

Texas Department of Transportation Book 2 – Technical Provisions

Grand Parkway Project

Attachment 9-1 Survey Controls

Segment F-1 (From South of US 290 to North of SH 249)

All bearings and coordinates are based on the Texas Coordinate System, South Central Zone, North American Datum of 1983 (NAD 83), (1993 adj.) All distances and coordinates are expressed in U.S. survey feet. All distances and coordinates are surface and may be converted to grid by dividing a combined adjustment factor of 1.00013, control provided by Brown & Gay. Points F14, F19, F30, F40, F65 and F71 were held fixed.

F -1 Project Elevation Datum

All Project Elevations are referenced to the North American Vertical Datum of 1988 (NAVD 88), 1995/1996 Adjustment, and were based on Houston Galveston Coastal Subsidence District (HGCSO) Monuments.

Monuments were originally set by Brown & Gay Engineers, Inc. Additional monuments were set by Weisser Engineering Co. and RODS Surveying, Inc. All elevations were adjusted by RODS Surveying, inc., based on the most stable monuments set by Brown & Gay Engineers, Inc.

TSARP conversion

It was determined that TSARP Monuments were at an average of 0.28 feet below the Project Elevation Datum.

Segment F-2 (From North of SH 249 to East of IH 45)

All bearings and coordinates are based on the Texas Coordinate System, South Central Zone, North American Datum of 1983 (NAD 83), 1993 Adj. All distances and coordinates shown are surface values and may be converted to grid by dividing by a combined adjustment factor of 1.00013. NGS Monuments HGCSO-1, HGCSO-24, and Clewport were held for horizontal control as provided by TxDOT.

F-2 Project Elevation Datum

All project elevations are referenced to the North American Vertical Datum of 1988 (NAVD 88), 1995/1996 Adjustment, and were based on Houston Galveston Coastal Subsidence District (HGCSO) monuments.

Monuments were originally set by Brown & Gay Engineers, Inc. Additional monuments were set by Weisser Engineering Co. and Landtech Consultants, Inc. All elevations were adjusted by Landtech Consultants, Inc., based on the most stable monuments set by Brown & Gay Engineers, Inc.

TSARP conversion

TSARP Monuments are at an average of 0.64 feet below the project elevation datum.

Segment G-1 (From East of IH 45 to West of Montgomery County Line)

All bearings and coordinates are based on the Texas Coordinate System, South Central Zone, North American Datum of 1983, 1993 Adjustment. All distances and coordinates shown are surface and may be converted to grid by dividing by a combined adjustment factor of 1.00013.

G-1 Project Elevation Datum:

All project elevations are referenced to the North American Vertical Datum of 1988 (NAVD 88), 1995/1996 Adjustment, and were based on Houston Galveston Coastal Subsidence District (HGCSA) Monuments.

Monuments were originally set by Brown & Gay Engineers, Inc. Additional Monuments were set by Baseline Corporation.

All elevations were adjusted by Baseline Corporation based on the most stable monuments set by Brown & Gay Engineers, Inc.

Segment G-2 (From West of Montgomery County Line to US 59)

All bearings and coordinates and based on the Texas Coordinate System, South Central Zone, North American Datum of 1983 (NAD 83), 1993 Adjustment. All distances and coordinates shown are surface and may be converted to grid by dividing by a combined scale factor of 1.0000437.

G-2 Project Elevation Datum:

All project elevations are referenced to the North American Vertical Datum of 1988 (NAVD 88), 1995/1996 Adjustment, and were based on Houston Galveston Coastal Subsidence District (HGCSA) Monuments.

Monuments were originally set by Brown & Gay Engineers, Inc. Additional Monuments were set by Transystems Corporation, Inc. All elevations were adjusted by Transystems, based on the most stable monuments set by Brown & Gay Engineers, Inc.

TSARP conversion

TSARP Monuments are at an average of 0.40 feet below the project elevation datum.

FEMA conversion

It was determined that FEMA Monuments were at an average of 0.66 feet above the project elevation datum.