



APPENDIX E

BOUNDARY SURVEY REQUIREMENTS FOR EASEMENT OR RIGHT-OF-WAY ACQUISITION DALLAS WATER UTILITIES

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1.0 GENERAL REQUIREMENTS

- All firms selected to provide surveying services to the Dallas Water Utilities (DWU) shall have a Registered Professional Land Surveyor (RPLS) as a full time employee to act as the Surveyor of Record. The Surveyor of Record will hold a current RPLS license issued by the State of Texas.
- All surveying must be performed under the direct supervision of the designated Surveyor of Record. Should the Surveyor of Record become unable to perform the required duties, work on the project will cease immediately and the DWU Project Manager shall be notified. Any work performed on the project when the Surveyor of Record is unavailable to perform the required duties will be deemed unacceptable and be rejected.

2.0 **REFERENCES**

Following references shall be applicable in conjunction with surveying services:

- Texas Professional Land Surveying Practices Act by Texas Board of Professional Land Surveying (TBPLS), latest edition as available at: <u>http://www.txls.state.tx.us/04_act_rules/2009_act.pdf</u>
- General Rules of Procedures and Practices by TBPLS, latest edition as available at: http://www.txls.state.tx.us/04_act_rules/rules2010.pdf
- Paving Design Manual by the City of Dallas Public Works and Transportation (PW&T), latest edition as available at: <u>http://www.dallascityhall.org/public_works/manuals_construction-standards.html</u>

3.0 SCOPE OF SERVICES

3.1 Purpose

The purpose of the boundary survey is to locate and prepare legal description for fee title conveyances, right-of-way, easement, lease agreement, abandonments and licenses for Dallas Water Utilities.



3.2 Title Search

The Surveyor of Record shall assume the responsibility for adequate title research to support the determination of the location of intended boundaries of the land parcel surveyed. The title must be searched back in time sufficiently far enough to uncover all of the pertinent information. In many cases, this will be to the sovereignty of the soil. Research shall include all public record resources, including but not limited to, the followings:

- City of Dallas Survey Records Vault
- Dallas, Denton and Collin County Records
- Texas Department of Transportation (TXDOT) Right-of-Way Records
- Private Utility Providers Records for gas, telephone, electric, cable, fiber optics and other utilities
- Ownership or Easement Records as available

4.0 FIELD WORKS

4.1 Coordinate System

- Horizontal control datum for City of Dallas shall be the North American Datum of 1983 (NAD83) as defined by National Geodetic Survey (NGS).
- The applicable State Plane Coordinate (SPC) zone for City of Dallas is Texas North Central Zone (Code 4202).

4.2 Survey Method

Conventional, Global Positioning System (GPS) or a mixture of both techniques shall be used for boundary survey.

4.3 Special Considerations for GPS Survey

When instruments employing Global Positioning System (GPS) survey technology are used, the following procedures will be required:

- A notation to the fact that GPS survey procedures were used in the performance of the surveys shall be placed in all field notes and final drawings.
- When a State Plane projection is employed, the NOAA monument used for control shall be listed in all field notes and final drawings. Submittals of data and drawings produced shall be in State Plane Coordinate Datum shall state whether the coordinate datum is Grid values or has been adjusted to a local projection.

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- Control monuments established or used in a GPS survey shall have the World Geodetic System (WGS) Latitude and Longitude values derived from the raw observation data listed along with the monument type, location and other coordinate data.
- GPS survey instrument technology will not be approved for use in surveys for any design or construction purposes where vertical accuracy greater than 0.07 feet is required.
- GPS survey instrument technology and procedures will not be approved for use in establishing vertical control for project benchmarks.

4.4 Monumentation

- All set monuments shall be at a minimum of 5/8" diameter x 18" iron rods capped with surveyor's name and registration number or survey company's name.
- Consultant Surveyor shall determine whether Letters of Permission granting access to private property for surveying purposes will be required. The City Project Manager shall be informed of the need for this task, and kept informed of its progress.

