

***Geodetic Control Network
For***

Haltom City, Texas

Surveyed in March 2005

CITY OF



HALTOM CITY

TEAGUE NALL AND PERKINS
INC. CONSULTING ENGINEERS
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Creative Engineering Solutions for Our Communities



1.000144415

- 947.60309 North 9/3

- 284.28093 East 9/4

G.P.S. SURVEY REPORT
GEODETIC CONTROL POINTS 1 to 6
ESTABLISHED BY TEAGUE NALL AND PERKINS
FOR THE CITY OF HALTOM CITY, TEXAS
IN MARCH OF 2005

Geodetic Control Points 1 to 6 were established by the Teague Nall and Perkins Survey Department in the month of March, 2005. The purpose of this project was to establish Geodetic Control on the NAD 83(93) System, for use as control for the City's Comprehensive Storm Water Master Plan, and for use as control for future projects.

The project was preformed using Trimble 4000SSI Receivers and Trimble 5700 Series Receivers. The receivers were logging both L1 and L2 frequencies. Trimble Geomatics Office Version 1.5 was used to process the baselines. All baselines used were either L1 fixed or Iono Free Fixed. The adjustment was preformed using the least squares adjustment in Trimble Geomatics Office Adjustment module.

The City of Haltom City's Geodetic Control Network is based on the N.G.S. Special Order Stations "**Dallas CORS ARP**" and "**Denton CORS ARP**". The Datum used **NAD 83(93)**. The State Plane Coordinates published herein are Texas North Central Zone.

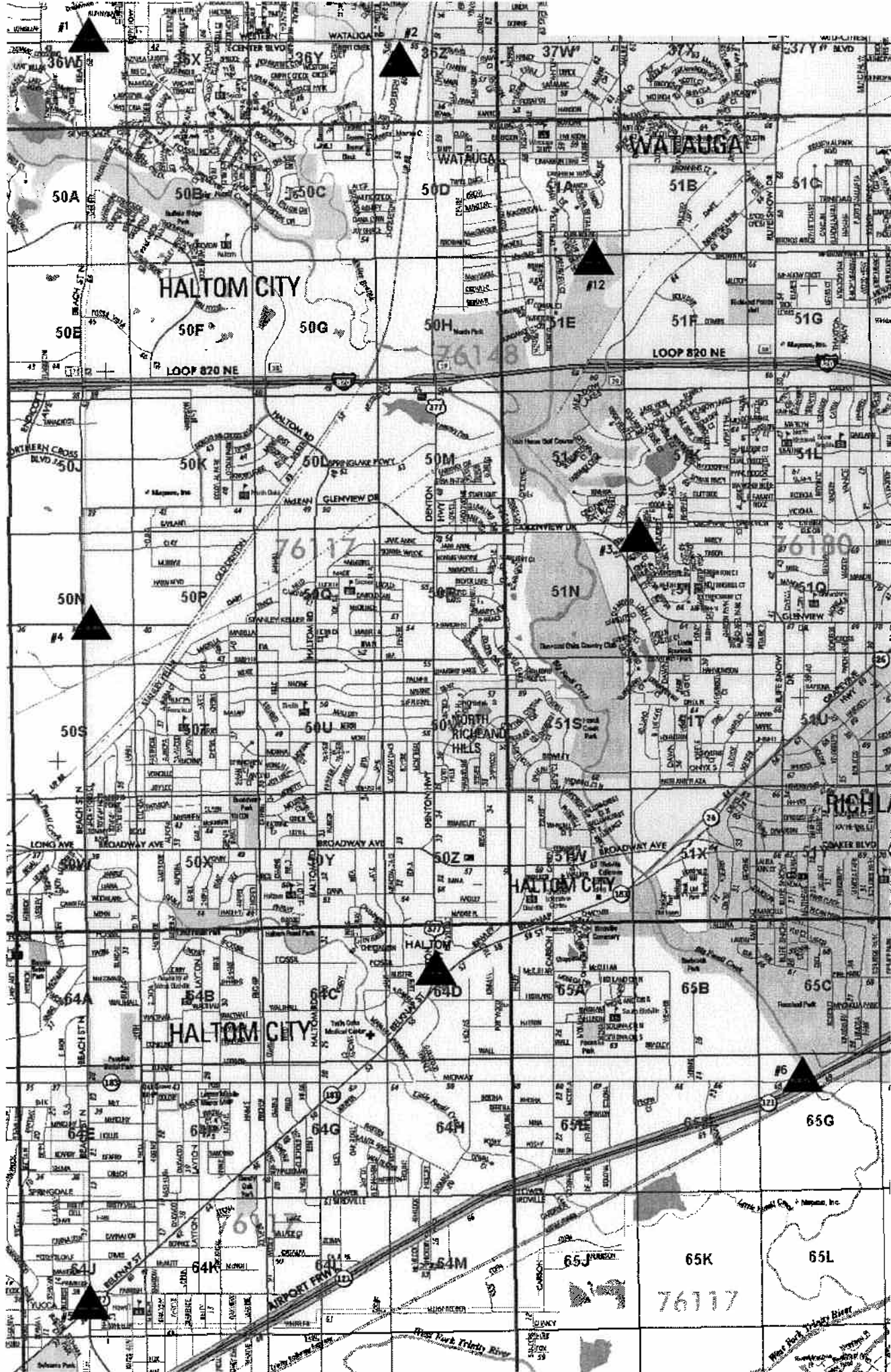
The Vertical Datum published herein is based on the **NAVD 88**. The precision of the data published herein meets and/or exceeds Second Order Accuracy.

