



**INDOT Updates**



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 INDOT Highway Engineering Director  
 INDOT Bridge Design Conference – February 16, 2021






1

1



2

2

# Information and Communication

- Design Consultant Listserv ➡ Gov Delivery [INDOT Design Consultants]
  - link available from Indiana Design Manual webpage
  - Communication
    - Design Memos - changes to design policies, procedures, and criteria
    - Construction Memos
    - Training opportunities, surveys
- 2021 *Standard Drawings* – eff. September 2021
  - Published every year
- 2022 *Standard Specifications* – eff. September 2021 (Constr. Management)
  - Published on 2-year cycle
  - Get the news first from Standards Committee webpage
- Recurring Special Provisions Menu (Constr. Management)
  - Quarterly updates
  - Applicable menu is based on contract letting date, not RFC date. Available from the Standards Committee webpage

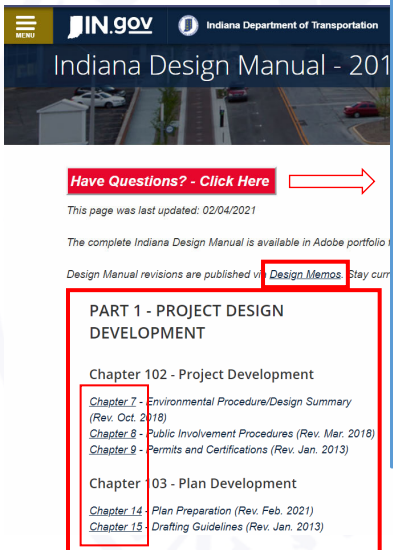


3

3

# Webpages to Bookmark – Indiana Design Manual

- IDM <https://www.in.gov/indot/c>



**Have Questions? - Click Here**

*Listed below are topics with links to the email of their corresponding content owner.*

*Americans with Disabilities Act (ADA)*

*Part 1 - Project Design Development*

*Part 2 - Hydrology and Hydraulics*

*Part 3 - Roadway Design*

*Part 4 - Structural (bridge Design)*

*Part 5 - Traffic and Safety*

*Part 6 - Pavement Design*

*INDOT Standard Specifications*

**Have Questions? - Click Here**

*This page was last updated: 02/04/2021*

*The complete Indiana Design Manual is available in Adobe portfolio*

*Design Manual revisions are published via Design Memos. Stay current*

**PART 1 - PROJECT DESIGN DEVELOPMENT**

Chapter 102 - Project Development

*Chapter 7 - Environmental Procedure/Design Summary (Rev. Oct. 2018)*

*Chapter 8 - Public Involvement Procedures (Rev. Mar. 2018)*

*Chapter 9 - Permits and Certifications (Rev. Jan. 2013)*

Chapter 103 - Plan Development

*Chapter 14 - Plan Preparation (Rev. Feb. 2021)*


*Chapter 15 - Drafting Guidelines (Rev. Jan. 2013)*

Chapter 203 - Hydraulics and Drainage Design (Rev. Apr. 2017)

*Chapter 50 - Economic Analysis (Rev. Apr. 2016)*

*Chapter 53 - Geometric Design Tables - New Construction/Reconstruction (Rev. Feb. 2019)*

*Chapter 54 - Geometric Design of Existing Freeway (3R) or*



4

4

## Webpages to Bookmark - Designers

- Designers <https://www.in.gov/indot/2731.htm>

### General Design

#### Letting Documents ★

#### Design Submittal

- Road Design
  - ER [Highway Design I](#)
  - ER [Hot Topics and](#)
  - Pla [Exi](#)
  - Co [Complete Stre](#)
  - INDOT [ADA Design](#)
  - INDOT [United State](#)
  - CAD [Public Right](#)
  - [Shared Use](#)
  - [Applying ADA in Wor](#)

### Bridge Design and Bridge Management

#### Bridges

#### Bridg

### Traffic and Traffic Safety

#### Traffic

- [Inter](#)
- [Inter](#)
- [Inter](#)
- [Inter](#)
- [Inter](#)
- [INDI](#)
- [Indi](#)
- [Fede](#)
- [Stan](#)

