

Previous Page #	New Page #	Section	Revision Description
Chapter 1: General			
1-2, 1-3	1-2, 1-3	1.2	Updated various outdated hyperlinks; added link to traffic signal general notes
1-6	1-6	1.3	Removed Department of Support Service - Communications from review list
1-7, 1-8	1-7, 1-8	1.5	Updated submittal checklists: <ul style="list-style-type: none"> - Minor updates to wording - Added existing pole mounted and overhead signs to Stage 1 - Added list of anticipated pay items (descriptions only) to Stage 2 - Moved notes from Stage 3 to Stage 2 - Added temporary signal and/or temporary signal modifications to Stage 2 - Moved SWISS calculations from Stage 2 to Stage 3 - Added typical pole orientation and elevation details to Stage 3 - Added span diagram to Stage 3
Chapter 2: Plan Preparation			
2-6	2-6	2.2	Clarified location of sample plans.
2-6	2-6	2.2.1	Updated means of obtaining traffic signal notes (now via the DPS website).
2-6	2-6	2.2.4	Revised guidance on use of 20-scale or 10-scale for plan view sheet. Included controller cabinet among items that are to be drawn to scale.
2-8	2-8	2.2.6	Deleted "optional" from signal support elevation detail.
2-8	2-8	2.3	Removed reference to ODOT Item Master.
2-8 - 2-12	2-8 - 2-12	2.3	Various updates to list of pay items.
Chapter 3: Temporary Traffic Signals			
3-6	3-6	3.4	Updated temporary signal head backplate policy.
Chapter 4: Supports and Foundations			
4-3, 4-4	4-3, 4-4	4.1.4.2	Revised guidance on choosing the appropriate span configuration.
4-6	4-6	4.2	Clarified use of unused capped conduit ell and corrected references to pole fab chart figures.
4-9	4-9	4.3.4	Updated references to current editions of the NEC and NESC beneath Table 4.1. Clarified that overhead clearances apply to all conductive components of a signal installation.
-	4-9	4.3.4	Added guidance for clearance to communication lines. Clarified responsibility for identifying and addressing overhead utility conflicts and notifying utility owners of any necessary relocations.
4-11	4-11	4.4.1	Corrected page reference of pole callout examples.
4-13	4-13	4.4.2	Figure 4.1: Removed "A" designation from mast arm reference.
4-14, 4-15	4-14, 4-15	4.4.2	Figures 4.2 & 4.3: Removed "Mast Arm A" from Index Line column heading. Clarified Pole Fabrication Angles section heading
Chapter 5: Vehicular Signals			
5-22, 5-30, 5-31, 5-34	5-22, 5-30, 5-31, 5-34	5.2.4.2	Figures 5.17, 5.25, 5.26, and 5.29: Clarified use of R10-10R "Right Turn Signal" sign.
Chapter 6: Pedestrian Features			
Chapter 7: Intersection Wiring			
7-1	7-1	7.2	Corrected link and reference to the Traffic Qualified Products List.

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7-2, 7-3	7-2, 7-3	7.3	Grounding and Bonding wiring examples, Figures 7.1 & 7.2: removed non-metered option; corrected ground rod location on meter cabinet.
7-10	7-10	7.5.1	Added instruction on how to size messenger wire.
7-15	7-15	7.8	Table 7.5: Updated references to most current versions of NEC and NESC.
7-16, 7-17	7-16, 7-17	7.9	Wiring Diagram examples Fig. 7.6 and 7.7: removed non-metered option, added UPS scenario.
Chapter 8: Traffic Signal Signs			
Chapter 9: Vehicle Detection			
9-7, 9-8	9-7, 9-8	9.3.1.1	Fig. 9.4 & 9.5: corrected left turn signal head type to match zone placement on minor street approaches.
9-10	9-10	9.3.1.2	Fig. 9.7: corrected left turn signal head type to match zone placement on minor street approaches.
Chapter 10: Power Service			
10-2	10-2	10.1	Revised paragraph regarding use of power meters. Meters are now required when power source is owned by Columbus Division of Power.
10-2	10-2	10.2	Added guidance regarding attaching service cable to signal poles.
10-3	10-3	10.3	Removed reference to non-metered power.
10-3	10-3	10.4	Revised guidance for power meter cabinet placement.
10-4	10-4	10.6	Revised guidance for voltage drop calculation.
Chapter 11: Controller / Cabinet			
Chapter 12: Interconnect			
12-1	12-1	12.1	Added references to Supp.Spec.1620 and CMSC 633 and 733. Corrected link and reference to Traffic Qualified Product List. Updated description and status of the Columbus Traffic Signal System.
12-2 - 12-11	-	12.4	Removed section on coax system. Subsequent sections renumbered.
12-11	12-2	12.4	Deleted statement that notes for closed loop system will be provided by DPS.
12-12	12-3	12.5.1	Added reference to Supplemental Specification 1620.
12-14	12-5	12.5.3	Table 12.1 (formerly Table 12.6): Added note stating that 144-splice clamshell and dome enclosures shall not be used for permanent installations.
12-15	12-6	12.5.4	Updated text and Figure 12.1 to change termination type from LC-UPC to LC-APC
12-16 - 12-18	12-7 - 12-9	12.5.5	Updated text and Figures 12.2-12.3 to reflect new redundancy methodology.
12-24, 12-25	12-15, 12-16	12.6	Figures 12.8 and 12.9: Added guidance regarding coordination with Dept. of Technology and splicing of DoT buffer tubes.
12-30	12-21	12.7	Revised sentence about the use of wireless radio in lieu of fiber optic cable. Updated wireless radio cable type.