BASIS FOR HORIZONTAL POSITION

The positions for the Geodetic Control Network for the City of Haltom City were established using the N.G.S. Special Order Stations "**Dallas CORS ARP**" and "**Denton CORS ARP**". These points were held fixed for Horizontal Positioning on the City of Haltom City's monuments 1 to 6. Precision on horizontal positions for monuments 1 to 6 meets and/or exceeds Second Order Accuracy.

BASIS FOR VERTICAL DATUM

The vertical datum for the Geodetic Control Network for the City of Haltom City was established using the N.G.S. Station "**Haltom**" and North Richland Hills G.P.S. Monument No. 12. These points were held fixed using Static G.P.S. techniques. The precision for the vertical datum on the City of Haltom City's Geodetic Control Network points 1 to 6 meets and/or exceeds Third Order Accuracy.



1

1

Age Group	Total (%)	Female (%)	Male (%)	Unknown (%)
18-24	100	55	45	40
25-34	100	50	50	35
35-44	100	45	55	30
45-54	100	40	60	25
55-64	100	35	65	20
65+	100	30	70	15

7

[illegible]

GEODETIC CONTROL DATA SHEET

STATION NAME: MONUMENT #2		DATE: MARCH 2005	
MONUMENT TYPE: BERNISEN TOP SECURITY W/ACCESS COVER			
CITY: HALTOM CITY	COUNTY: TARRANT	STATE: TX	
SURVEYOR: TEAGUE NALL AND PERKINS		PREPARED BY: MOH	
PROJECT NAME: HALTOM CITY GEODETIC CONTROL NETWORK			
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS			
Surface N = 167°28'31.12" E = 234°10'43.79"			
AZIMUTH MARK		AZIMUTH	
		DISTANCE	

DESCRIPTION OF POINTS:
 THE BERNISEN TOP SECURITY MONUMENT WITH ACCESS COVER IS LOCATED 50' SOUTH OF THE CENTER OF FLIPPO STREET AND 18' EAST OF THE EAST EDGE OF PAVEMENT OF HUDDLESTON STREET.

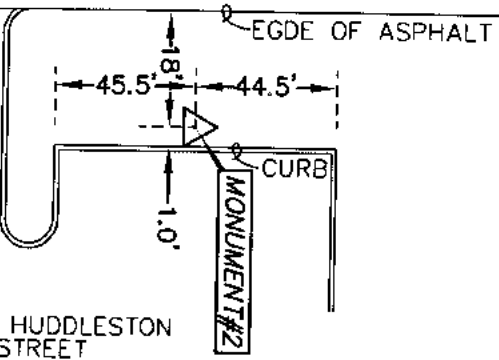
ADJUSTED HORIZONTAL CONTROL DATA			
ORDER: 2ND	SURVEY METHOD: GPS ☒ OTHER ☐		
COMBINED SCALE FACTOR:		0.999848824	
NAD 27 GRID DATA	COORDINATES (U.S. SURVEY FEET)	PLANE AZIMUTH ANGLE (CONVERGENCE)	
STATE: TX ZONE: NC CODE: 4202	N 6997848.5320 E 2347304.8090	00°40'22.29225"	
METRIC CONVERSION FACTOR: 3.2808333333			

