

City of Tulsa

Consultant Plan Review Check List – Water Design Section

Project Number: _____ **Cost Estimate** _____

Project Name: _____ **Preliminary Submittal**

Consultant Name: _____ **Final Submittal**

A. Cover Sheet

- _____ Project Name & Number, Account Number, and Location Map
- _____ Project Name & Number printed along the right hand edge of the plans
- _____ Engineer Name, Address, Telephone, Seal with signature, Date
- _____ Survey Control Data
 - _____ Horizontal Control Description (NAD83 (1993) Oklahoma State Plane Coordinate System North Zone)
 - _____ Horizontal Control Accuracy (1st order)
 - _____ Vertical Control Description (NAVD 1988)
 - _____ Vertical Control Accuracy (1st order)
 - _____ Bearing Control Description (Oklahoma State Plane Coordinate System)
- _____ Sheet Index
- _____ List of applicable CoT Standard Details: Standard Detail No. and exact title.
- _____ Okie Locate seal on all pages
- _____ Utility companies and telephone numbers listed on title page only
- _____ Public Works Director Signature Block with Advertisement Date
- _____ Engineer's Statement – This project complies with all Oklahoma Department of Environmental Quality (ODEQ) requirements
- _____ Engineers Statement – Entire project is/is not within corporate limits of City of Tulsa (COT)
- _____ Engineer's seal and signature on all sheets

B. General Construction Notes and Pay Item Notes

- _____ All construction to be in strict accordance with current City of Tulsa, Public Works Department Standards and Specifications
- _____ Restoration notes
- _____ Restoration plan
- _____ Rehabilitation and other pipeline projects: Full restoration of all items
- _____ Summary of pay quantities/spec no. in a table with a proper heading (Water Line Quantities)
- _____ General notes/symbols/schedules
- _____ Reference City of Tulsa Blasting Ordinance if rock excavation is expected and include a pay note stating that blasting is included as unclassified excavation
- _____ Testing and Chlorination Requirements with General Specifications Section 109.3
- _____ Pay Item Notes are correctly referenced in the table of Water Line Quantities
- _____ Legend

C. Survey Data Sheet

- _____ State Plane Coordinates on all proposed and existing manholes
- _____ USGS Elevations using current datum
- _____ Minimum of two land ties (property pin, permanent or temp monument) providing hor./vert. control at each end of project and two land ties (section corners) at each section crossing
- _____ Survey Coordinate Table
- _____ Boundary survey page indicating survey control points and other relevant information.
- _____ Right-of-Way and Survey sheets signed by Oklahoma Licensed Surveyor
- _____ Right-of-Way to Right-of-Way both sides of the street
- _____ Show tree trunk and dripline, fences, building faces close to Right-of-Way, culverts, drives, flowlines, retaining

City of Tulsa

Consultant Plan Review Check List – Water Design Section

walls, and all other unmoveable objects.

_____ Near tie ins, pull water valve lids and pick up elevation of top of nut, to identify waterline elevation

_____ **Call okie for geotech work, immediately after, survey to pick up geotech locations and all utilities.**

D. Right-of-Way Sheet

_____ Right-of-Way (ROW) and easements (include width and bearings if unplatted) with Book and Page Number, or Document Number or Plat Number

_____ New/proposed Right-of-Way/Easements shown. Designate new Right-of-Way, permanent and temporary easements individually

_____ Show Ownership name with lot and block numbers and legal description

_____ Verify width of ROW is sufficient for the size of pipe and depth of excavation

_____ Provide table of all required easements listing ownership and date signed or book and page number

E. Design Criteria

_____ All City of Tulsa (COT) Design Criteria met

_____ All Oklahoma Department of Environmental Quality (ODEQ) Design Criteria met, (see Section F)

_____ Water and Sanitary Sewer separation (per ODEQ regulations)

_____ 2 feet vertical separation, outside to outside of pipes

_____ 10 feet horizontal separation, outside to outside of pipes

_____ Sewer pipe joints (20' PVC or 18' DIP) must be equidistant from water pipe crossing

_____ Water and Storm Sewer separation

_____ 2 feet vertical separation, outside to outside of pipes

_____ 5 feet horizontal separation, outside to outside of pipes (per ODEQ regulations)

_____ Waterlines shall be located on the east and south side of the street

_____ Waterline standard location is 8 feet from property line (Right-of-Way):If 8' can't be met, provide for the following:

- 5' is minimum clearance from the waterline to Property Line/Right of Way
- 3' minimum clearance from the waterline to the back of curb.

_____ Agg Base backfill entire trench under all paved driving surfaces

_____ Proper sized conduit with 3/8" steel wall thickness

_____ Fire hydrants shall be spaced (recommend 300' to 500' apart) to meet the COT requirements and on property lines

_____ Valves shall be added as necessary to allow for isolating portions of waterlines

_____ All fittings shown as restrained

_____ Minimum cover of 36" over waterline using lowest grade in the vicinity (In general, the water mains are to be three (3) feet minimum below the proposed finished grade over the main, and three (3) feet minimum below the centerline of the street, and four (4) feet minimum below the pavement if the water main is under the pavement, below the invert of a bar ditch, or creek crossing)

_____ Maximum waterline depth of 8'-0" unless approved by COT Water Design Section. With the exception of creek crossings, and road crossings, etc.

