



CITY OF **TERRELL**

201 E. Nash St.
Terrell, TX 75160

NEW **RESIDENTIAL** CONSTRUCTION PACKET

Applications may be submitted
using the Citizen Portal:

[www.civicgov4.com/tx_terrell/por
tal/](http://www.civicgov4.com/tx_terrell/portal/)

10.01.2025



NEW RESIDENTIAL PLAN REVIEW CHECKLIST

Permit Application Packets must be complete (any missing documents or information will delay the review process) and submitted with the following information:

- ☐ Completed **Residential Permit Application** or **Project Summary Sheet**
- ☐ **Property Survey**
- ☐ **Property Deed**
- ☐ **Residential Energy Code Compliance Report (RESCHECK)**
- ☐ **Building Plans** in the following order:
 - **Site Plan** – Must have the following:
 - Legal description (Lot, Block, Subdivision)
 - Property Lines and Lot Dimensions
 - Proposed Structure, and All Existing Buildings
 - All Easements
 - Location of Septic System, Including Spray Area (When applicable)
 - North Arrow and Scale
 - Setbacks – Approved setbacks for front, rear and sides of house must be shown
 - **Foundation** – Must be stamped, engineered plans
 - **Elevations**
 - **Shear Wall** – Must be stamped, engineered plans
 - **Framing**
 - **Mechanical**
 - **Electrical**
- ☐ **Plumbing Foundation** – Must be Engineered Plans/ Conventional Rebar Slab Foundation - Regionally Accepted Practices Foundation Detail or Engineered plans or post Tension Foundation
- ☐ **Foundation Letter** – Must state foundation was designed for the soil conditions on that particular lot and was designed in compliance with the 2021 IBC and IRC.
- ☐ **Driveway approaches and drainage culverts** - Engineered plans (driveway accessing State Highways require a TXDOT permit)
- ☐ **Civil Plans** in the following order:
 - **Cover Page** with a location map, address, etc.
 - **Grading Plan**
 - **Utility Plan**
 - **Drainage Plan**
 - **General Construction Notes** – See the City of Terrell 2024 Technical Construction Standards and Specifications (TCSS) Appendix D for more information.

Permit application packages should be submitted on the City's online portal:

https://www.civicgov4.com/tx_terrell/portal/

ALL CONTRACTORS MUST BE REGISTERED WITH THE CITY OF TERRELL



NEW RESIDENTIAL CONSTRUCTION REQUIRED INSPECTIONS

Next day inspection requests should be made through the City's online portal and must be received prior to 4 p.m., any requests received after that time will be scheduled for the day after. The City's online portal can be found at https://www.civicgov4.com/tx_terrell/portal/

Inspections should not be requested until the contractor has verified that the work is complete and ready for inspection. Re-inspection fees may be assessed for work that is not ready for inspection, or that fails inspection.

Listed below are the general Guidelines for Construction in the City of Terrell, as set forth by the Municipal Development Department. Please note that for construction purposes, the City of Terrell has adopted the 2021 International Code Council series and the 2020 National Electrical Code, City of Terrell Zoning Ordinance (Ordinance 2895) and other applicable City of Terrell ordinances.

Required Inspections for Residential Construction:

1. **Temporary Electrical Power Pole Inspection (T-Pole)** - if installed.
2. **Plumbing Rough Inspection.** Erosion control, portable toilet and trash box/dumpster must be in place at time of plumbing rough in inspection. For slab on grade foundations, all beams must be trenched prior to the inspection. A form board survey is required on site at the time of the plumbing rough in inspection.
3. **Pier Inspections.** (when applicable)
4. **Foundation Inspection.** The Ufer ground inspection will also be done at this time.
5. **Framing,** mechanical and electrical rough in, plumbing top out (including gas pressure test), brick ties and poly seal inspections will be conducted collectively during one site visit. Energy rough in inspections to be conducted by 3rd Party Inspector.
6. **Flatwork-** includes driveway, sidewalk, parking areas. An expansion joint is required at the property line. Culvert pipes must be RCP (concrete pipe). No water meters will be installed in concrete.
7. **Electric Meter Release.** Electrical panel must be open for inspection. All switches, receptacles and fixtures must be in place or covered, no exposed wires are allowed at this inspection.
8. **Final Inspections** will be performed collectively during one site visit (includes lot and bar ditch grading, sod placement, required landscaping, and trash haul off, (must be 100% complete). Documentation of all energy inspections (rough inspection, duct leakage test, building thermal envelope leakage test), termite treatment report, irrigation system back flow report (when applicable), and final grade survey are to be submitted prior to the final inspection. Failure to have all required documents on site is cause for inspection failure.

Special Notes:

- New construction/remodel/repair/alteration must comply with the 2021 International Energy Conservation Code. An Energy Conservation Code Compliance Report must be submitted at the time of building permit application for all new construction and for major remodel projects. A third-party inspection agency must be retained to perform the required energy code inspections.
- **One complete set of building plans must be kept on the construction site at all times. This should be the City approved set stamped "FIELD COPY". Failure to do so may result in a failed inspection.**
- All utilities must be installed and activated prior to final inspection.
- Utility marking is required prior to digging, boring or trenching. Call 811 to schedule.
- Certain lots identified by the floodplain administrator must have a finished floor elevation that will require a post construction FEMA elevation certificate. This certificate must be filed with this office prior to a Certificate of Occupancy being issued.
- One person shall be designated to schedule inspection for project with multiple contractors/subcontractors.

