Summary of Changes Per Section

#### ITEM NO. 101S PREPARING RIGHT OF WAY

Section 101S corresponds to previous COP Section G2 – Site Preparation and G3 – Site Clearing.

Changes made to Section 101S include:

- More detailed description of scope of work for Earthwork
- Removed submittal requirements, as submittals are not typically required for Preparation of ROW
- Added pre-construction conference prior to construction
- Changed "City Engineer" to "City Engineer or Designated Representative"
- Added description of the depth to which all underground obstructions, roots and stumps are to be removed
- Added definition of non-salvageable versus salvageable property
- Move Clearing and Grubbing Section (102S) to be included in 101S.3 (per meeting with COP 1-28-19)
- Added Measurement Section
- · Included additional pay items and measurement descriptions

Summary of Changes Per Section

### ITEM NO. 104S REMOVING PORTLAND CEMENT CONCRETE

Section 104S does not correspond to an existing COP specification section.

Changes made to Section 104S include:

• Added section 104S for Removing Portland Cement Concrete.

Summary of Changes Per Section

#### ITEM NO. 110S STRUCTURAL EXCAVATION AND BACKFILL

Section 110S corresponds to previous COP Section SD2 – Roadway Excavation.

Changes made to Section 110S include:

- More detailed description of scope of work for roadway excavation
- Included more detailed listing of submittals for roadway excavation
- Added more detailed definition of unclassified excavation.
- Added notes on erosion control, tree protection, existing utilities.
- Added note on earth cuts to be scarified to uniform depth of at least 6 inches.
- Added note on blasting.
- Added Measurement Section to describe how to measure work for structural excavation and backfill
- Provided more detailed pay item descriptions.

Summary of Changes Per Section

### ITEM NO. 120S CHANNEL EXCAVATION

Section 120S does not correspond to an existing COP specification section.

Changes made to Section 120S include:

• Added section 120S for Channel Excavation

Summary of Changes Per Section

### ITEM NO. 130S BORROW

Section 130S does not correspond to an existing COP specification section.

Changes made to Section 130S include:

• Added section 130S for Borrow

Summary of Changes Per Section

#### ITEM NO. 132S EMBANKMENT

Section 132S corresponds to previous COP Section SD3 – Embankment.

Changes made to Section 132S include:

- More detailed description of scope of work for embankment
- Included section outlining submittal requirements.
- Specified 8-in. layer thickness for earth embankments
- Specified 4-in. maximum dimension of rock to use
- Changed specified feathering of unlike materials to "on a slope of 1:20"
- Specified 2.5-ft. max layer thickness for rock embankments
- Added section for Selection of Materials
- Added Measurement section, specifying measurement in cubic yards by method of average end areas.
- Provided more detailed and additional pay item descriptions.

Summary of Changes Per Section

# ITEM NO. 201S, 202S, 203S, 204S

Sections 201S, 202S, 203S, and 204S do not correspond to an existing COP specification section.

- 201S Subgrade Preparation
- 202S Hydrated Lime and Lime Slurry
  - Changed name of section to "202S Lime"
    Added submittal requirement for pellets
- 203S Lime Treatment for Materials in Place
- 204S Portland Cement Treatment for Materials in Place

Summary of Changes Per Section

#### ITEM NO. 210S FLEXIBLE BASE

Section 210S corresponds to existing COP specification SD4 – Flexible Base.

The following changes were made to 210S:

- Included more detailed description of scope of work for flexible base
- Specified argillaceous limestone in Materials section
- Changed Max Wet Ball Mill to 42 instead of 40
- Changed Minimum Compressive Strength to 35 psi instead of 45 psi.
- Added new section 210S.3C Tolerances
- Added Stockpiling, Storage, & Management Section
- Included additional information on priming and curing
- Added Measurement Section
- · Changed measurement of flexible base to cubic yards

Summary of Changes Per Section

### ITEM NO. 211S, 212S, 220S, 230S, 232S, 234S, 236S, 281S

Sections 211S, 212S, 220S, 230S, 232S, 234S, 236S, and 281S do not correspond to an existing COP specification section.

