Standards and Policy Updates
2023 Highway Design Conference

Subhi Bazlamit, PE
INDOT Standards and Policy Director
May 9th, 2023

- INDOT Lighting Policy

DM 22-10

- Pre-Bid Meeting Information

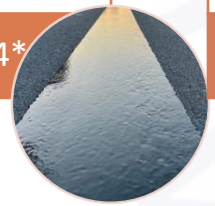
DM 22-11

- Subgrade Treatment for Full Depth Patching

DM 22-12

- Liquid Asphalt Sealant for Milled HMA Corrugations

DM 22-14*



- INDOT 2022 *Standard Drawings*

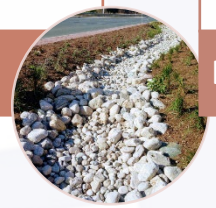
DM 22-15

- Intelligent Transportation Systems (ITS) Update

DM 22-16

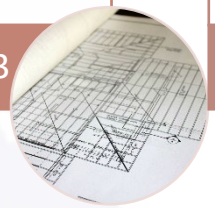
- Post-construction Stormwater Management

DM 22-22



- Engineering Assessment Manual Revisions

DM 22-23



- Cutoff Walls for Box Culverts

DM 22-24*

- Infrastructure Investment and Jobs Act - Build America, Buy America

DM 22-25

- Outlet Protection

DM 23-01

- Void Reducing Asphalt Membrane (VRAM)

