

#### LEGEND

- XPSWMM Nodes Proposed Conditions
- XPSWMM Links Proposed Conditions
- XPSWMM Nodes Existing Conditions
- XPSWMM Links Existing Conditions
- XPSWMM 2D Flow Lines
- Proposed Detention Pond Area
- ▨ 2D Model Inactive Areas

#### LIDAR Based Contours

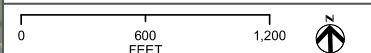
- 1-ft
- 5-ft
- 10-Yr 2D Inundation Depth Alt 3
- 10-Yr 2D Inundation Depth Ex

DATA SOURCES: TNRS, USGS, FEMA, ESRI, BING

DISCLAIMER: Topographic map information was compiled from the best available sources. No warranty is made for the accuracy or completeness.

#### DOWNINGS ST DRAINAGE IMPROVEMENTS PRELIMINARY ENGINEERING REPORT 10-Year Inundation Map Existing VS Alternative 3

Planning-Level not intended for Construction/Permitting



		Jul. 2020	ExhibitA15







**TABLE C3: OPINIONS OF PROBABLE CONSTRUCTION COST ESTIMATE FOR ALTERNATIVE :**  
**CITY OF ANGLETON, TEXAS**  
**DOWNING STREET DRAINAGE IMPROVEMENTS PROJECT**

