



CITY OF DALLAS DESIGN CHECKLIST

Project Name: _____

MAPSCO # : _____

Date: _____

Plat #: _____

REFERENCE

DFT - Drafting Standards for Water / Wastewater Pipeline Projects

MNL - Water & Wastewater Procedures & Design Manual

SDC - Development Design Procedure and Design Manual

DWG - Standard Drawings for Water & Wastewater Construction

Design & Construction Standards may be found online at www.DallasCityHall.com > Departments> Sustainable Development and Construction> Engineering> Engineering/Survey Forms, Procedures and Checklists

GENERAL

- Application for Review of Water/Wastewater Design Plans (SDC Form 11.38) (1st submittal only).
- Plans and profile are clear and easy to read (1"=6' Vertical scale for profile).
- Title block: _____ Signature Block: _____

REVISIONS				
REV. NO.	DATE	DESCRIPTION	BY	
CONSULTING ENGINEERING FIRM				
TBPE FIRM REG. NO. _____				
SD&C PID: XXXX		CITY FILE NO.: SXXX-XXX		
PROJECT TITLE				
LOCATION				
LIMITS				
DALLAS WATER UTILITIES				
CITY OF DALLAS, TEXAS				
	DRAWN	DATE	FILE	NUMBER
DESIGNER	DRAFTER	MONTH YEAR	XXXX	XXXX
				SHEET XXX

Engineering Firm: [Name of Engineering Firm & TBPE Registration Number]

Design By: _____ [Record Engineer Signature] or [Printed Name] Date: _____
[Engineer of Record: {Name} or [Blank]]

Accepted for: _____ Date: _____
Construction Sustainable Development & Construction

Contract No: _____ Date: _____

Contractor: _____

- City File Number: SXXX-XXX (To Match Most Current Effective Plat).
- SDC signature line of Signature Bloc has sufficient space for our signature.
- Preliminary Disclaimer Block (DFT 3-8), OR seal & signature, AND TBPE Firm Registration Number Correct Scale, MAPSCO pages, and Location Map (in upper right corner of plans).
- As-built water and wastewater map numbers are labeled on plans (Referenced from GIS or Water Vault 320 E Jefferson Room 215).
- Two Benchmarks per design sheet (One benchmark must be an approved DWU benchmark) (DFT 3-9).
- North arrow, Caution notes (including Texas one Call 1-800-245-4545).
- General Notes labeled on plans per SDC Form 11.02 (Residential) or SDC Form 11.03 (Commercial).
- Property and Easement alignments and bearing & distance shown on Plat must match the design plans
- ROW width and owner information labeled.
- Label Lot and Block Numbers, Lot dimensions, Street names.
- Existing utilities in area (gas, electric, cable, etc.) must be labeled and be dimensioned to PL or easement.
- Existing pavement material is labeled for all streets.
- Total proposed number of laterals & deadheads are labeled in design plan and in the General Notes.

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 320 E. Jefferson, Room 200 · Dallas, Texas 75203 · 214/948-4607
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- Proposed mains extend 5-feet past paving limits for future stub connections.
- Pavement cuts should be clearly labeled and must comply with PW&T Manual.
- Design slopes are to the nearest tenth of a percent & elevations are to the nearest hundredth in profile.
- Existing and proposed grades and ground lines are shown and labeled in profile.
- Label (FB, 411Q, 685W, 421Q), install date, material, size, and direction of flow for all ex. city utilities.
- Stationing, ties to ROW/centerline, and/or Northing/Easting callouts.
- Mains are no closer than 3 feet from the edge of ROW without an easement.
- Minimum 20' spacing from building footprint to water; 10' for wastewater main.
- Sections of parallel mains and large utilities are shown in profile with distance in feet right or left of proposed pipe in profile.
- Stations at PI, PC, and PT of proposed water mains and curve data labeled.
- Min. easement width for 8"-12" main up to 8' depth is 20' (MNL 1.8.3).
- Minimum Vertical Clearance for buildings over mains is 25' (MNL 1.8.4).
- Identify any potential environmental issues including possible soil or groundwater contamination and refer to DWU Soil Manual (MNL 1.9.3).
- Are improvements proposed in TXDOT ROW? (MNL 1.14.3);
 - TxDOT Permit number shown on plans (Coordinated by SDC Staff);
 - No mains running parallel and under existing or proposed TxDOT pavement;
 - Mains under TxDOT pavement should cross at 90 degrees (if possible) and be encased;
 - No appurtenances in TxDOT Pavement.
- DART Permit number is shown on plans (Coordinated by SDC Staff) Railroad Crossing shown on plans.
- Proposed building footprint is shown without interior walls.
- Finished floor elevations and Fixture units and proposed flow (GPM) are labeled for each building.
- 100-year flood limits are shown and labeled on plans.
- Pavement Markings are not shown on Water / Wastewater Plans.
- For new mains, all existing water services & wastewater laterals must be re-connected and called out.
- Water services & wastewater laterals must be at least 1 size smaller than main (MNL 2.4.3 & 4.4.3).
- No trees within 10' of water/wastewater mains and no trees within water / wastewater easements.

