TRENCH SAFETY SYSTEM	$ 2.42	LF	25885	$ 62,641.80	$ -	$ 62,641.80

General Items						
Traffic Signals	$ 250,000.00	EA	3	$ 750,000.00		$ 750,000.00
Railroad crossing and signals	$ 50,000.00	EA	1	$ 50,000.00		$ 50,000.00
Railroad Coordination/Agreements	$ 300,000.00	EA	1	$ 300,000.00		$ 300,000.00
Total Construction						**$ 40,698,592.55**
Contingency (30%)						$ 12,209,577.76
Engineering Fee (Design, Bidding, Survey, Geotechnical, Construction Phase Services) (15%)						$ 7,936,225.55
Administrative Costs (Delivery) (6%)						$ 3,174,490.22
Environmental Investigation and Permitting (6%)						$ 3,174,490.22
TOTAL	$ 635,323.86			$ 40,698,592.55	$ -	$ 67,193,376.30

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

2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification:

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 Houston
Site/Activity Title:	Houston Fifth Ward Flood Mitigation - Market Square
Eligible Activity:	Flood control and drainage improvements

Materials/Facilities/Services	$/Unit	Unit	Quantity	Construction	Acquisition	Total
Paving/ Roadway Items						
Removing Existing Pavement	$ 6.00	SY	33,446	$ 200,677.98	$ -	$ 200,677.98
Removing existing driveways	$ 5.00	SY	7,737	$ 38,685.00	$ -	$ 38,685.00
Roadway Excavation	$ 16.00	CY	7,875	$ 126,000.00	$ -	$ 126,000.00
8" concrete pavement	$ 57.00	SY	47,964	$ 2,733,948.00	$ -	$ 2,733,948.00
Concrete for driveways	$ 8.00	LF	37,214	$ 297,712.00	$ -	$ 297,712.00
Lime Stabilized Subgrade, 6" thick	$ 3.00	SY	46,840	$ 140,520.00	$ -	$ 140,520.00
Lime (6%, 7% by weight)	$ 169.00	EA	843	$ 142,467.00	$ -	$ 142,467.00
6" Concrete Curb	$ 4.00	LF	23,164	$ 92,657.52	$ -	$ 92,657.52
6" concrete for driveways	$ 8.00	SY	37,214	$ 297,712.00	$ -	$ 297,712.00
4 1/2" concrete for sidewalks	$ 5.00	SY	91,720	$ 458,600.00	$ -	$ 458,600.00
Asphalt Surface Course - HMAC	$ 160.00		997	$ 159,473.60	$ -	$ 159,473.60
Broad Expansion Joint	$ 7.00	LF	4,206	$ 29,442.00	$ -	$ 29,442.00
Wheel Chair Ramps	$ 144.00	SY	2,699	$ 388,592.64	$ -	$ 388,592.64
Concrete Bus Pads	$ 39.00	SY	189	$ 7,383.87	$ -	$ 7,383.87
Topsoil	$ 2.00	SY	10,295	$ 20,590.56	$ -	$ 20,590.56
Sodding	$ 5.00	SY	10,295	$ 51,476.40	$ -	$ 51,476.40
Asphalt Milling	$ 8.00	SY	997	$ 7,973.68	$ -	$ 7,973.68
Storm Sewer						
Remove Storm Sewer	$ 15.00	LF	3,648	$ 54,720.00	$ -	$ 54,720.00
Remove Inlets	$ 381.00	EA	35	$ 13,335.00	$ -	$ 13,335.00
Remove Manholes	$ 361.00	EA	20	$ 7,220.00	$ -	$ 7,220.00
Curb Inlets	$ 2,997.00	EA	100	$ 299,700.00	$ -	$ 299,700.00
MANHOLES (FOR 42" DIA. PIPE OR SMALLER) (ALL TYPES)	$ 6,530.00	EA	13	$ 84,890.00	$ -	$ 84,890.00
MANHOLES (FOR 48" TO 72" DIA. PIPE) (ALL TYPES)	$ 6,530.00	EA	17	$ 111,010.00	$ -	$ 111,010.00
24-inch RCP	$ 118.00	LF	3914	$ 461,793.00	$ -	$ 461,793.00
36-inch RCP	$ 185.00	LF	883	$ 163,355.00	$ -	$ 163,355.00
48-inch RCP	$ 258.00	LF	722	$ 186,157.32	$ -	$ 186,157.32
60-inch RCP	$ 515.00	LF	607	$ 312,605.00	$ -	$ 312,605.00
96-inch RCP	$ 752.00	LF	10283	$ 7,732,816.00	$ -	$ 7,732,816.00
108-inch RCP	$ 876.00	LF	3790	$ 3,320,040.00	$ -	$ 3,320,040.00
5'x9' RCB	$ 731.00	LF	2536	$ 1,853,684.42	$ -	$ 1,853,684.42
5'x10' RCB	$ 876.00	LF	1016	$ 890,016.00	$ -	$ 890,016.00
10'x10' RCB	$ 1,339.00	LF	1454	$ 1,947,120.24	$ -	$ 1,947,120.24
TRENCH SAFETY SYSTEM	$ 2.00	LF	3648	$ 7,296.00	$ -	$ 7,296.00
Sanitary Sewer						
Sanitary Sewer Manholes	$ 4,326.00	EA	17	$ 73,542.00	$ -	$ 73,542.00
Abandon Existing Sanitary Sewer Manhole (All Types)	$ 1,633.00	EA	17	$ 27,761.00	$ -	$ 27,761.00
Abandon Existing Sanitary Sewer Pipe (All Types)	$ 62.00	EA	20	$ 1,240.00	$ -	$ 1,240.00
8" PVC Sanitary Open Cut	$ 124.00	LF	4329	$ 536,796.00	$ -	$ 536,796.00
10" PVC Sanitary Open Cut	$ 165.00	LF	1426	$ 235,245.45	$ -	$ 235,245.45
12" PVC Sanitary Open Cut	$ 185.00	LF	1720	$ 318,157.45	$ -	$ 318,157.45
6" Service Leads	$ 124.00	LF	2975	$ 368,900.00	$ -	$ 368,900.00
Service Stub and Connection to back lot services	$ 5,150.00	EA	17	$ 87,550.00	$ -	$ 87,550.00

