What's New Since 2014

CHAPTER 2
STANDARD SPECIFICATIONS AND
SPECIAL PROVISIONS

“WHAT’S NEW SINCE 2014”

2545.1B & 2565.1B QUALIFICATION OF WORKERS

The provisions of 1802 are hereby supplemented with the following:
Signal and Lighting Certification: When the Contractor is working on Traffic Signal System(s) or Lighting System(s), provide at least one Contractor employee on the site who is MnDOT Signal and Lighting Certified to perform or directly supervise the installation and testing of any MnDOT Traffic Signal System or Lighting System. MnDOT’s Office of Traffic, Safety, and Technology (OTST) provides Signal and Lighting Certification. For information contact OTST at phone number (651) 234-7055.

“2018 SPEC BOOK”

THE 2018 SPEC BOOK IS NOW THE GOVERNING DOCUMENT ON ALL MnDOT SIGNAL AND LIGHTING PROJECTS

MANY ITEMS THAT WERE IN THE MnDOT SPECIAL PROVISIONS FOR THE 2016 SPEC BOOK HAVE BEEN MOVED TO THE NEW 2018 SPEC BOOK

2018 EDITION

“2018 SPEC BOOK”

THE 2018 SPEC BOOK WRITING STYLE IS PLAIN LANGUAGE

ACTIVE VOICE/ IMPERATIVE MOOD

COMPLETE, CORRECT, CLEAR, CONCISE, CONSISTANT

2565.3 G.1

PROVIDE PREFORMED RIGID PVC OR SAW-CUT INDUCTIVE LOOP DETECTORS AS REQUIRED BY THE CONTRACT.

IN THIS WRITING FORMAT THE CONTRACTOR IS ASSUMED.

“2018 SPEC BOOK”

THE STANDARD SPECIFICATIONS FOR CONSTRUCTION WILL BE UPDATED EVERY TWO YEARS. NEXT UPDATE 3RD QUARTER 2019

2018 EDITION

THE SPEC BOOK RELEASED LATE 2019 WILL BE THE 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION

“WHAT’S NEW SINCE 2014”

2545.2A.7 & 2565.2A.7 Shop Drawings:
Prepare shop drawing submittals in accordance with 1502 for all products not on MnDOT’s Approved/Qualified Products List (APL).
Submit products showing compliance with contract documents. Review shop drawings for accuracy, completeness, and compliance with contract documents prior to submittal.
What's New Since 2014

CHAPTER 9
EXCAVATION
AND BACKFILL

Old
Uniformly distribute suitable backfill materials in layers no thicker than 8 inch loose measurement. Compact the backfill………

New
Uniformly distribute suitable material in horizontal layers of no more than 8 inch compacted layers.

What's New Since 2014

CHAPTER 10
FOUNDATIONS AND EQUIPMENT PADS

When a full length fiber forming tube is used for mast arm PA pole foundations cut four rectangular holes into the forming tube before installing in the drilled shaft in accordance with MnDOT Spec. 2565.3.F.1.b
THE FOLLOWING ROADWAY LIGHTING STANDARD PLATES HAVE BEEN REVISED

8106 EQUIPMENT PAD B
8127 LIGHT FOUNDATION DESIGN E
8128 LIGHT FOUNDATION DESIGN H
8306 REINFORCED CONCRETE MEDIAN BARRIER TYPE F
8309 REINFORCED CONCRETE MEDIAN BARRIER TYPE F & GLARE SCREEN
8332 (50X) ANCHOR BOLT CLUSTER FOR LIGHT POLES

NEW INSTALLATION REQUIREMENTS FOR PRECAST CONCRETE LIGHT FOUNDATIONS DESIGN E AND DESIGN H

NEW STEEL SCREW IN LIGHT FOUNDATIONS DESIGN E AND H AND NEW INSTALLATION REQUIREMENTS.

SPECIFICATION LANGUAGE IN THE SPEC BOOK FOR LIGHT POLE FOUNDATION GRADING ON ROADSIDE SLOPES.