- 211S Recycling Existing Aggregate
- 212S Recycled Concrete
- 220S Sprinkling for Dust Control
- 230S Rolling (Flat Wheel)
- 232S Rolling (Pneumatic Tire)
- 234S Rolling (Tamping)
- 236S Proof Rolling
- 281S Termite Control

Summary of Changes Per Section

#### ITEM NO. 301S-320S

Sections 301S-320S do not correspond to an existing COP specification section.

- 301S Asphalts, Oils, and Emulsions
- 302S Aggregates for Surface Treatments
- 306S Prime Coat
- 307S Tack Coat
- 310S Emulsified Asphalt Treatment
- 311S Emulsified Asphalt Repaving
- 312S Seal Coat
- 313S Cleaning and/or Sealing Joints and Cracks
- 315S Milling Asphaltic Concrete Pavement and Non-Portland Cement Concrete Bases
- 316S Polymerized Asphalt Interlayer Seal
- 320S Two Course Surface Treatment

Summary of Changes Per Section

#### ITEM NO. 340S HOT MIX ASPHALT CONCRETE PAVEMENT

Section 340S corresponds to existing COP Section SD1 - Hot Mix Asphalt Concrete Pavement

The following changes were made to Section 340S:

- Added more detailed description of scope of work
- Added more detailed outline of required submittals
- Added note denying the use of RAS
- Added reference to TxDOT Item 300
- Included detailed description of pavement mixture design and Job Mix Formula
- Added equipment to use (additions include mixing plants, motor graders, material transfer equipment)
- Included description of stockpiling aggregates
- Specified target temperatures for HMA mixture
- Added description mixture storage; describes surge-storage system; allows for overnight storage of HMA in insulated storage bins
- Included specifications on HMA moisture content and test method TEX-212-F Part II
- Added minimum 3 bag samples or 2000 SY for sampling and testing
- Removed pay item for payment by Ton
- Allowed for payment by LF, but added note that it is only allowable with approval of City Engineer

Summary of Changes Per Section

### ITEM NO. 341S-360S

Sections 341S-360S do not correspond to an existing COP specification section.

- 341S Paving Fabric
- 350S Heating, Scarifying and Repaving
- 351S Recycling Agent
- 360S Concrete Pavement

Summary of Changes Per Section

#### ITEM NO. 401S STRUCTURAL EXCAVATION AND BACKFILL

Section 401S corresponds to previous COP Section G4 – Pipe Excavation, Trenching, Embedment, Encasement & Backfilling, and G9 – Structural Excavation.

### Changes made to Section 401S include:

- More detailed description of scope of work
- Changed submittal requirements to 14 days prior to the commencement of work; more detailed listing of submittals for backfill material
- Included requirement for Excavation Safety Plan.
- Added Flexible Base, Lime Stabilized Base, Concrete Base, Cement Stabilized Backfill, Controlled Low Strength Material (CLSM) as acceptable backfill material.
- Expanded Cofferdam Specification to include earthen dikes and timber cribs along with sheet piling
- Added paragraph regrading minimum days/strength requirement for backfill placement up against any abutment or retaining wall or on top of any cast-in-place box culvert.
- Added specification for when and how to place Cement Stabilized Backfill
- Added specification for when and how to place Controlled Low Strength Material (CLSM)
- Added measurement description
- Included additional pay item descriptions

Summary of Changes Per Section

### ITEM NO. 402S CONTROLLED LOW STRENGTH MATERIAL

Section 402S does not correspond to any existing COP specification.

Changes made to Section 402S include:

• Added Section 402S for Controlled Low Strength Material

Summary of Changes Per Section

#### ITEM NO. 403S CONCRETE FOR STRUCTURES

Section 403S corresponds with previous COP Section C2 – Concrete for Structures.

Changes made to Section 403S include:

- Changed submittal requirements to 14 days prior to commencement of related work
- Added 700lbs per CY Max Cementitious Material
- Added Class C Flyash not allied in sulfate-resistant concrete
- Added specification on mixing water requirements
- Added specification on mix design for use of sulfate-resistant concrete
- Revised % Retained / % Passing table
- Added Sieve Analysis for Mineral Filler
- Added section for Storage of Materials, which follows TxDOT Item 421
- Added section describing how materials are to be measured and presented on tickets (not for payment)
- Added descriptions for Ready Mix, Volumetric Batching, Truck Mixed, and Hand Mixing of Concrete
- Added Measurement section
- Added Pay Items and Payment Measurement items

Summary of Changes Per Section

### ITEM NO. 404S-405S

Sections 404S and 405S do not correspond to an existing COP specification section.

