

Standard Specifications Manual

<u>SERIES 1800 - PRIVATE DEVELOPMENT</u>
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Item No.

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SECTION 1800 CONSTRUCTION REQUIREMENTS AND PROCEDURES

General

This series and the technical specifications of the City of Round Rock Standard Specifications shall govern the construction by an entity other than the City of public infrastructure that is related to a subdivision or site development located within the City of Round Rock and within subdivisions assigned for City of Round Rock inspection within its extraterritorial jurisdiction, as well as the acceptance by the City of Round Rock, of work completed within the City's limits.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text, the inch-pound units are given preference followed by SI units shown within parentheses.

End

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SECTION 1802 DEFINITION OF TERMS

1802.1 Definitions

Whenever the following terms or pronouns used in place of them appear in the Contract Documents, the intent and meaning of the terms or pronouns shall be interpreted as follows:

1802.2 The City or City of Round Rock

The City of Round Rock, Texas.

1802.3 The Owner/Developer

The Owner/Developer of the development or the person in the financial entity (e.g., bank, credit corporation, etc.) liable for its existence or their duly designated representative who can authorize construction.

1802.4 The Consulting Engineer

The Engineer of the Owner/Developer or the Consulting Engineer's duly designated representative, who is authorized to make design decisions for the Owner/Developer. The Consulting Engineer must be a Licensed Professional Engineer Registered in the State of Texas.

1802.5 The City Engineer

The Director of the Engineering and Development Services Department of the City of Round Rock or his/her duly authorized representative, who makes all decisions as to quality of the project and conformance of the Work for final acceptance by the City.

1802.6 The Chief Construction Inspector

The City Engineer's representative in responsible charge of the Construction Inspection Division of the Engineering and Development Services Department.

1802.7 The Contractor

The individual, firm, corporation or other business entity that is contracted to complete the Work for the Owner/Developer.

1802.8 License Agreement

An agreement between the City of Round Rock and another entity for private use of public property.

1802.9 The Work

The Work shall include the furnishing of all labor, materials, equipment and other incidentals necessary for the successful completion of all items required by The Contract Documents and the completion of all the duties and obligations included therein.

1802.10 The Contract Documents

The Contract Documents are the Specifications and, the Drawings that have been prepared by a Licensed Professional Engineer, Registered in the State of Texas, have been approved by the Owner/Developer for the work, and for which a Development Permit has been issued by the City.

The Contract Documents are complementary and what is required by any one of them shall be as binding as if required by all. In case of conflict between the Contract Documents, priority of interpretation shall be in the following order: Specifications (1802.11), the Drawings (1802.12), and Construction Requirements and Procedures (1802.16).

1802.11 The Specifications

The directions and conditions contained in the technical specifications of the City of Round Rock Standard Specifications, supplemented by changes pertaining to method and manner of performing The Work or to qualities of materials to be furnished as presented by the Consulting Engineer and accepted by the Engineering and Development Services Department. The entire technical specifications shall apply to the Work. Any question as to the applicability of any individual technical specifications shall be determined by the City Engineer. Where phrases “directed by”, “in the opinion of”, “unless otherwise approved by”, “approved by”, “may be varied by”, “to the satisfaction of” or such similar phrase accompany a phrase similar to “The Engineer or designated representative”, it is to be understood that such direction, opinion, approval, variation, or satisfaction is subject to the approval of the City Engineer. Where reference is made to specifications of ASTM, AASHTO, TxDOT, etc., it shall mean the latest standard or tentative standard in effect on the date of the city signature authorizing construction, unless another date applies pursuant to State statutes.

1802.12 The Drawings

The Drawings accepted by the City Engineer (and the Development Review Committee (DRC) of the City for site development) or true reproductions thereof, which show locations, character, dimensions and details of the Work.

1802.13 The Development Review

A function of The Engineering and Development Services Department and the Development Review Committee (DRC) of the City in the review and acceptance process for subdivision and site development Drawings.

1802.14 The Development Permit

Valid signature(s) on the drawing which indicates that the Drawings for the development of a subdivision have been accepted by the Engineering and Development Services Department, and for site development, the Engineering and Development Services Department and the Development Review Committee (DRC) of the City.

1802.15 The Engineering and Development Services Department (E&DS)

The specific department of the City of Round Rock which is responsible for assuring that public improvements associated with a subdivision and/or private development are constructed in accordance with the Contract Documents.

1802.16 Construction Requirements and Procedures

Detailed instructions set forth in this section delineating the responsibilities of the Owner/Developer for proper prosecution of the Work and the functions to be followed by the Engineering and Development Services Department in the inspection and acceptance of functionally completed Work.

1802.17 Sequence of Construction

The order in which the Work is to be accomplished.

1802.18 Written Notice

A Written Notice will have been duly served: if delivered in person to the Owner/Developer or a principal or employee of the firm authorized to make decisions for the Owner/Developer, if hand delivered or submitted through facsimile transmission to an office of the corporation for whom it is intended, or if delivered to or forwarded by certified, registered mail to the last business address known to the party giving notice.

1802.19 The Superintendent

An English-speaking representative of the Owner/Developer or the Contractor with relevant experience and knowledge of construction work related to the type of infrastructure development authorized by the Development Permit. The superintendent shall supervise and direct the construction and shall be the person authorized to receive and respond to communications from the City Engineer and the Inspector.

1802.20 The Inspector

The authorized representative of the Engineering and Development Services Department assigned to inspect and observe testing of any or all parts of the Work and materials used therein. He/she is also a member of the Construction Inspection team under the direction of the Chief Construction Inspector.

1802.21 Laboratory

A laboratory, which is certified in accordance with ASTM E-329 by a nationally recognized certifying authority, and is approved by the Chief Construction Inspector.

1802.22 Qualified Products List

A listing of manufactured products of like kind that are used by city forces in maintenance of Water and Wastewater Utility Installations and Facilities.

1802.23 Abbreviations

The following is a list of the more commonly used abbreviations and do not compose a complete listing of all abbreviations. If an abbreviation is used that a person is unfamiliar with or does not immediately recognize, the person may contact the Engineering and Development Services Department of the City of Round Rock for the appropriate full, formal name associated with the abbreviation.

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans With Disabilities Act
ANSI	American National Standards Institute
APWA	American Public Works Association
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
USCE	Corps of Engineers (U.S. Dept. of the Army)
FM	Factory Mutual System
ITTE	Institute of Traffic and Transportation Engineers
TMUTCD	Texas Manual on Uniform Traffic Control Devices
TxDOT	Texas State Department of Transportation
TEX TEST	TxDOT Laboratory Test
TCEQ	Texas Commission for Environmental Quality
UL	Underwriters Laboratory

End

SECTION 1803

RESPONSIBILITIES OF THE OWNER AND CONSULTING ENGINEER

1803.1 The Owner/Developer - Consulting Engineer Relationship

The Owner/Developer shall specify in writing his representative(s) for the Work who will be responsible for all communications with the City. Once the Contract Documents have been accepted by the Engineering and Development Services Department (E&DS), and submitted to the Construction Inspection Division of the E&DS for inspection, the Work must not deviate from the Contract Documents, unless supported by a Revision submitted by the Consulting Engineer and accepted as a revision by the E&DS. Minor field adjustments, which do not affect project integrity, are consistent with the intent of the design and are approved by the Chief Construction Inspector or City Engineer may be allowed by the Inspector. The Owner/Developer may effect revisions through the E&DS, which will forward copies of accepted revisions to the Construction Inspection Division.

Only the City Engineer may accept the Work as complete for the City of Round Rock. This acceptance will be exercised only after the City Engineer or designated representative is satisfied that the Work complies with the Contract Documents.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text, the inch-pound units are given preference followed by SI units shown within parentheses.

1803.2 The Owner/Developer's Duty and Superintendence

The Owner/Developer shall be responsible for the requirement that the Contractor provide a competent English-speaking Superintendent, knowledgeable in the Work involved, and necessary assistants to supervise and direct the Work during its progress. The Owner/Developer shall insure that the Contractor shall do no work nor use materials at the site without qualified supervision by the Contractor and inspection of the Work by the City. The Owner/Developer shall require the Contractor to immediately comply with "Stop Work Orders" commonly referred to as 'Red Tag' violations.

1803.3 Authority and Duties of the Inspectors

The Inspectors will be authorized to inspect all work undertaken by the Contractor and all materials furnished to the site and shall be given ingress and egress to all areas of the Work. Inspection activities may extend to all or to any part of the Work and to the preparation or manufacture of the materials to be used on the site. The Inspector will be assigned to the Work, will document/inspect the progress of the work and the manner in which it is being performed and will advise the Contractor and Owner/Developer of any obligations to perform the Work in accordance with the requirements of the Contract Documents. The Inspector will also report to the Chief Construction Inspector or City Engineer whenever it appears that the materials furnished and the Work performed by the Contractor fail to fulfill the requirements of the Contract Documents.

In case of any dispute arising between the Contractor and the Inspector concerning materials furnished or the performance of the Work, the Inspector will issue to the Owner/Developer and the Contractor a Notice of Unacceptable Work, which will remain in effect until the Work is corrected or the question at issue can be resolved by the Owner/Developer under item 1803.14, Objections. The Inspector will not be authorized: (1) to revoke, alter, enlarge or release any requirement of the Contract Documents; (2) to approve or accept any portion of the Work or (3) to issue instructions contrary to the Contract Documents. The Inspector will in no case act as foreman of the Work, perform other duties for the Contractor, or interfere with the management of the Work.

The presence of an Inspector on the site shall not relieve the Owner/Developer and the Contractor from full compliance with the Contract Documents,

1803.4 Pre-construction Conference

A Pre-construction Conference will be held prior to the start of construction on the Work. The Owner/Developer will provide E&DS the number of sets of prints required by E&DS of accepted Drawings for distribution before a Pre-construction Conference is scheduled.

In those cases where the Owner/Developer of a Project is allowed to amend his Work to undertake rough-cut or rough-cut/utility work on a portion of the Project, a pre-construction conference shall be held for the rough-cut or rough cut/utility and associated work and an additional pre-construction conference must be held after a full development permit has been obtained. Drawings must be delivered at both the rough-cut and full development phases.

The date and the time for the Pre-construction Conference will be established by the Inspector with the concurrence of the Consulting Engineer but in no case more than four (4) days after request and receipt from the Owner of the Drawings. An agenda will be prepared by the Consulting Engineer who will conduct the Conference and record and distribute Conference minutes and will include, as a minimum, discussion of the following items:

- Introduction of all parties with an exchange of phone numbers and addresses;
- Accepted plans and required permits;
- Discussion of start dates and target completion dates;
- Notification to City for inspection and testing;
- Erosion control system, violations and "Red Tags";
- Traffic control and barricade system approved by the Consulting Engineer (2 copies shall be provided to the Inspector);
- Submittals approved by the Consulting Engineer for all materials scheduled for the Work, including but not limited to: pipe, manholes, valves, hydrants, fittings, rebar, R.C.P., base, bedding, and subgrade prep. (2 copies shall be provided to the Inspector);
- TCEQ requirements;
- City accepted material submittals (SPLs, flexible base, p.c. concrete, hot mix asphalt concrete, etc.);
- Construction sequencing and phasing;
- Utility conflict notice;

Trench safety plan approved by the Consulting Engineer and proof of insurance (2 copies shall be provided to the Inspector);
Sequence of Construction
Survey cut sheets (2 copies shall be provided to the Inspector);
Backfill procedure and compaction of trenches;
Hydrant maintenance by the Contractor;
Asphalt Supplier;
Concrete Supplier;
Base Supplier;
Subcontractors;
Dry Utilities (2 copies of plans shall be provided to the Inspector);
Landscaping Agreements;
Geotechnical Report (2 copies shall be provided to the Inspector);
Subgrade Inspection by the Geotechnical Engineer;
Flushing meter;
Re-vegetation and Developer's Contract;
Final clean-up and punch list;
Maintenance and warranty bonds;
Final walk-through and acceptance.

A minimum of two days notice of the conference will be given by the Consulting Engineer to the following:

Owner/Developer,
County Representative, as appropriate,
Water and Wastewater,
The Electric Company,
The Gas Company,
Reviewer for E&DS
Other Utilities and Parties, as appropriate.

The Owner/Developer will provide notice to the Contractor. The Pre-construction Conference is mandatory for the Owner/Developer, the Consulting Engineer, and The Contractor.

1803.5 On-Site Pre-construction Meeting

After or in conjunction with the Pre-construction Conference and before the Work begins, an on-site meeting shall be held to review erosion and sedimentation controls. As a minimum the meeting shall include the following individuals:

The Contractor and the Superintendent,
The Inspector assigned to inspect the Work,
The Consulting Engineer.

The inspector will be provided with a minimum of 24 hours notice to establish a meeting date and time. If the inspector does not establish a date and time for the meeting within three working days of receiving the notice, construction may proceed.

1803. 6 Inspection Notifications

After the Pre-construction Conference, the Contractor must provide a minimum forty-eight hour advance notice of intent to begin the Work. Other circumstances may require additional time for notification when agreed to by the City Engineer or designated representative.

There are various stages of construction for which the Inspector shall be given the choice of inspecting and observing testing either before, during or after the operation. The actual stages of the various items are too numerous to itemize in complete detail or define the absolute advance notification time required by an Inspector.

Circumstances requiring advance notification include, but are not limited to:

1. The Inspector shall be given 24 hours advance notice for a major item, such as excavation, embankment, placement of pipes, backfill, processing of base material, placement of curb and gutter, placement of structures, placement of p.c. concrete, lay down of asphalt concrete or when the construction of drains is under way. The Inspector will follow up at time intervals to be established by the Inspector. If the Work is stopped for any reason, (i.e., weather, strike, lack of materials, equipment break downs, etc.) for 7 or more calendar days, the Inspector shall be notified 24 hours in advance of any Work starting back up. Because of work load, the Contractor shall coordinate with the Inspector when more than two hours of the Inspectors time is required on any given day for the purpose of observing testing.
2. The Inspector shall be given 24 hours advance notice when the Contractor anticipates each blue top/density stage, subgrade approval for base, base approval for a succeeding course of base, base approval for prime coat and placement of asphalt concrete.
3. A Job Mix Formula for asphalt concrete as approved by the Consulting Engineer, must be provided to the Inspector for review and acceptance a minimum of three days before asphalt paving is planned. Notification shall be given to the Inspector a minimum of 24 hours before the initiation of asphalt concrete paving. This review and notification must be accomplished for asphalt concrete to be acceptable to the City of Round Rock.
4. A Portland Cement Concrete Mix Design as approved by the Consulting Engineer, shall be provided to the Inspector for review and acceptance a minimum of 3 days before the proposed concrete placement. The inspector shall be notified at least 24 hours before the concrete is placed to allow the scheduling of on-site inspection of reinforcing steel, waterstops and other related components.
5. The Contractor shall request permission from the Inspector and Chief Construction Inspector as far in advance as practicable but no less than 72 hours in advance to perform any work on Saturdays, Sundays or City of Round Rock holidays. Installation of pipes, conduits, and

appurtenances or any other work requiring the presence of the Inspector shall not be performed on Saturdays, Sunday or CORR holidays without specific permission from the Chief Construction Inspector. Any Work accomplished without permission will not be acceptable to the City.

6. The Contractor shall contact the appropriate "One Call" Center for the location of existing utilities prior to the beginning of any Work.

1803.7 Lines and Grades

All lines, grades and control measures shall be furnished, checked and/or replaced as necessary by the Owner/Developer. The Contractor shall provide assistance, as necessary, to conduct these checks. Whenever necessary, construction shall be suspended to permit the performance of this Work and to allow the Inspector to review and check, if necessary, these procedures. Suspension will be as brief as practical. Four (4) copies of "Cut and Fill" sheets or other approved provisions for line and grade control for road, bridges, water and wastewater lines, storm sewer and other drainage structures or systems, along with required certifications shall be delivered to the Consulting Engineer for distribution (2 copies shall be provided to the Inspector). The sheets shall be certified by a Licensed Professional Engineer Registered in the State of Texas or a Licensed Professional Land Surveyor Registered in the State of Texas. Minimum staking requirements for roadways, bridges, water and wastewater lines, storm sewers and channels are as follows:

A. Roadways:

1. Offset hubs must be provided on both sides of the roadway
2. Straight grades at 50 feet (15 meters) maximum spacing with transverse quarter points.
3. Vertical curves at 25 feet (7.5 meters) maximum spacing with transverse quarter points.
4. BC, EC and stations of vertical curves with elevations.
5. PC, PT and stations of horizontal curves with elevations.
6. Horizontal curves at 25 feet (7.5 meters) maximum spacing with transverse quarter points.
7. Both ends, offsets and transitions of curb inlets.
8. High and low points of vertical curves.
9. Grade breaks.
10. Islands - all of the above points.
11. Separate subgrade cut sheets are not needed.
12. Roadway transitions.
13. Slope stakes for top and toe of slopes.

B. Storm Sewers:

1. Every 50 lineal feet [15 meters] maximum spacing.
2. Grade breaks with elevations.
3. PI, forward and backward tangents for horizontal curves.
4. Horizontal curves at 25 feet (7.5 meters) maximum spacing.
5. PC and PT stations for horizontal curves.
6. Flow lines into and out of manholes, junction boxes and splitter boxes.

7. Tie-in to existing storm sewers.
8. Flow line of storm sewer and channel where they intersect.
9. Double stake ends of storm sewer
10. Headwalls

C. Channels:

1. Every 50 lineal feet (15 meters) maximum spacing.
2. P.I., P.C., P.T., stations of all horizontal curves.
3. Horizontal curves, 25 feet (7.5 meters) maximum spacing.
4. All offsets to centerline of channel.
5. Flow line of storm sewer and channel where they intersect.
6. Grade breaks with elevations.
7. Dissipators - break points, beginning and end.

D. Water Pipelines:

1. Every 50 lineal feet (15 meters), maximum spacing.
2. PI, PC, PT, PRC, PCC and stations of horizontal curves.
3. Horizontal curve stations at 25 feet (7.5 meters) maximum spacing.
4. Reference all offsets to the centerline of pipe.
5. Tie-in both ends to existing pipe.
6. Vertical PI stations with elevations.
7. "Cut and Fill" sheets are not required for water lines less than 12" (300 mm) inside diameter (ID).
8. Pipe lines 12" (300 mm) ID and larger will be laid out according to pipe layout plan if required by the technical specifications,
9. Where the pipe layout plan indicates a straight pipe section with no grade change it is permissible to layout every 50 feet (15 meters).
10. All pipe joint deflections along vertical and horizontal curves and angle points with elevations.
11. All points along the construction staked line will have a hub driven in the ground with a known elevation obtained from a USGS reference datum.
12. All structures and appurtenances shall be staked at beginning, end and any intermediate point deemed necessary.

E. Wastewater Pipelines:

1. Every 50 lineal feet (15 meters) maximum spacing.
2. Grade breaks.
3. Inlets and outfalls of all manholes.
4. Forward and backward tangents of horizontal curves.
5. Horizontal curves at 25 feet (7.5 meters) maximum spacing.
6. PC, PT, PCC, PRC stations of horizontal curves with elevations.
7. All offsets referenced from the centerline of pipe.
8. All points along the construction staked line will have a hub driven in the ground with a known elevation obtained by U.S.G.S. reference datum.
9. All structures and appurtenances shall be staked at beginning, end and any intermediate point deemed necessary.

Each point or station on a "Cut or Fill" sheet shall have a hub set and identified on the ground.

1803.8 Construction Drawings

The Owner/Developer will forward the number of copies required by E&DS of the accepted subdivision or site development plans and approved revisions of the plans and the specifications to the E&DS. The date upon which the City initially accepted the plans by signature shall be the date used to determine expiration of the plans as per Chapter 8 or Chapter 11 of the City Code of Ordinances.

1803.9 Shop Drawings and Submittals

All sample submittals, shop drawings, setting drawings, and schedules required for the work of the various trades by the Contract Documents will be submitted by the Contractor to the Consulting Engineer. The Consulting Engineer shall review, identify any required corrections, revise the Drawings if required, and inform the Contractor of the status of the shop drawings. Upon approval of the shop drawings and/or submittals, the Consulting Engineer shall forward two (2) copies to the Inspector. Any work requiring a shop drawing or sample submittal shall not proceed until approved Submittals/Drawings have been received by the Inspector.

1803.10 Preliminary Approval

The City Engineer and the Owner/Developer shall not have the power to waive: any obligations of the Work; the furnishing of good material by the Contractor; or the performance of good work as herein described. The Work shall be in complete accordance with the Contract Documents. The failure or omission on the part of the City Engineer to discover, identify or condemn any defective work or material shall not release the Owner/Developer from the obligations to fully and properly complete the Work including without limitations, the obligation upon the discovery of said defective work or material to at once remove and properly replace the defective work or material at any time. The City Engineer shall, upon request of the Contractor or Owner/Developer, inspect and accept or reject any material furnished for the Work. Once the material has been accepted by the City Engineer, the acceptance shall be binding on the City of Round Rock, unless it can clearly be shown that the identified material has changed in character to the extent that it does not meet the specifications for the Work.

Any specific item of the Work, which is in dispute and has been issued a Notice of Unacceptable Work, may be re-examined by the City Engineer at any time prior to final acceptance. If found to be not in accordance with the Contract Documents for any specific item of the Work, all expense for removal, re-examination and replacement shall be borne by the Contractor and/or Owner/Developer. When inspection or approval is specifically required by the Specifications prior to performance of certain work or subsequent stages of the Work and the Contractor proceeds with such work without requesting prior inspection or approval, the Contractor and/or Owner/Developer shall bear all expenses of demolition, removal, and replacement of the work if so directed by the City Engineer.

1803.11 Defects and Their Remedies

If any material, either selected for the Work or delivered on the site for use in the Work, shall be deemed by the City Engineer to be unsuitable or not in conformity with the

Contract Documents, or the intent thereof, the Owner/Developer and the Contractor shall be notified by the City Engineer in a written notice which identifies and/or describes the unacceptable material. The Owner/Developer, after receipt of written notice from the City Engineer, shall then require the Contractor to immediately remove such material from the jobsite and rebuild or otherwise remedy any affected work so that it shall be in full accordance with the Contract Documents.

1803.12 Initial Determinations

The Consulting Engineer and/or the Owner/Developer shall determine all claims, disputes and other matters in question between the Contractors and the Owner/Developer relating to the execution or progress of the Work or the interpretation of the Contract Documents. If, in the opinion of the Consulting Engineer, the resolution results in a proposed change in the Contract Documents, appropriate revisions will be submitted to the appropriate plan review department for review and acceptance and delivered to the Inspector before the Work proceeds.

The City Engineer or his/her authorized representative will be the final authority for the interpretation of the Specifications.

1803.13 Objections

In the event the City Engineer or his representative renders any decision which in the opinion of the Owner/Developer or the Consulting Engineer is not in accordance with the meaning and intent of the Contract Documents, and the Owner/Developer or the Consulting Engineer is unable to resolve the matter with the Inspector assigned to the Work, or the Chief Construction Inspector, then the Owner/Developer may submit a written objection to the decision explaining why the decision is not in accordance with the Contract Documents to:

Chief of Public Works Operations
City of Round Rock
2008 Enterprise
Round Rock, Texas, 78664

A copy of the objection shall be sent to the City Engineer.

The Chief of Public Works Operations will resolve the appeal within five working days of its receipt (excluding weekends and City of Round Rock holidays).

End

SECTION 1804 GENERAL OBLIGATIONS AND RESPONSIBILITIES

1804.1 Keeping Construction Documents Accessible

The Owner/Developer will require the Contractor performing the Work to maintain on the work site a minimum of one complete copy of the Contract Documents including the latest as built revisions to the Drawings. The Contract Documents shall be accessible to representatives of the City Engineer, the Owner/Developer and the Consulting Engineer at all times.

1804.2 Adequacy of Design and Construction

It is understood that the Owner/Developer believes that he has employed competent Consulting Engineers. The Owner/Developer, therefore, shall be responsible for the adequacy of the design, compatibility of the Contract Documents, safety of all structures and construction procedures, and the practicability of operations of the completed Work. The burden of proof of such compliance shall be the responsibility of the Owner/Developer by demonstrating that he/she has complied with all requirements of the Contract Documents, along with all approved additions and alterations to the Contract Documents.

If during the Warranty Period following final acceptance by the City of Round Rock, the Work exhibits: (a) damage, deterioration, distress and/or failures; (b) requires excessive maintenance or rehabilitation work due to defects in materials, products or workmanship including utility backfill; and/or (c) design inadequacies are uncovered and identified, the Owner/Developer shall be notified of these conditions by the E&DS. The Owner/Developer shall take the corrective action(s) within 10 calendar days, which is (are) accepted by the City Engineer or designated representative. The City Engineer will suspend or revoke any new development or building permits by the Owner, until the deficiency (or deficiencies) of the Work is (are) satisfactorily corrected.

1804.3 Materials and Workmanship

Unless otherwise specified, the materials and equipment furnished for permanent installation in the Work shall conform to all applicable requirements of the Contract Documents and shall be new, unused and undamaged when installed or otherwise incorporated in the Work. When an article of material or equipment is specified by definitive description, or identified only by using a proprietary name or name of a particular manufacturer or vendor, such description/name shall be accepted as establishing the type, function, class and quality of product specified. The Owner/Developer through the Contractor or the Consulting Engineer shall submit descriptive information and evidence to the City Engineer or designated representative that the materials and equipment, proposed by the Contractor for incorporation in the Work, is of the kind, capacity and quality that satisfies the specified types, functions, classes and quality.

The Water and Wastewater Utility Standard Products Lists (SPLs) form a part of the Contract Documents. When the Contractor elects to use any materials/products from the Standard Products Lists, the materials/products shall be clearly and completely

identified when submitted for use in the Work. Any material/product, which is proposed for use in the Work, shall be submitted to the Consulting Engineer and the Inspector for review and approval prior to the use and/or incorporation of the material/product in the Work.

The City of Round Rock Standard Specification Item 340, "Hot Mix Asphaltic Concrete Pavement" and Specification Item 360, "Concrete Pavement", provide for the option of possible acceptance of pavements, which do not fully meet all specified requirements. If the reduced-standard pavements are otherwise acceptable in accordance with Standard Specifications 340 or 360 and to the City Engineer or designated representative, then the Owner/Developer or the Contractor may, with the concurrence of the City Engineer, request that the Work be made acceptable by providing a cash payment to the City. The dollar amount shall be calculated by reducing the base value of standard pavements by the percentages established by factors incorporated in Standard Specification items 340 for asphalt pavements and 360 for concrete pavements. The base values for standard pavements shall be determined by the City Engineer from the average costs for concrete or asphalt pavement construction, respectively, in previous years under contract to the City. The amount of cash payment shall be the amount of the dollar reduction.

1804.4 Testing of Materials

Unless otherwise specified, all on site testing to establish the quality of material to be incorporated in the Work will be as required by the City Engineer or designated representative. The frequency, time, locations and testing procedures will be coordinated with the Inspector. The testing shall be accomplished by an independent laboratory, which is acceptable to the City Engineer. Payment for all initial testing will be the responsibility of the Owner/Developer. Payment for retesting shall be the responsibility of the Contractor. Restoration or patching required as a result of the testing shall be at the expense of the Contractor.

The extent of investigations and retesting, related to unacceptable and/or failed tests shall be determined by the City Engineer. The City Engineer may require a minimum of two passing retests for each failure before acceptance will be made by the City.

The manufactured materials to be incorporated in the Work shall meet the requirements of the Contract Documents (e.g., reinforcing steel, expansion joint materials, concrete pipe, cement, miscellaneous steel, cast iron materials, flexible base, etc.). The Owner/Developer may be required to furnish a manufacturer's certificate stating that material meets the requirements specified for the Work.

1804.5 Sidewalk Variance

If grading for sidewalks during construction will damage, adversely impact or remove desirable natural features, trees etc., the Owner/Developer may request a variance from the E&DS for the realignment of the sidewalk. The Consulting Engineer shall submit a plan which includes detailed grading, elevation and alignment information in the vicinity of natural features, shall certify that no utility lines, inlets, meters or castings will be affected and request an appropriate change in the Work.

When the sidewalk plan requires an easement outside of public right of way and E&DS

concur, the Consulting Engineer shall provide an easement signed by the appropriate property owner dedicating an easement to the public. The dedication document will be accompanied by a sketch and metes and bounds description, certified by a Licensed Professional Land Surveyor Registered in the State of Texas, which is ready for recording. Submittal of this instrument is required before final acceptance can be issued by the City.

The Consulting Engineer shall record all sidewalk variances on reproducible Record Drawings and submit the drawings to E&DS as part of the as-built Drawings.

1804.6 License Agreements

When construction of the development includes retaining walls, landscaping, other privately owned improvements or provisions for future construction of these facilities within the public right-of-way, the Owner/Developer must have secured an executed License Agreement prior to final acceptance of the Work.

1804.7 Street Signs

The street name signs at signalized intersections shall be provided to the City by the Owner. All traffic control and street name signs at unsignalized intersections within and abutting the subdivision shall be installed by the Owner/Developer. The sign locations shall be based on guidelines provided in the most recent version of the State of Texas Manual on Uniform Traffic Control Devices

1804.8 Laws and Ordinances

The Owner/Developer and the Contractor shall observe and comply with Federal, State and local laws, ordinances and regulations, which in any manner affect the Work. The Owner/Developer and the Contractor shall defend, indemnify and hold harmless the City and its respective officers, agents and employees from and against all damages, claims, losses, demands, suits, judgments and costs, including reasonable attorneys fees and expenses, arising from the violation of any such laws, ordinances and regulations whether effected by the Owner/Developer, the Contractor or their employees.

1804.9 Force Majeure

If the Owner/Developer, the Contractor or the City is prevented from performing all or a part of the Work or any duties related thereto: (a) as a result of fire or other calamity; (b) by order of a governmental authority at the Federal, State or Local level; (c) by acts of God, strikes, lockouts or other industrial disturbances; (d) by acts of public enemies, material or labor restrictions by governmental authority; (e) by civil riot, flood as determined by the appropriate governmental authorities or (f) by acts of the Owner/Developer or any cause beyond the reasonable control of the Owner/Developer, the Contractor and/or the City; then the party suffering the "Force Majeure" shall notify the City in writing within five days of the onset of the condition of the "Force Majeure", excusing said performance and indicating the nature, extent, and probable duration of the "Force Majeure" condition. The suffering party shall then take all steps, reasonable, to resolve the condition during its pendency and shall notify the other parties immediately upon the resolution of the condition of "Force Majeure".

If the condition of “Force Majeure” extends to 20 calendar days of endurance, the Owner/Developer, the Contractor and the City shall agree to meet and discuss a resolution to preserve the interests of the respective parties in the Work. However if all respective parties agree, a resolution meeting may be scheduled for any time less than twenty (20) days.

End

SECTION 1805 PROTECTION OF PERSONS AND PROPERTY

1805.1 Safety Precautions and Programs

The Owner/Developer shall be responsible for initiating and maintaining all safety precautions and programs in connection with the Work.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text, the inch-pound units are given preference followed by SI units shown within parentheses.

1805.2 Safety of Persons and Property

The Owner/Developer shall undertake and shall require the Contractor to undertake all reasonable precautions for the safety of and shall provide all reasonable protection to prevent damage, injury or loss to:

1. All employees on the Work and all other persons who may be affected thereby;
2. All of the Work and all materials and equipment to be incorporated therein, whether in storage on-site, under the care, custody or control of the Owner/Developer, the Contractor or any Subcontractors; and
3. Other property at the site, including trees, shrubs, lawns, walks, pavements, fences, roadways, structures, and/or utilities not designated for removal, relocation or replacement in the course of the construction.

The Owner/Developer shall and shall require the Contractor to comply with all applicable laws, ordinances, rules, regulations and lawful orders of all public authorities having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. The Owner/Developer shall be responsible for: (a) the erection and maintenance of all reasonable safeguards for safety and protection, as required by existing conditions and progress of the work, including the posting of danger signs and other warnings against hazards; (b) promulgating safety regulations and (c) notifying owners of adjacent utilities of potential dangers caused by this work.

1805.3 Protection of Adjoining Property

The Owner/Developer shall be responsible for and shall require the Contractor to undertake proper means to protect the adjacent or adjoining property or any private properties, encountered in any way, which might be injured or seriously affected by any process of construction of the Work from any damage or injury by reason of said process of construction. The Owner/Developer shall be liable for any and all claims of such damage on account of the Owner/Developer 's failure to fully protect all adjoining property or any properties encountered in any way. The Owner/Developer shall agree to indemnify, save and hold harmless the City of Round Rock its agents and employees against any claim or claims for damages due to any injury to any adjacent or adjoining property arising or growing out of the performance of the Work regardless of whether or not the damage or injury is caused in part by a party indemnified hereunder.

1805.4 Public Safety and Convenience

The safety of the public shall be regarded as of prime importance. All portions of the existing public streets adjacent to the Work shall be kept open and shall provide a smooth, safe and comfortable ride to the traffic. It shall be the responsibility of the Owner/Developer to ensure that two-way traffic may safely bypass the construction site and that access is provided to abutting private property. If the street is a one-way street, the Owner/Developer shall ensure that one lane of travel remains available. Closing of existing public streets or lanes shall be subject to the approval of the City Engineer.

The Owner/Developer shall require the Contractor to plan and execute its operations in a manner that will cause the minimum interference with public traffic and shall require that the Contractor place and maintain in good condition standard barricades at each and all entrances to the Work and at other locations where traffic is rerouted or blocked from using regular public traffic lanes. Barricades and warning signs shall be installed in accordance with the latest edition of The State of Texas Manual on Uniform Traffic Control Devices.

The Owner shall require the Contractor to notify, request and receive approval from the City at least four (4) days (excluding Saturdays, Sundays or Holidays) in advance of the intention to close or partially block a public roadway or any part thereof located within the City or any construction, which may affect the free flow of public traffic. If the public roadway or any portion thereof is not located within the City, then notification and approval for closure shall be received from the appropriate city, county and/or state representative.

In the event the Contractor's operations reduce an existing public two-way roadway to less than 20 feet (6 meters) in width, the Contractor shall provide flaggers and shall route traffic through the construction area one lane at a time. A flagger will be required any time it is necessary for construction equipment to move into or across a public traffic lane or at such other times as directed by the Consulting Engineer and approved by the City Engineer. A flagger shall be utilized to aid the exit of construction equipment from public traffic lanes to the work area and the entry of construction equipment from the work area to public traffic lanes. Flaggers will be properly dressed and operate in accordance with the latest edition of The State of Texas Manual on Uniform Traffic Control Devices.

Barricades and signs with flashers shall be erected at each and every entry to the Work to notify and warn the public that the area is under private construction and should be entered only at their own risk. Reflectorized regulatory signs shall be installed on each side of each and every entry road in the right-of-way with the legend, "Private Road, Enter at Own Risk". The signs shall be the size and color combination indicated for sign R-11-2 of the latest edition of The State of Texas Manual on Uniform Traffic Control Devices and shall be mounted on Type III barricades. If there is insufficient room in which to place the Type III Barricade, two nominal 4x4 inch (100x100 mm) posts may be used for the installation of the sign in lieu of mounting the sign on a barricade. A standard stop sign shall be installed on the right side of each existing roadway at its point of intercept with a public roadway.

These barricades and signs shall be maintained in a clean and good condition until the Work is accepted by the City of Round Rock, when all but the stop signs may be removed by the Owner/Developer. If at any time during the performance of the Work the Owner/Developer allows these traffic control measures to deteriorate to a condition unacceptable to the City Engineer, the Owner/Developer will be issued a Written Notice to repair or replace the traffic control measures. If the conditions remain the same or worsen within 1 hour after the Written Notice has been served, the City Engineer may authorize City of Round Rock personnel or private contractual personnel to restore the barricades, signs and flashers to a safe condition. Continued neglect by the Owner/Developer may result in the suspension of permits, issuance of 'Red Tags' and/or initiation of legal restraints. The Owner/Developer will be required to make monetary restitution for City personnel or contractual costs for the restoration of the barricades, signs and/or flashers to a safe condition before the City of Round Rock will make final acceptance.

1805.5 Location and Protection of Utilities

The Owner/Developer and the Contractor are solely responsible for the location and protection of any and all public utility lines and utility customer service lines in the work area. The Contractor shall exercise due care to locate, mark, uncover or otherwise protect all such lines in the work area.

Neither the Owner/Developer nor the Contractor shall begin work in the area until the appropriate One-Call Center has been notified, a One-Call Notification Number issued and the Owner and/or the Contractor can assure that the locations of all lines and utilities have been marked.

Upon request, utility owners shall provide available information on the location and grade of water, wastewater, gas, storm sewer, and telephone and electric lines and other utilities in the work area. The presence of such information, however, shall not relieve the Owner/Developer or the Contractor of the obligations hereunder, which shall be primary and non-delegatable. Any such lines damaged by Contractor's operations shall be immediately repaired by the Contractor upon the concurrence of the repair of the utility; or the Owner/Developer shall cause such damage to be repaired at his expense.

1805.6 Public Right of Way Cut Permits

The use of City or County streets, sidewalks and other public easements by the Owner/Developer and/or the Contractor shall be subject to and in accordance with City or County ordinances, policies, standards and procedures governing said use of streets, sidewalks and public easements. The Owner/Developer's or the Contractor's use of City or County streets, sidewalks and other public easements is nonexclusive and does not establish priority for their use over other franchise holders, permit holders or the City or the County. All work conducted in street rights-of-way or public easements must be covered by a permit issued by the City, County or other appropriate authority. With the exception of any emergency repairs necessary to restore service or to protect the public, all work shall be permitted prior to the start of construction.

The Contractor shall call the E&DS to initiate a request for a permit to make a cut in any

public right-of-way or easement for areas within the City of Round Rock. When outside the City, a call shall be required to the County Engineer Office of the county in which the Work is to be done or TxDOT, if appropriate, in order to request a permit.