GEODETIC DATA	POSITION		NAD 83 (93) ☒	ELEV.(GPS)
	LATITUDE	LONGITUDE		
	32°51'34.12169"	97°15'58.64126"		
			NORTH	614.81'
			WEST	

FIELD SKETCH:

FLIPPO STREET

HUDDLESTON STREET



6120 HUDDLESTON STREET

MAPSCO 36-Z

N.T.S.

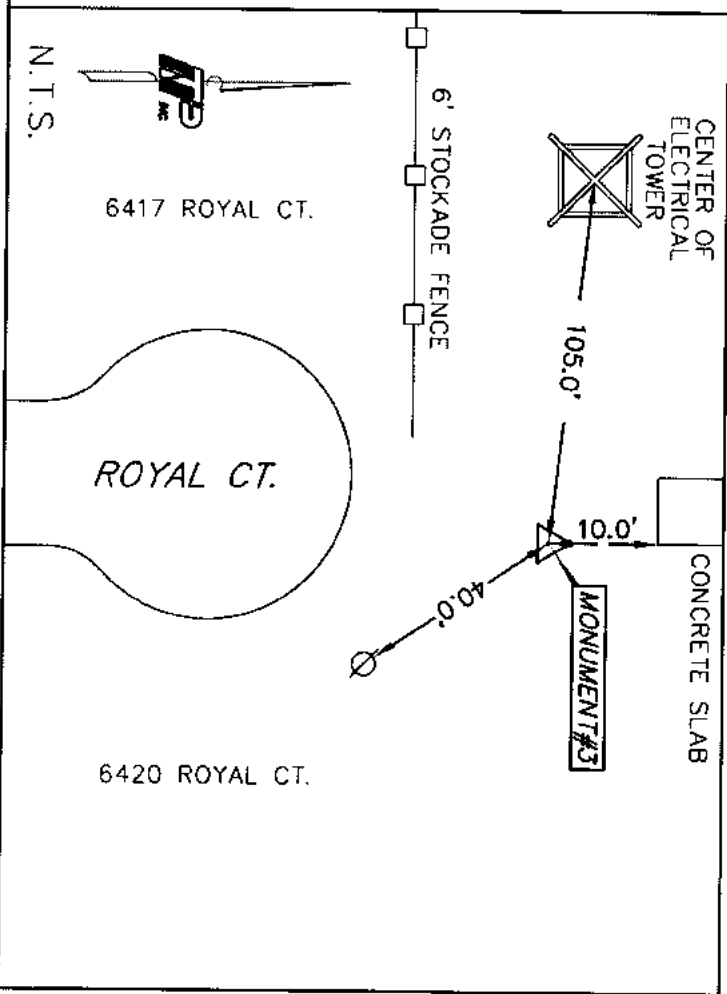
GEODETIC CONTROL DATA SHEET

STATION NAME: MONUMENT #3		DATE: MARCH 2005	
MONUMENT TYPE: BERNITSEN TOP SECURITY W/ACCESS COVER			
CITY: HALTOM CITY	COUNTY: TARRANT	STATE: TX	
SURVEYOR: TEAGUE NALL AND PERKINS		PREPARED BY: MOH	
PROJECT NAME: HALTOM CITY GEODETIC CONTROL NETWORK			
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS			
SURFACE N= 666043.707		UTM E= 745343.707	
AZIMUTH MARK		AZIMUTH	
		DISTANCE	

DESCRIPTION OF POINTS:
 THE BERNITSEN TOP SECURITY MONUMENT WITH ACCESS COVER IS LOCATED NORTH OF ROYAL COURT IN THE OVERHEAD ELECTRIC EASEMENT INLINE WITH THE CENTER OF THE TOWERS AND 105' EAST OF NEARAST TOWER.

