



TEDSI INFRASTRUCTURE GROUP
Consulting Engineers
 1201 East Expressway 83 • Mission, Texas 78572
 Tel: (956) 424-7898
 Fax: (956) 424-7022

January 23, 2012
 Project No: 2010-1052-01
Invoice No: 2011831-A

Mr. Godfrey Garza, Jr., CFM
 Hidalgo County Drainage District No. 1
 902 North Doolittle Road
 Edinburg, TX 78542

Project 2010-1052-01 HCMDS Phase II - J-09 Lateral Drain Ditch

Design and Right of Way Mapping of HCMDS Phase II - J-09 Lateral Drain Ditch
Work Authorization No. 1
P. O. No. 636565

Professional Services from April 01, 2011 to December 31, 2011

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing
Engineering Services	661,400.00	100.00	661,400.00	661,400.00	0.00
Engineering Services-Supple 3	8,562.04	0.00	0.00	0.00	0.00
Basic Topography Services	188,000.00	100.00	188,000.00	188,000.00	0.00
Control Points and Benchmarks	75,000.00	90.00	67,500.00	67,500.00	0.00
ROW Parcels Donated	73,500.00	100.00	73,500.00	73,500.00	0.00
ROW Parcels Purchased	150,000.00	75.00	75,000.00	75,000.00	0.00
Geotechnical	45,000.00	54.00	24,300.00	0.00	24,300.00
Construction Field Staking	24,059.00	20.00	4,811.80	0.00	4,811.80
Total Fee	1,225,521.04		1,094,511.80	1,065,400.00	29,111.80
		Total Fee			29,111.80

Billing Summary	Current	Prior	To-Date
Total Billings	29,111.80	1,065,400.00	1,094,511.80
Total Fee			1,225,521.04
Remaining Fee			131,009.24

Total this Invoice

\$ 29,111.80
bbjps

cc: Commissioner Joseph Palacios

PLEASE SUBMIT PAYMENT TO
TEDSI Infrastructure Group
 10260 Westheimer, Suite 460
 Houston, Texas 77042

Authorized By: *Mark W. Luper* Date: 1.23.12
 Mark W. Luper, P.E., RPLS
 Executive Vice President

HIDALGO COUNTY

MAY 17 2012
 DRAINAGE DISTRICT #1



TEDSI INFRASTRUCTURE GROUP

Consulting Engineers
 1201 East Expressway 83 ♦ Mission, Texas 78572
 Tel: (956) 424-7898
 Fax: (956) 424-7022

January 23, 2012
 Project No: 2010-1052-01
Invoice No: 2011831-B

Mr. Godfrey Garza, Jr., CFM
 Hidalgo County Drainage District No. 1
 902 North Doolittle Road
 Edinburg, TX 78542

Project 2010-1052-01 HCMDS Phase II - J-09 Lateral Drain Ditch

**Design and Right of Way Mapping of HCMDS Phase II - J-09 Lateral Drain Ditch
 Work Authorization No. 1
 P. O. No. 636565**

Professional Services from April 01, 2011 to December 31, 2011

Billing Phase	Fee	Percent Complete	Earned	Previous Fee Billing	Current Fee Billing
Engineering Services	661,400.00	100.00	661,400.00	661,400.00	0.00
Engineering Services-Supple 3	8,562.04	0.00	0.00	0.00	0.00
Basic Topography Services	188,000.00	100.00	188,000.00	188,000.00	0.00
Control Points and Benchmarks	75,000.00	90.00	67,500.00	67,500.00	0.00
ROW Parcels Donated	73,500.00	100.00	73,500.00	73,500.00	0.00
ROW Parcels Purchased 15 Parcels @ \$5,000.00/Parcel Parcels 46 - 60	150,000.00	100.00	150,000.00	75,000.00	75,000.00
Geotechnical	45,000.00	54.00	24,300.00	24,300.00	00.00
Construction Field Staking	24,059.00	20.00	4,811.80	4,811.80	00.00
Total Fee	1,225,521.04		1,169,511.80	1,094,511.80	75,000.00

Billing Summary	Current	Prior	To-Date
Total Billings	75,000.00	1,094,511.80	1,169,511.80
Total Fee			1,225,521.04
Remaining Fee			56,009.24

Total this Invoice

\$ 75,000.00

cc: Commissioner Joseph Palacios

PLEASE SUBMIT PAYMENT TO
 TEDSI Infrastructure Group
 10260 Westheimer, Suite 460
 Houston, Texas 77042

