

THE METCALFE ENGINEERING & CONTRACTING CO.

No. 230 AUSTIN NATIONAL BANK BUILDING

CIVIL ENGINEERING—Water Works, Sewers, Irrigation, Drainage, Street Improvements, Surveying of all Kinds, Subdivision Work, Difficult Land Surveying.



GENERAL CONTRACTING—Water Works, Sewer Systems, Concrete Work of all Kinds, Construction Superintended.

AUSTIN, TEXAS.

To Mr. E. C. Bartholemew, Sup't. Light & Power Dep't.,

City of Austin,

and to The City Council, Austin, Texas.

Gentlemen:

Pursuant to your request, I have made a careful survey of that tract of land commonly known as the Sand Beach Reserve, which lies south of Out-Lot 1 and 11 in Division Z, of the City of Austin, Texas, being also west of West Avenue, north of the Colorado River, and east of the George W. Spear Survey Number 7.

On account of having had to make a survey of Block Number 1 of Division Z a few years ago for private parties, I was aware that this Sand Beach Reserve would be very difficult to locate accurately on account of the extremely poor condition of the records which would describe its northern boundary. I made it known to Mr. Bartholemew and to Mayor Wooldridge that there would be some difficulty in doing the work right, and that I did not care to undertake it unless instructed to do it properly, which instruction I finally received. I was presented by the city authorities with some data prepared by Mr. Gracy which was of some assistance, and I also secured data that I was able to find to assist me in properly locating the Sand Beach Reserve.

Upon the suggestion of Mr. Welborne, which was afterwards approved by Mayor Wooldridge, I made a visit to the State Sanitary Engineer, Mr. V. M. Ehlers, and he requested me to secure in addition to the area and location of the State Land, the locations of all test-pits, power house buildings, filters, trenches, natural drains, a swamp, a large excavation made by the Austin Sand & Gravel Company and an oil pool, two or three bluffs of the river, Shoal Creek and a few other topographical features. He also requested me to get relative elevations of the river, filters wells, water in test-pits, and water in the excavation caused by the Gravel Company.

This survey has now been completed and I find that the area of the Sand Beach Reserve to be 77.15 acres. This general report is accompanied by what I term a Technical Land Survey Report, which goes into detail to

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explain my location of the boundary of this Sand Beach Reserve, but which will not be likely to be interesting to only those who investigate from a legal and scientific standpoint the correctness of my location. This Technical Land Survey Report is accompanied by my plan No. 1526 which has all calls and distances of the Sand Beach Reserve in connection with Out-Lots 1 and 11. An iron stake has been placed at every corner and at every angle of this 77.15 acre survey.

I have also made a Topographical Survey of the Sand Beach Reserve including an area north of said reserve to the base of the bluff. This Topographical survey has included all of the features which Mr. V. M. Ehlers, the Texas State Sanitary Engineer, desired to have brought out in order that he might be able to arrive at certain conclusions and that he might also be better able to show to interested parties in a clearer way, the actual conditions. All features secured by this survey are shown upon a special Topographical Map of the Sand Beach Survey which is my plan No. 1526.

On the day that I was taking levels of the trenches near the Power House the pump seemed to have drawn the water down to a very low point, and were apparently using nearly all of the water that both trenches would afford. As in the trench southwest of the pump station there was practically no water at all, and the pipes leading into the suction well showed that the level of the water coming through them covered only about $7/8$ of their area. At all times that I was taking levels the river appeared to have no marked change in its stage. The dates of taking levels were December 26 and 30, 1916. The levels of all trenches were taken upon the same day, which was December 30.

I wish to call your attention to the fact that on account of a low point ^{at} south end of the dike around the old filter bed near the Austin Emergency Plant that the water will enter the filter pit from the creek south of it, provided that the water of said creek shall get on a rise of more than $4/10$ of a foot. I also wish to call your attention to the fact that the Gravel Company or the Railway Company have obstructed the area allowed by the City when they cut their new ditch for the outlet of the Confederate Home Creek by placing a small

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simple trestle across said ditch. This has been done in the last few weeks.