ADJUSTED HORIZONTAL CONTROL DATA			
ORDER: 2ND	SURVEY METHOD: GPS ☒ OTHER ☐		
COMBINED SCALE FACTOR: 0.999852966			
NAD 27 GRID DATA	COORDINATES (U.S. SURVEY FEET)	PLANE AZIMUTH ANGLE (CONVERGENCE)	
STATE: TX ZONE: NC CODE: 4202	N 6987007.2990 E 2352813.9250		
METRIC CONVERSION FACTOR: 3.2808333333			
GEODETIC DATA	POSITION	NAD 27 ☐	NAD 83 (93) ☒
LATITUDE	32°49'46.20630"	NORTH	
LONGITUDE	97°14'55.56865"	WEST	
		ELEV.(GPS)	
		567.43'	

FIELD SKETCH:



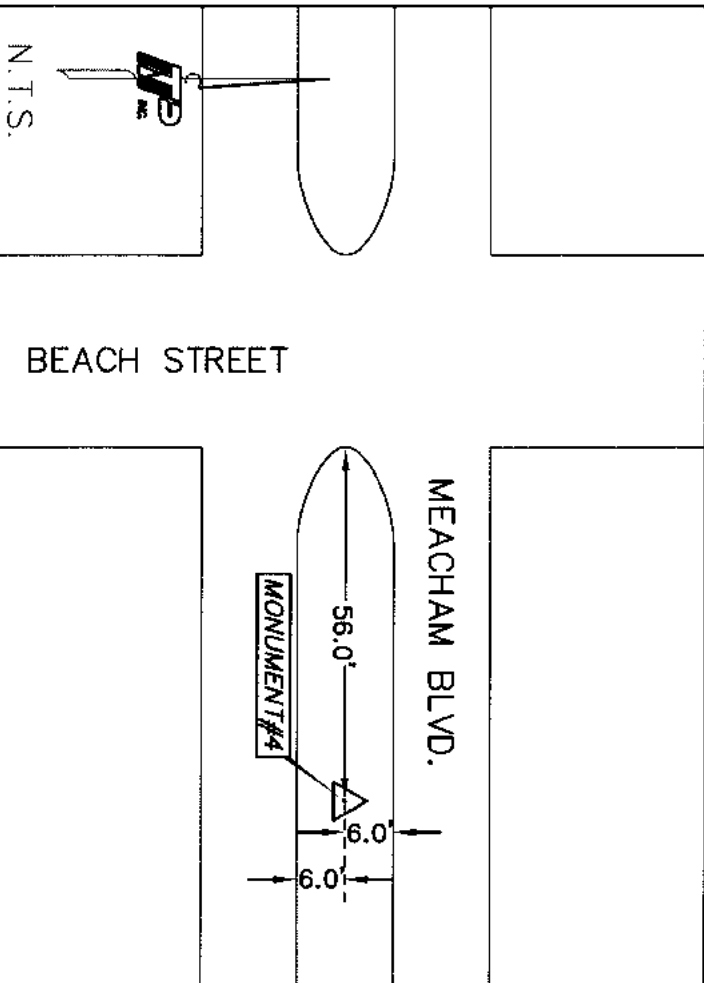
GEODETIC CONTROL DATA SHEET

STATION NAME: MONUMENT #4		DATE: MARCH 2005	
MONUMENT TYPE: BERNITSEN TOP SECURITY W/ACCESS COVER			
CITY: HALTOM CITY	COUNTY: TARRANT	STATE: TX	
SURVEYOR: TEAGUE NALL AND PERKINS		PREPARED BY: MOH	
PROJECT NAME: HALTOM CITY GEODETIC CONTROL NETWORK			
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS			
	Surface No. 10850447.657		
	Control Point 2340455.3108		
AZIMUTH MARK	AZIMUTH	DISTANCE	

DESCRIPTION OF POINTS:
 THE BERNITSEN TOP SECURITY MONUMENT WITH ACCESS COVER IS LOCATED IN THE CENTER MEDIAN OF MEACHAM BLVD. 56' EAST OF NOSE OF MEDIAN AND EAST OF NORTH BEACH STREET.