Authorized By:  Date: 1.23.12
 Mark W. Luper, P.E., RPLS
 Executive Vice President

HIDALGO COUNTY

MAY 17 2012
 DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-1
Structure J-09 Drain
Station
Offset

District Pharr
Date 11/30/11
Grnd. Elev. 0.00 ft
GW Elev. N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties			Additional Remarks
				Lateral Press. (psf)	Deviator Stress (psf)	MC	LL	PI	
5		18 (8) 24 (6)	SAND, clayey sand, brown to light brown, medium dense to very dense, dry (small gravel frags from 5-10ft) (SC)			6.7	28	11	%-200 = 27.4%
-10	10	50 (3) 50 (2)	SAND, poorly graded sand w/ clay, pale brown, very dense, dry			4.8			%-200 = 38.0%
-15	15	50 (2.5) 50 (1)	CLAY, lean clay, brown, hard, moist (Cl)			9.6	37	17	%-200 = 6.5%
-20	20	50 (3) 50 (1.5)				16.1	42	21	

SUBJECT TO REVISION

Remarks: No water strike was encountered during the drilling operation. A second water reading was measured 24hrs after completion, however, no evidence of water was recorded. (28° 22.027' N, 98° 16.759' W)

The ground water elevation was not determined during the course of this boring.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory
HIDALGO COUNTY

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MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-2
Structure J-09 Drain
Station
Offset

District Pharr
Date 11/30/11
Grnd. Elev. 0.00 ft
GW Elev. -8.50 ft

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Deviator Press. (psf)	Stress (psf)	MC	LL	PI	Wet Den. (pcf)	
5		6 (6) 6 (6)	CLAY, sandy lean clay, brown to light brown, soft to stiff, dry to moist (CL)			12.8	37	20		%-200 = 58.5%
-10. 10		14 (6) 34 (6)	CLAY, sandy fat clay, light brown, hard to very stiff, wet (CH)			23.4				%-200 = 63.0%
15		40 (6) 50 (4)				38.0	67	37		
-20. 20		17 (6) 30 (6)				44.5	85	44		%-200 = 70.1%

PRELIMINARY
SUBJECT TO REVISION

Remarks: During the drilling operation a water strike was measured at 8.6ft below nat. ground. A second water reading was measured 24hrs after completion at 5.2ft (Cave In at 6.1ft) (26° 21.976' N, 98° 16.457' W)

Any ground water elevation information provided on this boring log is representative of conditions existing on the day and for the specific location where this information was collected. The actual groundwater elevation may fluctuate due to time, climatic conditions, and/or construction activity.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory

HIDALGO COUNTY

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MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-3
Structure J-09 Drain
Station
Offset

District Pharr
Date 11/30/11
Grnd. Elev. 0.00 ft
GW Elev. -10.00 ft

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties			Additional Remarks
				Lateral Deviator Press. (psf)	Stress (psf)	MC	LL	PI	
-5		3 (6) 4 (6)	SAND, clayey sand, dark brown, very loose, dry (SC)						
						13.2			%-200 = 44.6%
-10		8 (6) 10 (6)	CLAY, sandy lean clay, dark brown, medium stiff, moist (CL)			18.7	39	22	%-200 = 55.0%
						25.4	41	24	
-15		50 (1) 50 (1)							
						55.2	37	19	%-200 = 59.8%
-20		50 (1) 50 (1)							

PRELIMINARY
SUBJECT TO REVISION

Remarks: During the drilling operation a water strike was measured at 10.0ft below nat. ground. A second water reading was measured 24hrs after completion, however the boring caved in above the water level. (26° 21.928' N, 98° 16.090' W)

Any ground water elevation information provided on this boring log is representative of conditions existing on the day and for the specific location where this information was collected. The actual groundwater elevation may fluctuate due to time, climatic conditions, and/or construction activity.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory
HIDALGO COUNTY

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MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-4
Structure J-09 Drain
Station
Offset

District Pharr
Date 11/30/11
Grnd. Elev. 0.00 ft
GW Elev. N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Press. (psi)	Deviator Stress (psi)	MC	LL	PI	Wet Den. (pcf)	
5		9 (8) 8 (8)	SAND, clayey sand, dark brown, loose, dry to moist (SC)			10.6	28	12		
-10		3 (8) 5 (8)	CLAY, sandy lean clay, light brown, hard, moist (CL)			14.7				%-200 = 49.4%
-15		50 (8) 80 (3)	CLAY, fat clay, brown, stiff, moist (CH)			15.9	36	17		%-200 = 54.7%
-20		18 (8) 18 (8)				22.9	75	51		