ITEM NO.	DESCRIPTION OF ITEM AND UNIT PRICES (IN WORDS)	EST. QUAN.	UNIT	UNIT PRICE	AMOUNT
	<b>GENERAL ITEMS</b>				
1	Traffic Control, including Flagmen, Signs, Barrels, Barricades, Arrow Boards, Maintaining All Weather Access to Traffic, Temporary Transitions from Proposed Pavement to Existing Pavement, Relocating Existing Mailboxes and Traffic Signs, and Temporary Mailboxes complete in place, the sum of:	1	LS	\$ 150,000.00	\$ 150,000.00
2	Easement acquisition from private property	19.6	AC.	\$ 424,000.00	\$ 424,000.00
	<b>TOTAL GENERAL ITEMS</b>				<b>\$ 574,000.00</b>
	<b>PAVING ITEMS</b>				
3	Remove and dispose of existing concrete pavement with base material and curbs, complete in place, the sum of:	60000	S.Y.	\$ 10.00	\$ 600,000.00
4	7" reinforced concrete pavement, complete in place, the sum of:	60000	S.Y.	\$ 66.00	\$ 3,960,000.00
5	8" lime stabilized subgrade, complete in place, the sum of:	66100	S.Y.	\$ 5.00	\$ 330,500.00
6	Lime for stabilized subgrade (7% by dry weight), complete in place, the sum of:	1910	TON	\$ 200.00	\$ 382,000.00
7	Remove and replace with 6" concrete driveway, complete in place, the sum of:	1000	S.Y.	\$ 80.00	\$ 80,000.00
8	Proposed curb ramp, complete in place, the sum of:	400	S.F.	\$ 30.00	\$ 12,000.00
9	Remove existing curb ramp, complete in place, the sum of:	400	S.F.	\$ 10.00	\$ 4,000.00
10	Proposed concrete walkway/sidewalk, all widths (4" thick), complete in place, the sum of:	7350	S.F.	\$ 7.00	\$ 51,450.00
11	Remove existing walkway/sidewalk, all widths, complete in place, the sum of:	7350	S.F.	\$ 3.00	\$ 22,050.00
12	Standard 6" curb, complete in place, the sum of:	2320	L.F.	\$ 5.00	\$ 11,600.00
13	Standard undercut pavement header, including expansion joint per City Details, complete in place, the sum of:	52	L.F.	\$ 30.00	\$ 1,560.00
	<b>TOTAL PAVING ITEMS</b>				<b>\$ 5,455,160.00</b>
	<b>DRAINAGE ITEMS</b>				
14	Remove existing storm sewer pipe or culvert, all sizes, complete in place, the sum of:	820	L.F.	\$ 40.00	\$ 32,800.00
15	Remove existing inlet, all types, complete in place, the sum of:	8	EA.	\$ 790.00	\$ 6,320.00
16	Swale and/or ditch regrading, including cut and fill as required to provide positive drainage per plans, complete in place, the sum of:	820	L.F.	\$ 15.00	\$ 12,300.00
17	Furnish and install 24-in RCP, ASTM C76, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place, the sum of:	830	L.F.	\$ 155.00	\$ 128,650.00
18	Furnish and install 36-in RCP, ASTM C76, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place, the sum of:	240	L.F.	\$ 165.00	\$ 39,600.00
19	Furnish and install 48-in RCP, ASTM C76, Class III storm sewer, rubber gasket joints, all depths, cement stabilized sand bedding and backfill, complete in place, the sum of:	750	L.F.	\$ 250.00	\$ 187,500.00
20	Jack, bore, and tunnel three-5'x4' precast reinforced box culvert, all depths, cement stabilized sand bedding and backfill, complete in place, the sum of:	100	L.F.	\$ 3,500.00	\$ 350,000.00
21	Furnish and install 5'x4' precast reinforced box culvert, all depths, cement stabilized sand bedding and backfill, complete in place, the sum of:	3560	L.F.	\$ 250.00	\$ 890,000.00
22	Furnish and install 8'x5' precast reinforced box culvert, all depths, cement stabilized sand bedding and backfill, complete in place, the sum of:	1560	L.F.	\$ 690.00	\$ 1,076,400.00
23	Furnish and install 13'x5' junction box, all depths, complete in place, the sum of:	2	EA.	\$ 55,000.00	\$ 110,000.00
24	Manway on box culvert, complete in place, the sum of:	24	L.F.	\$ 2,000.00	\$ 48,000.00
25	Furnish and install 20'x5' utility conflict box at 10" sanitary sewer crossing, all depths, complete in place, the sum of:	2	EA.	\$ 65,000.00	\$ 130,000.00
26	Furnish and install B-B inlet, all depths, complete in place, the sum of:	2748	EA.	\$ 3,400.00	\$ 9,343,200.00
27	Furnish and install E inlet, all depths, complete in place, the sum of:	6300	EA.	\$ 4,000.00	\$ 25,200,000.00
28	Trench Safety for storm sewer, all depths, complete in place, the sum of:	7040	L.F.	\$ 1.00	\$ 7,040.00
29	Clearing of proposed easements, complete in place, the sum of:	19.6	AC.	\$ 18,000.00	\$ 352,800.00
30	Detention pond excavation, complete in place, the sum of:	20000	C.Y.	\$ 15.00	\$ 300,000.00
31	Backslope swales, complete in place, the sum of:	900	L.F.	\$ 15.00	\$ 13,500.00
32	Backslope interceptor structure, including pipe, bedding and backfill, complete in place, the sum of:	4	EA.	\$ 9,000.00	\$ 36,000.00
33	5" thick reinforced concrete pilot channel, including toe wall, complete in place, the sum of:	9	S.Y.	\$ 100.00	\$ 900.00
34	5" thick reinforced concrete slope protection at pipe outfall, including toe wall, complete in place, the sum of:	2	LS	\$ 5,000.00	\$ 10,000.00
35	Hydromulch in detention pond, complete in place, the sum of:	19.6	AC.	\$ 2,300.00	\$ 45,080.00
	<b>TOTAL DRAINAGE ITEMS</b>				<b>\$ 38,320,090.00</b>
	<b>UTILITY ITEMS</b>				
36	Furnish and install 12-in PVC C-900 DR18 water line, all fittings, by open-cut construction as shown on plans, complete in place, the sum of:	20	L.F.	\$ 125.00	\$ 2,500.00
37	Furnish and install 8-in PVC C-900 DR18 water line, all fittings, by open-cut construction as shown on plans, complete in place, the sum of:	20	L.F.	\$ 80.00	\$ 1,600.00
38	Furnish and install 6-in PVC C-900 DR18 water line, all fittings, by open-cut construction as shown on plans, complete in place, the sum of:	20	L.F.	\$ 75.00	\$ 1,500.00
39	12-inch diameter wet connection, complete in place, the sum of:	2	EA.	\$ 2,500.00	\$ 5,000.00
40	8-inch diameter wet connection, complete in place, the sum of:	2	EA.	\$ 2,000.00	\$ 4,000.00
41	6-inch diameter wet connection, complete in place, the sum of:	2	EA.	\$ 1,400.00	\$ 2,800.00
42	12-inch cut, plug & abandon, complete in place, the sum of:	2	EA.	\$ 1,000.00	\$ 2,000.00
43	8-inch cut, plug & abandon, complete in place, the sum of:	2	EA.	\$ 850.00	\$ 1,700.00
44	6-inch cut, plug & abandon, complete in place, the sum of:	2	EA.	\$ 700.00	\$ 1,400.00
45	Trench Safety for water line, all depths, complete in place, the sum of:	60	L.F.	\$ 1.00	\$ 60.00
46	Remove and replace 10" sanitary sewer with PVC (SDR 26 Class 160), including full circle single clamp couplings, bedding, backfill and cleanout where applicable, all depths, complete in place, the sum of:	60	L.F.	\$ 115.00	\$ 6,900.00
47	Remove and replace 8" sanitary sewer with PVC (SDR 26 Class 160), including full circle single clamp couplings, bedding, backfill and cleanout where applicable, all depths, complete in place, the sum of:	20	L.F.	\$ 105.00	\$ 2,100.00
48	18" steel casing on 10" sanitary sewer, all depths, complete in place, the sum of:	60	L.F.	\$ 275.00	\$ 16,500.00
49	16" steel casing on 8" sanitary sewer, all depths, complete in place, the sum of:	20	L.F.	\$ 225.00	\$ 4,500.00
50	Trench Safety for sanitary sewer, all depths, complete in place, the sum of:	80	L.F.	\$ 1.00	\$ 80.00