ADJUSTED HORIZONTAL CONTROL DATA			
ORDER: 2ND	SURVEY METHOD: GPS ☒ OTHER ☐		
COMBINED SCALE FACTOR: 0.999851287			
NAD 27 GRID DATA	COORDINATES (U.S. SURVEY FEET)	PLANE AZIMUTH ANGLE (CONVERGENCE)	
STATE: TX ZONE: NC CODE: 4202	N 6984938.9270 E 2340117.4200		
METRIC CONVERSION FACTOR: 3.2808333333			
GEODETIC DATA	POSITION	NAD 27 ☐	NAD 83 (93) ☒
	LATITUDE 32°49'27.21192"	ELEV.(GPS) 610.05'	
	LONGITUDE 97°17'24.64647"	WEST	

FIELD SKETCH:



GEODETIC CONTROL DATA SHEET

STATION NAME: MONUMENT #5		DATE: MARCH 2005
MONUMENT TYPE: BERNISEN TOP SECURITY W/ACCESS COVER		
CITY: HALTOM CITY	COUNTY: TARRANT	STATE: TX
SURVEYOR: TEAGUE NALL AND PERKINS PREPARED BY: MOH		
PROJECT NAME:		
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS		
Surface N: 0170334.04 Coordinates E: 2340538.326		
AZIMUTH MARK	AZIMUTH	DISTANCE

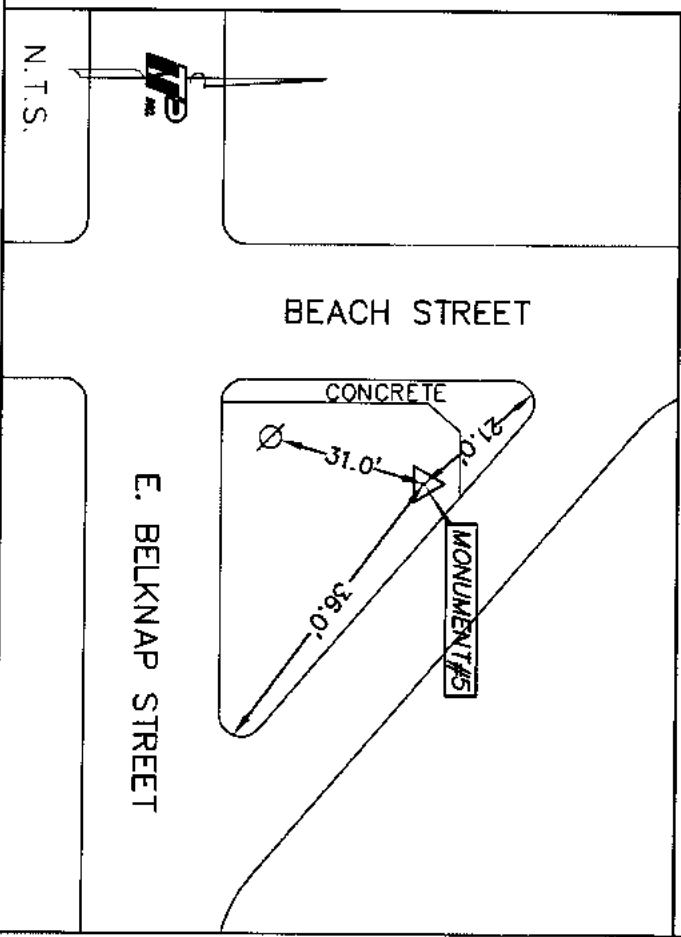
DESCRIPTION OF POINTS:

THE BERNISEN TOP SECURITY MONUMENT WITH ACCESS COVER IS LOCATED IN A TRIANGULAR SHAPED ISLAND AT THE NORTHEAST CORNER OF THE INTERSECTION OF NORTH BEACH STREET AND EAST BELKNAP STREET, 31' NORTH OF A POWER POLE.

