Section 5

HORIZONTAL CONTROL FOR PRELIMINARY SURVEY
Section 5.1

PROPERTY ACQUISITION PARCEL DRAWINGS DRAFTING STANDARDS

5.1.1 General - The purpose of this section is to establish uniform procedures for preparation of property acquisition parcel drawings, which are used to acquire property for improvement projects through negotiation or condemnation, and are used by appraisers and acquisition agents, and for court exhibits and final records. Drawings may be produced manually or by computer aided drafting (CAD). The finished sheets shall adhere to the following standards.

5.1.2 Drawing Sheet Presentation - Drawings shall contain line work and lettering that is in ink or produced by CAD process, or a combination of the two. Film applications such as Zip-a-Tone, Kroy or Merlin will not be permitted, except for graphic scales or North arrow.

All sheets will be on paper.

Generally, sheets shall be legal size, 8 1/2 inches by 14 inches, but on rare occasions an extraordinarily large parcel may be drawn on 11 inch by 17 inch paper, to show necessary detail. A border line shall be drawn 0.4 inch in from the top, bottom, left and right sides of the sheet. A title showing project number and parcel number shall begin 0.9 inch in from the left side of the sheet, the bottom of the title line to be drawn 1.5 inches from the top of the sheet. Base sheets, showing redundant details, such as in a mapping area, may be reproduced by Xerox method, with specific parcel details drawn on to the reproduced sheet to prepare an individual parcel drawing sheet.

Information to be shown on a parcel sheet is generally that which is required on a boundary survey plat. Street names, subdivision names, block and lot numbers shall be shown for specific parcels and adjoiners. Platted, record and measured dimensions shall be shown for specific parcels and adjoiners, and marked as to which category, e.g., p., rec., m.. Proprietary easements, (public or private), or easements granted exclusively to public agencies other than the City of Topeka shall be shown. Public easements affecting the acquisition of property shall be shown, e.g., platted or pre-existing permanent or temporary construction utility easements that affect property to be acquired. Revisions to parcel drawings shall be noted, dated and initialed. Property on which all rights are to be conveyed to public use shall be shown as "Property to be acquired, fee simple", and not "Proposed right of way".

Scale shall be sufficiently large to show full detail. Insets with larger scale are permitted. Parcels with long strip takings may be broken on the same sheet with match lines.

5.1.3 Lettering - Manually drafted lettering shall be by lettering guide, Leroy or equivalent. CAD text will be Arial and font sizes shall generally correspond to Leroy equivalents. Titles, section numbers, subdivision names,
street names, river and creek names shall be #5 (Leroy - 175 CL) lettering. Block numbers shall be #4 (Leroy - 140 CL) lettering. Lot numbers and property to be acquired descriptors (Property to be acquired, fee simple; Permanent sanitary sewer easement; Temporary construction easement; etc.), shall be #3 1/2 (Leroy - 100 CL) lettering. Dimensions, bearings, existing property descriptors (easement types, specific survey information, etc.), graphic scales text, shall be #2 (Leroy - 80 CL) lettering.

5.1.4 Line Weights and Types - Line weights shall be as follows:

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.25 mil</td>
<td>Cross-hatching, dimension and leader lines, graphic scales</td>
</tr>
<tr>
<td>.30 mil</td>
<td>Lot and easement lines</td>
</tr>
<tr>
<td>.35 mil</td>
<td>Block lines</td>
</tr>
<tr>
<td>.50 mil</td>
<td>Subdivision or tract lines, property area outlines on which rights are to be acquired</td>
</tr>
<tr>
<td>.60 mil</td>
<td>Street center lines and section lines</td>
</tr>
<tr>
<td>.80 mil</td>
<td>Border lines and specific parcel outlines</td>
</tr>
</tbody>
</table>

All linework shall be solid, unbroken lines, except for informational lines on former property lines, such as vacated streets or lots, where lines must be broken for text, and also except for centerlines and section lines.

5.1.5 Cross-Hatching - Property on which rights are to be conveyed shall be cross-hatched as follows:

Property to be acquired, fee simple - solid lines broken for text, drawn on approximate 1/8 inch centers, at a 60 degree angle from the horizontal, up to the left (1 o'clock position). Permanent easements - solid lines broken for text, drawn on approximate 1/8 inch centers, at either a vertical or horizontal orientation, whichever best contrasts with other linework. Temporary easements - dotting.

5.1.6 Graphic Scales and North Arrow - Drawing sheets shall be oriented so that North is directly towards the top or left side of the sheet.

Graphic scales and North arrows shall be as shown in Section 2.1.1.5.5. The North arrow shall be directly above the scale bar.
Figure 5.1.6.1
Section 5-2

PROPERTY ACQUISITION LEGAL DESCRIPTIONS CRITERIA

5.2.1 General - The purpose of this section is to establish uniform practices for development of legal descriptions for property right acquisition. The writing of legal descriptions shall conform to generally accepted real estate legal description practices and shall be directed by a Registered Land Surveyor. Instruments prepared to convey property rights and which contain an original legal description shall be signed and sealed by a Registered Land Surveyor responsible for the description.

