CITY OF TULSA ENGINEERING DRAFTING GUIDELINES

COT_EngineeringDraftingGuidelines_ForOutsideConsultants.doc

GENERAL LAYOUT FOR ALL PROJECTS

Standard project sheet layout should be organized as follows:

- Sheet 1 = Cover Sheet (use standard cover sheet from City of Tulsa)
  - Project title
  - Project number
  - Account number
  - Sheet index
  - Engineer contact information
  - City of Tulsa map with project location indicated
  - Utility coordination box
  - Call Okie 811 logo
  - Signature line for Public Works Director
- Sheet 2 = Pay Quantities (link to spreadsheet) and Construction Notes on COT standard titleblock.
- Sheet 3 = Project Site and overview map / SSID boundary map / Drainage area map / ROW map (default scale of 1"=100') on COT standard titleblock.
  - Location map with Township-Range-Section and arterial streets
- Sheet 4 = Plan & Profile sheets on COT standard titleblock.
  - Location map with Township-Range-Section and arterial streets (first P&P page only.)
  - Plan on top/Profile on bottom
  - Horizontal scale 1"=Plan scale / Vertical scale 1"=5'
  - Proposed = **BOLD** / Existing = light / Abandoned = dashed
  - Plan/Profile views do not pass to the right of the titleblock. This space is reserved for:
    - Call Okie 811 logo
    - General notes
    - North Arrow
    - Benchmark
    - Location Map (has its own smaller north arrow)
    - Engineer's seal
- Cross-Sections
- Detail Drawings (including City "typicals" which are not signed)
- City of Tulsa Engineering Standard drawings (use pre-approved version with Dept. Head signature)

Standard sheet size = 22" x 34" (also known as ANSI D size)

- ½" margin outside border of titleblock; actual border dimension is 21" x 33"
- ½" margin inside border of titleblock between plan/profile views and border
- match lines with stations are required for multiple sheet layouts
- path name/project number/initials/last edit date should be placed along left outside of border

COT standard titleblock should be completely filled out with:

- project title
- project number
- project location (address or intersection)
- scale
- date
- initials
- atlas page(s)

Symbology and Levels should be in accordance with the standard grid attached

- text height must be a minimum of 1/8" on ANSI D size sheets (this will provide legibility on a 50% reduction)
- font default is Arial (this will match our manual lettering machine)
- all text should be in CAPS (except inlets)

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WHAT TO SHOW ON DESIGN PLANS

Plan View

- All existing features shown from SURVEY
- Do not use orthophotos for base
- Finished floor elevations of adjacent buildings
- Legal lots, blocks, subdivisions, rights-of-way, easements, bearings and distances, etc. from PLATS (do not use COT atlas or county cadastral maps)
- Existing utilities in the vicinity located by SURVEY or UTILITY COMPANY (do not use COT atlas)
- Topographic data from SURVEY (do not use COT atlas scale DTM data)
- Proposed alignment with stations (sanitary sewers station 0+00 from each manhole)
- Length of pipe segments between structures (except water lines)
- Horizontal dimensions of alignment from right-of-way or easement
- Manhole structures numbered sequentially in circles with leader lines
- Inlets lettered with lower case letters
- Quantity boxes (water line design only)
- Special instructions for contractors

Profile View

- Ground elevation along proposed alignment (label)
- Stationing (should match and line up with plan view)
- Vertical dimensions (depth) from centerline of grade
- Ground elevations of top and toe of ditches within 20’ of proposed pipe
- Depth cross-sections of utilities in vicinity of proposed pipe
- Bore locations
- Material type to be used for pipe
- Lengths of pipe segments between structures
- Locations and depths of all structures, junctions or tees, horizontal bends

Final plans should be plotted to mylar prior to review by Deputy Director

A Computer Aided Drawing (MicroStation release 7 or greater dgn file or AutoCAD release 2000 or greater dwg file) of the final drawings referenced to a section corner based on the Oklahoma North State Plane coordinate system (FIPSZONE: 3501) NAD83 HARN Adjustment with coordinates in U.S. Survey Feet for horizontal control, and vertical control based on the North American Vertical Datum 1988 (NAVD 88) shall be submitted with the Record Drawings on a digital CD.

Final submittals must include all City of Tulsa Public Works Engineering Services Plan Review Checklists, Standard Specifications and Details (see http://www.cityoftulsa.org/city-services/engineering.aspx).

Final submittals must also meet Public Works Engineering Services Design Criteria for each design section.

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ESSENTIAL VIEW INFORMATION

Base View

- Base (cadastral as shown on plats)
  - right-of-way
  - right-of-way dimensions
  - subdivisions
  - subdivision names
  - blocks
  - block numbers
  - lots
  - lot numbers
  - lot dimensions
  - street names
  - points of interest
  - closings/vacations/deeds/ordinances etc.
  - City-owned property
  - no easements

Water View

- Water (water distribution system facilities)
  - Water mains
    - diameter
    - public or private
  - valves
  - hydrants
  - manways
  - Critical Customers
  - meters
  - pump stations
  - project numbers
  - primary/secondary boundaries
  - private lines, valves, and hydrants

Wastewater View

- Sewer (sanitary sewer collection system facilities)
  - Sanitary sewer mains
    - lengths
    - diameters
    - material type
    - flow direction
    - public vs. private
  - manholes
    - standard
    - drop
    - lampholes
  - lift stations
  - project numbers
  - creeks, ponds, and tributaries
  - SSID district boundaries
  - sewer maintenance boundaries

Stormwater View

- Storm (storm sewer collection system and channel facilities)
  - Storm sewer mains
    - lengths
    - diameters
    - material type
    - flow direction
    - public vs. private
  - Culverts and bridges
  - Structures
  - Manholes
    - Standard
    - Drop
    - Junction boxes
    - Inlet with manhole on back of curb
  - Inlets
  - Project numbers / drawing numbers
  - Channels / ditches
  - Creeks / ponds / tributaries / waterbodies
  - Levees / dikes
  - Detention / retention facilities
  - Basin boundaries
  - Curb vs. edge of pavement
    - Surface drainage flow indicators

Pavement View

- Paving (pavement management features)
  - Edge of pavement vs. curb and gutter
    - Pavement type
    - Dimensions
    - Public vs. private
  - Sidewalk indicators
  - Pavement management database identifiers

Address View

- Address (current address)
  - Assigned addresses
  - Use latest house numbering located at Permit Center

Floodplain Maps

- Floodplain (City of Tulsa regulatory floodplains)
  - Regulatory floodplain line in relation to base map