Road & Bridge Design Publications

Monthly Update – July 2013

Revisions for the month of **July** are listed and displayed below. The special detail index from the "July Special Update" will remain in effect. Contact Wayne Pikka (pikkaw@michigan.gov) for questions related to the road changes. Contact Vladimir Zokvic (zokvicv@michigan.gov) for questions related to the bridge change.

Road Design Manual

5.05.02(4): Constructing Sidewalk Outside of Existing ROW: A reference to Section 6.08.01 (Department's position on sidewalk liability and maintenance agreements) was added along with a paragraph regarding adjacent property subject to Section 4(f) of the U. S. Department of Transportation Act of 1966.

6.05.13: Safety Edge: The term "newly constructed" was added prior to "temporary pavements" to clarify that the safety edge is not directly retrofitted to existing shoulder pavement.

9.03.01: Utility Poles & Light Standards: An old link to the "Guidelines for Placement of Light Standards and Utility Poles on Free Access Roadways" (old T&S Note) was removed. The section is an incorporation of the former T&S Note/Guideline.

11.01.05: Special Provision Roles and Responsibilities & 11.02.03 (9): Page Layout: A clarification was made to indicate that when special provisions are drafted by consultants, the author of record used for the source code is the Project Manager.

11.02.03 B (2): Title Block, Headers, and Footers: A correction was made indicating the Identification Code is defined by the Project Manager.

11.02.05: Special Provision Naming Convention: The special provision file name is specified as beginning in "title case".

11.04.03: The Material Section: Language was inserted to provide instructions for listing products or manufacturers in the special provision, materials section.

11.08A: Competitive Bidding: The language was revised to match the added language in 11.04.03 and previously approved practice.

14.51: Incentive and Liquidated Damages Clauses: Revisions were made to reflect the Department's elimination of references to "disincentives" and provide guidance on the application of liquidated damages.

Road & Bridge Design Publications

Monthly Update – July 2013

Bridge Design Manual

8.07.01 Z. (LFD & LRFD): Updated use statement to include integral and semi-integral backwalls.

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.

5.05

URBAN R.O.W.

Where all or portions of a project are located in urban areas, R.O.W. may be limited to the width determined by municipal planning or to existing R.O.W. Portions within urban boundaries that have never been developed should be set up the same as for rural projects. Occasionally, because of the increased width of the proposed surface, additional R.O.W. is needed. In this case the new width is determined by the Department, and the designer should become familiar with whatever agreements or decisions are made.

5.05.01 (revised 9-20-2010)

Urban Expressways

Right of way is of primary importance in urban expressway design. Modern expressways are designed to provide roadways of sufficient width to carry large volumes of traffic frequently including frontage roads and access ramps, requiring R.O.W. widths of 300' to 400'. Obviously, a strip of land of this width cutting across a city is very costly and disruptive, and the work involved in securing the necessary properties requires a lot of time. Construction that is slowed by R.O.W. acquisition may further be delayed by the moving and razing of many buildings. Preliminary R.O.W. plans, although not exact and thus subject to revision, should be placed on file in the city's offices and used as a criterion for the issuing of building permits in areas where construction is planned in the near future.

5.05.02 (revised 7-22-2013)

Consent to Construct Sidewalk

Whenever feasible, new or reconstructed sidewalk should be placed 1 foot minimum inside the existing or proposed R.O.W. line (as determined by a Professional Surveyor). When the proposed sidewalk grading limits extend outside the R.O.W., a Consent to Construct Sidewalk (Form 0640B) is requested. The consent obtains permission

5.05.02 (continued)

from and/or gives notice to the adjacent property owner of the Department's intent to construct new and/or to replace existing sidewalks within the existing or proposed R.O.W. See application #3 on the following page for proposed sidewalk remaining outside the R.O.W. Show slope stake lines to determine the impact to the property. The Development Services Division will make an estimate of just compensation for the consent. Most communities require the property owner to pay for their own sidewalks. Therefore, when MDOT pays for placing/replacing the sidewalk as part of project expense, the consent may be considered a mutual benefit between the property owner and MDOT. After review, the MDOT Development Services Division may determine that compensation for the required R.O.W. and other site improvements (fences, bushes, signs, etc) is necessary. Consent is noted at each applicable location as:

