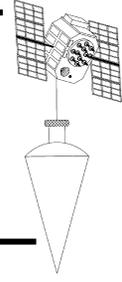


STRONG SURVEYING, LLC

Email: curtis@strongsurveying.com

1722 Broadmoor Ste. 105
Bryan, Texas 77802
Phone: (979) 776 – 9836
Fax: (979) 731 – 0096



Surveyor's Report

Strong Surveying, LLC was contracted by Brazos County Road and Bridge Engineering Department to add 3 stable permanent horizontal and vertical benchmarks strategically placed throughout the county for the purpose of building upon the existing county network by adding control in outlying areas. The three permanent monuments consist of a 9/16" stainless steel rod driven to refusal with a brass disk set on top. The locations of each monument are as follows:

- 1) BM 1000 – Located at the entrance gate of the BTU Power Plant located on Louis Mikulin Road.
- 2) BM 1001 – Located at the Brazos County Ferrill Creek Material Yard.
- 3) BM 1002 – Located at the Brazos County Kathy Fleming Material Yard.

Brazos County Road and Bridge also set Brass disk Monuments on the deck of the following bridges in which we established (GPS) horizontal and vertical control:

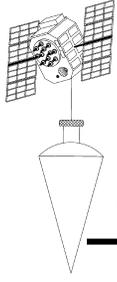
- 1) Peach Creek Rd. Bridge (Brazos County Bridge 199-001)
- 2) Grassbur Rd. Bridge (Brazos County Bridge 164-001)
- 3) Kurten Cemetery Rd. Bridge (Brazos County Bridge 138-001)
- 4) Ferrill Creek Rd. Bridge (Brazos County Bridge 120-001)
- 5) Alexander Rd. Bridge (Brazos County Bridge 106-001)
- 6) Dick Elliott Rd. Bridge (Brazos County Bridge ???)

An old USGS monument in downtown Bryan named Bryan Reset was also checked for horizontal and vertical control along with the NGS SMETANA Monument held fixed for horizontal and vertical. These two stations also provided a check between the Brazos County and City of Bryan Monument systems.

Each of these eleven monuments was observed for a minimum of two 2 hour increments, with at least 2 setups per monument. Along with these eleven monuments several City of College Station Monuments were observed within the overall closure to check the horizontal and vertical differences between systems.

The raw files were post processed and incorporated into a series of closures by utilizing the National geodetic Survey (NGS) Continuously Operating Reference Stations (CORS) 2011 as fixed horizontal and vertical stations into the closure.

The overall final closures were very good, yielding on average 0.03 ft horizontal and 0.05 ft. vertical error within the entire series of closures. The NGS Monument SMETANA checked very well horizontally and vertically and was considered fixed. The City of College Station monuments checked very well horizontally with some slight varied discrepancies in the vertical component possibly due to differences in the VERTCON adjustment.



STRONG SURVEYING, LLC

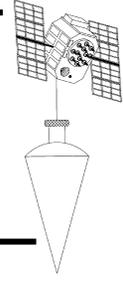
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Surveyor's Report Continued

This data was surveyed and prepared based on control monuments that may be subject to future adjustments by the National Geodetic Survey. It is in the best interest of all parties utilizing this data to ALWAYS make checks on other control points before using the data. Control points have a tendency to become disturbed and/or settle. While extreme care was used in the surveying of these monuments, no expressed or implied warranties are made by Strong Surveying, LLC as to accuracy, completeness, reliability or suitability of the control points. These control points were derived based on other control points (CORS Stations) determined by NGS and were in no way checked by Strong Surveying, LLC for horizontal and vertical accuracy. The vertical components of these monuments are based on GPS Solutions and have not been field checked by differential leveling procedures.

Strong Surveying, LLC



Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Dick Elliot Road B-233-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set in concrete on deck of bridge on Dick Elliot Road.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 50' 21.60302" N	ORTHO HGT.:	110.44 m.
LONGITUDE:	96° 23' 52.67409" W	EL HGT.:	84.109 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10290838.124 Ft.	NORTH (Y) COORDINATE:	3136653.733 m.
EAST (X) COORDINATE:	3531330.117 Ft.	EAST (X) COORDINATE:	1076351.572 m.
CONVERGENCE=	2° 01' 37.01"		
COMBINED SCALE FACTOR=	0.99987252		

G.P.S. ELEVATION =	362.34 Ft.	NAVD-88	110.44 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Dick Elliot Road B-233-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