5.0 FIELD NOTES

Field Notes for boundary survey shall be prepare as per **Exhibit 1** entitled "Field Note Guidelines by Department of Public Works Surveying Services dated January, 2011".

6.0 **DELIVERABLES**

Final survey deliverables shall include, but limited to, the following data:

- Three (3) copies of Survey Field Notes and drawings affixing surveyor's seal and original signature
- Copy abstract of title or title run sheet
- All pertinent calculations

EXHIBIT 1

Field Note Guidelines

Department of Public Works and Transportation Surveying Services

City of Dallas

Revised, January 2011

The following guidelines are to be used and incorporated into the preparation of real property descriptions for fee title conveyances, Rights-of-Way, easements, lease agreements, abandonments, licenses, etc., for the City of Dallas.

Field notes will be subjected to a review process to insure substantial compliance with both the form and content outlined in these guidelines. Your cooperation is needed to assist the City of Dallas in preparing and processing the legal instruments so that these field note descriptions can be relied upon to provide certain relevant information in a reasonably standard format.

Surveys and descriptions must meet all of the requirements of the Texas Board of Professional Land Surveying (Rules), and fully comply with the Professional Land Surveying Practices Act (Act).

For the laws regarding land surveying and the preparation of field note descriptions, please refer to the publications of the Texas Board of Professional Land Surveying.

Field notes for the purposes of these guidelines are defined as a worded metes and bounds description of the results of an on-the-ground survey of real property.

Field notes shall include sufficient information to identify the location, boundaries, Monumentation, and area of the described tract, as well as its relationship to the parent tract out of which it was surveyed, and all adjacent tracts. Each field note description will be accompanied by a drawing which graphically depicts the worded description.

Field notes submitted to the City of Dallas Survey Section for review shall be typed on a plain $8 \frac{1}{2}$ x 11" white bond paper and shall include at least three (3) sets, bearing the original seal, date and signature of the responsible surveyor.

All originals are to be of high reproductive quality and legibility.

Each of the three sets of field note descriptions shall consist of the following parts:

PART 1 – HEADING

This part shall appear on the top of each page and include the following information:

- The area in square feet and acres of the proposed conveyance.
 In all cases where area is stated, it shall be expressed in both square feet and acres.
 Acreage may be in parenthesis following the square footage.
- The official city block number of the affected tract of land.
- The type of conveyance for which the tract is being described

 e. drainage easement, street widening, Right-of-Way dedication, water easement,
 wastewater easement, covenant, abandonment, license agreement, ingress-egress, etc.
 (A "corner clip" must be further defined to express the actual type of easement
 conveyed.)
- For Right-of-Way acquisition, include name of the effected roadway.
- The owner's name(s) whose tract is affected by the conveyance.

PART 2 – GENERAL DESCRIPTION

- The area described in the field notes described in square feet, with acres in parenthesis.
- The Survey and Abstract number.
- Citing the appropriate **County** and **City**, **Subdivision name**, **Lot and Block designation** (when applicable). Official City of Dallas Block numbers are sometimes different from Addition plat Block numbers.
- Dallas County Recording nomenclature:
 - Prior to 1903: all records, including maps and addition plats filed in Dallas County Records were filed as **Deed Records**
 - Plats and Additions recorded in Volume 1, Page 1, beginning January 14, 1903 thru Volume 51, Page 154, ending February 14, 1963 were filed as **Map Records**
 - Deeds, plats and additions recorded from February 1963 thru Volume 2003221, Page 10186 thru November 4, 2003 are recorded in **Deed Records**
 - Deeds, plats and additions recorded from November 4, 2003, starting with Volume 2003221, Page 10186 thru to the present are filed in Official Public Records
 - Dallas County records went from a Volume and Page filing system to an Instrument number filing system in mid 2005.
- Ownership information for the effected area: the current record owner's name and the type of conveyance instrument (i.e. Warranty Deed, etc.).
 Neither a Deed of Trust nor a Quit Claim Deed convey title, and are therefore not acceptable.