Site Requirements:

1. The City of Terrell has a franchise contract with Waste Connections Lone Star Inc. (972-524- 1665) for trash & dumpster service. This service company must be used for all trash and dumpster needs for temporary or permanent service. This franchise contract is enforced by city ordinance for violation(s). The penalty can be up to \$2,000.00 per day, per offense (Chapter 1, Section I.G, Terrell City Code, Revised). Inspections will not be performed at sites that have dumpsters that are not provided by Waste Connections.
2. **Addresses must be posted at all times and must be readily visible from the street.**
3. All lots require an approved erosion control system to protect drainage, lot development and adjacent property. This system must be installed immediately following the permit approval. This includes grass matting, silt fencing installation. The erosion control system will remain installed from the time the permit is issued to the time landscaping is installed.
4. During construction and until the final inspection is completed the construction site and adjoining lots must be maintained to the following minimum requirements:
 - ☐ Be kept free of all brush and weeds, litter and debris.
 - ☐ A litter containment box or dumpster shall be installed at time of permitting and shall remain until the project completion.

- ***You are directly responsible for the maintenance of streets and sidewalks during construction. You must ensure the sub-contractors; delivery trucks and concrete trucks do not distribute/deposit mud or dirt on the streets and sidewalks. If the streets become muddy or dirty due to your construction project, the project will be shut down, permits may be suspended or revoked and citations may be issued to the individual the building permit is issued to.***
 - Any excavation more than four (4) feet deep shall have a protective barrier around it and shall remain until properly backfilled.
 - Curb cuts for driveways shall not be removed until the time to install the steel and have the concrete poured in place. ***Any curb cut left open will require barricades.***
 - In residential areas, the water meter and base cannot be embedded in concrete or placed in the driveway, sidewalk or approach unless approved by the Chief Building Official. Contractors are responsible for damage to water meters.
 - Before requesting a plumbing rough-in inspection, make sure that your job site has a portable toilet. In a controlled subdivision, (only one builder) portable toilets must be placed on the job site with a minimum one-per-five house ratio. All other subdivision construction requires one portable toilet per construction site.
5. The building inspector will issue a pass/fail inspection report at the time of inspection. Violations of site regulations may be cause for the project to be shut down and/or permits to be suspended or revoked.



City of Terrell Project Summary Sheet

New Construction

Project Information

Project Name: _____

Project Address: _____

Project Sq. Ft: _____

Project cost/
valuation: _____

Current Zoning: _____

Property ID #: _____

Main Contact

Name: _____

Email: _____

Phone: _____

Other Information: _____

General Contractor

Business
Name: _____

License #: _____

Phone: _____

Email: _____

Mechanical Contractor

Business
Name: _____

License #: _____

Phone: _____

Email: _____

Electrical Contractor

Business
Name: _____

License #: _____

Phone: _____

Email: _____

Plumbing Contractor

Business
Name: _____

License #: _____

Phone: _____

Email: _____

Water Meter Size: _____

Sewer: _____

CHECKLIST FOR INFILL RESIDENTIAL WATER AND SEWER PLANS

To be filled out, signed, dated and submitted with Building Plan(s)

A. Form of Plans		Completed
A.1.	Plans shall be clear, legible, and neatly drawn on bordered sheets, Each sheet shall clearly display the Company Name and Individual under whose direction the plans were designed. A title block in the lower right-hand corner shall be filled in to include: (1) project name; (2) Preparer's Company name, Individual Name, mailing address, Email and telephone number.	
A.2	The plan sheet should be drawn so that the north arrow points to the top or to the left side of the sheet. It is important that the plan show sufficient surrounding streets, lots, property lines, and addresses so the existing water main location, water main size and sewer location and sewer pipe size may be adequately shown and so that proper consideration may be given to future extensions (if needed). Proposed water service size, route, water meter can and meter size required shall be shown to the LOT ROW line to provide for future connection by plumber. Proposed wastewater service size (typical is 4"), route, cleanout location required shall be shown to the LOT ROW line to provide for future connection by plumber. Unless it would make the plan very difficult to read, water, storm sewer, and sewer design plans should include other utilities on the same sheet.	
A.3	The finished floor (FF) of the house slab shall be called out. Minimum FF shall be 1 foot above top of centerline pavement or top of curb – whichever is higher. Owner / builder to confirm that the Sewer line is deep enough to serve the new house assuming 2 foot below FF and then a 2% slope (minimum) to Sewer Main	
A.4	See attached requirements for NEW HOME CONSTRUCTION NEW WATER AND SEWER SERVICES. HAVE THOSE REQUIREMENTS BEEN COMPLIED WITH?	
A.5	Plans shall be dated, including the initial submittal and all subsequent updates during the review process.	
A.6	Coordinates may be provided	
A.7	Provide adequate benchmark data.	
A.8	All coordinates shall tie to the State Plane Coordinate System	
B. Sewer Data to be Included on the Profile Sheet		