-	12-23, 12-24	12.10	Added new section 12.10: Relocation and Reuse of Existing CTSS Fiber Optic Interconnect Cable.
Chapter 13: Underground Facilities			
13-1	13-1	13.1	Corrected link and reference to Traffic Qualified Products List.
-	13-4 - 13-6	13.3.1	Added explanation of trench pay items and new Table 13.4: Pay Items for Signal and Interconnect Trench
13-10	13-12	13.5.2	Replaced reference to modified conduit riser plan detail with reference to Standard Drawing 4602.

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13-16	13-18	13.8.1	Corrected numbering of conduit bank examples.
Chapter 14: Removal and Reuse of Traffic Signal Installations			
14-2	14-2	14.2	Table 14.1: Clarified material and size of pull box lids, frames, and castings; revised/clarified description of CCTV camera/traffic flow monitor, Layer 2 ethernet switch, and ethernet transceivers; revised delivery address for fiber optic interconnect items.
Chapter 15: Timing / Phasing			
15-10, 15-11	15-10, 15-11	15.2.3	Clarified language regarding analyses related to left turn phasing. Added paragraphs addressing permitted left turn phasing and sight distance.
15-13	15-13	15.2.5	Removed reference to Standard Drawing 4332 (defunct).
15-13	15-13	15.2.6	Revised sentences regarding overlapping paths to include misaligned left turn lanes.
15-15, 15-16	15-15, 15-16	15.3	Fig. 15.6 and 15.7: Changed field wiring hookup chart to show red flash for all heads.
15-17	15-17	15.3	Fig. 15.8: corrected the WB left turn arrow in the Ph.2 + Ph.5 circle (made protected)
15-19	15-20	15.3	Fig. 15.10: corrected the NB left turn arrow in the Ph.1 + Ph.6 circle (made protected)
Chapter 16: Special Conditions			

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Chapter 1: General			
1-6	1-6	1.5	Eliminated reference to pre-design field meeting.
Chapter 2: Plan Preparation			
2-5	2-5	2.1.1	Figure 2.2: Removed power source symbol from wiring diagram legend. Symbol will still need to be included in wiring diagrams, but is self-explanatory and does not need to be in the legend.
2-5	2-5	2.1.1	Figure 2.2: Deleted "& GND" from 2/C #6 AWG (Power) to match the legend in Figures 7.6 and 7.7. Grounding requirements are shown in Figures 7.1 and 7.2.
2-6	2-6	2.2.3	New section with guidance on dedicated plan sheet for traffic signal removal. Subsequent sections renumbered.
2-8	2-8	2.2.9	(Formerly section 2.2.8) Updated to refer to revised requirements in Chapter 3.
2-8	2-8	2.3	Modified descriptions for 12"x18" and 13"x24" pull boxes.
2-9	2-9	2.3	Removed "As Per Plan" from encased interconnect conduit bank pay items. (Already a miscellaneous item, therefore "as per plan" is not necessary.)
N/A	2-9	2.3	Added street name sign item.
2-10	2-10	2.3	Removed "As Per Plan" from standard pedestrian signal head and pushbutton pay items. (Items were added to City's Traffic QPL.)
2-10	2-10	2.3	Removed "As Per Plan" from accessible pedestrian signal pay item. (Item is already a miscellaneous item, therefore "as per plan" is not necessary.)
2-10	2-10	2.3	Removed "As Per Plan" from detector loop pay item. (Item was added to City's Traffic QPL.)
2-10	2-10	2.3	Added strain pole foundation items to list.
2-10, 2-11	2-11	2.3	Removed "As Per Plan" from pedestal items. (Specifications in plan note added to CMSC.)
2-11	2-11	2.3	Removed "CU" from power cable descriptions to match CMSC.
2-12	2-12, 2-13	2.3	Changed fiber optic cable, fiber optic fusion splice, and termination panel from Item 632 to 1620. (Items now covered in Supplemental Specification 1620.)
Chapter 3: Temporary Traffic Signals			
3-1	N/A	3.1	Removed reference to Supplemental Spec 1100.
3-1	3-1	3.1	Added time restrictions for Downtown Business District.
3-1	3-1	3.1	Added introduction paragraph for new three tier system for temporary traffic signal plans.
N/A	3-1	3.1.1	Added new section detailing plan requirements for basic temporary signal modifications.
N/A	3-2	3.1.2	Added new section detailing plan requirements for intermediate temporary signal modifications.
N/A	3-3	3.1.3	Added new section detailing plan requirements for detailed temporary signal modifications.
N/A	3-4	3.1	Table 3.1: Added table to summarize plan sheet components of temporary signal plans.
3-2	3-5	3.2	Added requirement that temporary signal supports shall not be located in proposed pavement, curb ramps, or shared use paths.
3-2	3-5	3.2.1	Added requirement for standardized notes related to pole sizing and span adjustments.
3-2	3-5	3.2.1	Removed sentence prohibiting the use of diagonal temporary signal spans.
3-3	3-5	3.2.1	Removed paragraph requiring specifications for wood poles to be included in the plans; wood poles will be sized by the contractor.
3-3	3-5	3.2.1	Removed paragraph requiring locations and numbers of downguys to be specified in the plans; downguys will be installed as needed by the contractor to achieve the required clearance over the roadway.
3-3	3-5	3.3	Modified section to clarify that maintaining existing detection is covered via plan notes.
3-3	3-6	3.3	Removed sentence requiring temporary detection to use video as the detection type.
3-3	3-6	3.3	Removed paragraph regarding showing of existing detection. See requirements in section 3.1.
3-3	3-6	3.4	Added requirement that temporary signal heads on full temporary signals must have backplates and be tethered.