- 404S Pneumatically Placed Concrete
  - Updated temperature limits for placing concrete
- 405S Concrete Admixtures

Summary of Changes Per Section

#### ITEM NO. 406S REINFORCING STEEL

Section 406S corresponds to existing COP Section C7 - Reinforcing Steel

The following changes were made to Section 406S:

- Changed submittal requirement to 14 days and included more detailed outline of required submittals
- Uses ASTM A996 for rail steel in concrete only (versus COP A616)
- Included nominal size chart for reinforcement bars
- Specified smooth bars greater than No. 3 conform to ASTM A36 (versus COP No. 4)
- Included description of TxDOT Item 440 for Epoxy Coating
- Minimum Lap Requirements table using COA/TxDOT values (versus COP table)
- Specified box culvert extensions minimum lap of 12 inches (versus COP 6 inches)
- Included table for minimum cover of concrete per COA
- Specified concrete for blocks to contain 850 lb. cement per CY (versus COP 9 sacks per CY)

Summary of Changes Per Section

### ITEM NO. 407S-408S

Sections 407S and 408S do not correspond to an existing COP specification section.

- 407S Fibrous Concrete
- 408S Concrete Joint Materials

Summary of Changes Per Section

### ITEM NO. 409S MEMBRANE CURING

Section 409S corresponds to existing COP Section C6 – Membrane Curing.

The following changes were made to Section 409S:

• Changed submittal requirement to 14 days prior to the commencement of related work (versus original 30 days)

Summary of Changes Per Section

### ITEM NO. 410S CONCRETE FOR STRUCTURES

Section 410S corresponds with previous COP Section C1 – Concrete Structures.

Changes made to Section 410S include:

- Changed submittal requirements to 14 days prior to commencement of related work
- Included list of required submittals
- Added Latex specification in cases where polymer-modified concrete or mortar is requested
- Added specifications for timber, metal, and form supports for overhang slabs

Summary of Changes Per Section

### ITEM NO. 411S-424S

Sections 411S-424S do not correspond to an existing COP specification section.

- 411S Surface Finishes for Concrete
- 413S Cleaning and/or Sealing Joints and Cracks (Portland Cement Concrete)
- 414S Concrete Retaining Walls
- 416S Waterstops
- 420S Drilled Shaft Foundations
- 424S Pressed Concrete Planks

Summary of Changes Per Section

### ITEM NO. 430S P.C. CONCRETE CURB AND GUTTER

Section 430S corresponds to existing COP Section C4 – Concrete Curb and Gutter.

The following changes were made to Section 430S:

- Changed submittal requirement to 14 days prior to the commencement of related work (versus original 30 days)
- Included section for Membrane Curing Compound, referring to Section 409S Membrane Curing.
- Included section for Flexible Base, referring to Section 210S Flexible Base.
- Additional specification for minimum width behind the curb, minimum 4" flexible base; added note that this is minimum unless a greater or different base is indicated on drawings

Summary of Changes Per Section

#### ITEM NO. 431, 434S-485S

Sections 431, and 434S-485S do not correspond to an existing COP specification section.

- 431S Machine Laid Portland Cement Concrete Curb and Gutter
- 434S P.C. Concrete Medians and Islands
- 435S P.C. Concrete Steps
- 436S P.C. Concrete Valley Gutters
- 437S Paver Grate Frames/Tree Grates and Frames
- 438S Elastomeric Materials
- 439S Parking Lot Bumper Curbs
- 461S Trash and Litter Coffins REMOVED per Sean Barry
- 470S Curb Cuts for Sidewalk Ramps and Driveways
  - Changed measurement and payment items to be subsidiary to item being constructed
- 480S Concrete Paver Units for Sidewalks and Streetscape Requirements
- 485S Concrete Paver Units for Sidewalk Ramps REMOVED per Sean Barry

Summary of Changes Per Section

#### ITEM NO. 432S P.C. CONCRETE SIDEWALKS

Section 432S corresponds to existing COP Section C5 – Concrete Sidewalks, Driveways, and Flatwork.

