DEWATERING SYSTEM - Item No.
TEMPORARY FLOW PASSAGE SYSTEM - Item No.

Special Provision No. 517F01 ~~July 2017~~November 2023

Amendment to OPSS 517, November ~~2016~~2023

~~Design Storm~~ Return Period Flow and Preconstruction Survey Distance

~~517.01 SCOPE~~

~~Section 517.01 of OPSS 517 is deleted in its entirety and replaced with the following:~~

~~This specification covers the requirements for the design, operation, and removal of a dewatering or temporary flow passage system or both to control water during construction, and the control of the water prior to discharge to the natural environment and sewer systems.~~

517.04 DESIGN AND SUBMISSION REQUIREMENTS

517.04.01 Design Requirements

Subsection 517.04.01.01 of OPSS 517 is ~~amended by deleting the first paragraph in its entirety and replacing it with the following:~~

~~A dewatering or temporary flow passage system or both shall be designed to control water at the locations specified in the Contract Documents and at any other location where a system is necessary to complete the work. The design of the system shall be sufficient to permit the work at each location to be carried out as specified in the Contract Documents.~~

~~Subsection 517.04.01 of OPSS 517 is further~~ amended by deleting the second last paragraph in its entirety and replacing it with the following:

~~Temporary~~The temporary flow passage ~~systems~~system shall allow the work to be ~~designed,~~conducted as specified in the Contract Documents. Design flow shall include groundwater discharge and flow resulting from a minimum~~, for a~~ 2 year ~~design storm~~ return period ~~and groundwater discharge~~design storm, except for the work specified in Table ~~A.~~1. For the work specified in Table ~~A, the temporary~~1, design flow ~~passage system~~ shall ~~be designed, as~~include groundwater discharge and flow resulting from a design storm of the minimum~~, for the design storm~~ return period specified in Table ~~A and groundwater discharge.~~ 1. A longer return period shall be used when determined appropriate for the work.

~~Intensity-Duration-Factor (IDF) curve location, site specific minimum return period, return period~~ The flow estimates~~, and other information is provided~~ as specified in Table ~~A. The IDF information can be accessed through the MTO IDF Curve Look up Tool on the Drainage and Hydrology page of MTO's website. The return period flow estimates~~1 do not include flow volumes from groundwater discharge.

The Owner specifically excludes ~~these~~ flow estimates from the warranty in the Reliance on Contract Documents subsection of OPSS 100, MTO General Conditions of Contract.

~~Table A~~
TABLE 1
Site Location and Reference Information

~~IDF Curve Location~~	~~Latitude: *~~	~~Longitude: *~~

Temporary Flow Passage Systems	**Source of Return Period Flow Estimates (Note 5): ***

Site Name / Station Reference	Minimum Return Period (Years)	Return Period Flow Estimates (m^3/s) (Note 5)				Design Engineer Requirements (Note 1)	Fish Passage Required (Note 2)
		2 Year	5 Year	10 Year	25 Year		
**	***	****	****	****	****	*****	******

~~–~~**Dewatering Systems**			
Site Name / Station Reference	Preconstruction Survey Distance (Note ~~2~~3) (m)	Minimum Lowered Groundwater Depth Below Base of Excavation or Work Area (Note 4) (m)	Design Engineer Requirements (Note 1)
**	~~******~~*******	~~*****~~********	*****

~~Note~~Notes:

1. "Yes" means the design Engineer and design-checking Engineer shall have a minimum of 5 years of experience ____in designing systems of similar nature and scope to the required work. "No" means a minimum experience level _____is not required for the design Engineer and design-checking Engineer.

~~2~~2. "Yes" means that the design Engineer must design the temporary flow passage system to meet the fish passage requirements. "No" means fish passage is not required.

3. "N/A" indicates a preconstruction survey is not required.