NEW HOME CONSTRUCTION (Infill Lots) NEW WATER AND SEWER SERVICES

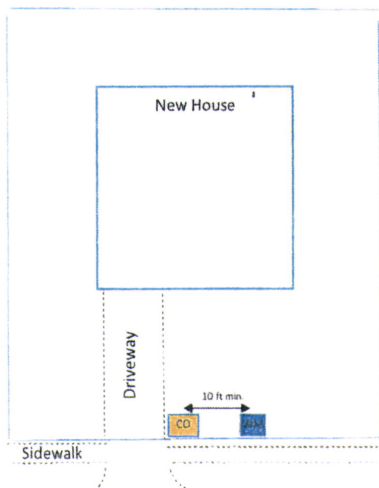
FOR NEW WATER AND SEWER TAPS

For new home construction on an 'in-fill' lot, in which no previous service was established, new water and sewer taps can be installed by the City. The general procedure is as follows:

1. After review and approval by City Staff, Contractor / Owner pays for:
 - a. Water Service Tap Fee
 - b. Sewer Tap Fee
 - c. Water Meter Set Fee
2. The Contractor / Owner is responsible for identifying and staking:
 - a. The existing property corners
 - b. The location of the proposed driveway and proposed sidewalks
 - c. The proposed installation location of the water meter and sewer cleanout (typically perpendicular to the ROW line). Stakes must be clearly marked for "water meter" and "sewer cleanout". Incorrect staking make incur additional charges.
3. Contact the Utility department for a site visit after stakes are placed.

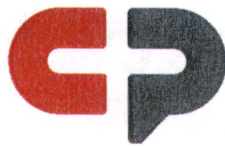
Please note:

1. Water meters and sewer cleanouts cannot be installed in locations designated for proposed driveways or sidewalks or in a drainage ditch.
2. Water meters must be placed on the "house side" of the sidewalk to avoid potential conflict with drainage ditches.
3. The licensed contracted plumber is responsible for adjusting the water meter box and the wastewater cleanout with a concrete pad (4" thick x 12" x 12") to final grade. The water meter box and sewer cleanout must be set approximately 1" above final grade to allow room for sod installation.
4. New water and sewer services must be installed a minimum of 10 ft. apart.
5. If records indicate existing water and sewer taps, the Contractor / Owner is responsible for digging to locate the existing services. City staff does not have record of the locations of all existing services, but upon request will provide what information is available. The City of Terrell is not able to dig for the locations.



Typical Layout

These cleanout and water meter locations are examples only. Exact locations will depend upon field conditions and locations of existing water and sewer mains.



Citizen Portal User Guide

If this is your first time using the system. Click on the "Register" button to create your account.

Citizen Portal Login **Register**



Welcome to our Permitting, Licensing, and Code Enforcement Portal

This portal provides the public 24/7 access to the following online services:

Permits

Planning and Zoning

Inspections

Business Licenses

Complaints and
Violations

Log In **Register**

Fill out the appropriate information to create your account.

Citizen Portal Login Register

User Registration



Please complete the below form and click "Register". The approval process takes up to one business day. Upon approval, you will receive an email notification with login instructions. Your email address will act as your userid and will be used for future notifications.

Create Account and Password

EMAIL *

lindsey.reese@civicplus.com

PASSWORD *

Once logged in, you will see "My Dashboard" on the left navigation. This will allow you the ability to view any of your submitted applications, status of applications and invoices.

Step 2: Select the Building location or Agency Name.

▼ Step 2: Select Land, Building or Suite Location

To search for land records or buildings and suites (stores/classrooms/offices or areas within a building), users can enter any field information below and generate the search. Once the location is identified, clicking the link or number will create the permit application at the location selected. If the user cannot find the required location, please contact the municipality for assistance.

Building Name	Physical Address
Suite Name	Parcel Number
Owner Name	

Generate Search Results

In the "physical address" field enter the address of the building. Note: Entering less of the address information is better. Example in the image below, we are searching for "395 West Street" entering 395 w would be the best way to search the building records. IF KNOWN, the applicant could search by the parcel number. Parcel Numbers can be found using Kaufman County Appraisal District's map (<https://gis.bisclient.com/kaufmancad/>).

► Step 2: Select Land, Building or Suite Location

To search for land records or buildings and suites (stores/classrooms/offices or areas within a building), users can enter any field information below and generate the search. Once the location is identified, clicking the link or number will create the permit application at the location selected. If the user cannot find the required location, please contact the municipality for assistance.

Building Name	Land Address
Suite Name	Parcel Number
Owner Name	

Generate Search Results

Displaying 1-10 of 13 results

Parcel Number	Owner Name	Land Address	Building Location ID	Building Location	Suite Name	Suite Location
	CITY OF HANNAH	302 S 4th St Ste 50	1	302 S 4th St Ste 50 CITY OF HANNAH		
	CITY OF HANNAH	302 S 4th St Ste 10			1027-2024	2 (Retired)
	CITY OF HANNAH	302 S 4th St Ste 50			1027-2024	3 (Retired)
	CITY OF HANNAH	302 S 4th St Ste 50	1027-2024		1027-2024	4 (Retired)
3021520200000000	CITY OF HANNAH	302 S 4th St Ste 50		ChickPlus	1027-2024	5 (Retired)
	CITY OF HANNAH	302 S 4th St Ste 50			1027-2024	1 (Retired)
	CITY OF HANNAH	302 S 4th St Ste 50	1027-2024	302 S 4th St Ste 50 ChickPlus		

Click the "Generate Search Results" button and choose which parcel record to associate to this application by clicking on the parcel number link.