Consent to Construct Sidewalk

Listed below are several applications for use of the Consent to Construct Sidewalk and options in the event of failure to obtain consent or easements. Gapping out sidewalk construction in areas with consent or easement conflicts is not an acceptable option. Sidewalk accessibility must be provided for persons with disabilities according to the Americans with Disability Act (ADA) of 1990. When constructing sidewalk, the Department is responsible for meeting ADA accessibility requirements for the public sidewalk. The area outside these limits may require restoration of existing private connection to the sidewalk. Regardless of whether or not consent is granted, accessibility impact should be discussed with the property owner during consent negotiations. See Section 6.08.06 for information on accessibility requirements for private connections to sidewalks.

5.05.02 (continued)

Consent to Construct Sidewalk

4. **Constructing Sidewalk Outside Existing R.O.W.** - When sidewalk is constructed or reconstructed outside the existing R.O.W. MDOT will acquire some type of permanent R.O.W., easement or fee R.O.W. to construct the sidewalk outside the existing R.O.W. Failure to obtain the permanent R.OW. during negotiations will require MDOT to condemn for permanent R.O.W. to replace the sidewalk. Whenever feasible, sidewalk should be constructed or reconstructed one foot minimum inside the existing/proposed R.O.W. (as determined by a Professional Surveyor).

   See Section 6.08.01 for the Department's position on sidewalk liability and maintenance agreements.

   When the adjacent property is subject to Section 4(f) of the U. S. Department of Transportation Act of 1966, permanent easement or fee R.O.W. is usually not feasable. Consent to construct sidewalk should be pursued under these conditions.

5. **Tying to Existing Sidewalk** – When intermittent sidewalk construction such as sidewalk ramp upgrading or driveway construction is not done in conjunction with construction or reconstruction of the continuous sidewalk, the instrument used to access private property will depend on the proposed placement of the altered section of sidewalk. Consent to construct sidewalk can be used to tie in to existing sidewalk outside the right of way if the sidewalk is not realigned or widened outside the right of way. In other words, there is no further increase to existing encroachment. If the sidewalk alignment or width is altered causing further encroachment outside the right of way, a permanent easement is required.

5.05.02 (continued)

The Project Manager should seek local government support for the project, utilizing Context Sensitive Design concepts. Local agencies can provide valuable assistance by holding public meetings to seek input from the community, of which, impacted property owners are primary stakeholders. This "input" process may help alleviate many disagreements and allow all stakeholders to reach consensus prior to any acquisition or consent activity. If local officials are very supportive of the project, many times they talk directly with the affected owners to secure agreement for a certain design of the sidewalks. It is required that MDOT obtain an agreement for the local agency's acceptance of responsibility for maintenance of the sidewalk.

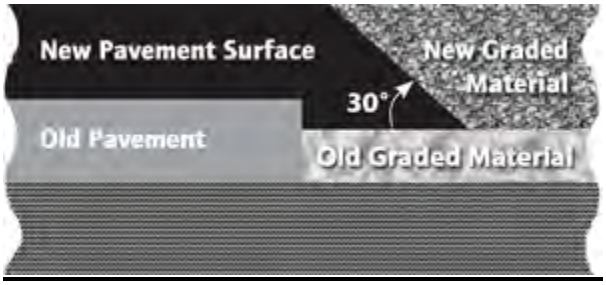
Any R.O.W. or consent should be acquired by MDOT in order for timely acquisition of the right of way needs. In the event that the property owner fails to sign a Consent to Construct Sidewalk, the plans should be revised according to the different scenarios above or the Development Services Division initiates the condemnation process prior to letting the plans.

6.05.13 (revised 7-22-2013)

Safety Edge

The safety edge is a beveled pavement edge designed to reduce the severity of vehicle roadway departures and provides increased driver control on re-entry.

On February 6, 2013 the Engineering Operations Committee adopted a policy to incorporate the safety edge.



The Safety Edge will be used on shoulders for the following conditions on all pavement types:

1. All newly constructed temporary pavements will incorporate the Safety Edge including all newly constructed permanent shoulders that will be used as temporary lanes with construction speeds of 45 mph or greater.