3-3	3-6	3.5	Changed section to state that temporary pedestrian facilities shall be maintained via plan note rather than detailing in the temporary signal plans.
3-4	3-6	3.6	Removed sentence requiring plans to detail which signs are temporarily covered and where to install the signal operation changed signs; these will be covered via note.
3-4	3-6	3.7	Removed statement regarding temporary cabinet foundations; this will be covered via plan note.
3-4	3-6	3.7	Removed requirement that temporary wiring and conduit must be detailed in the plans.

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3-4	3-7	3.8	Added new paragraphs on when temporary cable must be used and when temporary cell modems or radios can be used.
Chapter 4: Supports and Foundations			
4-5	4-5	4.1.7	Updated pole coating color to #27038 Semi-gloss black for all poles, excluding poles installed in special area districts.
4-5	4-5	4.1.7.1	Removed section on finish requirements for the Downtown District since this will be the same as the standard pole color (black). Dark bronze removed from Special Area Districts section; section renumbered accordingly.
4-7	4-7	4.3	Removed sentence referencing the pre-design meeting.
4-11	4-11	4.4.1	Added bracket arm to example callout for combination signals supports.
4-14	4-14	4.4.2	Figure 4.2: Added federal standard color code to pole color column and updated to current standard (semi-gloss black #27038); removed asterisk number two referencing SCD 4230; removed Capped Conduit Ell column.
4-15	4-15	4.4.2	Figure 4.3: Added federal standard color code to pole color column and updated to current standard (semi-gloss black #27038); removed asterisk number two referencing SCD 4230; removed Capped Conduit Ell column.
4-17	4-17	4.4.2	Figure 4.5: Added federal standard color code to pole color column and updated to current standard (semi-gloss black #27038); removed asterisk number two referencing SCD 4230; removed angle values for strain poles without capped conduit ells.
Chapter 5: Vehicular Signals			
5-3	5-3	5.1.5	Replaced yellow signal head color with reference to the CMSC (now using gloss black #17038).
5-3	5-3	5.1.5.1	Updated signal head color to reference the CMSC.
Chapter 6: Pedestrian Features			
6-4	6-4	6.3.2	Corrected the guidelines for installing APS-related pushbutton signs.
Chapter 7: Intersection Wiring			
7-16	7-16	7.9	Figure 7.6: Removed power source symbol from wiring diagram legend. Symbol will still need to be included in wiring diagrams, but is self-explanatory and does not need to be in the legend.
7-17	7-17	7.9	Figure 7.7: Removed power source symbol and re-arranged remaining symbols in wiring diagram legend.
Chapter 8: Traffic Signal Signs			
8-2	8-2	Fig. 8.1	Corrected placement of the "NEW" plaque to conform with OMUTCD.
Chapter 9: Vehicle Detection			
9-11	9-11	9.3.1.2	Corrected reference for maximum offset measurement for dilemma zone detectors.
Chapter 10: Power Service			
10-3	10-3	10.4	Corrected text referring to timing of the field meeting.
Chapter 11: Controller / Cabinet			
11-2	11-2	11.1.2.2	Corrected text referring to timing of the field meeting.
Chapter 12: Interconnect			
12-15	12-15	12.6.4	Clarified statement regarding excessively long patch cables.
Chapter 13: Underground Facilities			
13-5	13-5	13.3.3	Added new restriction that drilled/directionally bored conduit is not to be used where there are excessive utility crossings that would need to be potholed.
13-5	13-5	13.3.3	Revised requirements regarding bore pit and boring machine accommodations.
13-16	13-17	13.8.2	Removed CMSC reference from pull box plan callouts.
Chapter 14: Removal and Reuse of Traffic Signal Installations			
14-2	N/A	14.2	Section on unwarranted signals relocated from Chapter 14 to Chapter 16. Remaining sections of Chapter 14 renumbered accordingly.
14-2	14-2	Table 14.1	Added designer note regarding removal of conduit.
Chapter 15: Timing / Phasing			
15-11 - 15-12	15-11 - 15-12	15.2.4	Revised guidance on use of split phasing.
15-13	15-13	15.2.6	Revised guidance on use of lead/lag phasing.

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Chapter 16: Special Conditions			
16-1 - 16-4	16-1 - 16-4	All	Renumbered sections
14-2	16-7	16.6	Section relocated from Chapter 14. Previous text updated to provide clarification on situations where signal warrant status is unresolved.
N/A	16-7	Fig. 16.3	New figure.

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Chapter 1: General			
1-2	1-2	1.2	Eliminated reference to Supplemental Spec 1100.
1-3	1-3	1.2	Updated reference to new City of Columbus ADA Rules and Regulations.
1-6	1-6	1.5	Moved the design field meeting to post Stage 1 review.
1-7, 1-8	N/A	N/A	Eliminated pre-design field meeting checklist.
1-9	1-7	1.5	Added proposed interconnect conduit to Stage 1 submittal requirements.
1-10	1-8	1.5	Stage 2 Checklist: Clarified that conduit and wiring callout info is needed for both signal and interconnect conduit. Added grounding and bonding diagram and legend. Rephrased interconnect splicing details/devices checklist item.
Chapter 2: Plan Preparation			
2-8	2-8	2.3	Eliminated temporary video detection pay item. Payment for temporary detection will be included in Work Zone Traffic Signal pay item.
2-8	2-8	2.3	Removed "Concrete" from description for 48" pull boxes.
N/A	2-9	2.3	Added pay items for No. 6 and No. 8 distribution cable for combination lighting.
2-9	2-9	2.3	Updated pay item description for LED luminaire.