### Work Zone Safety

#### Work Zone Safety Homepage

- [INDOT Interstate Highways Congestion Policy](#)
- [INDOT Work Zone Safety & Mobility Policy \(New in 2015\)](#)
- [Additional Work Zone Safety Resources](#)
  - [National Work Zone Safety Information Clearinghouse](#)
  - [Guidelines on the Use of Positive Protection in Temporary Traffic Co](#)
  - [Portable Positive Protection: A Guide for Short Duration and Short T](#)
  - [Guidance: Use of Work Zone Clear Zones, Buffer Spaces, and Positiv](#)
  - [Work Zone Positive Protection Toolbox](#)



5

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6

6

# Information and Communication

Selecting a Letting Effective Date for RSPs

Std. Comm. Mtg. Date	First Available Effective Letting Date		Publish RSP Menu	Final Tracings Submission Due	Ready for Letting Docs to CA	Bid Letting Date	RSP Menu Date Selected to Build CIB
	RSP/RPD Only	w/ Pay Item or Design Change	Std Comm. Mtg Date + 14	30 Days prior to RFC	10 Weeks prior to Letting		
08/20/20	Mar. 2021	Mar. 2021		Mon 10/5/20	Wed 11/4/20	Wed 1/13/21	AUG. 2020 MENU
09/17/20	Mar. 2021	Mar. 2021		Mon 11/2/20	Wed 12/2/20	Wed 2/10/21	
10/15/20	Mar. 2021	June 2021	Thu 10/29/20	Mon 11/30/20	Wed 12/30/20	Wed 3/10/21	NOV. 2020 MENU
11/18/20	June 2021	June 2021		Mon 12/28/20	Wed 1/27/21	Wed 4/7/21	
12/17/20	June 2021	June 2021		Mon 1/25/21	Wed 2/24/21	Wed 5/5/21	
01/21/21	June 2021	Sept. 2021	Thu 2/4/21	Tue 3/2/21	Thu 4/1/21	Special Letting Only (June)	

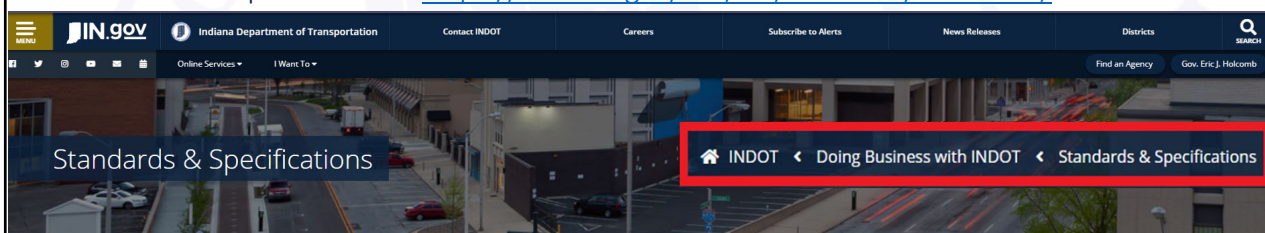


7

7

# Webpages to Bookmark – Standards & Specifications

- Standards & Specifications <https://www.in.gov/dot/div/contracts/standards/>



## Standards, Specifications, and Provisions

- Standards Committee
- Standard Specifications
- Standard Drawings
- Recurring and Unique Special Provisions & Recurring Plan Details
- Special Provisions Technical Advisories have been discontinued as of 08/06/18. The publication schedule for the RSP Menu has been standardized and occurs in February, May, August, and November, approximately 14 days after the preceding Standards Committee meeting. The schedule of Standards Committee meetings, submittals, and distributions is available from the Standards Committee webpage found in the link above titled "Standards Committee."
- Indiana Design Manual

## Memos, Policies, and Instructions

- Design Memorandums
- Construction Memorandums
- Work Zone Safety Mobility Policy
- Interstate Highways Congestion Policy
- General Instructions to Field Employees (GIFE)

8

## 20-03: Bridge Painting

- Revisions to address cleaning paint off the top flange and establish consistent approach to painting isolated steel bridge components
- Revised IDM Figure 17-5K
- New IDM Figure 17-5L (Pay item decision tree)
- Revised to address primer availability issues and compatibility with finish coats

BRIDGE PAINTING LOCATIONS AND INFORMATION							
Contract Bridge No. <sup>(1)</sup>	Des. No.	Bridge File Number	Route and Crossing	Route	Ref. Post	County	Location
1	0000000	165-116-04914 C	I-65 over Clifton St	I-65	116+21	Marion	6.00 mi. N. of I-70