WATER

- Buildings more than 120 feet in height require redundant fire flow from two separate mains per DFR amendment to 2015 I.F.C. Coordinate with Dallas Fire & Rescue, Room 204.
- Water taps over 16" are not allowed (MNL 2.4.1).
- "Connect to" and "Install" notes are used in labels for wastewater design callouts.

≤ 2" Meter Callouts:
Example

INSTALL:
1-2" DEADHEAD (IRR.) "a"

> 2" Meter Callouts:
Example

INSTALL:
1-8"X4" TEE, 1-4" VALVE, 1-4" PLUG @ 5' FLOWLINE DEPTH.
IN SEPARATE CLOUD:
"NOT THIS CONTRACT"
4" (DOM) METER AND VAULT BY SEPARATE PERMIT.
CONTACT PERMITS AT 320 E. JEFFERSON, ROOM 118
214-948-4500. MON. – FRI. 8:00A – 4:30P

- Proposed main is not closer than 3 feet from existing main (when running parallel).
- Check Water connections do not cross pressure zones (MNL 2.2.4).
- Minimum water main size is 8" (12" required in CBD & Industrial Areas) (MNL 2.4.4).
- 10", 14", and 18" diameter water mains are not allowed (MNL 2.4.4).
- Min cover for mains 12" & smaller: Paved w/ curb & gutter 4-feet, otherwise 6-feet (MNL 2.5.2).
- Check needed Embedment & Pipe materials per table 2.6.3 (special if in CBD or Airport) (MNL 2.6.3).
 - Offsite water without pavement requires "B5" or "modified flowable" embedment
- Check minimum allowable curve radius for water pipes & label on plans (MNL 2.8.2).
- Water/WW separation: (Horiz 9') preferred or (Horiz 4' / 2' Vertical) (MNL 2.10).
- No FH within 9' of WW (includes reclaim water) (30TAC290.44(e)(6) / MNL 2.10.6).
- Crossing utilities need to be shown and elevations labeled at the crossing.
- Correct TCEQ protection is referenced at required WW / water crossings.
- Reducer must be on "through" side of a tee connection only (not on branch) (MNL 2.11.1.2).
- No crosses are allowed; must use 2 tees (MNL 2.11.1.4.2).
- Gate valves are used for 16" diameter main & smaller (MNL 3.2.1).
- Valves should be located at an offset from the street centerline intersection. Projection of property line limits along main alignment.
- A tee must have 2 valves (MNL 3.2.2.3).
- Consult with Dallas Fire & Rescue in Room 204 for all fire hydrant(FH) coverage requirements.
- FH required prior to cul-de-sac and dead end mains for 8" main (if 6" use a flush valve) (MNL 2.12.1).
- Dead end main with FH and no services must be less than 100' in length or loop the main to avoid stagnant water in dead end main. (Only 1 FH allowed on a dead end main) (MNL 3.3.3).
- Main serving FH must be 8" min. & lead to FH must be 6" diameter (MNL 3.3.1).
- Bollards in traffic areas for vertical facilities (i.e. FH) (DWG 237).
- Only one FH is out of service when a 3-valve section is shut down.
- Fire hydrants should be placed outside of radius of curb.
- Fire hydrants shall be within 2.5'-7.5' of back of curb.
- Must replace FH if over 2-years old and provide callout on plans to "Deliver salvaged FH to 2901 Municipal St., Mon – Fri 8a – 4p. Coordinate with DWU – Heavy Repairs 214-670-8970".
- Minimum of one (1) water service to each lot with no service crossing lot lines (MNL 2.13.1).
- No size on size meters allowed without special approval from DWU Distribution.
- Meter locations must be shown on drawing (MNL 2.12.2) PRV information (MNL 3.12).
- Abandoned mains shall be cut and plugged at the main in the street. (MNL 2.14).
- Salvage valves over 24" in size as requested by distribution (MNL 3.14.2.2).
- FH's and water services can be used as Air Release Valves on 8" and 12" mains. (MNL 3.6.1).
- Minimum size of deadheads that can be connected to multiple services and meters:

1" Deadhead	=	2 – 5/8" or 2-3/4"
1-1/2" Deadhead	=	2-1" or 4-3/4"
2" Deadhead	=	6-3/4" or 4-1"

WASTEWATER

- “Connect to” and “Construct” notes are used in labels for wastewater design callouts.
- All proposed mains profiled with flowline elevations and utility crossing flowlines & clearance labeled.
- Parallel water main shall be shown and labeled on WW profile with offset distance and direction labeled.
- Label existing mains to be abandoned. Label must include the year main was built.
- Small diameter wastewater mains connecting to larger diameter main shall match at crown.
- Replace Main if pipe is over 40 years old or 6” or smaller (sub-standard) (MNL 4.3).
- Main Min. & Max. pipe slope designed per Table 4.4.4 **IF full flow conditions** (MNL 4.4.5).
- Min. cover for 12” & smaller: un-paved 6’, paved 4’, highway 6’ (MNL 4.5.2).
- Verify Pipe Materials and Embedment callouts (MNL 4.6.3).
- Offsite main without pavement cover requires “B5” or “modified flowable” embedment.
- Main is only allowed in the high bank of a creek (MNL 4.7.1).
- Main is straight between manholes (WWMH) and pipe material may not be changed between WWMH.
- WWMH required at all main connections (not laterals) (MNL 5.2.1).
- Possible future connection requires WWMH with stub-outs.
- Replace brick vaults and wastewater manholes with applicable standard concrete structure.
- WWMH spacing 6”-15” (500’), 18”-30” (800’), 36”-48” (1000’) (MNL 5.2.4).
- Type S Pressure type WWMHs required in 100-yr floodplain. (DWG 313).
- No WWMHs allowed in creeks or drainage areas. (MNL 5.2.7).
- External Drop MHs required for ≥24” difference between any flow in and flow out (MNL 5.2.9).
- WWAD at end of main is needed if no future connection is expected (requires 3.5’ of cover) (MNL 5.4.1)
- Each lot must have a service. Services cannot cross lot lines (MNL 4.12.1).
- WW lateral to be a minimum horizontal distance of 10-feet downstream of water service (MNL 4.12.2).
- No service taps are allowed on 18” or larger mains (MNL 4.4.1 & 4.11).
- WW Lateral to have 2% slope (1% min.) and 2’ cover min. (MNL 4.12.4).
- Fixture count of commercial developments & number of units on apartments must be labeled (MNL 3.12.4.3) Estimated wastewater lateral sizing per (MNL 4.12.3):

Size (in)	Flow (gpm)	Fixture Units
6	0-180	0-720
8	180-4,000	720-2,640
10	4,000-7,000	2,640-4,680
12	7,000-11,600	4,680-8,200

- Building finished floor elevation must be ≥ 18” above Controlling WWMH rim elevation or provide a **recorded** Covenant Agreement for Backflow protection (Forms 11.10 and 11.26).

I, the undersigned, am the legal Engineer of Record for this project and certify that I have read, completed, and understand that the requirements set forth in this checklist is not inclusive of all the City’s standards; and have designed the submitted engineering plans in accordance to ALL City requirements.

Printed Name

Signature

Date

TBPE Registered Engineering Firm Name: _____

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