2-10	2-10	2.3	Changed pay item description for Accessible Pedestrian Signal to match the As Per Plan note.
2-10	2-10	2.3	Corrected item description for radar detection items (added "System").
2-10	2-10	2.3	Updated pay items for signal support foundations and pedestal foundation and added pay item for pre-excavation.
2-11	2-11	2.3	Updated item description for power meter cabinet (removed dimensions).
2-9	2-11	2.3	Conduit risers for power changed to 725.053 (SCH 80) and to a 632 item.
2-9	2-11	2.3	Modified conduit risers for interconnect cable changed to 725.04 and to a 632 item.
2-12	2-12	2.3	Updated item description for termination panel to match current spec. (Drop cable is now a separate pay item.)
2-12	2-12	2.3	Updated pay items for controller cabinets to reflect new TS-2 sizes.
2-12	2-12	2.3	Updated item description for UPS to match plan note.
2-12	2-12	2.3	Removed pay item for current present detector.
Chapter 3: Temporary Traffic Signals - NO REVISIONS			
Chapter 4: Supports and Foundations			
4-1	4-1	1st paragraph	Eliminated reference to Supplemental Spec 1100.
4-1	4-1	4.1	Eliminated the requirement to use mast arms on all new signal installations; support type is now determined by project scope.
4-2	4-2	4.1.2	Added guidance on application of combination lighting.
4-4	4-4	4.1.5	Added clarification for the handhole/transformer base door alignment for pedestrian pedestals.
4-4	4-4	4.1.5.2	Added language to clarify policy that 10.7' pedestals should be installed in pushbutton-compliant locations.
4-6	4-6	4.2.1	Added guidance on the application of the modified deep signal pole foundation.
4-6	4-6, 4-7	4.2.2	Added guidance for pedestals installed at the back of walk and the 18" formed top pedestal foundation.
4-6	4-8	4.3.3	Reduced signal pole foundation clearance requirements to 3' when deep foundations are used.
4-8	4-10	4.3.5	Updated reference to new City of Columbus ADA Rules and Regulations.
4-9, 4-10	4-11, 4-12	4.4.1	Added depth of deep foundation to pole callout requirements (1st paragraph). Added deep foundation and 18" formed top pedestal foundation examples.
4-11, 4-14	4-13, 4-16	Fig. 4.1 Fig. 4.4	Replaced reference to Sec 5.2.3 with actual signal head clearance values.
4-12	4-14	Fig. 4.2	Corrected pole fab handhole angle for ped pedestals to 0 degrees. Revised typical mast arm attachment heights and pole heights to 19.5' and 21', respectively.
4-13	4-15	Fig. 4.3	Corrected pole fab handhole angle for ped pedestals to 0 degrees. Revised typical mast arm attachment heights to 19.5'.
4-14	4-16	Fig. 4.4	Updated title of figure to include pedestals.

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Chapter 5: Vehicular Signals			
5-1	5-1	5.1.1	Eliminated reference to Supplemental Spec 1100.
5-5	5-5	5.2.4.1	Updated figure reference.
5-14, 5-15	5-14, 5-15	Fig. 5.9 Fig. 5.10	R10-11C sign added to top and bottom scenario. Moved R10 sign to left of 5-section head in middle scenario.
5-19, 5-20	5-19, 5-20	Fig. 5.14 Fig. 5.15	Deleted "One Way Streets Only" from permissive scenario.
5-21	5-21	Fig. 5.16	Added R10-11C signs.
5-22	5-22	Fig. 5.17	Replaced R10-10R (Right Turn Signal sign) with R10-11C sign in the second scenario from the top. Corrected offset of R10-11C sign in top split phase scenario to 3'.
5-27	5-27	Fig. 5.22	Deleted Protected/Permissive Right Turn scenario. (Permissive LT heads and 5-section RT head not compatible on same approach.)
N/A	5-39	New Fig. 5.34	Added offset LT Lane scenario that also includes an exclusive RT lane.
N/A	5-40, 5-41	New Figs. 5.35 and 5.36	Added head placement scenarios for approaches with a bike lane.
Chapter 6: Pedestrian Features			
6-1	6-1	6.1	Added language clarifying intent of providing a pedestal or signal pole in future APS compliant locations.
6-3	6-3	6.2	Updated text and removed CM-R10-3a sign from Figure 6.3 as a result of new ADA policy which no longer allows a pushbutton to be mounted on the front side of a pole when it is at the back of walk. Also updated figure to match revision to SCD 4230 where finger on sign points in direction of crosswalk.
6-3	6-3	6.2.2	Updated references to new City of Columbus ADA Rules and Regulations.
6-4	6-4	6.3	Added clarification that conduit shall be stubbed to a future APS location when a pedestal or signal pole cannot be installed in the APS location.
Chapter 7: Intersection Wiring			
7-1	7-1	7.2	Eliminated reference to Supplemental Spec 1100.
7-2, 7-3	7-2, 7-3	Fig. 7.1 Fig. 7.2	Modified grounding and bonding figures to include meter cabinet and ground/neutral bus terminal info on metered installations.
7-14	7-14	7.7	Revised control of street lighting to be done via photocells instead of current sensors.
7-16, 7-17	7-16, 7-17	Fig. 7.6 Fig. 7.7	Removed ground wire from 2/C #6 power cable item in the legend. Ground wire requirements are shown in Figures 7.1 and 7.2.
7-17	7-17	Fig. 7.7	Updated figure to include photocell instead of current sensor.
Chapter 8: Traffic Signal Signs			
8-1	8-1	8.1	Deleted sentence stating that only regulatory signs are addressed in chapter 8.