- The conveyance instrument recording information shall be included (Deed Record designation, Volume, Page, cause number, execution date, etc.)
- A legible copy of the current deed of ownership must be attached to each field notes submitted.
- All Right-of-Way abandonments must include reference information as to how the Rightof-Way was created, such as by deed with Volume, Page, date, or dedicated by Addition plat, with recording information.

PART 3 - PARTICULAR DESCRIPTION

This part shall contain specific information identifying the boundary of the described tract. As a general rule, descriptions should be written with the calls proceeding in a clockwise direction from the point of beginning.

The mathematical figure described must close with a precision of at least $1:15,000 \pm 0.10$ feet.

The following items should be clearly identified within this part of the description:

• **Point of Beginning**: identifying the type and size of monument found (or set), and its relationship to the parent tract, explaining which corner of the described tract it represents.

Point of Beginning shall be tied to a found monument of record, at a dedicated street intersection, Block corner or Lot corner recorded in the subdivision plat or parent tract containing the tract of land.

All monuments set shall be (at a minimum) 5/8" diameter x 18" iron rods capped with Surveyor's name and registration number or Survey Company's name.

- **Points of reference or Commencement**: (if applicable) identify the type and size of monuments and their relationship to the Point of Beginning.
- Metes and bounds calls: stating bearings in degrees, minutes and seconds; distances in feet and hundredth of a foot.

Curve Data:

Defined curve geometry such as Point of Curvature (P.C.), Point of Tangency (P.T.), Point of Reverse Curvature (P.R.C.), and Point of Compound Curvature (P.C.C.) are always tangent to curve.

A call for any of these elements is understood to be a point of tangent alignment. Point on Tangent (P.O.T.) is defined as lying on a line, and Point on Curve (P.O.C.) is a point lying on a curve.

If the beginning of a curve, or any change in alignment involving a curve is not a tangent point, the field notes must state the fact.

Curves shall be defined by

- their **direction** being left or right,
- tangent or non-tangent,
- **delta** or central angle,
- radius,
- arc length,
- chord bearing and chord distance.

 References to adjoining properties (calls for adjoiners): which helps to identify or clarify the described boundaries.

Show dimensions for all boundaries of adjoining properties.

- Right-of-Ways (indicating width)
- Natural or physical locative features
- Witness or reference monumentation, etc.
- **Reference discrepancies**: note when recorded measurements and field measurements differ.
- Volume and Page of any covenants, licenses, or easements the described tract is subject to.
- Area in square feet and acres.
- **The Basis of Bearings** need to be clearly stated at the end of every metes and bounds description on which the description was established.

Per the "Professional Land Surveying Practices Act and General Rules of Procedures and Practices," under §663.19 (b)

"Courses shall be referenced to an existing physically monumented line for directional control **or** oriented to a valid published reference datum and shall be clearly noted upon any report, survey plat or other written instrument."

Therefore, if a boundary line is used as Basis of Bearings it must be a line with a minimum of two monuments.

Reference or cite controlling monuments and the recording information of the instrument of which defines the Basis of Bearings.

Reference to a Datum, such as "Texas State Plane Coordinate System, North Central Zone, North American Datum of 1983" is sufficient.

• Each page of multiple pages must be referenced to each other with **page number** and total number of pages included, i.e. Page 1 of 4.

NOTE:

A legible copy of the recorded plat(s) and/or parent tract(s) cited must be supplied with the field notes.

FIELD NOTE DRAWING

Field note descriptions shall be accompanied by a field note drawing produced on a plain $8 \frac{1}{2}$ x 11" white bond paper bearing the seal, date and signature of the responsible Registered Professional Land Surveyor.

All copies shall be of high reproductive quality and legibility.

In an instance where the field note description represents a part of a larger subdivision plat or tract of land, you will be required to reproduce the appropriate portion of the larger subdivision plat or tract of land.