2. The Safety Edge should be omitted in those locations where the shoulder is separated by curb and gutter or valley gutter.

3. Freeway to freeway ramp shoulders that do not have shoulder corrugations will incorporate the Safety Edge. Regular freeway off and on ramps should not incorporate the Safety Edge.

4. Narrow freeway shoulders (4' paved or less.)

6.05.13 (continued)

5. Shoulders on all rural multi-lane and divided trunkline roadways where the posted speed is 45 mph or greater and there are no shoulder corrugations will use the Safety Edge.

6. If safety concerns are known then the Safety Edge can be considered for use on any roadway or ramp.

7. In developed rural areas where driveway density exceeds 30 access points within ½ mile, the Safety Edge may be omitted.

Details of the safety edge are shown on Standard Plan R-110-Series. Specifications require that the safety edge be constructed monolithically with the shoulder pavement and that there will be no separate payment for constructing it. Designers should provide additional concrete pay item quantities used for concrete shoulder to construct the safety edge adjacent to concrete shoulder.

The locations where the safety edge applies should be identified where appropriate on the typical cross sections or maintaining traffic details.

The designer should review existing field conditions to identify areas where berming may have developed that would impede postive drainage. Additional details and sperate payment such as station grading modified may be needed to remove the berm.

9.03

DESIGN GUIDES

9.03.01 (revised 7-22-2013)

Utility Poles and Light Standards

Guidelines have been developed for the location of utility poles and light standards on free access roadway construction projects. These guidelines, which follow, reflect the most recent fix-object crash research and is the Department's latest effort to provide for the safety of the motoring public. Where reconstruction of a roadway is included in the project, every effort should be pursued to ensure that adjacent poles meet the recommended location criteria. However if the project does not impact the location of existing poles, a specific pole relocation is to be dependent on a concentrating of crashes or clear potential for crashes for the pole to be relocated.

When placed within public roadway right-of-way, light standards and utility poles should be located to provide a safe recovery area for motorists. To ensure maximum safety, this guideline is established to assist appropriate representatives in selecting the most practical and safe utilization of public rights-of-way. This guideline applies to all highway, utility, and roadway lighting construction projects on free access roadways.

A. General Considerations

It should be recognized that this is a guideline and that individual cases may arise which require special treatment such as: traffic signal installations; locations demonstrating fixed-object accident patterns; and locations with unique design problems, sight distance restrictions, high pedestrian activity, or unique environmental conditions. Departmental review procedures will take these factors into account.

9.03.01A (continued)

Certain highway geometrics warrant special consideration for placement of light standards and utility poles. Target positions to traffic flow should be avoided if possible. Such locations are: opposite T-intersections, outside of curves, beyond lane drops, and those locations that are not conducive to safe traffic operation. Where guardrails or barriers are in place specifically for shielding other roadside obstacles, light standards and utility poles should be placed behind the guardrail or barrier. The number of light standards and utility poles should be kept to a practical minimum. Consideration should be given to utilizing joint-use construction where possible.

B. Authorization

1. Any variances from this guideline will be resolved by the concerned parties. Concerned parties could include MDOT, FHWA, Local Governmental Units, the utility, the business community, citizen groups, and so forth.

2. The Development Services Division handles applications for a permit to place light standards or utility poles will be made on forms furnished by the Michigan Department of Transportation and shall be accompanied by a sketch showing the proposed locations in relation to the pavement edge or curb face and right-of-way, and should also include the posted speed limits and the widths and locations of any sidewalks.

C. Clarifications of Terms Used in Guideline

1. The placement of light standards and utility poles referred to in this guideline includes all related appurtenances.

2. All lateral distances are measured from traffic side of utility pole or light standard to pavement edge or curb face.

11.01.03

Definitions

The following definitions are provided:

A. Standard Specifications for Construction - The book of specifications approved for general application and repetitive use.

B. Supplemental Specifications - Detailed specifications that add to or supersede the Standard Specifications for Construction.

