PAVEMENT HISTORICAL DATABASE (PHD)

FULL TRAINING

November 2023

MDOT

Training Presentation

- ❑ 8:00 am **to** 9:50 am
- ❑ Presentation Slides

Break

- ❑ 09:50 am **to** 10:00 am

Demonstration

- ❑ 10:00 am **to** 12:00 pm
- ❑ Example PHD data entry

Certificate of Attendance

- ❑ This week

PURPOSE

❑ Introduce PHD and its importance

❑ Explain data preparation for PHD entries

❑ Explain PHD job creation and Data entry

❑ Summarize PHD reports and exports

❑ Answer Questions

OUTLINE

1 – Background

2 – PHD Purpose and Uses

3 – General Information

4 – PHD Interface & Operations

5 – FAQ / Business rules

6 – PHD Data Review & QA

7 – Data Export & reports

8 – Resources

9 – Appendix: Data Entry Process

MDOT

BACKGROUND

WHAT IS PHD?

❑ Pavement Historical Database (PHD)

❑ MILogin application

❑ Centralized electronic data warehouse

❑ "As Built" pavement and material information on MDOT roadways

➢ **All projects with pavement work** for mainline, ramps, shoulders, or curb & gutter **(≥ 0.1 mile)**

❑ Data can be searched, sorted, and exported

Pavement Job

(Job ID, WTC, Fix Life, etc.)

Job Details

JobNet Job ID	: 208494
Work Type Code	: 443 - One Course Asphalt Overlay
Fix Life	: 10 Year(s)
* Open to Traffic Date	: 07/31/2023 [mm/dd/yyyy]
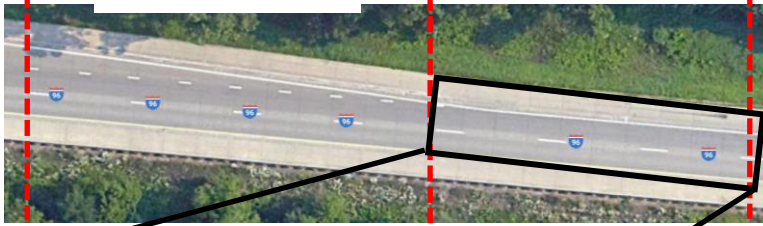
have

Segments

(i.e., PR from BMP to EMP)

Segment 1   Segment 2

PR Segment List [Hide] ▼

#	PR Number	PR(v)	BMP	EMP	Route	Direction
1	1270204	22	5.519	6.569	M-26	2 Way
2	1270204	22	6.569	6.652	M-26	2 Way
3	1270204	22	6.652	6.696	M-26	2 Way
4	1270204	22	6.696	7.669	M-26	2 Way

have

Lanes/Shoulder, Curb & Gutter, Median

Lane ①   Lane ②   Left Shoulder   Right Shoulder

Lane Details [Lane #2.0]
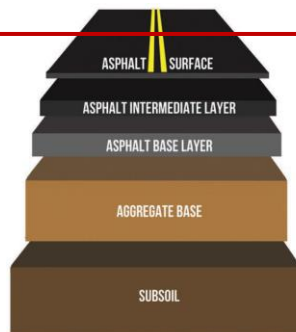
* Surface Type (pavement cross-section)	: HMA over existing HMA
* Width	: 12 ft
* Lane Type	: Mainline
* Year [Paved/Placed]	: 2023 [yyyy]
* Partial Width Paving?	: ○ Yes ● No

have

Layers

Lane Section [Lane # 2.0]

#	Layer Name
2	HMA Top Course
1	Cold Milling

have   **Attributes**

Pavement Attributes - HMA Top Course

* Mix Type	: 5EML
* Mix Design No (Case Sensitive)	: 23MD133
* Application Rate	: 165 #/syd
* Asphalt Binder	: PG 64-28
* Asphalt Binder Cert. Supplier	: BP, Bay City, MI

PHD PURPOSE AND USES

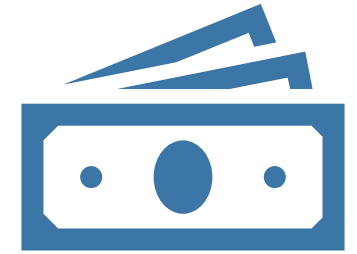# PHD PURPOSE AND USES

❑ Provides a robust database of MDOT public asset information

Location // Length // Geometry // Materials

More Efficient

＊ ❑ HPMS Reporting (Highway Performance Monitoring System)

＊ ❑ Pavement Management Process Plan (PaveMaPP)

＊ ❑ Pavement Management Data Analysis

Faster

❑ Scoping, Estimating, Design, Maintenance, and Forensic Analysis

❑ Materials or Work Type Trend Analysis

❑ Sufficiency Data and Historical Research

❑ Permanent Database for the Michigan Trunkline Highway System

Smarter

PHD PURPOSE AND USES

❑ Highway Performance Monitoring System (HPMS) reporting

- HPMS is the official federal government source of data on the <u>extent</u>, <u>condition</u>, <u>performance</u>, <u>use</u>, and <u>operating characteristics</u> of the nation's highways.

- A federal report **required annually** for apportioning Federal-aid highway funds.

- Includes pavement related data such as *surface type*, *total thickness*, *last overlay thickness*, *base type & thickness*, *year of last construction*, etc.

- PHD is a data source for the **HPMS report** for **State of Michigan.**

PHD PURPOSE AND USES

❑ Pavement Management Process Plan (PaveMaPP)

- PaveMaPP is the source of **pavement condition data** for the Michigan Trunkline Highway System, and the source of **Remaining Service Life (RSL)** estimates.

- PHD is PaveMaPP's source of **Pavement Surface Type coding**

- PHD is PaveMaPP's source of **non-let jobs' location, timing, work type, and Fix Life** attributes for use in RSL estimation/reporting.

PHD PURPOSE AND USES

❑ Pavement Management Data Analysis

- **MDOT Pavement Performance Monitoring process**

  ➢ Determine <u>Fix Lives</u> and <u>Service Lives</u> for each programed job.

  ➢ The **(PAVETrack)** application <u>monitors</u>, <u>analyzes</u>, and <u>reports</u> on the historical performance of MDOT pavements.

  ➢ Part of the **MDOT's Life-Cycle Cost Analysis (LCCA) process**
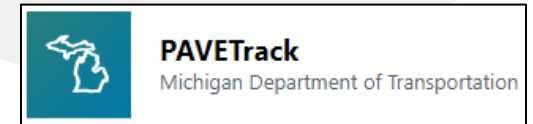
- PHD is the primary source of all **new R&R** and **CPM project segments** that will be brought into PAVETrack to be monitored and included in future analyses.

- "As Built" pavement and material information, not what was initially designed or planned

- Most **Non-Let maintenance projects** can only be tracked in PHD

PHD PURPOSE AND USES

❑ Materials and Work Type Trend Analysis

▪ PHD can be used in researching individual state routes, specific pavement work type (reconstruction, overlays, pavement repairs, etc.), as well as performing materials trend analysis.

❑ Examples:

➢ Provide **lane miles of Crack Seal or Chip Seal** within certain years at a certain location (Region, TSC, or County).

➢ Track **paved lane and shoulder widths** for a particular Region, TSC, or County.

➢ Track the use of certain **asphalt binders (PG grade and source)**, **emulsions**, and/or **aggregates** within a Region, TSC, or route.

PHD PURPOSE AND USES

❏ Permanent Database for the Michigan Trunkline Highway System

- Due to the State of Michigan's **Data Retention & Disposal Schedules**, including MDOT's **Data Retention Cycle**, some construction-related data might be lost, or might not be easily accessible, after several years.

- PHD is designed to **permanently** store "As Built" pavement typical section information and materials data.

- The data can be quickly and easily searched, sorted, and exported.

GENERAL INFORMATION

TIME ENTRY

Only for MDOT Personnel

❏ Charge time to the **job number** being entered or to **overhead**

❏ In SIGMA "Reporting" box, enter **5911200055** for time spent:

▪ **Gathering data** for PHD data entry or review, **entering data**, and **QA of entered data**

PHD USER ROLES (ACCESS LEVEL)

PHD Administrato

Support and maintain PHD function, assign user rights, and provide aid to PHD users

Read Only user

Search and Export Data

Data Entry user

Enter Data into PHD

Data Owner user

Review & Finalize Data in PHD
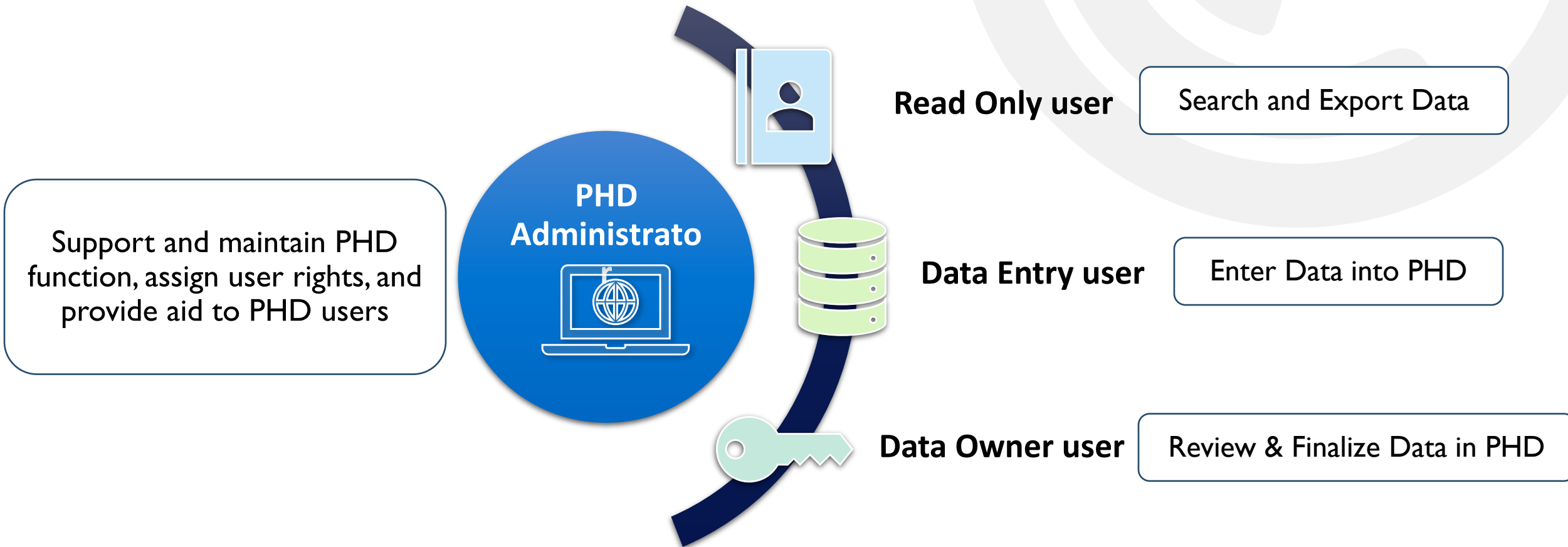
ASSIGNMENT LOCATION

❑ Job entry is bound by your **Assigned Region Location**

❑ Users with <u>TSC</u> assignment can reassign or enter segments anywhere within their <u>Region</u>

 ▪ *Example: a user assigned to the <u>Brighton TSC</u> can **enter data** for a job that is within the <u>University Region</u>*

❑ Contact **PHD Admins** if your Assignment Location needs to be changed
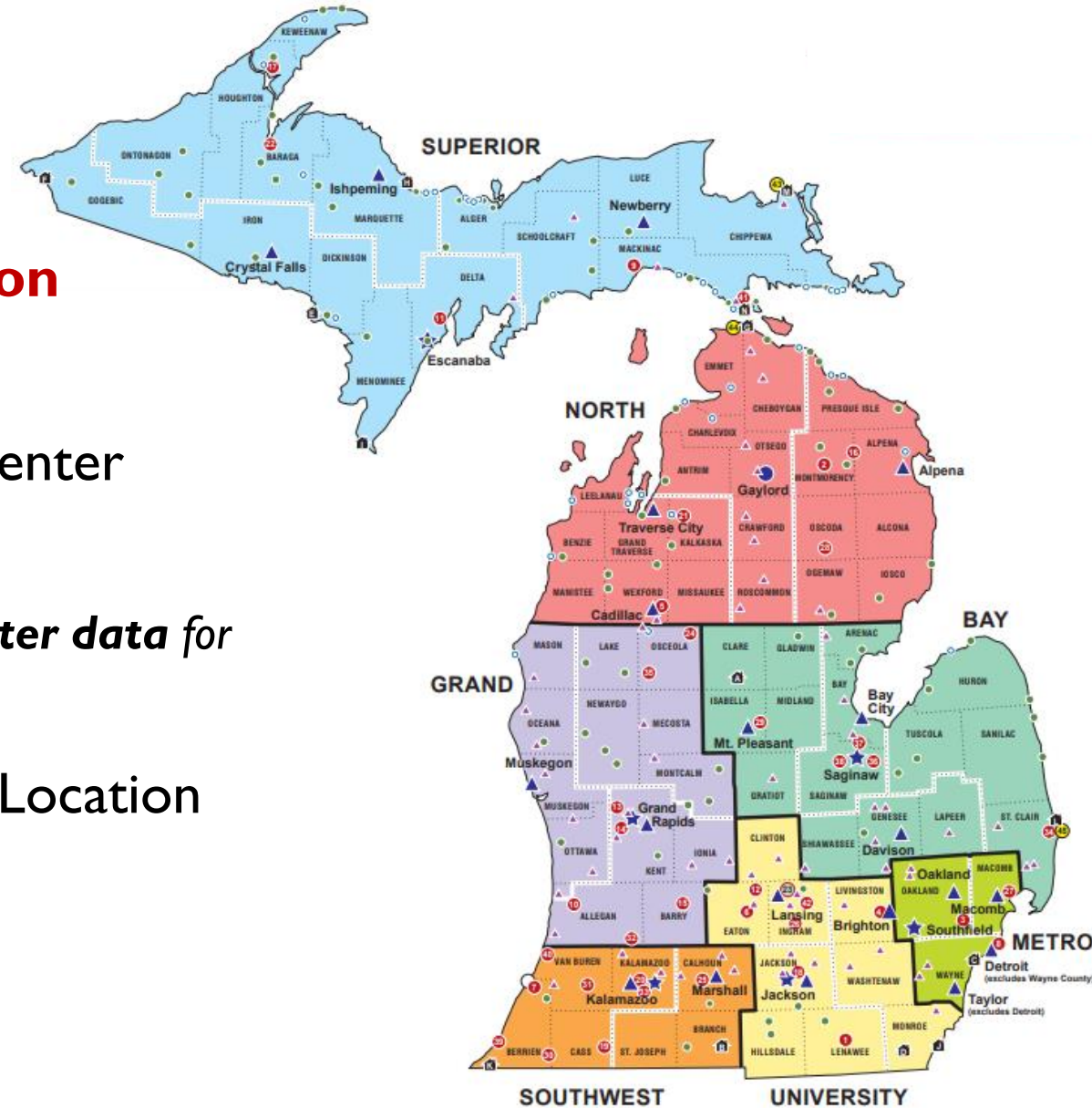
PHD WORKFLOW

Data Collector
- Gather construction records and assemble information
- Segment job into unique segments (≥0.1mi)

Data Entry User
- Review all collected information
- Enter data into PHD
- Check completed work
- Send PHD job to Data Owner for Review/QA

Data Owner User
- Review the job for errors/omissions
- Finalize if _no_ errors/omissions (job is sent to PHD database)
- IF errors/omissions:
  - Make corrections, or
  - Send back to the Data Entry User for corrections, then resubmitted to Data Owner for Review and Finalization

Collect Data

Enter Data
into PHD

Review Data
in PHD

Finalize Data
in PHD

DATA ENTRY TIMELINE

Ideally

> **Collect**: <u>during</u> construction

> **Enter**: <u>during</u> construction & <u>complete</u> entry after job complete

- <u>Due date</u> is **January 31ˢᵗ, 2024** for projects completed in **2023**
  - Allows MDOT to <u>meet annual federal reporting requirements (HPMS)</u> & entry is completed before start of next construction season

- Exceptions – projects built over **multiple years**
  - Complete entry of multi-year projects when project is **finished**
  - Users are encouraged to **enter** the first-year data **(as Draft)**

WHAT IS ENTERED?

❑ All projects with **pavement work** on MDOT trunkline for <u>mainline</u>, <u>ramps</u>, <u>shoulders</u>, or <u>curb & gutter</u> (≥ 0.1 mile) is **required**

- ▪ **Let jobs:** programed jobs in the JobNet application (Planning Database)

- ▪ **Non-let jobs:** Maintenance projects, Transportation Work Authorizations (TWA), Direct Forces Work, Warranty work, and Permits

- ▪ **Pavement work**: HMA/Conc. layers, CPM, repair work (joint sealing, Detail 7's & 8's, etc.)

❑ Projects <0.1 mile are **optional**

❑ No local road work

❑ "As Built" pavement and material information

JobNet Jobs Vs Non JobNet Jobs

❑ JobNet Jobs (formerly known as MAP jobs)

- ▪ Programmed jobs in the JobNet database, with MDOT Job Number (JN)

- ▪ Almost all **JobNet Jobs** are let through the MDOT bid letting system

❑ Non JobNet Jobs (formerly known as Non-MAP jobs)

- ▪ Not programmed in the JobNet database (no MDOT Job Number)

- ▪ Not let through the MDOT bid letting system

- ▪ Include work performed by/through **maintenance-funded work**, **TWA**, **Direct Forces Work**, **Warranty Work**, and **Permits**

Non JobNet NAMING CONVENTIONS

Project Type	Definition	PHD Naming Convention
Maintenance	Maintenance-funded work not let through MDOT (not programmed in JobNet), performed by MDOT or another agency.	Use the prefix **"M"** followed by the **job number**. **Example:** M21550
TWA	Transportation Work Authorization funded projects. Usually for projects bid through the county/city.	Use the prefix **"TWA"** followed by the **TWA number** (the MDOT Region financial analyst can provide the number) **Example:** TWA226101
Warranty	Work performed under the terms of a project warranty.	Use the prefix **"W"** followed by the original **5 or 6 digit job number**. **Example:** W40542
Direct Forces Work	Work performed by MDOT employees (maintenance crew facility and/or a maintenance garage) or contract county forces.	Create a direct forces work reference number for PHD use only. Use the following conventions: **DYYYYCNrouteBMP** 1. The prefix **"D"** followed by **four digits representing the year**. 2. The **two-digit county number**. 3. The **route name** (with a hyphen as separator). Ex., **"US-31"** or **"US-31BR"**. 4. The **PR beginning milepoint** (including decimal point). **Example: D202132M-1388.954**
Historic	Projects let and constructed by MDOT prior to the implementation of MAP and/or JobNet databases.	Use either the **project number from the title sheet** of the historic plans or the records used for the data entry. **Example:** 53201
Permit	Work constructed by others under permit; i.e., widenings for commercial driveways or utilities work.	Use the prefix **"P"** followed by the **last 10 digits of the permit number**. The TSC permit agent will be able to provide this information. **Example:** P0003090010

JOB PREPARATION

❑ Before entering job data details in PHD, Data Entry users should obtain project construction records

❑ Below is a list of the **most common** construction records

▪ **Project plans and proposal** (include project location, typical sections, work items, etc. – **"As Built" plans are preferable**

▪ **Contract modifications** to check for material changes made during construction.