The following changes were made to Section 432S:

- Changed submittal requirement to 14 days prior to the commencement of related work (versus original 30 days)
- Added requirement that poly fibers can only be used when approved by the City Engineer
- Revised pay items to "Concrete Sidewalks \_\_\_\_ Thickness" and "Reconstruct Concrete Sidewalk
   \_\_\_ Thickness" (combined various thicknesses into one item)

Summary of Changes Per Section

### ITEM NO. 433S P.C. CONCRETE DRIVEWAYS

Section 433S corresponds to existing COP Section C5 – Concrete Sidewalks, Driveways, and Flatwork.

The following changes were made to Section 433S:

- Changed submittal requirement to 14 days (versus original 30 days)
- Describes Type I, Flared Type I, and Type II P.C. Concrete Driveway

Summary of Changes Per Section

#### ITEM NO. 501S BORING

Section 501S corresponds to previous COP Section W4 – Encasement Pipe.

Changes made to Section 501S include:

- More detailed description of scope of work
- Change submittal requirements to 14 days and include more detailed listing of submittals for backfill material
- Added 15" carrier pipe size to Table in 501S.3A
- Added item for Grout
- More detailed description of Construction Methods and contractor responsibility
- Added section for Boring including general guidelines required to install
- · Added section for Tunneling detailing when Tunneling is acceptable, but must be approved by COP
- Added Measurement section describing how items will be measured
- More detailed description of pay items

Summary of Changes Per Section

### ITEM NO. 503S FRAMES, GRATES, RINGS AND COVERS

Section 503S corresponds to previous COP Section WW1 – Wastewater and SD6 – Storm Sewer.

Changes made to Section 503S include:

- Change submittal requirements to 14 days and include more detailed listing of required submittals
- Added in Measurement & Payment section that this item is subsidiary to manhole/inlet work

Summary of Changes Per Section

### ITEM NO. 504S ADJUSTING STRUCTURES

Section 504S does not directly correspond with any existing COP specification.

Changes made to Section 504S include:

• The addition of this Section 504S for requirements on adjusting existing structures to grade

Summary of Changes Per Section

#### ITEM NO. 505S CONCRETE ENCASEMENT AND ENCASEMENT PIPE

Section 505S corresponds with existing COP Section G4 – Pipe Excavation, Trenching, Embedment, Encasement, & Backfilling, as well as Section W4 – Encasement Pipe.

### Changes made to Section 505S include:

- Change submittal requirement to 14 days prior to commencement of related work
- More detailed list of required submittals
- · Added section identifying scenarios when encasement is required
- Added Measurement section describing how the item is measured
- · Provided more detailed and additional pay item descriptions

Summary of Changes Per Section

#### ITEM NO. 506 MANHOLES

Section 506 corresponds with existing COP Section WW1 – Concrete Manholes Wastewater, WW4 – Abandonment of WW Manholes, and SD6 – Concrete Manholes Storm Sewer.

#### Changes made to Section 506 include:

- Combines wastewater manholes/junction boxes and storm sewer manholes/junction boxes into one specification
- Changed submittal requirement to 14 days prior to commencement of related work
- Added detailed list of required submittals
- Combined sections of COP Items from WW1 & SD6 into one item (506.3)
- Removed Precast-Prefabricated Tee Manholes section
- Added a High-Density Polyethylene Grade Ring
- Added Structural Lining System for Wastewater Manholes
- Provided a more detailed description of construction methods and contractor responsibility
- Added section to describe allowable process for adjusting the height of the ring and cover & included HDPE Grade Rings
- Added section describing the process for installing structural lining of existing manholes
- Added Measurement section defining how to measure items
- Added more detailed and additional pay item descriptions

Summary of Changes Per Section

### ITEM NO. 507S BULKHEADS

Section 507S does not directly correspond to an existing COP Specification.

Changes made to Section 507 include:

• Addition of Section 507 for installing bulkheads as a temporary plug for utilities.

