Public Works Construction Standards Meeting

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March 11, 2026

Regional Public Works

North Central Texas Council of Governments

AGENDA

Welcome and Introductions

Action Item

01 Review Revision Submissions

Discussion & Information Items

02 Review and Revision Cycle

03 PWC Work Program Updates

Other Business

04 Next Meeting

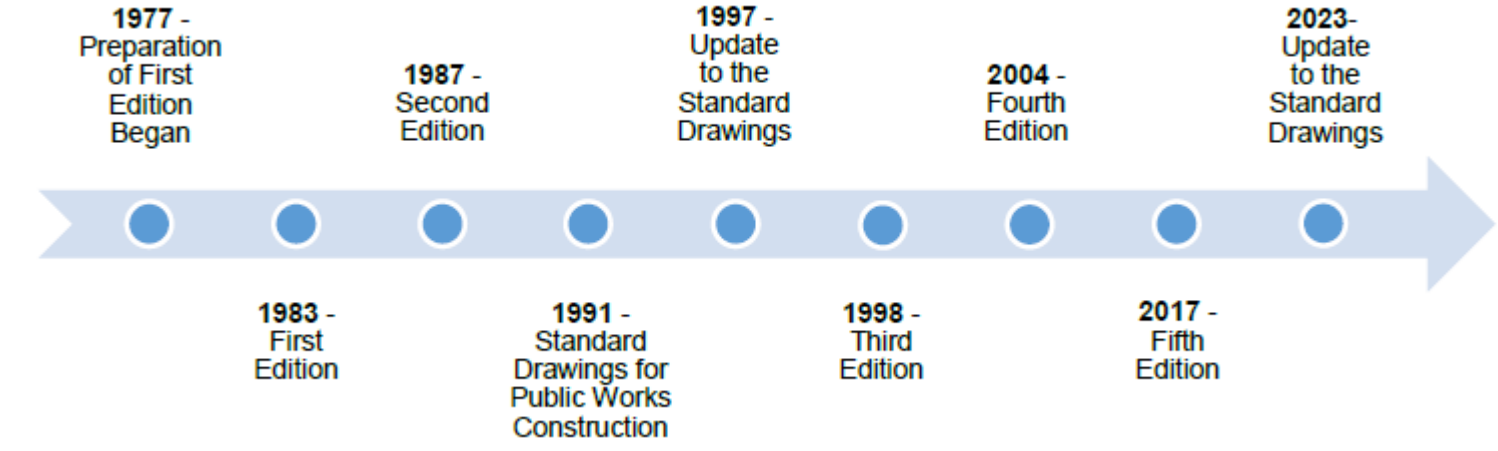
05 Adjournment

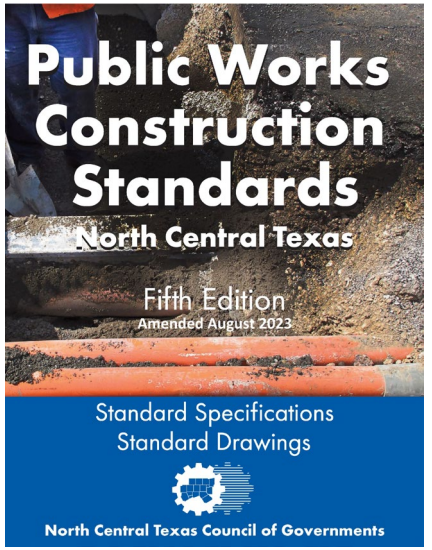
Welcome and Introductions

- The meeting agenda, presentation and handouts are located on the Public Works Construction Standards webpage.

PW Construction Standards Subcommittee

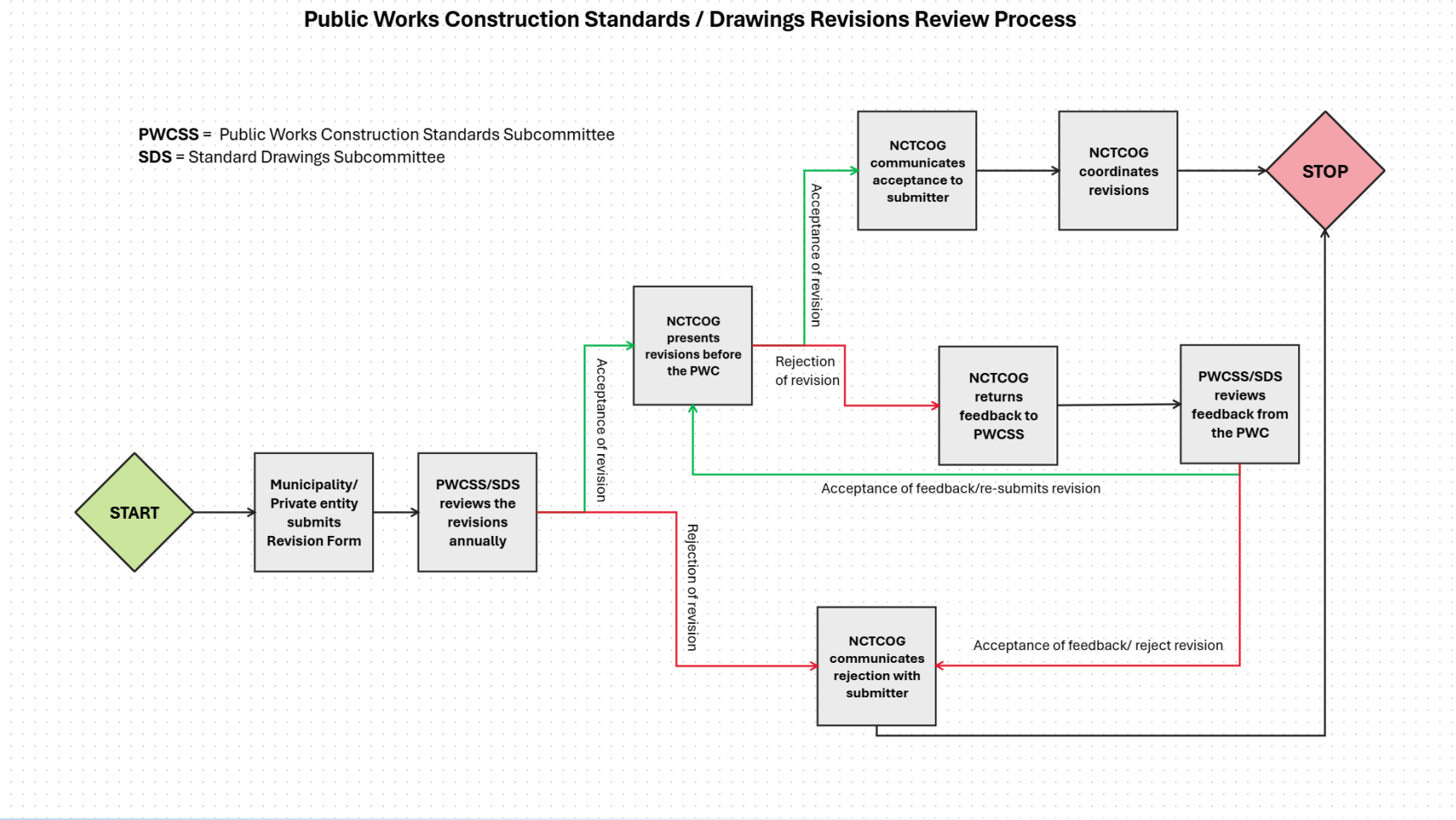
- **Purpose**: Provide technical expertise to review, revise, and update the construction standards.
- **Background**:
  - Established to prevent challenges due to construction inconsistencies between different municipalities.
  - First edition of the standards published in 1977.
  - Subcommittee began meeting in 2012 to update standards.
  - Members included: Local governments and private industry public works professionals.
  - Standards and Drawings combined into one document in 2023.