5.2.2 Public Land System Lines to Control - In writing descriptions to acquire property, preference shall be given to descriptive calls that reference accepted section lines, e.g., "All of Lot 4, Block W, XYZ Subdivision in the City of Topeka, Shawnee County, Kansas, which is south of a line which is 60 feet north of the South line of the Southwest Quarter of Section 24, Township 11 South, Range 15 east of the 6th P.M.". Also, on larger projects that can be economically tied to the Public Land System, and which must use metes and bounds descriptions, section corners and section lines shall be used as points of commencement and basis of bearings, respectively, e.g., "Commencing at the Southwest corner of the Southwest Quarter of Section 24, Township 11 South, Range 15 east of the 6th P.M.; thence North 88 degrees, 24 minutes and 16 seconds East, on the South line of said Southwest Quarter, 1318.00 feet; thence North 01 degree, 35 minutes and 44 seconds West, 40.00 feet, to an intersection with the South line of Lot 4, Block W, XYZ Subdivision in the City of Topeka, Shawnee County, Kansas; thence North 43 degrees, 24 minutes and 16 seconds East, ... ". If a project is so small and distant from section line control that it is impractical to make a section line tie, references may be made to lot lines and lot corners.

5.2.3 Area Computation - At the end of each parcel property acquisition legal description, the area enclosed shall be shown, rounded to the nearest square foot for urban, residential or commercial use property, and to the nearest one one-thousandth of an acre for agricultural use property. This area shall be exclusive of any other property rights to be acquired from the same parcel.

For each project, a separate report shall be prepared showing the aggregate area to be acquired from each parcel for:

1. Permanent easements of all types
2. Temporary easements of all types
3. Right of way (if right of way is to be acquired from a parcel, a tabulation of the entire area of the parcel, less road record rights of way, shall also be shown.)
5.2.4 Easement Usage to be Specific - The title for all permanent easements shall be restricted to its particular usage. For example, a sanitary sewer project requires a "Permanent Sanitary Sewer Easement" and not a "Public Utility Easement", unless the easement is to be used for more than the sanitary sewer, to complete the project. Likewise, underground storm conduits are to be constructed in a "Permanent Storm Sewer Easement" unless there is also to be overland passage of storm water. In this case the easement is titled "Permanent Drainage and Storm Sewer Easement". On all overland drainage easements where unobstructed flow is a design or safety factor, the following clause shall be inserted between the legal description body and the final line containing the area.

This drainage easement provides for the unobstructed overland flow of surface water and/or the construction and maintenance of pipe, flume, ditch or any improvements for the drainage of said water. The property owner(s) shall not place any permanent or semipermanent obstruction in said easement. All maintenance within the drainage easement, other than to improvements constructed for drainage of water, shall be the responsibility of the property owner(s). If maintenance by the property owner(s) is neglected or subject to other unusual circumstances, and is determined to be a hazard or threat to public safety by the Director of Public Works of the City of Topeka, corrective maintenance may be performed by the governing jurisdiction with costs assessed to said property owner(s).

5.2.5 Documents - For each property right to be acquired, legal descriptions shall be provided on two documents, one typed on letter size white bond paper under a heading denoting the project number, parcel number and type of acquisition. The second document shall be on a deed or instrument form provided by the City of Topeka and shall be completed only as to legal description, type of easement - "an easement for a ...", as to Easement No. (1T for Parcel 1, temporary construction easement, 6P for the only permanent easement to be acquired on Parcel 6, or 7P San. Sew. for a sanitary sewer easement on Parcel 7 and 7 P St. Sew. for a storm sewer easement on Parcel 7), project number after "FOR..........." and in the case of temporary construction or access easements, the phrase "This easement shall expire two years from date." shall be typed after the line "...and on completion of contract for construction of such improvement, this grant shall be relinquished by the party of the second part."

Permanent Sanitary Sewer Easement

All of Lot 4, Block W, XYZ Subdivision in the City of Topeka, Shawnee County, Kansas, which is south of a line which is 60 feet north of the South line of the Southwest Quarter of Section 24, Township 11 South, Range 15 east of the 6th P.M. Contains 3000 square feet, more or less.
Section A.1

Hydraulic Design Curves for Curb Inlets

The following symbols are used with the hydraulic design curves in this section.

\[ S_o = \text{longitudinal slope of roadway} \]
\[ S_x = \text{transverse street cross slope} \]
\[ W = \text{width of spread, ft} \]
\[ T_p = \text{width of spread only on the pavement, ft} \]
\[ D = \text{water depth in the approach flow measured from the lowest point in the gutter, ft} \]
\[ n = \text{roughness coefficient} \]
\[ Q_i = \text{intercepted flow by an inlet, cfs} \]
\[ Q = \text{total discharge of the approach flow, cfs} \]
\[ Q_i/Q = \text{intercept ratio} \]
\[ L = \text{length of curb-opening inlet, ft} \]

Drawings attached in hard copy only