Contract Bridge Number <sup>(1)</sup>	Year Built	Year Last Painted	Existing Primer Type (hazardous or non-hazardous)	No. Spans	Span Lengths	Structural Steel (lbs) <sup>(2)</sup>	Surf. Area Structural Steel (sq ft) <sup>(3)</sup>	New Paint Color Name (number) <sup>(4)</sup>	Additional Information			
									Clean and Paint Casting (each)	Roadway Drain Casting Extension (each)	Clean and Paint Bearing Assy. (each)	Clean and Paint Steel Piling (ft) <sup>(5)</sup>
1	1968	1993	hazardous	3	51'-0" 79'-0" 51'-0"	221	38,789	Green 150260			20	

<sup>(1)</sup> See RSP 101-B-042, Bridge Numbers for Pay Item  
<sup>(2)</sup> Quantities shown are approximate. The Contractor shall determine the quantities upon which to base its bid.  
<sup>(3)</sup> See Standard Specifications section 909.02(a) for allowable color numbers for full bridge painting and section 909.02(d)(4) for partial bridge painting. Color numbers should only be included on the table for color names not listed in 909.02.



## 20-03: Bridge Painting

If project contains ...	And...	Use the following pay items:	Notes
Painting bearing assemblies	Beams are being fully or partially painted	Cost of cleaning and painting of bearings is included in the appropriate clean steel bridge and paint steel bridge pay items, respectively.	The contract bridge number should be included as a pay item supplemental description.
Painting bearing assemblies	Beams are not being fully or partially painted	Clean and Paint Bearing Assemblies, Br. No. (LS) Disposal of Cleaning Waste, [waste type], Br. No. (LS)	QP-1 applies to bridges built after 1994 and is based on the low probability that hazardous materials are present in the existing paint system.
Painting or partial painting steel bridge		Clean Steel Bridge, QP-[1 or 2], Br. No. (LS) Paint Steel Bridge, Br. No. (LS) -or- Clean Steel Bridge, Partial, QP-[1 or 2], Br. No. (LS) Paint Steel Bridge, Partial, Br. No. (LS) -and- Disposal of Cleaning Waste, [waste type], Br. No. (LS)	QP-2 applies to bridges built before 1995 and is based on the likelihood that hazardous materials are present in the existing paint system.
Painting steel piles		Clean and Paint Steel Piling, Br. No. (LS) Disposal of Cleaning Waste, [waste type] <sup>(1)</sup> , Br. No. (LS)	[Waste type] is hazardous or non-hazardous based on the same criteria as QP-1 & QP-2 shown above. See <sup>(1)</sup> for additional considerations for steel piles.
Bridge deck replacement (existing steel beam superstructure)		Clean Steel Bridge, Top Flanges, QP-2*, Br. No. (LS) Disposal of Cleaning Waste, [waste type], Br. No. (LS) * always uses QP-2 designation	
Bridge superstructure replacement or complete bridge replacement (existing steel beam superstructure)		Present Structure, Remove Portions (LS) -or- Present Structure, Remove (LS) (Contractor has option to recycle steel or clean prior to removing from project site. No additional payment)	Indicate the oldest year of any existing structural steel on the plans. This communicates the likelihood of hazardous materials being present.

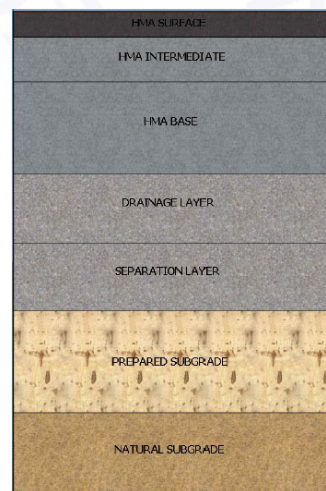
(LS) = Lump Sum





## 20-04: Subgrade Treatments

- Subgrade Treatment Type IB, 14 in. chemical soil modification, divided to indicate the modification material.
  - Type IBC will be used to indicate cement modification.
  - Type IBL will be used to indicate lime modification.
- Subgrade Treatment Type IIA, 8 in. chemical soil modification deleted
- IDM 17-4.02 (01) Subgrade Treatment Types revised to point to the *Standard Specifications* for subgrade descriptions