DM 23-02

- Stormwater Revisions

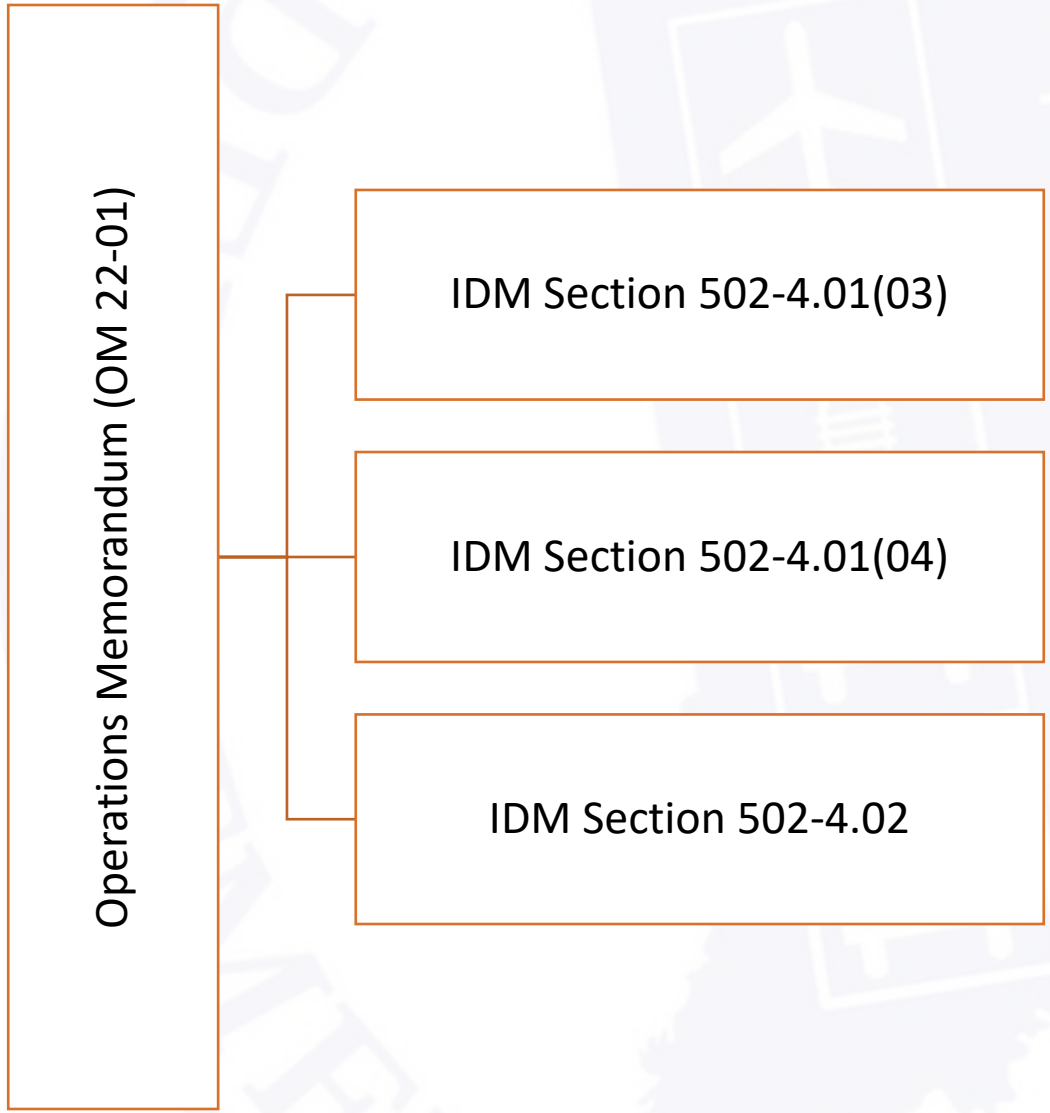
DM 23-03

- Chapter 503 Updates

DM 23-04

NextLevel INDIANA

DM 22-10 INDOT Roadway Lighting Policy



Effective for all projects in Stage 1 Plan Submittal on or after July 1, 2022

Either full or partial lighting will be provided for all freeway interchanges

Lighting will be provided on freeway segments with more than 6 continuous lanes total for both travel directions

Lighting is required at certain types of alternative intersections; at other types it should be considered on a location-by-location basis

Lighting will be provided for urban segments that have certain features or exhibit a significant amount of use related to pedestrians and bicyclists

Approval authority for removal of existing lighting systems is with the District for lighting based on site-specific study and with the central office for lighting prescribed by policy.

NextLevel INDIANA

INDOT Roadway Lighting Policy

Lighting at Roundabouts NCHRP *Report 672*

- Central circulatory roadway and extend at least 400 ft from the circulatory on all approaches
- Pedestrian crosswalks and/or splitter islands
- Remaining limits can be delineated by RPM's

Full Lighting

- Displaced Left
- Jughandle
- Green T

Partial Lighting

- Restricted Crossing U Turn (RCUT)
- Reduced Conflict Intersection (RCI)
- Michigan Boulevard Left

Lighting ?

- Quadrant Roadway
- Rural Signalized Conventional Intersections

DM 22-11 Pre-Bid Meeting Notification

- Pre-bid meeting notification and sign-in sheet templates have been created to ensure consistent information is provided to bidders and Contract Administration personnel when a pre-bid meeting is held prior to letting.

Design Submittal	N/A	Pre-bid Template Pre-bid example Pre-bid Sign-In Sheet Template

- The designer should complete the pre-bid meeting notification form and upload it to ERMS with the Final Tracings package
- The project manager must coordinate with the Contract Administration Planner prior to submitting the pre-bid information. The information will be added to the contract information book.
- After the pre-bid meeting, the meeting minutes and sign-in sheet must be uploaded to ERMS and posted with the contract document additional information so that it can be referenced by bidders.

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DM 22-12 Subgrade Treatment for Full Depth Patching

- Compaction issues have been associated with Type ID in patching sections inaccessible to rollers.
  - Where the project geotechnical report or soils waiver includes a subgrade treatment recommendation of Type ID
  - Associated with either PCCP, or HMA full depth patching
  - The designer should contact the INDOT Division of Geotechnical Services, for a revised recommendation .