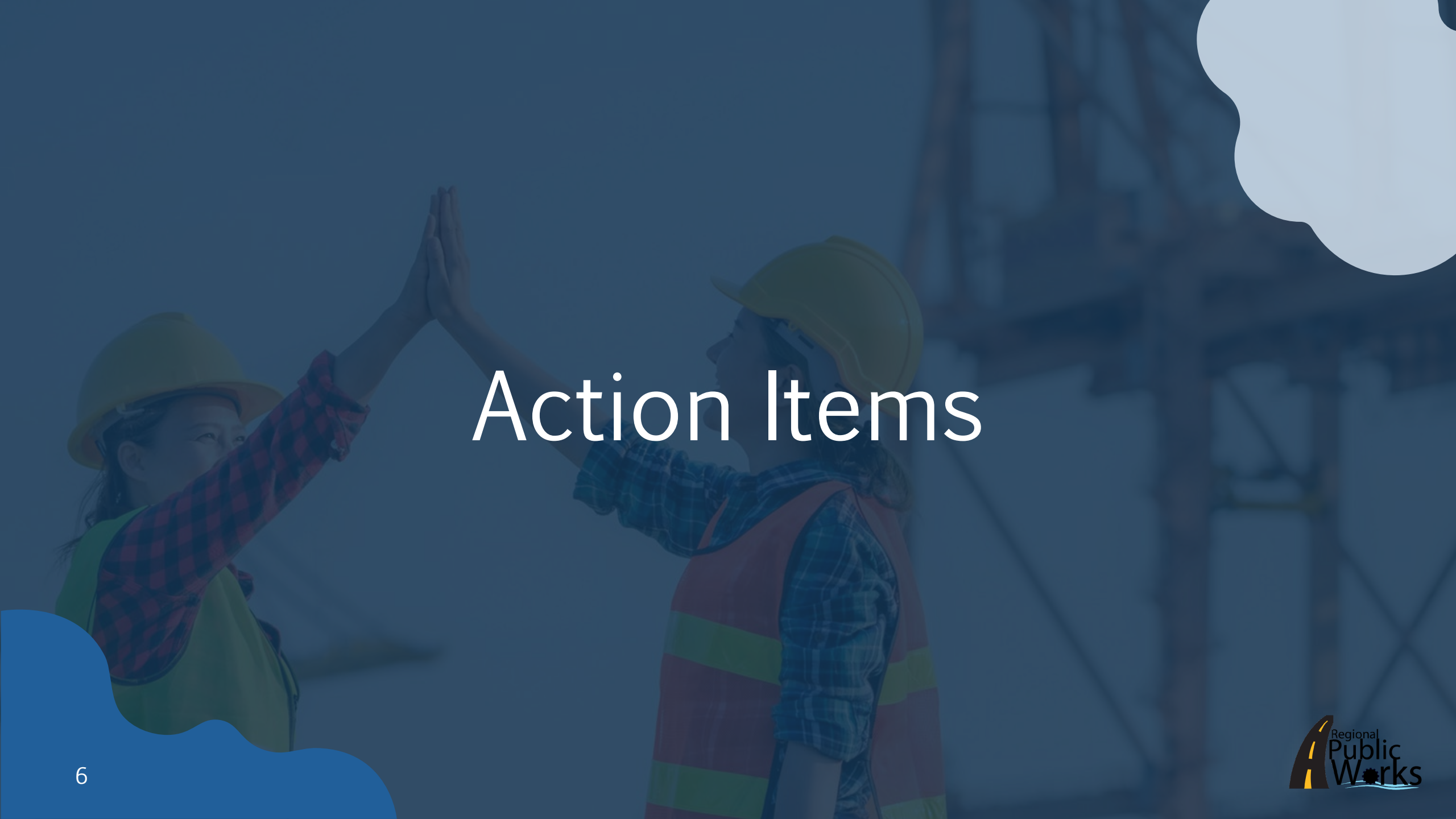




PW Construction Standards Subcommittee

- Process for Receiving and Reviewing Construction Standards/Drawings Revisions





Action Items

Standards Revision Submissions Review

- Subcommittee will evaluate each submission and determine if the request is approved or rejected.
  - These submissions were distributed to the group to review ahead of the meeting.
- Approved requests will be presented to the PWC for final vote.

#1. Inclusion of Product Specifications

- **Submission:** 3M EMS Path Marking Tapes are designed to make locating the underground infrastructure much more effective and efficient, saving our cities time and labor, as well as limiting exposure to liability on line strikes. Each of the existing methods of marking and locating have multiple issues each. This locatable caution tape eliminates all of those issues.

#1. Inclusion of Product Specifications

Current Version

502.10.3.2. Services and Bullheads. The details on installation and materials required are shown in applicable Division 4000 Standard Drawings or on the appurtenance sheets attached to the plans.

The end of each water service connection shall be marked with heavy gauge polyethylene tape, 6-inches in width with a thickness of 0.004-inches. The tape should be blue in color on which has been printed "Caution Buried Water Line Below" in continuous print. The tape should have a minimum tensile strength of 1700-psi lengthwise and 1200-psi crosswise.

502.10.4. Wastewater Conduit Connections. This section shall govern for the construction of connections to wastewater conduits. Connections of wastewater pipe to existing wastewater conduits or wastewater appurtenances shall be as shown on the plans or as directed by the Engineer. Details of construction shall be shown on the plans.