Step 3: The applicant must click the create button in step 3 to build the application and allow the remaining steps to be completed.

Apply For Permit

► Step 1: Select Permit Type & Use

► Step 2: Select Land, Building or Suite Location

▼ Step 3: Click the Create button to store the application and complete the remaining steps

Create

► Step 4: Enter the Required Information in the Forms Below

► Step 5: Click the link below to attach documents, plans and other permit related files

► Step 6: Click Submit to submit the forms & documents to the application record

Complete Application

Step 6: Completing the Application

Click the Complete Application button. The system displays a confirmation page and the application number.

► Step 6: Click Submit to submit the forms & documents to the application record

Complete Application

Your Application has been saved to the City of Oak Park Online Permit System. The application number is:

Permit Application #A23-0011

► Step 7: Communicate with the Agency

The permit submission process is complete.

Step 7: To View a Permit Previously submitted

1. Login to your dashboard
2. Click My Dashboard
2. Click My Permits
3. Search for the permit by any of the fields presented
4. Click the view link in the action column to view the permit
5. Click the Update link in the action column to:



Application / Permit Number	Permit Number	Sub ID	Location	Permit Type	Permit Line	Status	Action
423-0011	204-023-0001-0001	118.7.0001	200 S 4th St to 1st St	Overlaid	As-Planned	Permit Submitted	View
Overlaid	204-023-0001-0001	118.7.0001	200 S 4th St to 1st St (Bldg #1 & 2)	Commercial	Commercial Vehicle Change	Approved	Update View Record

- a. Update the application or,
- b. Add additional documents under step 5.

6. To communicate with the Office of the State Building Inspector

- a. Click on Step 7

► Step 6: Click Submit to submit the forms & documents to the application record

Complete Application

► Step 7: Communicate with the Agency

Send Message

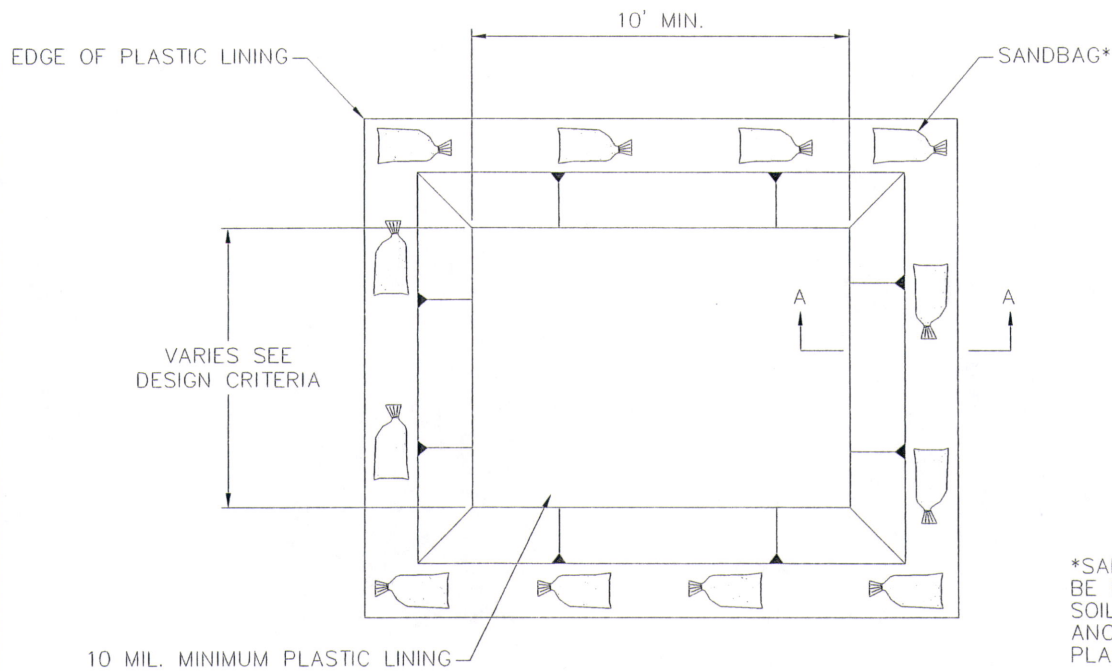
You can communicate with the agency user of this permit or agency who has sent you a message in this permit listing.

To: User
Select user to send message to
Select user to send message to
Permit Application #A23-0011 Location: 200 S 4th St to 1st St

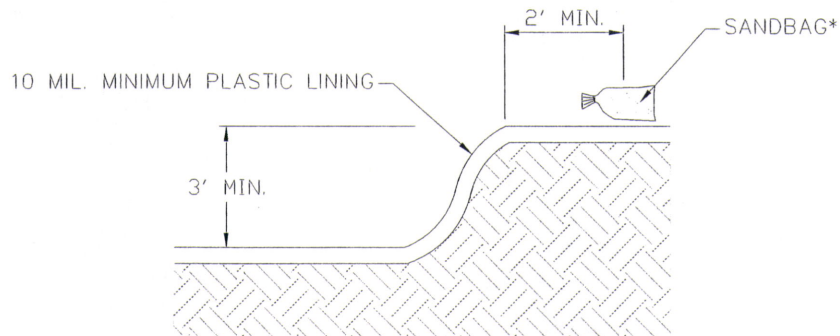
Message

Send

- b. If the permit application has not been reviewed by staff, the user will only be able to communicate with the person or department in charge of permits. Once the permit application has begun the review process, the staff assigned to review the permit application will appear in the "to user" drop down list.
- c. Select the staff to send the message to
- d. Enter the message and Click Send