DM 22-14 Liquid Asphalt Sealant for Milled HMA Corrugations

- Designer should add a supplemental description

  Rapid Penetrating Emulsion "*RPE*" to the pay item for liquid asphalt sealant

  401-11785 Liquid Asphalt Sealant, *RPE*

  For all rumble strips and stripes corrugations

For projects that contain either of the following pay items for centerline or edge line rumble stripes, the supplemental pay item description "*RPE*" should be added as shown below for all corrugations on the project, regardless of whether they are for rumble stripes or rumble strips:

Pay Item	Pay Item Description	Unit
606-12399	Milled HMA Corrugations, Conventional	LFT
606-12400	Milled HMA Corrugations, Sinusoidal	LFT

Pay Item	Pay Item Description	Unit
401-11785	Liquid Asphalt Sealant, *RPE*	LFT

Recurring special provisions 401-R-736 for QC/QA on HMA pavement.
and 902-M-062 for asphalt materials allow contractors to use RPE as the liquid asphalt sealant

E 606-SHCG Pavement Corrugations, Rumble Strips, and Rumble Stripes

DM 22-16 Intelligent Transportation Systems (ITS) Update

- New technologies and installations have been added,
- IP-based communication protocols
- Wireless magnetometers
- Monopoles,
- Third-party internet service providers, Roadside Weather Information Systems (RWIS), and
- Truck Parking Information Management System (TPIMS)
- Site safety and accessibility standards have been established.
- Networking guidance has been simplified and updated to IP-based communication protocols.
- Communication design standards have been updated, including adding additional fiber optic cable network design standards

DM 22-22 Post-construction Stormwater Management

- As of December 18, 2021, **Rule 5** is replaced by the Construction Stormwater General Permit (**CSGP**)
- Includes implementation of Post-construction Stormwater Management Measures to manage quality and quantity

DM 22-22 Post-construction Stormwater Management

- INDOT has developed a *Post-construction Stormwater Management* guidance document as a resource for implementing the CSGP requirements
- This document supplements the guidance in *Indiana Design Manual* (IDM) Section 203-5.0, Stormwater Management and Detention.

- **When are post-construction stormwater management measures required?**

- A project should be evaluated for inclusion of one or more post-construction stormwater management measures when both of the following conditions are satisfied:

- A CSGP is required where the project has one acre or more of land-disturbing activity, including staging areas for construction, and

- The project includes one acre or more of new impervious surface

PDP Milestone	Added Impervious Surface <1 acre	Added Impervious Surface ≥ 1 acre and < 3 acres	Added Impervious Surface ≥ 3 acres
Stage 3 as of November 18, 2022	No action	No action - Project is advanced in development for design changes or additional project commitments	Credit measures already included in design through supporting calculations and designation as a post-construction stormwater measure
Stage 2 as of November 18, 2022	No action	Credit measures already included in design through supporting calculations and designation as a post-construction stormwater measure	Examine for measures to add or modify, consult with PM on acquiring ROW
Stage 1 as of November 18, 2022	No action	Examine for measures to add or modify, consult with PM on acquiring ROW	Examine for measures to add or modify, consult with PM on acquiring ROW
Prior to Stage 1 as of November 18, 2022	No action	Post-construction stormwater measures are required	Post-construction stormwater measures are required

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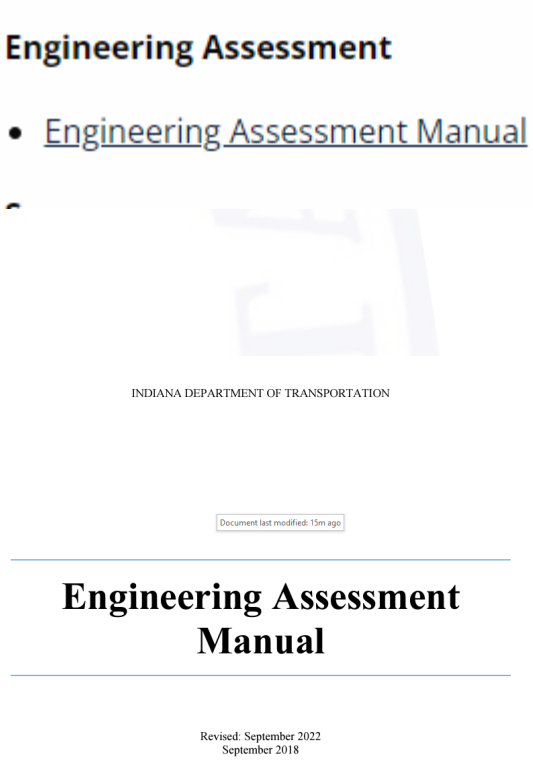
DM 22-23 Engineering Assessment Manual Revisions

- The Engineering Assessment Manual is available from the INDOT Designers webpage

- https://www.in.gov/indot/doing-business-with-indot/consultants/designers/

Section	Title	Revisions
3-3.03(02)	Hydraulic Analysis Requirements	New section. Defines hydraulic requirements for various project work types.
3-3.05(02)	Maintenance of Traffic Plan	Expanded to include identification of significant projects, construction staging, and work zone impacts/costs.
3-3.02(05)	Asset History	New section. Note historical asset projects and check for previous emergency repairs.



Chapter 203 Hydraulics and Drainage Updates

• DM 22-24 Cutoff Walls for Box Culverts

- A clarification is added to require cutoff walls for all box structures with a concrete bottom.

1. Cutoff Wall.

a. Used to prevent piping along the culvert barrel and undermining at the culvert end.

a. Should be used for all box structures with a concrete bottom.

• DM 23-01 Outlet Protection

- The class of riprap used for outlet protection should be sized in accordance with Figure 203-2D
- IDM Figure 203-2D was updated to adjust for the outlet velocity and the structure size

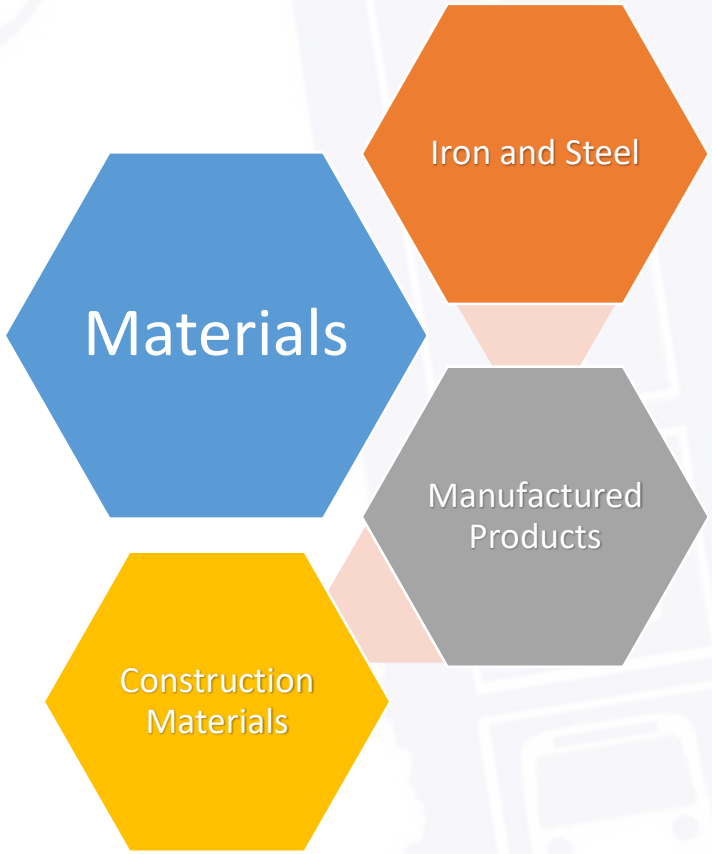
Riprap Sizing for Erosion Protection		Velocity, v (fps)			
		v<6.5	6.5≤v<10	10≤v<13	v>13
Span of Structure, x	x≤2'	Revetment	Revetment	Revetment	Revetment
	2'<x≤2.5'	Revetment	Class 1	Class 1	Class 1
	2.5'<x≤3'	Revetment	Class 1	Class 2	Class 2
	x>3'	Revetment	Class 1	Class 2	Energy Dissipator
Stream Protection		Revetment	Class 1	Class 2	Class 2

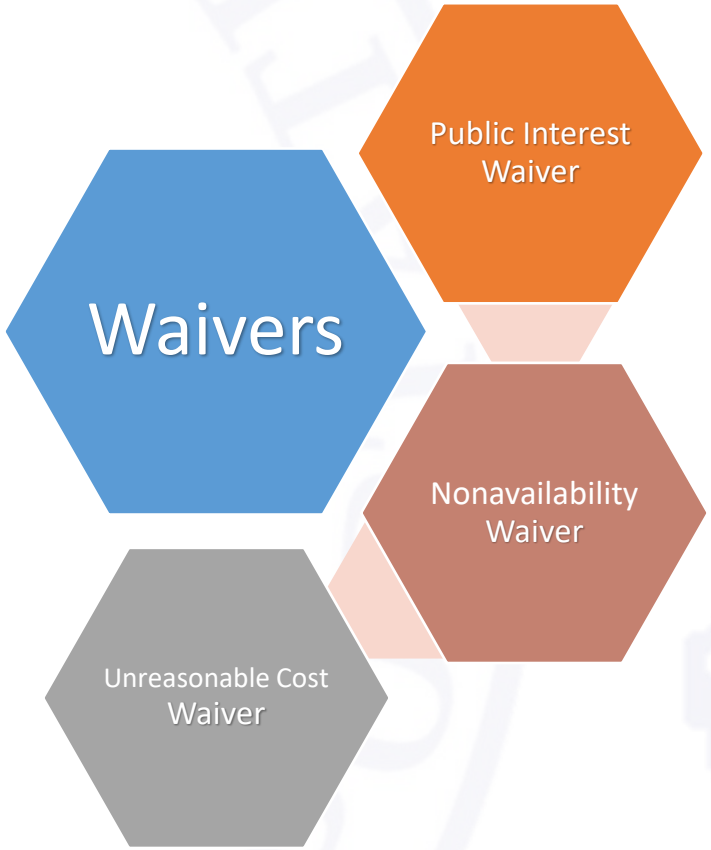
Notes:

1. If clear-zone or other issues prohibit the use of the required erosion-protection method, the Office of Hydraulics should be contacted for additional instructions.
2. Substitution of partially grouted riprap of one size smaller than that recommended in the table may be used.

STREAM VELOCITY FOR EROSION PROTECTION
Figure 203-2D
[Rev. Jan. 2023]

DM 22-25 BABA


Materials
Iron and Steel
Manufactured Products
Construction Materials


Waivers
Public Interest Waiver
Nonavailability Waiver
Unreasonable Cost Waiver

DM 22-25 BABA

RSP Number	Title	A or R	Adopted or Revised Date	Letting Effective Date	Basis for Use
106-C-277	**Build America, Buy America Act Requirements**	A	11-18-22	02-01-23	Required for all **Federal Aid** contracts.
106-C-278	**Buy America Requirements**	A	11-18-22	02-01-23	Required for **100% State-Funded c**ontracts**.**

2023 INDOT Highway Design Conference

Coming Soon

- DM 23-02 Void Reducing Asphalt Membrane for Asphalt Paving
- DM 23-03 Stormwater Revisions
- DM 23-04 Chapter 503 Updates

Coming Soon

- DM 23-02 VRAM

- Should be specified

1. On projects with more than 300 tons of ESAL category 4 HMA surface material used as a mainline pavement. For example: QC/QA-HMA, **4**, 76, SURFACE, 9.5 mm; and

2. On projects with more than 300 tons of SMA mixture surface used as a mainline pavement.

RSP 401-R-750 “Void Reducing Asphalt Membrane for HMA”

The pay item 401-12439 “Void Reducing Asphalt Membrane for HMA”

RSP 410-R-751 “Void Reducing Asphalt Membrane for SMA”

410-12466 “Void Reducing Asphalt Membrane for SMA”

- DM 23-03 Stormwater Management Revisions
- General Permit (CSGP). *Standard Specifications* Section 205, Stormwater Management, has been revised to comply with the permit-based requirements of the Construction Stormwater
- The revisions eliminate the Stormwater Quality Manager (SWQM) Level 1 and Level 2 designations

On contracts with a waterway permit but not with a Construction Stormwater General Permit, a “Waterways SWQM” will be required

On contracts with a Construction Stormwater General Permit (CSGP), either by itself or in conjunction with waterway permits, a “CSGP SWQM” will be required

SWQCP Preparation [205-12618]