I also wish to inform you that the Gravel Company has started a new excavation immediately north of the Railway Gravel Spur near the west line of the Sand Beach Reserve, and that it is their intention to continue to excavate north of said spur in a generally easterly direction, and will very likely create another large excavation between the railway spur and their excavation shown on my plan No. 1526, as No. 2.

In the course of making my survey, I discovered that West Avenue is being used as an 80 foot street instead of 200 according to the original records, but in making my survey and showing same on my map, I have considered the original width only. I also note that the I. & G. Railroad have their fence where they claim their line to be, and that there is a space left between the south line of Out-Lot 11 and their fence which, according to the abstract summary furnished by Mr. Gracy would probably belong to S. J. Koerneritz.

I note that occupants of Out-Lot No. 1 have appropriated to their own use, and are maintaining fences upon the Sand Beach Reserve. I have shown these fences upon my Topographical Map No. 1526. I could determine the area of these encroachments if requested to.

Respectfully submitted,

By *C. E. Metcalf*
Civil Engineer & Surveyor.

1-2-1917

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TECHNICAL REPORT OF ORIN E. METCALFE, CIVIL ENGINEER IN REGARDS THE LOCATION OF THE STATE OF TEXAS SAND BEACH RESERVE AT AUSTIN, TEXAS.

Knowing that I have made a location of a tract of land which has faulty and incomplete records for a basis of location, I am detailing in this report a list of the data which I consider useful, which I found available and also detailing my use of it, both as regards actual field practice and theory.

To the best of my belief, there is no existing complete map of Austin as created by its founders. I believe that it is a general conceded fact that there was trouble between the early executives and the surveyors or engineers who should have prepared a suitable map, although there is considerable evidence, verbal and otherwise which shows that an actual survey had been made at one time. I had access to a copy of the map of the City of Austin now on file in the State Land Office, from which I obtained the following data; that the west line of the original West Avenue would be 2736 feet west of the centre line of Congress Avenue, and would be the east line of the Sand Beach Reserve; that the north line of the Sand Beach Reserve would be the south line of Out-Lot Number 1, Division Z, and the south line of Out-Lot Number 11, Division Z; that the west line of the Sand Beach Reserve would be the east line of the George W. Spear Survey; and that the south line of the Sand Beach Reserve would be the north shore of the Colorado River. My first effort was the location of the west line of West Avenue. I used the following distances to obtain the distance between the centre line of Congress Avenue and the west line of West Avenue

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One-half width Congress Avenue	60 feet
Congress Avenue to Colorado Street	340 feet
Colorado Street	80 feet
Colorado Street to Lavaca Street	276 feet
Lavaca Street	80 feet
Lavaca Street to Guadalupe Street	276 feet
Guadalupe Street	80 feet
Guadalupe Street to San Antonio Street	276 feet
San Antonio Street	80 feet
San Antonio Street to Nueces Street	276 feet
Nueces Street	80 feet
Nueces Street to Rio Grande Street	276 feet
Rio Grande Street	80 feet
Rio Grande Street to West Avenue	276 feet
West Avenue	200 feet,

which gives a total of 2736 feet.

I used the City Engineer's Department location of centre line of Congress Avenue, which is evidenced on the streets by an iron pin at the intersection of First Street, a large iron pin at the intersection of Sixth Street, a small iron pin at the intersection of Eleventh Street, as well as the centre of the round window in the south front of the Capitol. As a basis for the location of the streets running east and west, I used the large iron pin at the intersection of Sixth Street and Congress Avenue. Using the points here mentioned, I laid the west line of West Avenue parallel to the centre line of Congress Avenue.