Station Sketch

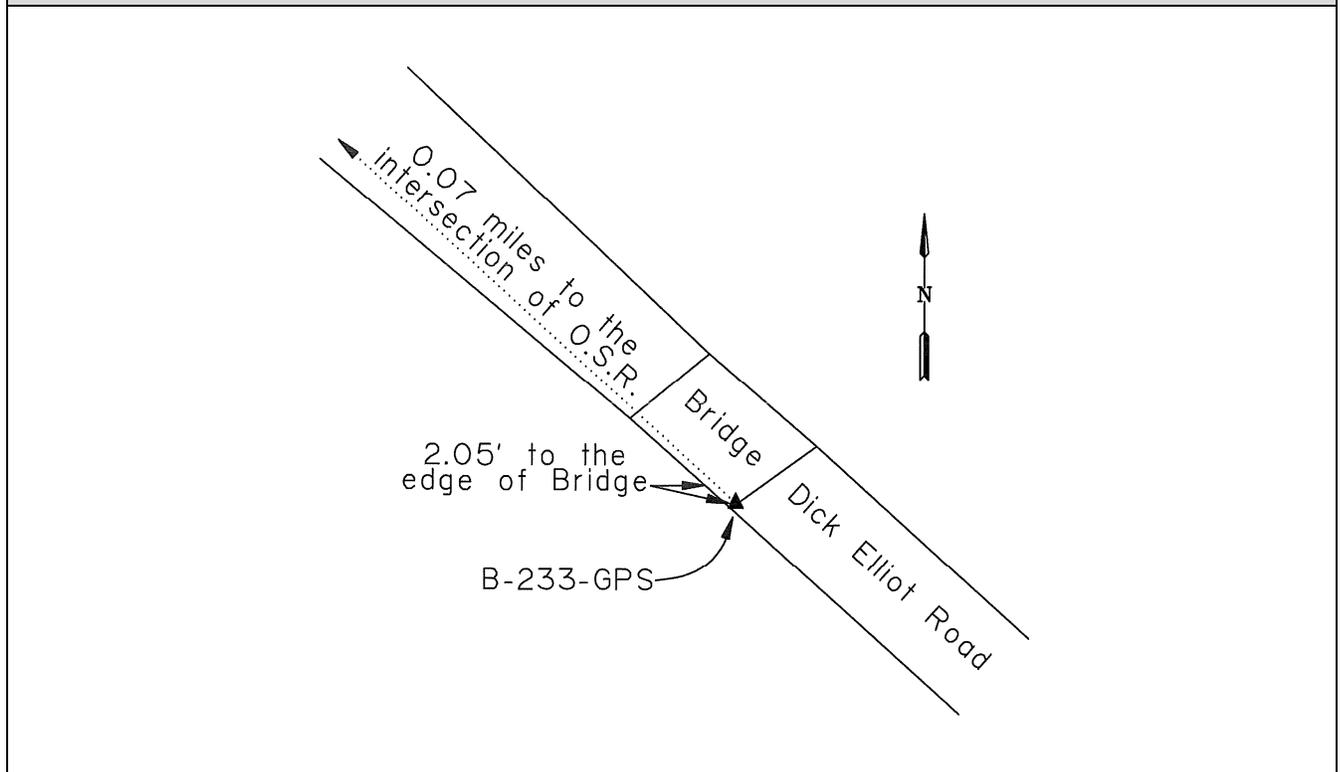
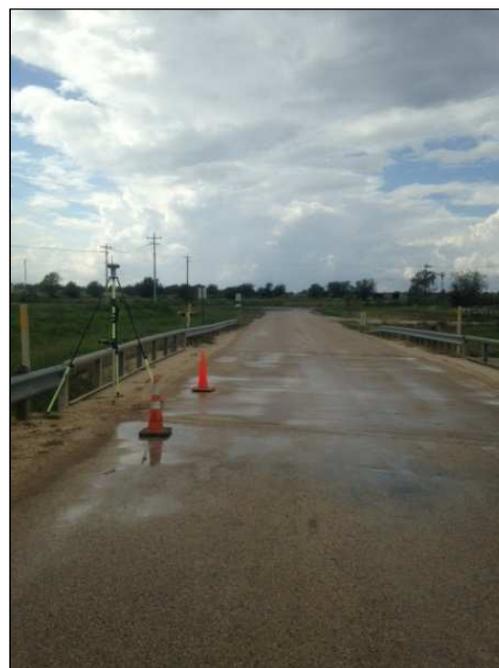


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Ferrill Creek Material Yard BM 1001	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set on 9/16" stainless steel rod driven to refusal.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 51' 14.78876" N	ORTHO HGT.:	95.542 m.
LONGITUDE:	96° 18' 24.04799" W	EL HGT.:	69.140 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10297232.736 Ft.	NORTH (Y) COORDINATE:	3138602.815 m.
EAST (X) COORDINATE:	3559764.554 Ft.	EAST (X) COORDINATE:	1085018.406 m.
CONVERGENCE=	2° 04' 26.27"		
COMBINED SCALE FACTOR=	0.99987417		

G.P.S. ELEVATION =	313.46 Ft.	NAVD-88	95.542 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Ferrill Creek Material Yard BM 1001	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

