



FINAL DRAFT MINUTES

February 16, 2023 Standards Committee Meeting

(Changes to the Agenda by the Action of the Committee

shown as highlighted in yellow)

March 10, 2023

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the February 16, 2023 Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Pankow, Chair, at 09:00 a.m. on February 16, 2023, and was held virtually via *Teams* (Microsoft application). The meeting was adjourned at 9:58 a.m.

The following committee members were in attendance:

Gregory Pankow, Chairman, Director, Construction Management
Anne Rearick, Engineering and Asset Management
Dave Boruff, Traffic Engineering
Joseph Novak, Construction Management
Jim Reilman, Division of Materials and Tests
John Wooden, Division of Contract Administration
Kumar Dave, Pavement Engineering
Kurt Pelz, Construction Technical Support
Mark Orton, Highway Engineering
Mike Koch, District Construction, Fort Wayne District
Peter White, Bridge Engineering

Also, the following attendees were captured (with various time duration) by the *Microsoft Teams*:

Awwad, Nathan, INDOT
Bazlamit, Subhi M, INDOT
Blanchard, Jacob, INDOT
Bruno, Joseph, INDOT
Duncan, Steve, INDOT
Duncan, Thomas, FHWA
Fisher, Steve, INDOT

Hauser, Derrick, INDOT
Jacobs, David, INDOT
Kachler, Mischa, INDOT
Nelson, Mike, INDOT
Podorvanova, Lana, INDOT
Ritter, John, INDOT
Russell, Melissa, INDOT

Hailat, Mahmoud, INDOT
 Harris, Tom, INDOT
 Spaans, Celeste, Prestressservices.com
 Couch, Gregory, INDOT
 Feutz, Douglas, INDOT
 Lamkin, Sara, INDOT
 Mueller, Bart, INDOT

Thornton, Donald, INDOT
 Trammell, Scott, INDOT
 Patterson, Patrick, INDOT
 Reedy, Joseph, INDOT
 Smutzer, Katherine, INDOT
 Sorenson, Drew, INDOT
 Stryzinski, Tom, INDOT

The following items were discussed:

A. GENERAL BUSINESS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

Approval of the Minutes from the [January 19, 2023](#) meeting

Mr. Pankow requested a motion to approve the Minutes from the January 19, 2023 meeting. Mr. Novak and Mr. Harris addressed some minor editorial revisions based on comments received after the January meeting, concerning Item No. 8, **(d) Pre-Disturbance Meeting**, by revising the individual’s working title to “District Stormwater Specialist”, and in Item No. 9, the need to remove the language in 107.15, since the **Erosion Control Plan and Proof of Publication** are no longer required. There were also minor revisions made to Item No. 2 concerning *nominal size aggregates*.

Motion: Mr. Novak
 Second: Mr. Reilman
 Ayes: 10
 Nays: 0

ACTION:

PASSED AS REVISED

B. CONCEPTUAL PROPOSAL

2024 Standard Specifications (draft) (Division 900 MATERIALS DETAILS) edits (K. Pelz) [pg.5](#)

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND STANDARD DRAWINGS PROPOSAL

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

Item No. 1 (2022 SS)	Mr. White	pg 6
2022 Standard Specifications:		
702.12	Consistency	

702.20

Placing Concrete

ACTION:

PASSED AS SUBMITTED

Item No. 2 (2022 SS)

Mr. Boruff

pg 10

Standard Drawings:

E 809-ITCS-01

ITS TRAFFIC COUNT STATIONS INDEX AND GENERAL NOTES

E 809-ITCS-02

TWO LANE AUTOMATIC TRAFFIC (ATR) RECORDER STATIONS

E 809-ITCS-03

FOUR LANE AUTOMATIC TRAFFIC (ATR) RECORDER STATIONS

E 809-ITCS-04

SIX LANE AUTOMATIC TRAFFIC (ATR) RECORDER STATIONS

E 809-ITCS-05

FOUR LANE WEIGH-IN-MOTION (WIM) STATIONS

E 809-ITCS-06

SIX LANE WEIGH-IN-MOTION (WIM) STATIONS

E 809-ITCS-07

FOUR LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS

E 809-ITCS-08

SIX LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS

ACTION:

PASSED AS REVISED

Item No. 3 (2022 SS)

Mr. Novak

pg 21

2022 Standard Specifications:

628.02

Field Office Requirements

628.06

Basis of Payment

ACTION:

PASSED AS SUBMITTED

Item No. 4 (2022 SS)

Mr. Novak

pg 37

2022 Standard Specifications:

619.04

Prosecution of Work

619.09

Paint Systems

619.12

Field Painting New Steel Bridge

619.13

Painting Existing Steel Bridges

619.20

Basis of Payment

ACTION:

PASSED AS REVISED

Item No. 5 (2022 SS)

Mr. Orton

pg 44

Standard Drawings:

E 604-SWCR-11

MEDIAN CUT-THROUGH AND MEDIAN PERPENDICULAR CURB RAMP TYPICAL PLACEMENT

E 604-SWCR-13

DETECTABLE WARNING SURFACE PLACEMENT AND CONFIGURATION

ACTION:

PASSED AS SUBMITTED

[Item No. 6 \(2022 SS, see Addendum 1\)](#) [Mr. Pelz](#) [pg 62](#)

Recurring Special Provisions:

~~202-L-013~~

INSPECTION AND TESTING FOR ASBESTOS MATERIALS

2022 Standard Specifications:

202.14

Basis of Payment

ACTION:

PASSED AS SUBMITTED

cc: Committee Members
FHWA
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FINAL DRAFT MINUTES

CONCEPTUAL PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: INDOT Standard Specifications have been in circulation since 1934 and have been regularly updated by adding new or revising existing statements, work procedures, materials, methods, etc.

Prior to publishing a 2024 Standard Specifications book (effective September 1, 2023), the review of the current edition is underway and a summary of proposed edits to the **DIVISION 900 – MATERIALS DETAILS** is shown.

PROPOSED SOLUTION (conceptual): Make editorial (grammar) corrections as found necessary. Inform offices on questionable or outdated information and seek any necessary corrective action. Statements that are not clearly formulated or their written intentions are hard to follow have been rewritten, grammatical errors have been corrected and are proposed here for your review. Proposed revisions to Division 900 were made with this concept in mind and are shown for your review. at: <https://www.in.gov/dot/div/contracts/standards/sc/>

APPLICABLE STANDARD SPECIFICATIONS: 2022 Standard Specifications and approved RSPs

APPLICABLE STANDARD DRAWINGS: n/a

APPLICABLE DESIGN MANUAL SECTION: n/a

APPLICABLE SECTION OF GIFE: n/a

APPLICABLE RECURRING SPECIAL PROVISIONS: various RSPs (if affected)

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: ad-hoc Specification's review group: Kurt Pelz, Scott Trammell, Lana Podorvanova.

IMPACT ANALYSIS (attach report): n/a

Submitted By: Kurt Pelz

Title: Construction Management Technical Support

Organization: INDOT

Phone Number: 317-691-4800

Date: 02/01/2023

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The current slump requirements specific to foundation seals may result in concrete that's too lean, making the seal difficult to construct. The current specifications also require the concrete to be placed in horizontal lifts, which isn't necessary and may make construction more difficult.

PROPOSED SOLUTION: The proposed changes eliminate the slump requirements that are specific to foundation seals and instead use the typical structural concrete slump requirements. Changes are allow more flexibility in the Contractor's means and methods for placing the seal concrete.

APPLICABLE STANDARD SPECIFICATIONS: 702.12, 702.20(f)

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A (foundation seal thickness criteria currently being reviewed and will be updated if required, but not directly related to proposed spec changes)

APPLICABLE SECTION OF GIFE: 4.7 will need to be updated for revised slump requirements.

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A (no changes required to 702-R-739)

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc committee including Joe Novak, Mike Koch, Mike Nelson, Stephanie Wagner, Jim Reilman, and Donald Shaw.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: N/A

IMPACT ANALYSIS (attach report):

Submitted By: Pete White, PE

Title: Design Manager

Division: INDOT Bridge Engineering

E-mail: pwhite@indot.in.gov

Date: January 17, 2023

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? N/A

Will approval of this item affect the Qualified Products List (QPL)? No

Will this proposal improve:

Construction costs? No

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: The proposed changes will allow for better quality foundation seals and will reduce the potential for seal failures.

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 702 – STRUCTURAL CONCRETE

702.12 Consistency

702.20 Placing Concrete

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 547, DELETE AS FOLLOWS:

702.12 Consistency

Slump will be measured in accordance with 505 and shall be no less than 1 in. and no more than 6 in. ~~except for concrete placed in foundation seals.~~

SECTION 702, BEGIN LINE 1122, DELETE AND INSERT AS FOLLOWS:

(f) Concrete Foundation Seal

A foundation seal may be required by the plans, as requested, or as directed. When required by the plans, the seal shall be constructed to the size shown, or as specified in writing. Where adverse dewatering conditions are encountered as described in 206.09, a foundation seal may be required to be placed to the necessary dimensions.

If a foundation seal is requested, written permission shall be obtained before starting such work. If approval is given, the seal shall be placed to designated dimensions.

Seals shall be of class A concrete having a slump ~~of from 5 to 8 in.~~ *in accordance with 702.12*, placed continuously from start to finish, and in accordance with 702.20(d). ~~To ensure thorough bonding, each successive layer shall be placed before the preceding layer has taken initial set.~~ The cofferdam shall have been vented or ported at low-water level. ~~The surface of the concrete shall be kept as nearly horizontal at all times as practicable.~~ The seal shall be of the thickness ~~ordered~~ *shown on the plans, or as requested and approved*. When the seal has hardened sufficiently to withstand the hydrostatic pressure, the cofferdam shall be dewatered and the remainder of the *structural* concrete ~~placed~~ *shall be placed in the dry conditions*.

COMMENTS AND ACTION

702.12 Consistency
702.20 Placing Concrete

DISCUSSION:

This item was introduced and presented by Mr. White, who explained that the current slump requirements specific to foundation seals may result in concrete that's too lean, making the seal difficult to construct. The current specifications also require the concrete to be placed in horizontal lifts, which isn't necessary and may make construction more difficult.

Mr. White proposed to incorporate the above shown changes to eliminate the slump requirements that are specific to foundation seals, and instead use the typical structural concrete slump requirements. These changes will allow more flexibility in the Contractor's means and methods for placing the seal concrete.

There was no further discussion and this item passed as submitted.

<p>Motion: Mr. White Second: Mr. Reilman Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 702.12 pg 630, 702.20(f) pg. 642.</p> <p>Recurring Special Provisions or Plan Details: NONE (see proposal)</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: N/A (see proposal)</p> <p>GIFE Sections cross-references: 4.7</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications Revise Pay Items List</p> <p><input type="checkbox"/> Create RSP (No. __) Effective:</p> <p><input type="checkbox"/> Revise RSP (No. __) Effective:</p> <p><input type="checkbox"/> Standard Drawing Effective:</p> <p><input type="checkbox"/> Create RPD (No. __) Effective:</p> <p><input checked="" type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> Frequency Manual Update <input checked="" type="checkbox"/> SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The ITS traffic count station (unique) plan details for automated traffic recording, weigh-in-motion, and virtual weigh-in-motion locations were initially prepared in Microsoft PowerPoint and there is a need to update the formatting so that they can be issued as Standard Drawings.

PROPOSED SOLUTION: Create a Standard Drawing series for the ITS traffic count stations for automated traffic recording, weigh-in-motion, and virtual weigh-in-motion locations.

APPLICABLE STANDARD SPECIFICATIONS: 809

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: 502-5.04(09)

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Yes, Traffic Standards Subcommittee

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Required for all contracts with any 809 pay items.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Bruno on behalf of Dave Boruff

Title: Sr. Traffic Engineer, Signals & Markings

Division: Traffic Engineering Division

E-mail: jbruno@indot.in.gov

Date: 1/23/2023

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No

Will approval of this item affect the Qualified Products List (QPL)? No

Will this proposal improve:

Construction costs? No

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? Yes

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: N/A

REVISION TO STANDARD DRAWINGS

E 809-ITCS-01 ITS TRAFFIC COUNT STATIONS INDEX AND GENERAL NOTES (revised draft)

INDEX	
SHEET NO.	SUBJECT
1	ITS Traffic Count Stations Index and General Notes
2	Two Lane Automatic Traffic (ATR) Recorder Stations
3	Four Lane Automatic Traffic (ATR) Recorder Stations
4	Six Lane Automatic Traffic (ATR) Recorder Stations
5	Four Lane Weigh-in-Motion (WIM) Stations
6	Six Lane Weigh-in-Motion (WIM) Stations
7	Four Lane Virtual Weigh-in-Motion (VWIM) Stations
8	Six Lane Virtual Weigh-in-Motion (VWIM) Stations

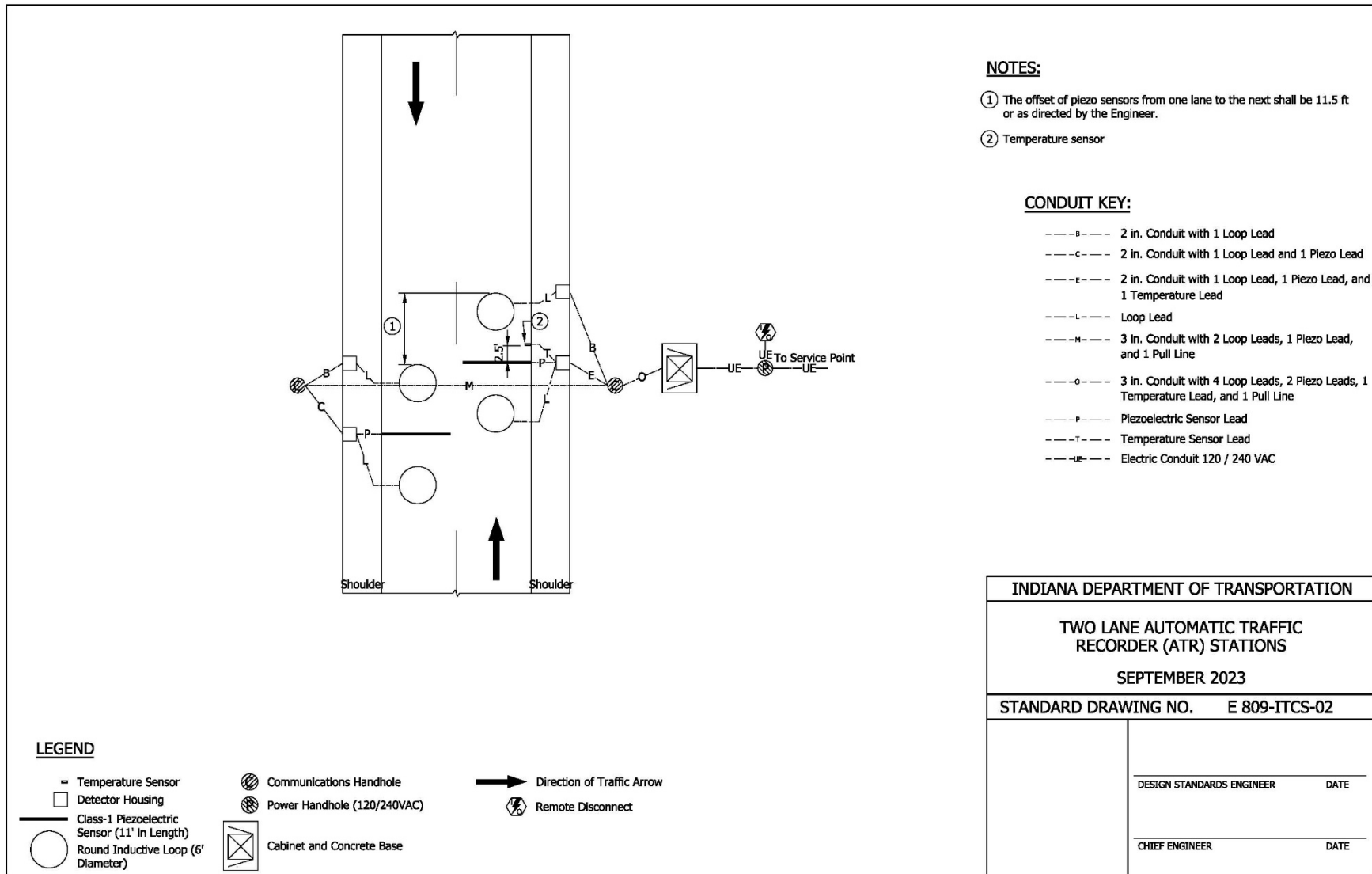
GENERAL NOTES:

- Road surface pavement condition shall meet ASTM E 1318 requirements.
- Pavement shall be free of bumps or transitions for at least 200 ft before and at least 100 ft after the automated traffic count station
- Pavement on either side of any sensor shall be free of joints and cracks for at least 2 ft.
- The Contractor shall contact the ITS Engineering Division for approval before installing at any location where the conditions in notes 1, 2, or 3 above are not met.
- If median is paved and has concrete crash barrier, each inside shoulder shall have one communications handhole and one power handhole.
- All conduits shall include one tracer wire #14 gauge or larger.
- Conduits shall be schedule 80 PVC unless otherwise specified and under-bored when crossing the roadway.
- Electric power wires shall have dedicated separate conduits and shall not run in conduits with sensor or communication wires.
- See Standard Drawing E 809-ICCF series for additional cabinet details.
- Cables shall be protected by PVC sleeves where they cross pavement joints or cracks.
- Direct 120/240VAC, 60Hz power shall be delivered to the following components: ATR Cabinet
- Wire splices shall not be used with electric power wires nor with piezoelectric, temperature, or axle weight sensor wires.
- Inductive loop wires shall be spliced to the lead-in wires and sealed for waterproofing in the detector housing.
- Cables crossing the pavement or shoulder transition shall cross perpendicular to the joint and continue for at least 6 ft before making a turn.

INDIANA DEPARTMENT OF TRANSPORTATION	
ITS TRAFFIC COUNT STATIONS INDEX AND GENERAL NOTES	
SEPTEMBER 2023	
STANDARD DRAWING NO.	E 809-ITCS-01
DESIGN STANDARDS ENGINEER	DATE
CHIEF ENGINEER	DATE

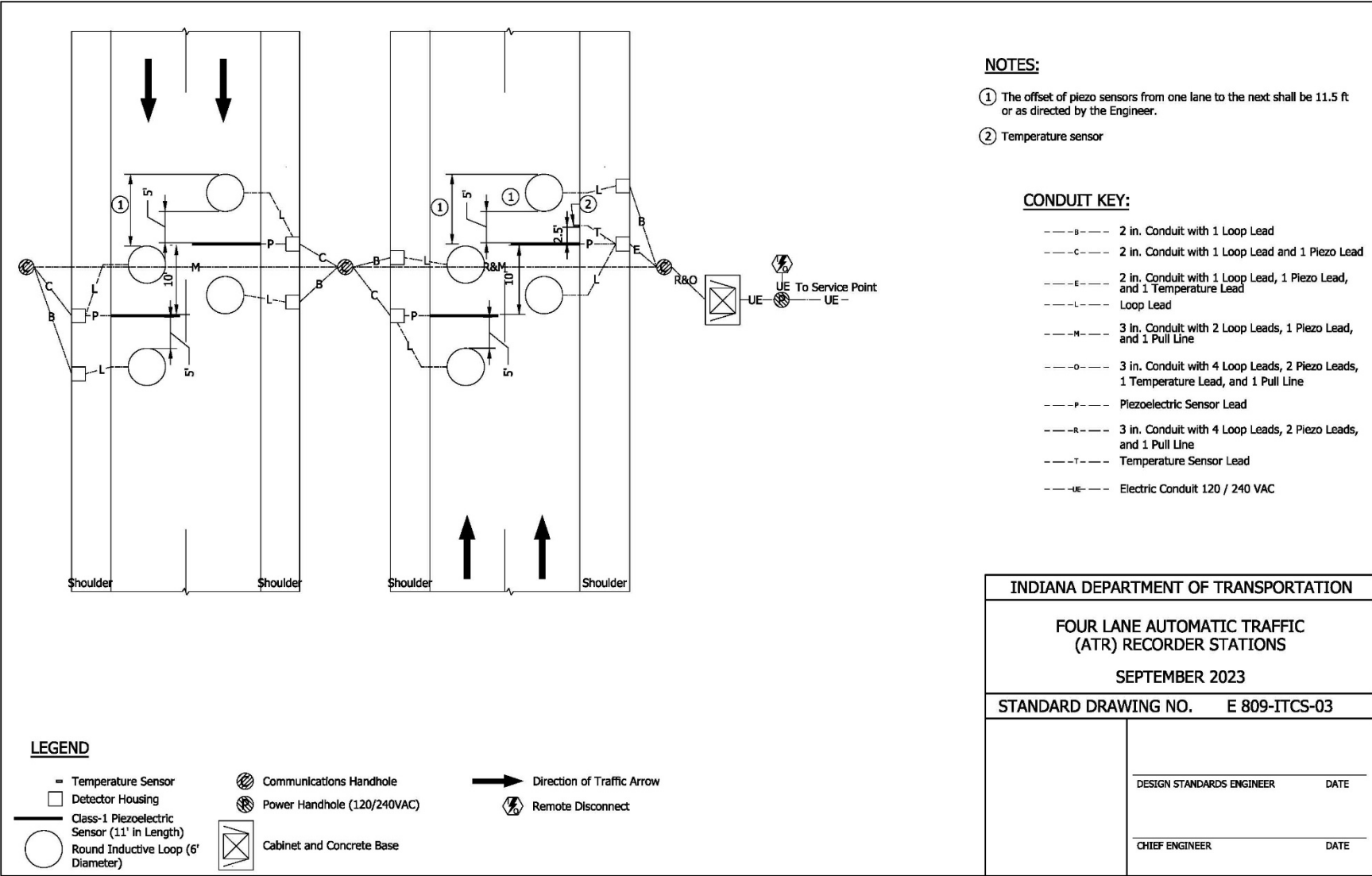
REVISION TO STANDARD DRAWINGS

E 809-ITCS-02 TWO LANE AUTOMATIC TRAFFIC (ATR) RECORDER STATIONS (revised draft)



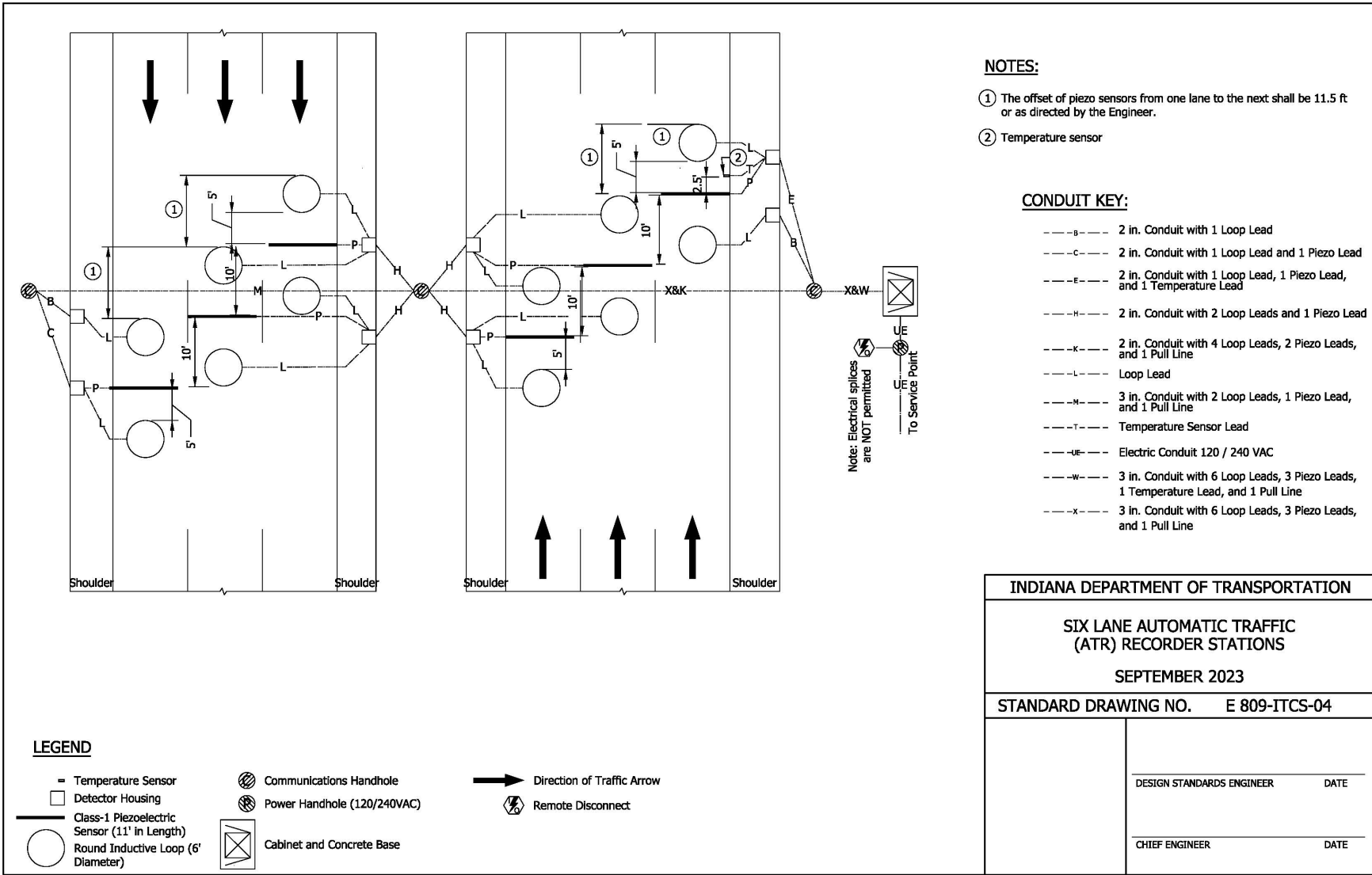
REVISION TO STANDARD DRAWINGS

E 809-ITCS-03 FOUR LANE AUTOMATIC TRAFFIC (ATR) RECORDER STATIONS (revised draft)



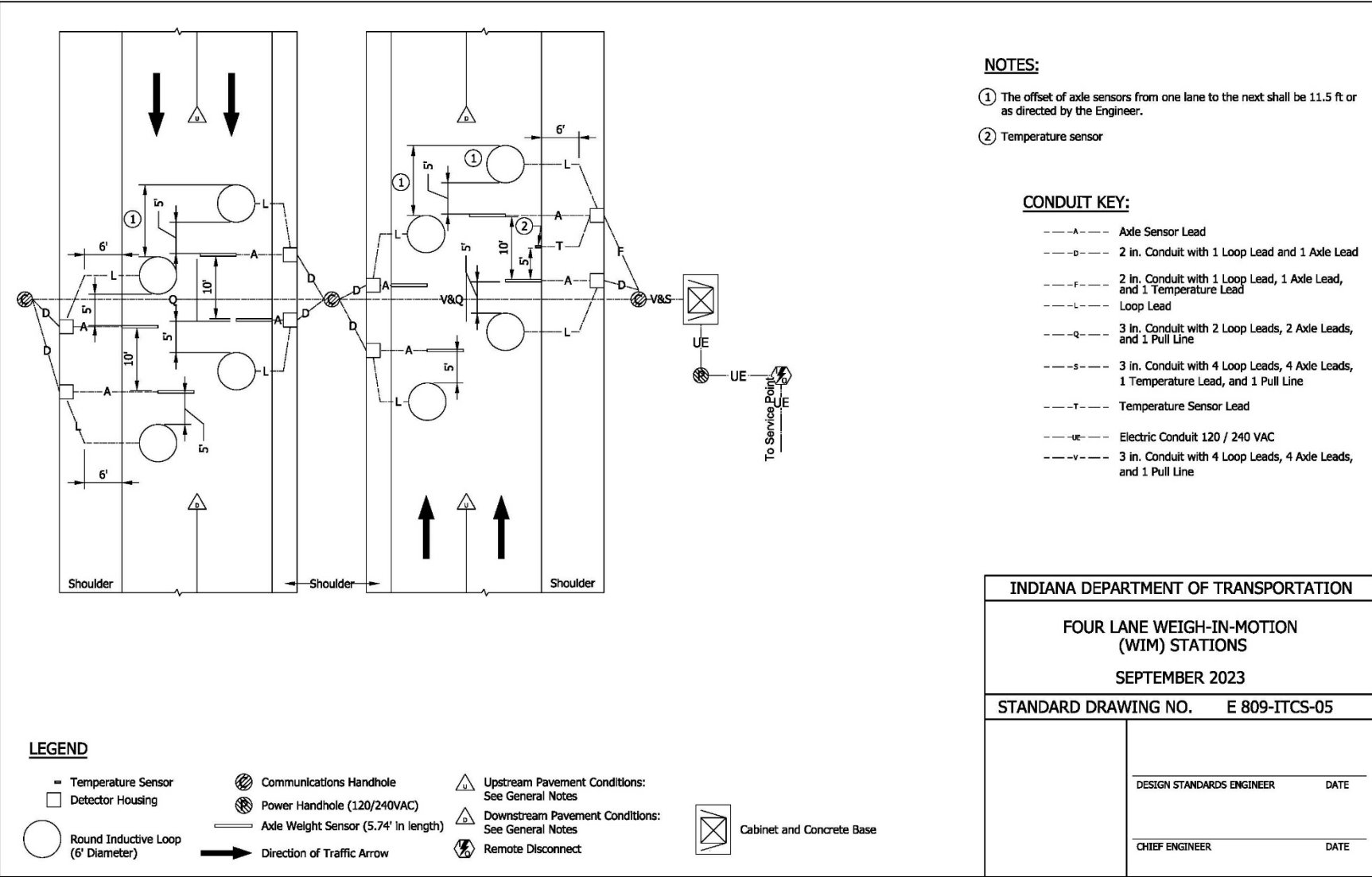
REVISION TO STANDARD DRAWINGS

E 809-ITCS-04 SIX LANE AUTOMATIC TRAFFIC (ATR) RECORDER STATIONS (revised draft)



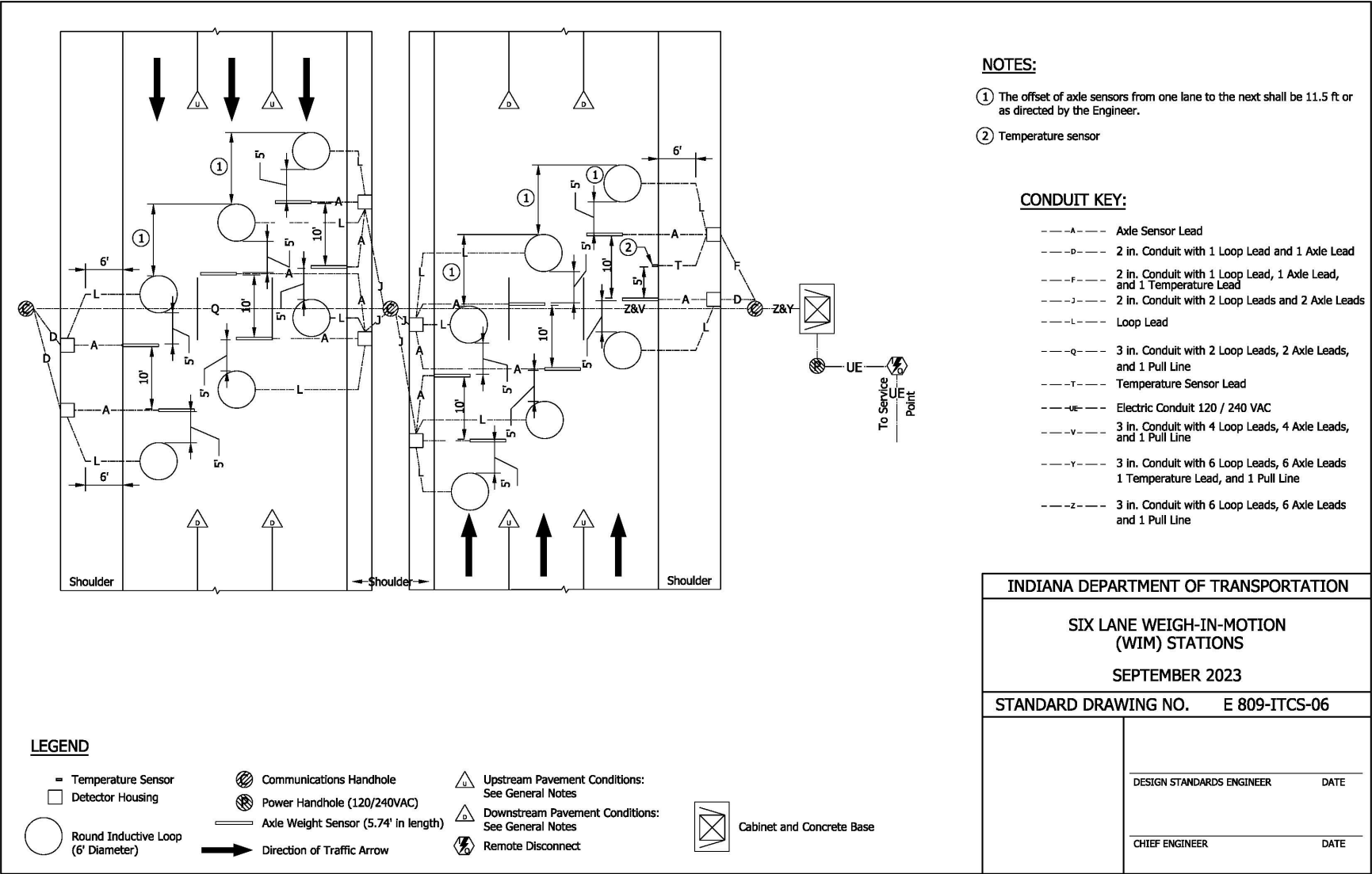
REVISION TO STANDARD DRAWINGS

E 809-ITCS-05 FOUR LANE WEIGH-IN-MOTION (WIM) STATIONS (revised draft)



REVISION TO STANDARD DRAWINGS

E 809-ITCS-06 SIX LANE WEIGH-IN-MOTION (WIM) STATIONS (revised draft)



NOTES:

- ① The offset of axle sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor

CONDUIT KEY:

- A--- Axle Sensor Lead
- B--- 2 in. Conduit with 1 Loop Lead and 1 Axle Lead
- C--- 2 in. Conduit with 1 Loop Lead, 1 Axle Lead, and 1 Temperature Lead
- D--- 2 in. Conduit with 2 Loop Leads and 2 Axle Leads
- L--- Loop Lead
- Q--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- V--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, and 1 Pull Line
- Y--- 3 in. Conduit with 6 Loop Leads, 6 Axle Leads, 1 Temperature Lead, and 1 Pull Line
- Z--- 3 in. Conduit with 6 Loop Leads, 6 Axle Leads and 1 Pull Line

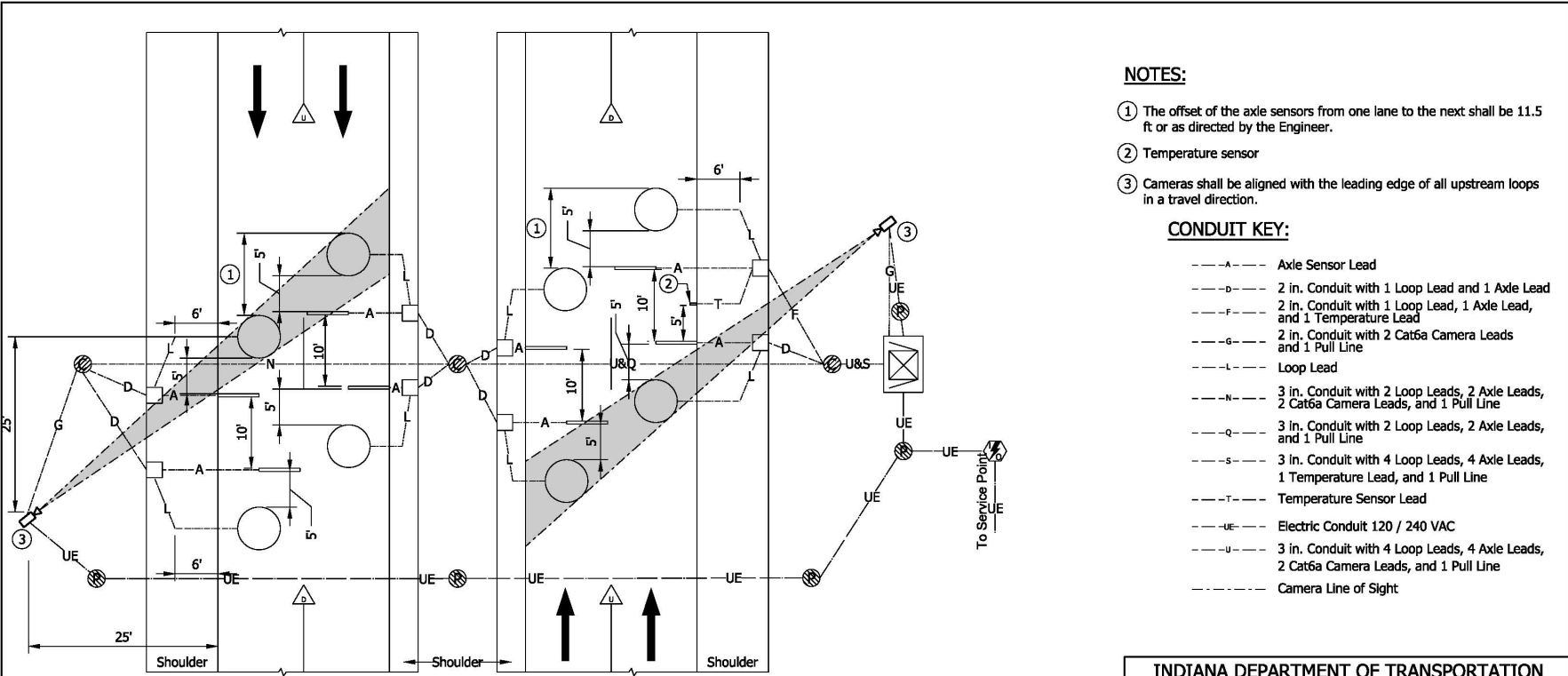
LEGEND

- Temperature Sensor
- Detector Housing
- Round Inductive Loop (6' Diameter)
- Direction of Traffic Arrow
- ⊗ Communications Handhole
- ⊗ Power Handhole (120/240VAC)
- ⊗ Axle Weight Sensor (5.74' in length)
- △ Upstream Pavement Conditions: See General Notes
- △ Downstream Pavement Conditions: See General Notes
- ⊗ Remote Disconnect
- ⊗ Cabinet and Concrete Base

INDIANA DEPARTMENT OF TRANSPORTATION	
SIX LANE WEIGH-IN-MOTION (WIM) STATIONS	
SEPTEMBER 2023	
STANDARD DRAWING NO.	E 809-ITCS-06
DESIGN STANDARDS ENGINEER	DATE
CHIEF ENGINEER	DATE

REVISION TO STANDARD DRAWINGS

E 809-ITCS-07 FOUR LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS (revised draft)



NOTES:

- ① The offset of the axle sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor
- ③ Cameras shall be aligned with the leading edge of all upstream loops in a travel direction.

CONDUIT KEY:

- A--- Axle Sensor Lead
- B--- 2 in. Conduit with 1 Loop Lead and 1 Axle Lead
- F--- 2 in. Conduit with 1 Loop Lead, 1 Axle Lead, and 1 Temperature Lead
- G--- 2 in. Conduit with 2 Cat6a Camera Leads and 1 Pull Line
- L--- Loop Lead
- N--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, 2 Cat6a Camera Leads, and 1 Pull Line
- Q--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, and 1 Pull Line
- S--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, 1 Temperature Lead, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- U--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, 2 Cat6a Camera Leads, and 1 Pull Line
- --- Camera Line of Sight

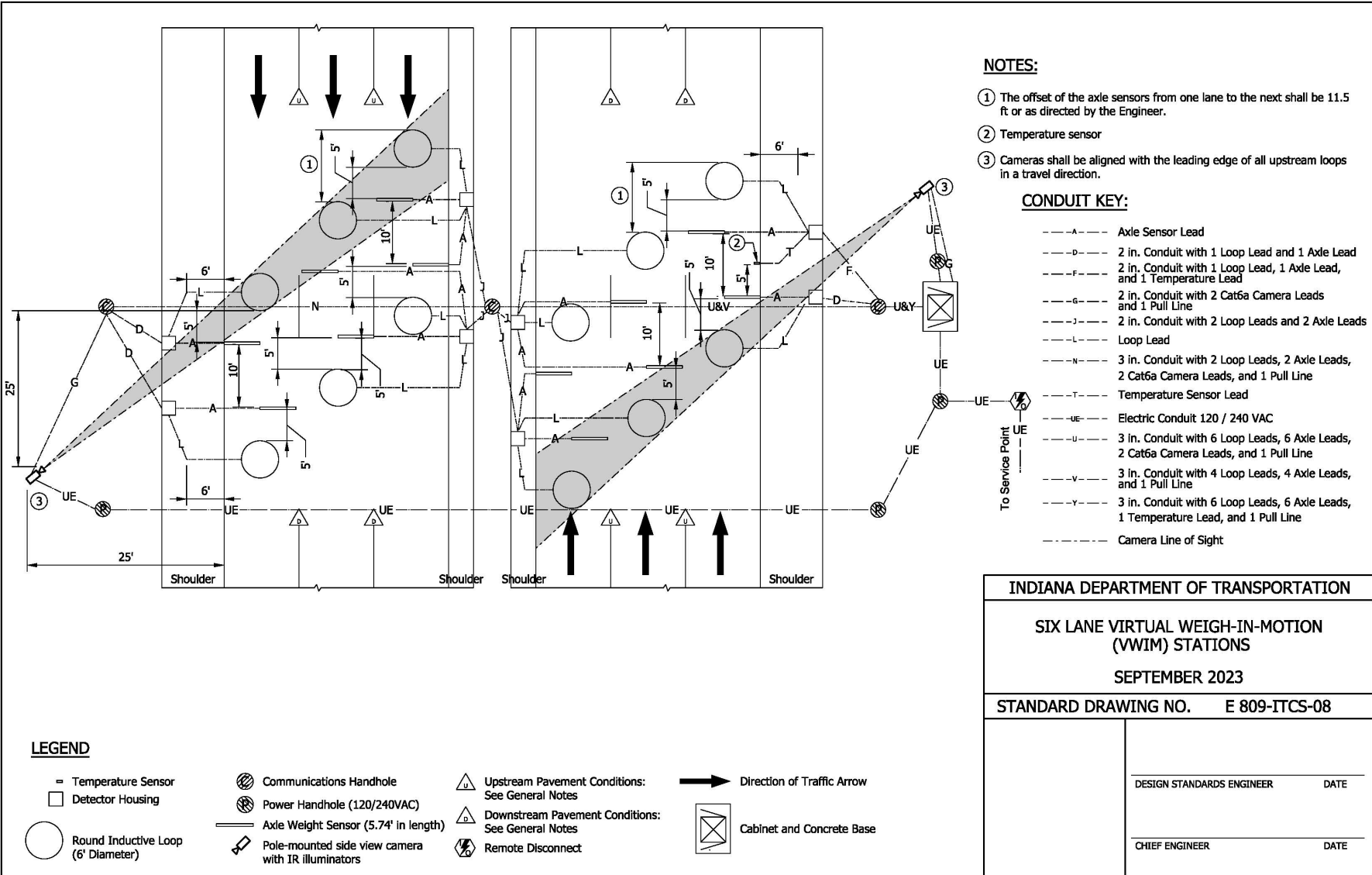
LEGEND

- Temperature Sensor
- Detector Housing
- Round Inductive Loop (6' Diameter)
- ⊗ Communications Handhole
- ⊕ Power Handhole (120/240VAC)
- Axle Weight Sensor (5.74' in length)
- 📷 Pole-mounted side view camera with IR illuminators
- ⚠ Upstream Pavement Conditions: See General Notes
- ⚠ Downstream Pavement Conditions: See General Notes
- 🔌 Remote Disconnect
- ➡ Direction of Traffic Arrow
- 📦 Cabinet and Concrete Base

INDIANA DEPARTMENT OF TRANSPORTATION	
FOUR LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS	
SEPTEMBER 2023	
STANDARD DRAWING NO.	E 809-ITCS-07
DESIGN STANDARDS ENGINEER	DATE
CHIEF ENGINEER	DATE

REVISION TO STANDARD DRAWINGS

E 809-ITCS-08 SIX LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS (revised draft)



COMMENTS AND ACTION

E 809-ITCS-01 thru E 809-ITCS-08

DISCUSSION:

Mr. Boruff introduced and presented this item stating that the ITS traffic count station, unique, plan details for automated traffic recording, weigh-in-motion, and virtual weigh-in-motion locations were initially prepared in Microsoft PowerPoint and there is a need to update the formatting so that they can be issued as Standard Drawings.

Mr. Boruff proposed to create a Standard Drawing series for the ITS traffic count stations for automated traffic recording, weigh-in-motion, and virtual weigh-in-motion locations.

Mr. Koch stated, concerning drawing 809-ITCS-01: Referencing ASTM E 1318 is good design guidance, yet most will not read second level specifications. Horizontal & longitudinal alignment constraints should be addressed by the Designer. Also, what is the smoothness criteria for note #2? Please consider RSP 401-R-577.

Mr. Sorenson responded that we agree that the site selection criteria and geometric criteria of E1318 should be addressed by the designer, and we will make sure language similar to 401-R-577 is included in future contracts involving WIM sites to make clear to contractors our expectations. The smoothness criteria in note 2 was meant to be a general rule to assist designers in rough site selection (since it will be very difficult to meet E1318 specs at pavement transitions, for example), but if the E1318 spec is met so too will the criteria in note 2, so we will remove that note.

Mr. Bruno stated that due to minor comments received on the proposed 809-ITCS series after the agenda was posted, an updated version of the series with those comments has been incorporated.

Mr. Boruff revised his motion, which was seconded by Mr. Dave. There was no further discussion and this item passed as revised.

<p>Motion: Mr. Boruff Second: Mr. Dave Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p><u>Action:</u></p> <p>— Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised — Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 809 begin pg. 958.</p>	<p>— 2024 Standard Specifications — Revise Pay Items List</p>
<p>Recurring Special Provisions or Plan Details: NONE</p>	<p>— Create RSP (No. __) Effective:</p>
<p>Standard Drawing affected: NONE</p>	<p>— Revise RSP (No. __) Effective:</p>
<p>Design Manual Sections affected: 502-5.04(09)</p>	<p><input checked="" type="checkbox"/> Standard Drawings E 809-ITCS series Effective: September 1, 2023</p>
<p>GIFE Sections cross-references: NONE</p>	<p>— Create RPD (No. __) Effective:</p>
	<p>— GIFE Update — Frequency Manual Update — SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There are a large variety of machines (printer, copier, scanner) being used to satisfy **628.02(e) Field Office Machines**. This has presented challenges to IOT to support this variety, and INDOT field staff as a result.

PROPOSED SOLUTION: Revise specifications to require all-in-one machines and certain brands which will reduce the variety. Also, a revision was made to require color to meet the needs of field staff as well as other minor updates.

APPLICABLE STANDARD SPECIFICATIONS: 628.02

APPLICABLE STANDARD DRAWINGS: n/a

APPLICABLE DESIGN MANUAL SECTION: n/a

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: n/a

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None, action being taken as requested by IOT and based on the results of a survey of construction field staff.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: n/a

IMPACT ANALYSIS (attach report): none

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management

E-mail: jnovak@indot.in.gov

Date: 1/24/23

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? no

Will approval of this item affect the Qualified Products List (QPL)? no

Will this proposal improve:

Construction costs? no

Construction time? no

Customer satisfaction? no

Congestion/travel time? no

Ride quality? no

Will this proposal reduce operational costs or maintenance effort? no

Will this item improve safety:

For motorists? no

For construction workers? no

Will this proposal improve quality for:

Construction procedures/processes? no

Asset preservation? no

Design process? no

Will this change provide the contractor more flexibility? no

Will this proposal provide clarification for the Contractor and field personnel? no

Can this item improve/reduce the number of potential change orders? no

Is this proposal needed for compliance with:

Federal or State regulations? no

AASHTO or other design code? no

Is this item editorial? no

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: none

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 628 – FIELD OFFICE, COMPUTER SYSTEM, COMPUTER SYSTEM EQUIPMENT, OFFICE MACHINES AND COMMUNICATIONS

628.02 Field Office Requirements (see proposed changes in (e) Field Office Machines)

628.06 Basis of Payment

(Note: Proposed changes shown highlighted gray)

SECTION 628 – FIELD OFFICE, COMPUTER SYSTEM, COMPUTER SYSTEM EQUIPMENT, OFFICE MACHINES AND COMMUNICATIONS

628.01 Description

This work shall consist of providing the specified facilities, equipment, supplies, and services in accordance with 105.03.

628.02 Field Office Requirements

When specified, the Contractor shall provide a field office, computer systems, computer system equipment, office machines, telephone service and equipment, services, equipment, and supplies for the Department's exclusive use in accordance with the minimum requirements listed below.

All equipment shall be covered by normal manufacturer's warranties. All cellular telephone units, computer systems, telephones and voice mail systems, office machines and associated equipment provided by the Contractor will remain the property of the Contractor and will be returned to the Contractor upon completion of the contract.

(a) Field Office

The field office shall be located as mutually agreed by the Engineer and the Contractor. If a building exists within the limits of the right-of-way that is acceptable as a field office and the building is scheduled to be removed under the terms of the contract, the building may be equipped and furnished as the field office. A building within the right-of-way that is furnished under this specification shall be removed prior to the date of the last work and other acceptable facilities for the field office shall then be provided.

The field office may be a permanent building or a trailer and shall be of the type shown in the Schedule of Pay Items. The building or trailer furnished for the field office shall be in accordance with all applicable State and local codes and applicable IOSHA/OSHA requirements.

The field office shall be complete and ready for use by the Department, including all utility connections, office machines, internet service, equipment and supplies, prior to the start of work. If the Contractor is unable to provide the permanent field office prior to the start of the work, the Engineer shall be notified in writing and the Contractor and the Engineer will agree on temporary field office arrangements prior to the start of work. A temporary field office will not be accepted by the Department for more than two months, at which time a permanent field office shall be ready for the Department's use.

The field office shall, at a minimum, be the size listed below for the type field office specified.

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1. Type A – 460 sq ft
2. Type C – 650 sq ft
3. Type D – 1,000 sq ft
4. Type E – 2,200 sq ft.

Minimum dimensions shall be 8 ft wide and 7 ft in height, from floor to ceiling. For a trailer, the calculation of minimum area will be based on the exterior box dimensions.

The office shall have a solid and level floor with no holes, a weatherproof roof and shall be dust-proof, and wind-tight. The field office shall have at least two doors for ingress and egress and shall have a minimum of six windows for a Type A or Type C field office and eight windows for a Type D or Type E field office, not including any windows in the doors.

Exterior doors shall have a satisfactory locking system. At least one door shall always be able to be unlocked and opened from inside the field office. If a padlock is used to secure a door, it shall be a high security type and shall be made inaccessible to bolt cutters, hacksaws, hammers, or prybars. The padlock shall be mounted in such a manner that locking and unlocking the door can be made with minimal effort. Installation of additional hardware to protect the lock or use of multiple padlocks on a door will not be allowed. Additional hardware to receive the padlock will be acceptable. The Contractor shall furnish the number of keys to the office as directed by the Engineer. The Department will maintain a list of all Department personnel who are given keys.

Windows shall be hinged or sliding and have a minimum area of 5 sq ft each. Windows shall be provided with satisfactory locks and screens. Windows, including windows in the doors, shall be provided with shades, blinds, or other approved coverings.

Type D and Type E field offices shall have at least one room with a minimum area of 196 sq ft for use as a conference or meeting room.

The field office shall have heating and air-conditioning equipment capable of maintaining a uniform temperature between 68°F and 80°F.

The field office shall have a minimum 100 amp, 120/240 volt electrical service, shall have sufficient receptacles to satisfactorily accommodate all required electrical equipment without the use of extension cords or splitters and shall be provided with satisfactory office type lighting.

If the field office is a trailer, the trailer shall be securely supported by adequate blocking. The blocking shall provide a foundation to prevent settlement. The trailer shall be secured to the ground with a trailer tie down system that is in accordance with all State

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and local requirements. Each trailer shall be furnished with steps meeting IOSHA/OSHA requirements at each doorway.

The field office location shall be selected in order to provide satisfactory parking and trash disposal facilities for Department use. Parking spaces shall be either paved or surfaced with compacted aggregate, size No. 53, or other acceptable materials suitable for all-weather usage and shall be maintained, including snow removal. Satisfactory parking for a Type A field office shall be a minimum of six separate parking spaces. Satisfactory parking for a Type C field office shall be a minimum of 10 separate parking spaces. Satisfactory parking for a Type D field office shall be a minimum of 12 separate parking spaces. Satisfactory parking for a Type E field office shall be a minimum of 16 separate parking spaces.

Any type of field office may be used by other Department personnel from other Department contracts.

(b) Field Office Equipment and Supplies

The following minimum equipment and supplies shall be furnished for each field office of the type specified.

Equipment and Supplies	Office Type		
	A and C	D	E
Bloodborne Pathogen Kit	1	1	1
Potable Water	Yes	Yes	Yes
Broom and Dust Pan	1	1	1
Calculators	1	2	4
Carbon Monoxide Detector	1	1	2
Chairs	8	12	20
Cleaning Supplies	Yes	Yes	Yes
Dry Erase Board	1	1	2
Electric Vacuum Sweeper	1	1	1
File Cabinet Drawers	4	8	12
Fire Extinguishers	2	2	3
First-Aid Kit	1	1	1
Folding Office Tables	4	6	10
Microwave Oven	1	1	2
Office Desks and Office Chairs	4	5	10
Paper Shredder	1	1	1
Plan Holder	1	1	2
Refrigerator/Freezer	1	1	2
Shelving	20 lft	24 lft	48 lft
Six-hook Coat Rack	1	1	2
Smoke Detector	1	2	3
Toilet Facilities	Yes	Yes	Yes

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TV Monitor	0	1	1
USB Speakerphone Microphone	No	Yes	Yes
Waste Paper Baskets	4	6	10

The office and the equipment shall be furnished in a condition satisfactory to the Department.

Adequate quantities of basic hygiene and office cleaning supplies shall be provided. These supplies shall include, but are not limited to, antibacterial hand soap in a pump container, hand sanitizer, paper towels, trash bags, toilet paper, spray air freshener, window cleaner, all-surface cleaner, toilet disinfectant, toilet brush and a toilet plunger.

Potable water shall be provided separately for drinking and hand washing purposes.

The plan holder shall have a minimum number of five individual holders, capable of holding full size plans, 24 in. by 36 in., per plan holder.

Fire extinguishers shall be 5 lb, Class ABC or higher rated and shall be maintained in a fully charged and operable condition and shall meet all IOSHA/OSHA requirements.

The toilet facilities shall consist of, at a minimum, a toilet and hand washing location. For a Type A or Type C field office, the toilet can be a portable toilet and the hand washing location can be a portable hand washing station. For a Type D or Type E field office, the toilet facilities shall be provided indoors. Indoor toilet facilities shall have an exhaust fan. Hot water is not required for the toilet facilities. If a portable toilet is provided, it shall be provided with a lock and at least two keys for the lock. If a portable hand washing station is provided as the hand washing location, it shall always remain functional, including during freezing temperatures. The portable toilet or portable hand washing station shall be serviced a minimum of once per week and shall be maintained in such a manner as to provide consistent continual toilet facility service.

First-aid kits shall meet the requirements of ANSI Z308.1 current at the time of letting.

Shelving shall have a minimum width of 10 in.

Filing cabinets shall at a minimum be fire resistant steel filing cabinets with a class D or higher classification established by UL or Safe Manufacturers National Association. Cabinet drawers shall have a filing depth of 25 in. All cabinets shall have a lock and at least half of the drawers shall be fireproof.

Office desktops shall be at least 48 in. wide and 25 in. deep. All desks shall contain at least two drawers, one of which shall be provided with a lock.

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Folding office tables shall be a minimum size of 30 in. by 72 in.

Office chairs shall be height adjustable and equipped with castors. Other required chairs may be stackable or folding chairs.

Supplies to be furnished shall include all items required for proper operation of the required equipment. This includes, but is not limited to, operating manuals and paper supplies.

Calculators shall be electric powered, have a printer, a minimum 12-digit capacity, and have a counting function.

The paper shredder shall have a minimum capacity of 12 sheets of 20 lb paper, shall be capable of shredding paper clips and staples, and shall include a five-gallon capacity waste basket.

The dry erase board shall have a minimum size of 4 ft by 6 ft. Adequate quantities of dry erase markers and erasers shall be provided.

The TV monitor shall be at a minimum 55 in., LED, 4 series, 2160P, Smart, 4K UDH TV with HDR and shall work wirelessly with laptops. It shall be mounted on the wall of designated meeting or conference rooms as determined by the Engineer.

A USB speakerphone microphone shall be a Conference Speaker Omnidirectional Computer Mic, with 360° voice pickup, touch sensor buttons for mute/unmute, streaming and shall be provided for use in designated meeting or conference rooms as determined by the Engineer.

The microwave oven shall have a minimum 1 cu ft capacity with a minimum 1,100 watts and shall have digital controls.

The refrigerator/freezer shall have a minimum 20 cu ft. capacity for a Type D or Type E field office and shall have a minimum 10 cu ft capacity for a Type A or Type C field office.

The field office and all equipment and supplies shall be maintained and replenished in a satisfactory manner during the term of the contract or until released by the Engineer. If the field office or required equipment and supplies are not maintained by the Contractor, the Engineer may withhold partial payments until the field office is operational to the Department's satisfaction.

(c) Computer System and Computer System Equipment

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When specified in the Schedule of Pay Items, the Contractor shall provide the computer system and computer system equipment in accordance with the minimum requirements listed below for the Department's exclusive use for each field office.

1. Computer System

- a. Laptop computer
- b. Processor – Intel compatible, minimum dual-core 2.0 GHz
- c. Memory – 8.0 GB, 1866 MHz
- d. Hard Drive – 500 GB, 7,200 rpm or 256 GB SSD (Solid State Drive)
- e. Ports – Two USB 2.0 compliant ports, one USB 3.0 compliant port
- f. Network/Wireless – Ethernet or wireless card to be compatible with the selected internet and office network connections
- g. Graphics - Integrated graphics card
- h. Display - Minimum 15 in. 1366 by 768 LCD panel
- i. Battery - Minimum 3-cell Lithium ion
- j. Miscellaneous - One laptop docking station compatible with the Monitor, with AC adapter, one additional AC adapter, one DC adapter and one padded carrying case.

The initial condition of the computer system shall be nearly pristine. All owner installed e-mail accounts, games, spyware, online services, applications, network or other profiles previously set up on the system shall be removed prior to placement in the field office. If the system was provided for a previous Department contract, all software not specified shall be removed prior to placement in the current field office.

The Contractor shall provide a minimum 900 J, six-outlet surge protector for each computer system specified in the contract.

2. Computer System Equipment

- a. Monitor – Minimum 22 in. digital panel that enables connectivity to DisplayPort and HDMI connections or an adapter
- b. Keyboard – USB multimedia keyboard
- c. Mouse – Optical USB 2-button scroll mouse
- d. Miscellaneous - One laptop docking station compatible with the Monitor, with AC adapter, one additional AC adapter, one DC adapter that is compatible with the Department's provided laptop or mobile device, and one minimum 900 J six-outlet surge protector.

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3. Computer Software

The Contractor shall provide software for the computer system in accordance with the minimum requirements listed below.

- a. Operating System Software – Windows 10 Professional.
- b. Productivity Software – Microsoft Office 2013 Small Business and Adobe Acrobat Professional DC.
- c. Security Software – McAfee Total Protection.

All software shall include the most current updates and patches at the time the computer system is provided to the Department. The Contractor shall provide for installation of updates and patches for the operating system, productivity and security software during the term of use of the computer system by the Department. Updates and patches shall be provided by an automatic update method.

The Department may install and maintain proprietary software on the computer in order to run the Department's construction management programs.

4. Miscellaneous Computer Requirements

The Contractor shall provide all cables, connections and software required to connect the computer system provided by the Contractor or by the Department to the printer and the scanner.

The Contractor shall provide an Ethernet and a wireless office network to enable all computer systems in the field office to access the field office internet service, the printer and the scanner.

The Contractor shall provide all manuals necessary for operation of the computer system, computer system equipment and software with the system and shall include all documentation normally furnished with the equipment and software when purchased.

The Department will be utilizing the computer system to run or access Department provided construction management software applications. These applications are known to run on Intel compatible equipment when using the Windows 10 Professional operating system. If the Department experiences problems running these applications due to hardware or software compatibility, the Contractor shall replace the equipment to ensure compatibility to the satisfaction of the Engineer within five business days.

The computer system shall be maintained in good working order. If a portion of the system becomes defective, inoperable, damaged, or stolen, that portion shall be repaired or replaced within five business days after the Contractor is notified by the Engineer. If the computer system and related accessories are not maintained by the Contractor as required, the Engineer may withhold partial payments until the computer system is operational to

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the Department's satisfaction.

(d) Field Office Internet Service

The Contractor shall provide broadband internet service for the field office. Broadband internet service shall be capable of a minimum average download speed of 50 Mbps and a minimum upload speed of 5 Mbps, unless otherwise approved by the Engineer.

(e) Field Office Machines

The Contractor shall provide a fully operational *all-in-one* copier, printer, and document scanner *machine* for the Department's exclusive use in the field office in accordance with the minimum requirements listed herein.

~~In lieu of separate copier, printer, and scanner, the Contractor may provide an all-in-one unit that meets all the requirements for any combination of the individual machines being provided. Separate machines shall be provided for those machine functions that are not included in an all-in-one type machine. All~~ The machines shall be supplied with, and shall be maintained with, one additional set of ink cartridges. *The Contractor shall provide letter, legal, and ledger size paper as required by the Engineer.*

The machine shall be compatible with, and shall be connected to, the computer system provided by the Contractor, or the Department, for use by the Department in the field office.

The machine shall be an Epson Workforce or HP OfficeJet Pro model that has the following minimum specifications.

1. *Auto 2-sided color print, copy, and scan*
2. *Print, copy, and scan full size letter, legal, and ledger documents*
3. *Minimum of two automatic document feeder universal size trays*
4. *Wireless printing*
5. *Minimum printer resolution 1200 x 4800 dpi*
6. *Minimum scanner resolution 600 x 600 dpi.*

1. Copier

~~The copier shall be compatible with, and shall be connected to, the computer system provided by the Contractor or the Department for use by the Department in the field office. The copier shall be capable of using plain paper and of making full size, black and white copies of letter, legal and ledger US paper size original documents. The copier shall be capable of reducing and increasing copy sizes. The copier shall have a self-feeding paper tray, an automatic document feeder and be capable of producing at least 20 copies per minute. The copier shall be capable of double-sided copying. The copier shall have at least two universal paper drawers; letter and ledger size.~~

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2. Printer

The printer shall be compatible with, and shall be connected to, the computer system provided by the Contractor or by the Department for use by the Department in the field office. The printer shall be capable of printing single-sided and double-sided, black and white letter, legal and ledger US paper size documents at a rate of 20 pages per minute and capable of automatic duplex printing. More than one printer may be used to meet this requirement.

All printers shall be set to accommodate wireless printing from the Department's provided laptop or mobile device.

3. Document Scanner

The document scanner shall be compatible with, and shall be connected to, the computer system provided by the Contractor or the Department for use by the Department in the field office. The scanner shall be capable of scanning letter and ledger size documents and shall have an automatic document feeder and be capable of 200 to 600 dpi black and white resolution, preset to 200 dpi.

4. Miscellaneous Office Machine Requirements

The Contractor shall provide letter, legal and ledger size paper, ink cartridges and toner as required by the Engineer for the operation of each piece of equipment provided.

If any office machine becomes defective, inoperable, damaged, stolen or incompatible with the Department provided devices, that machine shall be repaired or replaced within five business days after the Contractor is notified by the Engineer. If any of the office machines are not maintained by the Contractor as required, the Engineer may withhold partial payments until the machine is operational to the Department's satisfaction.

(f) Telephone Service

When specified in the Schedule of Pay Items, the Contractor shall provide telephone services and equipment, as specified below, for use by the Department on the contract.

Telephone Service	Type A	Type B	Type C
Telephone line	1	2	2
Telephone	1	2	3
Telephone voice mail system	1	2	1

The telephone voice mail system shall be capable of providing both a minimum 1 minute outgoing message and 30 minutes total recording time for incoming messages. It shall have a remote operation feature, which may be used to retrieve, replay, erase, and save messages. An answering machine meeting these requirements may be substituted for the voice mail system.

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628.06 Basis of Payment

At least one telephone shall be a cordless phone having a frequency of at least 900 MHz.

628.03 Mobile Internet Service

When specified, the Contractor shall provide mobile internet service for the Department's exclusive use.

The mobile broadband internet service access device will be used by the Department in a laptop computer provided by either the Contractor or the Department.

The device shall connect to the laptop via a USB 2.0 or USB 3.0 compliant port, or by wireless means. The device and service shall be capable of a minimum 4G speed. The internet service rate plan shall include unlimited data and time usage with no roaming charge for national domestic use. All software necessary for the operation of the device shall be provided to the Engineer.

The Contractor shall not purchase any device or enter into any service agreement until authorized by the Engineer. The Engineer will provide a minimum of 10 business days notice prior to the date the device will be required.

628.04 Cellular Telephones

The Contractor shall provide cellular telephone equipment and services, as specified below, for use by the Department on the contract.

Each cellular telephone unit shall have a service coverage area that includes the project limits. Each cellular telephone unit shall include a belt clip system, a 120V AC charger, a 12V DC mobile charger, and a hands-free kit consisting of a speaker and a microphone enabling the user to operate the unit with minimal need for the use of their hands. The hands-free kit shall be wireless.

All equipment shall be covered by normal manufacturer's warranties. All cellular telephone units and associated equipment will remain the property of the Contractor and will be returned to the Contractor upon completion of the contract.

Cellular telephone units shall meet the following minimum requirements:

(a) Type A

1. internet ready device with minimum 5 in. display, measured diagonally
2. cellular telephone anytime minutes per month as shown in the Schedule of Pay Items

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3. unlimited nights and weekends service
4. voice mail and caller ID
5. protective case to prevent damage to the unit
6. rear facing camera with a minimum 8 MP resolution
7. minimum 1080p video capture
8. 5 GB or higher data plan per unit
9. internal memory of 64 GB or higher.

(b) Type B

1. a cellular telephone with anytime minutes per month as shown in the Schedule of Pay Items
2. unlimited nights and weekends service
3. voice mail and caller ID
4. built-in camera with a minimum 5 MP resolution.

The Department will be responsible for damage or loss of the units beyond that covered by normal manufacturer's warranties, while in use by the Department. The Contractor shall provide replacement cellular telephone units, batteries, chargers, and equipment within one business day of notification of need for the item.

The Contractor shall not enter into any agreement with any service provider or purchase any cellular telephone units for use by the Department until authorized by the Engineer. The Engineer will notify the Contractor a minimum of 10 business days prior to the need for the units.

628.05 Method of Measurement

Field office will be measured by the month for the specified type. Partial months will be rounded up to the next 1/2 or whole month. The Department will provide two weeks advanced notice prior to when the facility will be vacated.

Computer system and computer system equipment will be measured by the number of units specified.

Telephone service will be measured by the month for the specified type. Partial months will be rounded up to the next 1/2 or whole month. The Department will provide two weeks advanced notice prior to when the telephone service will be vacated.

Cellular telephones will be measured by the number of units required for the type specified.

Mobile internet service and cellular telephone service will be measured by the month for each system or service provided. Partial months will be rounded up to the next

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1/2 or whole month. The Department will provide two weeks advanced notice prior to when mobile internet service and cellular telephone service will no longer be required.

628.06 Basis of Payment

Field office will be paid for at the contract unit price per month, complete in place until released.

Computer system and computer system equipment will be paid for at the contract unit price per each for the units provided.

Telephone service will be paid for at the contract unit price per month, complete in place until released.

Mobile internet service will be paid by the month for each system or service provided.

Cellular telephone units will be paid for at the contract unit price per each per each type specified. Cellular telephone service will be paid for at the contract unit price per month per each phone. Monthly charges for cellular telephone minutes and data in excess of those specified in the contract will be paid for by the dollar amount for the invoiced price per each occurrence as cellular telephone, additional charges.

Payment will be made under:

Pay Item	Pay Unit Symbol
Cellular Telephone Service, _____ anytime minutesMOS
Cellular Telephone, _____ typeEACH
Cellular Telephone, Additional Data	DOL
Cellular Telephone, Additional Minutes.....	DOL
Computer System Equipment	EACH
Computer System.....	EACH
Field Office, _____ typeMOS
Mobile Internet Service, _____ Each..... quantityMOS
Telephone Service, _____ typeMOS

The cost of all heating, cooling, electrical service, and other miscellaneous utility bills required for the field office shall be included in the cost of the field office.

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628.02 Field Office Requirements (see proposed changes in (e) Field Office Machines)

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If a field office smaller than the specified type is approved by the Engineer, a new unit price will be established for the smaller field office. The new unit price will be equal to the original contract unit price multiplied by the smaller floor area and divided by the specified floor area.

All costs necessary to provide and maintain the telephone service, including monthly charges and installation of telephone lines, shall be included in the cost of the telephone service.

If a temporary field office is provided in accordance with 628.02, payment will be 65% of the unit price during the time the temporary field office is in use by the Department.

The cost of all materials and labor necessary to setup, secure, maintain, and remove the field office, including all required equipment and supplies and any material required to provide parking, shall be included in the cost of the respective pay item.

All costs necessary to provide and maintain the computer system, computer system equipment, including the required software, manuals, technical support, and miscellaneous computer requirements shall be included in the cost of the computer system or computer system equipment.

All costs necessary to establish, install, and maintain field office internet service, both wireless and Ethernet, field office network, including any required hardware, software, fees, monthly charges, setup, installation, and technical support shall be included in the cost of the field office.

All costs associated with providing the field office for any Type of field office for use by other Department personnel from other Department contracts shall be included in the cost of the field office.

All costs necessary to provide the *all-in-one* copier, printer, and document scanner *machine*, including setup, installation, all required connections to computers, technical support, and miscellaneous office machine requirements shall be included in the cost of the field office.

All costs necessary to establish, install and maintain mobile internet service, including required hardware, software, fees, monthly charges, setup, installation, and technical support shall be included in the cost of mobile internet service.

The Contractor shall provide a copy of the detailed invoice from the service provider for each cellular telephone unit each month.

COMMENTS AND ACTION

628.02 Field Office Requirements

628.06 Basis of Payment

DISCUSSION:

This item was introduced and presented by Mr. Novak, who explained that there are a large variety of machines, such as printers, copiers, and scanners, being used to satisfy **628.02(e) Field Office Machines**. This has presented challenges to IOT to support this variety, and Department field staff as a result.

Mr. Novak proposed to revise portions of 628 to require all-in-one machines and certain brands which will reduce the variety. Also, a revision was made to require color to meet the needs of field staff as well as other minor updates.

There was no further discussion and this item passed as submitted.

<p>Motion: Mr. Novak Second: Mr. Pelz Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p><u>Action:</u></p> <p><input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 628 begin pg. 584.</p> <p>Recurring Special Provisions or Plan Details: NONE</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications Revise Pay Items List</p> <p><input type="checkbox"/> Create RSP (No. __) Effective:</p> <p><input type="checkbox"/> Revise RSP (No. __) Effective:</p> <p><input type="checkbox"/> Standard Drawing Effective:</p> <p><input type="checkbox"/> Create RPD (No. __) Effective:</p> <p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: When existing beam ends are required to be encased in concrete as part of a new integral or semi-integral end bent or as part of an existing bent retrofit, the Department has become aware of inconsistencies from contract to contract in the application of beam end cleaning and painting. Prior to encasement in concrete: some beam ends are not cleaned or painted at all, some are only cleaned but not painted, others are cleaned and primed only, and yet others are cleaned and painted with a full paint coat system.

PROPOSED SOLUTION: Revise the spec language in SS 619 to clarify beam end cleaning and painting requirements prior to encasement in concrete. Only require inorganic zinc primer coat on the beam ends prior to encasement rather than the full paint system.

APPLICABLE STANDARD SPECIFICATIONS: 619

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: 17-5.11, 412-3.04(05)

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Don Shaw, Jacob Blanchard, Jon Kruger, Mark Pittman

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: Intent is to have this approved for the 2024 spec book with no special provision

IMPACT ANALYSIS (attach report):

Submitted By: Joe Novak

Title: State Construction Engineer

Organization: INDOT

Phone Number: 317-501-7805

Date: 1/23/23

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? Yes

Construction time? Yes

Customer satisfaction? Yes

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? yes

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? Yes

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: N/A

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 619 – PAINTING BRIDGE STEEL

619.04 Prosecution of Work

619.09 Paint Systems

619.12 Field Painting New Steel Bridge

619.13 Painting Existing Steel Bridges

619.20 Basis of Payment

(Note: Proposed changes shown highlighted gray
Changes made to the Agenda - highlighted yellow)

The Standard Specifications are revised as follows:

SECTION 619, BEGIN LINE 88, INSERT AS FOLLOWS:**619.04 Prosecution of Work**

Prosecution of work shall be in accordance with the applicable requirements of 108.04. Once the cleaning and painting operations have begun, it shall be performed on all work days without stoppage until all work has been completed. If the contract contains more than one bridge, a schedule shall be included in the QCP which provides the sequence of work on the bridges. Once work has begun on a bridge, it shall be performed until complete, including all cleanup. *When cleaning and painting beam ends for encasement in concrete is specified, that work may be performed as a separate operation.*

SECTION 619, BEGIN LINE 435, INSERT AS FOLLOWS:**619.09 Paint Systems**

Paint systems shall be applied in accordance with the manufacturer's recommendations. The dry film thickness of a paint coating will be measured with a calibrated film thickness gauge in accordance with SSPC PA 2. All paint coatings shall have a dry film thickness not less than 80% of the required dry film thickness.

(a) Structural Steel Paint System

The coating system shall consist of an inorganic zinc primer with a dry film thickness of 3 mil, an epoxy intermediate coat with a dry film thickness of 4 mil, and a polyurethane finish coat with a dry film thickness of 3 mil for the painting of steel bridges and other structural steel.

Portions of new or existing structural steel to be encased in a concrete end bent shall require only the inorganic zinc primer coat.

SECTION 619, BEGIN LINE 629, DELETE AND INSERT AS FOLLOWS:**619.12 Field Painting New Steel Bridge**

All structural steel surfaces which are accessible after final erection shall be painted with the remaining coatings specified for structural steel paint system in accordance with 619.09(a) in the field after final erection.

If application of inorganic zinc primer on a steel surface is not performed in the shop before erection of the bridge, the surfaces which are exposed shall be cleaned in accordance with 619.08(a), and 619.08(e). These surfaces shall then be painted with the structural steel paint system after final erection.

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 619 – PAINTING BRIDGE STEEL

619.04 Prosecution of Work

619.09 Paint Systems

619.12 Field Painting New Steel Bridge

619.13 Painting Existing Steel Bridges

619.20 Basis of Payment

~~All new beam ends required to be encased in concrete including all cross frames and diaphragms shall be cleaned in accordance with 619.08(a) and (e), shall utilize the appropriate paint system in accordance with 619.09(a), and shall be painted in accordance with 619.10. Cleaning and painting beam ends, cross frames, and diaphragms to allow for encasement in concrete prior to cleaning and painting the full bridge shall be at the Contractor's discretion with no additional mobilization costs to be incurred by the Department. Portions of new structural steel, including cross frames, diaphragms, stiffeners, and all other appurtenances located within the limits of concrete end bent encasement as shown on the plans, will only require the inorganic zinc primer coat.~~

Surface areas where the inorganic zinc primer was damaged during shipping, handling, and erection shall be cleaned in accordance with 619.08(a) and either 619.08(d) or 619.08(i). Likewise, all bolt and field connections shall be cleaned in the same manner. All the damaged areas, and bolt and field connections shall then be painted with the inorganic zinc primer applied in the shop. This requirement will not apply to temporary steel bridges.

Where steel surfaces have been painted with the full paint system and the paint coatings have been damaged, the affected steel surface areas shall be cleaned in accordance with 619.08(i). Structural steel paint system shall then be re-applied.

For weathering steel girders, caulk shall be applied to act as a drip bead as shown on the plans.

619.13 Painting Existing Steel Bridges

The surfaces to be cleaned and painted shall include the surfaces of all steel members of the superstructure, substructure, floor beams, stringers, plates, castings, bearing assemblies, ornamental handrails, lattice work, and other steel appurtenances. When shear connectors have been specified, the top of the top flange shall not be painted.

If the contract specifies clean steel bridge, the bridge steel shall be cleaned in accordance with 619.08(a) and either 619.08(e) or 619.08(i). The structural steel paint system in accordance with 619.09(a) shall be used for painting.

If the contract specifies clean steel bridge, partial, the bridge steel shall be cleaned in accordance with 619.08(a) and either 619.08(e), or 619.08(h). The partial paint system in accordance with 619.09(b) shall be then used for painting.

~~All existing beam ends required to be encased in concrete including all cross frames and diaphragms shall be cleaned in accordance with 619.08(a) and either 619.08(e) or 619.08(i), shall utilize the appropriate paint system in accordance with 619.09(a), and shall be painted in accordance with 619.10. Cleaning and painting beam ends, cross~~

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 619 – PAINTING BRIDGE STEEL

619.04 Prosecution of Work

619.09 Paint Systems

619.12 Field Painting New Steel Bridge

619.13 Painting Existing Steel Bridges

619.20 Basis of Payment

frames, and diaphragms to allow for encasement in concrete prior to cleaning and painting the full bridge shall be at the Contractor's discretion with no additional mobilization costs to be incurred by the Department. When the plans show encasing the ends of existing structural steel members in concrete, all beams and girders, cross frames, diaphragms, stiffeners, and all other appurtenances located within the limits of the partial painting zone as shown on the plans shall be cleaned in accordance with 619.08(a) and either 619.08(e) or 619.08(h) and shall receive the partial paint system in accordance with 619.09(b). If the contract also includes pay items for clean steel bridge and paint steel bridge, all exposed structural steel shall be cleaned in accordance with 619.08(a) and either 619.08(e) or 619.08(i), and painted in accordance with 619.09(a), from the face of concrete encasement to opposite face of concrete encasement.

SECTION 619, AFTER LINE 922, INSERT AS FOLLOWS:

When encasing the ends of existing structural steel members in concrete is shown on the plans, all costs associated with cleaning and painting all structural steel within the limits of the partial painting zone, including but not limited to, equipment, material, labor, testing, use of special cleaning methods, and shipping of waste stream samples, shall be included in the cost of clean steel bridge, partial, and paint steel bridge, partial, pay items. If the contract also includes pay items for clean steel bridge and paint steel bridge, all costs associated with cleaning and painting all exposed structural steel, including but not limited to, equipment, material, labor, testing, use of special cleaning methods, and shipping of waste stream samples, shall be included in the cost of clean steel bridge and paint steel bridge pay items.

COMMENTS AND ACTION

619.04 Prosecution of Work

619.09 Paint Systems

619.12 Field Painting New Steel Bridge

619.13 Painting Existing Steel Bridges

619.20 Basis of Payment

DISCUSSION:

This item was introduced and presented by Mr. Novak, assisted by Mr. Blanchard who explained that when existing beam ends are required to be encased in concrete as part of a new integral or semi-integral end bent, or as part of an existing bent retrofit, the Department has become aware of inconsistencies from contract to contract in the application of beam end cleaning and painting. Prior to encasement in concrete: some beam ends are not cleaned or painted at all, some are only cleaned but not painted, others are cleaned and primed only, and yet others are cleaned and painted with a full paint coat system.

Mr. Novak proposed to revise the spec language in 619 to clarify beam end cleaning and painting requirements prior to encasement in concrete, and to only require inorganic zinc primer coat on the beam ends prior to encasement rather than the full paint system.

Prior to the meeting, Mr. Reilman made the ad hoc committee aware of some material concerns with utilizing the inorganic zinc primer coat for all scenarios and work types. As a result of the new information, the proposal was revised to only utilize the inorganic zinc primer coat prior to encasement on the field painting of new steel bridges in 619.12. Revisions were also made to the existing bridge painting section in 619.13 in order to utilize the two-coat partial paint system for beam ends being encased on an existing bridge, and to utilize the three-coat full bridge structural steel paint system for contracts where the full existing bridge was also being painted after the semi-integral retrofit was complete. Additional language was also added to the basis of payment section to clarify payment terms for the partial clean and paint pay items utilized on beam ends, and the full bridge clean and full bridge paint pay items utilized on the extents of the bridge.

The motion was made to accept the proposal as described and the revisions were shown on the screen during the meeting and discussed.

Mr. Koch mentioned that 'Discretion' is a very open term which could be interpreted differently than intended (Cleaning and painting beam ends, cross frames, and diaphragms shall be at the Contractor's discretion...). Is the sentence needed as we began the paragraph with the beam ends shall be cleaned & primed? I understand this is a concern of industry; if the sentence is needed, should it be rewritten with a 'may' statement for the full painting? Ideally if total painting is within the scope of work, should we consider requiring painting at the conclusion of the structural work in an effort to minimize touchups?

Mr. Blanchard responded that we are actually going to move this idea to 619.04 and state it as shown above.

Mr. Koch mentioned that encasement requires 'partial paint system' (619.09(b)). Proposed 619-PRBE-01 would then allow the partial system for 12 in., even when a full paint system is required. In collaboration with Mr. Blanchard and Mr. Novak, the above shown revisions were incorporated into this proposal. Further clarification and explanation was provided by Mr. Reilman.

Mr. Bazlamit suggested looking at figure IDM 407.2A to see if a standard drawing is necessary.

Mr. Novak presented this item as revised. There was no further discussion and this item passed as revised.

COMMENTS AND ACTION

619.04 Prosecution of Work

619.09 Paint Systems

619.12 Field Painting New Steel Bridge

619.13 Painting Existing Steel Bridges

619.20 Basis of Payment

[CONTINUED]

<p>Motion: Mr. Novak Second: Mr. Boruff Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p>Action:</p> <p><input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised x2 <input type="checkbox"/> Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 619 begin pg 549.</p> <p>Recurring Special Provisions or Plan Details: NONE</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: 17-5.11, 412-3.04(05)</p> <p>GIFE Sections cross-references: NONE</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications Revise Pay Items List</p> <p><input type="checkbox"/> Create RSP (No. __) Effective:</p> <p><input type="checkbox"/> Revise RSP (No. __) Effective:</p> <p><input checked="" type="checkbox"/> Create Standard Drawing E 619-PRBE-01 Effective: September 1, 2023</p> <p><input type="checkbox"/> Create RPD (No. __) Effective:</p>
	<p><input type="checkbox"/> TBD GIFE Update <input type="checkbox"/> TBD Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Standard Drawing series 604-SWCR. Standard Drawing 604-SWCR-11, note 3, limits the running slope of a median cut-through to 2%. Upon further review of the Proposed Right-of-Way Accessibility Guidelines (PROWAG) and clarification from the US Access Board, the running slope may be a maximum of 5%. Given the geometry of divided highways and intersections, the increase of the maximum running slope will allow for more flexibility in design. Standard Drawing 604-SWCR-13, there has been some confusion on the offset of a detectable warning surface from a railroad crossing. The current drawing only takes into account a perpendicular crossing of a sidewalk, where many crossings are at a skew. When a railroad crosses a sidewalk at a skew, the designer and contractor must take into account the minimum and maximums within the Public Rights-of-Way Accessibility Guidelines (PROWAG) and the location of the railroad dynamic envelope.

PROPOSED SOLUTION: Standard Drawing 604-SWCR-11, change note 3 to state, where a median cut-through is used the running slope shall be 5.00% maximum. Standard Drawing 604-SWCR-13, add a skewed railroad crossing detail, add dynamic envelope lines to both railroad crossing details, modify note 4 to define the dynamic envelope location, and add a note to give the minimum and maximum offset of a detectable warning surface in relationship to the dynamic envelope and the nearest rail.

APPLICABLE STANDARD SPECIFICATIONS: N/A

APPLICABLE STANDARD DRAWINGS: Standard Drawing 604-SWCR-11 and -13

APPLICABLE DESIGN MANUAL SECTION: 51-1.04(02), the running slope is not mentioned in the IDM, we do not propose any changes to the IDM only the standard drawing.

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad-Hoc Committee: Mark Orton, Elizabeth Mouser, Herbert Davis, Corey Pressler, and Katherine Smutzer

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Required for all contracts with pay item 604-08086 Curb Ramp, Concrete.

IMPACT ANALYSIS (attach report): yes

Submitted By: Katherine Smutzer
Title: Work Zone Safety Engineer

Division: Traffic Management

E-mail: ksmutzer@indot.in.gov

Date: 11/30/2022

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No

Will approval of this item affect the Qualified Products List (QPL)? No

Will this proposal improve:

Construction costs? No

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? No

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? No

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: The increase in the maximum running slope will allow designers more flexibility for the design of median cut-throughs and cut-throughs of other raised islands.

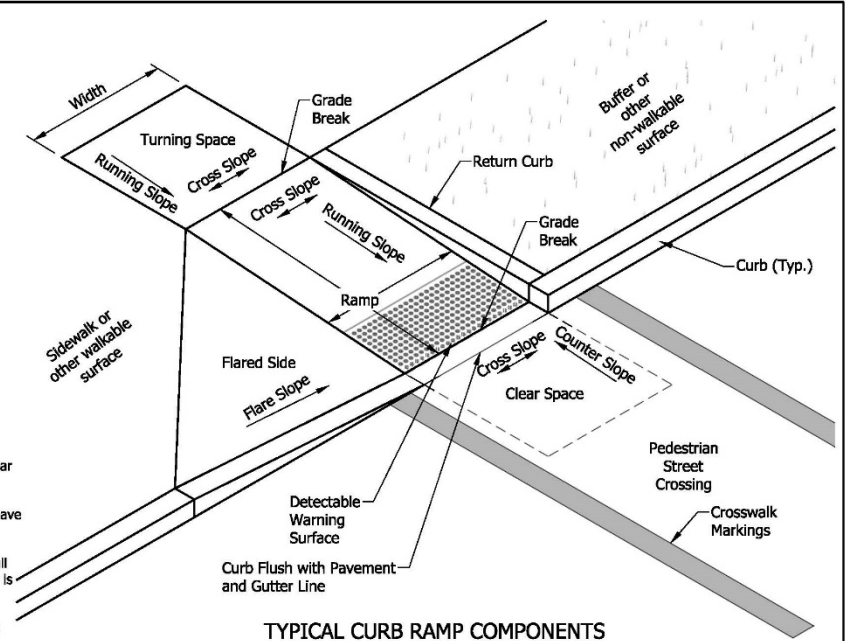
REVISION TO STANDARD DRAWINGS

E 604-SWCR-01 CURB RAMP DRAWING INDEX AND GENERAL NOTES (no proposed changes)

INDEX	
SHEET NO.	SUBJECT
1	Curb Ramp Drawing Index and General Notes
2-3	Perpendicular Curb Ramp Typical Placement
4	Perpendicular Curb Ramp Component Details
5	One-Way-Directional Perpendicular Curb Ramp Typical Placement
6	One-Way-Directional Perpendicular Curb Ramp Component Details
7	Parallel Curb Ramps Typical Placement
8	Parallel Curb Ramp Component Details
9	Blended Transition Curb Ramp, Depressed Curb Ramp and Diagonal Curb Ramp Typical Placement
10	Blended Transition Curb Ramp Component Details
11	Median Cut-Through and Median Perpendicular Curb Ramp Typical Placement
12-13	Detectable Warning Surface Placement and Configuration
14	Detectable Warning Surface Details

GENERAL NOTES:

- All slopes are absolute rather than relative to the sidewalk or roadway grade. Slopes at least 0.50% less than the maximum are preferred.
- Ramp or Blended Transition.** A ramp or blended transition shall be used to lower or raise the sidewalk to connect with the street or highway.
- Turning Space.** A turning space shall be provided at the top of a perpendicular ramp, bottom of a parallel ramp, or where the pedestrian travel requires a change in direction. A common turning space may be shared by adjacent ramps. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk by a curb, retaining wall, building, or feature over 2 inches in height, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.
- Flared Side.** A flared side shall be used adjacent to a walkable surface. A flared side may be used adjacent to a non-walkable surface. A flared side shall have a maximum slope of 10.00% measured parallel to the back of the curb.
- Return Curb.** A return curb is placed perpendicular to the roadway curb. A return curb may be used adjacent to a non-walkable surface. A return curb shall not be used adjacent to a walkable surface. The return curb may be omitted where the non-walkable surface is flared and the curb adjacent the roadway is tapered to meet the flush curb at the bottom of the ramp.
- Clear Space.** A clear space shall be provided beyond the bottom grade break of a curb ramp wholly contained within the crosswalk and wholly outside the parallel vehicular travel path. The clear space shall have a minimum clear dimension of 4 ft x 4 ft.
- Detectable Warning Surface.** A detectable warning surface shall consist of truncated domes and be placed at each street, highway, or railroad crossing. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and be placed the entire width of a ramp, blended transition, or turning space.
- Running Slope.** The running slope of a ramp, blended transition, or turning space shall be measured parallel to the direction of pedestrian travel.
 - A running slope of 2.00% or less is considered level.
 - A ramp shall have a maximum running slope of 8.33% but shall not require a ramp length to exceed 15 ft.
 - A blended transition shall have a maximum running slope of 5.00%.
 - A turning space shall have a maximum running slope of 2.00%.
- Width.** Unless otherwise noted, minimum width of a ramp, blended transition, or turning space, excluding flared sides or return curb, shall be 4 ft.
- Grade Break.** A grade break at the top and bottom of a ramp, blended transition, or turning space shall be perpendicular to the running slope. Grade breaks shall not be within the ramp, blended transition, turning space, or detectable warning surface. Grade breaks shall be flush. Vertical discontinuities shall not be greater than 1/2 in. Where a discontinuity is greater than 1/4 in. the surface shall be beveled with a slope not steeper than 1V:2H.
- Cross Slope Exceptions.** The cross slope of a ramp, blended transition, or turning space shall be measured perpendicular to the direction of pedestrian travel.
 - The maximum cross slope at a pedestrian street crossing without posted yield or stop control shall be 5.00%.
 - The maximum cross slope at a pedestrian street crossing with posted yield or stop control shall be 2.00%.
 - The maximum cross slope at a midblock crossing shall be the established grade of the adjacent roadway.
- Counter Slope.** A counter slope is the cross slope of the gutter or street adjacent the running slope of the ramp, blended transition, or turning space. See Standard Drawing E 604-SWCR-14 for counter slope details.
- Objects such as a utility cover, vault frame, and grating shall be placed outside the curb ramp.
- Curb ramps shall be placed within the marked crosswalk area.
- Drainage inlets should be located uphill from a curb ramp to prevent ponding in the path of pedestrian travel.

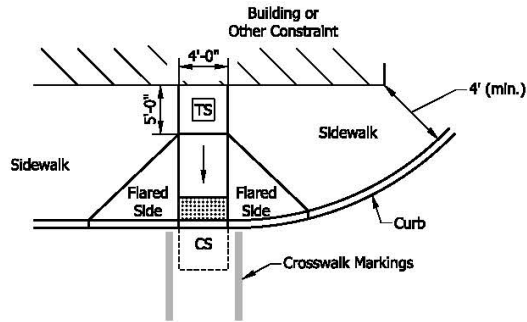


TYPICAL CURB RAMP COMPONENTS

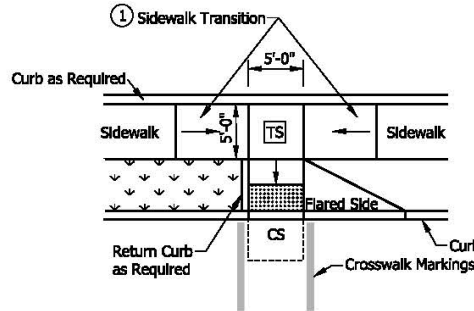
INDIANA DEPARTMENT OF TRANSPORTATION	
CURB RAMP DRAWING INDEX AND GENERAL NOTES	
SEPTEMBER 2018	
STANDARD DRAWING NO.	E 604-SWCR-01
	/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

REVISION TO STANDARD DRAWINGS

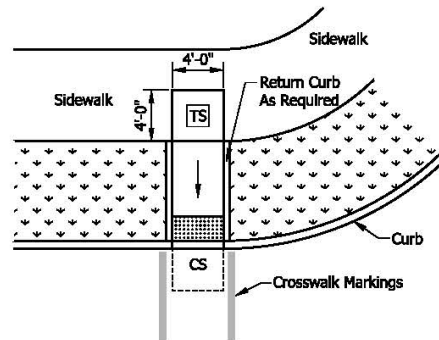
E 604-SWCR-02 PERPENDICULAR CURB RAMP TYPICAL PLACEMENT (no proposed changes)



**PERPENDICULAR CURB RAMP
ADJACENT WALKABLE SURFACE**



TIERED PERPENDICULAR CURB RAMP



**PERPENDICULAR CURB RAMP
ADJACENT NON-WALKABLE SURFACE**

NOTES:

- ① Where insufficient width between the curb and back of sidewalk prevent a standard perpendicular curb ramp running slope, a sidewalk transition may be used to lower the sidewalk grade. The sidewalk transition running slope shall not exceed 8.33%. See Standard Drawing Series E 604-SDWK for sidewalk details.
2. The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.

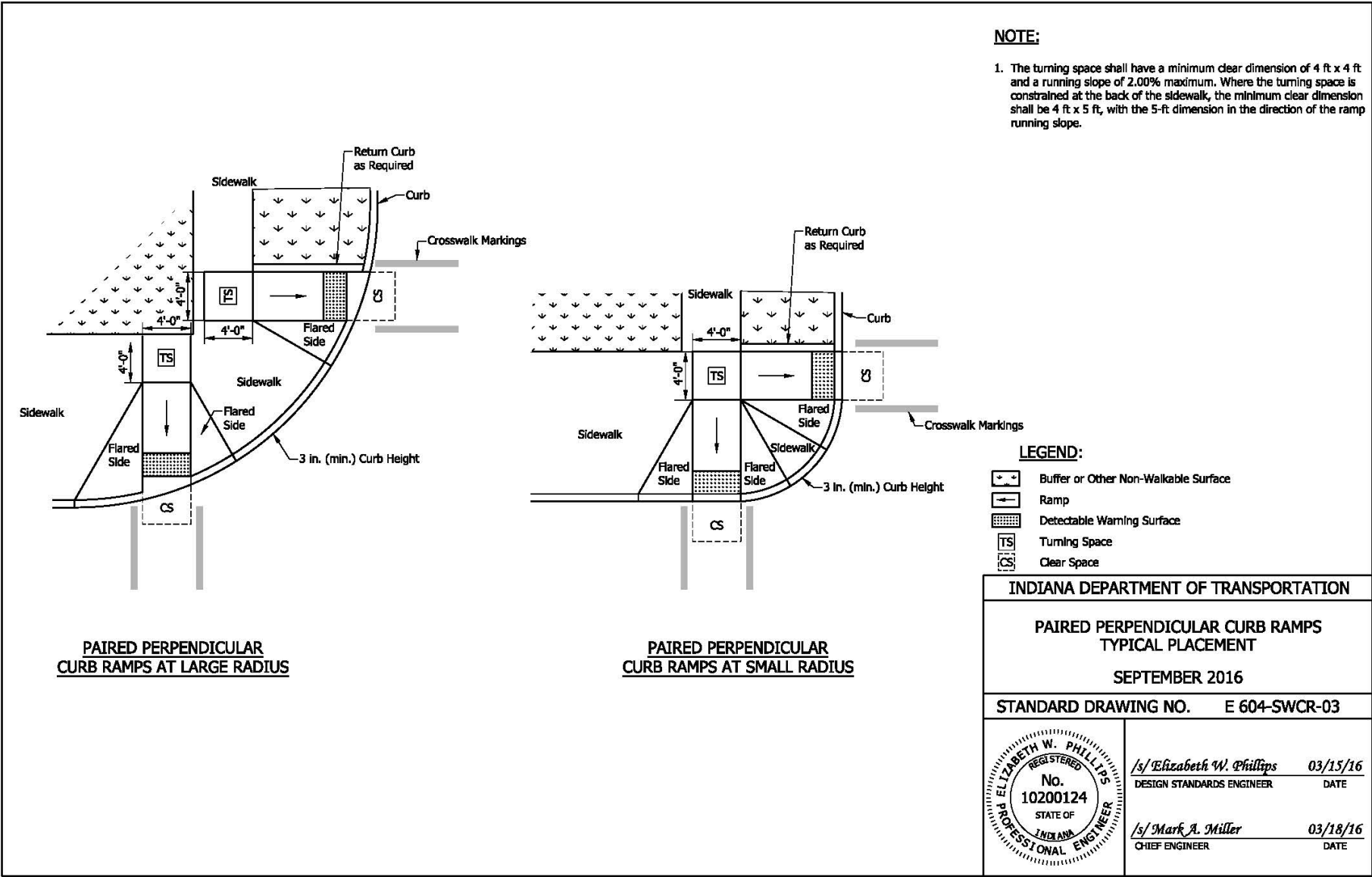
LEGEND:

- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface
- Turning Space
- Clear Space

INDIANA DEPARTMENT OF TRANSPORTATION	
PERPENDICULAR CURB RAMP TYPICAL PLACEMENT	
SEPTEMBER 2018	
STANDARD DRAWING NO.	E 604-SWCR-02
	/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

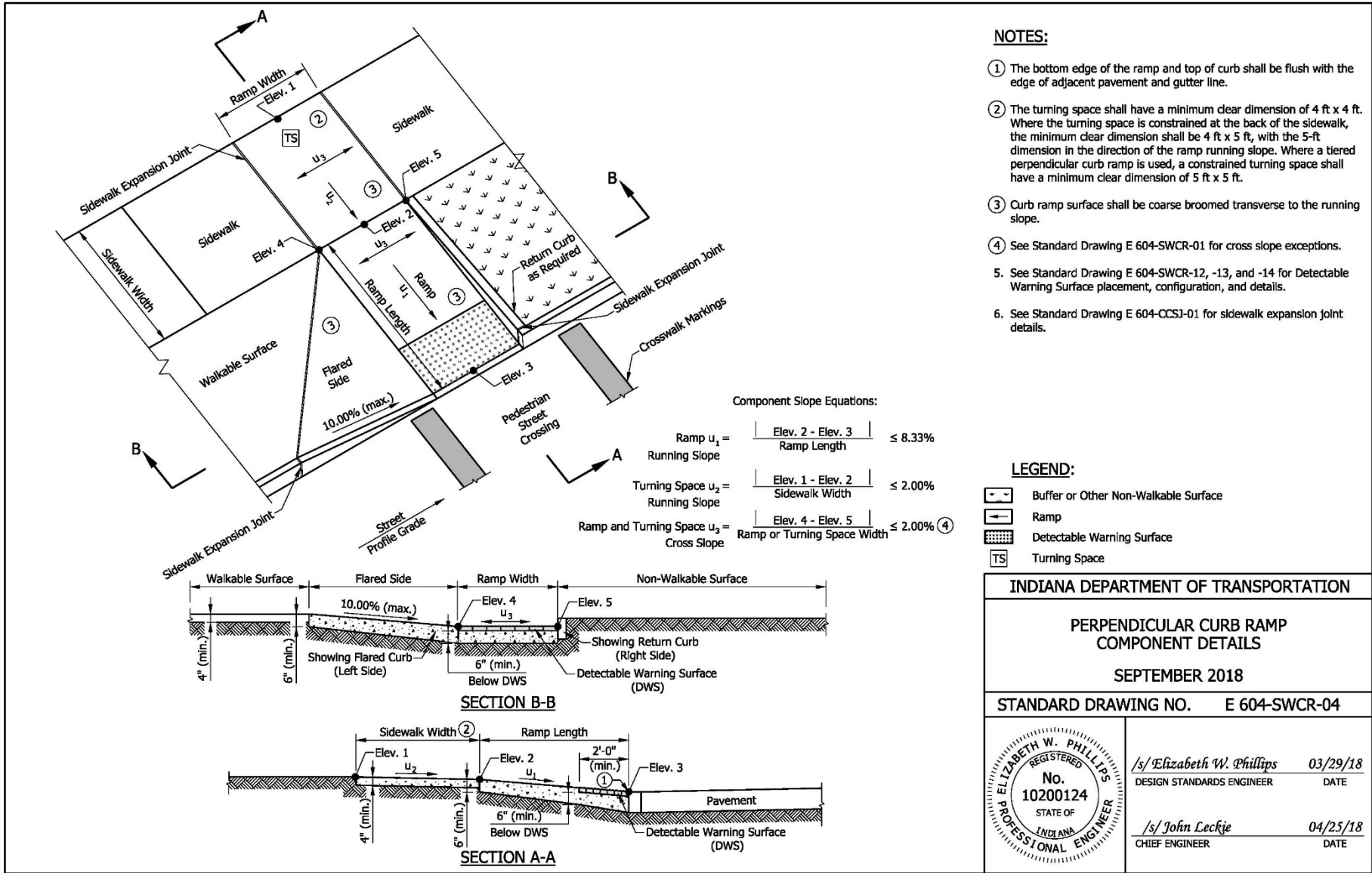
REVISION TO STANDARD DRAWINGS

E 604-SWCR-03 PAIRED PERPENDICULAR CURB RAMPS TYPICAL PLACEMENT (no proposed changes)



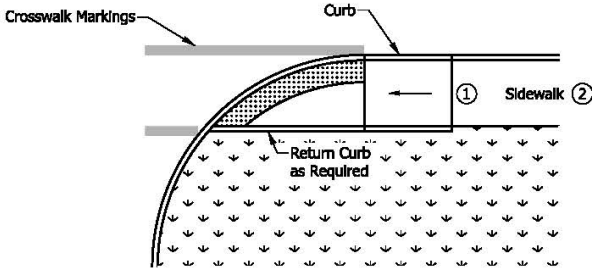
REVISION TO STANDARD DRAWINGS

E 604-SWCR-04 PERPENDICULAR CURB RAMP COMPONENT DETAILS (no proposed changes)

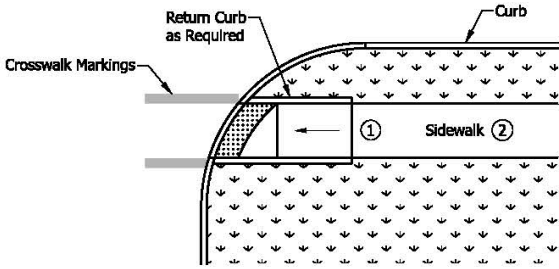


REVISION TO STANDARD DRAWINGS

E 604-SWCR-05 ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP TYPICAL PLACEMENT (no proposed changes)



ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP ADJACENT CURB



ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP WITH BUFFER

NOTES:

- ① A turning space is not required at the top of the ramp for a one-way directional perpendicular curb ramp.
- ② Where there is no buffer between the sidewalk and curb the preferred minimum sidewalk width is 6 ft. Where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SDWK for sidewalk details.

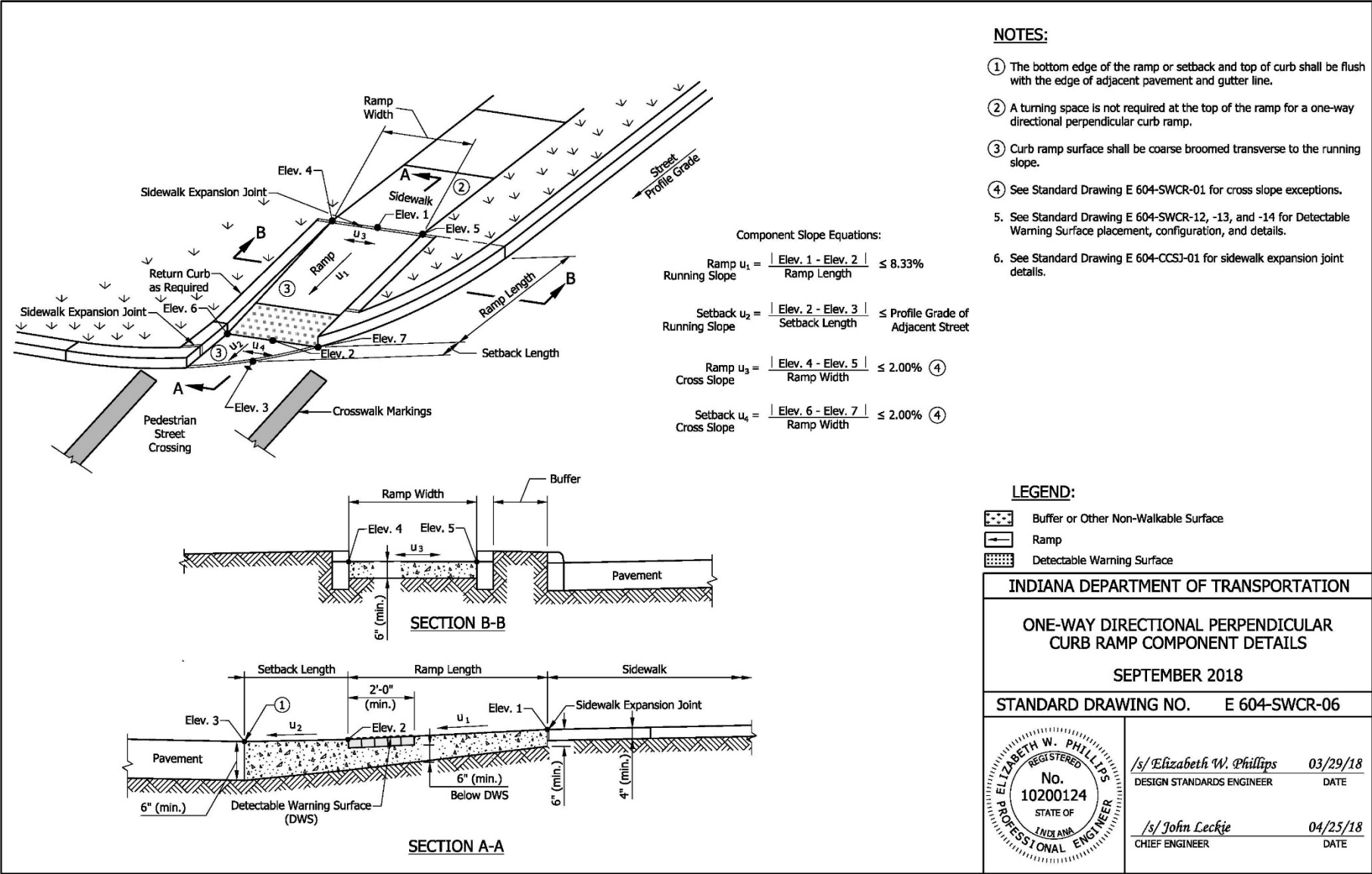
LEGEND:

- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface

INDIANA DEPARTMENT OF TRANSPORTATION	
ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP TYPICAL PLACEMENT	
SEPTEMBER 2016	
STANDARD DRAWING NO. E 604-SWCR-05	
	/s/ Elizabeth W. Phillips 03/15/16 DESIGN STANDARDS ENGINEER DATE
	/s/ Mark A. Miller 03/18/16 CHIEF ENGINEER DATE

REVISION TO STANDARD DRAWINGS

E 604-SWCR-06 ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMP COMPONENT DETAILS (no proposed changes)

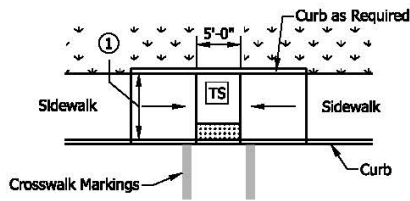


REVISION TO STANDARD DRAWINGS

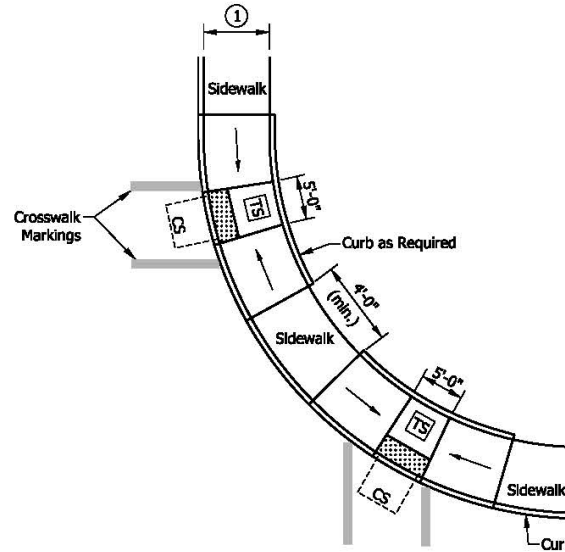
E 604-SWCR-07 PAIRED PARALLEL CURB RAMPS AND MIDBLOCK CROSSING CURB RAMP TYPICAL PLACEMENT (no proposed changes)

NOTES:

- ① Where there is no buffer between the sidewalk and curb the preferred minimum sidewalk width is 6 ft. Where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SDWK for sidewalk details.
2. The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.



MIDBLOCK CROSSING CURB RAMP



PAIRED PARALLEL CURB RAMPS ALONG LARGE RADIUS

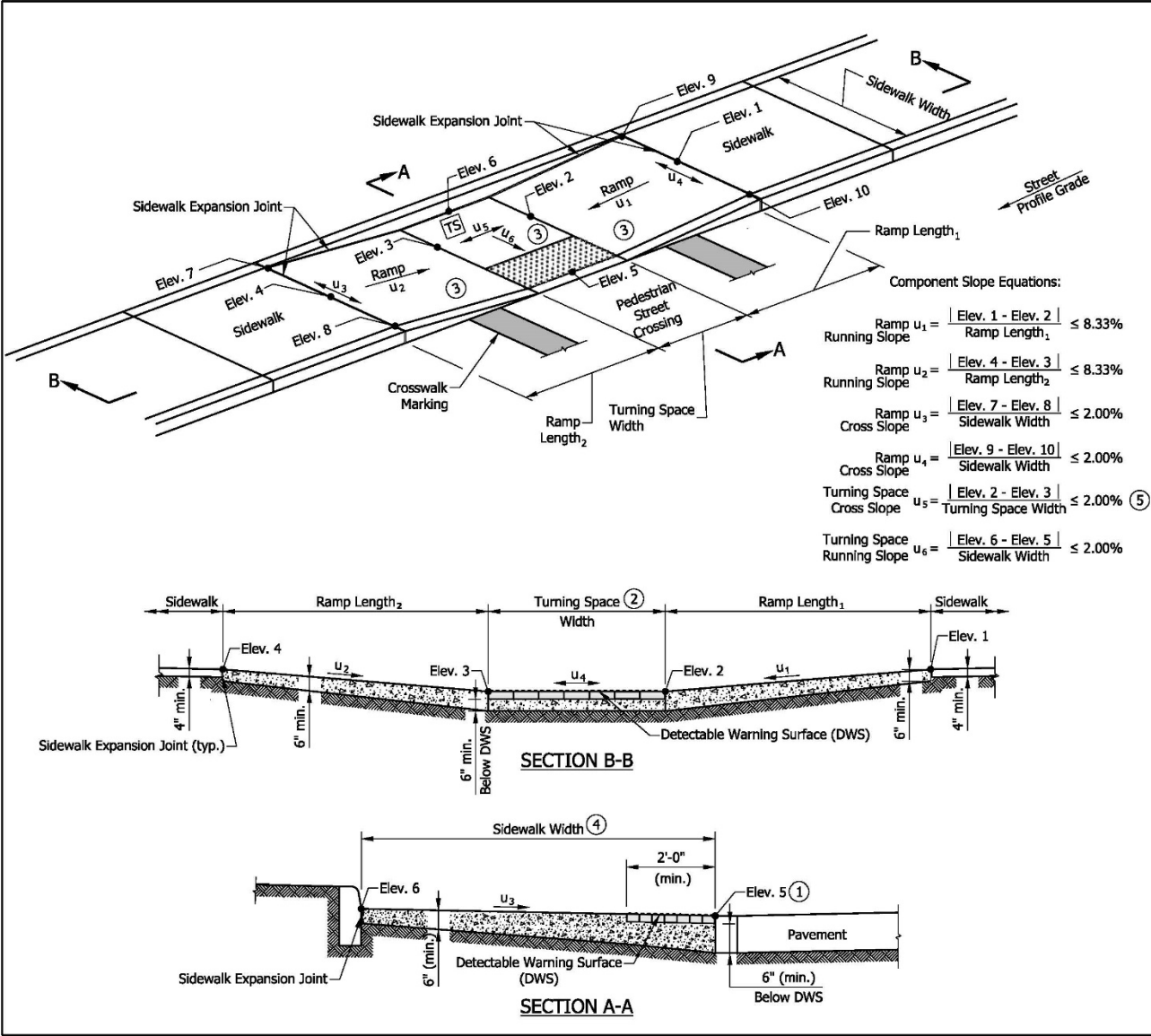
LEGEND:

- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface
- Turning Space
- Clear Space

INDIANA DEPARTMENT OF TRANSPORTATION	
PAIRED PARALLEL CURB RAMPS AND MIDBLOCK CROSSING CURB RAMP TYPICAL PLACEMENT SEPTEMBER 2016	
STANDARD DRAWING NO.	E 604-SWCR-07
	<i>/s/ Elizabeth W. Phillips</i> 03/15/16 DESIGN STANDARDS ENGINEER DATE
	<i>/s/ Mark A. Miller</i> 03/18/16 CHIEF ENGINEER DATE

REVISION TO STANDARD DRAWINGS

E 604-SWCR-08 PARALLEL CURB RAMP COMPONENT DETAILS (no proposed changes)



NOTES:

- ① The bottom edge of the turning space and top of curb shall be flush with the edge of adjacent pavement and gutter line.
- ② The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.
- ③ Curb ramp surface shall be coarse broomed transverse to the running slope.
- ④ Where there is no buffer between the sidewalk and curb, the preferred minimum sidewalk width is 6 ft. Where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SDWK for sidewalk details.
- ⑤ See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
6. See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
7. See Standard Drawing E 604-CCSJ-01 for sidewalk expansion joint details.

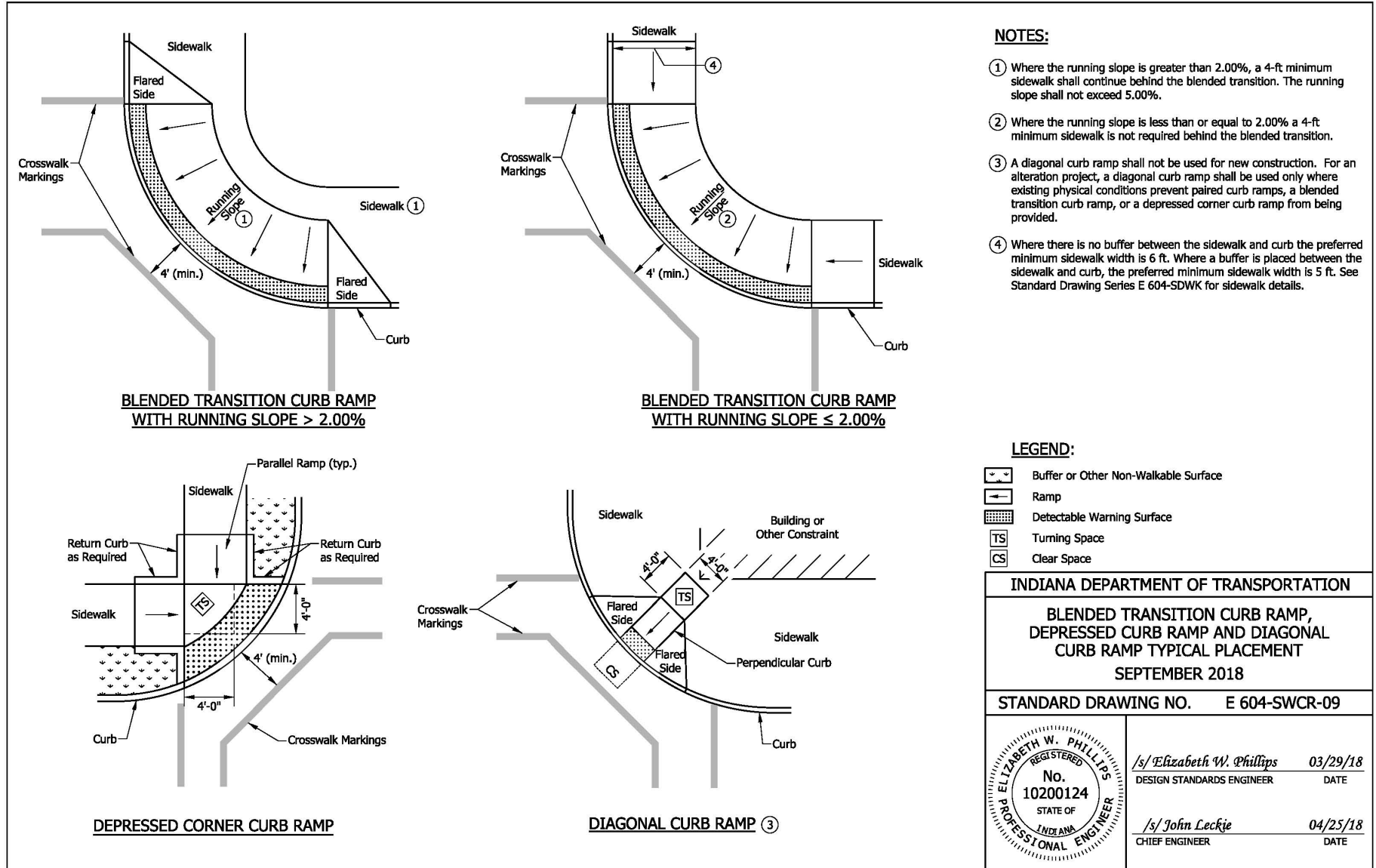
LEGEND:

- Ramp
- Detectable Warning Surface
- Turning Space

INDIANA DEPARTMENT OF TRANSPORTATION	
PARALLEL CURB RAMP COMPONENT DETAILS	
SEPTEMBER 2018	
STANDARD DRAWING NO. E 604-SWCR-08	
	/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckje 04/25/18 CHIEF ENGINEER DATE

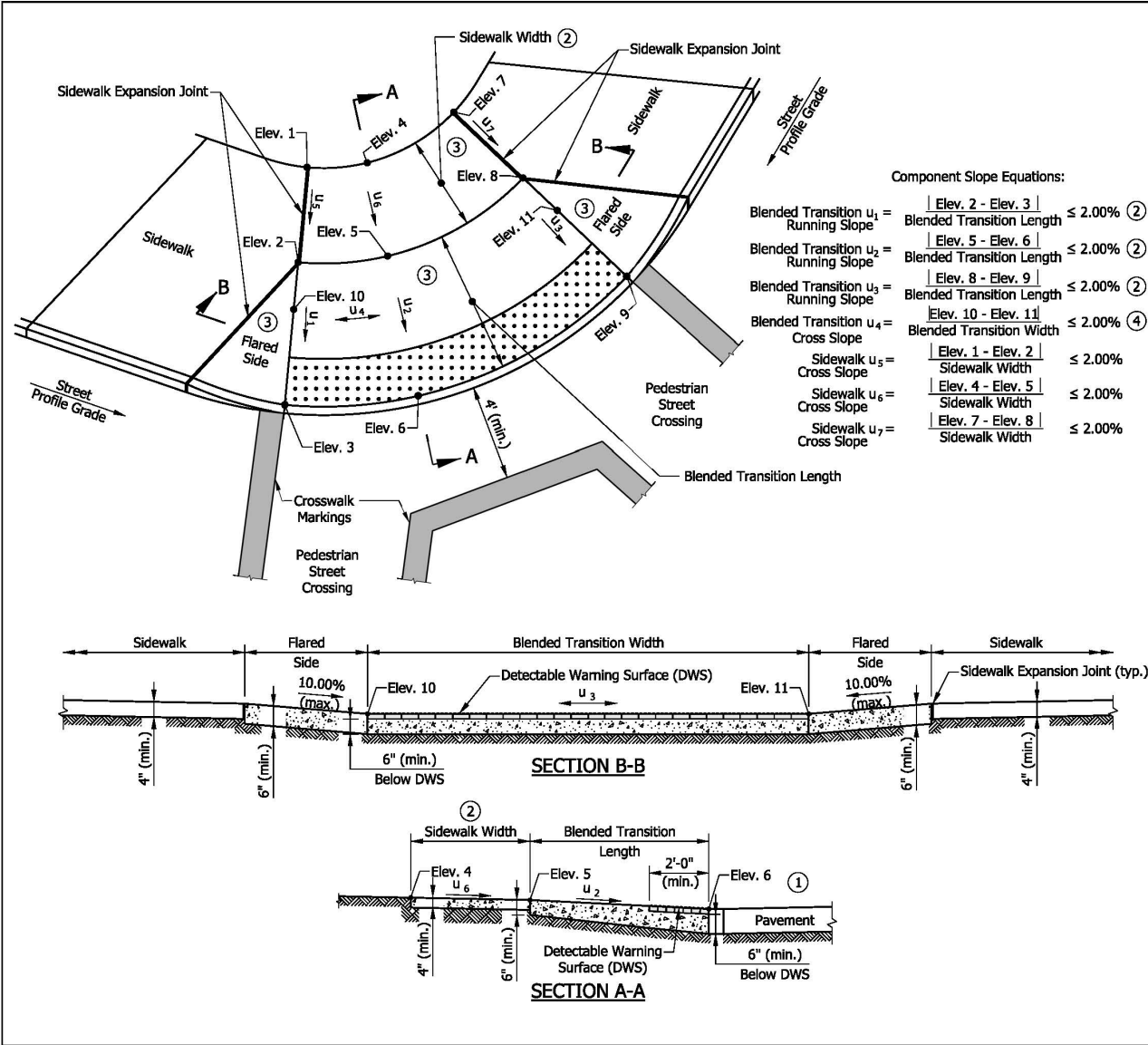
REVISION TO STANDARD DRAWINGS

E 604-SWCR-09 BLENDED TRANSITION CURB RAMP, DEPRESSED CURB RAMP AND DIAGONAL CURB RAMP TYPICAL PLACEMENT (no proposed changes)



REVISION TO STANDARD DRAWINGS

E 604-SWCR-10 BLENDED TRANSITION CURB RAMP COMPONENT DETAILS (no proposed changes)



Component Slope Equations:

Blended Transition u_1 = Running Slope $\frac{|Elev. 2 - Elev. 3|}{Blended\ Transition\ Length} \leq 2.00\%$ ②

Blended Transition u_2 = Running Slope $\frac{|Elev. 5 - Elev. 6|}{Blended\ Transition\ Length} \leq 2.00\%$ ②

Blended Transition u_3 = Running Slope $\frac{|Elev. 8 - Elev. 9|}{Blended\ Transition\ Length} \leq 2.00\%$ ②

Blended Transition u_4 = Cross Slope $\frac{|Elev. 10 - Elev. 11|}{Blended\ Transition\ Width} \leq 2.00\%$ ④

Sidewalk u_5 = Cross Slope $\frac{|Elev. 1 - Elev. 2|}{Sidewalk\ Width} \leq 2.00\%$

Sidewalk u_6 = Cross Slope $\frac{|Elev. 4 - Elev. 5|}{Sidewalk\ Width} \leq 2.00\%$

Sidewalk u_7 = Cross Slope $\frac{|Elev. 7 - Elev. 8|}{Sidewalk\ Width} \leq 2.00\%$

NOTES:

- ① The bottom edge of the blended transition and top of curb shall be flush with the edge of adjacent pavement and gutter line.
- ② Where the running slope is less than or equal to 2.00% a 4-ft minimum sidewalk is not required, behind the blended transition. Where the running slope is greater than 2.00%, a 4-ft minimum sidewalk shall continue behind the blended transition and the running slope shall not exceed 5.00%.
- ③ Curb ramp surface shall be coarse broomed transverse to the running slope.
- ④ See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
5. See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
6. See Standard Drawing E 604-CCSJ-01 for sidewalk expansion joint details.

LEGEND:

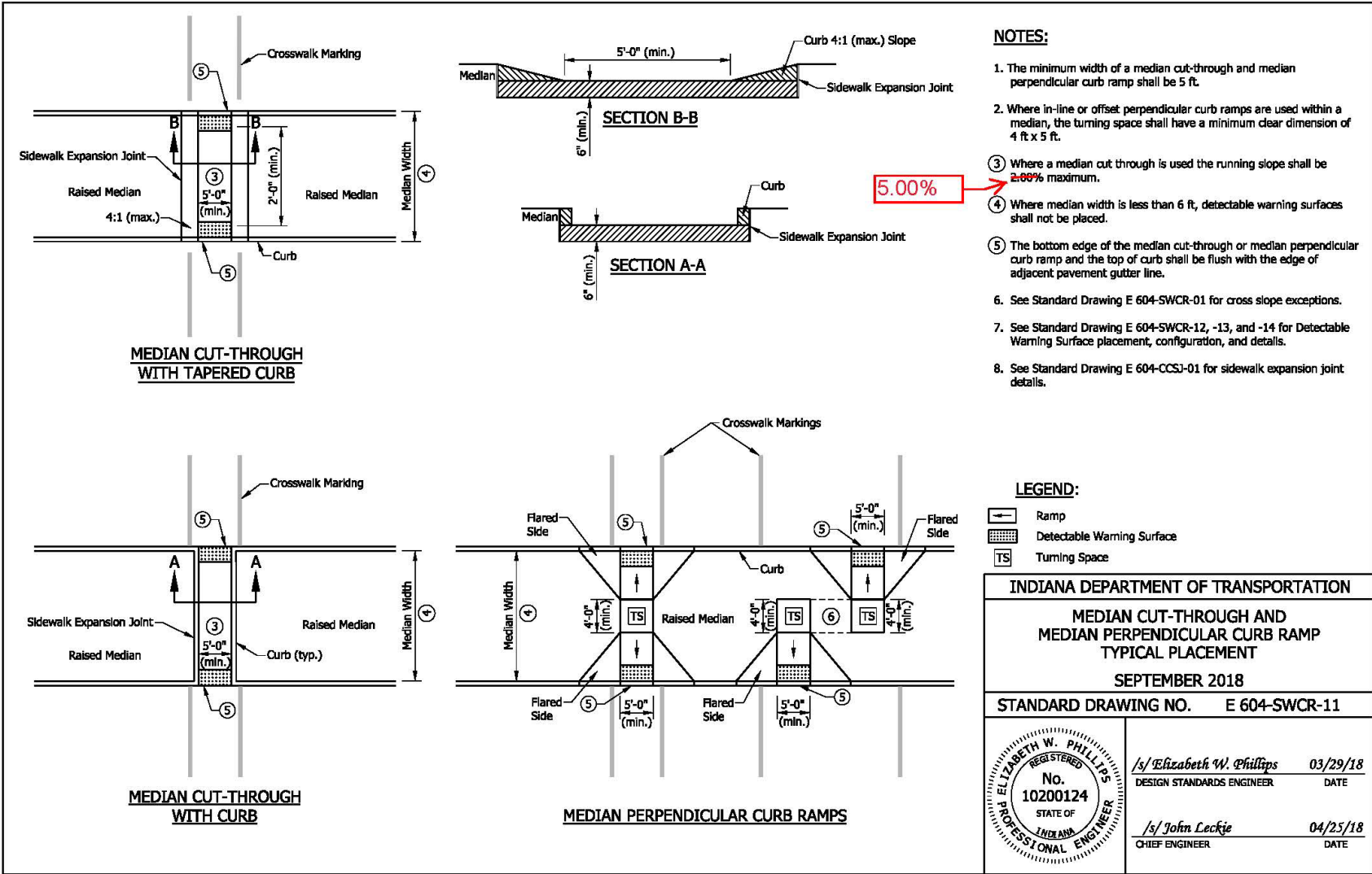
- Ramp
- Detectable Warning Surface

INDIANA DEPARTMENT OF TRANSPORTATION	
BLENDED TRANSITION CURB RAMP COMPONENT DETAILS	
SEPTEMBER 2018	
STANDARD DRAWING NO. E 604-SWCR-10	
	/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

REVISION TO STANDARD DRAWINGS

E 604-SWCR-11 MEDIAN CUT-THROUGH AND MEDIAN PERPENDICULAR CURB RAMP TYPICAL PLACEMENT (with shown markups)

Standards and Policy, we do not have a finished sheet.



REVISION TO STANDARD DRAWINGS

E 604-SWCR-12 DETECTABLE WARNING SURFACE PLACEMENT AND CONFIGURATION (no proposed changes)

PERPENDICULAR CURB RAMP

PARALLEL CURB RAMP ④

ONE-WAY DIRECTIONAL PERPENDICULAR CURB RAMPS ON A RADIUS ③

BLENDED TRANSITION CURB RAMP ⑤

DEPRESSED CORNER CURB RAMP ⑤ ⑦

LEGEND:

- Buffer or Other Non-Walkable Surface
- Detectable Warning Surface (DWS)
- Ramp
- Grade Break (GB)

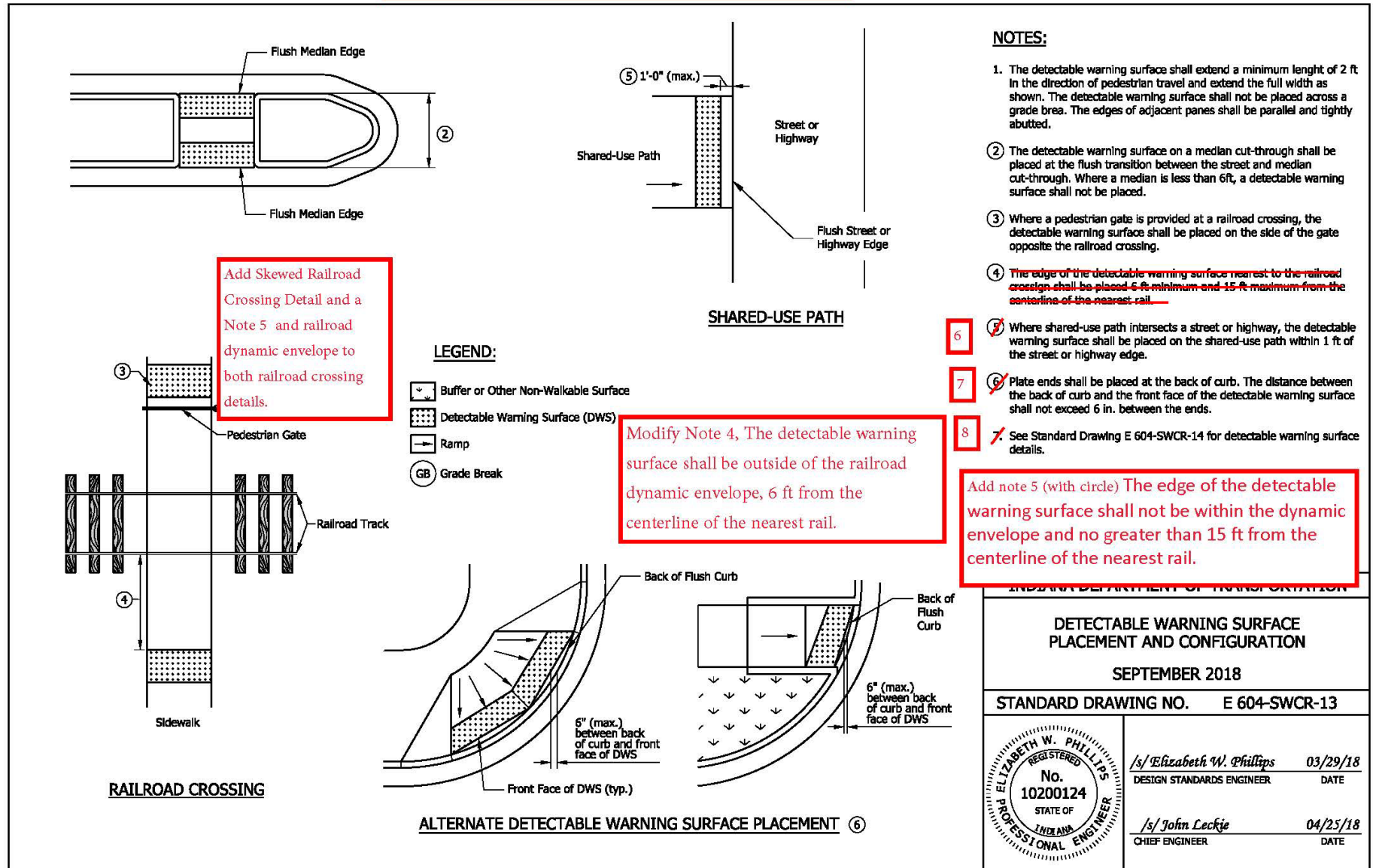
NOTES:

1. A detectable warning surface shall be placed at each street, highway, or railroad crossing. See Standard Drawing E 604-SDWK-03 for a detectable warning surface placement at a sidewalk driveway crossing.
2. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break.
3. Where the distance from the face of the detectable warning surface is 5 ft or less from the back of curb, the detectable warning surface shall be placed perpendicular to the ramp. Where the distance from the face of the detectable warning surface is more than 5 ft from the back of curb, the detectable warning surface shall be placed at the back of curb as shown or in an alternate placement configuration. See Standard Drawing E 604-SWCR-13 for alternate detectable warning surface placement.
4. The detectable warning surface on a parallel curb ramp shall be placed on the turning space at the flush transition between the street and turning space at the back of curb.
5. The detectable warning surface on a blended transition or depressed corner shall be placed at the back of curb as shown or in an alternate placement configuration. See Standard Drawing E 604-SWCR-13 for alternate detectable warning surface placement.
6. See Standard Drawing E 604-SWCR-14 for detectable warning surface details.

INDIANA DEPARTMENT OF TRANSPORTATION	
DETECTABLE WARNING SURFACE PLACEMENT AND CONFIGURATION	
SEPTEMBER 2018	
STANDARD DRAWING NO.	E 604-SWCR-12
	/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

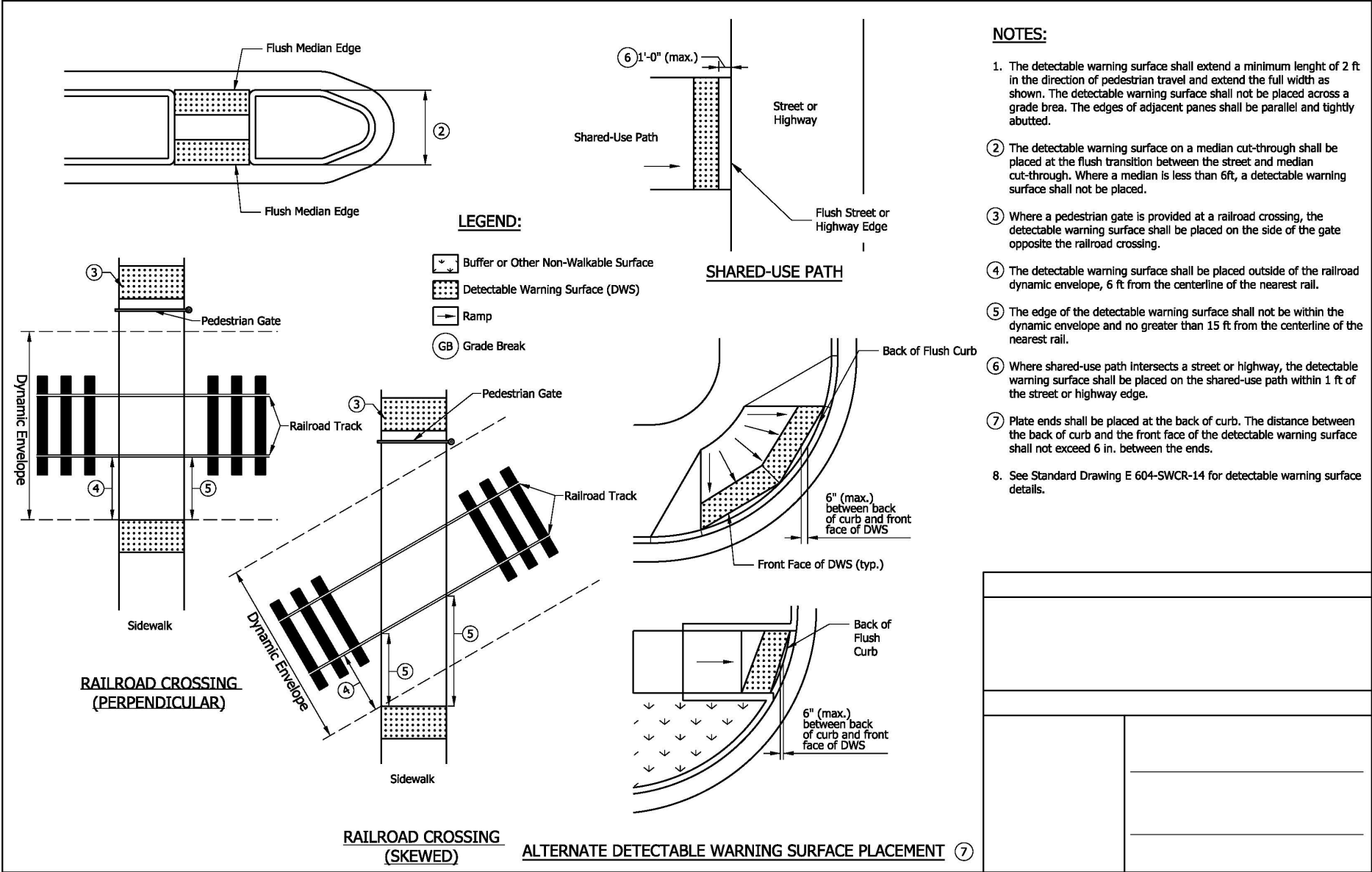
REVISION TO STANDARD DRAWINGS

E 604-SWCR-13 DETECTABLE WARNING SURFACE PLACEMENT AND CONFIGURATION (with shown markups)



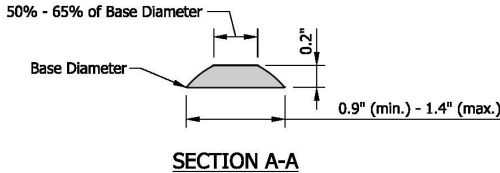
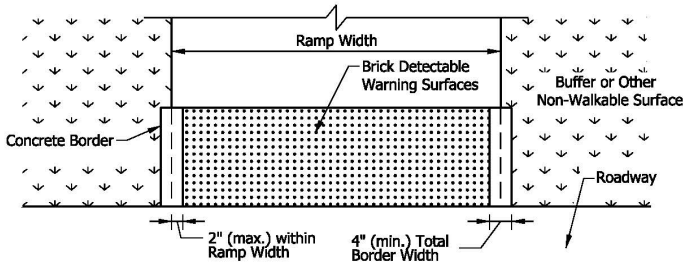
REVISION TO STANDARD DRAWINGS

E 604-SWCR- DETECTABLE WARNING SURFACE PLACEMENT AND CONFIGURATION (proposed draft)



REVISION TO STANDARD DRAWINGS

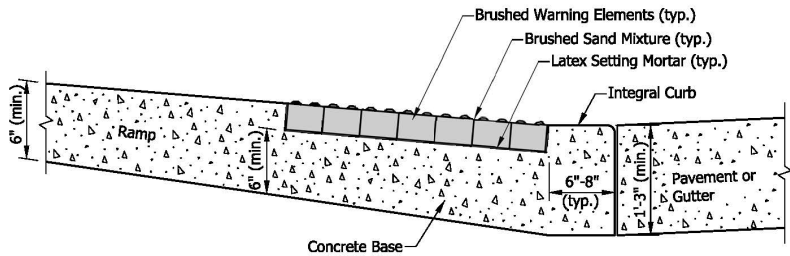
E 604-SWCR-14 DETECTABLE WARNING SURFACE DETAILS (no proposed changes)



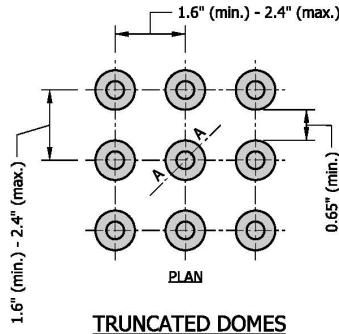
BRICK DETECTABLE WARNING SURFACE WITH CONCRETE BORDER ⑥ ⑦

NOTES:

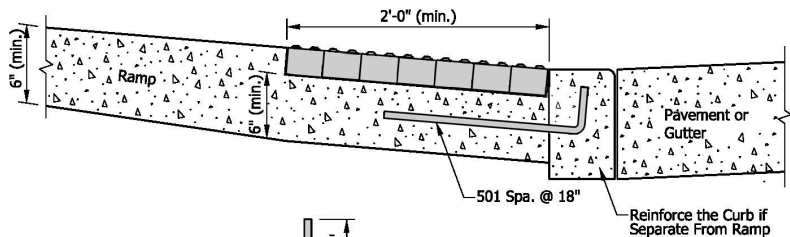
1. Detectable warning surface shall consist of truncated domes. Domes shall be aligned in a square or radial grid pattern with diameter and center-to-center spacing within the ranges specified.
2. The detectable warning surface may be field cut. Truncated dome spacing between adjacent panels shall be within the ranges specified.
3. The detectable warning surface shall contrast visually with adjacent surfaces, either light-on-dark or dark-on-light.
4. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break.
- ⑤ The maximum counter slope of the gutter or street at the bottom of the ramp shall be 5.00%. Where the algebraic difference between the running slope and the counter slope exceeds 1.1%, a 2-ft minimum level strip should be provided at the bottom of the ramp.
- ⑥ Where a concrete border is used for forming, the border shall be cast monolithically with the curb ramp concrete. The concrete border shall not reduce the ramp width by more than 2 in. on each side.
- ⑦ Where forming other than a concrete border is used, the edge restraint shall not encroach upon the ramp width.



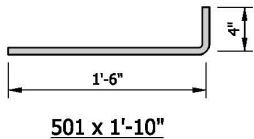
TYPICAL RAMP AND BRICK SURFACE CONSTRUCTION DETAIL



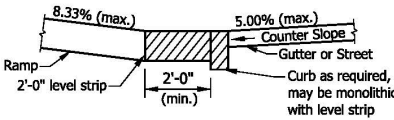
TRUNCATED DOMES



ALTERNATE CURB CONSTRUCTION



501 x 1'-10"



CHANGE OF GRADE > 11% ⑤

INDIANA DEPARTMENT OF TRANSPORTATION	
DETECTABLE WARNING SURFACE DETAILS	
SEPTEMBER 2018	
STANDARD DRAWING NO.	E 604-SWCR-14
	/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
	/s/ John Leckje 04/25/18 CHIEF ENGINEER DATE

COMMENTS AND ACTION

E 604-SWCR-11 and E 604-SWCR-13

DISCUSSION:

This item was introduced and presented by Mr. Orton, assisted by Ms. Smutzer who stated that in Standard Drawing series 604-SWCR, Standard Drawing 604-SWCR-11, note 3, limits the running slope of a median cut-through to 2%. Upon further review of the Proposed Right-of-Way Accessibility Guidelines, PROWAG, and clarification from the US Access Board, the running slope may be a maximum of 5%. Given the geometry of divided highways and intersections, the increase of the maximum running slope will allow for more flexibility in design. In Standard Drawing 604-SWCR-13, there has been some confusion on the offset of a detectable warning surface from a railroad crossing. The current drawing only takes into account a perpendicular crossing of a sidewalk, where many crossings are at a skew. When a railroad crosses a sidewalk at a skew, the designer and the Contractor must take into account the minimum and maximums within the PROWAG and the location of the railroad dynamic envelope.

Mr. Orton proposed to change note 3 in Standard Drawing 604-SWCR-11, to state where a median cut-through is used, the running slope shall be 5.00% maximum. And in Standard Drawing 604-SWCR-13, add a skewed railroad crossing detail, add dynamic envelope lines to both railroad crossing details, modify note 4 to define the dynamic envelope location, and add a note to give the minimum and maximum offset of a detectable warning surface in relationship to the dynamic envelope and the nearest rail.

There was no further discussion and this item passed as submitted.

	<u>Action:</u>
Motion: Mr. Orton	<input checked="" type="checkbox"/>
Second: Mr. Boruff	<input type="checkbox"/>
Ayes: 10	<input type="checkbox"/>
Nays: 0	<input type="checkbox"/>
FHWA Approval: YES	<input type="checkbox"/>
2022 Standard Specifications Sections referenced and/or affected: 604 begin pg. 501.	<input type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provisions or Plan Details:	<input type="checkbox"/> Create RSP (No. __) Effective:
Standard Drawing affected: 604-SWCR-11 and -13	<input type="checkbox"/> Revise RSP (No. __) Effective:
Design Manual Sections affected: 51-1.04(02), the running slope is not mentioned in the IDM, no changes to the IDM only the standard drawing.	<input checked="" type="checkbox"/> Standard Drawings: E 604-SWCR series Effective: September 1, 2023
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. __) Effective: <input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: RSP maintenance is burdensome. The earliest dated copy of this RSP is January 1, 1999.

PROPOSED SOLUTION: Move 202-L-013 to the 2024 standard specifications book.

APPLICABLE STANDARD SPECIFICATIONS: 202.14

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: 202-L-013

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Sunset RSP with the release of the 2024 Standard Specifications

IMPACT ANALYSIS (attach report):

Submitted By: Patrick Patterson (vie Kurt Pelz)

Title: Field Engineer

Division: Construction Management

E-mail: ppatterson1@indot.in.gov

Date: 2/7/2023

IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval.
Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? N/A

Will approval of this item affect the Qualified Products List (QPL)? No

Will this proposal improve:

Construction costs? No

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? No

Design process? Yes

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: If this is placed on the agenda and approved, maintaining and adding the RSP can be stopped, reducing the workload of designers, project managers, and construction management.

REVISION TO 2022 STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

202-L-013 INSPECTION AND TESTING FOR ASBESTOS MATERIALS (proposed to incorporate into 2024 SS)

Currently used Basis for Use: "As determined necessary by the **Pre-Engineering** and **Environment.**"

202-L-013 INSPECTION AND TESTING FOR ASBESTOS MATERIALS

(Revised 04-25-21)

The Standard Specifications are revised as follows:

SECTION 202, AFTER LINE 754, INSERT AS FOLLOWS:

The cost of inspecting structures for asbestos materials, the collecting of samples, and all necessary laboratory procedures shall be included in the cost of testing for asbestos.

FINAL DRAFT MINUTES

COMMENTS AND ACTION

202.14 Basis of Payment

DISCUSSION:

This item was introduced and presented by Mr. Pelz, along with Mr. Patterson, who stated that RSP maintenance can be burdensome. The earliest dated copy of RSP 202-L-013 is from 1987 and is used whenever the Testing for Asbestos pay item is used.

Mr. Pelz proposed to move RSP 202-L-013 language to the 2024 standard specifications book.

There was no further discussion and this item passed as submitted.

<p>Motion: Mr. Pelz Second: Mr. Novak Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p><u>Action:</u></p> <p><input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 202.14 pg.148.</p> <p>Recurring Special Provisions or Plan Details: 202-L-013 (proposed to incorporate into 2024 SS)</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications Revise Pay Items List</p> <p><input checked="" type="checkbox"/> Discontinue RSP (No. 202-L-013) Sunset: with 2024 SS, September 1, 2023</p> <p><input type="checkbox"/> Revise RSP (No. __) Effective:</p> <p><input type="checkbox"/> Standard Drawing Effective:</p> <p><input type="checkbox"/> Create RPD (No. __) Effective:</p> <p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>