▪ **HMA Job Mix Formula (JMF)** (MDOT Form 1911) and **concrete JMF** (MDOT Form 1976).

▪ Report Of Quality Assurance Testing (MDOT Form 1903B) and Weekly Summary Of Certified Concrete (MDOT Form 1155).

▪ **Material Source List (MSL)** (Form 0501), and the Material Certifications/Certificate of Compliance/Certificate of Analysis.

▪ **Testing orders** for surface seals and crack treatments.

▪ **Inspector's Daily Reports (IDRs)** (MDOT Form 1122B), Inspector's Report of Concrete Placed (MDOT Form 1174R), and/or Aggregate Inspection Daily Report (MDOT Form 1900).

DATA HIERARCHY IN PHD

Pavement Job (i.e., Job ID, Work Type Code, etc.)

have

Segments (i.e., PR from MP to MP)

have

Segment 1 · Segment 2

Lanes/Shoulder, Curb & Gutter, Median

have

Lane ② · Lane ① · Left Shoulder · Right Shoulder

Layers *have* **Attributes**

DATA HIERARCHY IN PHD

Pavement Job (i.e., Job ID, Work Type Code, etc.)

Segment 1   Segment 2

Segments (i.e., PR from BMP to EMP)

	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
●	1	1590804	23	0	0.03	James Couzens Fwy		Active	**Draft**
○	2	1590804	23	0.03	0.331	James Couzens Fwy		Active	**Draft**
○	3	1590804	23	0.331	3.5	James Couzens Fwy		Active	**Draft**
○	4	1577510	23	0	0.085	M-10	WB	Active	**Draft**
○	5	1577510	23	0.085	3.414	M-10	WB	Active	**Draft**
○	6	1577510	23	3.414	3.726	M-10	WB	Active	**Draft**

PR Segment List   [Hide] ▼

SEGMENTS IN PHD

❑ Roadway locations are entered into PHD by their <u>PR number</u> and <u>PR milepoints</u>
- PR = Physical Reference
- Number = Unique roadway numerical name
- Milepoint = Linear location of that referencing system

❑ Use **MDOT PR Finder** for numbers and milepoints
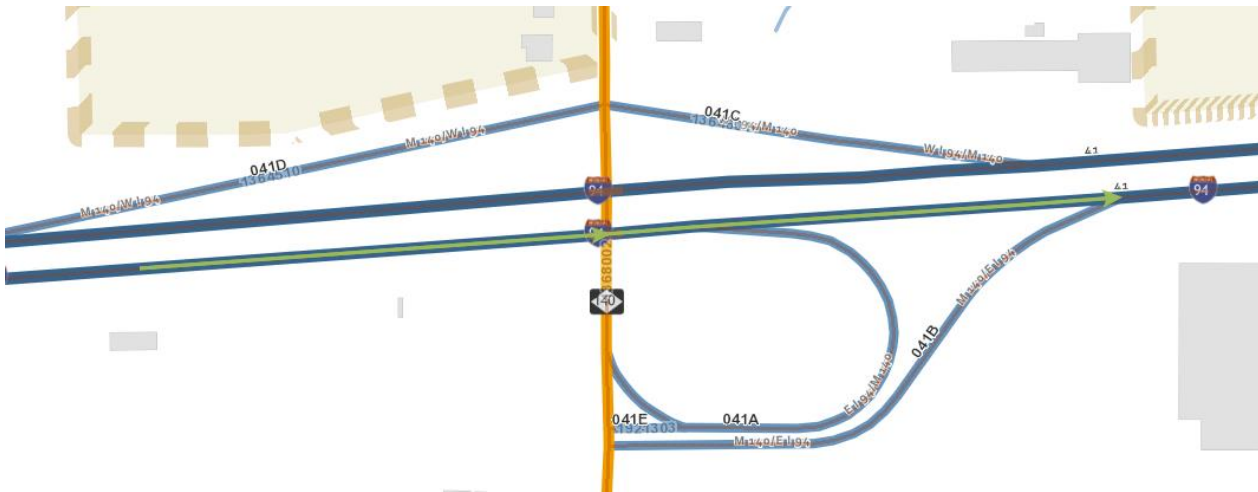
by Route	by Point	by CSV

Network Layer: PR-MP

Route ID: 1362105

From Measure: 2.0150000

To Measure (optional): 2.4720000

Locate   Clear

View Date: Version 23

December 31, 2022

PR-MP ✕
PR: 1362105
From Measure: 2.0150000
To Measure: 2.4720000
Total Length: 0.4570000
Longitude (X):
Latitude (Y):
View Date: 12/31/2022, 12:00 AM

CS-MP ✕
CS LRM Key: 1101701
From Measure: 6.3990828
To Measure: 6.6178475
Total Length: 0.2187647
Longitude (X):
Latitude (Y):
View Date: 12/31/2022, 12:00 AM

SEGMENTATION

❑ **New segments** or **sub segments** are <u>required</u> — changes **≥ 0.10 mile**

❑ Changes in:

- PR number
- Lane(s) details (number of lanes or lane width)
- Pavement cross-section (layer or material changes)
- Shoulder, Curb & Gutter (new construction or change in existing)
- Years of construction (multi-year projects)
- Median details (only when significant **-** type or major width change)

Primary reasons for segmentation in PHD
<u>Usually</u> automatically generated (imported from JobNet)
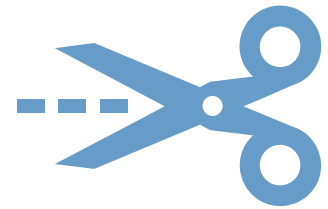
❑ Changes **< 0.10 mile** can be entered as a **new subsegment** or can be entered/combined with the **adjacent segment** at the user's discretion

- **Exception:** Segments involving additional lanes (turn lanes, for example)
  - ➤ Should be entered as new or subsegments

SEGMENTATION EXAMPLE (MAINLINE)
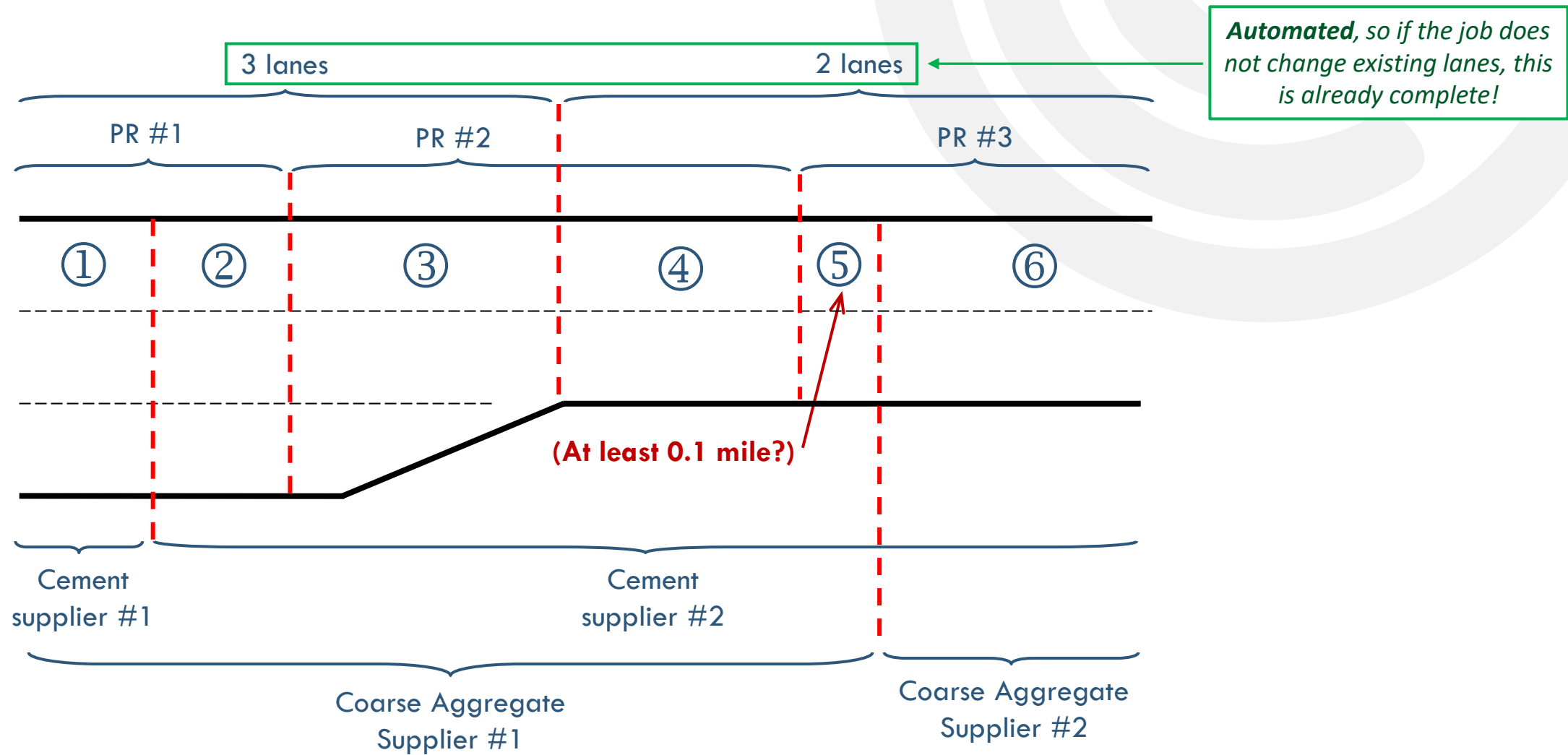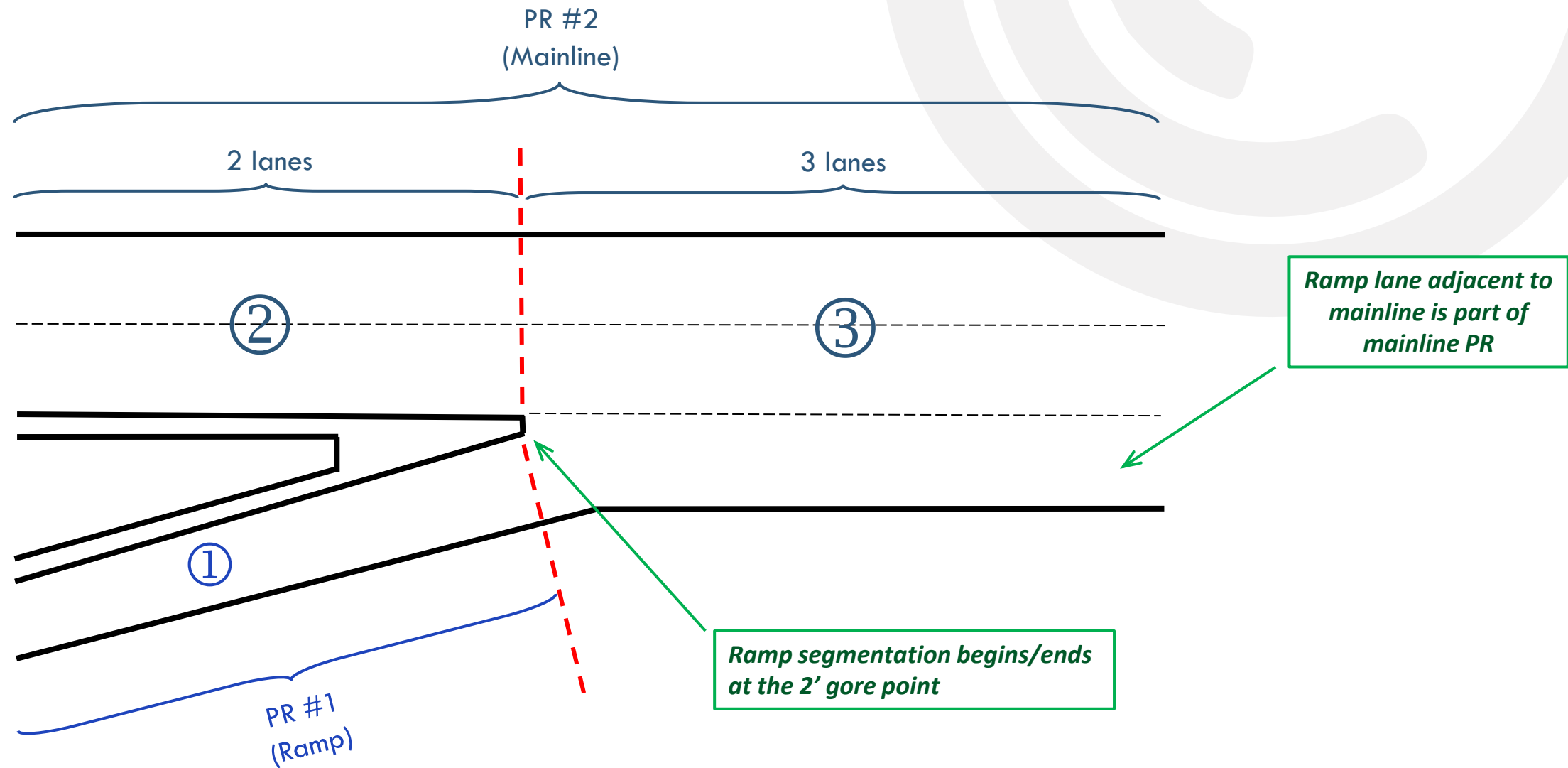
Automated, so if the job does not change existing lanes, this is already complete!

3 lanes

2 lanes

PR #1

PR #2

PR #3

① ② ③ ④ ⑤ ⑥

(At least 0.1 mile?)

Cement supplier #1

Cement supplier #2

Coarse Aggregate Supplier #1

Coarse Aggregate Supplier #2

SEGMENTATION EXAMPLE (RAMP)

PR #2
(Mainline)

2 lanes

3 lanes

②

③

①

PR #1
(Ramp)

Ramp lane adjacent to mainline is part of mainline PR

Ramp segmentation begins/ends at the 2' gore point

DATA HIERARCHY IN PHD

Pavement Job (i.e., Job ID, Work Type Code, etc.)

Segment 1   Segment 2

Segments (i.e., PR from MP to MP)

Lane ②
Lane ①
Left Shoulder
Right Shoulder

Lanes/Shoulder, Curb & Gutter, Median

LANE NUMBERING

❑ Lanes are always numbered **right to left** facing toward increasing milepoints in the PR segment (no matter the traffic direction)

❑ Lane 1 is the **right-most through lane** of the PR segment

❑ Increasing lane numbers 2, 3, etc. are lanes **left** of Lane 1

- *Examples: passing lane, center turn lane*

❑ Decreasing lane numbers 0, -1, and less are lanes **right** of Lane 1

- *Examples: ramp lane, passing flare, right turn lane*

❑ The begin/end taper point is the start/end of the lane

***Important** because automated segmentation of lanes doesn't always identify numbering correctly*

LANE NUMBERING (EXAMPLE) Divided Roadway

Lane Begins

Lanes 1, 2

Lanes 1, 2, 3

PR 2 MP INCREASING →

③ On-Ramp ←

Traffic Direction

② WB - Mainline ←

② WB - Mainline ←

① WB - Mainline ←

① WB - Mainline ←

EB - Mainline ②

② →

EB - Mainline ①

① →

On-Ramp ⓪

PR 1 MP INCREASING →

Lanes 0, 1, 2

Lane Ends

Lanes 1, 2
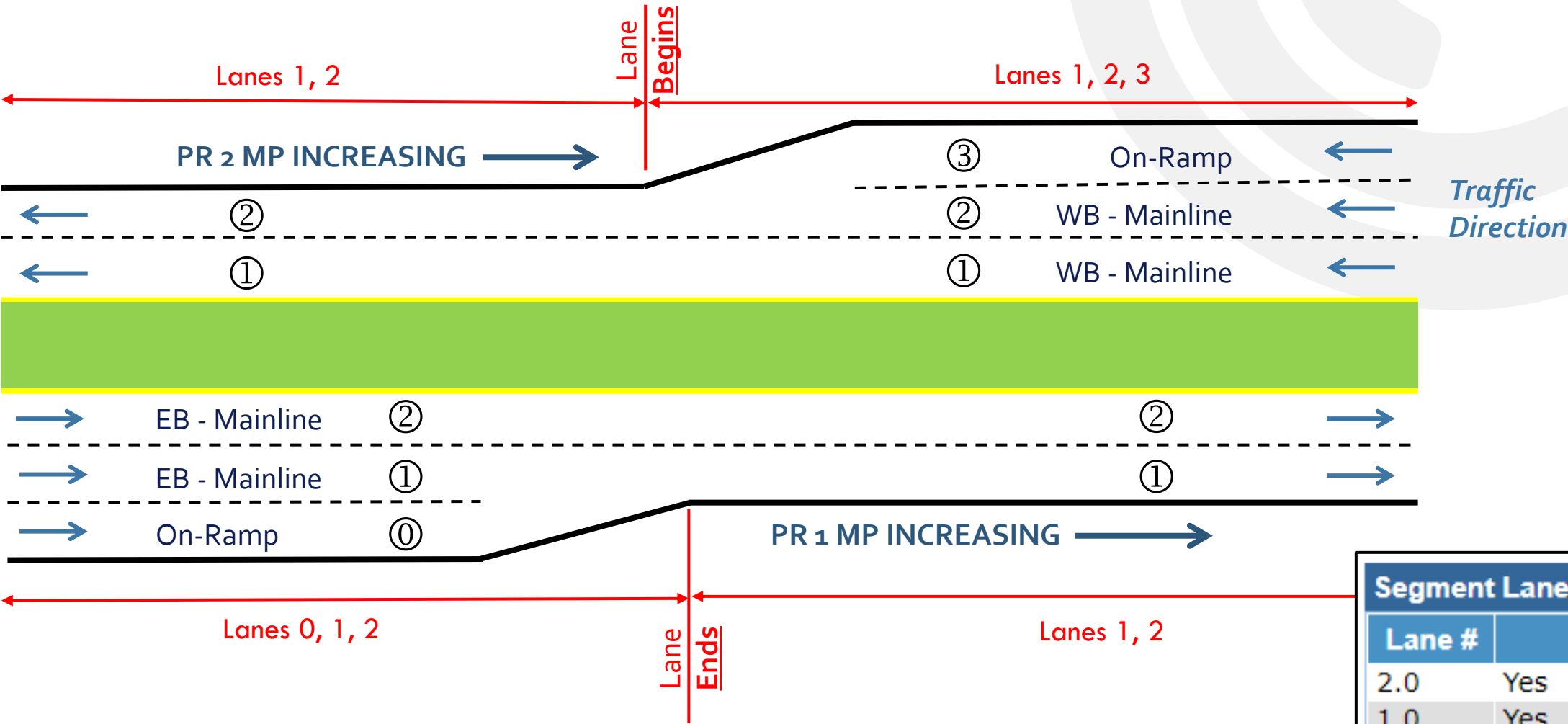
Segment Lane(s) Overview	
Lane #	Work Done
2.0	Yes
1.0	Yes
0.0	Yes
Lane Details	