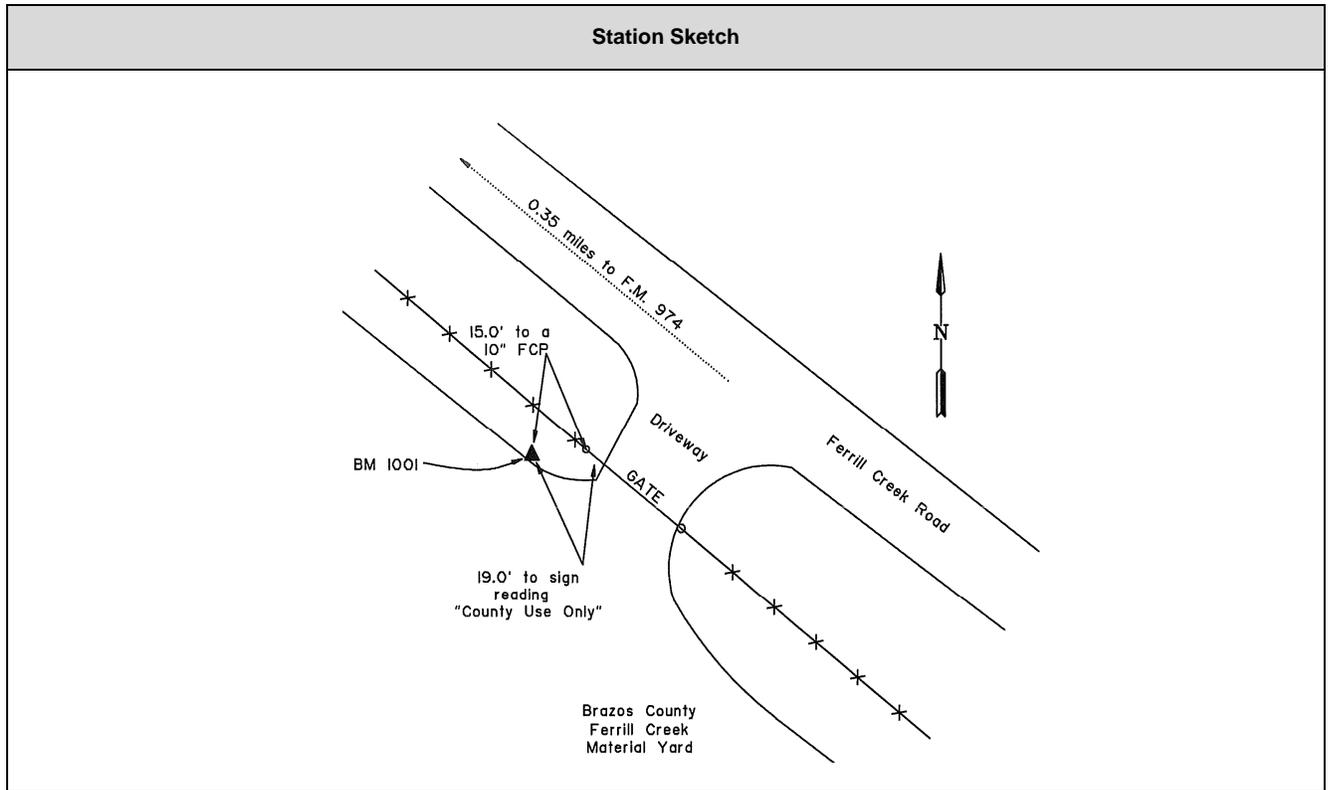


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Ferrill Creek Bridge B-201-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set in concrete on deck of bridge.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 50' 41.54403" N	ORTHO HGT.:	86.58 m.
LONGITUDE:	96° 17' 24.69282" W	EL. HGT.:	60.150 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10294063.974 Ft.	NORTH (Y) COORDINATE:	3137636.975 m.
EAST (X) COORDINATE:	3565056.549 Ft.	EAST (X) COORDINATE:	1086631.410 m.
CONVERGENCE=	2° 04' 56.84"		
COMBINED SCALE FACTOR=	0.99987601		

G.P.S. ELEVATION =	284.05 Ft.	NAVD-88	86.58 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Ferrill Creek Bridge B-201-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

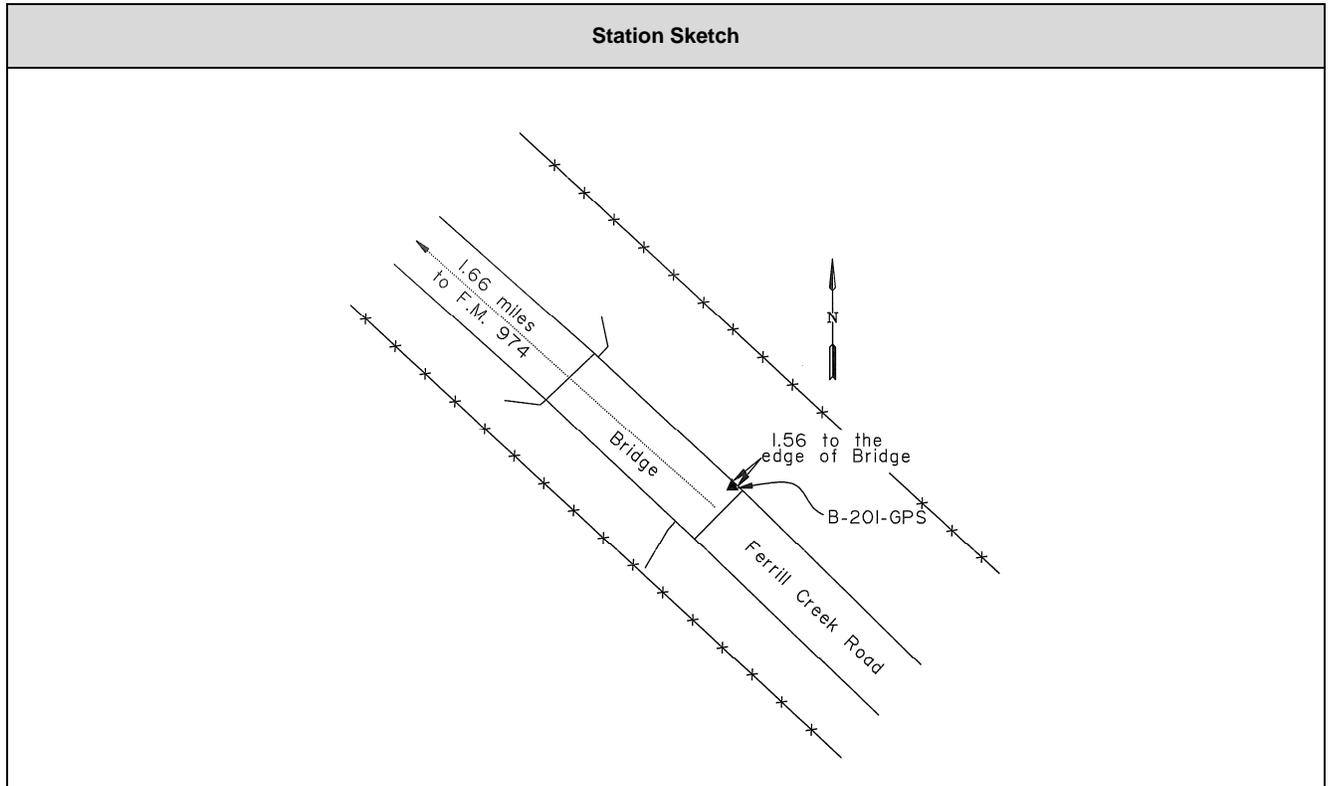


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Kurten Cemetery Road Bridge B-229-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set in concrete on deck of bridge.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 46' 24.33919" N	ORTHO HGT.:	91.809 m.
LONGITUDE:	96° 18' 12.85834" W	EL HGT.:	65.31 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10267944.410 Ft.	NORTH (Y) COORDINATE:	3129675.716 m.
EAST (X) COORDINATE:	3561801.923 Ft.	EAST (X) COORDINATE:	1085639.398 m.
CONVERGENCE:	2° 04' 32.03"		
COMBINED SCALE FACTOR:	0.99987936		