CONCRETE WASHOUT PLAN VIEW
N.F.S



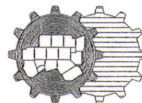
CONCRETE WASHOUT SECTION A-A
N.F.S

CONCRETE WASHOUT NOTES:

1. WASHOUT AREA MUST BE CLEARLY MARKED WITH SIGNAGE NOTING THE WASHOUT AREA.
2. WASHOUT STRUCTURES SHALL BE CLEANED OUT WHEN THE STRUCTURE IS 75% FULL. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY.

CONCRETE WASHOUT
CONTAINMENT

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

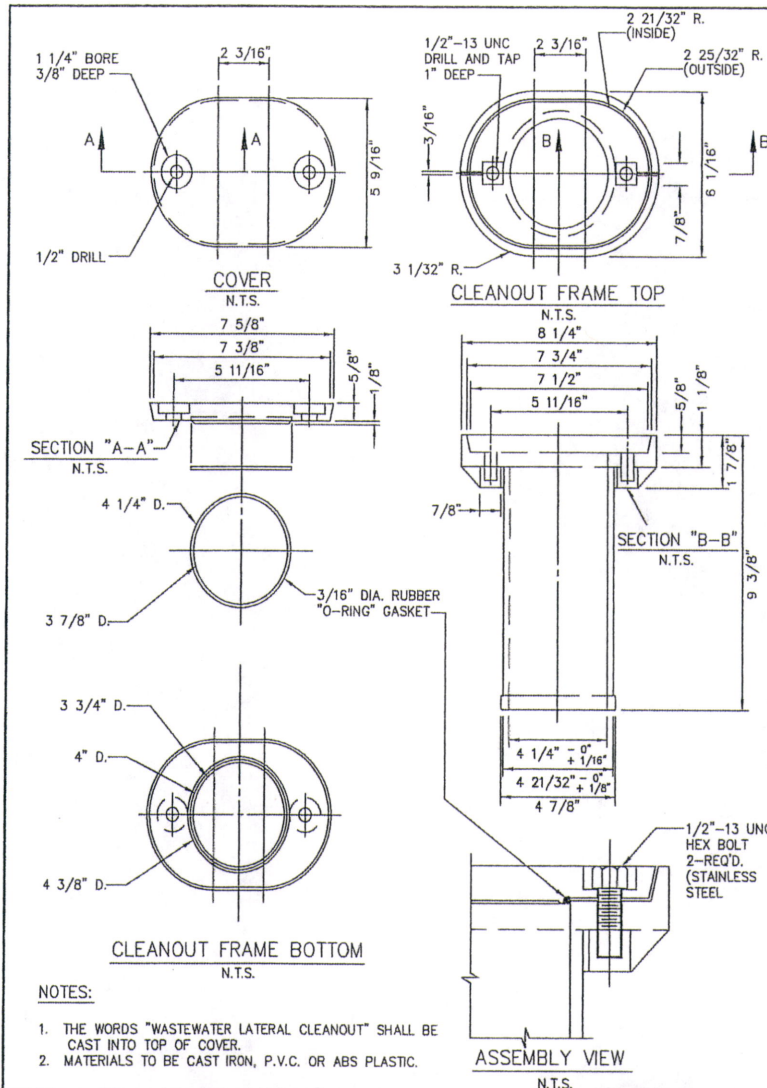
N/A


DATE

AUG '23

STANDARD DRAWING NO.

1240



WASTEWATER LATERAL		STANDARD SPECIFICATION REFERENCE 502.10	
CLEANOUT FRAME & COVER		DATE AUG '23	STANDARD DRAWING NO. 5140



APPENDIX D

CITY OF TERRELL

GENERAL NOTES FOR CONSTRUCTION PLANS

TECHNICAL CONSTRUCTION STANDARDS AND SPECIFICATIONS (TCSS)

