



Road & Bridge Design Publications

Monthly Update – February 2015

Revisions for the month of **February** are listed and displayed below. E-mail questions related to these changes to MDOT-Road-Design-Standards@michigan.gov.

Standard Plan Distribution

The special detail index was updated to account for recent standard plan approvals. The distribution letter explaining the changes and the inserts used to keep a hard copy of the standard plan booklet up to date can be found at:

http://mdotcf.state.mi.us/public/design/files/englishstandardplans/files/standard_plan_distribution.pdf

The new standard plans have been placed on the website.

Road Design Manual

14.32.02, 14.32.03, 14.36.02(6): Updated terminology: “BTP” (Bureau of Transportation Planning) or “Environmental Section-BTP” to “Environmental Services Section”.

14.54.01: OEC Meeting Attendees: Added Environmental Clearance Coordinator to the attendee list.

Updates to MDOT Cell Library, Bridge Auto Draw Program, etc., may be required in tandem with some of this month's updates. Until such updates to automated tools can be made, it is the designer's/detailer's responsibility to manually incorporate any necessary revisions to notes and plan details to reflect these revisions.

Index to Special Details

2-17-2015

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SPECIAL DETAIL NUMBER	NUMBER OF SHEETS	TITLE	CURRENT DATE
21	2	GUARDRAIL AT INTERSECTIONS	5-24-01
24	5	GUARDRAIL ANCHORED IN BACK SLOPE TYPES 4B & 4T	7-22-02
99	2	CHAIN LINK FENCE WITH WIRE ROPE	9-22-14
R-62-H	5	GUARDRAIL APPROACH TERMINAL TYPES 2B & 2T (SKT)	10-28-14
R-126-I	5	PLACEMENT OF TEMPORARY BARRIER	3-26-12
<p style="text-align: center;">* Denotes New or Revised Special Detail to be included in projects for (beginning with) the May letting.</p> <p>Note: Former Standard Plans IV-87, IV-89, IV-90, and IV-91 Series, used for building cast-in-place concrete head walls for elliptical and circular pipe culverts, are now being replaced with plans that detail each specific size. The Municipal Utilities Unit will provide these full sized special details for inclusion in construction plans for MDOT jobs. To assure prompt delivery, requests must be made in advance.</p> <p>Former Standard Plans IV-93 and IV-94 series have been replaced with precast concrete box & three-sided culverts as per the 2012 Standard Specifications for Construction.</p>			

Index to Bridge Detail Sheets

2-17-2015

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DETAIL NUMBER	NUMBER OF SHEETS	TITLE	CURRENT DATE
EJ3AA	1 or 2	EXPANSION JOINT DETAILS	6-16-14
EJ4N	1 or 2	EXPANSION JOINT DETAILS	6-16-14
PC-2G	1	70" PRESTRESSED CONCRETE I-BEAM DETAILS	3-31-06
PC-4E	1	PRESTRESSED CONCRETE 1800 BEAM DETAILS	3-31-06
PC-1L	1	PRESTRESSED CONCRETE I-BEAM DETAILS	7-12-06
<p>* Denotes New or Revised Special Detail to be included in projects for (beginning with) the May letting.</p>			
Note:	<p>Details EJ3AA & EJ4N are interactive, i.e. designers and detailers choose details based upon railing type and angle of crossing. Place all details appropriate for the project, structure specific information, and the Expansion Joint Device quantity on the sheet. The sheet shall then be added to the plans as a normal plan sheet.</p> <p>Detail PC-1L, PC-2G and PC-4E shall have structure specific information and quantities added to the sheet. The sheet shall then be added to the plans as a normal plan sheet.</p>		

MICHIGAN DESIGN MANUAL ROAD DESIGN

14.32 (revised 3-26-2012)

MDOT ENVIRONMENTAL PERMITS

Permits from the Michigan Department of Environmental Quality (MDEQ), the Michigan Department of Natural Resources (MDNR) and/or the Army Corps of Engineers are required for projects that involve work in wetlands, inland lakes, streams, drains, flood plains, critical sand dune areas along the shores of the Great Lakes and navigable rivers/harbors. A current summary of the most frequently needed environmental permits is listed below:

Michigan Act 451, Natural Resources and Environmental Protection Act of 1994

- Part 31: Water Resource Protection (including NPDES and Flood plain Authority)
- Part 91: Soil Erosion and Sediment Control
- Part 301: Inland Lakes and Streams
- Part 303: Wetland Protection
- Part 365: Endangered Species Protection

Federal Section 404: Clean Water Act of 1972

Federal Section 10: River and Harbor Act of 1899

The Environmental Section in the Project Planning Division determines which regulations apply to a specific project and can help make recommendations for the project to better address the applicable policies. To make such determinations, project scope, location and a set of plans are required. The review may also involve field inspections or wetland delineation. The Environmental Section is also responsible for submitting the appropriate paperwork to the regulatory agencies for permits.