8-1	8-1	8.2	Eliminated reference to Supplemental Spec 1100.
8-3	8-3	8.8	Minor text change.
8-6	8-5	8.13	Removed reference to specific pushbutton signs no longer used on poles at back of ramp or walk.
N/A	8-6	8.16	Added new section discussing policy on overhead-mounted Turning Vehicles Yield to Pedestrians signs.
N/A	8-6	8.17	Added new section discussing policy on Watch for Turning Vehicles sign.
Chapter 9: Vehicle Detection			
9-1	9-1	9.1	Eliminated reference to Supplemental Spec 1100.
9-19 - 9-21	9-19 - 9-21	Figs. 9.11 - 9.14	Corrected reference to section 9.3.4.1 (detection zone setback distance).
Chapter 10: Power Service - NO REVISIONS			
Chapter 11: Controller / Cabinet			
11-1	11-1	11.1	Eliminated reference to Supplemental Spec 1100.
11-1	11-1	11.1.2	Replaced TS-1 cabinet information with TS-2 cabinet information.

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11-2	11-1	11.1.2.1	Replaced TS-1 cabinet sizes with TS-2 cabinet sizes. Eliminated paragraph discussing when M36 (TS-1) cabinets could be used.
11-3	11-3	11.2	Eliminated reference to Supplemental Spec 1100.
Chapter 12: Interconnect			
12-1	12-1	12.1	Eliminated reference to Supplemental Spec 1100.
12-13	12-13	12.6.3	Added language that full butt splices cannot be within 1000 ft of another full butt splice.
12-14	12-14	12.6.4	Replaced information on the preterminated drop cables and termination panels ("Gator Patches") with info on the independent termination panel and separate drop cable.
12-16	12-16	12.6.5	Removed references to sample plan sheets.
12-31	12-31	12.9	Added language that interconnect shall not be installed in private utility duct banks.
Chapter 13: Underground Facilities			
13-1	13-1	13.1	Eliminated reference to Supplemental Spec 1100.
13-4	13-4	13.3.2	Eliminated language stating that open cut and encased conduit is the standard for all roadway and driveway crossings. Replaced with language describing when open cut and encased conduit will still be required.
13-5	13-5	13.3.3	Updated to allow drilling/boring of conduit under certain conditions. Removed jacked conduit as an option.
13-6	13-6	13.4.3	Added language that interconnect shall not be installed in private utility duct banks.
13-7	13-7	Table 13.4	Revised encasement requirement for signal cables. Added reference to section 13.3.2.
13-9	13-9	13.5.2	Corrected material spec for modified interconnect conduit riser to 725.04.
13-9	13-9	13.5.3	Corrected material reference for power service conduit risers to 725.053.
13-13	13-13	13.7.4	Revised 48" pull box usage policy. Added requirement that the pull box type shall be specified in the plan callout for 48" pull boxes.
13-13	13-13	13.7.5	Added requirement that a power pull box also be specified at the meter cabinet or controller cabinet for conduit runs over 75 ft.
13-15	13-15	13.8.1	Added callout example #8 for when power conduit is in the same bank as interconnect and signal conduit.
Chapter 14: Removal and Reuse of Traffic Signal Installations - NO REVISIONS			
Chapter 15: Timing / Phasing			
15-2	15-2	15.1.4	Removed statement that pedestrian clearance times shall be rounded.
15-2	15-2	15.1.5	Added statement that pedestrian change times (flashing don't walk) must be rounded to the next whole second.
15-7	15-7	15.1.6	Changed the word "clearance" to "change" in last sentence of first paragraph.
15-8	15-8	15.1.8.2	Changed the passage time calculation to measure from the near detector to the stop line, not the near edge of the intersecting street.
15-8 - 15-10	15-8 - 15-10	15.1.8.2	Updated dilemma zone calculation examples per the above change.
15-10	15-10	15.2.1	Updated figure reference.
15-10, 15-11	15-10, 15-11	15.2.3	Updated policy on using protected only vs. protected/permissive left turn phasing.
N/A	15-13	15.2.7	Added new section on overlap phasing.
15-13	15-14	15.3.1 15.3.2	Updated figure references.
15-14 - 15-36	15-15 - 15-23	Phasing Diagram Examples	Due to change to TS-2 cabinets, eliminated 3-phase and 4-phase examples. Updated 2-phase examples to reflect NEMA 8-phase numbering. Added right turn overlap to standard 8-phase examples (Figures 15.8 and 15.10). Updated phase numbering on lead/lag phasing examples.
15-39, 15-40	N/A	Timing Chart Examples	Eliminated 4-phase timing chart examples.
Chapter 16: Special Conditions - NO REVISIONS			

TSDM Revision Log 8-10-17

Revision Involves:			Type *	Section Title and Revision Description
Chapter/Section	Old Page	New Page		
*Change- adding new information or revising existing information, more than an editorial change;New-adding a new drawing;Deletion- deleting a drawing;Editorial- revising text to provide clarification, updating references, correcting a typing or drawing mistake, simple editorial changes such as rephrasing a statement or making a format change.				
Chapter 1: General				
1.3	1-5	1-5	Change	Removed Divisions of Mobility Options and Planning and Operations from list of Public Service review groups.
1.5	1-6	1-6	Change	Removed Traffic Utility Locator contact information and replaced with instructions to contact OUPS.
1.5	1-8	1-8	Change	Changed detection option on pre-design field meeting checklist from video to radar.
1.5	1-9, 1-10	1-9, 1-10	Editorial	Strengthened language to include all items in the Staged submittal checklists.
1.5	1-9	1-9	Editorial	Added existing messenger wire and vehicular signal heads to the Stage 1 submittal checklist.