MDOT

LANE NUMBERING (EXAMPLE) Divided Roadway

(milepoints increasing looking into the page)

LANE NUMBERING (EXAMPLE) Undivided Roadway

PR MP INCREASING →

④ ← Traffic Direction

③ ←

② →

① →

Example 1

← PR MP INCREASING

① ←

② ←

Traffic Direction → ③

→ ④

Example 2
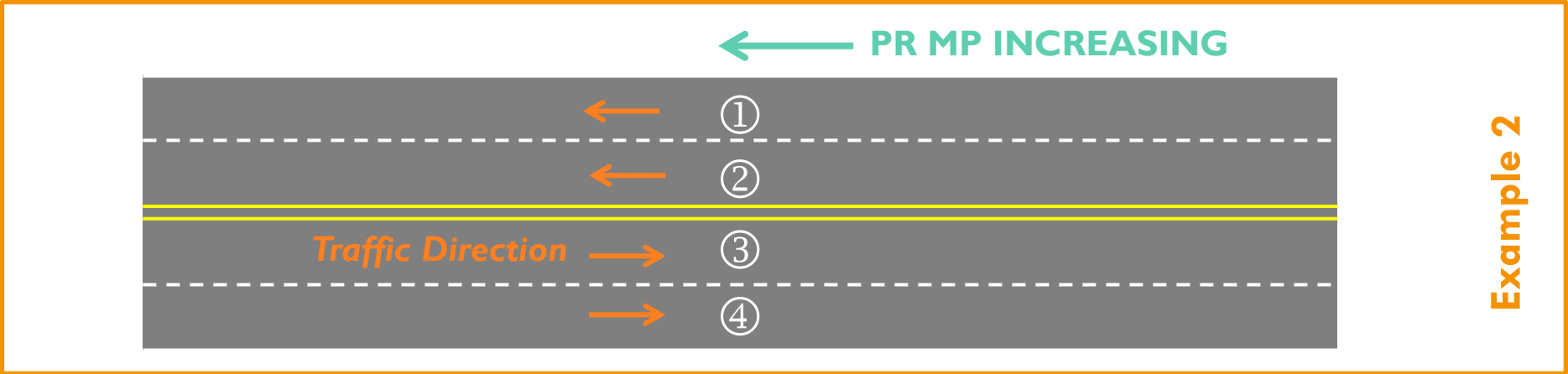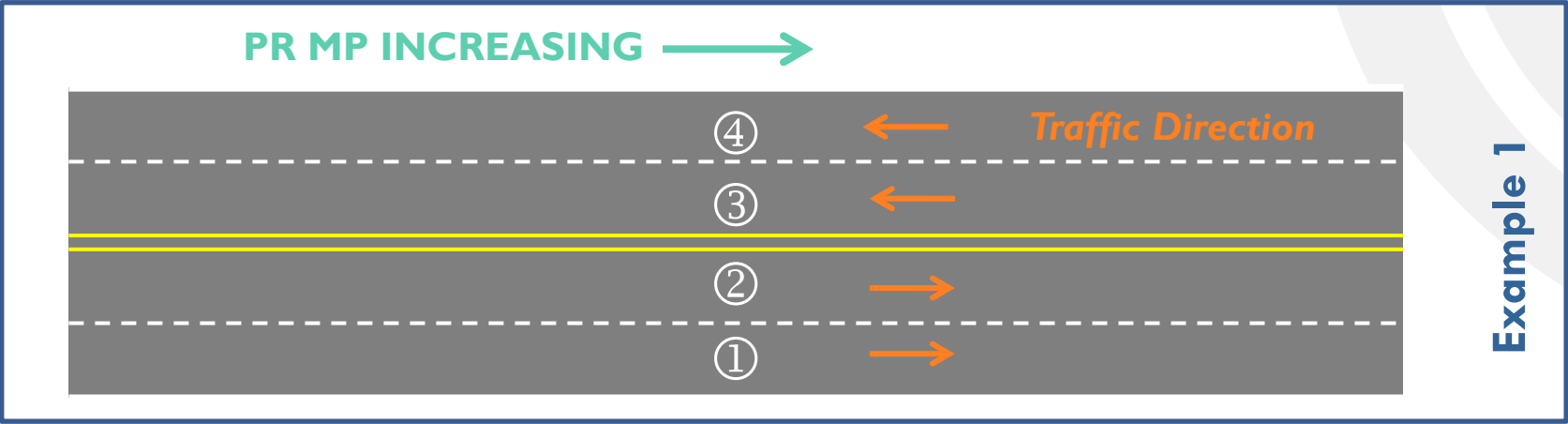
Segment Lane(s) Overview	
Lane #	**Work Done**
4.0	Yes
3.0	Yes
2.0	Yes
1.0	Yes
Lane Details	

MDOT

DATA HIERARCHY IN PHD

Pavement Job (i.e., Job ID, Work Type Code, etc.)

Segment 1   Segment 2

Segments (i.e., PR from MP to MP)

Left Shoulder

Lane ②

Lane ①
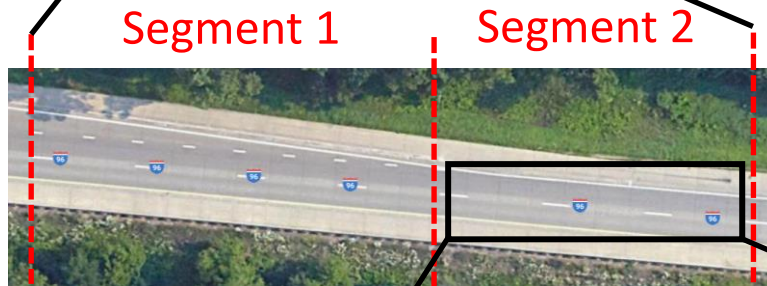
Right Shoulder

Lanes /Shoulder, Curb & Gutter, Median

SHOULDER, CURB & GUTTER DIRECTIONS

❑ The shoulder/C&G sides, **right** or **left**, are established by using the direction of increasing PR milepoints
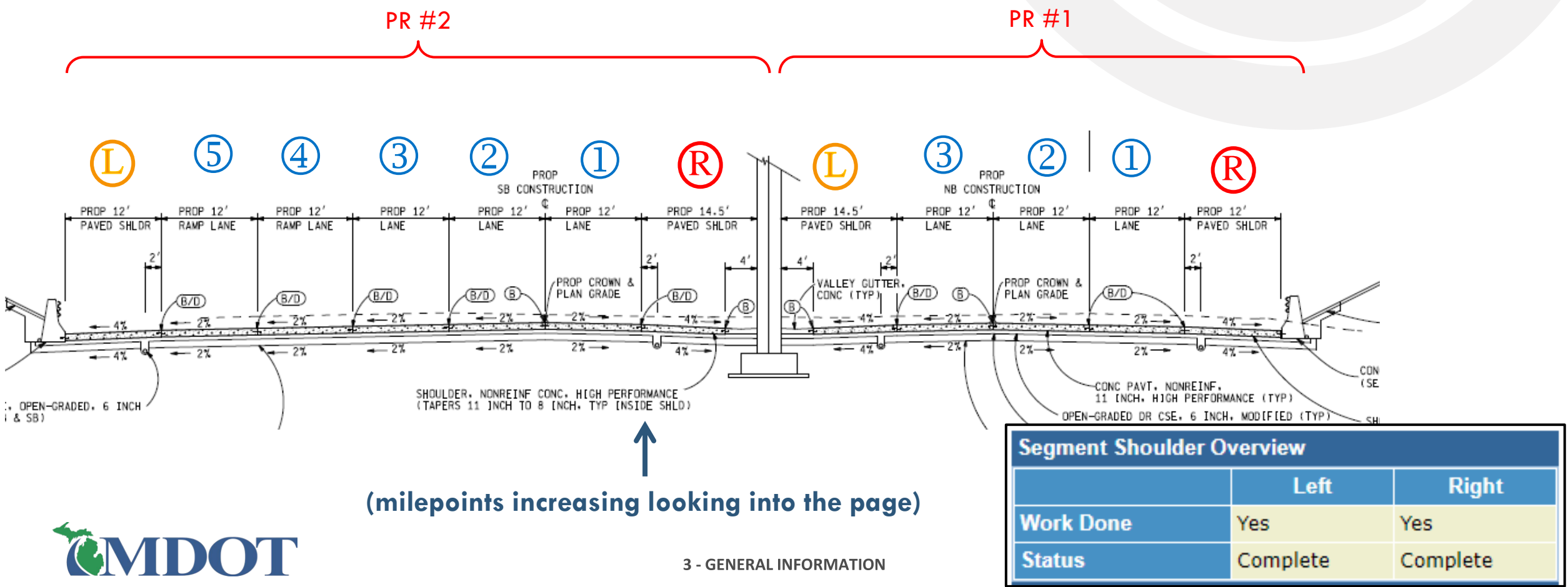
(milepoints increasing looking into the page)

DATA HIERARCHY IN PHD

Pavement Job (i.e., Job ID, Work Type Code, etc.)

Segment 1   Segment 2

Segments (i.e., PR from MP to MP)

Left Shoulder

Lane ②

Lane ①

Right Shoulder

Lanes/Shoulder, Curb & Gutter, Median

MEDIAN INFORMATION

❑ **Median Types:**

- Undivided
- Concrete Barrier
- Guardrail
- Cable Guardrail
- Raised Island with Curb
- Thick, impenetrable Vegetation
- Graded with ditch
- Flat (paved and unpaved)
- N/A *(i.e., ramps)*
- Other – *input a unique type in a text box*

❑ **Median Width:**

- Average or predominant width <u>including inner shoulders</u>, measured between the inside edges of the leftmost through lanes in both directions, to nearest foot.

- Change if there is a new consistent width.

Median Width includes inner Shoulders

Median Overview

* Median Type :	Guardrail
* Median Width :	12 ft

DATA HIERARCHY IN PHD

Pavement Job (i.e., Job ID, Work Type Code, etc.)

Segment 1   Segment 2

Segments (i.e., PR from MP to MP)

Lane ②   Left Shoulder
Lane ①
Right Shoulder

Lanes/Shoulder, Curb & Gutter, Median
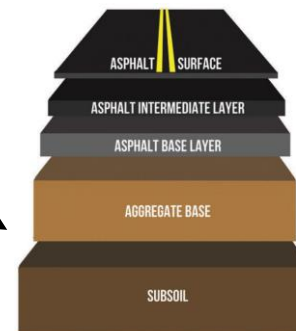
Layers *have* **Attributes**

LAYERS AND ATTRIBUTES

❑ A <u>layer</u> is a single thickness of a paved/placed **material** or **repair work**

➢ **Paved/placed material:** HMA layer(s), PCC pavement, chip seal, etc.

➢ **Repair work:** asphalt joint/crack repair, HMA cold milling, Overband Crackfill, concrete pavement repairs (Detail 7's & 8's), etc.

❑ A comprehensive list of all <u>layers</u> and their associated <u>attributes</u> is available in the **"PHD Data Spreadsheet"** and **"PHD Attribute Locations"** documents, on the MDOT PHD website.

LAYERS

❑ Layers/work items should be entered in order of construction

❑ Only enter layers paved/placed in the current job

  • Existing layers or layers <u>paved/placed in other jobs</u> **should <u>not</u>** be entered with the <u>current job</u>
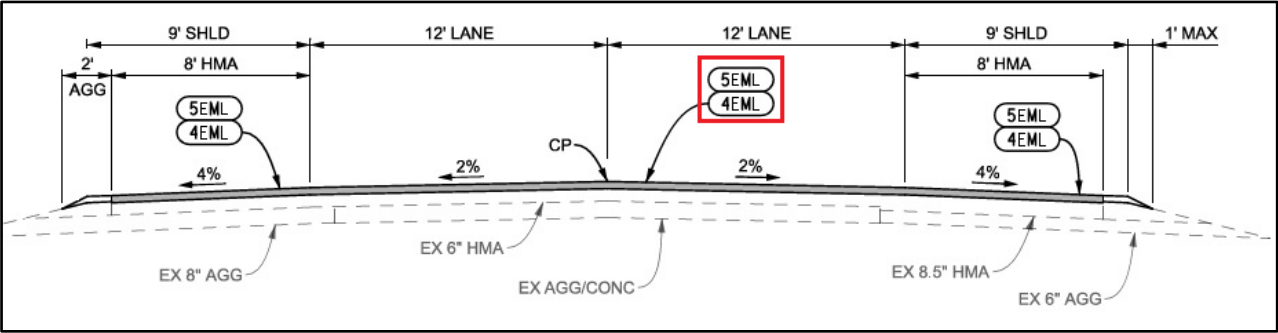
Lane Section [Lane # 1.0]

#	Layer Name
3	HMA Top Course
2	HMA Level Course
1	Cold Milling
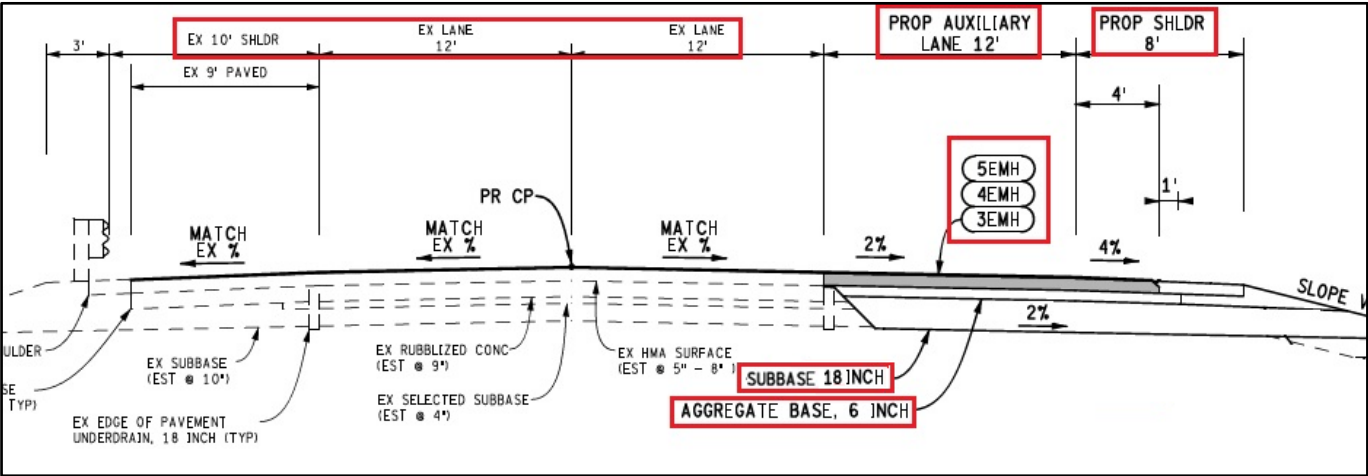
Segment Lane(s) Overview

Lane #	Work Done
3.0	No
2.0	No
1.0	Yes

Segment Shoulder Overview

	Left	Right
Work Done	No	Yes
Status		Complete

Lane Section [Lane # 1.0]

#	Layer Name
5	HMA Top Course
4	HMA Level Course
3	HMA Base Course
2	Aggregate Base Course
1	Subbase

ALL LAYERS/REPAIR WORK ITEMS IN PHD

Agg. Base Course – Cement Stab.	Crack Relief Interlayer/DRM	HMA Separator Course **	Precast Concrete Pavement
Aggregate Base Course	Cracked and Seated Concrete	HMA Skip Patching **New Layer**	Roadway Embankment
Brick Pavers	Crushed and Shaped HMA	HMA Top Course **	Rubblized Concrete Pavement **New Attr.:** Rubblizing Equipment Type
Brick Seal	Diamond Grinding/Grooving	HMA Ultra-Thin Overlay **	Scrub Seal
Chip Seal	Dowel Bar Retrofit	HMA Wedge Course **	Subbase
Cold In Place Recycled Asphalt	FiberMat	Hot In Place Recycled Asphalt	Subgrade Stabilization
Cold Milling	Fog Seal	Joint/Crack Repair Mastic	Subgrade Undercut
Concrete Pav. Crack/Joint Sealing	Geotextile Fabric	Micro-surface **New Attr.:** Rut Fill Layer (Y/N)	Void Reducing Asphalt Membrane **New Layer**
Concrete Pav. Repairs (Detail 7's & 8's)	High Friction Surface	Overband Crackfill	
Concrete Pav. Repairs (Full Depth)	HMA Base Course **	Pavement Jacking	
Concrete Pav. Repairs (Partial Depth)	HMA Crack Treatment	Paver Placed Surface Seal	
Concrete Penetrating Sealer	HMA Leveling Course **	PCC Pavement	

** **New attributes:** Asphalt % (Total)
Asphalt Binder %Added

Archived Layers:
Cobblestone
Corduroy
Micro-surface (Rut Fill Layer)
Overband Crackfill PreTreatment
Slurry Seal

ATTRIBUTES

Select a Layer [Job # - 124046 / PR # - 1590804/ MP :0 ... 0.03]

Layer : HMA Top Course

Pavement Attributes - HMA Top Course

* Mix Type	:	5EML
* Mix Design No (Case Sensitive)	:	23MD262
* Application Rate	:	165 #/syd
* Asphalt Binder	:	PG 64-28
* Asphalt Binder Cert. Supplier	:	Interstate Asphalt, Manistee Asphalt Term., Manistee, MI
* Asphalt % (Total)	:	6.16 [Numeric Value]
* Asphalt Binder %Added (Virgin)	:	5.12 [Numeric Value]
* AWI (Actual)	:	282 [Numeric Value]
* Warm Mix?	:	● Yes ○ No
* Shingles used in the mix?	:	○ Yes ● No
If Warm Mix, Water Foaming?	:	● Yes ○ No
If Warm Mix, select Additive	:	- No Additive, Water Foaming Only -

Select New Aggregate

* Aggregate : Select an Aggregate

Source : [ ] — [ ]

Add Aggregate

Aggregate Summary

Aggregate	Source	
Sand	72-006	☐
LWCD	60-018	☐
H2	49-065	☐
1/8- (Dust) C	72-027	☐
3/8-1/8 C	72-027	☐

Add Aggregates   Edit Aggregate   Remove Aggregate

PHD INTERFACE & OPERATIONS

PHD ACCESS

❑ Use appropriate **MILogin** link to access PHD (or request access)

- If you are having trouble accessing MILogin, make sure that you're using the correct link

> **MDOT Employees**
>
> https://miloginworker.michigan.gov/uisecure/selfservice

> **Consultants**
>
> https://milogintp.michigan.gov

PHD WELCOME SCREEN

Active Page

Displays the active main menu and submenu

Contact & Help

Administrator's contact info & User Manual

Assignment Location

TSC/Region, or Statewide jurisdiction

Username/ID

Menu

Navigation between screens and work areas

Roles

Assigned access level: Data Entry, Data Owner, etc.