The end of each wastewater service connection shall be marked with heavy gauge polyethylene tape, 6-inches in width with a thickness of 0.004-inches unless a cleanout is present. The tape should be green in color on which has been printed "Caution Buried Wastewater Line Below" in continuous print. The tape should have a minimum tensile strength of 1700-psi lengthwise and 1200-psi crosswise.

#1. Inclusion of Product Specifications

Recommended Revisions

502.10.3.2. Services and Bullheads. The details on installation and materials required are shown in applicable Division 4000 Standard Drawings or on the appurtenance sheets attached to the plans.

The end of each water service connection shall be marked with heavy gauge polyethylene, locatable/traceable tape, 6-inches in width with a thickness of 0.004-inches. The tape should be blue in color on which has been printed "Caution Buried Water Line Below" in continuous print. The tape should have a minimum tensile strength of 1700-psi lengthwise and 1200-psi crosswise.

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#2. Revision to 303.2.1 – 303.2.12.1

- **Submission**: Below is the recommended verbiage for this necessary update to 251D. I have also attached five documents regarding environmental/green building certifications. All of these documents and many more are always accessible at Product Resources (prowoodlumber.com). Let me know if there is any information you need that isn't available here.

Regarding next steps with this update to 251D. I believe a simple review of the Redwood Lumber Grades and Uses guide (attached) makes the need for this update very obvious. It is important for me to mention that even these "all heartwood species" of redwood are recommended by the Redwood Inspection Service for "above ground" or "on or near soil." As we all know, every piece of expansion joint is installed in ground contact applications throughout North Texas and must be required to perform in those applications.

#2. Revision to 303.2.1 – 303.2.12.1

Current Version

303.2.12. Joint Filler. Joint filler is the material placed in concrete pavement and concrete structures to allow for the expansion and contraction of the concrete.

303.2.12.1. Material. Expansion joint materials shall consist of boards or a premolded asphalt board tested in accordance with ASTM D545 Test Methods for Preformed Expansion Joint Fillers for Concrete Construction (Nonextruding and Resilient Types).

Boards for expansion joint filler shall be of the required size, shape and type indicated on the plans or required in the specifications. Boards shall be of selected stock of redwood, cypress, gum, southern yellow pine, or Douglas fir timber. The boards shall be sound heartwood and shall be free from sapwood, knots, clustered birdseyes, checks and splits. Occasional sound or hollow birdseyes, when not in clusters, shall be permitted, provided the board is free from any other effects that shall impair its usefulness as a joint filler. With the exception of redwood and cypress, all boards shall be preservative treated according to American Wood-Preservers' Association (AWPA) Standards.

Asphalt boards for expansion joint filler shall be of the required size and uniform thickness and, when used in transverse joints, they shall conform approximately to the shape of the pavement crown shown on the plans and details. Asphalt boards shall consist of two liners of 0.016 asphalt impregnated kraft paper filled with a mastic mixture of asphalt and vegetable fiber and/or mineral filler. Boards shall be smooth, flat and straight throughout, and shall be sufficiently rigid to permit ease of installation. Boards shall be furnished in lengths equal to the width between longitudinal joints, and may be furnished in strips or scored sheet of the required shape.

Asphalt boards, when tested in accordance with the following described methods, shall not deflect from the horizontal more than ¾-inches in 3½-inches. A sample of the board, 2-in. wide and 6-in. long, flat, straight and cut with its length parallel to the lay of the fiber, shall be clamped between two blocks in the direction of its thickness in such manner that 3½-in. length of the sample shall extend unsupported and at right angles from the common plane of the block faces. The samples and clamp so assembled shall be maintained at a temperature of 180°F for 2-hours, with the length and width of the clamped portion of the sample horizontal after which the deflection from the horizontal of the unclamped portion shall be immediately measured.

303.2.12.2. Dimensions. The thickness of the expansion joint filler shall be shown on the plans; the width shall be not less than that shown on the plans, providing for the top seal space.

303.2.12.3. Rejection. Expansion joint filler may be rejected for failure to meet any of the requirements of this specification.

#2. Revision to 303.2.1 – 303.2.12.1

Doesn't Exist Anymore

Care shall be taken to prevent overfilling the joint. After curing, the sealant shall be within 1/8" to 1/4" of the surface in the center of the joint.

(2) **Construction Joints:** Construction joints shall consist of a butt joint with a reservoir for the sealant to a width of 3/8" and a depth of 1/4 created by sawing or hand tooling. The backer rod shall be set to a depth of 1/2" below the surface of the pavement. The reservoir shall be filled with sealant level to the surface of the pavement.

(3) **Resealing Old Joints:** The joints are to be routed full depth with a concrete routing saw and cleaned with compressed air. Backer rod will be inserted, and sealant applied per paragraph (1) above.

(3) Precautions:

a. Avoid applying sealant when rain or other sources of water are expected to come into contact with the freshly applied sealant. Normally, the sealant will be protected from damage after a 2-hour cure period.

b. The sealant shall not be applied in temperatures below freezing unless the joints are preheated to prevent freezing of the sealant until sufficient cure time has elapsed.

c. Sealant shall be stored at a temperature not less than 40°F, nor more than 120°F.

(4) Clean up:

a. The equipment and tools can be cleaned by flushing with mineral spirits or diesel oil to remove any built-up sealant. Flush out all cleaning materials before next sealing operation. This is normally done by placing the wand in a bucket and running sealant until the material is not contaminated.

b. Spills, drips, or puddles shall be removed as directed by the OWNER. Removal can be assisted by blotting spills as they occur.

(F) **Description:** This item shall govern the cleaning, preparation and sealing of all types of joints in Portland cement concrete pavements as set forth in the plans, as required by the construction sequencing, and as directed by the OWNER.

(G) **Materials:** All materials used in the construction of joints and joint sealing shall conform to the applicable sections of Division 2. Redwood filler material shall be used in the construction of expansion joints. Joint sealants shall be a single component polymer modified asphalt emulsion conforming to the requirements of **Item 303.2.14.1.2. Ready Mixed Cold Applied (Joint Sealant) and Table 303.2.14.1.2.(a).COD. Cold-Applied Sealant Requirements** as amended.

