City of Houston

Transportation, Technology & Infrastructure Committee

2016 Infrastructure Design Manual Review

Chapter 7 – Water Line Design Requirements
Chapter 8 – Wastewater Collection System Design Requirements
Chapter 11 – Geotechnical and Environmental Requirements
Chapter 14 – Facility Design Requirements

May 31, 2016
# FY16 Review Activities

## STEPS/MILESTONES

<table>
<thead>
<tr>
<th>Steps/Milestones</th>
<th>Dates</th>
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<tr>
<td>Input received</td>
<td>October 1, 2015 – November 15, 2015</td>
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<tr>
<td>Input Analyzed &amp; Revisions Proposed</td>
<td>November 16, 2015 – March 1, 2016</td>
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<tr>
<td>Proposed Revisions Posted for Comment</td>
<td>March 1, 2016 – March 30, 2016</td>
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<tr>
<td>Consideration of Comments</td>
<td>April 1, 2016 – May 30, 2016</td>
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<td>TTI Presentation</td>
<td>May 30, 2016</td>
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<tr>
<td>Final Changes Promulgated</td>
<td>July 1, 2016</td>
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## PARTICIPATION

<table>
<thead>
<tr>
<th>Participation</th>
<th>11 Respondents</th>
<th>108 Items for Review</th>
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<tbody>
<tr>
<td>Initial Comments</td>
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<tr>
<td>Proposed Revision Comments</td>
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<tr>
<td>ACEC and HCA are ex-officio members of sub-committee</td>
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Chapter 7 - Water Line Design Requirements

Water Line Design Primary Change

- “Appendix A” added to Chapter 7
- Large diameter water line design
- Surface Water Transmission Lines
- Different requirements from smaller diameter distribution waterlines
Water Line Design Primary Change

- New “Tape Coating on Steel Pipe” Specification: Consolidation of several specifications
- New regulations for several pipe material specifications [Steel and Pre-stressed Concrete Cylinder Pipe (PCCP)]
Chapter 8 – Wastewater Collection System

Wastewater Primary Change

Precast Manhole materials: Allowance for other than concrete (polymer concrete)

New Standard Specification 2088-Precast Polymer Concrete Manhole: created to reflect above
Primary Changes

Existing Standard Specifications (Wastewater Collection System):

- Revised/updated to reflect changes
- Regulatory requirements
- Technical advancements
- Goal: Improve system efficiency
  Ease of operation & maintenance
New Wastewater Specifications & Details

New Standard Specifications/associated details:

- 2088-Precaet Polymer Concrete Manhole
- 2091-Non-Metallic Frames, Grates, Rings & Covers (allows composite manhole covers)
- 2551-Sanitary Sewer Renewal by Spin Cast Pipe Lining
- 2556-Cured-In-Place Pipe
Wastewater New Guide Specifications

New Guide Specifications in conjunction with revised Guide Drawings:

- **Division 13:**
  - 13550- Prestressed Concrete Camera Pole
  - 13560- Perpetual Power Unit (PPU) WiMax Radio and Camera

- **Division 16:**
  - 16171- Low Voltage Electric Motor
  - 16172- Low Voltage Variable Frequency Drives
  - 16290- Surge Protection Devices
  - 16662- Motor Management Relay
  - 16663- Motor Protection Relay
  - 16910- Manual Transfer Switch
Wastewater New Guide Specifications...continued

New Guide Specifications created (facilitate trial of new pipe materials):

- 2510- Polypropylene Corrugated Wall Pipe
- 2511- Steel Reinforced Polyethylene Pipe
Environmental Primary Changes

• Include coordinates of all environmental borings

• Coordinates will be plotted in GIS System for use on future City projects

• Provides for use of on-line data available from TCEQ Houston District Office
Geotechnical Primary Changes

• Enhanced requirements for soil borings associated with drainage channels and trenchless crossings

• Added minimum depth of soil boring to 15 feet for utility lines
Chapter 14 – Facility Design Requirements

Facility Design Primary Change:
Updated references

- Engineering Design Manual for Submersible Lift Stations  
  - Revised and renamed as ‘Engineering Design Guidelines for Submersible Lift Stations’
- Engineering Design Guidelines Drawings for Submersible Lift Stations
  - Civil, Mechanical and Structural Drawings & Details
  - Electrical & Instrumentation Drawings & Details
Chapters 3, 5, & 16

Minor modifications (off-cycle) made

**Chapter 3:**
Changes made to information required on plan & profile sheets

**Chapter 5:**
Added minimum easement width requirement - Sanitary Sewer Tunnels of Diameter 24-inch & greater

**Chapter 16:**
Requirements for Wireless Communication Devices Located within the Public Street Right-of-Way
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Questions?