

APPENDIX I  
SURVEY DATA

**S.J. LANGLINAI & ASSOCIATES, INC.**



Engineers & Land Surveyors  
 2413 Veterans Memorial Dr.  
 Abbeville, LA 70510  
 337-893-7643 SJLCompany@aol.com

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Calculated by: BTL  
 Date: 5/24/2021

Benjamin T. Langlinais, P.L.S.  
 La. Surveyor's Reg. No. 5084

PT NO.	State Plane Northing (ft)	State Plane Easting (ft)	Location: Hayes, LA		UTM Z15N Northing(meters)	UTM Z15N Easting(meters)	Geodetic Latitude (DMS)	Geodetic Longitude (DMS)	Time of Observation	
			Elevation (ft)	Code	Annotation					
1	578,443.279	2,781,203.087	5.03	BASEL	80D NAIL	3,327,779.273	508,372.552	30 4 52.094699 N	92 54 47.231988 W	5/24/2021 12:11
2	578,661.341	2,780,928.963	6.54	MW	H 1	3,327,844.495	508,288.068	30 4 54.215717 N	92 54 50.386152 W	5/24/2021 12:35
3	578,661.903	2,780,927.695	5.04	NG	H 1	3,327,844.660	508,287.680	30 4 54.221107 N	92 54 50.400662 W	5/24/2021 12:35
4	578,803.633	2,780,725.552	6.03	MW	H 18	3,327,886.945	508,225.465	30 4 55.596372 N	92 54 52.723626 W	5/24/2021 12:40
5	578,803.203	2,780,726.659	4.44	NG	H 18	3,327,886.819	508,225.804	30 4 55.592268 N	92 54 52.710953 W	5/24/2021 12:40
6	578,656.144	2,781,998.177	7.21	MW	H 24	3,327,847.650	508,613.848	30 4 54.310112 N	92 54 38.216063 W	5/24/2021 12:46
7	578,656.166	2,781,996.811	5.20	NG	H 24	3,327,847.651	508,613.432	30 4 54.310147 N	92 54 38.231616 W	5/24/2021 12:46
8	578,851.976	2,785,541.095	5.04	MW	H 3	3,327,923.018	509,692.398	30 4 56.729543 N	92 53 57.922701 W	5/24/2021 13:02
9	578,853.482	2,785,540.787	3.85	NG	H 3	3,327,923.475	509,692.297	30 4 56.744404 N	92 53 57.926440 W	5/24/2021 13:03
10	580,011.206	2,781,279.876	5.16	MW	H 20	3,328,257.312	508,388.998	30 5 7.624903 N	92 54 46.604026 W	5/24/2021 13:17
11	580,009.862	2,781,280.012	3.50	NG	H 20	3,328,256.903	508,389.045	30 5 7.611622 N	92 54 46.602270 W	5/24/2021 13:17
12	579,467.264	2,780,295.340	6.97	MW	H 22	3,328,087.226	508,091.451	30 5 2.106362 N	92 54 57.724434 W	5/24/2021 13:25
13	579,467.121	2,780,293.830	4.82	NG	H 22	3,328,087.176	508,090.992	30 5 2.104739 N	92 54 57.741592 W	5/24/2021 13:26
14	579,963.515	2,780,232.236	5.89	MW	H 2	3,328,238.139	508,070.026	30 5 7.009743 N	92 54 58.520689 W	5/24/2021 13:35
15	579,963.565	2,780,231.058	4.03	NG	H 2	3,328,238.149	508,069.667	30 5 7.010074 N	92 54 58.534108 W	5/24/2021 13:35
16	579,886.859	2,780,463.901	6.36	MW	H 16	3,328,215.811	508,140.947	30 5 6.282656 N	92 54 55.871853 W	5/24/2021 13:39
17	579,888.162	2,780,464.170	3.71	NG	H 16	3,328,216.209	508,141.023	30 5 6.295590 N	92 54 55.868993 W	5/24/2021 13:39
18	580,474.155	2,780,278.540	5.68	MW	H 23	3,328,393.920	508,081.870	30 5 12.070510 N	92 54 58.073953 W	5/24/2021 14:01
19	580,473.845	2,780,276.906	3.82	NG	H 23	3,328,393.818	508,081.374	30 5 12.067209 N	92 54 58.092496 W	5/24/2021 14:02
20	580,043.940	2,779,274.717	5.54	MW	H 12	3,328,258.398	507,777.943	30 5 7.674745 N	92 55 9.431752 W	5/24/2021 14:14
21	580,045.349	2,779,275.186	4.13	NG	H 12	3,328,258.829	507,778.080	30 5 7.688762 N	92 55 9.426632 W	5/24/2021 14:15
22	579,856.231	2,779,237.665	5.60	MW	H 9	3,328,201.044	507,767.486	30 5 5.811685 N	92 55 9.823902 W	5/24/2021 14:18
23	579,855.158	2,779,236.764	4.24	NG	H 9	3,328,200.713	507,767.217	30 5 5.800936 N	92 55 9.833988 W	5/24/2021 14:18
24	580,142.440	2,780,084.122	5.33	MW	H 10	3,328,291.995	508,024.107	30 5 8.760529 N	92 55 0.234651 W	5/24/2021 14:36
25	580,141.660	2,780,082.918	4.03	NG	H 10	3,328,291.752	508,023.744	30 5 8.752645 N	92 55 0.248231 W	5/24/2021 14:36
26	578,916.566	2,775,795.509	6.88	MW	H 25	3,327,899.502	506,722.933	30 4 56.037430 N	92 55 48.852950 W	5/24/2021 15:21
27	578,916.821	2,775,796.971	4.74	NG	H 25	3,327,899.586	506,723.377	30 4 56.040152 N	92 55 48.836352 W	5/24/2021 15:22
28	578,900.871	2,776,380.869	7.35	MW	H 26	3,327,897.314	506,901.344	30 4 55.962786 N	92 55 42.188164 W	5/24/2021 15:24
29	578,900.729	2,776,382.282	5.09	NG	H 26	3,327,897.277	506,901.775	30 4 55.961567 N	92 55 42.172056 W	5/24/2021 15:25