RLF EQUIPMENT PAD DETAIL HAS BEEN CONVERTED INTO STANDARD PLATE 8107 WITH THE OPTION TO USE PRECAST TYPE RURAL LIGHTING AND FLASHER (RLF) SERVICE CABINET

What's New Since 2014

Chapter 11
CONDUITS AND FITTINGS
MnDOT NOW REQUIRES PVC COATED HOT-DIPPED GALVANIZED RSC WITH INTERIOR LINED URETHANE CONDUITS AND FITTINGS INCLUDING EXPANSION AND DEFLECTION, EXPANSION FITTINGS TO BE USED ON BRIDGES (CONCRETE ENCASED, HANGING, AND SURFACE MOUNTED)

MnDOT REQUIRES AASHTO M 153 SPONGE RUBBER EXPANSION JOINT BE WRAPPED AROUND EXPANSION AND DEFLECTION EXPANSION FITTINGS

WHAT'S NEW SINCE 2014

CHAPTER 12
HANDHOLES, PULLING VAULTS AND JUNCTION BOXES

MnDOT HAS A NEW HANDHOLES LISTED ON THE APL

HANDHOLE SIZING IN ACCORDANCE WITH THE NEC Articules 314.28 & 314.20

314.28 (1) Straight Pulls.
In straight pulls, the length of the box or conduit body shall not be less than eight times the metric designator (trade size) of the largest raceway.

What does this mean?

CONDUIT SIZE x 8 = HANDHOLE DIAMETER SIZE

3 INCHES x 8 = 24 INCHES

MnDOT uses 3 inch conduits in handholes

MnDOT NOW REQUIRES LOCATOR BALLS BE INSTALLED IN ALL HANDHOLES, RTMC PULLING VAULTS, AND SPLICE VAULTS

“BALL ON A STICK”
What's New Since 2014

CHAPTER 13
GROUNDING AND BONDING

ALL MnDOT SERVICE EQUIPMENT PADS REQUIRE TWO 15 FOOT GROUND RODS AND THE REBAR BONDED TO GROUND

CHAPTER 13
GROUNDING AND BONDING

“WHAT’S NEW SINCE 2014”

GROUNDING ELECTRODES INCLUDE GROUND RODS AND PLATES DEFINED IN MnDOT 3818

10 FT GROUND RODS ARE USED INSTEAD OF 15 FT GROUND RODS FOR PRECAST CONCRETE AND STEEL SCREW IN LIGHT FOUNDATIONS.

SEE THE SPECIAL PROVISIONS IF 10 FT GROUND RODS ARE APPROVED ON THE PROJECT.

“WHAT’S NEW SINCE 2014”

CHAPTER 14
WIRING

C.6.d Ethernet Cable (Outside Plant)

C.6.d Ethernet Cable (Outside Plant)

MnDOT has changed the requirements for CAT 5e Ethernet Cable (Outside Plant)

4 pairs of conductors,

Stranded tinned copper,

24 AWG T/2

Color coded pairs as follows:

Pair 1: Blue, White/Blue

Pair 2: Orange, White/Orange

Pair 3: Green, White/Green

Pair 4: Brown, White/Brown

Provided shielded Category 5e Ethernet cable for use in outdoor applications from the traffic signal cabinet or other type cabinet to the point of connection with required equipment in the system meeting the following requirements.
“WHAT’S NEW SINCE 2014”
MnDOT now requires that only split bolts be used for splicing neutral conductors in light pole bases.

“WHAT’S NEW SINCE 2014”
SPEC. 3806 UNDERGROUND NON-DETECTABLE MARKING TAPE REQUIREMENTS

“WHAT’S NEW SINCE 2014”
USE A 2 AMP FAST ACTING FIBER TUBE CARTRIDGE FUSE IN LUMINAIRE FUSE HOLDERS

“WHAT’S NEW SINCE 2014”
SPEC. 3843 ANTI-OXIDANT JOINT COMPOUND
Provide anti-oxidant joint compound for conductor terminations as specified in the Contract to prevent corrosion and oxidation, and improve conductivity and the integrity of electrical connections.

“WHAT’S NEW SINCE 2014”
SPECIFICATION LANGUAGE IN THE SPEC BOOK TO INSTALL DIRECT BURIED LIGHTING CABLE IN PVC OR HDPE CONDUIT WHEN NOT LOCATED UNDER TOP SOIL.

“WHAT’S NEW SINCE 2014”
REMOVING DIRECT BURIED LIGHTING CABLE SHOULD NOW BE A SEPARATE PAY ITEM ON ALL PROJECTS THAT REQUIRE CABLE REMOVAL

Install direct buried lighting cable in rigid PVC or HDPE conduit if located under bituminous, concrete, or other material not considered a top soil. Provide 3 in conduit if the contract does not specify size of conduit.