#2. Revision to 303.2.1 – 303.2.12.1

- Recommended Revisions:
  - Wood used as expansion joint must conform to the following properties and be suitable for use in contact with ground, fresh water, concrete or other situations favorable to deterioration.
    - **Southern Yellow Pine (SYP)** lumber must be grade #2 or better in accordance with American Lumber Standard Committee (ALSC) grading rules and preserved with Micronized Copper Azole (MCA) to AWPA (American Wood Protection Association) Use Category 4A for ground, fresh water and concrete contact. SYP lumber that is MCA treated to UC4A standards must also be color-treated with a micronized iron-based pigment.
    - **Redwood** must be an All-Heartwood grade as outlined by the Redwood Inspection Service and the California Redwood Association's Grade and Uses guide. Acceptable grades of redwood are Clear All Heart, Heart B, Construction Heart or Merchantable Heart. No grades containing sapwood or open hole are permitted.

#3. Revision to 501.7.3

- **Submission:** Recommend the removal of the requirement of Asphaltic coating on the cement mortar of Ductile Iron pipe. It is a singular, minor request, and the proposed revision would update the spec to no longer be out of conformance with AWWA Standards. Further comment and explanation are in the PDF document attached below in detail, along with an exact copy of the proposed changes being shown in the attached word document. Thank you in advance for your consideration.

#3. Revision to 501.7.3

Current Version

501.7.3. Coating and Lining. All ductile-iron pipe shall be bituminous coated outside and cement mortar lined inside. The cement mortar lining shall be seal coated in accordance with the latest revision of ANSI / AWWA C104 / A21.4 American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water. All ductile iron pipe shall require an exterior polywrap corrosion protection system as defined in the latest version of ANSI / AWWA C105 / A21.5 American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems. In the event of tears, pinches, breaches, or other damage to the initial external polywrap protection layer, the use of dual layer external polywrap protection meeting the above standards shall be required. If this specification conflicts with manufacturer's installation recommendations, follow manufacturer's recommendations for ductile iron pipe installation.

Recommended Revision

501.7.3. Coating and Lining. All ductile-iron pipe shall be bituminous coated outside and cement mortar lined inside. The cement mortar lining shall be ~~seal coated~~ in accordance with the latest revision of ANSI / AWWA C104 / A21.4 American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water. All ductile iron pipe shall require an exterior polywrap corrosion protection system as defined in the latest version of ANSI / AWWA C105 / A21.5 American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems. In the event of tears, pinches, breaches, or other damage to the initial external polywrap protection layer, the use of dual layer external polywrap protection meeting the above standards shall be required. If this specification conflicts with manufacturer's installation recommendations, follow manufacturer's recommendations for ductile iron pipe installation.

#4. Revision to PP Pipe Specification

- **Submission**: Our PP pipe is listed in the specifications currently; however, I would like to suggest a change in the language to make it accurate as the ASTM specification mentioned is outdated.

#4. Revision to PP Pipe Specification

Current Version

501.23. THERMOPLASTIC CORRUGATED DRAINAGE TUBING AND CORRUGATED SMOOTH LINED STORM WATER PIPE AND FITTINGS

501.23.1. General. High Density Corrugated and Corrugated Smooth Lined Thermoplastic storm water tube/pipe and fittings shall conform to Table 501.23.1.(a) Thermoplastic Storm Water Pipe and Fittings.

Table 501.23.1.(a) Thermoplastic Storm Water Pipe and Fittings.

Pipe Material	Topic	Standard
Polyvinyl Chloride (PVC)	PVC Corrugated Storm Water Pipe With A Smooth Interior	ASTM F949 (4”-36”)
Polyethylene (PE)	PE Corrugated Pipe With A Smooth Interior	AASHTO M294 (12”-60”) AASHTO M252 (3”-10”)
Polypropylene (PP)	PP Corrugated Pipe With A Smooth Interior	ASTM F2736 (6”-30”)

501.23.2. Materials.

501.23.2.1. PVC. The storm water conduit/drainpipe shall be of PVC compound having a minimum cell classification of 12454 in accordance with ASTM D1784 Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds. The fittings shall be made of PVC compound having a cell classification of 12454 or 13343 as defined in ASTM D1784.

501.23.2.2. PE. The tube/pipe and fittings shall be made of virgin polyethylene which conforms with the requirements of cell class 335400C as defined and described in ASTM D3350 Polyethylene Plastics Pipe and Fittings Materials.

501.23.2.3. PP. Polypropylene compound for pipe and fitting production shall be impact modified copolymer meeting the material requirements of ASTM F2736, Section 4 for the respective diameters. Minimum pipe stiffnesses at 5% deflection shall meet or exceed ASTM F2736, Section 6.2.6 Pipe Stiffness.

501.23.3. Stiffness.

501.23.3.1. PVC. Constant minimum pipe stiffness at five-percent deflection shall be 46-psi for storm conduit as specified for all sizes when calculated in accordance with ASTM D2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.

501.23.3.2. PE. Minimum tube/pipe stiffness at 5-percent deflection shall be 50-psi for 3-in. through 10-in. diameters and as outlined in Section 7.4 of AASHTO M-294 for other diameters.

501.23.3.3. PP. Minimum pipe stiffnesses at 5% deflection shall meet or exceed ASTM F2736, Section 6.2.6 Pipe Stiffness.

501.23.4. Joints.

501.23.4.1. PVC. Joints shall be an integral bell-gasketed joint. When the joint is assembled, it shall prevent misalignment of adjacent pipes and form either a soil tight joint (2-psi hydrostatic test per AASHTO Standard Specification for Highway Bridges, Section 26.4.2.4) or a watertight joint (10.8-psi

#4. Revision to PP Pipe Specification

Current Version

test per ASTM D3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes using Flexible Elastomeric Seals) as required.

501.23.4.2. PE. Joint integrity shall be tested in accordance with ASTM F667 Large Diameter Corrugated Polyethylene Pipe and Fittings, Section 9.6 for PE corrugated pipe up to 24" or AASHTO M-294 and M-252 for smooth-lined corrugated pipe. Profile wall HDPE pipe joints shall be made and tested in accordance with ASTM D3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.

501.23.4.3. PP. Pipe shall be joined with a gasketed integral bell & spigot joint meeting the requirements of ASTM F2736 for the respected diameters (12”-30”), and shall be watertight according to the requirements of ASTM D3212. Gasket shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. 12”-30” diameters shall have a reinforced bell with a polymer composite band installed by the manufacturer.

501.23.5. Testing.

501.23.5.1. PVC. Pipe shall be tested for flattening, impact resistance and extrusion quality as specified in the applicable ASTM Designations.

501.23.5.2. PE. All polyethylene tubing/piping shall be tested for elongation, brittleness, joint separation, quality and ring stiffness as specified in the applicable AASHTO M-294, AASHTO M-252 or ASTM F2648, as applicable.