PHD DATA ENTRY PROCESS

☐ **Create** the job in PHD (by Data Entry or Data Owner user)

☐ **Modify** the job

(start the data entry process)

☐ **Finalize** the job

(by Data Entry user)

☐ **Review** & **Finalize** the job
(by Data Owner user)

PHD DATA ENTRY PROCESS

❑ In the **Demonstration Section**, we will start & complete the PHD entry for one job

❑ The Appendix (slides **89 – 146**) summarizes the Data Entry Process

- ➢ **Create Jobs**
- ➢ **Modify Jobs**
  - ▪ **Segments:** create, modify, and delete segments, copy segment details, change segment MPs, etc.
  - ▪ **Segment Details:** create and modify Lanes, Shoulders, and Curb & Gutter
  - ▪ **Lane/Shoulder Details:** add layers and their attributes
  - ▪ **Median:** enter median information
  - ▪ **Other functions:**
    - o Project and Segment Comment Boxes
    - o View MAP function
    - o Layers Library
    - o Using copy functions (copy segment, copy lane, copy layers, etc.)
- ➢ **Finalize Jobs**

PHD GENERAL CONVENTIONS

❑ RED = Error Message

> ⚠ **This segment overlaps with the existing segment #3. [PR: 1562009/ 16.039 … 16.235]**

❑ GREEN = Successful save/update

> ⚠ **Successfully created the segment.**
> PR Segment List

❑ Red asterisk (*) = data is required

> *** = Required Fields**
>
> **Enter Job Information**
>
> * Is JobNet Job : ⦿ Yes ◯ No
> * JobNet Job ID : [   ]

> **JobNet Job ID** ▲
> 109854
> 124046
> _

❑ Column headers can be sorted by selecting the header name

❑ The % symbol is a "wildcard" used in search/filtering fields, for example:

  ▪ 8% finds any number (word or phrase) beginning with an "8"

> **JobNet Job Details**
>
> JobNet Job Id : [%]

PHD GENERAL CONVENTIONS (CONT.)

❑ **Back**: | Back |
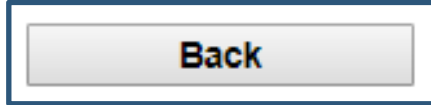
- Returns to the previous screen
- **WARNING:** Changes will still appear if the screen is reentered, but they are <u>not</u> saved. **Data will be lost if the project is exited without saving the changes**

❑ **Cancel**: | Cancel |
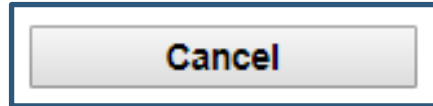
- Leaves the current job and takes the user to the initial submenu screen
- **WARNING:** Entered **data will be lost if it is not saved**

❑ **Save**:
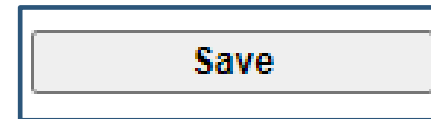
- Saves all **entered data** or any **changes** made | Save |
- Saves the **completed** Job, Segment, Layer, Shoulder, etc. (as a *Draft* or *Complete*)

| Save Segment | | Save Segment As Draft |
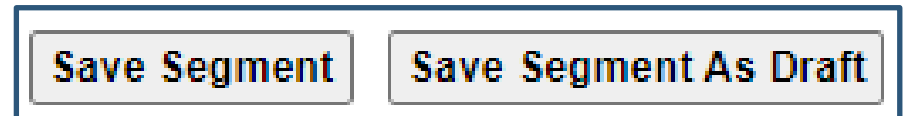
STATUS LEVELS

❑ There are TWO different status levels for *Segments, Lanes/Shoulder, Curb & Gutter*, and *Layers*

▪ **Draft:** when some (not all) data have been entered

▪ **Complete:** when ALL data have been entered

❑ Users should save any incomplete data as a **"Draft"** to avoid losing entered data. This includes saving **Segments**, **Lanes**, **Shoulders**, **Layers**, etc.

❑ Users cannot save any **Segment**, **Lane**, **Shoulder**, **Layer** as **"Complete"** (and thus; cannot finalize a job) until <u>all data</u> have been entered.

❑ Users can always **edit** any entered data whether it's in a **"Draft"** or **"Complete"** status.

❑ Users can also save Segments/Lanes/Shoulders/Layers as **"Draft"** even if previously saved as **"Complete"**

PR Segment List									[Hide] ▼
	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
⦿	1	1590804	23	0	0.03	James Couzens Fwy		Active	Complete
○	2	1590804	23	0.03	0.331	James Couzens Fwy		Active	Complete
○	3	1590804	23	0.331	3.5	James Couzens Fwy		Active	Draft
○	4	1577510	23	0	0.085	M-10	WB	Active	Draft
○	5	1577510	23	0.085	3.414	M-10	WB	Active	Draft

SAVE JOB AS DRAFT OR FINALIZE JOB

❑ **Save Job as Draft**:

- ▪ **Data Entry user:** Saves and keeps the job in the Modify area
- ▪ **Data Owner user:** Saves and moves the job from the Review area back to the Data Owner's Modify area

❑ **Finalize Job**:

- ▪ **Data Entry user:** Saves and moves the job to the Data Owner's Review area
- ▪ **Data Owner user:** Finalizes and sends the job to the PHD database

Simplified CPM Jobs in PHD

- ❑ Jobs with WTC from 400 – 499 are **Capital Preventative Maintenance (CPM)** type jobs

  - ▪ Asphalt Crack Treatments, Sealing Concrete Joints, Overband Crackfill, etc.

  - ▪ Simplified data entry process

    - ➢ Requires segment layer information **only** (No entry of individual lanes and their details)

    - ➢ **Does not** allow entry of **shoulder details** (still requires shoulder layer(s)/work item(s))

    - ➢ **Does not** require **segmentation** based on lane or shoulder changes

    - ➢ **Does not** allow entry of **median information**

  - ▪ Simplified CPM format **should not** be used

    - ➢ Lanes have different paved or placed work

    - ➢ Projects with HMA paving

Simplified CPM Jobs in PHD

❏ The **Simplified CPM format** will remain once selected at job creation

- ■ Cannot be changed later

- ■ If selected in error – contact the PHD Administrator

❏ Most other PHD screens, functions, and selections are similar to **Standard format jobs**

- ■ See the Appendix (slides **89 – 146**) for more details

FAQ / BUSINESS RULES

JOB DATA ENTRY

❑ Projects with multiple job numbers - **enter each job number separately**

■ **Example:** A project is let with a job number for intersection improvements and another job number for work outside the intersection

CONTRACT ID	CONTROL SECTION		PROJECT
34043-202595	IM	34043	202595A
	IM	41024	208782A

❑ Job numbers **without** pavement work are **not** entered

■ **Examples:** Freeway lighting, landscaping, signing, etc.

JOB DATA ENTRY

❑ How do I enter **Multi-year construction**?

  ▪ Keep it in **Draft status** until the project is complete

  ▪ Add notes to the Comment Boxes

❑ Jobs with segments **outside your jurisdiction (location)** cannot be started/accessed

  ▪ Contact the **PHD Administrator**

❑ How do I **edit a Finalized job** in the PHD database?

  ▪ Contact the **PHD Administrator** to **unlock** it and **reassign** it

  ▪ The Administrator will need to know the **Job ID**

SEGMENT DATA ENTRY

❑ Only enter **work done on MDOT trunkline**
   ▪ **Local** roadways should **<u>not</u>** be entered into PHD
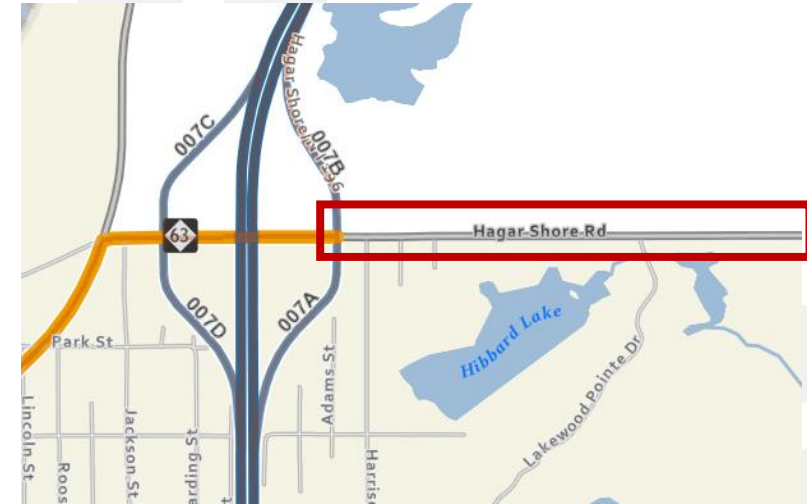
❑ PHD uses PR info and PR milepoints: might not match CS milepoints
   ▪ Use **MDOT PR Finder** to collect numbers and milepoints

❑ Auto-populated PHD segments show incorrect milepoints
   (i.e., as-constructed differs from JobNet/MAP):
   ▪ **Change milepoints** in PHD

SEGMENT DATA ENTRY

TEMPORARY CONCRETE BARRIER

36'   TAPER   FOR CURVE GEOMETRY SEE TABLE (TYP.)

TWO LANE, TWO - WAY CROSSOVER

❑ **Maintenance cross-overs** are not entered
  - ▪ Even if they have PR numbers
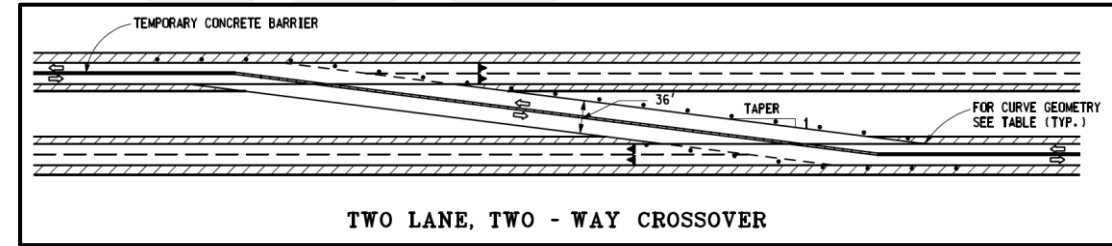
❑ Only work/materials assigned to **that Job/Segment**

  - ▪ Do not enter existing layers
  - ▪ Do not enter Lanes and/or Shoulders when **no work** has been done
  - ▪ **Exceptions:**
    - ➢ Surface Type (consider entire underlying cross-section)
    - ➢ Enter Median Type and Width (predominant/average) even if no work was conducted on the median

❑ Ramps:
  - ▪ PR begins or ends at 2' point
  - ▪ Portions of ramp adjacent to mainline are entered with mainline to the 2' point

LANE, SHOULDER/CURB & GUTTER DATA ENTRY

❏ Surface Type (pavement cross-section)

▪ All existing layers underneath the top surface placed with the project should be considered

▪ Consider the examples below:

The <u>entire asphalt pavement</u> replaced in this job ➡ surface type is (HMA Full Depth)

An <u>HMA overlay in a lane with existing HMA</u> (without any existing concrete pavement) ➡ surface type is (HMA over existing HMA)

An HMA overlay in a lane with <u>existing JPCP concrete</u> pavement ➡ surface type is (HMA over existing Jointed Conc)

Micro-Surface, Chip Seal, etc. (<u>thickness ≥0.5"</u>)
Considered as a layer ➡ surface type is (HMA over existing HMA/Conc)

Micro-Surface, Chip Seal, etc. (<u>thickness <0.5"</u>)
Not considered as a layer * ➡ Consider the existing layers only

* when defining Surface Type - still need to be entered as a layer in PHD

LANE, SHOULDER/CURB & GUTTER DATA ENTRY

❑ Partial curb & gutter work – how much requires entry in PHD?

- **More than 5%** of the total length of the curb & gutter is replaced –
  - ➤ Select 'Yes' for Curb & Gutter Work Done (no need to segment on those locations), and
  - ➤ Add **comment** that replacement is intermittent

LAYER DATA ENTRY

❑ Layer is variable thicknesses:

- Use **average** or **predominant thicknesses**

- Insert a **Segment Comment**

PROPOSED NORMAL SECTION
SECTION APPLIES TO:
M-115 STA 603+00 TO STA 613+37.34 (POE)
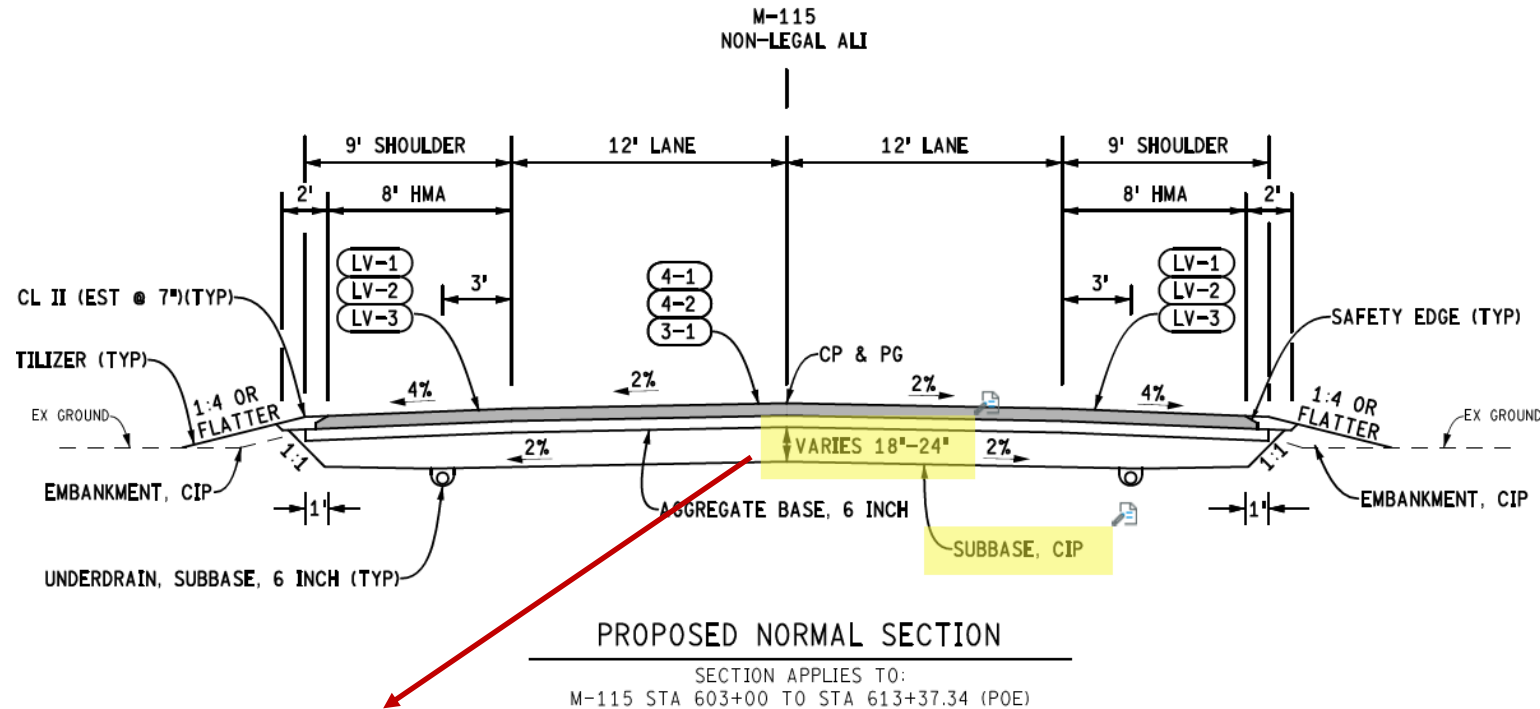
Segment Comments [max 250 characters]
Subbase has a variable depth of 18"-24" in this segment.