14.32.01 (revised 3-26-2012)

Clearance

The scope of work statement on project authorizations must be accurate and complete to insure the appropriate concerns can be determined in a timely manner. Along with the analysis of other environmental impacts, the clearance process includes determining when permits are required for a project. This may involve discussions between the Design/Development Engineer and the Environmental Section and possibly a field review. Plans are often required in the environmental clearance process. It is important that when plans are requested by the Environmental Section, they are submitted as soon as possible or the clearance or permitting process could be delayed. Projects with substantial impacts may require a preliminary review with the MDEQ.

14.32.02 (revised 2-17-2015)

Oversight

Once a project with environmental impacts receives a clearance, a letter is sent to the Design/Development Engineer identifying the contact people (environmental) for necessary coordination. Projects involving wetlands, flood plains, inland lakes and streams are entered into a database according to plan completion date. A project status record is maintained by **the Environmental Services Section** by entering permit request and review information. Therefore any changes in scheduling or scope of work should be communicated to the Environmental Section so that project clearances and permit requirements may be monitored.

MICHIGAN DESIGN MANUAL ROAD DESIGN

14.32.03 (revised 2-17-2015)

Application

Project Managers of projects needing MDEQ permit applications will receive a list of required information from **the Environmental Services Section**. Submitting incomplete application information will result in additional time before the permit application can be filed with the regulatory agency. Listed below is the required information for MDEQ permit applications:

All projects must include the following.

- Project location map indicating approximate locations of each regulated activity. This must have road names legible on an 8.5" x 11" size (Example: a USGS quad map enlarged with culvert extensions at county drains circled.).
- County, township, range, and section numbers of regulated activities.
- Estimated project letting and construction start date.
- Three sets of half-sized plans (11" x 17") and a legible set of 8.5" x 11" plan sheets and cross sections of regulated activities.
- Information on soil erosion and sedimentation controls planned in conjunction with regulated activities.
- Information on any temporary structures or measures to be used in the regulated area during construction.

14.32.03 (continued)

For culverts at regulated streams and drains, plans should include the following:

- Plan view of the culvert and road.
- Cross section view of the culvert and road. For projects that have similar treatments for all culvert work, a typical cross section that applies may be used. Projects requiring an Army Corps of Engineer Permit require a separate cross section for each culvert including elevations.
- Dimensions of pipe/culvert openings.
- Earth excavation (in cubic yards) needed to complete the crossing structure project.
- Volume of riprap (in cubic yards) needed to complete the crossing structure project.
- List of names and addresses of riparian owners on the four quadrants of the watercourse if work requires public notice by the MDEQ. (Examples of work requiring public notice are culvert extensions that total more than 24'-0" or a replacement of a culvert of a diameter 66" or greater).
- For culvert replacements or new culverts, the bottom section of page 2 of the MDEQ application must be completed. Information to be provided includes elevations of the invert, low steel, high water and road grades at the structure and the low point of approach.

MICHIGAN DESIGN MANUAL ROAD DESIGN

14.36.02 (revised 2-17-2015)

Procedure

1. When the Project Manager or Consultant determines the plans meet the requirements for THE Plan Review, a Plan Review Material Submittal (Form 2913) is completed to verify that supporting documents, proposal materials and plans are ready to submit. The materials are entered into ProjectWise using the file naming conventions outlined in Section 1.03.02.
2. The Project Manager fills out a Plan Review Meeting (Form 0200). Include E-mail addresses for invitees outside of MDOT, Include dates that key personnel and conference rooms are available. They should be at least 3 weeks (preferably 4-5 weeks) from the submittal date.
3. The Project Manager will verify that ProjectWise (folder 3) is current with the following format;
 - 3 – Plan Review
 - Meeting Request and Minutes
 - Review Comments

If the format is not correct contact the ProjectWise administrator to apply the proper template.
4. When the project is ready for final review, form 0200 is placed in the ProjectWise subfolder "Meeting Requests and Minutes" using the file name *Job Number-form 200* and the state is advanced to "Request for Meeting" to initiate submittal to Quality Assurance for review. The ProjectWise state on the three files containing plans, proposal material and supporting documents in the "Plan Review" folder are also advanced once to "Submitted for Review".

