

Chase Crawford - Burleson Memo

From: Chase Crawford
To: John Birkhoff
Date: 8/4/2015 3:34 PM
Subject: Burleson Memo

Burleson, Tx. Monument 50
Set 7/31/2015.
By: Chase Crawford

When setting up my survey data, I began by using a state plane coordinate system (US State Plane Nad-83, Texas North Central Zone 4202). I then keyed in several coordinates from previous monuments set throughout the city of Burleson. Checking into the first monument (mon 31), I received an error of approximately 0.600 North/South, and approximately 1.5' East/West. I then proceeded to the next monument (mon 16), and received the same error. Mon. 34 was the next monument I checked and was given nearly the same error. After checking into two other monuments and receiving very similar errors, I then used a localization method within my surveying software to rotate the monuments I shot onto a localized grid system. Once those points were rotated to align with the Burleson monuments, I then checked back into two monuments and was given a tolerable error. Since I was able to rotate my points and check within tolerance, we then set monument 50 in the back of curb along the Island in the center of Potomac Drive. The previous monuments may have been surveyed on a ground (surface) coordinate system instead of a state plane coordinate system. Attached is an image of the monuments in relation to the job site.

City Of Burleson

HORIZONTAL CONTROL MONUMENT

| | | | |
|--------------------------|---------------------------|-----------------|--------------------|
| MONUMENT NAME: MON 50 | DATE ESTABLISHED: 2015 | STATE: TEXAS | COUNTY: JOHNSON |
|--------------------------|---------------------------|-----------------|--------------------|

| | |
|---|---|
| NAD - 83 GEODETIC POSITION LATITUDE N 032° 31' 07.95783" LONGITUDE W 097° 21' 41.02076" | CONVERGENCE = 0° 37' 40.17" SCALE FACTOR = 0.9999155 |
|---|---|

| | |
|---|--|
| NAD-83 TEXAS STATE PLANE NORTH CENTRAL ZONE (US SURVEY FEET) Y COORDINATE 6873615.093 X COORDINATE 2319448.851 | NAD-83 TEXAS STATE PLANE NORTH CENTRAL ZONE (METERS) Y COORDINATE 2095077.880 X COORDINATE 706968.010 |
|---|--|

G.P.S. ELEVATION: 775.529 FEET 236.381 METERS (NGVD 1929 MEAN SEA LEVEL DATUM)

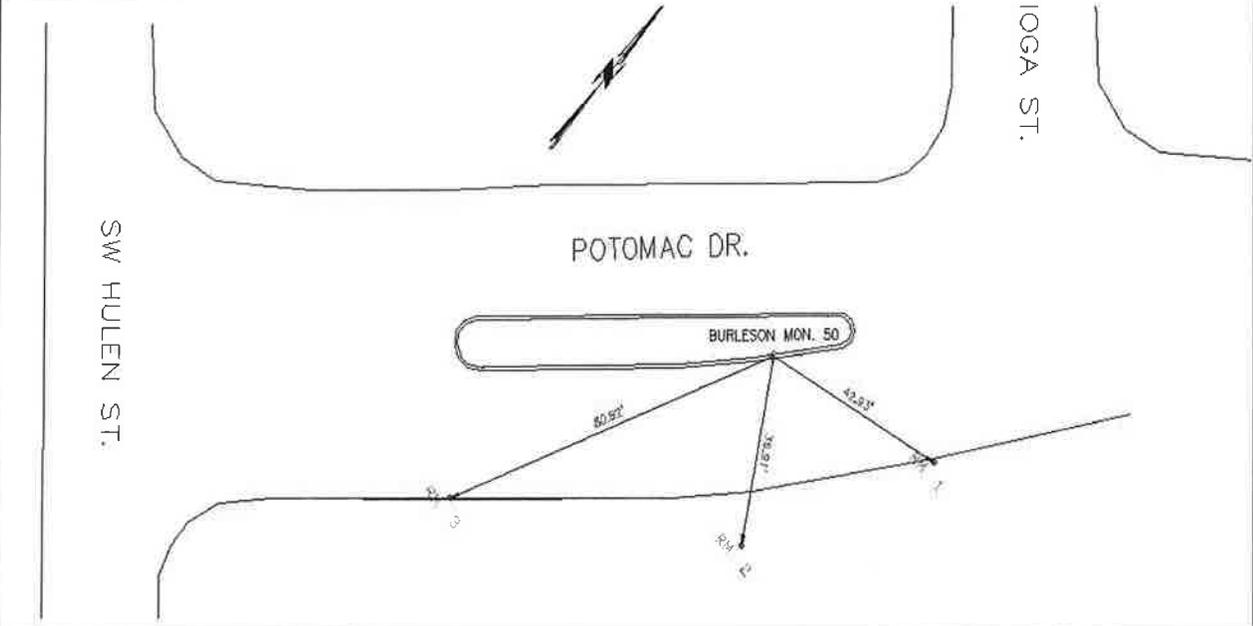
| | | |
|-------------------------|---|---|
| AZIMUTH MARK MON. 24 | GEODETIC AZIMUTH (FROM NORTH) N 7° 49' 24" | GRID AZIMUTH (FROM NORTH) N 7° 11' 44" |
|-------------------------|---|---|

| REFERENCE MARK DESCRIPTION | DISTANCE (FT.) | DIRECTION |
|--|----------------|------------|
| MON 24 | 8434.362' | 0°00'00" |
| RM 1: MAG NAIL SET IN BACK OF CURB/SIDEWALK | 42.935' | 73°24'24" |
| RM 2: MAG NAIL SET IN SIDEWALK | 36.907' | 147°03'08" |
| RM 3: MAG NAIL SET IN S. SIDE OF POTOMAC DR. | 80.816' | 205°46'40" |