LAYER DATA ENTRY

❑ Layers order:

- ▪ Matches how pavement is constructed, **bottom to top**

⑥	HMA Top Course
⑤	HMA Leveling Course
④	HMA Base Course
③	Aggregate Base Course
②	Subbase
①	Roadway Embankment
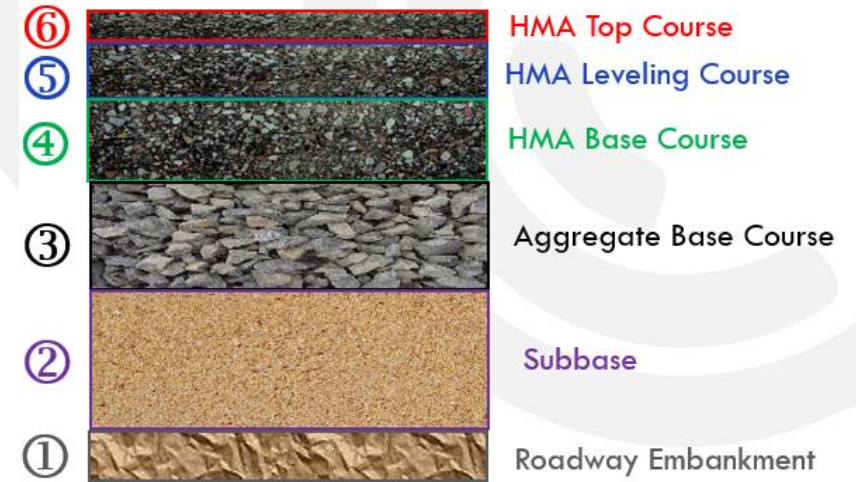
❑ Can I enter shoulder chip seals, crack seals, etc.?

- ▪ Yes, these should be added as layers

LAYER AGGREGATES

❑ HMA aggregate types **<u>not</u>** in the drop-down list:

➢ Select 'Other Aggregate'

➢ Enter the aggregate name in the new text box

LAYER AGGREGATES

❑ How to enter **BORROW** material aggregates:

➢ Select the Aggregate from the list, or

➢ Select 'Other Aggregate' (for non-standard)

  ▪ Enter the material in the new text box

➢ For source number:

  ▪ 1st box (two digits): county of origin

  ▪ 2nd box (three digits): '000'

File 303

Select New Aggregate

* Aggregate : CLIIAA

Source : 67 — 000
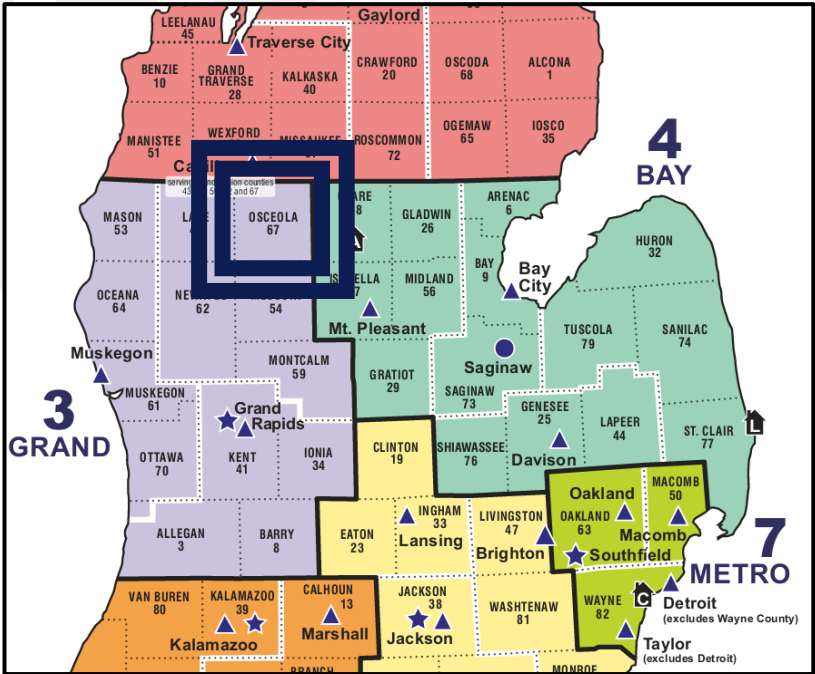
Add Aggregate

. ANALYSIS REPORT

| PROGRAM NO. |
| H7357 |

SPEC.	PRODUCER	CONTROL SECTION
CIIIAA	Niver Pit	67
ITS CUMULATIVE	TEST NO. 2	DATE
		11.10.04

ED	PASSING				
		Initial Weight of Sample	565	gm	
		Weight After Washing	536	gm	
		Loss By Washing (Clay & Silt) 0-5	29	gm 5.1	. %

MDOT's **1901** Form

LAYER AGGREGATES

❑ How to enter **RECYCLE** aggregates (incl. crush conc.):

- Locate the associated county and pit number

- This is found in the **acceptance testing** of the recycled aggregates

❑ How to enter **DOCK** aggregates:

- Dock aggregate is <u>not</u> the agg name, source, or pit

- Dock aggs are those that were shipped in and stored at a dock

- Dock aggs come from the *prequalified aggregate list*, so they **<u>do</u>** have an actual <u>name</u> and <u>source/pit number</u>

- **The aggregate tickets should provide the actual name & number information**

GENERAL

❑ If entry for Layers, measurement units, suppliers, materials, or entry items are *missing* in PHD:

- Contact the **PHD Administrator**

Cannot see the **Cement Supplier name** for my job?

PHD DATA REVIEW & QA

DATA OWNER REVIEW

❑ Data Owners review **<u>all</u>** segments/lanes/layers in a job

❑ If Data Owner <u>finds errors/omissions</u>:

➢ Data Owner <u>makes changes</u> & <u>Finalize</u> job

➢ **OR** Data Owner <u>reassigns</u> the job <u>back to Data Entry</u> user

COMMON ENTRY ERRORS TO LOOK FOR

❑ Incorrect project PR# and milepoints

❑ Segments input in the wrong direction

❑ Over/Under segmentation

❑ Omitted/Missing items:

  ▪ Work items *(example: ramps or pre-overlay work)*

  ▪ Lanes, Shoulder, Curb & Gutter / Layers / Attributes

  ▪ Aggregates from a mix design

  ▪ Warm mix designation (incorrect or missing)

COMMON ENTRY ERRORS TO LOOK FOR

❑ Layers:
- Layers in the wrong order (upside down)
- Extra/duplicated layers

❑ Lane Numbering:
- Lane 1 not a mainline lane
- Lane 0, -1, etc. being a mainline lane

❑ Incorrect Lane/Shoulder, Curb & Gutter:
- Surface Type
- Lane/shoulder Widths
- Lane Type

❑ Copying errors

CENTRAL OFFICE QA

❑ QA begins immediately following the ***January 31st*** entry closing date

❑ Two Part evaluation process:

Part 1
Completeness

Part 2
Accuracy

CENTRAL OFFICE QA

❑ **Part 1 – Completeness**
- Are all pavement jobs **entered**?
  - Info compared from **JobNet Database** to **PHD Database**
  - Discrepancies e-mailed to verify if job(s) should be entered
  - **Data Entry user** enters missing job

❑ **Part 2 – Accuracy**
- Are jobs **entered correctly**?
  - Completed PHD projects are **sampled at random*** for each Region
  - Compare construction documents (**plans** & other **PWise resources)** to PHD
  - Possible errors are sent to the **Data Entry user** to verify/correct

> ** Accounts for approx. 15% of all entered jobs.*
> *This is not a verification of all jobs.*

DATA EXPORT & REPORTS

PHD REPORTS AND SEARCHES

❑ PHD Reports and Searches:

✳ ▪ <u>Export Data</u> – generates selectable data items (Excel)

▪ <u>Search Segment(s)</u> – finds segments within finalized jobs

✳ ▪ <u>Construction History Report</u> – generates segment/job info (Excel or PDF)

✳ ▪ <u>Material Information Report</u> – finds segments per materials (PDF or Excel)

✳ ▪ <u>Material Quantity Report</u> – quantities of HMA and PCC per time period (PDF or Excel)

▪ <u>Network Inventory Report</u> – lane-miles of rigid/flexible/comp lanes or shoulders (PDF or Excel)

▪ <u>Work Type Report</u> – finds segments by work type code (PDF or Excel)

✳ ▪ <u>MAP Reconciliation</u> – finds jobs from JobNet (MAP) which are not entered into PHD (PDF)

- **Reports & Searches**
  » Export Data
  » Search Segment(s)
  » Construction History
  » Material Information
  » Material Quantity
  » Network Inventory
  » Work Type
  » MAP Reconciliation

EXPORT DATA

- ❑ Shows segment data entry for a geographic area (Statewide, Regions, TSCs, and Counties)

- ❑ Various Export Types:

- ❑ Report per **segment information** (PR#, MPs, Route, etc.)

- ❑ *Reports in **Excel** format*

– Reports & Searches
- » Export Data
- » Search Segment(s)
- » Construction History
- » Material Information
- » Material Quantity
- » Network Inventory
- » Work Type
- » MAP Reconciliation

Export Type	Selectable Items (Column Headers)	
Job Details	• Non MAP Job Type • Special Project Type • National Pavement Study Number • State Pavement Study Number • Work Type Code	• Work Type Code Description • Date (Open to Traffic) • Date Type • Fix Life • Project Comment
Lane: Layers & Details	• Year (Constructed) • Lane Number • Lane Surface Type • Lane Width	• Lane Type • Layer Number • Layer Name • Attributes (Name & Value)
Lane: Aggregates	• Year (Constructed) • Lane Number • Lane Surface Type • Layer Number	• Layer Name • Aggregate Name • Source/Pit Number
Shoulder: Layers & Details	• Side Indicator • Surface Type • Corrugations (Rumble Strip) • Parking Lane • Paved Width • Total Width	• Paved Thickness • Paving Width • Layer Number • Layer Name Attributes (Name & Value)
Shoulder: Aggregates	• Side Indicator • Surface Type • Layer Number	• Layer Name • Aggregate Name • Source/Pit Number
Curb & Gutter: Details	• Side Indicator • Attributes (Name & Value)	
Median: Details	• Median Type • Median Width	

EXPORT DATA (EXAMPLES)

❑ Export Type **– Job Details**

	PR Number	PR BMP	PR EMP	Road Name	County	TSC	Region	MAP Job ID	Non MAP Job ID	Non MAP Job Type	Special Project Type	Work Type Code	Work Type Description	Date (Open to Traffic)	Fix Life
49	535604	0.598	1.387	N I 75 BL	Crawford	Gaylord	North	204234				456	Asphalt Crack Treatment	7/24/2019	1
50	535604	1.387	1.472	N I 75 BL	Crawford	Gaylord	North	204234				456	Asphalt Crack Treatment	7/24/2019	1
51	535604	1.467	3.256	N I 75 BL	Crawford	Gaylord	North	131781				408	Milling & One Course Asphalt Ove	11/1/2018	10
52	535604	3.256	4.015	N I 75 BL	Crawford	Gaylord	North	131781				408	Milling & One Course Asphalt Ove	11/1/2018	10
53	535604	4.017	5.5	N I 75 BL	Crawford	Gaylord	North	200685				440	Single Course Chip Seal	6/13/2019	6
54	535604	5.5	5.58	N I 75 BL	Crawford	Gaylord	North	200685				440	Single Course Chip Seal	6/13/2019	6
55	1283009	0.283	1.96	S Burkett Rd	Missaukee	Traverse City	North		21-3123	TWA		15	Shoulder Rehabilitation	9/29/2021	14
56	1283009	0.3	2.138	S Burkett Rd	Missaukee	Traverse City	North	210772				456	Asphalt Crack Treatment	7/14/2021	3
57	1283009	1.96	1.997	S Burkett Rd	Missaukee	Traverse City	North		21-3123	TWA		15	Shoulder Rehabilitation	9/29/2021	14
58	1283009	1.997	2.018	S Burkett Rd	Missaukee	Traverse City	North		21-3123	TWA		15	Shoulder Rehabilitation	9/29/2021	14

❑ Export Type **– Lane: Layer Details**

	PR Number	PR BMP	PR EMP	Road Name	County	TSC	Region	MAP Job ID	Year (Constructed)	Lane Number	Lane Surface Type	Layer Name	Attribute	Value
2	935207	25.359	26.023	W I 96	Livingston	Brighton	University	212727	2021	1	HMA over existing Jointed Conc	Overband CrackFill Stand Alone	Overband Crack Fill Product	WR Meadows 1190 (W.R. Meadows, Inc.)
6	935105	25.308	26.293	E I 96	Livingston	Brighton	University	212727	2021	1	HMA over existing Jointed Conc	Overband CrackFill Stand Alone	Overband Crack Fill Product	WR Meadows 1190 (W.R. Meadows, Inc.)
7	935105	26.501	26.695	E I 96	Livingston	Brighton	University	212727	2021	1	HMA over existing Jointed Conc	Overband CrackFill Stand Alone	Overband Crack Fill Product	WR Meadows 1190 (W.R. Meadows, Inc.)
8	935105	26.968	27.461	E I 96	Livingston	Brighton	University	212727	2021	1	HMA over existing Jointed Conc	Overband CrackFill Stand Alone	Overband Crack Fill Product	WR Meadows 1190 (W.R. Meadows, Inc.)
15	1551710	6.018	6.5	US 2	Dickinson	Crystal Fal	Superior	208474	2021	1	HMA over existing Jointed Conc	HMA Top Course	Asphalt Binder	PG 58-28
16	1551710	6.018	6.5	US 2	Dickinson	Crystal Fal	Superior	208474	2021	1	HMA over existing Jointed Conc	HMA Top Course	Asphalt Binder Certified Supplier	Husky Energy, Rhinelander, WI
17	1551710	6.018	6.5	US 2	Dickinson	Crystal Fal	Superior	208474	2021	1	HMA over existing Jointed Conc	HMA Top Course	Mix Design No. (Case Sensitive)	21MD194
18	1551710	7.169	8.242	US 2	Dickinson	Crystal Fal	Superior	208474	2021	1	HMA over existing Jointed Conc	HMA Top Course	Asphalt Binder	PG 58-28
19	1551710	7.169	8.242	US 2	Dickinson	Crystal Fal	Superior	208474	2021	1	HMA over existing Jointed Conc	HMA Top Course	Asphalt Binder Certified Supplier	Husky Energy, Rhinelander, WI
20	1551710	7.169	8.242	US 2	Dickinson	Crystal Fal	Superior	208474	2021	1	HMA over existing Jointed Conc	HMA Top Course	Mix Design No. (Case Sensitive)	21MD194

CONSTRUCTION HISTORY REPORT

- ❑ Report shows all <u>finalized</u> data entry (jobs) on a specified PR segment

- ❑ Search by CS#, PR#, or Job #

- ❑ *Report in **PDF & Excel format***

Reports & Searches
- » Export Data
- » Search Segment(s)
- » Construction History
- » Material Information
- » Material Quantity
- » Network Inventory
- » Work Type
- » MAP Reconciliation

Construction History Report

Job Summary

Job Number	Work Type	Fix Life (Yrs)	Cost[1] / Lane Mile ($)	Date	Lanes	Special Project Type	Pavement Study Number
108909	408 - Milling & One Course Asphalt Overlay	7		07/19/2013[a]	0	N/A	N/A

[1] - Construction Cost or A Phase CTD from MPINS / [a] - Open to Traffic Date / [b] - Let Date / [c] - A Phase start date / [d] - Sufficiency Year_Imp / [e] - AASHTOWare Project Open to Traffic Date / [f] - AP All Contract Work Completed Date

Segment Details

Region	TSC	County	Route	PR Number	PR BMP	PR EMP
Grand	Grand Rapids	Kent	M-57	410710	5.107	5.209

Lane [1.0], Lane Type [Mainline], Sectional Details [Surface Type:Flexible / Width: 12.00 ft / Partial Width Paving: No / Paving Width: N/A]

Year Constructed	Pavement	Attribute	Value	Aggregate	Pit / Source
		AWI (Actual)	264	Man Sand	41-117
		Application Rate	170 Pounds Per Square Yard	3/8 x 4	41-117
		Asphalt Binder	PG 58-28	2NS	41-117
		Asphalt Binder Certified Supplier	Michigan Paving & Materials Co., Monroe, MI	Reclaimed	41-000
	HMA Top Course	Mix Design No. (Case Sensitive)	13MD241	Gray Sand	93-031
2013		Mix Type - HMA Top Course	5E3		
		Shingles Used	N		
		Warm Mix	N		

MATERIAL INFORMATION REPORT

❑ Finds road segments that have specified **layers** or **layer attributes** for a geographic area

■ Geographic areas include Statewide, Regions, TSCs, and Counties

❑ *Report in* **PDF** *or* **Excel format**

– Reports & Searches
» Export Data
» Search Segment(s)
» Construction History
» Material Information
» Material Quantity
» Network Inventory
» Work Type
» MAP Reconciliation
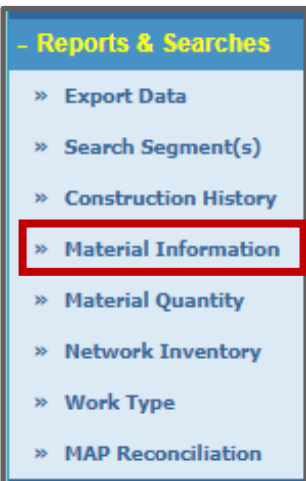
Material Information Report

Report Criteria [Region: Grand / TSC: Cadillac]