My location of West Sixth Street as the northern boundary of Out-Lots 1 and 11, Division 2, I used as a basis the northeast corner of Out-Lot Number 11 established by running a line at right angles to the centre line of Congress Avenue, 40 feet south of the iron pin previously mentioned at the intersection of Sixth Street and Congress Avenue, which point I have shown on my map No. 1626, which accompanies this report

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and marked "A". The Land Office Map shows one straight line for both Out-Lots 1 and 11 on the north side, and I used as a basis of the western extremity of this line a point 80 feet south of the old location of the property now owned by O. L. Kooch on the north side of Sixth Street and adjacent to the George W. Spear League east line. This point I have shown on my map as point "B" for the north line of Out-Lot 1 and 11. I connected points "A" and "B" as my final location line of Out-Lots Nos. 1 and 11. I next secured the location of the northwest corner of Out-Lot Number 1 by intersecting the north line of Out-Lot Number 1 with the east line of the George W. Spear Survey. A part of the George W. Spear Survey of 252 acres was subdivided into Blocks Harrison and Pease. The northeast corner of Block No. 1 and the southeast corner of Block No. 7 was known to me on account of previous work and is evidenced on the ground by a set stone on the east edge of West Street, and is accompanied by its original bearing tree. At one time I ran the south line of Block No. 7 and found another corner of this 25 acre subdivision about 2000 feet north 60° west of this set stone accompanied by its original bearing tree. Now to locate the east line of this George W. Spear Survey, I retraced this Subdivision line between Blocks 1 and 2 and went S. 30° W. at right angles to same intersecting the south line of Sixth Street as previously described in this report for the northwest corner of Out-Lot No. 1, which is shown on the map as point "B".

I next continued the location of the east line of the George W. Spear Survey No. 7 by running from point "B" S. 30° W. to a trial corner for Out-Lot No. 1 and continued south 30° west to the edge of the water of the Colorado River where I placed a stake for the southwest corner of the Sand Beach Reserve. As a basis of direction, I have used the centre line of Congress Avenue as N. 19° E. By carrying a careful transit line I proved that this S. 30° W. line of the Spear League would have to be used as S. 29° 47' W. to make it agree with my basis direction of N. 19° E. on Congress Avenue, and in my report and on my map hereafter this true east line of the Spear Survey will, for the sake of convenience, be used as N. 29° 47' E.. The only basis

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of location of Out-Lot No. 1 that I have been able to find is the geometrical picture map drawn to scale and showing an area of 40 acres. My theory in regards the correct location of this Out-Lot No. 1 was to consider the south line of Sixth Street as the northern boundary and the east line of the Spear Survey as its western boundary. These two lines having been located to my satisfaction, I had only the scaled distances and the area as a basis for the east line and the south line. During the year 1913, I scaled with the assistance of Ernest VonRosenberg at that time Chief Draftsman of the State Land Office, all lines of this Out-Lot No. 1 as follows:

North side.....1815 feet
East side.....1000 feet
South side.....1875 feet
West side..... 940 feet.

My next step was to use these figures to create trial corners for this Out-Lot No. 1. By doing so, I found that I had an area of 41.27 acres instead of 40 acres. As I believed that the area of 40 acres was the controlling and most valuable feature of the description available I changed the south boundary of this survey by shifting it in a general northerly direction parallel to my trial south line of same so as to retain the north distance of 1815 feet and the south distance to 1875 feet, making an exact area of 40 acres.

This location of Block No. 1 made on the principals outlined in this report is shown in detail on the accompanying map.

To locate Out-Lot No. 11, I had in addition to the picture map showing the Out-Lots, a copy of the patent issued to James H. Raymond to the State of Texas. This patent calls for the west line of West Avenue and the south line of Sixth Street and the east line of Out-Lot No. 1 and it also refers to the southeast corner of Lot No. 1 as being on or near the bluff of the River Commons, and then in its next descriptive paragraph it calls for the meanderings of the Bluff including sixty yards below which indicated to me that Out-Lot No. 11 had its

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southwest corner 180 feet below the southeast corner of Out-Lot No. 1 and using the locations of the northeast corner of Out-Lot No. 1 and the southeast corner of Out-Lot No. 1 as previously described and being shown by points "E" and "F", I made location^a for the southwest corner of Out-Lot No. 11 by continuing the east line of Out-Lot No. 1 S. 26° 1' W. 180 feet from point "F" and set an iron stake shown on my map No. 1626, as Point "G". Thus far I considered that I had located the east, north and west lines of Out-Lot No. 11, and having located its corners as shown by corners marked "A", "E" and "G" as shown on the accompanying map No. 1626. One of the controlling features according to my opinion of the description of the Out-Lot was the area of 60 acres, but I was unable to use it, as I found a gross error east and west on the north line of Out-Lot 11 amounting to about 250 feet.