G.P.S. ELEVATION:	301.21 Ft.	NAVD-88:	91.809 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Kurten Cemetery Road Bridge B-229-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

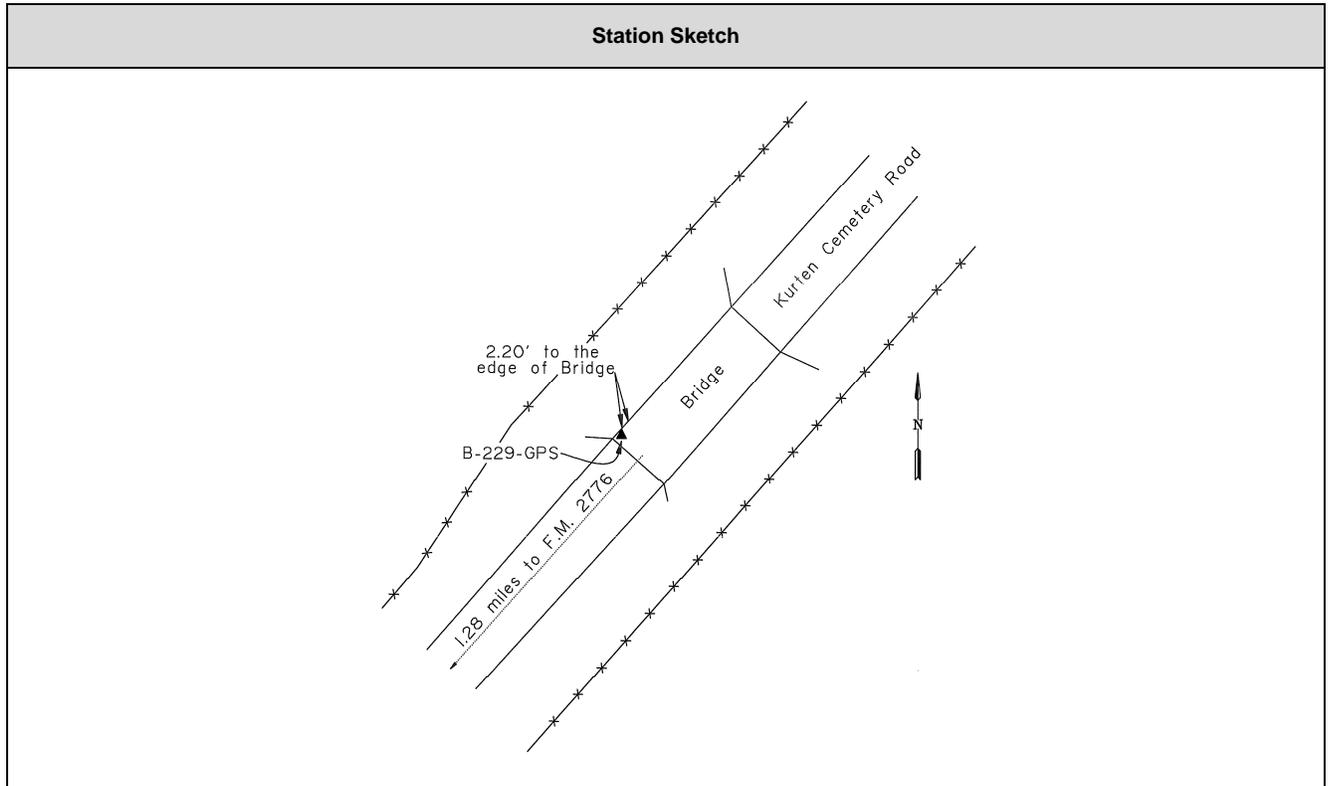


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Grassbur Road Bridge B-237-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set in concrete on deck of bridge.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 43' 29.75799" N	ORTHO HGT.:	83.30 m.
LONGITUDE:	96° 13' 27.29197" W	EL HGT.:	56.669 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10251230.4223 Ft.	NORTH (Y) COORDINATE:	3124581.282 m.
EAST (X) COORDINATE:	3587347.287 Ft.	EAST (X) COORDINATE:	1093425.640 m.
CONVERGENCE:	2° 06' 59.12"		
COMBINED SCALE FACTOR:	0.99988442		

G.P.S. ELEVATION:	273.29 Ft.	NAVD-88:	83.30 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Grassbur Road Bridge B-237-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