ADJUSTED HORIZONTAL CONTROL DATA		
ORDER: 2ND	SURVEY METHOD: GPS ☒ OTHER ☐	
COMBINED SCALE FACTOR: 0.999856904		
NAD 27 GRID DATA	COORDINATES (U.S. SURVEY FEET)	PLANE AZIMUTH ANGLE (CONVERGENCE)
STATE: TX	N	
ZONE: NC	E	
CODE: 4202		
NAD 83 GRID DATA	COORDINATES (U.S. SURVEY FEET)	PLANE AZIMUTH ANGLE (CONVERGENCE)
STATE: TX	N 6969327.5690	
ZONE: NC	E 2340200.3660	00°39'34.76680"
CODE: 4202		
METRIC CONVERSION FACTOR: 3.280833333		

GEODETIC DATA	POSITION	NAD 27 ☐	NAD 83 (93) ☒	ELEV (GPS)
	LATITUDE	32°46'52.73174"	NORTH	560.08
	LONGITUDE	97°17'25.78085"	WEST	

FIELD SKETCH:



MAPSCO 64-J

GEODETIC CONTROL DATA SHEET

STATION NAME: MONUMENT #6		DATE: MARCH 2005		ADJUSTED HORIZONTAL CONTROL DATA	
MONUMENT TYPE: BERNITSEN TOP SECURITY W/ACCESS COVER		ORDER: 2ND		SURVEY METHOD: GPS ☒ OTHER ☐	
CITY: HALTOM CITY	COUNTY: TARRANT	STATE: TX	COMBINED SCALE FACTOR: 0.999858700		
SURVEYOR: TEAGUE NALL AND PERKINS		PREPARED BY: MOH			
PROJECT NAME: HALTOM CITY GEODETIC CONTROL NETWORK					
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS					
SURFACE		NAD 83			
COORDS.		E: 2356824.727			
AZIMUTH MARK		AZIMUTH			
		DISTANCE			

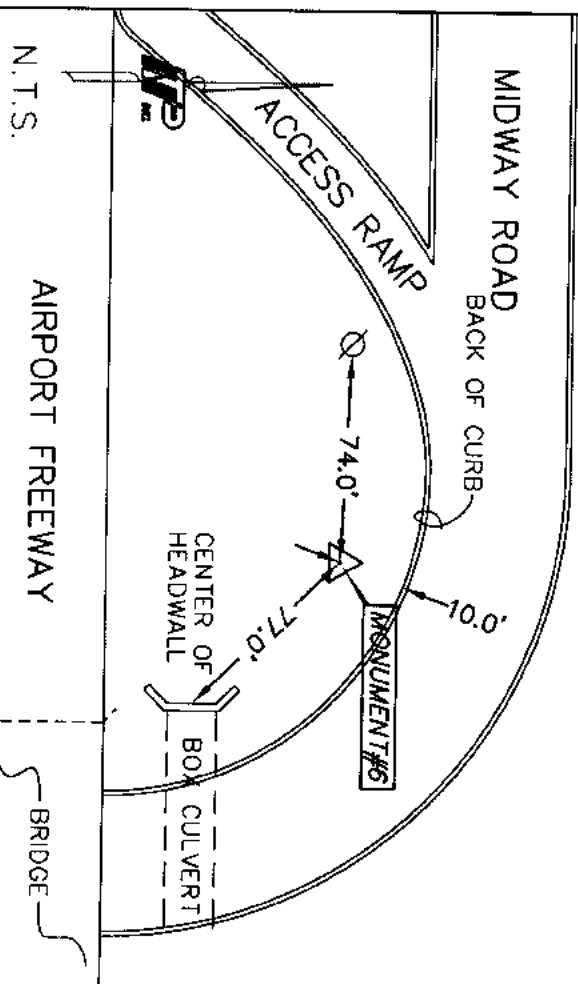
DESCRIPTION OF POINTS:

THE BERNITSEN TOP SECURITY MONUMENT WITH ACCESS COVER IS LOCATED 10' SOUTH OF SOUTH CURB OF MIDWAY ROAD, 74' EAST OF A LIGHT POLE, 77' NORTHWEST OF A CONCRETE HEADWALL AND 125' +/- NORTH OF THE NORTH SHOULDER OF AIRPORT FREEWAY.

NAD 83 GRID DATA		COORDINATES (U.S. SURVEY FEET)		PLANE AZIMUTH ANGLE (CONVERGENCE)	
STATE: TX		N 6974477.6480		00°41'19.20285"	
ZONE: NC		E 2356486.4150			
CODE: 4202					
METRIC CONVERSION FACTOR: 3.2808333333					

GEODETIC DATA	POSITION	NAD 27 ☐	NAD 83 (93) ☒	ELEV (GPS)
	LATITUDE	32°47'41.79429"		NORTH
	LONGITUDE	97°14'14.29365"		WEST

FIELD SKETCH:



MAPSCO 65-G

N.T.S.