30	578,885.123	2,777,052.868	7.40	MW	H 27	3,327,895.495	507,106.151	30 4 55.899439 N	92 55 34.537285 W	5/24/2021 15:27
31	578,886.299	2,777,053.728	5.36	NG	H 27	3,327,895.857	507,106.407	30 4 55.911194 N	92 55 34.527689 W	5/24/2021 15:27
32	578,443.310	2,781,203.117	4.94	BASEL	QC	3,327,779.283	508,372.561	30 4 52.095016 N	92 54 47.231642 W	5/24/2021 15:45
RTCM-Ref 2246	628,777.188	2,862,357.421	55.78	Ref. Tower	Jennings, LA	3,343,474.369	532,874.613	30 13 20.495296 N	92 39 30.176976 W	5/24/2021 12:10

DATA WAS ACCURACY-CONFIRMED WITH AUTONOMOUS GPS RAPID STATIC OBSERVATION OF OVER 1 HOUR 45 MINUTES  
HORIZONTAL VARIANCES OF .05' OR LESS WERE OBSERVED.  
VERTICAL VARIANCES OF .19' WERE OBSERVED.  
(OPUS solution: 1\_\_\_1440.21o OP1622657974766)

BASE STATIONS USED

PID DESIGNATION  
DG5390 OAKH OAKDALE HS CORS ARP  
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP  
DP7417 CALC CALCASIEU PASS CORS ARP  
DN4512 TXOR ORANGE CORS ARP  
DL7622 TONY ABDALLA HALL ULL CORS ARP  
DP8058 AMER AMERADA PASS CORS ARP  
DM7838 TXPT PORT ARTHUR CORS ARP  
DF7048 LESV LEESVILLE CORS ARP  
DL8639 THHR T H HARRIS CAMPUS CORS ARP

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KEY:  
MW - Monitor Well Casing  
NG - Normal Ground Elevation  
BASEL - Base Line Reference Station or Temporary Benchmark  
H xx - Monitor Well Designations  
QC - Quality Control Observation