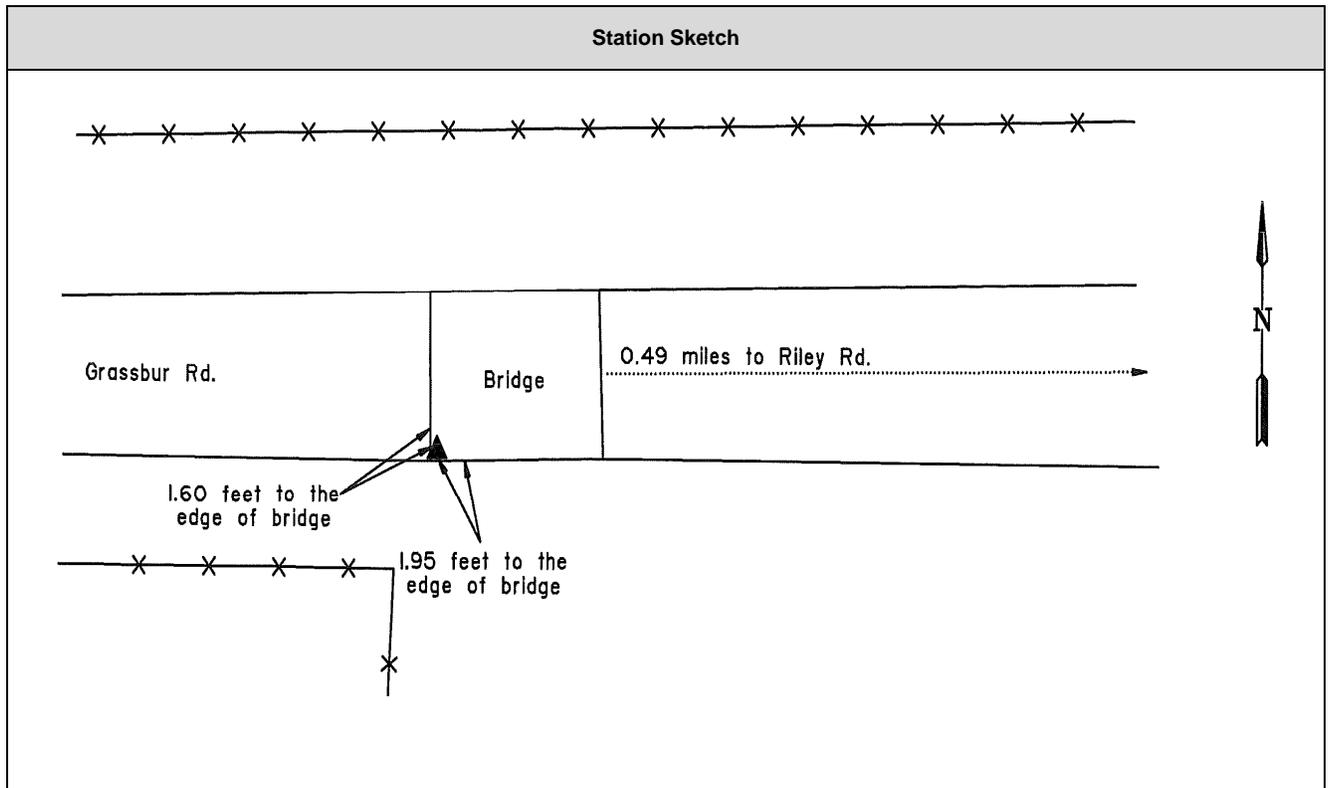


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Peach Creek Road Bridge B-300-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass or aluminum disk set in concrete.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 33' 10.76502" N	ORTHO HGT.:	60.915 m.
LONGITUDE:	96° 11' 11.13513" W	EL HGT.:	33.962 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10189181.267 Ft.	NORTH (Y) COORDINATE:	3105668.662 m.
EAST (X) COORDINATE:	3601553.028 Ft.	EAST (X) COORDINATE:	1097755.559 m.
CONVERGENCE:	2° 08' 09.24"		
COMBINED SCALE FACTOR:	0.99990684		

G.P.S. ELEVATION:	199.85 Ft.	NAVD-88:	60.915 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Peach Creek Road Bridge B-300-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