501.23.5.3. PP. All polypropylene piping shall be tested as per ASTM F2736, Section 8 as applicable.

#4. Revision to PP Pipe Specification

Current Version

508.6.5.2. Backfilling. Backfill from the pipe bedding up to 1 ft. above the top of the pipe to provide necessary structural support to the pipe and control pipe deflection. Take special precautions when placing and compacting backfill material. Place special emphasis obtaining uniform compacted density throughout the length of the pipe, to avoid unequal pressure. Use extreme care to ensure proper backfill under the pipe, in the haunch zone.

Provide backfill material meeting the following specifications:

(1) Type I- Provide backfill consisting of flowable fill in accordance with Item 504.2.3.4 Flowable Backfill. Place the flowable backfill across the entire width of the trench and maintain a minimum depth of 12 in. above the pipe. Wait a minimum of 24 hours before backfilling the remaining portion of the trench with other backfill material in accordance with Item 504.2.3. Final Backfill.

(2) Type II- Provide backfill consisting of cement stabilized backfill in accordance with Item 504.2.3.5. Modified Flowable Backfill. Place and compact cement stabilized backfill to completely fill any voids.

(3) Type III- Provide backfill consisting of hard, durable, clean granular material that is free of organic matter, clay lumps, and other deleterious matter. Provide backfill meeting the gradation requirement shown in Table 508.6.5.2.(a). Place the backfill material along both sides of the completed structure to a depth of 12 in. above the pipe. Place the backfill in uniform layers a minimum of 6 in. deep (loose measurement), wet if required and thoroughly compacted between adjacent structures and between the structure and the sides of the trench. Until a minimum cover of 12 in. is obtained, only hand-operated tamping equipment will be allowed within vertical planes 2 ft. beyond the horizontal projection of the outside surfaces of the structure. If using Type III backfill,

#4. Revision to PP Pipe Specification

Recommended Revisions

501.23. THERMOPLASTIC CORRUGATED DRAINAGE TUBING AND CORRUGATED SMOOTH LINED STORM WATER PIPE AND FITTINGS

501.23.1. General. High Density Corrugated and Corrugated Smooth Lined Thermoplastic storm water tube/pipe and fittings shall conform to Table 501.23.1.(a) Thermoplastic Storm Water Pipe and Fittings.

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Polypropylene (PP)	PP Corrugated Pipe With A Smooth Interior	~~ASTM F2736 (6”-30”)~~ ASTM F2881 (12"-60")

501.23.2. Materials.

501.23.2.1. PVC. The storm water conduit/drainpipe shall be of PVC compound having a minimum cell classification of 12454 in accordance with ASTM D1784 Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds. The fittings shall be made of PVC compound having a cell classification of 12454 or 13343 as defined in ASTM D1784.

501.23.2.2. PE. The tube/pipe and fittings shall be high-density polyethylene conforming with the minimum requirements of cell classification 424420C for 4" - 10" diameters and 435400C for 12" - 60" diameters as defined and described in ASTM D3350 Polyethylene Plastics Pipe and Fittings Materials. The 12" - 60" pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in Sections 9.5 and 5.1 of AASHTO M294.

501.23.2.3. PP. Polypropylene compound for pipe and fitting production shall be impact modified copolymer meeting the material requirements of ASTM F2881, Section 4 for the respective diameters. Minimum pipe stiffnesses at 5% deflection shall meet or exceed ASTM F2881, Section 6.2.6 Pipe Stiffness.

501.23.3. Stiffness.

501.23.3.1. PVC. Constant minimum pipe stiffness at five-percent deflection shall be 46-psi for storm conduit as specified for all sizes when calculated in accordance with ASTM D2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.

501.23.3.2. PE. Minimum tube/pipe stiffness at 5-percent deflection shall be 50-psi for 3-in. through 10-in. diameters and as outlined in Section 7.4 of AASHTO M-294 for other diameters.

501.23.3.3. PP. Minimum pipe stiffnesses at 5% deflection shall meet or exceed ASTM F2881, Section 6.2.6 Pipe Stiffness.

#4. Revision to PP Pipe Specification

Recommended Revisions

test per ASTM D3212 Standard Specification for Joints for Drain and Sewer Plastic Pipes using Flexible Elastomeric Seals) as required.

501.23.4.2. PE. Joint integrity shall be tested in accordance with ASTM F667 Large Diameter Corrugated Polyethylene Pipe and Fittings, Section 9.6 for PE corrugated pipe up to 24" or AASHTO M-294 and M-252 for smooth-lined corrugated pipe. Profile wall HDPE pipe joints shall be made and tested in accordance with ASTM D3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.

501.23.4.3. PP. Pipe shall be joined with a gasketed integral bell & spigot joint meeting the requirements of ASTM F2736 for the respected diameters (12”-30”), and shall be watertight according to the requirements of ASTM F2881. Gasket shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. 12”-30” diameters shall have a reinforced bell with a polymer composite band installed by the manufacturer.

501.23.5. Testing.

501.23.5.1. PVC. Pipe shall be tested for flattening, impact resistance and extrusion quality as specified in the applicable ASTM Designations.

501.23.5.2. PE. All polyethylene tubing/piping shall be tested for elongation, brittleness, joint separation, quality and ring stiffness as specified in the applicable AASHTO M-294, AASHTO M-252 or ASTM F2648, as applicable.

501.23.5.3. PP. All polypropylene piping shall be tested as per ASTM F2881, Section 8 as applicable.

#4. Revision to PP Pipe Specification

Recommended Revisions

508.6.5.2. Backfilling. Backfill from the pipe bedding at minimum to the crown of the pipe to provide necessary structural support to the pipe and control pipe deflection. If migration of fines is a concern, geotextile fabric can be used between initial and final backfill. Initial backfill should extend 6" above crown of pipe if final backfill has particles greater than 1 1/2 in. in size. Take special precautions when placing and compacting backfill material. Place special emphasis obtaining uniform compacted density throughout the length of the pipe, to avoid unequal pressure. Use extreme care to ensure proper backfill under the pipe, in the haunch zone.

#5. Addition of SPRE Pipe

- **Submission**: We are recommending revisions to Section I, Division 500, to allow the use of Steel Reinforced Polyethylene (SRPE) pipe, for storm drainage, sanitary sewer applications, and rehabilitation of existing aged pipelines.

We are proposing that SRPE pipe be added as an approved pipe material within Section I, Division 500 for the applications noted above. The purpose of this revision is to provide the City with an additional pipe option that combines the structural capacity of steel reinforcement with the corrosion resistance, abrasion resistance, and hydraulic efficiency of polyethylene. SRPE pipe is designed using applicable AASHTO LRFD methodologies and has been successfully implemented on municipal and DOT projects nationwide for both new construction and rehabilitation applications.