GENERAL NOTES

1. All construction shall be in accordance with the North Central Texas Council of Governments "Standard Specifications for Public Works Construction" latest edition, the City of Terrell's addendum thereto, and the 2024 UPDATED Terrell Construction Standards and Specifications (TCSS) latest edition.
2. Before beginning construction, the contractor shall prepare a construction sequence schedule. The construction schedule shall be such that there is the minimum interference with traffic along or adjacent to the project.
3. Construction may not begin earlier than 7:00 A.M. on weekdays nor continue after 6 P.M. without permission from the City of Terrell Engineer or his designee. No work requiring City inspection shall be permitted on Saturday, Sunday, or City of Terrell holidays without a written request at least 72 hours (by Wednesday at noon) in advance and approved by the City Engineer or his designee.
4. Utilities shown on the plans are taken from field surveys and/or information provided by the utility companies. The completeness and the accuracy of this data is not guaranteed. The contractor is responsible for verifying the location of all underground utilities and structures and protecting them from damage during construction. Call 811 a minimum of 48 hours prior to digging.
5. Work may not be backfilled or covered until it has been inspected by the appropriate City representative.
6. On City projects, material testing shall be performed by an independent testing laboratory and paid for by the City. The Contractor shall be responsible for all fees associated with re-testing and re-inspection due to failed tests from workmanship. Developers shall hire an independent testing lab for all required tests. The testing firm is subject to approval by the City. Test results shall be submitted to the City designee for review within a few days after tests are completed. See the TCSS for alternative material testing procedure. Failure to supply test results, may cause a stop work order without extension of time or financial compensation.
7. Storm water pollution prevention plan (SWP3): The Contractor shall comply with the conditions of the SWP3 while conducting activities on the project. In addition to constructing those item indicated on the plan sheets, compliance with the SWP3 includes conformance to certain practices and procedures during project construction that are identified in the SWP3.
8. Inspection: Unless otherwise stated in the contract specifications, inspection of the work will be provided by the City of Terrell. The contractor shall perform all work required to facilitate the inspection and give sufficient notice of pending construction activities for scheduling of inspections. Acceptance of work shall be obtained from the City prior to any backfilling trenches. Contractor shall bear the responsibility of any delays in production caused by last minute notifications and the City not being



- able to respond. Continued late notifications for inspection may be cause to stop work without extension of time or financial compensation.
9. Protection of Property Corners and Benchmarks: The Contractor shall protect all property corners and benchmarks. When such markers are in danger of being disturbed they shall be properly referenced, and if disturbed, shall be reset by a registered public surveyor at the expense of the Contractor.
 10. Unless otherwise noted, all excavation on the project is unclassified. Contractor to review site conditions/local soils prior to bidding.
 11. Utility companies and contractors installing franchise utilities shall obtain a street cut permit before disturbing any pavement in public right-of-way.
 12. The contractor shall maintain two-way traffic at all times along the project unless otherwise approved by the City.
 13. Remove, salvage and replace all street and traffic control signs, which may be damaged by the construction of the project, at the direction of the City.
 14. Damage to existing facilities: All utilities, pavement, sidewalks, walls, etc. not designated to be removed, but that are damaged during construction, shall be repaired or replaced to a condition at least as good as they were prior to beginning construction. This work and the expense shall solely be the responsibility of the Contractor.
 15. Existing Roadways/Access: Contractor shall be responsible for cleanliness of the roadways. All costs associated with maintaining the cleanliness of the roadways shall be the responsibility of the Contractor and included in the bid amount of the contract.
 16. Electrical Safety Precautions: all work around and near electrical power lines and equipment shall be properly flagged and barricaded. No work shall be done within 6 feet of high voltage electrical lines.
 17. All trenching and excavation shall be performed in accordance with OSHA standards and adherence to requirements is the sole responsibility of the Contractor. A trench safety plan shall be developed by a licensed PE in the State of Texas and provided to the City.
 18. The contractor shall maintain access to all areas outside of the immediate area of construction. If bus and mail routes are impacted, coordination with Terrell ISD, the United States Post Office (USPS) and/or bus company may be required.
 19. Contractor shall remove and reset all mailboxes, yard lights, sprinkler systems, driveway culverts, etc. that are in conflict with the proposed construction. If mailboxes are removed, they shall be set in 5 gallon buckets of gravel for temporary use and ease of relocation. They shall be placed in a location approved by the City.
 20. The Contractor shall not close any streets without prior approval from the City Engineer. All streets shall remain passable to residents at all times. Work shall be sequenced such that minimal disruption to traffic occurs. In instances where construction is taking place in streets, streets shall be backfilled and made passable at the end of each day. Contractor to provide traffic control and maintain traffic control signage consistent with the current Texas Manual on Uniform Traffic Control Devices.
 21. Contractor shall not be authorized to proceed until all necessary state and local permits are obtained. All easements must be recorded and cleared within the immediate work area.
 22. When the existing grades are lower than the proposed conduits, all areas shall be backfilled and compacted to 95% density at a minimum +2% above optimum moisture



- content to the proposed finished grade prior to installing any conduits.
23. For City projects, water for construction shall be provided by the City if a fire hydrant is available. Contractor is required to pay the current ordinance required deposit for a meter and backflow assembly, refundable upon return provided no damage to the unit(s) occurs. Meter readings shall be provided monthly to the Utility Billing Supervisor and billed at the City's current rate. The Contractor may use his own meter and backflow assembly provided if said assembly is approved by the City. If a fire hydrant is not available, the Contractor shall be responsible for providing construction water in a tanker truck.
 24. Measurement and Payment - only bid items provided in the contract shall be measured and paid for. Work encountered and required in the course of completing the intended scope within the contract documents shall be considered subsidiary to other items in the contract.
 25. Contractor shall provide a pre-construction video and pictures of all areas impacted or potentially impacted by the scope of work in this contract. A copy shall be provided to the City and the design Engineer.
 26. Materials Handling - Contractor shall keep all equipment, pipe, and materials off private property and in City right-of-way or easements unless otherwise approved. If the Contractor negotiates a storage area with a private property owner, it must be documented in writing and signed by the private property owner. A copy of the letter or agreement shall be provided to the City.
 27. Record Drawings shall be provided to the City at the end of the project, after acceptance by the City. One (1) pdf file, one (1) CAD file, one (1) KMZ file, and two (2) full size sets of prints shall be provided. Final payment shall be withheld until Record Drawings are received and accepted by the City.