AIRPORT FREEWAY

BRIDGE

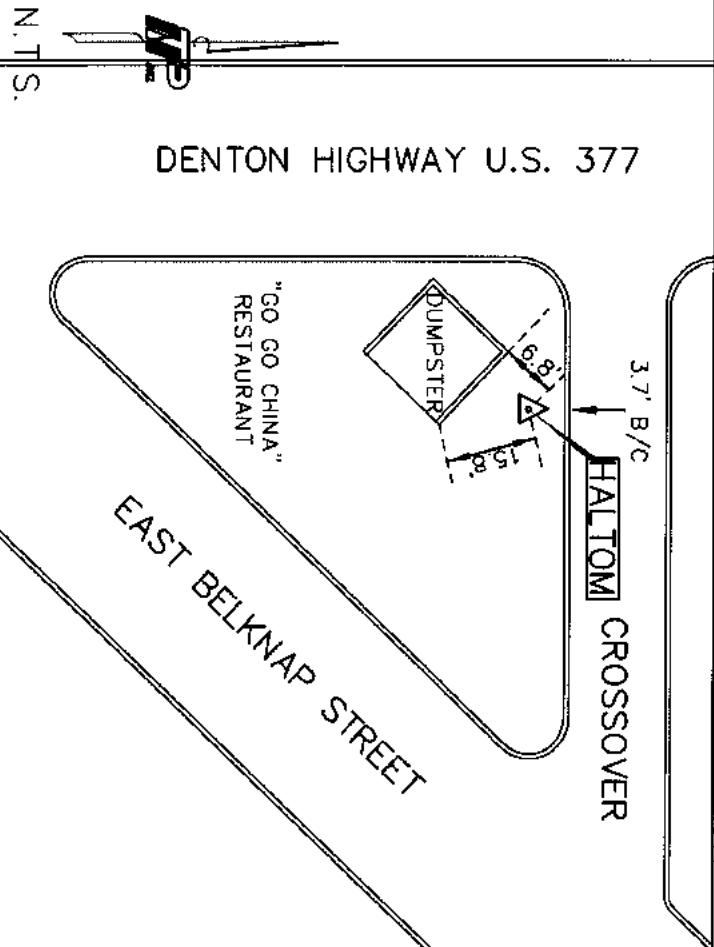
GEODETIC CONTROL DATA SHEET

STATION NAME: HALTOM		DATE: MARCH 2005		ADJUSTED HORIZONTAL CONTROL DATA	
MONUMENT TYPE: CGS DISK IN CONCRETE				ORDER: 2ND SURVEY METHOD: GPS ☒ OTHER ☐	
CITY: HALTOM CITY	COUNTY: TARRANT	STATE: TX	COMBINED SCALE FACTOR: 0.999855585		
SURVEYOR: TEAGUE NAIL AND PERKINS PREPARED BY: MOH			NAD 27 GRID DATA		
PROJECT NAME: HALTOM CITY GEODETIC CONTROL NETWORK			COORDINATES (U.S. SURVEY FEET)		
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS			STATE: N		
			ZONE: E		
			CODE: E		
			NAD 83 GRID DATA		
			COORDINATES (U.S. SURVEY FEET)		
			STATE: TX		
			ZONE: NC		
			CODE: 4202		
			E 2348133.1830		
			N 6976850.0310		
			00°40'26.00961"		
AZIMUTH MARK			AZIMUTH		
			DISTANCE		

DESCRIPTION OF POINTS:

THE "HALTOM" MONUMENT IS LOCATED 68' EAST OF CENTERLINE OF U.S. HIGHWAY 377, 6.8' NORTHEAST OF THE NORTHEAST CORNER OF A BRICK DUMPSTER WALL AND 5.7' NORTHEAST OF A METAL WITNESS POST.