1.5	1-9	1-9	Editorial	Removed duplicate item from Stage 1 submittal checklist (proposed infrastructure list) regarding existing and/or proposed pavement markings; added "Traffic Signal" to the Legend item.
1.5	N/A	1-11	Change	Added submittal requirements for backcheck and P,S,&E submittals.
Chapter 2: Plan Preparation				
2.1.1	2-3, 2-4	2-3, 2-4	Change	Fig 2.1 Traffic Signal Symbols and Legend - modified by removing red light camera symbols and adding symbols for dilemma zone radar unit and stop line radar unit.
2.1.1	2-5	2-5	Change	Fig 2.2 Traffic Signal Wiring Diagram Legend - modified by adding symbol for power meter cabinet, dilemma zone radar unit, stop line radar unit, and radar detection cable.
2.2.7	2-8	2-8	Change	Added section for plan requirements for Maintenance of Traffic Temporary Signal Plans.
2.2.8	2-8	2-8	Change	Added section for plan requirements for Maintenance of Traffic Temporary Signal Plans for head shifts alone.
2.3	2-8 - 2-11	2-8 - 2-12	Change	Updated various traffic signal quantity descriptions to match notes package and recent project descriptions.
Chapter 3: Temporary Traffic Signals				
3.1	3-2	3-2	Change	Added temporary interconnect plan to list of temporary signal plan components.
3.8	3-4	3-4	Change	Added section for temporary interconnect plan requirements.
Chapter 4: Supports and Foundations				
4.1	4-1	4-1	Change	Changed language from the City "should" use mast arm supports to "shall" use mast arm supports unless directed otherwise.
4.1.1	4-1	4-1	Change	Corrected standard mast arm supports to be designed per Columbus designs 4, 12, 13, 14, and C15 instead of ODOT using ODOT designs 4-14.
4.1.1	4-1	4-1	Editorial	Changed wording from Standard Drawings to Standard Construction Drawings.
4.1.4.1	4-3	4-3	Change	Changed standard from strain poles "may be upsized to provide for uniformity" to "shall be upsized to provide for uniformity".
4.1.4.2	4-3	4-3	Change	Added description of instances where a pole-to-pole span configuration would not work.
4.1.4.2	4-3	4-3	Change	Changed language that a diagonal span "should not be used" to "shall not be used."
4.1.5	4-3, 4-4	4-3, 4-4	Change	Added sentence that mast arm support or strain pole should be positioned to accommodate the future installation of a pedestrian push button; also added sentence that pedestals shall be provided on every ramp without an adjacent signal pole.
4.1.5.4	4-4	4-4	Change	Added clarification that 17.5 ft. pedestals should not be used for auxiliary signal heads.
4.1.5.5	4-4	4-4	Change	Added clarification that auxiliary signal heads, when needed, should be installed on 21 ft. pedestals.
4.1.6	4-4	4-5	Change	Added sentence that bracket arms can be used for radar detectors.
4.3.2	4-6	4-6	Change	Deleted pole placement guidelines in regards to clear zone, instead referencing the Location and Design Manual, Volume 1 exclusively.
4.3.3	4-6	4-6, 4-7	Change	Clarified clearance requirements for signal poles.
4.3.3	N/A	4-7	Change	Added clearance requirements for pedestrian pedestal poles.
4.3.4	4-7	4-8	Change	Added clarification on overhead clearance requirements.
4.3.7	4-8	4-9	Editorial	Changed wording of arm length/span configuration requirements from "should" to "shall."
4.3.7	4-8	4-9	Editorial	Changed wording from "should extend" a minimum of 2 ft beyond last attachment point to "shall extend."
4.3.7	4-8	4-9	Editorial	Changed requirement that mast extend 3.5 ft beyond the center of a left turn lane to extend 2 ft beyond the center of the left turn lane.
4.4.1	4-9	4-9	Editorial	Clarified that signal poles are numbered first with pedestals following sequentially.
4.4.1	4-9	4-10	Change	Changed pole callout example to include radar detection.
4.4.2	4-10	4-11	Change	Fig 4.1 - Added typical signal elevation detail with radar detection.
4.4.2	N/A	4-12	New	Fig 4.2 - Inserted new figure for typical mast arm fabrication chart including columns for radar detector mounting.
4.4.2	4-11	4-14	Change	Fig 4.3 (formerly Fig 4.2) - Added "Video Detection" to title of figure; deleted columns for video detector mounting height, video detector distance from butt plate, and pushbutton sign orientation angle.

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4.4.2	4-12	4-14	Change	<u>Fig 4.4 (formerly Fig 4.3)</u> - Revised wording of figure title from "span wire" to "strain pole" fabrication and orientation; revised title of the typical strain pole orientation detail to additionally apply to pedestals; updated typical signal elevation detail for strain poles to include radar detection; modified tether wire to be shown as horizontal (was parallel to messenger wire).
4.4.2	4-13	4-15	Change	<u>Fig 4.5 (formerly Fig 4.4)</u> - Revised wording of figure title from "span wire" to "strain pole" fabrication and orientation chart; added column for radar detector attachment height; removed column for pushbutton sign orientation angle.
Chapter 5: Vehicular Signals				
5.2.2	5-4	5-4	Editorial	Corrected reference to OMUTCD Section 4D.14. (was 4D.13)
5.2.4	5-5	5-5	Change	Added disclaimer regarding 180 ft. maximum distance between stop line and signal head.
5.2.4.1	5-5	5-5	Editorial	Update figure reference to Figure 5.33. (was 5.31)
5.2.4.2	5-6	5-6	Change	Removed requirement to mount R10-5-30 sign on the mast arm or span for single and dual left lanes; signal head alignment changed to lane centerline for 3-section over single left turn lane.