C. Special Provisions - Revisions and additions to the Standard and Supplemental Specifications which are applicable to an individual project and are shown on the web in the groupings listed herein.

D. Pay Item - Term used to describe an item of work in the contract.

E. Method of Measurement - The method used to measure material used or work done on a project. Measurement can be by the unit or lump sum, or included in the measurement for other items.

11.01.04

Order of Precedence

See subsection 104.06 of the Standard Specifications for Construction for the order of precedence if plan/proposal information differs or conflicts.

11.01.05 (revised 7-22-2013)

Roles and Responsibilities

The following definitions are provided to clarify the roles and responsibilities in relation to Special Provisions:

A. Project Manager - MDOT person responsible for the design phase of the project, including the development and review of special provisions for compliance with the special provision guidelines prior to submitting to Quality Assurance for review.

B. Special Provision Author - Designer (MDOT or consultant) as determined by the Project Manager who drafts a special provision for a project. The Project Manager is the "author" of record for special provisions drafted by consultants.

C. Special Provision Reviewer - A person(s) assigned by the Specifications Engineer to review and provide feedback on special provisions. Assignments are based on their technical knowledge.

D. Specifications Engineer - Oversees the special provision review and approval process. Often performs the second review with an emphasis on conflicts with the Standard Specifications for Construction; use of appropriate pay items and general organization of the information. Also oversees determination of which special provisions will be placed on the various maintained lists.

11.01.06

Location of Additional Information

Additional information regarding supplemental specifications and, special provisions is available on the Design Division web site in the Special Provision Formatting Instructions also known as "Quick Tips". This includes a discussion on formatting special provisions in Microsoft Word.

11.02.03 (revised 7-22-2013)

Page Layout

A. Document Format

The following guidelines must be followed when developing a special provision to give a uniform appearance to proposals. Special provisions submitted for review and approval that do not follow the approved document format will be returned to the submitter for reformatting before the approval process begins.

1. Margins – Use 1 inch margins.

2. Fonts - All headers use Arial 12 point, special provision text uses Arial 11 point and tables and figures use Arial 10 point.

3. Tabs and Indents - Use 0.25 inch intervals. Automated numbering or labeling of subsections must **not** be used.

4. Bold Face - The use of bold face font is limited to the special provision title, section labels and names, table and figure titles and pay items.

11.02.03 (continued)

B. Title Block, Headers, and Footers

1. Document Headers/Footers - On the first page the document header must contain the Identification Code (see below). Right justify the Identification Code.

   On any remaining pages the document headers contains the secondary header.

   All headers and footers should begin 0.5 inches from the edge of the page.

2. Identification Code - The Identification Code naming convention shown below must be applied to all special provisions, with the exception of Special Provisions for Maintaining Traffic. When using a special provision that has been approved and assigned an Identification Code, the file should **not** be revised unless the special provision is resubmitted for re-approval**.**

   The Identification Code must be defined by the Project Manager prior to submittal for approval, to the extent possible. However, the last four digits in the parenthesis are assigned by Specifications Engineer upon approval. A sample Identification code is as follows:

   12DS819(A055)

   Digits 1 and 2 designate the year of the Standard Specifications of Construction book that the special provision has been written against.

11.02.03 (continued)

Page Layout

6. Approval Code - The approval code indicates that the special provision has been reviewed and approved for use. It consists of the abbreviation APPR, the reviewer's initials, and the date of approval.

   Type Codes for 3rd and 4th letters of Identification Code

   SP - used on FUSPs with FHWA approval

   TM - used on approved template special provisions

   RC - used approved recommended special provisions

   SI - used on Traffic Signing special provisions

   SG - used on Traffic Signal special provisions

   PM - used on Pavement Marking special provisions

   IT - used on ITS special provisions

   RE - used on Real Estate special provisions

   FN - used on Finance special provisions

   LA - used on Local Agency Programs special provisions

   DS - used on Design (Bridge, Road, TSC and Region) special provisions

   PL - used on Planning special provisions

   OF - used on Operation Field Services special provisions

   CF - used on Construction Field Services special provisions

   OR - used on Office of Rail special provisions

   CB - used on Crash Barrier/Geometrics special provisions

11.02.03 (continued)

7. Secondary Header – The Secondary Header appears on every page except the first page. It includes the Identification Code, source code, page numbers and the approval date. See Section 11.02.03 B 11 for example.