Summary of Changes Per Section

#### ITEM NO. 508S-594S

Sections 508S and 594S do not correspond to an existing COP specification section.

- 508S Miscellaneous Structures and Appurtenances
  - Changed Inlets pay items to just two bid items: recessed and standard
- 551S Pipe Underdrains
  - Revised pipe materials section to remove old pipe types and include PVC and HDPE
- 558S Structural Plate Structures
- 559S Portland Cement Concrete Box Culverts
- 591S Riprap for Slope Protection
- 593S P.C. Concrete Retards
- 594S Gabions and Revet Mattresses
  - Added Submittal Section requiring submittals of wire and rock gradation

Summary of Changes Per Section

### ITEM NO. 509S EXCAVATION SAFETY SYSTEMS

Section 509S corresponds to existing COP Section G4 – Pipe Excavation, Trenching, Embedment, Encasement, & Backfilling/Encasement Pipe

Changes made to Section 509S include:

- Addition of Section 509S to specifically describe Excavation Safety Systems, including Trench Safety Plan.
- Include the requirement for Texas PE to seal and submit to COP

Summary of Changes Per Section

#### ITEM NO. 510S PIPE

Section 510S corresponds to existing COP Section W1 – Ductile Iron Pipe & Fittings, W2 – PVC Pipe, & C8 – Reinforced Concrete Pipe

### Changes made to Section 510S include:

- Combined all listed pipe specifications into one section
- Changed submittal requirement to 14 days prior to commencement of related work
- Included Embedment/Backfill requirements with reference to 403S
- Combined listed sections of COP items for material into one section
- Added specification for copper tubing
- More detailed description of construction method
- More detailed description of installation requirements
- Simplified multiple pipe laid side by side spacing between pipes
- Added section for installing pipes in tunnels
- Added section for connections to potable water systems
- Added section for inspection of storm drain conduits
- Added section for Valve Turn Walk Thru
- Added section for utilizing a jumper hose to pressurize a non-pressurized line
- Added Measurement section describing how to measure items
- More detailed and additional pay item descriptions

Summary of Changes Per Section

### ITEM NO. 511S PIPE

Section 511S corresponds to existing COP Section W3 - Valves, Hydrants & Appurtenances

Changes made to Section 511S include:

- Provided more detailed description of water valve specification
- Changed submittal requirement to 14 days prior to commencement of related work
- Added detailed list of items to accompany submittal
- Added reference to COP Standard Products List (SPL)
- Added Measurement section
- More detailed and additional pay item descriptions

Summary of Changes Per Section

### ITEM NO. 601S SALVAGING AND PLACING TOPSOIL

Section 601S corresponds to previous COP Section G7 – Loaming, Hydroseeding, & Permanent Erosion Control

Changes made to Section 601S include:

- Changed submittal requirement to 14 days versus original 30 days
- Updated Seeding Time Table for clarity (winter months require both seeds)
- Changed Excelsior Matting Blanket to Soil Retention Blanket

Summary of Changes Per Section

### ITEM NO. 602S SODDING FOR EROSION CONTROL

Section 602S does not correspond to an existing COP specification.

Changes made to Section 602S include:

• Added Section 602S for Sodding for Erosion Control

Summary of Changes Per Section

# ITEM NO. 604S SEEDING FOR EROSION CONTROL

Section 604S corresponds in part to COP Section G7 – Loaming, Hydroseeding, & Permanent Erosion Control

Changes made to Section 604S include:

- Changed submittal requirements to 14 days
- Included detail of multiple mulch options
- Section G7.06 included in 604S.3, 604S.4, 604S.5, and 604S.7
- Added Weed List and Seed Bed Preparation information
- Added Broadcast Seeding Method
- Added Seed Rate Calculations
- Added Herbicide requirements

Summary of Changes Per Section

### ITEM NO. 606S FERTILIZER

Section 606S does not correspond to an existing COP specification.

Changes made to Section 606S include:

• Added Section 606S for Fertilizer.

Summary of Changes Per Section

### ITEM NO. 639S ROCK BERM

Section 639S corresponds with existing COP Section G6.07 and G6.08 for Installation, Maintenance, and Inspection of Rock Berm.