The State Land Office Map shows the bluff which was supposed to control the south line of Out-Lot No. 11, but according to local history this bluff was moved back by flood in the year 1869, and at the present time there is no bluff existing which I would consider to be anywhere near the original location of the river bluff. Aside from the reported change of location of the river bluff, the topography has been changed by the construction of a railroad and of railroad spurs. This eliminated my making a field location of the south line of Out-Lot 11 by using a natural object, and I considered that the next best data I had by which I could locate the southeast corner of this Out-Lot was by its geometrical location in regards First Street, West Avenue and the picture location of the bluffs. The picture location of the bluffs according to my scaling showing to be between 54 and 55 feet south of the north line of First Street, which street continued would have intersected the west line of West Avenue. I accurately located this intersection and placed the corner 1754.8 feet south of the south line of Sixth Street. This allows a distance of 1700 feet between the south line of Sixth Street and the north line of First Street, and also allows a distance of 54.8 feet for the scaled distance of the Out-Lot corner in relation to First Street.

By using this location, as shown on my map as point "H", I made

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a rough calculation and found out that I was going to have about 15 acres surplus land in excess of the patented 60 acres, and as the greater portion of this excess had been caused according to my investigation by a surplus of distance east and west calling for boundaries which I had been able to locate with a reasonable degree of accuracy I considered that Out-Lot Number 11 was entitled to hold and control this excess. My theory of location is based on trying to follow the original intention of the original location and the best method that I saw which would apply was to use that of **proportion**. I have considered that my points "G" and "H" as shown on map No. 1626 to be the true corners of Out-Lot No. 11 but my comparison of my measured distance between these two points with the scaled distance as shown upon the map shows that the actual distance between these two points to be 1.10 greater than the distance shown on the old map. By using the graphical methods, I found that the south line as shown by the bluff on the old map had practically three directions, and I have placed upon the ground two intermediate stakes based upon the following scaling and calculations: That the original distance between "G" and "H" scaled 2220 feet, which in fact measured upon the ground 2445 feet. 2445 divided by 2220 equals 1 1/10, which unit I multiplied all of the original distances by, to secure the distances by which to lay out a similar ~~error~~ upon the ground. My full comparison of distances on the original with those used in the field is as follows, and reference is hereby made to my plan No. 1626, which should be used in connection with this part of my report.

Original Scaled Distance-Ratio of Increase-Used in Field.

G to H	2220'	1.10	2445.3'
G to M	1320'	1.10	1454'
M to K	525'	1.10	578'
K to E	375'	1.10	413'
M to K	85'	1.10	93'
N to L	50'	1.10	55'

The figures in the right hand column are the ones used by me to base my locations of corners shown as "K" and "L".

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I can present, upon request, a copy of my calculations sheets which show my method of obtaining the area as shown upon the map. The area given to Out-Lot No. 1 was 40 acres. The area given to Out-Lot No. 7 was 72.33 acres and the area found left in the Sand Beach Reserve amounted to 77.15 acres.

Respectfully submitted,

By

Olin C. Metcalfe

Civil Engineer & Surveyor.

1-2-1914

AUSTIN, TEXAS.