8. Approval Date - Added by the Specifications Engineer. Do not show the date the special provision was written. Only the date approved is shown in the secondary header, not the reviewers' initials.

9. Source Code - This two-part code identifies the author's location and their initials. The Project Manager is the "author" of record for special provisions drafted by consultants. There are three types of Location Codes: Business Area, Region, and Transportation Service Center (TSC). (ex: RSD:LML). Location codes are shown on the next page

10. Contract Numbers - Contract numbers (control section, project/job numbers, trunkline etc.) should not be shown on special provisions. The same is true for document file names and consultant firm names. In order to facilitate the re-use of the special provision in subsequent proposals, these items must not be included.

11.02.05 (revised 7-22-2013)

Special Provision Naming Convention

The following file naming convention must be used for all unique special provisions submitted for review. Special provisions not using the file naming convention will be returned to the Project Manager for correction and resubmittal.

The only exception to this naming convention will be for template and recommended special provisions since they use a separate a naming convention that is similar, but includes additional information.

Each file name must begin with the exact title of the special provision in Title Case (Initial capitalization and lower case for prepositions, articles, and conjunctions) followed by a dash, and then the Identification Code (less the four digits in the parentheses).

The Specifications Engineer will enter the remaining four digits in the parentheses, but the Project Manager should enter the first seven digits and the starting and closing parentheses.

For example: if the special provision is titled "Water Main, Ductile Iron, __ Inch, Trench Detail __, Special" and is being turned in by the municipal utilities design unit, the special provision file name would be "Water Main, Ductile Iron, __ Inch, Trench Detail __, Special-12DS823().doc".

11.02.05 (continued)

Note that abbreviations are not to be used in special provision titles, even the standard abbreviations that we use in the pay items cannot be used when developing the special provision title.

If a special provision is returned unapproved for use after being submitted for review, the filename must be revised to include "rev1" or as appropriate "rev2", etc. The following is an example of a special provision filename for a document that was resubmitted. The revised file name would be "Water Main, Ductile Iron, __ Inch, Trench Detail __, Special-12DS823()rev1.doc".

11.04.03 (revised 7-22-2013)

The Material Section

List all materials that are used in the work specified. If listing specific products or manufacturers in this section, a minimum of two products or manufacturers must be listed and must include the phrase “or approved equal”. If three or more products or manufacturers are listed, the phrase “or approved equal” is not required. If there are no materials, then state “None specified”. Define materials with a reference to the standard specifications when possible. State all changes, additions or deletions to material requirements covered by the standard specifications.

If the materials required are covered by the standard specifications, either state that all materials must conform to the standard specifications, or list the pertinent material name and section of the book. When standard materials are used in non-standard applications, list any changes from the standard basis of acceptance.

When specifying non-standard materials, state the underlying material specification (AASHTO, ASTM, MTM, etc.) and basis of acceptance for all materials not covered by the Standard Specifications for Construction. AASHTO specifications should be used instead of ASTM standards whenever possible.

State the sampling, testing requirements, and basis of acceptance for all materials not covered by the standard specifications. State if the materials must be tested, certified, or otherwise accepted, and the documentation required as well as the responsible party.

See Section 11.08 for further information if the material is proprietary.

11.04.04

The Construction Section

This section will usually be the most detailed and may need subsections such as: General Requirements, Documentation Required, and Equipment.

Avoid writing method specifications. Concentrate instead on the required end product. Detail the sequence of events to be followed in completing the item of work or fulfilling the special provision requirements. If no actual construction work is added as in the case of a materials SP, include a general statement to this effect.

Avoid ambiguous phrases such as "to the fullest extent possible." If the requirement cannot be measured or is not measured against a standard, the use of adjectives and other word modifiers will not change the meaning. For instance, what is the difference between "thorough consolidation" and "consolidation" of concrete? The judgment made would be whether or not the concrete has been consolidated.

If the cost for repairing, removing, replacing or otherwise making whole an item, will be borne by the Contractor, state it in this section.