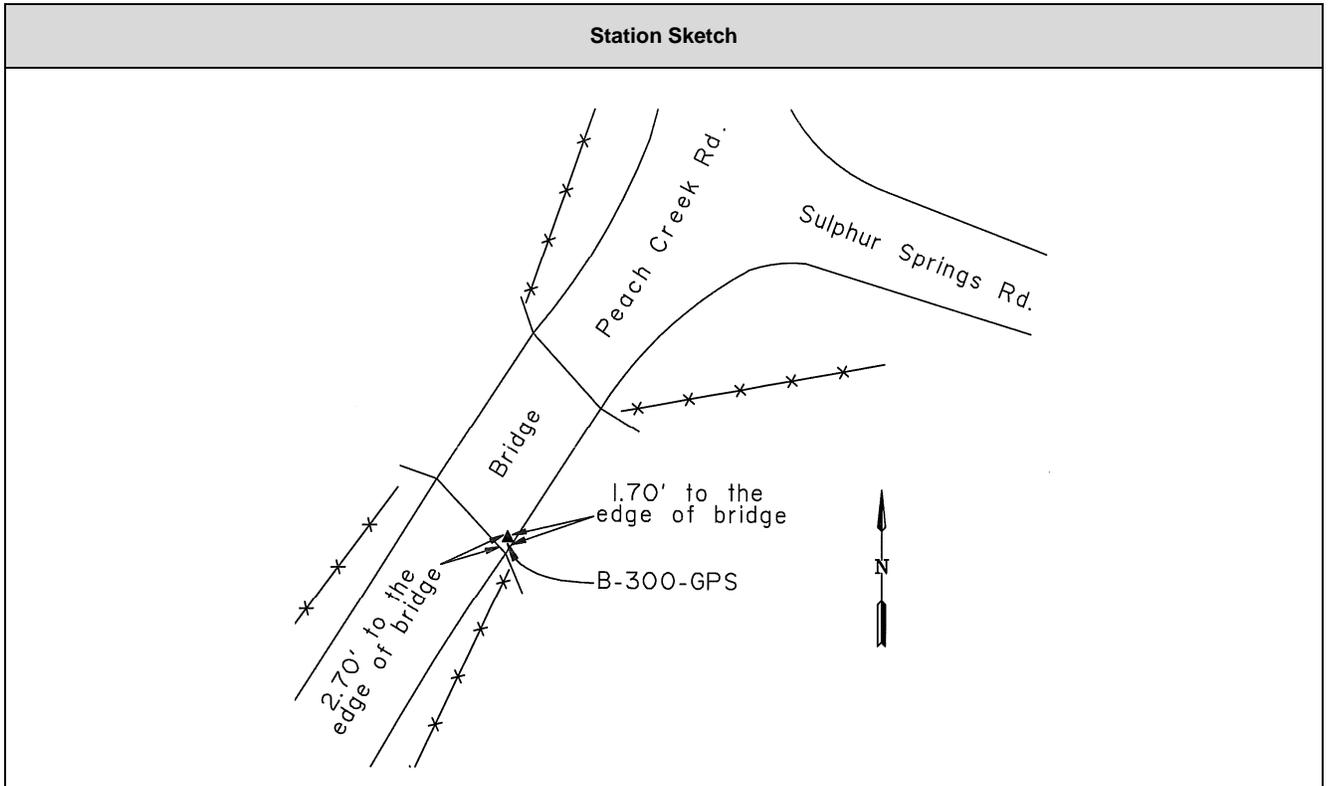


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Kathy Fleming Road BM 1002	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set on 9/16" stainless steel rod driven to refusal.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 28' 24.32036" N	ORTHO HGT.:	97.477 m.
LONGITUDE:	96° 12' 42.31724" W	EL HGT.:	70.419 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10159967.0716 Ft.	NORTH (Y) COORDINATE:	3096764.157 m.
EAST (X) COORDINATE:	3594658.1563 Ft.	EAST (X) COORDINATE:	1095653.997 m.
CONVERGENCE:	2° 07' 22.28"		
COMBINED SCALE FACTOR:	0.99991285		

G.P.S. ELEVATION:	319.81 Ft.	NAVD-88:	97.477 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Kathy Fleming Road BM 1002	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

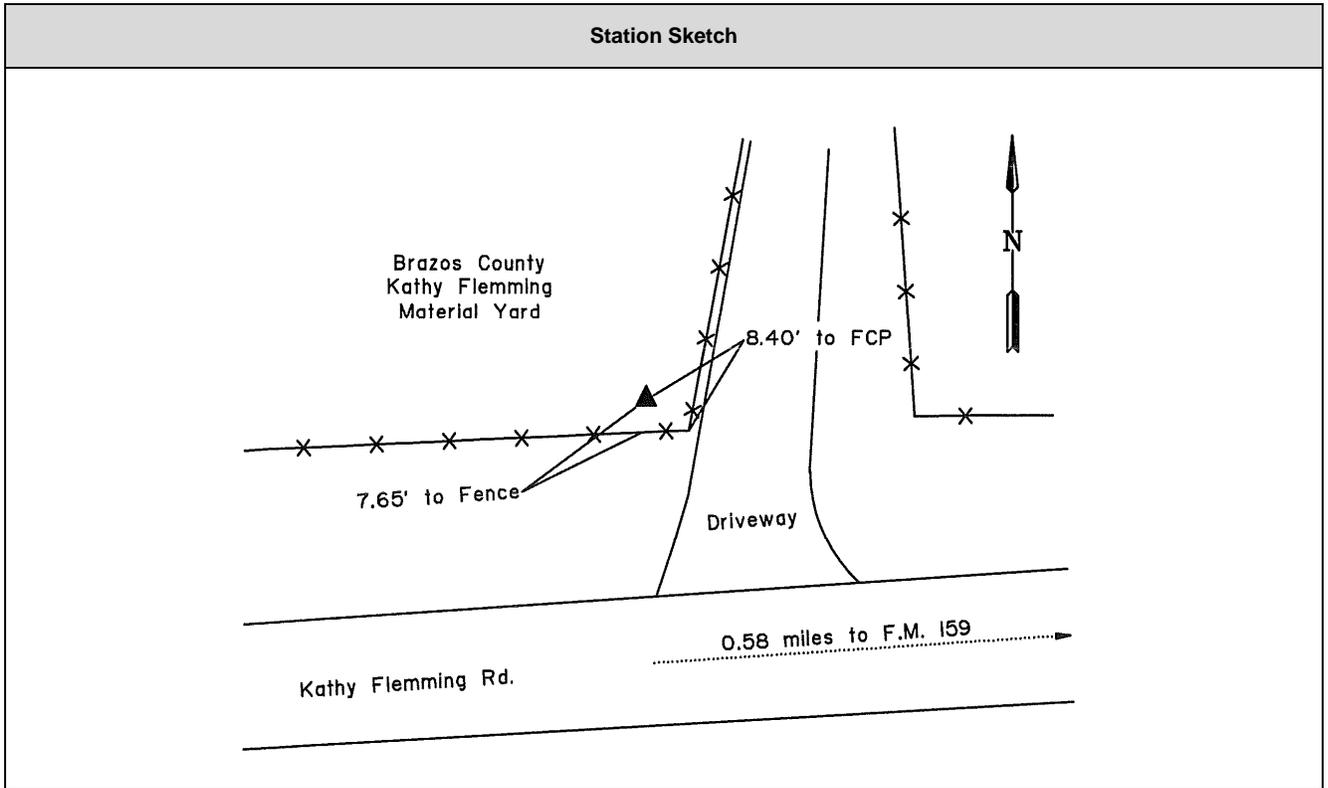


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Alexander Road Bridge B-231-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set in concrete on deck of bridge.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 46' 41.09755" N	ORTHO HGT.:	99.363 m.
LONGITUDE:	96° 22' 36.73414" W	EL HGT.:	72.94 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10268810.262 Ft.	NORTH (Y) COORDINATE:	3129939.628 m.
EAST (X) COORDINATE:	3538737.985 Ft.	EAST (X) COORDINATE:	1078609.495 m.
CONVERGENCE:	2° 02' 16.12"		
COMBINED SCALE FACTOR:	0.99987784		

G.P.S. ELEVATION :	325.99 Ft.	NAVD-88:	99.363 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Alexander Road Bridge B-231-GPS	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