FIELD NOTES OF A SURVEY OF 77.15 ACRES OF LAND KNOWN AS THE SAND BEACH RESERVE, LOCATED WITHIN THE CITY LIMITS OF AUSTIN, AND WITHIN THE COUNTY OF TRAVIS, AND BEING BOUNDED ON THE EAST BY WEST AVENUE, ON THE NORTH BY OUT-LOTS NOS. 1 AND 11, DIVISION 2 OF THE GOVERNMENT OUT-LOTS OF THE CITY OF AUSTIN, AND BEING BOUNDED ON THE WEST BY THE GEORGE F. SPEAR SURVEY, AND BEING BOUNDED ON THE SOUTH BY THE COLORADO RIVER.

Beginning at a solid iron stake set for the most westerly corner of out-lot No. 1, Division "2" of the City of Austin Government Out-lots, said stake being on the S. E. line of the George F. Spear Survey, and from which the most easterly corner of Lot No. 1 of the Harris and Pease Subdivision is evidenced by a set stone and being accompanied by its original bearing tree bears N. $29^{\circ} 47'$ E. 1047.93 feet (This description goes with the variation used upon this survey, but agrees perfectly as a N. $30^{\circ} E$ line when used in conjunction with survey on the George F. Spear Survey);

(1) Thence with the S. E. line of Out-lot No. 1, Division "2" S. $63^{\circ} 13'$ E. 1975 feet to a solid iron stake placed for the most southerly corner of said Out-lot No. 1;

(2) Thence with the N. E. line of Out-lot No. 11, Division "2" S. $26^{\circ} 1'$ E. 130 feet to a solid iron stake for the most westerly corner of said Out-lot No. 11;

(3) Thence with the S. E. line of said Out-lot No. 11 S. $64^{\circ} 51'$ E. 1456 feet to a 2 inch boiler pipe stake;

(4) Thence with the S. E. line of said Out-lot No. 11 S. $47^{\circ} 30'$ E. 679.0 feet to a 2 inch boiler pipe stake;

(5) Thence with the S. E. line of said Out-lot No. 11 S. $43^{\circ} 30'$ E. 418.0 feet to an iron stake, which is the most southerly corner of Out-lot No. 11, Division "2" of the City of Austin Government Tracts, said stake being on the west line of West Avenue;

(6) Thence with the west line of West Avenue S. $19^{\circ} E$. 152.4 feet to a large iron stake on the bank of the Colorado River for the most southerly corner of the tract here described;

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Thence up the N. E. bank of the Colorado River with its meanders as follows, iron stakes being placed at every angle and all courses being from 2 to 12 feet away from the actual water edge during a stage of low water for the river, to-wit; according to courses Nos. 7 to 25 inclusive:

- (7) N. 69° 43' W. 132.4 feet;
- (8) N. 60° 36' W. 184.2 feet;
- (9) N. 70° 42' W. 359.8 feet;
- (10) N. 64° 31' W. 254.3 feet;
- (11) N. 68° 15' W. 151.4 feet;
- (12) N. 83° 30' W. 43.4 feet;
- (13) N. 60° 50' W. 126.0 feet;
- (14) N. 66° 12' W. 193.4 feet;
- (15) N. 58° 26' W. 68.0 feet;
- (16) N. 71° 45' W. 50.0 feet;
- (17) N. 62° 31' W. 197.2 feet;
- (18) N. 64° 33' W. 161.0 feet;
- (19) N. 70° 39' W. 304.3 feet;
- (20) N. 65° 15' W. 383.5 feet;
- (21) N. 62° 1' W. 168.1 feet;
- (22) N. 63° 53' W. 303.5 feet;
- (23) N. 64° 9' W. 191.6 feet;
- (24) N. 73° 44' W. 321.0 feet;
- (25) N. 64° 56' W. 393.7 feet;

(26) Thence up the N. E. bank of the Colorado River N. 69° 43' W. 324.5 feet to a large iron stake set for the most southerly corner of the George W. Spear Survey No. 7;

(27) Thence with the S. E. line of the George W. Spear Survey No. 7 N. 29° 47' E. 1085 feet to the place of the beginning, containing 77.15 acres of land.

Surveyed December, 1 913

By

Civil Engineer & Surveyor.

Austin, Texas.