NextLevel  
INDIANA

11

11

## 20-05: Stormwater Management

- RSP 205-R-706 updated established prices for stormwater management items.
- *Revised* RSP 205-R-706 incorporated Stormwater process review findings (complete overhaul)
  - Updated terminology. “Stormwater management measures (features)” are now “Best Management Practices (BMPs)”
  - Added sections and established unit costs for Protected Resource Signs and Protected Resource Fence.
  - A Stormwater Quality Control Plans (SWQCP) is required only where project includes a waterway permit, Rule 5, or Construction Stormwater General Permit
  - A Stormwater Quality Manager Level 1 or Level 2 determination is only required where the project includes a SWQCP.
  - Deleted SWQCP Preparation and Implementation, [Level 1/Level 2] pay items. Created new separate pay items for SWQCP Preparation and Stormwater Management Implementation. Note that the Stormwater Quality Manager Level is no longer part of the pay item.
- Updated IDM Ch 14 to include submitting for SWQM Determination



NextLevel  
INDIANA

12

12

## 20-05: Stormwater Management

SWQM Level and Pay Item Selection			
If project ...	And...	SWQM Level Determination...	Include the following pay items...
Contains Best Management Practices (BMPs) [formerly Stormwater Management Measures]	Contains a waterway permit (401/404), a 327 IAC 15-5 permit (Rule 5), or Construction Stormwater General Permit (Rule 5)	Is required (Level 1 or Level 2) <sup>(1)</sup>	205-12108 Stormwater Management Budget (DOL) 205-12618 SWQCP Preparation (LS) 205-12616 Stormwater Mgmt Implementation (LS)
Contains Best Management Practices (BMPs)	Does not contain a waterway permit (401/404), a 327 IAC 15-5 permit (Rule 5), or Construction Stormwater General Permit (Rule 5)	Is not required (N/A)	205-12108 Stormwater Management Budget (DOL) 205-12616 Stormwater Mgmt Implementation (LS)
Does not contain Best Management Practices (BMPs)		Is not required (N/A)	No 205 pay items

<sup>(1)</sup> The SWQM Level indicated on the Contract Preparation Document is placed on the proposal page of the Contract Information Book.



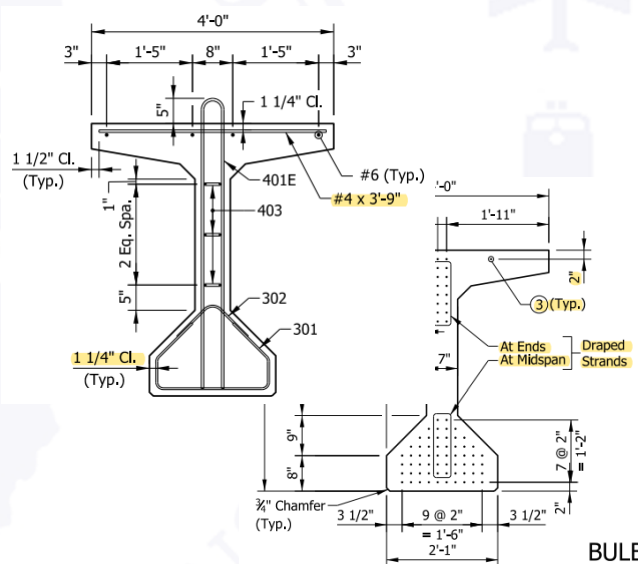
## 20-06 Bridge Load Rating Requests

- Load rating requests submitted through ITAP – Load Rating Request Application
- IDM Chapter 14 updated



## 20-07 Bulb Tee Beam Details

- Call out 2-in. spacing to top strand, all beams
- Dimension 401E bar extending 5 in. above top flange, all beams
- Update variables for beam properties to match common text and reference materials, all beams
- Added row of undraped prestressing strands 2 in. from top, beams with 49-in. and 61-in. top flange widths (“hybrid” bulb tee beams)
- Added 403 bars in web, beams with 49-in. and 61-in. top flange widths (“hybrid” bulb tee beams)