Channel or creek crossing:

_____ Four (4) feet minimum clearance below bottom of creek

_____ D.I.P. only

_____ ODEQ regulations Section 252:626-19-2(9)(B) - Under Water Crossings

- Provide valves at both ends of water crossings so that the section can be isolated for testing or repair. The valves must be easily accessible and not subject to flooding. The valve closest to the supply source must be in a manhole, and have a tap on either side.
- Make permanent taps on each side of the valve within the manhole to allow insertion of a small meter for testing to determine leakage and for sampling purposes

_____ Provide restrained joints and fittings a minimum of 20 feet into each bank of the crossing

_____ Bank stabilization (Riprap per COT Standards)

_____ Design the pipe for river crossings and have flexible watertight joints

_____ Megalugs are not a separate pay item

_____ No taps on waterlines larger than 16-inch, please discuss with Project Manager

City of Tulsa

Consultant Plan Review Check List – Water Design Section

- _____ Independent valves on fire hydrant on lines 12" and larger or 6" & 8" along Arterial Streets
- _____ Minimum pipe size is 6"
- _____ All dead ends must have a fire hydrant or blow off assembly
- _____ Conduit must be installed level
- _____ Pipe must be level where valves and fire hydrant is to be installed
- _____ Street crossings (non-arterial street crossings shall be DIP/PVC/HDPE, All street crossings to be in bored conduit or open-cut with compacted agg base; D.I.P. in conduit on arterials)
- _____ Valve and Fire hydrant Extensions
- _____ Meter Cans

F. Plan and Profile Sheets

- _____ Project Location Map
- _____ Consultants seal on all pages
- _____ City of Tulsa Title Block with advertisement date
- _____ North arrow (Top of page or to the Right) with plan scale – written and graphic
- _____ Atlas Page Number
- _____ Bench Marks (USC&GS Datum) on each P&P sheet
- _____ Existing utilities and features shown in plans
- _____ Existing utilities and features shown in profile with stations and flow line elevations or top of pipe elevations.
- _____ Lettering 12 point
- _____ New Construction shown in bold font
- _____ Easements (distance and bearings) width dimensions/ Right-of-Way
- _____ Pipe type and size shown
- _____ Vertical scale 1" = 10' / 1"= 5'
- _____ Horizontal scale shall be 1"=30'
- _____ Valve, fire hydrant, fitting, air release valve or other appurtenance shall be shown on P/P sheets with station number, Northing and Easting, and size
- _____ Plan includes detail of both sides of the street
- _____ Show FEMA A-Zone and Regulatory Floodplain
- _____ Master meter vault locations with reference to detail sheet
 - _____ New/replacement residential meters located within Right-of-Way and 2'-0" off property line
 - _____ Separate meter box for residential service pressure reducing valve (PRV) shall be located between property line and meter box
- _____ All list of material's boxes shall show: "Furnished by Contractor", "Installed by Contractor"

G. Standard Details are shown as part of the specifications with the exception of the following:

- _____ Air/vacuum/release valve for waterlines 16" and larger, or elevation changes of 15' or more
- _____ Specials (Booster Pump Station, Water Towers, River Crossings, Storage Tanks)

H. Reviews (As Necessary)

- _____ Utility Coordination Seven (7) Sets of preliminary and final plans (30-day response required).
- _____ Underground Collections
- _____ Field Engineering
- _____ Water Design
- _____ Storm Water Design
- _____ Sanitary Sewer Design
- _____ Transportation Design
- _____ Graphic Design
- _____ Infrastructure Management
- _____ Park Department
- _____ Surface Drainage
- _____ River Parks Authority
- _____ Local County Agency

City of Tulsa
Consultant Plan Review Check List – Water Design Section

I. Release Letter

____ Utility Coordinator
____ Right-Of-Way Section Manager

J. Permits (As Required)

____ Corp of Engineers
____ Levee Authority
____ Railroad Crossing
____ ODOT
____ Turnpike Authority
____ ODEQ Permit for construction and engineering Report Form (New water or revised design)
____ NPDES (SWP3 required for all projects disturbing one (1) acre or more; Notice of Intent (NOI) to be completed by contractor)
____ Watershed Development Permit if construction is within the floodplain
____ Other

K. Specifications

____ City of Tulsa Front End Specifications
____ General provisions
____ Special provisions
____ Insurance requirements
____ Measurement and payment
____ Technical Specification

L. As-Built/Record Drawings

____ Changes in final drawings indicated or highlighted
____ Signature block for Inspection/Engineer preparing record drawings
____ Record Drawings stamped on each page

Prepared By (Consultant): _____ **Date:** _____

Project Engineer (City): _____ **Date:** _____

Lead Engineer (City): _____ **Date:** _____