PRELIMINARY SUBJECT TO REVISION

Remarks: No water strike was encountered during the drilling operation. A second water reading was measured 24hrs after completion that showed water at 13.2ft (Cave in at 15.2ft) (26° 21.911' N, 98° 15.836' W)

The ground water elevation was not determined during the course of this boring.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory
HIDALGO COUNTY

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MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
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DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-8
Structure J-O9 Drain
Station
Offset

District Pharr
Date 12/2/11
Grnd. Elev. 0.00 ft
GW Elev. N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Press. (psi)	Deviator Stress (psi)	MC	LL	PI	Wet Den. (pcf)	
5		4 (6) 4 (6)	CLAY, sandy lean clay, dark brown, soft to medium stiff, dry (CL)			11.6	24	11		
-10. 10		10 (6) 13 (6)	CLAY, fat clay w/ sand, brown, hard, moist (CH)			16.7				%-200 = 54.3%
15		27 (6) 32 (6)				28.5	119	87		
-20. 20		50 (3) 50 (2)				21.8				%-200 = 70.7%

PRELIMINARY
SUBJECT TO REVISION

Remarks: No water strike was encountered during the drilling operation. A second water reading was measured 24hrs after completion that showed water at 9.0ft (Cave In at 10.75ft) (26° 21.879' N, 98° 14.658' W)

The ground water elevation was not determined during the course of this boring.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory

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MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-7
Structure J-09 Drain
Station
Offset

District Pharr
Date 12/2/11
Grnd. Elev. 0.00 ft
GW Elev. N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Press. (psi)	Deviator Stress (psi)	MC	LL	PI	Wet Den. (pcf)	
-5.5		12 (6) 13 (6)	SAND, clayey sand, light brown, medium dense, dry (SC)							
-5.5			CLAY, sandy lean clay, greyish brown, medium stiff, moist (CL)			6.6	31	16		%-200 = 42.3%
-10.0		12 (6) 12 (6)	CLAY, sandy fat clay, greyish brown, very stiff to hard, moist (CH)			27.6	43	26		
-15.0		23 (6) 30 (6)				33.4				%-200 = 61.7%
-20.0		34 (6) 44 (6)				32.5	97	70		%-200 = 67.5%

PRELIMINARY
SUBJECT TO REVISION

Remarks: No water strike was encountered during the drilling operation. A second water reading was measured 24hrs after completion that showed water at 7.97ft (Cave in at 12.6ft) (26° 21.734' N, 98° 13.689' W)

The ground water elevation was not determined during the course of this boring.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory

HIDALGO COUNTY

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MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-9
Structure J-09 Drain
Station
Offset

District Pharr
Date 12/2/11
Grnd. Elev. 0.00 ft
GW Elev. -13.00 ft

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Press. (psi)	Deviator Stress (psi)	MC	LL	PI	Wet Den. (pcf)	
5		1 (6) 1 (6)	SAND, clayey sand, dark brown, very loose to medium dense, moist (SC)			20.3	30	14		%-200 = 47.4%
-10		13 (6) 10 (6)	CLAY, sandy lean clay, light brown, hard, wet (CL)			24.3	33	18		
15		50 (3) 50 (4)				38.3	40	28		%-200 = 58.7%
20										%-200 = 64.6%

PRELIMINARY
SUBJECT TO REVISION

Remarks: During the drilling operation a water strike was measured at 13.0ft below nat. ground. A second water reading was measured 24hrs after completion at 4.67ft (Cave In at 7.5ft) (26° 21.719' N, 98° 12.481' W)

Any ground water elevation information provided on this boring log is representative of conditions existing on the day and for the specific location where this information was collected. The actual groundwater elevation may fluctuate due to time, climatic conditions, and/or construction activity.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-10
Structure J-09 Drain
Station
Offset

District Pharr
Date 12/2/11
Grnd. Elev. 0.00 ft
GW Elev. -10.00 ft

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties			Additional Remarks
				Lateral Press. (psf)	Deviator Stress (psf)	MC	LL	PI	
-5.6		2 (6) 3 (8)	CLAY, sandy lean clay, brown, very soft, moist (CL)						
			CLAY, sandy fat clay, brown to light brown, medium stiff to hard, moist to wet (CH)			24.2	36	21	
10		10 (8) 12 (8)				24.8	52	35	%-200 = 60.3%
15		50 (5.5) 50 (3)				25.8	54	34	%-200 = 66.5%
20		44 (6) 50 (3.5)							%-200 = 64.6%