**TABLE C3: OPINIONS OF PROBABLE CONSTRUCTION COST ESTIMATE FOR ALTERNATIVE 3  
CITY OF ANGLETON, TEXAS  
DOWNING STREET DRAINAGE IMPROVEMENTS PROJECT**

ITEM NO.	DESCRIPTION OF ITEM AND UNIT PRICES (IN WORDS)	EST. QUAN.	UNIT	UNIT PRICE	AMOUNT
	<b>TOTAL UTILITY ITEMS</b>				<b>\$ 50,140.00</b>
	<b><u>TREE PROTECTION ITEMS</u></b>				
51	Tree removal, clearance pruning, tree protection fencing, root pruning trench, zero curb cutback, and checkerplates, complete in place, the sum of:	1	LS	\$ 35,000.00	\$ 35,000.00
	<b>TOTAL TREE PROTECTION ITEMS</b>				<b>\$ 35,000.00</b>
	<b>BID SUMMARY</b>				
	<b>GENERAL ITEMS</b>				\$ 574,000.00
	<b>PAVING ITEMS</b>				\$ 5,416,261.28
	<b>DRAINAGE ITEMS</b>				\$ 3,859,453.77
	<b>UTILITY ITEMS</b>				\$ 52,640.00
	<b>TREE PROTECTION ITEMS</b>				\$ 35,000.00
	<b>TOTAL BASE BID AMOUNT</b>				<b>\$ 9,937,355.05</b>
	<b>35% CONTINGENCY</b>				\$ 3,478,074.27
	<b>TOTAL OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE</b>				<b>\$ 13,415,429.32</b>
	<b>SERVICE FEE</b>				
	<b>GEOTECHNICAL</b>				\$ 22,000.00
	<b>URBAN FORESTRY</b>				\$ 15,000.00
	<b>ENVIRONMENTAL</b>				\$ 60,000.00
	<b>TRAFFIC CONTROL</b>				\$ 25,000.00
	<b>STORM WATER POLLUTION PROTECTION PLAN</b>				\$ 15,000.00
	<b>TOPOGRAPHIC SURVEY</b>				\$ 77,880.00
	<b>METES &amp; BOUNDS SURVEY</b>				\$ 25,000.00
	<b>SUE SERVICES</b>				\$ 15,000.00
	<b>TXDOT COORDINATION</b>				\$ 20,000.00
	<b>DESIGN PHASE</b>				\$ 874,500.00
	<b>BID PHASE</b>				\$ 8,000.00
	<b>CONSTRUCTION ADMINISTRATION</b>				\$ 249,200.00
	<b>CONSTRUCTION OBSERVATION (HALF TIME)</b>				\$ 177,800.00
	<b>TOTAL PROJECT COST ESTIMATE</b>				<b>\$ 14,999,809.32</b>

*Any opinion of construction costs prepared by HDR is supplied for the general guidance of the Client only. Since HDR has no control over competitive bidding or market conditions, HDR cannot guarantee the accuracy of such opinions as compared to contract bids or actual costs to Client.*