Pavement	Attribute	Attribute Value
HMA Top Course	Asphalt Binder	PG 70-28P

Report Data

Job Number	Route	County	PR Number	PR BMP	PR EMP	Date	RSL	Year RSL	Work Type
204067	M-66	Mecosta	526107	8.86	8.891	2020-06-19 00:00:00.0	-	-	408 - "Milling & One Course Asphalt Overlay"
204067	M-66	Mecosta	526107	8.86	8.891	2020-06-19 00:00:00.0	-	-	408 - "Milling & One Course Asphalt Overlay"
204067	M-66	Mecosta	526107	9.088	9.221	2020-06-19 00:00:00.0	-	-	408 - "Milling & One Course Asphalt Overlay"
204067	M-66	Mecosta	526107	8.966	9.088	2020-06-19 00:00:00.0	-	-	408 - "Milling & One Course Asphalt Overlay"
204067	M-66	Mecosta	526107	8.966	9.088	2020-06-19 00:00:00.0	-	-	408 - "Milling & One Course Asphalt Overlay"
204208	M-20	Mecosta	524902	3.214	3.401	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
204208	M-20	Mecosta	524902	3.154	3.214	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
204208	M-20	Mecosta	524902	3.154	3.214	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
204208	M-20	Mecosta	524902	3.401	3.496	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
204208	M-20	Mecosta	524902	3.401	3.496	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
204208	M-20	Mecosta	524902	3.154	3.214	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
204208	M-20	Mecosta	524902	3.154	3.214	2021-06-18 00:00:00.0	-	-	440 - "Single Course Chip Seal"
208279	M-82	Newaygo	712309	4.922	4.958	2021-05-19 00:00:00.0	-	-	164 - "Asphalt Reconstruction"
208279	M-82	Newaygo	712309	4.922	4.958	2021-05-19 00:00:00.0	-	-	164 - "Asphalt Reconstruction"
208279	M-82	Newaygo	712309	4.971	5.01	2021-05-19 00:00:00.0	-	-	164 - "Asphalt Reconstruction"
208279	M-82	Newaygo	712309	4.849	4.922	2021-05-19 00:00:00.0	-	-	164 - "Asphalt Reconstruction"
208279	M-82	Newaygo	712309	4.958	4.971	2021-05-19 00:00:00.0	-	-	164 - "Asphalt Reconstruction"
208279	M-82	Newaygo	712309	4.958	4.971	2021-05-19 00:00:00.0	-	-	164 - "Asphalt Reconstruction"

MDOT

MATERIAL QUANTITY REPORT

❑ **Compares** quantities of **HMA** and **PCC** placed during a specified time period in a geographic location

❑ *Report in* ***PDF*** *or* ***Excel format***

- Reports & Searches
  » Export Data
  » Search Segment(s)
  » Construction History
  » Material Information
  » Material Quantity
  » Network Inventory
  » Work Type
  » MAP Reconciliation

Material Quantity Report

Report Criteria

Region	TSC	From Year	To Year
Metro	All TSCs	2017	2020

Report Data

Region	TSC	Lane Miles (miles)		Volume (cu. yds) / Tonnage (tons)		Area (sq. yds)	
		PCC	HMA	PCC	HMA	PCC	HMA
Metro	Detroit	27.33	74.92	190,820.39	530,680.44	65,329.29	49,037.00
Metro	Oakland	0.00	11.51	0.00	79,633.78	0.00	8,334.13
Metro	Taylor	0.03	0.95	315.96	6,607.18	105.32	545.09
Metro	Macomb	0.00	127.02	0.00	885,264.65	0.00	121,652.40
Metro Region Totals		27.36	214.40	191,136.34	1,502,186.06	65,434.61	179,568.62

RESOURCES

RESOURCES

ProjectWise (PWise):
- https://mdotjboss.state.mi.us/SpecProv/projectwisesupport.htm
- Plans/proposal/addendum
- Pay Items/Tickets/Field Notes/Mix Designs

Construction Inquiry System:
- https://mdotjboss.state.mi.us/CCI/home.htm
- Summary of project items (pay items completed)

PR finder:
- https://mdotgis.state.mi.us/portal/apps/webappviewer/index.html?id=c3aa2462a1e24e37a33184a33e5976aa
- Find PR via CS, intersection, road name, interactive map

JobNet
- https://miloginworker.michigan.gov/uisecure/selfservice
- Find programmed MDOT jobs

PHD WEBSITE

❑ **Public:**

- https://www.michigan.gov/mdot/business/construction/pavement-operations/pavement-historical-database

❑ **MDOT Internal:**

- https://stateofmichigan.sharepoint.com/sites/mdot/Organizational/field_services/construction/phd/SitePages/Home.aspx

- Links to Resources
- Helpful Documents:
  - ➢ PHD User Guide
  - ➢ FAQ, Business Rules
  - ➢ Quick Reference Guide
  - ➢ PHD Attribute Locations
- Training Presentations
- Training/instructional videos

ADMINISTRATOR CONTACT

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Justin Schenkel

- Phone: 517-242-2788
- E-mail: schenkelj@michigan.gov

REGION PHD LIAISONS

**Region PHD Liaisons
can help too!**

Bay: Tyler Lemieux

Grand: Bill Loehle

Metro: Marji Zabel

North: Margaret Szajner

Southwest: Kyle Rudlaff

Superior: Alison Hamlin

University: Robert Green

PHD TRAINING EVALUATION

❑ Your feedback is greatly appreciated and will be used to assist us in evaluating and improving future training courses

https://www.research.net/r/LB2WPL9

FEEDBACK

QUESTIONS

Thank You!

QUESTIONS

APPENDIX
DATA ENTRY PROCESS

CREATE NEW JOB SCREEN

(1) *Navigate to:*

Post Constr. Data ➡ *Create*

❑ For **JobNet jobs**:
   ▪ Job ID is the MDOT Job Number without the 'A', etc.

❑ For **Non JobNet** jobs:
   ▪ Job ID naming conventions can be found in the PHD User Guide
   ▪ Job Types: Maintenance, TWA, Warranty, Direct Forces Work, Historic, & Permit

(2) *Select:*

'Yes' for JobNet Job
'No' for Non JobNet Job

JOB DETAILS SCREEN

☐ **JobNet job:**

- *Auto Generated:* Work Type Code & Fix Life
- *User Entered:* Special Project Type, Open to Traffic Date*

Job Details

JobNet Job ID	:	201403
Work Type Code	:	164 - Asphalt Reconstruction
Fix Life	:	18 Year(s)

☐ CPM Emerging Technology Funded
☐ Demonstration Project
☐ National Pavement Studies
☐ State Pavement Studies

Special Project Type
[Choose upto two types] :

* Open to Traffic Date
[This is the date when all lanes are open to the public traffic. For multi-year projects, please estimate it for now and use a placeholder to come back and change it later.] : [mm/dd/yyyy]

☐ **Non JobNet job:**

- *User select:* Work Type Code*, Special Project Type, Job Type*, Open to Traffic Date*, & Fix Life

Job Details

Non JobNet Job ID	:	M458785
* Non JobNet Job Type	:	Select Non JobNet Job Type ▾
* Work Type Code	:	None ▾
* Fix Life	:	0 Year(s) Fix Life Guide

☐ CPM Emerging Technology Funded
☐ Demonstration Project
☐ National Pavement Studies
☐ State Pavement Studies

Special Project Type
[Choose upto two types] :

* Open to Traffic Date
[This is the date when all lanes are open to the public traffic. For multi-year projects, please estimate it for now and use a placeholder to come back and change it later.] : [mm/dd/yyyy]

SIMPLIFIED CPM (FOR MAP OR Non MAP JOBS)

❑ Job <u>must</u> be a **CPM (Capital Preventive Maintenance)** project with Work Type Code **WTC 400 - 499**

❑ Reduces the amount of data entry:

- ▪ No entry of individual lanes
- ▪ Only enter segment layer information
- ▪ Does not require segment changes based on lane or shoulder changes

❑ **<u>Note:</u>** this can only be selected once and will <u>remain</u> in the selected format

Job Details

JobNet Job ID	: 217463
Work Type Code	: 456 - Asphalt Crack Treatment
Fix Life	: 3 Year(s)

* Use SIMPLIFIED CPM format for data entry? [only use when all lanes and work is the same]   : ○ Yes ○ No

☐ **CPM Emerging Technology Funded**
☐ **Demonstration Project**
☐ **National Pavement Studies**
☐ **State Pavement Studies**

Special Project Type [Choose upto two types]   :

* Open to Traffic Date [This is the date when all lanes are open to the public traffic. For multi-year projects, please estimate it for now and use a placeholder to come back and change it later.]   : [ ] 📅 ▾ [mm/dd/yyyy]

WTC
400-499

Simplified CPM Check Box
Appears only if WTC is 400-499

SIMPLIFIED CPM (Cont.)

❑ **Cannot** use Simplified CPM format if the following applies to the job:

- Does <u>not</u> have **WTC 400 to 499**

- Lanes have different paved or placed work

- Has **HMA paving**, which includes these layers:

  ➢ HMA Base Course

  ➢ HMA Leveling Course

  ➢ HMA Top Course

  ➢ HMA Wedge Course

  ➢ HMA Ultra-Thin Overlay

  ➢ Crack Relief Interlayer/DRM

  ➢ Paver Placed Surface Seal

ROAD SEGMENT LIST SCREEN

- This screen appears after creating a job

- If it is a **JobNet job**, then segments will be automatically populated
  - Likely still requires editing and adding segments

- If it is a **Non JobNet job**, then the segments need to be created

Edit Job Details

Copy Segment Details

Create or Delete Segments

View Map

Create Sub Segments

Edit Segment Details

Layers Library

Change Milepoints

Project Comment Box

Project Summary

Job Details [201403 / 16? - Asphalt Reconstruction] [Show] ▲

Edit Job Details

PR Segment List [Hide] ▼

	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
●	1	3090836	23	0	0.068	M-25	NB	Active	Draft
○	2	3090836	23	0.068	0.236	M-25	NB	Active	Draft
○	3	3090836	23	0.236	0.29	M-25	NB	Active	Draft

Segment Details | Copy Segment Details | Create Segment | Delete Segment(s) | View Map

Layers Library Overview

Change PR Segment Mile Points

#	PR Number	BMP	EMP
1	3090836	0	0.068

Apply Milepoint Changes

Create PR Sub Segments

No. of Sub Segments : [   ] [At least 2]

Create Sub Segments

Project Comments
[max 250 characters]

Back | Finalize Job | Save Job as Draft | Cancel

Project Summary

EDIT JOB DETAILS

❏ Returns to the Job Details screen

  ▪ For corrections/changes or review

  ▪ **Note:** *Simplified CPM* cannot be changed once job is created. Contact an Administrator if this needs to be changed.

CHANGE PR SEGMENT MILEPOINTS

➤ Select the segment radio button **(1)**

➤ Change the BMP and/or EMP **(2)**

➤ Click '*Apply Milepoint Changes*' **(3)**

❖ An *error* will occur if a milepoint is added

that exceeds the PR length

CREATE PR SUBSEGMENTS

- ➤ Select the segment radio button **(1)**
- ➤ Enter the number of sub segments **(2)**
- ➤ Click '*Create Sub Segments*' **(3)**
- ➤ Enter BMP & EMP for each new sub segment **(4)**
- ➤ Click '*Create Sub Segments*' **(5)**
  - ❖ An error will occur if milepoints overlap or exceed the PR length

Create Sub Segments

Create Sub Segments screen

CREATE SEGMENT

➤ Click '*Create Segment*' **(1)**

➤ Enter PR Number, BMP, & EMP **(2)**

➤ Click '*Create*' or '*Create and Add One More*' **(3)**

❖ *An error will occur if milepoints exceed the PR length or PR is located outside of user Location Assignment*

Create PR Segment screen

CREATE SEGMENT

❑ If the project has a new ramp, roundabout, or alignment changes

❑ The user might not be able to enter/create the segment (with a new PR number or changed MPs)

❑ To enter such segment(s):

➢ Select '*Future*'

➢ Enter PR Number, BMP, & EMP

➢ Click '*Create*'

DELETE SEGMENT

➢ Click '*Delete Segment(s)*' **(1)**

➢ Check the segment(s) to delete **(2)**

➢ Click '*Confirm*' (or *Back* to cancel) **(3)**

Delete PR Segment screen

⚠ Select segment(s) to delete.

PR Segment Details [Job # - 201403]

☐	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
☐	1	961905	23	4.123	4.465	M-19	2 Way	Active	**Draft**
☑	2	961905	23	4.465	4.499	M-19	2 Way	Active	**Draft**
☐	3	3090836	23	0	0.125	M-25	NB	Active	**Draft**
☐	4	3090836	23	0.125	0.369	M-25	NB	Active	**Draft**
☐	5	3090836	23	0.369	0.587	M-25	NB	Active	**Draft**
☐	6	3090836	23	0.587	0.852	M-25	NB	Active	**Draft**
☐	7	3090836	23	0.852	1.292	M-25	NB	Active	**Draft**

(2)

[Back]   [Confirm] **(3)**

Job Details [201403 / 164 - Asphalt Reconstruction]   [Show] ▲

[Edit Job Details]

PR Segment List   [Hide] ▼

	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
●	1	961905	23	4.123	4.465	M-19	2 Way	Active	**Draft**
○	2	961905	23	4.465	4.499	M-19	2 Way	Active	**Draft**
○	3	3090836	23	0	0.125	M-25	NB	Active	**Draft**
○	4	3090836	23	0.125	0.369	M-25	NB	Active	**Draft**
○	5	3090836	23	0.369	0.587	M-25	NB	Active	**Draft**
○	6	3090836	23	0.587	0.852	M-25	NB	Active	**Draft**
○	7	3090836	23	0.852	1.292	M-25	NB	Active	**Draft**

[Segment Details] [Copy Segment Details] [Create Segment] [Delete Segment(s)] [View Map] **(1)**

[Layers Library Overview]

Change PR Segment Mile Points

#	PR Number	BMP	EMP
1	961905	4.123	4.465

[Apply Milepoint Changes]

Create PR Sub Segments

No. of Sub Segments : [____] [At least 2]

[Create Sub Segments]

Project Comments
[max 250 characters]

[Back] [Finalize Job] [Save Job as Draft] [Cancel]

[Project Summary]

VIEW MAP

❑ This function shows <u>all</u> Road Segment List segments in a map

➢ Click '*View Map*'

- The Map screen will appear
- Can add new segments, delete segments, change segment milepoints, view/print segments in map

Map screen

Job Details [201403 / 164 - Asphalt Reconstruction] [Show] ▲

Edit Job Details

PR Segment List [Hide] ▼

	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
●	1	961905	23	4.123	4.465	M-19	2 Way	Active	Draft
○	2	3090836	23	0	0.125	M-25	NB	Active	Draft
○	3	3090836	23	0.125	0.369	M-25	NB	Active	Draft
○	4	3090836	23	0.369	0.587	M-25	NB	Active	Draft
○	5	3090836	23	0.587	0.852	M-25	NB	Active	Draft
○	6	3090836	23	0.852	1.292	M-25	NB	Active	Draft

Segment Details   Copy Segment Details   Create Segment   Delete Segment   **View Map**

Layers Library Overview

Change PR Segment Mile Points

#	PR Number	BMP	EMP
1	961905	4.123	4.465

Apply Milepoint Changes

Create PR Sub Segments

No. of Sub Segments : [   ] [At least 2]

Create Sub Segments

Project Comments
[max 250 characters]

Back   Finalize Job   Save Job as Draft   Cancel

Project Summary

VIEW MAP: MAP SCREEN

(1) Map View Type

(2) Map Tools

(3) Map

(4) PR Segment List

(5) Back & Save

VIEW MAP: MAP SCREEN

❑ Map View Types
  ▪ Select the view type radio button to change the map background image