Water						
8-inch Water Line	$ 103.00	LF	10884	$ 1,121,070.54	$ -	$ 1,121,070.54
12-inch Water Line	$ 144.00	LF	4277	$ 615,834.72	$ -	$ 615,834.72
3/4 - 1" Long Side	$ 1,545.00	EA	82	$ 126,690.00	$ -	$ 126,690.00
3/4 - 1" Short Side	$ 855.00	EA	132	$ 112,860.00	$ -	$ 112,860.00
Wet Connections	$ 3,708.00	EA	10	$ 37,080.00	$ -	$ 37,080.00
Cut, Plug and Abandon Existing 6" Water Line	$ 937.00	EA	18	$ 16,866.00	$ -	$ 16,866.00
Remove and Salvage Fire Hydrants	$ 412.00	EA	17	$ 7,004.00	$ -	$ 7,004.00
Fire Hydrants Assembly	$ 5,562.00	EA	33	$ 183,546.00	$ -	$ 183,546.00
Basic Items						
Traffic Control and regulation	$ 300,000.00	LS	1	$ 300,000.00	$ -	$ 300,000.00
Flagmen	$ 100,000.00	LS	1	$ 100,000.00	$ -	$ 100,000.00
Tree Protection	$ 600,000.00	LS	1	$ 600,000.00	$ -	$ 600,000.00
Placement of Permanent Signs	$ 30,000.00	LS	1	$ 30,000.00	$ -	$ 30,000.00
TPDES Requirement & Implementation of Stormwater Pollution Prevention Plan	$ 50,000.00	LS	1	$ 50,000.00	$ -	$ 50,000.00
Mobilization (5%)						$ 1,379,490.67
Total Construction						**$ 28,969,304.06**
Contingency (30%)						$ 8,690,791.22
Engineering Fee (Design, Bidding, Survey, Geotechnical, Constructioh Phase Services) (15%)						$ 5,649,014.29
Administrative Costs (Delivery) (6%)						$ 2,259,605.72
Environmental Investigation and Permitting (6%)						$ 2,259,605.72
TOTAL	$ 1,128,147.00			$ 27,589,813.39	$ -	$ 47,828,321.01

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

2. Identify and explain any special engineering activities.

Date:	
Phone Number:	

Seal

Signature of Registered Engineer/Architect Responsible For Budget Justification: