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Consider approval of the minutes from the September 19, 2016 regular city council meeting, and take any action necessary.

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Z2016-023 - Consider a request by Kevin Dale Wommack & Pamela McCollum for the approval of an ordinance amending Specific Use Permit (SUP) No. S-118 [Ordinance No. 14-02] to allow for an accessory building that exceeds the maximum size requirements as stipulated by Article IV, Permissible Uses, of the Unified Development Code for a 1.4952-acre tract of land identified as Lot 17, Block B, Sterling Farms Addition, City of Rockwall, Rockwall County, Texas, zoned Single Family Estate 1.5 (SFE-1.5) District, addressed as 1970 Copper Ridge Circle, and take any action necessary (2nd Reading).

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Z2016-025 - Consider a request by Jason Lentz of Atticus Rockwall, LLC for the approval of an ordinance for a PD Development Plan establishing a 228 unit, condo development situated on a 3.453-acre portion of a larger 6.915-acre tract of land identified as Lots 3A, 4A & 5A, Isaac Brown Addition, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 32 (PD-32), situated within the Interior Subdistrict, located adjacent to Summer Lee Drive southwest of the intersection of Horizon Road [FM-3097] and Summer Lee Drive, and take any action necessary (2nd Reading).

Ord-2nd reading 315

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Z2016-028 - Consider a request by Susan Gamez for the approval of an ordinance for a zoning change from an Agricultural (AG) District to Residential Office (RO) District on a 0.478-acre tract of land identified as Tract 7 of the D. Atkins Survey, Abstract No. 1, City of Rockwall, Rockwall County, Texas, zoned Agricultural (AG) District, situated within the Scenic Overlay (SOV) District, addressed as 2001 Ridge Road, and take any action necessary (2nd Reading).

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Z2016-029 - Consider a request by Jimmy Strohmeyer of Strohmeyer Architects on behalf of D. W. Bobst of J-BR2, LLC for the approval of an ordinance for a Specific Use Permit (SUP) to allow a retail store with more than 2 gasoline dispensers on a 2.59-acre tract of land being a portion of a larger 7.32-acre tract of land identified as Tract 17-12 of the W. W. Ford Survey, Abstract No. 80, City of Rockwall, Rockwall County, Texas, zoned General Retail (GR) District, situated at the southwest corner of the intersection of SH-205 [S. Goliad Street] and FM-549, and take any action necessary (2nd Reading).

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P2016-042 - Consider a request by Greg Helsel of Spiars Engineering on behalf of the owner Will Shaddock of Master Developers-SNB, LLC for the approval of an amended plat for Phase 1 of the Preserve Subdivision, containing 132 single-family residential lots on a 52.545-acre tract of land identified as the Preserve, Phase 1 Subdivision, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 41 (PD-41) for Single Family 10 (SF-10) District land uses, located at the southeast at corner of the intersection of Highland Drive and East Fork Drive, and take any action necessary.

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Consider authorizing the City Manager to execute a contract extension to Terracare in the amount of $402,905 to be funded from the General Fund, 2017 Parks Operating Budget to provide Grounds Maintenance Services in FY 2017, and take any action necessary.

Memo 347

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Consider approval of the dedication of one sanitary sewer easement and two drainage easements for the development of Breezy Hill, Phase Five residential subdivision, and take any action necessary.

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Consider authorizing the City Manager to execute contracts with Oncor Electric Delivery Company, LLC for the installation and energizing of 85 street lights along John King Boulevard from north SH 205 to south SH 205 in the amount of $86,392.05 and take any action necessary.

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Consider authorizing the City Manager to execute a contract with the Texas Department of Transportation, Aviation Division for participation in the Routine Airport Maintenance Program (RAMP) at the Ralph M. Hall / Rockwall Municipal Airport, with matching funds for the grant to be provided by the Airport Operating Budget, and take any action necessary.

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Appointment with Chairman of the city's ART Commission to hear update from the Commission and to discuss and consider authorizing the City Manager to execute an artist agreement with Isaac Davies of THREE OF ONE ART for the installation of a mural on the south wall of 110 S. Goliad in downtown Rockwall, in an amount not to exceed $15,000.00, and take any action necessary.

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Discuss and consider approval of a resolution establishing a Comprehensive Plan Advisory Committee, and take any action necessary.

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Discuss and consider authorizing the city manager to execute a contract with Meals on Wheels Senior Services for certain nutritional and senior service programs in the amount of $30,000.00 to be funded from the Administration Department Operating Budget, and take any action necessary.

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AGENDA
ROCKWALL CITY COUNCIL
Monday, October 03, 2016
4:00 p.m. Regular City Council Meeting
City Hall - 385 S. Goliad, Rockwall, Texas 75087

I. CALL PUBLIC MEETING TO ORDER

II. WORK SESSION

p.9 **1.** Hold work session to hear updates to the Engineering Department's Standards of Design and Construction and receive City Council input prior to adoption.

p.273 **2.** Hold a work session to discuss and consider initiating a planning study of the IH-30 corridor.

p.278 **3.** Hold a work session to discuss and consider initiating an update of the city's Comprehensive Plan.

III. EXECUTIVE SESSION.

THE CITY OF ROCKWALL CITY COUNCIL WILL RECESS INTO EXECUTIVE SESSION TO DISCUSS THE FOLLOWING MATTERS AS AUTHORIZED BY CHAPTER 551 OF THE TEXAS GOVERNMENT CODE:

1. Discussion regarding Economic Development incentives, procedures and possible projects pursuant to Section 551.087 (Economic Development)

2. Discussion regarding the lease of land in the vicinity of the downtown area pursuant to Section §551.072 (Real Property)

3. Discussion regarding the status of ambulance services contract pursuant to Section §551.071 (Consultation with Attorney)

4. Discussion regarding legal advice associated with homeowners association (HOA) regulations within the city pursuant to Section 551.071 (Consultation with Attorney).

IV. ADJOURN EXECUTIVE SESSION

AGENDA
ROCKWALL CITY COUNCIL
Monday, October 03, 2016
6:00 p.m. Regular City Council Meeting
City Hall, 385 S. Goliad, Rockwall, Texas 75087

V. RECONVENE PUBLIC MEETING

VI. TAKE ANY ACTION AS A RESULT OF EXECUTIVE SESSION

VII. INVOCATION AND PLEDGE OF ALLEGIANCE – COUNCILMEMBER FOWLER

VIII. PROCLAMATIONS / AWARDS

p.286 **1.** County of Rockwall Emergency Services Corporation Recognition Day
p.288 **2.** Fire Prevention Month
p.290 **3.** National Community Planning Month

IX. OPEN FORUM

X. CONSENT AGENDA

p.292 **1.** Consider approval of the minutes from the September 19, 2016 regular city council meeting, and take any action necessary.

p.310 **2.** **Z2016-023** - Consider a request by Kevin Dale Wommack & Pamela McCollum for the approval of an **ordinance** amending Specific Use Permit (SUP) No. S-118 [Ordinance No. 14-02] to allow for an accessory building that exceeds the maximum size requirements as stipulated by Article IV, Permissible Uses, of the Unified Development Code for a 1.4952-acre tract of land identified as Lot 17, Block B, Sterling Farms Addition, City of Rockwall, Rockwall County, Texas, zoned Single Family Estate 1.5 (SFE-1.5) District, addressed as 1970 Copper Ridge Circle, and take any action necessary **(2nd Reading).**

p.315 **3.** **Z2016-025** - Consider a request by Jason Lentz of Atticus Rockwall, LLC for the approval of an **ordinance** for a PD Development Plan establishing a 228 unit, condo development situated on a 3.453-acre portion of a larger 6.915-acre tract of land identified as Lots 3A, 4A & 5A, Isaac Brown Addition, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 32 (PD-32), situated within the Interior Subdistrict, located adjacent to Summer Lee Drive southwest of the intersection of Horizon Road [FM-3097] and Summer Lee Drive, and take any action necessary **(2nd Reading).**

p.324 **4.** **Z2016-028** - Consider a request by Susan Gamez for the approval of an **ordinance** for a zoning change from an Agricultural (AG) District to Residential Office (RO) District on a 0.478-acre tract of land identified as Tract 7 of the D. Atkins Survey, Abstract No. 1, City of Rockwall, Rockwall County, Texas, zoned Agricultural (AG) District, situated within the Scenic Overlay (SOV) District, addressed as 2001 Ridge Road, and take any action necessary **(2nd Reading).**

p.330 **5.** ***Z2016-029*** - Consider a request by Jimmy Strohmeyer of Strohmeyer Architects on behalf of D. W. Bobst of J-BR2, LLC for the approval of an **ordinance** for a Specific Use Permit (SUP) to allow a retail store with more than 2 gasoline dispensers on a 2.59-acre tract of land being a portion of a larger 7.32-acre tract of land identified as Tract 17-12 of the W. W. Ford Survey, Abstract No. 80, City of Rockwall, Rockwall County, Texas, zoned General Retail (GR) District, situated at the southwest corner of the intersection of SH-205 [S. Goliad Street] and FM-549, and take any action necessary **(2nd Reading).**

p.336 **6.** **P2016-042** - Consider a request by Greg Helsel of Spiars Engineering on behalf of the owner Will Shaddock of Master Developers-SNB, LLC for the approval of an amended plat for Phase 1 of the Preserve Subdivision, containing 132 single-family residential lots on a 52.545-acre tract of land identified as the Preserve, Phase 1 Subdivision, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 41 (PD-41) for Single Family 10 (SF-10) District land uses, located at the southeast at corner of the intersection of Highland Drive and East Fork Drive, and take any action necessary.

p.347 **7.** Consider authorizing the City Manager to execute a contract extension to Terracare in the amount of $402,905 to be funded from the General Fund, 2017 Parks Operating Budget to provide Grounds Maintenance Services in FY 2017, and take any action necessary.

p.349 **8.** Consider approval of the dedication of one sanitary sewer easement and two drainage easements for the development of Breezy Hill, Phase Five residential subdivision, and take any action necessary.

p.366 **9.** Consider authorizing the City Manager to execute contracts with Oncor Electric Delivery Company, LLC for the installation and energizing of 85 street lights along John King Boulevard from north SH 205 to south SH 205 in the amount of $86,392.05 and take any action necessary.

p.390 **10.** Consider authorizing the City Manager to execute a contract with the Texas Department of Transportation, Aviation Division for participation in the Routine Airport Maintenance Program (RAMP) at the Ralph M. Hall / Rockwall Municipal Airport, with matching funds for the grant to be provided by the Airport Operating Budget, and take any action necessary.

XI. APPOINTMENTS

1. Appointment with the Planning and Zoning Chairman to discuss and answer any questions regarding cases on the agenda and related issues and take any action necessary.

p.404 **2.** Appointment with Chairman of the city's ART Commission to hear update from the Commission and to discuss and consider authorizing the City Manager to execute an artist agreement with Isaac Davies of THREE OF ONE ART for the installation of a mural on the south wall of 110 S. Goliad in downtown Rockwall, in an amount not to exceed $15,000.00, and take any action necessary.

XII. ACTION ITEMS

p.447 **1.** Discuss and consider approval of a resolution establishing a Comprehensive Plan Advisory Committee, and take any action necessary.

p.452 **2.** Discuss and consider authorizing the city manager to execute a contract with Meals on Wheels Senior Services for certain nutritional and senior service programs in the amount of $30,000.00 to be funded from the Administration Department Operating Budget, and take any action necessary.

XIII. CITY MANAGER'S REPORT TO DISCUSS CURRENT CITY ACTIVITIES, UPCOMING MEETINGS, FUTURE LEGISLATIVE ACTIVITIES, AND OTHER RELATED MATTERS.

1. Departmental Reports

p.460 Fire Dept. Monthly Reports - August 2016
p.471 Fire Marshal Division Monthly Report - August 2016
p.473 GIS Department Monthly Report - August 2016
p.475 Internal Operations Department Monthly Report - August 2016
p.480 Police Department Monthly Report - August 2016
p.483 Rockwall Animal Adoption Center Monthly Report - August 2016

2. City Manager's Report

XIV. EXECUTIVE SESSION

THE CITY OF ROCKWALL CITY COUNCIL WILL RECESS INTO EXECUTIVE SESSION TO DISCUSS THE FOLLOWING MATTERS AS AUTHORIZED BY CHAPTER 551 OF THE TEXAS GOVERNMENT CODE:

1. Discussion regarding Economic Development incentives, procedures and possible projects pursuant to Section 551.087 (Economic Development)

2. Discussion regarding the lease of land in the vicinity of the downtown area pursuant to Section §551.072 (Real Property)

3. Discussion regarding the status of ambulance services contract pursuant to Section §551.071 (Consultation with Attorney)

4. Discussion regarding legal advice associated with homeowners association (HOA) regulations within the city pursuant to Section 551.071 (Consultation with Attorney).

XV. RECONVENE PUBLIC MEETING & TAKE ANY ACTION AS RESULT OF EXECUTIVE SESSION

XVI. ADJOURNMENT

This facility is wheelchair accessible and accessible parking spaces are available. Request for accommodations or interpretive services must be made 48 hours prior to this meeting. Please contact the City Secretary's Office at (972) 771-7700 or FAX (972) 771-7727 for further information.
The City of Rockwall City Council reserves the right to adjourn into executive session at any time to discuss any of the matters listed on the agenda above, as authorized by Texas Government Code § 551.071 (Consultation with Attorney) § 551.072 (Deliberations about Real Property) § 551.074 (Personnel Matters) and § 551.086 (Economic Development)
I, Kristy Cole, City Secretary for the City of Rockwall, Texas, do hereby certify that this Agenda was posted at City Hall, in a place readily accessible to the general public at all times, on the 30th day of Sept., 2016 at 4:00 p.m. and remained so posted for at least 72 continuous hours preceding the scheduled time of said meeting.

_____ _____
Kristy Cole, City Secretary Date Removed

City of Rockwall
The New Horizon

MEMORANDUM

TO: **Rick Crowley, City Manager**

FROM: **Timothy M. Tumulty, P.E., Director of Public Works/City Engineer**

DATE: **September 12, 2016**

SUBJECT: **2016 Update of the Standards of Design and Construction**

Over the course of the last year and half staff has updated the City's Standards of Design and Construction. The current Standards of Design and Construction were approved by City Council on September 2, 2003. Staff conducted several internal reviews of the Standards to address current gaps and hosted a Citizen Review Committee of registered professional Civil Engineers currently living within the City to review and comment on these revised standards.

Attached is a list of major changes to these standards that were made, comments made by the Citizen Review Committee members, Draft Ordinance, and 2016 Update Standards of Design and Construction.

Staff request consideration to proceed with City Council adoption of the updated changes to the City of Rockwall Standards of Design and Construction.

If you have any questions, please advise.

TMT:jmw

Attachment

Cc:

Mary Smith, Assistant City Manager
Amy Williams, P.E., Assistant City Engineer
Jeremy White, P.E., CFM, Civil Engineer
Rick Sherer, Water/Wastewater Manager
Billy Chaffin, Superintendent of Streets & Drainage
File

Major Changes to the Standards of Design and Construction

1. **General Requirements**
   - Standard Specifications: Adoption of the 4th Edition, October 2004, NCTCOG Standard Specifications for Public Works Construction.
   - Addition of Table: Final Engineering Drawing Requirements.
   - Further Clarification on Final Acceptance
2. **Streets**
   - Addition of new Thoroughfare type, M3U, Minor Collector w/ Continuous Left Turn Lane.
   - Pavement crown type for undivided roadways changed to roof top crown type.
   - Addition of Visibility Easements at street Intersections
   - Addition of requiring a 30-year pavement section design for all arterial and collector roadways.
   - Addition of Street Department regulatory sign and street name blade requirements.
3. **Storm Drainage Facilities**
   - Defined exact drainage easement requirements based on drainage facility type, size and depth.
   - Refinement of the criteria of when the Rational Method can be used for drainage design and the addition of the Unit Hydrograph Method and when it can be used for drainage design.
   - Addition of NRCS TR55 methodology for determining time of concentration.
   - Standardization of the drainage calculations tables for engineering plans and drainage analysis. Includes of Drainage Area Calculations Table, Inlet Design Calculation Table, Storm Sewer Calculation Table, Open Channel Calculations Table and Culvert Design Calculation Table.
   - Updated calculations and formulas for pavement and inlet drainage design to conform to the TxDOT Hydraulic Design Manual and the FHWA HEC-22, Urban Drainage Deign Manual.
   - Changed roadway pavement ponding width criteria.
   - Addition of emergency overflow flume for all street types.
   - Addition of Bridge Design requirements
   - Addition of Erosion Hazard Setback
   - Addition of acceptable design method for detention facilities based on drainage area size.
   - Addition of section for Floodplain Reclamation and Modification.
4. **Vegetation**
   - Addition of requiring a root barrier for trees planted within City right-of-way.
5. **Water System**
   - Defined exact water line easement requirements based on water line size and depth.
6. **Wastewater System**
   - Clarification on wastewater line and service lateral ownership and maintenance.
   - Defined exact water line easement requirements based on water line size and depth.
   - Addition of Manhole rims to be two feet above 100-yr floodplain.
   - Additional requirements added for abandoning existing wastewater mains and manholes.

7. **Miscellaneous Requirements**
    - No Major Changes.
8. **Special Provisions to the NCTCOG's Standard Specifications for Public Works Construction Standards**
    - Updated to conform to the NCTCOG's 4th Edition, October 2004 and integrate City amendments.
9. **Special Provisions to the NCTCOG's Standard Drawings for Public Works Construction Standards**
    - Updated to conform to the NCTCOG's 4th Edition, October 2004 and integrate City amendments.

Citizen Review Committee

Committee Members:

Dale Cherry – formerly with Black & Veatch
Dub Douphrate – with Douphrate & Associates, Inc., formerly Rockwall City Engineer
John Baker – with City of Garland
Kevin Johnson – with Freese & Nichols, Inc.

Summary of Committee Comments:

- Investigate green infrastructure.
- Initiative for having a reclaimed water system.
- Several comments about looking at alternative ways of approaching storm drainage detention facilities.
- Requiring Pavement designs for certain thoroughfares.
- Incorporation of NCTCOG's iSWM (Integrated Storm Water Management)
- Recommend adding Erosion Hazard Setback.
- Add table defining minimum easement widths.
- Possibly add wastewater line inverted siphons.

CITY OF ROCKWALL

ORDINANCE NO. 16-____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE SUBDIVISION REGULATIONS OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, BY AMENDING SECTION 24-19, STANDARDS FOR DESIGN OF DEVELOPMENT WITHIN SUBDIVISIONS (ORD. NO. 86-89); PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, an amendment to the City of Rockwall Subdivision Regulations, has been initiated by the City of Rockwall to amend Section 24-19, Standards for Design of Development Within Subdivisions (Ord. No. 86-89): and

WHEREAS, the governing body of the City of Rockwall, in compliance with the laws of the State of Texas and the ordinances of the City of Rockwall, have given the requisite notices by publication and otherwise, and have held public hearings and afforded a full and fair hearing to all property owners generally, and to all persons interested in and situated in the affected area and in the vicinity thereof, the governing body in the exercise of its legislative discretion has concluded that the Subdivision Regulations of the City of Rockwall should be amended as follows:

NOW, THEREFORE, **BE IT ORDAINED** by the City Council of the City of Rockwall, Texas:

Section 1. That the Subdivision Regulations of the City of Rockwall, as heretofore amended, shall be amended by amending Section 24-12, Standards for Design of Development Within Subdivisions (Ord. No. 86-89) as follows:

1. The September 2016 update of the Standards of Design and Construction are adopted replacing the Standards of Design, and Construction Specifications, dated August 2003, a copy of which is on file for public inspection in the City Secretary's office.

2. The Standard Specifications for Public Works Construction Standards, North Central Texas, 4th Edition, October 2004, Section I and Section II, except as noted in the City of Rockwall's supplemental Special Provisions, are adopted a copy of which is on file for public inspection in the City Secretary's office.

Section 2. Any person, firm, or corporation violating any of he provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a penalty of fine not to exceed the sum of TWO THOUSAND DOLLARS

($2,000.00) for each offence and each and every day such offense shall continue shall be deemed to constitute a separated offense.

Section 3. If any section, paragraph, or provision of this ordinance or the application of that section, paragraph, or provision to any person, firm, corporation or situation is for any reason judged invalid, The adjudication shall not affect any other section, paragraph, or provision of this ordinance or the application of any other section, paragraph or provision to any other person, firm corporation or situation, nor shall adjudication affect any other section, paragraph, or provision of the Subdivision Regulations of the city of Rockwall, Texas, and the City council declares that it would have adopted the valid portions and applications of the ordinance without the invalid parts and to this end the provisions for this ordinance are declared to be severable.

Section 4. That this ordinance shall take effect immediately from and after its passage and the publication of the caption of said ordinance as the law in such cases provides, and it is so ordained.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, this the ____ day of_____, _____.

_____
Jim Pruitt, Mayor

ATTEST:

_____
Kristy Cole, City Secretary

APPROVED AS TO FORM:

_____
Frank Garza, City Attorney

1st Reading:

2nd Reading:

DRAFT

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CITY OF ROCKWALL, TEXAS

STANDARDS OF DESIGN AND CONSTRUCTION

City of Rockwall

The New Horizon

ENGINEERING DEPARTMENT

SEPTEMBER 2016

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1. GENERAL REQUIREMENTS

1.1 Introduction

The "Standards of Design" are generated to implement the provisions of the Subdivision Ordinance and to provide for the orderly, safe, healthy and uniform development of the area within the corporate city limits and within the surrounding City, extraterritorial jurisdiction (ETJ).

The 4th Edition of the NCTCOG Standard Specifications for Public Works Construction dated October 2004 as modified by the City of Rockwall Special Provisions are supplemental and are made a part of these Standards of Design. These documents are to be considered as the minimum requirements of engineering design. The adherence to the requirements of these documents and/or the approval by the City of Rockwall and its agents in no way relieves the developer or their engineer of the responsibility for adequacy of design, which may require more stringent standards than these, the completeness of plans and specifications or the suitability of the completed facilities. In unusual circumstances, the City of Rockwall may determine that designs other than those of the Standards are necessary and will inform the developer of such requirements before final engineering review.

The developer and/or their representative shall obtain authorization from the City of Rockwall, in writing, for any deviations from the requirements set forth in the Standards of Design, Standard Specifications for Construction or Standard Details.

1.2 Standards of Design

The Standards of Design, as adopted by the City of Rockwall, are set forth herein. These standards shall be considered as the minimum requirements, and it shall be the responsibility of the developer to determine if more stringent requirements are necessary for a particular development. It is not intended that the Standards of Design cover all aspects of a development. For those elements omitted, the developer will be expected to provide designs and facilities in accordance with good engineering practice and to cause the facilities to be constructed utilizing first class workmanship and materials. The City Engineer reserves the right to request additional information not covered within these Standards of Design to be included in the design plans by the developer/design engineer in order to validate the intent, safety, constructability, readability and competency of the design plans.

Developer/Engineer must ensure that all design and construction is in accordance with all Federal, State and local regulations and must provide

certification on final plans. A copy of all determinations, permits, and approvals received from Federal, State, and local agencies must be provided.

1.3 Standard Specifications for Construction

The City of Rockwall Special Provisions to the NCTCOG Standard Specifications for Public Works Construction, 4th Edition, October 2004, as adopted by the City of Rockwall is referenced in this document. The Standard Specifications for construction set forth the minimum requirements for materials and workmanship for streets, parking lots, sidewalks, drainage, water and wastewater systems.

1.4 Standard Details

In an effort to have uniformity and to facilitate maintenance, the City has adopted the North Central Texas Council of Governments (NCTCOG) Standard Drawings as modified by the City of Rockwall Special Provisions for certain facilities such as manholes, street sections, sidewalks, water, wastewater, storm water, curb inlets, barrier free ramps, etc. The City of Rockwall Special Provisions can be obtained from the City Engineering Department. The NCTCOG Standard Specifications can be obtained from the North Central Texas Council of Governments, Regional Information Center 817-695-9140.

1.5 Inspection of Construction by City Personnel

Inspection of construction and verification of compliance to the plans and specifications shall be conducted by the City of Rockwall staff under the direction of the City Engineer. The facilities included in this inspection requirement are streets, sidewalks, parking lots, alleys, storm drainage facilities, water distribution systems, wastewater collection system, etc. The developer shall advise all of his construction contractors of this requirement. No development will be accepted by the City until all construction has been approved by the City of Rockwall's staff. The developer shall be responsible for any additional expense to the City at a rate established by the City at that time when inspection is done after normal business hours of the City. The date of acceptance will be when all items have been accepted by the City. Twenty months from the date of acceptance the City will determine any failures or defects and repairs will be made by the contractor. The accepted method of inspection for underground utilities shall be videoed and the City will require a copy of such inspection. The developer or contractor shall be responsible for the cost of the videoed inspection.

1.6 Franchise and Public Utilities to be Underground

All franchise and public utilities within a residential development shall be placed underground. Utilities are defined for this purpose as water pipelines, wastewater pipelines, storm water pipelines, natural gas pipelines, telephone wires, cable TV wires and electric wires. In case of special or unique

circumstances, the City may grant variances or exceptions to this requirement. Any request for variance or exception should be submitted in writing to the City of Rockwall setting forth the justification for an exception. The granting of a variance or exception by the City will be in writing. No work will be accepted without written approval from the City Engineer or in the case of franchise utilities, the Planning Director. Commercial developments may have overhead utilities as approved by the City Council.

1.7 Submittal to Utility Companies

The developer shall be responsible for submittal of information needed to design private utilities for the development. This information shall be submitted to the franchise (gas, electric, phone, and cable) companies. Written confirmation from the franchise companies shall be submitted to the Engineering Department, verifying that the affected utility companies have installed their respective utilities prior to engineering acceptance of project.

1.8 Requirements of the Final Engineering Drawings

The final engineering drawings shall conform to the established "Engineering Drawings Requirements" and these Standards of Design. The Engineering Drawings Requirements can be found the Appendix.

The final engineering drawings will consist of drawings showing all information necessary to completely review the engineering design of improvements proposed for or affected by the site and sealed by a Registered Professional Engineer within the State of Texas.

1.9 Final Acceptance

Final Acceptance shall be when all the items on the items on the final Acceptance Checklist have been completed and sign of by the City. After improvements have been constructed, the developer shall be responsible for providing to the City "As Built" or "Record Drawings" The Design Engineer shall furnish a digital file of the project formatted in Auto Cad 14, or 2000 format or newer **and** Adobe Acrobat (.pdf) format with a CD-ROM. The disk shall include a full set of plans along with any landscaping, wall plans, and details sheets.

Submit 1-set of blue line drawings of the "Record Drawings" containing copies of all sheets. The blue line copy will be reviewed by the construction inspector **PRIOR** to producing the "Record Drawing" disk. This will allow any revisions to be addressed prior to producing the disk.

Record Drawing Disk drawings shall have the Design Engineers seal, signature and must be stamped and dated as "Record Drawings" or "As Built Drawings" on all sheets.

The City of Rockwall will not accept any Record Drawing disk drawings which include a disclaimer with the like or similar verbiage. A disclaimer shall not directly or indirectly state or indicate that the design engineer or the design engineer's surveyor/surveyors did not verify grades after construction, or that the Record Drawings were based solely on information provided by the construction contractor/contractors. Any Record Drawings which include like or similar disclaimer verbiage will not be accepted by the City of Rockwall.

Example of Acceptable Disclaimer:

To the best of our knowledge ABC Engineering, Inc., hereby states that this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.

1.10 Changes in Standards of Design, Construction Specifications and this Document

These Standards of Design, Construction Specifications and this document can be modified by City Council through ordinance or resolution. This document can also be updated time to time to reflect changes in City requirements. It is the responsibility of the user to obtain the latest revisions of the City's requirements.

2. STREETS

2.1 General

The street system, including the street layout, shall be in accordance with generally accepted engineering practices and in compliance with the Comprehensive Plan, the latest Thoroughfare Plan, the Zoning Ordinances, the Subdivision Regulations and other applicable regulations. The drainage system, as incorporated into the street system, shall comply with Section 3 of this document. The plans and specifications, design computations, if required, and other applicable data shall be submitted to the City for review. Construction shall not commence prior to approval of the plans and specifications by the City. All changes during construction shall be submitted to the Engineering Department for approval prior to any construction modifications.

2.2 Street Arrangement

Unless otherwise approved by the City, provisions shall be made for the extension of existing major arterials, collector streets and local streets in accordance with the Thoroughfare Plan and any specific street alignments as adopted by the City Council.

Off-center intersections will be considered for approval only for minor collector and local streets and only when there is a minimum property line separation of 125' unless otherwise approved by the City Engineer.

Within residential areas, the following design elements are encouraged: (A) Developing only a limited number of access points to arterial streets bordering the subdivision; (B) More than one point of access; (C) Incorporate curvilinear streets into the plan and (D) Incorporating a discontinuous residential street network, which utilizes three-way intersections in lieu of four-way intersections. When these factors are incorporated into a residential street plan, the result is enhanced character and traffic safety.

2.3 Thoroughfare and Street Geometry

Geometric design standards are presented in two formats within this section. Table 2.1 identifies specific design criteria for each standard roadway type. Figure 2.1A and 2.1B shows the typical cross-section for each standard roadway type. It is noted that dimensions shown are to the face of curb, unless specifically identified otherwise.

Each roadway type is keyed to the City Thoroughfare Plan, with the exception of local streets. The reader is referred to this document for information as to the locations where these roadways are to be used.

Table 2.1 Thoroughfare Geometric Design Standards

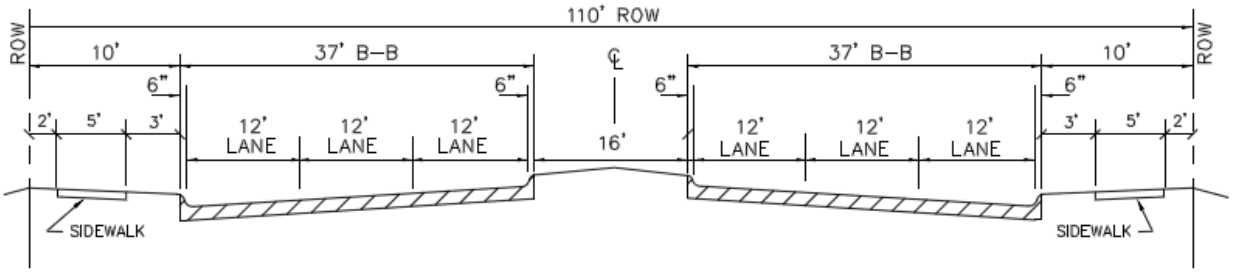
Thoroughfare Designation	P6D	M4D	M4U	Minor Collector	M3U		
Thoroughfare Type	Principal Arterial Divided 6-Lane	Minor Arterial Divided 4-Lane	Major Collector Undivided 4-Lane	Minor Collector/ Local Commercial Undivided	Minor Collector w/ Continuous Left Turn Lane	Local (Residen-tial)	Alley
Number Traffic Lanes	6	4	4	2	2	2	1
Minimum Lane Width (feet)	12	12	11	11 + 2 Parking	12	14.5	12
Minimum R.O.W. * Width (feet)	110	85	65	60	70	50	20
Design speed (m.p.h.)	45	40	35	30	30	30	20
Posted Speed (m.p.h.)	40	35	30	25	30		
Stopping sight distance (feet)	400	325	275	200	200	200	125
Median Width ** (feet)	16	14	—	—	Left Turn Lane Width 14'	—	—
Minimum Lateral Clearance (feet)	6	6	6	6	6	—	—
Parking Permitted	NO	NO	NO	COM.-SOME RES.-YES	NO	RES.-YES	NO
Minimum Horizontal Centerline Curvature (feet)	1200	850	Com.-700 Res.-600	Com.-500 Res.-350	Com.-500 Res.-350	Res.-250 Elbow -50'	See Details
Maximum Grade (%)	7.5 (For max length of 200')	7.5 (For max length of 200')	7.5	7.5	7.5	10.0	10.0
Minimum Grade (%)	0.7	0.7	0.7	0.7	0.7	0.7	0.7

* RIGHT-OF-WAY REQUIREMENTS FOR STATE HIGHWAYS AND/OR THE PROVISION OF RIGHT TURN LANES OR OTHER INTERSECTION IMPROVEMENTS MAY EXCEED THIS MINIMUM R.O.W. STANDARD.

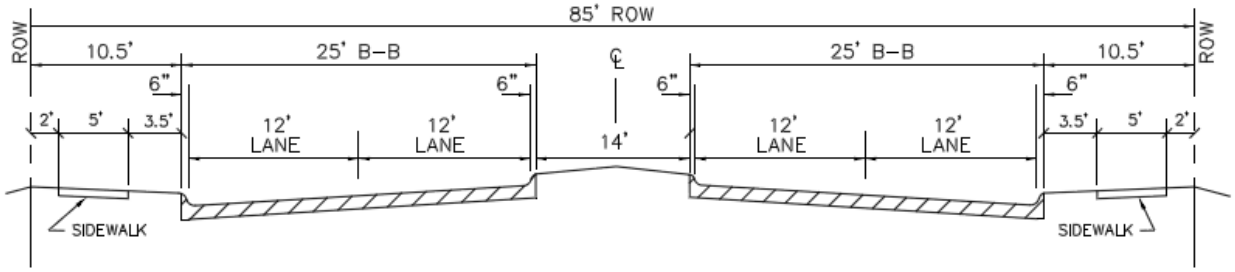
** LARGER MEDIANS MAY BE REQUIRED TO PROVIDE FOR MULTIPLE TURN LANES.

*** LOCAL RESIDENTIAL CUL-DE-SACS SHALL HAVE A MINIMUM R.O.W. RADIUS OF FIFTY-SEVEN AND HALF FEET (57.5').

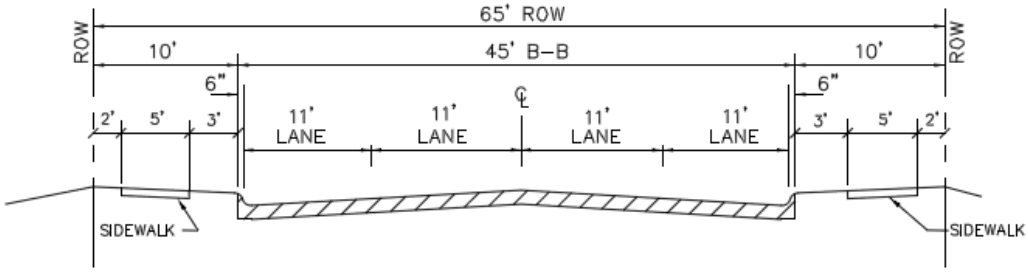
**** CROSS-SLOPE VARIANCE NEEDS APPROVAL FROM CITY ENGINEER.



PRINCIPAL ARTERIAL DIVIDED 6–LANE
P6D

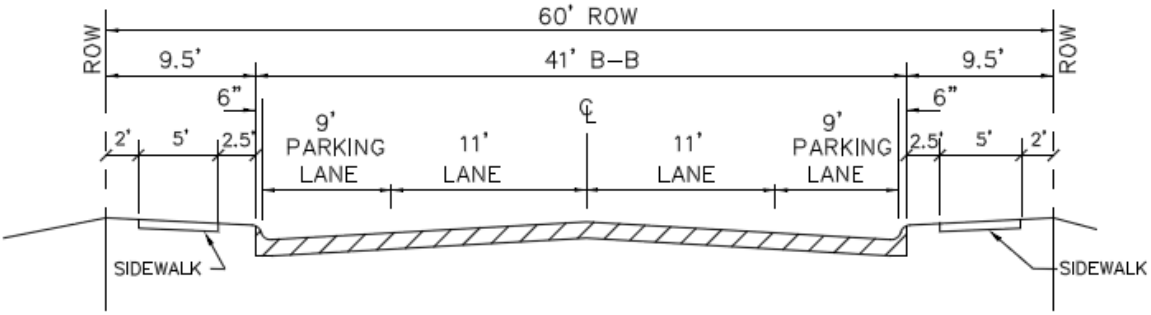


MINOR ARTERIAL DIVIDED 4–LANE
M4D

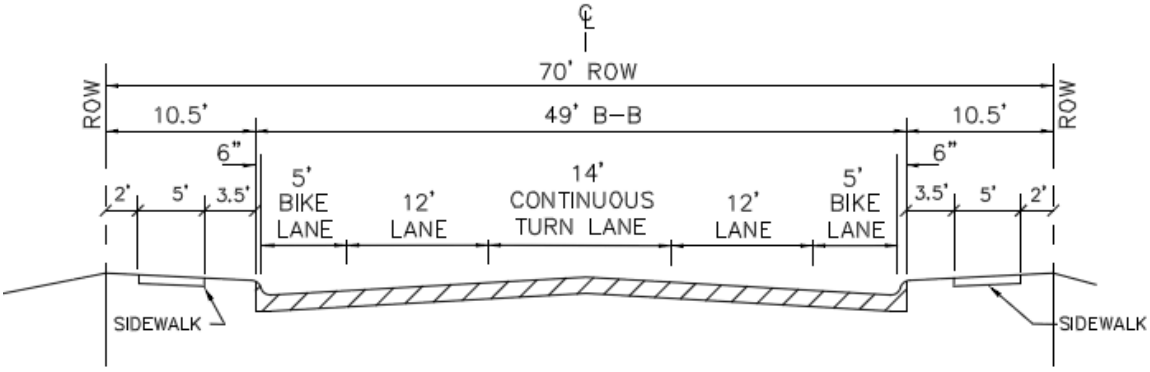


MAJOR UNDIVIDED COLLECTOR 4–LANE
M4U

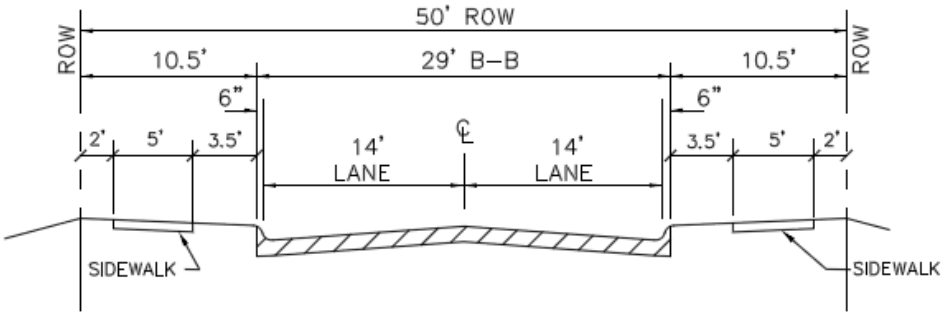
Figure 2.1A: Typical Thoroughfare Cross Sections



MINOR COLLECTOR AND/OR LOCAL COMMERCIAL UNDIVIDED

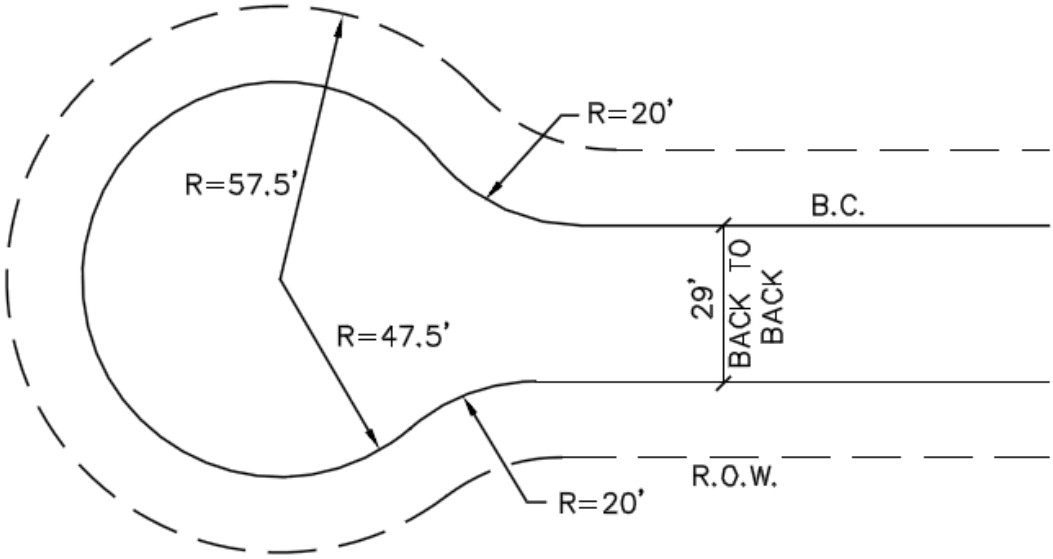


MINOR COLLECTOR – 2 LANE WITH CONTINUOUS LEFT TURN LANE
M3U

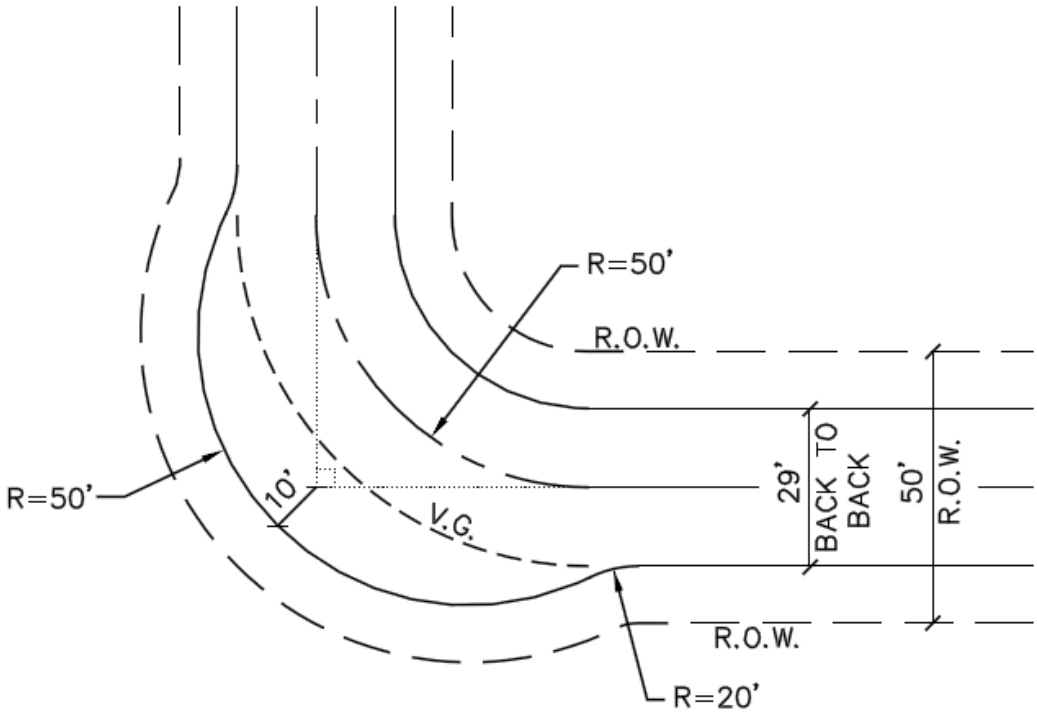


LOCAL (RESIDENTIAL STREET)

Figure 2.1B: Typical Thoroughfare Cross Sections



TYPICAL CUL-DE-SAC



TYPICAL EYEBROW

Figure 2.1C: Typical Thoroughfare Cross Sections

2.4 Turn Lanes

All left turn storage areas shall be eleven (11) feet wide with minimum storage requirements for left-turn lanes as in Figure 2.2. The transition curves used in left-turn lanes shall be two (2), 250-foot radius reverse curves with a total transition length of 100 feet. Medians less than seven (7') feet wide are required to be constructed of a City approved paver system with full depth steel reinforced concrete under the pavers. All median noses are to be constructed of City approved paver system. The paver system shall be installed a distance of ten (10') feet from the end of the nose.

2.5 Median Openings, Width, Location and Spacing

Arterial thoroughfares in Rockwall have raised medians. Arterials having continuous two-way left turn lanes are discouraged and may be utilized only in special circumstances with the approval of the City Council.

Median openings at intersections shall be from right-of-way to right-of-way of the intersecting street, unless otherwise approved by the City Engineer.

The width of mid-block median openings shall not be less than 60 feet, but no greater than 70 feet.

Using the above requirements, examples of the minimum distance between median openings on a divided street where left-turn storage is provided in both directions are:

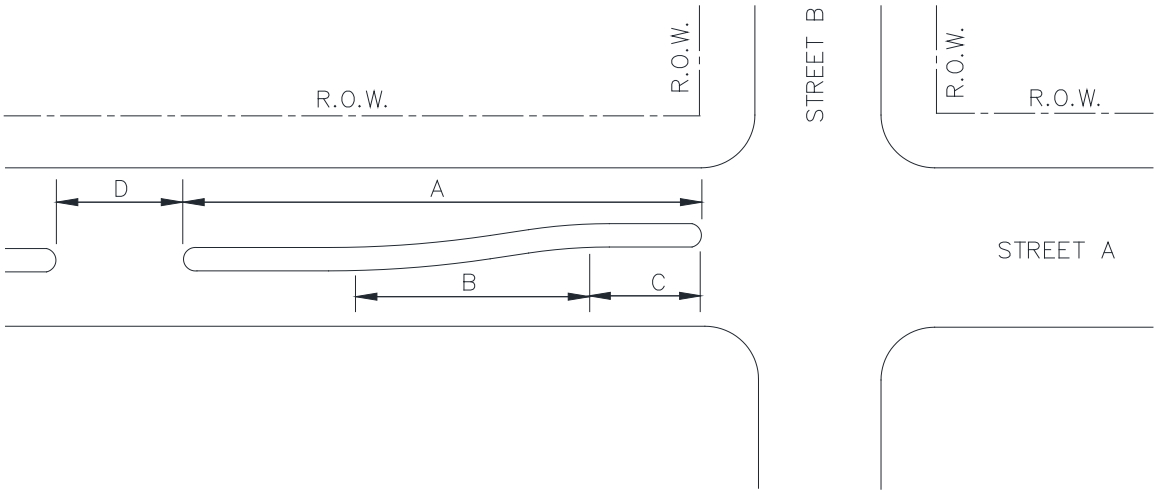
A. 310 feet from nose to nose of the median from the intersection of two major thoroughfares to a street or drive (see Figure 2.2);

B. 260 feet from nose to nose of the median from the intersection of two secondary thoroughfares or a secondary thoroughfare and a major thoroughfare to a residential street or a drive, and;

C. 220 feet from nose to nose of the median for intersection combinations of drives and/or residential streets.

Medians less than seven (7') feet wide are required to be constructed of a City approved paver or stamped concrete system. All median noses are to be constructed of City approved paver or stamped concrete system, a distance of ten (10') feet from the end of the nose. Any median that has landscaping requires a mow ramp to be installed for access. Noses shall be a solid poured steel reinforced concrete bullet nose.

Figure 2.2: Median Design Standards



INTERSECTING STREET TYPE		MINIMUM LENGTH (FEET)			
STREET A	STREET B	A	B	C*	D**
Principal Arterial (6 Lanes)	Principal Arterial (6 Lanes)	310	100	150	60
Principal Arterial (6 Lanes)	Minor Arterial (4 Lanes)	260	100	100	60
Principal Arterial (6 Lanes)	Major Collector (4 Lanes) Minor Collector (2 Lanes)	260	100	100	60
Principal Arterial (6 Lanes)	Local/Private (2 Lanes)	220	100	60	60
Minor Arterial (4 Lanes)	Principal Arterial (6 Lanes)	310	100	150	60
Minor Arterial (4 Lanes)	Minor Arterial (4 Lanes)	260	100	100	60
Minor Arterial (4 Lanes)	Major Collector (4 Lanes) Minor Collector (2 Lanes)	260	100	100	60
Minor Arterial (4 Lanes)	Local/Private	220	100	60	60

LEFT-TURN STORAGE AREA WIDTH 11' MINIMUM

MEDIAN WIDTH (SEE GEOMETRIC DESIGN STANDARD FOR PRINCIPAL AND MINOR ARTERIAL).

***MINIMUM LENGTH – ACTUAL LENGTH DEPENDENT UPON ANTICIPATED TURN VOLUME**

**** OR STREET WIDTH + 8 FEET – WHICHEVER IS GREATER. A VARIANCE MAYBE GRANTED BY CITY COUNCIL ON A CASE BY CASE BASIS.**

2.6 Driveway Locations

Minimum standards for driveway separation accessing the same site are shown in Figure 2.3. This standard applies to all non-residential uses.

There is a minimum distance upstream and downstream from adjacent intersections within which driveways should not be located. This separation distance varies with the classification of street and is shown in Figure 2.3. This standard applies to all non-residential users.

At mid-block access points, there is a minimum distance from a median nose, within which driveways should not be located. This is shown in Figure 2.3 and is equally applicable along both major and minor arterials for non-residential uses. All proposed paving connections to existing paving requires a longitudinal butt joint connection.

2.7 Block Lengths

In general, streets shall be provided at such intervals as to serve cross traffic adequately and to intersect with existing streets. Where no existing plats control, the blocks shall be not more than 1,600 feet in length. Block arrangements must provide access to all lots, and in no case, shall a block interfere with traffic circulation.

2.8 Street Intersections

More than two streets intersecting at one point shall be avoided. All streets and thoroughfares should intersect other streets and thoroughfares at an angle of ninety (90) degrees unless otherwise approved by the City Engineer.

Arterial and collector street intersections shall have property line corner clips with a minimum tangent distance of thirty (30) feet. Residential streets shall not normally be required to have a ROW corner clip at their intersection with other streets or thoroughfares, but a 10-foot by 10-foot sidewalk corner easement will be required.

Visibility easements will be required for all ninety (90°) degree intersections. For all intersections that are not ninety (90°) degrees, an engineered visibility easement is required by the design engineer.

A. Arterial/Collector street intersections - thirty (30) foot by thirty (30) foot easement
B. Residential street intersections - twenty (20) foot by twenty (20) foot easement
C. Alley to street intersections - ten (10) foot by ten (10) foot easement

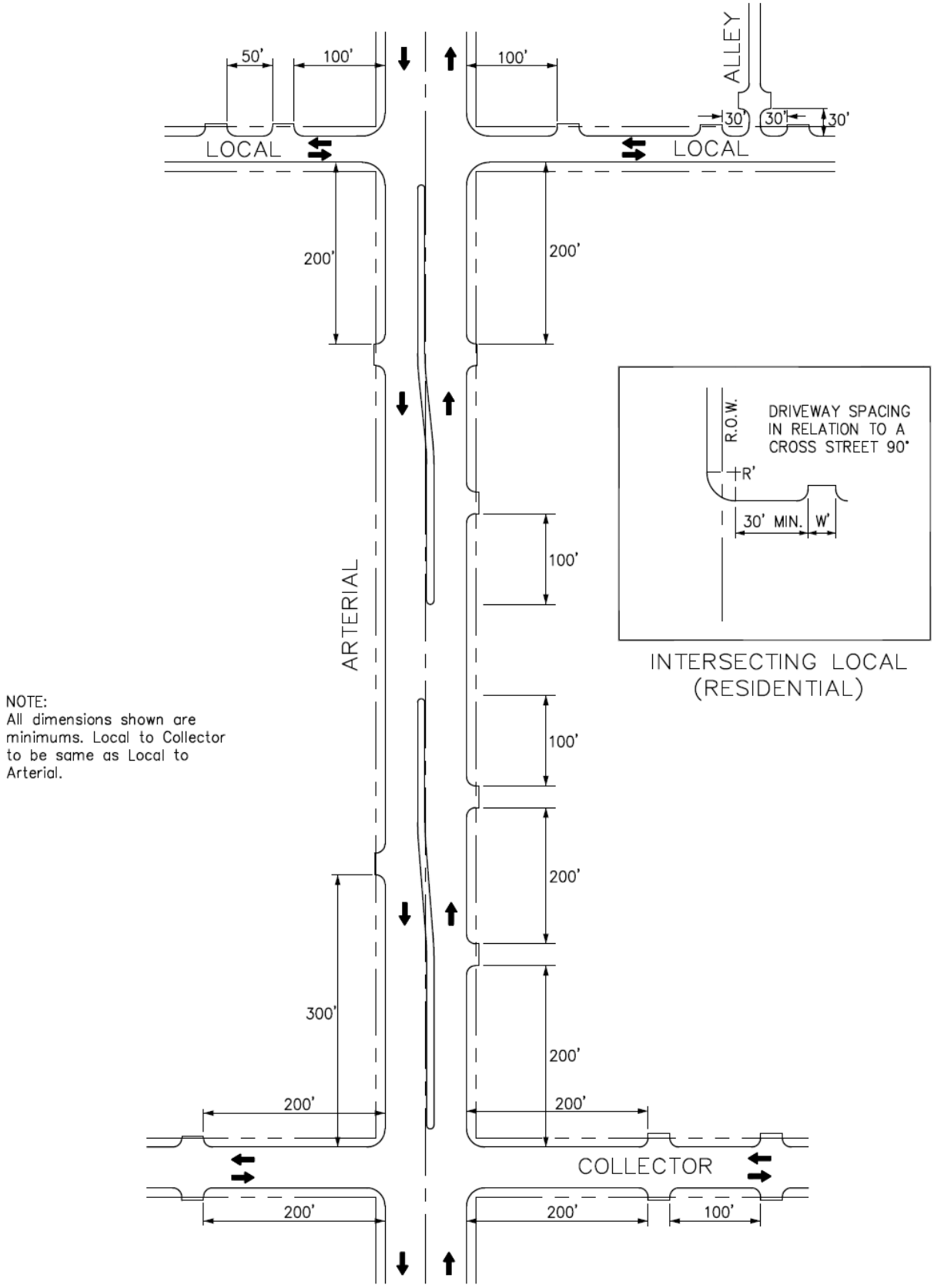


Figure 2.3: Minimum Driveway Spacing & Corner Clearance

Curb radii at intersections shall have a minimum radius of thirty (30) feet along arterials, twenty-five (25) feet along collectors and twenty (20) feet along residential streets.

In any case where streets intersect at an angle of other than ninety (90) degrees, the City may require non-standard right-of-way corner clips and curb return radii.

All proposed paving connections to existing paving requires a longitudinal butt joint connection.

2.9 Relation to Adjoining Streets

The system of streets designed for the development, except in unusual cases, must connect with streets already dedicated in adjacent developments. Where no adjacent connections are platted, the streets must be the reasonable projection of streets in the nearest subdivided tracts and must be continued to the boundaries of the tract development, so that other developments may eventually connect with the proposed development. Strips of land controlling access to or egress from other property or any street or alley or having the effect of restricting or damaging the adjoining property for development or subdivision purposes or which will not be taxable or accessible for special improvements shall not be permitted in any development unless such reserve strips are conveyed to the City on fee simple. This determination is made by the City Planning Director or City Engineer. When such access is needed to maintain permanent City owned utilities, the roadway will be an improved right-of-way. If the utilities are temporary, an improved easement may be approved.

2.10 Dead End Streets, Cul-de-Sacs and Courts

Cul-de-sacs are permitted and encouraged within residential subdivisions. Use of this design shall provide proper access to all lots and shall not exceed six hundred (600) feet in length, measured from the center of the cul-de-sac to the center of the intersecting street (not a dead end street). Cul-de-sac shall have a minimum paving radius of forty-seven and half (47 ½) feet and a minimum right-of-way radius of fifty-seven and half (57 ½) feet. Specific aspects of the standard cul-de-sac design are given in Figure 2.1C. In lieu of the typical design shown, the City may approve alternative concepts for a specific application.

2.11 Alleys and Alley Widths

Alleys shall be provided in all residential areas and shall be paved with steel reinforced concrete. No alley may be over 1,000 feet long. The City Council may waive the residential alley requirement, if it is in the best interest of the City. Alleys may be required in commercial and industrial districts. The City may waive this requirement where other definite and assured provisions are made for

service access such as off-street loading, unloading and parking consistent with and adequate for the uses proposed. The minimum right-of-way width of an alley shall be twenty (20) feet. Dead-end alleys shall not be permitted. The City may waive this requirement where such dead-end alleys are unavoidable and where adequate turnaround facilities have been provided. Adequate provisions shall be made at all intersections in order that equipment, such as garbage collection vehicles and maintenance vehicles, can maneuver the corners. The interior edge of the pavement, at the corners, shall have a minimum radius of thirty (30) feet. The exterior edge of the pavement, at the corners, shall have a minimum radius of twenty (20) feet. The alley paving is to be flared at the street intersection. The right-of-way limits shall be expanded, if necessary, beyond the minimum requirement in order to include all of the paved section and utilities within the right-of-way of the alley. Alley turnouts shall be paved to the property line and shall be fifteen (15) feet wide at that point. All alleys shall have a minimum of twelve (12) feet of steel reinforced paved concrete roadway. Alley shall have a minimum thickness of seven (7) inches on the exterior edges and five (5) inches in the center sections.

2.12 Street Grades

Arterial streets may have a maximum grade of seven and one-half (7 ½) percent, for a maximum continuous distance of two hundred (200) feet. Collector streets may have a maximum grade of seven and one-half (7 ½) percent. Residential streets may have a maximum grade of ten (10) percent, unless otherwise approved by the City, where the natural topography is such as to require steeper grades. All streets must have a minimum grade of at least seven-tenths (0.7) of one (1) percent. Centerline grade changes with an algebraic difference of more than one (1) percent shall be connected with vertical curves in compliance with the minimum length requirements set forth in Table 2.2.

Table 2.2A: Crest Vertical Curves

Design Speed (MPH)	Coeff. of Friction (a)	Stopping Sight Dist. (Ft.)	Stopping Sight Dist. Rounded for Design (Ft.)	K	K Rounded for Design
15	0.42	72.98	75	4.01	5
20	0.40	106.83	125	8.59	10
25	0.38	146.70	150	16.19	20
30	0.36	193.58	200	28.20	30
35	0.34	248.72	250	46.55	50
40	0.32	313.67	325	74.03	80
45	0.31	383.12	400	110.44	120

(a) AASHTO, p. 316

ROUNDED
MINIMUM LENGTH OF VERTICAL CURVE IN FEET
For Speeds and K Values Shown Below
(L = KA)

Algebraic Grade Diff. (%) (A)	MPH	15	20	25	30	35	40	45
	K	5	10	20	30	50	80	120
1		5	10	20	30	50	80	120
2		10	20	40	60	100	160	240
3		15	30	60	90	150	240	360
4		20	40	80	120	200	320	480
5		25	50	100	150	250	400	600
6		30	60	120	180	300	480	720
7		35	70	140	210	350	560	840
8		40	80	160	240	400	640	960
9		45	90	180	270	450	720	1080
10		50	100	200	300	500	800	1200
11		55	110	220	330	550	880	1320
12		60	120	240	360	600	960	1440
13		65	130	260	390	650	1040	1560
14		70	140	280	420	700	1120	1680
15		75	150	300	450	750	1200	1800

Table 2.2B: Sag Vertical Curves

Design Speed (MPH)	Coeff. of Friction (a)	Stopping Sight Dist. (Ft.)	Stopping Sight Dist. Rounded for Design (Ft.)	K	K Rounded for Design
15	0.42	72.98	75	8.13	10
20	0.40	106.83	125	14.75	20
25	0.38	146.70	150	23.56	30
30	0.36	193.58	200	34.78	40
35	0.34	248.72	250	48.69	50
40	0.32	313.67	325	65.69	70
45	0.31	383.12	400	84.31	90

(a) AASHTO, p. 316
(b) AASHTO. p. 312

ROUNDED
MINIMUM LENGTH OF VERTICAL CURVE IN FEET
For Speeds and K Values Shown Below
(L = KA)

Algebraic Grade Diff. (%) (A)	MPH	15	20	25	30	35	40	45
	K	10	20	30	40	50	70	90
1		10	20	30	40	50	70	90
2		20	40	60	80	100	140	180
3		30	60	90	120	150	210	270
4		40	80	120	160	200	280	360
5		50	100	150	200	250	350	450
6		60	120	180	240	300	420	540
7		70	140	210	280	350	490	630
8		80	160	240	320	400	560	720
9		90	180	270	360	450	630	810
10		100	200	300	400	500	700	900
11		110	220	330	440	550	770	990
12		120	240	360	480	600	840	1080
13		130	260	390	520	650	910	1170
14		140	280	420	560	700	980	1260
15		150	300	450	600	750	1050	1350

2.13 Pavement Design

Traffic projections for next 30 years, engineered paving designs, and sub-grade conditions are required for the pavement design section determinations of all collector and arterial streets.

2.13.1 Subgrade

Subgrades shall be compacted and finished to a smooth uniform surface. Subgrades of native material which have a Plasticity Index (P.I.) of fifteen (15) or more shall be lime stabilized to a minimum depth of six (6) inches. The lime stabilization shall be used for the full width of the street, back of curb to back of curb, plus twelve (12) inches on each side. The minimum lime content shall be six (6) percent of the dry weight of the material (at least 27 lbs. per square yard). Lime stabilization or concrete stabilization may be required for soils showing a P.I. of 15 or less. Type of stabilization and paving design will be determined prior to pavement construction by a certified geotechnical testing lab. The subgrade materials will be tested in accordance to the Standard Specifications for Construction, unless otherwise approved by the City. In general, the soils testing will include the testing of Atterburg limits and testing of sulfates to determine in lime stabilization is infeasible. Laboratory tests must be submitted to the Engineering Department for approval to determine amount of lime required. Subgrades should be compacted to ninety-five (95) percent standard densities. No sand is allowed under any paving.

2.13.2 Steel Reinforced Concrete Pavement

All pavement shall be steel reinforced with No. 4 bars at 18-inch centers in both directions. All non-structural cracks in paving shall be routed and sealed as determined by the City. All reinforcing steel placed within the public right-of-way shall be grade 60 steel and comply with Texas Department of Transportation specifications.

Fly ash may be used in concrete pavement locations provided that the maximum cement reduction does not exceed 20% by weight per cubic yard of concrete. The fly ash replacement shall be 1.25 pounds per 1.0 pound of cement reduction.

At a minimum all concrete pavement shall conform to Table 2.3.

Table 2.3: Steel Reinforced Concrete Pavement Design

Street/Pavement Type	Minimum Thick-ness (inches)	Strength 28-Day (psi)	Minimum Cement (sacks / CY)		Steel Reinforcement	
			Machine placed	Hand Placed	Bar #	Spacing (O.C.E.W.)
Arterial *	10”	3,600	6.0	6.5	#4 bars”	18”
Collector *	8”	3,600	6.0	6.5	#4 bars	18”
Residential	6”	3,600	6.0	6.5	#4 bars	18”
Alley	7”-5”-7”	3,600	6.0	6.5	#4 bars	18”
Fire Lane	6”	3,600	6.0	6.5	#4 bars	18”
Driveways	6”	3,600	6.0	6.5	#4 bars	18”
Barrier Free Ramps	6”	3,600	N/A	6.5	#4 bars	18”
Sidewalks	4”	3,000	N/A	5.5	#3 bars	24”
Parking Lot/Drive Aisles	5”	3,000	5.0	5.5	#3 bars	24”
Dumpster Pads	7”	3,600	6.0	6.5	#4 bars	18”

* Paving section designs for arterials and collectors shall be based off 30 year projected traffic volumes and geotechnical analysis/report. (Paving section design shall include but not limited to the following: pavement thickness, reinforcing size and spacing, pavement strength, subgrade thickness, subgrade treatment type (lime or cement))

Concrete batch designs for all paving, sidewalks, and sewer/storm structures are to be reviewed and approved by the Engineering Department. All batch designs shall be submitted with history of recent cylinder breaks for each separate strength requirement (machine placement and hand placed). All batch designs shall have the current date, project name, and use labeled on each design. Submit batch designs to the Engineering Department a minimum of ten (10) days prior to the projected placement date for review and approval.

During construction the contractor shall furnish the following at his own expense:

- Batch plant control from a qualified commercial laboratory. Laboratory personnel shall be competent to determine free moisture in aggregates and make needed adjustments in control of the mix and slump.

- Prepare a minimum four compression cylinders for each 150 cubic yards of concrete or fraction thereof, with one cylinder break at 7 days, one at 14 days, and a minimum of two cylinders broken at 28 days. Note* <u>No averaging on cylinder breaks.</u>

- Testing labs are to submit copies of any and all concrete cylinder breaks that do not meet 28 day break specifications. Cores are to be taken within ten (10) days of any 28 day cylinder break failures.

- Test data and copies of all laboratory reports for site work are to be directed to the attention of the designated engineering construction inspector that is assigned to the project.

The City of Rockwall may suspend concreting operations if the quality of the concrete being placed is not acceptable or due to adverse climate conditions. Concrete placement shall cease if the concrete temperature meets or exceeds ninety-five (95) degree Fahrenheit. If in the opinion of the owner or the City of Rockwall concrete placement operations shall cease a combination of temperature, wind, and humidity create conditions which are adversely affecting the condition of the concrete. Concrete placement shall also cease if concrete temperature is below forty (40) degrees Fahrenheit and falling. Except by specific written authorization of the owner/City of Rockwall, no concrete shall be placed when the air temperature is less than forty (40) degrees Fahrenheit and falling but may be placed when the air temperature is above thirty-five (35) degrees Fahrenheit and rising, "Pending No Freezing Weather is Imminent" with the temperature being taken in the shade away from artificial heat. When and if such permission is granted, the contractor shall furnish sufficient protective material and devices to enclose and protect the fresh concrete in such a way as to maintain the temperature of fifty (50) degree Fahrenheit for a period of at least five (5) days. No concrete shall be placed on frozen subgrades. If in the opinion of the owner or the City of Rockwall concrete operations shall cease if a combination of temperature, wind, and humidity create conditions which are adversely affecting the condition of the concrete, then concrete placement shall cease. It is to be distinctly understood that the contractor is responsible for the quality and strength of the concrete placed under any weather conditions.
Maximum time intervals between the addition of mixing water and/or cement to the batch, and the placing of concrete in the forms shall not exceed the following:

Air or Concrete Temperature Which Ever is Higher	Maximum Time From Addition Of Water To Placement
Non-Agitated Concrete	
Up to 80° F	30 Minutes
Above 80° F	15 Minutes
Agitated Concrete	
Up to 75° F	90 Minutes
75° to 89° F	60 Minutes
Over 89° F	45 Minutes

The use of an approved set-retarding admixture will permit the extension of the above time maximums, by thirty (30) minutes for agitated concrete only.

2.14 Parkways, Grades and Sidewalks

All parkways shall be constructed to conform to top of curb grades with a standard transverse slope of one-quarter (1/4) inch per foot rise from top of curb to right-of-way. All City right-of-way shall be sodded if disturbed.

Where the natural topography is such as to require steeper grades, transverse slopes (except for sidewalk) up to three-quarter (¾) inch per foot may be used with approval of the City of Rockwall.

Sidewalks shall be provided for all residential streets in subdivisions zoned for one or two family dwellings and on all streets designated on the adopted Master Thoroughfare Plan. Barrier free ramps and sidewalks along screening walls, landscaped areas, trails, parks, open space, greenbelts, and/or drainage ways, shall be installed by the Developer with street construction and the sidewalks in front of residential lots shall be installed by the home builder. The City may require sidewalks in other locations. Where provided, there shall not be less than five (5) feet in width with the outside edge of the sidewalk to be placed two (2) feet inside the right-of-way and located wholly within the dedicated street right-of-way, sidewalk corner easement or road easement in the case of private streets. If a fire hydrant is too close to the sidewalk, swerve sidewalk toward the right-of-way line to maintain five (5) feet clear path. If sidewalk has to be built outside the right-of-way, a sidewalk easement is required. This requirement may be waived by the City Council as provided for in Section 24-17 of the Code of Ordinances.

Sidewalks/Trails wider than 5' will be required to have engineered details.

Sidewalks placed adjacent to the back of the curb must be six (6) feet wide and approved by the City Engineer.

2.15 Driveways/Drive Aisles

2.15.1 Residential

Steel reinforced concrete residential driveways to serve single car garages shall not be less than twelve (12) feet or for two car garages, carports and/or storage areas shall be not less than eighteen (18) feet nor more than twenty four (24) feet in width at the property line. The width of the driveway will be larger at the garage for a three car (width to be twenty-eight (28) feet) or larger garage (case by case basis). Residential driveways shall be separated from one another by a distance of at least ten (10) feet. The radii of all residential driveway returns shall be a minimum of five (5) feet and shall not extend past the adjoining property line. The driveway approaches devoted to one use shall not occupy more then sixty percent (60%) of the frontage abutting the roadway or alley.

2.15.2 Multi-Family and Non-Residential

Steel reinforced concrete driveways providing access to multi-family or non-residential uses shall have a minimum width of twenty four (24) feet and a maximum width of forty five (45) feet when measured at their narrowest point

near, or at, the property line. The minimum radius for these uses shall be twenty-five (25) feet. Larger radii are encouraged. Limitations on permissible locations for these driveways are addressed in Section 2.6, Driveway Locations. Driveway radii returns shall not extend across abutting property lines. The drive aisles shall have a minimum width of twenty four (24) feet.

2.15.3 Grades

The change in grade between the roadway cross slope and the slope of the driveway apron is important to ensure a smooth, low speed turning maneuver. The maximum algebraic change in grade is shown in Table 2.4. An abrupt change in grade will cause the front bumper to drag on the surface of the street and driveway.

Table 2.4: Driveway Grades and Grade Change

Type	Max Grade	Max Algebraic Change in Grade
Residential	14%	12%
Non-Residential	8%	8%

When an algebraic change in grade occurs within a driveway of more than 4% vertical curve will be required. The minimum recommended lengths of vertical curve for the corresponding change in grade for driveway profiles are shown in Table 2.5. It is recommended to put a 2 foot vertical curve where ever the algebraic change in grade is less than 4%.

Table 2.5: Vertical Curve Lengths for Driveways

Algebraic Change in Grade	Minimum Length (ft)	
	Crest Curve	Sag Curve
< 4%	2	2
4% - 5%	5	6
6% - 8%	5	7
9% – 12%	6	8

All driveway profiles should be designed to accommodate a sidewalk crossing at a maximum allowable cross-slope of 2% in order to meet ADA requirements. A sidewalk crossing grade of 2% shall be incorporated into the driveway even if a sidewalk is not to be constructed at the same time.

Reference Figure 2.4 for driveway profiles on an upgrade and Figure 2.5 for driveway profiles on a downgrade. No downgrade driveways will be allowed for new development or construction. If an existing driveway with a downgrade already exists it shall be reconstructed to conform to Figure 2.5. All down grade driveways shall have a raise that must be equal to or above the top of curb elevation.

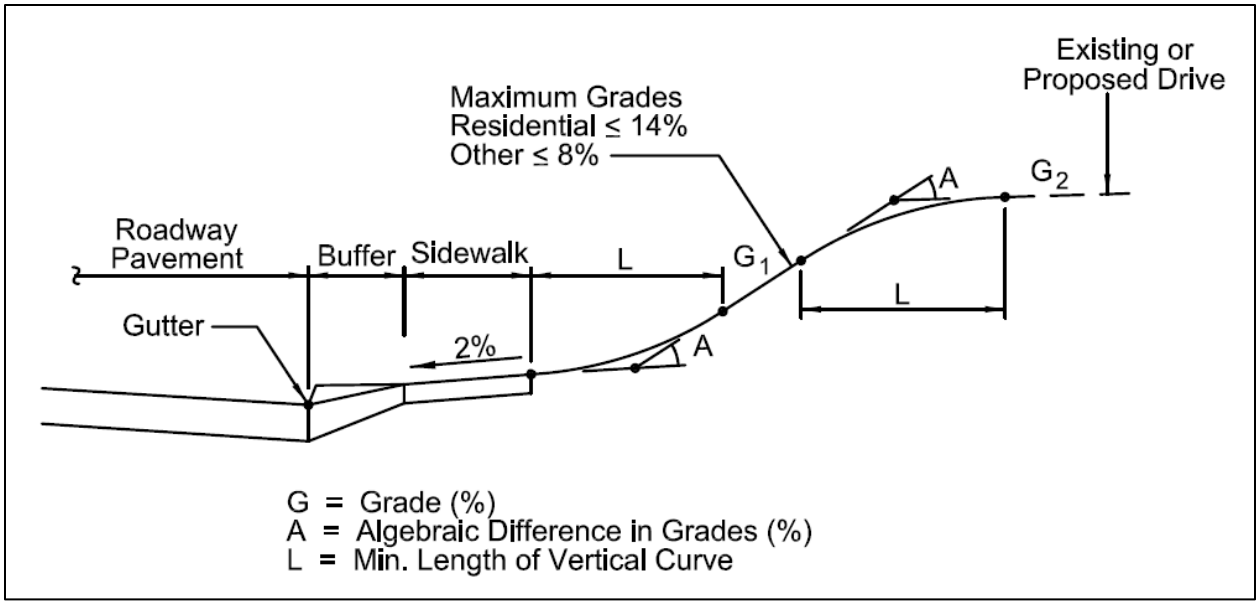


Figure 2.4: Driveway Profiles on an Upgrade

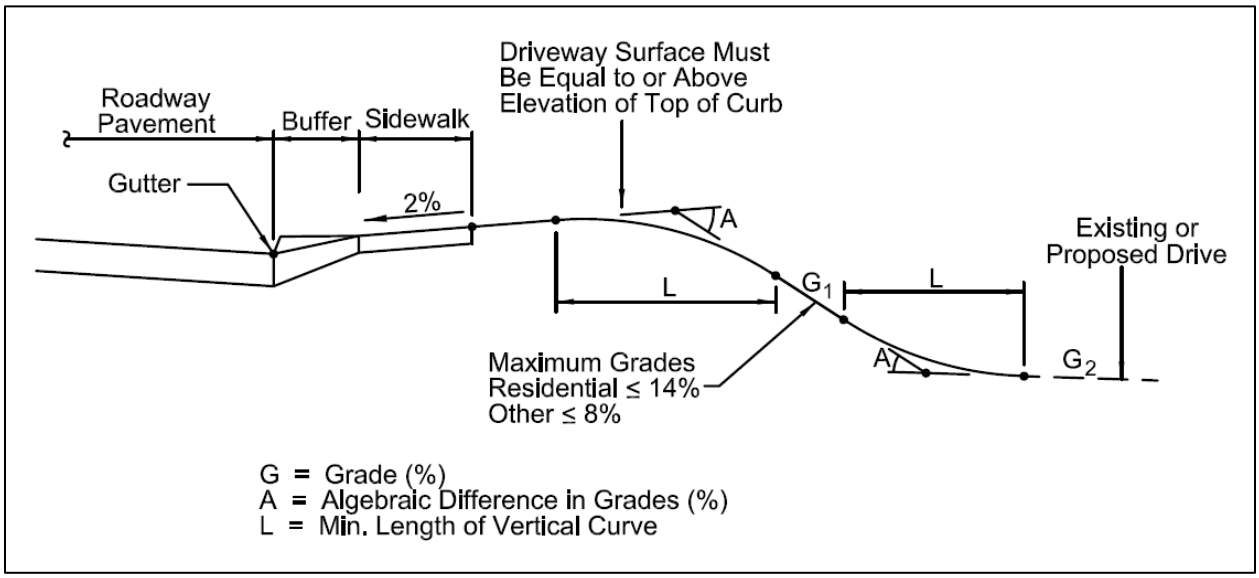


Figure 2.5: Driveway Profiles on a Downgrade

2.16 Traffic Information and Control Devices

The developer shall arrange for the installation of all pavement striping, regulatory, warning and guide signs, including posts, as shown on the plans or as directed by the City. Street name signs shall be installed at each intersection. Examples of regulatory, warning, information and guide signs are as follows:

A. Regulatory signs shall include, but are not limited to, STOP, 4-WAY, YIELD, KEEP RIGHT and speed limit signs.

B. Warning signs shall include, but are not limited to, DEAD END, NO OUTLET, DIVIDED ROAD, DIP, and PAVEMENT ENDS.

C. Guide signals shall include, but are not limited to, street name signs, DETOUR, direction arrow and advance arrow.

D. Traffic striping and buttons shall be provided by the developer as shown on plans or as directed by the City.

All signage within medians shall be break away pole bases.

2.16.1 Regulatory Signage

Regulatory signs should be used only where justified by engineering judgment. All signage plans shall be reviewed and approved by the City of Rockwall Engineering Department and be designed in accordance with the principles described in the current TMUTCD.

All street and regulatory signage shall be installed, inspected and approved, prior to final acceptance of the project. This inspection typically takes place as part of the engineering department's final walkthrough. Any sign related issue/issues will be noted on the projects final punch list.

A. A detailed street and regulatory signage plan is to be submitted to the City of Rockwall Engineering Department. All signs shall be shown in the engineering plans for review and approval. The signage plan shall be shown on a separate signage & pavement marking layout sheet or as a part of the plan & profile sheet. The plan shall identify the specific sign designation, size and location for each sign. Sign standards shall also be included in the engineering plans.

B. All signage installed shall comply with the current "*Texas Manual on Uniform Traffic Control Devices*" and the "*Standard Highway Sign Designs for Texas.*" The sign layout drawings shall show the color and dimensions of all sign face legend components including background color, legend color, borders, symbols, letter size and style.

C. The developer shall be responsible for furnishing and installing all regulatory signage, warning signage and street name signage along with all necessary sign mounts in accordance with the approved engineering plans. A sample production sign shall be submitted to the Traffic Signs & Pavement Markings Supervisor for review and approval. The sample shall be directed to the City of Rockwall Service Center located at 1600 Airport Road, Rockwall Texas 75087. The sample sign must be submitted at least 10 days prior to the scheduled installation date.

D. For a street with a cul-de-sac end, a standard W 14-2a shall be mounted over the street name blade, if the cul-de-sac is not clearly visible from the adjoining roadway, or is located in excess of 400 linear feet from the adjoining roadway.

E. Sign posts shall be 2 $^{3}/_{8}$ O.D. galvanized steel tube sign post with a galvanized finish.

F. Sign clamps and brackets shall be high strength aluminum.

2.16.2 Street Name Blades

A. Street name sign blades shall be double-sided with rounded corners.

B. Street Name Blades shall be nine-inch (9") tall flat aluminum. The blades shall be 0.080 inches thick and be a minimum of 36" long.

C. The lettering for the street signs shall be 3M 3930 high Intensity prismatic material sheeting for street, regulatory and warning signs and shall be high intensity diamond grade type III prismatic. The street sign background shall be green and the legend shall be white.

D. The street sign blade must incorporate the current City of Rockwall logo. The logo shall consist of white Scotchlite Series 3930 high intensity prismatic material. (Product Code 3930)

E. Block Numbers are required on all street name blades and shall be located on the top right corner of the street blade.

F. The lettering for the street blades shall be composed of a combination of lower-case letters with initial upper-case letters. The Clearview TCAD-1W font shall be used. The lettering shall be composed of initial upper-case letters of at least 6 inches in height and lower case letters of at least 4.5 inches in height. For supplementary lettering to indicate the type of street (such as Street, Avenue or Road) shall be composed of initial upper-case letters at least 3-inches in height and lower-case letters at least 2.25 inches in height. Abbreviations may be used (for example St., Ave., or Rd) except the street name itself. The supplementary lettering shall be located at the lower right corner of the street blade, under the block number.

G. The street blade sign shall consist of green Scotchlite 3930 high intensity prismatic material background (product code 3937) and white Scotchlite 3930 high intensity prismatic material for the lettering (product code – 3930). The background sheeting shall be white 3M 3990 high intensity prismatic material. The background material shall be applied to the full width and height of the sign blank leaving no metal exposed. The background material shall be one

continuous piece of material. Patching of background material is not allowed and any sign with patching material of any type will be rejected by the City.

Alternative Option:
As an alternative, the foreground color may be green transparent Scotchlite ElectroCut1177 film (E.C. film). Lettering shall be cut out and removed producing a single continuous piece of green transparent film material.

Street address markers shall be installed for each lot in the subdivision. The markers shall be located at the center of the lot on the face of the curbs. The address markers shall have a deep green background with reflective white numbers. The number size shall be four (4) inches in height. The background of the address marker shall be eighteen (18) inches in length and from the top of curb to the gutter flow line. The address marker shall show the full numerical portion of the address of the lot.

All signage for multifamily, commercial, retail and industrial developments are required to have a separate permit from the building department. Signs, including any overhangs, are not allowed in any right-of-ways and/or easements. Location of any signage is not approved on engineering plans.

2.17 Street Lighting

All developments shall provide streetlights. In general, lights should be located at street intersections and at intervals no greater than four hundred (400) feet apart. Street lights shall be centered one and half (1 ½) feet off the back of curb.

2.18 Barrier Free Ramps

Barrier free ramps shall be provided in all commercial areas and in residential areas which have sidewalks. Ramps shall be located to provide access in accordance with the standards set by the Texas Department of Licensing and Regulation (TDLR) at all pedestrian sidewalks. Laydown curbs and ramps shall be constructed at all street intersections and driveways whether or not sidewalks are being installed. Laydown curbs and ramps shall be constructed by the developer. Barrier free ramps shall have truncated dome plates in the color approved by the City. No truncated dome pavers or ridges allowed.

2.19 Off-Street Parking

All parking areas and spaces shall be designed and constructed of steel reinforced concrete in accordance with the following requirements:

1. All parking areas and spaces shall be designed and constructed of steel reinforced concrete so as to have free ingress and egress at all times.

2. No parking space or parking area shall be designed so as to require a vehicle to back into a public street or across a public sidewalk, except in the case of one and two family dwelling units.

3. Minimum Dimensions for Off-Street Parking:

   a) Ninety-degree parking (Figures 2.6a and 2.6b) – All parking spaces shall be a minimum of nine (9) feet in width. Each parking space adjacent to a building shall not be less than twenty (20) feet in length. Dual head in parking spaces should be a minimum of twenty (20) feet in length. Parking spaces not adjacent to a building or dual head may be eighteen (18) feet in length with two (2) feet of clear (no obstruction including landscaping, lighting, and/or signage) over hang between curb and sidewalk or property line. Maneuvering space shall not be less than twenty-four (24) feet.

   b) Sixty-degree angle parking (Figures 2.7a and 2.7b) – Each parking space shall be not less than nine (9) feet wide perpendicular to the parking angle nor less than twenty and one tenth (20.1) feet in length when measured at right angles to the building or parking line. Maneuvering space shall be not less than fourteen and one half (14 ½) feet for one way traffic or twenty two (22) feet for two way traffic perpendicular to the building or parking line.

   c) Forty-five degree angle parking (Figures 2.8a and 2.8b) – Each parking space shall not be less than nine (9) feet wide perpendicular to the parking angle nor less than nineteen (19) feet in length when measured at right angles to the building or parking line. Maneuvering space shall be not less than twelve (12) feet for one way traffic or twenty-one (21) feet for two-way traffic perpendicular to the building or parking line.

   d) Parallel Parking – Each parking space shall not be less than nine (9) feet in width and twenty-two (22) feet in length. Maneuvering space will not be less than twenty (20) feet.

   e) Handicap Space Parking – Where handicapped parking is required or installed, the design shall be as in Figure 2.9.

   f) When off-street parking facilities are provided in excess of minimum amounts herein specified, or when off-street parking facilities are provided, but not required by this chapter, said off-street parking facilities shall comply with the minimum requirements for parking and maneuvering space herein specified.

g) Each parking space/stall shall be striped to the minimum dimension detailed out above in this section.

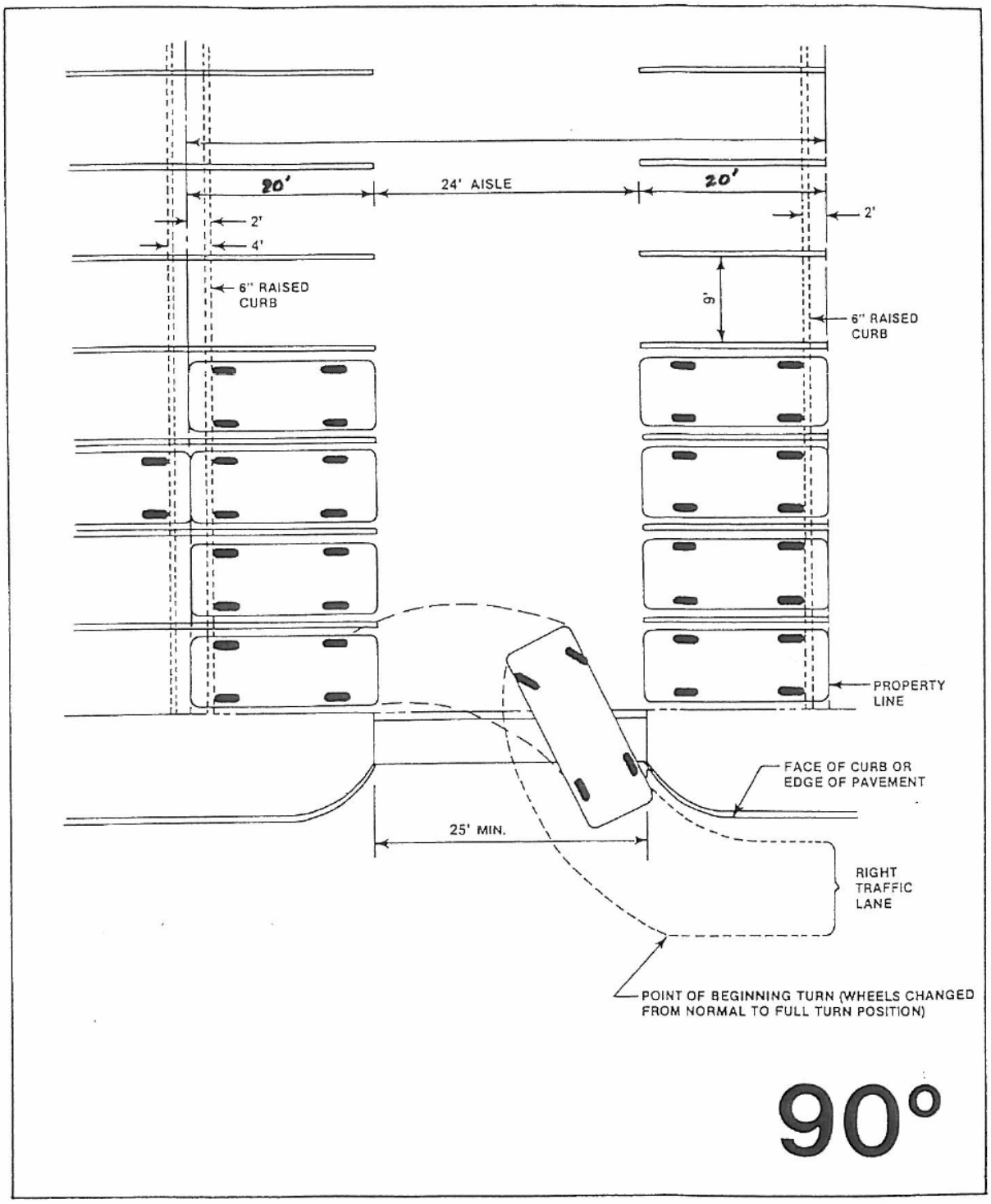


Figure 2.6a: 90° Parking – Double Row

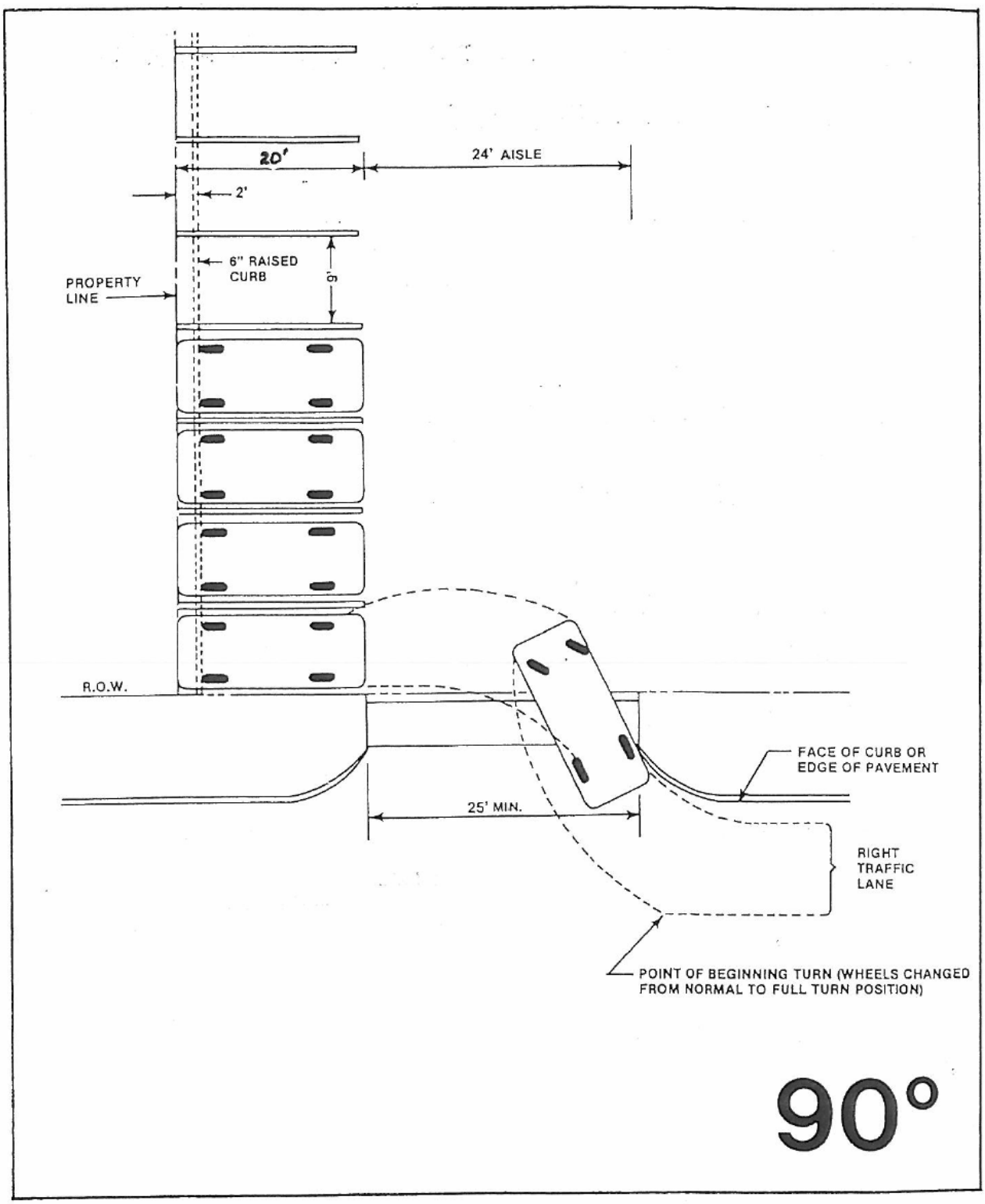


Figure 2.6b: 90° Parking – Single Row

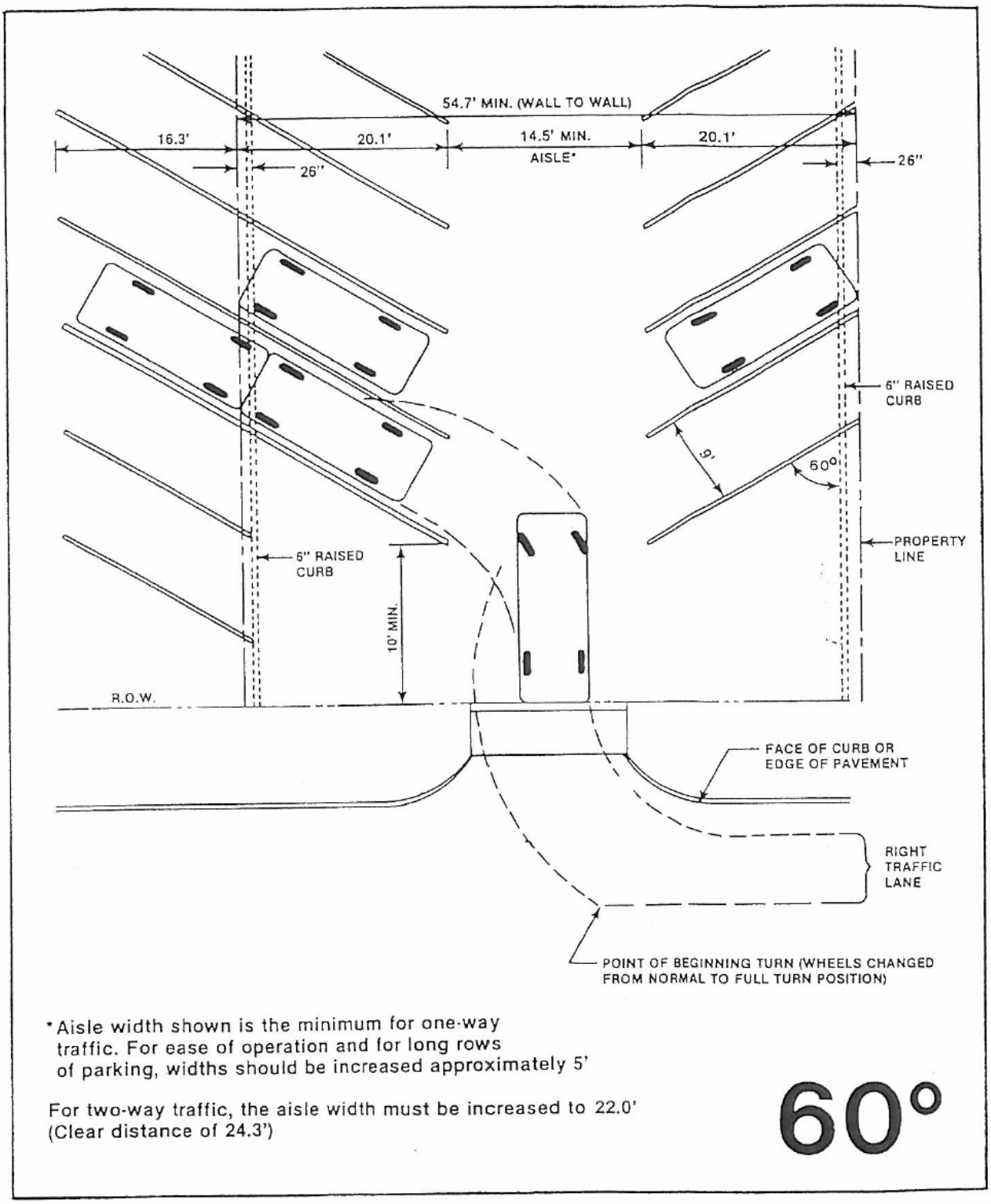


Figure 2.7a: 60° Parking – Double Row

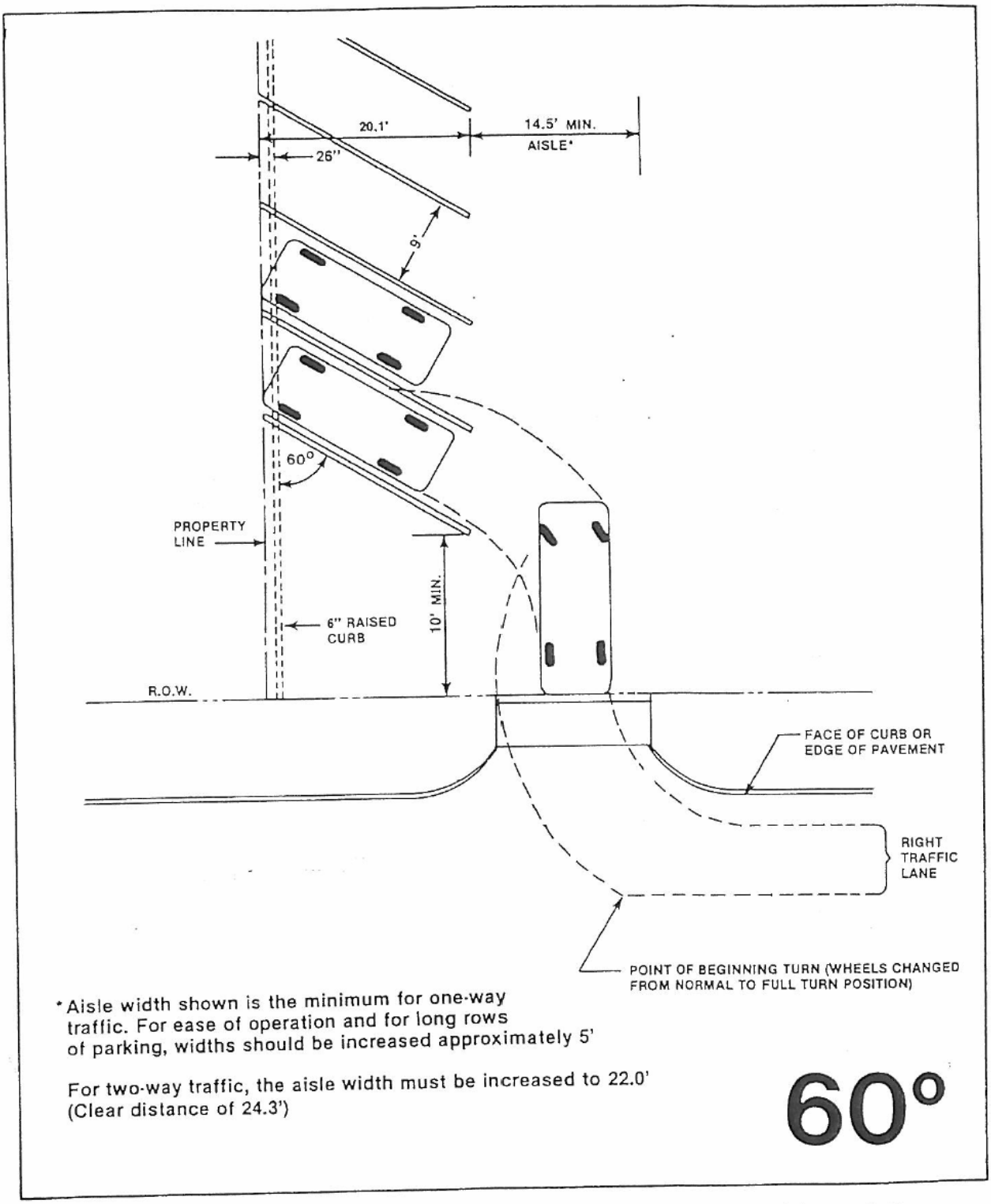


Figure 2.7b: 60° Parking Single Row

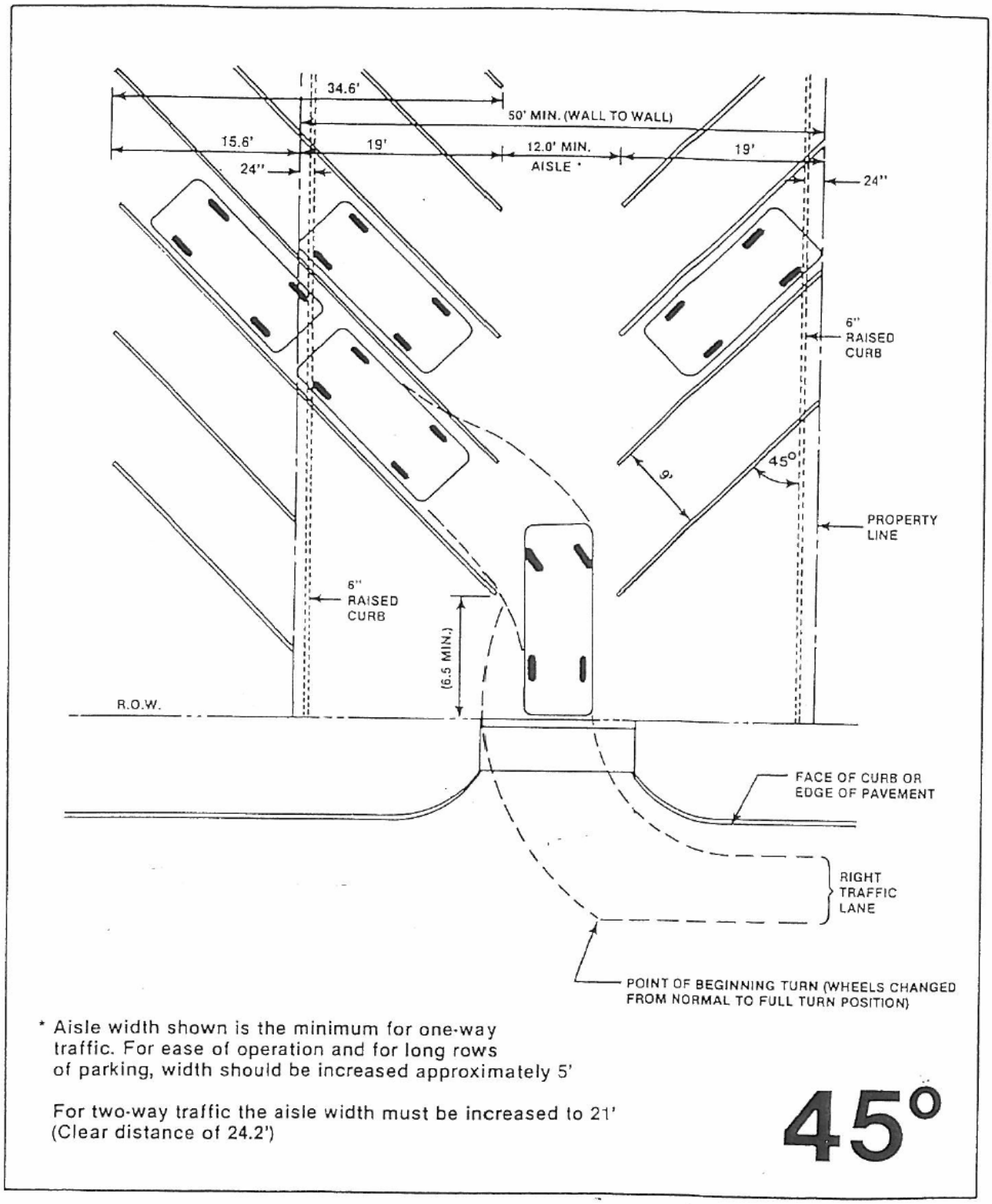
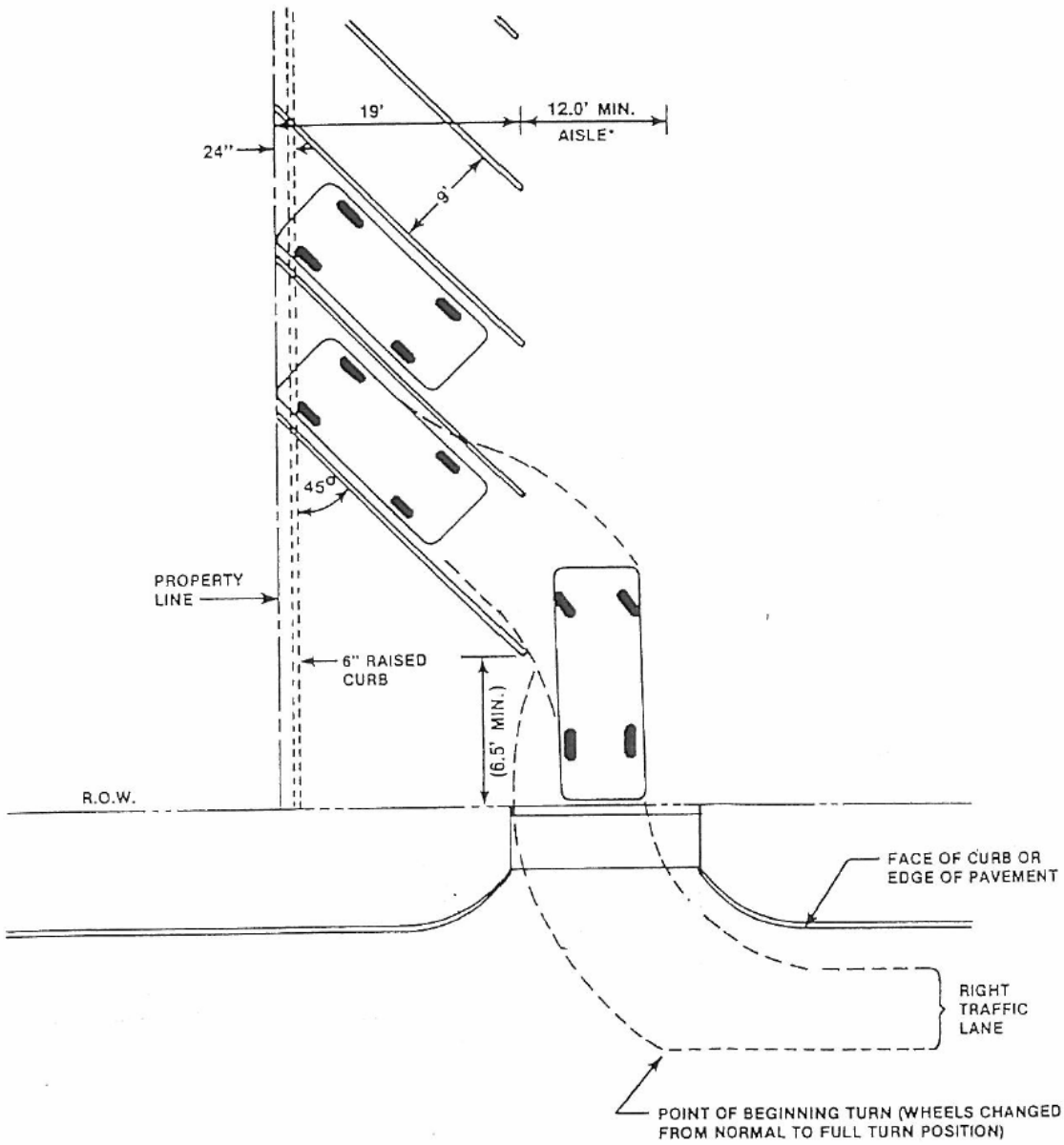


Figure 2.8a: 45° Parking - Double Row

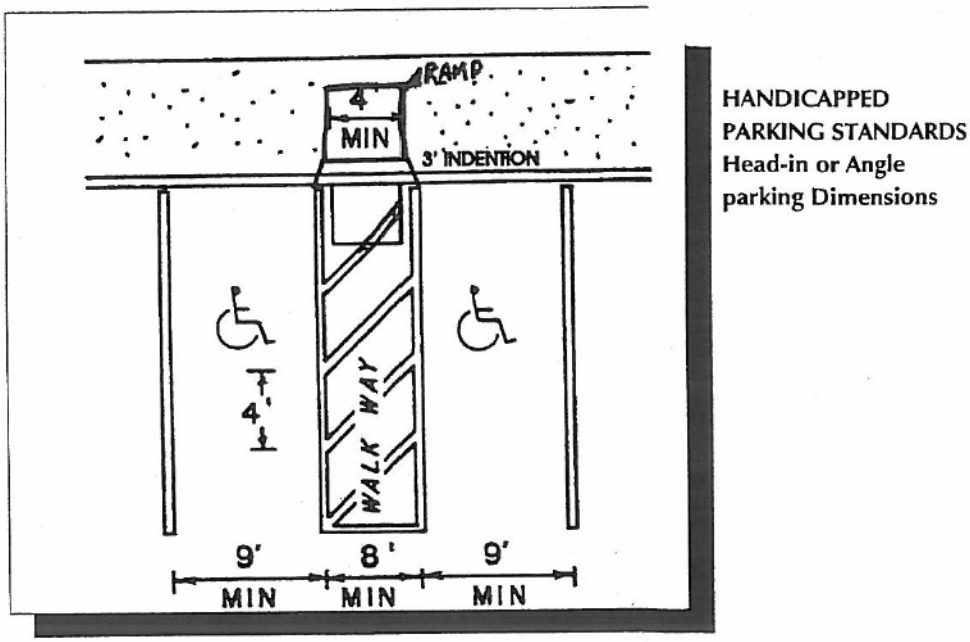


*Aisle width shown is the minimum for one-way traffic. For ease of operation and for long rows of parking, widths should be increased approximately 5'

For two-way traffic, the aisle width must be increased to 21.0' (Clear distance of 24.2')

45°

Figure 2.8b: 45° Parking – Single Row



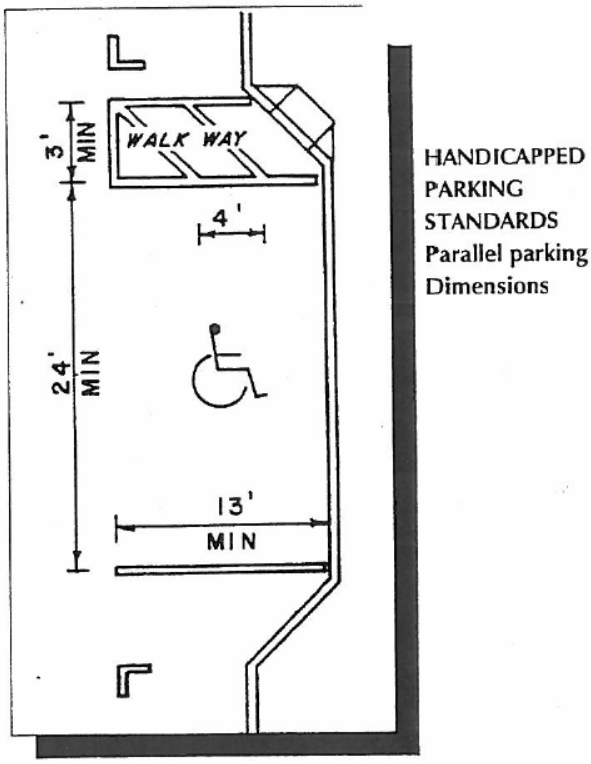


Figure 2.9: Handicap Space Parking

4. Paving Standards:

   a) Unless otherwise approved by the City Council or as specified in these standards, all parking lots shall be paved with steel reinforced concrete and designed according to City standards and specifications. The parking lanes must be clearly marked by approved paint, buttons or other material. All driveway approaches shall be constructed of steel reinforced concrete in the same strength as the adjacent street and shall be curbed per City standards.

   b) All parking lot pavement and drive aisles shall be steel reinforced concrete except for existing asphalt parking lots being rehabilitated. A steel reinforced concrete or asphalt pavement (rehabilitated parking lots) design shall be provided to the City Engineer for review and approval.

   c) Industrial and commercial parking lot pavement shall be steel reinforced concrete and designed by a Professional Engineer. Pavement design shall be submitted to the City for approval.

   d) The pavement within a designated loading area shall be designed and constructed to carry the additional loading of merchandise, goods, sanitation pick-up, etc., in order to prevent any unnecessary failure in the pavement itself. The pavement design shall be included in the engineering construction plans and specifications and submitted to the City Engineer for approval. The pavement design is typically designed by a Geotechnical Engineer.

   e) Fire lane shall have a maximum running slope of ten (10) percent and a cross slope of five (5) percent. A vertical curve is required for grade breaks greater than one (1) percent.

5. Dead end parking shall be designed and constructed with a minimum length of fifteen (15) feet and width of twenty-four (24) feet turnaround space provided at the end of the dead end parking area.

6. If a portion of an existing street is removed for construction, the entire concrete panel must be removed and replaced with the same strength steel reinforced concrete and two (2”) inches thicker than the existing thickness.

7. All entrances or exits in a parking lot shall be a minimum of thirty (30) feet from the beginning point of any corner radius.

8. All entrances or exits in a parking lot shall be a minimum of twenty-four (24) feet and a maximum of forty-five (45) feet in width, unless one-way,

in which case they shall both be a minimum of twelve (12) feet, or as approved by the City Council.

9. No parking areas or parking spaces shall be allowed to pave over or utilize public right-of-way, with the exception of approved entrances and exits, unless the City Council grants an exception and/or a facilities agreement.

10. All multi-family and commercial parking areas and parking spaces shall be designed and constructed to protect adjacent residences from the direct glare of headlights of vehicles using the parking area.

11. All multi-family, retail, commercial and industrial parking lots shall be required to provide a fire lane with a minimum width of twenty-four (24) feet (requires minimum twenty (20) foot inside curve radius) and shall be approved by the Engineering Department and Fire Marshal.

12. All fire lanes shall loop back to another fire lane or street or have a circular turnaround at the end with a minimum outside pavement radius of forty-seven and half (47 ½) feet. Dead end fire lanes up to one hundred fifty (150) feet long will be allowed.

13. No City street curb, alley or street pavement may be cut without a permit from the City.

14. If required, the contractor shall submit a traffic control design to the City of Rockwall Engineering Department prepared by a registered professional engineer prior to beginning of construction. The contractor shall provide signs and barricades in construction areas and comply with the Texas Department of Transportation standard of work zone traffic control. Employees exposed to public vehicular traffic, shall be provided with and wear warning vest or other suitable garments marked with or made of reflective or high visibility material. The contractor shall provide flagman when working inside an active street right-of-ways where necessary.

3. STORM DRAINAGE FACILITIES

3.1 Introduction

Drainage facilities shall be designed and constructed at such locations and of such size and dimensions to adequately serve the development and the contributing drainage area upstream of the development. The developer shall provide all the necessary easements and right-of-ways required for drainage structures including storm drains and open channels, lined or unlined. The minimum easement widths for drainage facilities shall be per Table 3.1. No structures shall be allowed in drainage easements.

Table 3.1: Drainage Easements – Minimum Width

		Minimum Easement Width (ft)
Conduit Size	18" – 48" RCP	20'
	48" – 72"RCP	25'
	Box 3' – 4' span, RCB	20'
	Box 5' – 8' span, RCB	25'
	Box 9' – 12' span, RCB	30'
Depth of Conduit	< 14'	20'
	14' - 16'	25'
	17' – 20'	30'
	21' – 23'	35'
	> 23'	40'
Open Channel		15' wider than top width of channel
Emergency Over Flume		20'
Creeks and Stream		Reference Erosion Hazard Setback Section

The design flows for the drainage system shall be calculated by the Rational Method in accordance with the requirements set forth in this document. Curbs, inlets, manholes, etc. shall be designed and constructed in accordance to the Standard Details. Materials and construction procedures shall conform to the requirements of the Standard Specifications for Construction.

The developer shall provide plans, specifications, and design calculations for all drainage structures. All open channels that are not concrete lined shall be designed to prevent erosion (Table 3.11). The City shall specifically approve the type of methods used for prevention of erosion.

The design, size, type and location of all storm drainage facilities shall be subject to the approval of the Engineering Department. The requirements set forth herein are considered minimum requirements. The developer and their engineer shall bear the total responsibility for the adequacy of design. The approval of the

facilities by the City in no way relieves the developer and their engineer of this responsibility.

The design factors, formulas, graphs and procedures described are intended to serve as guidelines. Responsibility for the actual design remains with the Engineer. Deviation from the requirements of these standards shall be approved by the City Engineer.

The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the drainage area, whether upstream or downstream of the development, are not adversely affected by storm drainage from facilities on the development. These are outlined in the Storm Drainage Management Plan Section 3.4.

The storm drainage management plan provided as part of the final engineering drawings shall address how storm water on the proposed development and affected adjoining properties will be controlled during phased and completed development. Off-site improvements may be required to carry the additional flows caused by the proposed development. If the downstream system is insufficient to carry the proposed flow, detention will be required to release only the flow amount capable of being carried in the existing system.

Storm drainage released from the site will be discharged to a natural water course or storm sewer system of an adequate size to convey the 100-year storm runoff expected after development.

All storm drainage structures shall be constructed with a minimum of 4,200 psi concrete in 28 days with a cement content of not less than 6.5 sack per cubic yard for machine placed and not less than 7.0 sack per cubic yard for hand place. All batch designs shall be reviewed and approved by the Engineering Department. All batch designs shall have the current date, project name, and use labeled on each design. Submit batch designs to the Engineering Department a minimum of ten (10) days prior to the projected placement date for review and approval. If pre-cast structures are being utilized, shop drawings must be submitted to the City Engineer for approval along with the batch design which is provided by the manufacturer. All drainage structures shall be double formed. No earth forms will be allowed.

3.2 Storm Drainage Design Criteria

3.2.1 Drainage Discharge Design

3.2.1.1 Rational Method

For all drainage areas less than 160 acres, the rational method of computing runoff may be used. The rational method is expressed by the following equation:

$$Q = CIA$$

Equation 3.1

where:

Q = The storm flow rate at a given point (cfs)

C = runoff coefficient (the ratio of rainfall to peak runoff) as indicated in Table 3.2

I = The average intensity of rainfall, for a period equal to the time of flow from the farthest point of the drainage area to the point of design and is obtained from Figure 3.1. (inches/hr)

A = The area that is contributing to the point of design (acres)

3.2.1.2 Runoff Coefficient (C)

Runoff coefficients shall be based on the future land use. The runoff coefficients for different land uses should be taken from Table 3.2. A weighted runoff coefficient shall be used if different land uses are contributing to a discharge design point.

Table 3.2: Runoff Coefficient for Types of Land Use

TYPE OF AREA OR LAND USE	ADOPTED RUNOFF COEFFICIENT
Parks or Open Areas	0.35
Single Family Residential or Duplex	0.50
School	0.70
Apartments	0.75
Townhouse	0.80
Churches	0.80
Industrial	0.90
Commercial Business	0.90
Mercantile District	0.90
Retail	0.90
Parking Lot	0.90
Major and Minor Arterials – R.O.W.	0.90

3.2.1.3 Time of Concentration

The time of concentration is defined as the longest time, without unreasonable delay, that will be required for water to flow from the upper limit of a drainage area to the point of concentration. The time of concentration to any point in a storm drainage system is a combination of the “inlet time” and the time of flow in the storm drain. The inlet time is the period of time

required for water to flow over the surface of the ground to the storm drain inlet. The minimum time of concentration shall not exceed ten (10) minutes.

Under average conditions the minimum time of concentration from the upstream end of a drainage system will coincide with Table 3.3.

Table 3.3: Minimum Inlet Time of Concentration

TYPE OF AREA OR LAND USE	MINIMUM INLET TIME (minutes)
Parks or Open Areas	15
Single Family Residential or Duplex	10
School	10
Apartments	10
Townhouse	10
Churches	10
Industrial	10
Commercial Business	10
Mercantile District	10
Retail	10
Parking Lot	10
Major and Minor Arterials – R.O.W.	10

Under circumstances which will produce times of concentration in excess of those shown in Table 3.3 the following NRCS TR55 methodology shall be used to determine the time of concentration (Tc). This method separates the flow through the drainage area into sheet flow, shallow concentrated flow, and open channel flow. The Tc is the sum of travel times for sheet flow, concentrated shallow flow and open channel flow. The time of concentration flow path and sheet flow path and following calculations shall be show in the plans.

A. Sheet Flow: The maximum allowable length for sheet flow shall be no more than 200 feet if not prior to 200 feet. The T_t in minutes for sheet flow is determined using the following equation:

$$T_t = \frac{0.007(nl)^{0.8}}{(P_2)^{0.5} S^{0.4}}$$

Equation 3.2

where:
T_t = travel time, (hr)
n = Manning's roughness coefficient, (Table 3.4)

l = flow length, (ft)
P_2 = 2-year, 24-hour rainfall, 4.09 in
S = land slope of hydraulic grade line (ft/ft)

Table 3.4: Sheet Flow 'n' Values

Surface Description	n
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.05
Cultivated soils:	
Residue cover less than 20%	0.06
Residue cover greater than 20%	0.17
Grass:	
Short Prairie Grass	0.15
Dense grasses	0.24
Bermuda grass	0.41
Range (natural)	0.13
Woods:	
Light underbrush	0.40
Dense underbrush	0.80

B. Shallow concentrated flow travel time is computed as:

$$t_{SC} = \frac{L_{SC}}{3600 K S_{SC}{}^{0.5}}$$

Equation 3.3

where:
t_{sc} = shallow concentrated flow time, (hr)
L_{sc} = shallow concentrated flow length, (ft)
K = 16.13 for unpaved surface, 20.32 for paved surface
S_{sc} = shallow concentrated flow slope, (ft/ft)

C. Channel Flow travel time shall be computed by dividing the the channel length by the flow rate obtained from Manning's Equation. This is shown by Equation 3.4.

$$t_{ch} = \frac{L_{ch}}{3600 \frac{1.49}{n} R^{\frac{2}{3}} S_{ch}{}^{\frac{1}{2}}}$$

Equation 3.4

where:
t_{ch} = channel flow time, (hr.)
L_{ch} = channel flow length, (ft)
S_{ch} = channel flow slope, (ft/ft)
n = Manning's roughness coefficient
R = channel hydraulic radius (ft), $R = \frac{a}{p_w}$
where: a = cross sectional area (ft^2)
p_w = wetted perimeter (ft)

Since urbanization is anticipated on all drainage areas, all drainage improvements shall be designed for the case of fully developed watersheds. It is generally not practical to design improvements to gravity drainage systems in stages to match development, except in the case of unlined ditches, and then, it is essential that ultimate rights-of-way be obtained at the outset. When the watershed in question is basically undeveloped, the developer shall attempt to anticipate future fully developed conditions and storm water locations when determining the time of concentration.

3.2.1.4 Rainfall Intensity (I)

The Rainfall intensity shall be taken from Figure 3.1 below for the minimum inlet time above.

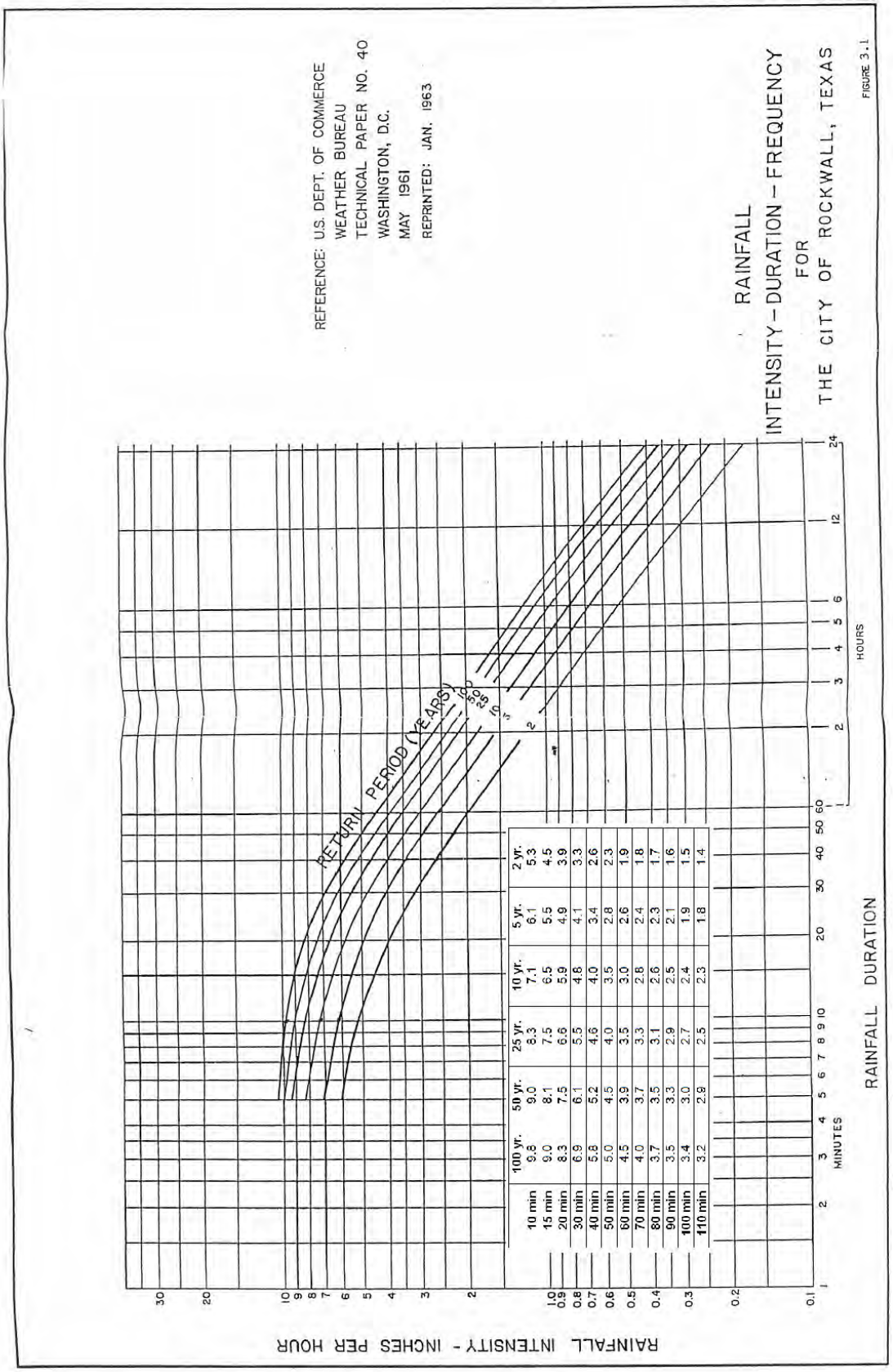
3.2.2 Unit Hydrograph Method

For contributing drainage areas greater than 160 acres, the unit hydrograph method, shall be used to determine the peak storm discharge quantities.

The use of a unit hydrograph method shall be based upon standard and accepted engineering principles used in the profession. Acceptable methods include the Soil Conservation Services (SCS) Technical Release Number 55 (TR-55) for drainage areas 160 acres to 2,000 acres and SCS's Technical Release Number 20 (TR-20), or the United States Army Corps of Engineers HEC-HMS models for drainage areas 160 acres or more.

The following requirements/conditions shall be used when preforming the unit hydrograph method. These requirements/conditions shall be included in the plan set and the hydrology and hydraulic report:

1. SCS Type III Rainfall Distribution.
2. Use AMC-III (wet soil conditions).
3. Time of Concentration Calculations.
4. Compute both pre-construction conditions and post-construction conditions and show comparison in summary table of results.
5. Compute projected future fully developed conditions to determine design elevations and erosion protection.
6. 24-hour rainfall storm totals, (See Table 3.5 from the City of Rockwall Master Drainage Study)



	100 yr.	50 yr.	25 yr.	10 yr.	5 yr.	2 yr.
10 min	9.8	9.0	8.3	7.1	6.1	5.3
15 min	9.0	8.1	7.5	6.5	5.5	4.5
20 min	8.3	7.5	6.6	5.9	4.9	3.9
30 min	6.9	6.1	5.5	4.6	4.1	3.3
40 min	5.8	5.2	4.6	4.0	3.4	2.6
50 min	5.0	4.5	4.0	3.5	2.8	2.3
60 min	4.5	3.9	3.5	3.0	2.6	1.9
70 min	4.0	3.7	3.3	2.8	2.4	1.8
80 min	3.7	3.5	3.1	2.6	2.3	1.7
90 min	3.5	3.3	2.9	2.5	2.1	1.6
100 min	3.4	3.0	2.7	2.4	1.9	1.5
110 min	3.2	2.9	2.5	2.3	1.8	1.4

Figure 3.1: IDF Curve

Table 3.5: Precipitation Frequency Estimates (Inches) for Rockwall, Texas

ARI* (Years)	Duration														
	5 min	10 min	15 min	30 min	60 min	2 hr	3 hr	6 hr	12 hr	24 hr	2 days	3 days	4 days	7 days	10 days
1	---	---	---	1.23	1.60	1.85	2.03	2.44	2.88	3.30	---	---	---	---	---
2	0.495	0.83	1.06	1.47	1.90	2.31	2.54	3.03	3.52	4.09	4.76	---	5.53	6.35	7.09
5	0.58	0.97	1.24	1.79	2.36	3.08	3.35	4.02	4.77	5.48	6.21	---	7.22	8.39	9.24
10	0.64	1.07	1.37	2.02	2.69	3.62	3.95	4.75	5.64	6.57	7.39	---	8.40	9.83	10.90
25	0.73	1.22	1.57	2.35	3.17	4.25	4.65	5.73	6.59	7.67	8.80	---	10.12	11.56	12.87
50	0.80	1.34	1.72	2.61	3.53	4.75	5.20	6.35	7.50	8.70	9.91	---	11.54	13.25	14.53
100	0.87	1.47	1.88	2.87	3.90	5.25	5.77	7.02	8.50	9.75	11.32	---	13.09	14.60	16.25
500	---	---	---	---	---	---	---	---	---	12.0	---	---	---	---	---
PMP*	---	---	---	---	---	---	---	30.8	36.4	41.5	46.80	49.2	---	---	---

* ARI = Average Recurrence Interval

* PMP = Probable Maximum Precipitation

References: U.S. Department of Commerce / National Oceanic and Atmospheric Administration / National Weather Service and U.S. Department of the Army:

1. Technical Memorandum NWS HYDRO-35, *Five- to 60-Minute Precipitation Frequency for the Eastern and Central United States*, June 1977.
2. Technical Paper No. 40, *Rainfall Frequency Atlas of the United States for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years*, May 1961.
3. Technical Paper No. 49, *Two- to Ten-Day Precipitation for Return Periods of 2 to 100 Years in the Contiguous United States*, 1961
4. Hydrometeorological Report No. 51, *Probable Maximum Precipitation Estimates, United States East of the 105th Meridian*, June 1978.

Note: For rainfall durations of 5 minutes through 60 minutes, rainfall frequency estimates for ARI's of 2 years through 100 years are based on Technical Memorandum NWS HYDRO-35, which supersedes values presented in Technical Paper No. 40.

3.2.3 Design Storm Frequencies

The design storm frequencies shall be 100-year storm.

For the Rational Method the relationship between rainfall intensity, duration and frequency is set forth in Figure 3.1. These curves have been developed using Technical Paper No. 40, "Rainfall Frequency Atlas of the United States" by the U.S. Weather Bureau.

For the Unit Hydrograph Method the total rainfall is used. See Table 3.4 from the City of Rockwall Master Drainage Study.

3.2.4 Drainage Calculations Summary Tables

The calculations of the storm water discharge shall be provided to the City. As a minimum, the engineering plans shall include:

- Existing and Proposed Drainage Area Calculations Table using Form 3.1,
- Inlet Calculations Table using Form 3.2
- Storm Sewer Calculations Table using Form 3.3.
- Open Channel Calculations Table using Form 3.4
- Culvert Design Calculations Table using Form 3.5

Form 3.1: Drainage Area Calculations Table

Area ID	Drainage Area	Runoff Coeff.. C	C*A	Time of Concentration T_C	Design Storm Frequency	Intensity I	Storm Runoff Q	Drains To/ Remarks
	(acres)			(min)	(yrs)	(in/hr)	(cfs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Instructions for Form 3.1: Drainage Area Calculation Table

Column (1)	Drainage area number or designation
Column (2)	Drainage area in acres
Column (3)	Runoff Coefficient taken from Table 3.2
Column (4)	Product of Column (2) and Column (3)
Column (5)	Minimum inlet time of concentration taken from Table 3.3
Column (6)	Design Storm Frequency, shall be 100-yr for all areas
Column (7)	Using the time of concentration and design storm frequency, the rainfall intensity is taken from Figure 3.1
Column (8)	Solution of Equation 3.1
Column (9)	A detailed description of where the drainage area drains to including but not limited to Inlet ID, Street Location, Creek Name, Detention Pond Designation, etc.

3.2.5 Flow in Streets

Capacity of Arterials, Collectors and Residential streets shall be calculated using a straight crown: Storm water flow in streets having a straight crown shall be calculated as follows:

$$Q = \frac{0.56}{n} S_x^{\frac{5}{3}} S^{\frac{1}{2}} T^{\frac{8}{3}}$$

Equation 3.5

where:
Q = gutter flow rate, (cfs)
n = Manning's roughness coefficient; value = 0.0175
S = the longitudinal slope of the street gutter, (ft/ft)
S_x = pavement cross slope, (ft/ft)
T = ponded width, (ft)

3.2.6 Flow in Alleys

Capacity of alleys should be taken from Manning's Equation:

$$Q = \frac{1.49}{n} AR^{2/3} S^{1/2}$$

Equation 3.6

where:
Q = alley flow rate, (cfs)
n = Manning's roughness coefficient; value = 0.0175
A = cross sectional area of flow, (ft^2)
R = hydraulic radius, (ft)
S = the longitudinal slope of the alley, (ft/ft)

3.2.7 Permissible Spread of Water (Ponding Width)

3.2.7.1 General

Spread of water refers to the amount of water that may be allowed to collect in streets during a storm of specific design frequency. The following Equation 3.7, a re-arranging of Equation 3.5, shall be used to determine the ponding width "T" for straight crowned streets. (Arterials, Collectors and Residential).

$$T = 1.24\left(\frac{Qn}{{S_x}^{5/3}S^{1/2}}\right)^{\frac{8}{3}}$$

Equation 3.7

where:
Q = gutter flow rate, (cfs)
n = Manning's roughness coefficient; value = 0.0175
S = the longitudinal slope of the street gutter, (ft/ft)
S_x = pavement cross slope, (ft/ft)
T = ponded width, (ft)

In order that excess storm water will not collect in streets during a storm of the design frequency, the following spread of water values shall be used for the various types of streets. Figure 3.2 provided below shows the relationship between thoroughfare type, gutter flow capacity and street slope based on maximum permissible ponding width described in the next sub-sections.

3.2.7.2 Major and Minor Arterials (P6D & M4D) – Divided

Based on pavement cross-slope of 2.0%, the 100-year Design Frequency flow shall not exceed the elevation of the lowest top of curb. The design engineer shall verify that one lane of traffic in each direction shall remain free of ponding in the 100-year storm event. The roadway edge of pavement/top of curb shall be constructed to have a minimum of one (1) foot of freeboard above the 100-year flood design elevation of any drain way adjacent to proposed roadway.

3.2.7.3 Collector Streets – (M4U, M3U & Minor Collector)

Based on a straight cross-slope with a roof top crown of six (6) inches, the 100-year storm event flows shall not exceed the top of curb, six (6) inches.

The roadway edge of pavement/top of curb shall be constructed to have a minimum of one (1) foot of freeboard above the 100-year flood design elevation of any drain way adjacent to proposed roadway.

3.2.7.4 Residential Streets

Based on a straight cross-slope with a roof top crown of six (6) inches, the 100-year storm event flows shall not exceed the top of curb, six (6) inches. The roadway edge of pavement/top of curb shall be constructed to have a minimum of one (1) foot of freeboard above the 100-year flood design elevation of any drain way adjacent to proposed roadway.

3.2.7.5 Alleys

The 100-year Design Frequency shall not exceed the capacity of the alley pavement, a depth of five (5) inches. No ponding will be allowed beyond the pavement edge. Alley paving to be warped to drain the paving toward the inlet. The alley edge of pavement/top of curb shall be constructed to have a minimum of one (1) foot of freeboard above the 100-year flood design elevation of any drain way adjacent to proposed alley.

3.2.7.6 Parking Lots

The 100-yr design frequency shall not exceed a depth of six (6) inches except where on pavement detention is occurring where one (1) foot in depth is permissible. The parking lots edge of pavement/top of curb shall be constructed to have a minimum of one (1) foot of freeboard above the 100-year flood design elevation of any drain way adjacent to proposed parking lot

3.2.8 Inlet Design

3.2.8.1 General

Determination of the required size of the storm drain inlets will be based on the calculations called out in this section and the instructions for FORM 3.2: Inlet Design Calculations Table.

3.2.8.2 Types of Inlets

City requires the use of depressed curb inlets. A depressed curb inlet is more efficient than a non-depressed inlet because a depressed inlet induces a greater cross-flow toward the inlet allowing less water to flow past it. Also, the transition out of the depression causes a backwater effect, which further increases the capacity of the storm drain. A gutter depression for all curb inlets shall be six (6) inches, as shown in the Standard Details. Inlets shall be sized in multiplier of five (5) feet (5, 10, 15 and 20). Construction of inlets shall be in accordance with the Standard Details. Use Table 3.6 for the selection of inlets to be used within the City. No grate inlets are allowed without approval from the City Engineer.

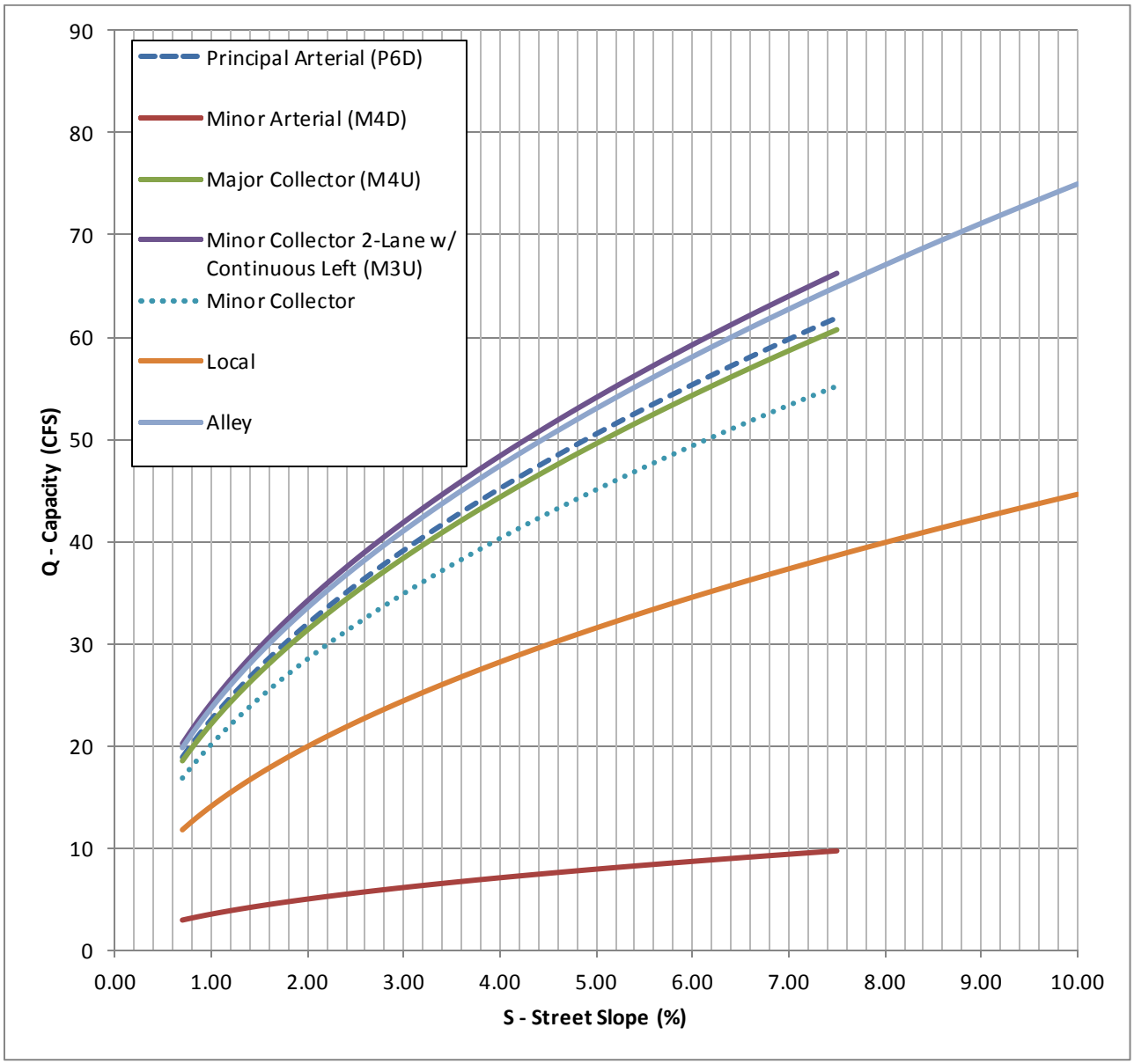


Figure 3.2: Thoroughfare Gutter Capacity based on Maximum Permissible Ponding Width

Table 3.6: Storm Drain Inlets

INLET DESCRIPTION	AVAILABLE INLET SIZES	WHERE USED	DESIGN EQUATIONS
Standard Curb Opening Inlet on Grade	5' 10' 15' 20'	Arterials (P6D & M4D) Collectors (M4U, Minor & M3U) Local (Residential) Alley	Equation 3.8 through 3.16
Standard Curb Opening Inlet at Low Point	5' 10' 15' 20'	Arterials (P6D & M4D) Collectors (M4U, Minor & M3U) Local (Residential) Alley	Equation 3.17 & 3.18
Recessed Curb Opening Inlet on Grade	5' 10' 15' 20'	**Street Grade 6% or Greater** Arterials (P6D & M4D) Collectors (M4U, Minor & M3U)	Equation 3.8 through 3.16
Combination Inlet on Grade	4' 6' 8'	Combination Inlets to be Used Where Space Behind Curb Prohibits Other Inlet Types and Alleys **City Engineer Approval Required**	
Combination Inlet at Low Grade	4' 6' 8'	Combination Inlets to be Used Where Space Behind Curb Prohibits Other Inlet Types and Alleys **City Engineer Approval Required**	
Grate Inlet	2 Grate 3 Grate 4 Grate 6 Grate	**No grate inlets are allowed without approval from the City Engineer**	
Drop Inlet	2'x2' 3'x3' 4'x4' 5'x5'	Open Channels/Area Drain	Equation 3.19 & 3.20

3.2.8.3 Location

All inlets (edge of opening) shall be a minimum of ten (10) feet from street or driveway curb return. Recessed inlets will be required to be installed at all inlet locations where the street grade is to be 6% or greater except on residential streets. At locations where depressed inlets are expected to interfere with pedestrian activity, usually at crosswalks or interior spans of the block used for parking, a depression of less than six (6) inches may be required. These locations may require additional inlet width to compensate for the reduced depression. The City will consider all variances from a standard six- (6) inch gutter on an individual basis.

A. Major and Minor Arterials (Divided): Inlets shall be located at street intersections, at low points of grade or where the gutter flow exceeds the permissible spread of water criteria. Inlets shall be located, when possible, on lesser traveled streets or alleys when grades permit. Inlets located on arterials and where street grade is 6% or greater shall be recessed in order to minimize interference of the gutter depression with travel lanes. In super-elevated sections, inlets placed against the center

medians shall have no gutter depression and shall intercept gutter flow at the point of vertical curvatures to prevent flow from crossing the arterial. Unless expressly approved by the City Engineer, storm waters will not be allowed to cross arterials on the surface in valley gutters or otherwise. All sag inlets will require a reinforced concrete emergency overflow flume. The capacity of the emergency overflow flume shall equal or exceed the 100-yr design storm flow coming to the sag point.

B. Collector Streets: Inlets shall be located at street intersections, low points of grade or where the gutter flow exceeds the permissible spread of water criteria. Inlets shall be located, when at all possible, on lesser traveled streets or alleys where grade permits. All sag inlets will require a reinforced concrete emergency overflow flume. The capacity of the emergency overflow flume shall equal or exceed the 100-yr design storm flow coming to the sag point.

C. Residential Streets: Inlets shall be located at street intersections, low points of grade or where the gutter flow exceeds the permissible spread of water criteria. All sag inlets will require a reinforced concrete emergency overflow flume unless the design engineer calculates that the street will carry the overflow above the crest of the roadway without the water surface elevation exceeding the top of curb. The capacity of the emergency overflow flume shall equal or exceed the 100-yr design storm flow coming to the sag point.

D. Alleys: Inlets shall be located before intersections with streets, alley to alley intersections, change in alley directions, low points of grade or where the gutter flow exceeds the permissible spread of water criteria. All sag inlets will require a reinforced concrete emergency overflow flume. The capacity of the emergency overflow flume shall equal or exceed the 100-yr design storm flow coming to the sag point.

E. Parking Lots: Inlets shall be located at all sag points and before ponding exceeds six (6) in depth except when on pavement detention is occurring.

3.2.8.4 <u>Curb Inlets On-Grade</u>

The sizing of curb inlets on-grade shall be done based on the following Equations 3.8 through 3.16 and Figure 3.3. Figures 3.4 through 3.9 are provided as reference for On-Grade Curb Inlet Capacities on the City Thoroughfares.

$$L_r = 0.6Q^{0.42}S^{0.3}\left(\frac{1}{nS_e}\right)^{0.6}$$

Equation 3.8

where:

Lr = length of curb inlet required (ft)
Q = flow rate in gutter (cfs)
S = longitudinal slope (ft./ft)
n = Manning's roughness coefficient, value = 0.0175
Se = equivalent cross slope (ft./ft.)

$$S_e = S_x + \frac{a}{W} E_0$$

Equation 3.9

where:
S_e = equivalent cross slope (ft/ft)
S_x = cross slope of the road (ft/ft)
a = gutter depression depth (ft), all inlet depressions shall be 0.50 feet (6 inches)
W = gutter depression width (ft)
standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft
E_o = ratio of depression flow to total flow

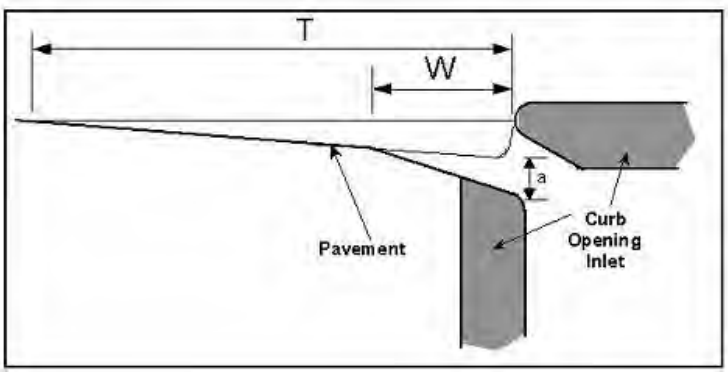


Figure 3.3: Gutter Cross-Section Diagram

$$E_0 = \frac{K_W}{K_W + K_0}$$

Equation 3.10

where:
E_0 = ratio of depression flow to total flow
K_W = conveyance of the depressed gutter section (cfs)
K_0 = conveyance of the gutter section beyond the depression (cfs)

$$K = \frac{1.486 A^{5/3}}{n P^{2/3}}$$

Equation 3.11

where:
K = conveyance of cross section (cfs)
A = area of cross section (ft^2)
n = Manning's roughness coefficient, value = 0.0175
P = wetted perimeter (ft)

$$A_W = WS_X\left(T - \frac{W}{2}\right) + \frac{1}{2}aW$$

Equation 3.12

where:
A_W = area of depressed gutter section (ft^2)
W = gutter depression width (ft)
standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft
S_X = cross slope (ft/ft)
T = calculated ponded width (ft)
a = gutter depression depth (ft), all inlet depressions shall be 0.50 feet (6 inches)

$$P_W = \sqrt{(WS_X + a)^2 + W^2}$$

Equation 3.13

where:
P_W = wetted perimeter of depressed gutter section (ft)
W = gutter depression width (ft)
standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft
S_X = cross slope (ft./ft)
a = gutter depression depth (ft), all inlet depressions shall be 0.50 feet (6 inches)

$$A_0 = \frac{S_X}{2}(T - W)^2$$

Equation 3.14

A_0 = area of gutter/road section beyond the depression width (ft^2)
S_X = cross slope (ft/ft)
W = gutter depression width (ft)
standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft
T = calculated ponded width

$$P_0 = T - W$$

Equation 3.15

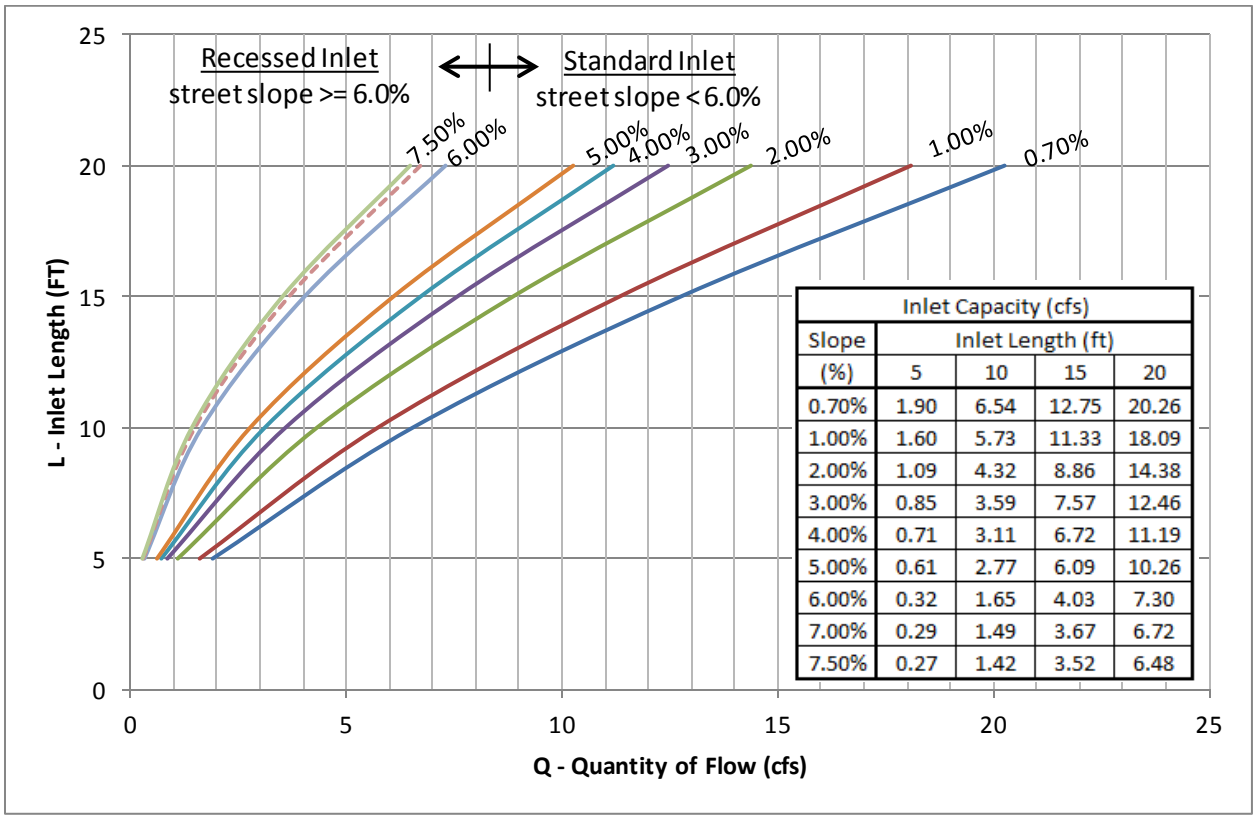
P_0 = wetted perimeter of the depressed gutter section (ft)
T = calculated ponded width (ft)
W = gutter depression width (ft)
standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft

For determining the bypass of an curb inlet on grade use the following Equation 3.13 which factors in the ratio of the actual length of curb inlet (L_a) to the length of inlet required (L_r)

$$Q_{bypass} = Q\left(1 - \frac{L_a}{L_r}\right)^{1.8}$$

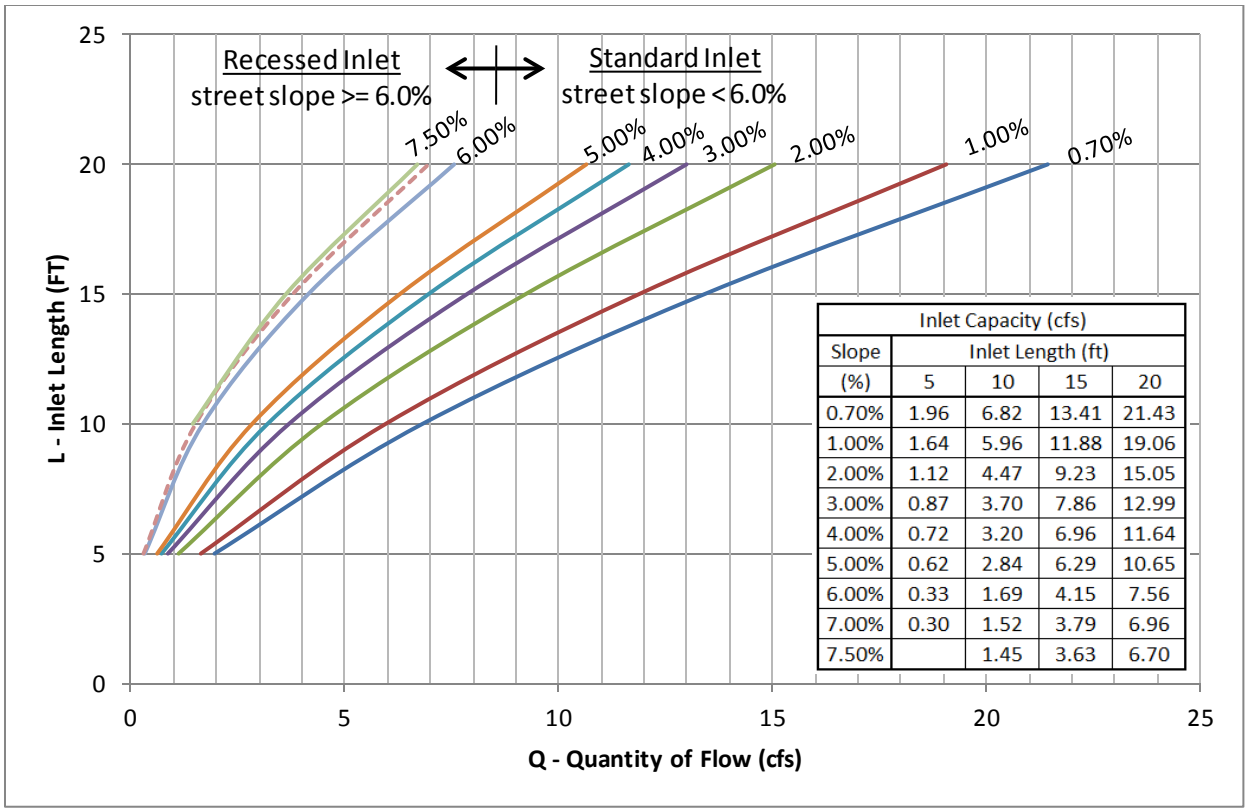
Equation 3.16

where:
Q_{bypass} = carryover discharge (cfs)
Q = total discharge (cfs)
L_a = design length of the curb opening inlet (ft)
L_r = length of curb opening inlet required to intercept the total flow (ft)



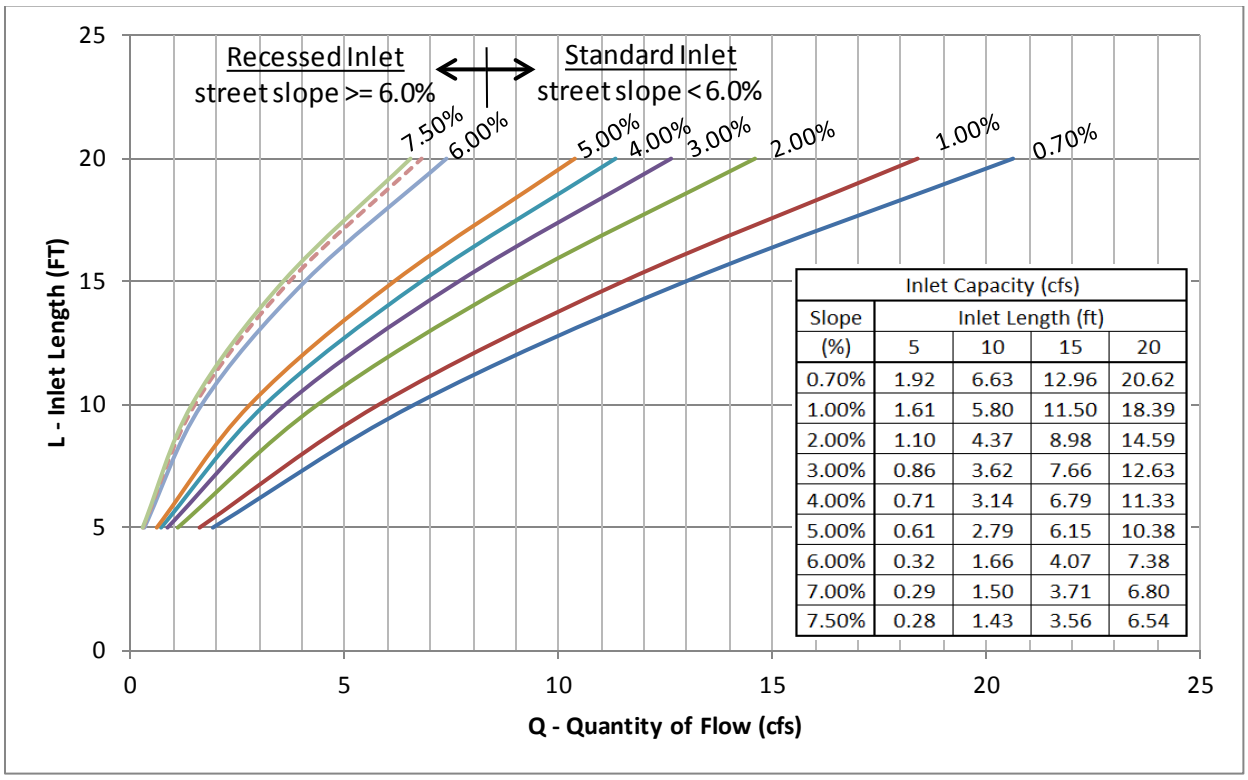
Inlet Capacity (cfs)				
Slope	Inlet Length (ft)			
(%)	5	10	15	20
0.70%	1.90	6.54	12.75	20.26
1.00%	1.60	5.73	11.33	18.09
2.00%	1.09	4.32	8.86	14.38
3.00%	0.85	3.59	7.57	12.46
4.00%	0.71	3.11	6.72	11.19
5.00%	0.61	2.77	6.09	10.26
6.00%	0.32	1.65	4.03	7.30
7.00%	0.29	1.49	3.67	6.72
7.50%	0.27	1.42	3.52	6.48

Figure 3.4: Curb Inlet Capacity On-Grade Principal & Minor Arterial (P6D & M4D)



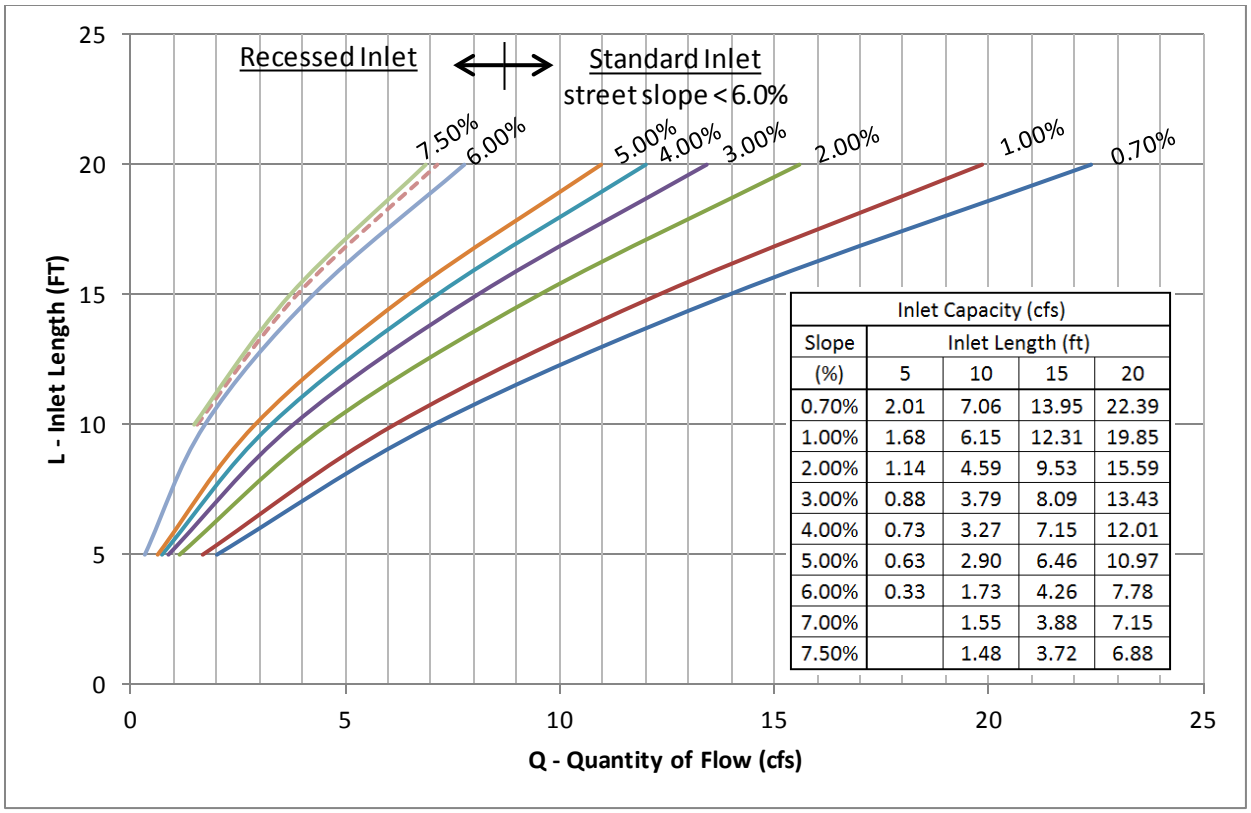
Inlet Capacity (cfs)				
Slope	Inlet Length (ft)			
(%)	5	10	15	20
0.70%	1.96	6.82	13.41	21.43
1.00%	1.64	5.96	11.88	19.06
2.00%	1.12	4.47	9.23	15.05
3.00%	0.87	3.70	7.86	12.99
4.00%	0.72	3.20	6.96	11.64
5.00%	0.62	2.84	6.29	10.65
6.00%	0.33	1.69	4.15	7.56
7.00%	0.30	1.52	3.79	6.96
7.50%		1.45	3.63	6.70

Figure 3.5: Curb Inlet Capacity On-Grade Major Collector (M4U)



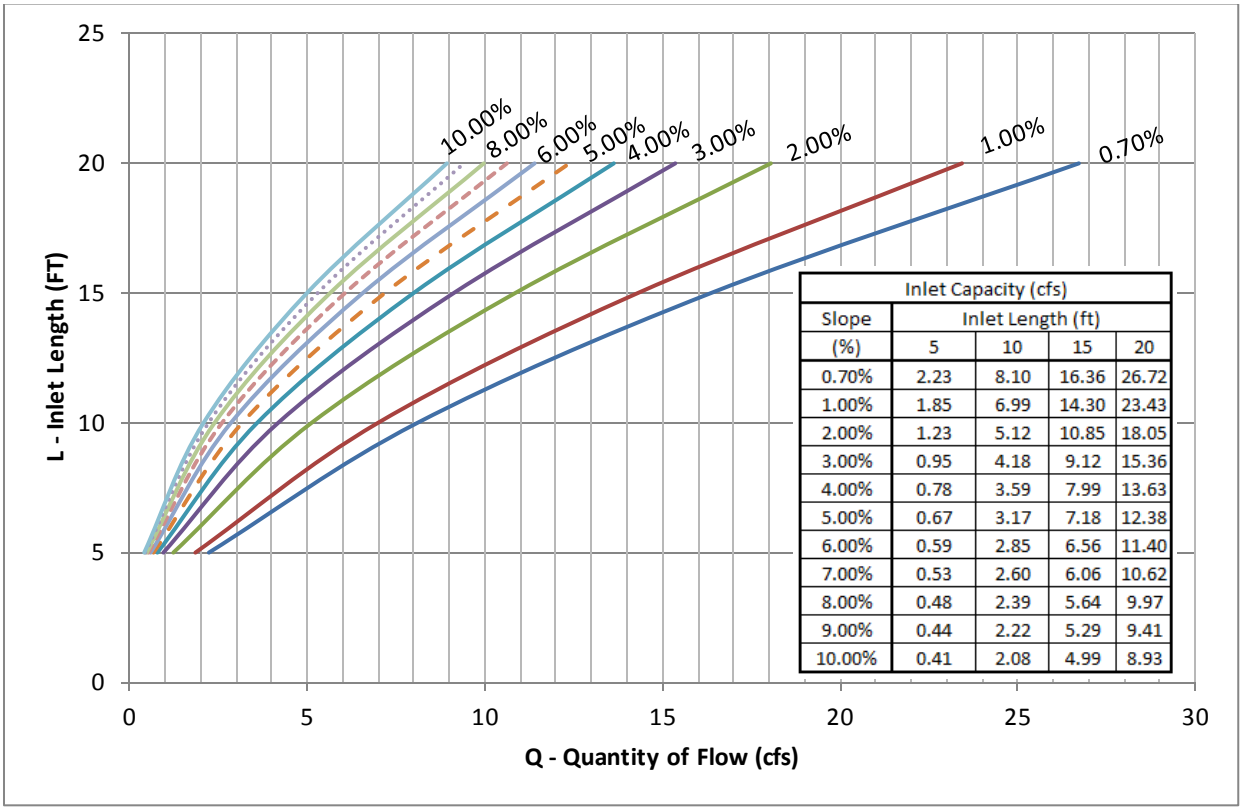
Inlet Capacity (cfs)				
Slope	Inlet Length (ft)			
(%)	5	10	15	20
0.70%	1.92	6.63	12.96	20.62
1.00%	1.61	5.80	11.50	18.39
2.00%	1.10	4.37	8.98	14.59
3.00%	0.86	3.62	7.66	12.63
4.00%	0.71	3.14	6.79	11.33
5.00%	0.61	2.79	6.15	10.38
6.00%	0.32	1.66	4.07	7.38
7.00%	0.29	1.50	3.71	6.80
7.50%	0.28	1.43	3.56	6.54

Figure 3.6: Curb Inlet Capacity On-Grade Collector 2-Lane w. Continuous Left (M3U)



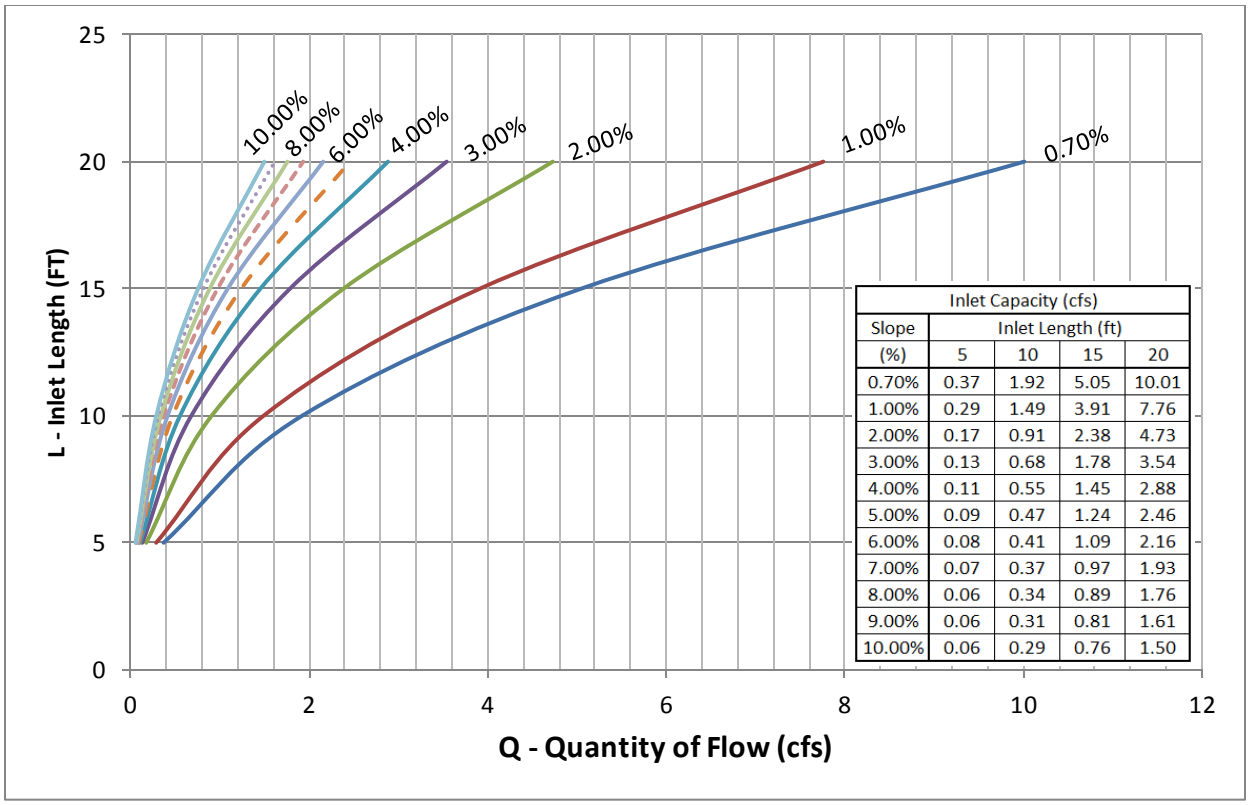
Inlet Capacity (cfs)				
Slope	Inlet Length (ft)			
(%)	5	10	15	20
0.70%	2.01	7.06	13.95	22.39
1.00%	1.68	6.15	12.31	19.85
2.00%	1.14	4.59	9.53	15.59
3.00%	0.88	3.79	8.09	13.43
4.00%	0.73	3.27	7.15	12.01
5.00%	0.63	2.90	6.46	10.97
6.00%	0.33	1.73	4.26	7.78
7.00%		1.55	3.88	7.15
7.50%		1.48	3.72	6.88

Figure 3.7: Curb Inlet Capacity On-Grade Minor Collector



Inlet Capacity (cfs)				
Slope	Inlet Length (ft)			
(%)	5	10	15	20
0.70%	2.23	8.10	16.36	26.72
1.00%	1.85	6.99	14.30	23.43
2.00%	1.23	5.12	10.85	18.05
3.00%	0.95	4.18	9.12	15.36
4.00%	0.78	3.59	7.99	13.63
5.00%	0.67	3.17	7.18	12.38
6.00%	0.59	2.85	6.56	11.40
7.00%	0.53	2.60	6.06	10.62
8.00%	0.48	2.39	5.64	9.97
9.00%	0.44	2.22	5.29	9.41
10.00%	0.41	2.08	4.99	8.93

Figure 3.8: Curb Inlet Capacity On-Grade Local (Residential) Street



Inlet Capacity (cfs)				
Slope	Inlet Length (ft)			
(%)	5	10	15	20
0.70%	0.37	1.92	5.05	10.01
1.00%	0.29	1.49	3.91	7.76
2.00%	0.17	0.91	2.38	4.73
3.00%	0.13	0.68	1.78	3.54
4.00%	0.11	0.55	1.45	2.88
5.00%	0.09	0.47	1.24	2.46
6.00%	0.08	0.41	1.09	2.16
7.00%	0.07	0.37	0.97	1.93
8.00%	0.06	0.34	0.89	1.76
9.00%	0.06	0.31	0.81	1.61
10.00%	0.06	0.29	0.76	1.50

Figure 3.9: Curb Inlet Capacity On-Grade Alley

3.2.8.5 Curb Inlets at Sag/Low Point

Determining the capacity of curb inlets at sag/low point shall be taken from Equation 3.17 while the inlet operates as a weir until the water depth approaches 1.4 times the curb opening height.

$$Q = 2.3(L + 1.8W)y^{1.5}$$

Equation 3.17

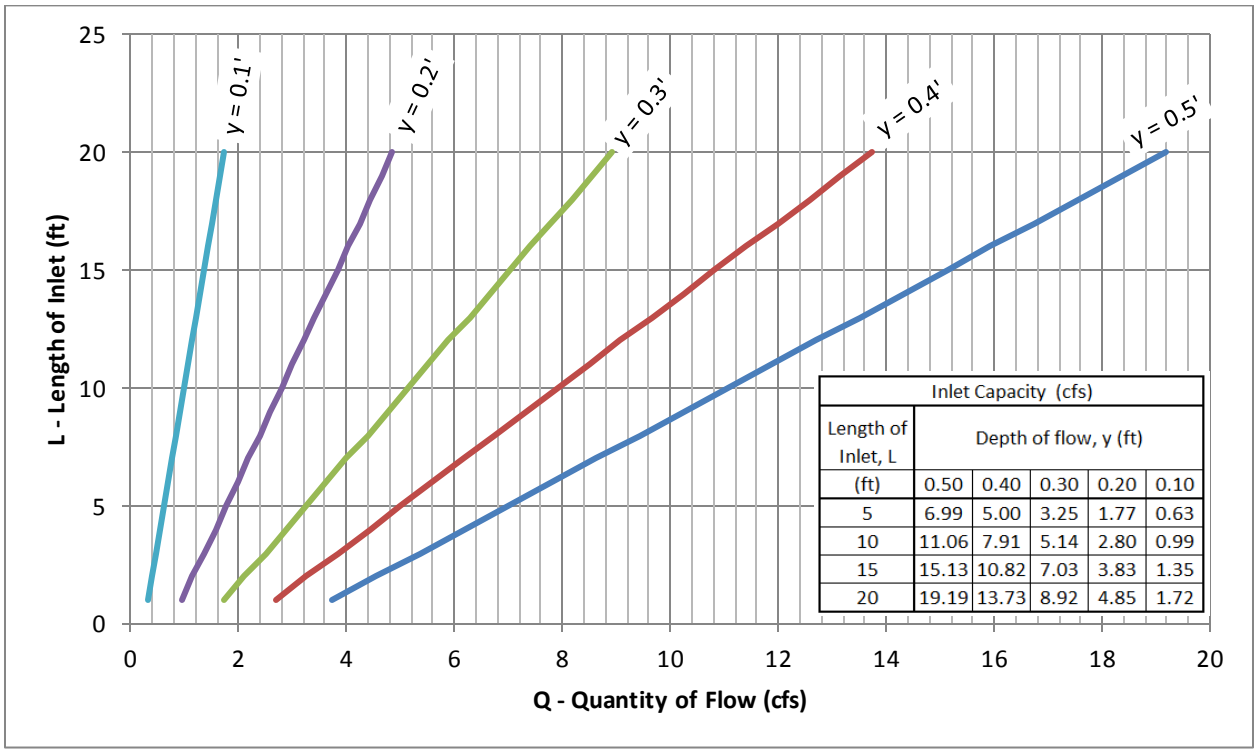
Equation 3.14 can be rearranged to find the required curb inlet length at a sag point as shown in Equation 3.18.

$$L = \frac{Q}{2.3y^{1.5}} - 1.8W$$

Equation 3.18

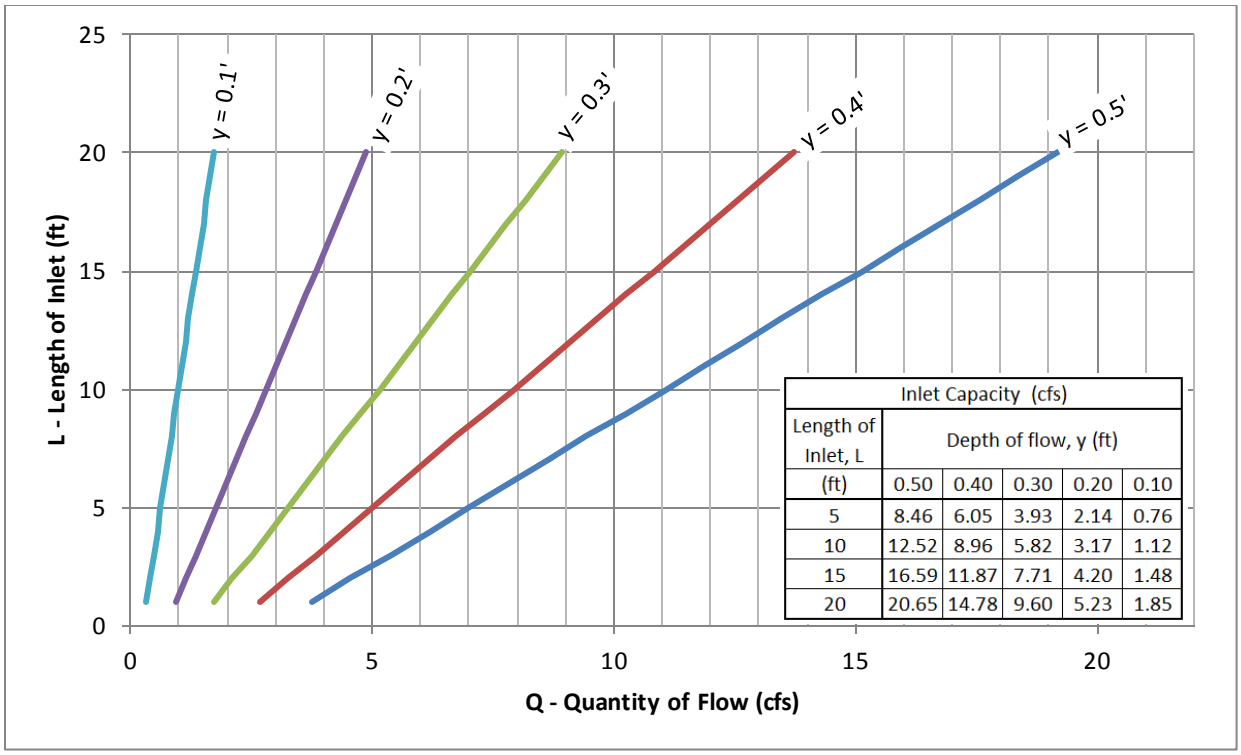
where:
Q = total flow reaching inlet (cfs)
y = depth of flow (ft)
L = length of curb inlet opening (ft)
W = gutter depression width (ft)
standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft

Figures 3.10 through 3.11 are provided as reference for Standard and Recessed Sag Curb Inlet Capacities.



Inlet Capacity (cfs)					
Length of Inlet, L	Depth of flow, y (ft)				
(ft)	0.50	0.40	0.30	0.20	0.10
5	6.99	5.00	3.25	1.77	0.63
10	11.06	7.91	5.14	2.80	0.99
15	15.13	10.82	7.03	3.83	1.35
20	19.19	13.73	8.92	4.85	1.72

Figure 3.10: Standard Curb Inlet Capacity Sag/Low Point



Inlet Capacity (cfs)					
Length of Inlet, L	Depth of flow, y (ft)				
(ft)	0.50	0.40	0.30	0.20	0.10
5	8.46	6.05	3.93	2.14	0.76
10	12.52	8.96	5.82	3.17	1.12
15	16.59	11.87	7.71	4.20	1.48
20	20.65	14.78	9.60	5.23	1.85

Figure 3.11: Recessed Curb Inlet Capacity Sag/Low Point

3.2.9 Drop Inlets / 'Y' Inlet Design

The capacity of drop inlets shall be taken from the Equation 3.19. All drop inlets shall be sized to have a maximum allowable head (depth of water) on the inlet to be six (6) inches.

$$Q = 3.087Ly^{3/2}$$

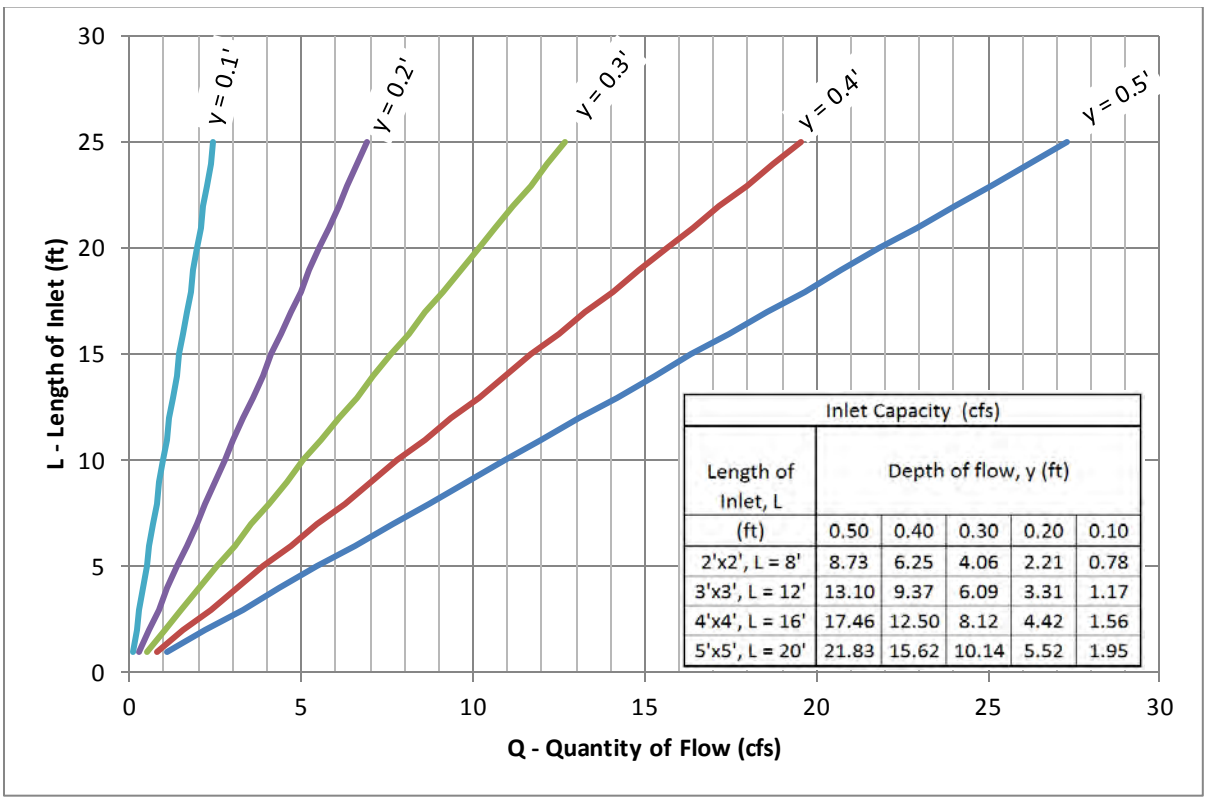
Equation 3.19

The equation can be rearranged to find the length of Drop Inlet opening as shown in Equation 3.20.

$$L = \frac{Q}{3.087y^{3/2}}$$

Equation 3.20

where:
Q = flow to inlet (cfs)
L = length of inlet opening (ft)
y = depth of water (head) at inlet (ft)



Inlet Capacity (cfs)					
Length of Inlet, L	Depth of flow, y (ft)				
(ft)	0.50	0.40	0.30	0.20	0.10
2'x2', L = 8'	8.73	6.25	4.06	2.21	0.78
3'x3', L = 12'	13.10	9.37	6.09	3.31	1.17
4'x4', L = 16'	17.46	12.50	8.12	4.42	1.56
5'x5', L = 20'	21.83	15.62	10.14	5.52	1.95

Figure 3.12: Drop/'Y' Inlet Capacity

3.2.1 Combination and Grate Inlet Design

When allowed by the City Engineer combination and grate Inlets shall be sized using Figures 3.13 through Figure 3.20.

Form 3.2: Inlet Design Calculations Table

Inlet ID	Location				Area Runoff					
	Alignment	Station	Offset	Design Freq.	C	Area ID	Time of Concen-tration Tc	Intensity I	Area A	Runoff Q
				(yr)			(min)	(in/hr)	(acres)	(cfs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

Upstream Bypass C*A	Total Gutter Flow Q_a	Gutter Flow							
		Thorough-fare Type	On-Grade/ Sag	Manning's n	Long Slope S	Crown Type	Cross Slope S_X	Depression	
								Depth a	Width W
(cfs)	(cfs)				(ft/ft)		(ft/ft)	(ft)	(ft)
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)

Gutter Flow					Inlets Capacity			
Ponding Width/ Spread		Depth of Gutter Flow		Max. Allowable Flow based on Max. Allowable Ponding Width $Q_{allow\ gutter}$	Depressed Gutter Section		Section Beyond Depression	
(allow) T_{allow}	(actual) T_{actual}	(allow) y_{allow}	(actual) y_{actual}		Area	Wetted Perimeter	Area	Wetted Perimeter
					A_W	P_W	A_0	P_0
(ft)	(ft)	(ft)	(ft)	(cfs)	(ft^2)	(ft)	(ft^2)	(ft)
(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)

Inlets Capacity							Inlet By-pass			Remarks
Conveyance		Ratio of Depression flow to Total Flow E_0	Equivalent Cross-slope, S_e	Inlet Length		Inlet Capacity Q_C	Flow $Q_{by\ pass}$	C*A	To Inlet ID	
Depression Section Kw	Section Beyond Depression K_0			Required $L_{Req'd}$	Actual L_{actual}					
(cfs)	(cfs)		(ft/ft)	(ft)	(ft)	(cfs)	(cfs)			
(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)

Instructions for Form 3.2: Inlet Design Calculation Table

Column (1)	Inlet number or designation, starting with the most upstream inlet.
Column (2)	Street Alignment/ Name in which the inlet is located.
Column (3)	Station along the alignment in which the inlet is located.
Column (4)	Offset distance and side (RT/LT) inlet is located.
Column (5)	Design Storm Frequency, shall be 100-yr for all inlets.
Column (6)	Runoff coefficient taken from Table 3.2.
Column (7)	Contributing drainage area ID.
Column (8)	Minimum inlet time of concentration taken from Table 3.3.
Column (9)	Using the time of concentration and design storm frequency, the rainfall intensity is taken from Figure 3.1.
Column (10)	Runoff area to inlet in acres.
Column (11)	Solution of Equation 3.1.
Column (12)	Taken from Column (39) of the upstream inlet.
Column (13)	$= Column\ (9)\left\{\begin{matrix} Column(12) + \\ \{Column(6) * Column(10)\} \end{matrix}\right\}$
Column (14)	Thoroughfare Type Taken from Section 2 Streets, (P6D, M4D, M4U, M3U, Minor Collector, Local, Alley, Parking).
Column (15)	Determined by location of inlet (On-Grade or Sag).
Column (16)	Manning's n value.
Column (17)	Street longitudinal gutter slope of the street taken in (feet/feet).
Column (18)	Street crown type on which the inlet is located.
Column (19)	Street cross-slope in feet/feet .
Column (20)	Gutter depression depth, reference Figure 3.3.
Column (21)	Gutter depression width, reference Figure 3.3.
Column (22)	Determined by the type of thoroughfare in the permissible spread width section.
Column (23)	Solution of Equation 3.7.
Column (24)	The product of Column (22) and Column (19).
Column (25)	The product of Column (23) and Column (19).
Column (26)	Solution of Equation 3.5 using the maximum allowable pond width from Column (22).
Column (27)	Solution of Equation 3.12.
Column (28)	Solution of Equation 3.13.
Column (29)	Solution of Equation 3.14.
Column (30)	Solution of Equation 3.15.
Column (31)	Solution of Equation 3.11 using Columns (27) and (28).
Column (32)	Solution of Equation 3.11 using Columns (29) and (30).
Column (33)	Solution of Equation 3.10.
Column (34)	Solution of Equation 3.9.
Column (35)	Solution of Equation 3.8 for on-grade curb inlets, Equation 3.18 for sag curb inlet, or Equation 3.20 for drop inlets.
Column (36)	Selected Inlet Size.
Column (37)	The capacity of the selected inlet size of Column (35), solution found by

	iteratively solving for capacity based on Equation 3.8 for curb inlets, Equation 3.17 for sag curb inlets, Equation 3.19 for drop inlets.
Column (38)	For on-grade inlets the solution of Equation 3.16.
Column (39)	Equal Column (38) divided by Column (9).
Column (40)	Next downstream inlet to which by the by-pass is going.
Column (41)	Special design comments are entered here.

EXAMPLE

Known:

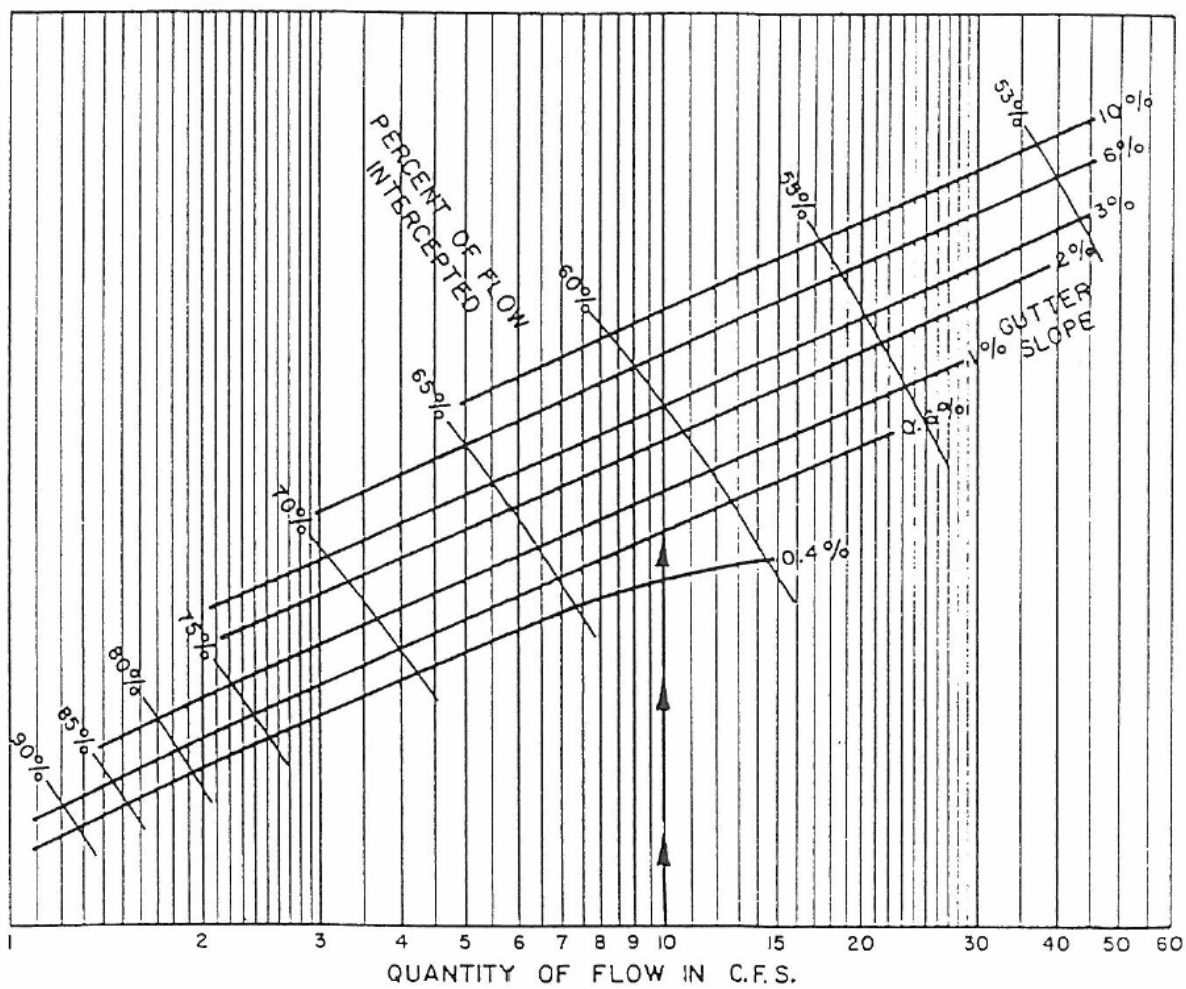
Quantity of Flow = 10.0 c.f.s.
Gutter Slope = 0.6 %

Find:

Capacity of Two Grate Combination Inlet

Solution:

Enter Graph at 10.0 c.f.s.
Intersect Slope = 0.6 %
Read Percent of Flow Intercepted = 62 %
62 % of 10.0 c.f.s. = 6.2 c.f.s. as Capacity of Two Grate Combination Inlet
Remaining Gutter Flow = 10.0 c.f.s − 6.2 c.f.s. = 3.8 c.f.s.



TWO GRATE COMBINATION INLET
CAPACITY CURVES
ON GRADE

Figure 3.13: Two Grate Combination Inlet Capacity Curves on Grade

EXAMPLE

Known:

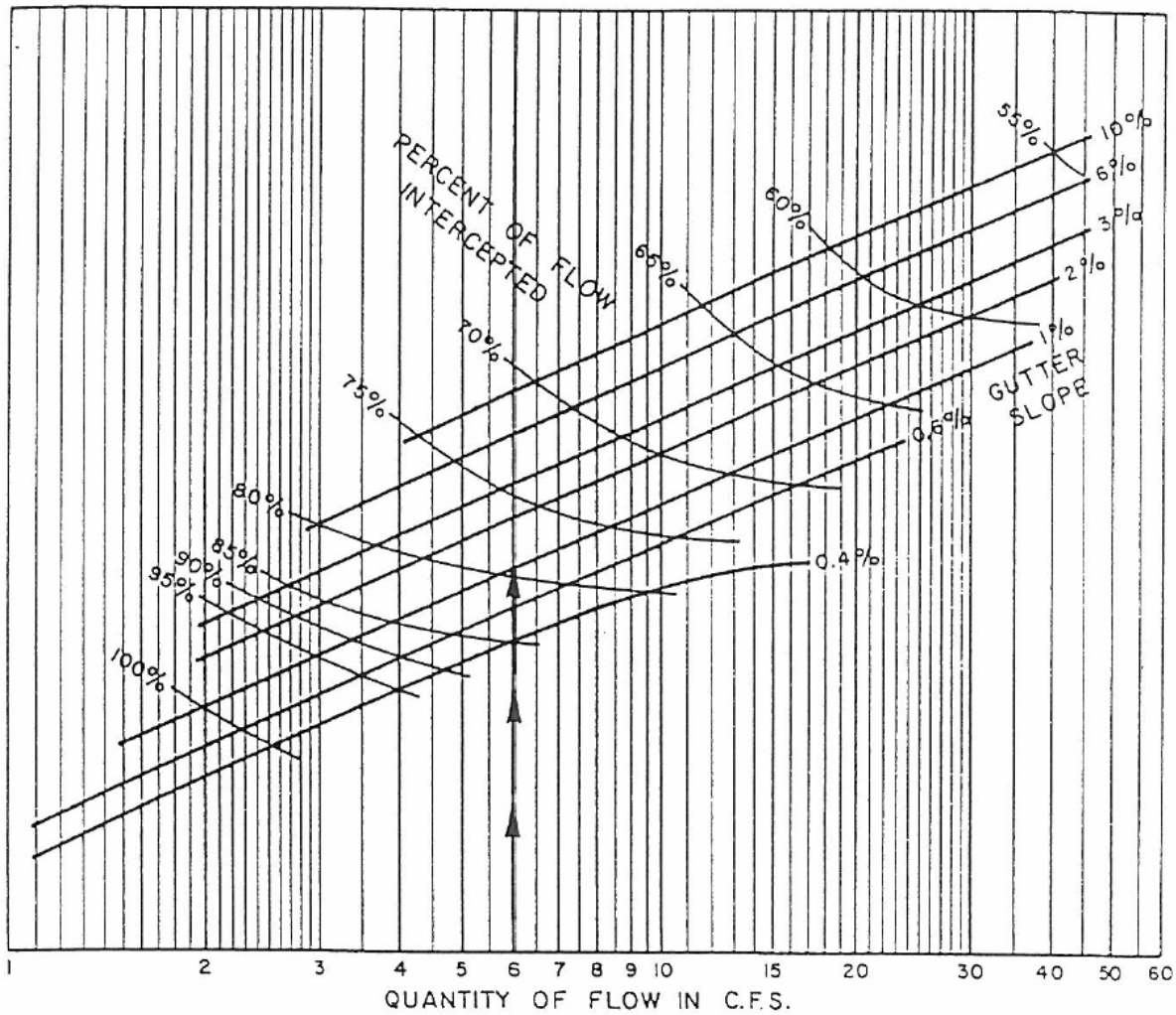
Quantity of Flow = 6.0 c.f.s.
Gutter Slope = 1.0 %

Find:

Capacity of Four Grate Combination Inlet

Solution:

Enter Graph at 6.0 c.f.s.
Intersect Slope = 1.0 %
Read Percent of Flow Intercepted = 79 %
79 % of 6.0 c.f.s. = 4.7 c.f.s. as Capacity of Four Grate Combination Inlet
Remaining Gutter Flow = 6.0 c.f.s. – 4.7 c.f.s. = 1.3 c.f.s.



FOUR GRATE COMBINATION INLET
CAPACITY CURVES
ON GRADE

Figure 3.14: Four Grate Combination Inlet Capacity Curves on Grade

EXAMPLE

Known:

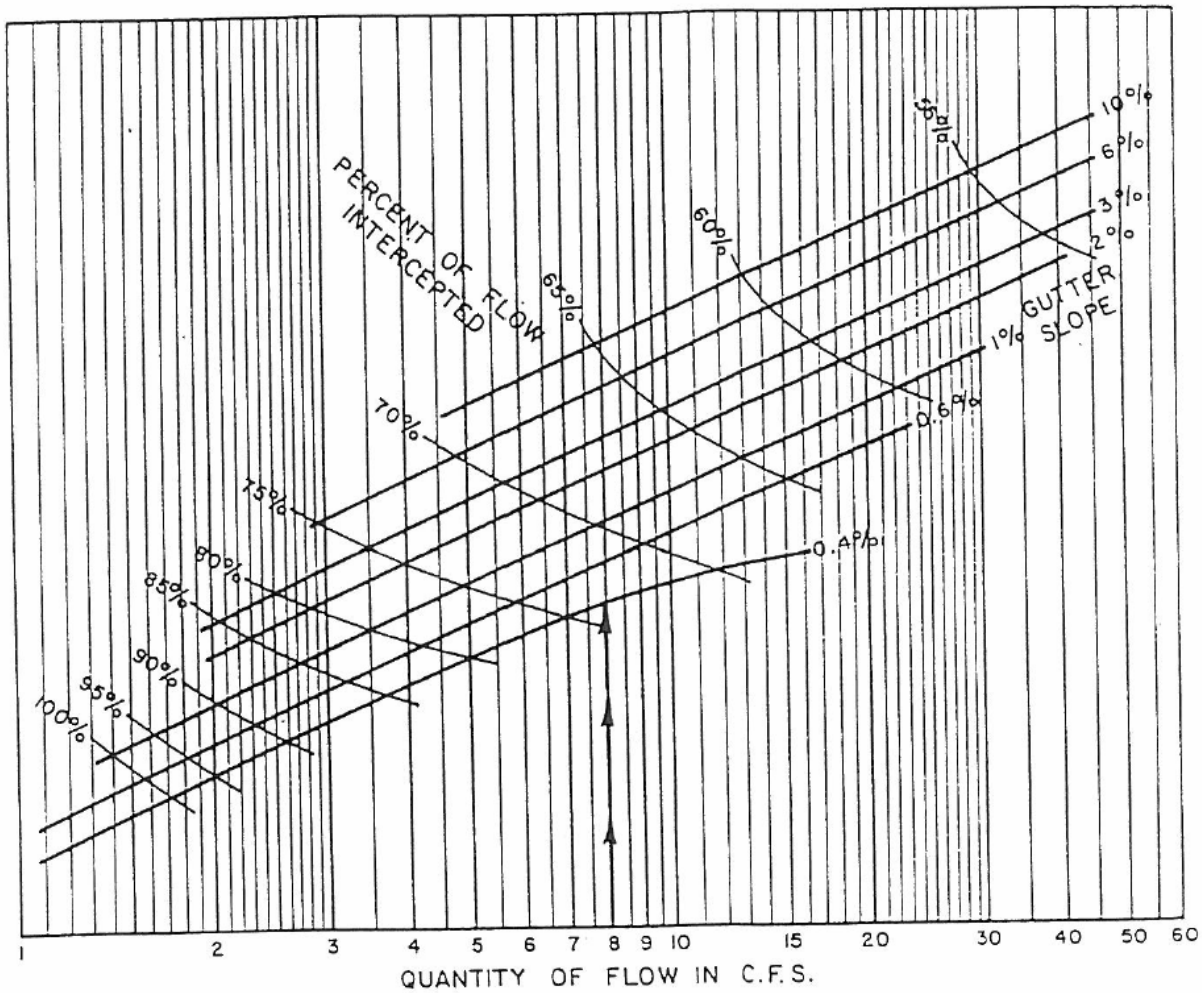
Quantity of Flow = 8.0 c.f.s.
Gutter Slope = 0.4%

Find:

Capacity of Three Grate Inlet

Solution:

Enter Graph at 8.0 c.f.s.
Intersect Slope = 0.4%
Read Percent of Flow
Intercepted = 74%
74% of 8.0 c.f.s. = 5.9 c.f.s.
as Capacity of Three Grate Inlet
Remaining Gutter Flow =
8.0 c.f.s. − 5.9 c.f.s. = 2.1 c.f.s.



THREE GRATE INLET AND
THREE GRATE COMBINATION INLET
CAPACITY CURVES
ON GRADE

Figure 3.15: Three Grate Inlet and Three Grate Combination Inlet Capacity Curves on Grade

EXAMPLE

Known:

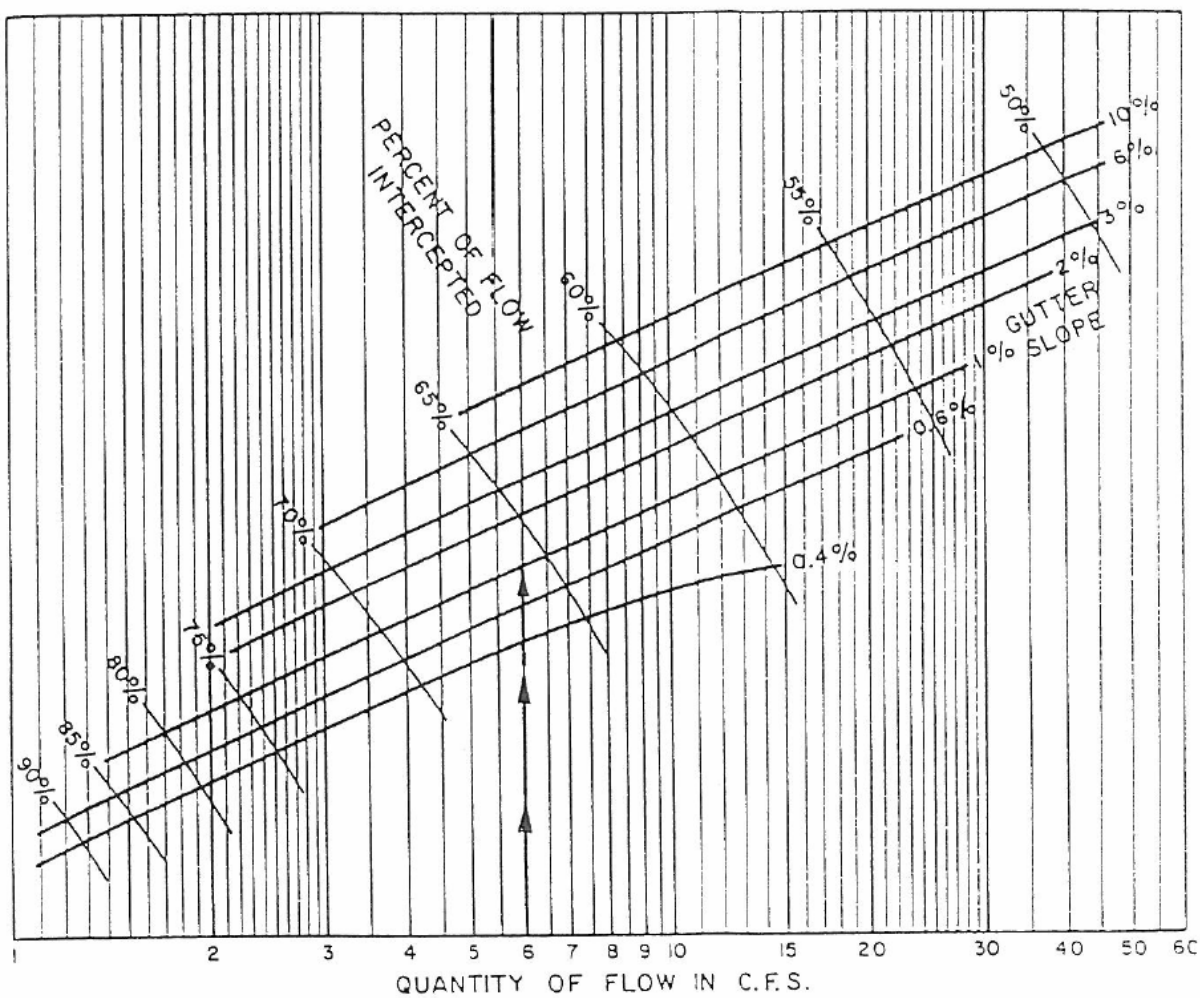
Quantity of Flow = 6.0 c.f.s.
Gutter Slope = 1.0%

Find:

Capacity of Two Grate Inlet

Solution:

Enter Graph at 6.0 c.f.s.
Intersect Slope = 1.0%
Read Percent of Flow
Intercepted = 66%
66% of 6.0 c.f.s. = 4.0 c.f.s.
as Capacity of Two Grate Inlet
Remaining Gutter Flow =
6.0 c.f.s. − 4.0 c.f.s. = 2.0 c.f.s.



TWO GRATE INLET
CAPACITY CURVES
ON GRADE

Figure 3.16: Two Grate Inlet Capacity Curves on Grade

EXAMPLE

Known:

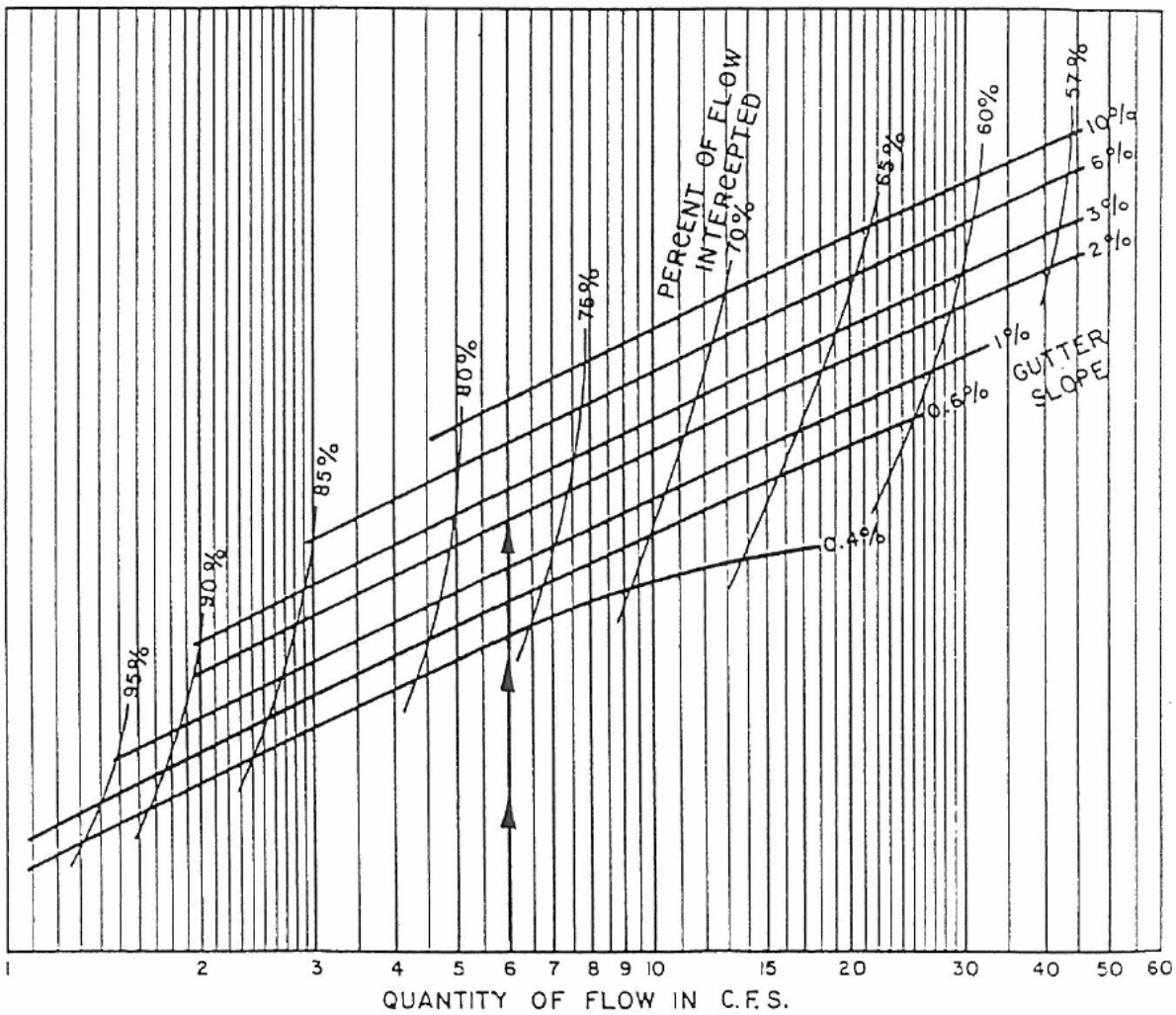
Quantity of Flow = 6.0 c.f.s.
Gutter Slope = 1.0%

Find:

Capacity of Four Grate Inlet

Solution:

Enter Graph at 6.0 c.f.s.
Intersect Slope = 1.0%
Read Percent of Flow Intercepted = 77%
77% of 6.0 c.f.s. = 4.6 c.f.s. as Capacity of Four Grate Inlet
Remaining Gutter Flow = 6.0 c.f.s. − 4.6 c.f.s. = 1.4 c.f.s.



FOUR GRATE INLET CAPACITY CURVES ON GRADE

Figure 3.17: Four Grate Inlet Capacity Curves on Grade

EXAMPLE

Known:

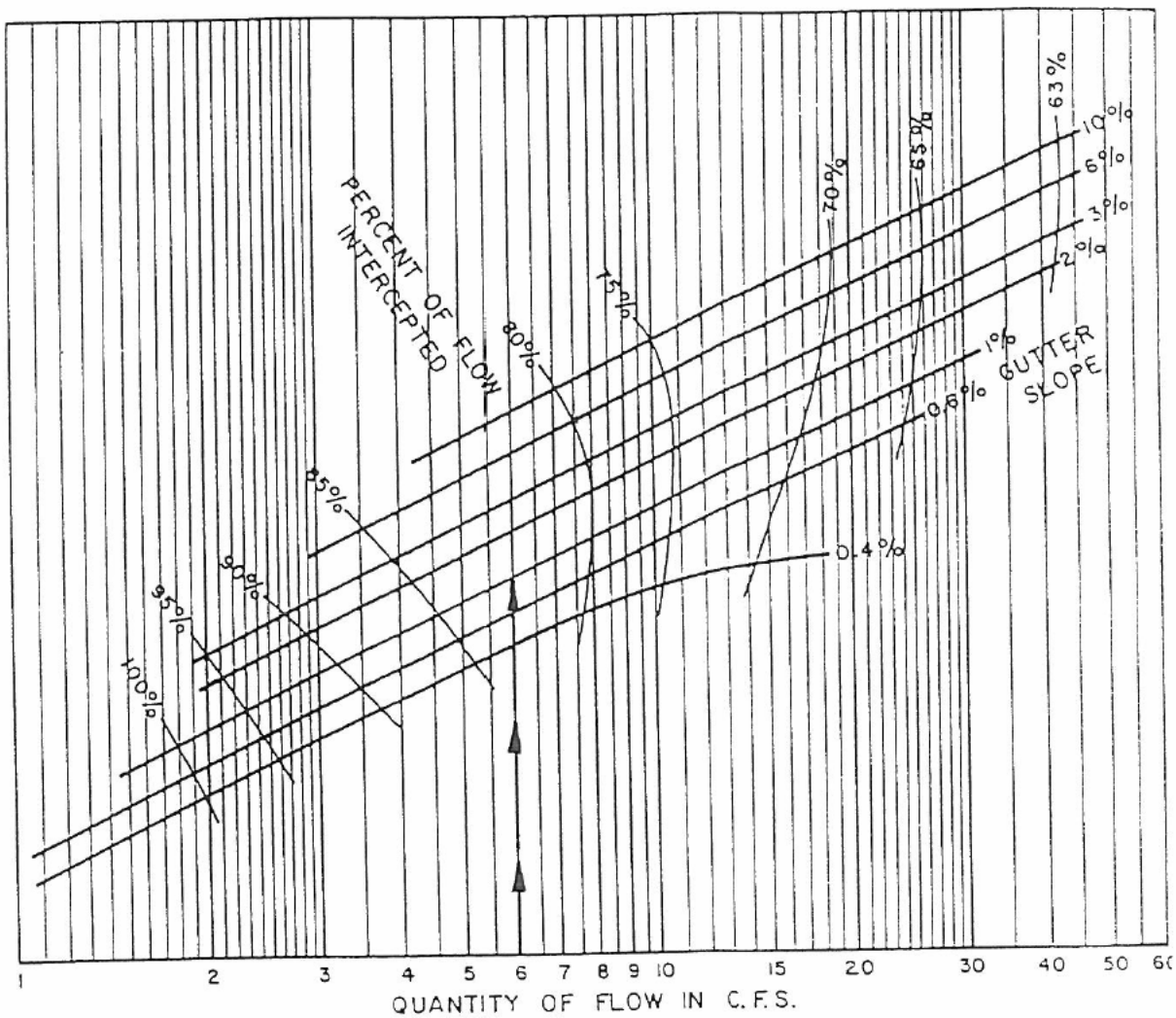
Quantity of Flow = 6.0 c.f.s.
Gutter Slope = 1.0%

Find:

Capacity of Six Grate Inlet

Solution:

Enter Graph at 6.0 c.f.s.
Intersect Slope = 1.0%
Read Percent of Flow
Intercepted = 82 %
82 % of 6.0 c.f.s. = 4.9 c.f.s.
as Capacity of Six Grate Inlet
Remaining Gutter Flow =
6.0 c.f.s. − 4.9 c.f.s. = 1.1 c.f.s.



SIX GRATE INLET
CAPACITY CURVES
ON GRADE

Figure 3.18: Six Grate Inlet Capacity Curves on Grade

EXAMPLE

Known:

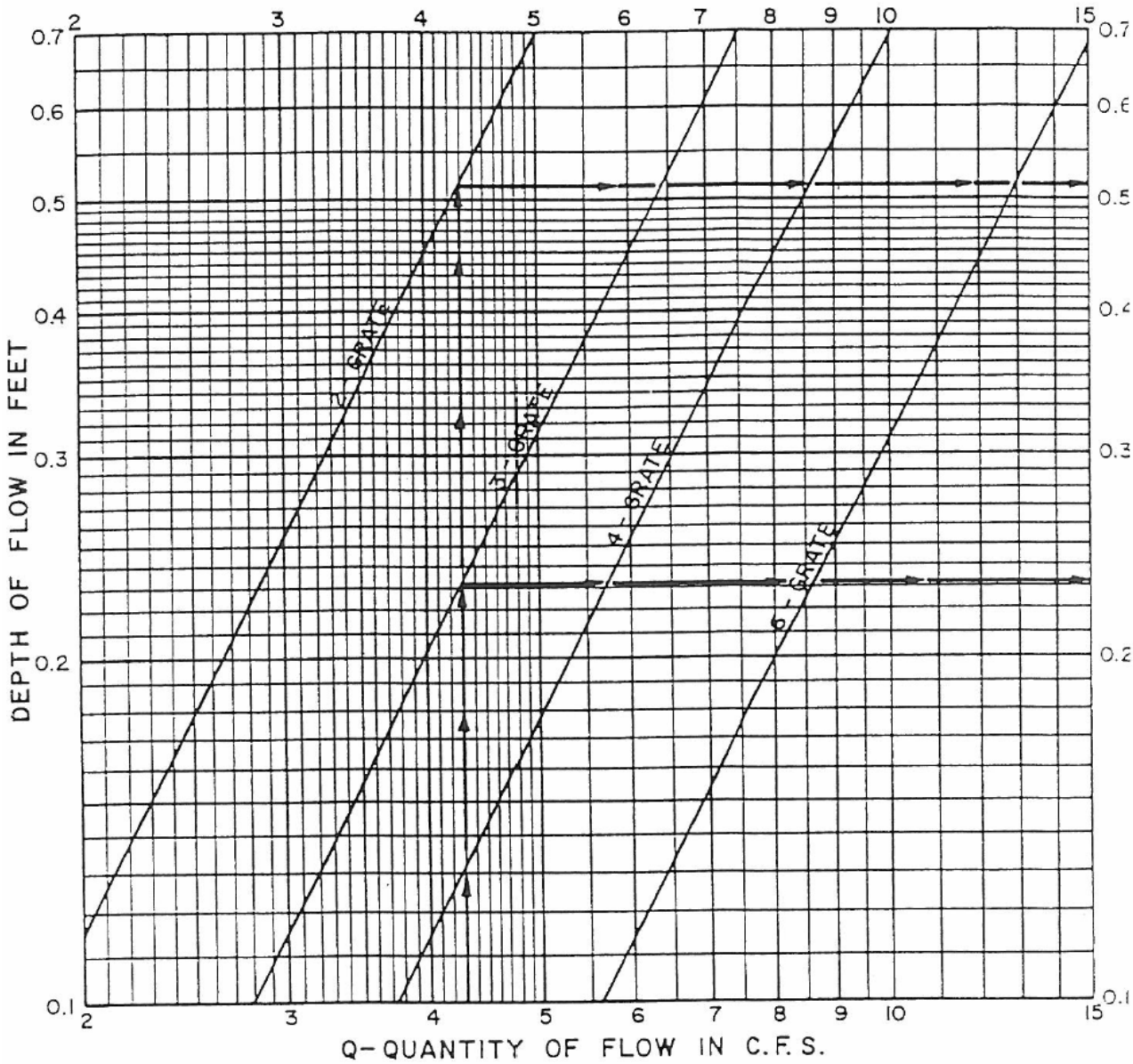
Quantity of Flow = 4.3 c.f.s.
Maximum Depth of Flow Desired at Low Point = 0.3'

Find:

Inlet Required

Solution:

Enter Graph at 4.3 c.f.s.
Intersect 3 - Grate at 0.23'
Intersect 2 - Grate at 0.51'
Use 3 - Grate



GRATE INLET
CAPACITY CURVES
AT LOW POINT

Figure 3.19: Grate Inlet Capacity Curves at Low Point

EXAMPLE

Known:

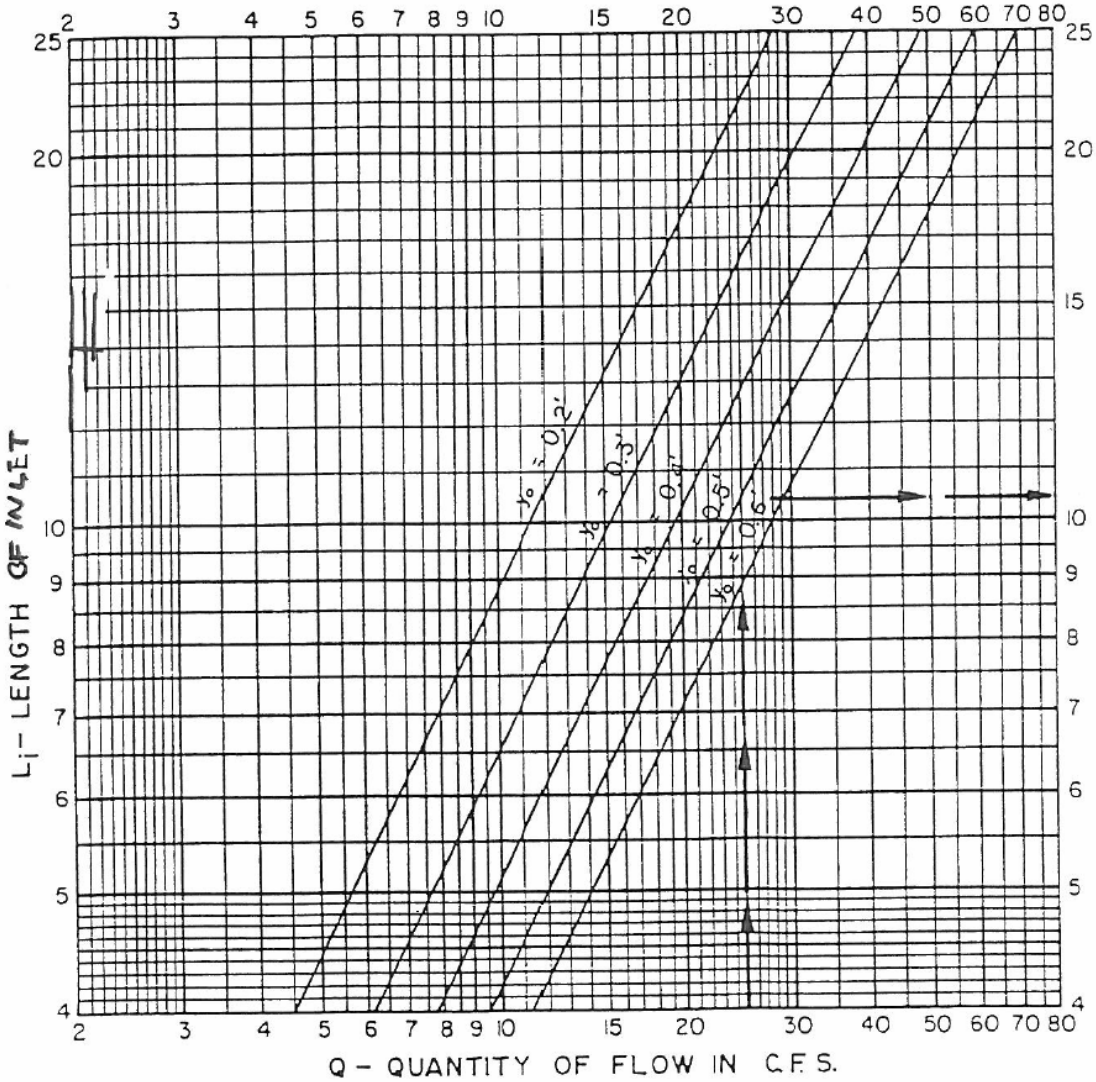
Quantity of Flow = 25.0 c.f.s.
Maximum Depth of Flow Desired
At Low Point (y_o) = 0.5'

Find:

Length of Inlet Required (L_i)

Solution:

Enter Graph at 25.0 c.f.s.
Intersect y_o = 0.5'
Read L_i = 10.4'
Use 12' Inlet



ROUGHNESS COEFFICIENT n = .0175	
STREET WIDTH	CROWN TYPE
ALL	Straight and Parabolic

COMBINATION INLET CAPACITY CURVES AT LOW POINT

Figure 3.20: Combination Inlet Capacity Curves at Low Point

3.2.2 Flow in Storm Drain Conduits and Their Appurtenances

3.2.2.1 Hydraulic Gradient of Conduits

A storm drainage conduit must have sufficient capacity to discharge a design storm with a minimum of interruption and inconvenience to the public using streets and thoroughfares. The size of the conduit is determined by accumulating runoff from contributing inlets and calculating the slope of a hydraulic gradient from Manning's Equation:

$$S_f = \frac{Qn^2}{1.49AR^{2/3}}$$

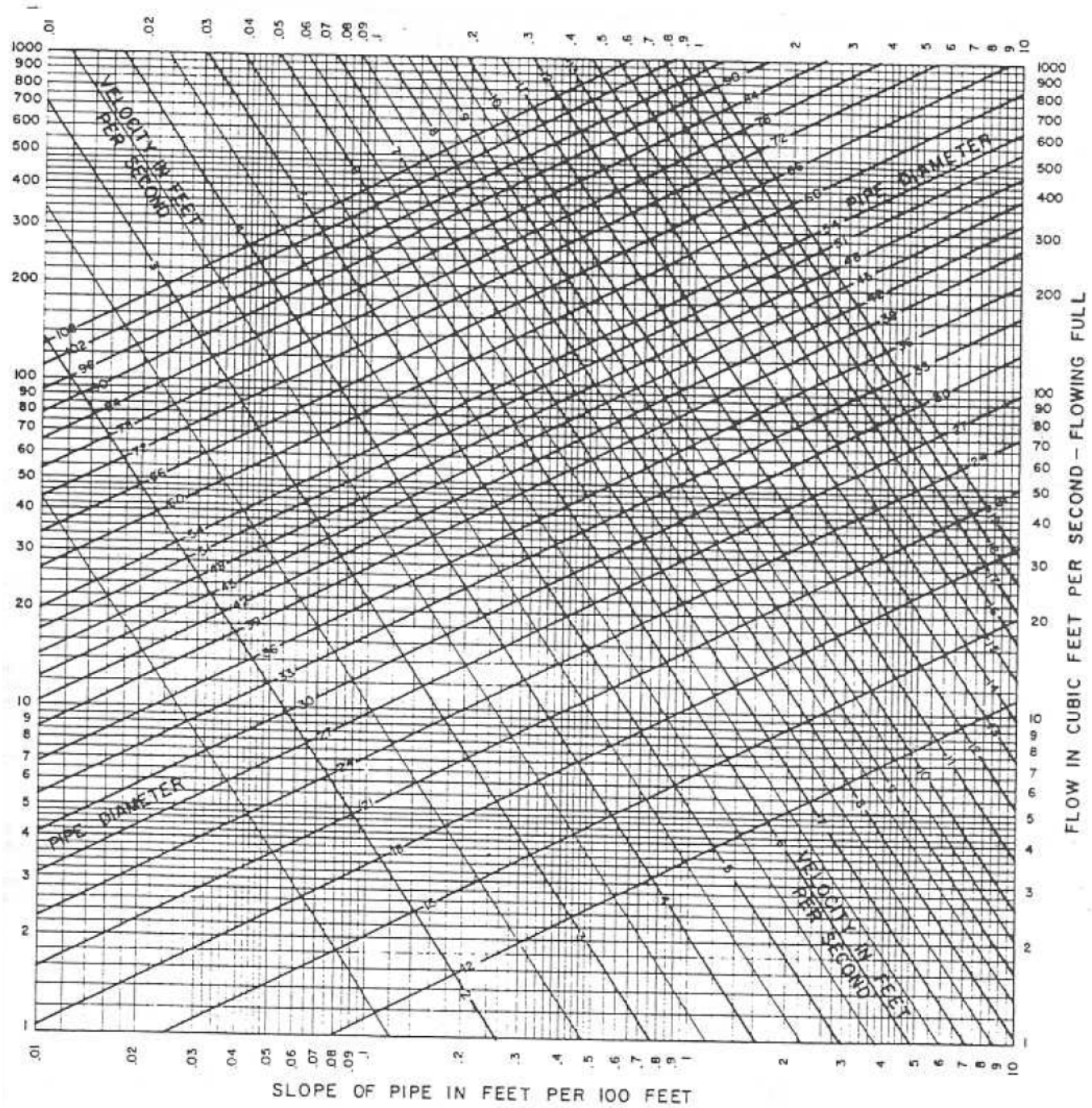
Equation 3.21

where:
Q = flow in conduit, (cfs)
n = Manning's roughness coefficient; value = 0.013
A = cross sectional area of flow, (ft^2)
R = hydraulic radius, (ft)
S_f = hydraulic friction slope, (ft/ft)

Hydraulic gradient for the selected conduit size shall be 1.50' below gutter (2.0' below top of curb) for each contributing inlet to insure that the selected conduit will carry the design flow at an elevation below the gutter profile. As the conduit size is selected and the hydraulic gradient is plotted between each inlet pickup point, a head loss due to a change in velocity and pipe size must be incorporated in the gradient profile.

At the discharge end of the conduit (generally a creek or stream) the hydraulic gradient of the creek for the 100-year design storms must coincide with the gradient of the storm drainage conduit and an adjustment is usually required in the tentative conduit gradient and, necessarily, the initial pipe selection could also change.

Concrete pipe conduit shall be used to carry the storm water, and flow chart, FIGURE 3.21, based on Manning's Equation may be used to determine the various hydraulic elements including the pipe size, the hydraulic gradient and the velocity. Special hydraulic calculators are also available for solution of Manning's Equation.



CAPACITY OF CIRCULAR PIPES FLOWING FULL

A GRAPHICAL SOLUTION OF MANNING'S EQUATION

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$

$n = 0.013$

Figure 3.21: Capacity of Circular Pipes Flowing Full

The roughness coefficient 'n' for storm sewer conduit shall be 0.013.

With the hydraulic gradient established, considerable latitude is available for establishment of the conduit flow line. The inside top of the conduit must be at or below the hydraulic gradient thus allowing the conduit to be lowered where necessary. The hydraulic gradient at every inlet should be plotted directly on the construction plan profile worksheet and adjusted as necessary.

There will be hydraulic conditions, which cause the conduits to flow partially full, and where this occurs, the hydraulic gradient should be shown at the inside crown (soffit) of the conduit. This procedure will provide a means for conservatively selecting a conduit size, which will carry the flood discharge.

All public storm sewer systems shall be reinforced concrete pipe. Storm sewer pipe, with two (2) feet or less of cover, are required to be Class IV reinforced concrete pipe. All storm pipes and laterals are required to have a plan and profile on engineering plans. All flow data (Q_{100}, Q_{cap}, velocity, hydraulic slope) is required at every change in pipe size and/or change in flow.

3.2.2.2 Minor Head Losses

When establishing the hydraulic gradeline of a storm sewer, minor head losses at points of turbulence shall be calculated and included in the computation of the hydraulic gradeline.

Entrance Losses

Entrance losses to a closed storm sewer system from an open channel or lake shall be calculated using Equation 3.22.

$$H_L = K_E \frac{{V_1}^2}{2g}$$

Equation 3.22

where:
H_L = head loss (ft)
K_E = head loss coefficient (see Table 3.7).
V_1 = velocity in the downstream conduit (ft/s)
g = the acceleration of gravity (32.3 ft/s^2)

Table 3.7: Entrance Loss Coefficients

Type of Structure and Design of Entrance	Coeff. K_E
Pipe, Concrete	
Projecting from fill, socket end (groove-end)	0.2
Projecting from fill, square cut end	0.5
Headwall or headwall and wingwalls	
Socket end of pipe (groove-end)	0.2
Square-edge	0.5
Rounded (radius = 1/12D)	0.2
Mitered to conform to fill slope	0.7
End-section conforming to fill slope	0.5
Beveled edges, 33.7- or 45-degree bevels	0.2
Side- or slope-tapered inlet	0.2
Pipe, or Pipe-Arch, Corrugated Metal	
Projecting from fill (no headwall)	0.9
Headwall or headwall and wingwalls square-edge	0.5
Mitered to conform to fill slope, paved or unpaved slope	0.7
End-section conforming to fill slope	0.5
Beveled edges, 33.7- or 45-degree bevels	0.2
Side- or slope-tapered inlet	0.2
Box, Reinforced Concrete	
Headwall parallel to embankment (no wingwalls)	
Square-edged on 3 edges	0.5
Rounded on 3 edges to radius of 1/12 barrel dimension or beveled edges on 3 sides	0.2
Wingwalls at 30- to 75-degrees to barrel	
Square-edged at crown	0.4
Crown edge rounded to radius of 1/12 barrel dimension dimension, or beveled top edge	0.2
Wingwall at 10- to 25-degrees to barrel	
Square-edged at crown	0.5
Wingwall parallel (extension of sides)	
Square-edged at crown	0.7
Side- or slope-tapered inlet	0.2

Inlet Losses

Inlet losses shall be calculated using Equation 3.23.

$$H_L = 1.25\frac{{V_{Lat}}^2}{2g}$$

Equation 3.23

where:
H_L = head loss (ft)
V_{LAT} = velocity in the lateral (ft/s)
g = the acceleration of gravity (32.2 ft/s^2)

Expansion Losses

For pipe size expansions, head loss shall be calculated using the following Equation 3.24.

$$H_L = \left(1 - \left(\frac{D_1}{D_2}\right)^2\right)\frac{{V_1}^2}{2g}$$

Equation 3.24

Where:
H_L = head loss (ft)
V_1 = upstream velocity (ft/s)
D_1 = upstream conduit diameter (ft)
D_2 = downstream conduit diameter (ft)
g = the acceleration of gravity (32.2 ft/s^2)

Manhole and Bend Losses

Head losses associated with manholes for pipe direction changes and bends in pipes of equal diameter shall be calculated using Equation 3.25.

$$H_L = K_j \frac{{V_2}^2}{2g}$$

Equation 3.25

Where:
H_L = Head loss (ft)
K_j = Head loss coefficient (see Table 3.8).
V_2 = Downstream velocity (ft/s)
g = the acceleration of gravity (32.2 ft/s^2)

Junction Losses

Head losses associated with wye connections or manholes with branch laterals entering the main line shall be calculated by using Equation 3.26.

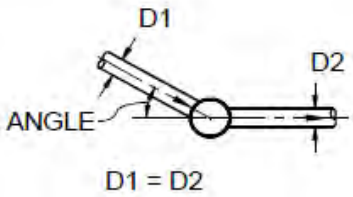
$$H_L = \frac{{V_2}^2}{2g} - K_j \frac{{V_1}^2}{2g}$$

Equation 3.26

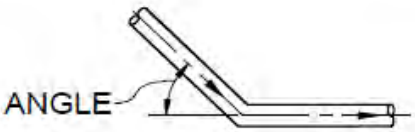
Where:
H_L = Head loss (ft)
V_1 = Velocity in the upstream conduit (ft/s)
V_2 = Velocity in the downstream conduit (ft/s)
K_j = Head loss coefficient from Table 3.8.
g = the acceleration of gravity (32.2 ft/s^2)

Table 3.8: Velocity Head Loss Coefficients for Closed Conduits

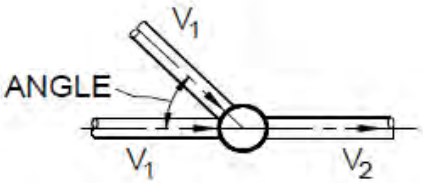
MANHOLE AT CHANGE IN PIPE DIRECTION

DESCRIPTION	ANGLE	HEAD LOSS COEFFICIENT Kj
	90°	0.55
	60°	0.48
	45°	0.42
	30°	0.3
	0°	0.05

BENDS IN PIPES

DESCRIPTION	ANGLE	HEAD LOSS COEFFICIENT Kj
	90°	0.5
	60°	0.43
	45°	0.37
	30°	0.25

JUNCTION

DESCRIPTION	ANGLE	HEAD LOSS COEFFICIENT Kj
	0°	1
	22 1/2°	0.75
	45°	0.5
	60°	0.35
	90°	0.25

3.2.2.3 Minimum Grades

Storm drains should operate with flow velocities sufficient to prevent excessive deposits of solid materials; otherwise objectionable clogging may result. The controlling velocity with regard to sediment deposition is near the bottom of the conduit and considerably less than the mean velocity of the storm. Storm drains shall be designed to have a minimum mean velocity flowing full of 2.5 feet per second (f.p.s.). Table 3.9 indicates the minimum grades for concrete pipe with "Manning's "n" = 0.013 and for corrugated metal pipe with "Manning's "n" = 0.025 and flowing at 2.5 f.p.s.

Table 3.9: Minimum Grades for Storm Drain Pipelines

Pipe Size (Inches)	Slope (foot/foot)	Pipe Size (Inches)	Slope (foot/foot)
18	0.0018	48	0.0005
21	0.0015	54	0.0005
24	0.0013	60	0.0004
27	0.0011	66	0.0004
30	0.0009	72	0.0003
33	0.0008	78	0.0003
36	0.0007	84	0.0003
39	0.0006	90	0.0002
42	0.0006	96	0.0002
45	0.0005	102	0.0002

3.2.2.4 Maximum Velocities

The slope of a storm sewer should also be such that excessive velocities will not damage the pipeline or drainage structures. Table 3.10 delineates the maximum desirable velocities for storm sewer.

Table 3.10: Maximum Velocities in Closed Conduits

Type of Conduit	Maximum Velocity
Culverts	15 f.p.s.
Inlet Laterals	15 f.p.s.
Storm Sewer Pipe	12.5 f.p.s.

* The maximum velocities shall be the actual velocity – full flow or partial.

3.2.2.5 Discharge of Storm Drain Pipe

Storm drain pipes discharging into Lake Ray Hubbard shall be set such that the top of the pipe shall be set at elevation 435.5 or otherwise approved by the City Engineer. Discharge into Lake Ray Hubbard will require approval from the City of Dallas. Pipes discharging in the lake shall run to the lake (City of Dallas detail, see Exhibit 3A). Where storm drain pipes discharge into water courses, the invert of the pipe shall be at the same grade as the low point of the water course and angled a maximum of sixty (60) degrees to flow downstream. Adequate grouted rock riprap or other erosion protection shall be provided. Storm sewers shall discharge into open channels at a maximum velocity of eight (8) feet per second.

3.2.2.6 Manholes

Storm drain manholes shall be located at intervals not to exceed five hundred (500) feet for thirty (30) inches in diameter or smaller pipes. Storm drain manholes for pipes greater than twenty-four (24) inches in diameter shall be located at points where design indicates entrances into the pipe are desirable. Inlet and manhole lids shall be twenty-four (24) inches with locking lids.

3.2.2.7 Lateral Lines

The minimum size of reinforced concrete storm sewer line from the inlet box to the collector lines shall be eighteen (18) inches in diameter for a discharge of less than 10 cfs. Where discharge exceeds 10 cfs and/or connects to a ten (10) foot inlet, lateral lines shall be a minimum of twenty-one (21) inches in diameter.

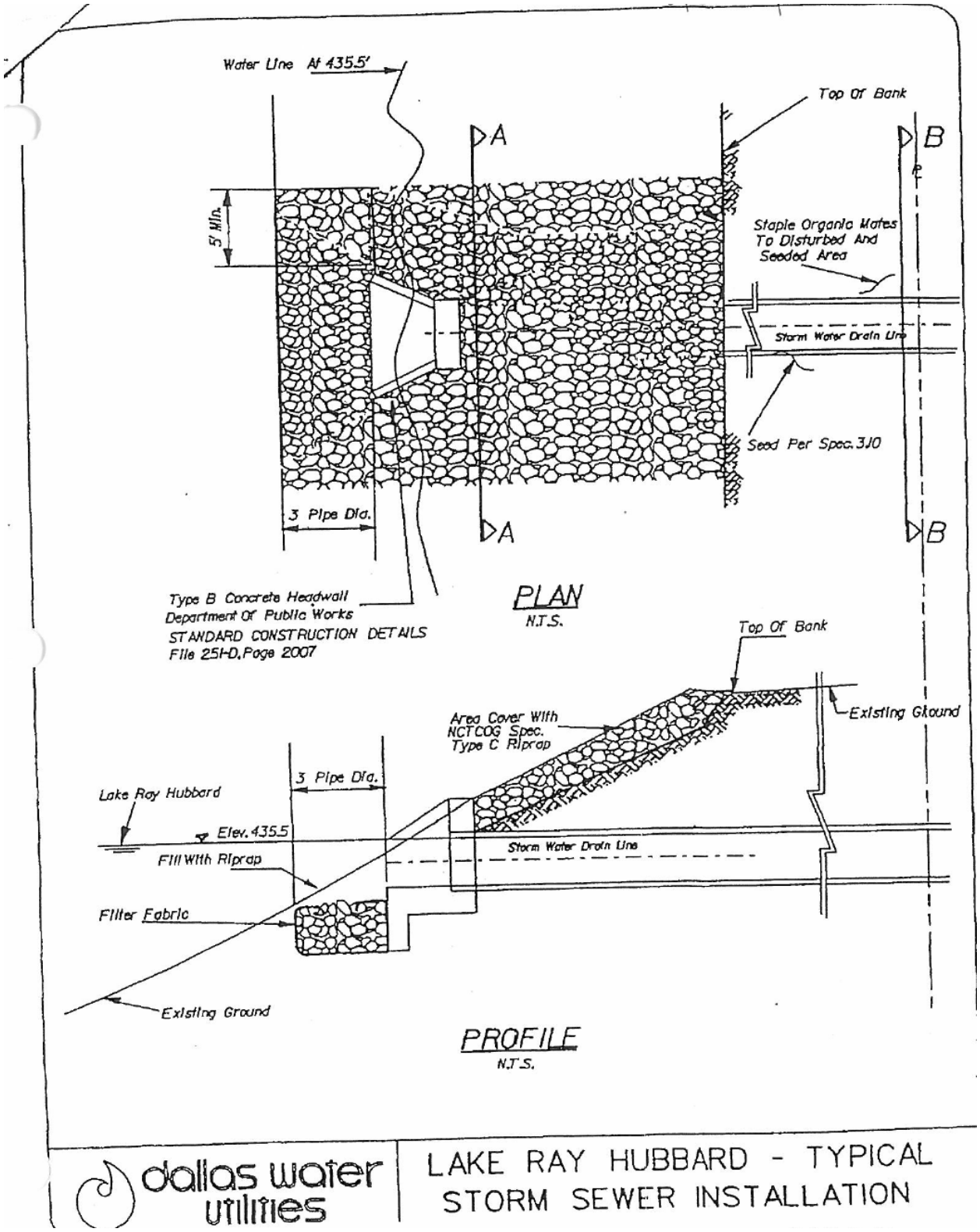

Water Line At 435.5'
Top Of Bank
A
B
5' Min.
Staple Organic Mates To Disturbed And Seeded Area
Storm Water Drain Line
Seed Per Spec. 310
3 Pipe Dia.
A
B
Type B Concrete Headwall
Department Of Public Works
STANDARD CONSTRUCTION DETAILS
File 25HD, Page 2007
PLAN
N.T.S.
Top Of Bank
Existing Ground
Area Cover With NCTCOG Spec. Type C Riprap
3 Pipe Dia.
Lake Ray Hubbard
Elev. 435.5
Storm Water Drain Line
Fill With Riprap
Filter Fabric
Existing Ground
PROFILE
N.T.S.
dallas water utilities
LAKE RAY HUBBARD - TYPICAL STORM SEWER INSTALLATION

Exhibit 3A

3.2.2.8 100-Year Flood Zones

Where the Federal Emergency Management Administration (FEMA) has defined a flood hazard area with regard to a drainage course, the flood hazard zone and the floodplain and floodway, if available, shall be shown on the plat and drainage area map.

3.2.2.9 Local 100-Year Flood Zones

100-year flood zones shall be determined for non-FEMA creeks, streams, and channels (flowing or not) within a property or subdivision.

3.2.2.10 Floodplain Markers

The City will provide floodplain markers to be installed by the developer which shall be placed at the property corner of each lot adjacent to the flood plain and a maximum distance apart of 300 feet along the floodplain line.

3.2.2.11 Inlet Markers

The City will provide "No Dumping, Drains to Waterway" inlet markers to be installed on each inlet by the developer.

3.2.2.12 Dumpsters

If a dumpster is to facilitate any type of food or food by-product disposal, the dumpster site shall have a slot drain going to a storm line connected to and oil/water separator or to the sanitary sewer grease trap, to drain all dumpster surface area water prior to leaving the dumpster site.

3.2.2.13 Fueling Stations

If there is a fueling station on the site the storm line serving the fueling station drainage area shall have an oil/water separator installed before leaving the site.

3.2.2.14 Testing

All storm sewers and laterals shall be visually inspected by photographic means (television and DVD) at the contractor's expense prior to final acceptance by the City of Rockwall. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the contractor at the contractor's expense. Pipes shall be cleaned prior to televising the pipe. The contractor shall furnish a DVD to the Engineering department inspector for review.

3.2.3 Storm Sewer Design – Closed Conduit

3.2.3.1 General

To facilitate the design of closed conduit storm sewers, design will be based on the calculations called out in this section and the instructions for

FORM 3.3: Storm Sewer Calculations. Form 3.3 in its entirety shall be included in the plans and calculations shall be provided for each system including laterals.

Form 3.3: Storm Sewer Calculations Table

SYSTEM ID	Conduit Properties								
	Collection Point Station		Length	# of Barrels	Pipe Size	Box		Type	Area
	U/S	D/S				Span	Rise		
			(ft)		(inches)	(ft)	(ft)		(ft^2)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Conduit Properties						Incremental Drainage Area			
Wetted Perimeter P_W	Hydraulic Radius	Manning's n	Flowline Elevation		Slope	Inlet ID	Area	Runoff Coeff. C	Incre-mental C*A
			Up-stream	Down-stream					
(ft)	(ft)				(ft/ft)		(acres)		
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

Accum-ulated C*A	Up-stream T_C	Design Storm Freq.	Intensity I	Runoff Q	Conduit Capacity Q_C	Partial Flow	Velocity V	Time in Conduit
	(min)	(yr)	(in/hr)	(cfs)	(cfs)	(Yes/No)	(ft/s)	(min)
(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)

Friction Slope S_f	Friction Head-loss	HGL		Headloss Calculations					Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remarks
		U/S	D/S	$\frac{V_1^2}{2g}$	$\frac{V_2^2}{2g}$	Jct. Type	Coeff. K_J	Head-loss H_L				
(ft/ft)	(ft)			(ft)	(ft)			(ft)			(ft)	
(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)

Instructions for Form 3.3: Storm Sewer Calculation Table

Column (1)	System ID, if private label (ex. Line-A, Line-B, ….; Lat-A1, Lat-A2, ….)
Column (2)	Storm sewer line station at the upstream end of conduit section
Column (3)	Storm sewer line station at the downstream end of conduit section
Column (4)	Length of Conduit segment, equal to Column (2) minus Column (3)
Column (5)	Number of barrels of conduit
Column (6)	Size of Pipe in inches
Column (7)	Span of Box Conduit
Column (8)	Rise of Box Conduit
Column (9)	Conduit Type (ex. RCP, RCB, PVC, HDPE, ….)
Column (10)	Conduit area
Column (11)	Wetted Perimeter
Column (12)	Equal to Column (10) divided by Column (11)
Column (13)	Manning's Roughness Coefficient
Column (14)	Conduit flowline elevation at the upstream end of conduit section
Column (15)	Conduit flowline elevation at the downstream end of conduit section
Column (16)	Conduit slope in feet/feet
Column (17)	The incremental drainage area ID contributing to the conduit section
Column (18)	The incremental drainage area in acres contributing to the conduit section
Column (19)	The incremental drainage area runoff coefficient contributing to the conduit section
Column (20)	Equal to Column (18) multiplied by Column (19)
Column (21)	Equal to Column (20) plus Column (21) of the upstream conduit section
Column (22)	Equal to inlet Tc if most upstream conduit section, or the sum of previous conduit section Column (22) and Column (29)
Column (23)	Design Storm Frequency shall be 100-yr
Column (24)	Shall be taken from Figure 3.1 using Columns (22) and (23)
Column (25)	Solution of Equation 3.1 using Columns (21) and (24)
Column (26)	Solution of Manning's Equation 3.6 where the conduit is flowing full (depth of flow is equal to height of conduit)
Column (27)	Yes, if Column (25) < Column (26). No, if Column (25) ≥ Column (26)
Column (28)	The actual velocity within the conduit
Column (29)	Equal to Column (4) divided by Column (28) divided by 60 sec/min
Column (30)	Solution of Equation 3.21
Column (31)	Equal to Column (4) multiplied by Column (30)
Column (32)	Upstream Hydraulic Grade Line. Equal to Column (33) plus Column (31)
Column (33)	This is the beginning hydraulic gradient of the line. It is equal to the Design HGL Column (38) for the next downstream segment, or the beginning HGL of the system.
Column (34)	Velocity Head of the incoming pipe at the wye, junction, inlet or manhole.
Column (35)	Velocity Head of the outgoing pipe (the pipe segment being analyzed) at the wye, junction, inlet or manhole.
Column (36)	Upstream junction type (ex. Inlet, 60° Wye, 30° Bend, Jct. Box, ….)
Column (37)	Taken from Tables 3.8

Column (38)	Taken for Equations 3.23 through 3.26 depending on Junction Type
Column (39)	Upstream Hydraulic Grade Line design point of the conduit segment. Column (24) plus Column (32)
Column (40)	The top of curb elevation at which the inlet is located
Column (41)	Equal to the Column (40) minus Column (39)
Column (42)	Special design comments are entered here.

3.2.4 Storm Sewer Design – Open Channels

3.2.4.1 General

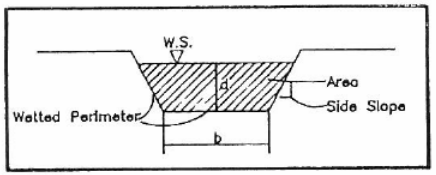
All roadways, alleys and parking lots shall be constructed so there is a minimum one (1) foot freeboard above the 100-year fully developed flood elevation and the edge of pavement/top of curb.

All channels shall have a minimum bottom width of six (6) feet and based on a maximum flow and a minimum flow line slope of one (1) percent. Side slopes of channels shall not be steeper than one (1) foot rise to four (4) feet horizontal distance. Where slopes are steeper than 4 to 1, the slopes shall be concrete lined for slope protection. In unlined open channels, the side slopes and channel slopes shall be such that erosion is controlled and the channel is stable. All channels shall be designed for a minimum of one (1) foot of freeboard at maximum design flow. Channels discharging into Lake Ray Hubbard must have City of Dallas approval and shall have inverts a minimum of two (2) feet below normal conservation pool level (435.5). Channels discharging into water courses shall have the same invert level as the water course.

The instructions for FORM 3.4: Open Drainage Channel Calculations Table, have been included in this section to facilitate the hydraulic design of an open channel.

INSTRUCTIONS FOR FORM 3.4: OPEN DRAINAGE CHANNEL CALCULATIONS

Column (1)	Downstream limit of the section of channel under consideration.
Column (2)	Upstream limit of the section of channel under consideration.
Column (3)	Type of channel as shown shall be either Type I natural unimproved channel, Type II unlined with maintenance section, (concrete pilot channel) or Type III, concrete lined channel.
Column (4)	Flow in the section of channel under consideration.
Column (5)	Roughness coefficient of the channel cross-section taken from TABLE 3.11.
Column (6)	Slope of the channel which is most often parallel to slope of the hydraulic gradient.
Column (7)	Square root of Column (6).
Column (8)	Calculation is made using the values in Columns (4), (5) and (7).
Column (9)	Assumed width of the bottom width of the channel.
Column (10)	Assumed depth of flow.
Column (11)	Assumed slope of the sides of the channel.
Column (12)	Area of flow which is calculated based on Columns (9), (10) and (11).
Column (13)	Wetter perimeter calculated from Columns (9), (10) and (11).
Column (14)	Value is calculated from Columns (12) and (13).
Column (15)	Column (14) raised to 2/3 power.
Column (16)	Product of Column (13) times Column (15).
When the value of Column (16) equals the value of Column (8) the channel has been adequately sized. When the value of Column (16) exceeds the value of Column (8) by more than five percent, the channel width or depth should be decreased and another trial section analyzed.	
Column (17)	Calculation is based on the values of Columns (4) and (12)
Column (18)	Calculation is based on Column (17)
Column (19)	Remarks concerning the channel section analyzed may be entered.



OPEN CHANNEL CALCULATIONS

PROJECT NAME _____ BY _____

LINE NAME _____ DATE _____

CHANNEL STATION From	CHANNEL STATION To	Channel Type	Flow "Q" (c.f.s.)	Roughness Coeff. "n"	Slope "S" (ft./ft.)	$"S^{1/2}"$	$\frac{Q \times n}{1.486 \times S^{1/2}}$	Width "b" (feet)	Depth "d" (feet)	Side Slope	Area "A" (sq.ft.)	Wetted Perimeter "WP" (feet)	Hydraulic Radius $"R" = \frac{A}{WP}$	$R^{2/3}$	$A \times R^{2/3}$	Velocity $V = \frac{Q}{A}$	Velocity Head $\frac{V^2}{2g}$ (ft.)	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Form 3.4: Open Channel Calculations Table

Table 3.11: Roughness Coefficients for Open Channels and Maximum Velocity

Channel Description	Roughness Coefficient Minimum	Normal	Maximum	Maximum Velocity
Minor Natural Streams - Type I Channel				
Moderately Well Defined Channel				
Grass and Weeds, Little Brush	0.025	0.030	0.033	8
Dense Weeds, Little Brush	0.030	0.035	0.040	8
Weeds, Light Brush on Banks	0.030	0.035	0.040	8
Weeds, Heavy Brush on Banks	0.035	0.050	0.060	8
Weeds, Dense Willows on Banks	0.040	0.060	0.080	8
Irregular Channel with Pools and Meanders				
Grass and Weeds, Little Brush	0.030	0.036	0.042	8
Dense Weeds, Little Brush	0.036	0.042	0.048	8
Weeds, Light Brush on Banks	0.036	0.042	0.048	8
Weeds, Heavy Brush on Banks	0.042	0.060	0.072	8
Weeds, Dense Willows on Banks	0.048	0.072	0.096	8
Flood Plain, Pasture				
Short Grass, No Brush	0.025	0.030	0.035	8
Tall Grass, No Brush	0.030	0.035	0.050	8
Flood Plain, Cultivated				
No Crops	0.025	0.030	0.035	8
Mature Crops	0.030	0.040	0.050	8
Flood Plain, Uncleared				
Heavy Weeds, Light Brush	0.035	0.050	0.070	8
Medium to Dense Brush	0.070	0.100	0.160	8
Trees with Flood State below Branches	0.080	0.100	0.120	8
Major Natural Streams - Type I Channel				
The roughness coefficient is less than that for minor streams of similar description because banks offer less effective resistance.				
Moderately Well Defined Channel	0.025	---	0.060	8
Irregular Channel	0.035	---	0.100	8
Unlined Vegetated Channels - Type II Channel				
Mowed Grass, Clay Soil	0.025	0.030	0.035	8
Mowed Grass, Sandy Soil	0.025	0.030	0.035	6
Unlined Non-Vegetated Channels - Type II Channel				
Clean Gravel Section	0.022	0.025	0.030	8
Shale	0.025	0.030	0.035	10
Smooth Rock	0.025	0.030	0.035	15
Lined Channels - Type II				
Smooth Finished Concrete	0.013	0.015	0.020	15
Riprap (Rubble)	0.030	0.040	0.050	12

3.2.5 Culvert Design

3.2.5.1 General

The design of culverts shall be sized for the design flood frequency of 100-yr fully-developed watershed. Culvert shall conform to the minimum freeboard of one (1) foot from the 100-yeat fully-developed water surface elevation and the edge of pavement/top of curb. The hydraulic calculations shall be entered into FORM 3.5, which is further described herein. If computer modeling software is used in culvert design such as HY-8, HEC-RAS, etc. all input and output parameters shall be included in the plans.

1. Information in the upper right of form:

- Culvert Location – This is a word description of the physical location.
- Length – The actual length of the culvert.
- Total Discharge, Q – This is the flow computed on FORM 3.1.
- Design Storm Frequency – 100-year storm
- Roughness Coefficient, n – value = 0.013.
- Maximum Discharge Velocity – Obtained from TABLE 3.12.
- Tailwater – This is the design depth of water in the downstream channel and is obtained in connection with the channel design performed on FORM 3.4.
- D.S. Channel Width – This is the bottom width of the downstream channel. The culvert should be sized to approximate this width whenever possible.
- Entrance Description – This is a listing of the actual condition as shown in the "Culvert Entrance Data" shown on the calculation sheet.
- Roadway Elevation – The elevation of the top of curb at the upstream end of culvert.
- U.S. Culvert F.L. – The flow line of the culvert at the upstream end.
- Difference – The difference in elevations of the roadway and the upstream flow line.
- Required Freeboard – The vertical distance required for safety between the upstream design water surface and the roadway elevation or such other requirements, which may occur because of particular physical conditions.
- Allowable Headwater – This is obtained by subtracting the freeboard from the difference shown immediately above.
- D.S. Culvert F.L. – The flow line elevation of the downstream end of the culvert.
- Culvert Slope, S – This is the physical slope of the structure calculated as indicated.

The instructions for FORM 3.5: Culvert Design Calculations Table have been included in this section to facilitate the hydraulic design of a culvert.

Table 3.12: Culvert Discharge Velocities

Culvert Discharges On	Maximum Allowable Velocity (f.p.s.)
Earth (Sandy)	6
Earth (Clay)	8
Sodded Earth	8
Concrete	15
Shale	10
Rock	15

*Velocities are based on actual velocity – partial or full flow

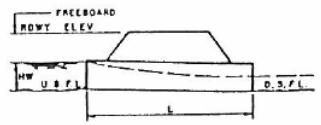
INSTRUCTIONS FOR FORM 3.5: CULVERT DESIGN CALCULATONS

Columns 1 through 10 deal with selection of trial culvert size and are explained as follows:	
Column 1	Total design discharge, Q, passing through the culvert divided by the allowable maximum velocity gives trial total area of culvert opening.
Column 2	Culvert width should be reasonably close to the channel bottom width, W, downstream of the culvert.
Column 3	Lower range for choosing culvert depth is trial area of culvert opening, Column 1 divided by channel width, Column 2.
Column 4	Allowable headwater obtained from upper right of sheet.
Column 5	Trial depth, D, of culvert corresponding to available standard sized and between the numerical values of Columns 3 and 4.
Columns 6, 7 and 8 are solved simultaneously based on providing a total area equivalent to the trial area of opening in Column 1.	
Column 6	Number of culvert openings.
Column 7	Inside width of one opening.
Column 8	Inside depth of one opening if culvert is box structure or diameter if culvert is pipe.
Column 9	Column 6 multiplied by Column 7 and Column 8.
Column 10	Total discharge divided by number of openings shown in Column 6.
Columns 11 through 15 (Inlet Control) and 16 through 27 (Outlet Control) deal with headwater calculations which verify hydraulics of trial culvert selected and are explained as follows.	
Column 11	Obtained from upper right of sheet.
Column 12	When the allowable headwater is equal to or less than the value in Column 8, enter Case I. When the allowable headwater is more than the value in Column 8, enter Case II.

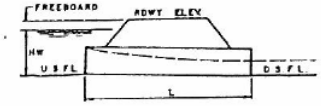
Column 13	Column 10 divided by Column 7.
Column 14	Obtained from FIGURE 3.22 for box culverts or FIGURE 3.23 for pipe culverts.
Column 15	Column 14 multiplied by Column 8.
Column 16	Obtained from upper part of sheet.
Column 17	Obtained from FIGURE 3.24 for box culverts and FIGURE 3.25 for pipe culverts.
Column 18	Tailwater depth from upper right of sheet.
Column 19	Culvert slope, S, multiplied by culvert length, both obtained from upper right of sheet.
Column 20	Sum of Columns 17 and 18, minus Column 19.
Column 21	Obtained from FIGURE 3.24 for box culverts and FIGURE 3.25 for pipe culverts.
Column 22	Critical depth obtained from FIGURE 3.26 for box culverts and FIGURE 3.27 for pipe culverts.
Column 23	Sum of Columns 22 and 8 divided by 2.
Column 24	Tailwater depth from upper right of sheet.
Column 25	Enter the larger of the two values shown in Column 23 or Column 24.
Column 26	Previously calculated in Column 19 and may be transposed.
Column 27	The sum of Columns 21 and 25 minus Column 26.
Column 28	Enter the larger of the values from either Column 15, Column 20 or Column 27. This determines the controlling hydraulic conditions of the particular size culvert investigated.
Column 29	When the Engineer is satisfied with the hydraulic investigations of various culverts and has determined which would be the most economical selection; the description should be entered.

CULVERT DESIGN CALCULATIONS

INLET CONTROL

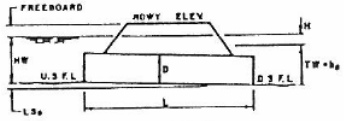


CASE I
INLET NOT SUBMERGED

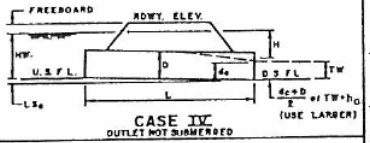


CASE II
INLET SUBMERGED

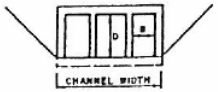
OUTLET CONTROL



CASE III
OUTLET SUBMERGED



CASE IV
OUTLET NOT SUBMERGED



TYPICAL BOX CULVERT

TYPICAL PIPE CULVERT

CULVERT ENTRANCE DATA

CONCRETE BOX CULVERT

TYPE	FLARE ANGLE	ENTRANCE EDGE	K_e
1A	30° to 75°	Square	0.4
1B	30° to 75°	Round	0.3
2A	15° to 30° & 75° to 90°	Square	0.5
2B	15° to 30° & 75° to 90°	Round	0.3
3A	0° (Extension of Sides)	Square	0.7
3B	0° (Extension of Sides)	Round	0.5

CONCRETE PIPE

or

TYPE	ENTRANCE DESCRIPTION	K_e
4	Spigot End With Headwall	0.5
5	Bell End With Headwall	0.2
6A	Bell End Projecting With No Headwall	0.3
6B	Spigot End Projecting With No Headwall	0.6

CULVERT LOCATION _____

LENGTH, L _____

TOTAL DISCHARGE, Q _____ DESIGN STORM FREQ. _____

ROUGHNESS COEFF., n _____ MAX. VEL. _____

TAILWATER _____ D.S. CHANNEL WIDTH _____

ENTRANCE DESCRIPTION _____

RDWY. ELEV. _____ U.S. CULV. F.L. _____

U.S. CULV. F.L. _____ D.S. CULV. F.L. _____

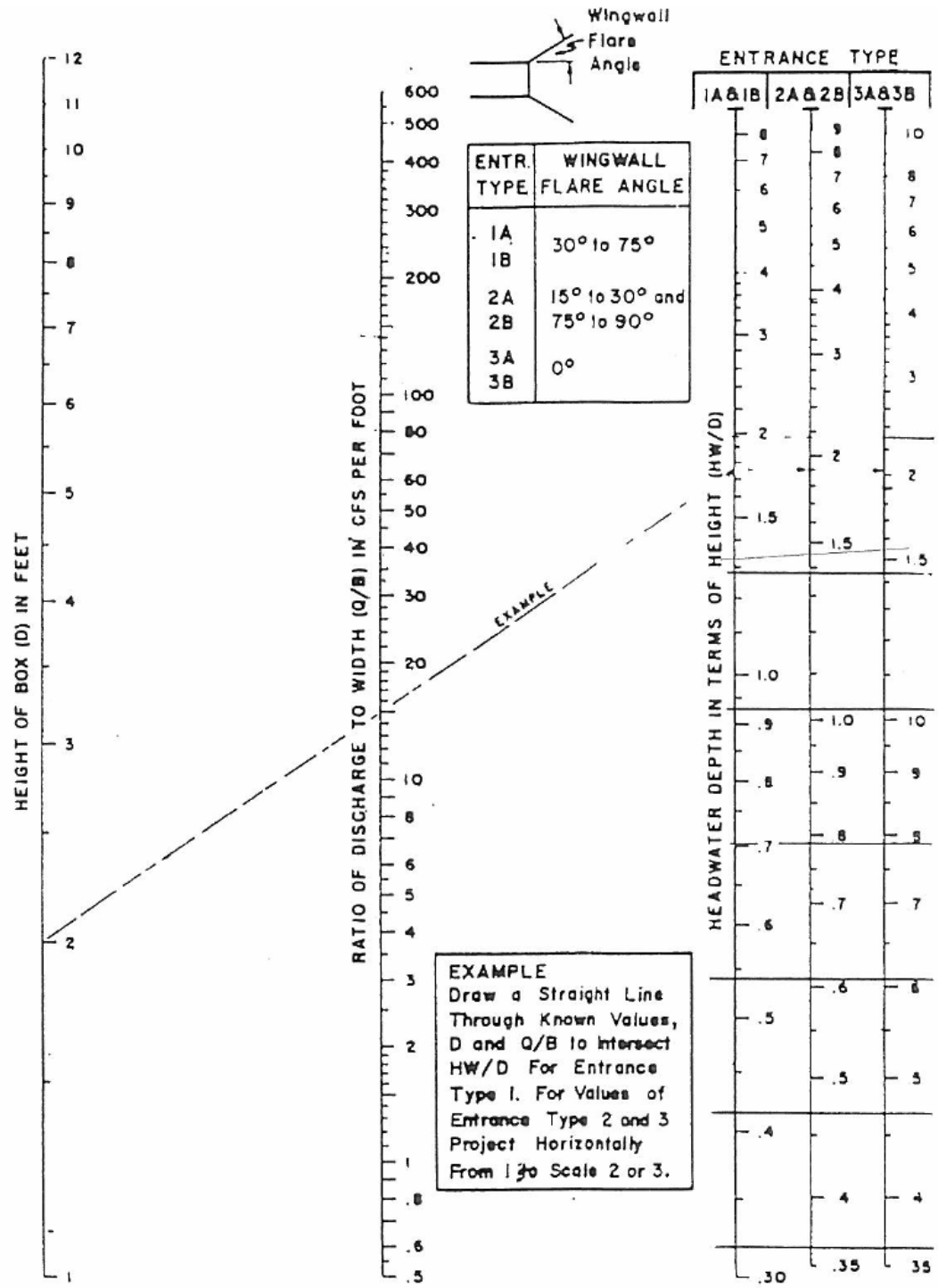
DIFFERENCE _____ DIFFERENCE _____

REQ'D. FREEBOARD _____ FT. CULV. SLOPE, $S_o = \frac{\text{DIFF. FT}}{\text{LENGTH FT.}}$

ALLOW. HEADWATER _____ FT. S_o = _____

Form 3.5: Culvert Design Calculations Table

TRIAL CULVERT					POSSIBLE CULVERT SIZES					HEADWATER CALCULATION: INLET CONTROL (See Figure 25 & 26)					OUTLET CONTROL (See Figure 27, 28, 29, & 30)													The Greater Controlling Head Water (Inlet or Outlet) (feet)	SELECTED CONDUIT SIZE
		DEPTH RANGE D.R.														CASE III $HW = H + TW - L \times S_o$ (feet)				CASE IV $HW = H + h_o - L \times S_o$ (feet)									
Trial Area of Opening $T \cdot A_c = \frac{Q}{V_{max}}$ (sq. ft.)	Channel Width "W" (feet)	$\frac{T \cdot A_c}{W}$ (feet)	AHW (feet)	Try Depth "D" (feet)	No. Openings	Width of Box "B" (feet)	Box Depth or Pipe Dia. "D" (feet)	Total Culvert Area "A_c" (sq. ft.)	"Q" Each Opening (c.f.s.)	Entrance Type	Case No.	$\frac{Q}{B}$ (c.f.s.)	$\frac{HW}{D}$ (figure 25 & 26)	HW	Entrance Coeff. K_e	"H" (feet) (figure 27 & 28)	"TW" (feet)	$L \times S_o$ (feet)	"HW" (feet)	"H" (feet) (figure 27 & 28)	$h_o = \frac{d_c+D}{2}$ or h_o = TW (use larger) d_c (figure 29 & 30) (feet)	$\frac{d_c+D}{2}$ (feet)	TW (feet)	h_o (feet)	$L \times S_o$ (feet)	"HW" (feet)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29



BUREAU OF PUBLIC ROADS JAN 1963

HEADWATER DEPTH FOR CONCRETE BOX CULVERT WITH INLET CONTROL

Figure 3.22: Headwater Depth for Concrete Box Culvert with Inlet Control

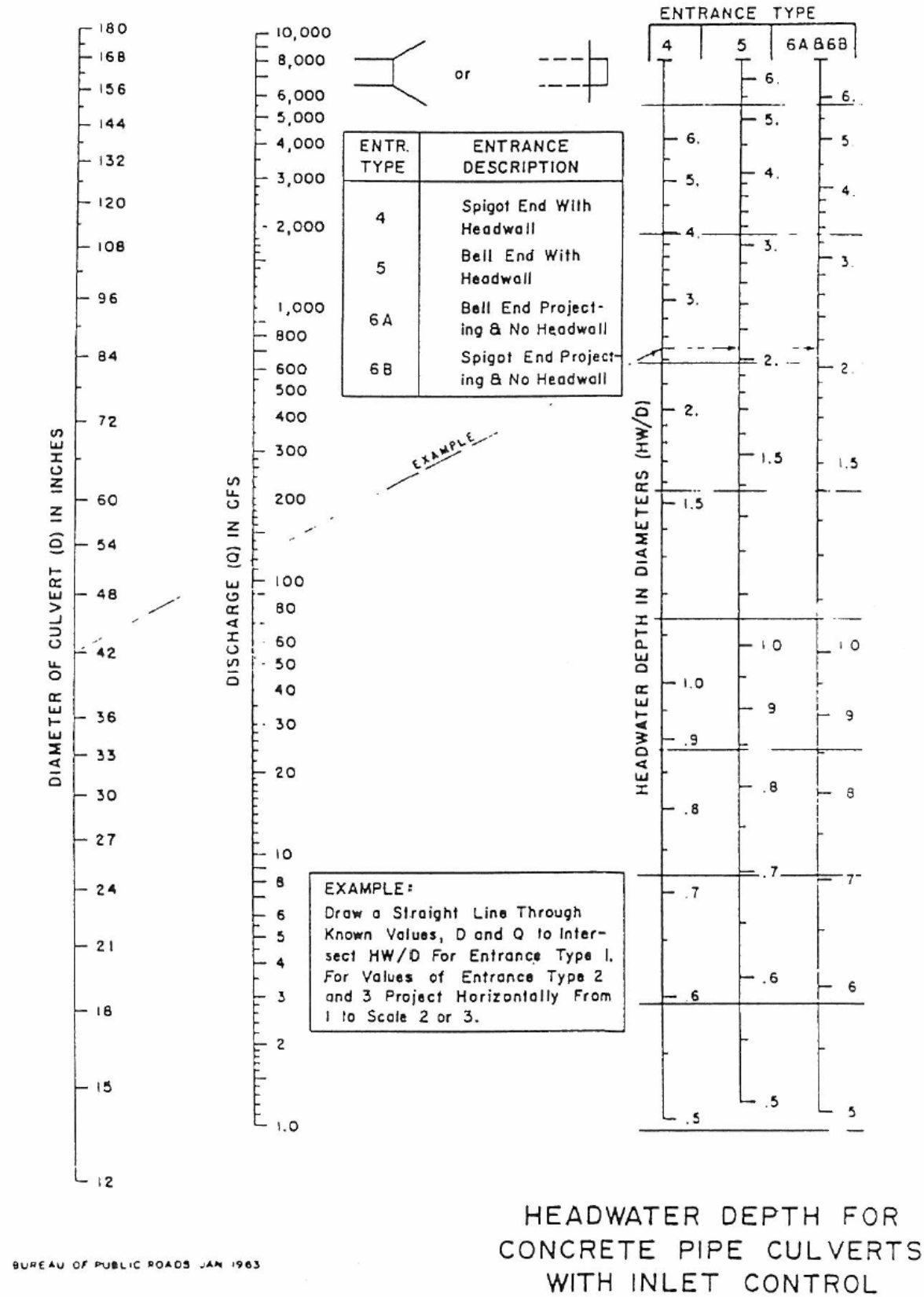
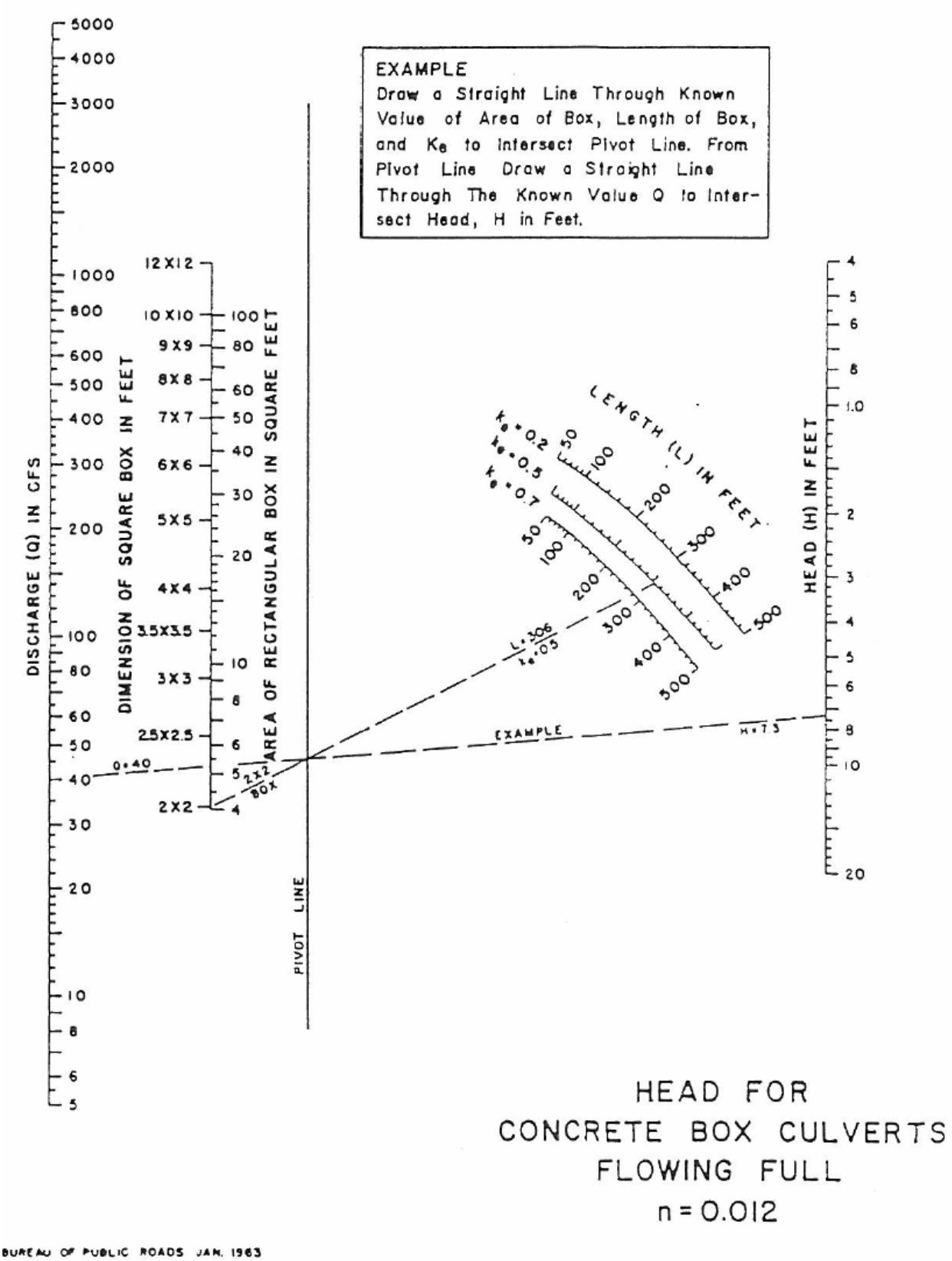


Figure 3.23: Headwater Depth for Concrete Pipe Culvert with Inlet Control



BUREAU OF PUBLIC ROADS JAN. 1963

Figure 3.24: Head for Concrete Box Culvert Flowing Full

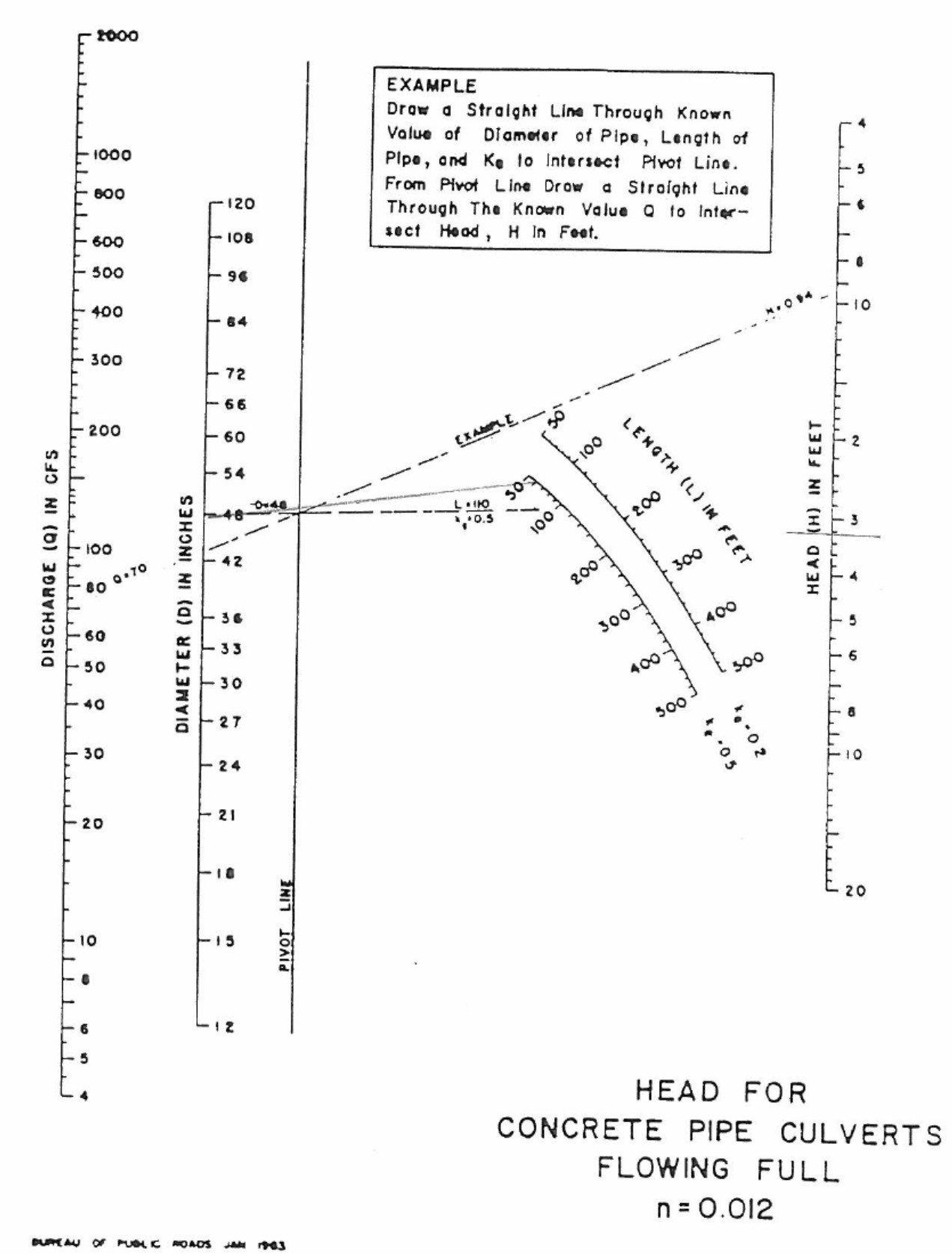


Figure 3.25: Head for Concrete Pipe Culverts Flowing Full

EXAMPLE

Known:

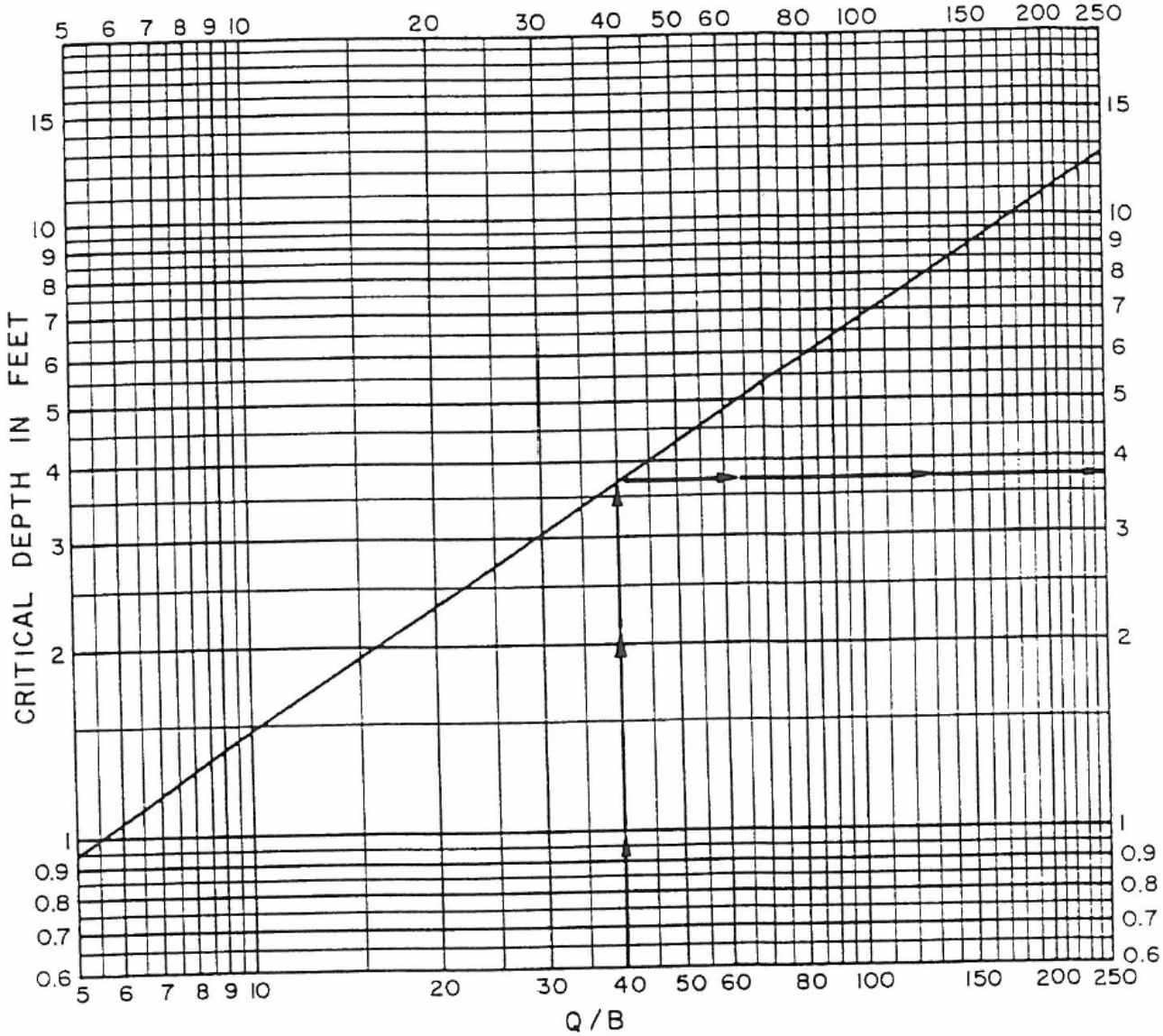
Discharge = 200 c.f.s.
Width of Conduit = 5'
Q/B = 40

Find:

Critical Depth

Solution:

Enter Graph at Q/B = 40
Intersect Critical Depth
at 3.7



CRITICAL DEPTH
OF FLOW FOR
RECTANGULAR CONDUITS

Figure 3.26: Critical Depth of Flow for Rectangular Conduits

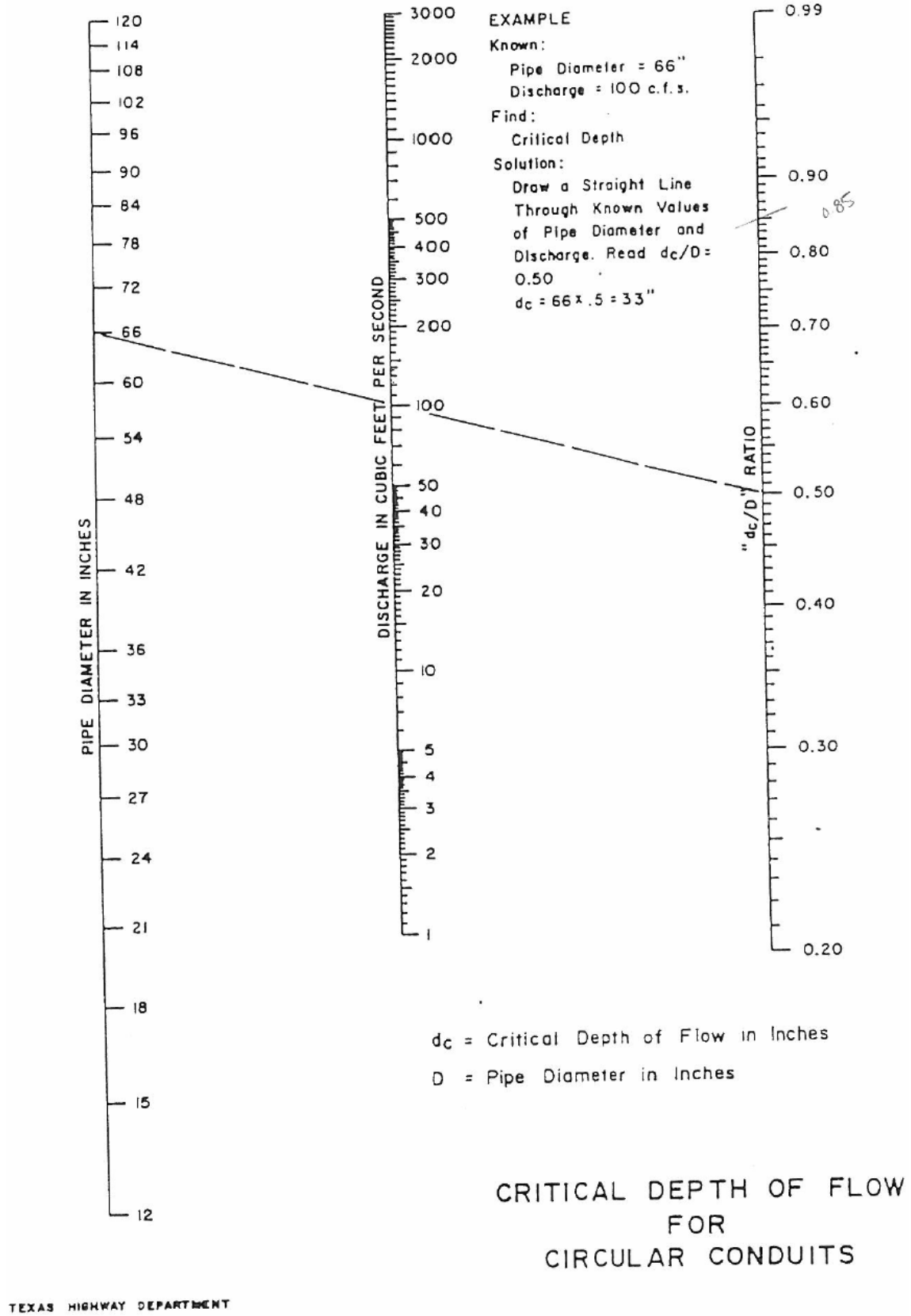


Figure 3.27: Critical Depth of Flow for Circular Conduits

3.2.6 Bridge Design

A. Bridges shall be designed to safely pass the 100-yr projected fully developed flood with a one (1) foot freeboard from the lowest point of the bridges low chord.

B. A scour analysis shall be performed and submitted in the design plans.

C. The 100-yr projected fully developed water surface elevation shall not be increased upstream and downstream of the bridge.

3.2.7 Erosion Hazard Setback

3.2.7.1 Definition and Purpose

Erosion hazard setbacks shall be determined for every stream and creek (flowing or not) in which natural channels are to be preserved. The purpose of this erosion hazard setback is to reduce the potential for any damage to a private lot, building, or street right-of-way caused by the natural erosion of the creek bank and to minimize the expenditure of public funds for stream bank stabilization projects. The erosion hazard setback shall be included within the drainage easement and its own lot and block that is maintained by the property owner for the stream/creek for any property plat or re-plat.

3.2.7.2 Determination

The erosion hazard setback shall be determined by the following steps:

- Locate the toe of the natural stream bank. The toe may be located outside of the low flow channel.
- Project at a 4(H):1(V) line sloping away from the center of the creek/stream until it intersects natural ground or the new proposed elevation, whichever results in the greater setback.
- From this intersecting point continue an additional 15 feet away from bank. This shall set the limit of the erosion hazard setback.
- In certain scenarios the calculated erosion hazard setback is within the 100-yr floodplain. In these scenarios the erosion hazard setback shall be set to 10 feet beyond the 2 foot of freeboard elevation for the 100-yr floodplain.

The typical erosion hazard setback established by steps above is shown in Figure 3.28.

3.2.7.3 Non-Permitted Structures

The following are non-permitted structures within the erosion hazard setback: building, wall, parking lot, driveway, fences, decks, swimming pools, signage, monumentation or other structures.

3.2.7.4 Modifications

Any modifications to the erosion hazard setback will require the following items and approval by the City Engineer:

- A geotechnical and stream geomorphological stability analysis signed and sealed by a licensed professional geotechnical engineer within the State of Texas.
- Structural plans, calculations and report of the permanent stream bank stabilization measures signed and sealed by a licensed professional structural engineer within the State of Texas.
- Grading permit.
- Adequate access to maintain the stream bank stabilization measures indefinitely.

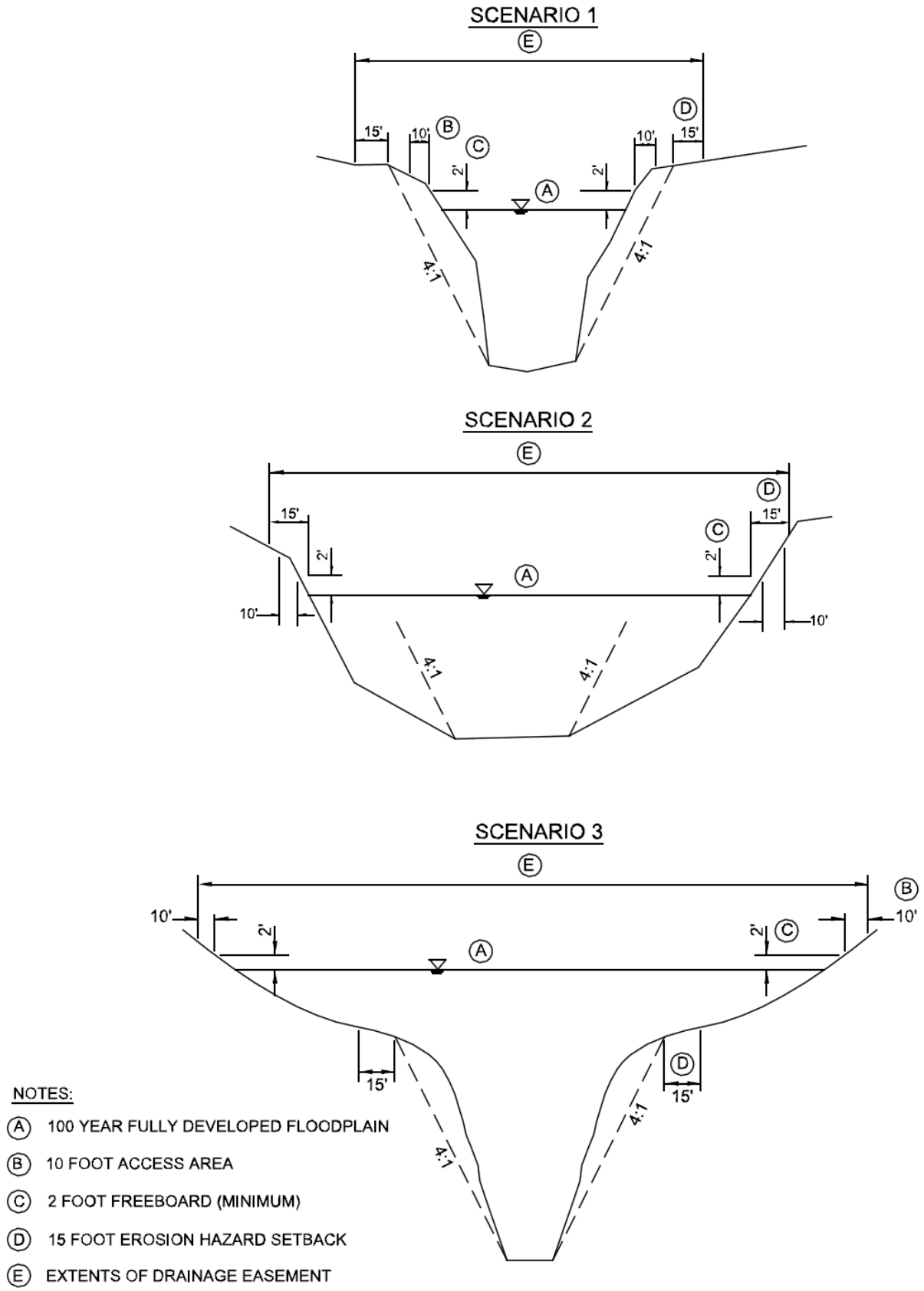


Figure 3.28: Erosion Hazard Setbacks and Drainage Easements

3.3 Detention

3.3.1 Intent

It is the City's intent to utilize detention (or detention/retention) of storm water runoff as a solution towards control of potential hazards created by storm water runoff including; reduction in the impact on downstream storm water facilities; prevention of erosive conditions in water drainage ways; protect downstream and adjacent property damage; and preservation of existing floodplains along major creeks. Detention basins may also improve water quality by allowing some sediment to settle out.

3.3.2 Where is Detention Required?

A. All non-residential development (not within the Downtown Zoning District or other redevelopment areas that will not impact the storm water flow) shall construct detention facilities.

B. Residential developments shall construct detention facilities if it is determined that the downstream system does not have capacity for the developed flow and the capacity of the downstream system cannot be increased to allow the conveyance of the developed flows.

C. *All development within the Squabble Creek drainage basin will construct detention facilities and provide a flood study using hydrology and hydraulic models, to prove that the proposed development will not cause any increase in peak flood discharge rates and flood elevations at all points along Squabble Creek downstream to Lake Ray Hubbard.

3.3.3 Type of Detention Facilities

The following detention facilities are to be utilized for detention.

3.3.3.1 Site of ½ Acre or Less

A. Underground
B. On concrete Parking Surface (max 1-foot water depth)

3.3.3.2 Site of Greater Than ½ Acre, On-site

A. Underground
B. On concrete Parking Surface (max 1-foot water depth)
C. Detention Basin
   - Side Slopes 4 to 1, or Less (no fencing allowed)
   - Area to be Landscaped
   - Maintained by Developer
   - Additional Amenities Preferred
   - Ownership Stays With Property Owner
   - Dams Over 5-foot to be approved by State. Dam must meet state dam safety guidelines.

3.3.3.3 Greater Than ½ Acre, Off-site Shared

A. Detention Basin Shared with Other Developments
- May Expand Existing Pond
- No Increase in 100-year Flood Plain Elevation
- Capacity Expanded Above Existing Water Surface
- Need Engineering Study

B. Flow to Regional Detention Basin
- Regional Facility Manager (owner of facility) Must Approve Improvements
- Developer/s Funds Improvements to Regional Basin
- Developer/s Improves Storm Water Conveyance System to Basin (based on developed 100-year flow)
- Dams Over 5-foot to be approved by State. Dam must meet state dam safety guidelines.
- Dam Cannot be Over 15-feet
- Basins with Water Retention to have Stored Water Depth of at Least 4-feet
- Need Landscaping and Amenity Features (Approved by Planning Dept.)
- Facility Manager to Assure Good Retained Water Quality
- Trash Collectors Required at Outfall Structures
- Side Slopes to be 4 to 1 or Less
- Developer/Owner Owns and Maintains Basin
- Facility Manager to Develop and Perform Maintenance Program
- Underground (preferred); Natural Open Channel (existing creek with 100-year developed capacity); Developer/s to Obtain Additional Drainage Easement for 100-year Developed Flow Area; No Concrete or Gabion Sidewalls
- Possible Pro-rata from Other Developments that Utilize Basin

C. Existing Lake
- Lake Manager Must Approve
- Developer/s Fund Improvements to Lake
- Developer/s Improves Storm Water Conveyance System to Lake (developed 100-year flow): Underground (preferred); Natural Open Channel (existing creek with developed 100-year capacity); Developers to Obtain Additional Drainage Easement for 100-year Developed Flow Area; No Concrete or Gabion Channel Sidewalls
- Additional Storage Out of 100-year Storage

3.3.3.4 Existing Ponds

A. Developer/s Improve Existing Undesirable Detention Facilities
- Remove Fencing Where Possible
- Provide Concrete Flume in Bottom
- Provide Landscaping

- Improve Maintenance Access
- Reconstruct with Underground System
- Remove Pond by Conveying Storm Water Flow to Shared Detention Facility

3.3.4 Geometry, Restrictions and Appurtenances

A. Detention ponds shall have a side slope 4:1 or flatter.

B. The detention pond bottom grade shall be at a minimum of 1% slope. A 4-inch thick concrete low flow flume shall be installed from the ponds inlet structure/structures to the outfall structure.

C. All detention ponds and associated embankments/dams shall have two (2) feet freeboard from the 100-year water surface, including incised ponds (without embankment/dams).

D. Dams over 5-foot to be approved by State. Dam must meet state dam safety guidelines.

E. No detention allowed in FEMA and local 100-yr fully developed floodplain.

F. No detention allowed with outlet elevation below a receiving stream's or channel's 100-yr fully developed flood elevation.

G. No franchise utilities (Gas, Electric, Cable, Telephone, Communications, etc.), water lines and wastewater lines (except storm systems) are allowed in detention ponds, and detention easements.

H. Underground detention systems must be a fully enclosed pipe system.

I. Pond shall have an emergency overflow in case the main outfall structure gets clogged. The emergency overflow shall be sized to pass the 100-year flood. City approved erosion protection shall be placed along the length of the emergency overflow to the flowline of the receiving structure, creek or channel.

J. The detention systems are to be installed and verified for design compliance along with the associated storm sewer and outfall structures and drainage channels, prior to any paving operations. All detention ponds, drain ways, and open channels shall have the sides and bottom stabilized with sod or anchored seeded matting prior to any paving construction (including building slab). The matting or sod shall be anchored at high velocity locations if deemed necessary. Erosion protection is to be placed at the ponds outflow structure along with any the associated erosion BMP's noted on the erosion control plan

K. Sometimes a detention facility will be utilized by several developments, and then a pro-rata agreement may be entered into with the development constructing the facility and the other developments utilizing the facility.

3.3.5 Detention Calculations

The detention design calculations and outfall rating curves shall be included in the plans. Increased peak discharges from the detention basin are not allowed for the 5-year, 10-year, 25-year and 100-yr frequency floods.

3.3.5.1 Methodology

Detention facilities that have a drainage area of 20 acres or less can be sized using the Modified Rational Method. If the drainage area is greater than 20 acres then the Unit Hydrograph Method shall be used. The Modified Rational method may be used for drainage areas more than 20 acres but the Unit Hydrograph Method must be performed as a comparison. The more conservative of the two methods shall be used to design the pond.

The following conditions shall be used below when implementing the Modified Rational Method.

A. The proposed development will construct detention facilities to detain the increase in runoff between the existing 100-year flows (C-undeveloped, T_C = 20 minute) and the fully developed flows (C – depends on zoning, T_C = 10 minute). The "C" value is based on zoning, not pervious/impervious areas. Large area of dedicated open space dedicated to City can be considered by City in this value.

B. Storm rainfall intensity (in/hr) for different storm years shall be as follows:

	100 year	50 year	25 year	10 year	5 year	2 year
10 min	9.8	9.0	8.3	7.1	6.1	5.3
15 min	9.0	8.1	7.5	6.5	5.5	4.5
20 min	8.3	7.5	6.6	5.9	4.9	3.9
30 min	6.9	6.1	5.5	4.8	4.1	3.3
40 min	5.8	5.2	4.6	4.0	3.4	2.6
50 min	5.0	4.5	4.0	3.5	2.8	2.3
60 min	4.5	3.9	3.5	3.0	2.6	1.9
70 min	4.0	3.7	3.3	2.8	2.4	1.8
80 min	3.7	3.5	3.1	2.6	2.3	1.7
90 min	3.5	3.3	2.9	2.5	2.1	1.6
100 min	3.4	3.0	2.7	2.4	1.9	1.5
110 min	3.2	2.9	2.5	2.3	1.8	1.4

C. The following is an example calculation on how the Modified Rational Method is performed to determine detention volume:

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN

Given: A 10-acre site, currently agricultural use, is to be developed for townhouses. The entire area is the drainage area of the proposed detention basin.

Determine: Maximum release rate and required detention storage.

Solution:

1. Determine 100-year peak runoff rate prior to site development. This is the maximum release rate from site after development.

NOTE: Where a basin is being designed to provide detention for both its drainage area and a by-pass area; the maximum release rate is equal to the peak runoff rate prior to site development for the total of the areas minus the peak runoff rate after development for the by-pass area. This rate for the by-pass area will vary with the duration being considered.

2. Determine inflow hydrograph for storms of various durations in order to determine maximum volume required with release rate determined in Step 1.

NOTE: Incrementally increase durations by 10 minutes to determine maximum required volume. The duration with a peak inflow less than maximum release rate or where required storage is less than storage for the prior duration is the last increment.

PROCEDURE

STEP 1. Present Conditions (Agricultural)

$Q = C*I*A$
$C = 0.35$
$T_c = 20$ minutes
$I_{100} = 8.3$ in/hr
$Q_{100} = (0.35)(8.3)(10 \text{ acres}) = 29.05$ cfs (Maximum release rate)

STEP 2. Future Conditions (Townhouses)

$C = 0.80$
$T_c = 10$ minutes
$I_{100} = 9.8$ in/hr
$Q_{100} = (0.80)(9.8)(10 \text{ acres}) = 78.40$ cfs

Check various duration storms:

15 minutes	I = 9.0 Q = (0.80)(9.0)(10 acres) = 72.0 cfs
20 minutes	I = 8.3 Q = (0.80)(8.3)(10 acres) = 66.4 cfs
30 minutes	I = 6.9 Q = (0.80)(6.9)(10 acres) = 55.2 cfs
40 minutes	I = 5.8 Q = (0.80)(5.8)(10 acres) = 46.4 cfs
50 minutes	I = 5.0 Q = (0.80)(5.0)(10 acres) = 40.0 cfs
60 minutes	I = 4.5 Q = (0.80)(4.5)(10 acres) = 36.0 cfs
70 minutes	I = 4.0 Q = (0.80)(4.0)(10 acres) = 32.0 cfs
80 minutes	I = 3.7 Q = (0.80)(3.7)(10 acres) = 29.6 cfs
90 minutes	I = 3.5 Q = (0.80)(3.5)(10 acres) = 28.0 cfs
100 minutes	I = 3.4 Q = (0.80)(3.4)(10 acres) = 27.2 cfs
110 minutes	I = 3.2 Q = (0.80)(3.2)(10 acres) = 25.6 cfs

Maximum Storage Volume is determined by deducting the volume of runoff released during the time of inflow from the total inflow for each storm duration.

10 min Storm	Inflow = (10)(78.4 cfs)(60 sec/min)	= 47,040 cf
	Outflow=(0.5)(20 min)(29.05 cfs)(60 sec/min)	= 17,430 cf
		= 29,610 cf
15 min Storm	Inflow = (15)(72.0 cfs)(60 sec/min)	= 64,800 cf
	Outflow = (0.5)(25 min)(29.05 cfs)(60 sec/min)	= 21,788 cf
		= 43,012 cf
20 min Storm	Inflow= (20)(66.4 cfs)(60 sec/min)	= 79,680 cf
	Outflow= (0.5)(30 min)(29.05 cfs)(60 sec/min)	= 26,145 cf
		= 53,535 cf
30 min Storm	Inflow = (30)(55.2 cfs)(60 sec/min)	= 99,360 cf
	Outflow = (0.5)(40 min)(29.05 cfs)(60 sec/min)	= 34,860 cf
		= 64,500 cf
40 min Storm	Inflow = (40)(46.4 cfs)(60 sec/min)	= 111,360 cf
	Outflow = (0.5)(50 min)(29.05 cfs)(60 sec/min)	= 43,575 cf
		= 67,785 cf
50 min Storm	Inflow = (50)(40.0 cfs)(60 sec/min)	= 120,000 cf
	Outflow = (0.5)(60 min)(29.05 cfs)(60 sec/min)	= 52,290 cf
		= 67,710 cf
60 min Storm	Inflow = (60)(36.0 cfs)(60 sec/min)	= 129,600 cf
	Outflow = (0.5)(70 min)(29.05 cfs)(60 sec/min)	= 61,005 cf
		= **68,595 cf**
70 min Storm	Inflow = (70)(32.0 cfs)(60 sec/min)	= 134,400 cf
	Outflow =(0.5)(80 min)(29.05 cfs)(60 sec/min)	= 69,720 cf

		= 64,680 cf
80 min Storm	Inflow = (80)(29.6 cfs)(60 sec/min)	= 142,080 cf
	Outflow = (0.5)(90 min)(29.05 cfs)(60 sec/min)	= 78,435 cf
		= 63,645 cf
90 min Storm	Inflow = (90)(28.0 cfs)(60 sec/min)	= 151,200 cf
	Outflow = (0.5)(100 min)(29.05 cfs)(60 sec/min)	= 87,150 cf
		= 64,050 cf
100 min Storm	Inflow = (100)(27.2 cfs)(60 sec/min)	= 163,200 cf
	Outflow = (0.5)(110 min)(29.05 cfs)(60 sec/min)	= 95,865 cf
		= 67,335 cf
110 min Storm	Inflow = (110)(25.6 cfs)(60 sec/min)	= 168,960 cf
	Outflow = (0.5)(120 min)(29.05 cfs)(60 sec/min)	= 104,580 cf
		= 64,380 cf

Maximum volume required is **68,595 cf** at the 60 min. storm duration.

3.3.5.2 Outfall Structures

Detention out fall structure shall be multi-staged and designed to detain the 5-yr, 10-yr, 25yr and 100-yr storm events without increasing the peak discharge. A chart shall be furnished by the design engineer showing the allowable flows verses the actual flows through the detention pond outflow structure for 5-yr, 10-yr, 25-yr, and 100-yr storm events.

Outfall Structures shall be designed in accordance to the equations established in Hydraulic Engineering Circular No. 22, Urban Drainage Design Manual (HEC-22). The Engineer shall include all calculations/ equations for the outfall structure in the plans, including each stage of the structure (5-yr, 10-yr, 25-yr, and 100-yr storm events).

City approved erosion protection shall be placed around the outfall structure and shall extend downstream the entire flow path length to the flowline of the receiving structure, creek or channel. The erosion protection shall extend to 2 feet above the 100-yr water surface elevation.

3.4 Floodplain Reclamation and Modification

All floodplain reclamation, modification and design shall meet the following guidelines set forth in this section and the most current Flood Hazard Damage Prevention and Control Ordinance.

A. The licensed professional engineer in the State of Texas shall provide a statement in writing certifying (signed and sealed) that the hydrologic and

hydraulic study is based on standard engineering practice, that the project is constructed as planned, that there will be no adverse increases in flooding on other properties and that all parts of the current Flood Hazard Damage Prevention and Control Ordinance are met.

B. Flood studies shall follow the procedures for hydrologic and hydraulic modeling set by FEMA for obtaining LOMR or CLOMR. These procedures shall be performed even for studies not being submitted to FEMA.

C. Floodplains shall be modeled using standard practice engineering models such as TR-20, HEC-1, or HEC-HMS for hydrology and flood routing, and HEC-2 and HEC-RAS for hydraulics. The use of computer modeling software that is not public domain will require approval by the City Engineer.

D. All design elevations shall be based on computed flood elevations using flood discharges for 100-year projected fully-developed watershed conditions.

E. All flood study models shall utilize the most current available models from the City or FEMA as base models and shall incorporate all additional modifications that have occurred since the last update to the study.

F. Results of hydrology and floodplain hydraulic computer models shall be summarized in tabular form, to show differences in computed 100-year flood discharges and flood elevations. The computer model results to be included in the comparison tables include:

   a. The original effective base models, if available, as provided by the City or FEMA.

   b. Improved modeling procedures may be allowed and included, such as conversion of original models to newer versions of computer modeling software, such as conversion of HEC-2 models to HEC-RAS. Conversion to computer software that is not free public domain software or that is not on FEMA's approved list of computer modeling software must receive approval by the City Engineer.

   c. Corrected models to include any improved data or needed corrections, such as new surveyed floodplain cross sections, inclusion of additional cross sections, or improved topographic mapping.

   d. Pre-project hydrologic and hydraulic models, to update the computer models by adding other man-made changes that have occurred in the watershed and floodplain since the date of the original effective base models.

e. Post-project hydrologic and hydraulic models, to include all changes that are included in the pre-project models, plus hydrologic and hydraulic characteristics that are representative of changes based on the project's final completed construction.

Hydrologic and hydraulic computer modeling must be provided for both existing watershed conditions and projected fully-developed watershed conditions. When construction of a project will be in phases, the City Engineer may require flood studies be submitted for each phase.

G. Digital models, supporting calculations, drainage area maps, and floodplain boundary maps shall be submitted to the City for review.

H. In order for the City to maintain and update their hydrology and hydraulic computer models, after construction is completed, the developer's engineer must update their hydrology and hydraulic models, along with all supporting calculations, maps, and other exhibits to adequately represent as-built conditions and submit to the City. If the project has been submitted to FEMA, the updated models should include all modifications approved by FEMA.

3.5 Storm Drainage Management Plan

3.5.1 General

Storm drainage facilities shall include all elements of a drainage system consisting of streets, alleys, storm drains, channels, culverts, bridges, swales and any other facility through which or over which storm water flows, all of which the City must have a right in, either in the form of a dedicated right-of-way, floodway or drainage easements.

3.5.2 Site Drainage

All new subdivisions shall provide as part of the subdivision review process a complete storm drainage management plan. This plan will include, but not be limited to, the following: a complete review of all on-site, upstream and downstream drainage within the impacted watershed; determine all on-site and downstream drainage facility improvements due to the increased runoff from the proposed development and future upstream and downstream developments; and contain calculations necessary to determine compliance with the Standards of Design herein. Detention will be required if the downstream storm system is not capable of handling the proposed drainage flows. The plan shall be done, using current zoning conditions or land use prescribed by the City's Land Use Plan (whichever creates the greatest storm water runoff), with maximum development considered throughout the watershed. The storm drainage plan shall show all necessary improvements with flow data provided at each point of interception of water. As part of the storm drainage plan, the developer shall show a lot grading plan to direct all water to proper intersection points avoiding cross flow of water from lot to lot.

All upstream discharge shall be intercepted and carried through the proper intersection points avoiding cross flow of water from lot to lot. All upstream discharge shall be intercepted and carried through the proposed development in compliance with the Standards of Design herein. All discharge from the proposed development shall be designed in accordance with the Standards of Design herein with all necessary improvements being installed by the developer to protect downstream property and adjacent properties from damage. The determination of necessary improvements to existing drainage facilities downstream of a proposed development shall be reviewed by the City Engineer for compliance and adequacy. Deviations from the City Engineer's recommendations and the Standards of Design herein may be approved through the requesting and granting of a variance by the City Council. If a storm drainage plan has been completed prior to new proposed development in question, the developer may use this plan if the City Engineer deems the existing plan is adequate.

3.5.3 Subdivision Development

All subdivision developments shall be built in complete compliance with a storm drainage plan as outlined herein. All lots shall be graded at the time of development in accordance with the plan. All grading shall not exceed a slope of 3 to 1 unless approved by the City Engineer. In applicable situations, the City Engineer may require 4 to 1 slope or greater. Approved erosion control shall be provided as part of the development construction on any or all lots within the development to protect the drainage, lot development and adjacent property.

3.5.4 Construction Erosion Controls

Construction Erosion Controls shall follow the guidelines set out in NCTCOG's iSWM™ Technical Manual: Construction Controls April 2010, Revised 9/2014 or more recent revision.

In order to address the requirements of pollution reduction at construction sites, a variety of controls should be employed to reduce soil erosion, reduce sediment loss from the site, and manage construction-generated waste and construction related toxic materials. Controls consist of both temporary and permanent methods to reduce pollution from a construction site. The majority of controls address loss of soil from the site. Soil loss in the form of erosion and sediment due to storm events and wind constitute the majority of pollution generated from construction sites. Controls that address erosion and sediment are typically more site specific than waste and toxics management. Erosion and sediment controls are dependent on site slopes, drainage patterns and drainage quantities along with other site-specific conditions. Materials and waste management consists primarily of "good housekeeping" practices which are dependent on the type of construction and the quantity and type of building materials.

Control measures shall follow the control selection guide set forth in the iSWM manual. Control measures from each of the three categories; Erosion Controls, Sediment Controls and the Material and Waste Controls shall be used in the design of an Erosion Control Plan for a site. Standard details called out in Division 1000 of NCTCOG's Standard Specifications and Standard drawing shall be utilizes as well in the development of an erosion control plan.

1. Construction Entrance:

No crushed concrete is allowed and rock must be a minimum of twelve (12) inches thick using well graded rock with minimum diameters of four (4) to six (6) inches.

2. Silt Fence:

No wooden stakes to be allowed on any erosion control device.

3. Performance:

Erosion from construction sites can be a significant water quality problem. Developing areas are cleared of vegetation during construction leaving the soil exposed and susceptible to erosion. Runoff then transports eroded sediment from these areas and deposits it downstream. The accumulation of silt in streams and ponds is a form of water pollution that is unattractive and impedes drainage.

Prevention is a key aspect of erosion control. Many of the control methods presented herein can be placed in a manner that will protect highly erodible areas such as steep slopes. The prevention of erosion requires prior planning to ascertain the placement of selected control methods. The rewards of this planning will be a significant reduction in soil loss. Not only can soil loss be prevented, but eroded soil can be recovered on the construction site and used for fill.

The particulate material in construction site runoff is generally heavier and larger than particulates in urban runoff. These attributes facilitate the removal of the material whether the removal is by settling in a sediment trap or by filtration through a filter fence. Temporary sediment traps, filters and routing devices an effectively control erosion for construction sites if properly applied. These methods are even more effective when permanent management techniques are used in an effort to control temporary increases in sediment loads.

3.5.5 Lot Development

All lot developments shall include a drainage plan preventing all diversion of water from the approved path of discharge. The builder at the time of permit application shall furnish a grading plan in compliance with the appropriate chapter of the building code adopted by the City, the grading plan for the development and the storm drainage plan approved for that particular development. If the re-grading of a lot is necessary, the builder shall be required to furnish a new drainage plan indicating the diversion and rerouting of the affected storm water. When the re-grading of a lot prevents the drainage from flowing to the proper structures as designated in the drainage plan, then the builder will furnish a registered engineer's review for adequacy of existing structures to which the water is diverted. If improvements are necessary to provide for adequate drainage due to re-grading of a lot, then the improvement must be made at the builder's expense before a grading permit or other permits for construction will be issued by the City. The City Engineer will review the information submitted for compliance with the approved grading and drainage management plan. Accepted City streets are not to be used as an erosion control. No inlet protection is allowed in an accepted City street.

A. Off-Site Cost Sharing: The developer shall be fully responsible for the construction of off-site drainage improvements necessary for his subdivision and the surrounding area, unless other provisions are approved by the City Council. Provisions for reimbursement of cost in excess of those necessary to serve his subdivision, and any other provisions, shall be made a part of a facilities agreement. For any subsequent subdivision utilizing such facilities, any cost due prior developers shall be pro-rated based on the increased contribution of storm water runoff. Such pro-rated amounts shall be made a part of any subsequent agreement, collected by the City and repaid to the original developer making such improvements.

   The original developer shall provide the City with acceptable documentation of actual construction cost from which calculation of reimbursable amounts will be made for inclusion in the facilities agreement.

B. Exemptions: when a development is of two lots or less and in the City Engineer's opinion does not affect existing drainage facilities or affect the adjacent property, the City Engineer may allow the developer to waive any off-site pro-rata costs.

C. All City right-of-ways shall be sodded if disturbed. No artificial grass is allowed in any City right-of-way and/or easements.

D. Before Acceptance of Streets and Alleys silt fencing shall be placed at the back of curb/edge of all pavement.

4. VEGETATION

4.1 General

All seeding, sodding and fertilizer requirements are to be done in accordance with the North Central Texas Council of Governments (NCTCOG) Standards and Specifications (Under Item 202) as modified by the City of Rockwall – Item 202

4.2 Coverage

The developer shall establish grass and maintain the seeded area, including watering, until a "Stand of Grass" is obtained at which time the project will be accepted by the City. A "Stand of Grass" shall consist of 75% to 80% coverage and a minimum of one-inch (1") in height as determined by the City. Re-seeding will be required in all washed areas and areas that don't grow.

All City right-of-ways shall be sodded if disturbed. No artificial grass is allowed in any City right-of-way and/or easements.

4.3 Planting Season

Type I	Bermuda Grass – Hulled 50 lbs./acre, April through June
Type II	Annual Rye Grass 40 lbs./acre, September through March
Type III	Bermuda Grass – Unhulled 50 lbs./acre, January through March and July through August

A mix of seed shall be used in overlapping planting seasons.

4.4 Additional Information

No tree shall be planted within five (5) feet (horizontal dimension) of any public utility.

If trees are approved by Zoning to be within the right-of-way then a City approved root barrier will be required to be installed in order to keep roots from degrading the pavement structure.

Vegetation over two feet in height shall not be planted in any visibility easement or potential sight visibility (including medians).

5. WATER SYSTEM

5.1 General

The design and construction of the water system to serve the development shall be in accordance with good engineering principles, with these Standards of Design, the Standard Specifications for Construction and the Standard Details and with the requirements of the Texas Commission on Environmental Quality (TCEQ). All off-site water mains shall be sized and located to conform to projected demands in accordance with the latest Water Master Plan and the computer model with regard to the impact of each development on the existing and proposed watersystem. No construction shall commence prior to the approval of the plans and specifications by the City.

All facilities shall be sufficient size to provide adequate capacity for ultimate development as called out in the latest copy of the Water Master Plan. The water mains shall be sized to meet the maximum instant domestic requirements plus an appropriate allowance for fire protection water. The design criteria for water demand shall be submitted to the City with the plans and specifications. The City reserves the right to require larger water mains than required for the proposed development in order to provide capacities for areas outside the development. The developer will be responsible to construct water mains adjacent to his property in accordance with the latest Water Master Plan or as required by the City Engineer.

The minimum water main size to serve residential areas shall be eight inches (8") in diameter, and the minimum water main size serving commercial, business, industrial, etc. shall be eight inches (8"). In general, all water mains shall be looped with no dead-ends. Dead end non-residential water mains shall only have one fire hydrant or service without looping the water main. Dead-end lines will be allowed only upon approval by the City and shall be furnished with a flush valve arrangement. The developer shall provide facilities sufficient for fire flows in accordance with the minimum criteria of the State Board of Insurance or the Fire Code adopted by the City.

Fire flows shall to be calculated with a minimum of twenty pounds per square inch of residual pressure.

5.2 Connections to Existing Distribution System

Preliminary discussions concerning take-off points in the water system should be conducted with the City of Rockwall Engineering Department or its designated representative prior to finalizing the preliminary designs of the water system, which will serve the development. Connections to the City's existing water system will be allowed only at locations where the City believes that sufficient

quantity and pressures are available to meet the projected requirements of the development. In general, the connections to the existing water system shall be made in such a manner to keep "shut-downs" to a minimum. Preference should be given to a tapping valve connection.

In a proposed development where City water is not adjacent to the property but is accessible, the developer shall provide, at their expense, a minimum of eight (8") inch water main, an off-site water main of sufficient size to serve his development or as shown on the City's Water Master Plan, whichever is larger. The City can participate or collect pro-rata for the oversize of the required line. The City participation must be approved by the City Council. The proposed development may require a loop into the existing water system in order to provide adequate water pressure. The loop will be at the developer's expense. All water main shall be extended to the property lines for future connections.

In general, the City will not approve a development, which cannot be served by extensions to the City water system. Some areas in the City are served by public water supply corporations. The Developer shall contact these public water supply corporations for notification of future development. The Developer shall still be responsible to construct water facilities that meet City requirements and as shown on the City's Water Master Plan. The City will inspect the water facilities. Under unusual circumstances, the City may consider approval of a private water system, which will supply an adequate quantity of potable water to every lot in a residential development. Such systems must meet the approval of the City, the TCEQ, the State Board of Insurance and other appropriate regulatory agencies. In addition, an agreement between the City and the developer must be executed whereby the City may acquire the system at such time as it can be connected into the City's owned and operated distribution network. In all cases, the engineering drawings shall show the source of water for the development.

5.3 Location of Facilities

5.3.1 Water Mains

Water pipelines shall be located in the parkways between the back of the curb and the street right-of-way. The location shall be six feet (6') from the back of curb on the north side of east-west streets and on the west side of north-south streets. Water mains shall be located at a minimum depth of four (4) feet unless approved by the City Engineer. If a water main is located on private property the water mains shall be within an easement that conforms to the minimum width in Table 5.1. No structures are allowed in said easement. A blue EMS Locator Pad will be located as shown in the Standard Drawings. Water mains shall have blue EMS locator pads at every two hundred fifty (250') feet, change in direction, valve, curb stop, and service connection to the main water main.

Table 5.1: Water Line Easements – Minimum Width

		Minimum Easement Width (ft)
Conduit Size	<= 48" diameter	20'
	> 48" diameter	Approval City Engineer
Depth of Conduit	< 14'	20'
	14' - 16'	25'
	17' – 20'	30'
	21' – 23'	35'
	> 23'	40'

5.3.2 Gate Valves

In general, gate valves shall be located outside the paved streets and shall be six feet (6') from back of curb of the intersecting street. In general, gate valves shall be located at street intersections (except for fire hydrant leads). Butterfly valves are required on water line pipe sixteen (16") and greater in diameter. Unless otherwise requested by the developer and approved by the City, valves shall be located in the northwest quadrant of the street intersection. All valve boxes shall be encased in a concrete pad that shall be twelve inches by twelve inches by six inches (12"x12"x6") and reinforced with No. 3 steel bars. Valve extensions shall be stainless steel.

5.3.3 Fire Hydrants

In general, fire hydrants shall be located at each street intersection and at intervals on the interior of each block.

5.3.3.1 Residential and Duplex

Residential and duplex areas shall have a fire hydrant at each street intersection and at four hundred foot (400') intervals on the interior of each block.

5.3.3.2 Multi-Family

Multi-Family areas shall have a fire hydrant at each street intersection and at four hundred foot (400') intervals on the interior of each block and along fire lanes.

5.3.3.3 Commercial, Retail and Industrial

Commercial, retail and industrial areas shall have a fire hydrant at each street intersection and at a maximum of four hundred foot (400') intervals on the interior of each block and along fire lanes.

Fire hydrants shall be installed a minimum of three feet (3') and no greater than six feet (6') behind curb of a fire lane, driveway, access, and/or street. All fire hydrants shall have five feet (5') of clearance around.

The spacing of fire hydrants shall be measured along the street frontage or fire lanes. The City Fire Marshal and Engineering Department shall review all fire hydrant spacing. When a special condition exists due to land use, the Fire Marshal or City Engineer may require additional hydrants for fire protection. All existing fire flows and pressure tests shall be obtained from a private company (City does not perform this test).

5.4 Water Service Connections

A water service pipeline shall be laid to each lot with fittings and a meter box in accordance with the Standard Specifications for Construction and the Standard Details. All service pipelines, which supply water to each single-family lot, shall be constructed of SDR-9 (Polytube) having a minimum size of one-inch (1”). Meter box tops shall be set one-half inch to one and one-half inch (1/2” to 1 ½”) above the curb, and an angle meter stop shall be set six inches (6”) below the meter box top. Meter boxes shall have a one-inch (1”) wide slot from five inches (5”) below the top of the box to the bottom of the box on the side facing the lot for service connection. All meter boxes shall be set between the sidewalk and the back of curb.

A. Installation of Multiple Meter Boxes: Installation of multiple meter boxes for multi-family, condominium and townhouse developments may only be installed at approved locations. Each service box shall service one (1) single family unit.
B. Installation on multiple meters per water service will not be allowed. Only one meter per service will be allowed.

5.5 Materials and Installation

5.5.1 Pipe

Water mains shall be PVC pipe conforming to the Standard Specifications for Construction. In general, the water pipelines shall be AWWA C900 PVC Pipe, DR 14 PC 305 (blue in color) for pipeline sizes 12-inch and smaller. For 14-inch and larger water pipelines shall be AWWA C905 PVC Pipe, DR 18 PC 235 (blue in color). All pipes shall be installed in embedment material as shown on the Standard Drawings and in conformance with the Standard Specifications for Construction. EMS locator marker pads shall be installed at 250 feet along water lines, change in direction, valves, and service connections to the main water line. When horizontal curvature is used the minimum radius of curvature shall be equal to that recommended by the pipe manufacturer.

5.5.2 Gate Valves

Valves shall be installed to isolate pipe at a minimum of every other fire hydrant and on both sides of all public roadways. All gate valves shall comply with the approved list or an approved equal with resilient seat only and shall

conform to and shall be installed according to the Standard Specifications for Construction.

5.5.3 Fire Hydrants

Fire hydrants shall comply with the approved list or an approved equal conforming to the requirements set forth in the Standard Specifications for Construction. All fire hydrants shall be installed with a six-inch (6") gate valve on the hydrant lead. The installation shall be as set forth in the Standard Specifications for Construction. Fire hydrants shall be painted to meet the City's requirements for color code as set forth in the Standard Specifications. In general, the fire hydrant will be reflective silver with differing cap color, which corresponds to the size of hydrant feeder line, as detailed in Approved Water Materials List in the Appendix. Fire hydrants shall be installed at the end of each dead end line. Minimum main size for a fire hydrant shall be eight inches (8") if main is fifty feet (50') or longer. Fire hydrants are not to be powder coated. Fire hydrants are to be a minimum of nineteen (19) inches to a maximum of twenty-eight (28) inches above final grade. All fire hydrants to have five (5) feet of clearance from any structure or parked vehicle. Nozzle diameter shall be two hose nozzles measuring two and one-half (2 ½) inches nominal inner diameter and one pumper nozzle measuring for and one-half (4 ½) inches nominal inner diameter. All nozzles are to have National Standard Hose Threads.

In all developments an eight inch (8") lead will be required on all fire hydrants that are located fifty feet (50') or more from a looped water line.

5.5.4 Water Service Connections

Service connections shall be in accordance with the designs shown on the Standard Drawings. The materials shall comply with approved list or approved equal and shall be installed in accordance with the Standard Specifications for Construction. All connections shall be flare type or approved equal.

5.5.5 Fittings

Mega-lugs or approved equal shall be installed. No compaction fittings allowed.

5.5.6 Miscellaneous

Commercial irrigation meters shall have a testable double check backflow preventer.

No trees shall be planted within five (5') horizontally from any public utilities.

6. WASTEWATER SYSTEM

6.1 General

The design and construction of the wastewater system to serve the development shall be in accordance with good engineering principles, these Standards of Design, the Standard Specifications for Construction, the Standard Details and the requirements of the Texas Commission on Environmental Quality (TCEQ). No construction shall commence prior to the approval of the plans and specifications by the City of Rockwall. All wastewater mains and lift stations shall be sized and located to conform to the projected flows in accordance with the latest Wastewater Master Plan.

All facilities shall be sufficient size to provide adequate capacity for the ultimate development. The wastewater lines shall be sized to meet the peak-day dry weather flow plus an appropriate allowance for infiltration of storm water. The minimum wastewater main size (other than service lines) for all developments shall be eight inches (8") in diameter. The design criteria and calculation shall be submitted to the City with the plans and specifications. The City reserves the right to require a wastewater main of a larger size than that required by the development in order to provide capacities for areas outside of the development.

All wastewater mains shall be installed at a depth sufficient to permit all water mains to be above the wastewater when the water main has a minimum cover of four feet (4'). In such cases where water mains either cross or otherwise come within nine feet (9') of a wastewater main, the wastewater main may be PVC pressure pipe with a minimum working pressure class of 150 psi or encased in concrete.

All waste water lines shall be extended to the property lines for future connections.

6.2 Ownership and Maintenance

6.2.1 Ownership

Ownership of wastewater systems shall conform to the following:

- Wastewater mains within right-of-way or easements shall be owned by the City. This shall include the manholes and cleanouts on those lines.
- Wastewater service laterals shall be owned by the property being serviced, from the wastewater main connection to the structure being serviced. This includes any and all cleanouts on the service lateral.

6.2.2 Maintenance

Maintenance of wastewater system shall conform to the following:

- Wastewater mains within right-of-way or easements shall be maintained by the City. This shall include the manholes and cleanouts on those lines.

- Wastewater service lateral shall be maintained by the property owner being served from the structure to the right-of-way line and the City shall maintain from the right-of-way line to the wastewater main.

6.3 Connections to Existing Wastewater Collection System

Preliminary discussion concerning entrance points in the wastewater system should be conducted with the City of Rockwall Engineering Department or its designated representative prior to finalizing the preliminary designs of the collection system to serve the development. In a proposed development where City wastewater facilities are not adjacent to the property but are accessible, the developer shall provide, at his expense, an off-site wastewater interceptor of sufficient size to serve his development and the contributing service area (using fully developed flows), or as shown on the City's Wastewater Master Plan, whichever is larger. Developers can request a pro-rata agreement for wastewater over-size above ten (10") inch to be executed with the City, where the City collects a pro-rated amount as other developments connect to the system. This money would be distributed back to the developer that constructed the over-sized system. The pro-rata agreement requires approval by City Council.

In general, the City will not approve a development which cannot be served by extensions to the City's wastewater collection system unless the development has received an approved variance granted by City Council.

6.4 Location of Facilities

6.4.1 Wastewater Mains

Wastewater pipelines shall be located in the parkways between the back of the curb and the street right-of-way. The location shall be six feet (6') from the back of the curb on the south side of east-west streets and on the east side of north-south streets. If a water main is located on private property the water mains shall be within an easement that conforms to the minimum width in Table 6.1. No structures are allowed in said easement. A green EMS Locator Pad is to be installed at every manhole, cleanout, and service connection to the wastewater main. If a wastewater line is to be constructed greater than 10 feet in depth and services are required than a parallel line is to be constructing at a depth shallower than 10 feet. The deeper line shall be 6' from the back of curb on the pavement side and the shallower line with services shall be 6 feet from the back of curb toward the right of way.

Table 6.1: Wastewater Line Easements – Minimum Width

		Minimum Easement Width (ft)
Conduit Size	<= 48" diameter	20'
	> 48" diameter	Approval City Engineer
Depth of Conduit	< 14'	20'
	14' - 16'	25'
	17' – 20'	30'
	21' – 23'	35'
	> 23'	40'

6.4.2 Wastewater Service Laterals

Wastewater service pipelines shall be laid to each lot. The service pipelines shall be plastic pipe having a minimum diameter of four inches (4") and shall extend to the property line. Wastewater service pipelines shall be located on the lower side of each lot and as approved on the final construction plans by the City. In general, a service pipeline shall serve only one lot. Special wastewater service sizing may be required in some instances. Where water and wastewater pipelines pass within nine feet (9') of each other, the method of construction shall be specified in order to meet TCEQ criteria. No wastewater main shall be located nearer than five feet (5') from any tree. Service lines cannot connect to wastewater mains that are over ten feet (10') deep.

6.4.3 Manholes

In general, manholes shall be located at all intersections of wastewater pipelines, changes in grade, changes in alignment and at distances not to exceed five hundred feet (500'). All manholes will be hydrostatically or vacuum tested. For manholes that have an epoxy coating after constructed, a spark test will be required prior to acceptance. If a manhole exceeds ten (10') feet in depth, increase the diameter by one (1') foot .For wastewater main flow lines connecting eighteen inches (18") or greater above invert, an internal drop manhole shall be constructed of a stainless material. All manholes shall be sealed if located in an area of storm water flow (paving, creek, drain way, etc.). Manhole size shall be per Table 6.2. with a thirty inch (30") lid. Manhole rims shall be two (2) feet above the fully developed 100-yr floodplain.

Table 6.2: Minimum Manhole Sizes

Wastewater Main Size	Minimum Manhole Diameter
6", 8" and 10"	4.0 foot
12", 15", 18", 21", 24" and 27"	5.0 foot
30" and 36"	6.0 foot

6.4.4 Cleanouts

Cleanouts shall be constructed on the end of all lines. The maximum distance between a manhole and an upstream cleanout is two hundred fifty feet (250'). Cleanouts may be located at the end of the line only.

6.5 Flow in Wastewater Lines and Their Appurtenances

6.5.1 Minimum Grades

Wastewater lines should operate with velocities of flow sufficient to prevent excessive deposits of solid materials, otherwise objectionable clogging may result. The controlling velocity with regard to sediment deposition is near the bottom of the conduit and considerably less than the mean velocity flowing full of 2.5 feet per second (f.p.s.). TABLE 6.3 indicates the minimum grades for wastewater pipe with a Manning's "n" = 0.013 and flowing at 2.4 f.p.s.

Table 6.3: Minimum Grades for Wastewater Pipelines

Pipe Size (Inches)	Slope (n = 0.013) (Foot/Foot)	Pipe Size (Inches)	Slope (n = 0.013) (Foot/Foot)
6	0.0050	39	0.0006
8	0.0033	42	0.0006
10	0.0025	45	0.0005
12	0.0023	48	0.0005
15	0.0023	54	0.0004
18	0.0018	60	0.0004
21	0.0015	66	0.0004
24	0.0013	72	0.0003
27	0.0011	78	0.0003
30	0.0009	84	0.0003
33	0.0008	96	0.0002
36	0.0007		

6.6 Materials and Installation

6.6.1 Pipe

Pipe used for wastewater systems shall be PVC pipe conforming to the Standard Specifications for Construction. The wastewater pipeline shall be SDR 35 (green in color), or an approved equal, and shall have a minimum earth cover of three and half (3 ½') feet. For depths of ten feet (10') or greater, the wastewater pipeline shall be a minimum of SDR 26. Force main pipe to be green in color.

All pipes shall be installed in embedment material as shown on the Standard Details and in conformance for the Standard Specification for Construction. All pipelines shall be tested for infiltration.

6.6.2 Curved Sewers

No vertical curves will be allowed. Horizontal curvature may be allowed by joint deflection or pipe flexure but not both. The Engineer must specify on the

plans the method of deflection allowed and the allowable radius or joint deflection for each pipe size.

When pipe flexure is used, the minimum radius of curvature shall be equal to that recommended by the pipe manufacturer or $300*D_0$, where D_0 is the average outside diameter of the pipe in inches, whichever is greater. The Engineer shall note on the plans that when using pipe flexure, all joints are to remain fully seated.

If a joint deflection will be used to provide horizontal curvature, the allowable deflection shall be 5° or 80% of the Manufacturer's recommended maximum joint deflection, or 80% of the National Reference Standard maximum recommended joint reflection, whichever is less. When joint reflection is used, the Engineer must specify the size of mandrel used for reflection testing. The mandrel shall be sized to verify that the maximum joint deflection has not been exceeded.

Horizontal curves shall match change in street direction as near as possible.

6.6.3 Manholes

Manholes shall be pre-cast concrete or cast-in-place and shall conform to Standard Details and the Standard Specifications for Construction. Raven epoxy coating, ConShield, or approved equal, shall be installed in all new manholes and in existing manholes being modified. Consheild must have terracotta color dye mixed in the precast and cast-in-place concrete.

6.6.4 Cleanouts

In general, manholes shall be installed at the upper end of all wastewater collector mains. Cleanouts may be installed in lieu of manholes at these locations subject to the approval of the final engineering plans by the City. Cleanouts cannot be more than two hundred fifty feet (250') from a manhole. Cleanouts shall conform to the Standard Details and the Standard Specifications for Construction.

6.7 Testing

All wastewater lines shall be tested for infiltration in accordance with the procedures set forth in the Standard Specifications for Construction. In general, all wastewater pipes shall be installed so that the completed wastewater will have a maximum exfiltration of one hundred fifty (150) gallons per inch of internal diameter, per mile of pipe, per 24 hours, where the maximum hydrostatic head at the centerline of the pipe does not exceed twenty-five (25) feet. All wastewater pipes shall be inspected by photographic means (television and DVD) prior to final acceptance. The contractor shall furnish a DVD to the Engineering department inspector for review. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the contractor at the contractor's expense. A

television survey will be performed as part of the final testing in the twentieth (20th) month of the maintenance period. The City's representative shall be present at all testing. All expenses for this work shall be the developer's responsibility.

6.8 Abandoning Existing Wastewater Mains and Manholes

When an existing wastewater line is to be abandoned all services and laterals on the main to be abandoned shall connect back into the system. All existing wastewater mains that are to be abandoned shall be videotaped to determine the location of the services and laterals. A copy of the videos shall be given to the Cities Construction Inspector for review before the line is fully abandoned.

When a wastewater line is to be abandoned it shall be cut and plugged with concrete on both ends and in any other locations where the pipe is cut.

Wastewater manholes shall be abandoned per Standard Drawing No. 5170.

6.9 Wastewater Lift Stations and Force Mains

All lift station design plans and specifications shall be submitted to the City Engineer and TCEQ for review and approval prior to construction. Developments which increase the flow to existing lift stations will be subject to a pro-rata charge if sufficient capacity is available in the existing lift station or will be required to increase the capacity of the existing facility. Lift stations and force mains shall be designed and built for the upstream drainage area using a fully developed condition. This will include off-site areas if applicable. Developers are responsible for the construction of regional lift stations and force mains, per the Wastewater Master Plan. Developers can request a pro-rata agreement be executed with the City, where the City collects a pro-rated amount as other developments connect to the system. This money would be distributed back to the developer that constructed the oversized system. The pro-rata agreement requires approval by City Council.

6.9.1 Specifications for Lift Station Control Panel

6.9.1.1 General:

The control system shall be designed to operate the required number of pumps specified on the drawing at the power characteristics shown on the plans.

The control function shall provide for the operation of the pumps in Hand (manual) and Auto (controlled by PLC). See "24VAC Regulator System" for further information. The control shall function as described below. The equipment listed below is a guide and does not relieve the supplier from providing a system that will function as required.

6.9.1.2 Enclosure:

The enclosure shall be a NEMA 4x rated stainless steel. The enclosure shall be a wall mount type with a minimum depth of 8" sized to adequately house all the components. The door gasket shall be rubber composition with a retainer to assure a positive weatherproof seal. **The door shall operate with a single action handle that accepts a 3/8" shaft padlock** and opens a minimum of 180 degrees.

6.9.1.3 Inner Dead Front Door:

A polished aluminum dead front shall be mounted on a continuous aircraft type hinge, contain cutouts for mounted equipment, and provide protection of personnel from live internal wiring. Cutouts for breaker handles shall be provided to allow operation of breakers without entering the compartment. **No door mounted operating mechanisms allowed for breaker operation.** All control switches, indicator pilot lights, ONE general purpose GFI duplex receptacle and other operational devices shall be mounted on the external surface of the dead front. The dead front shall open a minimum of 150 degrees to allow access to equipment for maintenance. A ¾" break shall be formed around the perimeter of the dead front to provide rigidity.

6.9.1.4 Back Plate:

The back plate shall be manufactured of 12-gauge sheet steel and be finished with a primer coat and two (2) coats of baked on white enamel. All devices shall be permanently identified.

6.9.1.5 Power Distribution:

The panel power distribution shall include all necessary components and be wired with stranded copper conductors rated at a minimum of 90 degrees C.

System shall be equipped with an **Emergency Generator** with an automatic transfer switch **capable of programmable test dates and times. Inputs shall be provided to PLC to indicate Generator Running, Generator Alarm, and Generator Low Fuel Level OR a Stand Alone Manual Double Throw Safety Switch** to allow hard wiring to a portable generator.

No door mounted operating mechanisms allowed for breaker operation in control panel. All conductor terminations shall be as recommended by the device manufacturer.

6.9.1.6 Circuit Breakers:

All circuit breakers shall be heavy-duty thermal magnetic or motor circuit protectors similar and equal to Square D type FAL. Each motor breaker shall be adequately sized to meet the pump motor operating characteristics and shall have a minimum of 10,000 amps interrupting capacity for 230 VAC and 14,000 amps at 480 VAC. The control circuit and the duplex receptacles shall be individually controlled by heavy-duty breakers.

Circuit breakers shall be indicating type, providing "ON-OFF-TRIP" positions of the operating handle. When the breaker is tripped automatically, the handle shall assume a middle position indicating "TRIP".
Thermal magnetic breakers shall be quick-made and quick-break on both manual and automatic operation and have inverse time characteristics secured through the use of bimetallic tripping elements supplemented by a magnetic trip.

Breakers shall be designed so that an overload on one pole automatically trips and opens all legs. Field installed handled ties shall not be acceptable.

6.9.1.7 Motor Starters:
Motor starters shall be open frame, across the line; NEMA rated with individual overload protection in each leg. Motor starter contact and coil shall be replaceable from the front of the starter without being removed from its mounted position. **Overload heaters shall be solid state motor logic type** with the following features: 3 to 1 adjustment for trip current, phase loss and unbalance protection, LED power indication, ambient insensitive and self-powered, and shall have availability of electrical remote reset. Overloads shall be sized for the full load amperage draw of the pumps. Definite purpose contactors, fractional size starters and horsepower rated contactors or relays shall not be acceptable.

6.9.1.8 Transformers:
Control transformers shall provide the 120 VAC and/or 24 VAC for control circuits. Transformers shall be fused on the primary and secondary circuits. The secondary shall be grounded.

6.9.1.9 Lightning-Transient Protection:
A lightning-transient protector with tell-tale warning lights on each phase to indicate loss of protection on the individual phases shall be provided. The device shall be solid state with a response time of less than 5 nanoseconds withstanding surge capacity of 6500 amperes. Unit shall be instant recovery, long life and have no holdover currents.

6.9.1.10 Phase Monitor:
A line voltage rated, adjustable phase monitor shall be installed to sense low voltage, loss of power, reversed phasing and loss of a phase. Control circuit shall de-energize upon sensing any of the faults and shall automatically restore service upon return to normal power.

6.9.1.11 Alarm System:
The alarm light shall be a weatherproof, shatterproof, red light fixture with 500 lumens minimum to indicate alarm conditions. The alarm light shall be turned on by the alarm level.

The alarm light shall be mounted on the exterior of the cabinet. The alarm horn shall provide an audio signal of not less than 90 db at 10 feet. An **alarm silence**

switch shall be **mounted on the exterior of the cabinet** and deactivate the alarm horn; however, the alarm light shall flash until the alarm condition ceases to exist. **An Input shall be provided to PLC to indicate High Wet Well Condition.**

6.9.1.12 24 VAC Regulator System:

SCADA:
Equipment for SCADA shall be Kimark part # TR-Y160-C50-P-ICC consisting of a **PLC, Radio, Antenna, ect**. to operate the system. Control cabinet **components shall be installed when the panel is built**.

Contact phone number for Kimark is 817- 416- 8881 Saul Sanchez.
Email: saul@kimark.com
Contact them for pricing and equipment specifications for installation in the control panel and on the rack.

Programming shall be included in purchase price of the above part by Kimark, using Schneider Electric Proworx32 PLC programming software. **Check with Kimark to verify all needed inputs and outputs for PLC Programing.**

The control system shall provide for both automatic and manual control and alternation of the pumps to maintain a pumped down condition of the wet well.

Wet well levels shall be sensed by a pressure transducer. **Float regulators shall be installed as back up for HIGH and LOW levels only.** The transducer shall sense the “OFF”, “LEAD”, “LAG”, and “HIGH” levels as given on the plans. As the level in the wet well raises the lead pump, as determined by the alternator, shall start and pump the station to the “OFF” position. In the event the incoming flow exceeds the capacity of the lead pump, the lag pump shall start and both pumps shall run to the off level. If the wet well level continues to rise, high well alarm functions shall be activated. The alternator shall switch when the off level is reached.

All inputs and outputs shall be wired to a terminal strip at bottom of cabinet.

6.9.1.13 Ancillary Equipment:

HOA Switches: A three position HOA switch shall be provided on the inner dead front for each pump. **Inputs shall be provided to PLC to indicate position of HOA.**

Run Indicators: A run pilot indicator shall be provided on the inner dead front. All indicator lights shall be push to test. **Inputs shall be provided to PLC to indicate pump running.**

Elapsed Time: Elapse time meter shall be mounted on the dead front door.

Cabinet Temperature Control: The cabinet shall be equipped with a panel heater controlled by a thermostat and a vent fan controlled by a thermostat.

Receptacles: One duplex receptacle located on inner dead front door for general purpose use. This receptacle shall be of the ground fault type, 120volt, and protected by a 20 amp breaker. A second single receptacle shall be located on the back panel to provide power for UPS back up system. This receptacle shall be 120 volt and protected by a separate 20 amp breaker.

UPS Back Up System: Will provided **120 Volt power** to SCADA communication equipment and all low voltage power transformers. This must be installed in the control panel. UPS shall be APC 650VA 120 Volt or equivalent.

The System must be able to transmit all alarms and wet well levels when on backup power.

Motor Protection: A control and status module shall sense either motor over temperature or seal leakage, and shall turn off the pump, lock out the pump, and send an alarm. **Inputs shall be provided to PLC to indicate Pump Fail, Seal Fail and Temp Fail individually for each pump.**

6.9.1.14 Miscellaneous:

Panel Racks:
Posts supporting racks shall be **3" minimum rigid conduit capped** and **bolted directly to channel framework supporting the panels.**

Panels shall have a **"rain shield" structure using ¼" minimum aluminum plating** providing a **solid back plate** behind panels **continuous to overhead plate** to protect panel from rain. Provide lighting mounted on structure with switch mounted on exterior of panel to light up panel area.
Contact City of Rockwall at 972-771-7730 for location of existing type structure.

Each pump must have its own conduit for power cord and a separate conduit for all float wires.

Wet Wells:
Wet well shall have metal safety grates.

All hatches shall have accommodations for locking above grade with 3/8" shaft padlocks provided by the City.

Check Valves shall be of the spring type.

Level control system shall use a **PRESSURE TRANSDUCER** with **BUILT IN SURGE PROTECTION** for pump operation with **Off and High Level Floats as BACK-UP** in case transducer fails.

Drawings: Control panel schematic drawings shall be submitted for approval with the submittal plans.
Final control panel wire schematic drawings including a list of all legends (2 sets total) shall be provided. One set shall be encapsulated in Mylar and attached to the inside of the front door of the control cabinet. A second set shall be delivered to the City of Rockwall Wastewater Department.

Panel Markings: All component parts in the control panel shall be permanently marked and identified as they are indicated on the drawing. Marking shall be on the back plate adjacent to the component. All control conductors shall be identified with wire markers as close as practical to each end of conductors.

Panel Wiring: All wiring in panel shall maintain a **minimum of 1 1/2"** spacing between components and wire ways.

Testing: All panels shall be tested to the power requirements as shown on the plans to assure proper operation of all the components. Each control function shall be activated to check for proper operation and indication.

Guarantee: All equipment shall be guaranteed for a period of three (3) years from date of acceptance. The guarantee is effective against all defects in workmanship and/or defective components. The warranty is limited to replacement or repair of the defective equipment.

7. MISCELLANEOUS REQUIREMENTS

7.1 Grading

The backfill material shall be placed in layers not to exceed eight (8) inches loose thickness. The moisture content shall be uniform and near the optimum moisture content for the material. In cases, where the materials being placed do not have the proper moisture, the material shall be dried out or additional moisture shall be added by satisfactory methods such that the additional water is distributed uniformly throughout the material being placed. The layers of the backfill shall be reduced in thickness when satisfactory compaction cannot be obtained with the equipment being used. In all cases a density of not less than ninety-five (95) percent of the standard proctor density must be obtained. The contractor shall arrange for the necessary laboratory testing, at their expense, to determine the density of the material. All franchise utility companies (phone, gas, electrical, cable, internet, and any utility that isn't supplied by the City) working within the right-of-ways of streets or alleys shall also comply with the above noted specifications with laboratory testing results provided to the City of Rockwall. Easement locations under pavement shall also have a density control backfill to ninety-five (95) percent of the standard proctor density. All densities are to be within the acceptable moisture range of (-2 to +4) percent of optimum moisture unless otherwise approved by the City Engineer.

A sheeps-foot roller shall be utilized for compaction of all fill material. Mechanical tamping is allowed for trench backfill.

All slopes should be a maximum of 4:1 and a minimum of 1%. In locations where a 4:1 slope is not possible, retaining walls, gabion baskets, concrete slope protection or other approved retaining methods may be required. Retaining methods must be approved by the City Engineer.

At the beginning of the project the Developer will provide offset stakes at intervals of fifty (50) feet. The stakes will be offset from the back of the outside curb, a convenient distance to permit all operations, to be completed without disturbing these stakes. Information that shall be included on the stakes includes the station number, offset distance from back of curb, and elevations of hub. It will be the contractors responsibility to maintain these stakes, and use the information for all other horizontal and vertical control required. The contractor will set all forms using the data shown on the approved plans.

7.2 Grading Permit

A grading permit (Exhibit 7.1) shall be obtained prior to stockpiling or filling property within the City limits. Care shall be taken to avoid filling in drainage swales, creeks, wetlands, etc. Erosion protection shall be installed around

stockpiled or stored material until grass is established. If fill is placed for use other than stockpiling or storage, a grading plan shall be prepared by a Professional Engineer and submitted with the grading permit. Temporary stockpiles have a maximum time limit of six (6) months. Densities shall be taken and proper compaction techniques used when placing the fill. In all cases a Professional Engineer shall certify that the proposed fill location is not within a stream or creek (flowing or not) flood plain. If the City Engineer determines the fill is to be placed near a creek or stream or possible drainage way, the 100-year floodplain shall be staked by a registered surveyor.

The City of Rockwall requires that the design engineer provide a letter of concurrence. The letter is to verify that the drainage patterns, grade to drains locations, detention systems including outfall structures, detention pond volume, pad elevations, and drainage structures located within the project scope were installed to the general elevations as shown on the approved plans. The letter shall also verify that the project was constructed to meet the approved design requirements or is within acceptable design tolerances (max 0.2 feet for residential pad elevations). The design engineer or their designated representative shall direct all survey work necessary to verify elevations and design compliance. The letter of concurrence is to have the seal and signature of the design engineer.

GRADING & FLOODPLAIN DEVELOPMENT

City of Rockwall

Permit No. _____

This permit allows the owner to fill, grade, excavate, or otherwise disturb the surface of property described below, in accordance with Rockwall City Code, Section 38-24 to 38-30.

PROJECT NAME: _____

PLAT NAME: _____

PROPERTY OWNER: _____

DEPOSIT REQUIRED	**$ 0.00**	**(Disturbed land area-acreage)**
TOTAL:	**$ 0.00**	

Requirements and conditions of this permit:

- ☐ Grading and erosion plans have been submitted and approved by the City (2-11"x17", 2-24"x36", and contractor's copies).
- ☐ Submission of a notarized statement from the property owner giving permission to the Contractor to fill, grade, excavate, or otherwise disturb the property and acknowledgement by property owner of his responsibilities as described in section 38-30 of the Rockwall City Code.
- ☐ For projects disturbing 1 acre or more of land, submission of a Storm Water Pollution Prevention Plan (SWP3) in accordance with City, TCEQ and EPA regulations and requirements.
- ☐ For projects disturbing 5 acres or more of land submit a copy of the Notice of Intent (NOI) from all site "Operators".
- ☐ When applicable, submit copy of Planning Department Approval of the tree preservation plan to the City Engineer.
- ☐ When applicable (floodplain encroachment), provide a copy of a Conditional Letter of Map Revision (CLOMR) from FEMA.
- ☐ Special Conditions -

The Developer, Contractor and Engineer is hereby notified that issuance of this permit does not indicate approval of the engineering plans and that grade revisions can and will be made if determined necessary after a complete review of the final plans.

At any time the City determines that the project is in non-compliance with this permit or any other applicable permits and/or letters of permission, this permit shall be revoked and a stop order shall be issued to the Developer and/or Contractor.

If it is necessary for the City to remove soil, rock, mud or debris from its streets, alleys, utility facilities, rights of way or easements, or construct erosion devices on the permit site to prevent erosion in connection with this permit, after notification to permittee and/or under an emergency, the cost of such will be charged to the holder of this permit and subtracted from the balance of the deposit required herein. To be reimbursed for deposited funds NOT used to reimburse the City for construction or removal of soil, rock, mud and debris, a written request must be made to the City Engineer from the depositor named below within two (2) years of written project acceptance by the City Engineer, and the following conditions must be met. Failure to request funds within the prescribed time will result in forfeiture of such funds to the City's General Fund.

1. All disturbed areas on and off site are vegetated with a 75% coverage of grass or other ground cover.
2. Temporary erosion control devices are no longer required and have been removed.
3. Permanent erosion control devices are in place on the site and working properly and do further hazard of erosion is present on the site.
4. Where applicable, a copy of the TCEQ Notice of Termination (NOT) for the project has been submitted to the City.
5. The City Engineer has given written acceptance of the project.

The Depositor must notify the City of Rockwall, Attn: Engineering Department in writing of all address changes.

Deposited By:

Name:

Address:

Phone:

Permit Issued By:

Name:

Title:

Date:

Cc: Construction File
Property Owner
Construction Contractor
Grading Permit File

Exhibit 7.1: Grading Permit

7.3 Private Utility Construction

7.3.1 Trench Backfill – City Right-of-Way

1. No concrete streets shall be open cut by utility companies without City approval. Utilities crossing concrete streets shall be tunneled or bored.

2. Asphalt streets may be open cut. Backfill above utilities shall be concrete stabilized sand or cement. The asphalt pavement shall be repaired per City detail.

3. All trench backfill is to be compacted to 95% Standard Proctor Density within City rights-of-way. The compaction may be obtained by mechanical tamping, rolling, etc. No water jetting is allowed. In the parkway, the backfill material may be from the excavated trench, except no rocks larger than two inches (2") shall be used. Material from rock or shale excavation cannot be used. The contractor for the utility company or the utility company shall furnish density reports from a materials testing company verifying the densities. Densities shall be taken at each eight-inch (8") lift at a maximum spacing of 150 feet. The moisture content shall be uniform and near the optimum moisture content for the material. In cases, where the materials being placed do not have the proper moisture, the material shall be dried out or additional moisture shall be added by satisfactory methods such that the additional water is distributed uniformly throughout the material being placed.

7.3.2 Parkway Cleanup

The contractor for the utility company or utility company shall remove any rocks or excess trench material from the parkway and replace any disturbed areas with grass sod.

7.4 Additional Permits or Approvals

Developer or developer's representative is responsible for obtaining any other approvals or permits needed for their development, for example: TCEQ, TXDOT, City of Dallas, FEMA, USACOE etc. prior to start of construction. Copies of the permits/approvals shall be furnished to the City.

7.5 Retaining Walls

A. Retaining walls or concrete slope protection shall be installed where lot slope is greater than 4:1.

B. No railroad tie retaining walls shall be constructed in public or private property.

C. No retaining walls including the footing shall be placed in the right-of-way, easements or overlapping property lines.

D. All retaining walls shall be stone, masonry or reinforced concrete with a stone face or form liner. No smooth concrete retaining walls to be installed.

E. Retaining walls three feet (3') and higher shall be designed and inspected by a professional licensed engineer in the State of Texas. Property lines and right-of-ways shall be noted on the wall plans. The City requires a verification letter (signed/sealed) from the design engineer stating that the retaining walls installed with the site/subdivision were inspected by the engineer or their designated representative and that the walls were installed to the engineered design and general construction standards. The verification letter shall be delivered to the Engineering Department prior to the project acceptance by the City.

F. Retaining walls over 30" in height that have sidewalk, trail or other walking surface will require railing.

G. Gabion retaining walls may be used only with City Engineer's approval for walls less than three feet (3') along drainage ways.

H. All retaining walls shall be placed according to offset hubs set by certified professional surveyors noting grade cuts, wall elevations and stop points for each wall end. Wall locations and elevations shall match those shown on the approved site grading plans.

7.6 Maintenance Bonds

The City requires ten (10%) percent-two (2) year maintenance bond for paving, paving improvements, fire lanes, water systems, wastewater systems, storm sewer systems including detention systems, and associated fixtures and structures which are located within the right-of-ways or defined easements. The two (2) year maintenance bond is to state "from date of City acceptance" as the starting time.

A review of the site shall be conducted at twenty (20) months into the two (2) year maintenance period. The design engineer or their designated representative shall be present to walk the site with the City of Rockwall Engineering Inspection personnel.

7.7 Construction

7.7.1 Preliminary Site Preparation

Site Preparation - The below noted site preparation items are to be in place, inspected and approved by the City, prior to the start of any clearing, grubbing or grading operations.

1. Protected trees which are designated to remain on site - are to be identified, tagged and banded with bright orange or red bands.

2. Protected trees which are designated to be removed from the site are to be identified tagged and banded with blue bands or blue paint markings.

3. Tree identification tags – are to consist of metal tags which have the tree identification number stenciled or stamped or engraved on the tag. The numbers used to identify the protected trees shall correspond to the tree identification number noted on the approved treescape plans.

4. Protected Tree - Barrier Fencing:

   - Chain link barrier fencing – shall be placed around the drip lines of the individual protected trees or groups of protected trees, which are designated to remain at the site if they are located within 10-feet of any cut/fill grading location.

   - Plastic mesh barrier fencing - shall be placed around the drip lines of individual protected trees or groups of protected trees, which are located over 10-feet or more outside a cut/fill grading location.

5. Silt fence along with construction entrance and any other designated erosion BMP's must be installed and inspected. No silt fencing may be installed at the site until the trees have been identified, banded, tagged, fenced and inspected by the City.

6. Portable toilet facilities will be required on all construction sites or as otherwise deemed necessary by the City of Rockwall. It is essential that adequate on-site restroom facilities be available for all construction workers. It will be the responsibility of the contractor to install and maintain the facilities through the completion of the project. These facilities must be on site and verified prior to moving personnel on site and before construction can begin.

7. Portable trash receptacle is to remain on the job site through the course of construction. The site is to remain free of construction litter and debris. Construction workers shall place all lunch trash in the "trash containers" immediately after lunch. Trash receptacle must be on site and verified prior to moving personnel on site and before construction can begin.

8. Construction Site Working Hours and Noise Control Signage – Construction and construction related activities are limited to the hours of 7:00 am to 7:00 pm Monday through Friday and 8:00 am to 7:00 pm on Saturday. No Sunday construction allowed. The City of Rockwall requires that a sign be posted at each Commercial/Residential development construction site. The sign must be installed at the site and verified prior to moving personnel on site and before construction can begin. The construction related activities are to include but not be limited to the following:

    - Maintenance, servicing and fueling of construction equipment.
    - The delivery of construction related materials and/or construction equipment.

    At locations where compliance to Ordinance 05-45 is not being observed, the City of Rockwall may issue written orders to stop work or further regulate the site construction work hours. The City may also issue citations if it is determined that a violation of the construction ordinance exist.

(Construction Site Sign - Example)

Ordinance # 05-45
Construction Site Working Hours and Noise Control

City Ordinance – No. 05-45 limits construction and construction related activities to the hours of 7:00 a.m. - 7:00 p.m. Monday through Friday, and 8:00 a.m. - 7:00 p.m. on Saturday. (No Sunday construction allowed).

ORDENANZA #05-45
HORAS DE TRABAJO EN EL SITIO DE CONSTRUCCION Y EL CONTROL DE RUIDO

La Ordenanza de la Ciudad – No. 05-45 limita la construcción y las actividades relacionadas con la construcción a las horas de 7:00 a.m. – 7:00 p.m. de Lunes a Viernes, y de 8:00 a.m. – 7:00 p.m. los Sábados. (No se permitirá construcción los Domingo).

Noise Ordinance Sign
(Sign Size – 3' wide x 2' tall)

7.7.2 Inspection Scheduling

It is the responsibility of the contractor to schedule inspections prior to construction. Inspections may be scheduled and coordinated in the field or by cell phone directly with the Engineering Inspector. Inspection of construction and verification of compliance to plans and specifications shall be conducted by the City of Rockwall Engineering Inspector. The

general contractor shall notify all of his construction contractors of this requirement. Items to be inspected must be sufficiently ready for inspection at the time of your requested inspection appointment as inspector's time is limited. Failure to be ready for inspections may result in inspection rescheduling to the following day. No development will be accepted by the City of Rockwall until all construction has been approved by the City of Rockwall inspectors.

1. Saturday Inspections: The contractor will be charged a minimum 2 hours inspection charge for all Saturday inspections. All Saturday inspections must be scheduled in writing to the Engineering Department by noon on the Thursday before the inspection date. A signed Saturday Engineering Inspection Request form must be emailed to the Assistant City Engineer. Approval/disapproval will be emailed back to the requesting contractor with the Saturday inspector's information. All cancellations must be given verbally and written to the Saturday inspector no later than 8 am on day of inspection. Two hours of overtime inspection will be charged to the contractor if no cancellation is given prior to the inspector arriving at the project site. Contractor must sign Engineering Inspector's Report of Overtime form to finalize the inspection. No acceptance and/or certification of occupancy will be given until all overtime engineering inspection fees are paid in full.

2. Before/After Weekday Hours Inspections: Contractor will be charged on 15 minute intervals for any before/after hour's inspections. Contractor must sign Engineering Inspector's Report of Overtime form to finalize the inspection. No acceptance and/or certification of occupancy will be given until all overtime engineering inspection fees are paid in full.

7.7.3 Vertical Above Slab Construction Permit

No vertical (above slab) construction will be allowed until such time as the following minimum site requirements have been addressed at the site and a vertical above slab construction permit has been issued. Minimum requirements for vertical construction are subject to but not necessarily limited to the below noted items:

- Fire lane pavement is installed, tested, and approved for use
- Fire lane pavement is painted and marked to Fire Department specifications
- Water lines for the site are installed, tested, and approved for use
- All fire hydrants are installed and approved for use
- Fire hydrant nozzles and bonnets are painted as per line size color code

- Reflective fire hydrant locator buttons are in place at hydrant pavement locations
- Fire hydrants are flow tested to verify flow at designated hydrant locations
- Fire hydrant nozzle diameters, proper height above final grade, and clearance are verified and approved
- Silt fence is placed above the fire lane if it is deemed necessary at positive flow areas
- Exterior building materials are approved by the Planning and Zoning Department.

7.7.4 Disposal of Excess Materials

The contractor shall properly dispose of all excess material by removing from the job site all the brush, trash, debris, etc. upon completion of construction. All material shall be properly disposed.

7.7.5 Construction Site Safety

Construction site safety measures are to be in place at all construction projects located within the City of Rockwall. All necessary measures required to ensure that safe work zones exist for the protection of construction workers and general public living in or near such construction zones. Construction zones shall comply with work zone traffic control specifications and requirements. Occupational Health and Safety Administration requirements and regulations must be in compliance. Temporary construction fencing is to be places around open trenches, pits, or other locations deemed necessary by the City of Rockwall. Any miscellaneous items that may pose direct or potential hazard to workers or the general public that is known by the contractor or brought to the attention of the contractor shall be addressed immediately.

It is the responsibility of the contractor(s) to establish and maintain construction site safety measures. However, the City of Rockwall will temporarily suspend work at a construction site if it is deemed necessary due to unsafe or hazardous conditions until such conditions have been corrected.

In each circumstance where it is deemed that proper safety measures are not being followed, a warning will be issued by the engineering construction inspector. Construction may be temporarily suspended if deemed necessary until items responsible for issuance of the safety warning have been properly addressed. Issuance of three (3) or more safety warnings will require that the designated construction be suspended until such time that a safety meeting is scheduled with personnel along with City of Rockwall representatives to discuss the

appropriate measures to correct the identified problems and determine any further possible actions which may be necessary.

8. Special Provisions to the NCTCOG's Standard Specifications for Public Works Construction Standards

All work included as a part of this contract shall be performed in accordance with the Standard Specifications for Public Works Construction, North Central Texas, October 2004 Edition, except where noted otherwise in the City of Rockwall's Supplemental Special Provisions, the Special Conditions included in the Specifications and Contract Documents.

The North Central Texas Standard Specifications shall be modified and clarified by the addition to the following requirements to the various items. Except when specifically stated, none of the requirements of the North Central Texas Standard Specifications shall be deleted.

8.1 Division 100 General Provisions

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.1: Revisions to NCTCOG's Division 100 General Provisions

Revised	Standard Specification Item No.	Description
	101	**DEFINITIONS AND ABBREVIATIONS**
	101.1	Definitions
	101.2	Abbreviations and Acronyms
	102	**PROPOSAL PROCEDURES**
	102.1	Proposal Form
	102.2	Quantities in Proposal Form
	102.3	Examination of Plans, Specifications and Site of the Work
	102.4	Preparation of Proposal
	102.5	Proposal Guaranty
	102.6	Filing of Proposals
	102.7	Withdrawing Proposals
	102.8	Opening Proposals
	102.9	Consideration of Proposal
	102.10	Irregular Proposals
(1)	102.11	Rejection of Proposals

(1)	102.12	Disqualification of Bidders
	102.13	Return of Proposal
	103.	**AWARD AND EXECUTION CONTRACT**
	103.1	Contractor's Warranties and Understanding
(1)	103.2	Award of Contract
	103.3	Surety Bonds
(1)	103.4	Insurance
	103.5	Execution of Contract
	103.6	Notice to Proceed and Commencement of Work
(1)	103.7	Delay of Contract
	104.	**SCOPE OF WORK**
	104.1	Intent of contract Documents
(1)	104.2	Change of Modification of Contract
	104.3	Disrupted Work and Claims for Additional Compensation
	104.4	Performance of Extra Disputed Work
	105.	**CONTROL OF WORK**
(1)	105.1	Contract of Documents
(1)	105.2	Workmanship, Warranties and Guarantees
(1)	105.3	Shop Drawings, Product Data and Samples
(1)	105.4	Construction Stakes
(1)	105.5	Means and Methods of Construction
	105.6	Supervision by Contractor
(1)	105.7	Owner's Representatives
	105.8	Service of Notices
	105.9	Inspection
(1)	105.10	Acceptance
	106	**CONTROL OF MATERIAL**
	106.1	Substitution of Materials
	106.2	Materials and Equipment
	106.3	Salvageable Material
	106.4	Off-Site Storage
	106.5	Samples and Tests of Materials
	107	**LEGAL RELATIONS AND CONTRACT RESPONSIBITIES**
	107.1	Contractor Independence
(1)	107.2	Indemnification
	107.3	Owner's Officers, Employees or Agents
	107.4	Venue and Governing Law
	107.5	No Waiver of Legal Rights

	107.6	Severability
	107.7	Headings
	107.8	Obligation to Perform Functions
(1)	107.9	Performance of the Work
	107.10	Successors and Assigns
	107.11	Supervision and Construction of Procedures
	107.12	Labor and Materials
(1)	107.13	Equal Employment Opportunity
(1)	107.14	State and Local Sales and Use Taxes
	107.15	Patents
(1)	107.16	Compliance with Laws
	107.17	Sanitary Provisions
	107.18	Public Convenience and Safety
(1)	107.19	Protection of Work and Persons and Property
	107.20	Project Signs
	107.21	Working Area
	107.22	Railway Crossings
	107.23	Existing Structures, Facilities and Appurtenances
	107.24	Project Clean-Up
	107.25	Disposal of Materials
	107.26	Restoration of Property
	108.	**PROSECTUTION AND PROGRESS**
	108.1	Progress Schedule
	108.2	Prosecution of the Work
	108.3	Other Contractors; Obligation to Cooperate
	108.4	Employees
	108.5	Subcontracts
	108.6	Assignments
	108.7	Owner's Right to Temporarily Suspend Work
	108.8	Delays; Extension of time; Liquidated Damages
	108.9	Contractor Default: Owner's Right to Suspend Work and Annul Contract
	108.10	Suspension by Court Order Against The Owner
	108.11	Termination For Convenience of the Owner
	108.12	Claims Against Owner and Action Theron
	108.13	Use of Completed Portions of Work
	109	**MEASUREMENT AND PAYMENT**
	109.1	Payment for Labor and Material; No Liens
	109.2	Payment for Materials
	109.3	Payment for Extra Work
	109.4	Payment Withheld

(1)	109.5	Monthly Estimate, Partial Payments, Retainage, Final Inspection, Acceptance and final Payment
	109.6	Wire Transfers

ITEM 102 PROPOSAL PROCEDURES

102.11 Rejection of Proposals

Change the second sentence to read:

"Proposal may be rejected for any of the following specific reasons, but not necessarily limited thereto:"

102.12 Disqualification of Bidders

Change the first sentence to read:

"Bidders may be disqualified and their proposal not considered for any of the following specific reasons, but not necessarily limited thereto:"

ITEM 103 AWARD AND EXECUTION CONTRACT

103.2 Award of Contract

Delete Item 103.2 in its entirety and substitute therefore the following:

It is the intention of the Owner to award a contract for the work included in this project on the basis of the lowest acceptable bid submitted by a qualified bidder, as determined by the Owner.

Within five (5) working days after the bid opening, the low bidder shall submit such evidence as the Owner may require establishing the bidder's qualifications to satisfactorily perform the work included in this project. Information that may be required shall include the following:

(1) Current Financial Statement.
(2) Letter of Auditor's opinion.
(3) Previous years Balance Sheet, Income Statement and Change of Financial Position.
(4) List of projects that have been satisfactorily completed by the Bidder that are of the same general type as included in this contract, together with names, addresses and phone numbers or persons familiar with this work.
(5) Other information that may be pertinent to the Bidder's Qualifications.

Should the bidder fail to produce evidence satisfactory to the Owner on any of the foregoing points he may be disqualified and the work awarded to the next bidder so qualifying.

The Owner will notify the successful bidder, in writing, within sixty (60) days after the date of receiving bids, of the acceptance of the proposal. The Contractor or Contractors shall complete execution of the required bonds and Contract within ten (10) days of such notice.

103.4 Insurance

Add the following sub-item:

103.4.6 Bonds and Insurance

103.4.6.1 Performance, Payment and Other Bonds

Contractor shall furnish Performance and Payment Bonds as security for the faithful performance and payment of all his obligations under the Contract Documents. These Bonds shall be, at all times, in amounts equal to the total Contract Price, and in such form as set forth in the Contract Documents and with such corporate sureties as are licensed to conduct business in the sate where the Project is located and are named in the current list of "Surety Companies Acceptable on Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Department. The Performance and Payment Bonds shall be expanded to include any extension of the Contract Period of total Price.

If the surety on any Bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business in terminated in any state where any part of the Project is located in revoked, Contractor shall within five (5) days thereafter substitute another Bond and surety, both of which may be acceptable to the City.

103.4.6.2 Additional Bonds and Insurance

Prior to delivery of the executed Contract by City to the Contractor, City may require CONTRACTOR to furnish such other Bonds and such additional insurance in such form and with such sureties or insurers as the City may required.

103.7 Delay of Contract

Add the following:

At such time as actual construction has been started, the work will not be stopped or delayed without written permission of the Owner, excluding delays caused by adverse weather conditions. The contractor shall maintain at all times sufficient equipment and personnel on the project to produce satisfactory progress during the construction period.

ITEM 104 SCOPE OF WORK

104.2 Change and Modification of Contract

104.2.3 Extra Work

Add the following:

No work shall be undertaken which requires extra payment without having an executed change order approved by the Contractor and the Owner, except when so ordered in writing.

ITEM 105 CONTROL OF WORK

105.1 Contract of Documents

105.1.1 Priority of Contract Documents

Change the first sentence of Item 105.1.1 to read:

In case of conflict between contract documents, priority of interpretation shall be in the following order: signed agreement, performance and payment

bonds, addenda, special conditions, project (or contract) drawings and specifications, City of Rockwall Special Provisions to the Standard Specifications for Public Works Construction – North Central Texas, standard drawings, advertisement for bids, contractor's bid proposal and bid form.

105.1.3 Contract Drawings and Specifications

Add the following:

In general, the number of copies of the plans and specifications furnished to the Contractor shall be limited to five (5). Additional copies may be obtained at cost of reproduction.

105.2 Workmanship, Warranties and Guarantees

105.2.2 Special Warranty

Add the following:

The Contractor shall provide a Maintenance Bond in he amount of ten percent (10%) of the total amount of the contract guaranteeing the work in accordance with the plans and specifications for a period of two (2) years after acceptance by the City of Rockwall. This bond shall provide for repair and/or replacement of all defects due to faulty material and workmanship that appear within a period of two (2) years from the date of completion and acceptance of the improvements by the City of Rockwall.

105.3 Shop Drawings, Product Data and Samples

Add the following:

Review of Shop Drawings by the Engineer shall be of the sole purpose of determining the sufficiency of the said drawings or schedules to result in finished improvements in conformance with the plans and specifications, and shall not relieve the Contractor of his duty as an independent contractor. It being understood and agreed that the Engineer does not assume any duty to pass upon the propriety or adequacy of such drawings or schedules or any means or methods reflected thereby in relation to the safety of either person or property during the contractors performance hereunder.

105.4 Construction Stakes

Delete in its entirety and substitute therefore the following:

The City of Rockwall will furnish and set control stakes to establish the baseline (not layout stakes) for this project as follows:

1. Horizontal Control: Start of project, P.C.s, P.T.s, P.I., and end of project.
2. Vertical Control: Temporary benchmarks at 500 foot spacing on each section of the project.

The stakes set by the City of Rockwall will be set sufficiently in advance of the work to avoid delay. The Contractor will be held responsible for the preservation of all stakes and marks, and if, in the opinion of the City of Rockwall, any of the stakes or marks have been carelessly or willfully disturbed by the Contractor, the cost of replacing them will be charged against him/her and deducted from the payment for the work.

The Contractor shall furnish and set free of charge additional stakes and other materials and templates necessary for making and maintaining points and lines,

including layout stakes, line and grade stakes for grading, paving, culverts, utilities, storm sewer lines and appurtenances.

The City of Rockwall will perform such checking of the Contractor's stakes as considered necessary by the City of Rockwall. Such checking by the City of Rockwall will in no way release the Contractor of his responsibility for the correctness of the stakes or the responsibility for checking to insure that the work is constructed to the lines and grades as shown on the plans.

Establishment of the aforementioned lines and grades by the Owner shall in no way release the Contractor of the responsibility of the correctness of the stakes or the responsibility for checking to insure that the work is constructed to the lines and grades as shown on the plans.

105.5 Means and Methods of Construction

Add the following:

105.5.1 Water for Construction

The Contactor shall make the necessary arrangements for securing and transporting all water required in the construction, including water required for mixing of concrete, sprinkling, testing, flushing, flooding or jetting. The Contactor shall provide water as required at his own expenses.

Any party requesting the use of a temporary meter on a fire hydrant in the City of Rockwall shall execute an agreement with the City of Rockwall and shall deposit with the City of Rockwall the amount required by ordinance. Such deposit shall be returned upon payment of all charges for water use, and upon return of the meter, fittings, and wrench in their original condition.

Stationary meters shall be locked to fire hydrants at all times. Installation, set up and service fees shall be in the amounts established by ordinance.

It shall be unlawful for any person to open or close any fire hydrant used to obtain water for any purpose with any tool or device other than a standard accepted fire hydrant wrench, which can be supplied by the City of Rockwall.

All stationary fire hydrant meters shall be read monthly at their location in the field. All mobile fire hydrant meters are to be brought to the Utility Maintenance Department, Rockwall, Texas, between the 1st and 10th of each month to be read.

Temporary fire hydrant meters shall be read monthly by representatives of the City of Rockwall, and bills rendered at the current rates for all consumption. Customers using such meters shall comply with the written procedures implemented by the City with regard to making the meters available to be read by representatives of the Rockwall Water Department. It shall be unlawful for any person to fail to make such meter available to be read by representatives of the Rockwall Utilities Department, as required by written procedures issued by the City.

Upon conviction of violation of the above requirements punishment shall be by fine not to exceed Two Hundred Dollars ($200.00). Each day on which a violation exists shall constitute a separate offense.

105.7 Owner's Responsibilities

Add the following:

105.7.3 Observation of Work by Engineer

The Engineer shall make periodic visits to the site to familiarize himself/herself generally with the progress of the executed work and to determine if such work generally meets the essential performance and design features and the technical and functional engineering requirements of the Contract Documents; provided and except, however, that the Engineer shall not be responsible for making any detailed, exhaustive, comprehensive or continuous on-site inspection of the quality or quantity of the work or be in any way responsible, directly or indirectly, for the construction means, methods, techniques, sequences, quality, procedures, programs, safety precautions or lack of same incident thereto or in connection therewith. Notwithstanding any other provision of this agreement or any other Contract Document, the Engineer shall not be in any way responsible or liable for any acts, errors, omissions or negligence of the Contractor, any subcontractor or any of the Contractor's or subcontractor's agents, servants or employees or any other person, firm or corporation performing or attempting to perform any of the work.

105.10 Acceptance

Add the following:

Once the work is satisfactory to the City of Rockwall and in accordance with the plans, specifications, contract documents, and the City has received; the Contractor's Affidavit of Final Payment and Release, Maintenance Bond, and Contractor's redlines/markups plans of actual work performed by the Contractor will the City issue a certificate of acceptance.

ITEM 107 LEGAL RELATIONS AND CONTRACT RESPONSIBILITIES

107.2 Indemnification

Delete Item 107.2 in its entirety and substitute therefore the following:

The Contractor and his sureties shall indemnify, defend and save harmless the OWNER and all of its officers, agents and employees, ENGINEER and all of its officers and employees from all suits, actions or claims of any character, name and description brought for or on account of any injuries, including death or damages received or sustained by any person, persons or property on account of the operations of the Contractor, his agents, employees or subcontractors; or on account of any negligent act or fault of the Contractor, his agents, employees or subcontractors in the execution of said contract; or on account of the failure of the Contractor to provide the necessary barricades, warning lights or signs; and shall be required to pay any judgment, with cost, which may be obtained against the Owner or Engineer growing out of such injury, including death or damage.

107.9 Performance of the Work

Add the following to the end of the first paragraph:

"regardless of the expected completion date set forth in the Contract Documents."

107.13 Equal Employment Opportunity

Delete Item 107.13.5 Reports in this item in its entirety.

107.14 State and Local Sales and use Taxes

Delete in its entirety and substitute therefore the following;

Recent legislation has removed the sales tax exemption previously provided by Section 151.311 of the Tax Code covering tangible personal property purchased by a contractor for use in the performance of a contract for the improvement of City–owned realty.

It is still possible, however, for a contractor to make tax-free purchases of tangible personal property that will be incorporated into and become part of a City construction project through the use of a "separated contract" with the City. A "separated contract" is one, which separates charges for materials from charges for labor. Under such a contract, the contractor becomes a "seller" of those materials, which are incorporated into the project, such as bricks, lumber, concrete, paint, etc. The contractor issues a resale certificate in lieu of paying the sales tax at the time such items are purchased. The contractor then receives an exemption certificate from the City for those materials. (This procedure may not be used, however, for materials, which do not become a part of the finished product. For example, equipment rentals, form materials, etc. are not considered as becoming "incorporated" into the project.)

Utilization of this "separated contract" approach eliminates the need for bidders to figure in sales tax for materials, which are to be incorporated into the project. Bid items, which contain non-taxable materials, are identified in the Bid Schedule or this project. The successful bidder will be required to complete a Contract Form provided by the Owner identifying and separating non-taxable materials from the labor and taxable materials which are not incorporated into the finished project. The completed contractor form will be used to develop the "separated contract" and will determine the extent of the tax exemption.

107.16 Compliance with Laws

Add the following sub item:

107.16.2 Antitrust

The Contractor hereby assigns to the Owner any and all claims for over-charges associated with this contract which arise under the Antitrust Laws of the United States, 15 U.S.C.A. Section 1, et seq., (1973).

Add the following sub item:

107.16.3 Wage Rate

All employees of the Contractor on the work to be performed under this contract shall be paid the prevailing wage scale in this locality for work of a similar character, and in no event less than the rates shown in the Special conditions to the Specifications.

107.19 Protection of Work and Persons and Property

107.19.2 Protection of Persons and Property

Add the following:

The Contractor shall at all times exercise reasonable precautions for the safety of employees and others on or near the work and shall comply with all applicable provisions of Federal, State, and Municipal Safety laws and building and construction codes. All machinery equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America except where incompatible with Federal, State and Municipal laws or regulations. The Contractor shall provide such machinery, guards, safe walkways, ladders, bridges, gangplanks and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the Contractor, acting at his discretion as an independent contractor.

Add the following sub item:

107.19.4 Small Claims for Damages or Injury

If any person files a claim against the OWNER or CONTRACTOR for personal injury or property damage resulting from, arising out of, or caused by the operations of the Contactor, or any work within the limits of the project, the Contractor must either submit to the Owner a duly executed full release within thirty (30) days from the date of written claim, or immediately report the claim to his liability insurance carrier for their action in adjusting the claim. If the Contractor fails to comply with this provision within the stipulated time limit, it will be Automatically deemed that the Contractor has appointed the Owner as its irrevocable Attorney in Fact authorizing the Owner to report the claim directly with the liability insurance carrier. This provision is in and of itself a Power of Attorney from the Contractor to the Owner which authorizes the Owner to take said action on behalf of the Contactor without the necessity of the execution of any other document. If the Contractor fails to comply with the provisions of this item the Owner, at its own discretion, may terminate this contract or take any other actions it deems appropriate. Any payment or portion thereof due the Contractor, whether it is a final payment, progress payment, payment out of retainage or refund payment may be withheld by the Owner as is authorized by item 109.4. Bankruptcy, insolvency or denial of liability by the insurance carrier shall not exonerate the Contractor from liability.

ITEM 109 MEASUREMENT AND PAYMENT

109.5 Monthly Estimate, Partial Payments, Retainage, Final Inspection, Acceptance and Final Payment

109.5.2 Retainage

Add the following:

(4) On projects where the contract price, at the time of execution, is greater than $400,000.00 the Owner may retain 10 percent of the amount due the Contractor, with the retainage above 5 percent deposited in an

interest bearing account and interest earned on such 5 percent retained funds shall be paid to the Contractor upon completion of the contract.

109.5.3 Final Inspection and Acceptance

Add the following:

Within ten (10) days after the Contractor has given the Engineer written notice that the work has been completed, or substantially completed, the Engineer and the Owner shall inspect the work and within said time, if the work be found to be completed or substantially completed in accordance with the Contract Documents, the Engineer shall issue to the Owner and the Contractor his Certificate of Completion, and there upon it shall be the duty of the Owner within ten (10) days to insure a Certificate of acceptance of the work to the Contractor or to advise the Contractor in writing of the reason for non-acceptance.

Definition of Substantially Complete: The date of substantial completion of a project or specified area of a project is the date when the construction is sufficiently completed, in accordance with the contract documents, as modified by any change order agreed to by the parties, so that the Owner can occupy or utilize the project or specified area of the project for the use for which it was intended.

8.2 Division 200 Site Protection & Preparation

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.2: Revisions to NCTCOG's Division 200 Site Protection & Preparation

Revised	Standard Specification Item No.	Description
	201.	**TEMPORARY EROSION, SEDIMENTATION, AND WATER POLLUTION PREVENTION AND CONTROL**
	201.1.	Description
	201.2.	Items of Work and Materials
	201.3.	Pre-construction Submittals
	201.4.	Construction Requirements
(1)	201.5.	Silt Fence
	201.6.	Interceptor Swale
	201.7.	Diversion Dike
	201.8.	Triangular Sediment Filter Dike
	201.9.	Check Dam (Rock)
	201.10.	Check Dam (Sand Bag)
(1)	201.11.	Stabilized Construction Entrance
	201.12.	Stop Outlet Sediment Trap
	201.13.	Pipe Slope Drain
	201.14.	Inlet Protection
	201.15.	Erosion Control Blankets
	201.16.	Mulching
	201.17.	Measurement and Payment
	202.	**LANDSCAPING**
	202.1.	Removal, Protection, and Replacement of Trees, Shrubbery, Plants, Sod and Other Vegetation
(1)	202.2.	Topsoil
	202.3.	Soil Amendments
	202.4.	Fertilizer
	202.5.	Sodding
(1)	202.6.	Seeding Turf-grass
	202.7.	Rejection
	203.	**SITE PREPARATION**

	203.1.	Determining Location and Protection of Existing Structures and Utilities
	203.2.	Maintenance of Streets During Construction
	203.3.	General Site Preparation
(1)	203.4.	Unclassified Street Excavation
(1)	203.5.	Unclassified Channel Excavation
	203.6.	Borrow
(1)	203.7.	Embankment
	203.8.	Dust Control

ITEM 201 TEMPORARY EROSION, SEDIMENTATION, AND WATER POLLUTION PREVENTION AND CONTROL

201.5. Silt Fence

201.5.2. Materials

201.5.2.2. Posts

Delete the last sentence in its entirety and replace with the following:

No wood stakes shall be allowed.

201.11. Stabilized Construction Entrance

201.11.2. Materials

201.11.2.1 Stone

Delete the following subsection in its entirety and replace with the following:

Stone material shall consist of 4 to 6-inch minimum course aggregate riprap and shall be place in a layer 12-inch thick. No crushed concrete shall be allowed.

ITEM 202 LANDSCAPING

202.2. Topsoil

202.2.3. Construction Methods

Add the following:

A minimum of four (4) inches of topsoil shall be provided on all major thoroughfare medians and rights-of-way <u>and on all earthen channel slopes</u> to the lines and grades established by the construction plans. This will be material imported from off site. The City will approve material prior to placement.

202.6 Seeding Turfgrass

202.6.1. General

Add the following:

The Contractor shall maintain the seeded areas including watering until a "Stand of Grass" is obtained. A "Stand of Grass" shall consist of **75% to 80%** coverage, a minimum of one (1) inch in height. Re-seeding will be required in washed areas.

202.6.3. Planting Season and Application Rate

Delete the mixture, rate, and planting dates in Table 202.6.3.(a) Seeding Turfgrass and substitute:

Type I: Bermuda Grass - Hulled
50 lbs/acre April - June

Type II: Annual Rye Grass
40 lbs/acre September - March

Type III Bermuda Grass - Unhulled
January - March/July - August - 50 lbs/acre

A mix of seed shall be used in overlapping seasons.

ITEM 203 SITE PREPERATION

203.4. Unclassified Channel Excavation

203.4.3. Construction Methods

Add to the second paragraph the following:

Unless otherwise approved in writing by the City of Rockwall, where excavation to grade established in the field by the Owner terminates in loose or solid rock, the Contractor shall excavate 6 inches below the required subgrade elevations for the entire roadbed width and shall backfill with suitable selected materials as indicated on the plans. Suitable selected material shall include lime treated subgrade or a base material having a plasticity index not greater than 12. Payment for such work will be made under the items of unclassified street excavation, lime treated subgrade and hydrated lime. The 6-inch lime treated subgrade or base shall be compacted to 95% standard proctor density.

203.5 Unclassified Channel Excavation

Add the following paragraph:

Excavated material from the channel which is used as embankment to complete the established alignment, grade and cross-section of the channel shall be compacted to 95% standard proctor density.

203.7 Embankment

203.7.3. Density

Add the following:

Embankment in the City of Rockwall shall be compacted to not less than 95% of the maximum standard proctor density.

8.3 Division 300 Roadway Construction

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.3: Revisions to NCTCOG's Division 300 Roadway Construction

Revised	Standard Specification Item No.	Description
	301.	**SUBGRADE, SUBBASE AND BASE PREPARATION**
	301.1.	General
(1)	301.2.	Lime Treatment
(1)	301.3.	Portland Cement Treatment
	301.4.	Asphalt Emulsion Treatment
(1)	301.5.	Flexible Sub-base or Base (Crushed Stone/Concrete)
	301.6.	Geo-textiles Used in Paving applications
	302.	**ASPHALT PAVEMENT**
	302.1.	Description
	302.2.	Aggregates for Hot-Mix Asphalt Pavement
	302.3.	Bituminous Materials
	302.4.	Fibrous Reinforcement for Asphalt
	302.5.	Storage, Heating and Application Temperature of Bituminous Materials
	302.6.	Emulsified Asphalt Treatment
	302.7.	Prime Coat
	302.8.	Asphalt Base Course
	302.9.	Hot-Mix Asphalt Pavement
	302.10.	Measurement and Payment
	303.	**PORTLAND CEMENT CONCRETE PAVEMENT**
	303.1.	Description
(1)	303.2.	Portland Cement Concrete Pavement Materials
(1)	303.3.	Mix Design and Mixing Concrete
	303.4.	Equipment
(1)	303.5.	Construction Methods
	303.6.	Alley Paving
	303.7.	Pavement Leave-outs
(1)	303.8.	Pavement Testing and Evaluation
	303.9.	Measurement and Payment

	304.	**PAVING UNITS**
	304.1.	Solid Concrete Interlocking Paving Units
	305.	**MISCELLANEOUS ROADWAY CONSTRUCITON**
(1)	305.1.	Concrete Curb and Gutter
(1)	305.2.	Concrete Sidewalks, Driveway Approaches, and Barrier Free Ramps
(1)	305.3.	Concrete Medians
	305.4.	Reinforced Concrete Headers

ITEM 301. SUBGRADE, SUBBASE AND BASE PREPERATION

301.2 Lime Treatment

Add the following sentences:

Quick Lime shall not be used in the construction of roadway work in the City. Dry hydrated lime shall not be used for treating subgrade or base material unless specified on the plans

301.2.3. Lime Treatment Construction Methods

301.2.3.3. General Construction

301.2.3.3.1. Treatment for Materials in Place

Add the following:

Prior to final compaction of subgrade, samples of the subgrade material shall be collected by a testing laboratory approved by the City, and laboratory tests made to determine the amount of lime required.

The application rate for hydrated lime shall be selected to obtain at least the optimum lime percentage indicated by test method ASTM C977-83a, Appendix XI; however, not less than 27 lbs. per S.Y. shall be applied. A Geotechnical Engineer's report reflecting the recommended application rate and including supporting test data shall be submitted in writing to the City, for approval prior to beginning any lime treatment. Laboratory test may be waived provided a minimum of 36 lbs. per S.Y. is applied. Testing shall look for sulfates to see if Lime Treatment will cause and adverse effect on the subgrade.

301.2.3.7. Maintenance

Add the following to the first paragraph:

The lime treated subgrade shall be moist cured until covered by other base or pavement up to fourteen (14) days after final compaction. After 14 days without covering an application of 0.10 to 0.20 gallons per square yard emulsified asphalt shall be applied at the Contractor's expense. Reapplication of emulsified asphalt may be required if lime treated subgrade is not covered shortly after first application. Lime treated subgrade may be covered by other base or pavement when density of 95% of maximum at optimum moisture content is obtained.

301.2.1.2. Quicklime

301.2.1.2.1. General

Add to the beginning of the first paragraph:

Quicklime (dry) shall not be used in the City without written approval from the City.

301.3 Portland Cement Treatment

Add the following:

Portland cement modification of subgrade soils is not approved in Rockwall. Subgrade soils means natural ground or embankment encountered in the construction.

301.5 Flexible Subbase or base (Crushed stone/Concrete)

301.5.1. Material

301.5.1.1. General

Add the sentence:

No local limestone material shall be used as flexible base (crushed limestone) on Rockwall paving projects, unless otherwise shown on the plans.

301.5.1.2 Tests and Physical Requirements

After the first sentence add the sentence:

Samples of crushed limestone shall be submitted to the engineer testing laboratory employed by the City for testing and conformance with the specifications.

<u>ITEM 303 PORTLAND CEMENT PAVEMENT</u>

303.2. Portland Cement Concrete Pavement Materials

303.2.1. Aggregates for Portland Cement Concrete

303.2.1.3. Coarse Aggregates

Gradation: Add the sentence: For Rockwall paving projects, the coarse aggregate's gradation shall meet the requirements of Size No. 4 shown in the table.

303.2.10. Steel Wire Reinforcement

Revise first sentence to read:

"At the CITY'S option the use of…"

303.3 Mix Design and Mixing Concrete for Pavement

303.3.5. Mixing and Delivery

303.3.5.3. Central Mixing Plant

Add the following:

When a fly ash admixture is used with Type I cement in the production of portland cement concrete, separate silos shall be provided for fly ash and cement and provisions shall be made for individual measurements.

303.5 Construction Methods

303.5.6.Finishing

Delete 303.5.6. and add the following:

The finished concrete pavement construction under these specifications is expected to meet certain quality standards for surface of the concrete including the durability, texture, riding surface and appearance. The surface must be durable, firm, dense and well bonded to the aggregate to maintain an appearance and texture which is satisfactory to the Owner. Concrete pavement having a poor surface which has spalled (exposed aggregate) due to poor quality paste, high water-cement ratio, over-vibration, improper curing, extreme weather or any other reason, or does not have a satisfactory riding surface shall be removed and replaced at the Contractor's expense. It is extremely important that the pavement have a good rideable surface, free from undulations and rough joints. The City Engineer shall determine the acceptability of the pavement.

303.5.6.1. Machine Finishing

Machine finishing of pavement shall include the use of power-driven spreaders, reciprocating type power-driven vibrators, power-driven transverse strike-off, and screed.

The concrete pavement shall be consolidated by a reciprocating type mechanical vibrator. As soon as the concrete has been spread between the forms, the mechanical vibrator shall be operated to consolidate the concrete and remove all voids. Hand manipulated vibrators shall be used for areas not covered by the mechanical vibratory unit.

The transverse finishing machine shall first be operated to compact and finish the pavement to the required section and grade, without surface voids. The machine shall be operated over each area as many times and at such intervals as directed. At least two trips will be required and the last trip over a given area shall be a continuous run of not less than 40 feet. After completion of finishing with the transverse finishing machine a transverse drag float may be used.

After the floating has been completed and the excess water removed, but while the concrete is still plastic, the surface of the concrete shall be tested for trueness with an approved 10-foot steel straightedge furnished by the Contractor. The straightedge shall be operated from the side of the pavement, placed parallel to the pavement centerline and passed across the slab to reveal any high sports or depressions. The straightedge shall be advanced along the pavement in successive stages of not more than one-half its length. Practically perfect contact of the straightedge with surface will be required, and the pavement shall be leveled to this condition, in order to insure conformity with the surface test required below after the pavement has fully hardened and to insure a smooth rideable surface. Any correction of the surface required shall be accomplished by adding concrete if required and by operating the

longitudinal float over the area. The surface test with the straightedge shall then be repeated.

After completion of the straightedge testing and surface correction the surface of the pavement shall be finished by an approved method. Methods available for pavement surface finish including a burlap drag finish, a broom finish or a belt finish. Unless otherwise shown on the plans, the pavement surface shall be finished with the burlap drag.

303.5.6.1.1. Burlap Drag Finish

If the surface texture is to be a drag finish, a drag shall be used; it shall consist of a seamless strip of damp burlap or cotton fabric, and it shall produce a uniform surface of gritty texture after dragging it longitudinally along the full width of pavement. For pavement 16 feet or more in width, the drag shall be mounted on a bridge which travels on the forms. The diameter of the drag shall be such that a strip of burlap or fabric at least 3 feet wide is in contact with the full width of pavement surface while the drag is used. The drag shall consist of not less than two layers of burlap with the bottom layer approximately 6 inches wider than the upper layer. The drag shall be maintained in such a condition that the resultant surface is of uniform appearance and reasonably free from gravels over 1/16-inch in depth. Drags shall be maintained clean and free from encrusted mortar. Drags that cannot be cleaned shall be discarded and new drags substituted.

303.5.6.1.2. Broom Finish

If the surface texture is to be broom finished, it shall be applied when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping. The broom operation shall be so executed that the corrugation produced in the surface shall be uniform in appearance and not more than 1/16-inch in depth. Brooming shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The surface thus finished shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom. Brooms shall be of the quality, size, and construction and shall be operated to produce a surface finish meeting the approval of the Owner. Subject to the approval of the Owner, the Contractor may be permitted to substitute mechanical brooming in lieu of the manual brooming as herein described.

303.5.6.1.3. Belt Finish

If the surface texture is to be belt finish, when straightedging is completed and after sheen has practically disappeared and just before the concrete becomes non-plastic, the surface shall be belted with a 2-ply canvas belt not less than 8 inches wide and at least 3 feet longer than the pavement width. Hand belts shall have

suitable handles to permit controlled, uniform manipulation. The belt shall be operated with short strokes transverse to the centerline and with a rapid advance parallel to the centerline.

303.5.6.2. Hand Finishing

Hand finishing of concrete pavement will be permitted in areas where it is not practical or possible to construct with finishing machines. These areas include, but are not limited to, intersections, left turn lanes, crossovers, transition areas and where the pavement width is not uniform. In all hand finished areas, one-half (1/2) extra sack of cement per cubic yard of concrete shall be used in the mix. In hand finished areas, the concrete shall be struck off with an approved strike-off screed to such elevation that when consolidated and finished the surface of the pavement shall conform to the required section and grade. The strike template shall be moved forward with a combined transverse and longitudinal motion in the direction the work is progressing, maintaining a slight excess of material in front of the cutting edge. The concrete shall then be tamped with an approved tamping template to compact the concrete thoroughly and eliminate surface voids and the surface screeded to required section. After completion of a strike-off, consolidation and transverse screeding, a hand-operated longitudinal float shall be operated to test and level the surface to the required grade.

Workmen shall operate the float from approved bridges riding on the forms and spanning the pavement. The longitudinal float shall be held in contact with the surface and parallel to the centerline and operated with short longitudinal strokes while being passed from one side of the pavement to the other. If contact with the pavement is not made at all points, additional concrete shall be placed, if required, and screeded, and the float shall be used to produce a satisfactory surface. Care shall be exercised to keep the ends of the float from digging into the surface of the pavement. After a section has been smoothed so that the float maintains contact with the surface at all points in being passed from one side to the other, the bridges may be moved forward half the length of the float and the operation repeated. Other operations and surfaces tests shall be as required for machine finishing.

303.5.6.3. Edging at Forms and Joints

After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints shall be worked with an approved tool and rounded to the radius required by the plans. A well-defined and continuous radius shall be produced and a smooth, dense mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting of the tool during use.

At all joints, any tool marks appearing on the slap adjacent to the joints shall be eliminated by brooming the surface. In doing this, the

rounding of the edge shall not be disturbed. All concrete on top of the joint filler shall be completely removed.

All joints shall be tested with a straightedge before the concrete has set, and correction shall be made if one side of the joint is higher than the other or if they are higher or lower than the adjacent slabs.

303.8 Pavement Testing and Elevation

303.8.2. Pavement Thickness Test

Delete in its entirety and substitute therefore the following:

Upon completion of the work and before final acceptance and final payment shall be made, pavement thickness tests shall be made by the Contractor. Tests shall be made at 400-foot spacings along the length of the pavement. In the event a deficiency in the thickness of pavement is revealed, two (2) subsequent sets necessary to isolate the deficiency shall be made - one at a jointed section prior to the deficient station and one at a jointed section following the deficient station. Additional tests shall be obtained as necessary, at jointed section intervals to isolate the deficient area. Removal and replacement of concrete shall extend to joint boundaries, the full width of pavement section. If the average thickness of pavement in a particular section is less than called for on the plans, the pavement section shall be removed and replaced with the correct thickness, extending to joint boundaries, the full width of the pavement section, at the Contractor's entire expense. No additional payment over the contract unit price shall be made for any pavement of a thickness exceeding that required on the plans.

303.8.3. Pavement Strength Test

303.8.3.1 For Standard Classes of Concrete

Revise the first paragraph to read:

During the progress of the work, the Inspector or a commercial laboratory shall cast test cylinders or beams to maintain a check on the strengths of the concrete being placed. Add the following sentence and table: A table titled "PAVEMENT STRENGTH REQUIREMENTS", is provided showing the required pavement thickness, 7-day strength, 28-day strength, minimum cement factor and maximum slump for each street type to be constructed in Rockwall.

Add to the 5th paragraph:

Test cores shall be obtained within ten (10) working days after the 28-day test results have been provided by the commercial laboratory. All test cores shall be obtained by a commercial laboratory, at the Contractors expense. One (1) core shall be obtained in the immediate area of the deficiency and two (2) additional cores shall be obtained - one at a jointed section prior to the deficient station and one at a jointed section following the deficient station. Additional cores shall be obtained as necessary, at jointed section intervals to isolate the deficient area. Removal and replacement of concrete shall extend to joint boundaries, the full width of pavement section.

Amend the second sentence of the 7th paragraph to read:

"Pavement not meeting the minimum specified 28-day strength after cores have been tested shall be removed and replaced at the Contractor's expense."

Delete the table 303.8.3.1.(a) and the paragraph below it.

Add the following table:

Pavement Strength Requirements

Street Type	Minimum Thick-ness (inches)	Compr. 7-Day (psi)	Strength 28-Day (psi)	Minimum Cement (sacks / CY)		Max. Slump (inches)
				Machine placed	Hand Placed	
* Arterial	10”	2,500	3,600	6.0	6.5	3”
* Collector	8”	2,500	3,600	6.0	6.5	3”
Residential	6”	2,500	3,600	6.0	6.5	3”
Alley	7”-5”-7”	2,500	3,600	6.0	6.5	3”
Fire Lane	6”	2,500	3,600	6.0	6.5	3”
Driveways	6”	2,500	3,600	6.0	6.5	3”
Barrier Free Ramps	5”	2,500	3,600	N/A	6.5	3”
Sidewalks	4”	2,100	3,000	N/A	5.5	3”
Parking Lot/ Drive Aisles	5”	2,100	3,000	5.0	5.5	3”
Dumpster Pads	7”	2,500	3,600	6.0	6.5	3”

* Paving section designs for arterials and collectors shall be based off 30 year projected traffic volumes and geotechnical analysis/report. (Paving section design shall include but not limited to the following: pavement thickness, reinforcing size and spacing, pavement strength, subgrade thickness, subgrade treatment type (lime or cement))

ITEM 304 PAVING UNITS

304.1. Solid Concrete Interlocking Paving Units

304.1.2. Materials

304.1.2.2. Base

Delete in its entirety and replace with the following:

The base shall be constructed of 3,600 psi reinforced concrete meeting the requirements of Item 5.8 of the Standard Specifications. #4 reinforcing bars shall be placed 18 inches on center, both ways, in all concrete.

304.1.3. Construction Methods

304.1.3.3. Construction Procedures

304.1.3.3.3 Paving Units and Joints

Delete paragraph two in its entirety and replace with the following:

Joints between paving units shall have a spacing of (1/8").

304.1.4. Measurement and Payment

Delete in its entirety and replace with the following:

Interlocking Concrete Paving Stone shall be measured and paid for by the square foot of stone, sand and concrete base furnished and installed, which price shall include all labor, including excavation, materials, equipment, tools and incidentals necessary to complete the work. No separate payment shall be made for 6" concrete base or washed sand. Payment for removal and disposal of existing concrete median pavement, if required, shall be made by the square foot. Payment shall include all labor, equipment, materials, tools, and incidentals necessary to complete the work.

ITEM 305. MISCELLANEOUS ROADWAY CONSTRUCTION

305.1. Concrete Curb and Gutter

305.1.3. Construction Methods

305.1.3.2. Reinforcing Steel

The third sentence, first paragraph shall be revised to read:

All bars at splices shall be lapped a minimum of 30 diameters of the bar or 12-inches, whichever is greater.

305.2 Concrete Sidewalks, Driveway Approaches, and Barrier Free Ramps

305.2.2. Materials

305.2.2.2. Reinforcement

Revise the first sentence to read:

Driveway approaches and walk reinforcing shall be No. 3 bars on 24-inch centers.

305.2.3. Construction Methods

305.2.3.1. General

Add to end of first paragraph:

The drive approach shall have a minimum thickness equal to the thickness of the adjacent street or 6 inches, whichever is greater.

305.2.3.7. Joints

Revise second sentence to read:

Expansion joints shall be placed in the sidewalk at 20-foot intervals or as otherwise specified by the Owner.

305.3. Concrete Medians

Delete in entirety.

8.4 Division 400 Roadway Maintenance & Rehabilitation

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.4: Revisions to NCTCOG's Division 400 Roadway Maintenance & Rehabilitation

Revised	Standard Specification Item No.	Description
	401.	**CRACK SEALING**
	401.1.	General
	401.2.	Materials
	401.3.	Methods
	402.	**PAVEMENT CUT, EXCAVATION AND REPAIR**
	402.1.	General Requirements
	402.2.	Minimum Size of Repair
(1)	402.3.	Sawing
	402.4.	Replacing Paved Surfaces
	403.	**ASPHALTIC PAVEMENT REPAIR**
	403.1.	Description
	403.2.	Materials and Mixing
	403.3.	Methods
	403.4.	Measurement and Payment
	404.	**SURFACE TREATMENT**
	404.1.	Description
	404.2.	General
	404.3.	Slurry Seals and Micro-(Re)Surfacing
	404.4.	Bituminous Surface Treatment (Chip Seal)
	405.	**ULTRA THIN CONCRETE PAVING (WHITETOPPING)**
	405.1.	Description
	405.2.	Materials
	405.3.	Construction Methods
	405.4.	Measurements
	405.5.	Payment

ITEM 402 PAVEMENT CUT, EXCAVATION AND REPAIR

402.3 Sawing

402.3.2. Equipment

Revise second paragraph to read:

Saw blades shall make a clean, smooth cut, producing a grove a minimum of 3/8-inch wide and to the full depth required by these specifications or as shown on the plans.

8.5 Division 500 Underground Construction & Appurtenances

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.5: Revisions to NCTCOG's Division 500 Underground Construction & Appurtenances

Revised	Standard Specification Item No.	Description
	501.	**UNDERGROUND CONDUIT MATERIALS**
	501.1.	General
	501.2.	Clay Wastewater Pipe
	501.3.	Vitrified Clay Pipe for Micro-tunneling, Slip-lining, Pipe Bursting and Tunnels
(1)	501.4.	Concrete Pressure Pipe and Fittings
(1)	501.5.	Reinforced Concrete Wastewater Pipe With Rubber Gasket Joints
	501.6.	Reinforced Concrete Culvert, Storm Drain, Pipe and Box Section
(1)	501.7.	Ductile-Iron Pressure Pipe and Fittings
	501.8.	Ductile-Iron Pipe for Pipe Rehabilitation
(1)	501.9.	Steel Pipe and Fittings
	501.10.	Seamless Copper Tubing
	501.11.	Corrugated Metal Pipe or Arch Shapes
	501.12.	Structural Plate Structures
	501.13.	Tunnel Liner Plates
(1)	501.14.	Polyvinyl Chloride (PVC) Water Pipe
	501.15.	Polyvinyl Chloride (PVC) Pressure-Rated (SDR Series)
	501.16.	Molecularly Oriented Polyvinyl Chloride (PVCO) Water Pipe
	501.17.	Polyvinyl Chloride (PVC) Wastewater Pipe & Fittings with Dimension Control
	501.18.	Polyvinyl Chloride (PVC) Profile Gravity Wastewater Pipe and Fittings-For Direct Bury and Slip-lining Applications
	501.19.	PVC Composite Pipe for Wastewater Conduits
	501.20.	Polyvinyl Chloride (PVC) Corrugated Storm Water Pipe with Smooth Interior and Fittings
	501.21.	Solid Wall Polyethylene Plastic Pipe for Water, Wastewater and Pipe Rehabilitation
	501.22.	Polyethylene (PE) Large Diameter Wastewater Pipe with Modified Wall Profiles and Performance Standards

	501.23.	Polyethylene (PE) Corrugated Drainage Tubing and Corrugated Smooth Lined Storm Water Pipe and Fittings
	501.24.	Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Wastewater Pipe
	502.	**APPURTENANCES**
(1)	502.1.	Manholes
	502.2.	Wastewater Main Cleanouts
(1)	502.3.	Fire Hydrants
	502.4.	Thrust Restraint
(1)	502.5.	Fittings
(1)	502.6.	Valves
	502.7.	Performed Flexible Conduit Joint Sealant
	502.8.	Polyethylene Wrap for Metal Pipe Fittings
	502.9.	Corrosion-Resistant Coatings and Liners for Wastewater Conduit and Appurtenances
	502.10.	Connections to Conduit for Service
	502.11.	Miscellaneous Conduit Connections
	502.12.	Structures
	503.	**TRENCHLESS INSTALLATION**
	503.1.	Conduit Materials
	503.2.	Tunnel/Chasing Pipe Spacers
	503.3.	Methods of Jacking, Boring or Tunneling
	503.4.	Measurement and Payment
	504.	**OPEN CUT - BACKFILL**
	504.1.	General
(1)	504.2.	Materials
(1)	504.3.	Excavation and Foundation
(1)	504.4.	Backfill-General Requirements
(1)	504.5.	Embedment
(1)	504.6.	Final Backfill
	504.7.	Measurement and Payment of Backfill
	505.	**OPEN CUT – GENERAL CONDUIT INSTALLATION**
	505.1.	General
	505.2.	General Installation Requirements for Pipe Types
	506.	**OPEN CUT – WATER CONDUIT INSTALLATION**
	506.1.	Description
	506.2.	Materials
(1)	506.3.	Laying Water Conduit

	506.4.	Pipe Joints
(1)	506.5.	Hydrostatic Test
	506.6.	Connections to Existing Water Conduits
	506.7.	Purging and Disinfection of Water Conduits
	506.8.	Plugs
	506.9.	Measurements and Payments
	507.	**OPEN CUT- WASTEWATER CONDUIT INSTALLATION**
	507.1.	Description
	507.2	Materials
	507.3.	Laying Wastewater Conduit
	507.4.	Wastewater Conduit Joints
(1)	507.5.	Test and Inspections
	507.6.	Measurement and Payment for Wastewater Conduit Installation
	508.	**OPEN CUT – STORM WATER CONDUIT INSTALLATION**
	508.1.	Description
	508.2.	General
	508.3.	Reinforced Concrete Pipe for Storm Water
	508.4.	Corrugated Metal Pipe
	508.5.	Structural Plate Conduit
	508.6	Measurement and Payment for Strom Water Conduit Installation
(1)	508.7	Storm Sewer Conduit Inspection
	509.	**CROSSINGS**
	509.1.	General
	509.2.	State Highway Crossings
	509.3.	Street and Alley Crossings
	509.4.	Railroad Crossing
(1)	509.5.	Creek and River Crossings
	509.6.	Measurement and Payment of Crossings

ITEM 501.UNDERGROUND CONDUIT MATERIALS

501.4 Concrete Pressure Pipe and Fittings

Add the following:

C302 Reinforced Concrete Pressure Pipe, Non Cylinder Type, for Water and Other Liquids, and C300 Reinforced Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids are not approved for use in the City, unless otherwise shown in the plans or approved in writing. Reinforced concrete cylinder pipe in sizes 16 inches through 21 inches shall be Bar-Wrapped Concrete Cylinder Pipe AWWA Type C303. For pipe 42 inches in diameter and above the pipe shall be Prestressed Concrete

Pressure Pipe, Steel Cylinder Type, AWWA Type C301. Between 24 inches and 36 inches the pipe furnished may be either type. All pipe shall be designed to withstand the working pressure and external load as shown in the plans.

501.5 Reinforced Concrete Wastewater Pipe With Rubber Gasket Joints

501.5.1. General

Add the following:

All reinforced concrete pipe used in the sanitary sewer system shall conform to ASTM Designation C76 and shall be of the Thick Wall Pipe design with aggregates consisting of limestone aggregate in the proportion of at least 75 percent by weight of the total aggregates, unless otherwise provided in the Special Conditions to the Specifications.

501.7 Ductile-Iron Pressure Pipe and Fittings

501.7.1. General

Add the following:

Minimum design thickness for all Ductile-Iron Pipe installed shall be Class 51 on sizes 12 inches and smaller, and Class 52 on sizes 14 inches and larger.

501.9 Steel Pipe and Fittings

501.9.2. Applicable Standard Specifications

Add the following:

Contractor shall submit a written certification that the pipe has been manufactured and tested in accordance with the applicable standards.

The pipe shall be manufactured, fabricated, coated and lined by a single manufacture being a certified member in good standing of the Steel Plate Fabricators Association (SPFA).

501.9.3. Pipe and Fitting Requirements

Substitute the second to last sentence with the following:

All steel pipe to be furnished for this project shall be designed in accordance with AWWA M11 for the most critical application of internal pressures and external loads. The following design conditions shall apply:

<u>Internal Pressure</u> (Design to account for working and surge together)

1) Working Pressure of 200 psi
2) Surge allowance of 250 psi

<u>External Loading for Buried Pipe</u>

1) External loads shall be comprised of the weight of the backfill together with live and impact loads. Earth loads shall be calculated based on ditch and positive projecting conduit. The earth load for the pipe design shall be the greater of the above two conditions.
2) External live loads shall be at least equivalent to AASHTO HS-20 loading.
3) Modulus of soil reaction (E') < 1000 psi
4) Unit weight of fill (w) > 120 pcf
5) Deflection lag factor (D1) (1.0)
6) Bedding constant (K) = 0.100

7) hw = h = depth of cover above top of pipe
8) Maximum deflection in percent of pipe diameter shall be as determined by AWWA M11, latest edition, as calculated using moment of inertia of steel cross section of pipe wall. Moment of inertia of cement mortar shall not be included in calculation of maximum deflection.

Available Deflections

Mortar-lined and coated = 2 percent of pipe diameter

Maximum Working Stress

The maximum combined stress based on working pressure shall be no greater than 50 percent of the minimum yield strength or 18,000 psi, whichever is less.

The maximum combined stress based on test pressure shall be no greater than 75 percent of the minimum yield strength or 24,000 psi, whichever is less.

501.9.4. Joints

Add the following:

In general, pipe joints shall be as follows, as indicated on the Drawings or as specified.

1) Flanged joints shall be provided as a minimum at all flanged valves, meters and other equipment.
   a. Flanges: Unless otherwise noted, flanges shall conform to the requirements of AWWA C207, Table D, E or F as required.
   b. Flange Bolts and Nuts: Shall be furnished in size and numbers stipulated in AWWA C207. Unless otherwise indicated, bolts shall be carbon steel to meet the requirements of ASTM Designation A307, Grade B for regular joints.
2) Restrained Lap-Welded slip joints (expanded bell) with a single fillet weld.
3) Carnegie-Shape Rubber Gasket Joint: Bell and spigot rubber gasket joint will be furnished with the bell end of the pipe mechanically expanded to the required internal diameter and the spigot end furnished as a sized Carnegie shape welded to the opposite end of the pipe. The expanded bell and Carnegie spigot shall be designed such that when the pipe is laid and jointed, it will be self centered, and the O-ring rubber gasket will be enclosed tightly on all four sides and confined under compression adequate to ensure watertightness. Gaskets to be full-face for use with flat face flanges and ring type for use with raised face flanges. Gasket material for water service pipe shall be cloth inserted rubber sheet, 1/8-inch thick or red rubber, ASTM D1330, Grade 1. Gasket material for air piping shall be as above, but of EPDM.
4) Mechanical Couplings: Mechanical couplings designed to provide a stress relieving flexible joint shall consist of a cylindrical sleeve, two gaskets, two follower rings and a set of bolts and nuts.
   a. Sleeves: Manufactured of ASTM A53 steel for sizes 10-inches and smaller. ASTM A36 steel for sizes 12-inches and larger. Minimum sleeve length shall be five inches for pipe 12-inches and smaller, 7-inches for pipe 14-inches through 24-inches, and 10-inches for pipe larger than 24-inches.

b. Follower Rings: Ductile Iron ASTM A536 or AISI C1020 Steel.
c. Bolts and Nuts: High strength low alloy steel with heavy semi-finished hexagon nuts.
d. Gaskets: Shall be of synthetic rubber suitable for operating conditions.
e. Shop Finish: Manufacturer's standard unless otherwise noted.
f. Manufacturer: Baker 200, Dresser Style 39, Rockwell Series 411 or approved equal.

501.14 Polyvinyl Chlorine (PVC) Water Pipe

Add the following:

All PVC water pipelines shall be AWWA C900 PVC Pipe, DR 14 PC 305 (blue in color) for pipeline sizes 12-inch and smaller. For 14-inch and larger water pipelines shall be AWWA C905 PVC Pipe, DR 18 PC 235 (blue in color). All PVC water pipe shall be extruded PVC pipe of the rubber gasket type joint and shall be furnished in 20-foot nominal laying lengths.

All fittings shall be ductile-iron of bell and spigot or mechanical joint, Class 250, in accordance with AWWA Specification C 110, C 111 or C 153 (Compact), and shall be tar coated on the outside surface and shall have an interior cement lining with seal coat per AWWA Specification C104, unless otherwise shown in the plans.

502 APPURTENANCES

502.1 Manholes

502.1.1. Manhole Materials

502.1.1.1. Precast Reinforced Manhole Sections

502.1.1.1.1. Joints

Add the following:

All sanitary sewer manholes installed in the City of Rockwall, shall have "O" ring joints conforming with ASTM Designation C443

502.1.4. Manhole Construction

502.1.4.1. Manhole Types and Requirements

502.1.4.1.1. Cast-In-Place Concrete Manholes

502.1.4.1.1.

Add the following:

502.1.4.1.1.1. Forms

Manholes shall be constructed in place in accordance with the details shown in the plans and using forms as market by Improved Construction Methods, Inc., Jacksonville, Arkansas or Symons Corp., DePlaines, Illinois, or an approved equal.

502.1.4.1.1.2. Base

The base shall be cast monolithically with the rest of the manhole. The invert and flow channel shall be formed during or immediately after the placing of the concrete and trowel-finished as soon as the concrete has set sufficiently.

The concrete must set for 24 hours before any pipe inside the manhole is trimmed. Concrete shall be minimum 4200 psi.

The base concrete shall be 4200 psi, maximum slump 4 inches vibrated or tamped on undisturbed bearing. The base shall have a minimum diameter or width of at least 1'-0" greater than the outside diameter of the manhole, and a minimum thickness including the area under the pipe as follows:

0' to 12' manhole……	12"
12' to 20' manhole……..	15"
20' and above…….	18"

502.1.4.1.1.3. Invert

All invert channels shall be smooth and accurately shaped to a semi-circular bottom conforming to the inside of the adjacent sewer section. Inverts shall be formed directly in the concrete of the manhole base or may be constructed by laying full section sewer pipe through the manhole and breaking out the top half after the base is constructed. Inverts shall extend up at least half of the diameter of the pipe. Changes in the direction of the sewer and entering branches shall have a true curve of as large a radius as the size of the manhole will permit. Where the pipe is laid through the manhole, the invert shall be finished to 1/4-inch below the center of the pipe. The pipe shall be trimmed down to 1/4-inch below the surface of the invert, and the edges of the pipe along the invert and at the walls of the manhole shall be plastered and brush-finished. Plaster shall be 2-parts of masonry sand to 1-part of Portland cement, or an approved non-shrink grout.

502.1.4.1.1.4. Manhole Barrel Section

The vertical forms, wall spaces, and placing cone must be carefully positioned and firmly clamped in place before any placement is made. The wall spacers must be located 90 degrees from each other. The manhole shall be cast of 4200 psi concrete with a maximum slump of 4 inches. The first placement shall consist of approximately 1/2 yard of concrete evenly around the walls and vibrated until there is a minimum slump of 60 degrees from the bottom of the forms to the bearing surface both inside and outside of the manhole. When this is complete and before additional concrete is added, the concrete must be carefully vibrated on each side of each pipe. Additional concrete must be deposited in evenly distributed layers of about 18 inches with each layer vibrated to bond it to the preceding layer. The wall spacers must be raised as the placements are made

with the area from which the spacer is withdrawn being carefully vibrated. Excessive vibration is to be avoided. A maximum of 2% calcium chloride may be added to the concrete, at the Contractor's option, to speed the set. The forms may be removed as soon as the concrete has sufficiently set (approximately 2 hours after placement depending on field conditions).

Form marks and offsets up to 1-inch will be permitted on the outside surface of the manhole. Form marks and offsets up to 1/2-inch will be permitted inside the manhole. All offsets on the inside surface of the manhole will be smoothed and plastered so there is no projection or irregularity capable of scratching a worker or catching and holding water or solid materials. Honeycomb will be plastered with a mortar consisting of 3 parts of masonry sand and 1-part Portland cement upon removal of the forms. Manholes deemed to be structurally unsound shall be replaced.

502.1.4.1.1.5. Backfilling

Will be performed evenly and carefully around the manhole 24 hours or more after the placement of concrete is completed and shall conform to these specifications.

502.1.4.1.1.6. <u>Cold Joints</u>:

Should circumstances make a cold joint necessary, a formed groove or reinforcing dowels will be required in the top of the first placement for shear protection. Immediately before the second placement is made, the surface of the cold joint shall be thoroughly cleaned and wetted with a 1-1/2 inch layer of mortar (2 parts sand and 1-part cement) being deposited on the surface. Cold joints below the natural water table or in the bottom 4 feet of the manhole shall include an approved waterstop material. Waterstops shall be heavy duty polyvinyl conforming to Corps of Engineers Specification CRD-572, latest edition, as manufactured by Servicised Products Division of W.R. Grace and Co.; B.F. Goodrich Company; Electrovert, Inc.; W.R. Meadows, Inc.; or approved equal.

502.3 Fire Hydrants

302.3.1. Materials

Delete all parts of Item 502.3.1 in its entirety except sub items 502.3.1.3, 502.3.1.4., 502.3.1.10, and 502.3.1.14.

Add the following:

All fire hydrants furnished shall conform strictly with the latest specification C-502 of the American Water Works Association Standards for dry barrel fire

hydrants and must comply with the following supplementary details and changes or addition.

a) Inlet Connection:

Unless otherwise specified the inlet connection shall be a six (6) inch standard mechanical joint complete with all joint accessories. The inlet shoe shall be cast of the same or stronger metal than the lower barrel to prevent impact damage of the shoe. The interior of the shoe, including the lower valve plate and/or cap nut shall have a protective epoxy coating of at least 4 mils applied in the shop. If a cap nut is utilized it must be locked in place with a stainless steel lock washer or similar non-corrosive device and all machined surfaces must be protected from water intrusion to prevent corrosion and assure ease of field teardown or maintenance.

b) Main Valve:

The main valve shall be reversible compression type, closing with the pressure and shall be not less than 5-1/4" in diameter. Composition of the main valve shall be molded rubber or neoprene having a durometer hardness of 90 ± 5 and shall be not less than 1" thick to protect against hydrant chatter and give long term durability.

c) Outlet Nozzles:

All hydrants shall be "three way", equipped with two hose nozzles and one pumper nozzle.

d) Diameter Outlet Nozzles:

The hydrant shall have two hose nozzles, two and one-half (2-1/2") inches nominal I.D., and one pumper nozzle four and one-half (4-1/2") inches nominal I.D. with Natural Standard Hose Threads.

e) Nozzle Attachment:

All nozzles shall be mechanically connected into the barrel and have "O" Ring pressure seals to provide a positive seal between nozzles and hydrant barrel. A suitable nozzle lock shall be provided and shall be stainless steel or bronze. Nozzles shall not be caulked in.

Nozzle caps shall be furnished with pentagon nut the same size as the operating nut. They shall be furnished with interior rubber gaskets that will seat against bronze nozzles. All caps shall be secured to hydrant barrel by heavy duty non-kinking chains with a chain loop on each cap that permits free turning of the cap, for speed and ease of removal by fire fighters.

f) Operating Nut:

The operating nut shall be non-rising, pentagonal shape, measuring 1-1/8" at the top and 1-1/4" at the base from point to flat. Pentagon shall have a depth of at least one and one-quarter inch (1-1/4"). The hydrant shall be constructed in such a manner that the operating nut, "O" Rings and washers can be removed and replaced without removing the bonnet. All bearing surfaces of the operating nut shall be bronze.

g) Holddown Nut:

Holddown nut must have intregal weather seal. Resilent seal between holddown nut and operating nut shall prevent debris entry to protect operating nut from damage.

h) Lubrication Reservoir:

The hydrant shall have a completely "O" Ring sealed oil reservoir with a minimum of two (2) "O" Ring pressure seals to prevent contamination of the oil around the operating parts of the hydrant. The oil reservoir shall be cast in such a manner that all operating parts shall be repairable without removal of the bonnet to facilitate repairs and shall be of a design that all bearing surfaces and threaded parts will be automatically lubricated upon each operation of the hydrant. If bearing surfaces are not lubricated, the design shall keep operating friction to a minimum. A high wear resistant thermoset plastic anti-friction washer shall be in place above the thrust collar to minimize operation torque and facilitate long term ease of operation. The operating threads must be sealed against contact with water to all times regardless of open or closed position of main valve. The hydrant shall have the capability of field personnel to visually check oil level and add additional oil if needed. Filler and inspection plug shall be recessed or flush type.

i) Traffic Feature:

Hydrants shall be "traffic model" having upper and lower barrel joined approximately two inches (2") above the groundline by a breakable "swivel" flange providing 360 degree rotation of the upper barrel for nozzle positioning and must be capable of rotating barrel with line pressure on. The groundline shall not be less than eighteen inches (18") below the centerline of the lowest nozzle and shall be clearly marked in a permanent manner on the lower barrel. A breakable stainless steel stem coupling shall join the two-piece stem adjacent to the ground line flange. Screws, clevis pins, fasteners or bolts used in the coupling shall be Series 300 stainless steel. The weakened portion of the stem coupling shall be located to divert pressure from the stem coupling directly to the upper and lower stems when torque is applied in seat ring removal.

Design of the coupling shall be such that when the coupling is broken, no part of the coupling will shatter or come loose and fall into hydrant and the break will not occur through the pins or bolts holding the coupling to the stem.

j) Drain Valve Assembly:

Hydrants shall be equipped with two drain valves which drain the barrel when the hydrant is closed and seal shut when the hydrant is in the open position. The upper valve plate, seat ring and drain ring (shoe bushing) must be bronze and work in conjunction to form an all bronze drainway. Upper valve plate if not bronze, must be epoxy coated.

The bronze seat ring shall be a minimum 5-1/4" inside diameter and shall thread into a bronze drain ring forming an all bronze drainway with two (2) drain outlets for double protection against drain clogging and corrosive damage. All bronze components shall have less than 16% zinc

alloy, Grade A to give high corrosion resistance as recommended in Section 2.1, Table I of American Water Works Association Standard C-502. Seat ring seals shall be "O" Rings. Hydrant shall be designed so that during opening and closing operation(s), water pressure force flushes the drain valve and drain openings to prevent clogging, thus allowing barrel drainage.

k) Repair:

All internal operating parts shall be removable from above ground level with a lightweight stem wrench.

l) Provisions for Extension:

All hydrants shall be capable of being extended to accommodate future grade changes without excavation. Extension of the hydrant shall be made by adding at the groundline flange a new coupling and stem section equal to the length of the extension. This must facilitate easy field grade adjustment.

Stem extensions made by adding new section of stem to the threaded section of the stem at the top of the hydrant will not be accepted.

Extension kits must be available from manufacturer in six-inch (6") increments.

m) Pressure Loss and Working Pressure

Pressure loss through one (1) four and one-half inch (4-1/2") nozzle at 1000 GPM shall not be more than 5.0 psi.

n) Nuts and Bolts

Body Bolts, studs and nuts shall be 316 stainless steel.

Add the following:

502.3.4. Paint and Protective Coatings

All fire hydrants furnished under these specifications shall have paint and protective coatings applied at the factory or in the field as specified herein.

a) Factory Coating:

All hydrants shall be cleaned at the factory by shot blasting and shall be painted above the groundline (at the factory) with two (2) coats of neutral orange rust-prohibitive primer which shall be compatible with the finished coating.

All continuously wetted ferrous metal surfaces in the hydrant shoe shall be protected with a two-part thermoset epoxy coating to a nominal thickness of 4 mils of corrosion protection and shall be of a color that is easily identified as an epoxy coating. All other exposed exterior surfaces below ground level shall be coated with asphalt varnish as specified in American Water Works Association Standard C-502, Section 4.2 or as otherwise outlined in these specifications. All remaining interior surfaces above the main valve, except machined surfaces such as the threaded portion of the operating stem or nut, shall be coated with asphalt varnish.

The thermoset epoxy coating shall be a two-part epoxy and shall function as a physical, chemical and electrical barrier between the base metal to which it is applied and the surroundings. The coating shall be

non-toxic and shall not impart taste to water. The coating must be formulated from materials deemed acceptable per the Food & Drug Administration Document Title 21 of the Federal Regulations of Food Additives, Section 121.2514 entitled Resins & Polymeric Coatings. The coating shall have a satin finish and shall be suitable for field overcoating and touch-up with the same coating material without sanding or special surface preparation, or application of heat in excess of room temperatures.

b) Field Coatings:

All hydrants shall be field painted at the time the Contractor is instructed by the Public Works Inspector and shall be painted above ground with two (2) coats of aluminum paint, Mobil 11-A-19 or Tnemec 2-color, Tnemec-Gloss or approved equal according to the following color schedule:

Water Main Size	Bonnet and Caps Color
6”	Silver
8”	Blue
10” & Larger	Yellow

Add the following:

502.3.5. Experience and Certification

Fire hydrants, furnished under these specifications, shall be manufactured by a firm that has been producing hydrants of this general type continuously for the past five (5) years. Each company or manufacturer supplying hydrants under these specifications shall have on file, at the City of Rockwall, approved records of experience and detailed drawings of the proposed hydrants. Drawings shall cover the specific hydrant to be furnished for installation in the City and shall show all dimensions including metal thickness, construction details and materials used in all parts of the hydrant together with ASTM Designation and structural properties of these materials.

For ease of identification, all hydrants shall have "City of Rockwall, Texas" stenciled on the lower barrel. This stencil shall be applied at the factory. The manufacturer shall furnish to the City of Rockwall, a Certification that the fire hydrant complies with the specifications without any exceptions. This certification shall apply to specific hydrants being installed within the City water distribution system. The certification shall state (1) the number of hydrants covered by the certification, (2) the Addition where hydrants are being installed or the Project Name and (3) name of Contractor installing hydrants.

The City may require the Manufacturer, Supplier or Contractor to dismantle hydrants at any time to determine compliance with these specifications. Location of any hydrant within the City system, installed after adoption of these specifications, that does not meet the specifications completely shall be cause for prohibiting the future use of any hydrants from the same manufacturer.

502.5 Fittings

502.5.1. Brass Stops, Cocks and Fittings for Water Works Service

Add the following:

502.5.1.2. Physicals

All pressure holding components of brass stops or fittings shall be certifiably pressure tested before assembly as specified herein, including meter coupling tailpieces, flared nuts, compression nuts, etc.

502.5.1.3. Design Features of Stop and Cocks

The stem end of the key, prestaked key nut and the "D" washer shall be so designed that they turn in unison and if tightened to the failure point, the stem will not break causing the key to blow out.

Corporation, curb and angle stop bodies shall be of one-piece construction to provide optimum resistance to installation, operating and earth-load stresses. The operating head and checks of these stops shall be integrally cast with the plug or cap of the stop for maximum resistance to torque feature.

Angle valves shall have a lockwing and shall be "O" ring sealed at the top of the key to prevent leakage during operation and to act as a secondary protection against external top leakage. Meter swivel nuts shall be of the saddle nut construction to support the meter during installation. Inlet flare and compression parts for angle valves shall be field interchangeable on 3/4-inch and 1-inch sizes to make repairs easier and more economical.

502.5.1.4. Design Features of Fittings

Add the following to the third paragraph of this item:

Flare joints shall have curved metal to metal seating surfaces and flare nuts shall meet the following overall minimum length to insure that the flare nut will give adequate pipe support to this type of joint.

Flare Nut - Minimum	Overall Length
¾”……	1-1/2"
1"……..	2"
1-1/2"……..	3"
2"……..	3-1/2"

Add the following to the sixth paragraph of this item:

All stops and fitting joints shall be of the compression type for copper pipe unless otherwise noted. Compression coupling nuts shall be designed to "bottom out" on a machined shoulder on the fitting to provide a visual check for proper assembly and eliminate field judgment errors of the installation. The coupling nut shall house the compression gasket in a smooth machined area and shall be internally coated with a fluorocarbon (Teflon) lubricant to prevent gasket damage and reduce installation torques. The compression gasket shall be a heavy armored gasket to provide electrical continuity through the fitting and prevent gasket cold flow and shall house a concave hardened stainless steel overlapping gripper

band that is automatically activated and set by shouldering out the fitting properly.

Minimum pullout (or tensile strength) required of these fittings after installation to protect against earthloads are as follows:

3/4"	2,000 lbs.
1"	3,000 lbs.
1-1/2"	3,500 lbs.
2"	4,000 lbs.

All outlet threads on compression connections shall be compatible with the City's present drilling and tapping machine equipment.

502.6 Valves

502.6.1. Metal-Seated Gate Valves for Ordinary Water Works Service

502.6.1.2. Bonnet Bolting

Delete in its entirety and replace with the following:

Body Bolts, studs and nuts shall be 316 stainless steel.

502.6.2. Resilient-Seated Gate Valves for Ordinary Water Works Service

502.6.2.1. General Description

Add the following:

Unless otherwise approved in writing, all Gate Valves for direct buried service in the City's distribution system, 6 inches through 12 inches in diameter, shall be Resilient Seated Gate Valves that conform strictly with the latest specification C-509 of the American Water Works Association Standards and must comply with the following supplementary details, changes or additions. Gate valves shall be iron body designed for a working pressure of 250 psi. All valves shall be hydrostatically tested at 200 psi and shell tested at 500 psi. Any leakage during testing shall be cause for rejection. For ease of repair the body, bonnet and stuffing box shall be flanged together with ASTM Grade B bolts and nuts. Each valve shall have the maker's initials, pressure rating, and year in which manufactured cast in the body.

502.6.2.2. Bonnet Bolting

Delete in its entirety and replace with the following:

Body Bolts, studs and nuts shall be 316 stainless steel.

502.6.2.5. Valve Stem and Nuts

Add the following:

Stems shall be machined from manganese bronze rod with an integral forged thrust collar machined to size. The stems shall be non-rising and equipped for nut operation, which shall be opened by turning to the left. The seals shall consist of two "O" rings above and one "O" ring below the thrust collar. An anti-friction washer shall be located above and below the thrust collar for operating torque. The stem nut shall be ASTM B-62 bronze.

502.6.2.17. Resilient Wedge

Add the following:

The wedge shall be cast iron, fully encapsulated in molded rubber complying with ASTM D2000. Wedge must have molded wedge guides preventing the disc from tilting downstream during operation. Protective guide cap bearings made of polymer bearing material to provide a bearing interface between the wedge guide and valve interior.

502.6.2.18. Paint and Protective Coatings:

Add the following:

All valves furnished under these specifications shall be painted on the exterior as specified in AWWA C-509 with asphalt varnish.

All ferrous metal surfaces in the internal part of the valve shall be protected with a fusion epoxy coating to a nominal thickness of 10 mils for corrosion protection and shall be of a color that is easily identified as an epoxy coating.

The proguard fusion epoxy coating shall fully comply with AWWA C550 and certified NSF 61. The coating shall be non-toxic and shall not impart taste to water. The coating must be formulated from materials deemed acceptable per the Food & Drug Administration Document Title 21 of the Federal Regulations of Food Additives, Section 121.2514 entitled Resins and Polymeric Coatings. The coating shall have a satin finish and shall be suitable for field overcoating and touchup with the same coating material without sanding or special surface preparation, or application of heat in excess of room temperature.

502.6.2.19. Experience and Certification

Add the following:

Valves, furnished under these specifications, shall be manufactured by a firm that has been producing valves of this general type continuously for the past five (5) years. Each company or manufacturer supplying valves under these specifications shall have on file, with the City of Rockwall, approved records of experience and detailed drawings of the proposed valves. Drawings shall cover the specific valve to be furnished for installation and shall show all dimensions including metal thickness, construction details and materials used in all parts of the valve together with ASTM Designation and Structural properties of these materials.

The manufacturer shall furnish to the City of Rockwall, a Certification that the valve complies with the specifications without any exceptions. This certification shall apply to specific valves being installed within the City water distribution system. The certification shall state (1) the number of valves covered by the certifications, (2) the Addition where valves are being installed or the Project Name, and (3) name of Contractor installing valves.

The City may require the Manufacturer, Supplier or Contractor to dismantle valves at any time to determine compliance with these specifications. Location of any valve within the City system, installed after adoption of these specifications, that does not meet the specifications

completely shall be cause for prohibiting the future use of any valves from the same manufacturer.

502.6.2.20. Tapping Sleeves:

Add the following:

The materials for tapping sleeve bodies shall be cast-iron or ductile-iron in accordance with AWWA Standard C110 (ANSI 21.10), in two sections, or halves to be bolted together with high-strength, corrosion resistant, low alloy steel bolts conforming to AWWA Standard C111 (ANSI 21.11).

Cast iron and ductile-iron sleeve shall be mechanical joint, or as specified, or dimensions to secure proper fit on the type and class of pipe on which they are to be used. Each sleeve shall be furnished with a 3/8-inch test opening so that tests can be made prior to tapping. Opening shall be provided with a 3/8-inch bronze plug.

502.6.5. Butterfly Valves

Add the following:

All Butterfly Valves for installation underground in the City's distribution system 16 inches through 48 inches shall be in accordance with this specification.

All butterfly valves furnished shall conform strictly with the latest specification C-504 of the American Water Works Association Standard for rubber-seated butterfly valves and must comply with the following supplementary details and changes or addition.

a) Body:

The body shall be cast-iron ASTM A126, Class B and shall have face to face dimensions in accordance with AWWA Standards for short body, Class 150-B. All butterfly valves shall have a floating body seat ring to compensate for change in direction of flow to assure bottle-tight seal in either direction.

b) Shaft:

Valve shafts shall be an 18-8, Type 316 stainless steel. Valve disc and shaft shall be standard self adjusting Chevron “V” type packing. Shaft seals shall be of a design allowing replacement without removing the valve shaft.

c) Disc and Seat:

The valve disc shall be cast iron ASTM A126, Class B. The valve seat shall be Buna-N located on the valve body. Valves 20” and smaller shall have a bonded seat that meets test procedures in ASTM D429, Method B. Valves 24” and larger shall be retained in the valve body by mechanical means without the use of metal retainers or other devices located in the flow stream.

d) Operator:

Butterfly valve operators shall be of the traveling nut design. All operators shall have adjustable mechanical stop limiting devices to prevent over travel of the disc. The operator shall have a mechanical stop

which will withstand an input torque of 450 Ft. lbs. against the stop. The traveling nut shall engage alignment grooves in the housing.

e) Operation:

Unless otherwise shown in the plans, all valves shall open counter clockwise.

f) Valve Ends:

Valve ends shall be Mechanical Joint End, or Flanged Ends. Mechanical joint valves shall come complete with bolts, nuts, gaskets and glands. It shall be the responsibility of the Contractor to coordinate the ends of the adjoining pipe with the type valve end he/she proposes to use.

g) Testing:

All valves seats shall be tested at 150 psi as described in AWWA C-504 and in addition shall have a shell test of 300 psi. Any leakage shall be cause for rejection.

h) Paint and Protective Coatings:

All butterfly valves furnished under these specifications shall be painted on exterior as specified in AWWA C-504, with asphalt varnish.

All ferrous metal surfaces in the internal part of the valve shall be protected with a two-part thermoset epoxy coating to a nominal thickness of 4 mils for corrosion protection and shall be of a color that is easily identified as an epoxy coating. This shall be applied in shop.

The thermoset epoxy coating shall be a two-part epoxy and shall function as a physical, chemical and electrical barrier between the base metal to which it is applied and the surroundings. The coating shall be non-toxic and shall not impart taste to water. The coating must be formulated from materials deemed acceptable per the Food & Drug Administration Document Title 21 of the Federal Regulations of Food Additives, Section 121.2514 entitled Resins & Polymeric Coatings. The coating shall have a satin finish and shall be suitable for field overcoating and touchup with the same coating material without sanding or special surface preparation, or application of heat in excess of room temperatures.

i) Experience and Certification:

Butterfly valves, furnished under these specifications, shall be manufactured by a firm that has been producing valves of this general type continuously for the past five (5) years. Each company or manufacturer supplying valves under these specifications shall have on file, at the City of Rockwall, approved records of experience and detailed drawings of the proposed valves. Drawings shall cover the specific valve to be furnished for installation in the City of Rockwall and shall show all dimensions including metal thickness, construction details and materials used in all parts of the valve together with ASTM Designation and structural properties of these materials.

The manufacturer shall furnish to the City, a Certification that the valve complies with the specifications without any exceptions. This certification shall apply to specific valve being installed with the City water

distribution system. The certification shall state (1) the number of valves covered by the certification, (2) the Addition where valves are being installed or the Project Name and (3) name of Contractor installing valves.

The City may require the Manufacturer, Supplier or Contractor to dismantle valves at any time to determine compliance with these specifications. Location of any valve with the City system, installed after adoption of these specifications, that does not meet the specifications completely shall be cause for prohibiting the future use of any valves from the same manufacturer.

ITEM 504. OPEN CUT – BACKFILL

504.2 Materials

504.2.1. Pipe Embedment for Storm Sewers

Delete the second sentence in its entirety and replace with the sentence:

Unless otherwise indicated, storm sewer pipe shall be bedded with Class "C" bedding in accordance with the details shown on the plans.

504.2.2. Pipe Bedding Material for Water and Sanitary Sewer Mains

504.2.2.1. Crushed Stone Embedment

Add the following:

Where stone is called out for pipe embedment, Standard Crushed Rock-Aggregate, Grade 4, shall be used unless otherwise approved in writing.

504.3. Excavation and Foundation

Add the Following:

504.3.1 Excavation

Add the following:

Prior to start of excavation the Contractor shall remove and stockpile the Topsoil and protect the Topsoil from contamination during construction.

504.4. Backfill – General Requirements

504.4.6. Grades

Add the following:

Construction stakes furnished by the Owner shall be limited to establishment of benchmarks at 500 foot intervals and centerline or baseline survey at the Start, End, PCs, PTs, and PIs.

Delete the first sentence of the fourth paragraph.

504.5 Embedment

Add the following:

Rock Cuttings or Sand will not be permitted in the pipe bedding for sanitary sewer or water lines in the City of Rockwall.

504.5.2. Embedment Classes

504.5.2.9. Class “C” Embedment

Replace the last sentence in its entirety with the following sentence:

Density shall be at least 95% of maximum density under paving, 90% of maximum density elsewhere, as determined by ASTM D698.

504.5.2.15. Class "H" Embedment

Class "H" Embedment shall be used on the P.V.C. Sanitary Sewer Pipe installed within the City of Rockwall.

On PVC Pipe 18 inches through 27 inches in diameter the crushed stone shall be brought up in uniform layers to a point nine inches over the top of the pipe when compacted.

504.6. Final Backfill

Add the following:

After the trench has been refilled, topsoil shall be replaced to the extent that rock, excavated from the trench, will be completely covered and the area is returned to its original condition, except that in cultivated areas a minimum of 12 inches of top soil shall be replaced.

504.6.1. Excavated Material

Add the following:

The material used in the backfill shall be pulverized to the extent necessary to produce a free flowing material free of clay balls larger than 6-inch diameter.

506. OPEN CUT - WATER CONDUIT INSTALLATION

506.3. Laying Water Conduit

Delete Paragraph No. 3 in its entirety and substitute therefore the following:

Valves for installation in the City's distribution system shall be installed by direct burial as shown on the standard detail sheets and shall be provided with valve boxes for operation of the valve.

506.5 Hydrostatic Test

Delete first paragraph and table and replace with:

All hydrostatic tests shall be maintained over a period of not less than four hours.

"Before being accepted, all ductile iron, C-900 PVC or concrete cylinder water mains shall be tested with a hydraulic test pressure of not less than four hours. Concrete pressure pipe shall be tested with a hydraulic test pressure of 120 percent of the design pressure. Steel pressure pipe shall be tested with a hydraulic test pressure not to exceed 150 percent and not less than 120 percent of the designed working pressure. The rate of leakage of all pipe tested shall not exceed the amounts shown in the tables titled "Hydrostatic Test-C-900 PVC, Steel or Ductile Iron Water Mains" or "Hydrostatic Test-Concrete Cylinder Water Mains". Water lines of material in combination shall be tested for the type of pipe (material) with the least stringent hydraulic test pressure and maintained over a period of not less than four hours."

HYDROSTATIC TEST
C-900 OR 905 PVC, STEEL OR DUCTILE-IRON WATER MAINS

GALLONS ALLOWED									
L.F. PIPE	Pipe Diameter								
	4"	6"	8"	10"	12"	14"	16"	18"	20"
5	0.016	0.024	0.032	0.039	0.047	0.055	0.063	0.071	0.079
10	0.032	0.047	0.063	0.079	0.095	0.110	0.126	0.142	0.158
20	0.063	0.095	0.126	0.158	0.189	0.221	0.253	0.284	0.316
30	0.095	0.142	0.189	0.237	0.284	0.331	0.379	0.426	0.473
40	0.126	0.189	0.253	0.316	0.379	0.442	0.505	0.568	0.631
50	0.158	0.239	0.316	0.395	0.473	0.552	0.631	0.710	0.789
60	0.189	0.284	0.379	0.473	0.568	0.663	0.758	0.852	0.947
70	0.221	0.331	0.442	0.552	0.663	0.773	0.884	0.994	1.105
80	0.253	0.379	0.505	0.631	0.756	0.884	1.010	1.136	1.263
90	0.284	0.426	0.568	0.710	0.852	0.994	1.136	1.278	1.420
100	0.316	0.473	0.631	0.789	0.947	1.105	1.263	1.420	1.578
200	0.631	0.947	1.263	1.578	1.894	2.210	2.525	2.841	3.157
300	0.947	1.420	1.894	2.367	2.841	3.314	3.788	4.261	4.735
400	1.263	1.894	2.525	3.157	3.788	4.419	5.051	5.682	6.313
500	1.578	2.367	3.157	3.946	4.735	5.524	6.313	7.102	7.891
600	1.894	2.841	3.788	4.735	5.682	6.629	7.576	8.523	9.470
700	2.210	3.314	4.419	5.524	6.629	7.734	8.838	9.943	11.048
800	2.525	3.788	5.051	6.313	7.576	8.838	10.101	11.364	12.626
900	2.841	4.261	5.682	7.102	8.523	9.943	11.364	12.784	14.205
1000	3.157	4.735	6.313	7.891	9.470	11.048	12.626	14.205	15.783

Maximum allowable water loss in 4 hours at 180 pounds per square inch of pressure for a rate of 25 gallons per inch diameter of pipe per mile over a 24-hour period

EQUATION THE ABOVE CHART IS BASED ON:

$$\text{Maximum Loss (Gal.)} = 25 \times \text{Diameter of Pipe in Inches} \times \frac{\text{L. F. of Pipe}}{5280} \times \frac{4}{24}$$

HYDROSTATIC TEST
CONCRETE CYLINDER WATER MAINS

GALLONS ALLOWED									
L.F. PIPE	Pipe Diameter								
	4"	6"	8"	10"	12"	14"	16"	18"	20"
5	0.031	0.047	0.063	0.078	0.095	0.110	0.126	0.142	0.158
10	0.063	0.095	0.126	0.158	0.189	0.221	0.253	0.284	0.315
20	0.126	0.189	0.253	0.316	0.379	0.442	0.505	0.568	0.631
30	0.188	0.284	0.379	0.473	0.568	0.663	0.758	0.852	0.947
40	0.253	0.379	0.505	0.631	0.758	0.884	1.010	1.136	1.263
50	0.316	0.473	0.631	0.789	0.947	1.105	1.263	1.420	1.578
60	0.379	0.568	0.758	0.947	1.136	1.326	1.515	1.704	1.894
70	0.442	0.663	0.884	1.105	1.326	1.547	1.768	1.989	2.210
80	0.505	0.758	1.010	1.263	1.515	1.768	2.020	2.273	2.525
90	0.568	0.852	1.136	1.420	1.704	1.989	2.273	2.557	2.841
100	0.631	0.947	1.263	1.578	1.894	2.209	2.525	2.841	3.156
200	1.263	1.894	2.525	3.156	3.788	4.419	5.050	5.682	6.313
300	1.894	2.841	3.788	4.735	5.682	6.628	7.575	8.522	9.470
400	2.525	3.788	5.050	6.313	7.575	8.838	10.100	11.363	12.626
500	3.158	4.735	6.313	7.891	9.470	11.047	12.626	14.204	15.782
600	3.788	5.682	7.575	9.469	11.363	13.257	15.151	17.045	18.938
700	4.419	6.628	8.838	11.047	13.257	15.468	17.676	19.885	22.095
800	5.050	7.575	10.100	12.626	15.152	17.676	20.201	22.726	25.251
900	5.682	8.522	11.363	14.204	17.044	19.886	22.726	25.567	28.405
1000	6.313	9.469	12.626	15.782	18.939	22.096	25.253	28.408	31.564

Maximum allowable water loss in 4 hours at 180 pounds per square inch of pressure for a rate of 50 gallons per inch diameter of pipe per mile over a 24-hour period

EQUATION THE ABOVE CHART IS BASED ON:

$$\text{Maximum Loss (Gal.)} = 50 \times \text{Diameter of Pipe in Inches} \times \frac{\text{L. F. of Pipe}}{5280\text{Pipe}} \times \frac{4}{24}$$

507 OPEN CUT – WASTEWATER CONDUIT INSTALLATION

507.5. Tests and Inspections

507.5.2. Television Inspection

Add the following to this section:

All sanitary sewer pipe construction in this contract shall be visually inspected by photographic means (television and video taped) prior to final acceptance by the Owner. No separate measurement or payment shall be provided for the video inspection. All labor, materials an equipment required are subsidiary to the appropriate bid items as established in the Proposal and Bid Schedule.

ITEM 508 OPEN CUT – STORM WATER CONDUIT INSTALLATION

Add the following:

508.7 Storm Sewer Conduit Inspection

All storm sewers shall be visually inspected by photographic means (television and video taped) , at Contractor's expense, prior to final acceptance by the City. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the Contractor at Contractor's expense. Pipes will be cleaned prior to televising the pipe. The contractor shall furnish a DVD formatted video to the City.

ITEM 509 CROSSINGS

509.5. Creek and River Crossings

Add the following:

509.5.1. Aerial Crossings

509.5.1.1. General

Piers for aerial crossings will be drilled piers and columns of the diameter shown on the plans. Piers shall be founded at least 6'-0" into firm gray limestone and 8'-0" into undisturbed material, unless otherwise directed by the Owner.

Materials and workmanship required to construct piers and cap shall conform to Reinforced Concrete Structures, of the specifications. Concrete of piers shall be Class A, 3000 psi.

Anchor straps and bolts shall be installed as shown on the plans, and shall be hot dipped galvanized after fabrication.

After installing the aerial crossing, including the junction collars with the main sewer pipe, an approved coal tar mastic jointing compound shall be installed the full inside circumference of the pipe at each joint to produce a smooth surface with no sharp flow transitions.

509.5.1.2. Steel Pipe

Steel pipe used of Aerial Crossings shall be of the diameter and wall thickness shown on the plans and shall be line pipe manufactured in accordance with the following specifications:

1) AWWA C200-75 Mill Type Steel Water Pipe, Grade B
2) ASTM A139, Grade B

Pipe shall be designed for a clear span as shown on the plans. Couplings shall be Dresser Type 38, or approved equal and shall be located as shown on the plans. Bolts shall be stainless steel or galvanized.

The steel pipe sizes shown on the plans are the nominal diameters of the minimum size steel pipe which may be furnished and installed. Pipe of a larger size may be furnished at the Contractor's option, but no extra payment will be allowed. If larger pipe is utilized, it shall be set so as to retain the flow lines designated on the plans.

All steel pipe shall receive an interior shop-applied Liquid Epoxy Coating System in conformance with AWWA C-210, latest revision.

509.5.1.3. Exterior Painting

Surfaces shall be sound, clean and free of harmful scale, rust, dirt, oil, grease, moisture, or any other foreign matter which might lessen the life or usefulness of the coating. Metal shall be smooth and free from blisters, rough corners, pits, dents, or other imperfections before painting. Pits and dents shall be filed and the material ground smooth where required.

All coatings shall be handled and applied in accordance with Manufacturer's recommendations. All paint shall be thoroughly stirred before taken from the containers, shall be kept stirred while using, and all ready-mixed paints shall be applied exactly as received from the manufacturer without addition of any kind of a drier or thinner except in strict accordance with Manufacturer's recommendations.

Field coats shall be applied after a brush-blasting of any existing coats to assure a clean surface and thorough adhesion.

No painting shall take place unless the atmospheric temperature is at least 35 degrees F and rising (50 degrees F for high performance coatings) or when the surface temperature is below the dew point, or when the relative humidity is above 85%, unless approved by the City of Rockwall and the Paint Manufacturer. Painting also shall not proceed if the temperature is expected to fall below 32 degrees F (40 degrees F for high performance coatings) before the paint has dried.

Painting found defective shall be removed and the surface repainted as directed by the City of Rockwall at the Contractor's expense. Before final acceptance of the project, any damaged painted surfaces shall be touched-up or repainted, as directed by the City of Rockwall at the Contractor's expense.

The Contractor may elect to have all materials shipped to the job site with surface preparation SSPC-SP10 (Near-White Metal Blast) and one shop coat of (a) herein described in Item 2.12.23 of these specifications, or to prepare and paint the surface on the job site as described herein after.

All material to be field painted shall receive surface preparation SSPC-SP10 (Near-White Metal Blast) on the job site and shall receive one (1) field coat of (a) and two (2) field coats of (b) described in Item 2.12.23;

colors to contract, or shall receive two field coats of (b) if equipment is shipped shop coated. Colors are to contract. If the Contractor elects to apply both coats in the field, no prime coat shall be required for shipment.

All surface prepared in the field shall be inspected by the City of Rockwall for adequate surface preparation as defined above prior to application of paint coating. All surfaces to be painted in the field shall have their readiness for painting approved by the City of Rockwall before work is started.

Adequate film build shall be subject to inspection procedures by using a wet film gauge during painting and/or a Mikrotest or equivalent dry film gauge after painting. The finished product shall be completely free of holidays (pin-holes) when tested with a standard low-voltage holiday-detector.

Paint shall be applied to all ferrous material part of the aerial crossing including but not limited to pipe, couplings, straps, nuts, bolts, etc.

509.5.1.3.1. Paints

Paints for aerial crossings shall be:

1) TNEMEC Series 66, or Mobile 78 Series, or Koppers 200 HB, 5.0 mil dry film thickness each coat.
2) TNEMEC Series 66, or Mobile 78 Series, or Koppers 200 HB, 6.0 mil dry film thickness each coat.

Approved material of other manufacturers which are equivalent in all respects to the brands named above, may be substituted upon approval. All paint applied must be by the same manufacturer. The color on the final coat shall be selected by the City of Rockwall.

509.5.1.4. Measurement of Payment

Aerial crossings will be measured for payment per each between the limits shown on the plans and will be paid for at the lump sum bid price for each crossing in the Bid Schedule.

Concrete piers and collars to the elevations shown in the plans will be measured and paid for in the lump sum price for aerial crossings. Payment in vertical feet for additional depth of reinforced concrete piers as approved by the City of Rockwall, shall be as provided in the Proposal and Bid Schedule.

Payment of the unit or lump sum prices shall be full compensation for furnishing all labor, supervisions, materials, tools, equipment, and incidentals, and for performing all work necessary in construction the aerial crossings and piers, including excavation, dewatering, backfilling, disposal of surplus material, painting, testing, concrete encasement, hauling, transportation costs, disposal costs, salvaging, and any other work required in accordance with the Plans and Specifications.

8.6 Division 600 Conduit & Appurtenance Rehabilitation

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.6: Revisions to NCTCOG's Division 600 Conduit & Appurtenance Rehabilitation

Revised	Standard Specification Item No.	Description
	601.	**PIPELINE REHABILITATION**
	601.1.	Description
	601.2.	General
	601.3.	General Materials
	601.4.	General Methods
	601.5.	PVC Expanded-In-Place (Fold-in-Form)
	601.6.	Polyethylene (PE) Expanded-IN-Place (Deform Reform)
	601.7.	Cured-In-Place Pipe Liner (CIPP Liner)
	601.8.	Pipe Bursting With Polyethylene
	601.9.	Pipe Bursting With Rigid Place
	601.10.	Polyvinyl Chloride (PVC) Profile Gravity Liner Pipe (Segmental Sliplining)
	601.11.	Measurement and Payment
	602.	**REHABILITATION OF MANHOLES OR UNDERGROUND VAULTS**
	602.1	General
	602.2.	Submittals
	602.3.	Quality Assurance
	602.4.	Delivery, Storage and Handling
	602.5.	Rehabilitation
	602.7.	Inspection and Testing
	602.8.	Measurement and Payment
	603.	**ABATEMENT OF COATINGS CONTAINING HEAVY METALS**
	603.1.	General
	603.2.	Job Plan
	603.3.	Testing
	603.4.	Monitoring
	603.5.	Protection
	603.6.	Lead-Based Coating Removal

	603.7.	Lead-Based Coating Encapsulation
	603.8.	Clean-Up and Disposal
	603.9.	Payment

8.7 Division 700 Structures

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.7: Revisions to NCTCOG's Division 700 Structures

Revised	Standard Specification Item No.	Description
	701.	**GENERAL STRUCTURES**
	701.1.	Structural Wood Products
	701.2.	Structural Excavation
	701.3.	Structural Bolting
	702.	**CONCRETE STRUCTURES**
	702.1.	Concrete Structure Materials
(1)	702.2.	Mix Design and Mixing Concrete for Structures
	702.3.	Mix Design and Mixing Lightweight Concrete for Structures
	702.4.	Constructing Concrete Structures
	702.5.	Pre-stressed Concrete for Structures
	702.6.	Pneumatically Placed Concrete (Gunite)
	702.7.	Drilled Shaft Foundations
	702.8.	Pre-cast and Cast-In-Place Concrete Units
	703.	**STEEL STRUCTURES**
	703.1.	Description
	703.2.	Materials for Steal Structures
	703.3.	Steel Structure Construction
	703.4.	Painting Metal Structures
	703.5.	Measurement and Payment
	704.	**PILING**
	704.1.	Piling Materials
	704.2.	Driving Piling
	704.3.	Penetration
	704.4.	Bearing Resistance
	704.5.	Constructing Cast-In-Place, Pre-stressed Concrete Piling
	704.6.	Measurement and Payment

ITEM 702 CONCRETE STRUCTURES

702.2. Mix Design and Mixing Concrete for Structures

702.2.4. Quality of Concrete

702.2.4.2. Standard Classes

Add the following:

Type "G" Concrete: Min.- Sacks Cement per C.Y. – 7.0; min. 28-day Comp. Strength - 5,000 psi; Min. 7-day Strength 3600 psi; Max. Water Cement Ratio - 5.0; Course Aggregate 1-1/2".

8.8 Division 800 Miscellaneous Construction & Materials

NOTE: The ***(1)*** symbol specifies that this item is also covered in the City of Rockwall's "Special Provisions" to the "Standard Specifications for Public Works Construction, North Central Texas". These Special Provisions are additional and modify the "Standard Specification"

Table 8.8: Revisions to NCTCOG's Division 800 Miscellaneous Construction & Materials

Revised	Standard Specification Item No.	Description
	801.	**BARRIERS, WARNING & DEOUR SIGNS AND FENCES**
	801.1.	Barriers and Warning and/or Detour Signs
(1)	801.2.	Metal Beam Guard Fence
	801.3.	Railing
	801.4.	Chain Link Fence
(1)	801.5.	Wire Fence
	802.	**STEPS AND RETAINING WALLS**
	802.1.	Concrete Steps
	802.2.	Concrete Retaining Walls
	802.3.	Segmental Retaining Wall Systems
	802.4.	Cofferdams
	803.	**SLOPE AND CHANNEL PROTECTION**
	803.1.	Articulating Concrete Block
(1)	803.2.	Gabion Structures
(1)	803.3.	Riprap
	803.4.	Geotextiles Used in Drainage and Stabilization Applications
	804.	**PAINTING AND OTHER PROTECTIVE TREATMENTS; PAVEMENT MARKING**
	804.1.	Description
(2)	804.2.	Painting and Marking
	804.3.	Galvanizing
	804.4.	Measurement and Payment
	805.	**ELECTRICAL COMPONENTS AND CONDUIT**
	805.1.	Description
	805.2.	General Requirements for Electrical Components
(1)	805.3.	Conduit Construction Methods
(1)	805.4.	Measurement and Payment

	806.	**METALS MATERIALS**
	806.1.	General
	806.2.	Structural Steel
	806.3.	Forgings
	806.4.	Castings
	806.5.	Copper
	806.6.	Bolts, Nuts and Washers

801 BARRIERS, WARNING & DETOUR SIGNS, AND FENCES

801.1 Barriers and Warning And/Or Detour Signs

Add the Following

Reflectorized marking for guard rail and other traffic control used shall meet the requirements of 3M Scotchlite Brand Reflective Sheeting Grade, Series 2800, 3800 or 5800, or equal. The marking shall conform to U.S. Department of Transportation, Federal Highway Administration, STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS, 1979 FP-79, Type III A, Sections 633.36 and 718.01 and Federal Supply Service, General Services Administration, LS-300 C, SHEETING AND TAPE REFLECTIVE NON-EXPOSED LENS, Reflectivity 2, Class 4.

801.2 Metal Beam Guard Fence

Add the following:

Reflectorized Marking shall be applied to metal beam guardrail at locations shown on the plans. To apply properly, the following equipment and accessories are recommended:

a. Heat Activated Adhesive

(1) Heat lamp vacuum applicator with temperature control.

(2) Remove protective liner from adhesive and place glossy side of liner over the sign face. Sheeting and liner may require perforation to aid in air evaluation.

b. Pressure Sensitive Adhesive

(1) 48" Interstate Squeeze Roll Applicator.

(2) Hand application. To obtain maximum initial adhesion use firm pressure with 2" (5 cm) rubber roller or plastic squeeze. Multiple, heavy overlapping strokes should be used. Resqueeze all edges.

801.5. Wire Fencing

801.5.2. Material

Add the following:

801.5.2.1. Wire Fencing Fabric:

All chain link fencing shall be No. 9 gage copper bearing open-hearth steel wire.

801.5.2.2. Posts

801.5.2.2.1 Metal Posts

All posts shall be heavily galvanized by the hot-dip process after fabrication and shall be fitted with watertight malleable iron caps. All posts shall be of the following size and shape:

801.5.2.2.2. Line Posts

"H" Section hot rolled weighing not less than 4.10 pounds per linear foot or 3-1/2-inch O.D. pipe weighing not less than 3.65 pounds per linear foot.

801.5.2.2.3. Terminal Posts

Three inch (3") steel pipe weighing not less than 5.79 pounds per linear foot.

801.5.2.2.4. Gate Posts

Four inch (4") O.D. steel pipe weighing not less than 9.11 pounds per linear foot.

801.5.2.3. Rails, Gates, Braces and Fittings

Shall be 1-5/8 inch steel pipe weighing not less than 2.27 pounds per linear foot.

ITEM 803 SLOPE AND CHANNEL PROTECTION

803.2. Gabion Structures

803.2.2. Materials

803.2.2.1. Baskets

Add the sentence:

All wire used, including tie and connecting wire, shall be certified by Mill Test Reports showing compliance with specification requirements.

803.2.2.2. Stone

Add the following:

Facing stone shall be hand selected, large stone and shall be selected for best appearance. Facing stone shall be an off-white color and prior to laying the stone, samples shall be delivered to the site and shall be approved by the Engineer for gradation and appearance.

803.2.3. Gabion Construction

803.2.3.1. Geotextile Filter Layer

Add the following:

High strength permeable barrier fabric for use as a filter media, shall be placed along the earth side of the Gabion Structures. The permeable barrier fabric to be used shall be TREVIRA S1115 as manufactured by Hoechst Fibers Industries, Spartenburg, South Carolina; MIRAFI 140 Fabric, produced by Fiber Industries, Inc.; Bidim U-14 as distributed by Quline Corporation, Houston, Texas, or approved equal.

803.3. Riprap

803.3.2. Riprap Materials

803.3.2.2. Stone

803.3.2.2.1. Types

Broken Concrete.
Delete this sub-section and replace with the following wording:

Broke concrete shall not be just for riprap.

ITEM 804 PAINTING AND OTHER PROTECTIVE TREATMENTS, PAVEMENT MARKINGS

804.2 Painting and Marking

804.2.3. Preparing Structures for Paint

804.2.3.1.Descaling, Cleaning and Preparation of Surfaces

Add the following:

Prior to painting concrete or masonry screening walls the concrete must be thoroughly cured and dry for proper adhesion of paint.

Preparation of work shall include either of the following:

(1) The concert surface shall be thoroughly washed with a solution of one (1) gallon Muriatic Acid to ten (10) gallons H_2O (Caution: Always add acid to H_2O rather than H_2O to acid). Rinse thoroughly with clear water and paint while damp.

(2) Treatment of surface with masonry conditioner such as a clear alkali-resistant soya alkyd binder type sealer or as recommended by paint manufacturer.

804.2.5. Painting New Structures

804.2.5.5. Finish Coats

Add the following:

On masonry walls which are painted, the total dry film thickness shall be 6 mils (2 coats applied at 8 mils wet and spreading rate = 200 square feet per gallon based on 36% $\pm$ 2% Volume Solids). The thickness shall be tested using a Wet Film Thickness Gage.

804.2.6. Cleaning and Painting Existing Structures

Add the following:

Masonry walls which require repainting shall be sand blasted or cleaned with a power brush, removing all mastic, powdery, thick layered, peeling or heavily chalked old paint. Spot prime all bare areas with Masonry Conditioner. If old paint is a cement-base paint, apply Masonry Conditioner to entire surface and apply 2 coats of paint in accordance with 8.9.3 (k) above.

ITEM 805 ELECTRICAL COMPONENTS AND CONDUIT

805.3. Material

Add the following:

In the City of Rockwall, conduit for street lighting shall be 2 inch PVC pipe and for traffic control shall be 3-inch PVC pipe, meeting the requirements of Item 2.10, Electrical Components.

Add the following:

805.3.7. Pull Box.

All pull boxes shall be #36 supplied by Traffic Signal Equipment Company, Fort Worth, Texas or approved equal. Boxes shall be approximately 10 1/2"x17"x12" and shall be furnished with a concrete cover.

805.4 Conduit Construction Methods

Revise first sentence, third paragraph to read as follows:

All conduit shall be placed a minimum of thirty-six (36) inches below finish grade. Conduit in median shall be placed a minimum of thirty-six (36) inches below inside of curb as shown on plans.

9. Special Provisions to the NCTCOG's Standard Drawings for Public Works Construction Standards

All work within the City of Rockwall shall conform to the standard drawings called out within this section. The City of Rockwall's Standard Drawing for Construction shall conform to Section II – Standard Drawings for North Central Texas Council of Governments Standard Specifications and Standard Drawings, October 2004.

The North Central Texas Standard Drawings shall be modified and clarified by the deletion, revision, and/or addition of the following drawings. Except when specifically stated, none of the standard drawings of the North Central Texas Standard Specifications shall be deleted.

9.1 Division 1000 Erosion and Sediment Control

NOTE: *(1) Deleted NCTCOG Drawing*
(2) Revised NCTGOG Drawing (see revisions below)
(3) Added Rockwall Standard Drawing (see drawing below)
(4) Added Current TxDOT Standards

Table 9.1: Revisions to NCTCOG's Division 1000 Erosion and Sediment Control

Revised	Drawing No.	Subject
	1010	RESERVED
(2)	1020A	Silt Fence
(2)	1020B	Silt Fence – General Notes
	1030A	Interceptor Swale
	1030B	Interceptor Swale
	1040A	Diversion Dike
	1040B	Diversion Dike
	1050A	Triangular Sediment Filter Dike
	1050B	Triangular Sediment Filter Dike
	1060A	Rock Check Dam
(2)	1060B	Rock Check Dam
(2)	1070A	Stabilized Construction Entrance
(2)	1070B	Stabilized Construction Entrance
	1080A	Sandbag Check Dam
	1080B	Sandbag Check Dam
(2)	1090	Stone Outlet – Sediment Trap
	1100	Pipe Outlet – Sediment Basin
	1110	Pipe Slope Drain
	1120	Inlet Protection – Filter Barrier

Revised	Drawing No.	Subject
(1)	~~1130~~	~~Inlet Protection-Drop – Block and Gravel~~
(1)	~~1140~~	~~Inlet Protection-Curb – Block and Gravel~~
	1150	Inlet Protection – Excavated Impoundment
	1160A	Erosion Control Blankets
	1160B	Erosion Control Blankets

Revisions:

Standard Drawing No. 1020A - (Silt Fence)

Drawing shall be modified as follows:

1. Add to Note 1: "Post shall be metal, No wooden posts allowed"

Standard Drawing No. 1020B - (Silt Fence – General Notes)

Drawing shall be modified as follows:

1. Add Note 6: "Filter Stone shall be wrapped in filter fabric and buried minimum of six (6) inches."

Standard Drawing No. 1060B - (Rock Check Dam)

Drawing shall be modified as follows:

1. Add Note 5: "Filter stone shall be wrapped in appropriate sized wire mesh to contain stone and buried minimum of six (6) inches."

Standard Drawing No. 1070A - (Stabilized Construction Entrance)

Drawing shall be modified as follows:

1. Construction Entrance thickness shall be a minimum of twelve (12) inches.

Standard Drawing No. 1070B - (Stabilized Construction Entrance)

Drawing shall be modified as follows:

1. Modify Note 1: "Stone shall be 4 to 6 inch diameter course aggregate. No crushed concrete will be allowed."
2. Modify Note 2: "Minimum length shall be fifty (50) feet, and minimum width shall be twenty (20) feet."

Standard Drawing No. 1090 - (Stone Outlet - Sediment Trap)

Drawing shall be modified as follows:

1. Add Note 1: "Filter stone shall be wrapped in appropriate sized wire mesh to contain stone."

9.2 Division 2000 Pavement Systems

NOTE: *(1) Deleted NCTCOG Drawing*
(2) Revised NCTGOG Drawing (see revisions below)
(3) Added Rockwall Standard Drawing (see drawing below)
(4) Added Current TxDOT Standards

Table 9.2: Revisions to NCTCOG's Division 2000 Pavement Systems

Revised	Drawing No.	Subject
(1)	~~*2010*~~	~~*Reinforced Concrete Pavement – Six Lane Divided Thoroughfare*~~
(3)	**R-2010**	**Reinforced Concrete Pavement – (P6D) Principal Arterial Divided 6-Lane**
(1)	~~*2020*~~	~~*Reinforced Concrete Pavement – Four Lane Divided Thoroughfare*~~
(3)	**R-2020**	**Reinforced Concrete Pavement – (M4D) Minor Arterial Divided 4-Lane**
(1)	~~*2030*~~	~~*Reinforced Concrete Pavement – 2- & 4- Undivided Thoroughfare*~~
(3)	**R-2030**	**Reinforced Concrete Pavement – (M4U) Major Collector Undivided 4-Lane**
(3)	**R-2031**	**Reinforced Concrete Pavement – Minor Collector/Local Commercial**
(3)	**R-2032**	**Reinforced Concrete Pavement – (M3U) Minor Collector – 2 Lane with Continuous Left Turn Lane**
(3)	**R-2033**	**Reinforced Concrete Pavement – Local Residential Street**
(1)	~~*2040*~~	~~*Reinforced Concrete Pavement - Alleys*~~
(3)	**R-2040**	**Reinforced Concrete Pavement – Alleys**
(3)	**R-2041**	**Reinforced Concrete Pavement – Fire Lane**
(2)	2050	Reinforced Concrete Pavement - Joints
(3)	**R-2051**	**Reinforced Concrete Pavement – Longitudinal Butt Joint**
	2060	Reinforced Concrete Pavement – Transverse Joint Spacing
(2)	2070	Reinforced Concrete Pavement – Street Headers
	2080	Reinforced Concrete Pavement – Bridge Approach Slab
(1)	~~2090~~	~~Hot Mix Asphalt Pavement – Six Lane Divided Thoroughfare~~
(1)	~~2100~~	~~Hot Mix Asphalt Pavement – Four Lane Divided Thoroughfare~~
(1)	~~2110~~	~~Hot Mix Asphalt Pavement – 2- & 4- Undivided Thoroughfare~~
	2120	Concrete Curb and Gutter – Integral, Separate, and Doweled
(1)	~~*2125A-2125B*~~	~~*Curb Ramps*~~
(4)		**TxDOT: PED-12A: Pedestrian Facilities – Curb Ramps**
(2)	2130	Median Island Pavement – Nose & Left Turn Lane
(2)	2140	Median Island Pavement – Monolithic Concrete Nose
(3)	**R-2141**	**Median Island Pavement – Median Paving Stone**
(1)	~~*2150A-2150B*~~	~~*Driveway Approach – Flared Return Type*~~
(1)	~~*2155*~~	~~*Driveway Approach – Radius Return Type*~~
(3)	**R-2150**	**Driveway Detail – Residential Driveway**

Revised	Drawing No.	Subject
(2)	2160	Alley Approach – Radius Return Type
(2)	2170	Reinforced Concrete Sidewalks – Joints and Spacing
(2)	2180	Reinforced Concrete Retaining Wall - Integral With Sidewalk
(2)	2190	Pavement Systems – General Notes
	2200	Subdrains – Pavement Subgrade
(2)	2210	Alley Geometrics – Type "A": & Type "B"
(2)	2220	Alley Geometrics - Type "C": & Type "D"
(2)	2230	Alley Geometrics - Type "E": & Type "F"
(2)	2240	Alley Geometrics - Type "G": & Type "H"
(2)	2250	Alley Geometrics - Type "J"
(3)	**R-2251**	**Alley Geometrics – Alley Warping at Inlet**
	2260	Alley Intersection – Proposed to Existing
(1)	~~*2270A*~~	~~*Metal Beam Guard Fence – Roadside Placement & Beam Elements*~~
(1)	~~*2270B*~~	~~*Metal Beam Guard Fence – Line Post & Connections*~~
(1)	~~*2270C*~~	~~*Metal Beam Guard Fence – End Section & Angle Anchor Post*~~
(1)	~~*2270D*~~	~~*Metal Beam Guard Fence – Special End Shoe & Anchor Post*~~
(1)	~~*2270E*~~	~~*Metal Beam Guard Fence – General Notes*~~
(1)	~~*2280A*~~	~~*Metal Beam Guard Fence – Two-Way Traffic Bridge End*~~
(1)	~~*2280B*~~	~~*Metal Beam Guard Fence – Two-Way Traffic Bridge End*~~
(4)		**TxDOT: Metal Beam Guard Fence**
	2290	Metal Beam Guard Fence – End of Road
(3)	**R-2300**	**Street Regulatory Sign - Street Name Blades**

Revisions to Division 2000 Pavement Systems Standard Drawings:

Standard Drawing No. 2050 (Reinforced Concrete Pavement – Joints)
Drawing shall be modified as follows:

1. Construction joint and expansion joint dowel bars to be twelve (12) inches on center.
2. Change all reinforcing callouts to No. 4 Bars of 18" centers both ways.
3. Delete note re: Alternate reinforcement- No. 4 bars on 30" centers both ways.

Standard Drawing No. 2070 (Reinforced Concrete Pavement – Street Headers)
Drawing shall be modified as follows:

1. The railroad header is to have a two (2) inch notch into the concrete pavement for the installation of a HMAC overlay. The concrete under the HMAC is to be the full street thickness. The notch should start at the end of the pavement and go twenty (20) feet up the road away from the crossing.

Standard Drawing No. 2130 (Median Island Pavement – Nose and Left Turn Lane)

1. Left turn lanes shall have mower access ramp.
2. Change all median paving notes to: "Median nose are to be constructed of City approved paver or stamped concrete system. Paver systems to be

installed over minimum six (6) inch 3600 psi (6.5 sack/C.Y.) monolithic reinforced concrete base, with #4 bars on 18" centers, with a maximum of one (1) inch bedding sand. Stamped concrete system to be four (4) inch 3600 psi (6.5 sack/C.Y.) monolithic reinforced concrete base, with #4 bars on 18" centers."

3. Street light pole bases in median are to have a thirty-six (36) inch by thirty-six (36) inch, four (4) inch thick 3000 psi reinforced concrete mow strip.

Standard Drawing No. 2140 (Median Island Pavement – Monolithic Median Nose)
Drawing shall be modified as follows:

1. Delete "Class 'C' or 'PC' Concrete" callout and replace with "Median nose pavement strength shall match that of the street pavement."

Standard Drawing No. 2160 (Alley Approach)
Drawing shall be modified as follows:

1. Rockwall's alley width(W) is twelve- (12) feet.
2. Alley right-of-way is twenty- (20) feet (C).
3. Transition length is ten (10) feet instead of twenty (20) feet.
4. B= four (4) feet.

Standard Drawing No. 2170 (Reinforced Concrete Sidewalk)
Drawing shall be modified as follows:

1. No sand allow under public sidewalks.
2. No sidewalk adjacent to curb without City approval. Sidewalk against curb is five (5) feet wide.

Standard Drawing No. 2180 (Reinforced Concrete Retaining Wall – Integral with Sidewalk)
Drawing shall be modified as follows:

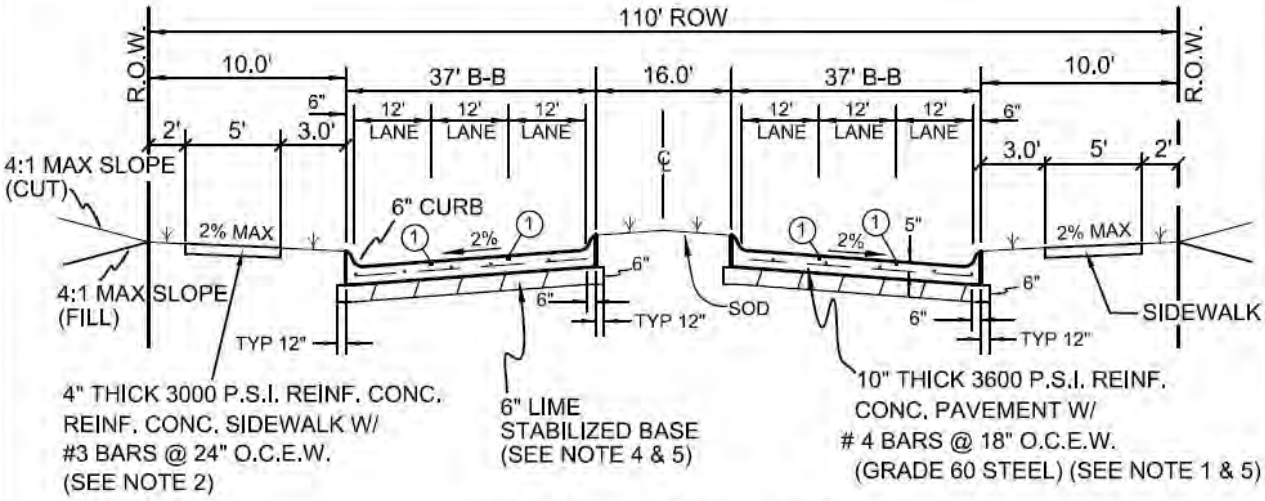
1. No sand allow under public sidewalks.
2. Wall face shall be form liner with random rock ashlar pattern, no smooth wall faces allowed.

Standard Drawing No. 2190 (Pavement Systems)
Drawing shall be modified as follows:

1. Number 2, Subgrade- replace A with revised A. Revise A. to read: Subgrade under all pavements shall be stabilized to a minimum depth of six inches (6") with hydrated lime or cement. Laboratory tests will be performed to determine the amount of lime or cement to be used.
2. Number 2, Subgrade, delete B.
3. Delete Number 3.

Standard Drawing Nos. 2210, 2220, 2230, 2240, 2250 (Alley Geometries)
Drawing shall be modified as follows:

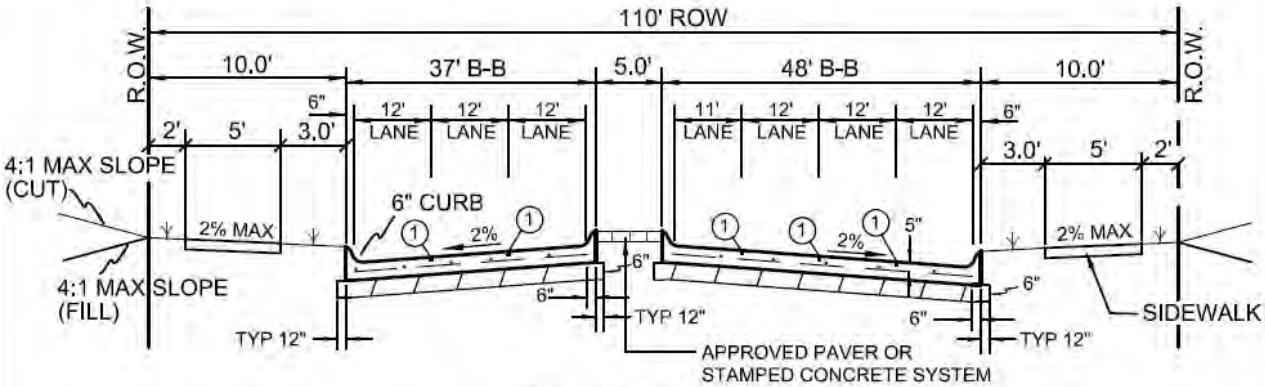
1. Rockwall's alley width (W) is twelve (12) feet.
2. Alley right-of-way is twenty (20) feet (C).
3. A = six (6) feet.
4. B = four (4) feet.



110' ROW – Principal 6 Lane Divided Arterial Regular Section

(Not to Scale)

① SAWED LONGITUDINAL CONTRACTION, OR CONSTRUCTION JOINT



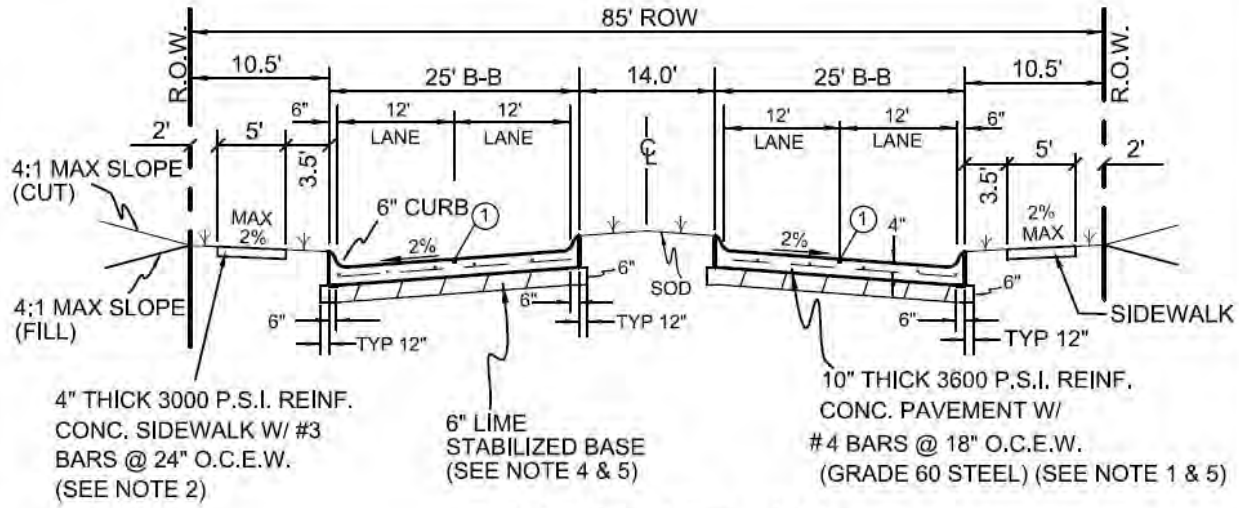
Left Turn Section

(Not to Scale)

NOTES:

1. Street pavement cement content to be no less than 6.0 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.
4. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compact to 95% standard density.
5. Paving Section design shall be based off the 30 year projected traffic volumes and geotechnical analysis/report.

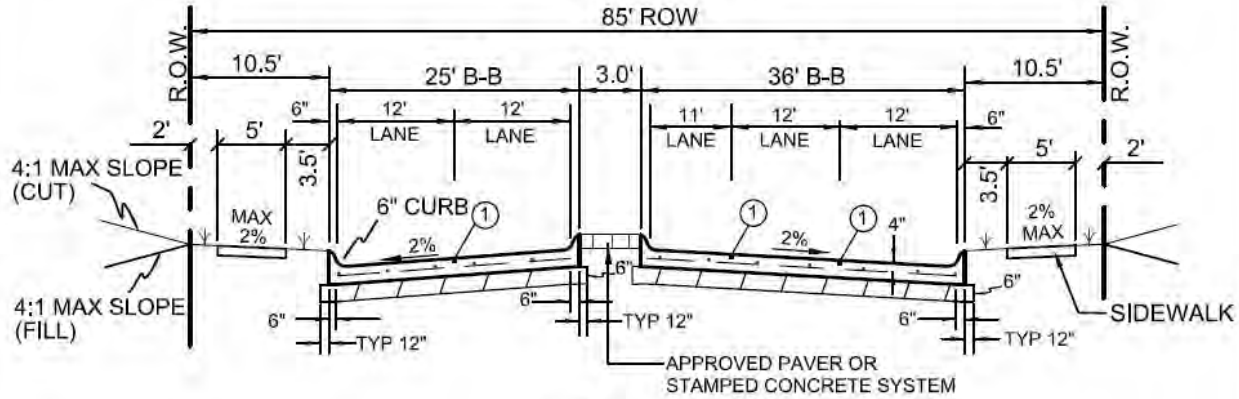
REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
(P6D) PRINCIPAL ARTERIAL DIVIDED 6–LANE		DATE AUG. '15	DRAWING NO. R–2010



1 SAWED LONGITUDINAL CONTRACTION, OR CONSTRUCTION JOINT

85' ROW – Minor 4 Lane Divided Arterial Regular Section

(Not to Scale)



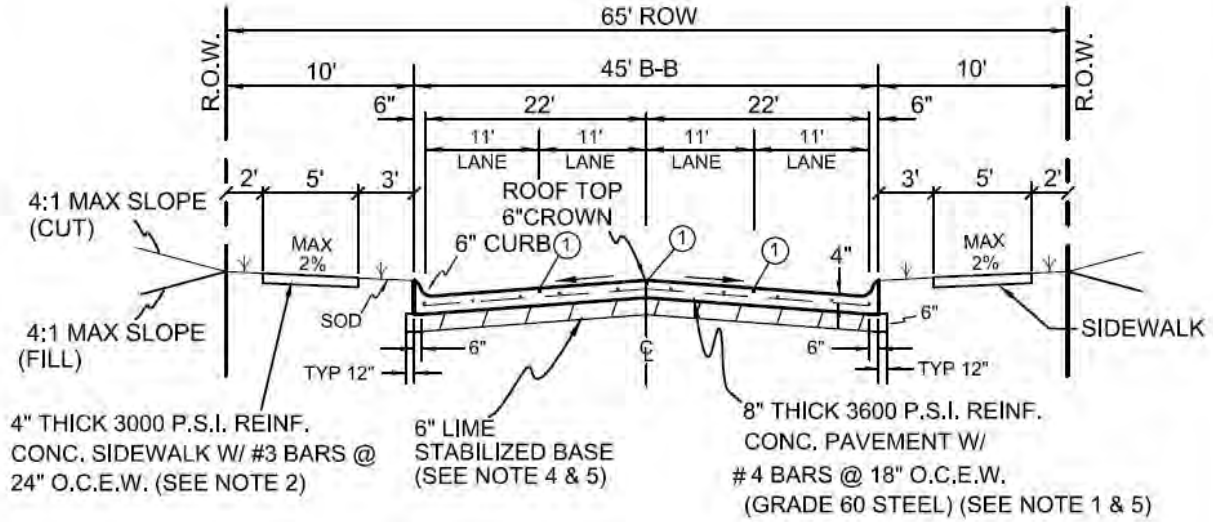
Left Turn Section

(Not to Scale)

NOTES:

1. Street pavement cement content to be no less than 6 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.
4. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compacted to 95% standard density.
5. Paving Section design shall be based off the 30 year projected traffic volumes and geotechnical analysis/report.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
(M4D) MINOR ARTERIAL DIVIDED 4–LANE		DATE AUG. '15	DRAWING NO. R–2020



(1) SAWED LONGITUDINAL CONTRACTION, OR CONSTRUCTION JOINT

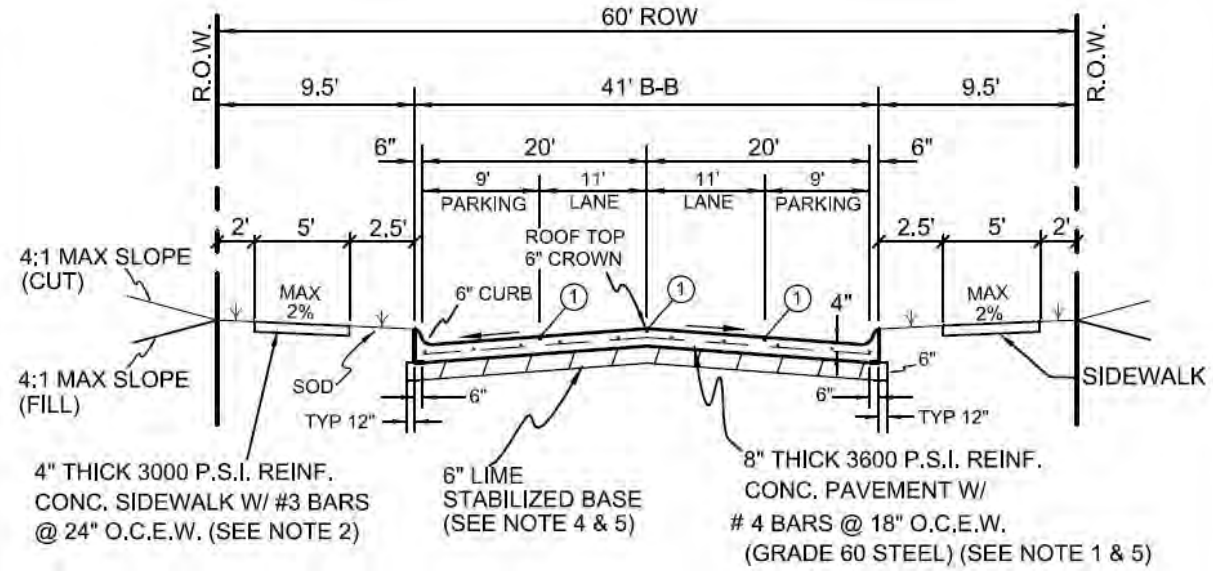
65' ROW – Major 4 Lane Undivided Collector

(Not to Scale)

NOTES:

1. Street pavement cement content to be no less than 6 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.
4. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compacted to 95% standard density.
5. Paving Section design shall be based off 30 year projected traffic volumes and geotechnical analysis/report.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
(M4U) MAJOR COLLECTOR UNDIVIDED 4–LANE		DATE AUG. '15	DRAWING NO. R–2030



1 SAWED LONGITUDINAL CONTRACTION, OR CONSTRUCTION JOINT

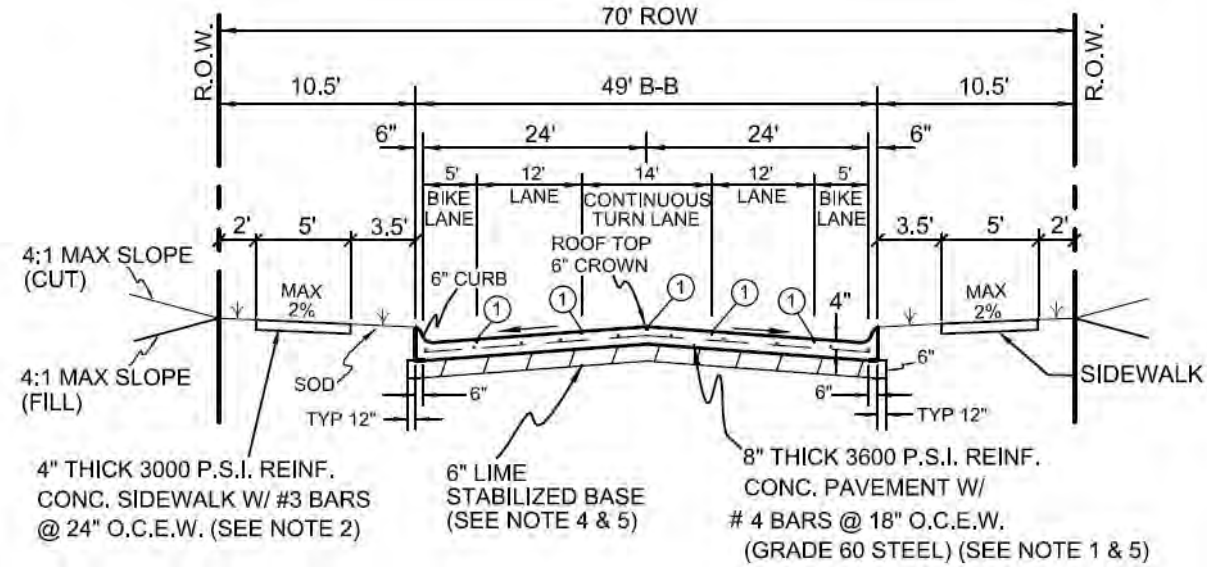
60' ROW – Minor Collector and or Local Commercial

(Not to Scale)

NOTES:

1. Street pavement cement content to be no less than 6 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.
4. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compacted to 95% standard density.
5. Paving Section design shall be based off the 30 year traffic volumes and geotechnical analysis/report.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
MINOR COLLECTOR/LOCAL COMMERCIAL		DATE AUG. '15	DRAWING NO. R-2031



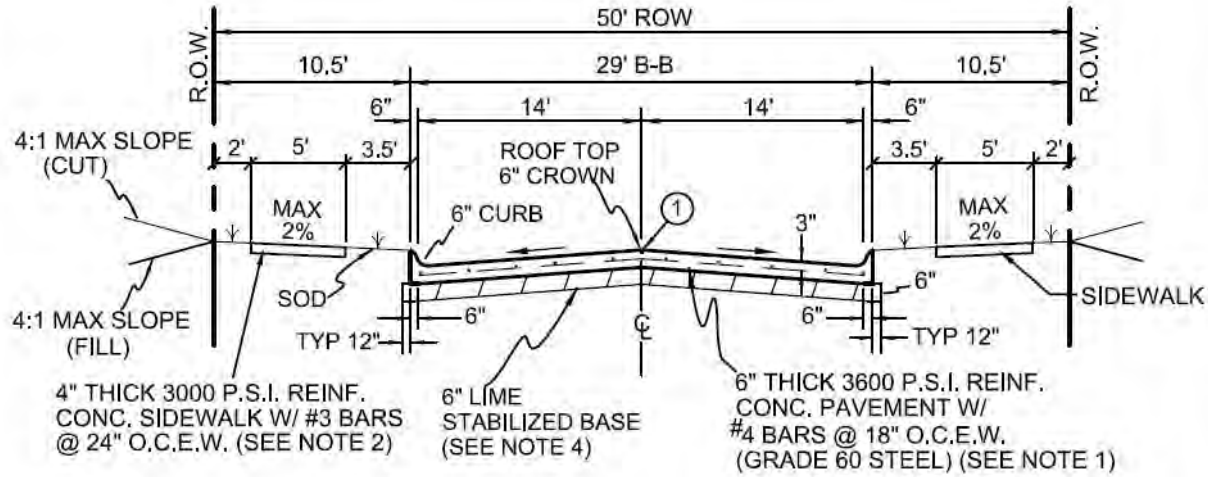
(1) SAWED LONGITUDINAL CONTRACTION, OR CONSTRUCTION JOINT

70' ROW – Minor Collector
2 Lane with Continuous Left Turn Lane
(Not to Scale)

NOTES:

1. Street pavement cement content to be no less than 6 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.
4. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compacted to 95% standard density.
5. Paving Section design shall be based off the 30 year projected traffic volumes and geotechnical analysis/report.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
(M3U) MINOR COLLECTOR – 2 LANE WITH CONTINUOUS LEFT TURN LANE		DATE AUG. '15	DRAWING NO. R–2032



(1) SAWED LONGITUDINAL CONTRACTION, OR CONSTRUCTION JOINT

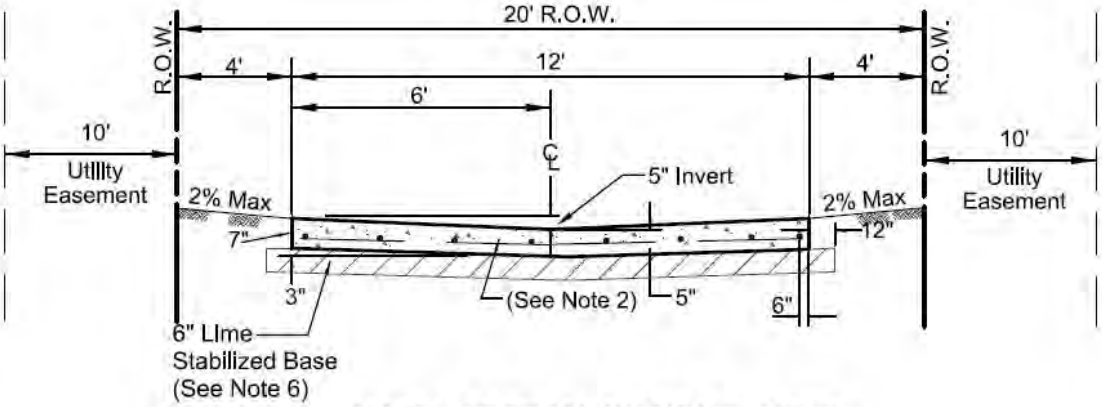
50' R.O.W. Residential Street

(Not to Scale)

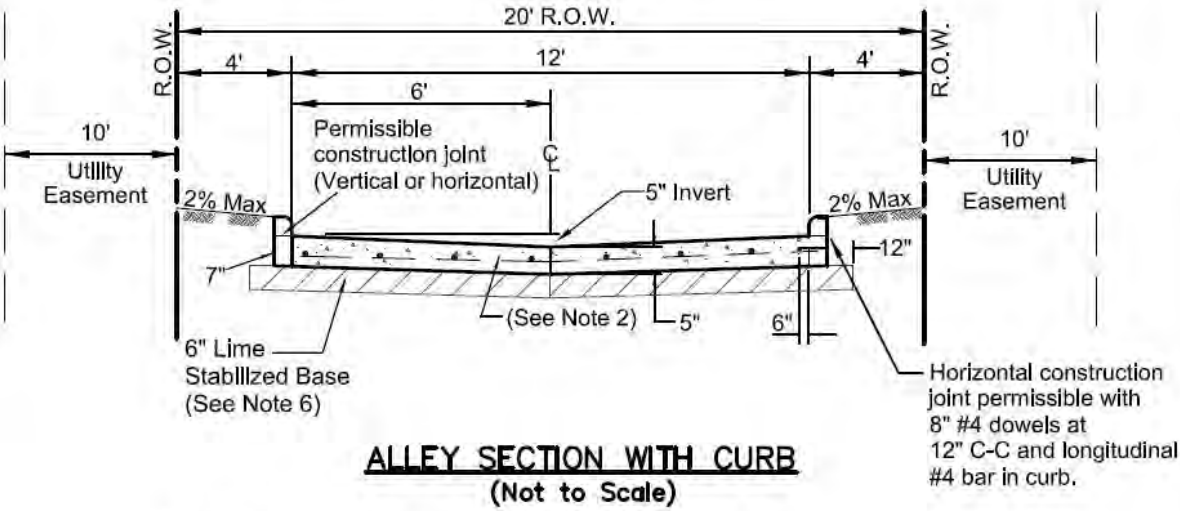
NOTES:

1. Street pavement cement content to be no less than 6 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.
4. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compacted to 95% standard density.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
LOCAL RESIDENTIAL STREET		DATE AUG. '15	DRAWING NO. R-2033



ALLEY SECTION WITHOUT CURB
(Not to Scale)

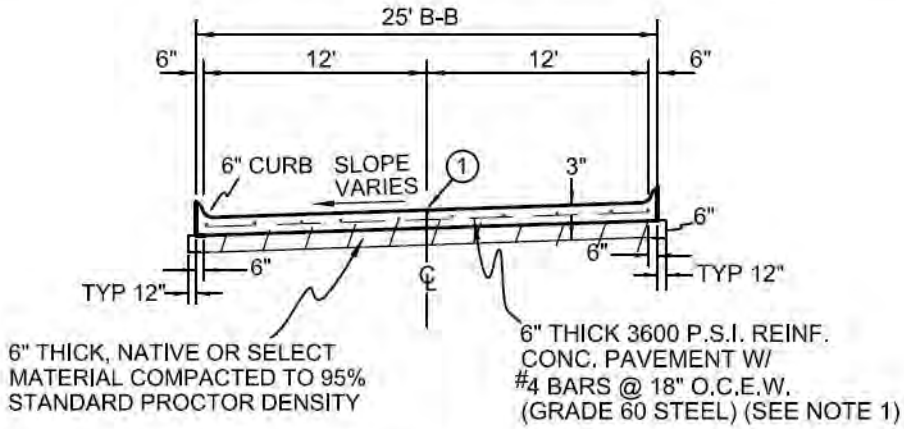


ALLEY SECTION WITH CURB
(Not to Scale)

NOTES:

1. Provide sawed transverse contraction joints not more than 20' C-C.
2. Reinforced with no. 4 bars at 18" C-C both ways.
3. Expansion joints to be placed at all intersections and not to exceed 600' between joints.
4. Concrete shall be 7"-5"-7" Thick 3,600 P.S.I., Alley cement content shall be min. 6.0 sack for machine placed and 6.5 sack mix for hand placed.
5. No sand allowed under pavement.
6. Minimum lime content shall be 6% of dry weight of material (at least 27 lbs/SY) compacted to 95% standard density.

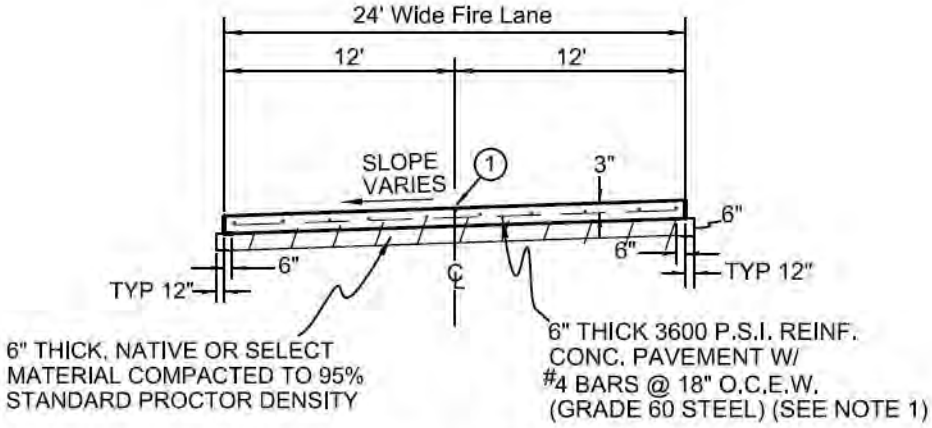
REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
ALLEYS		DATE AUG. '15	DRAWING NO. R-2040



24' Wide Fire Lane with Curbs

(Not to Scale)

(1) SAWED LONGITUDINAL CONTRACTION OR CONSTRUCTION JOINT



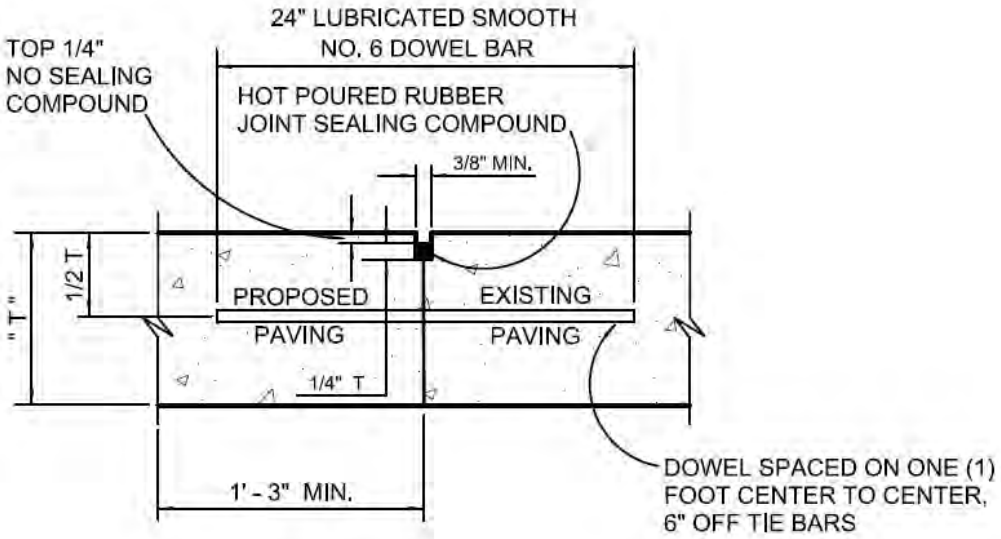
24' Wide Fire Lane

(Not to Scale)

NOTES:

1. Street pavement cement content to be no less than 6 sacks per cubic yard for machine placed and not less than 6.5 sacks per cubic yard for hand placed.
2. Sidewalk Cement content of not less than 5.5 sack per cubic yard.
3. No sand allowed under pavement or sidewalks.

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
FIRE LANE		DATE AUG. '15	DRAWING NO. R-2041



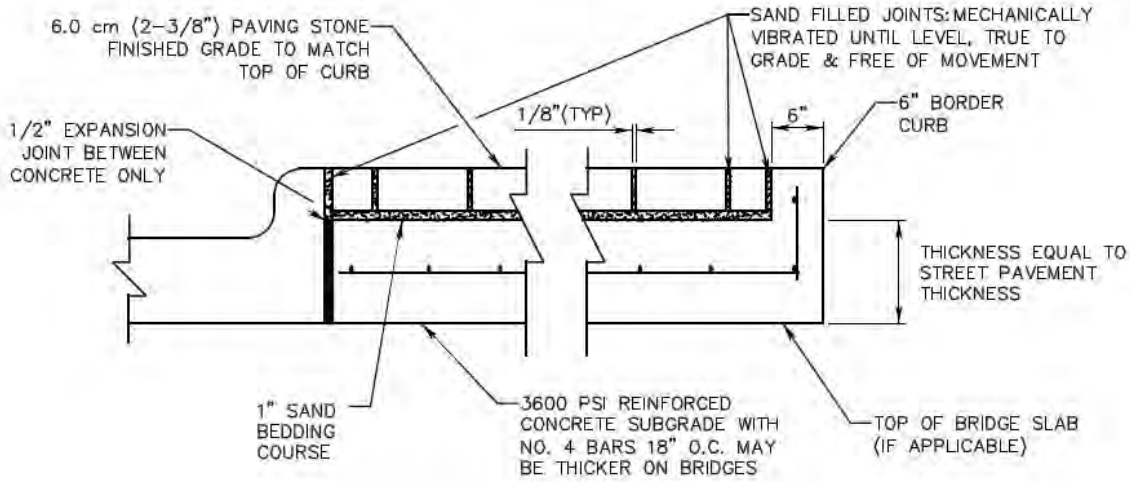
NOTES: T = PAVEMENT

1. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
2. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL RIG.

   DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE NOT ACCEPTABLE.

LONGITUDINAL BUTT JOINT
NOT TO SCALE

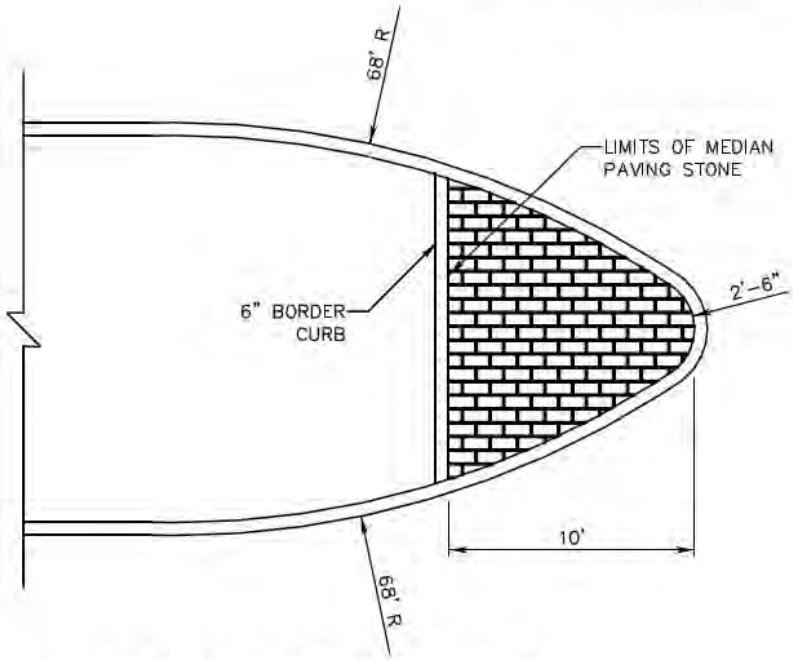
REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL		
LONGITUDINAL BUTT JOINT		DATE AUG. '15	DRAWING NO. R-2051



TYPICAL CROSS SECTION

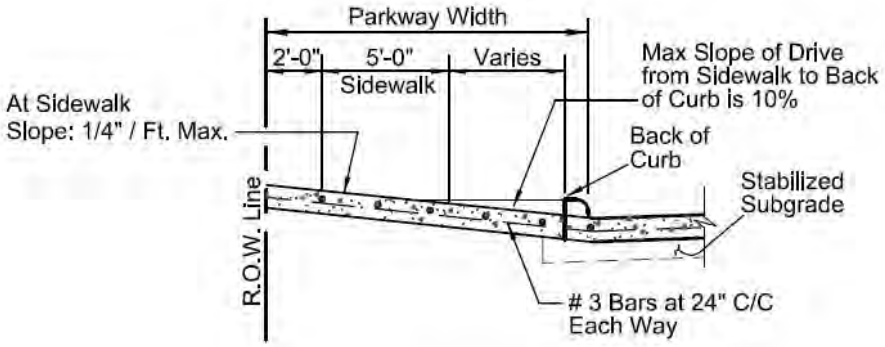
MEDIAN PAVING STONE DETAIL

PAVING STONE SHALL BE INTERLOCKING CONCRETE LANDSCAPE PAVERS PER TxDOT SPECIFICATIONS ITEM 528. COLOR SHALL BE BRICK RED OR COLONIAL RED AND THE PATTERN SHALL BE HERRING BONE.



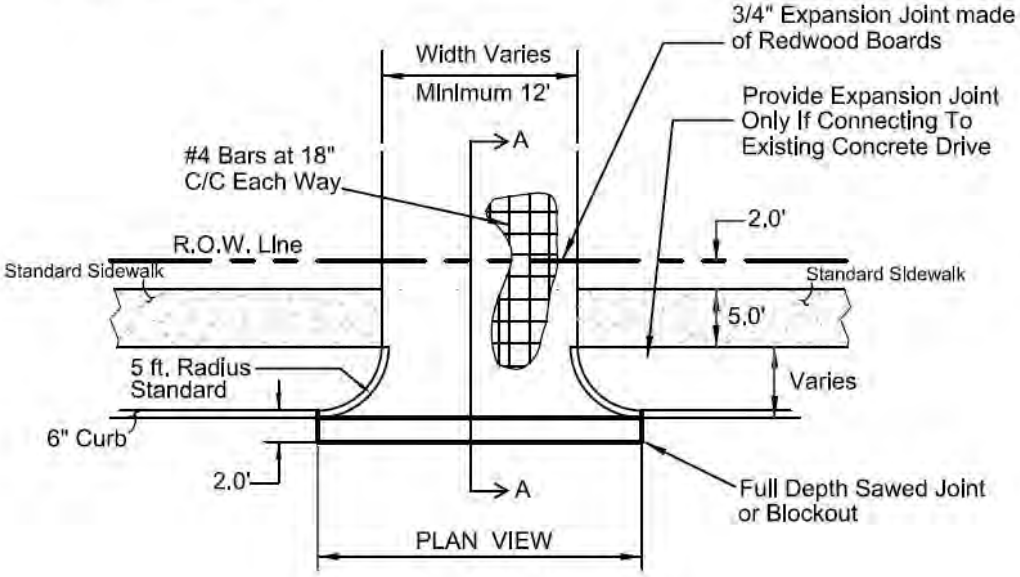
DETAIL OF NOSE FOR MEDIAN ISLAND

MEDIAN ISLAND PAVEMENT	CITY OF ROCKWALL		
MEDIAN PAVING STONE		DATE AUG. '15	DRAWING NO. R-2141



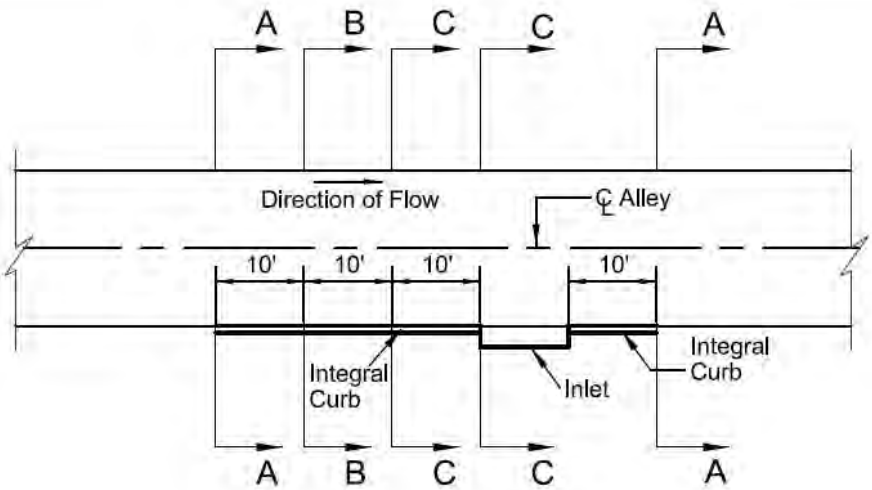
SECTION A-A

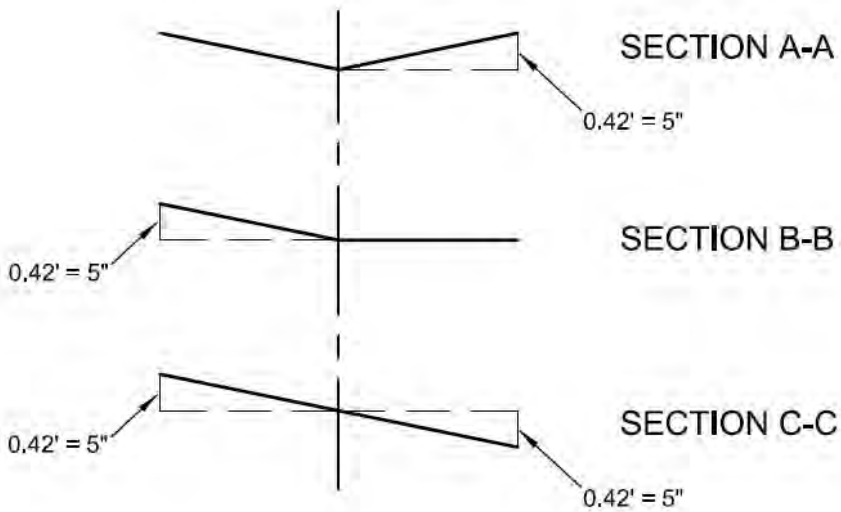
NOTE:
Sidewalk section thru driveway to be poured same thickness as driveway - 6" Thick 3,600 P.S.I. Reinf. Conc. Pvmt. w/ #4 Bars @ 18" O.C.E.W. (Grade 60 Steel)



DRIVEWAY DETAILS
(Not to Scale)

DRIVEWAY DETAIL	CITY OF ROCKWALL		
RESIDENTIAL DRIVEWAY		DATE AUG. '15	DRAWING NO. R-2150

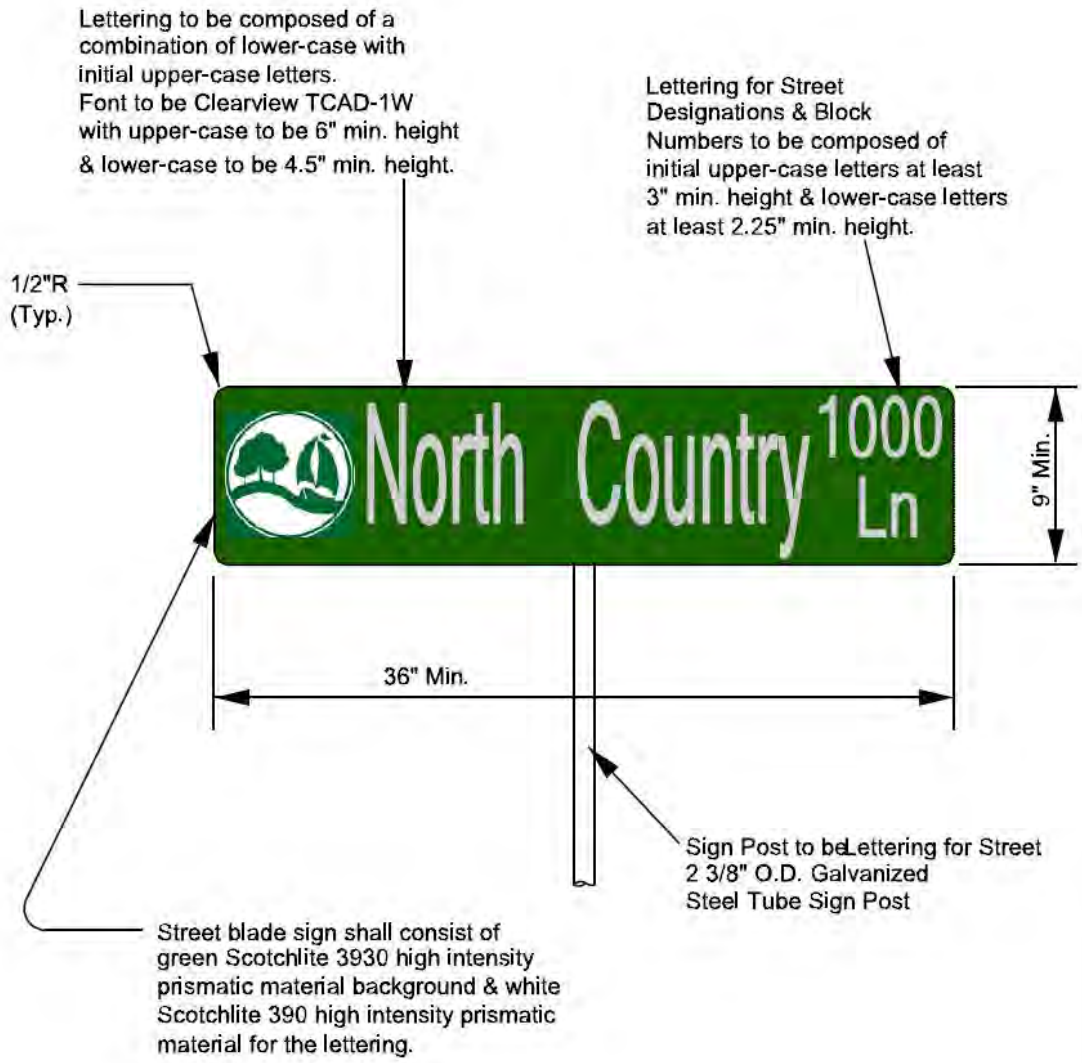




TYPICAL ALLEY WARPING AT INLET

(Not to Scale)

ALLEY GEOMETRICS	CITY OF ROCKWALL		
ALLEY WARPING AT INLET		DATE AUG. '15	DRAWING NO. R-2251



STREET SIGN DETAIL

NOT TO SCALE

STREET REGULATORY SIGNAGE	CITY OF ROCKWALL		
TYPICAL STREET SIGN DETAIL		DATE AUG. '15	DRAWING NO. R-2300

9.3 Division 3000 General Underground Conduit

NOTE: *(1) Deleted NCTCOG Drawing*
(2) Revised NCTGOG Drawing (see revisions below)
(3) Added Rockwall Standard Drawing (see drawing below)
(4) Added Current TxDOT Standards

Table 9.3: Revisions to NCTCOG's Division 3000 General Underground Conduit

Revised	Drawing No.	Subject
(3)	**R-3000**	**Utilities Location Detail**
(2)	3010	Embedment – Class "A" & "A-1"
(2)	3020	Embedment – Class "B", "B+" & "B-1"
(2)	3030	Embedment – Class "B-2", "B-3" & "B-4"
(2)	3040	Embedment – Class "C", "C+" & "C-1"
(2)	3050	Embedment – Class "D+" & "G"
	3060	Embedment – Class "G-1" & "H"
(2)	3070A	Pavement Cut and Repair – Concrete and Parkway
(2)	3070B	Pavement Cut and Repair – Asphalt
(1)	~~3070C~~	~~Pavement Cut and Repair – Extent – Residential~~
(1)	~~3070D~~	~~Pavement Cut and Repair – Extent - Multiple Lanes~~
(1)	~~*3080*~~	~~*Infiltration Protection – Conduit Under Channel*~~

Revisions to Division 3000 General Underground Conduit Standard Drawings:

Standard Drawing No. 3010 (Embedment – Class "A" and "A-1")
Drawing shall be modified as follows:

1. Material to be compacted to 95% of Standard Proctor.
2. Class "A-1" Embedment- crushed stone ¾ Bc.
3. Material above crushed stone is to be non-granular compacted material.

Standard Drawing No. 3020 (Embedment – Class "B", "B+", "B-1")
Drawing shall be modified as follows:

1. No granular material above rock or stone embedment.
2. Class "B" Embedment to be used for RCP storm sewer pipe.
3. Class "B'' and "B-1" – Select non-granular material to be compacted to 95% Standard Proctor. Select non-granular material above embedment.
4. Class "B+" – Non-granular material to be compacted to 95% Std. Proctor.

Standard Drawing No. 3030 (Embedment – Class "B-2", "B-3" and "B-4")
Drawing shall be modified as follows:

1. No granular material above rock or stone embedment.
2. Class "B-3" Embedment to be used for PVC water pipe.

3. Class "B-2" – Delete compacted select or granular material above crushed stone and replace with crushed stone- fine gradation.
4. Modified Class "B-2" Embedment to be used for PVC sanitary sewer pipe.
5. Class "B-3" and "B-4" – Compact sand to 95% Std. Proctor.

Standard Drawing No. 3040 (Embedment – Class "C", "C+", and "C-1")
Drawing shall be modified as follows:

1. No granular material above rock or stone embedment.
2. Class "C" and "C+" – Compact select non-granular material to 95% Std. Proctor.
3. Class "C-1" – Compact granular material to 95% Std. Proctor.

Standard Drawing No. 3050 (Embedment – Class "D+" and "G")
Drawing shall be modified as follows:

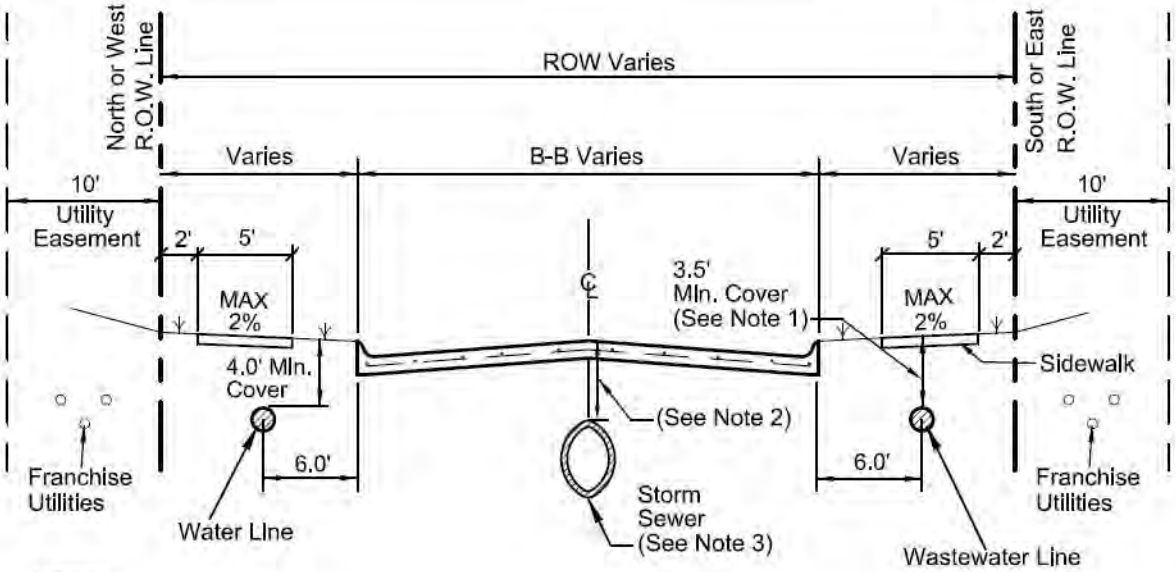
1. Compact select material to 95% Std. Proctor Density.

Standard Drawing No. 3070A (Pavement Cut and Repair – Concrete and Parkway)
Drawing shall be modified as follows:

1. Width of repair shall be the full panel.
2. Thickness of repair shall be existing street pavement thickness plus one inch (1").
3. Concrete to be a minimum of 6.5 sack cement.
4. Concrete steel reinforcing to be No. 4 bars at 18" on center each way, Grade 60 steel.

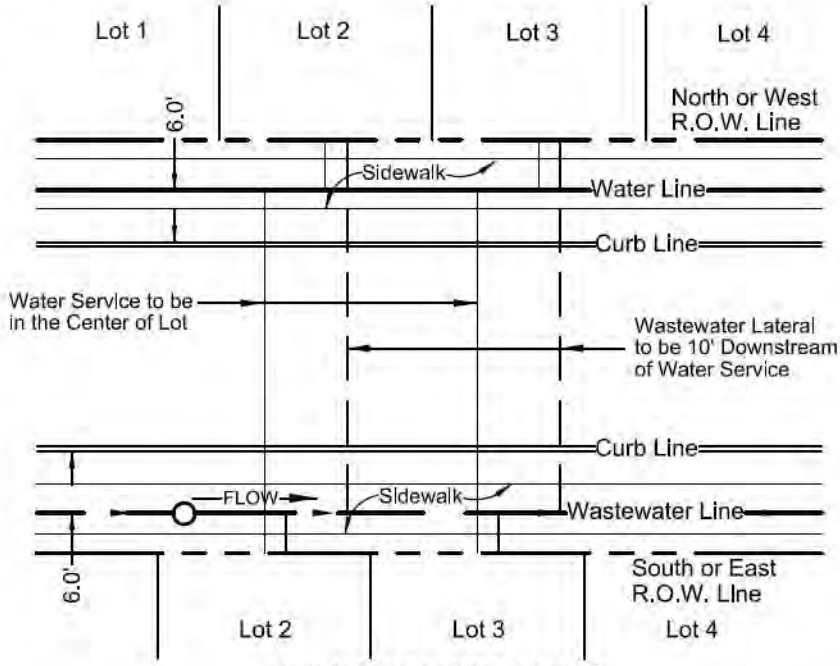
Standard Drawing No. 3070B (Pavement Cut and Repair – Asphalt
Drawing shall be modified as follows:

1. Concrete to be a minimum of 6.5 sack cement.
2. Concrete steel reinforcing to be No. 4 bars at 18" on center each way, Grade 60 steel.



NOTE:

1. If wastewater line has a cover greater than ten feet (10') than pipe shall be minimum SDR 26 and no services allowed.
2. If cover is two (2) feet or less than Class IV RCP is required.
3. Horizontal location of storm sewer for divided roads to be determined by design engineer. Not to be placed in the parkway.



UTILITY SERVICE DETAIL

GENERAL UNDERGROUND CONDUIT	CITY OF ROCKWALL		
UTILITIES LOCATION DETAIL		DATE AUG. '15	DRAWING NO. R-3000

9.4 Division 4000 Water Distribution

NOTE: *(1) Deleted NCTCOG Drawing*
(2) Revised NCTGOG Drawing (see revisions below)
(3) Added Rockwall Standard Drawing (see drawing below)
(4) Added Current TxDOT Standards

Table 9.4: Revisions to NCTCOG's Division 4000 Water Distribution

Revised	Drawing No.	Subject
	4010A	Horizontal Thrust Blocking – At Pipe Bend
	4010B	Horizontal Thrust Blocking – At Pipe Bend
	4010C	Horizontal Thrust Blocking – At Pipe Bend
	4020	Horizontal Thrust Blocking – At Tees and Plugs
	4030	Vertical Thrust Blocking – At Pipe Bend
	4040	Thrust Block – General Notes
(2)	4050	Gate Valve 4" to 12" – Box & Extension Stem
(1)	~~4060A~~	~~Vault Construction – Horizontal Gate Valve ≥ 16"~~
(1)	~~4060B~~	~~Vault Construction – Horizontal Gate Valve ≥ 16"~~
(1)	~~4070A~~	~~Vault Construction – Vertical Gate Valve ≥ 16"~~
(1)	~~4070B~~	~~Vault Construction – Vertical Gate Valve ≥ 16"~~
	4080A	Vault Construction – Butterfly Valve ≥ 48"
	4080B	Vault Construction – Butterfly Valve ≥ 48"
(2)	4090	Combination Air Vacuum Valve – Type "1"
	4100A	Combination Air Vacuum Valve – Type "2"
	4100B	Air Release Valve – Type "2"
(2)	4110	Flush Point Installation – Type "1"
(2)	4120	Fire Hydrant - Installation
(2)	4130	Water Service Installation – ¾" or 1" Line
(2)	4140	Water Service Installation – 1 ½" or 2" Line
(3)	**R-4145**	**Single Service Meter Tail Connection**
(2)	4150	4" Combination Service – With 4" Meter
(2)	4160	8" Detector Check – Service with 8" Meter
(3)	~~4170~~	~~8" Fire Line Standpipe – Service with 8" Meter~~
(2)	4180	4" Domestic Service – With 3" Meter
(2)	4190A	Large Service Meter – Vault Installation
	4190B	Large Service Meter – Precast Vault
(2)	4200	Water Main Lowering – Below Wastewater Main

Revisions to Division 4000 Water Distribution Standard Drawings:

Standard Drawing No. 4050 (Gate Valve 4" to 12"- Box and Extension Stem)
Drawing shall be modified as follows:

1. Extension Stem to be two (2) feet below pavement surface, instead of one (1) foot.

Standard Drawing No. 4090 (Air Release Valve – Type "1")
Drawing shall be modified as follows:
1. Use SDR 9, no copper.
2. One (1) inch pipe, use CC thread.
3. Greater than one (1) inch pipe, use iron pipe thread.

Standard Drawing No. 4110 (Flush Point Installation- Type "1")
Drawing shall be modified as follows:
1. Service pipe to be SDR 9 (no copper).

Standard Drawing No. 4120 (Fire Hydrant Installation)
Drawing shall be modified as follows:
1. All joints are to be restrained. Mega-lug or approved equal.

Standard Drawing No. 4130 (Water Service Installation ¾" or 1" Line)
Drawing shall be modified as follows:
1. Copper service line shall be 1" I.D. C.T.S. Poly Tube SDR-9.
2. Meter box shall be two (2) feet from back of curb or as directed by the City.
3. Meter box shall be eighteen (18) inch diameter by fourteen (14) inch deep
4. Blue EMS disk shall be set at main line.
5. No C.F. corporation stops.
6. See City detail for Service Meter Tail Connection.

Standard Drawing No. 4140 (Water Service Installation 1 ½" or 2" line)
Drawing shall be modified as follows:
1. Copper service line shall be 1 ½" or 2" I.D. C.T.S. poly tube SDR-9.
2. Meter box shall be two feet, six-inches (2'-6") from back of curb or as directed by the City.
3. Meter box shall be eighteen (18) inch diameter by fourteen (14) inch deep
4. Blue EMS disk shall be set at main line.
5. See City detail for Service Meter Tail Connection.

Standard Drawing No. 4150 (4" Combined Service with 4" Meter)
Drawing shall be modified as follows:

1. Install strainer between coupling adapter and meter.
2. Install testable double check valve after four (4) inch blind flange.

Standard Drawing No. 4160 (8" Detector Check – Service with 8" Meter)
Drawing shall be modified as follows:
1. Install gate valves each side of check valve.
2. Install double check valve after 8" x 12" nipple.
3. Install strainer between coupling adapter and meter.

Standard Drawing No. 4180 (4" Domestic Service with 3" Meter)
Drawing shall be modified as follows:

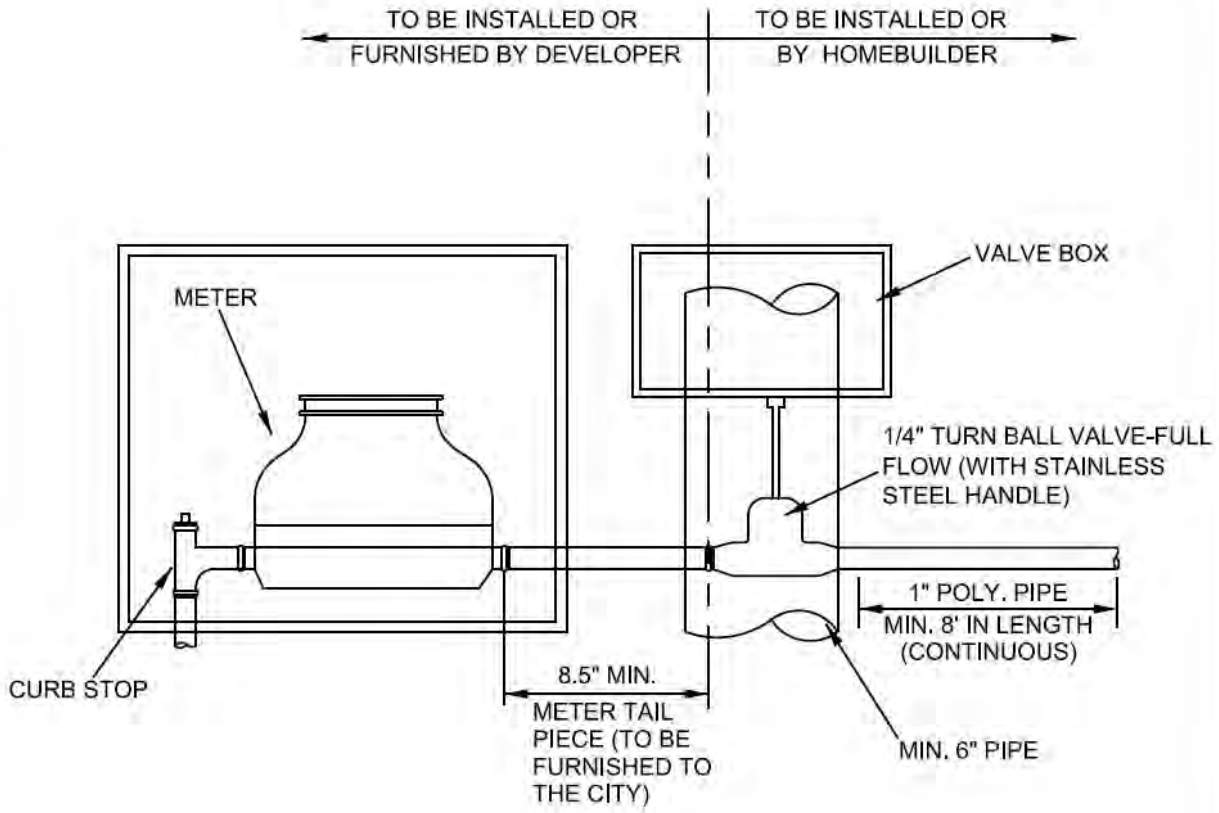
1. Strainer shall be installed after reducer coupling adapter.
2. Double check valve shall be installed after 4" x 3" reducer.
3. Ductile iron should be used for all material.

Standard Drawing No. 4190A (Large Service Meter Vault Installation)
Drawing shall be modified as follows:

1. Gate valves shall be installed on each side of meter.
2. Strainer shall be installed before meter.
3. Double check valve shall be installed after meter.
4. Install by-pass line with valve.

Standard Drawing No. 4200 (Water Main Lowering Below Wastewater Main)
Drawing shall be modified as follows:

1. The concrete encasement shall encase entire wastewater main.
2. Deflect water line when possible.



NOTE:

VALVE BOX TO BE TRAFFIC RATED IF UNDER PAVING.

SINGLE SERVICE METER TAIL CONNECTION

NOT TO SCALE

WATER METER DETAIL	CITY OF ROCKWALL		
SINGLE SERVICE		DATE AUG. '15	DRAWING NO. R-4145

Division 5000 Wastewater Collection

NOTE: *(1) Deleted NCTCOG Drawing*
(2) Revised NCTGOG Drawing (see revisions below)
(3) Added Rockwall Standard Drawing (see drawing below)
(4) Added Current TxDOT Standards

Table 9.5: Revisions to NCTCOG's Division 5000 Wastewater Collection

Revised	Drawing No.	Subject
(2)	*5010*	*Wastewater Main Tie-In – At Cleanout or M.H. Stubout*
(2)	*5020*	*Wastewater Manhole – Precast*
(2)	*5030*	*Wastewater Manhole – Cast-In-Place*
(1)	~~*5040*~~	~~*Wastewater Manhole – Fiberglass*~~
(2)	*5050*	*Wastewater Manhole – Pressure Type*
(2)	*5060*	*Wastewater Manhole – Vented*
(1)	~~*5070*~~	~~*Wastewater Manhole – Outside Drop Connections*~~
(2)	*5080*	*Wastewater Manhole – Inside Drop Connection*
	5090	Wastewater Manhole – Line Intersection
	5100	Wastewater Manhole – False Bottom
(2)	5110	Wastewater Main – Cleanout
(1)	~~5120~~	~~Wastewater Laterals – With & Without Cleanout~~
(3)	**R-5120**	**Wastewater Lateral Connections – Residential**
(1)	~~5130~~	~~Wastewater Lateral Connections – In Earth & In Rock~~
	5140	Wastewater Lateral Connections – Cleanout Frame & Cover
(2)	5150	Wastewater Lateral Stubout – In Advance of Paving
(2)	5160	Wastewater Lateral Replacement – In Advance of Paving
	5170	Abandonment of Manhole – In or Out of Pavement

Standard Drawing No. 5010 (Wastewater Main Tie-In - At Cleanout or M.H. Stubout)
Drawing shall be modified as follows:

1. "C – T" pipe adapter shall be non-shear.

Standard Drawing Nos. 5020, 5030, 5050, 5060 and 5080 (Wastewater Manholes)
Drawing shall be modified as follows:

1. Install green EMS disks at all manholes.

Standard Drawing No. 5020 (Wastewater Manhole – Pre-cast)
Drawing shall be modified as follows:

1. Lip to be pre-cast.

Standard Drawing No. 5060 (Wastewater Manhole – Vent Pipe)
Drawing shall be modified as follows:

1. Top of vent pipe to be 1.0' above the 100-yr flood if located with a floodplain.

Standard Drawing No. 5110 (Wastewater Main- Cleanout)
Drawing shall be modified as follows:

1. PVC pipe only. No clay pipe.

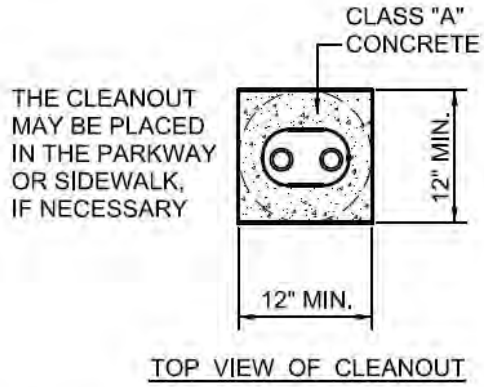
Standard Drawing No. 5150 (Wastewater Lateral Stub Out in Advance of Paving)
Drawing shall be modified as follows:

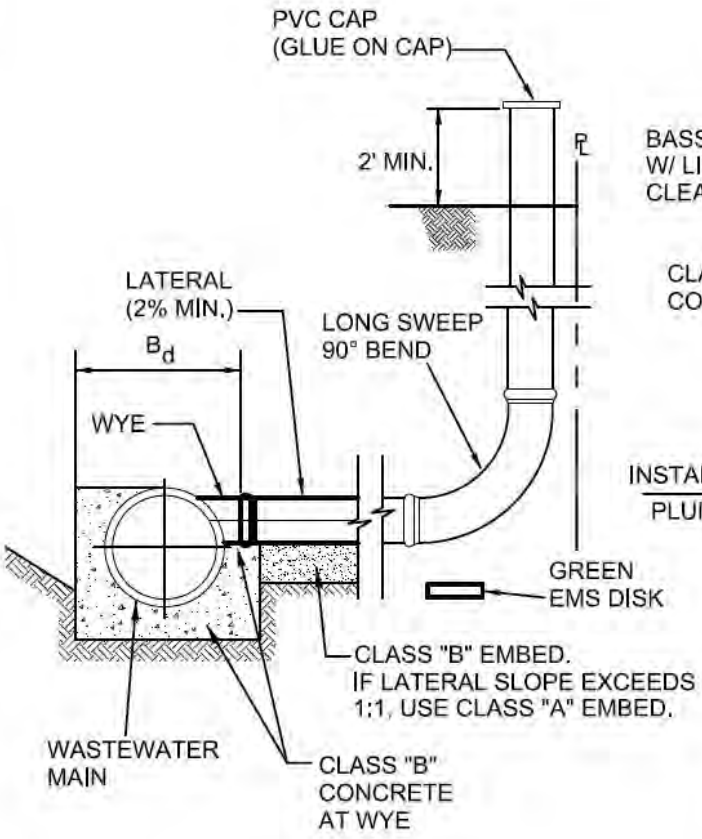
1. Install green EMS disk at end of lateral.

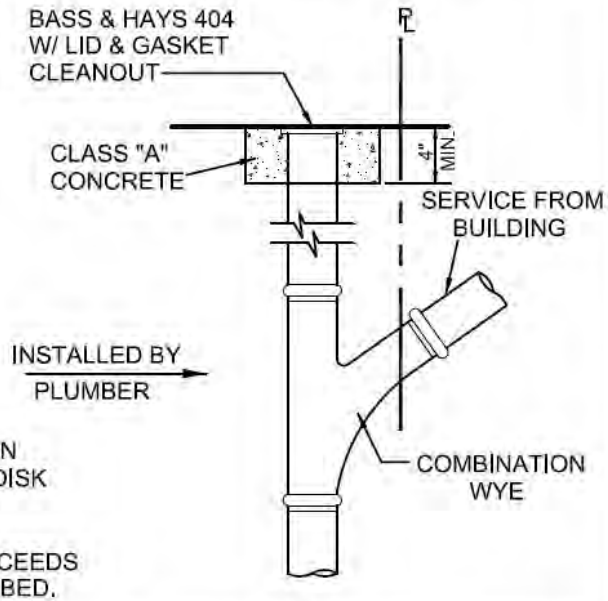
Standard Drawing No. 5160 (Wastewater Lateral Replacement in Advance of Paving)
Drawing shall be modified as follows:

1. Install green EMS disk at property line.
2. Wyes only, no tees.

CLASS CONCRETE	BAGS CEMENT PER C.Y.	MIN. STRENGTH 28 - DAY PSI
A	5.5	3000
B	4	2000







PLUMBER TO CUT CLEANOUT RISER TO INSTALL COMBINATION WYE TO CORRESPOND W/ GRADE OF THE PIPE LEADING FROM BUILDING. AFTER INSTALLATION OF THE WYE, INSERT CLEANOUT INTO THE TOP OF THE RISOR.

WASTEWATER LATERAL	CITY OF ROCKWALL		
CONNECTIONS – RESIDENTIAL		DATE AUG. '15	DRAWING NO. R–5120

9.5 Division 6000 Storm Water Drainage

NOTE: *(1) Deleted NCTCOG Drawing*
(2) Revised NCTGOG Drawing (see revisions below)
(3) Added Rockwall Standard Drawing (see drawing below)
(4) Added Current TxDOT Standards

Table 9.6: Revisions to NCTCOG's Division 6000 Storm Water Drainage

Revised	Drawing No.	Subject
(2)	6010A	Storm Water Manhole – 4', 5', 6' Square
(2)	6010B	Storm Water Manhole – 4', 5', 6' Square
(2)	6020A	Curb Inlet – 5', 10' 15' or 20' Opening
(2)	6020B	Curb Inlet – Cross Section & Inlet Throat
(2)	6020C	Curb Inlet – Rebar & M.H. Frame & Cover
(2)	6020D	Curb Inlet – Bill of Reinforcing Steel
(2)	6020E	Curb Inlet – Summary of Quantities
(2)	6030A	Curb Inlet Recessed – 5', 10' 15' or 20' Opening
(2)	6030B	Curb Inlet Recessed – Cross Section & Center Beam
(2)	6030C	Curb Inlet Recessed – Inlet Throat & M.H. Frame & Cover
(2)	6030D	Curb Inlet Recessed – General Notes
(2)	6040	Drop Inlet – 2', 4', 5', or 6' Square
(2)	6050	Full Channel Lining – Concrete Reinforced
(2)	6060	Concrete Apron – Vertical Headwall
(2)	6070	Concrete Apron - Sloping Headwall
(4)		TxDOT: Single Box Culvert – Cast-in-place and Precast
(4)		TxDOT: Multiple Box Culvert – Cast-in-place
(4)		TxDOT: Wingwalls for Single & Multi-Box Culverts
(4)		TxDOT: Concrete Headwalls for Pipe Culverts
(4)		TxDOT: Safety End Treatment for Box Culverts
(4)		TxDOT: Safety End Treatment For Pipe Culverts

Note: Storm sewer headwalls, wingwalls, box culverts and safety pipe runners shall be per Texas Department of Transportation Standard Details and made part of the City of Rockwall Standard Details.

Standard Drawing Nos. 6010A through 6070

Drawings shall be modified as follows:

1. All concrete for structures shall be Class F (4200 psi, minimum 6.5 sack cement).
2. No fly ash is allowed in concrete for structures.

Standard Drawing No. 6020B (Curb Inlet- Cross Section and Inlet Throat)
Drawing shall be modified as follows:

1. Block out for throat to be two and one-half (2-1/2) feet from back of curb.
2. Gutter depression to be six (6) inches.

Standard Drawing No. 6020C (Curb Inlet- Rebar and M.H. Frame and Cover)
Drawing shall be modified as follows:

1. Inlet lid to be locking.

Standard Drawing No. 6030C (Curb Inlet Recessed – Inlet Throat and M.H. Frame and Cover)
Drawing shall be modified as follows:

1. Recessed inlet back of curb distance to be three (3) feet from street back of curb (not two (2) feet).
2. Gutter depression to be six (6) inches.
3. Inlet lid to be locking.

Standard Drawing No. 6030D (Curb Inlet Recessed – General Notes)
Drawing shall be modified as follows:

1. All backfill shall be compacted to 95% Standard Proctor density.

Standard Drawing No. 6060 (Concrete Apron – Vertical Headwall)
Drawing shall be modified as follows:

1. Change Max Slope to be 4:1 for concrete apron and cover above pipe.

Standard Drawing No. 6070 (Concrete Apron – Sloping Headwall)
Drawing shall be modified as follows:

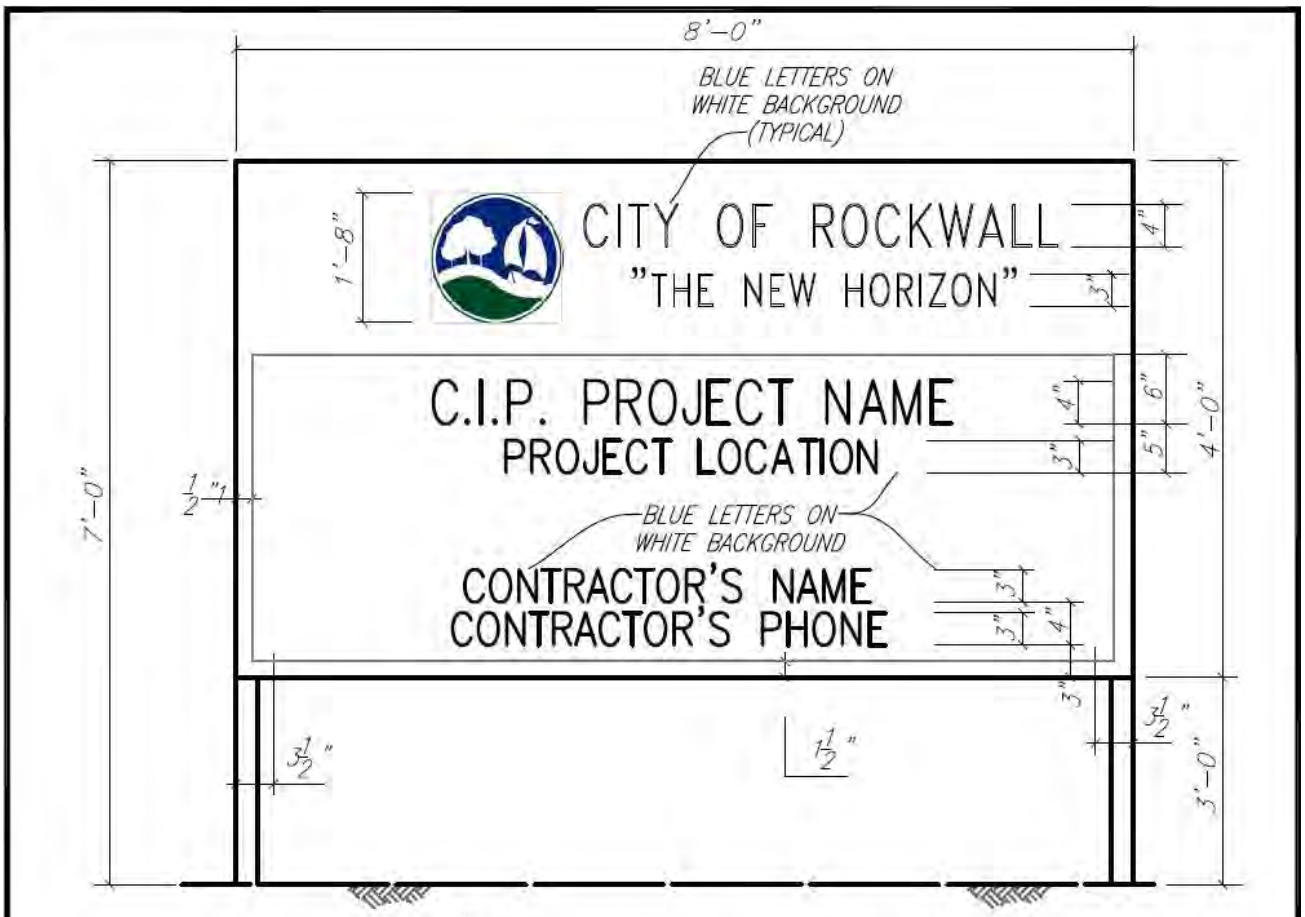
1. Change Max Slope to be 4:1 for concrete apron and cover above pipe.

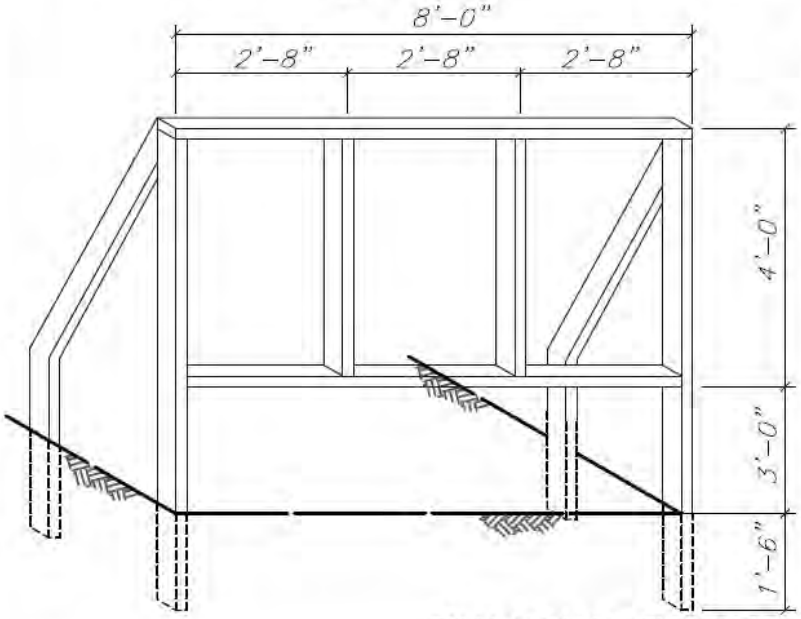
9.6 Division 7000 Rockwall Miscellaneous Details

This Division 7000 is to be added to the NCTCOG's Standard Drawings for Public Works Construction Standards. Division 7000 contains miscellaneous standard details added by the City. The following Table 9.7 contains a list of the miscellaneous standards being added.

Table 9.7: Division 7000 Rockwall Miscellaneous Details

Drawing No.	Subject
R-7010	**Miscellaneous Details – Construction Sign Detail**
R-7020	**Miscellaneous Details – Residential Lot Typical Wall & Swale Detail**





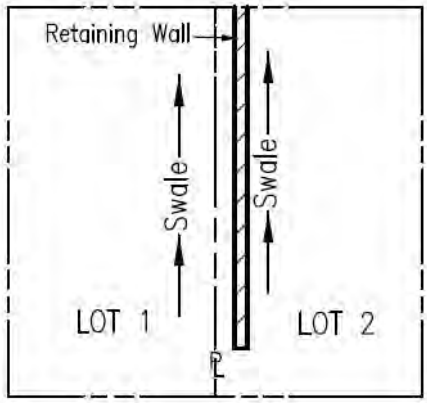
SIGN FRAME ELEVATION

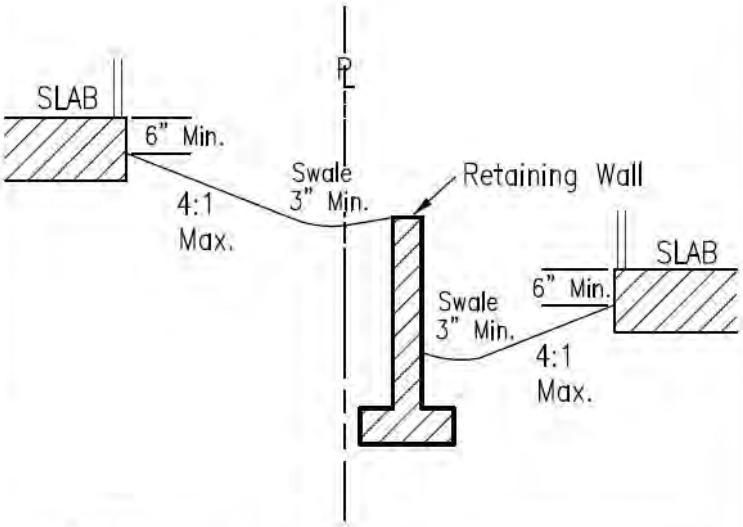
SIGN PANEL 3/4" EXTERIOR PLYWOOD PAINT AS SHOWN ON DETAIL ABOVE

FRAME 2"x4" STOCK FRAME TO BE PAINTED WHITE

ALL PAINT TO BE "EXTERIOR GRADE"

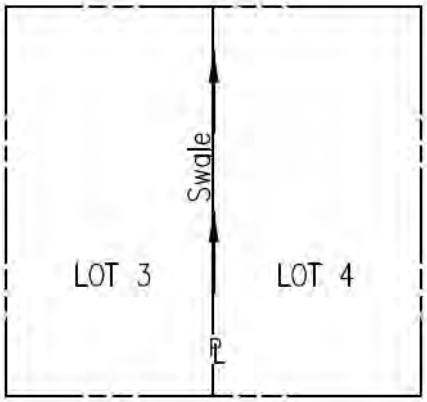
MISCELLANEOUS DETAILS	CITY OF ROCKWALL		
CONSTRUCTION SIGN DETAIL		DATE AUG. '15	DRAWING NO. R-7010

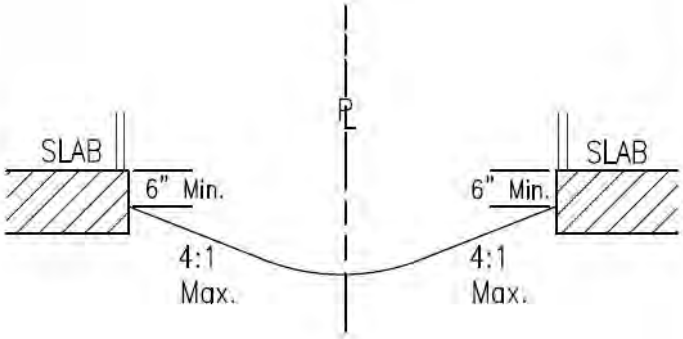




NOTE:

No Retaining Walls including the footing shall be placed in the right–of–way, easements, or overlapping property lines.





NO WALL

MISCELLANEOUS DETAILS	CITY OF ROCKWALL		
RESIDENTIAL LOT TYPICAL WALL & SWALE DETAIL		DATE AUG. '15	DRAWING NO. R–7020

APPENDIX

APPENDIX A – Engineering Drawing Requirements

Engineering Drawing Requirements

Item Description
Administrative Items
Engineering Plan Submission Application with submittal checklist
Engineering-Plan Review Checklist
Four Complete Copies of Engineering Plans Initial Submittal; Three Complete Copies of Engineering Plans Re-Submittal; Two additional sets each submittal is proposed lift station.
Markups from Previous Submittals, if subsequent submittal
Annotated Review Comments, if applicable
Two copies of any Study or Report Completed in Support of the Project
Submission of Required Fire Flows Form to Fire Marshal
Submission of Fire Hydrant Flow Form to Fire Marshal
Floodplain Administrator Development Permit Application
Storm Drainage Management Plan
TxDOT preliminary letter of approval for Drive Approach Connections
TxDOT permits obtained
Franchised Utility Approval Obtained (specify)
Other Agency or Land Owner Approval Obtained (specify)
Corps of Engineers (COE) Wetland Permit Obtained (if applicable) or letter of determination
Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR)
Other Agreements (explain)
Studies - If Required
Geotechnical Report
Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Flood Study
Wetland Determination
Lift Station Report
Hydraulic Study Submitted
Water Study Submitted
Sanitary Sewer Capacity Study Submitted
Traffic Impact Study
Flood Study (100 year-fully developed) (Local or FEMA)
Sight Visibility Determination for easements
All Sheets
Sheet Size 24" x 36"
Title Block with Subdivision Name, Project Name and Sheet Description
Revision Block - Filled Out
North Arrow

Item Description
Vertical and Horizontal Scale Listed and Accurate
Benchmarks Listed and Described
Legend of All Drawing Symbols and Line Types Used
Engineer's Seal, Signature and Date per Texas Engineering Practices Act
Responsibility Note Required on All Sheets except site plan and standard details: "ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN."
Provide Key Map for Large Projects Showing Sheet Locations
Clear Drafting with Proper Line Weights for Ease of Reading
No Overlapping Text
Drafting at Adequate Scale to Obtain Ease of Reading and Scanning
Cover Sheet
Project Name
Official Plat Name as Assigned by the Planning and Zoning Department (including Block & Lot)
Official Project Address Assigned by the City Planning and Zoning Department
Mapsco Grid Reference
Month and Year of Probable Start of Project Construction
Revision Table
Engineer Contact Information (Name, Address, Phone Number, email address)
Owner Contact Information (Name, Address, Phone Number, email address)
Sheet Index - List ALL sheets included in plan set including details
Location Map with North Arrow
Side Bar - Plat Subdivision Name & Project Name
Title of type of sheet (i.e. Grading, Utility, Water,….)
Approved Site Plan
Approved Site Plan
Approved Landscape/Treescape Plan
Approved Landscape and Treescape Plan
Proposed Final Plat
Plat Included
Correct Plat Name
Plat Closure Calculations (Sealed by Registered Surveyor or Engineer)
GPS Grid Coordinates Shown for the Property Corners Properly Into City Monumentation System (x, y coordinates on 2 property corners)
Location map
Street Names with Right-of-Ways Widths Identified

Item Description
Benchmark (if near drainage feature or flood zone)
Basis of bearing
Metes and Bounds of Tract
Adjacent Land Ownership Information
List Corners Found or Set
Property Pins Shown for tracts across ROW with verification of existing ROW Widths
Building Setback Lines Shown
Recording Volume and Page Information for all separate easements and ROW dedications within platted area or adjacent tracts
100-Year Floodplain for Fully Developed Conditions showing cross sections and elevations
Minimum Finished Floor Elevations Shown (if near drainage feature or flood zone)
Drainage & Drainage Maintenance Easements Shown and annotated
Required Utility Easements Shown (15' minimum width) and annotated
Access Easements Shown and annotated
ROW. Dedication Shown and annotated
ROW Corner Clips and annotated
All Existing easements (on-site) shown and annotated
Visibility Easements Shown and annotated
Surveyor Seal, Signature and Date
Demolition Plan
All existing topographic features including but not limited to: pavement, curbs sidewalks, barrier-free-ramps, light poles, driveways, storm sewer inlets, manholes, junction boxes headwalls retaining walls, fences , mailboxes landscape planters, trees, etc.
All wet utilities (water lines, wastewater lines and storm sewer) including sizes
All franchise utilities (electric, cable, communications, gas, etc.)
Pavement removals with full depth pavement sawcut locations
Water line, wastewater line and storm sewer removals
Dimensional Control & Paving Plan
Lot Boundary with Dimensions and Bearings
Street Names Shown
Existing ROW
ROW. Dedication and ROW Corner Clips Shown with Dimensions
Verification of public rights-of-way width ("variable width" is not acceptable) (When Required)
Visibility Easements Shown as Required by City Code
Building Setback Lines Shown
Dimensions (thickness, width, length, radius) for all paved areas (parking areas, driveways, fire lanes, turn lanes, drive aisles, sidewalks, etc)
Driveways Location, Spacing and Width Meet City Code and TxDOT Requirements

Item Description
Driveways- Width, Radius, Distance to Adjacent Drives, Alignment with other Drives Across Street Shown
Fire Lane - Width, Radius & Distance from Building Shown and Detailed including turn-arounds and dead-ends
All Pavement Thickness, Concrete Strength, Reinforcing, Subgrade Detailed Per City Requirements
Location of Fire Sprinkler Fire Department Connection (FDC) Shown
Location of Electrical Transformers Shown
Dumpster Location, Access and Construction Requirements Met and approved by Planning and Zoning Department (Backing Distance and Maneuver - Accessible by SU-30 Turning Template)
All Existing and Proposed Utility and Drainage Easements Shown (15' minimum width)
Existing and Required Access Easements Shown
Screening Wall Location, Foundation, Height, Start/End of Wall
Retaining Wall Location, Foundation, Height, Start/End of Wall
Existing and Required Sidewalks and Trails Shown with Dimensions
Show Location of Required ADA Ramps
Limits of 100-Year Ultimate Flood Plain Shown (FEMA and local)
Note Identifying Reference for 100-Year Floodplain and WSE Information with cross section with elevations
New/Relocating Left Turn Lane and/or deceleration lanes complies with City and TxDOT Requirements (Spacing, Length, Construction)
Existing and Proposed Infrastructure within Median Modifications Shown (Trees, Street Lights, Conduit, Irrigation, pavers, etc)
Street Lighting and Street Sign Plan
Grading Plan
Benchmarks
Exist Lot Lines & Corners (lot lines screened if being changed)
Proposed Lot Lines
Existing (screened) & Proposed ROW
Street Names Shown
Drainage Easements for Drainage Features and Structures Shown (15' minimum width)
Existing & Proposed Improvements (paving and building footprints)
Minimum Finished Floor (FF) Elevations for Structures meet Requirements of Drainage Ordinance
Minimum Finished Floor (FF) Elevation Shown for each Structure
Existing & Proposed Contours for Site and Minimum of 50' Beyond Property Lines (with appropriate contour interval) with all ponds and waterways labeled
Existing & Proposed Spot Elev. Showing Grade; High & Low Points; Swales, Inverts & Ridges with Flow Arrows
Label Lot Area and Disturbed Land Area
Adjacent Property Improvements Within Minimum 25' of site
Existing & Proposed On-site and Off-site Drainage Features (Design Info Shown)

Item Description
Maximum Cross Slope 4H:1V (H=Horizontal, V=Vertical) Min Running Slope 1% for unpaved areas
Ditches Adjacent to Site Cleared, Cleaned & Regraded (only with permission from property owner)
Positive Overflow Routes with elevations (All public roads that have a sag require an overflow route)
Lot grading to be above street elevation (Residential Only)
Limits of 100-Year Ultimate Floodplain Shown
Ultimate (Fully Developed) 100-Year Floodplain Water Surface Elevations (WSE's) shown on cross sections
Note Identifying Reference for 100-Year Floodplain and WSE Information
Cross sections to scale with hydraulic calculations
Location of Cross-Sections With Stationing Shown
Cut or Fill Areas shown on Cross-Sections
Existing and Proposed Retaining Walls with Top & Bottom Spot Elevations and calculations as required
No Residential Cross Lot Drainage
Grading Plan Matches Drainage Area Map
Does Grading Plan Address Impacts to Adjacent Properties Requiring Easements or Letters of Permission
All Detention Areas with Flumes with Elevations and Side Slopes Labeled
Retaining Wall Plan and Profiles
Label Beginning and Ending of Wall
Label Top of Wall, Bottom of Wall, Bottom of Footing
Railing type and limits
Detailed Structural Sections for each differing section type
Flume locations shown in plan and sections (no water allowed to overtop retaining walls)
Show locations of all Water, Sanitary Sewer, Storm Sewer, Franchise Utility Crossings in Plan
Show locations of all Water, Sanitary Sewer, Storm Sewer, Franchise Utility Crossings in Profile along with elevations
Profile Existing Natural Ground Line, Proposed Ground Line at Bottom and Top of Wall
Drainage Area Map
Storm Drainage Analysis and design shall comply with the Drainage Ordinance
Existing and Proposed Drainage System and Structures Shown (pipe, inlets, etc)
Current Zoning or Anticipated Ultimate Development Shown and Correct For Off-Site Areas
Ensure Site Drainage is Collected on Site
Design for a Ultimate (Fully Developed) 100 Year Storm Event
Design showing Elevation Contours for the Entire Off-Site Drainage Basin and 50' beyond Property
Design with most recent surveyed Contour Information
Drainage Area Map shows Subbasins For Each Collection Point and Inlet
Each Drainage Area has ID, Q100, Acres and Direction of Flow to the Outfall Shown
Each Outfall labeled with an Identification, direction of flow and Total Flow

Item Description
Drainage Direction Arrows for Both On-site and Off-site Drainage Basins
Indicate all Sags and Crests With Flow Arrows
City Standard Drainage Area Map Calculation Table for Current and Future Conditions With Outfall Summary Included
I - Values Meet City Requirements
C - Values Meet City Requirements (based on Zoning)
Time of Concentration Values Used Meet City Requirements
Q - Calculated Flow in cfs
Provide a Subtotal for each Major Drainage Line
Drainage Area Map & Calculations for all Offsite Drainage
Limits of 100-Year Ultimate Floodplain Shown
Ultimate (Fully Developed) 100-Year Floodplain Water Surface Elevations (WSE's) shown (FEMA and local)
Note Identifying Reference for 100 Year Floodplain and WSE Information (FEMA and local)
Show Limits of Each Plan Sheet (Tile)
Show Detention
Show Existing Drainage Areas (lighter line type)
Label where each drainage area drains (inlet number, swale, etc.)
Storm Drainage Plans *(Storm Drainage Structures including Pipe, Inlets, Etc.)*
Benchmark Location and Elevation
Flood Study / FEMA FIRM Map Reference Information Listed by Note
Storm Sewer Alignment Logical, Sharp Bends Eliminated
Collecting On-Site Drainage with Storm Sewer/Inlets
Profile Given for all Storm Sewer Mains and Laterals
Pipe Size, Material and Class Identified on Plan and Profile
Hydraulic Grade Line Shown on all Storm Sewer Profiles for Mains/Laterals
Other Hydraulic Info Shown on Storm Sewer Profiles for all Mains/Laterals (Q100, Qcap, Velocity, V2/2g) at every junction and/or increase in flow
Vertical and Horizontal Alignment and Slope Shown for all Mains/Laterals on Plan and Profile
Hydraulic Grade Line Meets City Design Requirements
Starting Hydraulic Grade Line Calculations/Assumptions Listed
Starting Hydraulic Grade Line Meets City Design Requirements
Pipe Velocity Within Ordinance Requirements and Limitations
Elevation Information on Plan View (Flowlines, Top-of-Curb, Hgl or 100 yr water surface (partial flow) at every inlet, etc) Matches Profile View
Show Crossings of Existing and Proposed Water and Sanitary Sewer on Storm Sewer Profile
Note minimum Cover for Pipes and Culverts
Drainage System Reviewed for Constructability - Depth and Clearance From Streets, Structures, Other Utilities (dimensions)

Item Description
Inlet Capacity Calculations Provided In City Standard Tabular Form
Inlets Placed to Capture Runoff Before It Enters Street or Major Thoroughfare
Storm Sewer Calculations Provided In City Standard Tabular Form
If Street Drainage, Calculations Showing Curb & Street Capacity
If Street Drainage, Show Nearest Inlet & all Upstream Drainage
Inlet Construction Layout Information Shown (Top of Curb, Flowline, Throat Elevation, Type, Size, Hgl, Q100, Etc)
Storm Sewer Inlet Location, Size, Type, and Construction Detail Per City Requirements
Storm Sewer Manhole Location, Size, Type, and Construction Detail Per City Requirements
Outfall, Headwall, and Other Structure Location, Type, Velocity and Erosion/Scouring Protection Per City Standards
Positive Overflow Route Through Site with grades
Sag Points Identified and Paved Positive Overflow Designed
Outfall/Headwall Locations No Greater Than 1' Above Creek Flowline and Pointed Down Stream
Outfalls Discharge into Existing Drainage Features or Provide Easements as Required
Outfall Velocity Meets City Requirements
Outfall Protection / Energy Dissipation When Required
Appropriate Details are Included for Structures, Junction Boxes, Headwalls and Inlets (if different than NCTCOG 4th Ed. or City details)
Connection Details Provided for Non-Standard Connections
Limits of 100-Year Ultimate Floodplain Shown (FEMA and local)
Ultimate (Fully Developed) 100-Year Floodplain Water Surface Elevations (WSE's) shown (FEMA and local)
Note Identifying Reference for 100 Year Floodplain and WSE Information
Drainage Easements for Drainage Features and Structures Shown (15' minimum width)
Storm Drainage Plans *(Ditches, Swales, and Open Channels)*
Direction of Flow Indicated for Ditches, Swales and Open Channels
Ditches, Swales and Open Channels have 100 year Ultimate Water Surface Shown on Profile (min 1% Running Slope)
Ditches, Swales and Open Channels have 100 year Ultimate Water Surface Shown on Cross Sections
Ditches, Swales and Open Channels Armored with Approved Material in Areas Where Average & Localized Velocities are Above 6 fps
Ditches, Swales and Open Channels can Carry 100-year Ultimate Storm with 2.0' of Freeboard
Ditches, Swales and Open Channels Hydraulic Information Shown On Plans
Ditches, Swales and Open Channels Hydraulic Information Shown On Plans Matches Hydraulic Report or Flood Study Submitted
Ditches, Swales and Open Channels Side Slopes Less Than 4H:1V for Grassed/Un-Armored Sections
Ditch, Swale and Open Channel Width, Depth, Running and Side Slopes and Capacity Per City Requirements
Drainage Easements for Drainage Features and Structures Shown (15' minimum width)

Item Description
Storm Drainage Plans *(Detention and Ponds)*
Required Detention Shown
Detention Calculation Shown and Correct
Outfall discharge curves for required storm events
Detention/Retention Pond Location, Size, Depth, Capacity, and Material Per City Requirements, 100 year Water Surface Elevations
Provide Access and Structures that Contribute to Long Term Maintenance of Detention Pond
Drainage Easements for Drainage Features and Structures Shown (15' minimum width)
Provide chart showing flow allowable vs. flow actual for Q_5, Q_{10}, Q_{25}, and Q_{100}
Utility Plans *(Water & Wastewater)*
Water
Water Main Sized In Compliance with Water System Master Plan
Water Mains Provided to Front Property Along all Street Frontages or Otherwise Extended to Serve Adjacent Properties
Water Main Extension Required By Code Shown
Water Mains Looped to Provide Circulating and Redundant Feed
Water Main Size, Material and Class Called Out
Existing Water Mains and Valves Shown; Show Valves on both sides of Tap in Case Area Needs to be Isolated
Existing & Proposed Fire Hydrants Shown
Utility Easements for Water Mains Shown (15' minimum width)
Proposed and Existing Fire Lanes Shown
Fire Hydrant Spacing Meets Requirements of Adopted International Fire Code (IFC)
Fire Sprinkler Fire Department Connection (FDC) Location Shown
Water Main Fittings, Valves, etc Identified
Water Mains 16" and Larger Profiled
All Water Main Bores Profiled
All Crossings Identified on Appropriate Profile
Bore complies with Bore and Utility Crossing General Design Standards and TxDOT Standards if in TxDOT ROW
Existing Water Meters Shown
Proposed Water Meters Shown (Both Domestic and Irrigation)
Domestic and Irrigation Water Meters on Looped/Circulating Main
All Water Meters on Separate Service - No Water Meter "Bullheads" or Manifolds Allowed
Water Meters Location, Preferred to be in Unpaved Area
Water Meter Sizes Identified
Appropriate Double Check/Backflow Prevention Shown on Private Side of All Meters
Water System Reviewed for Constructability and Maintenance - Depth and Clearance From Streets, Structures, Other Utilities (Dimensions)

Item Description
Water Mains Identified as Either Public or Private with Lines of Demarcation
Utility Crossings Shown in All Profiles and Bore Profiles including Franchise Utilities and Street Light Utilities
If Fire Sprinkler Line is Shown, Add Note to Plans to Indicated the Requirement for Separate Permit from the Fire Department and label min 10-foot separation distance from all other utilities
Wastewater
Wastewater Mains Provided to Front Property or Otherwise Extended to Serve Upstream Property
Existing Wastewater Mains, Manholes, Cleanouts and Services Shown
Proposed Wastewater Mains, Manholes, Cleanouts and Services Shown
Sanitary Sewer Mains Profiled
Bore complies with Bore and Utility Crossing General Design Standards and TxDOT Standards if in TxDOT ROW
Wastewater Main Size, Material and Class Identified on Plan and Profile
Wastewater Main Depth, Slope, Service Locations, Cleanouts and Manholes shown in all Profiles
Wastewater Rim, Flow Line In & Flow Line Out Elevations for All Manholes (min 2% drop between manhole flow-in and flow-out)
Utility Crossings Shown in All Profiles and Bore Profiles including Franchise Utilities and Street Light Utilities
Wastewater System Reviewed for Constructability and Maintainability - Depth and Clearance From Streets, Structures, Other Utilities (Dimensions)
All Existing and Proposed Public and Private Easements and Rights of Way Shown
Wastewater Mains Identified as Either Public or Private with Lines of Demarcation and Private Utility Note
Private Utility Note: "ALL WASTEWATER WORK DESIGNATED AS "PRIVATE" IN THIS SET OF PLANS SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE, PERMITTED AND INSPECTED BY THE CITY BUILDING INSPECTION DEPARTMENT AND INSTALLED BY A LICENSED PLUMBER."
Lift Station
Lift Station Report
Dimension and Control Plans
Grading Plan
Forced Main Plan
Landscape Plan
Detail Sheets
Erosion Control *(For Sites Greater 1- Acre or Larger)* / SWP3 *(If Required by TCEQ Regulations)*
Owners Name , Address & Phone No.
Developers Name Address & Phone No.
Engineers Name Address & Phone No.
Site Acreage Listed
Disturbed Acreage Listed (Acres)
Limits of Construction and Disturbed Areas Shown
Existing Ground Contours, Drainage Features and Structures

Item Description
100-Yr Flood Plain with Elevations (FEMA and local)
Limits of Trees/Shrubs to Remain
Grades to Match Grading Plan
Proposed Storm Drainage, Structures & Pavement
Borrow & Spoil Area Identified
BMP Locations, details, Calculations, and Maintenance Schedule
Sediment Basin, required if disturbed area greater than 10 acres
Standard Details
Any Details not Included in Standard Specifications for Public Works Construction, North Central Texas, Fourth Edition, or the City of Rockwall Standards of Design and Construction.
Add Note on Plans indicating the use of Details as Outlined in the Standard Specifications for Public Works Construction, North Central Texas, Fourth Edition and City of Rockwall Standards of Design and Construction
TXDOT Details
Other Pertinent Details - Explain

APPENDIX B – Approved Water Materials List

Approved Water Materials List

All materials on this list do not require separate submittals. All materials must be new and in good condition.

Fire Hydrants

- Mueller "Super Centurion 250-A423"
- American Darling "B-84B-5"
- Waterous "Pacer WB67"
- Clow "Medallion"
- M&H "Model 129 & 929"
- WaterMaster 5CD250

Valves

- Mueller Resilient Seat
- Mueller Resilient Wedge
- Mueller Butterfly
- American Darling Resilient Wedge
- American Darling Butterfly
- U.S. Pipe & Foundry "Metro-Seal" Resilient Wedge
- American Flow Control – Series 2500 Resilient Wedge Valve
- Clow Resilient Wedge
- Pratt Butterfly
- American AVK Resilient Seated Gate Valve Series 25, 4"-12"

Valves – Air Release / Combination Air & Vacuum

- Vent-O-Mat 025 RBX 2521 – 1"
- Vent-O-Mat 050 RBX 2521 – 2"

Tapping Sleeves and Valves

- All require ¾" NPT brass test plug.

Sleeves

- Mueller H-304 Stainless Steel Tapping Sleeve w/Stainless Steel Flange
- Tyler Traverse Tapping Sleeve
- Clow Traverse Tapping Sleeve
- Dresser Style 630 Heavy Stainless Steel Tapping Sleeve
- PowerSeal Model 3490 Stainless Steel Tapping Sleeve
- Ford All Stainless Tapping Sleeve Style FTSS
- Ford All Stainless Tapping Sleeve Style FTSS-MJ
- Smith-Blair 665 Stainless Steel Tapping Sleeve with Stainless Steel Flange
  Smith-Blair 665MJ Stainless Steel Tapping Sleeve with Stainless Steel Flange
  Romac Industries, SST III

Service Saddles

Service Saddles (for PVC, DI or CI)				
Size/Manufacturer	Mueller	Jones	Ford	A.Y. McDonald
¾-inch, 2 Strap	BR-2B, BR-2S	J-979, J-969	202B, 202BS	3825, 3845
1-inch, 2 Strap	BR-2B, BR-2S	J-979, J-969	202B, 202BS	3825, 3845
1 ½ -inch, 2 Strap	BR-2B, BR-2S	J-979, J-969	202B, 202BS	3825, 3845
2-inch, 2 Strap	BR-2B, BR-2S	J-979, J-969	202B, 202BS	3825, 3845

All of the above service saddles are to be cc thread. Saddles must be supplied with stainless steel bolt/nut/washer, with the exception of a double strap bronze saddle.

Restraint (Retainer) Glands

- Uni-Flange Series 1400 for 4" thru 12" (Ductile Iron)
- Uni-Flange Series 1500 for 4" thru 12" (C900 PVC)
- EBAA Iron 1100 Series Megalug (Ductile Iron)
- EBAA Iron 2000PV Series Megalug (C900 PVC)
- Stargrip Series 4000 (C900 PVC)
- Stargrip Series 3000 (Ductile Iron)
- Sigma – One Lok (C900/905 PVC)
- Tyler Union Field Lock (Ductile Iron)
- Tyler Union Tufgrip 1000 (Ductile Iron)
- Tyler Union Tufgrip 2000 (PVC)

Restraint (Internal Joint Restrained)

- Eagle LOC 900 for 4" thru 12" C900 DR14 PVC Pipe
- Diamond Lok-21 for 4" thru 12" C900 DR14 PVC Pipe

Corporation Valve (Stops)

Corporation Valves				
Size/Manufacturer	Mueller	Jones	Ford	A.Y. McDonald
¾-inch	B-25008	J-1937-SG	FB-1000-3-Q	4701BQ
1-inch	B-25008	J-1937-SG	FB-1000-4-Q	4701BQ
1 ½ -inch	B-25008	J-1937-SG	FB-1000-6-Q	4701BQ
2-inch	B-25008	J-1937-SG	FB-1000-7-Q	4701BQ

Angle Valves (Stops)

Angle Meter Valves				
Size/Manufacturer	Mueller	Jones	Ford	A.Y. McDonald
¾-inch	B-24258	J-1963W-SG	BA43-332-WQ	4602BQ 3/4
1-inch	B-24258	J-1963W-SG	BA43-444-WQ	4602BQ 1
1 ½ -inch	B-24276	J-1975W-SG	BFA43-666-WQ	4602BQ 1 ½
2-inch	B-24276	J-1975W-SG	BFA43-777-WQ	4602BQ 2

Ductile Iron Fittings (Compact Only -C153)

- American Pipe
- Tyler Pipe Products
- Clow Products
- Star Pipe Products (tees, bends & anchor nipples)
- Sigma/Nappco Products (tees, bends & anchor nipples)
- Griffin Pipe Products

Valve Stacks and Boxes

- Bass & Hays adjustable valve box Model No. 2436S

Fire Hydrant Paint

Main Size	Color	Paint
6”	Silver – Top & Bottom	Sherwin Williams Silver-Brite Heavy Duty Rust Resistant Aluminum Paint B59S11
8”	Safety Blue Top – Aluminum Bottom	Sherwin Williams Heavy Duty Rust Resistant Aluminum Paint-Safety Blue B54T104
10” or larger	Yellow Top – Aluminum Bottom	Sherwin Williams Heavy Duty Rust Resistant Aluminum Paint-Safety Yellow B54Y37

Meter Boxes

Meter Box Specification Table	
< 1 inch Service	DFW1814F-1BA DFW Plastics, Inc Not Traffic Rated
1-1/2-inch, 2-inch Service	DFW2818F-1BA DFW Plastics, Inc Not Traffic Rated
Traffic Rated Meter Box	DFW65C-14-10BA DFW65C-1BA - Can DFW65C-Overlay-Lid DFW Plastics
Lids	DFW 18-AMRL-lid E Series

APPENDIX C – Approved Wastewater Materials List

Approved Wastewater Materials List

Note: All specified materials on this list do not require separate submittals. All materials must be new and in good condition.

Wastewater Main and Service Pipe (Gravity Flow Only)

- ASTM D3034 SDR-35 PVC 4" to 15" Diameter (Green in color)
- ASTM D3034 SDR-26 PVC 18" to 30" Diameter and for any wastewater installed 10' and deeper (Green in color)
- ASTM D3262 Fiberglass Sewer Pipe 18" to 54" and ASTM 4161 Fiberglass Fittings (must submit thickness design for wall thickness calculations) Approved Manufactures for Fiberglass Pipe and fitting are Hobas Pipe, US Composite Pipe South and Ameron International.

Manhole Pipe Connectors

- Link-Seal
- A-LOC
- KOR-N-SEAL – 306 Series By National Pollution Control Systems Inc.
- PS (Press-Seal) – PSX: Direct Drive

Wastewater Manhole Lids and Rings

- Pamrex with Lock
- East Jordan Iron Works 30" ERGO XL with Camlock Security closing device, MPIC Pick slot, elastomer T-Gasket in lid and infiltration plugs at the hinges. – Product No. 00148026L01 (Lid shall have City of Rockwall Logo permanently cast into the surface)
- East Jordan Iron Works 24" ERGO with Camlock Security closing device, MPIC Pick slot, elastomer T-Gasket in lid and infiltration plugs at the hinges – Product No. NPR10-1213A (for retrofit work only). (Lid shall have City of Rockwall Logo permanently cast into the surface)

Manhole Coatings (No dark colors allowed)

- Raven 405 (125 mils thick)-light blue colored only
- ConShield-terra cotta colored only (must be spark tested per NACE International Standard)

Geotextile Material (installed under precast manholes)

- Mirafi 140N
- Geotex 401

Manhole Grade Rings

- HDPE Adjustment Rings by Ladtech Inc.
- ARPRO Expanded Polypropylene, ASTM D3575, by Cretex Seals
- East Jordan Iron Works Infra-Riser.

Pre-Cast Manhole Gaskets

- Hanson – CR 097
- Hydroconduit – Profile

Manhole Chimney Seals and Ring & Cover Sealing Systems
- Cretex with stainless steel self locking bands. (interior & exterior)
- Riser Wrap by PSI

Manhole Drop Bowl
- Reliner / Duran Inc., Inside Drop Bowl with Stainless Steel anchor assemblies
- Approved Equal

Cleanout
- Bass & Hays 404 Lateral Cleanout with lid and gasket
- Bass & Hays 339 Wastewater Cleanout Boot

Double Cleanout Meter Box
- Bass & Hays 3-LID2 (Sewer)
- Approved Equal

Threaded Anchor
- Hilti – KB3-SS304 5/8" anchor bolts or equal
- Stainless Steel all thread 5/8" (embedded min 4-1/2" into cone with a epoxy or Wedge-it)
- Simpson Strong Tie – Strong-Bolt 5/8"

Force Main Pipe
- AWWA C-905 pipe, green colored

Air Release Valve
- Vent-O-Mat Anti-Shock Air Release and Vacuum Break Valves
- Approved Equal

Isolation Gate Valve
- American-Series 2500 2"-12" Resilient Wedge Gate Valves with Flanged Ends
- Approved Equal

All exposed Stainless Steel Bolts and Nuts must be coated with approved anti-seize compound: Permatex Nickel Anti-Seize or approved equal.

Materials not on this list will need to be submitted for review

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CITY OF ROCKWALL, TEXAS
MEMORANDUM

TO: Mayor and City Council

CC: Rick Crowley, *City Manager*
Brad Griggs, *Assistant City Manager*

FROM: Ryan Miller, *Director of Planning and Zoning*

DATE: October 3, 2016

SUBJECT: IH-30 Corridor Planning Study and Small Area Plans

On March 21, 2016, the City Council reviewed the Planning and Zoning Department's *2016-2018 Strategic Planning Goals and Initiatives*. Under *Goal #2: Maintain or Increase the Current Per Capita Sales Tax Revenue* staff proposed to create an *IH-30 Commercial Corridor Plan* for the purpose of targeting and emphasizing strategic properties and development opportunities along IH-30 corridor. It is staff's intent to provide further clarity to the policies relating to the IH-30 corridor contained in the current Comprehensive Plan. This plan calls for a *Special Commercial Corridor* for the remaining undeveloped land adjacent to IH-30, and defines this designation as "(a) regional activity center [which] could include a regional shopping area, a number of major employers, restaurant and entertainment facilities, and a large high school or community college … (a) regional activity center is more diverse in its land use …" (*Page 22; Land Use*); however, the plan stops short of providing any additional policies or land use guidelines on how to achieve this goal. In addition, a large amount of the land in this area is zoned Light Industrial (LI) District, which restricts general retail to a discretionary approval (*i.e. requiring a Specific Use Permit [SUP] and creating a barrier of entry that is not desirable for achieving the intended goals of this plan*). To correct this staff is proposing a study of the corridor, which should yield insights into policies and land use changes that staff can incorporate into the *2017 Comprehensive Plan Update*. In addition, staff intends to put together small area plans for strategically located properties along the corridor to convey how the vision for this corridor can be achieved. It is anticipated that the study will take between 5-8 months to complete and can be completed *in-house* by City staff. Staff has assembled an internal team to act as a *Staff Corridor Planning Committee (SCPC)*. The proposed members of this committee are as follows:

1) Ryan Miller, *Planning and Zoning Department*
2) David Gonzales, *Planning Division*
3) Korey Brooks, *Planning Division*
4) Amy Williams, *Engineering Department*
5) John Ankrum, *Building Inspections Department*
6) Lance Singleton, *GIS Division*
7) Lindsay Gnann, *GIS Division*
8) Lauri Dodd, *Administration*
9) Laura Perez, *Administration*
10) Ariana Hargrove, *Fire Department*

The committee includes a member from each of the Development Services Departments and will be responsible for the collection and preparation of data, holding stakeholder/public meetings, analyzing and assembling the findings prior to review and recommendation by the

City Council Development Review Committee (CCDC) and the Planning and Zoning Commission, and final adoption by the City Council.

The following is the preliminary outline of the process for this study:

1) *Data and Vision Phase*
   - ☑ Project Kick-Off (*Direction from the City Council*)
     - ❖ Work session meeting with the City Council requesting direction to begin the study.
     - ❖ Meeting with the SCPC to talk about the City Council's direction and define process.
   - ☑ Preliminary Staff Preparation and Data Collection
     - ❖ Perform an inventory of existing physical conditions within the IH-30 Corridor (*e.g. buildings profiles, street layouts, zoning designations, infrastructure, and etcetera*) -- GIS Division.
     - ❖ Perform an inventory of economic and market conditions within the IH-30 Corridor (*i.e. collection of information concerning property values, improvement values, and a built vacant map*) -- GIS Division.
     - ❖ Collection of current development policies and guidelines that affect development within the IH-30 Corridor -- Planning Division.
     - ❖ Identify current retail mix based on established hierarchy of retail uses utilizing a modified ICSC designation system -- SCPC.
     - ❖ Perform an analysis of strategically located land within the Corridor.
   - ☑ Stakeholder/Public Meeting and Charrette (*stakeholders are property owner's within the planning project boundaries*)
     - ❖ Powerpoint Presentation explaining the purpose and intent of the meeting.
     - ❖ Design boards to identify business character and types, and positive and negative aesthetics in the corridor (*i.e. this involves boards depicting various types of regional commercial/retail development*).
     - ❖ Small group work (*e.g. visioning exercises, identification of retails zones [e.g. transitional, preservation and opportunity], and etcetera*); this includes "Small Area/Strategic Property" identification and visioning exercises.

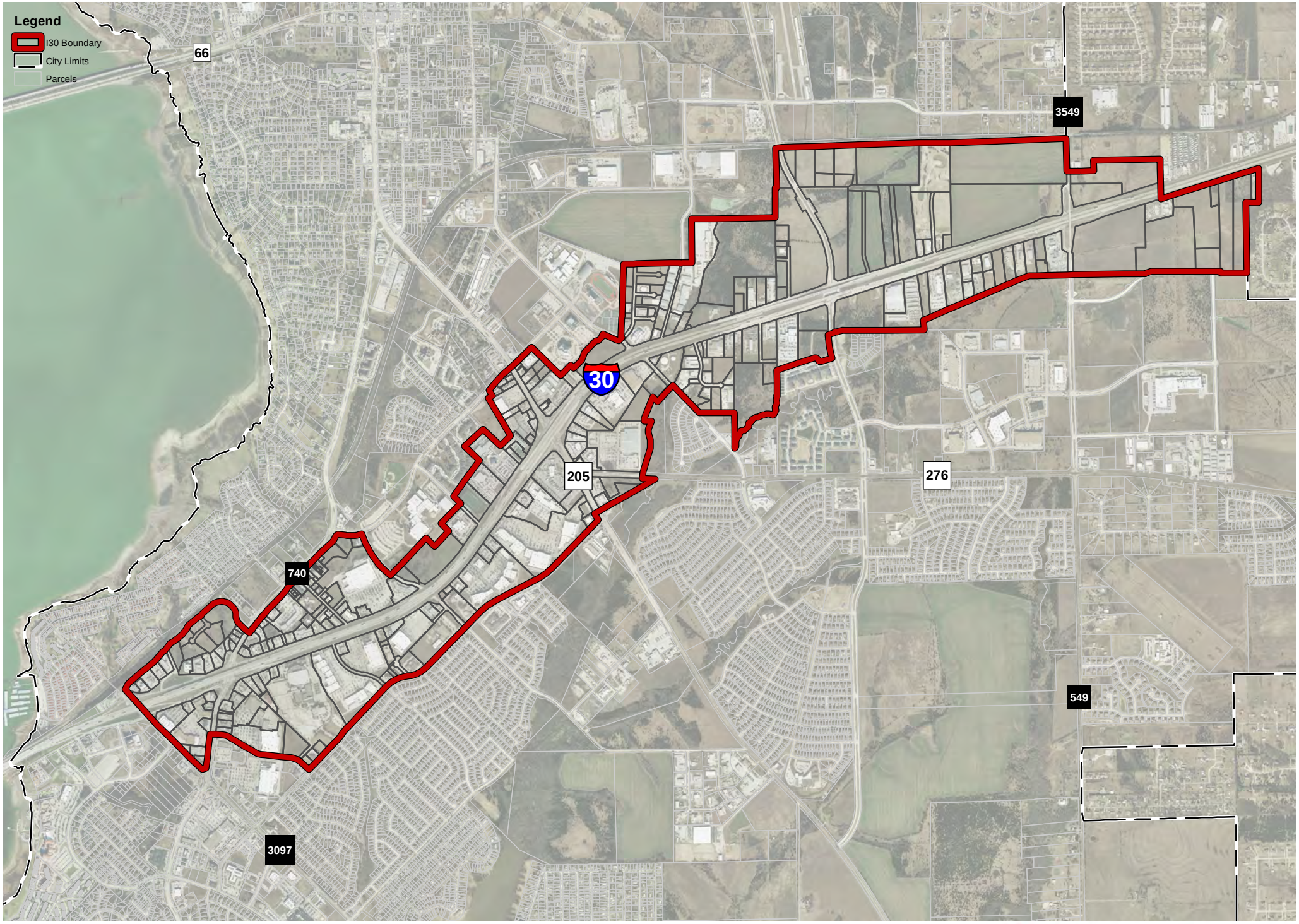
2) *Analysis*
   - ☑ Staff Analysis
     - ❖ Perform a development/land suitability analysis of transitional and strategically located land within the IH-30 Corridor -- GIS Division, Planning Division & Engineering Department.
     - ❖ Perform an economic analysis of the trade area and convenience trade area for the IH-30 Corridor (*i.e. this can be done as an aggregate of a gravity model with a distance of decay curve, a radial ring model, and a simple drive time analysis*) -- GIS Division.
     - ❖ Create a Design Context (i.e. architectural continuity plan) based on Stakeholder/Public Meeting input -- Planning Division & SCPC.
   - ☑ Issue Identification -- SCPC
   - ☑ Maps and Strategies -- GIS Division & SCPC
   - ☑ Goals and Policy Statements
   - ☑ City Council Development Committee (CCDC) Involvement Meeting
   - ☑ Revisions to Analysis

3) *Document Preparation*
   - ☑ Recommendations Based on Analysis -- SCPC
   - ☑ Implementation Strategies -- SCPC and Administration
   - ☑ Preliminary Document Preparation -- PIO
   - ☑ CCDC Final Review Meeting

- ☑ Revisions to Document -- PIO

4) *Adoption and Implementation*
   - ☑ Action Plan -- SCPC
   - ☑ Public Hearing for Planning and Zoning Commission -- P&Z
   - ☑ Public Hearing for City Council -- P&Z
   - ☑ Apply Implementation Strategies -- P&Z

Considering this, staff is requesting formal direction from the City Council to begin this study. Staff took this item to the City Council Development Review Committee (CCDC) prior to scheduling the work session, and on September 19, 2016 the CCDC directed staff to proceed with scheduling a work session with the City Council. Should the City Council have any questions concerning the information outlined in this document staff will be available at the work session to discuss.



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ROCKWALL GIS
Date: 9/28/2016

I30 CORRIDOR STUDY AREA

ROCKWALL'S 30 CORRIDOR PLAN

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CITY OF ROCKWALL, TEXAS
MEMORANDUM

TO: Mayor and City Council

CC: Rick Crowley, *City Manager*
Brad Griggs, *Assistant City Manager*

FROM: Ryan Miller, *Director of Planning and Zoning*

DATE: October 3, 2016

SUBJECT: Comprehensive Plan Update (2017)

A City's *Comprehensive Plan -- also known as a general plan or master plan* -- is a document designed to guide the future actions of the community, and to layout a 20-year vision for the city. This document is also intended to direct City Council's actions on policy decisions relating to land use and development regulations, and expenditures for capital improvements. The City of Rockwall's Comprehensive Plan dates back to 1966 with major updates being approved in 1986, 1995, and 2001.

The current plan for the City is the *Hometown 2000 Comprehensive Plan*, which was adopted on December 17, 2001 by *Resolution 01-40*. This plan has had minor updates in 2004 (*i.e. to incorporate the Downtown Plan*) and 2007 (*i.e. to incorporate updated residential policies*), and an overhaul 2011. The framework of this plan can best be summarized through the vision and policy statements adopted in the document, and which are as follows: Land Use, Urban Design Framework, Urban Design Development, Open Space and Parks, Transportation and the Implementation Plan.

A Comprehensive Plan is typically updated on a five (5) year cycle with major revisions taking place every ten (10) years; however, it is in the City Council's purview to update the plan on an as needed basis. With this being said, the last revision to the plan was adopted on March 5, 2012 [*Resolution No. 12-07*], and staff is seeking direction from the City Council to formally move forward with a 2017 Comprehensive Plan update. Staff is also seeking direction from the City Council with regard to the extent of the update, and has provided two (2) scenarios for the City Council to review. The determination that needs to be made by the City Council is: (1) does the current Comprehensive Plan convey the community's vision and goals for the City over the next 20-years, and (2) does the current Comprehensive Plan provide City Council with a clear path for decision making with regard to land use and development regulations, and expenditures for capital improvements? If the City Council determines that the current Comprehensive Plan sufficiently achieves these two (2) goals, then staff would suggest that the City Council consider a minor update to the current plan (*process depicted in Exhibit 'A'*); however, if the City Council determines that the plan does not address these goals then a full update of the plan would be required (*process depicted in Exhibit 'B'*). Once the City Council has chosen a path to proceed, staff will put together a more definite timeline for the Council's review.

After reviewing the current plan -- *and regardless of the City Council's decision regarding the update* -- staff would offer the following suggestions concerning objectives that could be achieved/incorporated with the proposed update:

- ☑ *Incorporation of a Community/Demographic Profile of the City and a Regional Perspective (i.e. Rockwall's Place in the Region).*
- ☑ *Review of the City's Residential Development Policies (i.e. Resolution 07-03).*
- ☑ *Revisions to the Future Land Use and Master Thoroughfare Plans.*
- ☑ *Incorporation of Corridor & Small Area Planning (i.e. IH-30, SH-276, etc.).*
- ☑ *Incorporation of an Economic Development and Fiscal Impact Section.*
- ☑ *Incorporation of an Infrastructure/Capital Improvements Section.*
- ☑ *Incorporation of a Public Safety Section that could outline Crime Prevention Through Environmental Design (CEPTED) Principles.*
- ☑ *Codification of Departmental Plans that have been approved since the approval of the current Comprehensive Plan.*

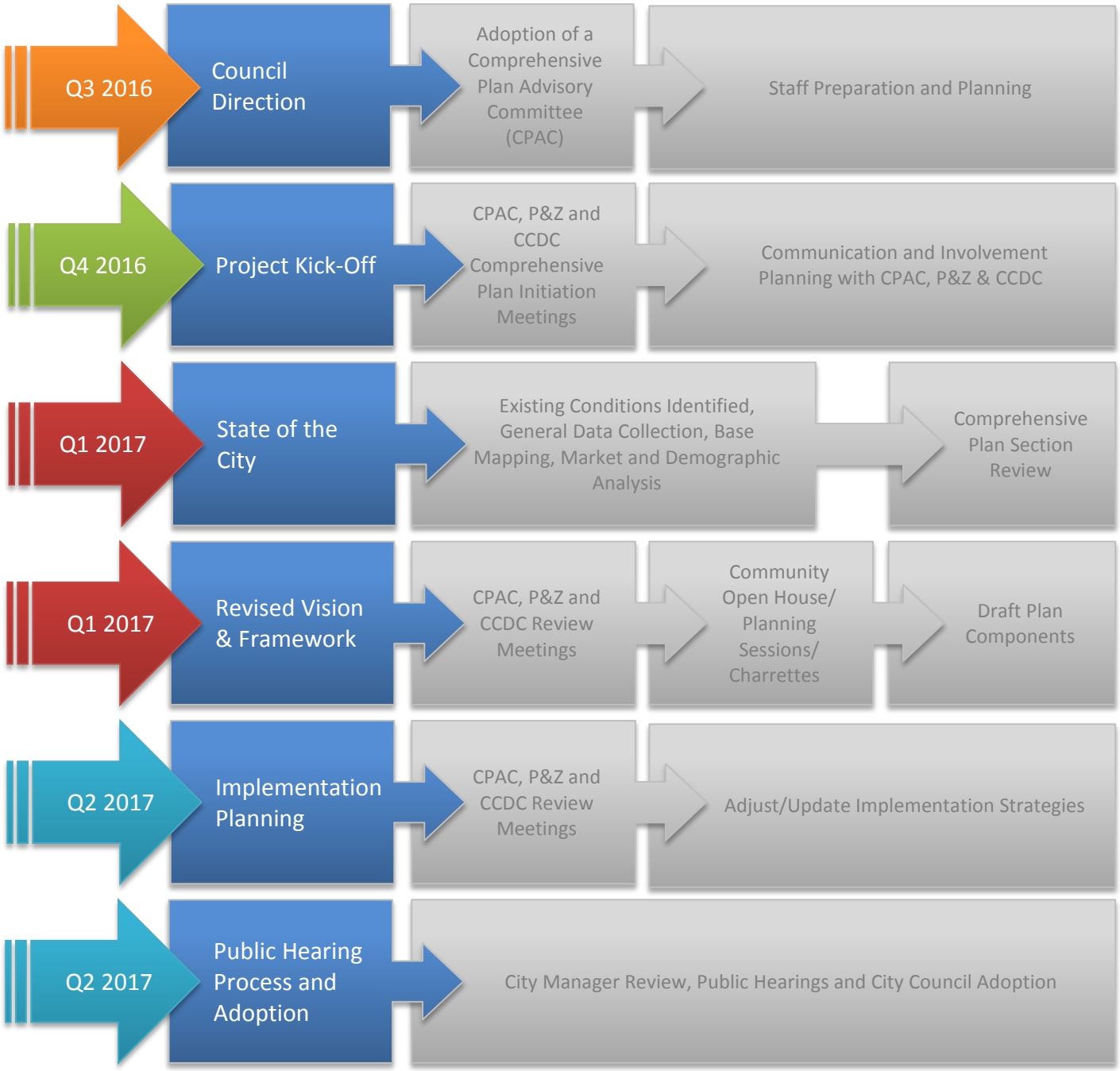
Staff projects that the majority of this project -- *whether a major or minor update* -- can be achieved *in-house* by City staff. With that being said, the Director of Planning and Zoning did include a budget request of $10,000.00 for consulting fees, which can be used on an as needed basis. This request was approved by the City Council in September of this year. It is anticipated that this money will be used for assistance through the public process and with the final preparation of the document.

In addition, the City Council will need to appoint a citizen steering committee to assist staff through the process. The Comprehensive Plan Advisory Committee (CPAC) has been used in past updating efforts and is typically composed of citizens not currently serving on the City's various advisory or regulatory boards. A list of suggested criteria for selecting members that was provided to the City Council during the 2010 Comprehensive Plan update has been included in *Exhibit 'C'* of this memorandum. Staff has also drafted a resolution that would enable the City Council to move forward with selecting CPAC members, and should the City Council choose to adopt the resolution and/or appoint members at the October 3, 2016 meeting staff has included an action item enabling them to do so; however, this can be delayed to a future meeting and does not require the City Council to take action. It should be noted that since the CPAC is an advisory board, and not a regulatory board, the appointments cannot be discussed in an *executive session*.

It is staff's intent to take recommendations from the Planning and Zoning Commission and City Council Development (CCDC) Review Committee to the CPAC for adoption and integration into the final document. This document would then be submitted to the City Manager for review -- *after a public hearing is held by the Planning and Zoning Commission* -- in accordance with the City's *Home Rule Charter*. The City Manager will then submit the document with recommendations to the City Council for public hearing and adoption.

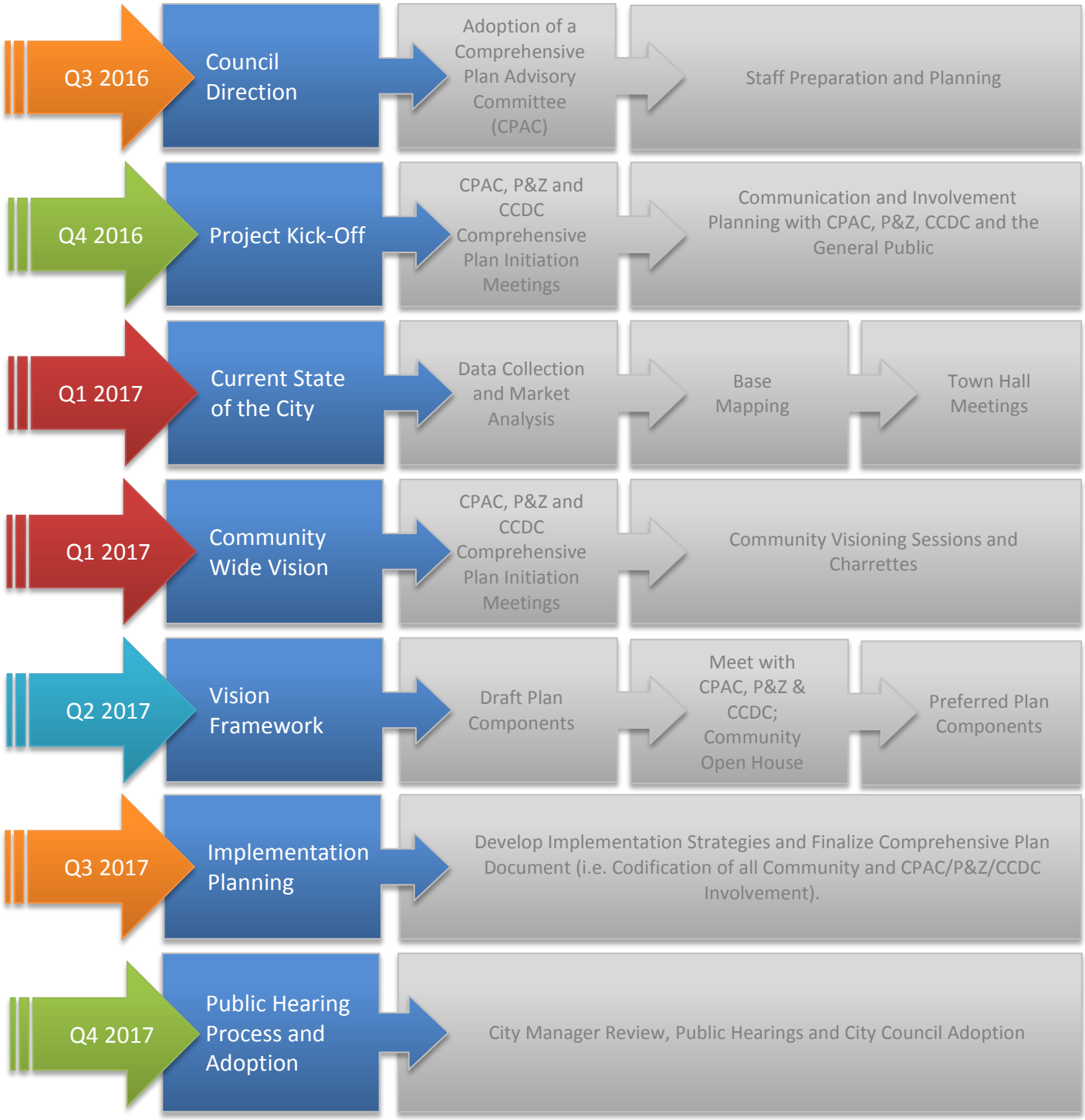
Staff did take this matter to the CCDC on September 19, 2016, prior to scheduling this work session. The CCDC reviewed the information and directed staff to proceed with the update process. In addition, the CCDC indicated a preference for a minor update of the current Comprehensive Plan. Should the City Council have any questions concerning the information outlined in this document staff will be available at the work session to discuss.

Figure 1.1: Minor Update Process Diagram.
Notes: P&Z is the Planning and Zoning Commission; CCDC is the City Council Development Review Committee



Note: The actual timeline may vary depending on project kick-off and staff work load.

Figure 2.1: Full Update Process Diagram.
Notes: P&Z is the Planning and Zoning Commission; CCDC is the City Council Development Review Committee



Note: The actual timeline may vary depending on project kick-off and staff work load.

Exhibit 'C'
Guidelines for CPAC Members

Suggestions for Comprehensive Plan Advisory Committee

- ☑ Former Planning and Zoning Commissioners;
- ☑ Current or past REDC Board Members;
- ☑ Former or Current County Commissioners;
- ☑ Independent local businessmen with interest in community;
- ☑ Representatives from the R.I.S.D. (could be a teacher);
- ☑ Real Estate individual involved in residential and commercial development;
- ☑ Local Corporate Business owner or CEO;
- ☑ Local Builder/Developer;
- ☑ Banking/Financial Investment representative involved in local development and business investment;
- ☑ Individuals that represent large neighborhoods/subdivisions or H.O.A. within the city;
- ☑ Local Civil Engineers involved in land use and development;
- ☑ Citizens that are large land owners or representatives of large land owners within the City; and,
- ☑ Representatives from non-profit organizations that affect large areas of the City.

The potential participants on the Committee should generally be individuals that:

- ☑ are interested in the growth of the City
- ☑ may have been involved in land use planning
- ☑ may have been involved in a land use conflict
- ☑ may have a considerable influence on land use planning
- ☑ may be affected by the outcome of land use planning

CITY OF ROCKWALL

RESOLUTION NO. 16-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, ESTABLISHING THE COMPREHENSIVE PLAN ADVISORY COMMITTEE AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, a City's Comprehensive Plan -- *also known as a general plan or master plan* -- is a document intended to layout a 20-year vision for a city and guide a City Council's actions on policy decisions relating to land use and development regulations, and expenditures for capital improvements; and,

WHEREAS, the City Charter for the City of Rockwall states that "(t)he existing master plan [*Comprehensive Plan*] for the physical development of the City contains recommendations for the growth, development and beautification of the City and its extraterritorial jurisdiction … "; and,

WHEREAS, the City of Rockwall's Comprehensive Plan was originally drafted in 1966 with major updates being approved in 1986, 1995, and 2001; and,

WHEREAS, the City of Rockwall's last Comprehensive Plan update was adopted on March 5, 2012 by *Resolution No. 12-07*; and,

WHEREAS, the City Council of the City of Rockwall acknowledges that the Comprehensive Plan needs to be updated from *time-to-time* to account for changes to the physical development of the City and to provide a clear vision for the future growth of the community; and,

WHEREAS, in an effort to ensure transparency and to further citizen involvement in the planning process, the City Council hereby establishes an appointed board of Rockwall citizens to serve as the Comprehensive Plan Advisory Committee (CPAC); and,

WHEREAS, the Comprehensive Plan Advisory Committee (CPAC) shall serve as an advisory and recommending body to ensure that the findings, recommendations and strategies identified by City staff are in alignment with the goals and vision of the community and the City Council;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:

SECTION 1. *Purpose.* The Comprehensive Plan Advisory Committee (CPAC) serves in an advisory role overseeing the preparation of the Comprehensive Plan update to achieve the following:

1) To provide advisory recommendations to City Staff, the City Council Development Review Committee (CCDC), and the City Council; and,

2) To ensure that all findings, recommendations and strategies prepared for the Comprehensive Plan update are in alignment with the goals and vision of the Community and the City Council.

SECTION 2. *Members.* The Comprehensive Plan Advisory Committee (CPAC) shall consist of seven (7) members that are appointed by the City Council. These members should be representative of the community and may consist of members of the City's other boards and commissions, community leaders, stakeholder groups and development experts; however, all

DRAFT RESOLUTION NO. 03-2016

appointees shall be citizens of the City of Rockwall.

SECTION 3. *Officers.* At the first Comprehensive Plan Advisory Committee (CPAC) meeting, the committee shall elect a Chairman and Vice-Chairman. These positions will serve for the duration of the committee [*i.e. until the dissolution date*].

SECTION 4. *Voting.* All recommendations and decisions of the Comprehensive Plan Advisory Committee (CPAC) shall be decided by a simple majority vote.

SECTION 5. *Meetings.* The Comprehensive Plan Advisory Committee (CPAC) shall meet on an as needed basis. Since the CPAC is an advisory board and not a regulatory board, its meetings shall not be subject to the requirements of the Texas Open Meetings Act as stipulated by Chapter 551 of the *Texas Local Government Code*; however, the agenda for each meeting shall be posted on the City's bulletin board, in front of City Hall, a minimum of 24-hours prior to the meeting. The agenda shall indicate the time and place of each meeting. All CPAC meetings shall be open to the general public.

SECTION 6. *Dissolution Date [Sunset Clause].* Upon the completion and adoption of the 2017 Comprehensive Plan Update, the Comprehensive Plan Advisory Committee (CPAC) shall be dissolved and its members shall be released from any further obligations with respect to the Committee.

SECTION 7. *Effective Date.* This resolution shall take effect immediately from and after its adoption and it is so resolved.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, ON THIS THE 3RD DAY OF OCTOBER, 2016.

APPROVED:

_____

Jim Pruitt, *Mayor*

ATTEST:

_____

Kristy Cole, *City Secretary*

DRAFT RESOLUTION 10.03.2016

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Rockwall, Texas

Proclamation

Whereas, the County of Rockwall Emergency Services Corporation was formed in 2003 with the intent of providing public health and safety-related services to Rockwall County and the various cities within the county; and

Whereas, for more than thirteen years, the ES Corporation has been instrumental in securing, funding, and overseeing implementation of emergency medical services, emergency management services and a joint law enforcement training facility for use by sworn peace officers throughout Rockwall County; and

Whereas, providing critical health and safety-related services to our communities on a cost-sharing basis is of great benefit to taxpayers throughout Rockwall County; and

Whereas, last month, a final debt payment was made on the law enforcement training center, signaling that the ES Corporation is now debt free; and

Whereas, elected officials throughout Rockwall County who serve on the board continue to be dedicated men and women with a heart for public service and a true desire to provide the services and infrastructure necessary for a high quality of life in our community.

Now, Therefore, I, Jim Pruitt, Mayor of the City of Rockwall, Texas, do hereby proclaim **October 3, 2016** as

County of Rockwall Emergency Services Corporation Recognition Day

in the City of Rockwall and urge all citizens to join me in recognizing the many valuable contributions made by the ES Corporation Board, including those made by elected and appointed officials, both past and present, who have helped make it an invaluable success.

In Witness Whereof, I hereby affix my official hand and seal this 3rd day of October, 2016.

Jim Pruitt, Mayor

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Rockwall, Texas
Proclamation

Whereas, fire is a serious public safety concern both locally and nationally, and homes are the locations where people are at greatest risk from fire; and

Whereas, in 2014, fire departments responded to 369,500 home fires that killed 2,745 people in the U.S., according to the National Fire Protection Association; and

Whereas, although working smoke alarms cut the risk of dying in reported home fires in half, one-fifth of all homes with smoke alarms have ones that aren't working; and

Whereas, many residents don't know how old smoke alarms are in their homes, or how often they need to be replaced, which is at least once every ten years; and

Whereas, the age of a smoke alarm may be determined by the date of its manufacture, which is marked on the back of the smoke alarm; and

Whereas, Rockwall first responders are dedicated to reducing the occurrence of home fires and home fire injuries through prevention and protection education measures; and

Whereas, Rockwall residents are responsive to public education, enabling them to take personal steps to increase their safety from fires, especially in their homes; and

Whereas, the 2016 Fire Prevention Month theme, **"Don't Wait – Check the Date! Replace Smoke Alarms Every 10 Years"** effectively serves to educate the public about the vital importance of checking the date on the back to determine the age of smoke alarms in their homes and to replace them at least once every ten years.

Now Therefore, I Jim Pruitt, Mayor of the City of Rockwall do hereby proclaim **October 2016** as **FIRE PREVENTION MONTH** in the City of Rockwall and urge all residents to find out how old their smoke alarms are, to replace them if they're more than 10 years old, and to participate in the many public safety-related activities offered by the Rockwall Fire Marshal's Division and Fire Dept. this month.

In Witness Whereof, I hereunto set my hand and seal this 3rd day of October, 2016.

Jim Pruitt, Mayor

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Rockwall, Texas

Proclamation

Whereas, change is constant and affects all cities, towns, suburbs, counties, boroughs, townships, rural areas, and other places; and

Whereas, community planning and plans can help manage this change in a way that provides better choices for how people work and live; and

Whereas, community planning provides an opportunity for all residents to be meaningfully involved in making choices that determine the future of their community; and

Whereas, the full benefits of planning requires public officials and citizens who understand, support, and demand excellence in planning and plan implementation; and

Whereas, the American Planning Association and its professional institute, the American Institute of Certified Planners, annually endorse National Community Planning Month as an opportunity to highlight the contributions sound planning and plan implementation make to the quality of our settlements and environment; and

Whereas, this month, we would like to publicly recognize the participation and dedication of the members of our planning-related commissions and other citizen planners who contribute their time and expertise to the improvement of the City of Rockwall.

Now, Therefore, I, Jim Pruitt, Mayor of the City of Rockwall, Texas, do hereby proclaim **October 2016** as:

National Community Planning Month

In the City of Rockwall and urge all citizens to join me in recognizing the many valuable contributions made by both the professional planners of the City and by our many volunteers and extend our heartfelt thanks for the continued commitment to public service by these individuals.

In Witness Whereof, I hereby affix my official hand and seal this 3rd day of October, 2016.

Jim Pruitt, Mayor

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MINUTES
ROCKWALL CITY COUNCIL
Monday, September 19, 2016
5:00 p.m. Regular City Council Meeting
City Hall, 385 S. Goliad, Rockwall, Texas 75087

I. CALL PUBLIC MEETING TO ORDER

Mayor Pruitt called the public meeting to order at 5:00. Present were Mayor Jim Pruitt, Mayor Pro Tem Mike Townsend and City Council Members David White, John Hohenshelt, Scott Milder, Kevin Fowler and Dennis Lewis. Also present were City Manager Rick Crowley, Assistant City Managers Mary Smith and Brad Griggs, and City Attorney Frank Garza.

Mayor Pruitt read the below listed discussion items into the record before recessing the public meeting to go into Executive Session (at 5:02 p.m.).

II. EXECUTIVE SESSION.

THE CITY OF ROCKWALL CITY COUNCIL WILL RECESS INTO EXECUTIVE SESSION TO DISCUSS THE FOLLOWING MATTERS AS AUTHORIZED BY CHAPTER 551 OF THE TEXAS GOVERNMENT CODE:

1. Discussion regarding the lease of land in the vicinity of the downtown area pursuant to Section §551.072 (Real Property)
2. Discussion regarding the status of ambulance services contract pursuant to Section §551.071 (Consultation with Attorney)
3. Discussion regarding terms and conditions of Zanata's Restaurant Agreement pursuant to Section §551.071 (Consultation with Attorney)
4. Discussion regarding Primary Media failure to comply with court order in City of Rockwall v. Primary Media pursuant to Section §551.071 (Consultation with Attorney)

III. ADJOURN EXECUTIVE SESSION

The Council adjourned from Executive Session at 5:30 p.m.

IV. RECONVENE PUBLIC MEETING (6:00 P.M.)

Mayor Pruitt reconvened the public meeting at 6:00 p.m. with all seven city council members being present.

V. TAKE ANY ACTION AS A RESULT OF EXECUTIVE SESSION

Mayor Pro Tem Townsend announced that no action was needed as a result of Executive Session.

VI. INVOCATION AND PLEDGE OF ALLEGIANCE – COUNCILMEMBER MILDER

Councilman Milder delivered the invocation and led the Pledge of Allegiance.

VII. PROCLAMATIONS / AWARDS

1. Presentation of the Building Officials Association of Texas Award for Excellence in Code Enforcement

Mr. Mata, representing the Building Officials Association of Texas, came forward, along with the city's Building Official Jeffrey Widmer and the supervisor of Neighborhood Improvement Services (NIS), Tony Scorcio. Mr. Mata shared brief, positive comments related to Rockwall's Code Enforcement (NIS) Department, and then presented the city with the BOAT's Award for Excellence for 2016.

VIII. OPEN FORUM

Richard Archibald
3313 Anna Cade Circle
Rockwall, TX 75087

Mr. Archibald came forth and expressed thanks and gratitude to the city council and the entire Rockwall community for its support of the recent 2016 Hot Rocks Bike race, which was hosted by the Rockwall Noon Rotary.

IX. CONSENT AGENDA

1. Consider approval of the minutes from the Tuesday, September 6, 2016 regular city council meeting, and take any action necessary.
2. Consider approval of the 16-inch Water line Relocation FM 3097 (Horizon Road) and authorize the City Manager to execute a contract with Four Star Excavating, Inc. of Dallas, Texas in the amount of $80,916 to be reimbursed by TxDOT up to 90% and the remainder to be funded by the 2016 Water & Sewer Bonds, and take any action necessary.
3. **P2016-038** - Consider a request by Billy & Autumn Quinton for the approval of a final plat of Lots 1 & 2, Block A, Autumn Addition being a replat of a 0.35-acre tract of land identified as Lot 120, Block F of the B. F. Boydstun Addition, City of Rockwall, Rockwall County, Texas, zoned Single Family 7 (SF-7) District, addressed as 601 E. Rusk Street, and take any action necessary.
4. **P2016-039** - Consider a request by Jay Maddox of Maddox Survey on behalf of Casey & Andrea Burke for the approval of a final plat of Lots 1 & 2, Block A, Burke Addition being a 2.970-acre tract of land identified as Tract 19 of the D. Atkins Survey, Abstract No. 1, City of Rockwall, Rockwall County, Texas, zoned Single Family 10 (SF-10) District, situated within the Scenic Overlay (SOV) District, addressed as 1406 Ridge Road, and take any action necessary.
5. **Z2016-026** - Consider a request by Jason Lentz of Atticus Rockwall, LLC for the approval of an **ordinance** for a PD Development Plan establishing 36 townhouses on a 3.462-acre portion of a larger 6.915-acre tract of land identified as Lots 3A, 4A & 5A, Isaac Brown Addition, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 32 (PD-32), situated within the Residential Subdistrict and within the Scenic Overlay (SOV) District, located north of the intersection of Ridge Road [FM-740] and Glen Hill Way, and take any action necessary **(2nd Reading).**
6. Consider approval of an **ordinance** amending Chapter 18. Fire Prevention and Protection, Article II. Fire Code Standards, Section 18-34. Plan Review Fee, authorizing the Office of

the Fire Marshal to assess fees for fire permits, construction and operational services, inspections, third party reviews, and miscellaneous fees, and take any action necessary**. (2nd reading)**

7. Consider approval of the engineering services contract with Hydrological Support Services, LLC to perform flood study reviews for developments within the City in an amount not to exceed $40,000. Funding provided from the FY 2016-17 Engineering Department Operations Budget and developer reimbursement and take any action necessary

8. Consider approval of one year renewal of Yellowjacket Ball fields Facility Use Agreement between Lake Pointe Church and The City and take any necessary.

Councilmember Milder made a motion to approve the entire Consent Agenda (#s 1 – 8). Councilman White seconded the motion. The two ordinances were read as follows:

CITY OF ROCKWALL
ORDINANCE NO. 16-48

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING PLANNED DEVELOPMENT DISTRICT 32 (PD-32) [*ORDINANCE NO. 10-21*] AND THE UNIFIED DEVELOPMENT CODE [*ORDINANCE NO. 04-38*] OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, SO AS TO APPROVE A DEVELOPMENT PLAN FOR A 4.034-ACRE PORTION OF A LARGER 6.915-ACRE TRACT OF LAND IDENTIFIED AS LOTS 3A, 4A & 5A, ISAAC BROWN ADDITION, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS AND MORE FULLY DESCRIBED HEREIN BY *EXHIBIT 'A'*; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

CITY OF ROCKWALL, TEXAS
ORDINANCE NO. 16-49

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING CHAPTER 18 FIRE PREVENTION AND PROTECTION, ARTICLE II, SECTION 18-34 AUTHORIZING THE OFFICE OF THE FIRE MARSHAL TO ASSESS FEES FOR FIRE PERMITS FOR CONSTRUCTION AND OPERATIONAL SERVICES, INSPECTIONS AND THIRD PARTY REVIEWS AND OTHER MISCELLANEOUS FEES; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; AND PROVIDING FOR AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

X. APPOINTMENTS

1. Appointment with the Planning and Zoning Chairman to discuss and answer any questions regarding cases on the agenda and related issues and take any action necessary.

The Chairman was not present, so this item was not addressed.

XI. PUBLIC HEARING ITEMS

1. ***Z2016-023*** - Hold a public hearing to discuss and consider a request by Kevin Dale Wommack & Pamela McCollum for the approval of an **ordinance** amending Specific Use Permit (SUP) No. S-118 [Ordinance No. 14-02] to allow for an accessory building that exceeds the maximum size requirements as stipulated by Article IV, Permissible Uses, of the Unified Development Code for a 1.4952-acre tract of land identified as Lot 17, Block B, Sterling Farms Addition, City of Rockwall, Rockwall County, Texas, zoned Single Family Estate 1.5 (SFE-1.5) District, addressed as 1970 Copper Ridge Circle, and take any action necessary **(1st Reading).**

Planning Director Ryan Miller provided background information related to this agenda item. On December 16, 2013, the City Council approved an SUP allowing for an accessory building that does not meet the exterior material requirements for a Single Family Estate (SFE-1.5) District. The current metal building is 22-feet by 31-feet or approximately 682 sq. ft. The applicants are proposing to expand their current metal building by approximately 30-feet for a building footprint that is 22-feet x 62-feet, or 1,364 sq. ft. With the expansion, the accessory building will be approximately 114 sq. ft. larger than the maximum size allowed in a SFE-1.5 District. According to the UDC, the maximum square footage for an accessory building in an SFE-1.5 District is 1,250 sq. ft.

On August 19, 2016, staff mailed 36 notices to property owners and occupants within 500-feet of the subject property. Staff also notified the Lofland Farms and Timber Creek Estates HOAs, which are the only HOAs/Neighborhood Organizations that are within 1,500-feet of the subject property and participating in the notification program. Staff also posted a notification sign on the subject property; however, no replies have been received back by staff as a result of said notices.

The Planning & Zoning Commission has recommended approval of this item by a vote of 6 in favor with one absent (Renfro).

Mayor Pruitt opened the Public Hearing and asked if anyone would like to come forth and speak. There being no one indicating such, he then closed the public hearing.

Councilmember White made a motion to approve Z2016-023. Mayor Pro Tem Townsend seconded the motion. The ordinance was read as follows:

CITY OF ROCKWALL
ORDINANCE NO. 16-XX
SPECIFIC USE PERMIT NO. S-118

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE [ORDINANCE NO. 04-38] OF THE CITY OF ROCKWALL, TEXAS, AS PREVIOUSLY AMENDED, SO AS TO AMEND SPECIFIC USE PERMIT NO. S-118 [*ORDINANCE NO. 14-02*] TO ALLOW FOR AN ACCESSORY BUILDING THAT EXCEEDS THE MAXIMUM SIZE REQUIREMENTS ON A 1.50-ACRE PARCEL OF LAND ZONED SINGLE FAMILY ESTATE 1.5 (SFE-1.5) AND IDENTIFIED AS LOT 17, BLOCK B, STERLING FARMS ADDITION, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OR FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A

SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

2. ***Z2016-025*** - Hold a public hearing to discuss and consider a request by Jason Lentz of Atticus Rockwall, LLC for the approval of an **ordinance** for a PD Development Plan establishing a 228 unit, condo development situated on a 3.453-acre portion of a larger 6.915-acre tract of land identified as Lots 3A, 4A & 5A, Isaac Brown Addition, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 32 (PD-32), situated within the Interior Subdistrict, located adjacent to Summer Lee Drive southwest of the intersection of Horizon Road [FM-3097] and Summer Lee Drive, and take any action necessary **(1st Reading).**

Mr. Miller, Planning Director, provided background information regarding this agenda item. He explained that the applicant is requesting a *PD Development Plan* to change the required *Street Type 'G'* cross section contained in *Ordinance No. 10-21.* He explained that this street cross section calls for eight (8) foot sidewalks and parkways, a 24-foot travel lane and an eight (8) foot parallel parking lane in a 60-foot right-of-way. The new cross section proposed by the applicant proposes eight (8) foot sidewalks, a two (2) foot parkway (*on the northern/western side of the roadway*), a 24-foot travel lane and an eight (8) foot parallel parking lane in a 50-foot right-of-way. The applicant has stated that the adjacent creek inhibits the ability to provide the required street cross section; however, in the applicant's opinion -- *and as was stated at the September 6, 2016 City Council meeting* -- the proposed road section meets the intent of the ordinance because the creek area will be preserved as open space, which mitigates his inability to provide a wider parkway. A *side-by-side* comparison of the two (2) roadways was included in the informational meeting packet provided to and reviewed by city council.

Mr. Miller explained that the City Council had previously remanded this case back to the Planning & Zoning Commission to review the changes to the initial proposal. The Commission has since reviewed the updated, modified proposal and has recommended its approval by a vote of 6 in favor with 1 absent (Renfro).

Mayor Pruitt then called forth the applicant to address the Council at this time.

Jason Lentz
5339 Alpha Rd.
Dallas, TX 75240

Mr. Lentz came forth and spoke about the pedestrian 'walkability' and right-of-way space pertaining to the initial proposal versus the revised proposal.
Mayor Pruitt opened the public hearing, asking if anyone would like to come forth and speak. There being no one indicating such, he then closed the public hearing.

Councilmember Lewis asked if, considering the path of the creek, the applicant has ample space available to have a 60' right-of-way and still put trees in. Mr. Lentz generally indicated that there is indeed not enough space to expand the road to be wider on the creek side of the road. Discussion ensued related to the spacing available for landscaping and the right-of-way area.

Councilmember Milder asked for clarification regarding the proposed sidewalk and street. He asked if there is a buffer between the curb and the sidewalk. Mr. Lentz indicated that currently it is an 8' sidewalk that abuts the curb directly; however, this could be amended to have a 6-7' sidewalk with a 1-2' of grass or landscape buffer if the council so desires. Mr. Milder indicated that he would like a buffer included.

Councilmember Milder made a motion to approve Z2016-025 with the stipulation that the applicant create a 2' parkway buffer on both sides of the roadway between the sidewalk and the roadway (will reduce the sidewalks to 6' instead of 8'). Councilmember White seconded the motion.

Councilmember Lewis asked Mr. Miller what will happen if the extra buffer is put in, as it seems like this will set precedence as other developments come in later on in the future. Mr. Miller indicated that the roadway actually narrows further down; however, the city can request that any future applicant(s) include a similar buffer between the sidewalk and the curb/roadway. Councilmember Lewis clarified that the applicant will be responsible for maintaining the buffer.

The ordinance was then read as follows:

CITY OF ROCKWALL
ORDINANCE NO. 16-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING PLANNED DEVELOPMENT DISTRICT 32 (PD-32) [*ORDINANCE NO. 10-21*] AND THE UNIFIED DEVELOPMENT CODE [*ORDINANCE NO. 04-38*] OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, SO AS TO APPROVE A DEVELOPMENT PLAN FOR A 2.143-ACRE PORTION OF A LARGER 6.915-ACRE TRACT OF LAND IDENTIFIED AS LOTS 3A, 4A & 5A, ISAAC BROWN ADDITION, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS AND MORE FULLY DESCRIBED HEREIN BY *EXHIBIT 'A'*; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

3. **Z2016-028** - Hold a public hearing to discuss and consider a request by Susan Gamez for the approval of an **ordinance** for a zoning change from an Agricultural (AG) District to Residential Office (RO) District on a 0.478-acre tract of land identified as Tract 7 of the D. Atkins Survey, Abstract No. 1, City of Rockwall, Rockwall County, Texas, zoned Agricultural (AG) District, situated within the Scenic Overlay (SOV) District, addressed as 2001 Ridge Road, and take any action necessary **(1st Reading).**

Mr. Miller provided background information concerning this agenda item. He explained that the subject property was annexed into the City on September 26, 1960 and was zoned Agricultural (AG) District. Currently, an existing single family home is situated on the subject property. The applicant is requesting to change the zoning of the subject property from an Agricultural (AG) District to a Residential Office (RO) District for the purpose of converting the existing single family home into a commercial business to accommodate a massage therapist office (*i.e. EveryBody Massage*). He explained that the applicant currently has her business located on Ridge Road across from the Ridge Road (Shopping)

Center. The subject property is surrounded by commercial, with the exception of some nearby agricultural designations. The code states that "Residential Office" allows existing residential housing to be converted for low intensity office uses in order to extend the economic life of the structures.

On August 19, 2016, staff mailed 13 notices to property owners and residents within 500-feet of the subject property. Staff also sent a notice to the Turtle Cove and Waterstone Homeowner's Associations (HOA), which are the only HOA's located within 1,500 feet of the subject property. Additionally, staff posted a sign along Ridge Road, which is the closest major roadway adjacent to the subject property as required by the Unified Development Code (UDC). At the time this case memo was drafted, staff had not received any notices in reply.

He went on to explain that, at first, the applicant was requesting a zoning change to Commercial. However, thereafter the Planning & Zoning Commission reviewed the case and determined that a "residential office" (RO) zoning designation would be more appropriate. So, the applicant has agreed to a RO zoning instead (which, Mr. Miller explained, is more restrictive than a "commercial" designation).

Susan Gamez, the applicant then came forth and briefly addressed the Council. She explained that she currently owns the business located at 1024 Ridge Road, and she was in front of the city council twelve years ago to ask for the same request associated with her current business location. She respectfully asked the Council to consider approval of her request.

Mayor Pruitt opened the public hearing and asked if anyone would like to come forth and speak. There being no one indicating such, he then closed the public hearing.

Councilmember White clarified that this type of business will be allowed by right in an RO. He then made a motion to approve Z2016-028. Councilmember Lewis seconded the motion. The ordinance was read as follows:

CITY OF ROCKWALL
ORDINANCE NO. 16-XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE [*ORDINANCE NO. 04-38*] OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, SO AS TO APPROVE A CHANGE IN ZONING FROM AN AGRICULTURAL (AG) DISTRICT TO A RESIDENTIAL OFFICE (RO) DISTRICT ON A 0.478-ACRE TRACT OF LAND IDENTIFIED AS TRACT 7 OF THE D. ATKINS SURVEY, ABSTRACT NO. 1, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, AND BEING MORE SPECIFICALLY DESCRIBED IN *EXHIBITS 'A', 'B', & 'C'* OF THIS ORDINANCE; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

4. **Z2016-029** - Hold a public hearing to discuss and consider a request by Jimmy Strohmeyer of Strohmeyer Architects on behalf of D. W. Bobst of J-BR2, LLC for the approval of an **ordinance** for a Specific Use Permit (SUP) to allow a retail store with more than 2 gasoline dispensers on a 2.59-acre tract of land being a portion of a larger 7.32-acre tract of land identified as Tract 17-12 of the W. W. Ford Survey, Abstract No. 80, City of Rockwall, Rockwall County, Texas, zoned General Retail (GR) District, situated at the southwest corner of the intersection of SH-205 [S. Goliad Street] and FM-549, and take any action necessary **(1st Reading).**

Mr. Miller provided brief background information concerning this agenda item. He explained that the applicant is asking to establish a retail store with more than two gasoline dispensers. As part of the Specific Use Permit (*SUP*) submittal, the applicant has submitted a conceptual site plan indicating a 5,600 sq. ft. retail store with eight (8) fuel dispensers. The number of fuel dispensers requested would allow for a maximum of 16 vehicles being serviced at any one time. The site is accessed from SH-205 and FM-549, providing two (2) points of ingress/egress. If approved, the applicant will be required to submit a site plan and replat the property. Staff mailed eleven (11) notices to property owners and residents within 500 feet of the subject property. Staff also notified one (1) HOA/Neighborhood Organization *(Oaks of Buffalo Way)* that is within 1,500 feet participating in the notification program. Additionally, staff posted a sign on the property as required by the Unified Development Code *(UDC).* At the time this report was drafted, staff has received four (4) notices *"opposed to"* the zoning change request. The Planning & Zoning Commission has recommended approval of this item by a vote of 6 ayes to 0 nays (with Renfro being absent).

Mayor Pruitt opened the Public Hearing and invited the applicant to come forth and speak. Jimmy Strohmeyer with Strohmeyer Architects came forth and explained that a fuel station with only two dispensers would really be antiquated and insufficient, especially as growth and development occurs in this area. So, he explained that they are trying to plan ahead and include more gas dispensers in order to meet current and future needs.

Dr. M.A. Zeb and Sumbel Zeb
5128 S. Hwy. 205
Rockwall, TX 75032

Dr. Zeb came forth and generally indicated that his home is located next to this proposed fuel station. He believes that this fuel center will disturb the area, including his home. Dr. Zeb's daughter then came forth and indicated that she and her family have been living in this home for more than twenty years. She and her father are respectfully requesting denial of this request, as she explained that it is generally not an acceptable use since it is located right next door to their home. She believes that original deed restrictions would not allow a fuel center. She hopes that the Council will take resident's concerns into consideration, not just the concerns of a corporation requesting the fuel center.

There being no one else wishing to come forth and speak, Mayor Pruitt then closed the public hearing.

Brief discussion took place pertaining to plans for future expansion of FM-549. Mr. Miller, Planning Director, explained that a nearby intersection will eventually be a four way intersection with a four-lane, divided roadway. Also, Goliad will likely end up being a six lane, divided roadway. Councilman White commented that it will eventually be considered a "major" intersection.

Councilmember Lewis then made a motion to approve Z2016-029. Councilmember White seconded the motion.

Councilmember Milder commented that, although he has a lot of sympathy for Dr. Zeb and other nearby residents who live in this area, it is an area that is inevitably poised to grow rapidly. So, he explained, he has a difficult time denying a request for a fuel center at this intersection. Councilmember Townsend asked for some clarification regarding the entry into the fuel center facility. Mr. Miller explained that a cross access easement may be needed in order for the applicant to access the property; however, the drive location may be pushed out. He explained that the information currently being shown is very conceptual at this point. Councilmember Townsend asked about any possible deed restrictions. City Attorney Frank indicated that the city may not take into consideration any potential 'deed restrictions' when considering a case. Mayor Pruitt explained that "by right," the applicant could already open up a fuel center with two pumps.

The ordinance was then read as follows:

CITY OF ROCKWALL
ORDINANCE NO. 16-XX
SPECIFIC USE PERMIT NO. S-1XX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE OF THE CITY OF ROCKWALL, TEXAS, AS PREVIOUSLY AMENDED, SO AS TO GRANT A SPECIFIC USE PERMIT (SUP) TO ALLOW FOR A RETAIL STORE WITH MORE THAN TWO (2) GASOLINE DISPENSERS AS SPECIFIED IN ARTICLE IV, PERMISSIBLE USES, OF THE UNIFIED DEVELOPMENT CODE, FOR A 2.59-ACRE TRACT OF LAND BEING A PORTION OF A LARGER 7.32-ACRE TRACT OF LAND ZONED GENERAL RETAIL (GR) DISTRICT, AND IDENTIFIED AS TRACT 17-12 OF THE W. W. FORD SURVEY, ABSTRACT NO. 80, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, AND MORE SPECIFICALLY DESCRIBED IN EXHIBIT 'A'; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OR FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

XII. ACTION ITEMS

1. Discuss and consider the City of Rockwall's participation in a Back the Blue event to be held on October 27, 2016 and take any action necessary.

Mr. Crowley explained that the city has received a request for the use of the City mobile restroom trailer to be used during a "Back the Blue" related fundraising event to be held on Thursday, October 27. He and Mayor Pruitt recently attended a meeting that was hosted by the Mayor of the City of Heath, and a lot of countywide representatives were present. The proposed event was discussed, and it is being proposed to be held this year in the parking lot of the Wilkerson-Sanderson Stadium. He explained that indication was provided to he and the mayor that 100% of the funds raised from the event will be used for the "Back the Blue" program to support the families of first responders that are killed or severely injured in the line of duty and to provide a variety of financial support to the Rockwall County area

first responders. If approved by Council, the City of Rockwall's restroom trailer would be used for approximately a six hour period which constitutes a half day rental, typically costing $1200. Contingent on Council approval, the rental fee would be a non-budgeted item but it would be the City of Rockwall's contribution to the event.

Councilmember White asked for clarification regarding the foundation that the funds will go to. Mr. Crowley indicated that he is not certain the actual name; however, it was started last year by Mr. Neighbors. White indicated that he believes the event may be moved from the stadium to the courthouse instead because they may want to serve alcohol. However, this is not certain at this point. It is just a possibility.

Mayor Pruitt made a motion to approve the city providing the restroom trailer and support services (including staff) at no cost for use at this event. Councilmember Lewis seconded the motion.

After brief comments and discussion related to (jokingly) naming the restroom trailer the "David Sweet Memorial Toilet" for this event only, the motion passed by a vote of 7 ayes to 0 nays.

2. **SP2016-016** - Discuss and consider a request by Tim Seymore of Seymore Custom Homes, LLC on behalf of James & Robin Meade for the approval of an exception to the masonry requirements and a variance to the parking standards as stipulated by the Unified Development Code in conjunction with an approved site plan for a commercial/industrial building on an existing 2.02-acre commercial/industrial facility identified as Tract 2-22 of the J. R. Johnson Survey, Abstract No. 128, City of Rockwall, Rockwall County, Texas, zoned Heavy Commercial (HC) District, addressed as 496 National Drive, and take any action necessary.

Mr. Miller, the City's Planning Director, provided background information concerning this agenda item. The applicant is requesting approval of an exception to the exterior material requirements and a variance to the parking standards in conjunction with an approved site plan for the purpose of constructing a 3,600 sq. ft. building that will serve as an additional facility (*for storage purposes*) to an existing ~6,000 sq. ft. building. An amendment to the site plan is required due to the proposed building exceeding 50% of the size of the existing building. The applicant is proposing the new facility to be constructed with 100% metal panels on the exterior. This will require approval of an exception to the exterior material requirements and has been added as a condition of approval. The property is a 2.02-acre parcel of land that is zoned Heavy Commercial (HC) District and is addressed as 496 National Drive. The proposed storage facility is permitted by right on the subject property. The existing site has a total of 12 parking spaces and requires one (1) additional space. The applicant is requesting a variance to allow for the 12 existing spaces rather than provide an additional space due to the buildings' use as a storage facility. Essentially, the applicant is requesting the following exceptions to the exterior materials:

a) ***Article V, Section 4.1.A.1 General Commercial District Standards* – An exception to allow for not meeting the 90% (*exterior*) masonry material requirements by allowing 100% metal wall panels for all elevations as submitted.**

b) ***Article V, Section 4.1.A.1 General Commercial District Standards* – An exception to allow for not meeting the 20% stone requirements by allowing 100% metal wall panels for all elevations as submitted.**

Tim Seymore
Seymore Custom Homes
205 Rush Creek
Heath, TX

Mr. Seymore came forth and indicated that all of the buildings on National Drive are all constructed similarly to this building. Also, he indicated that the proposed number of parking spaces will pose no problems, as the whole acreage is covered in rock.

After brief comments, Councilmember Lewis made a motion to approve SP2016-016. Councilmember White seconded the motion, which passed by a vote of 7 ayes to 0 nays.

3. **SP2016-017** - Discuss and consider a request by Rex Walker of Life Springs Church for the approval of a variance to the horizontal articulation requirements in conjunction with an amended site plan for a church facility on a seven (7) acre portion of a larger 28.881-acre tract of land identified as Tract 15-01 of the J. Strickland Survey, Abstract No. 187, City of Rockwall, Rockwall County, Texas, zoned Agricultural (AG) District, situated within the SH-205 By-Pass Corridor Overlay (SH 205 BY-OV) District, located on the north side of John King Boulevard east of the intersection of John King Boulevard and SH-205, and take any action necessary.

Mr. Miller, Planning Director, indicated that the property is zoned Agricultural (AG) District and was granted a Specific Use Permit [SUP Ord. No. 15-21] on August 3, 2015 to allow for a Church development on the seven (7) acre portion of the larger 28.811-acre tract of land. However, since that time, the applicant has indicated a desire to reduce the size of the building, and the building articulations being proposed at this time do not meet the city's standards. So the applicant is requesting approval of a variance to the horizontal articulation standards in conjunction with an amended site plan for the purpose of revising the approved elevations by reducing the 25,433 sq. ft. building to a 16,839 sq. ft. building. The applicant will be modifying the exterior appearance of the rear (east) elevation by reducing the massing of the tower elements and by changing the roof to slope towards the rear of the property for drainage purposes. Also, the applicant is proposing to change the front (west) elevation by replacing the standing seam metal roof element (atop the facility) with a stucco parapet wall. If approved, the site plan will indicate the ~6,000 sq. ft. vacated area as 'future expansion' of the Church facility. Mr. Miller indicated that the Planning & Zoning Commission has recommended approval of this item by a vote of 6 ayes with 1 (Renfro) absent.

Councilmember White moved to approve SP2016-017. Councilmember Townsend seconded the motion, which passed unanimously of those present (7 - 0).

4. Discuss and consider a request from Suntex RHCL Marina to Assign the Concession Agreement for the marina at Chandlers Landing to Ray Hubbard SMI, LLC and take any action necessary

Assistant City Manager Brad Griggs provided background information concerning this agenda item. Suntex RHCL Marina, LLC is the operator of the marina at Chandlers Landing. Their concession agreement has recently been extended to January of 2041 and in return for the contract extension, they have agreed to complete several capital improvement projects. The amendment to the concession

agreement was approved at the June 16, 2016 meeting of the City Council. At this time, they are requesting the approval to assign the concession agreement to Ray Hubbard SMI, LLC. This new corporation has the same Board of Directors and will be operated in the same manner as Suntex RHCL Marina. All terms of the concession agreement, including the capital projects, will be the responsibility of Ray Hubbard SMI. The agreement was put forth by the company for city review, and the city attorney has made some modifications to it prior to council's review.

Mayor Pruitt called forth the representative from Suntex and asked him to state his name/address for the record, which he did as follows:

Quinn Heidenreich
1720 Lewis Court
Dallas, TX

Mayor Pruitt asked if the new LLC will have the same board of directors. Mr. Heidenreich indicated that, yes, it will have the same board. It is purely to facilitate the redevelopment of the marina and to accommodate the request of the new lending partner that will do the financing on the redevelopment.

Mayor Pruitt went on to express concerns, generally explaining that he suspects this reassignment may end up limiting the liability associated with the redevelopment and associates repairs / upgrades that Suntex has agreed to with the city, especially if there is another drought. He pointed out that concession fees were not paid to the city by Suntex for a long time, due to the drought, until the city finally set up legal action against the company. He does not have a problem with a name change; however, he does have a problem with the new company potentially having their obligations be reduced or eliminated.

After his comments, Mayor Pruitt made a motion to approve the re-assignment of the Concession Agreement with the stipulation that a cost bond be posted for the amount of the capital improvements that were previously agreed upon with Suntex so that the city has assurance that the capital improvements will actually be followed through on. Councilmember Milder seconded the motion.

Mr. Heidenreich indicated that this is something the company can do; however, he did want to note that the new legal entity is a much broader, substantially more capitalized entity with several hundred million dollars of capital behind it. It will be assigned to hold all of the entity's other marinas. From his vantage point, the company is being placed into a much stronger position than it was before. In addition, additional investors, beyond those involved with Suntex, will be involved, as will a new financial partner to put them into a stronger position. Councilmember Fowler commented that the amount of the improvements will impact the cost of the bond. Mr. Heidenreich commented that he does not recall the actual cost of the improvements, but it is a very substantial project that will cost in the "millions" and will involve dredging and fixing and improving break waters and docks. He shared that it is a traditional lender (bank), and they are the ones requiring the development of the new LLC.

After additional discussion, the motion passed by a vote of 6 in favor with 1 against (Hohenshelt).

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Mr. Archibald, the gentleman who spoke during Open Forum, again briefly came forth and presented Mayor Pruitt with a certificate of appreciation concerning the recent Hot Rocks bike race.

5. Discuss and consider approval of the Rockwall Economic Development Corporation (REDC) budget for fiscal year 2017 and amended budget for fiscal year 2016, and take any action necessary.

Sheri Franza, CEO/President of the Rockwall EDC came forth and explained that, relatively speaking, most of the proposed budget for FY 17 is quite similar to the budget in past years. The only major change is one capital project pertaining to a regional detention project that will start the middle of October and take about 120 days to complete. That will cost $1.3 million and will open about 100 acres for development. Thirty acres has already been spoken for, and a contract is now pending on an additional 30 acres. These new companies will be a tremendous, positive addition to the Rockwall Tech Park and the Rockwall community.

Councilmember Lewis made a motion to approve the amended budget for FY2016 and the proposed budget for FY2017. Councilmember Hohenshelt seconded the motion, which passed by a vote of 7 ayes to 0 nays.

6. Discuss and consider approval of the Rockwall Technology Park Association budget for fiscal year 2017 and amended budget for fiscal year 2016, and take any action necessary.

Mrs. Franza spoke to the Council concerning this proposed budget for FY2017, indicating that the REDC board did approve both the amended FY16 and proposed FY17 budgets earlier this month. A slight funding increase ($3,000 or so) will occur due to the landscaping (mowing) area increasing. She shared that a little bit of funding ($10,000) is being requested to make some miscellaneous, needed repairs to the irrigation system too. Following her brief comments, Councilmember Hohenshelt made a motion to approve the Rockwall Technology Park Association budget for fiscal year 2017 and amended budget for fiscal year 2016. Mayor Pro Tem Townsend seconded the motion, which passed by a vote of 7 ayes to 0 nays.

Mayor Pruitt then called for a brief break, recessing the meeting at 7:13 p.m.

Mayor Pruitt called the meeting back to order at 7:25 p.m.

7. Discuss and consider the Hotel Tax Subcommittee recommendations for funding allocations in fiscal year 2017, including authorizing the City Manager to execute associated funding agreements, and take any action necessary.

Mayor Pruitt pulled the funding requests for the Rubber Duck Regatta, The Hilton, and Music Fest, indicating the Council will handle these funding items separately from all the other funding requests. He then made a motion to approve the funding request recommendations made by the Hotel Tax Subcommittee for the remaining items. Councilman Lewis seconded the motion, which passed unanimously of Council (7 ayes to 0 nays).

Regarding the Rubber Duck Regatta, Mayor Pruitt explained that Councilmember Lewis and Councilmember White will be recusing themselves since they currently serve on the Meals and Wheels Board of Directors. Mayor Pro Tem Townsend moved to approve the recommended funding for the Rubber Duck Regatta. Mayor Pruitt seconded the motion, which passed by a vote of 5 in favor with 2 recusals (White and Lewis).

Mayor Pruitt then explained that Councilmember Fowler will be recusing himself since he serves on that board. Councilmember White then made a motion to approve the recommended funding for Music Fest. Councilmember Townsend seconded the motion, which passed by a vote of 6 in favor with 1 recusal (Fowler).

Mayor Pruitt mentioned that The Hilton is requesting Hotel/Motel Tax funding in the amount of $27,484 to subsidize some hotel rooms. Mayor Pruitt commented that he is generally not in favor of this request, especially not considering the type of advertising that has recently been put out by the Hilton's parent corporation. He does not feel there is any reason to use tax payer money to fund any type of business that has those types of ads going out with our tax money. In addition, he pointed out that The Hilton is already getting $600,000 this year in hotel/motel money rebated back to them. Mayor Pruitt subsequently made a motion to deny this funding request. He pointed out that a separate funding request had previously been made by The Hilton and is already included in the budget; however, this issue is separate and apart from that other funding request. Councilmember Fowler seconded the motion, which passed by a vote of 5 in favor with two against (Lewis and White).

Councilmember Lewis made a motion to approve increasing the funding for the Crime Prevention Conference from $25,000 to $30,000 (an increase of $5,000 total). Councilmember White seconded the motion. Indication was given that the conference is committing to four hundred hotel room nights. After brief comments, the motion passed by a vote of 7 ayes to 0 nays.

Councilmember White mentioned to Mr. Archibald, who was still in the room, that Noon Rotary may wish to submit its funding request for the Hot Rocks bike race soon so that Hotel Occupancy Tax (HOT) funds are still available. General indication was given that Rotary's request is being formulated currently and will be submitted soon.

8. Discuss and consider approval of an **ordinance** amending the budget for fiscal year 2016, and take any action necessary.

Councilmember Lewis made a motion to approve the ordinance. Councilmember Townsend seconded the motion. The ordinance was read as follows:

CITY OF ROCKWALL, TEXAS
ORDINANCE NO. 16-50

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE BUDGET OF THE CITY FOR THE FISCAL YEAR OCTOBER 1, 2015 THROUGH SEPTEMBER 30, 2016; PROVIDING FOR AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

9. Discuss and consider the proposed budget for fiscal year 2017 and approval of an **ordinance** adopting the proposed budget, and take any action necessary.

Mayor Pruitt indicated that the Council would like to pull the funding associated with "Meals on Wheels" and handle approval on that portion of the budget separately from all other portions. Mayor Pro Tem Townsend made a motion to approve the proposed FY2017 budget, excluding the "Meals on Wheels" portion. Councilmember Lewis seconded the motion. Mayor Pruitt then commented that the Council always asks that inflation and population growth be considered when considering proposed expenditures associated with annual budgets. He stated that he is comfortable that the city is meeting its obligations, especially since some expenditures will be made with Rec Development funding and (drug)

Seizure Funds. Following Pruitt's comments, the motion passed by a vote of 7 ayes to 0 nays.

Councilmembers Lewis and White recused themselves from the "Meals on Wheels" funding request within the proposed FY17 budget. Mayor Pro Tem Townsend made a motion to approve the Meals on Wheels funding within the budget for FY 2017. Councilmember Milder seconded the motion, which passed by a vote of 5 ayes with 2 recusals (White and Lewis).

Mayor Pro Tem Townsend made a motion to approve the ordinance adopting the FY2017 budget. Councilmember Lewis seconded the motion. Assistant City Manager/Finance Director, Mrs. Smith, then read the following statement into the public record:

This budget will raise the same amount of revenue from property taxes as last year's budget. The property tax revenue to be raised from new property added to the tax roll this year is $504,907.

The motion then passed by a vote of 7 ayes to 0 nays.

10. Discuss and consider approval of an **ordinance** levying ad valorem taxes for the tax year 2016, and take any action necessary.

Mrs. Smith indicated that this ordinance will adopt the tax rate at 45.43 cents per $100 of assessed value, which is a 3.1 cent reduction from the current rate and is the effective tax rate, as has been calculated by the Appraisal District.

Mayor Pro Tem Townsend made a motion to approve the ordinance. Councilmember Lewis seconded the motion. The ordinance was read as follows:

CITY OF ROCKWALL, TEXAS

ORDINANCE NO. 16-52

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, LEVYING THE AD VALOREM TAXES FOR THE YEAR 2016 AT A RATE OF $.4543 PER ONE HUNDRED DOLLARS ($100.00) ASSESSED VALUATION ON ALL TAXABLE PROPERTY WITHIN THE CORPORATE LIMITS OF THE CITY AS OF JANUARY 1, 2016 TO PROVIDE REVENUES FOR THE PAYMENT OF CURRENT EXPENSES AND TO PROVIDE AN INTEREST AND SINKING FUND ON ALL OUTSTANDING DEBTS OF THE CITY; PROVIDING FOR DUE AND DELINQUENT DATES, TOGETHER WITH PENALTIES AND INTEREST; APPROVING THE 2016 TAX ROLL; PROVIDING FOR EXEMPTIONS OF PERSONS OVER SIXTY-FIVE (65) YEARS; PROVIDING AN EFFECTIVE DATE.

The motion passed by a vote of 7 ayes to 0 nays.

Mayor Pruitt thanked the subcommittee, council members and staff for their work on getting this budget completed and for accomplishing a good tax rate for the citizens.

11. Discuss and consider appointments to the city's Youth Advisory Council (YAC) for the 2016-17 school year, and take any action necessary.

Councilmember White made a motion to appoint the recommended slate of students as outlined in the memo (see table below). Councilmember Fowler seconded the motion, which passed unanimously (7 - 0).

1	Re-appointment	Sophomore (HmSch)	Caleb	Davis
2	Re-appointment	Junior (RHS)	Bethany	Villalobos
3	Re-appointment	Senior (RHS)	Reid	Rakow
4	*NEW* appointment	Freshman (HmSch)	Mary Claire	Weible
5	*NEW* appointment	Senior (HmSch)	Kelsey	Franks
6	*NEW* appointment	Junior (HCA)	Jonathan	Naylor
7	*NEW* appointment	Junior (RHS)	Thomas	Milder
8	*NEW* appointment	Sophomore (RHS)	Emily	Williams
9	*NEW* appointment	Junior (RHS)	Molly Kate	Evans
10	*NEW* appointment	Junior (RHS)	Aidan	Culp
11	*NEW* appointment	Sophomore (RHS)	Emily	Henry
12	*NEW* appointment	Senior (RHHS)	Christian	Giadolor
13	*NEW* appointment	Sophomore (RHS)	Natalie	Newhouse

12. Discuss and consider an amendment to the Fixed Base Operator / Airport Management Agreement with Todd Parks of Texas Air Center and take any necessary action.

Joey Boyd indicated that, as approved in the budget, the Council will be providing an operational supplement regarding airport operations. Also, this amendment will extend the end date from March 31st to Sept. 30th in order to coincide with the city's fiscal year. It also relieves Mr. Parks of the requirement to provide an aircraft if he chooses not to.

Councilmember Lewis thanked Mr. Parks for always providing good, detailed information to the City Council. He then made a motion to approve the amendment to the agreement. Mayor Pro Tem Townsend seconded the motion, which passed by a vote of 7 ayes to 0 nays.

Mayor Pruitt provided brief, closing comments. He shared that he would like to thank the Police Department. A press conference was held last week having to do with the "Silent Partners Program," which is a way for people to anonymously donate money to the Police Department. Funds will go to a city account, and no administration fees will apply. It will be used as a fallen officer fund, throughout Rockwall County, and it will include scholarships for kids who want to go into law enforcement. Also, it will allow officers to attend funerals for other fallen officers around the country. Additionally, the "Trikes for Tikes" event this past weekend raised a lot of money for the Rockwall County Child Advocacy center. There were over 100 motorcycles, and they raised over $40,000 for the Rockwall County Child Advocacy Center. He commented that a lot of very positive comments were received from the participants, especially related to how well planned the route and ride was by the Rockwall Police Department. In addition, he pointed out the new Police Explorers, who are young volunteers participating in this new Rockwall Police Department program. They will be attending a city council meeting sometime in the future, and they will come and have dinner with the Council prior to whichever meeting they will be attending.

XIII. EXECUTIVE SESSION

THE CITY OF ROCKWALL CITY COUNCIL WILL RECESS INTO EXECUTIVE SESSION TO DISCUSS THE FOLLOWING MATTERS AS AUTHORIZED BY CHAPTER 551 OF THE TEXAS GOVERNMENT CODE:

1. Discussion regarding the lease of land in the vicinity of the downtown area pursuant to Section §551.072 (Real Property)
2. Discussion regarding the status of ambulance services contract pursuant to Section §551.071 (Consultation with Attorney)
3. Discussion regarding terms and conditions of Zanata's Restaurant Agreement pursuant to Section §551.071 (Consultation with Attorney)
4. Discussion regarding Primary Media failure to comply with court order in City of Rockwall v. Primary Media pursuant to Section §551.071 (Consultation with Attorney)

XIV. RECONVENE PUBLIC MEETING & TAKE ANY ACTION AS RESULT OF EXECUTIVE SESSION

Council did not convene in Ex. Session following the close of the public meeting agenda.

XV. ADJOURNMENT

The meeting was adjourned at 7:47 p.m.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, THIS 3rd day of October, 2016.

_____

ATTEST: **Jim Pruitt, Mayor**

_____

Kristy Cole, City Secretary

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CITY OF ROCKWALL

ORDINANCE NO. 16-53

SPECIFIC USE PERMIT NO. S-155

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE [ORDINANCE NO. 04-38] OF THE CITY OF ROCKWALL, TEXAS, AS PREVIOUSLY AMENDED, SO AS TO AMEND SPECIFIC USE PERMIT NO. S-118 [*ORDINANCE NO. 14-02*] TO ALLOW FOR AN ACCESSORY BUILDING THAT EXCEEDS THE MAXIMUM SIZE REQUIREMENTS ON A 1.50-ACRE PARCEL OF LAND ZONED SINGLE FAMILY ESTATE 1.5 (SFE-1.5) AND IDENTIFIED AS LOT 17, BLOCK B, STERLING FARMS ADDITION, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OR FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, a request has been made by Kevin Dale Wommack and Pamela McCollum to amend Specific Use Permit No. S-118 [*Ordinance No. 14-02*] for the purpose of increasing the size of an existing accessory building situated on a 1.50-acre parcel of land, zoned Single Family Estate 1.5 (SFE-1.5) District, and being identified as Lot 17, Block B, Sterling Farms Addition, City of Rockwall, Rockwall County, Texas, addressed as 1970 Copper Ridge Circle, and being more specifically described in *Exhibit 'A'* of this ordinance, which herein after shall be referred to as the *Subject Property* and incorporated reference herein; and

WHEREAS, the Planning and Zoning Commission of the City of Rockwall and the governing body of the City of Rockwall, in compliance with the laws of the State of Texas and the ordinances of the City of Rockwall, have given the requisite notices by publication and otherwise, and have held public hearings and afforded a full and fair hearing to all property owners generally, and to all persons interested in and situated in the affected area and in the vicinity thereof, the governing body in the exercise of its legislative discretion has concluded that the Unified Development Code [*Ordinance No. 04-38*] and *Ordinance No. 14-02* of the City of Rockwall should be amended as follows:

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:

Section 1. That the enactment of this Specific Use Permit (SUP) Ordinance shall supersede all requirements stipulated in *Ordinance No. 14-02*;

Section 2. That the Unified Development Code [*Ordinance No. 04-38*] of the City of Rockwall, as heretofore amended, be and the same is hereby amended so as to grant a Specific Use Permit allowing for the establishment of an accessory building that exceeds the maximum size requirements and that does not conform to the minimum masonry requirements for accessory buildings in a Single Family Estate 1.5 (SFE-1.5) District as stipulated by *Article IV, Permissible Uses,* and *Article V, District Development Standards,* of the Unified Development Code [*Ordinance No. 04-38*] on the *Subject Property*; and

Section 3. That the *Subject Property* shall be used only in the manner and for the purposes described in this Specific Use Permit (SUP) ordinance and as specifically set forth in *Section 3.2, Single-Family Estate (SF/E 1.5) District, of Article V, District Development Standards,* of the Unified Development Code [*Ordinance No. 04-38*] of the City of Rockwall as heretofore amended, as amended herein by the granting of this zoning change, and as my be amended in the future, and shall be subject to the additional following conditions:

1) The accessory building shall generally conform to the approved site plan and building elevations depicted in *Exhibits 'A'* & *'B'* of this ordinance.

2) The accessory building shall not exceed a maximum size of 1,364 square feet.

3) The accessory building is subject to administrative review in the event that the *Subject Property* is sold, conveyed or altered in any manner.

Section 4. That the official zoning map of the City be corrected to reflect the changes in zoning described herein.

Section 5. That all ordinances of the City of Rockwall in conflict with the provisions of this ordinance be, and the same are hereby repealed to the extent of that conflict.

Section 6. Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a penalty of fine not to exceed the sum of *TWO THOUSAND DOLLARS* (*$2,000.00*) for each offence and each and everyday such offense shall continue shall be deemed to constitute a separate offense.

Section 7. If any section or provision of this ordinance or the application of that section or provision to any person, firm, corporation, situation or circumstance is for any reason judged invalid, the adjudication shall not affect any other section or provision of this ordinance or the application of any other section or provision to any other person, firm, corporation, situation or circumstance, and the City Council declares that it would have adopted the valid portions and applications of the ordinance without the invalid parts and to this end the provisions of this ordinance shall remain in full force and effect.

Section 7. That this ordinance shall take effect immediately from and after its passage and the publication of the caption of said ordinance as the law in such cases provides.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, THIS THE 3RD DAY OF OCTOBER, 2016.

_____
Jim Pruitt, *Mayor*

ATTEST:

_____
Kristy Cole, *City Secretary*

APPROVED AS TO FORM:

_____
Frank J. Garza, *City Attorney*

1st Reading: *September 19, 2016*

2nd Reading: *October 3, 2016*

Exhibit 'A':

Site Plan

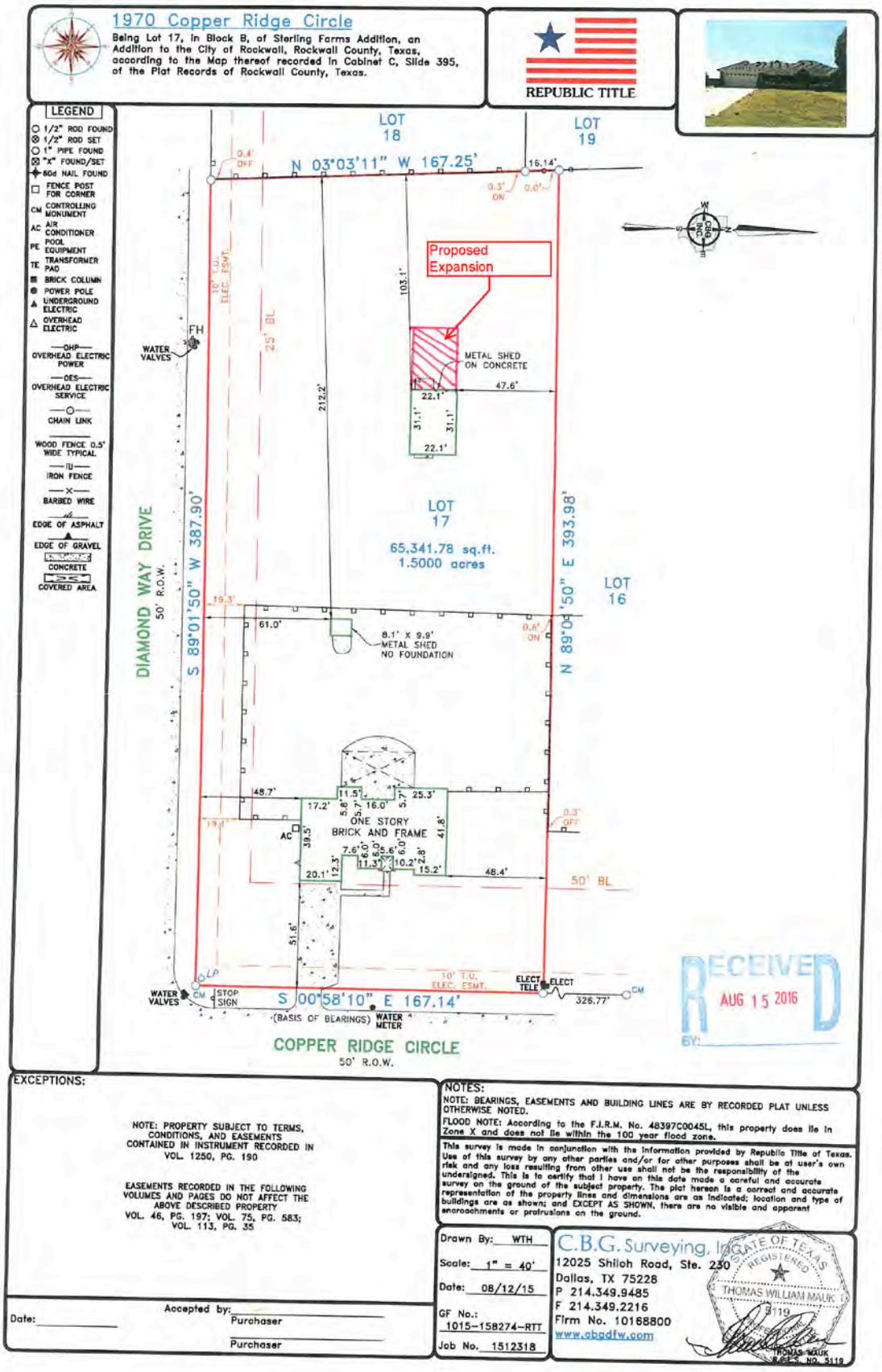
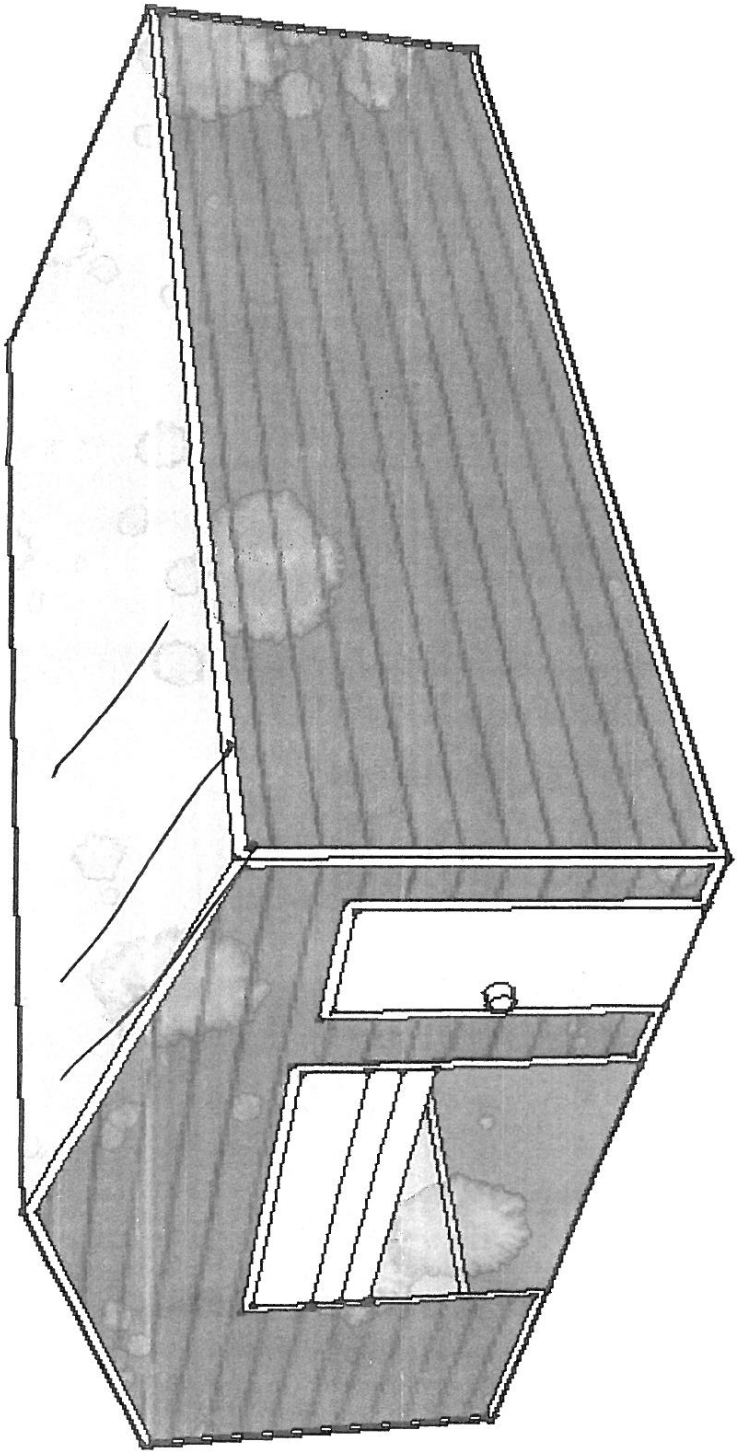


Exhibit 'B':
Building Elevations



Sheet Metal: 29 Gauge Galvanized polyester painted
framing: 14 Gauge Galvanized
Concrete: 4" thick with 3/8 rebar with moisture barrier
8 to 12" footer around perimeter
Spray Foam: standard 2lb spray foam

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CITY OF ROCKWALL

ORDINANCE NO. 16-54

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING PLANNED DEVELOPMENT DISTRICT 32 (PD-32) [*ORDINANCE NO. 10-21*] AND THE UNIFIED DEVELOPMENT CODE [*ORDINANCE NO. 04-38*] OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, SO AS TO APPROVE A DEVELOPMENT PLAN FOR A 2.143-ACRE PORTION OF A LARGER 6.915-ACRE TRACT OF LAND IDENTIFIED AS LOTS 3A, 4A & 5A, ISAAC BROWN ADDITION, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS AND MORE FULLY DESCRIBED HEREIN BY *EXHIBIT 'A'*; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City has received a request by Jason Lentz of Atticus Real Estate on behalf of Atticus Rockwall, LLC for the approval of a PD Development Plan for a 228 unit, condominium development to be situated within the *Interior Subdistrict* of Planned Development District 32 (PD-32) on a 2.143-acre portion of a larger 6.915-acre tract of land identified as Lots 3A, 4A & 5A, Isaac Brown Addition, City of Rockwall, Rockwall County, Texas, and more fully described in *Exhibit 'A'* of this ordinance, which hereinafter shall be referred to as the *Subject Property* and incorporated by reference herein; and

WHEREAS, the Planning and Zoning Commission of the City of Rockwall and the governing body of the City of Rockwall in compliance with the laws of the State of Texas and the ordinances of the City of Rockwall have given the requisite notices by publication and otherwise, and have held public hearings and afforded a full and fair hearing to all property owners generally and to all persons interested in and situated in the affected area, and in the vicinity thereof, and the governing body in the exercise of its legislative discretion, has concluded that Planned Development District 32 (PD-32) [*Ordinance No. 10-21*] and the Unified Development Code [*Ordinance No. 04-38*] should be amended as follows:

NOW, THEREFORE, **BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:**

Section 1. That Planned Development District 32 (PD-32) [*Ordinance No. 10-21*] and the Unified Development Code [*Ordinance No. 04-38*], as heretofore amended, shall be further amended by amending the *Concept Plan* approved with *Ordinance No. 10-21* and the official zoning map of the City of Rockwall so as to approve a *PD Development Plan* for the *Subject Property*; and,

Section 2. That development of the *Subject Property* shall generally be in accordance with the *PD Development Plan*, depicted in *Exhibit 'B'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'B'*, which is deemed hereby to be a condition of approval of the amended zoning classification for the *Subject Property*; and,

Section 3. That development of the *Subject Property* shall generally be in accordance with the *Concept Building Elevations*, depicted in *Exhibit 'C'* of this ordinance, attached hereto and incorporated herein by reference as *Exhibit 'C'*, which is deemed hereby to be a condition of

approval of the amended zoning classification for the *Subject Property*; and,

Section 4. That the *Subject Property* shall be used only in the manner and for the purposes provided for in Planned Development District 32 (PD-32) [*Ordinance No. 10-21*], the Unified Development Code [*Ordinance No. 04-38*], and in compliance with the following conditions and requirements:

1) The north/south public road connecting Summer Lee Drive to the southwest corner of the subject property shall be designed and constructed in accordance with the *Street Type 'G$_1$'* standards stipulated in *Exhibit 'D'* of this ordinance; and,

2) The minimum building setback adjacent to *Street Type 'G$_1$'* shall be one (1) foot; and,

3) Prior to the submittal of a final plat the applicant shall submit and seek approval of a detailed site plan that demonstrates compliance with all applicable standards of Planned Development District 32 (PD-32) [*as amended*] and this ordinance, and with the guidelines contained in *Resolution No. 10-40*; and,

4) The building elevations submitted with the site plan will require a recommendation from the Architectural Review Board (ARB) prior to approval by the Planning and Zoning Commission (*and City Council if necessary*); and,

5) An open space master plan will need to be submitted with the site plan. The open space master plan will need to be reviewed by the Parks Board; and,

6) Prior to the issuance of a building permit, the applicant shall submit and seek approval of a final plat.

Section 5. The official zoning map of the City of Rockwall, Texas be corrected to reflect the changes in zoning described in this ordinance;

Section 6. That any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a penalty of fine not to exceed the sum of *Two Thousand Dollars* ($2,000.00) for each offense and each and every day such offense shall continue shall be deemed to constitute a separate offense;

Section 7. That if any section, paragraph, or provision of this ordinance or the application of that section, paragraph, or provision to any person, firm, corporation or situation is for any reason judged invalid, the adjudication shall not affect any other section, paragraph, or provision of this ordinance or the application of any other section, paragraph or provision to any other person, firm, corporation or situation, nor shall adjudication affect any other section, paragraph, or provision of the Unified Development Code, and the City Council declares that it would have adopted the valid portions and applications of the ordinance without the invalid parts and to this end the provisions for this ordinance are declared to be severable;

Section 8. The standards in this ordinance shall control in the event of a conflict between this ordinance and any provision of the Unified Development Code or any provision of the City Code, ordinance, resolution, rule, regulation, or procedure that provides a specific standard that is different from and inconsistent with this ordinance. References to zoning district regulations or other standards in the Unified Development Code (including references to the *Unified Development Code*), and references to overlay districts, in this ordinance or any of the Exhibits hereto are those in effect on the date this ordinance was passed and approved by the City

Council of the City of Rockwall, Texas;

Section 9. That this ordinance shall take effect immediately from and after its passage and the publication of the caption of said ordinance as the law in such cases provides;

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, THIS THE 3rd DAY OF October, 2016.

_____
Jim Pruitt, *Mayor*

ATTEST:

_____
Kristy Cole, *City Secretary*

APPROVED AS TO FORM:

_____
Frank J. Garza, *City Attorney*

1st Reading: *09/19/2016*

2nd Reading: *10/03/2016*

Exhibit 'A':
Legal Description

BEING situated in the Edward Teal Survey, Abstract Number 207, Rockwall County, Texas and being a portion of Lots 3A, 4A and 5A of Isaac Brown's Land Partitioned to His Heirs, an addition to the City of Rockwall according to the plat thereof recorded in Cabinet A, Slide 57, Plat Records, Rockwall County, Texas and a portion of that certain tract of land described by deed to the City of Rockwall recorded in County Clerk's File Number 2005-00330949, Deed Records, Rockwall County, Texas and being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2 inch iron rod with cap found in the southwest line of said Lot 5A, said iron rod being the westerly corner of that certain tract of land described by deed to Atticus Real Estate Services, Inc. recorded in County Clerk's File Number 2007-00386856, Deed Records, Rockwall County, Texas and being the southerly corner of said City tract and being in the northeast line of Lot 6A of said Land Partitioned and being in the southeast right-of-way line of Summer Lee Drive (Variable Width Right-of-Way);

THENCE North 45 degrees 23 minutes 09 seconds West, 46.09 feet along said southwest line of Lot 5A and said northeast line of Lot 6A to the beginning of a non-tangent curve to the left;

THENCE 163.12 feet, with said non-tangent curve to the left, having a radius of 532.50 feet, through a central angle of 14 degrees 38 minutes 45 seconds, whose long chord bears North 51 degrees 09 minutes 43 seconds East, 135.75 feet to a 1/2 inch iron rod with cap stamped "RDS" found in the southeast right-of-way line of Summer Lee Drive;

THENCE North 43 degrees 50 minutes 20 seconds East, 153.81 feet, continuing along said southeast right-of-way line of Summer Lee Drive;

THENCE South 45 degrees 16 minutes 37 seconds East, 56.18 feet, departing said southeast right-of-way line of Summer Lee Drive to the beginning of a curve to the right;

THENCE 217.36 feet, with said curve to the right, having a radius of 289.00 feet, through a central angle of 43 degrees 05 minutes 32 seconds, whose long chord bears South 23 degrees 43 minutes 51 seconds East, 212.27 feet;

THENCE South 00 degrees 18 minutes 21 seconds East, 136.46 feet to the beginning of a curve to the left;

THENCE 89.61 feet, with said curve to the left, having a radius of 188.00 feet, through a central angle of 27 degrees 18 minutes 33 seconds, whose long chord bears South 13 degrees 57 minutes 37 seconds East, 88.76 feet to the beginning of a reverse curve to the right;

THENCE 93.75 feet, with said reverse curve to the right, having a radius of 86.00 feet, through a central angle of 62 degrees 27 minutes 44 seconds, whose long chord bears South 03 degrees 36 minutes 59 seconds West, 89.18 feet to a point in said southwest line of Lot 5A, said point also being in said northeast line of Lot 6A;

THENCE North 45 degrees 23 minutes 09 seconds West, 451.38 feet along said southwest line of Lot 5A and said northeast line of Lot 6A to the POINT OF BEGINNING and containing 93,358 square feet or 2.143 acres of land, more or less.

Exhibit 'B':
Concept Plan

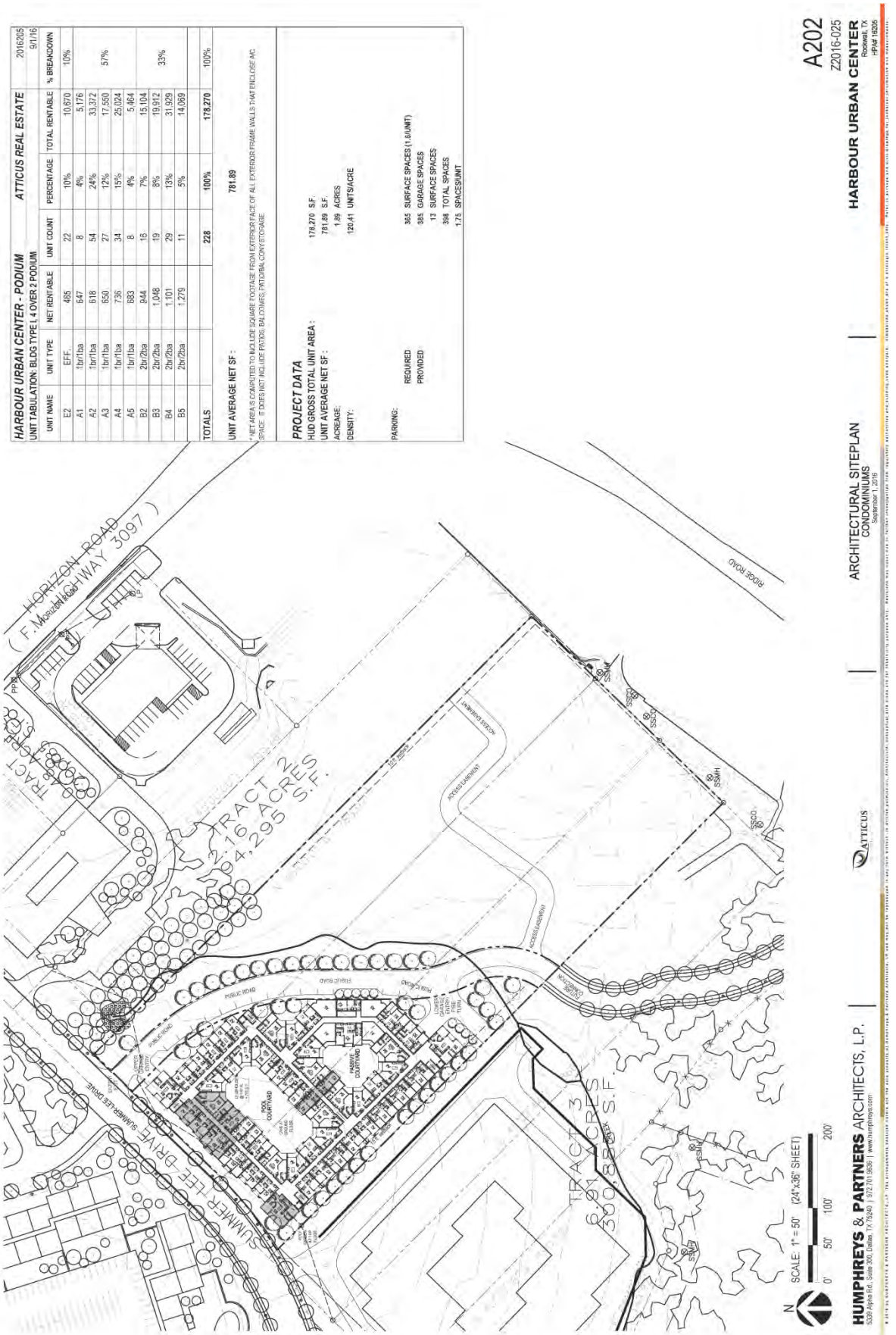


Exhibit 'C':
Building Elevations

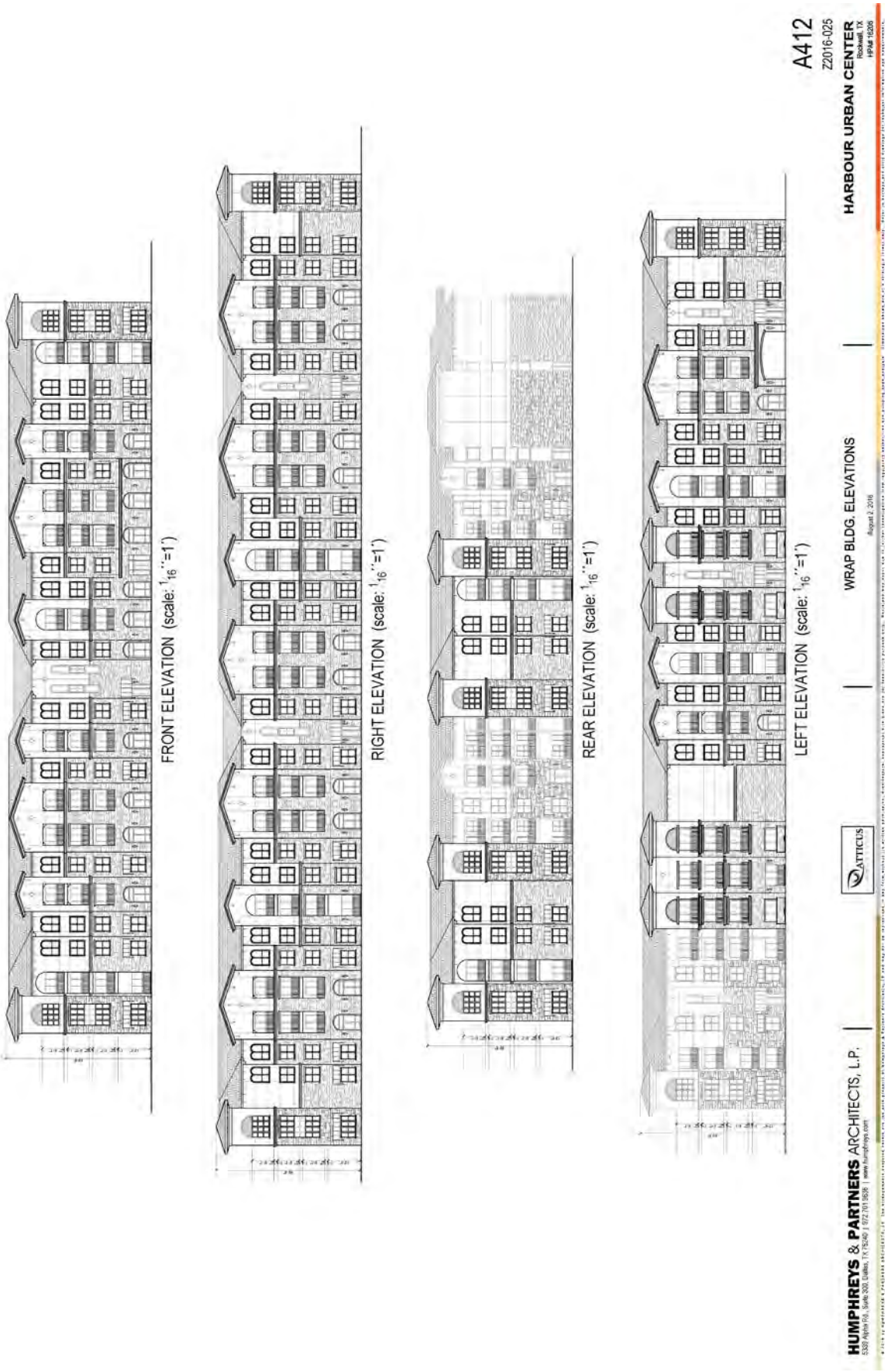


Exhibit 'C':
Building Elevations

FRONT ELEVATION - SCALE: 3/32"=1'

HUMPHREYS & PARTNERS ARCHITECTS, L.P.
5339 Alpha Rd., Suite 300, Dallas, TX 75240 | 972.701.9636 | www.humphreys.com

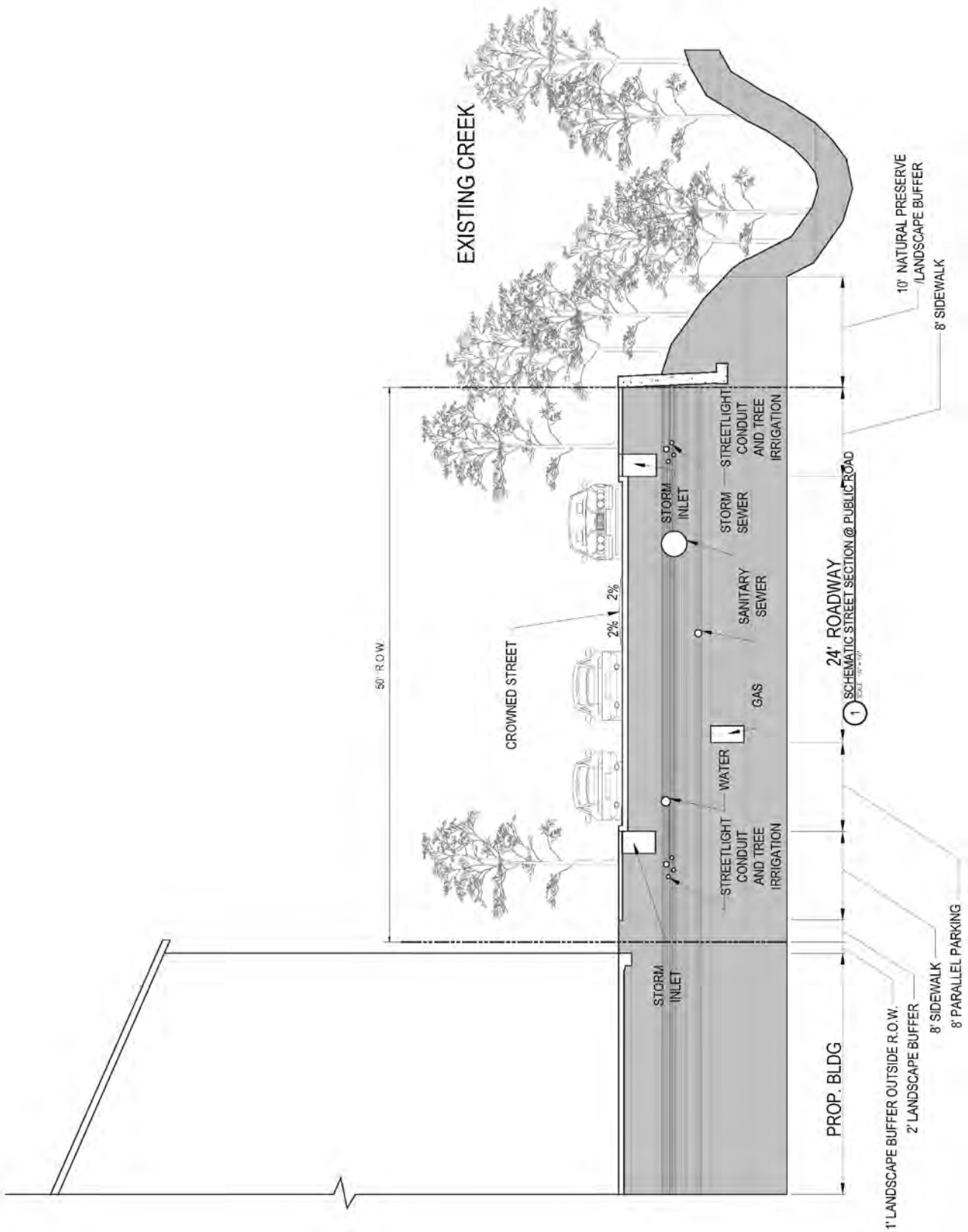
ATTICUS

WRAP BLDG. ELEVATIONS
July 11, 2016

HARBOUR URBAN CENTER
Rockwall, TX
HP#: 16205

A412

Exhibit 'D':
Roadway Cross Section



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CITY OF ROCKWALL

ORDINANCE NO. 16-55

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE [*ORDINANCE NO. 04-38*] OF THE CITY OF ROCKWALL, AS HERETOFORE AMENDED, SO AS TO APPROVE A CHANGE IN ZONING FROM AN AGRICULTURAL (AG) DISTRICT TO A RESIDENTIAL OFFICE (RO) DISTRICT ON A 0.478-ACRE TRACT OF LAND IDENTIFIED AS TRACT 7 OF THE D. ATKINS SURVEY, ABSTRACT NO. 1, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, AND BEING MORE SPECIFICALLY DESCRIBED IN *EXHIBITS 'A', 'B', & 'C'* OF THIS ORDINANCE; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City has received a request by Susan Gamez for a change in zoning from an Agricultural (AG) District to a Residential Office (RO) District on a 0.478-acre tract of land identified as Tract 7 of the D. Atkins Survey, Abstract No. 1, City of Rockwall, Rockwall County, Texas and more fully described in *Exhibit 'A', 'B', & 'C'* of this ordinance, which hereinafter shall be referred to as the *Subject Property* and incorporated by reference herein; and

WHEREAS, the Planning and Zoning Commission of the City of Rockwall and the governing body of the City of Rockwall in compliance with the laws of the State of Texas and the ordinances of the City of Rockwall have given the requisite notices by publication and otherwise, and have held public hearings and afforded a full and fair hearing to all property owners generally and to all persons interested in and situated in the affected area, and in the vicinity thereof, and the governing body in the exercise of its legislative discretion, has concluded that the Unified Development Code [*Ordinance No. 04-38*] should be amended as follows:

NOW, THEREFORE, **BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:**

Section 1. That the Unified Development Code [*Ordinance No. 04-38*] of the City of Rockwall, Texas, as heretofore amended, be and the same are hereby amended by amending the zoning map of the City of Rockwall so as to change the zoning of the *Subject Property* from an Agriculture (AG) District to a Residential Office (RO) District; and

Section 2. That the *Subject Property* shall be used only in the manner and for the purposes provided for a *Residential Office (RO) District* in *Section 1.1, "Use of Land and Buildings,"* of *Article IV, "Permissible Uses"* and *Section 4.2, "Residential Office (RO) District",* of *Article V, "District Development Standards",* of the *Unified Development Code* of the City of Rockwall as heretofore amended, as amended herein by granting of this zoning change, and as maybe amended in the future;

Section 3. That the official zoning map of the City be corrected to reflect the changes in the zoning described herein.

Section 4. Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a penalty of fine not to exceed the sum of two thousand dollars ($2,000.00) for each offence and each and every day such offense shall continue shall be deemed to constitute a separate offense.

Section 5. If any section, paragraph, or provision of this ordinance or the application of that section, paragraph, or provision to any person, firm, corporation or situation is for any reason judged invalid, the adjudication shall not affect any other section, paragraph, or provision of this ordinance or

the application of any other section, paragraph or provision to any other person, firm, corporation or situation, nor shall adjudication affect any other section, paragraph, or provision of the Unified Development Code of the City of Rockwall, Texas, and the City Council declares that it would have adopted the valid portions and applications of the ordinance without the invalid parts and to this end the provisions for this ordinance are declared to be severable.

Section 6. That all ordinances of the City of Rockwall in conflict with the provisions of this ordinance be and the same are hereby repealed, and all other ordinances of the City of Rockwall not in conflict with the provisions of this ordinance shall remain in full force and effect.

Section 7. That this ordinance shall take effect immediately from and after its passage and the publication of the caption of said ordinance as the law in such cases provides.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, THIS THE 3RD DAY OF OCTOBER, 2016.

_____
Jim Pruitt, Mayor

ATTEST:

_____
Kristy Cole, City Secretary

APPROVED AS TO FORM:

_____
Frank J. Garza, City Attorney

1st Reading: September 19, 2016

2nd Reading: October 3, 2016

Exhibit 'A':
Legal Description

BEING situated in the Daniel Atkins Survey, Abstract No. 1, Rockwall County, Texas, and being a part or that certain 2.1-acre tract as described in a deed to Charles Parton and wife, as recorded in Volume 51, Page 504, Deed Records, Rockwall County, Texas, and being more particularly described as follows:

BEGINNING at a 5/8 inch iron rod found in an existing gravel road at the most southern corner of a tract described in a deed to Charles Prock and wife, recorded in Volume 125, Page 18, Deed Records, Rockwall County, Texas;

THENCE South 37 Degrees 47 Minutes 20 Seconds West along and near the centerline of an existing gravel road, a distance of 151.57-feet to a ½-inch iron rod found for corner;

THENCE North 48 Degrees 25 Minutes 58 Seconds West along and near the northeast line of an existing gravel road, a distance of 137.23-feet to a ½-Inch iron rod found for corner in the northwest line of said 2.1-acre tract;

THENCE North 35 Degrees 52 Minutes 20 Seconds East along said northwest line, a distance of 146.12-feet to a ½-inch iron rod found for corner at the most western corner of said Prock tract;

THENCE South 50 Degrees 57 Min 33 Seconds East along the southwest line of said Prock tract, a distance of 141.86-feet to the *PLACE OF BEGINNING* and containing 0.4758-acres of land, and being the same tract as conveyed to Johnnie Moore as recorded in Volume 623, Page 113, Real Estate Records, Rockwall County, Texas.

Exhibit 'B':
Survey

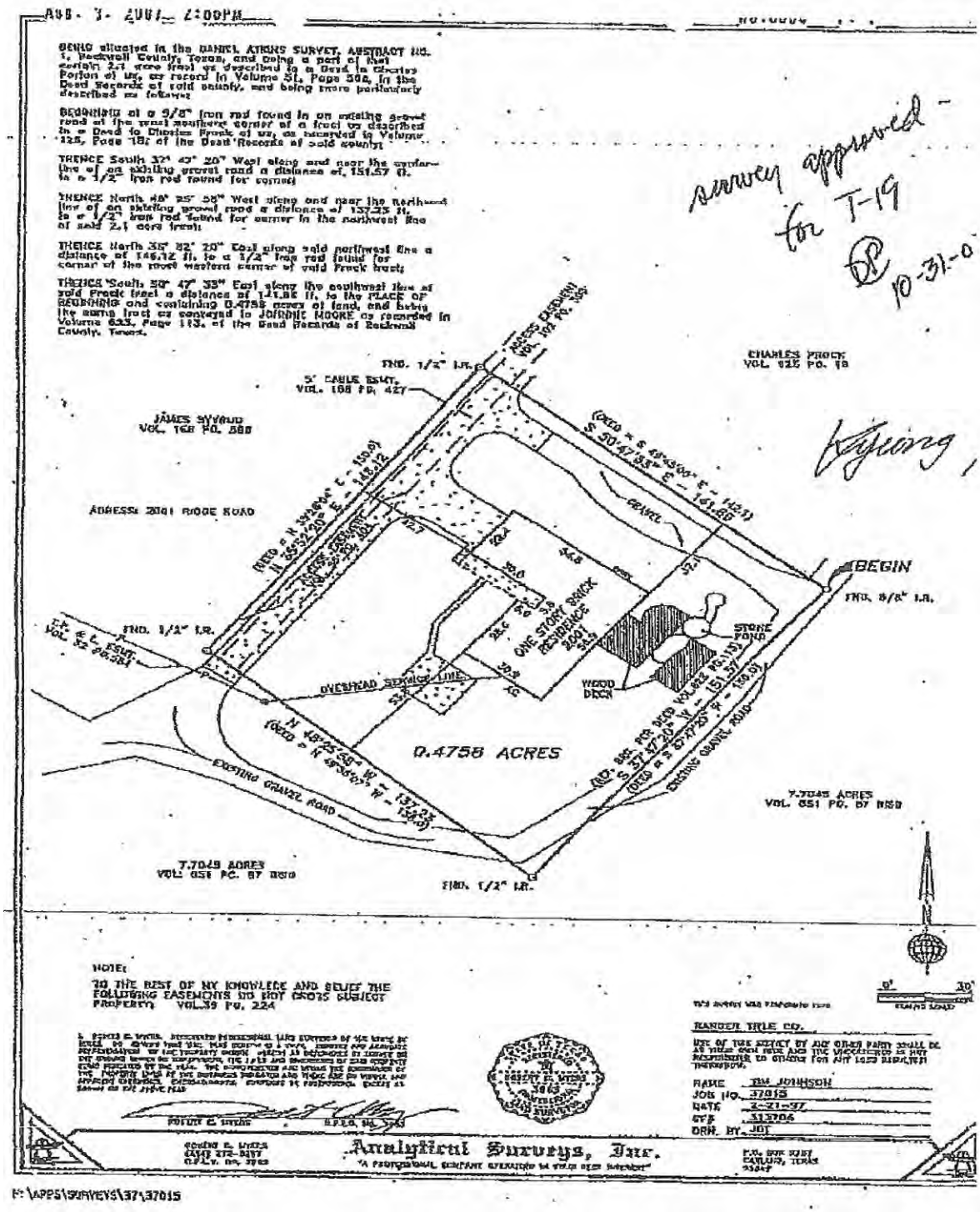
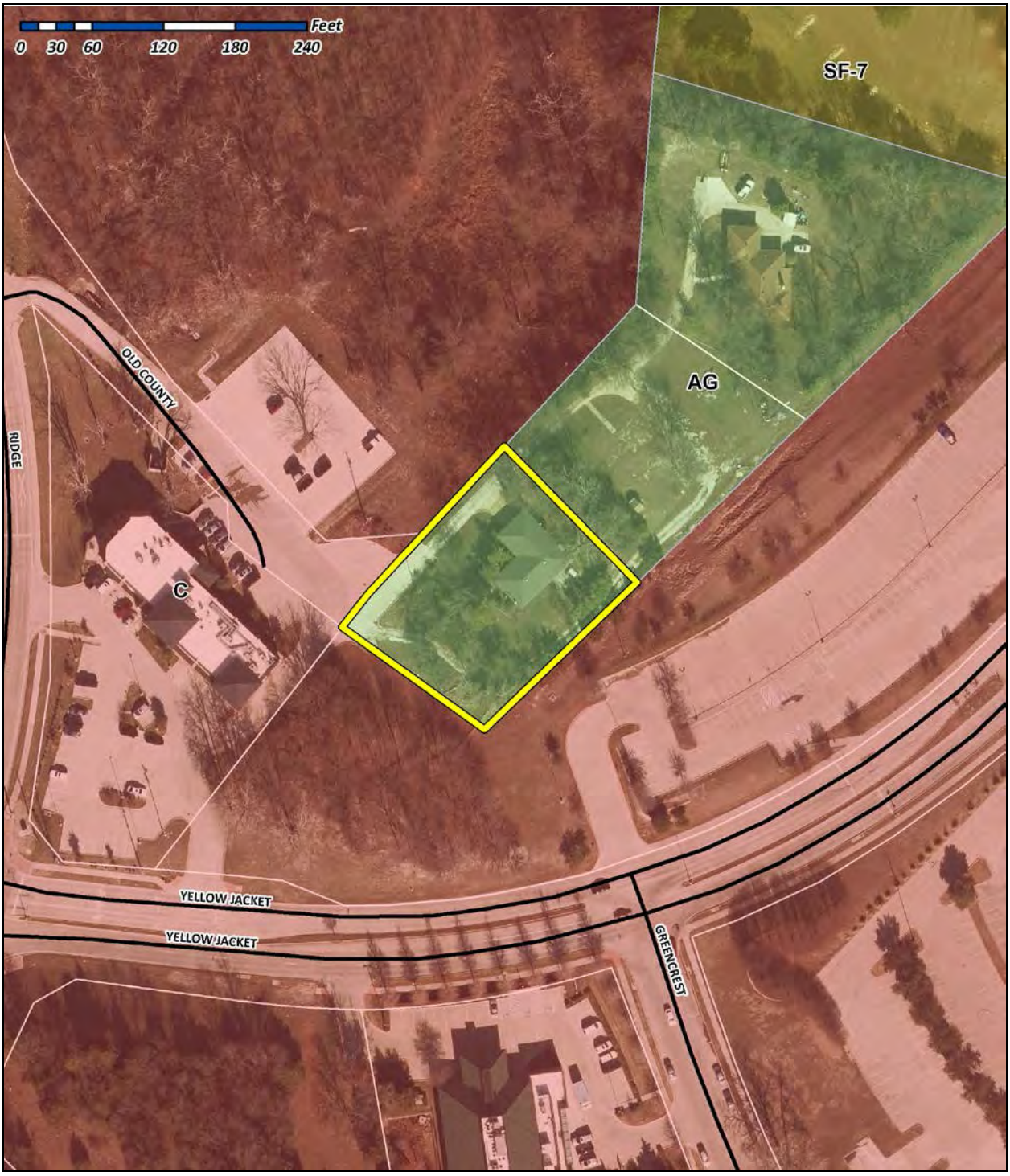


Exhibit 'C':
Zoning Exhibit



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CITY OF ROCKWALL

ORDINANCE NO. 16-56

SPECIFIC USE PERMIT NO. S-156

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, AMENDING THE UNIFIED DEVELOPMENT CODE OF THE CITY OF ROCKWALL, TEXAS, AS PREVIOUSLY AMENDED, SO AS TO GRANT A SPECIFIC USE PERMIT (SUP) TO ALLOW FOR A RETAIL STORE WITH MORE THAN TWO (2) GASOLINE DISPENSERS AS SPECIFIED IN ARTICLE IV, PERMISSIBLE USES, OF THE UNIFIED DEVELOPMENT CODE, FOR A 2.59-ACRE TRACT OF LAND BEING A PORTION OF A LARGER 7.32-ACRE TRACT OF LAND ZONED GENERAL RETAIL (GR) DISTRICT, AND IDENTIFIED AS TRACT 17-12 OF THE W. W. FORD SURVEY, ABSTRACT NO. 80, CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS, AND MORE SPECIFICALLY DESCRIBED IN EXHIBIT 'A'; PROVIDING FOR SPECIAL CONDITIONS; PROVIDING FOR A PENALTY OR FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00) FOR EACH OFFENSE; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A REPEALER CLAUSE; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, a request has been made by Jimmy Strohmeyer of Strohmeyer Architects, Inc. on behalf of D. W. Bobst of J-BR2, LLC for the approval of a Specific Use Permit (*SUP*) to allow a retail store with more than two (2) gasoline dispensers on a 2.59-acre tract land being a portion of a larger 7.32-acre tract of land, zoned General Retail (GR) District, and identified as Tract 17-12 of the W. W. Ford Survey, Abstract No. 80, City of Rockwall, Rockwall County, Texas, and more specifically described in *Exhibit* 'A' of this ordinance, which herein after shall be referred to as the *Subject Property* and incorporated by reference herein; and,

WHEREAS, the Planning and Zoning Commission of the City of Rockwall and the governing body of the City of Rockwall, in compliance with the laws of the State of Texas and the ordinances of the City of Rockwall, have given the requisite notices by publication and otherwise, and have held public hearings and afforded a full and fair hearing to all property owners generally, and to all persons interested in and situated in the affected area and in the vicinity thereof, the governing body in the exercise of its legislative discretion has concluded that the Unified Development Code of the City of Rockwall should be amended as follows:

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:

SECTION 1. That the Unified Development Code [*Ord. No. 04-38*] of the City of Rockwall, as heretofore amended, be and the same is hereby amended so as to grant a Specific Use Permit (*SUP*) allowing for a retail store with more than two (2) gasoline dispensers within a General Retail (GR) District as stipulated by Article IV, *Permissible Uses*, of the Unified Development Code [*Ord. No. 04-38*] for the *Subject Property;* and,

SECTION 2. That the *Subject Property* shall be developed and used only in the manner and for the purposes described in this Specific Use Permit (*SUP*) ordinance granted herein and shall be subject to the conditions set forth in ***Article V, Section 4.4, General Retail (GR) District Standards of the Unified Development Code* [*Ordinance No. 04-38*]** as heretofore amended, as amended herein by granting of this Specific Use Permit (*SUP*), and as may be amended in the future, and shall be subject to the additional following conditions.

2.1 Conditions for a Certificate of Occupancy (CO)

The following conditions pertain to the development of a retail store with more than two (2) gasoline dispensers on the *Subject Property*, and conformance to these development conditions are required for the issuance of a Certificate of Occupancy (CO):

1) Prior to the approval of a Building Permit, submittal of a Site Plan generally conforming to the Concept Plan in *Exhibit 'B'* of this ordinance must be approved by the Planning & Zoning Commission; and the City Council if necessary.

2) The development on the *Subject Property* shall generally conform to the Concept Plan as depicted in *Exhibit 'B'* of this ordinance.

2.2 Operational Conditions

The following conditions pertain to the operation of a retail store with more than two (2) gasoline dispensers on the subject property, and conformance to these operational conditions are required for continued operations:

1) All operations on the *Subject Property* shall generally conform to the Concept Plan as depicted in *Exhibit 'B'* of this ordinance.

2) The development shall be limited to a maximum of eight (8) gasoline dispensers on the *Subject Property; and,*

3) No outside display of merchandise or outside storage shall be permitted on the *Subject Property* with the exception of the following items: ice machine, propane cage, and/or DVD rental kiosk. Outside storage or display must be approved by the Planning and Zoning Commission at the time of the site plan.

4) The City Council reserves the right to review the Specific Use Permit granted herein upon the expiration of one (1) year from the date hereof.

Section 3. That the official zoning map of the City be corrected to reflect the changes in zoning described herein.

Section 4. That all ordinances of the City of Rockwall in conflict with the provisions of this ordinance be, and the same are hereby repealed to the extent of that conflict.

Section 5. Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a penalty of fine not to exceed the sum of TWO THOUSAND DOLLARS ($2,000.00) for each offence and each and every day such offense shall continue shall be deemed to constitute a separate offense.

Section 6. If any section or provision of this ordinance or the application of that section or provision to any person, firm, corporation, situation or circumstance is for any reason judged invalid, the adjudication shall not affect any other section or provision of this ordinance or the application of any other section or provision to any other person, firm, corporation, situation or circumstance, and the City Council declares that it would have adopted the valid portions and applications of the ordinance without the invalid parts and to this end the provisions of this ordinance shall remain in full force and effect.

Section 7. That this ordinance shall take effect immediately from and after its passage and the publication of the caption of said ordinance as the law in such cases provides.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, THIS THE 3rd DAY OF OCTOBER, 2016.

_____
Jim Pruitt, Mayor

ATTEST:

_____
Kristy Cole, City Secretary

APPROVED AS TO FORM:

_____
Frank J. Garza, City Attorney

1st Reading: September 19, 2016

2nd Reading: October 3, 2016

Exhibit 'A': Legal Description (Boundary)

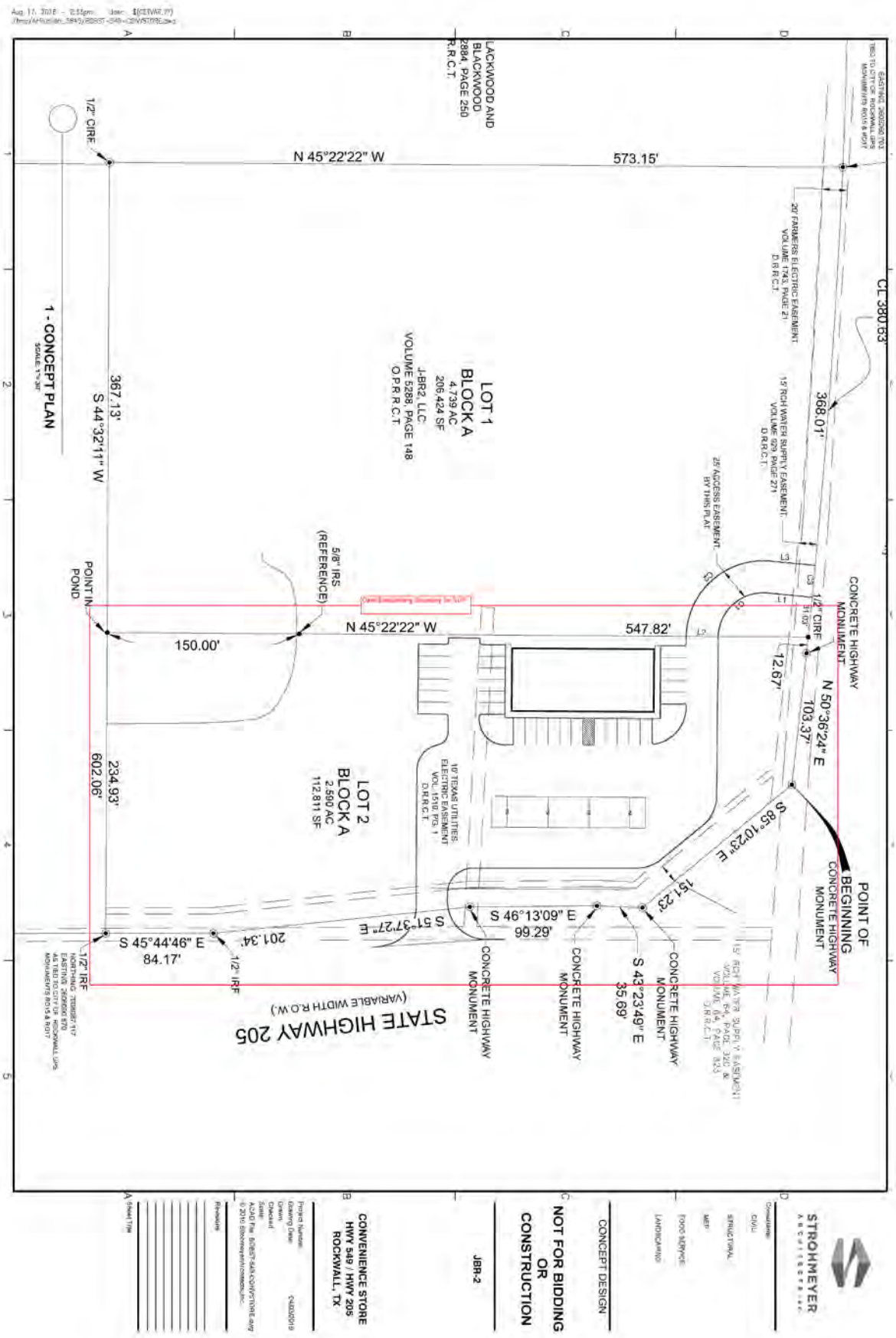

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Exhibit 'B': Conceptual Site Plan

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CITY OF ROCKWALL
CITY COUNCIL MEMO

AGENDA DATE: 10/03/2016

APPLICANT: Greg Helsel, *Spiars Engineering*

AGENDA ITEM: **P2016-042** (Preserve Addition Phase 1 – *Amended Plat*)

SUMMARY:

Discuss and consider a request by Greg Helsel of Spiars Engineering on behalf of the owner Will Shaddock of Master Developers-SNB, LLC for the approval of an amended plat for Phase 1 of the Preserve Subdivision, containing 132 single-family residential lots on a 52.545-acre tract of land identified as the Preserve, Phase 1 Subdivision, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 41 (PD-41) for Single Family 10 (SF-10) District land uses, located at the southeast at corner of the intersection of Highland Drive and East Fork Drive, and take any action necessary.

COMMENTS:

- The objective of this request is to amend the final plat by correcting the side yard set-back for Lot 11, Block A from 25-feet to 15-feet. Ordinance No. 01-27 (PD-41) area requirements allow for a single-family lot to have a minimum side yard set-back (where the side yard abuts a street) to have a minimum set-back of 15-feet.

- The property is zoned Planned Development District 41 (PD-41), has an underlying zoning of Single Family 10 (SF-10) District for residential land uses, and is located at the southeast corner of the intersection of Highland Drive and East Fork Drive.

- Conditional approval of this plat by the City Council shall constitute approval subject to the conditions listed in the Recommendations section below.

- With the exception of the items listed in the Recommendation section of this case memo, this amending plat is in substantial compliance with the requirements of the Subdivision Ordinance in the Municipal Code of Ordinances.

RECOMMENDATIONS:

If the City Council chooses to approve the request for the amending plat, staff would recommend the following conditions of approval:

1) All the technical comments from the Planning, Engineering, and Fire Departments shall be addressed prior to the filing of this amended plat.

2) Any construction resulting from the approval of this amended plat shall conform to the requirements set forth by the Unified Development Code, the International Building Code, the Rockwall Municipal Code of Ordinances, city adopted engineering and fire codes and with all other applicable regulatory requirements administered and/or enforced by the state and federal government.

PLANNING AND ZONING COMMISSION RECOMMENDATION:

On September 27, 2016, the Planning and Zoning Commission's motion to recommend approval of the minor plat passed by a vote of 4 to 0 with Commissioners Logan, Whitley, and Moeller absent.

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City of Rockwall

Project Plan Review History

				Applied	9/16/2016	LM
Project Number	P2016-042	**Owner**	MASTER, DEVELOPERS SNB LLC	**Approved**		
Project Name	Preserve Phase I	**Applicant**	SPIARS ENGINEERING	**Closed**		
Type	PLAT			**Expired**		
Subtype	AMENDING			**Status**	9/16/2016	LM
Status	STAFF REVIEW					

Site Address	**City, State Zip**	**Zoning**
EAST FORK DR	,	

Subdivision	**Tract**	**Block**	**Lot No**	**Parcel No**	**General Plan**
NORTHSHORE PH 1	26-1		26-1	0124-0000-0026-01-0R	

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed	Status	Remarks
BUILDING	John Shannon	9/16/2016	9/23/2016	9/20/2016	4	APPROVED	
ENGINEERING	Amy Williams	9/16/2016	9/23/2016	9/20/2016	4	COMMENTS	See Comment
(9/20/2016 3:34 PM AW) Add note on plat "All drainage/detention systems to be maintained, repaired, and replaced by HOA"							
FIRE	Ariana Hargrove	9/16/2016	9/23/2016	9/22/2016	6	APPROVED	
GIS	Lance Singleton	9/16/2016	9/23/2016				
PLANNING	David Gonzales	9/16/2016	9/23/2016	9/22/2016	6	COMMENTS	See comments

Type of Review / Notes	Contact	Sent	Due	Received	Elapsed	Status	Remarks

PLANNING COMMENTS - DAVID GONZALES - 09.22.2016

Discuss and consider a request by Greg Helsel of Spiars Engineering on behalf of the owner Will Shaddock of Master Developers-SNB, LLC for the approval of an amended plat for Phase 1 of the Preserve Subdivision, containing 132 single-family residential lots on a 52.545-acre tract of land identified as the Preserve, Phase 1 Subdivision, City of Rockwall, Rockwall County, Texas, zoned Planned Development District 41 (PD-41) for Single Family 10 (SF-10) District land uses, located at the southeast at corner of the intersection of Highland Drive and East Fork Drive, and take any action necessary.

The following staff comments are to be addressed and resubmitted no later than Tuesday, October 4, 2016. Please provide two large copies [18" X 24" FOLDED] and one PDF version for a subsequent review by staff:

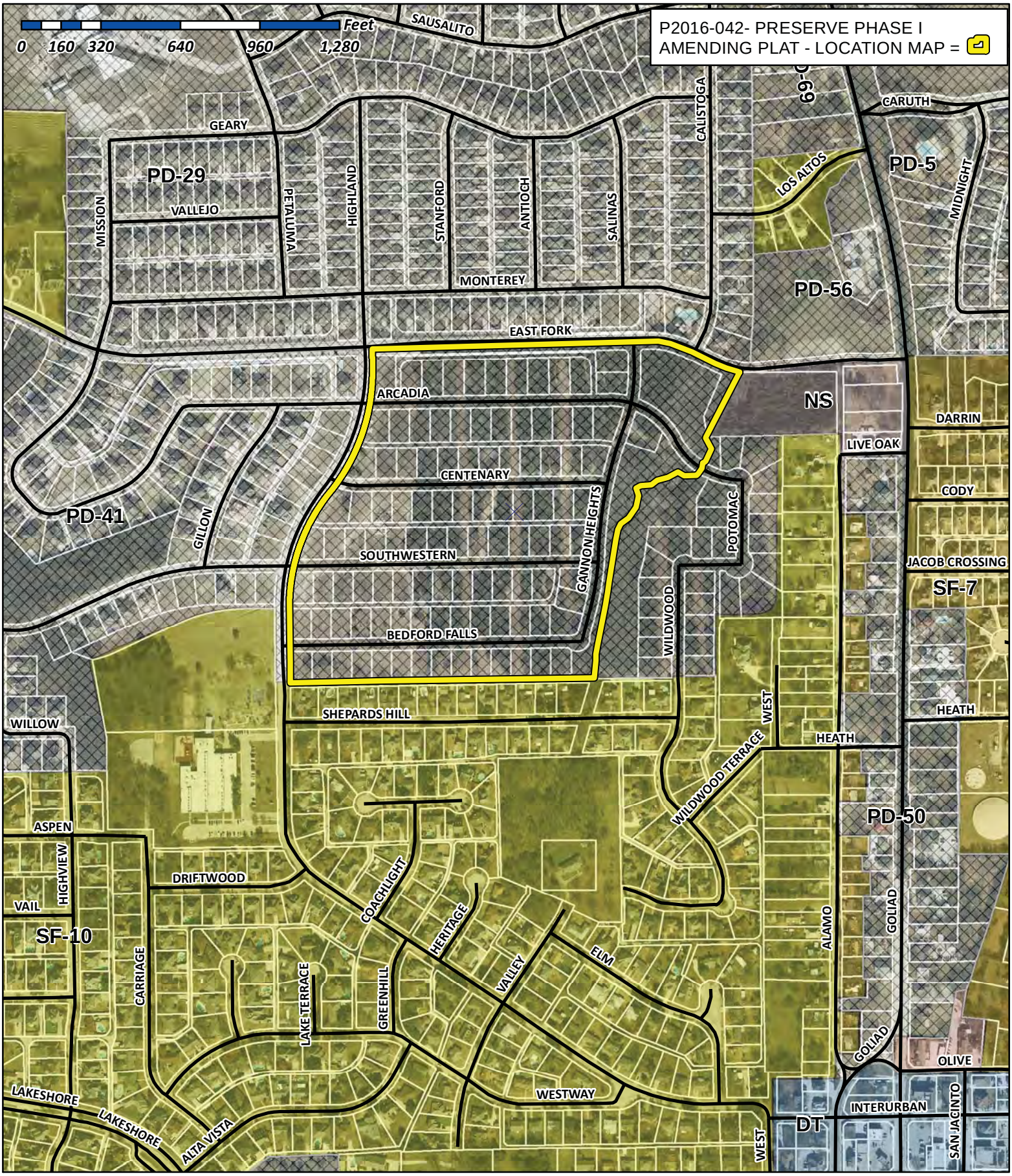
1. Adherence to all Engineering and Fire Department standards shall be required.
2. Provide a label indicating "Case No. P2016-042" on the lower right corner on all pages of the revised plat.
3. Provide Standard Signature Block (P&Z and City Council) on last page.
4. Notary Certificate is not necessary when plat is stamped by Surveyor.

** As a note and once the plat has been approved by the Planning and Zoning Commission and City Council, all staff comments are to be addressed and all revisions resubmitted and approved (by staff) prior toplat submittal on mylar for filing purposes. **

Meeting Dates to Attend (Since this plat request will be placed on the Consent Agenda for both the Planning and City Council meetings, it is not necessary for you to attend; however, staff would recommend that someone be present for the meetings. If you have any quesitons regarding this case, please feel free to contact David Gonzales, AICP with the Planning Department at 972-771-7745.

Planning - Consent Agenda:September 27, 2016 (6:00 p.m.)

City Council - Consent Agenda: October 3, 2016 (6:00 p.m.)



City of Rockwall

Planning & Zoning Department
385 S. Goliad Street
Rockwall, Texas 75032
(P): (972) 771-7745
(W): www.rockwall.com

The City of Rockwall GIS maps are continually under development and therefore subject to change without notice. While we endeavor to provide timely and accurate information, we make no guarantees. The City of Rockwall makes no warranty, express or implied, including warranties of merchantability and fitness for a particular purpose. Use of the information is the sole responsibility of the user.

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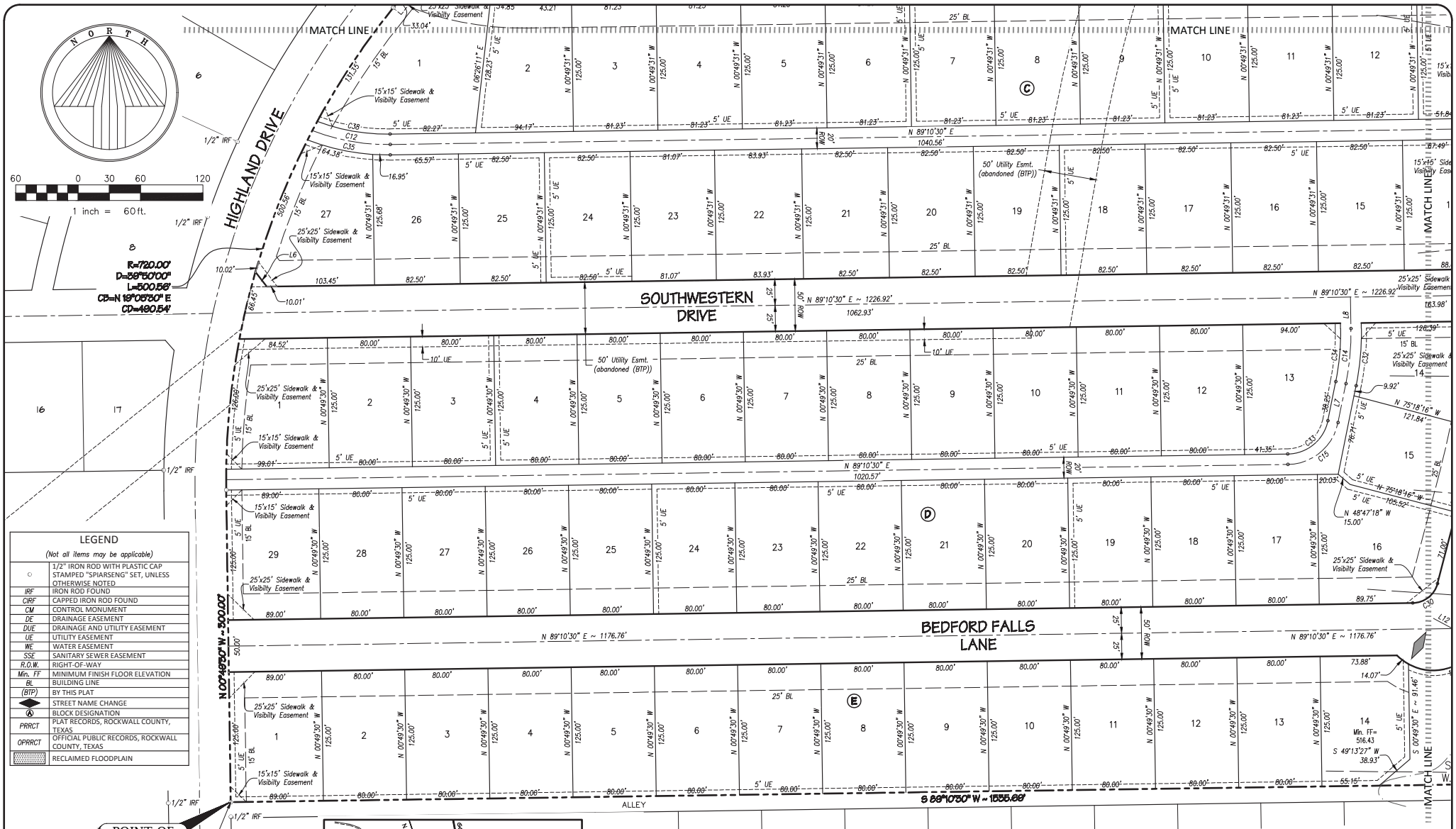

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◆	STREET NAME CHANGE
Ⓐ	BLOCK DESIGNATION
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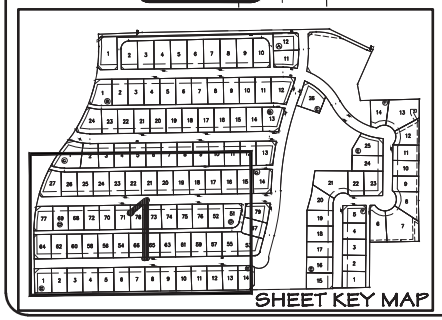
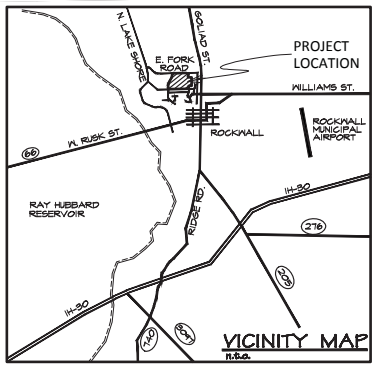
OPRRCT	OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS
▒	RECLAIMED FLOODPLAIN





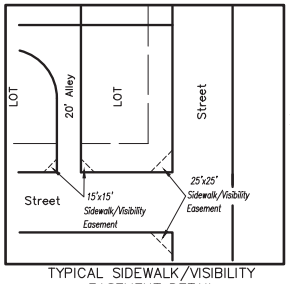
NORTHSHORE PHASE ONE

Cab. A, Sld. 181 PRRCT

Plat Amendment Purpose:
Revise side yard setback (adjacent to street) of Lot 11, Block A from 25' to 15' per zoning ordinance.

NOTES:

1. Basis of bearing derived from the Texas WDS RTK Network–Texas State Plane Coordinate System, NAD83, North Central Zone (4202).
2. Selling a portion of this addition by metes and bounds is a violation of City ordinance and state law and is subject to fines and withholding of utilities and building permits.
3. The 50' Lone Star Gas Co. Easement recorded in Vol. 25, Pg. 685, Vol. 25, Pg. 646 and modified by Partial Release recorded Vol. 103, Pg. 369 has been completely abandoned from this site by Doc. No. 20160000002276



TYPICAL SIDEWALK/VISIBILITY EASEMENT DETAIL

CASE NO. P2016-XXX

AMENDING PLAT

THE PRESERVE PHASE 1

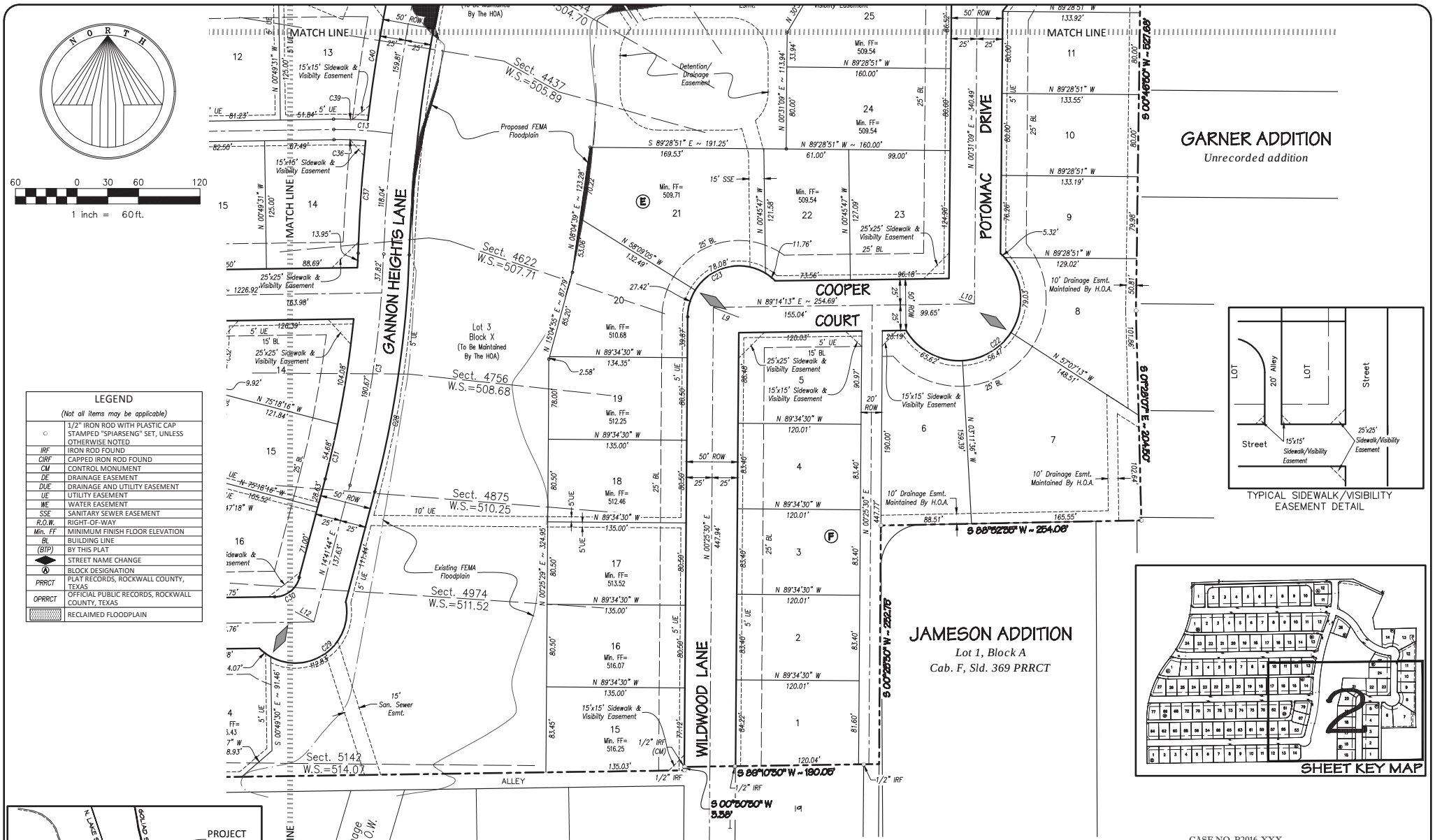
Being an amending plat of THE PRESERVE PHASE I
recorded in Cabinet I, Page 325, Plat Records, Rockwall County, Texas
A. HANNA SURVEY, ABSTRACT NO. 98
J.H.B. JONES SURVEY, ABSTRACT NO. 124
IN THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

ENGINEER / SURVEYOR
Spiars Engineering, Inc.
765 Custer Road, Suite 100
Plano, TX 75075
Telephone: (972) 422-0077
TBPE No. F-2121
Contact: Greg Helsel

OWNER / APPLICANT
MASTER DEVELOPERS-SNB, LLC
2400 Dallas Parkway, Suite 560
Plano, Texas 75093
Telephone (972) 985-5505
Contact: Will Shaddock

Scale: 1" = 60' September 14, 2016 SEI Job No. 13-141

341



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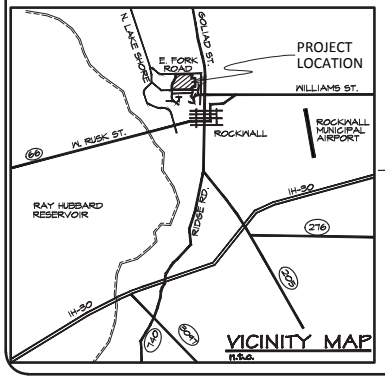

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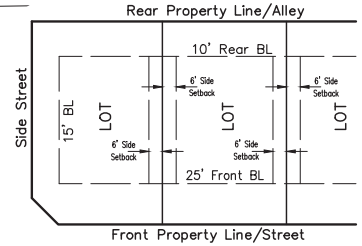
Plat Amendment Purpose:
Revise side yard setback (adjacent to street) of Lot 11, Block A from 25' to 15' per zoning ordinance.



TYPICAL LOT DETAILS
ON 50' R.O.W. (w/ALLEY ACCESS)

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Contact: Greg Helsel

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Scale: 1" = 60' September 14, 2016 SEI Job No. 13-141

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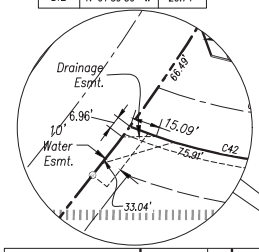
60 0 30 60 120

1 inch = 60ft.

Line Table		
Line #	Bearing	Distance
L1	S 43°48'30" W	14.17'
L2	S 46°11'30" E	14.12'
L3	N 43°48'51" E	14.17'
L4	S 41°49'49" E	19.68'
L5	N 20°07'01" W	18.32'
L6	N 37°40'12" W	17.96'
L7	N 11°24'29" E	38.25'
L8	N 00°49'30" W	30.24'
L9	N 68°47'18" W	26.74'
L10	S 72°56'25" E	15.65'
L11	S 53°56'32" W	24.90'
L12	N 61°59'50" W	20.74'



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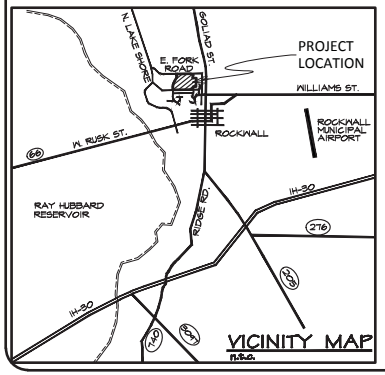

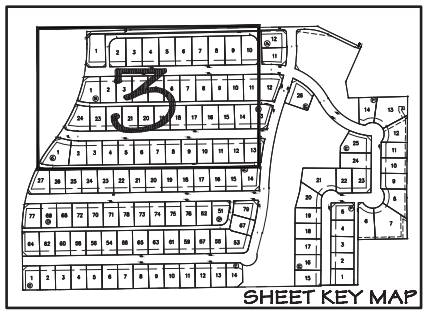

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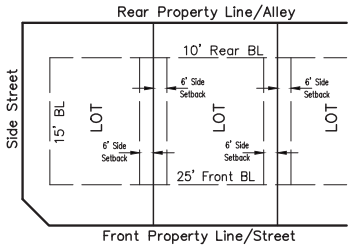

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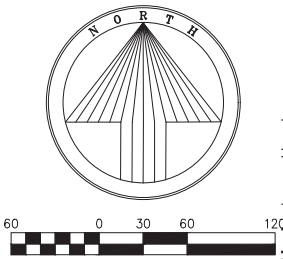

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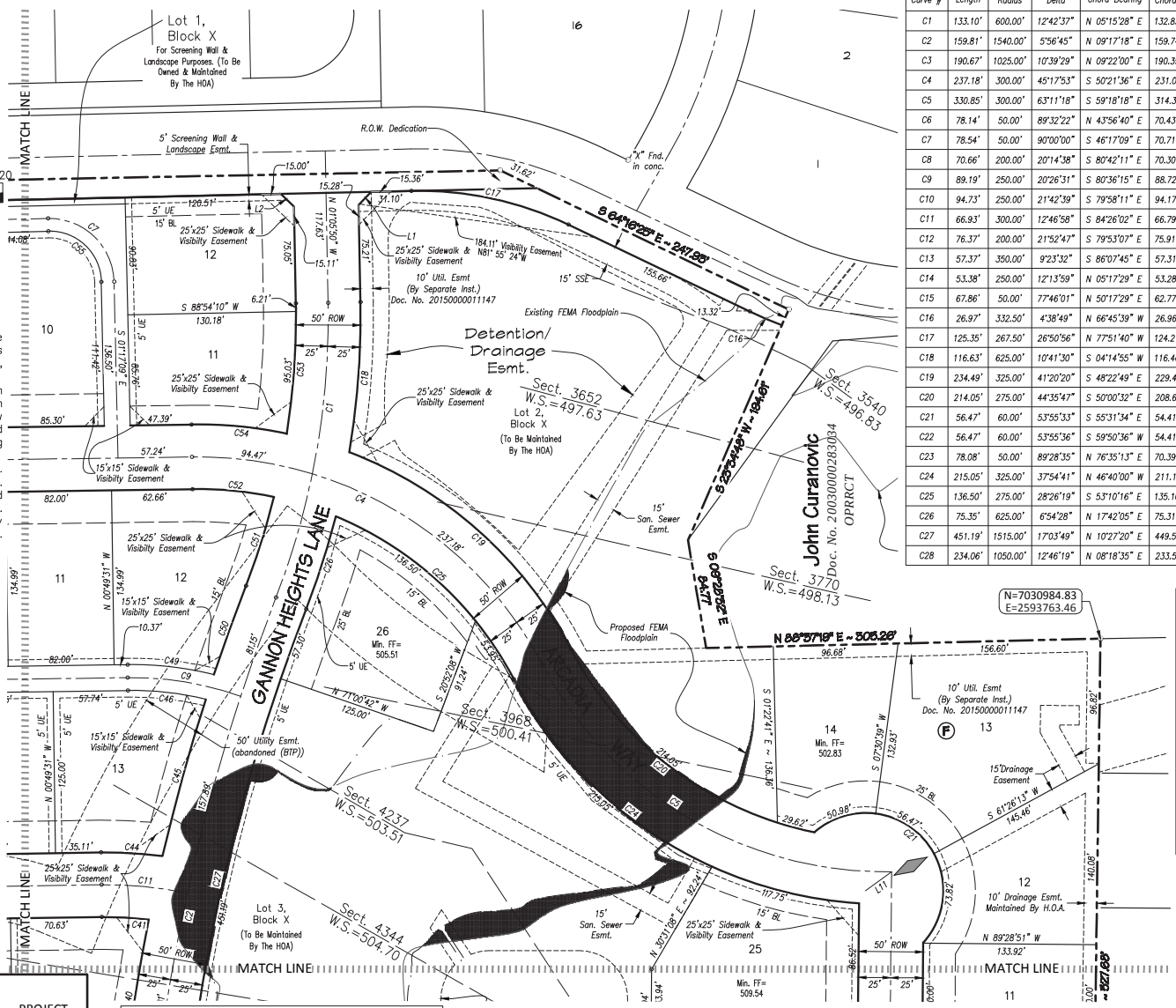
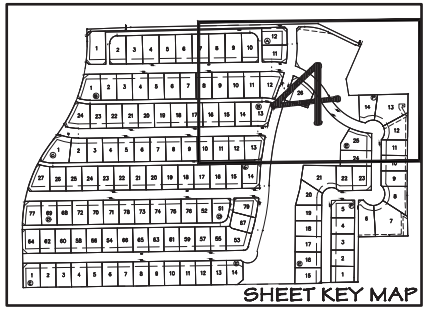
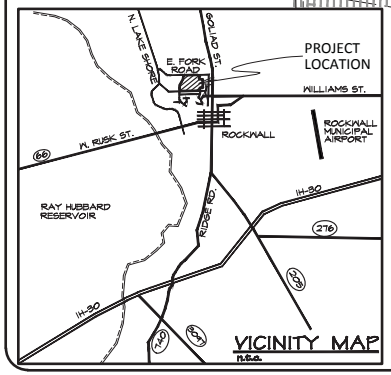
OPRRCT	OFFICIAL PUBLIC RECORDS, ROCKWALL COUNTY, TEXAS
▒	RECLAIMED FLOODPLAIN

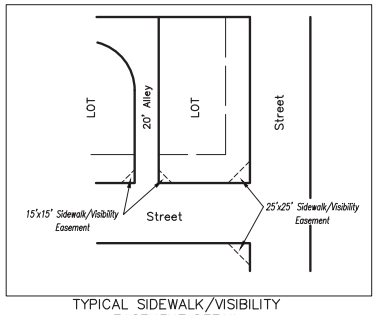


Curve Table					
Curve #	Length	Radius	Delta	Chord Bearing	Chord Dist.
C1	133.10'	600.00'	12°42'37"	N 05°15'28" E	132.83'
C2	159.81'	1540.00'	5°56'45"	N 09°17'18" E	159.74'
C3	190.67'	1025.00'	10°39'29"	N 09°22'00" E	190.39'
C4	237.18'	300.00'	45°17'53"	S 50°21'36" E	231.05'
C5	330.85'	300.00'	63°11'18"	S 59°18'18" E	314.34'
C6	78.14'	50.00'	89°32'22"	N 43°56'40" E	70.43'
C7	78.54'	50.00'	90°00'00"	S 46°17'09" E	70.71'
C8	70.66'	200.00'	20°14'38"	S 80°42'11" E	70.30'
C9	89.19'	250.00'	20°26'31"	S 80°36'15" E	88.72'
C10	94.73'	250.00'	21°42'39"	S 79°58'11" E	94.17'
C11	66.93'	300.00'	12°46'58"	S 84°26'02" E	66.79'
C12	76.37'	200.00'	21°52'47"	S 79°53'07" E	75.91'
C13	57.37'	350.00'	9°23'32"	S 86°07'45" E	57.31'
C14	53.38'	250.00'	12°13'59"	N 05°17'29" E	53.28'
C15	67.86'	50.00'	77°46'01"	N 50°17'29" E	62.77'
C16	26.97'	332.50'	4°38'49"	N 66°45'39" W	26.96'
C17	125.35'	267.50'	26°50'56"	N 77°51'40" W	124.21'
C18	116.63'	625.00'	10°41'30"	S 04°14'55" W	116.46'
C19	234.49'	325.00'	41°20'20"	S 48°22'49" E	229.43'
C20	214.05'	275.00'	44°35'47"	S 50°00'32" E	208.68'
C21	56.47'	60.00'	53°55'33"	S 55°31'34" E	54.41'
C22	56.47'	60.00'	53°55'36"	S 59°50'36" W	54.41'
C23	78.08'	50.00'	89°28'35"	N 76°35'13" E	70.39'
C24	215.05'	325.00'	37°54'41"	N 46°40'00" W	211.14'
C25	136.50'	275.00'	28°26'19"	S 53°10'16" E	135.10'
C26	75.35'	625.00'	6°54'28"	N 17°42'05" E	75.31'
C27	451.19'	1515.00'	17°03'49"	N 10°27'20" E	449.53'
C28	234.06'	1050.00'	12°46'19"	N 08°18'35" E	233.57'

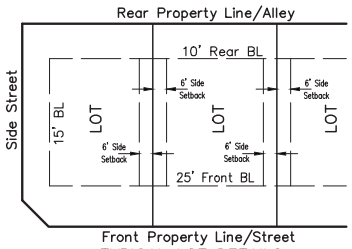
Curve Table					
Curve #	Length	Radius	Delta	Chord Bearing	Chord Dist.
C29	112.83'	50.00'	129°17'31"	N 53°59'00" E	90.37'
C30	32.50'	25.00'	74°28'45"	S 51°56'07" W	30.26'
C31	54.68'	1000.00'	3°07'59"	S 13°07'45" W	54.68'
C32	55.51'	260.00'	12°13'59"	S 05°17'29" W	55.41'
C33	54.29'	40.00'	77°46'01"	N 50°17'29" E	50.22'
C34	51.24'	240.00'	12°13'59"	N 05°17'29" E	51.14'
C35	64.38'	210.00'	17°33'54"	S 77°25'09" E	64.13'
C36	31.15'	340.00'	5°14'59"	S 88°12'01" E	31.14'
C37	110.04'	1565.00'	4°01'44"	S 03°56'17" W	110.02'
C38	71.34'	190.00'	21°30'45"	N 80°04'08" W	70.92'
C39	33.65'	360.00'	5°21'18"	N 88°08'51" W	33.63'
C40	126.05'	1565.00'	4°36'53"	S 08°59'33" W	126.01'
C41	36.40'	275.00'	7°35'02"	S 87°02'00" E	36.37'
C42	75.91'	275.00'	15°49'00"	S 75°39'20" E	75.67'
C43	64.53'	225.00'	16°25'59"	N 82°36'31" W	64.31'
C44	47.79'	325.00'	8°25'31"	N 86°36'45" W	47.75'
C45	125.89'	1565.00'	4°36'33"	S 15°26'34" W	125.86'
C46	60.90'	240.00'	14°32'21"	S 83°33'20" E	60.74'
C47	74.66'	210.00'	20°22'08"	S 80°38'26" E	74.26'
C48	66.80'	190.00'	20°08'41"	N 80°45'10" W	66.46'
C49	67.51'	260.00'	14°52'41"	N 83°23'10" W	67.33'
C50	73.04'	1565.00'	2°40'26"	S 19°49'06" W	73.03'
C51	72.07'	575.00'	7°10'52"	S 17°33'54" W	72.02'
C52	63.46'	275.00'	13°13'20"	S 84°27'01" E	63.32'
C53	95.03'	575.00'	9°28'10"	S 04°15'20" W	94.92'
C54	74.30'	325.00'	13°05'56"	N 84°29'35" W	74.14'
C55	62.83'	40.00'	90°00'00"	S 46°17'09" E	56.57'
C56	62.51'	40.00'	89°32'22"	N 43°56'40" E	56.34'







TYPICAL SIDEWALK/VISIBILITY EASEMENT DETAIL



TYPICAL LOT DETAILS
ON 50' R.O.W. (w/ALLEY ACCESS)

Plat Amendment Purpose:
Revise side yard setback (adjacent to street) of Lot 11, Block A from 25' to 15' per zoning ordinance.

CASE NO. P2016-XXX

AMENDING PLAT

THE PRESERVE PHASE 1

Being an amending plat of THE PRESERVE PHASE I recorded in Cabinet I, Page 325, Plat Records, Rockwall County, Texas
A. HANNA SURVEY, ABSTRACT NO. 98
J.H.B.JONES SURVEY, ABSTRACT NO. 124
IN THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

ENGINEER / SURVEYOR
Spiars Engineering, Inc.
765 Custer Road, Suite 100
Plano, TX 75075
Telephone: (972) 422-0077
TBPE No. F-2121
Contact: Greg Helsel

OWNER / APPLICANT
MASTER DEVELOPERS-SNB, LLC
2400 Dallas Parkway, Suite 560
Plano, Texas 75093
Telephone (972) 985-5505
Contact: Will Shaddock

Scale: 1" = 60' September 14, 2016 SEI Job No. 13-141

STATE OF TEXAS §
COUNTY OF ROCKWALL §

OWNER'S CERTIFICATE

WHEREAS, MASTER DEVELOPERS SNB, LCC is the owner of a tract of land situated in the J. Jones Survey, Abstract No. 124, City of Rockwall, Rockwall County, Texas, the subject tract being all of The Preserve Phase I, an addition recorded in Cabinet I, Slide 325 of the Plat Records, Rockwall County, Texas (PRRCT), the subject tract being more particularly described as follows:

BEGINNING at a 1/2" iron rod with plastic cap stamped "SPIARSENG" set at the intersection of the east line of Highland Drive, created by the final plat of The Preserve Phase III, an addition recorded in Cabinet G, Slide 193 PRRCT, with the south line of East Fork Drive, a variable width public right-of-way, from which an "X" found in concrete for the southeast corner of Lot 24, Block Q, The Preserve Phase III, bears S 19°52'51" W, 195.40 feet;

THENCE N 87°40'12" E, 225.21 feet along the south line of East Fork Drive to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

THENCE N 88°54'10" E, 965.12 feet continuing along the south line of East Fork Drive to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

THENCE S 64°16'25" E, 247.93 feet continuing along the south line of East Fork Drive to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

THENCE S 23°34'48" W, 194.61 feet departing the south line thereof to a point for corner, and being a westerly corner of a tract conveyed to John Curanovic, recorded in Instrument No. 20030000283034 OPRRCT;

THENCE S 09°28'32" E, 84.77 feet along the west line thereof to a point for corner;

THENCE N 88°37'19" E, 305.26 feet along the south line thereof to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set for the northwest corner of the Garner Addition, an unrecorded addition to the City of Rockwall;

THENCE S 00°46'50" W, 527.68 feet along the west line thereof to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

THENCE S 01°28'07" E, 204.50 feet continuing along the west line thereof to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

THENCE S 88°52'35" W, passing along the north line of North West Street and Lot 1, Block A, Jameson Addition, an addition recorded in Cabinet F, Page 369 PRRCT, and along the north line of a right-of-way dedication created by said plat, total distance of 254.06 feet to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

THENCE S 00°25'30" W, 232.75 feet along the west line of said right-of-way dedication and Lot 1, Block A, Jameson Addition, to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set for the northeast corner of Northshore Phase One, an addition recorded in Cabinet A, Slide 181 PRRCT;

THENCE S 89°10'30" W, 190.05 feet along the north line thereof to a 1/2" iron rod found;

THENCE S 00°30'30" W, 3.38 feet continuing along the north line thereof to a 1/2" iron rod found;

THENCE S 89°10'30" W, 1535.69 feet continuing along the north line thereof to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set on the east line of Highland Drive;

THENCE along the east line of Highland Drive, the following:

N 00°49'30" W, 300.00 feet to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

Around a tangent curve to the right having a central angle of 39°50'00", a radius of 720.00 feet a chord of N 19°05'30" E – 490.54 feet an arc length of 500.56 feet to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

Around a non-tangent curve to the left having a central angle of 40°05'24", a radius of 780.00 feet, a chord of N 18°57'48" E – 534.70 feet, an arc length of 545.77 feet to a 1/2" iron rod with plastic cap stamped "SPIARSENG" set;

And N 01°05'10" W, 63.44 feet to the POINT OF BEGINNING with the subject tract containing 2,287,985 square feet or 52.525 acres of land.

NOW THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That We, MASTER DEVELOPERS SNB, LCC, do hereby adopt this plat designating the hereinabove described property as THE PRESERVE PHASE 1, an Addition to the City of Rockwall, and do hereby dedicate to the public use forever the streets and alleys shown thereon and do hereby reserve the easement strips shown on this plat for the mutual use and accommodation of garbage collection agencies and all public utilities desiring to use or using same. Any public utility shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths which in any way endanger or interfere with the construction, maintenance or efficiency of its respective systems on any of these easement strips and any public utility shall at all times have the right of ingress and egress to and from and upon the said easement strip for the purpose of constructing, reconstructing, inspecting, and patrolling, without the necessity at any time of procuring the permission of anyone. This plat approved subject to all platting ordinances, rules, regulations and resolutions of the City of Rockwall, Texas.

Witness our hands at _____ County, Texas, this _____ day of _____, 2016.

MASTER DEVELOPERS SNB, LCC

By: _____
William C. Shaddock, Manager

STATE OF TEXAS §
COUNTY OF COLLIN §

BEFORE ME, the undersigned, a Notary Public in and for The State of Texas, on this day personally appeared William C. Shaddock, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2016.

_____
Notary Public, State of Texas

SURVEYOR'S CERTIFICATE

That I, Darren K. Brown, of Spiars Engineering, Inc., do hereby certify that I prepared this plat and the field notes made a part thereof from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with the Subdivision Regulations of the City of Rockwall, Texas.

Dated this the _____ day of _____, 2016.

_____
DARREN K. BROWN, R.P.L.S. NO. 5252

STATE OF TEXAS
REGISTERED
DARREN K. BROWN
5252
PROFESSIONAL
LAND SURVEYOR

STATE OF TEXAS §
COUNTY OF COLLIN §

BEFORE ME, the undersigned, a Notary Public in and for The State of Texas, on this day personally appeared Darren K. Brown, known to me to be the person and officer whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this the _____ day of _____, 2016.

_____
Notary Public, State of Texas

Note:
Property Owner/HOA Is Responsible For Maintaining, Repairing And Replacing All Detention Systems.

CASE NO. P2016-XXX

AMENDING PLAT

THE PRESERVE PHASE 1

Being an amending plat of THE PRESERVE PHASE I
recorded in Cabinet I, Page 325, Plat Records, Rockwall County, Texas
A. HANNA SURVEY, ABSTRACT NO. 98
J.H.B. JONES SURVEY, ABSTRACT NO. 124
IN THE CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

ENGINEER / SURVEYOR
Spiars Engineering, Inc.
765 Custer Road, Suite 100
Plano, TX 75075
Telephone: (972) 422-0077
TBPE No. F-2121
Contact: Greg Helsel

OWNER / APPLICANT
MASTER DEVELOPERS-SNB, LLC
2400 Dallas Parkway, Suite 560
Plano, Texas 75093
Telephone (972) 985-5505
Contact: Will Shaddock

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CITY OF ROCKWALL, TEXAS
MEMORANDUM

TO: **Richard Crowley, City Manager**

FROM: **Lea Ann Ewing, Purchasing Agent**

DATE: **September 27, 2016**

SUBJECT: **Grounds Maintenance Contract Extension**

The current contract for landscape maintenance services provides for mowing, weed eating, trimming and debris removal at City facilities, street medians and thoroughfares. Maintenance includes but is not limited to all trees, shrubs, ground cover, beds, turf, mulch and application of herbicides and pesticides. This service was competitively bid this year and a 3 month contract was awarded to Terracare in June 2016 by City Council. The 3 month contract allowed for an evaluation period before entering into an annual contract.

The short contract has a section that provides for an annual extension at end of the initial contract period for three consecutive years should the scope of work and bid conditions remain the same; and both parties agree to the extension. Staff has determined that it is in the best interest of the City to renew this contract as the Contractor has performed satisfactorily over the last 3 months. The contract terms, conditions and bid prices will remain in effect and the new contract year begins October 2016.

Staff asks City Council to consider authorizing the City Manager to execute this contract extension for a period of one year in the amount of $402,905. Funding for grounds maintenance services is budgeted in the General Fund, Parks Department operating budget and the cost of this service is within budget.

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City of Rockwall
The New Horizon

MEMORANDUM

TO: **Rick Crowley, City Manager**

FROM: **Timothy M. Tumulty, P.E., Director of Public Works/City Engineer**

DATE: **September 22, 2016**

SUBJECT: **Breezy Hill, Phase 5 Easements**

The development of Breezy Hill, Phase Five requires the dedication of three off-site easements from property that was originally dedicated to the City of Rockwall for future development of a neighborhood park. At the time that the park property was originally dedicated, the exact locations of these three easements (one sanitary sewer easement and two drainage easements for detention facilities) were unknown. As Phase Five is nearing completion, those attached easements need to be dedicated for the uses mentioned above and filed with Rockwall County.

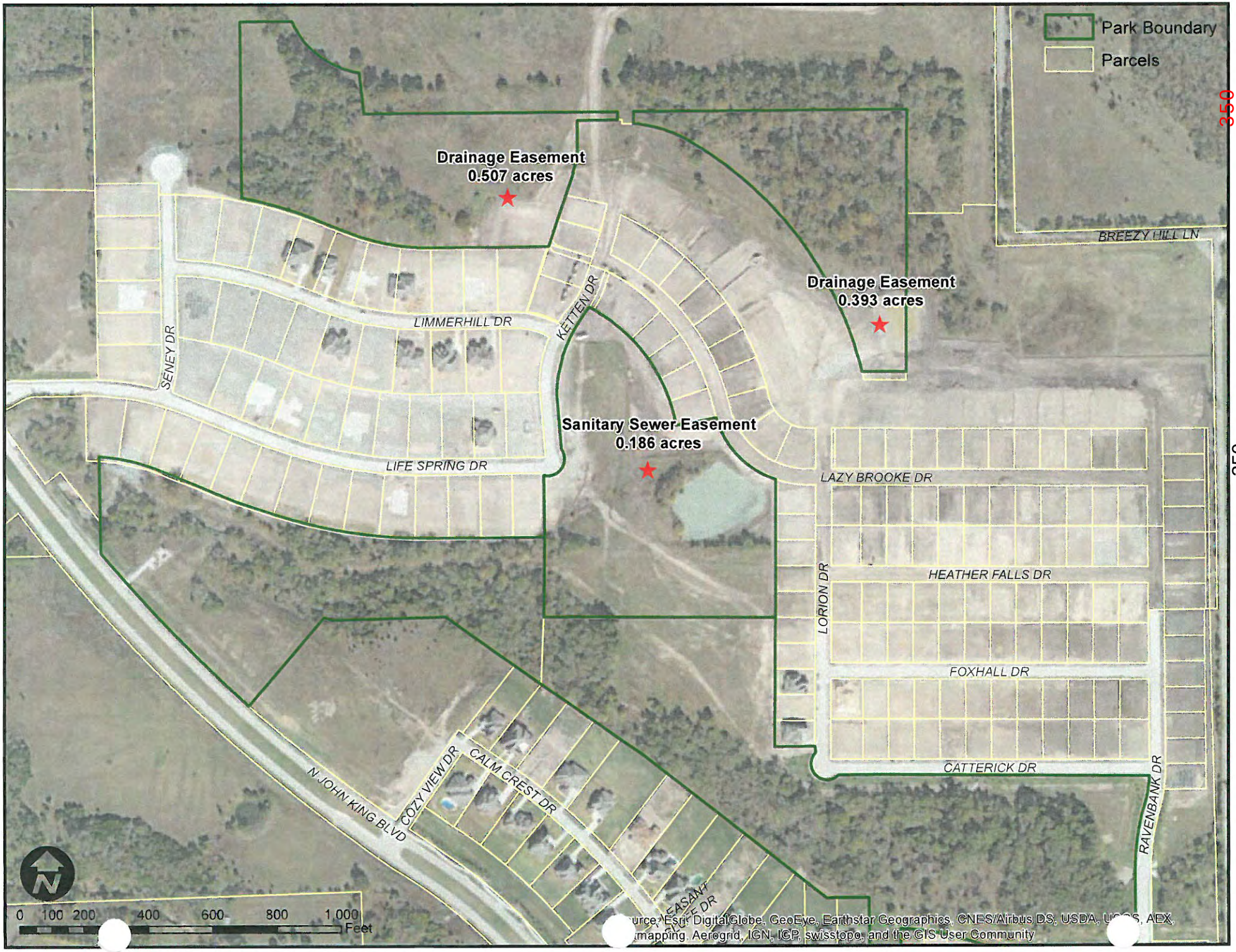
Staff requests City Council consideration to provide authorization to dedicate one sanitary sewer easement and two drainage easements for the development of Breezy Hill, Phase Five residential subdivision and take any action necessary.

TMT:em

Attachments

Cc:

Mary Smith, Assistant City Manager
Brad Griggs, Assistant City Manager
Amy Williams, P.E., Assistant City Engineer
Jeremy White, P.E., CFM, Civil Engineer
File


Park Boundary
Parcels
Drainage Easement
0.507 acres
Drainage Easement
0.393 acres
Sanitary Sewer Easement
0.186 acres
BREEZY HILL LN
LIMMERHILL DR
KETTEN DR
SENEY DR
LIFE SPRING DR
LAZY BROOKE DR
HEATHER FALLS DR
LORION DR
FOXHALL DR
CATTERICK DR
RAVENBANK DR
N JOHN KING BLVD
COZY VIEW DR
CALM CREST DR
0 100 200 400 600 800 1,000
Feet

350

350

Sanitary Sewer Easement
Breezy Hill Phase 5
(0.186 acres or 8102 square feet)

THE STATE OF TEXAS }
COUNTY OF ROCKWALL }

KNOW ALL MEN BY THESE PRESENTS:

THAT **City of Rockwall, (Grantor)**, in consideration of the sum of **Ten Dollars ($10.00)** and other good and valuable consideration in hand paid by **City of Rockwall** receipt of which is hereby acknowledged, do by these presents grant, bargain, sell and convey unto to **Grantee**, the free and uninterrupted use, liberty and privilege of the passage in, along, upon and across the following described property, **see exhibits attached for description and limits**, owned by **Grantor**, Situated in **Rockwall County, Texas,** in the **J. Strickland Survey, Abstract No. 187.**

MORE PARTICULARLY DESCRIBED IN THE EXHIBITS ATTACHED HERETO AND MADE A PART HEREOF.

And it is further agreed that the said **Grantee**, in consideration of the benefits above set out, will remove from the property above described, such fences, buildings and other obstructions as may now be found upon said property. For the purpose of **sanitary sewer facilities** in, along, upon and across said premises, with the right and privilege at all times of the grantee herein, his or its agents, employees, City personnel, and representatives having ingress, egress, and regress in, along upon and across said premises for the purpose of making additions to, improvements on, and repairs to the said utility facilities.

TO HAVE AND TO HOLD unto the said **Grantee** as aforesaid for the purposes aforesaid the premises above described.

Witness hand, this the _____day of _____, A.D. 2016.

_____ _____

For City of Rockwall

Sanitary Sewer Easement
Breezy Hill Phase 5
(0.186 acres or 8102 square feet)

STATE OF TEXAS §
§
COUNTY OF ROCKWALL §

BEFORE ME, the undersigned, personally appeared _____ of **City of Rockwall** whose name subscribed to the foregoing instrument, and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, This _____ day of _____, A.D. 2016.

[S E A L]

_____
Notary Public – State of Texas

My Commission Expires:

_____

_____
Printed Name of Notary Public

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LEGAL DESCRIPTION – Sheet 1 of 2
EXHIBIT 'A' – Sanitary Sewer Easement

BEING, a tract of land situated in the J. Strickland Survey, Abstract No. 187 in the City of Rockwall, Rockwall County, Texas, being out of a 11.351 acre tract, as described in Clerks File No.20150000004156 in the Deed Records of Rockwall County, Texas and being more particularly described as follows:

COMMENCING, at a ½ inch iron rod found the most northerly northeast corner of Lot 14 Block A out of Breezy Hill Phase IV, an addition to the City of Rockwall, as described in Cab. I, Pgs. 155-156, in the Plat Records of Rockwall County, Texas, and being in the west line of said 11.351 acre tract;

THENCE, being on a curve to the left having a radius of 50.00 feet, a central angle of 54°26'22", and a tangent of 25.72 feet;

THENCE, continuing along the west line of said 11.351 acre tract and the east line of said Breezy Hill Phase IV and with said curve to the left for an arc distance of 25.72 feet (Chord Bearing North 81°04'51" East – 45.74 feet), to the POINT OF BEGINNING;

THENCE, continuing along said east and west lines and along said curve to the left having a radius of 50.00 feet, a central angle of 47°03'59", and a tangent of 21.77 feet;

THENCE, continuing along said east and west lines and with said curve to the left for an arc distance of 41.07 feet (Chord Bearing North 30°19'41" East – 39.93 feet), to a calculated point for corner;

THENCE, North 41°23'03" East, departing said lines, for a distance of 76.92 feet, to a calculated point for corner;

THENCE, North 88°10'37" East, for a distance of 445.40 feet, to a calculated point for corner in the east line of said 11.351 acre tract, being on a non-tangent curve to the left, having a radius 300.00 feet, a central angle of 03°15'49", and a tangent of 8.55 feet;

THENCE, continuing along said east line and with said curve to the left for an arc distance of 17.09 feet (Chord Bearing South 30°26'08" East – 17.09 feet), to a calculated point for corner;

THENCE, South 88°10'37" West, departing said east line, for a distance of 447.10 feet, to a calculated point for corner;

THENCE, South 41°23'03" West, for a distance of 109.61 feet, to a calculated point for corner;

THENCE, North 48°36'57" West, for a distance of 7.34 feet, to the POINT OF BEGINNING and containing 0.186 acres of land.

STATE OF TEXAS
REGISTERED
WARREN L. CORWIN
4621
PROFESSIONAL
LAND SURVEYOR

8-2-16

NOTE:

Bearings are referenced to Breezy Hill Ph. 1, as described in Cab. H, Pg. 375, in the Plat Records of Rockwall County, Texas.

N

SCALE 1" = 100'

BREEZY HILL PHASE IV CAB. I, PGS. 155-156

11.351 ACRE TRACT DOC. NO. 20150000004156

BREEZY HILL PHASE 5 (UNDER CONSTRUCTION) 25.598 ACRE TRACT DOC. NO. 20150000004838

Δ= 47° 03'59"
R= 50.00'
L= 41.07'
T= 21.77'
C= 39.93'
B= N30° 19'41"E

N41° 23'03"E
76.92'

N88° 10'37"E 445.40'

S88° 10'37"W 447.10'

Δ= 03° 15'49"
R= 300.00'
L= 17.09'
T= 8.55'
C= 17.09'
B= S30° 26'08"E

POINT OF BEGINNING

N48° 36'57"W
7.34'

S41° 23'03"W
109.61'

½" IRF

LOT 14 BLK A

Δ= 54° 26'22"
R= 50.00'
L= 47.51'
T= 25.72'
C= 45.74'
B= N81° 04'51"E

POINT OF COMMENCING

STATE OF TEXAS
REGISTERED
WARREN L. CORWIN
4621
PROFESSIONAL
LAND SURVEYOR

8-2-16

EXHIBIT 'A'- SHEET 2 OF 2
SANITARY SEWER EASEMENT (0.186 acres)

BREEZY HILL PH. 5
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

CORWIN ENGINEERING, INC.
200 W. Belmont, Suite E Allen, Texas 75013 (972) 396-1200

...\dgn\Surpltch , 8/2/2016 3:07:23 PM

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

DETENTION AND DRAINAGE EASEMENT

Effective Date: _____, 2016

Grantor: City of Rockwall, a Texas municipal corporation

Grantor's Mailing Address:
City of Rockwall
385 S. Goliad Street
Rockwall, Rockwall County, Texas 75087

Grantee: Breezy Hill Homeowners Association, Inc.

Grantee's Mailing Address:
Neighborhood Management Inc.
P.O. Box 1567
Allen, Texas 75013

Easement Property: 0.507 acres situated in the J. Strickland Survey, Abstract No. 187 in the City of Rockwall, Rockwall County, Texas, being out of a 10.758 acre tract, as described in Clerks File No. 20150000004156 in the Deed Records of Rockwall County, and as more particularly described in **EXHIBIT A**, attached hereto and incorporated herein by reference.

Facilities: A permanent channel or drainage easement, including storm water detention, filtration, and drainage, together with all lines, pipes, conduits, lifts, pumps and other equipment, improvements and appurtenances used in the supply and provision of public drainage utilities.

Easement Purpose: To place, construct, operate, repair, maintain, rebuild, replace, relocate and remove or cause to be placed, constructed, operated, repaired, maintained, rebuilt, replaced, relocated and removed structures, improvements or equipment reasonably necessary and useful for the Facilities and the supplying of storm water drainage to, among other parties, Grantor's Property in, along, upon and across the Easement Property.

Maintenance and Replacement: Grantee will maintain the Easement Property and Facilities at its sole cost. Grantee will maintain the Facilities in good repair at all times and will keep the Facilities and Easement Property free and clear of any debris, trash, or any obstructions that impede the storm water detention and drainage system from working per City of Rockwall current standards and the approved engineering plans for Breezy Hill Subdivision, Phase 5.

Grantee will be solely responsible for the maintenance of the Easement Property, including without limitation, the Facilities located thereon. In the event the City Engineer for City of Rockwall should determine that reconstruction, repair, or replacement of the Facilities, in whole or in part, is necessary, then Grantee will be solely responsibility for the cost to reconstruct, repair or replace the Facilities to the City of Rockwall's then current standards.

Termination: Grantor reserves the right to terminate this Easement, with or without cause, by 30 days written notice to Grantee's address noted herein. Upon the expiration of 30 days, Grantor will record a Notice of Termination in the public records of Rockwall County, Texas, upon which third parties may then rely.

Entire Agreement. This agreement and any exhibits are the entire agreement of the parties concerning the Easement Property and the grant of the Easement by Grantor to Grantee. There are no representations, agreements, warranties, or promises, and neither party is relying on any statements or representations of any agent of the other party, that are not expressly set forth in this agreement and any exhibits. This agreement may only be amended in writing executed by both parties.

GRANTOR for Ten Dollars ($10.00) and other good and valuable consideration paid to Grantee, the receipt and sufficiency of which is hereby acknowledged, grants, sells, and conveys to Grantee and Grantee's heirs, successors, and assigns a non-exclusive easement in, along, upon and across the Easement Property for the Easement Purpose together with all and singular the rights and appurtenances thereto in any way belonging (collectively, the "Easement").

TO HAVE AND TO HOLD the Easement to Grantee and Grantee's successors and assigns forever; provided however, Grantor reserves the right for Grantor, and Grantor's successors and assigns, to enter upon and use any portion of the Easement and to permit others to use any portion of the Easement Property that is not inconsistent with the use granted herein.

GRANTOR: **CITY OF ROCKWALL**, a Texas municipal corporation _____ Jim Pruitt, Mayor	**GRANTEE:** **BREEZY HILL HOMEOWNERS ASSOCIATION, INC.** By:_____ Name: Adam J. Buczek Title: Director

STATE OF TEXAS)

COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 2016, by Adam J. Buczek, Director of Breezy Hill Homeowners Association, Inc. on behalf of said corporation.

Given under my hand and seal of office this _____ day of _____, 2016.

_____
Notary Public, State of Texas

Printed Name: _____
My commission expires: _____

STATE OF TEXAS)

COUNTY OF ROCKWALL)

Before me on this day personally appeared Jim Pruitt, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that Jim Pruitt executed the same as the act of City of Rockwall, a Texas Municipal corporation, as its Mayor, for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2016.

_____
Notary Public, State of Texas

Printed Name: _____
My commission expires: _____

AFTER RECORDING RETURN TO:

CITY OF ROCKWALL
385 S. Goliad Street
Rockwall, Texas 75087
Attn: City Engineer

EXHIBIT A
DESCRIPTION OF EASEMENT

LEGAL DESCRIPTION – Sheet 1 of 2
EXHIBIT 'A' – Storm Water Detention and Drainage Easement

BEING, a tract of land situated in the J. Strickland Survey, Abstract No. 187 in the City of Rockwall, Rockwall County, Texas, being out of a 10.758 acre tract, as described in Clerks File No. 20150000004156 in the Deed Records of Rockwall County, Texas and being more particularly described as follows:

BEGINNING, at the most northerly northeast corner of Breezy Hill Phase IV, an addition to the City of Rockwall, as described in Cab. I, Pgs. 155-156, in the Plat Records of Rockwall County, Texas, also being the southeast corner of said 10.758 acre tract, same being in the west line of a 25.598 acre tract, as described in 20150000004838 in said Deed Records;

THENCE, North 89°45'09" West, along the north line of said Breezy Hill Phase IV and the south line of said 10.758 acre tract, for a distance of 173.62 feet, to a calculated point for corner;

THENCE, North 12°09'10" East, departing said lines, for a distance of 43.72 feet, to a calculated point for corner;

THENCE, North 80°40'13" West, for a distance of 63.68 feet, to a calculated point for corner;

THENCE, North 09°19'47" East, for a distance of 15.00 feet, to a calculated point for corner;

THENCE, South 80°40'13" East, for a distance of 64.42 feet, to a calculated point for corner;

THENCE, North 12°09'10" East, for a distance of 83.57 feet, to a calculated point for corner;

THENCE, South 75°31'53" East, for a distance of 181.97 feet, to a calculated point for corner, in the west line of said 25.598 acre tract and the east line of said 10.758 acre tract;

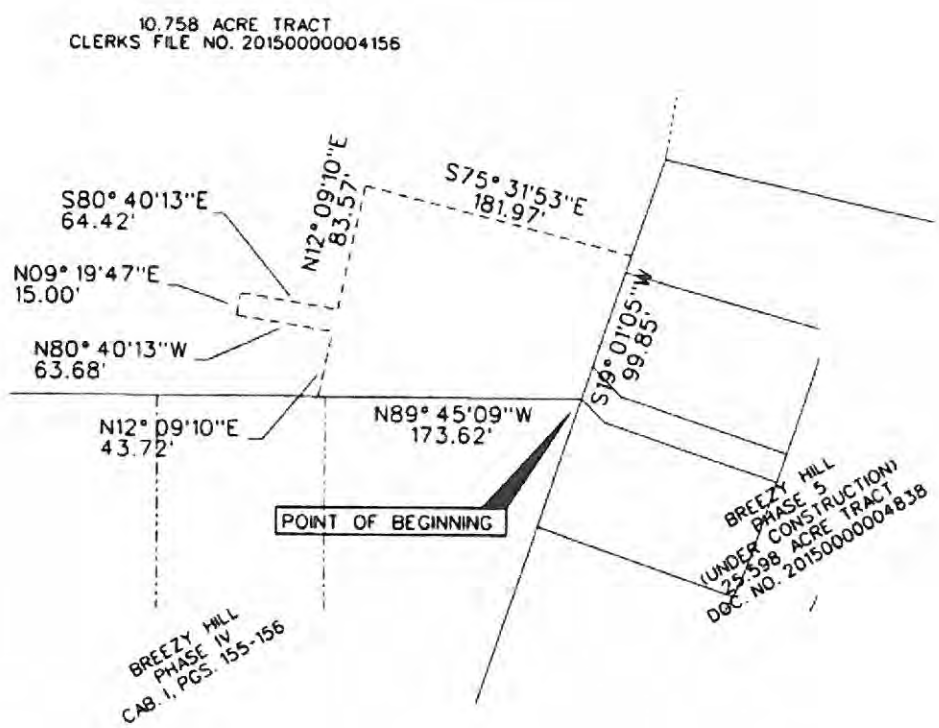
THENCE, South 19°01'05" West, along the east line of said 10.758 acre tract and the west line of said 25.598 acre tract, for a distance of 99.85 feet, to the POINT OF BEGINNING and containing 0.507 acres of land.

STATE OF TEXAS
REGISTERED
WARREN L. CORWIN
4621
PROFESSIONAL
LAND SURVEYOR

9-27-16

#245603-v2; 8598/5

358



SCALE 1" = 100'

NOTE:

Bearings are referenced to Breezy Hill Ph. 1, as described in Cab. H, Pg. 375, in the Plat Records of Rockwall County, Texas.

STATE OF TEXAS
REGISTERED
WARREN L. CORWIN
4621
PROFESSIONAL
LAND SURVEYOR

9-27-16

CORWIN ENGINEERING, INC.
200 W. Belmont, Suite E Allen, Texas 75013 (972) 396-1200

EXHIBIT 'A' - SHEET 2 OF 2
STORM WATER DETENTION AND DRAINAGE EASEMENT (0.507 acres)

BREEZY HILL PH. 5
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

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NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

DETENTION AND DRAINAGE EASEMENT

Effective Date: _____, 2016

Grantor: City of Rockwall, a Texas municipal corporation

Grantor's Mailing Address:
City of Rockwall
385 S. Goliad Street
Rockwall, Rockwall County, Texas 75087

Grantee: Breezy Hill Homeowners Association, Inc.

Grantee's Mailing Address:
Neighborhood Management Inc.
P.O. Box 1567
Allen, Texas 75013

Easement Property: 0.393 acres of land situated in the J. Strickland Survey, Abstract No. 187 in the City of Rockwall, Rockwall County, out of a 6.705 acre tract described in Clerks File No. 20150000004156 in the Deed Records of Rockwall County, and as more particularly described in **EXHIBIT A**, attached hereto and incorporated herein by reference.

Facilities: A permanent channel or drainage easement, including storm water detention, filtration, and drainage, together with all lines, pipes, conduits, lifts, pumps and other equipment, improvements and appurtenances used in the supply and provision of public drainage utilities.

Easement Purpose: To place, construct, operate, repair, maintain, rebuild, replace, relocate and remove or cause to be placed, constructed, operated, repaired, maintained, rebuilt, replaced, relocated and removed structures, improvements or equipment reasonably necessary and useful for the Facilities and the supplying of storm water drainage to, among other parties, Grantor's Property in, along, upon and across the Easement Property.

Maintenance and Replacement: Grantee will maintain the Easement Property and Facilities at its sole cost. Grantee will maintain the Facilities in good repair at all times and will keep the Facilities and Easement Property free and clear of any debris, trash, or any obstructions that impede the storm water detention and drainage system from working per City of Rockwall current standards and the approved engineering plans for Breezy Hill Subdivision, Phase 5.

Grantee will be solely responsible for the maintenance of the Easement Property, including without limitation, the Facilities located thereon. In the event the City Engineer for City of Rockwall should determine that reconstruction, repair, or replacement of the Facilities, in whole or in part, is necessary, then Grantee will be solely responsibility for the cost to reconstruct, repair or replace the Facilities to the City of Rockwall's then current standards.

Termination: Grantor reserves the right to terminate this Easement, with or without cause, by 30 days written notice to Grantee's address noted herein. Upon the expiration of 30 days, Grantor will record a Notice of Termination in the public records of Rockwall County, Texas, upon which third parties may then rely.

Entire Agreement. This agreement and any exhibits are the entire agreement of the parties concerning the Easement Property and the grant of the Easement by Grantor to Grantee. There are no representations, agreements, warranties, or promises, and neither party is relying on any statements or representations of any agent of the other party, that are not expressly set forth in this agreement and any exhibits. This agreement may only be amended in writing executed by both parties.

GRANTOR for Ten Dollars ($10.00) and other good and valuable consideration paid to Grantee, the receipt and sufficiency of which is hereby acknowledged, grants, sells, and conveys to Grantee and Grantee's heirs, successors, and assigns a non-exclusive easement in, along, upon and across the Easement Property for the Easement Purpose together with all and singular the rights and appurtenances thereto in any way belonging (collectively, the "Easement").

TO HAVE AND TO HOLD the Easement to Grantee and Grantee's successors and assigns forever; provided however, Grantor reserves the right for Grantor, and Grantor's successors and assigns, to enter upon and use any portion of the Easement and to permit others to use any portion of the Easement Property that is not inconsistent with the use granted herein.

GRANTOR: **CITY OF ROCKWALL**, a Texas municipal corporation _____ Jim Pruitt, Mayor	**GRANTEE:** **BREEZY HILL HOMEOWNERS ASSOCIATION, INC.** By:_____ Name: Adam J. Buczek Title: Director

STATE OF TEXAS)

COUNTY OF _____)

This instrument was acknowledged before me on the ____ day of _____, 2016, by Adam J. Buczek, Director of Breezy Hill Homeowners Association, Inc. on behalf of said corporation.

Given under my hand and seal of office this _____ day of _____, 2016.

_____
Notary Public, State of Texas

Printed Name: _____
My commission expires: _____

STATE OF TEXAS)

COUNTY OF ROCKWALL)

Before me on this day personally appeared Jim Pruitt, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that Jim Pruitt executed the same as the act of City of Rockwall, a Texas Municipal corporation, as its Mayor, for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2016.

_____
Notary Public, State of Texas

Printed Name: _____
My commission expires: _____

AFTER RECORDING RETURN TO:

CITY OF ROCKWALL
385 S. Goliad Street
Rockwall, Texas 75087
Attn: City Engineer

EXHIBIT A
DESCRIPTION OF EASEMENT

LEGAL DESCRIPTION – Sheet 1 of 2
EXHIBIT 'A' – Storm Water Detention and Drainage Easement

BEING, a tract of land situated in the J. Strickland Survey, Abstract No. 187 in the City of Rockwall, Rockwall County, Texas, being out of a 6.705 acre tract, as described in Clerks File No. 20150000004156 in the Deed Records of Rockwall County, Texas and being more particularly described as follows:

COMMENCING, at the southeast corner of said 6.705 acre tract;

THENCE, North 00°57'06" East, along the east line of said 6.705 acre tract, for a distance of 40.68 feet, to the POINT OF BEGINNING;

THENCE, South 79°14'36" West, departing said east line, for a distance of 127.66 feet, to a calculated point for corner in the west line of said 6.705 acre tract, being on a non-tangent curve to the left, having a radius of 1141.00 feet, a central angle of 02°02'50", and a tangent of 20.39 feet;

THENCE, along said west line and with said curve to the left for an arc distance of 40.77 feet (Chord Bearing North 14°18'46" West – 40.77 feet), to a calculated point for corner;

THENCE, North 69°38'04" East, departing said west line, for a distance of 92.92 feet, to a calculated point for corner;

THENCE, North 17°09'23" West, for a distance of 147.53 feet, to a calculated point for corner;

THENCE, North 82°39'27" East, for a distance of 43.40 feet, to a calculated point for corner;

THENCE, North 30°39'49" West, for a distance of 68.92 feet, to a calculated point for corner;

THENCE, North 59°20'11" East, for a distance of 15.00 feet, to a calculated point for corner;

THENCE, South 30°39'49" East, for a distance of 75.39 feet, to a calculated point for corner;

THENCE, North 82°39'27" East, for a distance of 36.30 feet, to a calculated point for corner in the east line of said 6.705 acre tract;

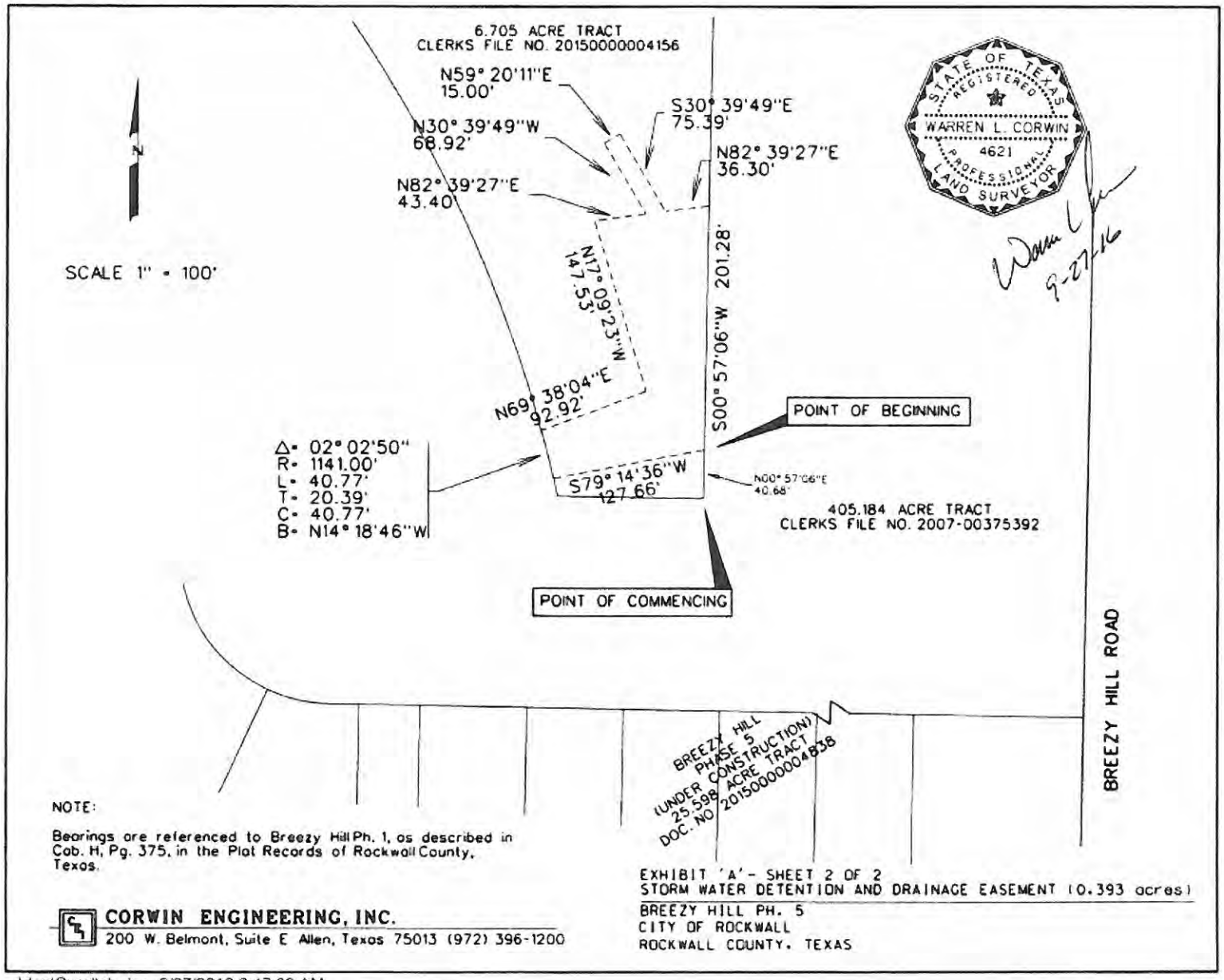
THENCE, South 00°57'06" West, along said east line, for a distance of 201.28 feet, to the POINT OF BEGINNING and containing 0.393 acres of land.

STATE OF TEXAS
REGISTERED
WARREN L. CORWIN
4621
PROFESSIONAL
LAND SURVEYOR

9-27-16

#245618; 8598/5

363



NOTE:

Bearings are referenced to Breezy Hill Ph. 1, as described in Cab. H, Pg. 375, in the Plat Records of Rockwall County, Texas.

EXHIBIT 'A' - SHEET 2 OF 2
STORM WATER DETENTION AND DRAINAGE EASEMENT (0.393 acres)

BREEZY HILL PH. 5
CITY OF ROCKWALL
ROCKWALL COUNTY, TEXAS

CORWIN ENGINEERING, INC.
200 W. Belmont, Suite E Allen, Texas 75013 (972) 396-1200

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City of Rockwall
The New Horizon

MEMORANDUM

TO: Rick Crowley, City Manager

FROM: Timothy M. Tumulty, Director of Public Works/City Engineer

DATE: September 13, 2016

SUBJECT: John King Boulevard Street Light Installation (North SH 205 to South SH 205)

When John King Boulevard was constructed, street lights were installed at strategic locations. Most intersections have street lights illuminating the area to provide nighttime visibility of the intersecting roadways. From the north SH 205 connection to John King Boulevard to the south connection to SH 205, there are 85 street light bases along John King Boulevard without street lights.

Staff requested a cost from Oncor Electric Delivery Company LLC, to place street lights along John King Boulevard from north SH 205 to south SH 205. Oncor Electric Delivery Company LLC, will install and energize 85 street lights at a cost of $86,392.05 This project funding was approved by City Council for the Street Division Operations Budget in FY2016-17.

Staff requests City Council consideration to approve the attached contracts with Oncor Electric Delivery Company LLC for the installation and energizing of 85 street lights along John King Boulevard from north SH 205 to south SH 205 in the amount of $86,392.05 and take any action necessary.

TMT:em

Attachment:

Cc:
Mary Smith, Assistant City Manager
Brad Griggs, Assistant City Manager
Amy Williams, P.E. Assistant City Engineer
Jeremy White, P.E., CFM, Civil Engineer
Ffile

Oncor Electric Delivery Company LLC,
a Delaware limited liability company

Phillip Dickerson
Project Designer SR.
310 Hwy 205 North Terrell,
Texas 75160
972-551-6712

Statement of Charges

Date: 06/30/16

WR #: 3298369

Transaction ID:

City of Rockwall

385 S Goliad
Rockwall, Texas 75087

Services provided at:
John King By-Pass
Rockwall Texas 75087

DESCRIPTION	AMOUNT
Cost to provide street lighting on John King By-Pass, South of SHWY 276. Oncor to install 26, 30' Street light Standards with 250watt HPS fixtures and conductor into customer provided civil	22,995.60
Total Amount Due Upon Receipt	$22,995.60

* Price quoted is valid for sixty (60) days from the date of this document.

* Remit payment per instructions below.

* Please contact your Project Manager if you have any questions.

Project will be scheduled upon:
1) CIAC Coordinator's receipt of payment
2) Project Manager's receipt of Executed Agreement(s)

EFT / Electronic Funds Transfer
JP Morgan Chase Bank
ABA No. (Wire) 021000021
ABA No. (ACH) 111000614
For Credit To:
Oncor Electric Delivery
Acct #: 08806169791

Once EFT has been initiated please forward confirmation number and transfer date to:

Please make all check(s) payable to
Oncor Electric Delivery
Remit to:

Phillip Dickerson

Oncor Electric Delivery

310 Hwy 205

North Terrell,Texas 75160

Please Include the WR # and Transaction ID (as listed above) on all correspondence including your Check or EFT.

Failure to do so will cause unnecessary delays with your project.

ONCOR

EXHIBIT "A"

SUPPLEMENT TO
THE AGREEMENT FOR STREET LIGHTING SERVICE BY AND BETWEEN
ONCOR ELECTRIC DELIVERY COMPANY AND THE CITY OF ROCKWALL
DATED SEPTEMBER 2, 2003

This Supplement ("Supplement") to the Agreement for Street Lighting Service dated September 2, 2003, ("Agreement"), is made and entered into this 30 th day of June 2016, by Oncor Electric Delivery Company and The City of Rockwall, ("Customer") both hereinafter referred to as the "Parties." In consideration of the mutual promises and undertakings herein set forth, the Parties hereby agree to amend the Agreement as follows:

1. The following Request for Street Lighting Service is hereby added to the Agreement:

   Request for Street Lighting Service dated June 30, 2016, attached hereto.

2. This Supplement shall become effective upon execution by the Parties.

3. This Supplement is subject to the terms and conditions of the Agreement.

4. If Customer has arranged for its designated agent or representative ("Customer's Agent") to pay to Company the contribution-in-aid-of-construction ("CIAC") referenced in the Agreement, then Customer's Agent shall execute this Amendment for the sole purpose of establishing such agents agreement to pay such CIAC.

5. Except as otherwise provided herein, the Agreement shall continue in full force and effect in accordance with its terms.

IN WITNESS HEREOF, the Parties have caused this Supplement to be executed in several counterparts, each of which shall be deemed an original but all shall constitute one and the same instrument.

ONCOR ELECTRIC DELIVERY COMPANY	CITY OF ROCKWALL
By: _____	**By:** _____
Title: _____	**Title:** _____
Date: _____	**Date:** _____

WR Number: **3298369**

EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4093462-3649195	APPROXIMATELY 40 FT. South of SHWY 276 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093475-3648735	APPROXIMATELY 500 FT. South of SHWY 276 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093492-3648409	APPROXIMATELY 800 FT. South of SHWY 276 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093488-3648209	APPROXIMATELY 25 FT. North of Chesterwood Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093501-3648118	APPROXIMATELY 25 FT. South of Chesterwood Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093498-3647890	APPROXIMATELY 240 FT. South of Chesterwood Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093514-3647795	APPROXIMATELY 25 FT. South of Fieldcrest Dr on John King

WR Number(s): 3298369 **Date:**

369

	A		2	250	HPS	A	30' Standard @ FLN #4093508-3647584	APPROXIMATELY 230FT. South of Fieldcrest Dr on John King

Comments:

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $ 22,995.60

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

WR Number(s): 3298369

Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4093394-3647263	APPROXIMATELY 550 FT. North of Trailview Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093307-3647063	APPROXIMATELY 325 FT. North of Trailview Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093270-3646846	APPROXIMATELY 100 FT. North of Trailview Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093278-3646663	APPROXIMATELY 25 FT. South of Trailview Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093278-3646434	APPROXIMATELY 255 FT. South of Trailview Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093284-3646232	APPROXIMATELY 490 FT. South of Trailview Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093286-3645963	APPROXIMATELY 750 FT. North of Fall Brook Dr on John King

WR Number(s): 3298369 **Date:**

371

	A		2	250	HPS	A	30' Standard @ FLN #4093277-3645752	APPROXIMATELY 540 FT. North of Fall Brook Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093280-3645504	APPROXIMATELY 300 FT. North of Fall Brook Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093280-3645254	APPROXIMATELY 50 FT. North of Fall Brook Dr on John King
Comments:								

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $ 22,995.60

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

WR Number(s): 3298369

Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4093281-3645133	APPROXIMATELY 25 FT. South of Fall Brook Dr on John King g
	A		2	250	HPS	A	30' Standard @ FLN #4093278-3644880	APPROXIMATELY 280 FT. South of Fall Brook Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093278-3644625	APPROXIMATELY530 FT. South of Fall Brook Dr on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093313-3644368	APPROXIMATELY 30 FT. North of Cool Wood Ln on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093299-3644274	APPROXIMATELY 25 FT. South of Cool Wood Ln on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093293-3644123	APPROXIMATELY 225 FT. South of Cool Wood Ln on John King
	A		2	250	HPS	A	30' Standard @ FLN #4093272-3643951	APPROXIMATELY 375 FT. South of Cool Wood Ln on John King

WR Number(s): 3298369

Date:

373

	A		2	250	HPS	A	30' Standard @ FLN #4093257-3643703	APPROXIMATELY 525 FT. South of Cool Wood Ln on John King

Comments:

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $ 22,995.60

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

WR Number(s): 3298369

Date:

374

Oncor Electric Delivery Company LLC,
a Delaware limited liability company

Phillip Dickerson
Project Designer SR.
310 Hwy 205 North Terrell,
Texas 75160
972-551-6712

Statement of Charges

Date: 07/19/16

WR #: 3304198

Transaction ID:

City of Rockwall

385 S Goliad
Rockwall, Texas 75087

Services provided at:
John King By-Pass N of I-30
Rockwall Texas 75087

DESCRIPTION	AMOUNT
Cost to provide street lighting on John King By-Pass, North of interstate 30. Oncor to install 59, 30' Street light Standards with 250watt HPS fixtures and conductor into customer provided civil	63,396.43
Total Amount Due Upon Receipt	$63,396.43

* Price quoted is valid for sixty (60) days from the date of this document.

* Remit payment per instructions below.

* Please contact your Project Manager if you have any questions.

Project will be scheduled upon:
1) CIAC Coordinator's receipt of payment
2) Project Manager's receipt of Executed Agreement(s)

EFT / Electronic Funds Transfer
JP Morgan Chase Bank
ABA No. (Wire) 021000021
ABA No. (ACH) 111000614
For Credit To:
Oncor Electric Delivery
Acct #: 08806169791

Once EFT has been initiated please forward confirmation number and transfer date to:

Please make all check(s) payable to
Oncor Electric Delivery
Remit to:

Phillip Dickerson

Oncor Electric Delivery

310 Hwy 205

North Terrell,Texas 75160

Please Include the WR # and Transaction ID (as listed above) on all correspondence including your Check or EFT.

Failure to do so will cause unnecessary delays with your project.

ONCOR

EXHIBIT "A"

WR Number: 3304198

SUPPLEMENT TO
THE AGREEMENT FOR STREET LIGHTING SERVICE BY AND BETWEEN
ONCOR ELECTRIC DELIVERY COMPANY LLC AND The City of Rockwall
DATED September 2, 2003

This Supplement ("Supplement") to the Agreement for Street Lighting Service ("Agreement"), is made and entered into this 19 day of July, 2016 by ONCOR Electric Delivery Company LLC and The City of Rockwall, ("Customer") both hereinafter referred to as the "Parties." In consideration of the mutual promises and undertakings herein set forth, the Parties hereby agree to amend the Agreement as follows:

1. The following Request for Street Lighting Service is hereby added to the Agreement:

   Request for Street Lighting Service dated July 10, 2015, attached hereto as Exhibit .B

2. This Supplement shall become effective upon execution by the Parties.

3. This Supplement is subject to the terms and conditions of the Agreement.

4. If Customer has arranged for its designated agent or representative ("Customer's Agent") to pay to Company the contribution-in-aid-of-construction ("CIAC") referenced in the Agreement, then Customer's Agent shall execute this Amendment for the sole purpose of establishing such agent's agreement to pay such CIAC.

5. Except as otherwise provided herein, the Agreement shall continue in full force and effect in accordance with its terms.

IN WITNESS HEREOF, the Parties have caused this Supplement to be executed in several counterparts, each of which shall be deemed an original but all shall constitute one and the same instrument.

ONCOR ELECTRIC DELIVERY COMPANY LLC

By: **Phillip Dickerson**

Title: **Project Designer**

Date: **July 19, 2016**

_____
[[INSERT CUSTOMER NAME]]

By: _____

Title: _____

Date: _____

For CIAC purposes only pursuant to Section (4) above.

_____
[[INSERT CUSTOMER'S AGENT'S NAME]]

By: _____

Title: _____

Date: _____

88332.010002 DALLAS 49285v1

EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4091538-3656326	APPROXIMATELY 25FT. North of Airport Rd. on John King
	A		2	250	HPS	A	30'Standard FLN 4091447-3656655	APPROXIMATELY 375 FT. North of Airport Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4091388-3656916	APPROXIMATELY 625 FT. North of Airport Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4091332-3657176	APPROXIMATELY 900 FT. North of Airport Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4091257-3657470	APPROXIMATELY 1200 FT. North of Airport Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4091190-3657707	APPROXIMATELY 1500FT. North of Airport Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4091108-3658088	APPROXIMATELY 1800 FT. North of Airport Rd. on John King

WR Number(s): 3304198

Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4092846-3653211	APPROXIMATELY 275 FT. North of I-30. On John King
	A		2	250	HPS	A	30'Standard FLN 4092794-3653545	APPROXIMATELY 575 FT. North of I-30. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4092640-3653859	APPROXIMATELY 875 FT. North of I-30. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4092438-3654137	APPROXIMATELY 1175 FT. North of I-30. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4092263-3654327	APPROXIMATELY 1475 FT. North of I-30 On John King

WR Number(s): 3304198

Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4087022-3667493	APPROXIMATELY 525FT. South of Hays Rd. on John King
	A		2	250	HPS	A	30'Standard FLN 4087312-3667400	APPROXIMATELY 825 FT. South of Hays Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4087591-3667312	APPROXIMATELY 1125 FT. South of Hays Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4087871-3667230	APPROXIMATELY 1400 FT. South of Hays Rd. on John King ng
	A		2	250	HPS	A	30' Standard @ FLN #4088150-3667144	APPROXIMATELY 1700 FT. South of Hays Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4088433-3667055	APPROXIMATELY 2000 FT. South of Hays Rd. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089234-3666026	APPROXIMATELY 600 FT. North of E Quail Run Rd on John King

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	A		2	250	HPS	A	30' Standard @ FLN #4089262-3665728	APPROXIMATELY 300 FT. North of E Quail Run Rd on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089246-3665449	APPROXIMATELY 25 FT. North of E Quail Run Rd on John King

Comments:

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $ 63,396.43

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

WR Number(s): 3304198 Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4089506-3664541	APPROXIMATELY 25FT. North of Phelps Lake Dr.. on John King
	A		2	250	HPS	A	30'Standard FLN 4089523-3664309	APPROXIMATELY 125 FT. South of Phelps Lake Dr. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089537-3664019	APPROXIMATELY 425 FT. South of Phelps Lake Dr. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089543-3663725	APPROXIMATELY 725 FT. South of Phelps Lake Dr. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089626-3661594	APPROXIMATELY 850 FT. South of FM 1141. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089660-3661264	APPROXIMATELY 1150 FT. South of FM 1141. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4089696-3660978	APPROXIMATELY 1450 FT. South of FM 1141. on John King

WR Number(s): 3304198 Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4090127-3659987	APPROXIMATELY 25FT. South of HWY 66. on John King
	A		2	250	HPS	A	30'Standard FLN 4090274-3659724	APPROXIMATELY 325FT. South of HWY 66. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4090437-3659465	APPROXIMATELY 625FT. South of HWY 66. on John King
	A		2	250	HPS	A	30' Standard @ FLN #44090599-3659210	APPROXIMATELY 925 FT. South of HWY 66. on John King ng
	A		2	250	HPS	A	30' Standard @ FLN #4090754-3658942	APPROXIMATELY 1225 FT. South of HWY 66. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4090884-3658734	APPROXIMATELY 1525 FT. South of HWY 66. on John King
	A		2	250	HPS	A	30' Standard @ FLN #4091028-3658439	APPROXIMATELY 1825 FT. South of HWY 66. on John King

WR Number(s): 3304198 **Date:**

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4091577-3656143	APPROXIMATELY 25FT. South of Airport Rd. on John King
	A		2	250	HPS	A	30'Standard FLN 4091609-3655863	APPROXIMATELY 375 FT. South of Airport Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4091657-3655573	APPROXIMATELY 675 FT. South of Airport Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4091702-3655314	APPROXIMATELY 625 FT. North of Justin Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4091795-3655008	APPROXIMATELY 325 FT. North of Justin Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4091918-3654771	APPROXIMATELY 25 FT. North of Justin Rd. On John King
	A		2	250	HPS	A	30' Standard @ FLN #4092048-3654575	APPROXIMATELY 50 FT. South of Justin Rd. On John King

WR Number(s): 3304198 **Date:**

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							30' Standard @ FLN #4092048-3654575	APPROXIMATELY 25 FT. North of Justin Rd. On John King
							30' Standard @ FLN #4092048-3654575	APPROXIMATELY 25 FT. North of Justin Rd. On John King
							30' Standard @ FLN #4092048-3654575	APPROXIMATELY 25 FT. North of Justin Rd. On John King
Comments:								

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $63,396.43

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

WR Number(s): 3304198 Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4086287-3671558	APPROXIMATELY 1000 FT. North of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086290-3671849	APPROXIMATELY 1300 FT. North of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086290-3672156	APPROXIMATELY 1600 FT. North of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086253-3672465	APPROXIMATELY 150 FT. South of Pleasant View on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086151-3672779	APPROXIMATELY 150 FT. North of Pleasant View on John King
	A		2	250	HPS	A	30' Standard @ FLN #4085965-3673086	APPROXIMATELY 75 FT. North of Pleasant Bluff on John King
	A		2	250	HPS	A	30' Standard @ FLN #4085780-3673285	APPROXIMATELY 325 FT. North of Pleasant Bluff on John King

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	A		2	250	HPS	A	30' Standard @ FLN #4085573-3673434	APPROXIMATELY 25 FT. South of Cozy View on John King
Comments:								

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $ 63,396.43

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

WR Number(s): 3304198

Date:

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EXHIBIT "B"

REQUEST FOR STREET LIGHTING SERVICE

Actions: *A*-Addition *R*-Removal *RL*-Relocation *S*-Service *(Schedule D – Only)*

ESID / Premise	Action	Order required from CR to Energize – Yes/No (For New ESID Only)	Quantity	Wattage	Lamp Type	Rate Schedule**	Identifying Luminaire/ Pole Type	Location (Address, etc.) (See Attached Sketch)
	A		2	250	HPS	A	30'Standard FLN #4086318-3669670	APPROXIMATELY 800 FT. South of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086314-3669414	APPROXIMATELY 1050 FT. South of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086331-3669180	APPROXIMATELY 1300 FT. South of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086339-3668875	APPROXIMATELY 1600 FT. South of FM 552 on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086339-3668584	APPROXIMATELY 125 FT. South of Feather stone on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086363-3668285	APPROXIMATELY 425 FT. South of Feather stone on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086457-3668011	APPROXIMATELY 700 FT. South of Feather stone on John King

WR Number(s): 3304198 **Date:**

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	A		2	250	HPS	A	30' Standard @ FLN #4086540-3667855	APPROXIMATELY 25 FT. North of Hays Rd on John King
	A		2	250	HPS	A	30' Standard @ FLN #4086757-3667653	APPROXIMATELY 225 FT. South of Hays Rd. on John King

Comments:

**Unmetered Facilities – Schedule A (Group 1 or 2), B (Group 1 or 2), C (Group 1 or 2), or D; R (Rectangular); P (Post-Top); H (Historical) ;
CLOSED/REMOVE ONLY I (Incandescent); W (Wallpack Mercury Vapor);
Metered Facilities – Non-Company-Owned; or
Metered Facilities – Company-Owned (closed to new installations)

1. Customer or Developer agrees to pay Company contribution-in-aid-of-construction in the amount of $ 63,396.43

2. If Company is prevented from installing the requested facilities by any event of force majuere as defined in Section 5.2.4 of Company's Tariff for Retail Delivery Service, Company will return to Customer or Developer as appropriate, without interest, the entire amount of Customer or Developer's contribution-in-aid-of-construction payment, thereby terminating this supplement and Company's obligation to provide facilities requested herein.

SWR Number(s): 3304198

Date:

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City of Rockwall
The New Horizon

MEMORANDUM

TO: **Mayor and Council**

FROM: **Joey Boyd, Director of Internal Operations**

DATE: **September 15, 2016**

SUBJECT: **Routine Airport Maintenance Program Grant Agreement**

As part of the budget process, the City Council approved funds for maintenance and improvements at the Ralph M. Hall / Rockwall Municipal Airport. The Routine Airport Maintenance Program grant funds up to $100,000.00 per year for each general aviation airport and reimburses local governments 50% of the cost of these smaller projects.

The approved budget includes maintenance of the AWOS - Automated Weather Observation System, tree removal, minor repairs, herbicide, and any other smaller projects that may be necessary.

Attached is the FY 2017 RAMP grant agreement for the Ralph M. Hall / Rockwall Municipal Airport for consideration. The City Council is asked to consider the proposed contract and authorize the City Manager to enter into an agreement with the Texas Department of Transportation – Aviation Division for the City of Rockwall to participate in the Routine Airport Maintenance Program.

TEXAS DEPARTMENT OF TRANSPORTATION
GRANT FOR ROUTINE AIRPORT MAINTENANCE PROGRAM

(State Assisted Airport Routine Maintenance)

TxDOT Project ID: M1718RCKW

Part I - Identification of the Project

TO: The City of Rockwall, Texas

FROM: The State of Texas, acting through the Texas Department of Transportation

This Grant is made between the Texas Department of Transportation, (hereinafter referred to as the "State"), on behalf of the State of Texas, and the City of Rockwall, Texas, (hereinafter referred to as the "Sponsor").

This Grant Agreement is entered into between the State and Sponsor shown above, under the authority granted and in compliance with the provisions of the Transportation Code Chapter 21.

The project is for **airport maintenance** at the Ralph M Hall/Rockwall Municipal Airport.

Part II - Offer of Financial Assistance

1. For the purposes of this Grant, the annual routine maintenance project cost, Amount A, is estimated as found on Attachment A, Scope of Services, attached hereto and made a part of this grant agreement.

   State financial assistance granted will be used solely and exclusively for airport maintenance and other incidental items as approved by the State. Actual work to be performed under this agreement is found on Attachment A, Scope of Services. State financial assistance, Amount B, will be for fifty percent (50%) of the eligible project costs for this project or $50,000.00, whichever is less, per fiscal year and subject to availability of state appropriations.

   Scope of Services, Attachment A, of this Grant, may be amended, subject to availability of state funds, to include additional approved airport maintenance work. Scope amendments require submittal of an Amended Scope of Services, Attachment A.

   Services will not be accomplished by the State until receipt of Sponsor's share of project costs.

Only work items as described in Attachment A, Scope of Services of this Grant are reimbursable under this grant.

Work shall be accomplished by August 31, 2017, unless otherwise approved by the State.

2. The State shall determine fair and eligible project costs for work scope. Sponsor's share of estimated project costs, Amount C, shall be as found on Attachment A and any amendments.

   It is mutually understood and agreed that if, during the term of this agreement, the State determines that there is an overrun in the estimated annual routine maintenance costs, the State may increase the grant to cover the amount of the overrun within the above stated percentages and subject to the maximum amount of state funding.

   The State will not authorize expenditures in excess of the dollar amounts identified in this Agreement and any amendments, without the consent of the Sponsor.

3. Sponsor, by accepting this Grant certifies and, upon request, shall furnish proof to the State that it has sufficient funds to meet its share of the costs. The Sponsor grants to the State the right to audit any books and records of the Sponsor to verify expended funds.

   Upon execution of this Agreement and written demand by the State, the Sponsor's financial obligation (Amount C) shall be due in cash and payable in full to the State. State may request the Sponsor's financial obligation in partial payments. Should the Sponsor fail to pay their obligation, either in whole or in part, within 30 days of written demand, the State may exercise its rights under Paragraph V-3. Likewise, should the State be unwilling or unable to pay its obligation in a timely manner, the failure to pay shall be considered a breach and the Sponsor may exercise any rights and remedies it has at law or equity.

   The State shall reimburse or credit the Sponsor, at the financial closure of the project, any excess funds provided by the Sponsor which exceed Sponsor's share (Amount C).

4. The Sponsor specifically agrees that it shall pay any project costs which exceed the amount of financial participation agreed to by the State. It is further agreed that the Sponsor will reimburse the State for any payment or payments made by the State which are in excess of the percentage of financial assistance (Amount B) as stated in Paragraph II-1.

5. Scope of Services may be accomplished by State contracts or through local contracts of the Sponsor as determined appropriate by the State. All locally contracted work must be approved by the State for scope and reasonable cost. Reimbursement requests for locally contracted work shall be submitted on forms provided by the State and shall include copies of the invoices for materials or services. Payment shall be made for no more than 50% of allowable charges.

The State will not participate in funding for force account work conducted by the Sponsor.

6. This Grant shall terminate upon completion of the scope of services.

Part III - Sponsor Responsibilities

1. In accepting this Grant, if applicable, the Sponsor guarantees that:

   a. it will, in the operation of the facility, comply with all applicable state and federal laws, rules, regulations, procedures, covenants and assurances required by the State in connection with this Grant; and

   b. the Airport or navigational facility which is the subject of this Grant shall be controlled by the Sponsor for a period of at least 20 years; and

   c. consistent with safety and security requirements, it shall make the airport or air navigational facility available to all types, kinds and classes of aeronautical use without discrimination between such types, kinds and classes and shall provide adequate public access during the period of this Grant; and

   d. it shall not grant or permit anyone to exercise an exclusive right for the conduct of aeronautical activity on or about an airport landing area. Aeronautical activities include, but are not limited to scheduled airline flights, charter flights, flight instruction, aircraft sales, rental and repair, sale of aviation petroleum products and aerial applications. The landing area consists of runways or landing strips, taxiways, parking aprons, roads, airport lighting and navigational aids; and

   e. it shall not enter into any agreement nor permit any aircraft to gain direct ground access to the sponsor's airport from private property adjacent to or in the immediate area of the airport. Further, Sponsor shall not allow aircraft direct ground access to private property. Sponsor shall be subject to this prohibition, commonly known as a "through-the-fence operation," unless an exception is granted in writing by the State due to extreme circumstances; and

   f. it shall not permit non-aeronautical use of airport facilities without prior approval of the State; and

   g. the Sponsor shall submit to the State annual statements of airport revenues and expenses when requested; and

   h. all fees collected for the use of the airport shall be reasonable and nondiscriminatory. The proceeds from such fees shall be used solely for the development, operation and maintenance of the airport or navigational facility; and

i. an Airport Fund shall be established by resolution, order or ordinance in the treasury of the Sponsor, or evidence of the prior creation of an existing airport fund or a properly executed copy of the resolution, order, or ordinance creating such a fund, shall be submitted to the State. The fund may be an account as part of another fund, but must be accounted for in such a manner that all revenues, expenses, retained earnings, and balances in the account are discernible from other types of moneys identified in the fund as a whole. All fees, charges, rents, and money from any source derived from airport operations must be deposited in the Airport Fund and shall not be diverted to the general revenue fund or any other revenue fund of the Sponsor. All expenditures from the Airport Fund shall be solely for airport purposes. Sponsor shall be ineligible for a subsequent grant or loan by the State unless, prior to such subsequent approval of a grant or loan, Sponsor has complied with the requirements of this subparagraph; and

j. the Sponsor shall operate runway lighting at least at low intensity from sunset to sunrise; and

k. insofar as it is reasonable and within its power, Sponsor shall adopt and enforce zoning regulations to restrict the height of structures and use of land adjacent to or in the immediate vicinity of the airport to heights and activities compatible with normal airport operations as provided in Tex. Loc. Govt. Code Ann. Sections 241.001 et seq. (Vernon and Vernon Supp.). Sponsor shall also acquire and retain aviation easements or other property interests in or rights to use of land or airspace, unless sponsor can show that acquisition and retention of such interest will be impractical or will result in undue hardship to Sponsor. Sponsor shall be ineligible for a subsequent grant or loan by the State unless Sponsor has, prior to subsequent approval of a grant or loan, adopted and passed an airport hazard zoning ordinance or order approved by the State.

l. mowing services will not be eligible for state financial assistance. Sponsor will be responsible for 100% of any mowing services.

2. The Sponsor, to the extent of its legal authority to do so, shall save harmless the State, the State's agents, employees or contractors from all claims and liability due to activities of the Sponsor, the Sponsor's agents or employees performed under this agreement. The Sponsor, to the extent of its legal authority to do so, shall also save harmless the State, the State's agents, employees or contractors from any and all expenses, including attorney fees which might be incurred by the State in litigation or otherwise resisting claim or liabilities which might be imposed on the State as the result of those activities by the Sponsor, the Sponsor's agents or employees.

3. The Sponsor's acceptance of this Offer and ratification and adoption of this Grant shall be evidenced by execution of this Grant by the Sponsor. The Grant shall comprise a contract, constituting the obligations and rights of the State of Texas and the Sponsor with respect to the accomplishment of the project and the operation and maintenance of the airport.

If it becomes unreasonable or impractical to complete the project, the State may void this agreement and release the Sponsor from any further obligation of project costs.

4. Upon entering into this Grant, Sponsor agrees to name an individual, as the Sponsor's Authorized Representative, who shall be the State's contact with regard to this project. The Representative shall receive all correspondence and documents associated with this grant and shall make or shall acquire approvals and disapprovals for this grant as required on behalf of the Sponsor, and coordinate schedule for work items as required.

5. By the acceptance of grant funds for the maintenance of eligible airport buildings, the Sponsor certifies that the buildings are owned by the Sponsor. The buildings may be leased but if the lease agreement specifies that the lessee is responsible for the upkeep and repairs of the building no state funds shall be used for that purpose.

6. Sponsor shall request reimbursement of eligible project costs on forms provided by the State. All reimbursement requests are required to include a copy of the invoices for the materials or services. The reimbursement request will be submitted no more than once a month.

7. The Sponsor's acceptance of this Agreement shall comprise a Grant Agreement, as provided by the Transportation Code, Chapter 21, constituting the contractual obligations and rights of the State of Texas and the Sponsor with respect to the accomplishment of the airport maintenance and compliance with the assurances and conditions as provided. Such Grant Agreement shall become effective upon the State's written Notice to Proceed issued following execution of this agreement.

PART IV - Nomination of the Agent

1. The Sponsor designates the State as the party to receive and disburse all funds used, or to be used, in payment of the costs of the project, or in reimbursement to either of the parties for costs incurred.

2. The State shall, for all purposes in connection with the project identified above, be the Agent of the Sponsor. The Sponsor grants the State a power of attorney to act as its agent to perform the following services:

   a. accept, receive, and deposit with the State any and all project funds granted, allowed, and paid or made available by the Sponsor, the State of Texas, or any other entity;

   b. enter into contracts as necessary for execution of scope of services;

   c. if State enters into a contract as Agent: exercise supervision and direction of the

project work as the State reasonably finds appropriate. Where there is an irreconcilable conflict or difference of opinion, judgment, order or direction between the State and the Sponsor or any service provider, the State shall issue a written order which shall prevail and be controlling;

d. receive, review, approve and pay invoices and payment requests for services and materials supplied in accordance with the State approved contracts;

e. obtain an audit as may be required by state regulations; the State Auditor may conduct an audit or investigation of any entity receiving funds from TxDOT directly under this contract or indirectly through a subcontract under this contract. Acceptance of funds directly under this contract or indirectly through a subcontract under this contract acts as acceptance of the authority of the State Auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.

f. reimburse sponsor for approved contract maintenance costs no more than once a month.

PART V - Recitals

1. This Grant is executed for the sole benefit of the contracting parties and is not intended or executed for the direct or incidental benefit of any third party.

2. It is the intent of this grant to not supplant local funds normally utilized for airport maintenance, and that any state financial assistance offered under this grant be in addition to those local funds normally dedicated for airport maintenance.

3. This Grant is subject to the applicable provisions of the Transportation Code, Chapters 21 and 22, and the Airport Zoning Act, Tex. Loc. Govt. Code Ann. Sections 241.001 et seq. (Vernon and Vernon Supp.). Failure to comply with the terms of this Grant or with the rules and statutes shall be considered a breach of this contract and will allow the State to pursue the remedies for breach as stated below.

   a. Of primary importance to the State is compliance with the terms and conditions of this Grant. If, however, after all reasonable attempts to require compliance have failed, the State finds that the Sponsor is unwilling and/or unable to comply with any of the terms of this Grant, the State, may pursue any of the following remedies: (1) require a refund of any financial assistance money expended pursuant to this Grant, (2) deny Sponsor's future requests for aid, (3) request the Attorney General to bring suit seeking reimbursement of any financial assistance money expended on the project pursuant to this Grant, provided however, these

remedies shall not limit the State's authority to enforce its rules, regulations or orders as otherwise provided by law, (4) declare this Grant null and void, or (5) any other remedy available at law or in equity.

b. Venue for resolution by a court of competent jurisdiction of any dispute arising under the terms of this Grant, or for enforcement of any of the provisions of this Grant, is specifically set by Grant of the parties in Travis County, Texas.

4. The State reserves the right to amend or withdraw this Grant at any time prior to acceptance by the Sponsor. The acceptance period cannot be greater than 30 days after issuance unless extended by the State.

5. This Grant constitutes the full and total understanding of the parties concerning their rights and responsibilities in regard to this project and shall not be modified, amended, rescinded or revoked unless such modification, amendment, rescission or revocation is agreed to by both parties in writing and executed by both parties.

6. All commitments by the Sponsor and the State are subject to constitutional and statutory limitations and restrictions binding upon the Sponsor and the State (including Sections 5 and 7 of Article 11 of the Texas Constitution, if applicable) and to the availability of funds which lawfully may be applied.

Part VI - Acceptances

Sponsor

The City of Rockwall, Texas, does ratify and adopt all statements, representations, warranties, covenants, agreements, and all terms and conditions of this Grant.

Executed this _____ day of _____, 20___.

The City of Rockwall, Texas
Sponsor

_____
Witness Signature

_____
Sponsor Signature

_____
Witness Title

_____
Sponsor Title

Certificate of Attorney

I, _____, acting as attorney for the City of Rockwall, Texas, do certify that I have fully examined the Grant and the proceedings taken by the Sponsor relating to the acceptance of the Grant, and find that the manner of acceptance and execution of the Grant by the Sponsor, is in accordance with the laws of the State of Texas.

Dated at _____, Texas, this _____ day of _____, 20___.

_____
Witness Signature

_____
Attorney's Signature

_____
Witness Title

Acceptance of the State

Executed by and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs and grants heretofore approved and authorized by the Texas Transportation Commission.

STATE OF TEXAS
TEXAS DEPARTMENT OF TRANSPORTATION

By:_____

Date:_____

Attachment A
Scope of Services
TxDOT Project ID: M1718RCKW

Eligible Scope Item:	Estimated Costs Amount A	State Share Amount B	Sponsor Share Amount C
GENERAL MAINTENANCE	$30,000.00	$15,000.00	$15,000.00
Special Project	$0.00	$0.00	$0.00
Special Project	$0.00	$0.00	$0.00
Special Project	$0.00	$0.00	$0.00
Special Project	$0.00	$0.00	$0.00
Special Project	$0.00	$0.00	$0.00
TOTAL	$30,000.00	$15,000.00	$15,000.00

Accepted by: The City of Rockwall, Texas

_____
Signature

Title:_____

Date: _____

GENERAL MAINTENANCE: As needed, Sponsor may contract for services/purchase materials for routine maintenance/improvement of airport pavements, signage, drainage, AWOS systems, approach aids, lighting systems, utility infrastructure, fencing, herbicide/application, sponsor owned and operated fuel systems, hangars, terminal buildings and security systems; professional services for environmental compliance, approved project design. Special projects to be determined and added by amendment.

Only work items as described in Attachment A, Scope of Services of this Grant are reimbursable under this grant.

CERTIFICATION OF AIRPORT FUND

TxDOT Project ID: M1718RCKW

The City of Rockwall does certify that an Airport Fund has been established for the Sponsor, and that all fees, charges, rents, and money from any source derived from airport operations will be deposited for the benefit of the Airport Fund and will not be diverted for other general revenue fund expenditures or any other special fund of the Sponsor and that all expenditures from the Fund will be solely for airport purposes. The fund may be an account as part of another fund, but must be accounted for in such a manner that all revenues, expenses, retained earnings, and balances in the account are discernible from other types of moneys identified in the fund as a whole.

The City of Rockwall, Texas
(Sponsor)

By:_____

Title:_____

Date:_____

Certification of State Single Audit Requirements

I, _____, do certify that the City of Rockwall will comply with all
(Designated Representative)
requirements of the State of Texas Single Audit Act if the City of Rockwall spends or receives more than the threshold amount in any grant funding sources during the most recently audited fiscal year. And in following those requirements, the City of Rockwall will submit the report to the audit division of the Texas Department of Transportation. If your entity did not meet the threshold in grant receivables or expenditures, please submit a letter indicating that your entity is not required to have a State Single Audit performed for the most recent audited fiscal year.

_____
Signature

_____
Title

_____
Date

DESIGNATION OF SPONSOR'S AUTHORIZED REPRESENTATIVE

TxDOT Project ID: M1718RCKW

The City of Rockwall designates, _____
(Name, Title)
as the Sponsor's authorized representative, who shall receive all correspondence and documents associated with this grant and who shall make or shall acquire approvals and disapprovals for this grant as required on behalf of the Sponsor.

The City of Rockwall, Texas
(Sponsor)

By: _____

Title: _____

Date: _____

DESIGNATED REPRESENTATIVE

Mailing Address: _____

_____

_____

Overnight Mailing Address: _____

_____

_____

Telephone/Fax Number: _____

_____

Email address: _____

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City of Rockwall
The New Horizon

MEMORANDUM

TO: **Mayor and Councilmembers**

FROM: **Bethany Browning**

DATE: **September 27, 2016**

SUBJECT: **Art in Public Places**

Synopsis:
The Art Commission is pleased to announce the first Art in Public Places project. Slated to depict important elements of Rockwall's rich history, the full color mural is planned for the south wall of 110 S. Goliad. The mural also serves as a gateway feature, welcoming the community to the historic downtown district. The conceptual art and specific imagery/content details will be refined as the collaboration moves forward. The Art Commission is seeking approval to fund the project and move forward with the revision process. Commissioners are eager to complete this inaugural project and have set an ambitious timeline to have the mural installed before year's end.

For Councilmembers Consideration:

The Art Commission is making the following recommendation for City Councilmembers Consideration:

- Authorization for the City Manager to execute an artist agreement with Isaac Davies, THREE OF ONE ART, for the installation of a mural on the south wall of 110 S. Goliad, Downtown Rockwall, in an amount not to exceed $15,000.00.

Council approval of the budget for an Art in Public Places Project is a prerequisite for the project's final approval. Once the Art Commission approves the final mural design, a formal recommendation to council will be submitted for council approval. Upon submission of final design, further detail related to the easement agreement, future maintenance as well as promotion will be provided.

Reference:
Funding Source:
As part of the 2012 CIP, $74,000 is appropriated for public art in the downtown district. By ordinance, 1% of the CIP project costs excluding land acquisition and utilities will be designated to provide public art.

For your reference, please see the attached Art in Public Places Master Plan.

Commissioners:
David Sweet, Chair
Kathleen Morrow, Vice-Chair
Betty Jean Hoaglund
Jane Braddock
Doug Agee

Rockwall Art in Public Places Master Plan

Purpose

The Art in Public Places program is established to contribute to the cultural and artistic nature of the Rockwall area, fostering cultural awareness and enriching the public environment for both residents and visitors through the visual arts. The program celebrates the cultural, topographic and historical aspects of Rockwall as well as the quality of life, lifestyle and diverse character of the community. Integrating art into public buildings and spaces as well as contributing to civic pride are important aspects of the program. The program is intended to support, educate and assist individuals with their community activities in which public art plays a part.

The Art in Public Places program requires an organized and structured plan that defines the elements needed to implement projects resulting from this ordinance. The Master Plan is developed to establish a process, which could include the selection, purchase, commission, placement, funding, maintenance and insurance of works of art.

Goals of the Art in Public Places Program

- To help acquire beautiful, interesting, and sometimes whimsical, works of art for public places in Rockwall.
- Support and promote community development goals.
- Promote tourism and contribute to the community's public spaces
- Mesh the past with the present and future without losing charm or history
- Enhance public spaces and attract people to utilize the areas
- Create an improved visual environment for the residents and visitors
- Integrate the art into the development of new public buildings and public works projects
- To make Rockwall a better place in which to live and do business

Definitions

Acquisition: work that has been purchased gifted or by other means acquired by the City

Art Review Team (ART) Commission: means the Commission responsible for the review and approval of public art applications and/or projects according to the process outlined in this master plan

Artist: a practitioner in the visual arts generally recognized by critics and peers as a professional possessing serious intent and ability

Construction Project: any capital project paid for wholly, or in part, by the City to construct or remodel any building, park or parking facility

Coordinator: the staff person appointed by the city manager to coordinate and facilitate the implementation of the master plan as adopted by city council

Eligible: a construction or remodeling project, as defined in this section, for which the source of funds is not restricted by law or regulation as to its use for artworks

Project Consultant: an individual working for the artist, the city or the construction company

Visual Arts Professional: an artist, arts educator, art critic, arts administrator, arts dealer, designer, art historian, curator, fine art collector, architect, urban planner or landscape architect who is well respected in his field, knowledgeable with regards to multiple disciplines and styles of visual art and willing to participate effectively in a review process without conflict of interest

Work of Art: tangible creations by artists exhibiting the highest quality of skill and aesthetic principles including, but not limited to, paintings, sculptures, stained glass, engravings, mosaics, carvings, etchings, frescoes, mobiles, murals, collages, tapestries, memorials, environmental, photographs, drawings, monuments, fountains or utilitarian/functional works

Appropriate Forms of Public Art (including, but not limited to):

- Works of art that reflect the purposes of the art in public places program, always aiming to achieve the highest aesthetic quality
- Works of art that give due consideration to the proposed design in terms of scale, form and content with respect to its immediate and general, social and physical environment
- Works of art that give due consideration to materials and construction related to durability, maintenance, public access, appropriateness, safety and security
- Works of art that seek to reflect enduring artistic concepts, not transitory ones

Forms of Visual Art (including, but not limited to):

- Painting: all, including permanently attached works such as murals and frescoes
- Sculpture: in the round, bas-relief, high relief, mobile, fountain, environmental, street furniture, kinetic, electronic in all materials available
- Forms in other materials: glass, mosaic, clay, wood, textile, metal, fiber, fiberglass and mixed media
- Photography: graphic arts: film-making, print-making, drawing and calligraphy where appropriate (as it works with the design and the art)

Inappropriate Work: (including, but not limited to):

- Directional elements such as signage, except where these elements are integral parts of the original works of art
- Decorative, ornamental or functional elements, including signage, which are designed by the building architect as opposed to an artist commissioned for the purpose of creating the art work
- Art Objects which are mass produced or manufactured, such as statues, fountains, normal playground equipment unless brought in as part of the Artists design
- Landscape architecture: and landscape gardening in general unless these elements are designed by an Artist who uses them as a major part of the art
- Reproductions of original art works

Appropriation, Allocation and Management of Funds

Potential sources of funding:

- Hotel/Motel Tax
- City budgeted funds
- Individual donations
- Receiving grant monies
- Sale of tiles or plaques, other items deemed appropriate for recognition purposes
- Capital Improvement Project Appropriations: All appropriations for city capital improvement projects, whether financed with city bond proceeds or city monies from any other source, shall include an amount equal to 1.0 percent of the total capital improvement project appropriation, to be used for design services of artists, for the selection, acquisition, commissioning and display of artworks, and for administration of the public art projects. Such appropriations shall apply to a capital improvement project financed with proceeds from general obligation bonds authorized by the voters; or revenue bonds, certificates, notes, or other obligations authorized by the city council. Monies appropriated as part of one project, but not deemed necessary by the city council in total or in part for the project, may be expended on other projects approved under the annual public art projects plan; provided that proceeds from bonds issued and authorized for a particular use or purpose shall not be used or diverted for a different use or purpose.

    - Grants and contributions from non-city sources: Each city department shall include in every application to a granting authority for a capital improvement project, an amount for artists' services and artworks in accordance with this article. The public art appropriation shall apply to all capital improvement projects financed with grants or contributions from private persons or governmental public agencies, subject to conditions of the granting or contributing person or agency. If an art appropriation is not allowed as a reimbursable expense, only the city-funded portion of the project is subject to the public art appropriation.

    - Method of calculation: The minimum amount to be appropriated for artists' services and artworks is equal to the total city capital improvement project appropriation multiplied by 0.010; provided that amounts budgeted for real property acquisition costs, demolition costs, equipment costs, normal major maintenance costs, financing costs, costs paid for from the contingency reserve fund, capital reserve funds, or interest earnings on city bond proceeds, costs of any below-grade water or wastewater improvements, and costs of resurfacing or repair of existing streets, sidewalks, and appurtenant drainage improvements are not subject to the calculation.

- Public art accounts: Amounts appropriated pursuant to this article shall be established by the city manager, or his/her designee, in a public art account within each capital improvement project fund.

- City bond proceeds: If a city capital improvement project is financed with city bond proceeds, the use of any amounts appropriated for artists' services and works of art in accordance with this article must be consistent with any voted proposition approved by the voters of the city, any resolution or ordinance adopted by the city council authorizing issuance of the bonds, and applicable state or federal law. In no event shall city bond proceeds be used for public art maintenance purposes. (This section shall not apply to any refunding bond proceeds or to any capital improvement project financed with water utility reserves that is located outside the city limits; whether or not the below grade capital improvement is part of a city capital improvement project that involves at-grade or above grade improvements.

- City council exclusions: When considering a capital improvements plan or any amendment thereto, the city council may exclude individual city capital improvement projects from the application of this section.

Recognition for sizable donations could be given by placing plaques in conjunction with the artwork.

Management of the Art in Public Places Fund will be administered by the City Manager or his/her designee.

Art Commission Composition

The ART Commission shall consist of five (5) regular members appointed by a majority of the City Council. All team members should possess knowledge of, or have an interest in contemporary, visual art, artistic principles and art media. In the case of a vacancy of the Commission, the City Council, by a majority vote, may appoint a replacement member to the Commission. Any person appointed shall serve until the expiration of the term of office of the vacated position. Each member of the Commission shall be a resident citizen and qualified voter of the City of Rockwall, Texas. Upon the initial appointment of the Commission by the City Council, members shall draw lots for three (3) two-year terms and two (2) one-year terms of service. Therefore, the term of office of members of the Commission shall be for two (2) years. Members may be removed before their terms of office expire as provided herein. Members shall serve without compensation. Council may remove a member for cause on a written charge. Before a decision regarding a removal is made, the Council must hold a public hearing on the matter if requested by the Commission member subject to the removal action.

Meetings:
The Commission shall hold meetings at the call of the Chairman or at such other times as the Board may determine. All meetings shall be open to the public and comply with the Texas Open Meetings Act.

Quorum:
All cases to be heard by the Commission must be heard by at least four (4) members.

Chairman and Vice-Chairman:
A Chairman and a Vice-Chairman shall be elected by the members of the Commission at the first meeting following the annual appointment of the new members.

Records:
The Commission shall keep minutes of its proceedings, showing the vote of each member upon each question, or, if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions, all of which shall be immediately filed in the office of the Commission and shall be a public record.

Vote:
The concurring vote of four (4) members of the Commission shall be necessary for the approval of any application. Only the members of the Commission present shall have voting privileges.

Rules and Regulations:
The Commission shall adopt rules in accordance with this article.

Application Process & Eligibility Requirements

When the idea for placing a work of art originates from a source other than the City, the idea should be submitted in a "Letter of Intent" to the City for consideration.

A. A copy of the Art in Public Places Master Plan and an application will be provided to the applicant. The application must include the following information:

   a. Artist's name and resume;
   b. Photos, slides, renderings, scaled models or other illustrations of work;
   c. Requested location;
   d. Processing fee - $150.00;
   e. Size and material specifications;
   f. Scope and schedule of work;
   g. Lighting, utility specs (if applicable);
   h. Estimated cost; and
   i. Any additional information deemed necessary.

B. The application, along with any other pertinent information, must be submitted to the coordinator for consultation by the commission.

C. In order to foster community awareness of the Art in Public Places Master Plan, appreciation of the visual arts, its potential for the enhancement of the public environment and to maximize its positive effect on the community, applications must also include educational information as to the nature of the project. Information will include, but not be limited to, the following:

   a. The artistic intention or goal of the project
   b. The artist's statement
   c. The artist's background information
   d. Information on the artistic discipline, style, medium, technique and creative process, including relative historical information
   e. Any other informative document relative to the educational aspect of the project

Education and Public Relations

The ART Commission, or their designee(s), will use the information provided to create a presentation to be used for informational and public relations purposes in, but not limited to, the following ways:

1. Press releases to all applicable news sources;
2. Presentations to local civic organizations and area schools;
3. Fund raising efforts for the Art in Public Places Fund;
4. Grant applications for the Art in Public Places Master Plan or its proposed projects; and
5. Public forums.

The ART Commission should make a diligent and timely effort in completion of the Art Project Presentation and will be responsible for its use including:

1. Acquiring suitable speakers to make presentations;
2. Scheduling presentations; and
3. Providing a copy of the information to outside sources wishing to use it to promote and further the Art in Public Places Master Plan.

Development of an Art in Public Places Project

A. The ART Commission, on an ongoing basis, will actively explore potential sites for Art in Public Places Projects. In this, the Commission shall seek the input of various City Departments, as well as the community at large, to identify both future planned and existing sites. Upon development of an art project, information will be disseminated, as appropriate, through various mediums well in advance of the selection process to provide adequate time for applicants to prepare submissions.

B. The City of Rockwall should seek Artists of the highest quality, suitable for the project regardless of their location. A project's funding is one of the key guides to deciding how to resolve this. It is important to achieve some balance of work by artists of regional, national and local reputation. In some cases, it's desirable to have a very high profile artist work on a project.

City Initiated – City initiated projects shall be given due consideration and the $150 application fee shall be waived. All other requirements of the application process shall apply.

New Construction – For sites under development, it is preferable to involve the Artist in the earliest phases of the design process to ensure a totally integrated solution. Therefore, the Project Coordinator will be informed of any and all considerations of this process. The City Department responsible for an eligible construction project shall subsequently keep the Project Coordinator apprised of the selection of the Construction Consultant. Additionally, provisions of the artwork project shall be appropriately included in the design process of the construction project.

Externally Initiated – Individuals, businesses and/or organizations wishing to submit a proposal for a project.

B. Once a project is approved, the ART Commission, in conjunction with the Coordinator, shall make recommendations to the City Council for approval, regarding the details of the project. This proposal can provide for:

1) Limited Competition: The ART Commission invites a limited number of artists to participate in the selection process. Artists selected may be asked to submit slides of past work or proposals based on the proposed project. The names of the artists invited to participate shall be publicly announced upon receipt of written acceptance of the invitation.

2) Open Competition: Any artist may submit credentials and proposals, subject to any requirements established by the Art Commission. The site proposal will be appropriately advertised. Artists may be asked to submit slides of their past work, resumes and letters of intent related to the specific project or specific proposals for the project under review. Open competitions will be sufficiently detailed to permit Artists to determine whether their work is appropriate to the project under consideration.

3) Direct Selection: Artists are approached directly. This is usually something that happens in a situation when a project has to be done quickly, or within a certain budget and needs to be controlled. If desired, a team of several artists may be put together.

4) Direct Purchase: A completed work of art is purchased.

5) Mixed Process: This is a mix of all of the above.

Approval Process

Externally Initiated Projects

The City will provide the ART Commission with the required data for analysis and recommendations. The ART Commission will evaluate the project based on the following criteria:

1) Health, Safety and the Public Welfare.

2) Appropriateness to the Site:

   a. Size and scale;
   b. Color scheme;
   c. Theme; and
   d. Materials.

3) Size relative to the site and surroundings.
4) Potential Longevity:

   a. Resistance to elements; and
   b. Theme.

5) Maintenance Requirements.

6) Aesthetic Value.

After their review and approval, the ART Commission will then forward the application and its recommendations to the City Council for review. If appropriate, the City Council will hold a public hearing to assess public opinion of a proposal, deny the request, or approve the application. The Council may give direction to and ask the ART Commission to continue to work with the applicant and/or project.

In the event the ART Commission determines a project is not suitable, the applicant may appeal their decision to the City Council. The appeal must be made through the Coordinator and placed on the City Council agenda.

Project Implementation and Coordination

A. Upon approval of the ART Commission's recommendation by City Council, the City of Rockwall shall contract with the artist(s) for services or for the purchase and installation of a specific artwork. In general, Art in Public Places Project contracts shall require the artist(s) to produce, deliver, and install a work of art for a guaranteed maximum cost, by a predetermined time, in keeping with the construction project schedule. Depending on the nature of the project, performance by the artist may be contractually ensured through phased payment for work completed and/or professional liability coverage. Coordinator shall work with the artist to determine the appropriate budget for each project to ensure all necessary costs are met. Council approval of the budget for an Art in Public Places Project is a prerequisite for the project's final approval. In addition, the artist may be asked to make a public presentation at an appropriate time, in an appropriate forum in the community where the work is to be sited.

B. In the case of an artist who has contracted with the City of Rockwall to produce a specific work of art, approval of the design prior to the signing of that contract shall be considered sufficient. If, however, the design changes substantially from what was initially approved, the artist must return to the ART Commission for subsequent review.

C. In the case of a design team approach, it shall be the primary responsibility of the artist and the project consultant to collaborate on the design of the artwork and its relationship with the site. They shall be required to bring the design, in its formative stages, back to the ART Commission for review. The stage at which final approval of the design occurs will vary from project to project, as specifically stated in the artist's contractual agreement with the City of Rockwall.

D. All project consultants expressing interest in an eligible construction or renovation project shall be advised of the Art in Public Places Program requirements and guidelines. The consultant selected and appropriate City representatives shall work closely with the Coordinator in the development of the artwork project and with the ART Commission in selection of the artist/artwork. The consultant shall incorporate the requirements of the work of art into the construction documents, including time of delivery and installation.

E. On site activity associated with installation of artwork shall be handled by the artist, Coordinator, and City representatives within the departments having jurisdiction over the site and/or construction.

F. The Coordinator shall function as liaison between the artist and the various City Departments involved in the completion of each artwork project. In instances where construction matters cannot be resolved between the artist and the consultant, the City of Rockwall shall have final authority.

G. The Coordinator shall establish and maintain appropriate records of each project, which shall include the contract with the artist, records of the Art Commission and Council's actions, interdepartmental agreements, all billings made in connection with the project and all related correspondence. In addition, the Coordinator shall maintain records particular to the project to ensure adequate standards of documentation, registration, care, and installation of the artwork.

Maintenance, Insurance and Repair of Public Art

1. Artists will be required to provide the Rockwall ART Commission with information about methods and frequency of routine maintenance during the time of installation. The Coordinator will make periodic checks as suggested by the Artists for each work.

2. The ART Commission shall review the City's Public Art Collection annually and perform a maintenance needs assessment. The ART Commission shall communicate maintenance needs and recommended actions to the Coordinator.

3. The works of art acquired through the Art in Public Places Program become the property of the City and are held in trust by the City of Rockwall. Therefore, expenses associated with routine maintenance and operation of artwork shall be incurred by the City. Routine maintenance shall be understood to include such things as periodic cleaning and operational costs of a work. Any substantive repair of the work, such as structural repair, shall be considered an expense of the related Art in Public Places Fund. Additionally, the City shall not move any work of art from the site for which it was selected, nor remove it from display, without prior written consent of the ART Commission, in conformance with legal restrictions regarding the source of funds for that work of art.

4. So far as is practical, in the event repair of the artwork is required, the City shall give the Artist the opportunity to do that work for a reasonable fee. Disputes concerning what constitutes a reasonable fee shall be settled by a panel of three (3) visual art professionals with knowledge of curatorial concerns, to be appointed by the ART Commission. If the artist declines to perform the needed repairs for such a fee, the City may solicit bids from qualified conservators and award a contract to the conservator presenting the lowest and most responsible bid, if the fee is in excess of Five Thousand Dollars ($5,000.00).

Eligible Costs for Art in Public Places Funds

A. All Art in Public Places contracts shall require the artist to design, produce, deliver and install a work of art for a guaranteed maximum cost. The cost to design, produce, deliver and install a work of art may not exceed the guaranteed maximum price without written authorization from the City. This cost may include the cost of the work itself and any associated costs which may be required by the City or inherently related to the implementation of the project. Therefore, the following costs are eligible expenditures for the monies included in the total project commission:

    1. The work of art itself including, but not limited to:

        a. Artist's design fee;

        b. Additional labor, materials and contracted services required by the Artist, for the production and installation of the work;

        c. Transportation of the work to the site; and

        d. Installation of the work.

    2. Identification plaques and labels.

    3. Frames, mats, mountings, anchorages, containments, pedestals, or materials necessary for the installation, location or security of the work of art.

    4. Photographs or slides of the completed work for the purposes of routine documentation of the project.

    5. Permits or fees necessary for the installation of the work of art.

    6. Legal costs incurred by the City, directly related to the project.

    7. Associated administrative costs incurred by the City.

    8. Other types of expenses specifically provided for in the contract and approved by the Council.

B. In addition to the actual costs associated with an Art in Public Places Project, the monies are to be used for the selection, acquisition, and maintenance of the work of art commissioned or purchased through the Art in Public Places Program. Therefore, the following items are eligible expenditures of the monies:

    1. The project specific costs of the Art in Public Places Program associated with the selection and acquisition of the artwork.

    2. Substantive structural repair and maintenance of the works of art commissioned through the Art in Public Places Program.

Ineligible Costs for Art in Public Places Funds

A. Directional elements such as signage, except where these elements are integral parts of the original works of art.

B. Art objects which are mass-produced of standard design such as playground equipment or fountains.

C. Decorative, ornamental, or functional elements which are designed by the building consultant, as opposed to an artist commissioned for the purpose.

D. Landscape architecture and landscape gardening except where these elements are designed by the artist and recognized by the ART Commission as an integral part of the work of art.

E. Services or utilities needed to routinely operate or maintain the artwork over time.

F. Modifications in or improvements to building surfaces or structural elements of the building.

Relocation and Removal of Art

A. Adjunct to the acquisition of works of art is the deaccession and relocation of such works. The following policy has been included to provide a consistent method for determining if a work has remained relevant and/or useful in the context of its original purpose. It also provides a mechanism for the proper removal of a work of art that has deteriorated or has been damaged beyond repair. In this document, deaccession means permanent removal of a work of art, and relocation means reinstallation of a work of art at a new site. Works of art may be considered for deaccession only after five (5) years have passed from the date of the acquisition, unless the installation site has been substantially altered, or the work has deteriorated or been damaged.

B. Requests for deaccession or relocation shall be acted on through the following process:

1. Requests for deaccession or relocation may be City or externally initiated (i.e. – by a recognized civic group with evidence of community support). These requests must be submitted through the Coordinator.

2. The Coordinator shall review the request and forward it to the ART Commission. The ART Commission will evaluate the request and make a formal recommendation to the Council. In evaluating a relocation or deaccession request, the ART Commission shall apply the following criteria:

    i. Visual record of alteration, damage to, or deterioration of the site/work of art;
    ii. Cost estimates for repair, relocation or disposal; and
    iii. A new site plan for relocation.

3. The city council will ultimately determine if an art in public places piece should be relocated.

4. The city council will not generally consider removing an art in public places piece before five years unless there are extenuating circumstances involved.

ARTIST AGREEMENT
BETWEEN

THE CITY OF ROCKWALL, TEXAS (CITY)

AND

[ARTIST'S NAME] (ARTIST)

FOR

THE FABRICATION AND INSTALLATION OF THE PROPOSED

[PROJECT]

[PROJECT LOCATION] (PROJECT)

made as of the _____ day of _____ in the Year _____

BETWEEN the City: The City of Rockwall, Texas
385 S. Goliad
Rockwall, Texas 75087
Telephone 972-771-7700

AND the Artist(s): [Name]
[Address]
[City, State, Zip]
Telephone
Email

for the following Project: Fabrication and Installation of the proposed [Name of Project]

The City and the Artist agree as set forth below.

THIS AGREEMENT is made and entered by and between the City of Rockwall, Texas, a Home-Rule Municipal Corporation, hereinafter referred to as (the "City"), and [Name of Artist] hereinafter referred to as (the "Artist"), to be effective from and after the date as provided herein, hereinafter referred to as (the "Agreement").

WHEREAS, the City desires to engage the services of the Artist to fabricate and install the proposed [Name of Project and Project Location], hereinafter referred to as the "Project"; and

WHEREAS, the Artist desires to render such services for the City upon the terms and conditions provided herein.

NOW, THEREFORE, KNOW ALL PERSONS BY THESE PRESENTS:

That for and in consideration of the covenants contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

ARTICLE 1 - ARTIST'S SERVICES

1.1 Engagement of the Artist - The City hereby agrees to retain the Artist to perform the services set forth herein in connection with the Project. Artist agrees to perform such services in accordance with the terms and conditions of this Agreement.

1.2 Scope of Services - The parties agree that Artist shall perform such services as are set forth and described in Exhibit "A", which is attached hereto and incorporated herein by reference for all purposes. The parties understand and agree that deviations or modifications to the scope of services described in Exhibit "A", in the form of written change orders, may be authorized from time to time by the City.

1.3 Schedule of Work - The Artist agrees to commence work immediately upon execution of this Agreement and receipt of first payment, and to proceed diligently with said work to completion as described in the Completion Schedule/Project Billing/Project Budget attached hereto as Exhibit "B" and incorporated herein by reference for all purposes, but in no event shall the Project be completed any later than twelve (12) months following written notice from City that it has acquired the necessary, as solely determined by the City, easement at the location where the Artwork made the subject of this Agreement will be erected. In this connection, the parties hereto agree that within ten (10) days of securing said easement, Exhibit "B" of this Agreement shall be amended in writing to reflect the agreed upon Project Completion Schedule timeline.

ARTICLE 2 - THE CITY'S RESPONSIBILITIES

2.1 **Project Data** - The City shall furnish required information that it currently has in its possession, as expeditiously as necessary for the orderly progress of the work, and the Artist shall be entitled to rely upon the accuracy and completeness thereof.

2.2 **Project Manager** - The City shall designate, when necessary, a representative authorized to act on the City's behalf with respect to the Project (the "Project Manager"). The City or such authorized representative shall examine the documents submitted by the Artist and shall render any required decisions pertaining thereto as soon as practical so as to avoid unreasonable delay in the progress of the Artist's services.

ARTICLE 3 - ARTIST'S COMPENSATION

3. 1 **Compensation for Artist's Services** - As described in "Article 1, Artist's Services", compensation for this Project shall be [Written Dollar Amount] ($ Dollar Amount) ("Artist's Fee") and will cover all services to be rendered and materials to be provided in accordance with this Agreement. The Artist's Fee shall be paid in accordance with Article 3 and the Completion Schedule/Project Billing/Project Budget as set forth in Exhibit "B", attached hereto. The final fifteen (15) percent of the Artist's Fee, or [Fifteen Percent Written Dollar Amount] ($Dollar Amount) shall not be paid until the Artist has completed, delivered and installed, where applicable, all of the Artwork services and tasks described in Exhibits "A" and "B", attached hereto.

3.2 **Invoices** - No payment to the Artist shall be made until Artist tenders an invoice to the City. Payments are payable to the Artist within thirty (30) days from the date of invoice as long as the invoice is mailed to City within three (3) days of the date of the invoice. Invoices are to be mailed to City immediately upon completion of each individual task listed in Exhibit "A". If any invoice remains outstanding and unpaid for more than sixty (60) days from the date of invoice, and Artist has fully performed its obligations as set forth herein, the Artist has the option upon written notice to the City, to suspend all work specified under this Agreement until the account is brought current. Continued performance and/or completion of work by the Artist under this Agreement shall resume upon the payment of the earned fees by the City.

3.3 **Failure to Pay** - Failure of the City to pay an invoice, for a reason other than cause, to the Artist within sixty (60) days from the date of the invoice shall grant the Artist the right, in addition to any and all other rights provided, to, upon written notice to the City, refuse to render further services to the City and such act or acts shall not be deemed a breach of this Agreement. The City shall not be required to pay any invoice submitted by the Artist if the Artist breached any provision(s) herein.

3.4 **Adjusted Compensation** - If the Scope of the Project or if the Artist's Services are materially changed, the amounts of the Artist's compensation shall be equitably adjusted as approved by City. Any additional amounts paid to the Artist as a result of any material change to the Scope of the Project shall be agreed upon in writing by both parties before the services are performed.

3.5 **Project Suspension** - If the Project is suspended or abandoned in whole or in part, by the City for more than three (3) months, Artist shall be entitled to compensation for any and all work completed to the satisfaction of City in accordance with the provisions of this Agreement prior to suspension or abandonment. In the event of such suspension or abandonment, Artist shall deliver to City all finished or unfinished documents, data, studies, surveys, drawings, maps, models, reports, photographs and/or any other items prepared by Artist in connection with this Agreement prior to Artist receiving final payment. If the Project is resumed after being suspended for more than three (3) months, the Artist's compensation shall be equitably adjusted as approved by the City. Any additional amounts paid to the Artist after the Project is resumed shall be agreed upon in writing by both parties before the services are performed.

ARTICLE 4 - OWNERSHIP AND COPYRIGHT

4.1 **Ownership of Work**- The Project is the property of the City, and the Artist shall not make any duplicate work of the same or substantially similar size, nor shall the Artist grant permission to others to do so except with the written permission of the City. The City shall be entitled to copies of the plans and the Marquette, which are prepared by the Artist in connection with the development and fabrication of the Project under this Agreement. The ownership of the [type of artwork] is transferred to the City upon full payment of Artwork described in Exhibits "A" and "B" attached hereto.

4.2 **Ownership of Copyright -** Artist shall retain the copyright to the Artwork. Artist shall take all steps, at his own expense, to protect the copyright of the Artwork.

4.3 **License to City -** The Artist irrevocably licenses the City, its employees, representatives, officers and agents, the right to make photographs, two dimensional reproductions, and adaptations of the work for educational, public relations, arts promotional and other non-commercial purposes. For the purposes of this Agreement, the following, among others, are deemed to be reproductions and/or adaptations for non-commercial purposes: reproduction in exhibition catalogues, websites, books, slides, photographs, postcards, posters, and calendars; in magazines, books, art and news sections of newspapers; in general books and magazines not primarily devoted to art but of an educational, historical or critical nature; slides, videos and film strips not intended for a mass audience, and television from stations operated for educational purposes or on programs for educational and news purposes from all stations.

4.4 **Copyright Notice** - The City undertakes to use its reasonable efforts to include in any reproductions which it makes of the Artwork a copyright notice in the following form: Copyright (Artist Name] or© [Artist Name]

4.5 **Representations and Warranties Regarding Copyright** - The Artist represents and warrants that the Artwork is an original creation of Artist's and will not infringe the copyright, trademark, or other intangible rights of any third party.

ARTICLE 5 - FABRICATION

5.1 **Specifications** - Artist will fabricate the Artwork, or cause it to be fabricated, in substantial conformity with the Design approved by City as set forth in Exhibit "A".

5.2 **Changes** - Any significant changes to the Artwork by either Artist or as requested by City will be approved in writing by the other party. For purposes of this Agreement, a "significant change" will mean any change, including but not limited to, a change in the scope, design, color, size, or material of the Artwork, which affects cost, installation, site preparation, maintenance and concept as represented in the Design described in Exhibit "A". If Artist wishes to make a significant change to the Artwork, he/she must request written approval from the City of the change in writing at the address provided in Section 14. City will provide a written response within thirty (30) calendar days.

5.3 **Review of the Artwork** - The City will be given access to the Artwork during reasonable business hours at Artist's or fabricator's studio in order to review the Artwork and Artist's or fabricator's progress with fabrication of the Artwork. Alternatively, the City requests and shall be given photographic documentation of Artist's progress to verify each stage that triggers payment pursuant to Section 3.1 above.

5.4 **Notification of Fabrication Completion** - Artist will notify the City in writing pursuant to Section 15 below when the Artwork is completed and ready for delivery. Designated representatives of the City will have the opportunity to inspect the Artwork for conformity with the design and structural requirements prior to delivery and to give written approval or disapproval of the Artwork for thirty (30) business days following notice from the Artist. As an alternative to the studio inspection, photographic documentation may be submitted to the City upon completion of the Artwork.

5.5 **Preparation of Site** - Due to the nature of the streetscape project and installation of the Artwork, cooperation from the City's designated Landscape Architect is required. City will provide Artist with specifications and drawings for the area where the Artwork will be installed. Artist is responsible for obtaining and forwarding to City design drawings and calculations for installation of Artwork prepared by a professional structural engineer. The drawings will illustrate the Artwork's support system, including without limitation, connection to the base. Landscape Architect will utilize drawings and if, during installation, the Artwork is found to differ from the specifications in the drawings, it will be the Artist's responsibility to remedy the discrepancy and bring the Agreement into conformance with the drawings.

5.6 **Warranty of Craftsmanship** -The Artist warrants that the Artwork will be free of defects in workmanship and materials. In the event that any defects become apparent in the workmanship or materials within five (5) years of the execution of this Agreement, Artist will remedy any defects at Artist's sole cost and expense.

ARTICLE 6 - STORAGE

6.1 **Storage Costs** - Artist will make all efforts to coordinate installation such that the Artwork will not need to be stored prior to installation. If the Artwork is to be installed within fourteen (14) days of its delivery date to the designated site, and is to be stored temporarily at a location at the site, the Artist is responsible for ensuring the safety of the Artwork until the permanent installation is completed. The Artist will be responsible for any and all costs associated with storing the Artwork, including but not limited to, the cost of transporting the Artwork to and from the storage facility, from the date mutually agreed upon in writing by the Artist and City for delivery to the site until the Artwork is permanently installed. If, for reasons outside of the control of the Artist, the Artwork will not be able to be permanently installed within fourteen (14) days of its arrival date on site, as mutually agreed upon in writing by the Artist and City, and it is necessary to store the Artwork for more than fourteen (14) days prior to the permanent installation, the City must notify the Artist prior to delivery of the Artwork to the site. Storage of the Artwork will be at a location mutually agreed upon in writing by the Artist and City. Any and all costs associated with storing the Artwork, including but not limited to, the cost of transporting the work from the storage facility, shall be apportioned between City and Artist as follows:

- first day (as mutually agreed upon in writing by Artist and City for delivery to the site) of storage through day 14-Artist
- day 15 until the date the Artwork is permanently installed--City

6.2 **Storage Requirements** - If the City is providing on-site storage, the City will provide a locked storage facility to adequately, as solely determined by the City, contain the Artwork and the materials and supplies reasonably required by Artist for the permanent installation of the Artwork.

ARTICLE 7 - FINAL APPROVAL OF ARTWORK

Within ten (10) business days of the permanent installation of the Artwork, the City will inspect the Artwork to determine whether it conforms to all of the requirements of this Agreement. If the City desires any modifications to the Artwork or finds that any aspect of the Artwork is not in conformance with this Agreement, the City will notify Artist in writing within seven (7) business days of the inspection. Artist will have an opportunity to address and cure any defects, requests or concerns of the City within fifteen (15) days of the date of the City's notice provided pursuant to Article 7.

ARTICLE 8 - INTEGRITY OF THE WORK

8.1 **Repairs and Maintenance** - The City undertakes to exercise reasonable care to protect, repair, and maintain the work. Artist agrees to cooperate with and advise the City in connection with any such non-routine maintenance, including, without limitation, damage by acts of God, vandalism, conservation and/or replacement of any portion of the Artwork to the extent that he or she is able to do so. During Artist's lifetime, the City will not undertake any non-routine maintenance on the Artwork without attempting to consult with the Artist or his or her authorized representative unless an emergency requires the City to do so.

8.2 **Relocation of the Work -** To the extent that the Artwork is capable of being relocated, the City shall have the right to do so. If feasible, the City shall attempt to consult with the Artist concerning the relocation of the Artwork prior to any such relocation; however, the Artist's approval is not required for the relocation, if any. If the Artist is not pleased with such relocation, he or she shall have the right to renounce credit for the Artwork. If Artist renounces credit for his Artwork, this would include, among other things, relinquishment and abandonment of the copyrights described herein.

8.3 **Credit**- The City agrees, at its own expense, to prepare and install at or near the Project a public notice, the form and exact location of which shall be solely determined by City, giving Artist credit for the creation of the Artwork.

ARTICLE 9 - INSURANCE COVERAGE

Proof of insurance is required immediately upon acceptance/approval of artist proposal. Failure to comply within fifteen (15) days will necessitate disqualification of proposal. If selected, the artist shall provide and maintain the types and amounts of insurance set forth herein for and during all aspects and phases of this Project. Artist shall be required to provide and maintain general liability insurance with a minimum of One Million and No/100 Dollars ($1,000,000.00) per occurrence and Two Million and No/100 Dollars ($2,000,000.00) aggregate. In addition, Artist shall provide and maintain insurance for loss (including theft, fire and damage) and employee health and disability insurance, as well as any statutorily required workers' compensation insurance. All insurance and certificate(s) of insurance shall contain the following provisions:

1. Name the City, its officers, agents, representatives, and employees as additional insureds as to all applicable coverage with the exception of workers' compensation insurance.
2. Provide for at least thirty (30) days prior written notice to the City for cancellation, non-renewal, or material change of the insurance.
3. Provide for a waiver of subrogation against the City for injuries, including death, property damage, or any other loss to the extent the same is covered by the proceeds of insurance.

Insurance company qualification: All insurance companies providing the required insurance shall be authorized to transact business in Texas and rated at least "A" by AM Best or other equivalent rating service.

Certificate of insurance: A certificate of insurance evidencing the required insurance shall be submitted no later than the date of the execution of this Agreement. If this Agreement is renewed or extended by the City, a certificate of insurance shall also be provided to the City prior to the date the Agreement is renewed or extended.

ARTICLE 10 - AUDITS AND RECORDS/PROHIBITED INTEREST VENDOR DISCLOSURE

The Artist agrees that at any time during normal business hours and as often as City may deem necessary, Artist shall make available to representatives of the City for examination all of its records with respect to all matters covered by this Agreement, and will permit such representatives of the City to audit, examine, copy and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this Agreement, all for a period of four (4) years from the date of final settlement of this Agreement or for such other or longer period, if any, as may be required by applicable statute or other lawful requirement.

The Artist agrees that it is aware of the prohibited interest requirement of the City Charter, which is repeated on the Affidavit, and will abide by the same. Further, a lawful representative of Artist shall execute the Affidavit attached hereto as Exhibit "C" and incorporated herein by reference for all purposes. Artist understands and agrees that the existence of a prohibited interest during the term of this Agreement will render the Agreement void able.

The Artist agrees that it is further aware of the vendor disclosure requirements set forth in Chapter 176, Local Government Code, as amended, and will abide by the same. In this connection, a lawful representative of the Artist shall execute the Conflict of Interest Questionnaire, Form CIQ, attached hereto as Exhibit "D" and incorporated herein for all purposes.

ARTICLE 11 - TERMINATION OF AGREEMENT/REMEDIES

11 .1 **Artist Default** - Failure or refusal of the Artist to perform any act herein required, unless mutually agreed to in writing by the City and the Artist shall constitute a default. In the event of a default, in addition to any other remedy available to the City, this Agreement may be terminated by the City upon ten (I0) day written notice. Such notice does not waive any other legal remedies available to the City.

11.2 **Conditions for Termination of Agreement Other than Artist's Default** - If the City deems, in its sole discretion, the Project design is inappropriate or unworkable for the site, or if the deadlines specified herein are not met due, in whole or in part, to the Artist's actions and/or omissions, or if cost estimates indicate that the Project cannot be completed within the Project budget, the City retains the right to terminate this Agreement and is released from the obligation to enter into fabrication and installation of the Artist's design concept for the Project. In the event of any termination, Artist shall deliver to City all work, entirely or partially completed. The Artist shall receive as compensation, full payment for services satisfactorily, as solely determined by the City, performed as outlined in Exhibit "B", as applicable, to the date of the termination notice received. The City shall make this final payment within thirty (30) days of receiving work, entirely or partially completed. The rights and remedies provided by this Agreement are cumulative, and the use of any one right or remedy by either party shall not preclude or waive its rights to use any or all other remedies. These rights and remedies are given in addition to any other rights the parties may have by law, statute, ordinance or otherwise.

ARTICLE 12 - DISPUTE RESOLUTION/MEDIATION

Any dispute or difference between the Parties arising during the term of the Agreement, out of or in connection with this Agreement shall be referred for resolution to the senior management of the Parties. Any such dispute or difference which has not been resolved as aforesaid within ten (10) calendar days from the date the dispute or difference is first so referred for resolution, may, if the Parties are unable to resolve the matter through another form of alternative dispute resolution and both Parties agree, be referred to a mutually acceptable mediator. If mediation is not successful and it is necessary for either party to file a cause of action at law or in equity against the other party due to: (a) a breach of this Agreement by the other Party and/or (b) any intentional and/or negligent act or omission by the other Party arising out of this Agreement, the Non-Defaulting Party shall be entitled to reasonable attorney’s fee and costs, and any necessary disbursements, in addition to any other relief to which it is legally entitled.

ARTICLE 13 - INDEMNITY

ARTIST SHALL RELEASE, DEFEND, INDEMNIFY AND HOLD HARMLESS CITY AND ITS CITY COUNCIL MEMBERS, OFFICERS, AGENTS, REPRESENTATIVES AND EMPLOYEES FROM AND AGAINST ALL DAMAGES, INJURIES (INCLUDING DEATH), CLAIMS, PROPERTY DAMAGES {INCLUDING LOSS OF USE), CLAIMS FOR PATENT, TRADEMARK AND/OR COPYRIGHT INFRINGEMENT AND/OR ANY OTHER INTELLECTUAL PROPERTY AND/OR PROPRIETARY CLAIM, LOSSES, DEMANDS, SUITS, JUDGMENTS AND COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND EXPENSES (INCLUDING ATTORNEYS' FEES AND EXPENSES INCURRED IN ENFORCING THIS INDEMNITY), CAUSED BY THE NEGLIGENT, GROSSLY NEGLIGENT, AND/OR INTENTIONAL ACT AND/OR OMISSION OF ARTIST, JTS OFFICERS, AGENTS, REPRESENTATIVES, EMPLOYEES, SUBCONTRACTORS, LICENSEES, INVITEES OR ANY OTHER THIRD PARTIES FROM WHOM ARTIST IS LEGALLY RESPONSIBLE, IN ITS/THEIR PERFORMANCE OF THIS AGREEMENT AND/OR ARISING OUT OF GOODS AND/OR SERVICES PROVIDED BY ARTIST PURSUANT TO THIS AGREEMENT, REGARDLESS OF THE JOINT OR CONCURRENT NEGLIGENCE OR STRICT LIABILITY OF THE CJTY (HEREINAFTER "CLAIMS"). THIS INDEMNIFICATION PROVISION AND THE USE OF THE TERM "CLAIMS" IS ALSO SPECIFICALLY INTENDED TO APPLY TO, BUT NOT LIMITED TO, ANY AND ALL CLAIMS, WHETHER CIVIL OR CRIMINAL, BROUGHT AGAINST CITY BY ANY GOVERNMENT AUTHORITY OR AGENCY RELATED TO ANY PERSON PROVIDING SERVICES UNDER THIS AGREEMENT THAT ARE BASED ON ANY FEDERAL IMMIGRATION LAW AND ANY AND ALL CLAIMS, DEMANDS, DAMAGES, ACTIONS AND CAUSES OF ACTION OF EVERY KIND AND NATURE, KNOWN AND UNKNOWN, EXISTING OR CLAIMED TO EXIST, RELATING TO OR ARISING OUT OF ANY EMPLOYMENT RELATIONSHIP BETWEEN ARTIST AND HIS EMPLOYEES OR SUBCONTRACTORS AS A RESULT OF THAT SUBCONTRACTOR'S OR EMPLOYEE'S EMPLOYMENT AND/OR SEPARATION FROM EMPLOYMENT WITH ARTIST, INCLUDING BUT NOT LIMITED TO, ANY DISCRIMINATION CLAIM BASED ON SEX, SEXUAL ORIENTATION OR PREFERENCE, RACE, RELIGION, COLOR, NATIONAL ORIGIN, AGE OR DISABILITY UNDER FEDERAL, STATE OR LOCAL LAW, RULE OR REGULATION, AND/OR ANY CLAIM FOR WRONGFUL TERMINATION, BACK PAY, FUTURE WAGE LOSS, OVERTIME PAY, EMPLOYEE BENEFITS, INJURY SUBJECT TO RELIEF UNDER THE WORKERS' COMPENSATION ACT OR WOULD BE SUBJECT TO RELIEF UNDER ANY POLICY FOR WORKERS COMPENSATION INSURANCE, AND ANY OTHER CLAIM, WHETHER IN TORT, CONTRACT OR OTHERWISE.

ARTIST IS EXPRESSLY REQUIRED TO DEFEND CITY AGAINST ALL SUCH CLAIMS. IN ITS SOLE DISCRETION, CITY SHALL HAVE THE RIGHT TO APPROVE OR SELECT DEFENSE COUNSEL TO BE RETAINED BY ARTIST AT A REASONABLE AND CUSTOMARY COST, IN FULFILLING ITS OBLIGATION HEREUNDER TO DEFEND AND INDEMNIFY CITY, UNLESS SUCH RIGHT IS EXPRESSLY WAIVED BY CITY IN WRITING. CITY RESERVES THE RIGHT TO PROVIDE A PORTION OR ALL IT’S OWN DEFENSE; HOWEVER, CITY IS UNDER NO OBLIGATION TO DO SO. ANY SUCH ACTION BY CITY IS NOT TO BE CONSTRUED AS A WAIVER OF ARTIST'S OBLIGATION TO DEFEND CITY OR AS A WAIVER OF ARTIST'S OBLIGATION TO INDEMNIFY CITY PURSUANT TO THIS AGREEMENT. ARTIST SHALL RETAIN CITY APPROVED DEFENSE COUNSEL WITHIN SEVEN (7) BUSINESS DAYS OF CITY'S WRITTEN NOTICE THAT CITY IS INVOKING ITS RIGHT TO INDEMNIFICATION UNDER THIS AGREEMENT. IF ARTIST FAILS TO RETAIN COUNSEL WITHIN SUCH TIME PERIOD, CITY SHALL HAVE THE RIGHT TO RETAIN DEFENSE COUNSEL ON ITS OWN BEHALF, AND ARTIST SHALL BE LIABLE FOR ALL COSTS INCURRED BY CITY.

ARTICLE 14 - NOTICES

Artist agrees that all notices or communications to City permitted or required under this Agreement shall be delivered to City at the following addresses:

[Name]
City of Rockwall
385 S. Goliad
Rockwall, Texas 75087

City agrees that all notices or communication to Artist permitted or required under this Agreement shall be delivered to Artist at the following address:

[Artist Name]
(Address]
[City, State, Zip]

Any notice provided for under the terms of this Agreement by either party to the other shall be in writing and may be effected by registered or certified mail, return receipt requested. All notices or communication required to be given in writing by one party or the other shall be considered as having been given to the addressee on the date such notice or communication is postmarked by the sending party. Each party may change the address to which notice may be sent to that party by giving notice of such change to the other party in accordance with the provisions of this Agreement.

ARTICLE 15 - MISCELLANEOUS

15.1 **Complete Agreement** - This Agreement, including the exhibits hereto labeled "A" through "D", all of which are incorporated herein for all purposes, constitute the entire agreement by and between the parties regarding the subject matter hereof and supersedes all prior and/or contemporaneous written and/or oral understandings. This Agreement may not be amended, supplemented, and/or modified except by written agreement duly executed by both parties. To the extent that any provision of this Agreement should conflict with the provisions of an exhibit, the provisions of this Agreement shall prevail.

15.2 **Assignment and Subletting** - The Artist agrees that neither this Agreement nor the work to be performed hereunder will be assigned or sublet without the prior written consent of the City. The Artist further agrees that the assignment or subletting of any portion or feature of the work or materials required in the performance of this Agreement shall not relieve the Artist of its full obligations to the City as provided by this Agreement. All such approved work performed by assignment or subletting shall be billed through Artist, and there shall be no third party billing.

15.3 **Successors and Assigns** - City and Artist, and their partners, assigns, successors, subcontractors, executors, officers, agents, employees, representatives, and administrators are hereby bound to the terms and conditions of this Agreement.

15.4 **Severability** - In the event a term, condition, or provision of this Agreement is determined to be invalid, illegal, void, unenforceable, or unlawful by a court of competent jurisdiction, then that term, condition, or provision, shall be deleted and the remainder of the Agreement shall remain in full force and effect as if such invalid, illegal, void, unenforceable or unlawful provision had never been contained herein.

15.5 **Venue**- This entire Agreement is performable in Rockwall County, Texas and the venue for any action related directly or indirectly, to this Agreement or in any manner connected therewith shall be Rockwall County, Texas, and this Agreement shall be construed under the laws of the State of Texas.

15.6 **Execution/Consideration** - This Agreement is executed by the parties hereto without coercion or duress for any substantial consideration, the sufficiency of which is forever confessed.

15.7 **Authority** - The individuals executing this Agreement on behalf of the respective parties below represent to each other that all appropriate and necessary action has been taken to authorize the individual who is executing this Agreement to do so for and on behalf of the party for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do so, and such authorization is valid and effective on the date thereof.

15.8 **Waiver** - Waiver by either party of any breach of this Agreement, or the failure of either party to enforce any of the provisions of this Agreement, at any time, shall not in any way affect, limit or waive such party's right thereafter to enforce and compel strict compliance.

15.9 **Headings** - The headings of the various sections of this Agreement are included solely for convenience of reference and are not to be full or accurate descriptions of the content thereof.

15.10 **Multiple Counterparts** - This Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes. A facsimile signature will also be deemed to constitute an original if properly executed.

15.11 **Sovereign Immunity-** The parties agree that the City has not waived its sovereign immunity by entering into and performing its obligations under this Agreement.

15.12 **Representations** - Each signatory represents this Agreement has been read by the party for which this Agreement is executed and that such party has had the opportunity to confer with its counsel.

15.13 **Miscellaneous Drafting Provisions** - This Agreement shall be deemed drafted equally by all parties hereto. The language of all parts of this Agreement shall be construed as a whole according to
its fair meaning, and any presumption or principle that the language herein is to be construed against any party shall not apply.

15.14 **Death of Artist -** In the event the Artist dies or becomes incapacitated during the term of this Agreement, the fabrication, delivery, and installation of the Artwork shall be completed pursuant to the Artist's design, conception, and plans by [Backup Artist Name, Address, City, Street Zip, and Phone Number].

15.15 **No Third Party Beneficiaries**- Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the parties do not intend to create any third party beneficiaries by entering into this Agreement.

15.16 **Independent Contractor Status**- Artist shall act in accordance with its own expertise, experience, manner and methods. The parties recognize that Artist is an independent contractor and not an employee, agent, partner, joint venture affiliate, or legal representative of the City. Artist at no time will hold itself out as an agent, subsidiary, or affiliate of the City for any purpose and shall have no authority to bind the City to any obligation. The personnel performing the services shall at all times be under Artist's exclusive direction and control and will be employees of Artist and not employees of the City.

IN WITNESS WHEREOF, the parties have executed this Agreement and caused this Agreement to be effective on the latest day as reflected by the signatures below.
EFFECTIVE DATE:_____

CITY: The City of Rockwall, Texas	ARTIST:
By:_____	By:_____
Rick Crowley, City Manager	Print Name ( ), Title: Artist

Approved as to Form:

By:_____

STATE OF TEXAS §

§

COUNTY OF ROCKWALL §

BEFORE ME, the undersigned authority, a Notary Public in and for this State of Texas, on this day personally appeared RICK CROWLEY, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purpose and consideration expressed, and in the capacity therein stated.

Given under my hand and seal of office this _____ day of _____ , 2016.

_____

Notary Public in and For the State of Texas

STATE OF TEXAS §

§

COUNTY OF ROCKWALL §

BEFORE ME, the undersigned authority, a Notary Public in and for this State of _____, on this day personally appeared Artist, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration expressed, and in the capacity therein stated.

Given under my hand and seal of office this _____ day of _____ , 2016.

_____

Notary Public in and For the State of Texas

EXHIBIT "A" SCOPE OF SERVICES

AGREEMENT BETWEEN THE CITY OF ROCKWALL, TEXAS (CITY)
AND [NAME OF ARTIST] (ARTIST)

FOR THE FABRICATION AND INSTALLATION OF THE PROPOSED [NAME AND LOCATION OF PROJECT] (PROJECT)

Project Description

[Description of Project]

To fabricate and install the proposed [Project], artist (Artist Name] will perform the following tasks:

A. Following a site visit, submit final schematic drawings of the proposal, based upon submitted Marquette to City staff and the Art Commission for their review and approval within sixty (60) days of the receipt of this agreement. These drawings will include:

- Detailed information of every physical feature of the construction of the Artwork and its integration with the site with any proposed changes to the previously submitted concept highlighted. (Final Design).
- A description of any issues involved in the construction, integration and maintenance of the Artwork, as well as any third party subcontractors needed to work on the project.
- A final project budget breakdown not to exceed [Total cost].
- An installation timeline.

B. Following formal approval of the ART Commission, the Artist shall submit drawings stamped by an engineer, licensed by the State of Texas and paid for by the Artist, for certification that the Artwork, foundation, and its connection will be structurally sound.

C. The Artist shall fabricate and install the Artwork in substantial conformity with the approved design. Any significant changes in the concept, as defined in Article 5.2, must be approved by the City. It is the responsibility of the Artist to coordinate with the City, the Project Landscape Architect, and Contractor to ensure that the site is prepared to receive the Artwork. The City will be responsible for preparation of the site, including installation of the foundation and lighting.

D. Upon completion of the permanent installation and clean-up of the site, the City Project Manager will inspect the work and give notice of acceptance, as provided in this Agreement. The Artist will complete the City's maintenance worksheet and submit it to the City within ten (10) days of City's final acceptance of the Artwork.

EXHIBIT "B" COMPLETION SCHEDULE/PROJECT BILLING/PROJECT BUDGET

AGREEMENT BETWEEN THE CITY OF ROCKWALL, TEXAS (CITY)
AND (NAME OF ARTIST] (ARTIST)

FOR THE FABRICATION AND INSTALLATION OF THE PROPOSED [NAME AND LOCATION OF PROJECT] (PROJECT)

Completion Schedule and Project Billing

TASK	DESCRIPTION	PAYMENT	TIMELINE
1	Execution of Agreement and Notice to Proceed. Insurance documentation sent to City.		
2	Submit final design and budget breakdown for approval to City Staff and Public Art Board. Stamped engineered drawings submitted (if applicable).		
3	Artist begins work on		
4	Artist completes work on _____ . City inspection and approval.		
5	Additional work.		
6	Additional work.		
7	Additional work.		
8	Delivery and installation.		
9	Final acceptance by project manager, submit maintenance worksheets, dedication.		
TOTAL			

EXHIBIT "C" AFFIDAVIT

THE STATE OF_____§

COUNTY OF_____§

I, _____ , Artist, make this affidavit and hereby on oath state the following:

I, and/or a person or persons related to me, have the following interest in a business entity that would be peculiarly affected by the work or decision on the project (check all that apply);

_____ Ownership of 10% or more of the voting shares of the business entity.

_____ Ownership of $2,500 or more of the fair market value of the business entity.

_____ Funds received from the business entity exceed 10% of my income for the previous year.

_____ Real property is involved and I have an equitable or legal ownership with a fair market value of at least $2,500.

_____ None of the above.

_____ A relative of mine has substantial interest in the business entity or property that would be affected by my decision of the public body of which I am a member.

_____ Other: _____ ___

Upon the filing of this affidavit with the City of Rockwall, Texas, I affirm that no relative of mine, in the first degree by consanguinity or affinity as defined in Chapter 573 of the Texas Government Code, is a member of the public body which took action on the agreement.

SIGNED this _____ day of _____ , 20 ____ .

_____

Signature of Official/Title

BEFORE ME, the undersigned authority, this day personally appeared _____ and on oath stated that the facts hereinabove stated are true to the best of his/her knowledge or belief.

Sworn to and subscribed before me on this _____ day of _____ , 20 ___.

_____

Notary Public in and for the State of _____

My commission expires: _____

EXHIBIT "D" CONFLICT OF INTEREST QUESTIONNAIRE

(FORM CIQ INCLUDED IN PDF VERSION)

MAINTENANCE PROCEDURES

Materials and Care Information Sheet (to be filled out by the artist and submitted upon completion of the project prior to final payment.)

Artist:_____Date:_____

Title of Work:_____

Media:_____

Specific materials used (Brand name and type of all materials, i.e. type of paper and fiber content, mental alloy, chemical composition of patina, etc.)

Specific techniques used in the fabrication of the Artwork. (Airbrush painting, lost wax casting, TIG welding, etc.):

Fabricator name and address (if other than artist):

Installation materials and techniques (Attach as-built drawings as appropriate):

Recommended maintenance procedures. (Be as specific as possible about techniques and materials):

Cautions regarding maintenance, handling, etc:

Artist Registry

1. The application should ask for no more than twenty (20) works of art with full identification on slides or a flash drive. If using a USB flash drive, include 2 examples on standard 8” X I 0” photo paper to include in a clear 9” X ll” clear plastic sheet.

   Label each work. If using flash drive, label underneath each JPEG.

Title of work & Artist's Name	Date
Medium	Dimensions
Location of Work	Price, if applicable

2. An Artist's information form. Please submit only as below. Do NOT send a personal resume:
   Name, Date
   Address
   City, State, Zip
   Home/Cell Phone
   Social Security Number (if a finalist)

   Media (check ONLY those that apply to you professionally)

   □ Painting □ Drawing □ Metal □ Photography □ Printmaking

   □ Glass □ Other

   Education
   Public Art Commissions
   Other Professional Experience
   Recent Exhibitions
   Museums or Collections
   Publications
   Honors, Awards, Grants
   Other Significant Experience

   References: Name, Title, Date, Phone, Email, Signature

3. Optional: A single 8.5” X 11" page of additional information on such issues as unusual techniques or personal visual concerns may be attached.

A Request for Artist Qualifications is the preferred process requested by the ART Commission. One or more artist selection methods listed in this section may be utilized.

Request for Artist Qualifications

PROJECT/FACILITY NAME:
(Address)

1) Site Description: This section describes the general public purpose of the facility or site and should also describe in specific detail the activities or operations that will take place once the capital improvement project is complete. It should note the level of public access, the estimated number of persons projected to use the facility, number and nature of employees, operating hours, nature of clientele, any unusual characteristics of operations, etc. The general location of site should be described: type of neighborhood, urban design considerations, approaches to the site, etc. Specific plans for the site should be described to the extent that they have been developed. The architectural or engineering program should be attached, along with conceptual designs or schematics, if available.

2) Current Status of the Project: This section explains whether the project has been funded and appropriated and the source of funding. It provides the status of architect - or engineering - design consultant selection and identifies other design consultants if they have been selected.

3) Timetable: Projection of the overall timetable for the project (schedule for conceptual design, schematics, working drawings, construction documents, bidding/contract award, construction, facility opening) with particular note of the periods during which Artist involvement would be required. Should also note, if possible, the level of artist commitment required during each time period (i.e., 50% time, full-time, etc.).

4) Project Description: This section describes in detail the expected scope of services of the artist. Will the artist be a member of the project design team? What will be the artist's relationship to the architect, subcontractor, co-equal designer? With whom will the artist contract? Will the artist be working on the overall design or specific elements of the architecture program? Typical elements, such as fixtures and furnishings? Discreet artworks? How will these issues be resolved during the course of the design development? If the project is for the creation of a specific artwork, the nature of the desired work should be described in detail here. For example, if you are looking for an Artist to create a stained glass window, then the dimensions of the opening(s), structural considerations, related design elements, etc., should be detailed.

5) Project Budget: This section should state the budget available for the project. Any limitations should be stated here. For instance, if the Artist's fee is limited to fifteen (15) percent of the budget for design, with the remainder for the actual fabrication and installation of artworks, that should be stated here. This section should also indicate whether the budget is inclusive of travel, overhead, insurance, site preparation, lighting and utilities, installation, etc.

6) Project Selection Panel: This section should identify the members of the selection panel who will be choosing the Artist(s) who will be recommended for the project.

7) Selection Process: This section should outline in some detail the process for the selection of Artists, including what the respondents are being asked to submit, whether travel and honoraria are offered, whether the Artists will be asked to develop a proposal, etc. Typically, Artists will be asked to submit slides or another form of previous work, a professional resume and a brief statement of their response to the challenge offered by the project, not to exceed two typewritten pages. Up to five Artists will be selected to interview for the project. Finalists who are asked to prepare a proposal will normally be paid a small honorarium. The selection panel should always reserve the right to reject all proposals or applicants.

8) Pre-submittal Conference/Site Visits: This section should be included if there is an opportunity to visit the site prior to the submittals or whether there is a mandatory or optional pre-submittal meeting prior to submittal. If so, this section should indicate the time, date and place of the meeting, as well as a contact person.

9) Deadline: This section will contain the time and date by which the submittals are due, and should indicate whether this is a postmark deadline or a receipt deadline. This section should also indicate when Artists can expect to receive notice about the project.

10) Instructions: This section will contain specific instructions relating to the Artist submittals. They might for instance contain the following instructions:

    a. Entries will be accepted in two-dimensional form only.
    b. Submit up to twenty slides or a USB flash drive or photographs of 20 recent representative work, a list with annotation (10 copies), your current resume (10 copies) and a no-more-than two-page response to the opportunity presented by the project (10 copies).
    c. It is emphasized that specific proposals for the artworks are not requested at this time and will not be reviewed.
    d. Include a self-addressed, stamped envelope with sufficient postage to cover the return of visuals. Only slides and photographs will be returned.
    e. Every work should be labeled on the front of the slide with the Artist's name, the title of the work, the medium, dimensions and date of creation. An arrow should indicate the top of the slide.

f. Every item in the Artist's submittal should be labeled with the Artist's name.
g. Artists whose work, by its nature, cannot be shown through the media listed above should contact (Person and phone number), to make special arrangements.
h. All materials must be contained in a single envelope not to exceed 16" X 20". Only one entry per envelope. Artists submitting to other projects should make separate submittals. Entries should be addressed to:

    (Project Name)
    Rockwall Art Commission
    385 S. Goliad
    Rockwall, TX 75087

i. While every precaution will be taken to prevent the loss or damage to entries, the Rockwall Art Commission, its staff and selection panels assume no responsibility in the case of loss or damage to the items submitted.
j. The Rockwall ART Commission reserves the right to duplicate materials for its Artists registry. Artists not wishing their work duplicated for the registry should clearly indicate in writing in their submittal.
k. All Artists who submit for this project will be notified in writing of the selection panel's decision. No information regarding the decision will be released by telephone.
l. Artists who wish to be notified that their submittal has been received should include a stamped, self-addressed postcard that will be mailed back to them upon receipt of the submittal.

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CITY OF ROCKWALL, TEXAS
MEMORANDUM

TO: Mayor and City Council

CC: Rick Crowley, *City Manager*
Brad Griggs, *Assistant City Manager*

FROM: Ryan Miller, *Director of Planning and Zoning*

DATE: October 3, 2016

SUBJECT: Comprehensive Plan Advisory Committee (CPAC) Resolution

As will be discussed in the work session on October 3, 2016, the City Council will need to appoint a citizen steering committee to assist staff through the proposed Comprehensive Plan update. In order to give the City Council the option of approving the resolution and/or appointing members at the October 3, 2016 meeting staff has placed this as an action item on the agenda; however, this item can be postponed to a future meeting date and does not require the Council to take action. Staff has attached the proposed resolution and a list of suggested criteria for selecting members that was provided to the City Council during the 2010 Comprehensive Plan update (*see Exhibits 'A'*). Should the City Council have any questions staff will be available at the meeting to discuss.

Suggestions for Comprehensive Plan Advisory Committee

- ☑ Former Planning and Zoning Commissioners;
- ☑ Current or past REDC Board Members;
- ☑ Former or Current County Commissioners;
- ☑ Independent local businessmen with interest in community;
- ☑ Representatives from the R.I.S.D. (could be a teacher);
- ☑ Real Estate individual involved in residential and commercial development;
- ☑ Local Corporate Business owner or CEO;
- ☑ Local Builder/Developer;
- ☑ Banking/Financial Investment representative involved in local development and business investment;
- ☑ Individuals that represent large neighborhoods/subdivisions or H.O.A. within the city;
- ☑ Local Civil Engineers involved in land use and development;
- ☑ Citizens that are large land owners or representatives of large land owners within the City; and,
- ☑ Representatives from non-profit organizations that affect large areas of the City.

The potential participants on the Committee should generally be individuals that:

- ☑ are interested in the growth of the City
- ☑ may have been involved in land use planning
- ☑ may have been involved in a land use conflict
- ☑ may have a considerable influence on land use planning
- ☑ may be affected by the outcome of land use planning

CITY OF ROCKWALL

RESOLUTION NO. 16-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, ESTABLISHING THE COMPREHENSIVE PLAN ADVISORY COMMITTEE AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, a City's Comprehensive Plan -- *also known as a general plan or master plan* -- is a document intended to layout a 20-year vision for a city and guide a City Council's actions on policy decisions relating to land use and development regulations, and expenditures for capital improvements; and,

WHEREAS, the City Charter for the City of Rockwall states that "(t)he existing master plan [*Comprehensive Plan*] for the physical development of the City contains recommendations for the growth, development and beautification of the City and its extraterritorial jurisdiction … "; and,

WHEREAS, the City of Rockwall's Comprehensive Plan was originally drafted in 1966 with major updates being approved in 1986, 1995, and 2001; and,

WHEREAS, the City of Rockwall's last Comprehensive Plan update was adopted on March 5, 2012 by *Resolution No. 12-07*; and,

WHEREAS, the City Council of the City of Rockwall acknowledges that the Comprehensive Plan needs to be updated from *time-to-time* to account for changes to the physical development of the City and to provide a clear vision for the future growth of the community; and,

WHEREAS, in an effort to ensure transparency and to further citizen involvement in the planning process, the City Council hereby establishes an appointed board of Rockwall citizens to serve as the Comprehensive Plan Advisory Committee (CPAC); and,

WHEREAS, the Comprehensive Plan Advisory Committee (CPAC) shall serve as an advisory and recommending body to ensure that the findings, recommendations and strategies identified by City staff are in alignment with the goals and vision of the community and the City Council;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS:

SECTION 1. *Purpose.* The Comprehensive Plan Advisory Committee (CPAC) serves in an advisory role overseeing the preparation of the Comprehensive Plan update to achieve the following:

1) To provide advisory recommendations to City Staff, the City Council Development Review Committee (CCDC), and the City Council; and,

2) To ensure that all findings, recommendations and strategies prepared for the Comprehensive Plan update are in alignment with the goals and vision of the Community and the City Council.

SECTION 2. *Members.* The Comprehensive Plan Advisory Committee (CPAC) shall consist of seven (7) members that are appointed by the City Council. These members should be representative of the community and may consist of members of the City's other boards and commissions, community leaders, stakeholder groups and development experts; however, all

DRAFT RESOLUTION NO. 03-2016

appointees shall be citizens of the City of Rockwall.

SECTION 3. *Officers.* At the first Comprehensive Plan Advisory Committee (CPAC) meeting, the committee shall elect a Chairman and Vice-Chairman. These positions will serve for the duration of the committee [*i.e. until the dissolution date*].

SECTION 4. *Voting.* All recommendations and decisions of the Comprehensive Plan Advisory Committee (CPAC) shall be decided by a simple majority vote.

SECTION 5. *Meetings.* The Comprehensive Plan Advisory Committee (CPAC) shall meet on an as needed basis. Since the CPAC is an advisory board and not a regulatory board, its meetings shall not be subject to the requirements of the Texas Open Meetings Act as stipulated by Chapter 551 of the *Texas Local Government Code*; however, the agenda for each meeting shall be posted on the City's bulletin board, in front of City Hall, a minimum of 24-hours prior to the meeting. The agenda shall indicate the time and place of each meeting. All CPAC meetings shall be open to the general public.

SECTION 6. *Dissolution Date [Sunset Clause].* Upon the completion and adoption of the 2017 Comprehensive Plan Update, the Comprehensive Plan Advisory Committee (CPAC) shall be dissolved and its members shall be released from any further obligations with respect to the Committee.

SECTION 7. *Effective Date.* This resolution shall take effect immediately from and after its adoption and it is so resolved.

PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF ROCKWALL, TEXAS, ON THIS THE 3RD DAY OF OCTOBER, 2016.

APPROVED:

_____

Jim Pruitt, *Mayor*

ATTEST:

_____

Kristy Cole, *City Secretary*

DRAFT RESOLUTION 10.03.2016

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City of Rockwall
The New Horizon

MEMORANDUM

TO: **Rockwall City Council**

FROM: **Joey Boyd, Director of Internal Operations**

DATE: **September 22, 2016**

SUBJECT: **Contract with Meals On Wheels Senior Services**

As part of the budget process, Margie VerHagen, Executive Director of Meals On Wheels Senior Services, requested funding for nutritional / senior service programs provided in Rockwall.

Meals On Wheel's request of $30,000 was approved in the operating budget for this fiscal year. Attached for the Council's review is a contract with Meals On Wheels for FY 2017.

The City Council is asked to consider the proposed contract and authorize the City Manager to enter into an agreement with Meals On Wheels Senior Services for nutritional and senior service programs in the City of Rockwall.

AGREEMENT FOR NUTRITIONAL PROGRAMS FOR THE ELDERLY AND DISABLED

STATE OF TEXAS §
COUNTY OF ROCKWALL § KNOW ALL MEN BY THESE PRESENTS:

THIS AGREEMENT is entered into by the **CITY OF ROCKWALL, COUNTY OF ROCKWALL, TEXAS (hereinafter referred to as "City"),** a municipal corporation, acting by and through Rick Crowley, City Manager, its duly authorized representative and **MEALS ON WHEELS SENIOR SERVICES, a nonprofit Texas corporation**, acting by and through Margie VerHagen, its duly authorized representative. The parties do hereby covenant and agree as follows:

Section 1. **Grant**. For and in consideration of compliance by Meals On Wheels Senior Services with covenants and conditions herein set forth, and the ordinances and regulations of the City, the City hereby contracts with Meals On Wheels Senior Services to provide certain nutritional programs to the elderly and disabled within the corporate limits of the City.

Meals On Wheels Senior Services shall conduct operations in accordance with all federal, state and local laws that exist at the time of the execution of this agreement and any additional laws, regulations, or requirements that may become effective during the term of this agreement. In addition, Meals On Wheels Senior Services agrees to conduct operations in accordance with the description of services outlined in Attachment "A" attached hereto and made a part hereof for all purposes. Meals On Wheels Senior Services shall be responsible for obtaining any permits or licenses required to fulfill its obligations under this agreement.

Section 2. **Payment.** City agrees to pay Meals On Wheels Senior Services the sum of **Thirty Thousand Dollars and No/Cents ($30,000.00)** for the provision of certain nutritional / service programs to the elderly and disabled. Said payments shall be made on the following dates: **December 31, 2016 for 1st Quarter, March 31, 2017 for 2nd Quarter, June 30, 2017 for 3rd Quarter, and September 30, 2017 for 4th Quarter Upon Receiving a Quarterly Report and Invoice.**

Section 3. **Term**. This agreement is to take effect and continue and remain in full force and effect for a period to expire on September 30, 2017.

Section 4. **Scope and Nature of Operation.** It is expressly agreed and understood that Meals On Wheels Senior Services shall provide the services as outlined in Attachment "A" continuously during the contract period.

Section 5. **Surety and Cancellation.** If at any time, the City Council determines that Meals On Wheels Senior Services has failed to perform, or performed in an unacceptable manner, any of the terms, covenants or conditions herein set forth, the City may revoke and cancel this agreement. The City Council shall be the sole judge of whether Meals On Wheels Senior Services has failed to perform. Meals On Wheels Senior Services shall be given written notice at least 10 days prior to consideration by the City Council of such action. Should the City Council revoke this agreement, Meals On Wheels Senior Services shall be responsible for reimbursing the City on a pro-rata basis any unearned funds paid by the City.

Section 6. **Complaint Handling by Meals On Wheels Senior Services**. Meals On Wheels Senior Services shall, at its own expense, provide a locally accessible telephone number and will answer calls from 9:00 a.m. until 5:00 p.m. daily, Monday through Friday, excluding such holidays as may be approved by the City, for the purpose of handling complaints and other calls regarding services provided by Meals On Wheels Senior Services. Meals On Wheels Senior Services shall maintain a log of all complaints and disposition of the complaints. This log shall be submitted to the City on a monthly basis. All complaints shall be given prompt and courteous attention and when possible, shall be resolved within a 24-hour period.

Section 7. **Vehicular Identification.** There are no vehicle identification requirements at this time. Provided that such markings or identification becomes necessary during the term of this agreement, the parties agree to implement such markings, and if so, will be the responsibility of Meals On Wheels Senior Services.

Section 8. **Reporting.** Meals On Wheels Senior Services shall provide quarterly reports to the City detailing the following:

Nutritional Programs for the Elderly and Disabled

a. Number of users – average daily and monthly totals

b. Type of services provided

c. Complaint logs

Section 9. **Books and Records.** Meals On Wheels Senior Services agrees to maintain adequate books and records relating to their performance under the provisions of the Agreement. The City may request from Meals On Wheels Senior Services specific periodic reports containing information deemed necessary by the City. The records of Meals On Wheels Senior Services applicable to the performance of this agreement shall and will be available when wanted for inspection by the City at any time during normal working hours upon 10 days written request.

Section 10. **Indemnification Insurance.** Meals On Wheels Senior Services assumes risk of loss or injury to property or persons arising from any of its operations under this agreement and agrees to indemnify and hold harmless the City from all claims, demands, suits, judgments, costs or expenses, including expenses of litigation and attorney's fees, arising from any such loss or injury. It is expressly understood that the foregoing provisions shall not in any way limit the liability of Meals On Wheels Senior Services. Meals On Wheels Senior Services shall require that all drivers carry at all times, in the vehicle, insurance certificates of financial responsibility.

Section 11. **Assignment.** No assignment, transfer, subletting, conveyance or disposition of this agreement or any right occurring under it shall be made in whole or in party by Meals On Wheels Senior Services without the prior written consent of the City Council. In the event Meals On Wheels Senior Services assigns, transfers, sublets, conveys, or disposes of this agreement without the prior consent of the City Council, the City may, at its discretion, terminate this agreement.

Section 12. **Venue.** This agreement shall be considered consummated in Rockwall County, Texas. All actions brought hereunder shall be brought in Rockwall County, Texas.

Section 13. **Modification.** This agreement constitutes the entire agreement and understanding between the parties hereto, and it shall not be considered modified, altered, changed, or amended in any respect unless modified by approval of the City Council as provided herein.

Section 14. **Right to Require Performance.** The failure of the City at any time to require performance by Meals On Wheels Senior Services of any provisions hereof shall in no way affect the rights of the City thereafter to enforce the same. No waiver by the City of any breach of any provisions hereof shall be taken or held to be a waiver of any provision itself.

Section 15. **Illegal Provisions.** If any provision of this agreement shall be declared illegal, void or unenforceable, the other provisions shall not be affected and shall remain in full force and effect.

Section 16. **Notices.** Any notice required or permitted to be delivered hereunder shall be in writing and shall be deemed to be delivered, whether or not actually received, when deposited in the United States Mail, postage prepaid, certified mail, return receipt requested, addressed to a respective party at the addresses set forth below:

If intended for the City:

City of Rockwall
Attention: City Secretary
385 S. Goliad
Rockwall, Texas 75087

If intended for Committee:

Meals On Wheels Senior Services
Attention: Executive Director
950 Williams Street, Suite 200
Rockwall, Texas 75087

Section 17. **Approval by the City.** This agreement shall not be considered fully executed, nor binding on the City, until the same shall have been executed by Meals On Wheels Senior Services, the City Manager and the City Secretary.

Section 18. **Effective Date.** This contract shall be effective on the ____ day of

_____, 2016.

CITY OF ROCKWALL, TEXAS

_____
Richard Crowley, City Manager

ATTEST:

_____
Kristy Cole, City Secretary

_____
Date

[S E A L]

MEALS ON WHEELS SENIOR SERVICES

_____

Margie VerHagen, Executive Director

_____

Date

ATTACHMENT A
Nutritional / Service Programs

Nutritional Programs

Title III

C-1 Congregate Meals

- Clients over 60 years old receive nutritious meals at a Senior Center.
- Meals should provide 1/3 of the RDA nutrition requirements.
- Meals are served a minimum of 250 days a year.

C-2 Home Delivered Meals

- Meals delivered to eligible homebound seniors due to physical or health reasons.
- Meals should provide 1/3 of the RDA nutrition requirements.
- Meals are delivered a minimum of 250 days a year.

Title IXX and XX

To provide nutritious meals to those who are handicapped or disabled (of any age) and home bound.

- Meals should provide 1/3 of the RDA nutrition requirements.
- Meals are delivered a minimum of 250 days a year as needed.

General Senior Services

Information and educational seminars and symposiums will be sponsored by Meals On Wheels Senior Services concerning benefits counseling, prescription drugs, senior health, training sessions, caregiver support and information, referrals, social events as venues for information and education exchange, ombudsman services, entitlement programs and senior issues, i.e. Medicare/Medicaid information and pharmaceutical assistance, and emergency food bags in the winter.

ATTACHMENT B
Holidays

The following are closure days for which Meals On Wheels Senior Services will not be providing services but will render services the following working day:

Thanksgiving Day

Christmas Day

New Year's Day

Martin Luther King, Jr. Holiday

Memorial Day

July 4th

Labor Day

Bad Weather days as determined by Meals On Wheels Senior Services pending weather reports and street conditions.

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City of Rockwall
The New Horizon

AUGUST - 2016 - Call Breakdown By Month Report

CITY CALLS	August
Situation Type	**#**
111 Building fire	2
131 Passenger vehicle fire (cars, pickups, SUV's)	1
132 Road freight or transport vehicle fire (Commercial Vehicles)	1
142 Brush or brush-and-grass mixture fire	1
143 Grass fire	1
311 Medical assist, assist EMS crew	4
322 Motor vehicle accident with injuries	3
323 Motor vehicle/pedestrian accident (MV Ped)	2
324 Motor vehicle accident with no injuries.	9
352 Extrication of victim(s) from vehicle	3
412 Gas leak (natural gas or LPG)	7
413 Oil or other combustible liquid spill	1
444 Power line down	2
550 Public service assistance, other	2
551 Assist police or other governmental agency	14
553 Public service	4
556 Public service - Non paged	12
622 No incident found on arrival at dispatch address	4
651 Smoke scare, odor of smoke	9
700 False alarm or false call, other	1
715 Local alarm system, malicious false alarm	1
733 Smoke detector activation due to malfunction	3
735 Alarm system sounded due to malfunction	3
736 CO detector activation due to malfunction	1
740 Unintentional transmission of alarm, other	1
741 Sprinkler activation, no fire - unintentional	1
743 Smoke detector activation, no fire - unintentional	6
745 Alarm system activation, no fire - unintentional	6
Unknown	1
Totals:	106

COUNTY CALLS	August
Situation Type	**#**
143 Grass fire	1
444 Power line down	1
551 Assist police or other governmental agency	1
611 Dispatched & canceled en route	1
651 Smoke scare, odor of smoke	1
Unknown	1
Totals:	6

MUTUAL AID IN OTHER CITIES	August
Situation Type	**#**
142 Brush or brush-and-grass mixture fire	1
551 Assist police or other governmental agency	1
Totals:	2

To: Chief Poindexter
From: BC Merritt
Re: August 16 Structure Fire Report
Date: September 19, 2016

261 Green Circle

We responded to a report of a structure fire on August 08, 2016 at 267 Green Circle. The first unit arrived on scene and found a large detached Shop/Garage with smoke showing from the exterior. Firefighters entered the structure and were able to quickly contain the fire to point of origin. There was minimal damage to the structure. There were no firefighter injuries on this incident.

Dispatch Time: 13:02.20
Enroute Time: 13:03.19
On Scene Time: 13:11.50
Clear Time: 14:11.41

4 men on scene 13:14.34
8 men on scene 13:14.46
12 men on scene 13:17.42

Total personnel on scene: 2 Chiefs, 7 on duty personnel, 5 Volunteers and 2 Fire Investigators.

1306 Stanford Dr.

We responded to a report of a structure fire on August 26, 2016 at 1306 Stanford Dr. The first unit on scene reported heavy smoke and flames showing from the roof of the residence. Firefighters were able to initially enter the residence and try to extinguish the flames but due to the amount of fire involved the firefighters were ordered to pull out of the residence and the fire was attacked from the exterior. The structure and contents suffered heavy damage as a result of the fire and water. There was one minor burn injury to one of the firefighters.

Dispatch Time: 16:36.15
Enroute Time: 16:37.46
On Scene Time: 16:40.12
Clear Time: 19:07.07

4 men on scene 16:42.51
8 men on scene 16:45.20
12 men on scene 16:52.18

Total personnel on scene 2 Chiefs, 5 on duty personnel, 9 volunteers and 2 Fire Investigators.

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CITY RESPONSE
AUGUST 2016

ENROUTE TIMES			
CITY CALLS	STATIONS 1,2,3 and 4 TO BOXES WITH STATIONS		STATIONS 1,2,3, AND 4 TO BOXES WITHOUT STATIONS
0-1 1/2 Minutes	25 of 27 0.93% Criteria Met	0- 1 1/2 MINUTES	7 of 8 0.88% Criteria Met
CRITERIA MET %		CRITERIA MET %	
CRITERIA -ACHIEVE RESPONSE TIME		CRITERIA -ACHIEVE RESPONSE TIME	
90% OF TIME IN BOXES WITH		60% OF TIME IN BOXES WITH	
STATIONS		STATIONS	
ARRIVAL TIMES	STATIONS 1,2,3 and 4 TO BOXES WITH STATIONS		STATIONS 1,2,3, AND 4 TO BOXES WITHOUT STATIONS
	21 of 27 0.78% Criteira Not Met	0-6 MINUTES	3 of 8 0.38% Criteria not met
0 - 6 MINUTES		CRITERIA MET %	
CRITERIA MET %		CRITERIA -ACHIEVE RESPONSE TIME	
CRITERIA -ACHIEVE RESPONSE TIME		60% OF TIME IN BOXES WITH	
90% OF TIME IN BOXES WITH			
STATIONS		STATIONS	
	STATIONS 1,2,3 and 4 TO BOXES WITH STATIONS		STATIONS 1,2,3, AND 4 TO BOXES WITHOUT STATIONS
RESPONSE TIMES	21 of 27 0.78% Criteria Not Met	0-7 1/2 MINUTES	4 of 8 0.50% Criteria not met
0-7 1/2 MINUTES		CRITERIA MET%	
CRITERIA MET%		CRITERIA -ACHIEVE RESPONSE TIME	
CRITERIA -ACHIEVE RESPONSE TIME		60% OF TIME IN BOXES WITH	
90% OF TIME IN BOXES WITH		STATIONS	
STATIONS			

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CITY CALLS
ENROUTE OVERAGES
AUG 2016

Venue	Alarm Date	Alarm Time	Enroute Time	alarm to enroute	Inc. Number	Station	Lights and Sirens	Apparatus	REASON FOR OVERAGES
Rockwall	08/14/2016	11:17:02	11:19:18	0:02:16	2016-00000831	Rockwall 3	Code 3	E3	CAD time don't match radio times
Heath	08/11/2016	12:30:45	12:32:35	0:01:50	2016-00000821	Rockwall 4	Code 3	BT2	CAD time don't match radio times
Rockwall	08/10/2016	23:33:11	23:34:51	0:01:40	2016-00000818	Rockwall 3	Code 3	E4	CAD time don't match radio times

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CITY CALLS -
ARRIVAL OVERAGES - AUG. 2016

Venue	Alarm Date	Enroute Time	Arrival Time	enroute to arrival	Inc. Number	Station	Lights and Sirens	Apparatus	REASON FOR OVERAGES
Rockwall	08/02/2016	15:15:07	15:21:20	0:06:13	2016-00000782	Rockwall 4	Code 3	BT4	Response to area without station
Rockwall	08/02/2016	15:50:12	16:00:00	0:09:48	2016-00000783	Rockwall 4	Code 3	BT4	Response to area without station
Rockwall	08/08/2016	13:03:51	13:13:26	0:09:35	2016-00000803	Rockwall 1	Code 3	E1	Response to area without station
Rockwall	08/10/2016	09:57:53	10:05:41	0:07:48	2016-00000811	Rockwall 1	Code 3	E3	Reduced code while enroute
Rockwall	08/10/2016	23:34:51	23:41:52	0:07:01	2016-00000818	Rockwall 3	Code 3	E4	E-3 was on another call
Rockwall	08/14/2016	11:19:18	11:25:31	0:06:13	2016-00000831	Rockwall 3	Code 3	E3	Response to area without station
Rockwall	08/17/2016	15:09:22	15:16:44	0:07:22	2016-00000844	Rockwall 4	Code 3	E4	E-4 was at Station #2
Rockwall	08/17/2016	19:36:19	19:43:28	0:07:09	2016-00000845	Rockwall 2	Code 3	LAD1	E-2 was on out of station
Rockwall	08/24/2016	11:35:36	11:44:50	0:09:14	2016-00000875	Rockwall 2	Code 3	E2	Reduced code while enroute
Rockwall	08/30/2016	08:37:53	08:45:25	0:07:32	2016-00000894	Rockwall 4	Code 3	E4	Reduced code while enroute
Rockwall	08/30/2016	17:26:10	17:35:35	0:09:25	2016-00000896	Rockwall 1	Code 3	E4	Response to area without station

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COUNTY AND MUTUAL AID
RESPONSE
AUGUST 2016

COUNTY/MUTUAL	
ENROUTE	STATIONS 1,2,3, AND 4 TO BOXES WITHOUT STATIONS
0- 1 1/2 MINUTES	
CRITERIA MET %	2 of 3
CRITERIA -ACHIEVE RESPONSE TIME	0.67%
60% OF TIME IN BOXES WITH	Criteria Met
STATIONS	
ARRIVAL	STATIONS 1,2,3 and 4 TO BOXES WITHOUT STATIONS
0 - 10 MINUTES	
CRITERIA MET %	0 of 3
CRITERIA -ACHIEVE RESPONSE TIME	0%
60% OF TIME IN BOXES WITH	Criteria Not Met
STATIONS	
RESPONSE	STATIONS 1,2,3 and 4 TO BOXES WITHOUT STATIONS
0-11 1/2 MINUTES	
CRITERIA MET%	1 of 3
CRITERIA -ACHIEVE RESPONSE TIME	0.33%
60% OF TIME IN BOXES WITH	Criteria Not Met
STATIONS	

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COUNTY OVERAGES
AUGUST 2016

ENROUTE OVERAGES

Venue	Alarm Date	Alarm Time	Enroute Time	Alarm to Enroute	Inc. Number	Station	Lights and Sirens	Apparatus	REASON FOR OVERAGES
Rockwall County	08/16/2016	09:11:16	09:13:02	0:01:46	2016-00000840	Rockwall 1	Code 3	TNK1	CAD time does not match radio time

ARRIVAL OVERAGES

Venue	Alarm Date	enroute	arrival	Enroute to arrival	Inc. Number	Station	Lights and Sirens	Apparatus	REASON FOR OVERAGES
Rockwall County	08/16/2016	09:13:02	09:25:09	0:12:07	2016-00000840	Rockwall 1	Code 3	TNK1	drive time to County
Rockwall County	08/21/2016	14:04:31	14:11:53	0:07:22	2016-00000862	Rockwall 3	Code 3	BT3	drive time to County
Rockwall County	08/14/2016	20:25:59	20:32:44	0:06:45	2016-00000834	Rockwall 3	Code 3	E3	drive time to County

RESPONSE OVERAGES

Venue	Alarm Date	Alarm Time	Arrival Time	response time	Inc. Number	Station	Lights and Sirens	Apparatus	REASON FOR OVERAGES
Rockwall County	08/16/2016	09:11:16	09:25:09	0:13:53	2016-00000840	Rockwall 1	Code 3	TNK1	drive time to County

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Total Dollar Losses

August 2016

City of Rockwall
The New Horizon

	Current Month	Last Month	Same Month Last Year	Year To Date	Last Year To Date
Total Property Loss:	$314,111.25	$140,536.50	$3,000.00	$564,354.55	$547,930.24
Total Content Loss:	$128,391.75	$84,321.90	$1,500.00	$236,765.35	$356,695.60
Total Property Pre-Incident Value:	$464,645.00	$628,587.00	$7,965,432.90	$3,394,100.60	$9,217,325.40
Total Contents Pre-Incident Value	$276,867.00	$377,152.20	$4,779,259.70	$1,169,619.60	$5,588,315.70
Total Losses:	$442,503.00	$224,858.40	$4,500.00	$801,119.90	$442,503.00
Total Value:	$741,512.00	$1,005,739.20	$12,744,692.60	$4,563,720.20	$14,805,641.10

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CALLS BY TYPE - August 2016

City of Rockwall
The New Horizon

Alarm Calls	# of Calls
733 Smoke detector activation due to malfunction	2
736 Carbon monoxide detector activation due to malfunction	1
743 Smoke detector activation, no fire - unintentional	0
732 Extinguishing System Activated Due to Malfunction	0
734 Heat Detector Activation Due to Malfunction	0
735 Alarm system sounded due to malfunction	3
740 Unintentional transmission of alarm, other	0
741 Sprinkler acitivate - no fire	1
744 Detector activation, no fire - unintentional	0
745 Alarm system activation, no fire - unintentional	6
Total for Month:	**13**

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Fire Marshal's Division Monthly Reports

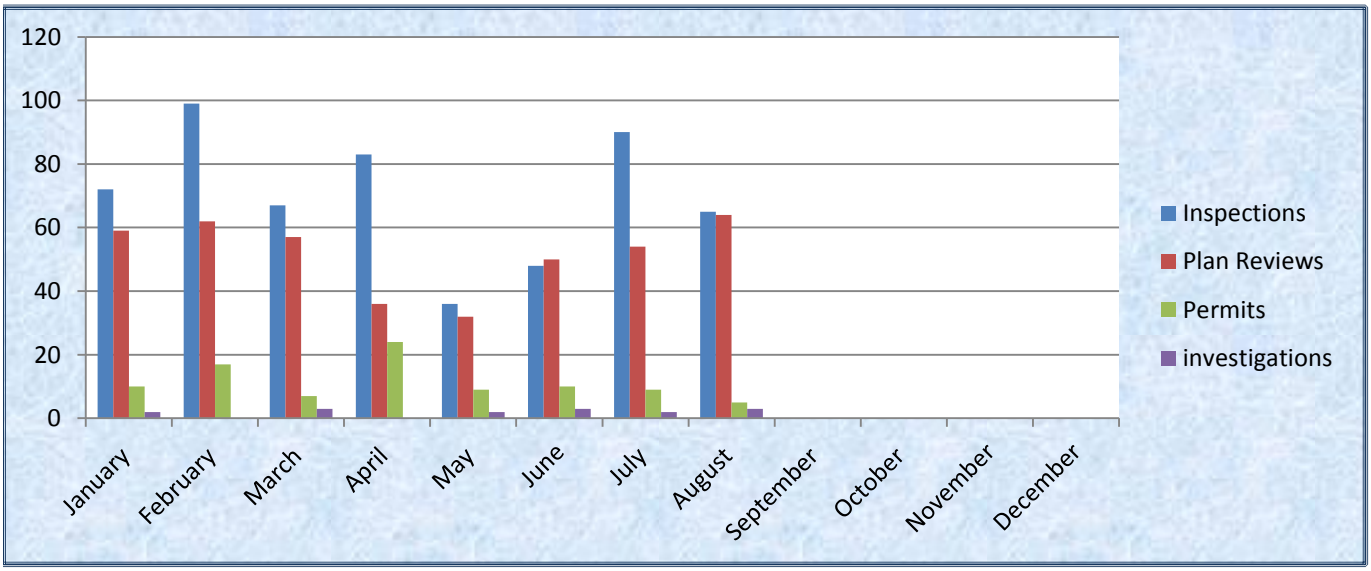
August 2016

Inspection Status Report	
Finaled Inspections	41
Pending Inspections	24
Total for the Month	**65**

Fire Investigations Status Report	
Active Investigations	0
Closed Investigations	3
Total for the Month	**3**

Project Routing Report	
COMM	29
CO	15
Engineering	4
Plat	6
Single Family	1
Site Plan	3
Special Event	1
TCO	1
Zoning	4
Total for the Month	**64**

Fire Permit Listing	
Doors-Access Control	1
Fire Alarm	0
Fire Sprinkler	1
Fire Sprinkler Monitoring System	1
High-Rack/Pile	0
Kitchen Suppression	1
Open Burn	0
Temp Aboveground Tank	0
Underground Tank	1
Total for the Month	**5**



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City of Rockwall
GIS Department Report
August 2016

GIS Project Request:

Month	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	*% Change from 2015*	2016 Mo. Trend
January	5	14	19	24	31	21	26	28	38	38	0%	-
February	13	16	26	28	28	25	26	27	33	49	48.48%	↑
March	4	6	32	23	36	22	23	28	30	38	26.67%	↑
April	9	25	17	22	29	37	23	30	35	30	-14.29%	↓
May	16	25	18	30	32	33	38	24	31	31	0%	-
June	11	9	27	22	38	35	28	15	34	46	35.29%	↑
July	15	24	15	32	23	27	21	31	41	32	-21.95%	↓
August	15	7	23	24	38	35	36	34	27	**36**	33.33%	↑
September	9	7	28	31	37	27	20	39	50			
October	10	33	32	39	40	39	27	44	38			
November	35	6	15	27	22	13	29	34	46			
December	10	13	13	28	22	17	28	19	42			
Total:	152	185	265	330	376	331	325	353	445	**(300)**	**11.52 %↑**	

Key Projects:

(1) **Asset Management Software**. RFP under review**,** GraniteXP vs NET requirements - Ongoing

(2) **Outside Request**. NTMWD, Rockwall County 911, Texas State University (Study), American Legion

(3) **GPS Intern Projects**. Utility and driveway GPS and digitization

(4) **Engineering Department**. AMS meeting, ADA Curb Ramp map book, New pavement mgmt. data, Several locator and notification maps, Smoke testing map, TXDOT signage & addresses, Flooding map updates, Chandlers Landing fire hydrant & valve map, NTMWD data incorporation, City traffic signal addressing

(5) **Police / Fire**. New World NG911 data migration, PD beat maps, Sex Offender location and notification maps X2

Monthly Project Request by Department:

Admin / HR / Internal Ops	0
Building Inspections	0
Citizen Request	0
City Council	0
City Manager's Office	0
Neighborhood Improvement Services	0
Engineering / Public Works	10
Finance / Utilities	1
Fire Department	0
GIS (Citywide Projects)	3
IT	0
Main Street Program	0
Outside Agencies	4
Parks and Recreation	5
Planning	5
Police Department	4
REDC	4
Total	36

(6) **Parks Department**. Several West Nile mosquito notification and fogging maps, Rib Rub planning maps, Trail marker and distance maps

(7) **Planning Department**. Preliminary I30 corridor graphics and data, Zanata's restroom and stair layout, Harbor sub-district counts, Specific Fate parcel identification,

(8) **REDC.** Tech Park mowing calculation maps, Phase 4 Pratt exhibits, Lot setbacks, I-30 8 acre tract exhibit

(10) **GIS.** GeoComm / NG911 EGDMS state address clean up, Asset Management research and meetings, Dept. job description updates

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CITY OF ROCKWALL
INTERNAL OPERATIONS DEPARTMENT
FACILITY MAINTENANCE REQUESTS FOR SERVICE
AUGUST 2016

DEPARTMENT	# FMR REQUESTS	# FMR REQUESTS RESPONDED TO W / IN 24 HOURS	# FMR REQUESTS NOT RESPONDED TO W / IN 24 HOURS	% ON TIME
ADMINISTRATION	2	2	0	100%
ADMINISTRATIVE SERVICES	9	9	0	100%
AIRPORT	0	0	0	0%
ANIMAL SERVICES	4	3	1	75%
BUILDING INSPECTIONS / NEIGHBORHOOD IMPROVEMENT	1	1	0	100%
ENGINEERING	3	3	0	100%
FINANCE	14	14	0	100%
FIRE DEPARTMENT	22	21	1	95%
INTERNAL OPERATIONS	103	103	0	100%
MUNICIPAL COURT	22	22	0	100%
PARKS & RECREATION	9	9	0	100%
PLANNING & ZONING	2	2	0	100%
POLICE DEPARTMENT	24	24	0	100%
PUBLIC WORKS	10	10	0	100%
UTILITY BILLING	0	0	0	0%
TOTAL	225	223	2	99%

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Airport Operations Report

For Month of August 2016

FUEL SALES

	GALLONS SOLD	GROSS SALES
Jet - A Sales	1,114.00	$3,019.52
Av-Gas Sales	898.00	$2,435.04
TOTAL FUEL SALES	2,012.00	$5,454.56

HANGAR RENTAL REVENUE

Open T Hangar Rental Revenue	$2,697.90
Transient Covered Hgr - Nightly	$15.00
Enclosed Hangar Rental Revenue	$120.00
Nightly Tiedown Fees	$21.00
North Community Hangar Rental Revenue	$650.00
TOTAL HANGAR RENTALS	$3,503.90

HANGAR OCCUPANCY RATES

	TOTAL HANGARS	QTY RENTABLE	QUANTITY LEASED	OCCUPANCY RATE
Open T Hangars	45	40	32	80.00%
Closed Hangar Rentals	2	2	2	100%
Open Hangar Cap Rentals	2	1	1	100%
TOTAL HANGAR OCCUPANCY	49	43	35	81%

Of the forty five hangars only forty can actually be rented. Most of these forty should be considered substandard and not easily marketed due to pad slope and width, electrical, and drainage issues.

CITY FEES DUE	FEE RATE	FRANCHISE FEE DUE	FUEL FLOWAGE FEES DUE	TOTAL FEES DUE
Fuel Sales (Gallons Sold)	$0.10	$0.00	$201.20	$201.20
City Owned Hangar Rentals	5.00%	$177.46	$0.00	$0.00
TOTAL FEES DUE		$177.46	$201.20	$378.66

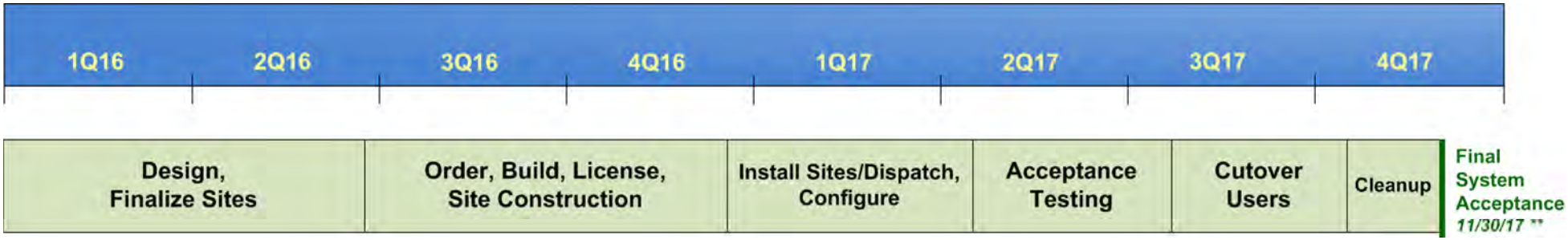
I certify the information and amounts submitted on this form are true and correct.

Todd Parks
Managing Director - Texas Air Center, LLC

Countywide P25 Interoperable Radio System

Implementation Highlights 9-19-16

- Overall project implementation going very well.
- Inter-Local Agreement (ILA) signed with City of Rockwall. Draft ILAs completed for all other agencies, County to set up meetings with agencies' representatives to discuss.
- Microwave Design being finalized.
- Site engineering in process. Royse City will require an 8' elevated platform to overcome flood plain.
- Licensing application for system frequencies submitted.
- System being built and staged at Harris Factory. Customer-witnessed Factory Testing scheduled Oct 4, Lynchburg VA.



** Within a few weeks of original projected date, despite 6 month McLendon Chisholm site delay.

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CITY OF ROCKWALL
INTERNAL OPERATIONS DEPARTMENT
RADIO SYSTEM
REQUESTS FOR SERVICE
AUGUST 2016

DEPARTMENT	# OF REQUESTS	# OF REQUESTS RESPONDED TO W / IN 24 HOURS	# OF REQUESTS NOT RESPONDED TO W / IN 24 HOURS	% ON TIME
ANIMAL SERVICES	0	0	0	100%
CODE ENFORCEMENT	0	0	0	100%
FIRE DEPARTMENT	6	6	0	100%
EMS	0	0	0	100%
INTERNAL OPERATIONS	1	1	0	100%
PARKS & RECREATION	0	0	0	100%
POLICE DEPARTMENT	7	7	0	100%
PUBLIC WORKS	0	0	0	100%
UTILITY BILLING	0	0	0	100%
HEATH DEPT. PUBLIC SAFETY	4	4	0	100%
FATE DEPT. PUBLIC SAFETY	1	1		100%
HOSPITAL CONTROL STATIONS	0	0	0	100%
SYSTEM ISSUES	1	1	0	100%
TOTAL	20	20	0	100%

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Rockwall Police Department

Monthly Activity Report

August-2016

ACTIVITY	CURRENT MONTH AUGUST	PREVIOUS MONTH JULY	YTD 2016	YTD 2015	YTD % CHANGE
PART 1 OFFENSES					
Homicide / Manslaughter	0	0	0	0	**0.00%**
Sexual Assault	1	2	10	10	**0.00%**
Robbery	0	2	4	7	**-42.86%**
Aggravated Assault	1	0	14	25	**-44.00%**
Burglary	5	5	43	35	**22.86%**
Larceny	38	55	461	413	**11.62%**
Motor Vehicle Theft	6	13	51	28	**82.14%**
TOTAL PART I	**51**	**77**	**583**	**518**	**12.55%**
TOTAL PART II	**177**	**160**	**1322**	**1289**	**2.56%**
TOTAL OFFENSES	**228**	**237**	**1905**	**1807**	**5.42%**
ADDITIONAL STATISTICS					
FAMILY VIOLENCE	23	29	140	131	**6.87%**
D.W.I.	16	14	123	139	**-11.51%**
TEEN CURFEW	2	1	16	5	**220.00%**
ARRESTS					
FELONY	20	15	203	137	**48.18%**
MISDEMEANOR	75	85	655	535	**22.43%**
WARRANT ARREST	28	10	275	298	**-7.72%**
JUVENILE	1	0	13	22	**-40.91%**
TOTAL ARRESTS	**124**	**110**	**1146**	**992**	**15.52%**
DISPATCH					
CALLS FOR SERVICE	1568	1536	11544	12092	**-4.53%**
ACCIDENTS					
INJURY	17	14	106	70	**51.43%**
(INJURIES)	22	18	147	106	**38.68%**
NON-INJURY	63	50	436	428	**1.87%**
FATALITY	1	0	2	1	**100.00%**
(FATALITIES)	1	0	2	1	**100.00%**
TOTAL	**81**	**64**	**544**	**499**	**9.02%**
FALSE ALARMS					
RESIDENT ALARMS	51	70	530	527	**0.57%**
BUSINESS ALARMS	122	151	899	1000	**-10.10%**
TOTAL FALSE ALARMS	**173**	**221**	**1429**	**1527**	**-6.42%**
Estimated Lost Hours	**114.18**	**145.86**	**943.14**	**1007.82**	**-6.42%**
Estimated Cost	**$2,716.10**	**$3,469.70**	**$22,435.30**	**$23,973.90**	**-6.42%**

ROCKWALL NARCOTICS UNIT

Number of Cases	**6**
Arrests	**4**
Arrest Warrants	**2**
Search Warrants	**2**
Seized	
Marijuana	10.5 ounces
Methamphetamine	1 kilogram
Heroin	57 grams
MDMA	0.4 grams
THC Oil	443 grams
Money	$1,076

Rockwall Police Department
Dispatch and Response Times

August-2016

Police Department

	Average Response Time		
Priority 1		Number of Calls	**134**
Call to Dispatch	0:00:35		
Call to Arrival	0:05:24		
% over 7 minutes	22%		
	Average Response Time		
Priority 2		Number of Calls	**243**
Call to Dispatch	0:00:46		
Call to Arrival	0:06:55		
% over 7 minutes	34%		
	Average Response Time		
Priority 3		Number of Calls	**62**
Call to Dispatch	0:02:00		
Call to Arrival	0:09:10		
% over 7 minutes	35%		
***Priority 4**	0:09:43	Number of Calls	**1118**
****Priority 5**	0:12:44	Number of Calls	**11**

*Priority 4 call averages are not given because they are calls that do not require an immediate response by police.
**Priority 5 calls are incidents that officers initiate themselves therefore response times are not calculated.

Average dispatch response time goals are as follows:
Priority 1: 30 Seconds
Priority 2: 45 Seconds
Priority 3: 1 Minute

Fire Department

	Average Response Time		
Call to Dispatch	0:00:29	Number of Calls	**86**
Call to Arrival	0:07:52		

Overages

Incident No.	Date	Time Rec'd	Call Type	Time Disp	Resp Time	Reason
2016-801	8/4/2016	15:16:49	FD - Fire Alarm Residential	15:18:06	0:01:17	unk - normal dispatch
2016-826	8/13/2016	9:55:29	FD - C/O Alarm	9:56:46	0:01:17	non-emergency assist call

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Rockwall Animal Adoption Center Monthly Report
CCHS at Rockwall
August 2016

DISPOSITION REPORT

	August
Intakes	140
1045	2
Adopted	54
Returned to Owner	25
Rescued	7
Euthanized	3
Live Outcome %	**94%**

FINANCIAL REPORT

Income	**August**
City of Rockwall	$97,618
Adoption Fee Income	$8,130
Impound Fee Income	$855
Owner Surrender	$1,640
General Donations	$1,976
Medical	$1,295
Quarantine Fee	$350
Total Income	**$111,974**

Expenses	**July**
Administrative Expenses (Payroll, etc)	$36,879
Shelter Expenses (Microchips, Drugs, etc)	$6,954
Veterinary Expenses	$3,345
Professional Services	$1,200
Total Expenses	**$48,801**
Balance	**$63,172**

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