This section should include such things as a discussion of tolerances if a component needs to be fabricated. A discussion of unique issues such as cure time and limitations. If the contractor is responsible for design work, it should be described in this section. Discuss such things as: needs to be accounted for, required design codes, design criteria, who to submit the design to, if working drawings are required, whether Engineer approval is required for plans or drawings, and if the design needs to be sealed by a Professional Engineer.

11.08 (revised 7-22-2013)

PROPRIETARY ITEMS

Federal law (23CFR 635.411) regulates the use of federal funds in payment for premiums or royalties on any patented or proprietary material, specifications, or processes used in plans and specifications for a project.

Such products are permitted only under the following conditions;

A. Competitive Bidding

Proprietary items may be purchased through competitive bidding with at least one equally suitable unpatented item or when two or more proprietary products are bid against each other and the specification or special provision includes the phrase "or approved equal". The phrase would not be required when three or more proprietary items are competitively bid.

B. Proprietary Item Certification (PIC)

Proprietary items can also be permitted by certification (Form 0304) that the patented or proprietary product is essential for synchronization with the existing highway facility or that no equally suitable alternate exists.

Synchronization is based on;

- Function – The product is necessary for satisfactory operation of the existing facility, or
- Aesthetics – The product is necessary to match the visual appearance of the existing facility, or
- Logistics – The product is interchangeable with maintenance inventory, or
- Any combination of the above.

11.08 (continued)

C. Experimental Application

Patented or proprietary items may be approved for research purposes or for a distinctive type of construction for experimental purposes. In addition to Form 0304, requests for experimental use require a work plan outlining objectives, measurements and evaluations. More information can be found in the FHWA Construction Program Guide, including a Sample Experimental Work Plan.

D. Public Interest Finding (PIF)

A specific material or product may be specified even when other acceptable materials or products are available if the specific choice is approved as being in the public interest. Form 0304 is required to document that use of the proprietary product would be in the public's best interest despite the availability of equally suitable products. Public interest findings include limited situations other than those previously listed. Examples include; timeliness of product availability, engineering or economic analysis findings, project logistical concerns, unique safety performance as well as other justifiable situations.

CHAPTER 14 PROCEDURES FOR PLAN PREPARATION INDEX (continued)

14.49 CRITICAL PATH NETWORKS

14.50 FINAL CONSTRUCTABILITY REVIEW

14.51 INCENTIVE AND LIQUIDATED DAMAGES CLAUSES

14.51.01 Guidelines

14.51.02 Applications

14.51.03 Procedure

14.52 REVIEW OF PROJECT SCOPE, COST AND SCHEDULE

14.53 TRANSMITTAL OF ALIGNMENT DATA TO CONSTRUCTION

14.54 OMISSIONS / ERRORS / CHECK (OEC) MEETING

14.54.01 Attendees

14.54.02 OEC Package Material

14.55 CONTRACT SELECTION TEAM (DBE PROGRAM)

14.56 PACKAGING OR CONSOLIDATING PROJECTS

14.57 CERTIFICATION ACCEPTANCE

14.58 APPROVAL OF SPECIAL PROVISION

14.59 SHELF PROJECTS

14.60 SUBMISSION OF COMPLETED PLANS

14.60.01 General

14.60.02 Requirements

14.60.03 Exceptions

14.60.04 QA/QC Review

14.60.05 TRNS•PORT Files

14.61 PRE-LETTING BRIEFING

14.61.01 Procedure

14.51 (revised 7-22-2013)

INCENTIVE AND LIQUIDATED DAMAGES CLAUSES

There are two inducements to completing work by the prescribed completion date or time. These are in addition to the normal schedule of Liquidated Damages included in Section 108.10 of the current Standard Specifications for Construction. Both are listed below.

1. Incentive payments - used primarily on critical projects where traffic inconvenience and delays are to be held to a minimum. The amounts are based on estimates of items such as traffic safety, traffic maintenance, and road user delay costs.

2. Liquidated Damages for Other Department Costs - based on increased user costs and/or additional cost incurred by MDOT; such as increased maintenance costs or costs due to the type of designs for temporary roads.