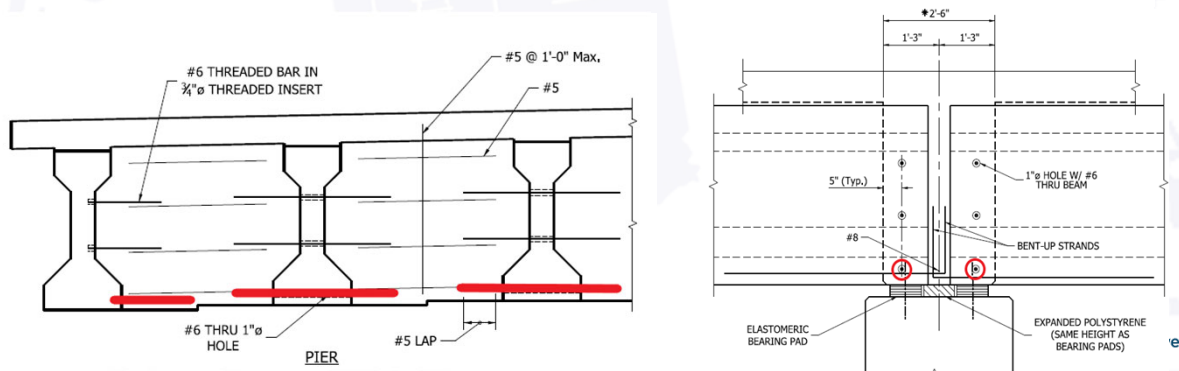


15

15

## 20-08 End Bent and Pier Diaphragm Details

- Removed reinforcing bar placed through the bottom flange for I-beam and Bulb-tee beams.
  - Updated pier diaphragm details (Chapter 406 figures)
  - Updated end bent details (Chapter 409 figures).
- Updated formatting for pier cap sizing and bearing layout details (Chapter 406 figures)



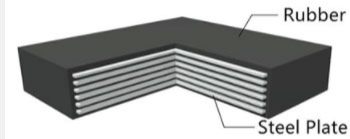
16

16



## 20-11: Elastomeric Bearing Pads

- Updated guidance on the use of tapered load plates/shims
- Bearing pads must be mechanically secured in place (vulcanized)



NextLevel  
INDIANA

17

17

## 20-12: Truck Mounted Attenuators

- Recurring Special Provision 801-T-227 and Recurring Plan Detail 801-T-227d
- TMA pay item (DAYS)
- IDM 503-3.05(04) Positive Protection Devices updated
- Coordination with Construction for use



NextLevel  
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18

18

## 20-13: Level One Controlling Criteria

- Level One geometric design criteria revisions
- To better align INDOT’s guidance with the federal requirements.
- Key Points
  - FHWA revised controlling criteria (for the NHS)
    - Further refined criteria for high-speed and low-speed applications
  - INDOT adopted controlling criteria (for NHS and Non-NHS) + plus additional criteria
    - Memo is an interim measure
    - Level One Checklist revised
    - IDM revisions at a later date
- (Update 10/8/20) All 10 high-speed criteria apply to Freeways and Interstates, including exit and entrance ramps, regardless of design speed.
- Q&A document available from the Highway Design webpage, Training and Resources



Design Criteria – Level One and Level Two Classifications			
	Design Criteria	High Speed (50 mph or higher & Freeways, incl. ramps)	Low Speed (45 mph or lower)
1	Design speed	Level One	Level One
2	Lane width	Level One	Level One only if on the National Truck Network. Otherwise, Level Two.
3	Shoulder width (uncurbed section) <sup>(1)</sup>	Level One	Level Two
4	Bridge clear roadway width <sup>(2)</sup>	Level Two	Level Two
5	Design loading structural capacity	Level One	Level One
6	Horizontal curve, minimum radius	Level One	Level Two
7	Superelevation transition length and distribution	Level Two	Level Two
8a	Stopping sight distance, horizontal curve	Level One	Level Two
8b	Stopping sight distance, vertical curve (crest only)	Level One	Level Two
9	Maximum grade	Level One	Level Two
10	Travel lane cross slope	Level One	Level Two
11	Superelevation rate	Level One	Level Two
12	Minimum vertical clearance	Level One	Level One
13	Americans with Disabilities Act (ADA)	Level One	Level One
	Exceptions are processed as an ADA Technical Inquiry or Technical Infeasibility Determination		
14	Bridge Railing Test Level	Level Two	Level Two

(Update 10/8/20) All 10 high-speed criteria apply to Freeways and Interstates, including exit and entrance ramps, regardless of design speed.

xx	FHWA controlling criteria
xx	Revised FHWA controlling criteria
xx	INDOT-specific criteria

Color coding is for context. Both FHWA and INDOT criteria are applicable to NHS and non-NHS routes.



## Slide 20

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- A4** [Mention was removed] I added the revision in red to table and the description  
Author, 9/25/2020

## 20-16 Proprietary Materials

- Changes first announced in DM 19-11
  - 23 CFR 635.411 (a)-(e) revised such that Federal funds participation no longer restricted when State DOTs specify a trade name for approval in Federal-aid contracts.
  - INDOT's continues to utilize an approval process
  - Highway Design Review Office coordinates all requests during design.
  - Approval by item Highway Engineering, Bridge Engineering, Traffic Engineering
  - Applicable to LPA projects
- IDM Chapter 17 updated
- Proprietary Material Request forms consolidated into a single form.



21

## 20-17 Preprint Changes and Construction Revisions

- IDM Chapter 14 updated
- Preprint Changes
  - Contact information
  - Timeframes for accepting revisions
  - Specific requirement for revising the Schedule of Pay Items (contact [CESsupport@indot.in.gov](mailto:CESsupport@indot.in.gov) for PDF)
- Construction Changes
  - What to include with plan revisions
  - Where to place clouds on replacement sheets
- Figures added to illustrate expectations



22

## 20-17 Preprint Changes and Construction Revisions

Indiana Department of Transportation										
Detail Cost Estimate										
Page 2 of 6										
Proposal ID: B-39002-A			Proposal Description: BRIDGE THIN DECK OVERLAY							
Project ID: 1592467			Federal Project Number: 159246700ST5				State Project Number:			
Project Description: BRIDGE THIN DECK OVERLAY										
Line #	Ref. ID	Description	Alt. Set	Alt. Member	Units	Qty.	Price	Ext. Amount	Fund Package ID	Flags*
0014	401-11785	LIQUID ASPHALT SEALANT			LFT	1,800.000	2.00000	3,600.00	Federal/State 80-20	L
<del>0014</del>	<del>406-06630</del>	<del>ASPHALT FOR TACK COAT</del>			TON	<del>1.000</del>	<del>1,200.00000</del>	<del>1,200.00</del>	<del>Federal/State 80-20</del>	<del>L</del>
0016	507-08272	JOINTS IN PCCP, SAW AND SEAL			LFT	88.000	2.21000	194.48	Federal/State 80-20	L
0017	602-06729	BARRIER, DELINEATOR			EACH	14.000	30.87000	432.18	Federal/State 80-20	L
0018	628-09403	FIELD OFFICE, C			MOS	16.0	1,748.86000	24,484.04	Federal/State 80-20	L
0019	628-11976	COMPUTER SYSTEM EQUIPMENT			EACH	2.000	600.00000	1,200.00	Federal/State 80-20	L
0020	709-51821	SURFACE SEAL, BRIDGE NO. 135-80-07865			LS	1.000	24,025.78000	24,025.78	Federal/State 80-20	L B
0021	722-51852	BRIDGE DECK PATCHING, PARTIAL DEPTH			SFT	143.000	43.72000	6,251.96	Federal/State 80-20	L
0022	736-09456	POLYMERIC CONCRETE BRIDGE DECK OVERLAY			SYS	833.000	42.46000	35,369.18	Federal/State 80-20	L
0023	801-04308	ROAD CLOSURE SIGN ASSEMBLY			EACH	6.000	287.88000	1,727.28	Federal/State 80-20	L
0024	801-06207	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN.			LFT	450.000	1.14000	513.00	Federal/State 80-20	L
0025	801-06625	DETOUR ROUTE MARKER ASSEMBLY			EACH	34.000	111.36000	3,786.24	Federal/State 80-20	L
0026	801-06640	CONSTRUCTION SIGN, A			EACH	30.000	160.52000	4,815.60	Federal/State 80-20	L
0027	801-06775	MAINTAINING TRAFFIC			LS	1.000	20,000.00000	20,000.00	Federal/State 80-20	L B
0028	801-07118	BARRICADE, III-A			LFT	180.000	14.42000	2,595.60	Federal/State 80-20	L
406-05521		ASPHALT FOR TACK COAT			SYS	4,000	\$0.25	\$1,000.00		

23

## 20-18 Shop Drawing Review Procedures

- IDM Chapter 14 updated to remove Shop Drawing and Falsework Review procedures
- Now references the permanent location in the *LPA & State Shop Drawing & Falsework Review Procedure*.
  - INDOT Construction Information webpage, under Construction Management Resources
- Revised Memo identified the review checklist associated with MSE Wall Shop Drawings.

24



## 20-20 APS Studies, Ped Push Buttons, Curb Ramps

- IDM Chapters 51 and 502 updated to reflect changes in the APS Policy (Operations Memo 14-01)
- For a new signal installation, signal modernization, or intersection improvement project, APS is required where pedestrian signals are part of the project.
- Pushbutton details on plans should include
  - Plan view – pushbutton and pb clear space
  - Station and offset. Include the distance between assemblies where two pb provided.
  - Percussive tones or speech walk messages required based on spacing



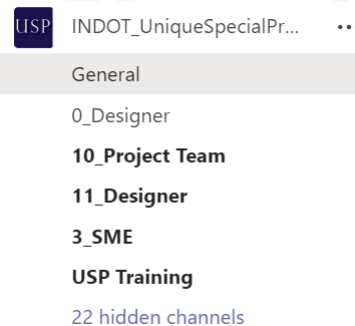
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25

25

## 20-21 USP Process

- USP workflow now in SharePoint, accessible through the INDOT Unique Special Provisions Team via Microsoft Teams
- Must be a team member
- Current FT submission is hybrid process
  - Submit the USP menu through ERMS, complete with location of each USP (SharePoint or ERMS\*)
- July 2021 lettings anticipated for SharePoint only process.
- Use the Teams page for the most up to date guidance

NextLevel  
INDIANA

26

26

## 20-21 USP Process

Standard Specifications Section	Unique Special Provision Title	Document Filename	Comments
100	CONTACTING EMERGENCY SERVICES AND SCHOOL DISTRICTS PRIOR TO CONSTRUCTION	FT UnqSplProv 0000000 for Contract Services.docx	ERMS
100_200	BAT AVOIDANCE AND MITIGATION MEASURES	BatAvoidanceandMitigationMeasures_0000000_0001.docx	SharePoint
105	CONSTRUCTION ENGINEERING	FT UnqSplProv 0000000 for Contract Services.docx	ERMS
108	CRITICAL PATH METHOD SCHEDULING AND FLOAT	CriticalPathMethodSchedulingandFloat_0000000_0001.docx	SharePoint
609	TYPE I-A JOINTS	FT UnqSplProv 0000000 for Contract Services.docx	ERMS
709	FIBER WRAP CONCRETE CASING SYSTEM	FT UnqSplProv 0000000 for Contract Services.docx	ERMS
723	DEWATERING	FT UnqSplProv 0000000 for Contract Services.docx	For Des Number 1111111 only. ERMS



27

27

## 20-22 Mass Concrete

- IDM Chapter 405 updated to provide guidance on mass concrete pours
- Concrete elements with a least dimension greater than 5 feet should be considered mass concrete.
  - Coordination with Division of Materials & Tests (formerly OMM) required
  - USP required
  - Important to consider least dimensions where construction joints are optional



28

28

## 21-01 MSE Walls

- Revised IDM Chapters 14 and 410 for MSE wall initial feasibility reviews and incorporation of an MSE wall checklist
- Initial feasibility review and MSE wall design review checklist are submitted to INDOT Geotechnical Services via email.  
[MSEWallShopDrawings@indot.in.gov](mailto:MSEWallShopDrawings@indot.in.gov)
- Submit Stage 1 plans (after review) for an initial feasibility review
- Submit MSE Wall Design Review Checklist at Stage 3
  - Checklist is available from the Editable Documents webpage.



29

## QUESTIONS



Road Design  
[RoadReviewTeam@indot.in.gov](mailto:RoadReviewTeam@indot.in.gov)

Bridge Design  
[BridgeDesignOffice@indot.in.gov](mailto:BridgeDesignOffice@indot.in.gov)



30