Street
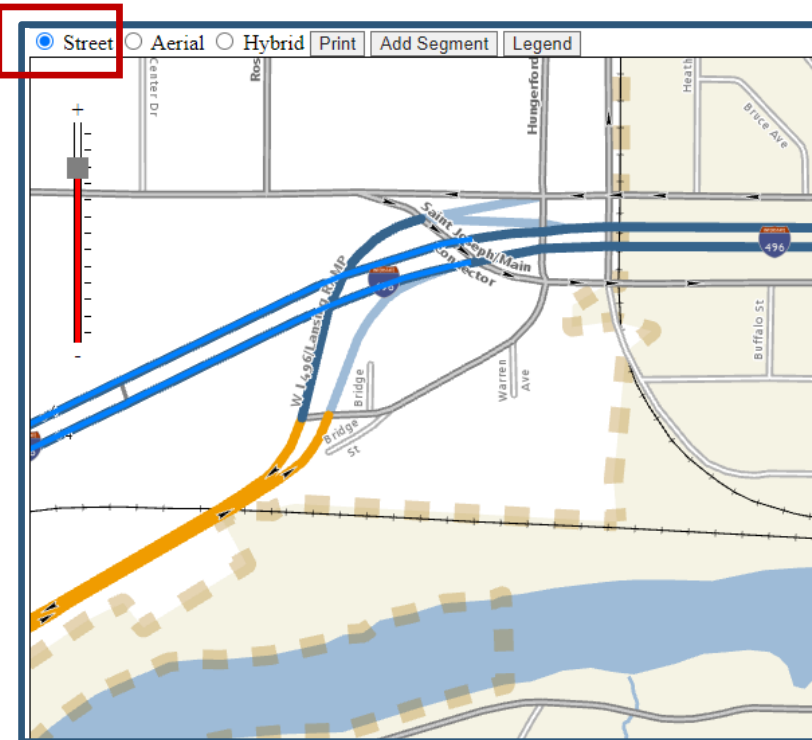
Aerial

Hybrid
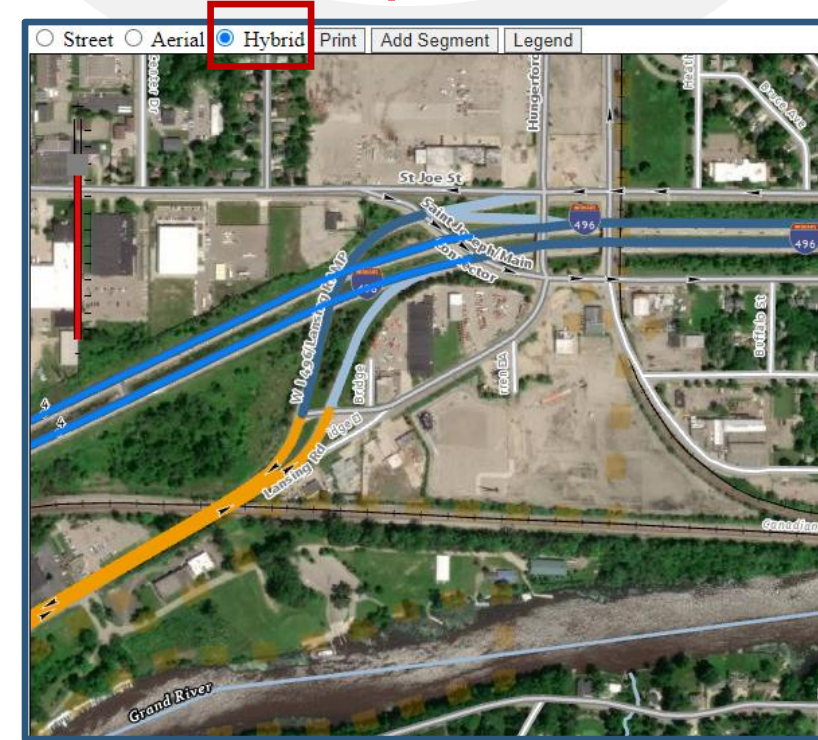
VIEW MAP: MAP SCREEN
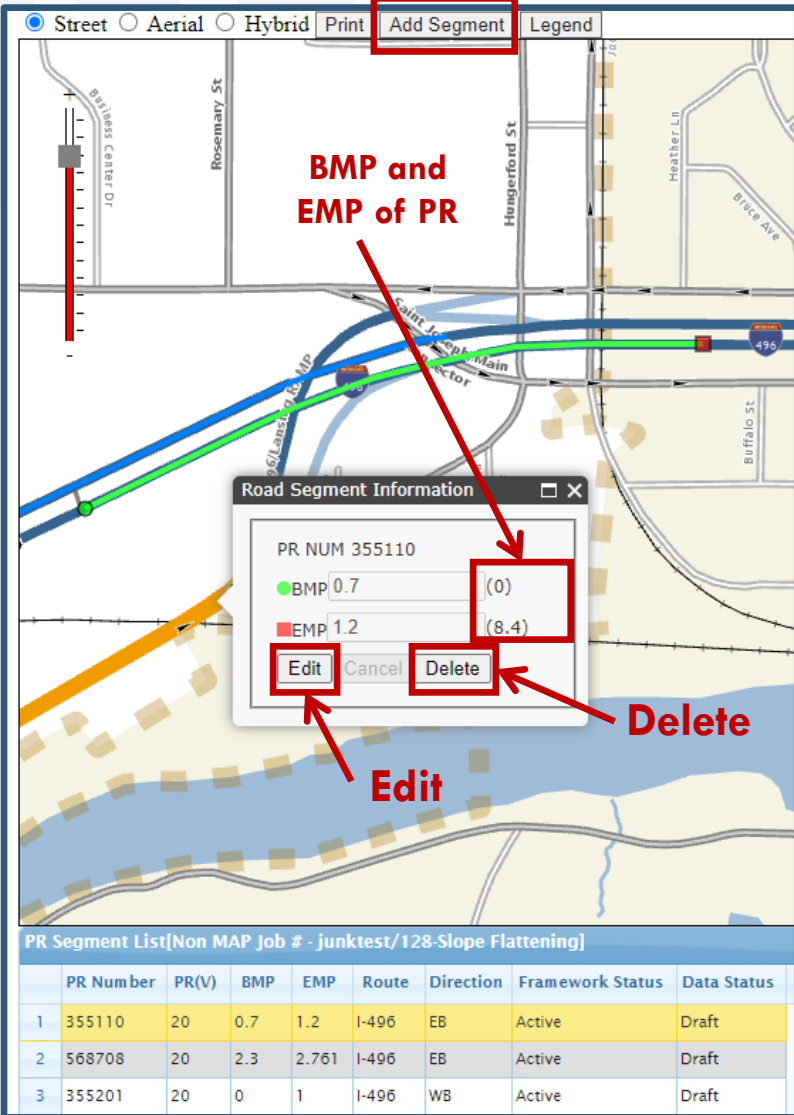
❑ Map Tools
  ➢ Click *Print* to show map image with the segments in a new PDF pop-up window
    • May take 20-30 seconds to load the first print. Following prints should be faster.
  ➢ Click *Add Segment* to add new segments to the PHD job
    • Select the location within the map to add segment. Repeat to add new segments.
  ➢ Click *Legend* to view the meanings of the different colors within the map
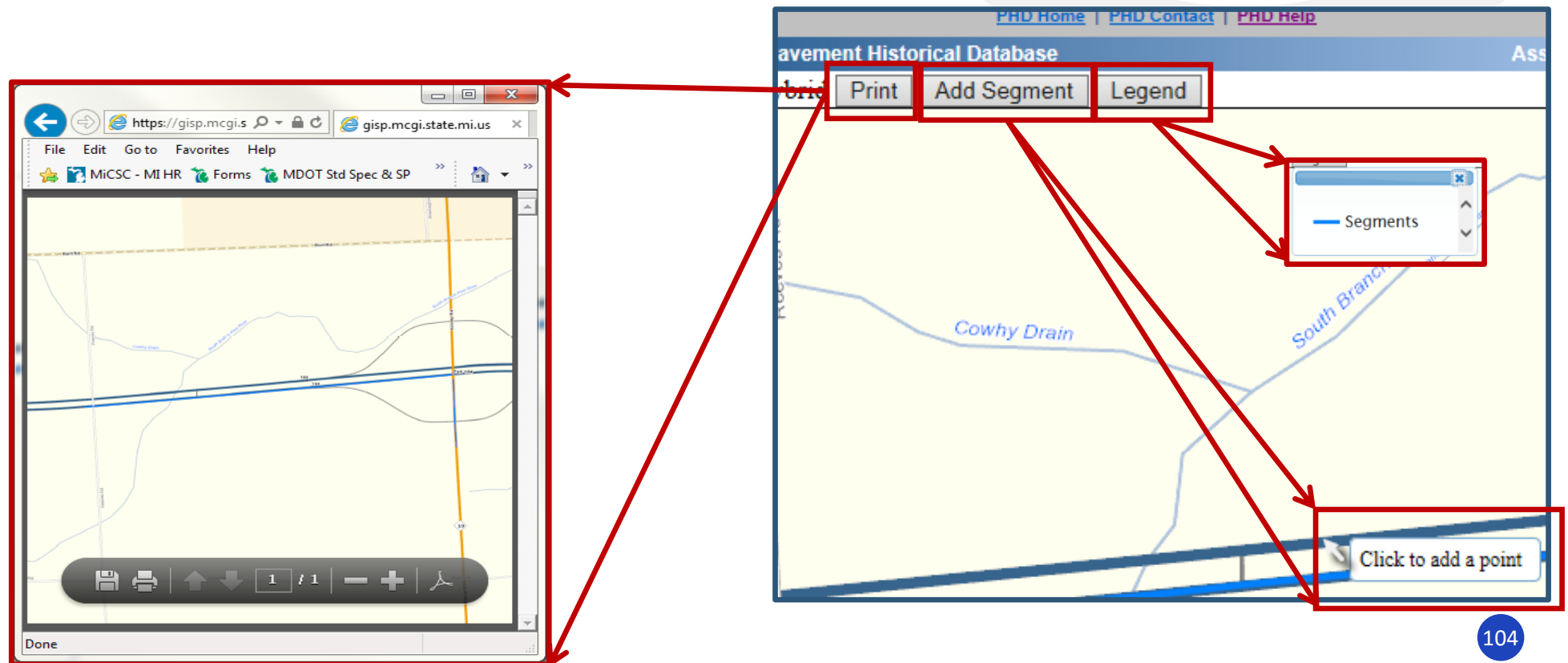
VIEW MAP: ADD SEGMENT

- ❑ Move the map view with click and drag
- ❑ Zoom the view with mouse wheel or click the + or – on the scale
- ❑ Add segments in map:
  - ➢ Click *'Add Segment'*,
  - ➢ Click on the segment in the map,
  - ➢ The **entire PR length** will turn blue and will **be added**
- ❑ View & edit milepoints:
  - ➢ Select a segment using the map or table,
  - ➢ The segment turns green and the Road Segment Information box appears,
  - ➢ Click *'Edit'* and change the BMP and/or EMP,
  - ➢ Click *'Save'* in the box to confirm or click *'Cancel'* in the box to undo
- ❑ Delete segments:
  - ➢ Select a segment in the map or table,
  - ➢ The Road Segment Information box will appear,
  - ➢ Click *'Delete'* in the box or click *'Cancel'* in the box to undo

VIEW MAP: SEGMENT LIST

❑ PR Segment List Table

➢ Shows the segments in the Road Segment List screen

  ❖ **Exception:** If changes are made, this table will not match if clicking *Back* before clicking *Save*

➢ Click a column header to sort the table, (a triangle will identify the active sort)

➢ Click a segment row in the table to zoom to it and show the Road Segment Info box

➢ Hide the table by clicking the triangle in the upper right corner

Road Segment Information

PR NUM 355110

● BMP 0.7 (0)
■ EMP 1.2 (8.4)

Edit Cancel Delete

PR Segment List[Non MAP Job # - junktest/128-Slope Flattening]

	PR Number ▲	PR(V)	BMP	EMP	Route	Direction	Framework Status	Data Status
1	355110	20	0.7	1.2	I-496	EB	Active	Draft
2	355201	20	0	1	I-496	WB	Active	Draft
3	568604	20	2.8	3.373	I-496	WB	Active	Draft
4	568708	20	2.3	2.761	I-496	EB	Active	Draft

Page 1 of 1

VIEW MAP: MAP SCREEN

❑ Save & Back

➢ Click '*Save*' to save all added segments, deleted segments, and/or milepoint changes made in the map
  - **Note:** If there are any overlapping segments, a warning message will appear and **not allow the save.** Segments that **overlap must be manually changed.**

➢ Click '*Back*' to return to the Road Segment List screen
  - **Important:** **Click Save before clicking Back to save changes**
  - **Note:** To undo all changes, click Back and do not click Save

VIEW MAP: MAP SCREEN

❑ Additional Notes:

▪ Segments with **older framework will have warning message and <u>may</u> not be visible in map**

- Older framework segments can exist if multi-year projects started in the previous year, or PHD jobs that were started early in the year, before new framework was available – *(old framework segments can still be used & saved).*

- The map uses the most current framework version

▪ **If older framework segments are in the PHD job, warnings appear:**

- At the top of the Road Segment List screen

- In map screen if selected from the PR Segment List table and it cannot be viewed

EDIT SEGMENT DETAILS

➢ Select the segment radio button **(1)**

➢ Click '*Segment Details'* **(2)**

• The Segment Overview screen will appear

(1)

(2)

Job Details [201403 / 164 - Asphalt Reconstruction]								[Show] ▲

Edit Job Details

PR Segment List								[Hide] ▼
	#	PR Number	PR(v)	BMP	EMP	Route	Direction	Framework Status	Data Status
●	1	961905	23	4.123	4.465	M-19	2-Way	Active	Draft
○	2	3090836	23	0	0.125	M-25	NB	Active	Draft
○	3	3090836	23	0.125	0.369	M-25	NB	Active	Draft
○	4	3090836	23	0.369	0.587	M-25	NB	Active	Draft
○	5	3090836	23	0.587	0.852	M-25	NB	Active	Draft
○	6	3090836	23	0.852	1.292	M-25	NB	Active	Draft

Segment Details | Copy Segment Details | Create Segment | Delete Segment(s) | View Map

Layers Library Overview

Change PR Segment Mile Points				Create PR Sub Segments
#	PR Number	BMP	EMP	
1	961905	4.123	4.465	No. of Sub Segments : [_____] [At least 2]

Apply Milepoint Changes   Create Sub Segments

Project Comments
[max 250 characters]

Back | Finalize Job | Save Job as Draft | Cancel

Project Summary

◄ :: Post Construction Data | Segment Overview   Role[s] :: Data Owner , Data Entry , System Administrator

Segment Details [Job # - 200711 / PR # - 3130113 / MP : 0 … 0.162]	[Show] ▲

Segment Shoulder Overview		
	Left	Right
Work Done	Yes	Yes
Status	Draft	Draft

Segment Lane(s) Overview		
Lane #	Work Done	Status
4.0	Yes	Draft
3.0	Yes	Draft
2.0	Yes	Draft
1.0	Yes	Draft

Lane Details

Segment Curb & Gutter Overview		
	Left	Right
Work Done	No	No
Status		

Shoulder, Curb & Gutter Details

Median Overview

* Median Type : [Undivided ▼]

Segment Comments
[max 250 characters]

Back | Save Segment | Save Segment As Draft | Cancel

Segment Summary

109

EDIT SEGMENT DETAILS: SEGMENT OVERVIEW SCREEN

- Entry of work on lanes, shoulder, and/or curb and gutter
- Data entered here is only for the **current selected** segment (not entire project)

Edit Shoulder, Curb & Gutter Details

Edit Lane Details

Median Overview Box

Segment Comment Box

Segment Summary

SEGMENT OVERVIEW SCREEN

Pre-population of Segment Details Example: **JN 119085, I-475 Reconstruct**

❑ Segment Info for PR 1497903, MP 11.310 – 11.342

- ▪ Pre-populated:
  - • **Lanes =** 4 lanes (1.0, 2.0, 3.0, 4.0)
  - • Shoulders = Left & Right Side
  - • **Median Type =** Concrete Barrier
  - • **Median Width =** 26'
- ▪ Never Pre-populated:
  - • Curb & Gutter
    - • Must Add and Modify manually

SEGMENT OVERVIEW SCREEN: SIMPLIFIED CPM

Simplified CPM

Standard Full Job Entry

Add/Edit Segment Layers (No Lane Details)

Edit Shoulder, Curb & Gutter Details

Year the work was Paved/Placed

Median Overview

Segment Comment

Segment Summary

Edit Lane Details

- **Simplified CPM**
- **Full Job**
- **Both**

SEGMENT OVERVIEW SCREEN: MEDIAN OVERVIEW

➢ Select *Median Type* from the drop-down list

➢ Enter *Median Width* (ft) in the box

- If 'Other' is selected, enter a type that is not in the Median Type List

- If 'Undivided is selected, no Median Width

SEGMENT OVERVIEW SCREEN: LANE DETAILS

➢ Click *'Lane Details'*

▪ The Lane Summary screen will appear

EDIT LANE DETAILS

(1) Segment Details Info

(2) Segment Lanes

- Add a lane, remove a lane, copy lane details (from one to another)

(3) Selected Lane

(4) Lane Details

- Enter the details for the selected lane

(5) Lane Section

- Add and edit layers

(6) Back/Save/Cancel/Copy Lane Layers to Shoulder(s)

EDIT LANE DETAILS: LANE DETAILS PANE

➤ Select the *Surface Type* from the drop-down menu

➤ Select the lane *Width* from the drop-down menu

➤ Select the *Lane Type* (functional use) from the drop-down menu

➤ Enter the *Year* the work/material was *Paved or Placed*

➤ Select 'Yes' if this lane was *Partially Paved* in this job
   * refers to final width of paved lane, not part-width construction

Select Surf. Type
HMA full depth
HMA over existing HMA
HMA over existing Jointed Conc
HMA over existing CRCP
HMA over existing Brick
JPCP-Jointed Plain Concrete Pvmt
JRCP-Jointed Reinforced Conc Pvmt
CRCP-Continuously Reinf Conc Pvmt
Unbonded Conc Overlay on Exist Conc
Whitetopping
Brick
Other

Lane Details [Lane #0.0]

* Surface Type	:	HMA full depth ▼
* Width	:	12 ▼ ft
* Lane Type	:	Right Turn ▼
* Year [Paved/Placed]	:	2018 [yyyy]
* Partial Width Paving?	:	○ Yes ● No

Select Lane Type
Buffer Space
Center Left Turn
Left & Right Turn
Left Turn
Mainline
Median Turnaround
Merge
Off-Ramp
On-Ramp
Passing Flare
Passing Relief
Right Turn
Truck Climbing
Weave

EDIT LANE DETAILS: PARTIAL WIDTH PAVING

➢ Click 'No'': the **Width** entry will indicate the full width the lane was paved.

➢ Click 'Yes': the **Paving Width** entry will indicate the partial paving width.

❖ **Note:** *This does not refer to construction staging part-width paving. This refers to final width of lane paved, regardless of construction staging*

EDIT LANE DETAILS: EDIT LAYER DETAILS

➤ Select a layer from the Layer drop-down list **(1)**

➤ Click '*Add Layer*' (repeat until all layers are added) **(2)**

➤ Click on the layer in the Lane Section box to begin editing **(3)**

Standard Full Job Entry

Simplified CPM Job Entry

EDIT LANE DETAILS: EDIT LAYER DETAILS

➤ Select the Layer in the *Select a Layer* drop-down **(1)**

➤ Enter details in the *Pavement Attributes* pane **(2)**

➤ Enter aggregate details (If applicable) **(3)**

- Select the aggregate from the *Aggregate* list (standard MDOT gradations)

  ❖ If *'Other Aggregate'* (non-standard gradation) selected – enter the other aggregate name in the text box

- Enter the pit source number for *Source*

  ❖ **Note:** *"County Code" pit source numbers can be used*

- Click *'Add Aggregate'* **(4)**

- Repeat until all aggregates have been added

Select a Layer [Job # - 201403 / PR # - 961905/ MP :4.123 ... 4.465]

| Layer | : | HMA Base Course ⌄ | **(1)** |

(1)

The bottom layer of an asphalt structure (below leveling & top course layers).

Locate layer attributes using the following cons
- For Mix Type, Mix Design No., Asphalt Binder,
use JMF (Form 1911), Report of Quality Assura
Reports (IDRs) (Form 1122B).
- For Application Rate, use 'As Built' Plans & Proposal or Yield Calculations.
- For Aggregate Class and Source (pit number), use JMF (Form 1911).