Changes made to Section 639S include:

• Added Section 639S for Rock Berm.

Summary of Changes Per Section

### ITEM NO. 641S STABILIZED CONSTRUCTION ENTRANCE

Section 641S corresponds with existing COP Section G6.07 and G6.09 for Installation, Maintenance, and Inspection of Stabilized Construction Entrance.

Changes made to Section 641S include:

• Added Section 641S for Stabilized Construction Entrance.

Summary of Changes Per Section

### ITEM NO. 642S STABILIZED CONSTRUCTION ENTRANCE

Section 642S corresponds with existing COP Section G6 – Sedimentation and Temporary Erosion Control.

Changes made to Section 642S include:

- Remove Excelsior Matting
- G6.03 included in Section 642S.1
- Submittal requirement changed to 14 days versus original 30 days
- Changed Triangular Filter Dike to 30 inches wide versus original 36 inches
- Added Tree Protection sections
- G6.07, G6.08, G6.09 included in part in Section 642S.4

Summary of Changes Per Section

#### <u>ITEM NO. 700S - 725S</u>

Sections 700S and 725S do not correspond to an existing COP specification section.

- 700S Mobilization
- 701S Fencing
  - Added Section for Barbed Wire
- 702S Removal and Relocation of Existing Fences
  - Added pay item for removal and relocation of barbed wire fence
- 703S Fencing Excavations
- 704S Metal Beam Guard
- 705S Remove and Relocate Existing Metal Beam Railing
- 706S Bridge and Culvert Railing
- 710S Bicycle Racks
- 720S Metal for Structures
- 721S Steel Structures
- 722S Protective Coating
- 723S Structural Welding
- 725S Survey Markers
  - Revised to reflect COP survey control best practices
  - Added post-installation submittal requirements
  - Included example submittal documents

Summary of Changes Per Section

#### ITEM NO. 801S-876S TRAFFIC SIGNAGE AND PAVEMENT MARKINGS

Sections 801S-876S have been modified to include only sections applicable to Traffic Signage and Pavement Markings. Some sections were moved to a new Section 1200 for Traffic Signals.

The following sections were kept in Series 800:

- 801S Removed wood from materials list
- 802S
- 803S Anchor bolts
- 824S Replaced with corresponding TxDOT Spec. 636
- 827S
- 829S
- 860S
- 862S
- 863S
- 865S Removed per COP
- 866S
- 867S
- 870S City of Austin spec w/option for TxDOT Spec. 662
- 871S City of Austin spec w/option for TxDOT Spec. 666
- 872S <u>City of Austin spec w/option for TxDOT Spec.</u> 668
- 873S City of Austin spec w/option for TxDOT Spec. 672
- 874S <u>City of Austin spec w/option for TxDOT Spec.</u> 677
- 875S <u>City of Austin spec w/option for TxDOT Spec. 678</u>
- 876S Added TxDOT Spec. 658

The following sections from Series 800 were moved to Section 1200 and replaced with corresponding TxDOT Specs:

- 830S Section 1201 (TxDOT Spec. 656)
- 831S Section 1202 (TxDOT Spec. 416)
- 832S Section 1203 (TxDOT Spec. 680)
- 833S Section 1206 (TxDOT Spec. 688)
- 834S Section 1204 (TxDOT Spec. 624)
- 835S Section 1210 (TxDOT Spec. 618)
- 836S Section 1205 (No corresponding TxDOT spec identified)
- 837S Section 1206 (TxDOT Spec. 688)
- 838S Section 1207 (TxDOT Spec. 687)
- 839S Section 1208 (TxDOT Spec. 686)
- 840S Section 1203 (TxDOT Spec. 680)
- 841S Section 1227 (TxDOT Spec. 690)
- 844S Section 1210 (TxDOT Spec. 618)
- 846S Section 1210 (TxDOT Spec. 618)

Summary of Changes Per Section

### ITEM NO. 1301S GRANITE GRAVEL HIKE AND BIKE TRAIL

Sections 1301S does not correspond to an existing COP specification section.

The following sections were added:

• 1301S – Granite Gravel Hike and Bike Trail