Field note drawings shall show the following:

- North arrow and graphic scale (or mention of the drawing being not to scale).
- Legend which includes symbols for all monuments found or set and description.
- Title block giving information on
 - the tract to be acquired with Block and Lot numbers (if exists),
 - the purpose of the acquisition,
 - surveyor and drafter information
 - file number to be recorded in the City of Dallas Survey Records Vault
 - folder to be recorded in at the Survey Records Vault
 - date
 - scale
- Survey and Abstract name and number. Approximate Survey line between two surveys labeled on both sides of the line where it is applicable.

Do not show topographic information.

- To easily identify the subject tract, the property to be acquired shall be shown on the drawing with a solid line, with a line-weight significantly heavier than any other. Block boundaries and Right-of-Ways shall also be significantly different from other line segments (see example attached to these Filed Note Guidelines).
- Information to identify adjoining properties or locative features, including subdivision, Lot and Block designations, names of adjoining owners of record, Volume and Page references to instruments defining adjoining boundaries, including roadways (with Rightof-Way width information) or prominent natural features.
- Relationship of the described tract to its parent tract(s), showing any appropriate Lot and Block designation(s), subdivision name(s), and recording information. Show bearings and distances for all abutting properties.
- Location of the Point of Commencing (if it exists), the Point of Beginning and any reference or witness points.
- Monuments set at each corner of the tract of land to be acquired, whether it is fee title acquisition or easement.

All corners must be monumented, per the "Professional Land Surveying Practices Act and General Rules of Procedures and Practices," under §663.17 (b):

"When delineating a property or boundary line as an integral portion of a survey (survey being defined in the Professional Land Surveying Practices Act, §1071.002 (6) or (8)), the land surveyor shall set, or leave as found, sufficient, stable, and reasonable permanent survey markers to represent or reference the property or boundary corners, angle points, and points of curvature or tangency. All survey markers shall be shown and described with sufficient evidence of the location of such markers on the surveyor's plat."

- All bearings and distances referred to in the field note description. Avoid using tables for line and curve information.
- Reference and clearly identify discrepancies, i.e. measured bearings and distances vs. recorded bearings and distances.
- Easements shall be shown and identified by width, use and ownership, and tied to parent tract.
- Area of the described tract in square feet and acres.
- The name(s) of the present owner(s) of record as cited in the deed of the described tract and surrounding properties with recording information.
- Basis of Bearings:

Per the "Professional Land Surveying Practices Act and General Rules of Procedures and Practices," under §663.19 (4)

"Courses shall be referenced to an **existing physically monumented line** for directional control **or** oriented to a **valid published reference datum** and shall be clearly noted upon any report, survey plat or other written instrument."

- Sign and seal of the surveyor conducting the survey of the property.
- Each page of multiple pages must be referenced to each other, with page number plus total number of pages included, i.e. Page 1 of 4.

LOCATOR MAP

Locator Maps are used for Council Agenda items, to identify the general area of the project. Drawing shall be plotted on a plain $8 \frac{1}{2}$ x 11" white bond paper.

No company letterheads or logos.

The drawing need not be at a specific scale, it generally indicates the subject parcel boundaries and includes readily recognized streets. The effected parcel shall be cross hatched.

A legend shall denote the purpose of the cross hatched area – i.e. "Area to be acquired for Street Widening"; "Area to be acquired for Drainage Easement"; etc.

As the Locator Map will not be filed for record, it will not be necessary to number this page.

DESCRIBING EASEMENTS

Easements will be prepared by metes and bounds description, unless prior approval is granted to use another method of description.

Descriptions for easements will be subjects to the same guidelines as for fee title or Right-of-Way conveyances.

All easement corners are required to be monumented per the "Professional Land Surveying Practices Act and General Rules of Procedures and Practices," under §663.17 (b):

"When delineating a property or boundary line as an integral portion of a survey (survey "being defined in the Professional Land Surveying Practices Act, §1071.002 (6) or (8)), the land surveyor shall set, or leave as found, sufficient, stable, and reasonable permanent survey markers to represent or reference the property or boundary corners, angle points, and points of curvature or tangency. All survey markers shall be shown and described with sufficient evidence of the location of such markers on the surveyor's plat."