#5. Addition of SPRE Pipe

Current Version

#5. Addition of SPRE Pipe

Recommended Revisions:

- 501.XX. STEEL REINFORCED POLYETHYLENE (SRPE) LARGE DIAMETER WASTEWATER AND STORM PIPE
  - 501.XX.1. General.
    - Steel Reinforced Polyethylene (SRPE) gravity wastewater and storm drainage pipe and fittings in nominal sizes 30-in. through 120-in. shall conform to current ASTM F2562 Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage.
  - 501.XX.2. Materials.
    - The pipe shall be manufactured from high density polyethylene (HDPE) resin with a minimum cell classification of 345464C as defined in ASTM D3350 *Polyethylene Plastics Pipe and Fittings Materials*. The pipe profile shall be reinforced with high strength galvanized steel ribs (80,000 psi minimum yield strength) fully encased within the polyethylene material.

#5. Addition of SPRE Pipe

Recommended Revisions:

- 501.XX.3. Stiffness.
  - Structural design shall consider soil loads, live loads, hydrostatic loads, and installation conditions in accordance with AASHTO LRFD Section 12. The pipe shall be designed to limit deflection to acceptable industry standards for thermoplastic pipe systems.
- 501.XX.4. Joints.
  - Pipe joints shall be watertight and shall utilize a double-gasketed bell-and-spigot joint system. Joint performance shall meet the requirements of ASTM D3212, "Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
- 501.XX.5. Testing.
  - (A) Field Joint Testing: Field testing shall be performed on every installed joint to verify watertight performance. Joint testing shall be conducted in accordance with ASTM D3212 or approved project-specific low-pressure air or hydrostatic testing procedures.
  - (B) Pipe Testing. Pipe shall be tested for flattening, quality as specified in ASTM F2562.

#6. Revision to Asphalt Specification

- **Submission:** Asphalt specification - item 302, is out of date. TXAPA has authored a local agency asphalt specification that incorporates to latest (2024) TxDOT language into a simple, ready to use specification. The NCTCOG can use all or part of the proposed spec, or simply use it as a template to create their own.

#6. Revision to Asphalt Specification

- Recommended Revisions:
  - 302.2 Aggregates
    - Revise for clarity
    - Include limitations of RAP and field/manufactured sand
  - 302.3 Bituminous Materials
    - Section could be summarized by: Asphalt Binder. Furnish the type and grade of performance-graded (PG) asphalt binder shown on the plans that meets the requirements of Item 300, “Asphalts, Oils, and Emulsions.”
  - 302.4 Section Held for Future Use
    - Remove section
  - 302.5 Storage of Bituminous Materials
    - May be removed as it is covered in TxDOT 300
  - 302.6 Emulsified Asphalt Treatment
    - May be removed as it is covered in TxDOT 300
    - Combine section with 302.7 Prime Coat

#6. Revision to Asphalt Specification

- Recommended Revisions:
  - 302.7 Prime Coat
    - Combine with section 302.6 Emulsified Asphalt Treatment
  - 302.8.2 Materials of Asphalt Base Course
    - Content should already be covered in 302.2 and 302.3
    - Remove stabilometer test (outdated) from Table 302.8.3(a)
  - 302.8.2 Construction Methods of Asphalt Base Course
    - Section is confusing and unsure of what it's governing
  - 302.9.2 Materials of Hot-Mix Asphalt Pavement
    - Content should already be covered in 302.2 and 302.3
  - 302.9.2.2.1 Paving Mixture of Hot-Mix Asphalt Pavement
    - Paving mixture should be removed

#6. Revision to Asphalt Specification

- Recommended Revisions:
  - Table 302.9.3(b) Superpave Hot Mix Master Grading
    - Gaps in information in sieves
  - Table 302.9.3(c) Superpave Plant Produced Mixture Requirements
    - Remove VFA (outdated)
    - Consider stating ‘material must conform to TxDOT 344’ rather than using a chart
  - Table 302.9.3(d) Cellulose Modified Mixtures Master Grading
    - Consider stating ‘material must conform to TxDOT 346 (SMA) or 342 (PFC)’ rather than using a chart
  - 302.9.3.1 Extraction Test of Hot-Mix Asphalt Pavement
    - Asphalt section goes back and forth between test procedures (TxDOT, AASHTO, and ASTM). Consider using one standard test method – Tex-236-F

#6. Revision to Asphalt Specification

- Recommended Revisions:
  - 302.9.3.2 Stability of Hot-Mix Asphalt Pavement
    - Remove reference to outdated test method (Stabilometer)
  - 302.9.4 Equipment and 302.9.5 Mixing Plants of Hot-Mix Asphalt Pavement
    - Consider necessity of these sections
    - 302.9.4 references equipment that are plant-specific, so they will never be on a project site.
    - 302.9.5 references different plant types. Consider necessity and enforceability of section
  - 302.9.6 Construction Methods of Hot-Mix Asphalt Pavement
    - Content is already covered in previous sections
  - Overall
    - Select one standard test procedure (TxDOT) and require certification of testers

#7. Revision to 303.5.6.2

- **Submission:** Class C 3600 PSI has a minimum of 564 lbs but the Class P1 Machine finish 4000 PSI has a min of 517 lbs, a ½ sack less than what's required for the lesser min compressive strength at 28 days. Also, Class P2 hand finish has a min of 564 lbs and 4500 PSI at 28 days and is only a ½ sack more than the P1 machine requirements. IN 303.5.6.2 Hand, the specification states "an addition of one-sack of cement per cubic yards shall be required for all hand." This contradicts P1 and P2 (only ½ sack added) and if Class C is required for hand design the full sack is more than the min in P2 of a higher required strength.

#7. Revision to 303.5.6.2

Current Version

303.5.6.2. Hand. Hand finishing shall be permitted only in intersections and areas inaccessible to a finishing machine. The addition of one-sack of cement per cubic-yard shall be required for all hand finish concrete.

When the hand method of striking off and consolidating is permitted, the concrete, as soon as placed, shall be approximately leveled and then struck off and screeded to such elevation above grade that, when consolidated and finished, the surface of the pavement shall be at the grade elevation shown on the plans. The entire surface shall then be tamped and the concrete consolidated so as to insure maximum compaction and a minimum of voids. For the strike off and consolidation, both a strike template and tamping template shall be provided on the work. In operation the strike template shall be moved forward with a combined longitudinal and transverse motion and so manipulated that neither end of the template is raised from the forms during the striking-off process. A slight excess of material shall be kept in front of the cutting edge at all times.

The straightedge and joint finishing shall be as hereinabove prescribed.