DETAILED DESCRIPTION

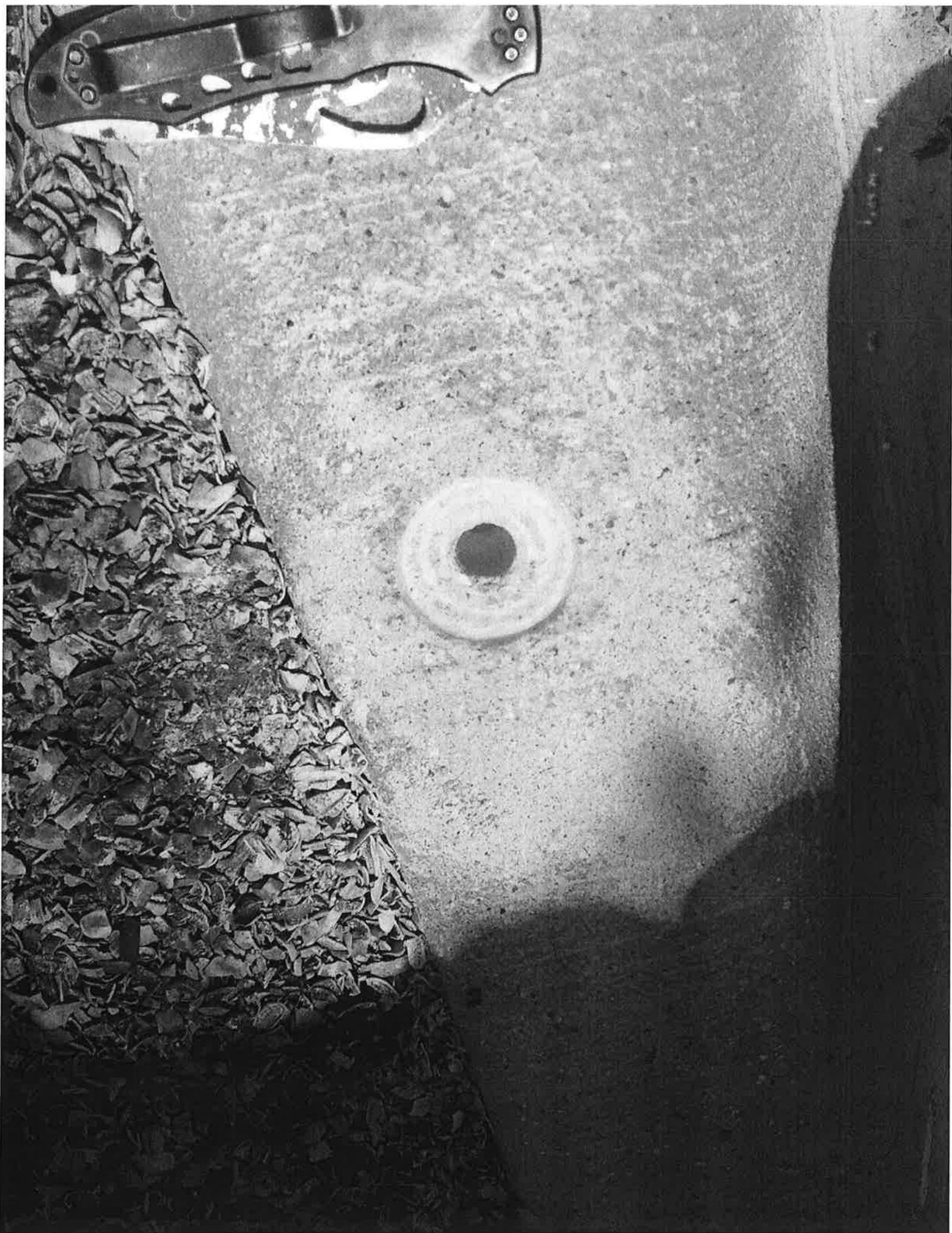
ALUMINUM CAP SET ON TOP OF CURB IN ISLAND ALONG POTOMAC DRIVE.
APPROXIMATELY 156 FEET FROM THE CENTER LINE OF SW HULEN ST.
STAMPED: "CITY OF BURLESON" "GEODETIC CONTROL MONUMENT" "MON 50" "2015"

FIELD SKETCH





CITY OF BURLESON
BURLESON MON. CO.
2015
MONUMENT



Burleson, Tx Monument Information - Texas North Central 4202 State Plane Coordinate System

| Monument | Northing | Easting | Elevation | Horizontal Error | Angle | Vertical Error |
|----------|-------------|-------------|-----------|------------------|-------------|----------------|
| Mon 16 | 6874735.372 | 2323914.276 | 740.264 | 1.641' | 76° 18' 21" | 0.084 |
| Mon 31 | 6865736.393 | 2317560.028 | 791.275 | 1.643' | 75° 44' 53" | 0.015 |
| Mon 40 | 6877977.152 | 2322516.888 | 759.149 | 1.652' | 76° 29' 33" | 0.17 |
| Mon 34 | 6891060.443 | 2328556.351 | 750.875 | 1.722' | 82° 49' 39" | 0.293 |
| Mon 24 | 6881982.273 | 2320503.687 | 769.138 | 1.781' | 64° 51' 43" | 0.432 |