1805.7 Cuts in Unaccepted Public Right of Way

If cuts are made in the streets after the curb and gutter or final base lift is in place, the repairs shall be made in accordance with the Specifications. Once a street has been paved, no cuts will be allowed. The Inspector shall be notified a minimum of 24 hours prior to repairs being undertaken. Repairs made without proper notification of the Inspector shall be unacceptable and are subject to removal and replacement.

End

SECTION 1806 FINAL ACCEPTANCE

1806.1 Substantial Completion

Substantial Completion shall be defined as the date when, in the opinion of the Owner/Developer or the Consulting Engineer, the Work is sufficiently complete in accordance with the Contract Documents that the City can occupy or utilize the Work for its intended purpose. The Consulting Engineer shall prepare and forward to the Inspector a letter declaring Substantial Completion and indicating outstanding items.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text, the inch-pound units are given preference followed by SI units shown within parentheses.

1806.2 Final Inspection

Within four (4) working days of the date when the Consulting Engineer presented the Inspector with a Written Notice that the Work was substantially completed and the Inspector concurs, the Inspector will schedule a review of the Work with the Contractor and Consulting Engineer and the Consulting Engineer will prepare a Report of the Private Development Inspection (punchlist) for the Owner/Developer with copies provided for the Inspector, the Contractor and the Construction Supervisor. This form will include:

Any remaining items discovered not in compliance with Construction Documents; or other items required for the issuance of the Final Acceptance Letter.

Work that is shown on the Contract Documents as "Temporary Construction" will not be accepted by the City of Round Rock unless prior approval for the Work has been previously secured from the E&DS.

The Inspector will review and sign the Report of Private Development Inspection when all items entered are completed. A meeting for the Final Inspection may then be scheduled by the Inspector at a time convenient to the Owner and the City Engineer, as outlined in Section 1806.3.

The issuance of the Report of Private Development Inspection shall not excuse the Owner/Developer from requiring the Contractor to perform all the work required by the Contract Documents regardless of the time of discovery.

1806.3 Acceptance by the City of Round Rock

A meeting for the Final Inspection will be on the site of the Work, at a time, which is mutually agreeable between the City Engineer, the Consulting Engineer and the Owner/Developer. The Consulting Engineer will also invite:

1. The Contractor and sub-contractors, as appropriate,
2. The Inspector
3. The Street and Drainage Division of the Transportation Services Department, if the Work is located within the City,
4. The County Representative, as appropriate,
5. The Water and Wastewater Utility of the City.

6. The TxDOT representative, as appropriate.

An Acceptance Letter will be initiated by the City Engineer for locations within the City. If all items required are completed and in proper order the City will initiate the Acceptance Letter. A Certificate of Occupancy will not be issued for any unit until a Final Acceptance Letter has been issued.

1806.4 Guarantee Against Defective Work

The Owner/Developer and the Contractor shall warrant the Work for a period of one year from the date of City Acceptance of the completed Work, unless the period is extended by mutual agreement between the City and the Owner/Developer or the Contractor, as described below. This warranty shall provide for the correction of any and all defective materials, workmanship (including utility backfill) and/or design inadequacies, which may be discovered within the warranty period. The Owner/Developer shall correct or cause the Contractor to correct at his own expense, such defects no later than 30 calendar days after receipt of a Written Notice from the City of such defects. If the Owner or the Contractor fail or refuse to correct such defects within the 30 calendar day period or fail to provide adequate assurances that such work will be completed within a reasonable time thereafter, the City of Round Rock may correct, or cause to be corrected, any such defects at the expense of the warranty bond.

If in the opinion of the City Engineer it is desirable to extend the warranty period for questionable work rather than requiring the Contractor to remove and replace such work, the warranty period may be lengthened to an extended period of time as agreed to by the Owner/Developer and/or the Contractor.

1806.5 Warranty Bonds

The Owner/Developer shall execute or require the Contractor to execute a Maintenance Bond or Bonds in a total sum of 10% of the final construction value, as agreed by the City Engineer preceding Final Acceptance. The Maintenance Bond or Bonds will guarantee the Work as specified in Section 1806.4. The Maintenance Bond or Bonds shall be made for the benefit of the City. The subdivision or development will not be accepted by the City until such bonds are furnished, approved and accepted by the City Engineer.

The Surety Company underwriting the bonds shall be acceptable if it is included on the latest list of companies holding certificates of authority from the Secretary of the Treasury of the United States and is licensed to write such bonds in the State of Texas.

1806.6 Warranty Period

After the Acceptance of the completed Work, including street and drainage work, is issued, the completed Work will be monitored by the Inspector. If failures, defects and/or damage appear in the Work, the Owner/Developer or the Contractor will be notified of the need for corrective action as required in Sections 1804.2 and 1806.4.

End

**SECTION 1807
MISCELLANEOUS**

1807.1 Venue

In the event of any suit at law or in equity involving the Work, venue shall be in Williamson County, Texas, and the laws of the State of Texas shall apply to the interpretation and enforcement of the Contract Documents.

1807.2 Cumulative Remedies

The rights and remedies available to the parties are not to be construed in any way as a limitation of any rights or remedies available to any or all of them which are otherwise imposed or available by laws or regulation, by special warranty or guarantees or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

1807.3 Severability

If any word, phrase, clause, sentence or provision of the Contract Documents, or the application of same to any person or set of circumstances is for any reason held to be unconstitutional, invalid or unenforceable, that finding shall only effect such word, phrase, clause, sentence or provision and such finding shall not effect the remaining provisions of the Contract Documents; and all provisions of the Contract Documents are declared to be severable for this purpose.

End