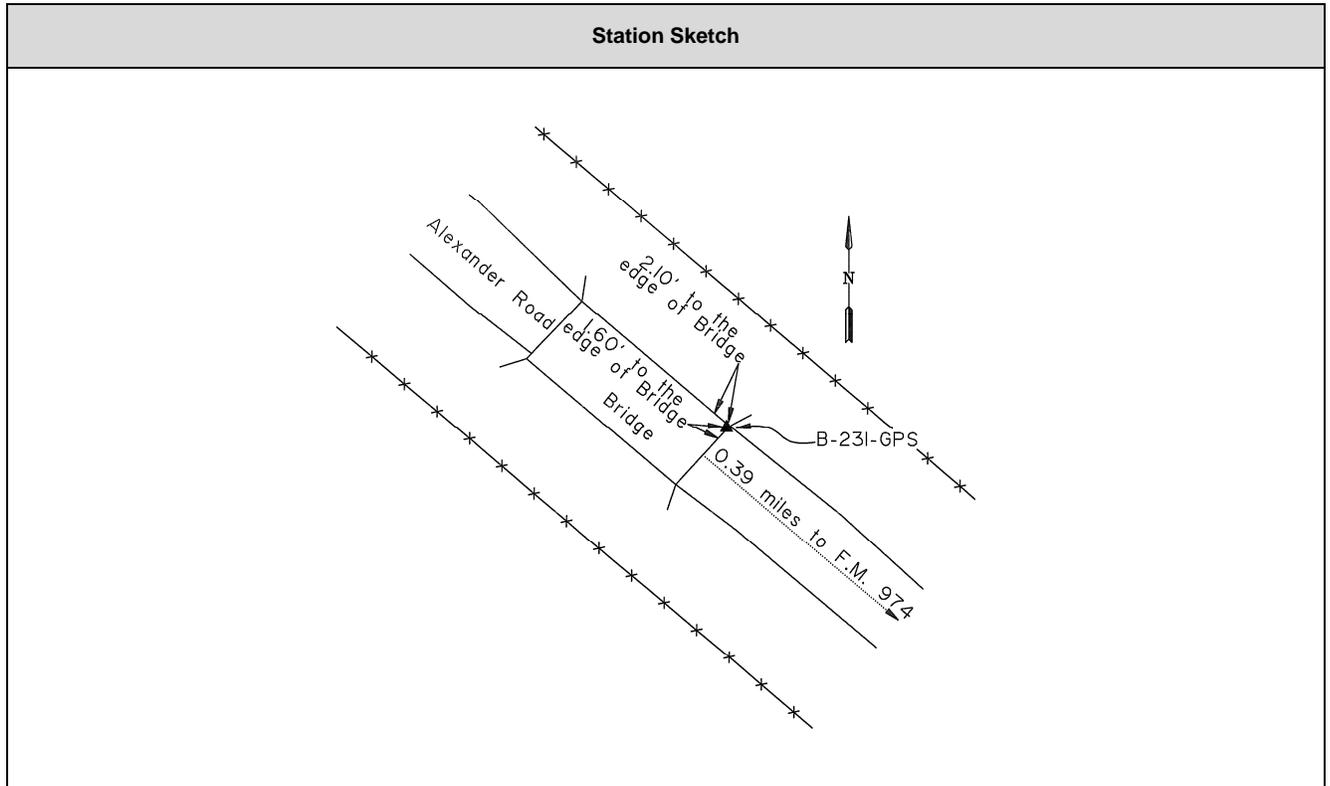


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Louis Mikulin Road BM 1000	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set on 9/16" stainless steel rod driven to refusal.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD-88	VERTICAL
LATITUDE:	30° 43' 19.67144" N	ORTHO HGT.:	110.625 m.
LONGITUDE:	96° 27' 20.23021" W	EL HGT.:	84.197 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10247602.928 Ft.	NORTH (Y) COORDINATE:	3123475.619 m.
EAST (X) COORDINATE:	3514733.617 Ft.	EAST (X) COORDINATE:	1071292.949 m.
CONVERGENCE:	1° 59' 50.10"		
COMBINED SCALE FACTOR:	0.99988033		

G.P.S. ELEVATION:	362.94 Ft.	NAVD-88:	110.625 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
Louis Mikulin Road BM 1000	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