#7. Revision to 303.5.6.2

Current Version

Table 303.3.4.2.(a) Standard Classes of Pavement Concrete.

Class of Concrete[1]	Minimum Cementitious Lb./CY	28 Day Min. Compressive Strength[2] psi	28 Day Min. Beam Strength[2,3] psi	Maximum Water/ Cementitious Ratio	Coarse Aggregate Maximum Size[4]
A[5]	470	3000	500	0.58	1½"
C	564	3600	600	0.53	1½"
P1[6]	517	4000	N/A	0.49	1½"
P2[7]	564	4500	N/A	0.45	1½"
M	As directed by the OWNER or as shown on the plans				

1. All exposed horizontal concrete shall have entrained – air.
2. Minimum Strength Required by OWNER [Compressive or Flexural]
3. ASTM C78 (Third-Point); Reduce by 10% when Type II Cement is Used
4. Smaller nominal maximum size aggregate may be used if strength requirement is satisfied
5. Sidewalks, separate curb and gutter, and 4-inch thick median pavement
6. Machine Finished
7. Hand Finished

#7. Revision to 303.5.6.2

Recommended Revision

303.5.6.2. Hand. Hand finishing shall be permitted only in intersections and areas inaccessible to a finishing machine. ~~The addition of one-sack of cement per cubic-yard shall be required for all hand finish concrete.~~

When the hand method of striking off and consolidating is permitted, the concrete, as soon as placed, shall be approximately leveled and then struck off and screeded to such elevation above grade that, when consolidated and finished, the surface of the pavement shall be at the grade elevation shown on the plans. The entire surface shall then be tamped and the concrete consolidated so as to insure maximum compaction and a minimum of voids. For the strike off and consolidation, both a strike template and tamping template shall be provided on the work. In operation the strike template shall be moved forward with a combined longitudinal and transverse motion and so manipulated that neither end of the template is raised from the forms during the striking-off process. A slight excess of material shall be kept in front of the cutting edge at all times.

#8. Revision to Section 1, Division 100, Item 109.3

- **Submission**: Sub-item 1 of Paragraph 109.3.2 has two sentences. One addresses payment on a unit price basis, while the other addresses payment on a lump sum basis. It appears that there should have been a hard return prior to the second sentence, placing the lump sum basis as the second option for compensating a contractor for Extra Work. (And then existing sub-items 2 and 3 would be re-numbered to become 3 and 4.)

Current Version

109.3.2. Method of Determination. The method of determination and payment of cost, or credit to the OWNER, for any Extra Work shall be one of the following:

(1) Unit prices agreed on in writing, approved by the OWNER and executed by the OWNER and CONTRACTOR before the Extra Work is commenced, or unit prices already included in the Contract documents, subject to all other conditions of the Contract. Mutual acceptance of a not-to-exceed lump sum properly itemized and supported by sufficient substantiating data to permit evaluation before the Extra Work is commenced, subject to all other conditions of the Contract.

(2) A not-to-exceed cost to be determined in a manner agreed upon by the parties plus a mutually acceptable fixed or percentage fee, agreed upon before the Extra Work is commenced and subject to all other conditions of the Contract.

(3) The force account method provided in Item 109.3.3. Force Account Work.

#8. Revision to Section 1, Division 100, Item 109.3

Recommended Revision

109.3.2. Method of Determination. The method of determination and payment of cost, or credit to the OWNER, for any Extra Work shall be one of the following:

(1) Unit prices agreed on in writing, approved by the OWNER and executed by the OWNER and CONTRACTOR before the Extra Work is commenced, or unit prices already included in the Contract documents, subject to all other conditions of the Contract.

(2) Mutual acceptance of a not-to-exceed lump sum properly itemized and supported by sufficient substantiating data to permit evaluation before the Extra Work is commenced, subject to all other conditions of the Contract.

(3) A not-to-exceed cost to be determined in a manner agreed upon by the parties plus a mutually acceptable fixed or percentage fee, agreed upon before the Extra Work is commenced and subject to all other conditions of the Contract.

(4) The force account method provided in Item 109.3.3. Force Account Work.

NCTCOG Recommendations

Revision to 506.7.5.2

- **Comment:** Chlorinated water (0.1-0.2 mg/L) can cause fish kills and impact surface water quality. Either advise to dechlorinate further or specify discharging into wastewater system (per local regulations).

Current Version

506.7.5.2. Continuous Feed Method. If the "continuous feed" method of chlorination is used, the following steps shall be taken:

(1) Water from the existing distribution system or other approved source of supply shall be made to flow at a constant rate in the newly laid conduit.

(2) At a point not more than 10-ft. downstream from the beginning of the new conduit, water entering the new conduit shall receive a dose of chlorine such that the water shall have not less than 100-mg/L free chlorine, or as required by TCEQ, whichever is greater. Chlorine applications shall not cease until the entire conduit is filled with heavily chlorinated water.

(3) The chlorinated water shall be retained in the conduit for at least 24-hours, during which time all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. Every effort shall be made to prevent the flow of chlorinated water into conduits in active service. At the end of the 24-hour period, the treated water in all portions of the conduit shall have a residual of at least 10-mg/L free chlorine.

(4) The heavily chlorinated water shall then be flushed from the conduit and disposed of in a manner and at a location specified by the OWNER.

(5) The chlorine residual shall be tested prior to flushing operations. If the chlorine residual exceeds 4-mg/L, the water shall remain in the new water conduit until the chlorine residual is less than 4-mg/L. The CONTRACTOR may choose to evacuate the water into water trucks or other approved storage facility and treat the water with Sodium Bisulfite or another dechlorination chemical or method appropriate for potable water and approved by the OWNER until the chlorine residual is reduced to 4-mg/L or less. After the specified chlorine residual is obtained, the water may then be discharged into the drainage system or utilized by the CONTRACTOR.

Revision to 506.7.5.2

Recommended Revision

- Awaiting feedback from Texas Commission on Environmental Quality (TCEQ) to specify chlorine limit.

Overall Revision Recommendations

- Consider using consistent language by eliminating interchangeable terms
  - *Working days* versus *business days*
  - *Stormwater* versus *storm water*
  - For inch references, *in.* versus *in*
- Consider if additional definitions or acronyms are needed
  - *Business Days, Performance Bond, SW3P*
- Would it be beneficial to have a centralized location of all municipalities who adopt/abide by these standards?