14.36.02 (continued)

5. The plans will be reviewed by Quality Assurance for completeness and a meeting date scheduled 4-5 weeks from the time of submittal. Instances where projects require a compressed schedule or scheduling without plans should be kept to a minimum. The 4-5 week period is needed to assure all participants are given ample time to review the plans prior to the meeting. This is essential to making THE Plan Review as useful and productive as possible.
6. Plans and other material are made accessible in ProjectWise by the Project Manager. Quality Assurance distributes the same to non-ProjectWise users in an alternate deliverable and usable format. The reviewers include the following:
 - Operations Field Services Division
 - Region System Manager
 - TSC Manager
 - Region/TSC Resident/Delivery Engineer
 - TSC Development Engineer
 - Region/TSC Operations Engineer
 - Region/TSC Soils/Materials Engineer
 - Region/TSC Traffic and Safety Engineer
 - Region/TSC Maintenance Engineer
 - Region/TSC Utilities/Permits Engineer
 - Region/TSC Real Estate Agent
 - Region Resource Specialist
 - Region Bridge Engineer
(Bridge Jobs Only)
 - Region Bridge Inspection Engineer
(Bridge Jobs Only)
 - Environmental Services Section**
 - FHWA Oversight
 - Design Utilities Section
 - Railroad Coordination Unit – Office of Rail
(if applicable)
 - Geometrics Section- Design
 - Utilities/Permits Development Services Division
 - City or Village (if applicable)
 - County Drain Commissioner
(if applicable)
 - County Road Commission
 - Department of Management and Budget
(MIR Program)
 - Others identified by the Project Manager

MICHIGAN DESIGN MANUAL ROAD DESIGN

14.54 (revised 8-20-2012)

OMISSION / ERRORS / CHECK (OEC) MEETING (PPMS Task Description #3870)

The Plan Completion date indicates 100% completion of the plans, proposal and supporting documents herein after referred to as the OEC package.

Once Plan Completion is achieved, the Project Manager schedules a Final Plan Quality Assurance Review with the Region QA staff to internally review the OEC package for completeness. A complete OEC package is defined on MDOT [Form 0330](#), (OEC Material Submittal Order). All items that are applicable on [Form 0330](#) must be included with the OEC package to be considered 100% complete. The only exceptions to this list are items that are allowed to be substituted with an Exception Risk Analysis form ([Form 2912](#)) in which case the risk analysis form must be included in the OEC package. **Every effort should be made to submit the project for OEC with environmental certification and approved design exceptions.** Once the OEC package is acceptable, the Region Systems Manager signs [Form 0330](#). The Project Manager may at this point schedule an OEC.

The Project Manager schedules the OEC meeting electronically with a calendar appointment. The message includes the date, time and location of the meeting with a ProjectWise link to the OEC package (100% complete). The Project Manager also sends copies of the package to meeting participants that are non-ProjectWise users in an alternate deliverable and usable format (CD, hard copy, etc.) prior to the meeting. See section [14.54.02](#) for OEC package material content and pre-meeting review time. The purpose of this meeting is to review the entire OEC package for omissions / errors / conflicts / contradictions, etc. The Project Manager will conduct the meeting. During the course of the meeting the Project Manager will mark any needed revisions on a copy of the plans,

14.54 (continued)

proposal and supporting documents. The names of those attending the meeting should be noted on the title sheet. Copies of each must remain in the project files until the project is constructed and finalized out. At the end of the meeting the Project Manager and Construction Engineer sign the title sheet and the appropriate participants sign the certification acceptance form. The Project Manager will be responsible for verifying all the agreed-upon revisions (marked in red) are incorporated into the plans.

If participants at the meeting are unable to resolve a conflict, the Project Manager should report the conflict to his/her supervisor for resolution. After the conflict is resolved the Project Manager must collect any remaining signatures on the certification acceptance form or title sheet.

CHANGES OR ADDITIONS TO PROJECT SCOPE OR LIMITS WILL NOT BE CONSIDERED AT THIS MEETING EXCEPT WHEN PROJECT COSTS HAVE EXCEEDED PROGRAMMED COSTS AND ADDITIONAL FUNDING IS NOT AVAILABLE.

14.54.01 (revised 2-17-2015)

Attendees

The following people are recommended to attend the OEC Meeting:

- Project Manager/Design Engineer(s)
- Construction Engineer
- Author of the Maintaining Traffic Special Provision (If a Consultant has authored the Maintaining Traffic Special Provision a Region/TSC Traffic and Safety Representative must be invited.).
- Quality Assurance
- Geometrics Unit
- [Environmental Clearance Coordinator](#)
- Construction Field Services Division
- FHWA Oversight