§1071.002 (6)

"Professional surveying" means the practice of land, boundary, or property surveying or other similar professional practices. The term includes:

(A) (iii) preparing and perpetuating maps, record plats, field note records, easements, and real property descriptions that represent those surveys.

All metes and bounds descriptions prepared for easements shall be tied to physical monuments of record related to the boundary of the affected tract.

TEMPORARY WORK SPACES

Temporary work spaces will require a metes and bounds description, when a temporary work space is prepared to accompany and adjoin a permanent easement. The guidelines for easements will be used for temporary work spaces. The following checklist is provided for your convenience. It is intended as a minimum standard.

FIELD NOTE CHECKLIST

For your help in field note submittal include the following:

Three (3) sets of signed, sealed and dated field notes of the RPLS who prepared the description
Closure sheet – 1 copy
Copy of the recorded instrument of current ownership of the property to be acquired or the easement or Temporary Work Space

PART 1 : HEADING

Size of property to be acquired in square feet and acres
Type of conveyance
City Lot and Block number
Name of affected roadway, creek, project, etc.
Name of the owner of the tract of land

PART 2 : GENERAL DESCRIPTION

Size of property to be acquired in square feet and acres
Survey name and Abstract number
City, County and State where the property is located
Subdivision name, Lot and Block number, County Land Records recording information. Copy of subdivision map must be supplied with recording information Official City of Dallas Block number (sometimes different from Addition plat Block number)
Current record owner's name as cited in the deed, type of conveyance instrument (Deed of Trust or Quit Claim Deed is not acceptable), recording information (Volume, Page, cause (if applicable), execution date, etc.) with Records information

PART 3 : PARTICULAR DESCRIPTION

Point of Commencing (if used)
Point of Beginning
Bearings and distances around the tract of land to be acquired
Curve data: direction of the curvature, tangent or non-tangent, all significant curve elements (radius, delta, length, chord bearing and chord length)
Monuments set for the property to be acquired and monuments found and called out with size, type, with plastic cap stamped with the RPLS number or company name
Property information: Lot or Tract number, Block number, subdivision name(s), current owner's name and recording information
Roadway information (if encountered) with Right-of-Way width specified in parenthesis
Adjoining properties – any adjoining property call must have recording information
Any easements, covenants, licenses, etc., that tract is subject to, included in the description and shown on the field note drawing
Area in square feet and acres for the tract of land to be acquired or easement or temporary work space.
Basis of Bearings statement
Seal, signature and date of RPLS who prepared the description

FIELD NOTE DRAWING CHECKLIST

North arrow
Graphic Scale (if applicable)
Legend with symbols and descriptions of monuments set and found
Survey name and Abstract number, approximate location of Survey line between surveys (if near enough) labeled on both sides of the line
"Area to be acquired" with area in square feet and acres
Point of Commencing (if used), Point of Beginning
All bearings and distances as referred to in the field notes with notation to differences from record and measured distances
 Point of Curvature (P.C.) Point of Tangency (P.T.) Point of Reverse Curvature (P.R.C.) Point of Compound Curvature (P.C.C.) Point on Tangent (P.O.T.) Point on Curve (P.O.C.)
All Curve data along curve segments: radius, arc length, delta (central angle), chord bearing and chord length Identify non-tangent curves
Addition name (if it exist, or otherwise note "Unplatted") and/or Ownership information (name as appears in the recorded instrument and recording information) of all adjoined properties called in field notes Common ownership between platted lots shall be shown
Identify specific purpose areas shown on the plat (detention area, escarpment areas, floodway easement, park and common areas, etc.)
Easement(s) information : show and identify all easements with width, use and ownership information, where applicable
Corporate (City) limits and County lines, where applicable
Basis of Bearings statement
Seal, signature of RPLS preparing the description, and date

LOCATOR MAP CHECKLIST

North Arrow
Wider area with recognizable streets
Effected parcel shaded or hatched
Legend