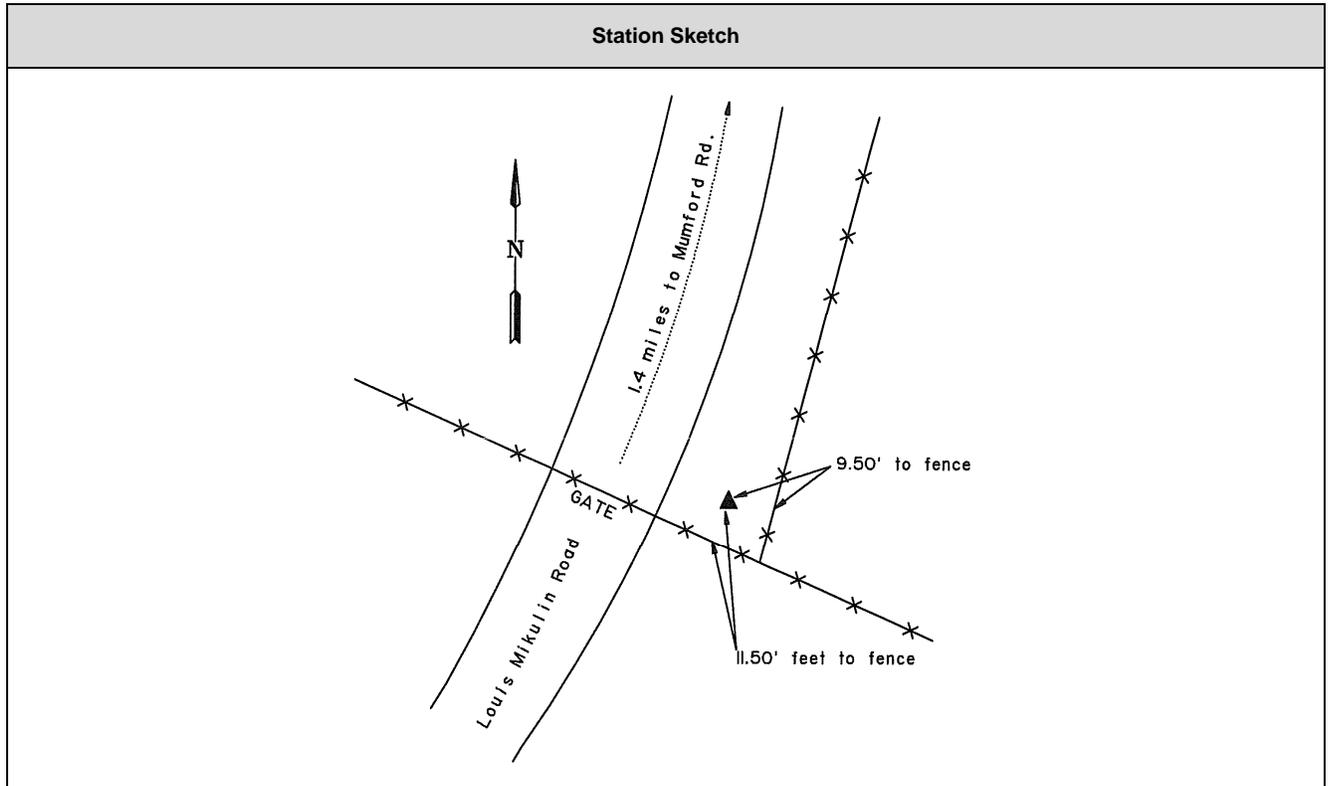


Photo 2-Station Area Picture





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
NGS Bryan Reset	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC
Brass disk set in concrete.		

Horizontal Datum:	NAD-83 (2011)	Vertical Datum:	NAVD
Horizontal Adjustment:	CORS	Vertical Adjustment:	1988
Projection Zone:	Texas Central 4203	Geoid Model Used:	GEOID12A

NAD-83	GEODETIC POSITION	NAVD88	VERTICAL
LATITUDE:	30° 40' 15.48544" N	ORTHO HGT.:	113.032 m.
LONGITUDE:	96° 22' 21.45466" W	EL HGT.:	86.465 m.

NAD-83	TEXAS STATE PLANE COORDINATES CENTRAL ZONE	NAVD-88	TEXAS STATE PLANE COORDINATES CENTRAL ZONE
NORTH (Y) COORDINATE:	10229925.907 Ft.	NORTH (Y) COORDINATE:	3118087.653 m.
EAST (X) COORDINATE:	3541456.682 Ft.	EAST (X) COORDINATE:	1079438.156 m.
CONVERGENCE:	2° 02' 23.99"		
COMBINED SCALE FACTOR:	0.99988469		

G.P.S. ELEVATION:	370.84 Ft.	NAVD-88:	113.032 m.
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Photo 1-Station Detail





Brazos County Road and Bridge Engineering Department

MONUMENT NAME:	DATE ESTABLISHED:	BRAZOS COUNTY, TEXAS
NGS Bryan Reset	SEPT. 2014	SURVEYED BY STRONG SURVEYING, LLC

Station Sketch

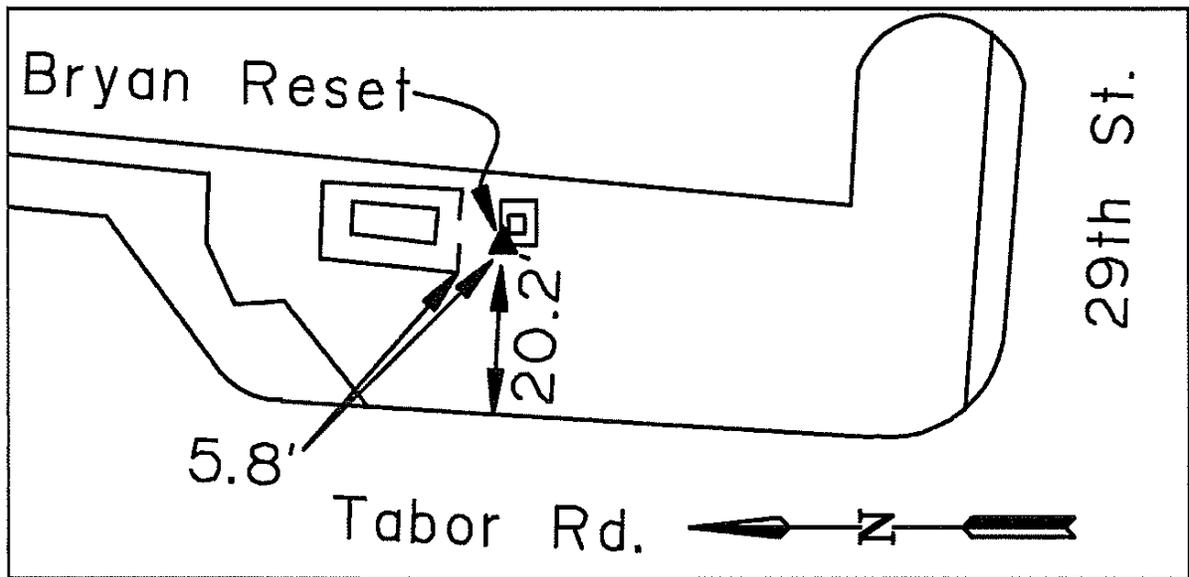


Photo 2-Station Area Picture