GRADING

1. Top soil shall not be removed from residential lots or used as spoil, but shall be stripped and redistributed so as to provide at least six (6) inches of cover on the lots, parkways and medians. Permanent erosion control measures shall be provided throughout the development prior to final acceptance of the improvements.
2. Temporary erosion control shall be used to minimize the spread of silt and mud from the project on to existing streets, alleys, drainage ways and public and private property. Temporary erosion controls may include silt fences, berms, dikes, swales, strips of undisturbed vegetation, check dams and other methods as required by the City Engineer or his representative and as specified in the North Central Texas Council of Governments Construction (N.C.T.C.O.G) iSWM Design Manual for Construction.
3. All street rights-of-way, regardless of slope, all finished grade slopes that are steeper than 6:1, and the flow lines of all drainage ditches and swales shall be completely covered with erosion control matting as specified in the North Central Texas Council of Governments Construction (N.C.T.C.O.G) iSWM Design Manual.
4. Grass shall be established on the slopes of all drainage channels that are steeper than 6:1. Grass shall meet the requirements of the Standard Specifications of the Texas Department of Transportation.
5. All permeable surfaces within the development shall be graded to a smooth and



uniform appearance that can be easily mowed with a small residential riding lawn mower.

PAVING

1. Concrete streets shall be require a slip-form paver unless otherwise approved by the City Engineer. Vibrating screed is not allowed. Handpours shall be allowed only for finishing transitions and areas not accessible by slipform paver (as determined by the City Engineer).
2. Expansion joints shall be required at a maximum of 300 feet spacing as well as placed at intersection PT's and PC's.
3. Flexbase (compacted subgrade) shall meet the requirements of TxDOT Type 247, Type D crushed stone or approved equal.
4. All embankment, sub-grade, and treated soils shall be compacted at a moisture content of +2% above of optimum moisture at a minimum density of 95%. Standard Proctor (ASTM D-698) should be used for clay soils and Tex 113 E should be used for base materials and treated soils in accordance with TxDOT methods.
5. All streets, fire lanes and alleys shall be placed on compacted subgrade as required by the TCSS.
6. The minimum 28 day compressive strength of concrete street paving shall not be less than 4,000 psi and flexural strength of 600 psi shall be air entrained. A minimal amount of water may be applied to the surface of concrete paving to improve workability. The City at its sole discretion will determination if the amount is acceptable.
7. All curb and gutter shall be integral with the pavement for concrete streets.
8. Streets and alleys shall be constructed with provisions for sidewalk ramps at all intersections meeting all applicable state and federal requirements.

DRAINAGE

1. Storm sewer pipe constructed in public ROW shall be a minimum Class III reinforced concrete pipe. If the depth of cover is less than 30 inches for areas subject to traffic or other heavy loading, Class IV pipe will be used. HDPE pipe or other suitable material is acceptable for private storm sewer systems and shall be clearly noted and delineated on the plan and profile sheets.
2. All structural concrete shall be 4,000 psi. compressive strength at 28 days, air entrained.
3. The contractor shall install plugs in wastewater and storm sewer lines or otherwise prevent mud from entering the wastewater and storm sewer system during construction.
4. Cleaning and internal television inspection of the pipe shall be required prior to acceptance. Re-cleaning and re-televising shall be required for all mains not sufficiently cleaned or if repairs are required due to installation not accepted by the City of Terrell.
5. Embedment for public storm sewer pipes shall be Class B-2; private storm sewer pipe



embedment shall be in accordance with the pipe manufacturer's recommendations as specified by the design engineer.

6. Riprap shall include 12" to 18" rock and be grouted in place with 4,000 psi concrete.
7. Drainage channels that are temporarily blocked or disturbed shall be restored to better than the original condition and properly graded to provide positive flow. Seeding and protection of slopes shall be provided (as a minimum).

WATER MAINS

1. Water mains shall be AWWA C-900, PVC, Class 150 DR-18 unless otherwise noted. Fire lines shall be DR-14. Minimum cover for waterlines is 48" or as required to clear existing utilities, whichever is greater. Backfill shall be compacted to 95% Standard Proctor (ASTM D-698) density at a moisture content of +2% to +6% above optimum moisture. Tex 113 E or Tex 114 E may be used where ASTM D-698 does not apply.
2. Tracer marking tape shall be installed over PVC water mains.
3. Fittings for PVC water lines shall be Class 250 full-body ductile iron should be encased in a polyethylene sheath.
4. Tapping saddles shall be air tested to insure a tight seal exists prior to making the tap on the main. The test pressure shall be 120 psi for a minimum of 3 minutes unless otherwise directed by the City of Terrell.
5. Compact ductile iron or cast iron fittings may not be used.
6. Valves shall be Mueller resilient seat gate valves or approved equal.
7. All direct burial valves shall be provided with cast iron valve boxes with PVC stacks. Valve stacks shall be vertical and concentric with the valve stem. Stainless steel valve extensions with locking clips are required on all valves where the operating nut is greater than 3 feet below finished grade.
8. Fire hydrants shall be 5 1/4" Mueller Super Centurion and be field painted with two coats of urethane paint and the bonnets painted with the correct color as outlined in the TCSS and City of Terrell Addendum to the North Central Texas Council of Governments.
9. The distance from fire hydrants to the street curb or edge of a fire lane shall not be less than 3.5 feet or exceed five (5) feet unless otherwise permitted by the Fire Marshal.
10. All bolting on any buried equipment or material shall be stainless steel and poly-wrapped. Included are:

Bonnet and stuffing box bolts on valves.
Shoe bolts on fire hydrants.
Flange bolts.