Remove Direct Buried Lighting Cable
Remove direct buried lighting cable as indicated in the Plan is measured by the linear foot. Direct buried lighting cable is paid for under pay Item No. 2104.503 (REMOVE DIRECT BURIED LIGHTING CABLE) at the Contract price per LINEAR FOOT, which price is compensation in full.
What's New Since 2014

Chapter 15
VEHICLE DETECTION

TEMPORARY WOOD POLE SIGNAL SYSTEMS NOW USE VIDEO DETECTION SYSTEMS

What's New Since 2014

Chapter 16
SIGNAL AND LIGHT POLES

An approved rodent intrusion barrier listed on MnDOT’s APL to be used in PA 85, 90 and 100 signal transformer bases (Standard Plate No. 8121) and in light poles bases with a 3/4” diameter base plate opening (typically stainless steel light poles).

“WHAT’S NEW SINCE 2014”
MANUFACTURER HAS NEW INSTALLATION REQUIREMENTS FOR STAINLESS STEEL LIGHT POLES.

“WHAT’S NEW SINCE 2014”
FILL GAPS BETWEEN THE FOUNDATION AND ALUMINUM LIGHT POLE BASE THAT EXCEED AN 1/8 INCH WITH 100% CLEAR SILICONE.
“WHAT’S NEW SINCE 2014”

MnDOT ANCHOR ROD TIGHTENING TORQUE AND TURN REQUIREMENTS

“WHAT’S NEW SINCE 2014”

SPEC. 3842
ANTI-SEIZE AND LUBRICATING COMPOUND
“BRIDGE GREASE”

“BRIDGE GREASE” IS LISTED ON
MnDOT’s APL
UNDER BRIDGE PRODUCTS

ANTI-SEIZE AND LUBRICATING COMPOUND CALLED
“BRIDGE GREASE” WILL REPLACE ANTI-SEIZE LUBRICANT
MIL-PRF-907E IN CONTRACT DOCUMENTS.

What’s New Since 2014
CHAPTER 17
SIGNAL HEADS AND LUMINAIRES

The Cluster Head Mounting Adaptor
Is found on the MnDOT APL for Signals

MnDOT Requires The Use of The Extended Threaded Pole Adaptor
When Cluster Head Assemblies Are Mounted on The Pole.
The Extended Threaded Pole Adaptor Is found on the MnDOT APL for Signals

“WHAT’S NEW SINCE 2014”

MnDOT REQUIRES DATE MARKING WITH A MACHINE PRINTED LABEL

Label the indication with the installation date as follows:

1. Label the indication with the installation date as follows:
   a. Black text (e.g., “07/15”).
   b. Machine printed numbers.
   c. Suitable for placement on all locations.
   d. Permanent and not removable.
   e. Paper based labels are not acceptable.

Label the indications with the installation date as follows:

1. Place a date of installation on the back of the indication.
2. Provide labels for the date of installation on the back of the indication meeting the following requirements:
   a. Record the installation date on white self-adhering label,
   b. Use machine printed numbers,
   c. Black text (e.g., “07/15”),
   d. Month/Year numeric format,
   e. Suitable for placement in wet locations,
   f. Permanent and not removable, and
   g. Place inside on the back of the indication.
MnDOT Requires Backplates (Background Shields) with rolled edges.

MnDOT is considering 48 VDC Indications. Note the low power consumption.

MnDOT HAS APPROVED LED REPLACEMENTS FOR VERTICAL MOUNT LUMINAIRES. A 90 DEGREE TENON MOUNT ADAPTOR LISTED ON MnDOT'S APPROVED/QUALIFIED PRODUCTS LIST MUST BE USED.

MnDOT has High Mast LED Luminaires (Asymmetrical & Symmetrical) on the APL. All of the MnDOT high mast towers State wide have been retrofitted with LED luminaires.

What's New Since 2014

CHAPTER 18
ACCESSIBLE PEDESTRIAN SIGNAL
PUSH BUTTONS

MnDOT NOW HAS AN APS POLE MOUNTING ADAPTORS LISTED ON THE APL.
MnDOT now has an APS pole mounting spacers listed on the APL.

What's New Since 2014
CHAPTER 21
TRAFFIC CONTROL SIGNAL CABINETS

What's New Since 2014

Upgrade to the ATC Cabinet