5.2.4.2	5-8 - 5-36	5-8 - 5-36	Change	<u>Figs 5.3, 5.11, 5.12, 5.15, 5.16, 5.20, 5.21, 5.22, 5.23, 5.24, 5.27, 5.28, 5.30, 5.31</u> - Removed R10-5-30 sign and adjusted left turn signal head accordingly.
5.2.4.2	N/A	5-37	New	<u>Fig 5.32</u> - Created new figure for signal head alignment for offset left turn lane where offset < 5 ft.
5.2.4.2	N/A	5-38	New	<u>Fig 5.33</u> - Created new figure for signal head alignment for offset left turn lane where offset ≥ 5 ft.
Chapter 7: Intersection Wiring				
7.3	7-2	7-2	Change	<u>Figure 7.1</u> - Modified figure to include variations for metered and non-metered installations.
7.3	7-3	7-3	Change	<u>Figure 7.2</u> - Modified figure to include variations for metered and non-metered installations and changed pull boxes to be bonded to Poles NW-1 and NE-1 (was NW-2 and NE-2)
7.4.6	N/A	7-5	Change	New section added: 7.4.6 Radar Detection to discuss cable to be used; video detection section relocated to 7.4.8.
7.4.8	7-5	7-6	Change	Eliminated Other Detection Technologies section; also see changes made to 7.4.6; subsequent sections renumbered accordingly.
7.6	7-11	7-11	Change	<u>Figure 7.5</u> - Added radar detection cable to cable grouping in conduit figure.
7.6.2	7-13	7-13	Editorial	<u>Table 7.4</u> - Corrected CCTV cable types descriptions.
7.6.2	7-13	7-13	Change	<u>Table 7.4</u> - Added radar detection cable information.
7.9	7-15	7-15	Change	Added radar detection to the list of intersection wiring plan components.
7.9	7-16	7-16	Change	<u>Figure 7.6</u> - Modified figure to include variations for metered and non-metered installations and corrected pushbutton phase labels. (were Φ2 and Φ6)
7.9	7-17	7-17	Change	<u>Figure 7.7</u> - Modified figure to include variations for metered and non-metered installations and changed detection type from video to radar.
Chapter 8: Traffic Signal Signs				
8.5	8-2	8-2	Change	Removed requirement that the left on green arrow only sign (R10-5) shall be used on all protected only left turn lanes.
Chapter 9: Vehicle Detection				
9.2.1	N/A	9-1	Change	Added radar detection type; video detection and loop detection sections renumbered accordingly.
9.2.2	9-1	9-1, 9-2	Change	(Formerly section 9.2.1) Updated guidance on when to use video detection.
9.2	9-2	N/A	Change	Deleted former section 9.2.3 - Other Detection Technologies.
9.3.1	N/A	9-2 - 9-14	Change	Added radar detector mounting section with guidance for placement of stop line and dilemma zone radar units; subsequent subsections within section 9.3 renumbered accordingly.
9.3.1	N/A	9-4 - 9-14	New	Added new figures 9.1 through 9.10 illustrating stop line and dilemma zone radar unit placement; subsequent figures renumbered accordingly.
9.3.2	9-2	9-15	Change	(Formerly section 9.3.1) Removed steel bracket arm option.
9.3.3	9-2	9-15	Change	(Formerly section 9.3.2) 3rd paragraph: Added radar detection.
9.3.4.1	9-3	9-16	Change	(Formerly section 9.3.3.1) Revised maximum inductive loop length to 39 feet.
9.3.4.2	9-4	9-17	Change	(Formerly section 9.3.3.2) In Table 9.2, changed column heading from "Presence Detection" to "Detection Area." Added paragraph regarding difference between dilemma zone detection areas for video and loops vs. radar detection.
9.3.5	9-4	9-17	Editorial	(Formerly section 9.3.4) 1st paragraph: minor grammatical changes; added radar detection.
9.3.8	9-9	9-22	Change	(Formerly section 9.3.7) First sentence: Changed "should" to "shall"; added "except as noted below."
9.3.9	9-10	9-23, 9-24	Change	Clarified that dilemma zone protection applies to both major and minor streets; added discussion of how dilemma zone detection is accomplished for radar detection vs. video and loop detection; Table 9.4 updated accordingly; Changed Figure 9.16 (formerly 9.6) detection area labels to "Dilemma Zone" and "Advance" detection areas instead of "Far" and "Near."
9.3.11	9-11	9-24	Change	2nd sentence: Changed to radar detection as the preferred bicycle detection method.
9.4	9-12	9-25	Change	Added direction regarding dilemma zone detection areas for radar detection.

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9.4.2	9-12 - 9-14	9-26 - 9-28	Change	Added new detection chart example for radar; subsequent tables and associated references renumbered accordingly; for Tables 9.6 and 9.8 (formerly 9.5 and 9.7) changed 8'x2' detection area sizes to 6'x6'.
Chapter 10: Power Service				
10.1	10-2	10-2	Change	Changed meter requirements when power is provided by AEP.
10.2	10-2	10-2	Change	Added power cable requirements for metered and non-metered locations.
10.3	10-3	10-3	Change	Added power cable requirements for metered and non-metered locations.
10.4	N/A	10-3	Change	Added guidelines for power meter cabinet placement.
10.5, 10.6	10-3, 10-4	10-4	Editorial	Updated section numbering.
10.6	10-4	10-4	Change	Table 10.1, Typical Wattage - Added radar units.