FIELD SKETCH:



MAPSCO 64-D

GEODETIC CONTROL DATA SHEET

STATION NAME: NORTH RICHLAND HILLS G.P.S. 12		DATE: MARCH 2005	
MONUMENT TYPE: BERNITSEN TOP SECURITY MONUMENT W/ACCESS COVER			
CITY: NORTH RICHLANDHILLS	COUNTY: TARRANT	STATE: TX	
SURVEYOR: TEAGUE NALL AND PERKINS		PREPARED BY: MOH	
PROJECT NAME: HALTOM CITY GEODETIC NETWORK			
DISTANCES & DIRECTIONS TO PROMINENT & REFERENCE MARKS			
Surface		N = 6894613.662	
E = 2352299.0810			
AZIMUTH MARK		AZIMUTH	DISTANCE

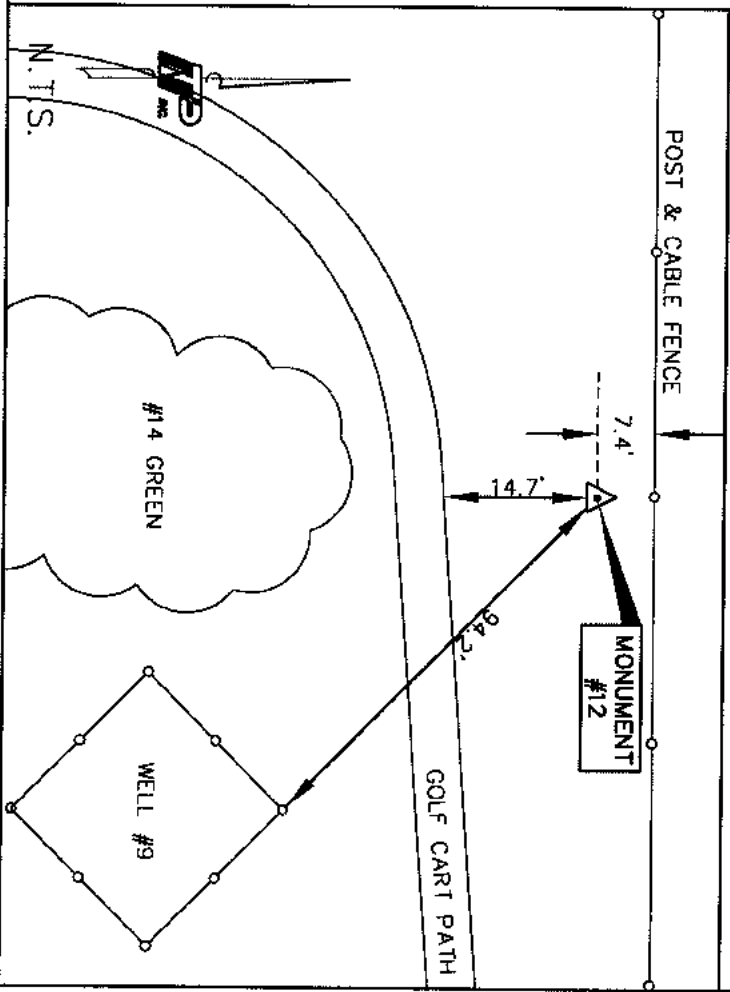
DESCRIPTION OF POINTS:

THE BERNITSEN TOP SECURITY MONUMENT WITH ACCESS COVER IS LOCATED 14.7' NORTH OF GOLF CART PATH NORTH OF GREEN #14 ON THE IRON HORSE GOLF COURSE.

ADJUSTED HORIZONTAL CONTROL DATA			
ORDER: 2ND	SURVEY METHOD: GPS ☒ OTHER ☐		
COMBINED SCALE FACTOR: 0.999851895			
NAD 27 GRID DATA	COORDINATES (U.S. SURVEY FEET)	PLANE AZIMUTH ANGLE (CONVERGENCE)	
STATE: TX ZONE: NC CODE: 4202	N 6993603.6830 E 2352299.0810	00°40'53.90254"	
METRIC CONVERSION FACTOR: 3.2808333333			

GEODETIC DATA	POSITION	NAD 27 ☐	NAD 83 (93) ☒	ELEV.(GPS)
	LATITUDE	32°50'51.53611" NORTH		
	LONGITUDE	97°15'00.68266" WEST		

FIELD SKETCH:



MAPSCO 51-E