> ** **Drop-down menu to quickly change between setup layers**

Pavement Attributes - HMA Base Course

*	Mix Type	:	Select Mix Type - HMA Base Course ⌄	**(2)**
*	Mix Design No (Case Sensitive)	:		
*	Application Rate	:	Select Application Rate ⌄ #/syd	
*	Asphalt Binder	:	Select Asphalt Binder ⌄	
*	Asphalt Binder Cert. Supplier	:	Select Asphalt Binder Certified Supplier ⌄	
*	Asphalt % (Total)	:	[Numeric Value]	
*	Asphalt Binder %Added (Virgin)	:	[Numeric Value]	
*	Warm Mix?	:	○ Yes ○ No	
*	Shingles used in the mix?	:	○ Yes ● No	

Select New Aggregate   **(3)**

| * | Aggregate | : | Select an Aggregate ⌄ |
| | Source | : | ___ — ___ |

Aggregate Summary

Aggregate	Source	☐

Empty - Add Aggregates

Add Aggregate **(4)**

Add Aggregates | Edit Aggregate | Remove Aggregate

Back | Complete Layer | Restore Defaults | Cancel

Save Layer As Draft | Add to Layers Library

EDIT LANE DETAILS: EDIT LAYER DETAILS

> *Restore Defaults* button: **(1)**
>   - To reset the layer and <u>remove all data entry</u>
> *Save Layer As Draft* button: **(2)**
>   - Saves layer as **Draft** – use to save and <u>add more data later</u>
> *Complete Layer* button: **(3)**
>   - Saves layer as **Complete** – use when <u>all data is added & complete</u>.
> *Add to Layers Library* button: **(4)**
>   - To save the layer to the job's list of <u>Layers Library</u>

Result in the Lane Summary Screen

EDIT LANE DETAILS: EDIT LAYER DETAILS

➢ Add Aggregates *(from one to another layer)*

- After Saving a Layer as Complete – click 'Add Aggregates' **(1)**
- Check the aggregates to add **(2)**
- Check the layers to apply aggregates **(3)**
- Click 'Add' **(4)**
- **<u>Note</u>:** *Any Complete layers will not appear in list to add to*
- **<u>Note</u>:** *Previously added aggregates will <u>not</u> be deleted*

EDIT LANE DETAILS: LANE SECTION PANE

❑ Move a layer up or down in list:
- ➤ Select layer check box,
- ➤ Click '*Move Up*' or '*Move Down*'

❑ Remove a layer from the list:
- ➤ Select the layer check box,
- ➤ Click '*Remove*'

EDIT LANE DETAILS: SAVING

➢ Click '*Save Lane As Draft*':

- Saves <u>current</u> lane as **Draft** – use to save and <u>add more data/layers later</u>

➢ Click '*Save Lane*':

- Saves <u>current</u> lane as **Complete** – use when <u>all data/layers are added & complete</u>

Result in the Segment Overview Screen

Result in the Segment Overview Screen

EDIT LANE DETAILS: COPY LANE

➢ Click *'Copy Lane' (After Saving a lane as Complete)* **(1)**

➢ Select the Completed Lane to copy from **(2)**

➢ Select the Draft Lane(s) to copy to **(3)**

➢ Options:

- To overwrite to selected Lane(s) – click *'Copy'* **(4)**

- Else, uncheck a box to not overwrite everything– click *'Copy'* **(4)**

EDIT LANE DETAILS: COPY TO SHOULDER(S)

➤ Click '*Copy Lane Layers to Shoulder(s)*' **(1)**

➤ Select the Shoulder side to apply the copy to: *Both, Left, Right, or Cancel* **(2)**

- *__Warning:__ For the shoulder(s) copied to, all existing Layers will be removed and replaced with those shown in the active lane*

9 – Data Entry Process   *Result in the Shoulder details Screen*

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EDIT SHOULDER, CURB & GUTTER DETAILS

➤ Click '*Shoulder, Curb & Gutter Details*'

- The Shoulder, Curb & Gutter Details screen will appear

EDIT SHOULDER, CURB & GUTTER DETAILS

➢ Select the *Left Side* or *Right Side* tab **(1)**

➢ Click 'Yes' or 'No' for *Work Done* **(2)**

  ❖ *'Yes' will allow entry of details*

➢ Enter Shoulder details **(3)**

➢ To **copy** the <u>selected side</u> to the other side – click '*Copy Shoulder, Curb & Gutter Details*' **(4)**

  ❖ **Note:** Right and Left sides are established by facing the direction of increasing milepoints

EDIT SHOULDER, CURB & GUTTER DETAILS

❏ Partial width paving

➤ Select 'Yes' if the shoulder was **partially** paved **within the same job**

➤ Select 'No' if the shoulder was **completely** paved **within the same job**

❏ If 'Yes' is selected:

➤ Enter the partial Paving Width

SHOULDER, CURB & GUTTER: SIMPLIFIED CPM

Simplified CPM

Standard Full Job Entry

Left Side & Right Side tabs

Shoulder Details

Add/Edit Shoulder Layers (No Shoulder Details)

Curb Type drop-down list

- ▪ *Simplified CPM*
- ▪ **Full Job**
- ▪ **Both**

EDIT SHOULDER, CURB & GUTTER DETAILS

➤ *Save Shoulder As Draft:*
  - Saves <u>current</u> <u>side</u> as **Draft** – use to save and <u>add more data/layers later</u>

➤ *Save Shoulder, Curb & Gutter:*
  - Saves <u>current</u> <u>side</u> as **Complete** – use when <u>all data/layers are added & complete</u>

Result in the Segment Overview Screen

Result in the Segment Overview Screen

EDIT SHOULDER, CURB & GUTTER DETAILS

❑ Copying Shoulder details

➢ Click '*Copy Shoulder and/or Curb & Gutter'* (After Saving a side as Complete) **(1)**

➢ **Options:**

- To overwrite and copy everything to other side – click 'Copy to…Shoulder' **(2)**

- Or, uncheck a box to not overwrite everything – click 'Copy to…Shoulder' **(3)**

EDIT SEGMENT DETAILS: SAVING

➢ *Save Segment As Draft:*

 ▪ Lanes/Shoulder, Curb & Gutter **do not** require 'Complete' Status

➢ Click *Save Segment:*

 ▪ Lanes/Shoulder, Curb & Gutter **does** require 'Complete' Status

Result in the Road Segment List Screen

LAYERS LIBRARY OVERVIEW

❑ Function/Purpose:

▪ Create/add 'Layers' to segments' lanes/shoulders within a single screen

▪ Makes adding/editing layers faster and easier to do

▪ This works the <u>same</u> for *Simplified CPM* (adds layers to segments, not lanes)

❑ Click *Layers Library Overview*

▪ The Layers Library Overview screen will appear

LAYERS LIBRARY OVERVIEW: CREATE/MODIFY

❑ To **add** a 'Layer', in the Select New Layer pane:

➢ Select a Layer from the drop-down list **(1)**

➢ Enter a unique name in the text box **(2)**

➢ Click '*Add Layer*' **(3)**

❑ **Edit/complete** the layer & aggregate details **(4)**

❖ _**NOTE**_: *Each 'Layer' must have a unique name*

LAYERS LIBRARY OVERVIEW: CREATE/MODIFY

➢ To **save a 'Layer'**, click '***Save Layer'***

▪ ***NOTE:*** *If attributes are missing, the Data Entry Status is saved as* **Draft**. *If all attributes are entered, it is* **Complete**.

▪ <u>***WARNING:***</u> *Clicking Save, is **not** the same as Save Layer. Click Save Layer **before** clicking Save.*

LAYERS LIBRARY OVERVIEW: CREATE/MODIFY

➢ To **change** the active 'Layer', click the layer name in the Layers List pane

➢ To **remove** a 'Layer', select the layer checkbox and click '*Remove*'

➢ Click '*Save*' at bottom of screen (After all layers are complete and layer saved)

❖ **WARNING: Always** click Save **before** clicking Back or Add Layers tab. Otherwise, all added layers or changes will be lost

LAYERS LIBRARY OVERVIEW: ADD LAYERS

❑ After all layers are complete, layers saved, and screen saved:

➢ Click **'*Add Layers*'** tab

▪ Unsaved data warning will always appear (even if you did save)

Note: This is now the active tab (shown in orange)

LAYERS LIBRARY OVERVIEW: ADD LAYERS

❑ To **add** a 'Layer':
   (1) Select a segment's radio button - Lanes and Shoulders pane appears below
   (2) Select lane(s) or shoulder(s) radio button (to copy to)
   (3) Select a layer from the Layers List
   (4) Click *Add Library Layer (above)* - the layer is added to the Lane/Shoulder Section pane

LAYERS LIBRARY OVERVIEW: ADD LAYERS

❑ After all layers are added to the current lane or shoulder:

➢ Click '**Save**' (at bottom of screen)

❖ **WARNING: Always** click Save **before** selecting a new segment/lane/shoulder radio button, Back, or Create/Modify Layer(s) tab. Otherwise, all added layers or changes will be lost

ADD A LAYER FROM LAYER DETAILS

❑ **Add** to the list of 'Layers Library' **"on the fly"** while working within the <u>Layer Details</u> screen:

➢ Click '*Add to Layers Library*' **(1)**

➢ Enter the name in the pop-up window **(2)**

➢ Click 'Ok' **(3)**

Result in the Layers Library Overview Screen

COPY SEGMENT DETAILS

➢ Click '*Copy Segment Details*' **(1)**

➢ In the Copy Segment Details screen, select:
- The **Completed** segment to **copy from** (select only one) and, **(2)**
- The **Draft** segment to **copy to** (can select multiple) **(3)**

➢ Click '*Copy Details*' **(4)**
- ❖ <u>WARNING</u>: All segment details (lanes, shoulders/curb & gutter) will be overwritten

COPYING EXAMPLE (1)

❑ Using **Copy Lane** or **Copy Segment** *Details* can reduce data entry time and errors
❑ For Example:
  ▪ Segment 1 has three lanes with identical info
  ▪ Segment 2 has three lanes with different info, but Lane 1 is identical to Lane 1 of Segment 1

② **Copy Lane 1 to Lanes 2 & 3**

① **Create Lane 1**

③ **Copy Segment 1 to Segment 2**

④ **Make changes to Lanes 2 & 3**
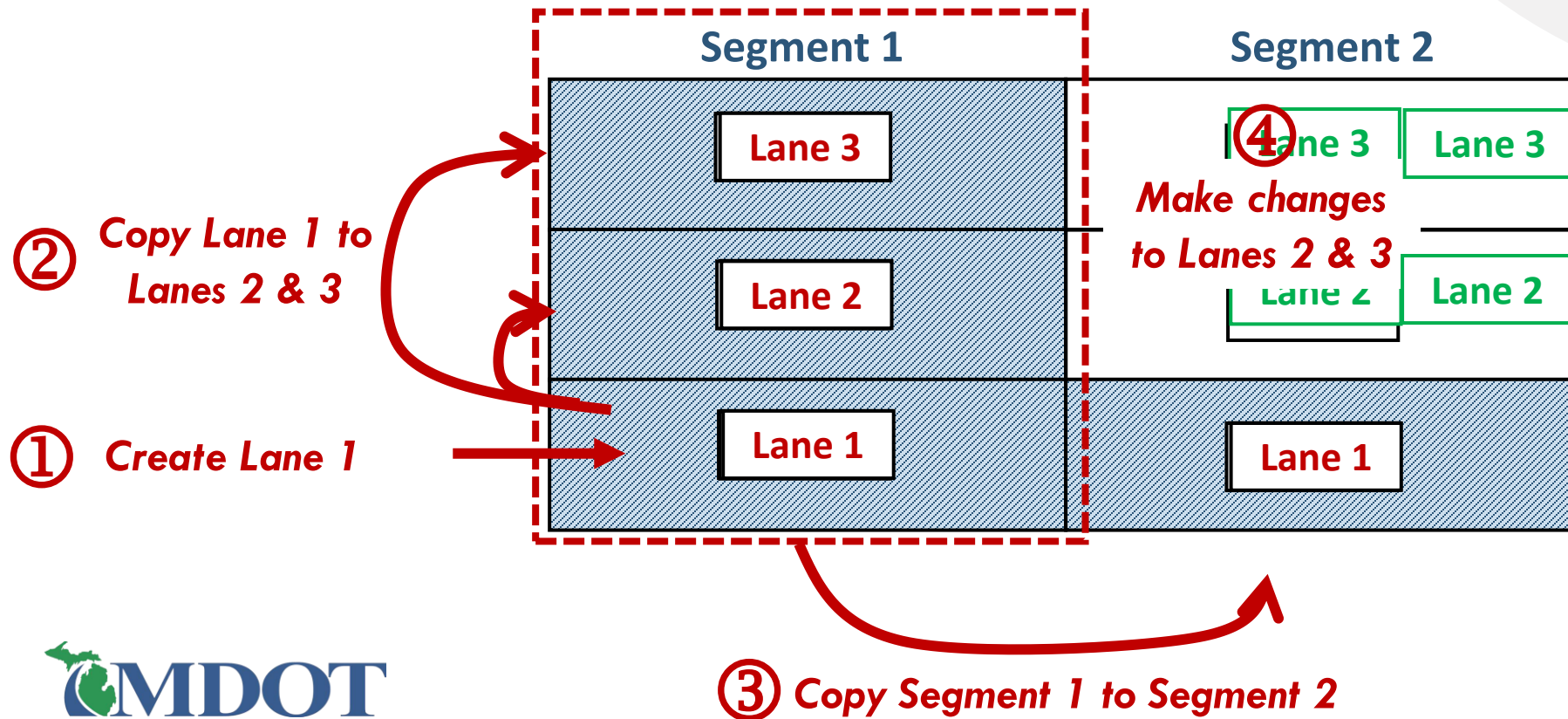
COPYING EXAMPLE (2)

❑ Using **Copy Lane** or **Copy Segment** *Details* can reduce data entry time and errors

❑ For Example:

- Segment 1 has three lanes with identical info
- Segment 2 has three lanes with different info, but Lane 1 is identical to Lane 1 of Segment 1
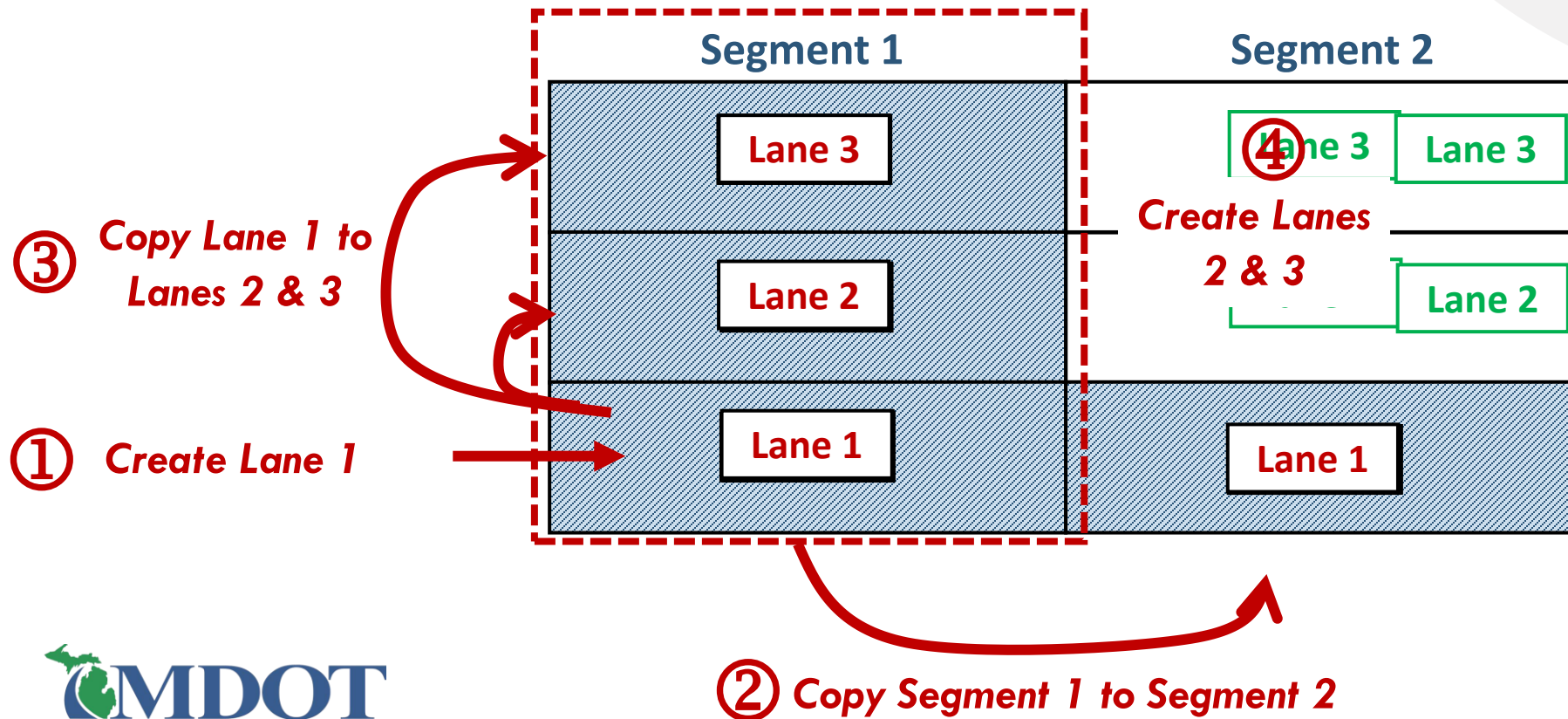
COMMENT BOXES

❑ Comment boxes are used to enter project specific details or additional information relating to the project or a particular segment

❑ Users can enter **up to 250 characters** of text

PROJECT Comments

SEGMENT Comments

PROJECT/SEGMENT SUMMARY

➢ Click *Project Summary* in the Road Segment List screen, or

➢ Click *Segment Summary* in the Segment Overview screen

- A PDF format pop-up summary will appear
- The summary is an excellent resource for QA/review of entered data

SAVE JOB AS DRAFT OR FINALIZE JOB

❑ **Save Job as Draft**:
- ▪ **Data Entry user:** Saves and keeps the job in the Modify area
- ▪ **Data Owner user:** Saves and moves the job from the Review area back to the Data Owner's Modify area

❑ **Finalize Job**:
- ▪ **Data Entry user:** Saves and moves the job to the Data Owner's Review area
- ▪ **Data Owner user:** Finalizes and sends the job to the PHD database