Field Notes Describing a 16,276 Square Foot (0.3734 Acre) Water Pipeline Easement To Be Acquired in City Block 7955 From ONCOR Electric Transmission Company

Being a 16,276 Square Foot (0.3736 Acre) tract of land out of the Thomas Lagow Survey, Abstract Number 759, Dallas County, Texas, and being a part of that tract of land conveyed to the Dallas Power and Light Company (current ownership is in the ONCOR Electric Transmission Company) by Deed recorded in Volume 5116, Page 37 of the Deed Records of Dallas County, Texas, and being more particularly described as follows:

BEGINNING at a 5/8 inch diameter iron rod with cap marked "DALLAS" (hereinafter referred to as "5/8" I.R. w/COD Cap") set on the Southwest line of said ONCOR property at the most Westerly North corner of a 10.00 foot wide Water Pipeline Easement to the City of Dallas, recorded in Volume 3620, Page 424 of the Deed Records of Dallas County, Texas, from which a 5/8 in dia. Iron rod found on the said DP&L Southwest line at the intersection with the common line between a tract of land conveyed to the Dallas Housing Authority by deed recorded in Volume 3575, Page 275 of the Deed Records of Dallas County, Texas, and a tract conveyed to the City of Dallas by Deed recorded in Volume 5564, Page 585 of the Deed Records of Dallas County, Texas, at the most Northerly corner of said City of Dallas tract, bears South 45°49'02" East a distance of 5.19 feet:

THENCE North 45°39'08" West with the common line between said ONCOR and Dallas Housing Authority tracts, pass at 65.25 feet the common line with a tract of land conveyed to the City of Dallas by Deed recorded in Volume 5656, Page 88 of the Deed Records of Dallas County, Texas, at 186.16 feet pass the South Right-of-Way line of U.S. Highway 175 (C.F. Hawn Freeway) conveyed to the State of Texas by Deed recorded in Volume 91204, Page 2210 of the Deed Records of Dallas County, Texas (from which a 5/8 inch diameter iron rod found, bears South 40°00'31" East a distance of 1.73 feet) and continuing for a total distance of 222.50 feet to a 5/8" I.R. w/COD Cap set on the Southwest line of said ONCOR tract, at the Northwest corner of the herein described tract of land:

THENCE North 89°44'14" East, departing the last said common line between said ONCOR and State of Texas tracts, a distance of 29.53 feet to a 5/8" I.R. w/COD Cap set in the Southwest line of a 15.00 foot wide Sanitary Sewer Easement conveyed to the City of Dallas by Deed recorded in Volume 3533, Page 372 of the Deed Records of Dallas County, Texas, and being also the Northeast corner of the herein described tract of land:

THENCE South 45°39'08" East, parallel with the Southwest line of the above said ONCOR tract and with the Southwest line of said Sanitary Sewer Easement, a distance of 1,309.02 feet to a 5/8" I.R. w/COD Cap set at the most Easterly corner of the herein described tract of land:

Field Notes Describing a 16,276 Square Foot (0.3734 Acre) Water Pipeline Easement To Be Acquired in City Block 7955 From ONCOR Electric Transmission Company

THENCE South 42°58'06" West, departing the Southwest line of said Sanitary Sewer Easement, a distance of 10.73 feet to a 5/8" I.R. w/COD Cap set at the most Southerly corner of the herein described tract of land, on the Northeast line of the above said 10.00 foot wide Water Pipeline Easement:

THENCE North 45°39'08" West, with the Northeast line of said Water Pipeline Easement a distance of 1,107.80 feet to a 5/8" I.R. w/COD Cap set at the most Northerly corner of said Water Pipeline Easement, at an inside corner of the herein described tract of land:

THENCE South 44°20'35" West with the Northwest line of said Water Pipeline Easement a distance of 10.01 feet to the **POINT OF BEGINNING**, containing 16,276 Square Feet, or 0.3736 Acres of land.

BASIS OF BEARINGS: Bearings are based on the Texas State Plane Coordinate System, North Central Zone, North American Datum of 1983.