Stormwater Management Implementation [205-12616]

Stormwater Management Implementation [205-12616]
SWQCP Preparation [205-12618]

Item	Current Contract Cost Estimate*	Applicable SWQM designation
Stormwater Quality Control Plan (SWQCP)	$5,000	CSGP Only
Stormwater Management Implementation		
Stormwater Management Inspections	$510 per week of the contract term	CSGP Only
SWQM attending Progress Meetings	$510 per each 2-week period from beginning of the contract to the intermediate completion date.	CSGP and Waterways
SWQM	$1000 for SWQM Waterways $1500 for SWQM CSGP	CSGP and Waterways

* It may be appropriate to increase or decrease these dollar amounts based on the size of the project. Guidelines for various project sizes have not been established.

DM 23-04 Chapter 503 Updates

- Chapter 503, Maintenance of Traffic, has been revised to enhance mobility and safety for all road users during construction.
- The revision also provides clarification and additional information on the timing of MOT plan development and plan content.
- Design Memos 21-05, 21-07, and 21-10 have been incorporated with some modification and therefore have been superseded.

2023 INDOT Highway Design Conference

IDM Chapter 503 Revisions

- FHWA has reviewed
- INDOT is finalizing based on FHWA comment
- Revision issued as early as this Spring

IDM Chapter 503 Revisions

Section 503-2.02 → Significant Work Zone Impact Determination

- If not in Engineer's Report, designer should do immediately after NTP is received
- Criteria for making determination is in 503-2.02
  - Revisions being made to INDOT specific criteria
  - No change in determination by Federal Rule-
    - Any Interstate project with a lane closure lasting more than 3 days *AND*
    - In a Transportation Management Area (major urban area)
      - TMAs in Indiana:
        - Cincinnati (all of Dearborn County)
        - Evansville (all of Vanderburgh and Warrick Co.)
        - Fort Wayne (all of Allen Co.)
        - Gary (all of Lake, La Porte, and Porter Cos.)
        - Indianapolis (all of Marion, Boone, Hamilton, Hancock, Hendricks, Johnson, Madison, Shelby Cos.)
        - Louisville (all of Clark and Floyd Cos.)
        - South Bend/Elkhart (all of St Joseph and Elkhart Cos.)

IDM Chapter 503 Revisions

Section 503-2.05(03) → Traffic Control Strategy Selection Hierarchy

- For rural freeways
  - First check to see if existing crossovers are in place and need no work
  - If not consider closure one travel direction at a time
  - If no viable detour route exists, use the crossover strategy

- Exception → Rural Freeway Projects involving a single bridge
  - First consider a runaround with a temporary bridge built in the median
  - If not viable, the hierarchy above is to be used

IDM Chapter 503 Revisions

Section 503-3.01(03) → Schedule of MOT Activities

- Review of Interstate Highway Congestion Policy by Stage 1
  - Proposed MOT Plan comply
  - Early thoughts on mitigation strategies for undesirable impacts to mobility and safety
- MOT Plan drafted by Stage 2
- MOT Plan completed and submitted/Exception Request approved by Stage 3
  - Include elements of the Traffic Operations and Public Information Plans that need to be in the bid package
  - Approved IHCP Exception Request

IDM Chapter 503 Revisions

Section 503-3.01(04) → Work Zone Length

- Physical length/length restricted at one time should be no more than 5 miles
  - Longer work zones lead to operational issues- drivers travel at different speeds within the zones, loose focus
- Exceptions can be made if longer work zone offers a distinct advantage
  - e.g. results in construction not being carried over to another year

IDM Chapter 503 Revisions

Section 503-3.04(02) → Reduced Lane/Shoulder Width on Freeways

- Clarification added- reduction to 11’ lanes, 1’ shoulder only OK at bridges/bridge approaches
- If needed for longer segments a design exception is required.

IDM Chapter 503 Revisions

Section 503-3.04 → Taper Rates

- Lane Merges/Shifts for Urban Freeways
  - Should be based on 70 mph speeds (not speed limit)
  - Standard Drawings have been revised to show this
  - Recognizes documented operating speeds (>>> 45 mph)