Chapter 11: Controller / Cabinet				
11.1.2.2	11-3	11-3	Editorial	Added reference to Chapter 10 for power meter cabinet placement.
Chapter 12: Interconnect				
12.7	12-21	12-21	Editorial	Removed reference to Node Cabinet standard drawing (drawing has not been created yet).
Chapter 13: Underground Facilities				
13.3.2	13-4	13-4, 13-5	Change	Added/clarified encasement requirement for power cable conduit.
13.5.2	13-9	13-9	Change	Removed reference to modified conduit riser standard drawing (drawing has not been created yet); changed conduit type for fiber optic cable modified conduit risers to 725.051 (was 725.04).
13.6.1	13-10	13-10	Editorial	Clarified that a pull box can be used for multiple poles on the same corner of an intersection.
13.6.1	13-10	13-10	Change	Added minimum distance between pull box and curb.
13.7.2, 13.7.3	13-12	13-12	Editorial	Added clarification regarding loop cables passing through 27" and 32" round pull boxes.
13.8.1	13-15	13-15	Change	Revised conduit callout Example 2 to show example with radar detection cables.
Chapter 14: Removal and Reuse of Traffic Signal Installations				
14.3	14-2	14-2	Change	Updated Table 14.1 to include ground mounted cabinet/controller, conduit, separate line items for round concrete pull box castings and lids/frames, and various interconnect items.
Chapter 15: Timing/Phasing				
15.1.1	15-1	15-1	Change	Changed yellow "clearance" interval to yellow "change" interval. Changed requirements for yellow time calculation by referring to the ODOT TEM.
15.1.1.1	15-1	N/A	Change	Deleted section regarding red light photo enforcement.
15.1.2	15-2, 15-3	15-1	Change	Changed requirements for red clearance time calculation by referring to the ODOT TEM. Deleted Table 15.1.
15.1.4	15-4	15-1, 15-2	Change	1st and 2nd paragraphs: changed pedestrian clearance time calculation to be based on travel to the far side detectable warning, not "far side of the traveled way."
15.1.5	N/A	15-2	Change	Added new section to clarify the difference between pedestrian clearance and pedestrian change intervals as illustrated in Figure 15.1.
15.1.4, 15.1.5	N/A	15-4 - 15-6	New	Added new figures 15.2 through 15.4 with pedestrian clearance and walk interval calculation examples.
15.1.6 - 15.1.8	15-6	15-7 - 15-8	Editorial	Updated section numbering.
15.1.8.2	15-6 - 15-7	15-8	Change	(Formerly section 15.1.7.2) Added clarification that passage and extension time calculations are relevant only when using video or loop detection. Updated dilemma zone calculation example #1.
15.1.8.2	N/A	15-9	New	Added Figure 15.5: diagram for dilemma zone example #1.
15.1.8.2	15-7, 15-8	15-10	Editorial	Dilemma zone example #2: Updated chapter 9 section reference; corrected extension time equation.
15.2.1	15-8	15-10	Editorial	Updated figure numbering.
15.2.4	15-9	15-11	Editorial	Added "Unless otherwise directed by the City."
15.3	15-11 - 15-38	15-13 - 15-40	Editorial	Updated figure and table references and numbering.
15.3.3	15-35 - 15-38	15-37 - 15-40	Change	Changed PED CLR to PED CHANGE in Tables 15.1 through 15.4.

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Chapter 1: General				
1.5	1-6	1-6	Change	Updated to reflect the City changing to a 3-Stage submittal process for design projects.
1.5	1-9, 10	1-9, 10	Change	Inserted new Submittal Checklists for Stage 1, 2 and 3. These replace the old checklists for LG&T and F&OC.
Chapter 2: Plan Preparation				
2.1	2-5	2-5	Change	Fig. 2.2 Traffic Signal Wiring Diagram Legend modified by removing items that pertained only to Grounding and Bonding Diagram Legend. Fig 2.3 Grounding and Bonding Diagram Legend was added with these items included.
Chapter 4: Supports and Foundations				
4.3.2	4-6	4-6	Change	Added language to clarify clear zone measurement.
4.4.2	4-11	4-11	Change	Updated Fig. 4.2 to include a column for Push Button Signs.
4.4.2	4-13	4-13	Change	Updated Fig. 4.4 to include a column for Push Button Signs.
Chapter 6: Pedestrian Features				
6.1.4.1	6-2	6-2	Change	Language instructing to paint just the back of the pedestrian signal head housing removed.
Chapter 12: Interconnect				
12.7	12-22	12-22	Change	Installation of a 48" pull box adjacent to a fiber termination cabinet changed from a should to a shall.
Chapter 13: Underground Facilities				
13.6.1	13-11	13-11	Change	Modified language to clarify the meaning of horizontal deflection in conduit. Horizontal deflection should be 1' of horizontal deflection for every 10' of conduit run.
13.7.4	13-13	13-13	Change	Language modified from should to shall for 48" pull boxes placed at the bulleted locations. A 48" pull box needs to be placed, when feasible, if it meets the listed criteria.
13.8.1	13-14	13-14	Change	Clarified our intentions in regards to conduit bank cross sections. The purpose of these is to show the amount and layout of the conduit, as well as, illustrating the contents of each of the conduits within the bank.
Chapter 15: Timing/Phasing				
15.1.2	15-2	15-2	Change	Lengthened "W" variable in equation 15.2 to include some additional length between the far traveled edge and the far crosswalk line.
15.3	15-33	15-33	Change	Phasing Diagram and Field Wiring Hookup modified to reflect current City of Columbus installation specs.
15.3	15-34	15-34	Change	Phasing Diagram and Field Wiring Hookup modified to reflect current City of Columbus installation specs.