14.51.01 (revised 7-22-2013)

Guidelines

Guidelines for the development and use of Incentive or Liquidated Damages Clauses are as follows:

- Projects that are to be on an expedited schedule should be identified during the "Call for Projects" process and in the Project Concept Statement.
- Justification material such as hourly counts, user cost data and construction costs should be available prior to THE Plan Review Meeting so a traffic control plan can be presented and reviewed at the meeting.
- When Incentive clauses or special expedited schedules are used, adequate Department staff must be available to maintain proper inspection and to assure a quality product.
- Projects should be straight forward and not require several different types of construction procedures or typical sections.

14.51.02 (revised 7-22-2013)

Applications

Incentive Clauses would be appropriate where the following conditions exist:

- A substantial savings in user costs can be realized by shortening the time of the traffic restrictions or completing the project ahead of schedule.
- Total additional user costs should be at least in the neighborhood of 5% of the project cost. $5000 per day should be considered as the daily minimum incentive for major projects. For smaller interim elements of a project, a lesser value may be used.
- The time of the traffic restriction should be long enough to allow the construction schedule to be compressed at least an additional 15 days, based on a completion date using an expedited schedule.
- Where capacity will be reduced below an acceptable level of service and no detour route is available.
- Where a detour route must be used and the detour has an unacceptable level of service.

14.51.02 (continued)

Liquidated Damages for Other Department Costs would be appropriate where the following conditions exist:

- Where additional costs would be incurred by MDOT in the form of maintenance costs on temporary roads, costs of over-designing temporary roads, maintaining traffic costs, etc. and where substantial additional user costs would be incurred or could be justified. An example would be a road being maintained on a detour or a temporary road through the construction area. The level of service would not be reduced but maintaining this situation beyond a specified date (winter shutdown) would create additional costs for MDOT. The amount of the Liquidated Damages should be substantive enough to cause the contractor to follow the schedule and to do the work as required otherwise the contractor may choose to pay the Liquidated Damages payment.

- Where the substantial user costs could be justified but the construction time is too short to allow a meaningful incentive period before the established completion date. An example would be to assess Liquidated Damages to assure the daily lane closures will not extend into the rush hour.

14.51.03 (revised 7-22-2013)

Procedure

As soon as the Project Managers are aware that Incentive or Liquidated Damages Clauses will be included in a project, they should request an analysis. Since the analysis often requires considerable data from different work centers, it is essential to give as much lead time as possible. The Project Manager should supply, as a minimum, the following information:

- all available traffic counts (24 hour)
- the number of lane closures, if applicable
- detour routes - distance and estimated travel times

Once the analysis is completed, reviewed, and approved the information is forwarded to the Project Manager and is incorporated into the progress clause.

The maximum cost (usually 5% of the total contract) must be included in the construction cost of the project and remain within the approved programmed amount.

8.07.01(continued)

Miscellaneous Notes

Z. The Contractor is to provide a sawed joint [1/3 deck slab thickness*] ” deep by ¼“ wide (minimum) in the top of slab at transverse construction joints over the backwall. If an optional construction joint is not used, the joint is to be sawed within 24 hours of placing the curing and is to be filled with Hot-Poured Joint Sealant. (Included in the bid item "Superstructure Conc, Form, Finish, and Cure, Night Casting (Structure No.)"). [Use at all at bridge deck slab construction joints over integral and semi-integral backwalls.] *[Specify thickness to avoid cutting steel reinforcement.] (6-17-2013) (7-22-2013)

8.07.01(continued)

Miscellaneous Notes

Z. The Contractor is to provide a sawed joint [1/3 deck slab thickness*] ” deep by ¼“ wide (minimum) in the top of slab at transverse construction joints over the backwall. If an optional construction joint is not used, the joint is to be sawed within 24 hours of placing the curing and is to be filled with Hot-Poured Joint Sealant. (Included in the bid item "Superstructure Conc, Form, Finish, and Cure, Night Casting (Structure No.)"). [Use at all bridge deck slab construction joints over integral and semi-integral backwalls.] *[Specify thickness to avoid cutting steel reinforcement.] (6-17-2013) (7-22-2013)