PRELIMINARY
SUBJECT TO REVISION

Remarks: During the drilling operation a water strike was measured at 10.0ft below nat. ground. A second water reading was measured 24hrs after completion at 5.1ft (Cave in at 12.2ft) (26° 21.742' N, 98° 12.214' W)

Any ground water elevation information provided on this boring log is representative of conditions existing on the day and for the specific location where this information was collected. The actual groundwater elevation may fluctuate due to time, climatic conditions, and/or construction activity.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-12
Structure J-09 Drain
Station
Offset

District Pharr
Date 12/3/11
Grnd. Elev. 0.00 ft
GW Elev. N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Deviator Press. Stress (psf)	Stress (psf)	MC	LL	PI	Wet Den. (pcf)	
-5.5		5 (6) 6 (8)	SAND, clayey sand, brown, loose, dry (SC)							
-10.0		20 (6) 24 (8)	CLAY, sandy lean clay, brown, stiff, moist (CL)			11.6	32	19		%-200 = 48.2%
-15.0		26 (6) 30 (8)	CLAY, fat clay w/ sand, light brown, hard, moist (CH)			20.0				%-200 = 66.4%
-20.0		32 (6) 50 (4)				17.6	61	44		%-200 = 71.0%
						28.4	70	52		

PRELIMINARY
SUBJECT TO REVISION

Remarks: No water strike was encountered during the drilling operation. A second water reading was measured 24hrs after completion that showed water at 8.0ft (Cave in at 11.8ft) (28° 21.698' N, 98° 11.622' W)

The ground water elevation was not determined during the course of this boring.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory

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HIDALGO COUNTY

MAY 17 2012

DRAINAGE DISTRICT #1



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-13
Structure J-O9 Drain
Station
Offset

District Pharr
Date 12/3/11
Grnd. Elev. 0.00 ft
GW Elev. -17.00 ft

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Press. (psi)	Deviator Stress (psi)	MC	LL	PI	Wet Den. (pcf)	
5		8 (6) 9 (6)	SAND, clayey sand, brown, loose, dry (SC)							
			CLAY, sandy fat clay, light brown, hard, dry to moist (CH)			13.8	35	20		%-200 = 46.7%
10		29 (6) 30 (6)				15.0				%-200 = 69.1%
15		33 (6) 25 (6)				17.2	51	37		%-200 = 64.6%
20		50 (6) 50 (2)				18.9	50	33		

PRELIMINARY
SUBJECT TO REVISION

Remarks: During the drilling operation a water strike was measured at 17.0ft below nat. ground. A second water reading was measured 24hrs after completion at 11.6ft (Cave in at 17.0ft) (26° 21.361' N, 98° 11.078' W)

Any ground water elevation information provided on this boring log is representative of conditions existing on the day and for the specific location where this information was collected. The actual groundwater elevation may fluctuate due to time, climatic conditions, and/or construction activity.

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory



WinCore
Version 3.1

DRILLING LOG

1 of 1

County Hidalgo
Highway N/A
CSJ N/A

Hole B-18
Structure J-09 Drain
Station
Offset

District Pharr
Date 12/3/11
Grnd. Elev. 0.00 ft
GW Elev. N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test		Properties				Additional Remarks
				Lateral Press. (psf)	Deviator Stress (psf)	MC	LL	PI	Wet Den. (pcf)	
5		15 (6) 27 (6)	CLAY, sandy lean clay, brown, stiff, dry (CL)			7.4	38	25		%-200 = 60.5%
-10. 10		23 (6) 27 (6)	CLAY, fat clay w/ sand, light brown, stiff, moist (CH)			9.3				%-200 = 66.7%
15		14 (6) 18 (6)				18.6	58	40		%-200 = 77.0%
-20. 20		20 (6) 23 (6)				20.1	56	39		

Remarks: No water strike was encountered during the drilling operation. A second water reading was measured 24hrs after completion that showed water at 18.75ft (Cave In at 20.0ft) (26° 21.383' N, 98° 10.544' W)

The ground water elevation was not determined during the course of this boring.

SUBJECT TO REVISION

Driller: J. Garcia

Logger: L&G Lab

Organization: L&G Engineering Laboratory

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HIDALGO COUNTY

MAY 17 2012

DRAINAGE DISTRICT #1