"Cor-ten" mechanical joint "T" bolts are acceptable for direct burial service, except for fire hydrants.

11. Meter boxes shall be installed as shown in the Construction Details, Appendix E. Three (3) inch and larger meters shall be placed in a concrete vault as manufactured by Park or approved equal as per the detail provided.
12. All underground water system pipe fittings shall include poly-wrapped "Meg-a-Lug" type joint restraints designed to restrain the type of pipe being installed.



13. Existing water mains shall continue to provide service to residents and businesses until such time required for tie-ins. Isolation of mains and discontinuing service must be coordinated with the City in advance. The Contractor shall be responsible for notifying residents and businesses at least 24 hours in advance of the time water service will be disconnected. The City shall provide a flyer which can be used to indicate the date and approximate times/duration. Contractor shall distribute the flyers to impacted residents and businesses.
14. Bacteriological tests ("Bac-T") shall be completed on new water mains. Contractor is responsible for providing sample bottles for Bac-T testing of water lines, collecting the samples and transporting them to the testing lab. Bottles shall be obtained from NTMWD laboratory (Wylie, TX) who shall perform the testing as well. Any costs associated with testing shall be included in the unit bid price for installation of the new water main. The bottles shall be labeled as a "Construction" sample and sealed with a strip of adhesive across the top of the bottle prior to transporting the NTMWD.
15. Embedment for water lines shall be B-4.

SANITARY SEWER MAINS

1. Sanitary sewer mains and laterals shall be a minimum of SDR 26 PVC.
2. The contractor shall install and maintain water tight plugs in all connections to the City's sanitary sewer system until the project is accepted by the City.
3. Manholes shall be a minimum 5 feet in diameter and meet the requirements of the details. Both precast and cast-in-place manholes shall be poured using Conshield Additive and include installation of a Gator Wrap Infi-Shield External Wrap installed at each joint.
4. All sanitary sewer lines and manholes shall be leak tested before the project is accepted. Vacuum testing of manholes shall be completed after paving is completed. Deflection testing of PVC sewer lines is required. Testing requirements shall meet NCTCOG specifications.
5. Embedment for sanitary sewer lines shall be Detail B-2.
6. All sanitary sewer main and service connections shall be video-taped after the installation of the service connections, prior to paving of the project AND again after the pavement is completed. The lines shall be flushed with water prior to making the video. All sanitary sewer mains will be re-televised three months prior to the expiration of the two (2) year maintenance agreement bond.

CONSTRUCTION MATERIALS ENGINEERING (FOR DEVELOPMENT PROJECTS)

1. The developer will be responsible for hiring the design engineer to provide Construction Materials Engineering (CME) services to review and approve all submittals for materials and shop drawings associated with improvements to be maintained by the City of Terrell. Upon review for conformance with City of Terrell standards, the engineer will submit the information to the City Engineer with a letter, confirming conformance with the City of Terrell requirements. This must occur before installation of any improvements.
2. The engineer providing CME services will be responsible for ensuring that the proper



number and location of tests made and will review results for conformance with the project specifications. Two sets of video files of sanitary sewer pipes shall be provided to the City of Terrell for review prior to and after placement of paving. Upon completion of the project, the CME will provide a written report summarizing the testing performed and that results meet the requirements of the City of Terrell. The report shall be bound in a three ring binder and shall contain at a minimum:

1. The conformance letter from the CME
 2. Copies of all warranties and bonds,
 3. Shop drawings and approvals
 4. Material testing by category
 5. As-built drawings, and sanitary sewer videos on CD or USB.
3. The developer will notify the City Engineer in writing with the name and contact information of the engineer that will provide the CME services.
 4. The CME shall attend the pre-construction conference for the project.

FINAL PLAT ACCEPTANCE

1. The final plat cannot be filed with Kaufman County until after all franchise utilities are installed, grass is established, punch list items are addressed and all public improvements have been delivered and are accepted by the City of Terrell.

WARRANTY

1. The Contractor shall maintain the required public improvements for a period of two (2) years following acceptance by the City and shall provide a maintenance bond in the amount of 100% of the costs of the public improvements.
2. No less than sixty (60) days prior to the expiration of the warranty, the Contractor shall notify the City of the approaching end of the two-year warranty and shall request a final inspection of the improvements to identify any items requiring repair. In the event the Contractor fails to notify the City of the end of warranty, the warranty and bond shall automatically be extended to end thirty days after notice of end-of-warranty is filed with the City.
3. If the Contractor fails to re-video the sanitary sewer and storm sewer pipes or fails to make satisfactory repairs indicated necessary on the sewer re-video or final inspection, the warranty and maintenance bond shall automatically extend to 30 days after satisfactory repairs are made.