Overall Revision Recommendations

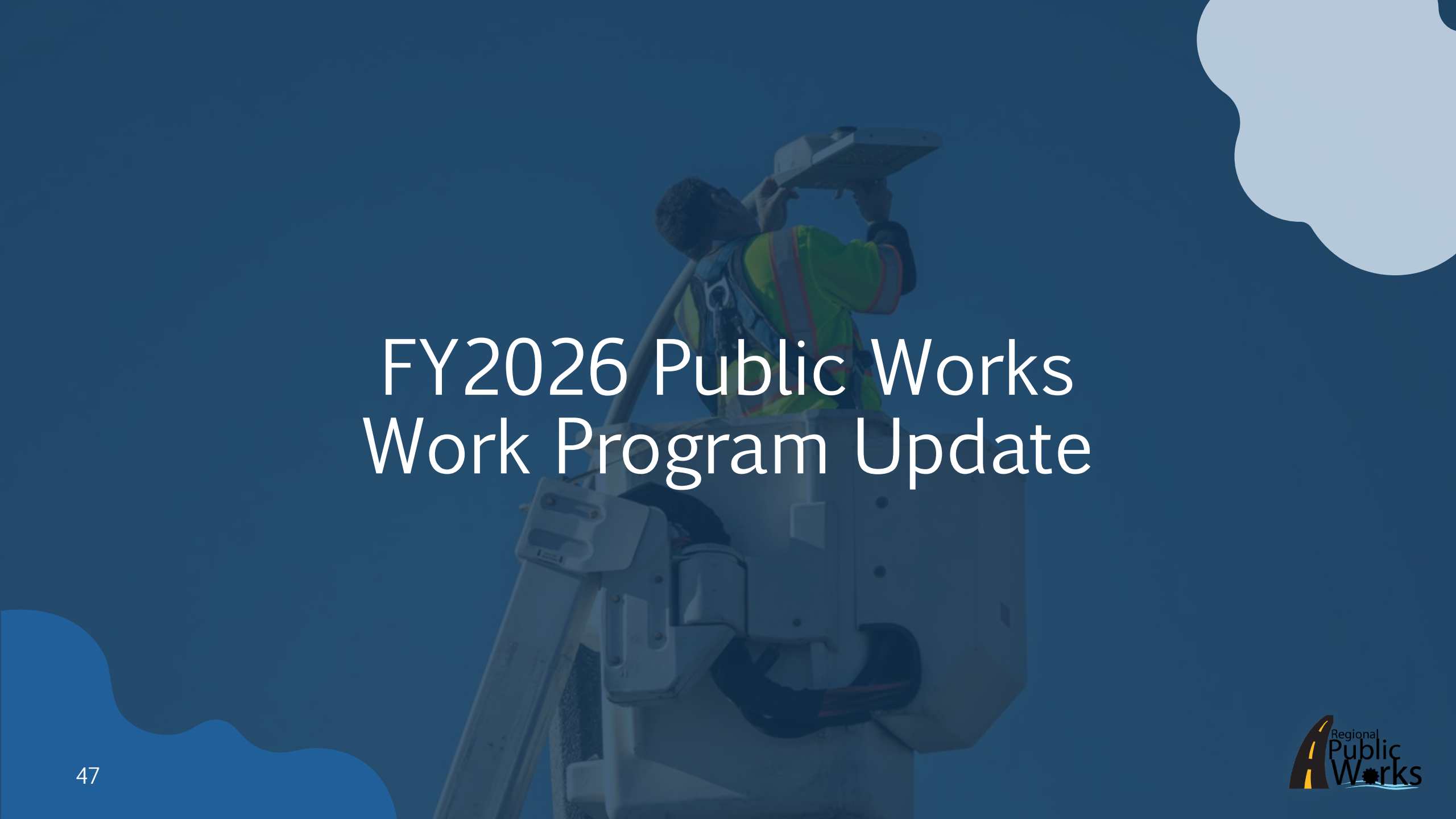
- Reference online submission process for revisions instead of emails.
- Correct formatting issues (bulleted lists, spacing, hyperlinks).
- Correct capitalization and punctuation issues.
- Clean up sentences that don’t make sense or are grammatically incorrect.

Discussion Item

2. Review and Revision Cycle

- Submission Review
  - Form will be available year-round for submissions
  - Subcommittee will review submissions on a biannual basis:
    - **March** – Review and approve/reject submissions at in-person meeting
    - **October** – Review submissions electronically
- Revision Cycle
  - How often should the Public Works Standards be revised and published?

Information Items



FY2026 Public Works Work Program Update

3. FY26 Public Works Program Update

- Overall Program Budget Goal: $360,000
  - Invoices distributed in mid-January
  - Please let us know if your entity did not receive an invoice
- FY27 cost share estimates to be distributed in March

3. FY26 Public Works Program Update

Marketing

- Public Works videos posted to YouTube and LinkedIn
  - Public Works Council Video
  - Public Works Careers Promotion Video
- Public Works Training Calendar
  - Feel free to reach out if there are any events that could be included.

3. FY26 Public Works Program Update

Trainings

- PWC prioritized the following training topics for FY26:
  - New Inspectors Training
  - Asphalt and Concrete Training
- Planning for training is underway

3. FY26 Public Works Program Update

27th Annual Public Works Roundup

- August 20, 2026, at Hurst Conference Center
- What topics or presentations would you like to see?
  - **Form**: https://forms.office.com/r/uEcL9vU95U
  - **Responses Due**: March 31, 2026
- Next step: Gather abstracts from presenters

Please contact Madisson Dunn at mdunn@nctcog.org or 817-704-5611 for more information.

Integrated Stormwater Management (iSWM) Subcommittee

Last Meeting: January 14, 2026

- Guest speakers: Fouad Jaber & Yufan Zhang (Texas A&M AgriLife) presented green stormwater infrastructure (GSI) components of the TSI Study, including modeling work and long-term GSI maintenance findings.
- Discussed FY26 roster and upcoming amendments following PWC subcommittee voting.
- Reviewed website survey results (2 responses); feedback emphasized improving accessibility (mobile-friendly, smaller files) and making the website more user friendly and searchable.

Integrated Stormwater Management (iSWM) Subcommittee

- FY26 Work Program Updates
  - Inlet protection case study research progressing.
  - Stormwater quality monitoring program development underway.
  - Website modernization and content reorganization in development.

- **Next Meeting:** April 14, 2026, at 1:30 PM (In-person)

Please contact Katie Hunter at khunter@nctcog.org or 817-695-9102 for more information.

Upcoming PWCS Meeting

- The next subcommittee meeting will be scheduled for March 2027.
- As a reminder, the subcommittee will review requests twice a year:
    - **March** – Review and approve/reject submissions at in-person meeting
    - **October** – Review submissions electronically

Contact & Connect

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