4. Groundwater shall be lowered within the excavation or work area to below this minimum depth.

5. The Contractors Engineer is to satisfy themselves to the accuracy and applicability of the provided flows.

A. The intensity-duration-frequency (IDF) information can be accessed through the IDF Curve Lookup tool on the Drainage and Hydrology page of MTO's website at https://idfcurves.mto.gov.on.ca/terms.shtml.

B. The design, operation and maintenance of the temporary flow passage system is the sole responsibility of the Contractor.

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NOTES TO DESIGNER:

Designer Fill-in for Table A:

~~* Enter the latitude and longitude co-ordinates of the IDF Curve as obtained using the MTO IDF Curve Look-up Tool. Create additional tables, as necessary, if more than one (1) IDF curve was used on the contract (i.e. on a very long contract there may be two IDF curves used to better represent rainfall events for two (2) different sections of the contract).~~

* Enter the source of the return period estimate flows

** Fill-in site name, work, and station reference as appropriate for the dewatering system and/or temporary flow passage system item locations.

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Inserted Cells

Inserted Cells

Inserted Cells

*** For temporary flow passage system item locations, fill-in the minimum ~~design storm~~ return period flow for the site based on MTO Drainage Design Standard TW-1. The return period flow shall not be less than 2 years.

**** For temporary flow passage system item locations, fill-in the design flow rate estimates for the various return periods.

***** Insert "Yes" when recommended by the Foundation Engineer. Insert "No" otherwise.

~~**********~~ Insert "Yes" when maintaining fish passage is a condition of a permit/authorization or as recommended by the MTO Fisheries Assessment Specialist, in consultation with the MTO Environmental Planner. Insert "No" otherwise.

~~*******~~ Fill-in the required distance for preconstruction survey if recommended by the Foundation Engineer. Fill-in "N/A" if not recommended.

~~**Table A (Sample)**~~

~~********~~ Fill-in the required minimum lowered groundwater depth below the excavation recommended by the Foundation Engineer.

~~*********~~ Include a note "The Return Period Flow Estimates do not include base flows", if applicable

TABLE 1
Site Location and Reference Information

~~**IDF Curve Location**~~	~~Latitude: 44.974844~~	~~Longitude: -79.769339~~

Temporary Flow Passage Systems	**Source of Return Period Flow Estimates (Note 5): Longwood Channel Drainage Report (MTO 2017)**

Site Name / Station Reference	Minimum Return Period (Years)	Return Period Flow Estimates (m^3/s) (Note 5)				Design Engineer Requirements (Note 1)	~~F~~Fish Passage Required (Note 2)
		2 Year	5 Year	10 Year	25 Year		
Woods Creek Culvert Rehabilitation	2	0.7	3.5	7.5	10.9	~~N/A~~No	No
Site 32-145 Robbs Creek Culvert Replacement	10	1.6	7.6	17.4	25.2	Yes	Yes

~~–~~Dewatering Systems

Site Name / Station Reference	Preconstruction Survey Distance (Note ~~2~~3) (m)	Minimum Lowered Groundwater Depth Below Base of Excavation or Work Area (Note 4) (m)	Design Engineer Requirements (Note 1)
Site 32-145 Robbs Creek Culvert Replacement	300	1.0	Yes

~~Note~~Notes:

1. "Yes" means the design Engineer and design-checking Engineer shall have a minimum of 5 years of experience ____in designing systems of similar nature and scope to the required work. "No" means a minimum experience level _____is not required for the design Engineer and design-checking Engineer.

~~2~~2. "Yes" means that the design Engineer must design the temporary flow passage system to meet the fish passage requirements. "No" means fish passage is not required.

3. "N/A" indicates a preconstruction survey is not required.

4. Groundwater shall be lowered within the excavation or work area to below this minimum depth.

5. The Contractors Engineer is to satisfy themselves to the accuracy and applicability of the provided flows.

A. The intensity-duration-frequency (IDF) information can be accessed through the IDF Curve Lookup tool on the Drainage and Hydrology page of MTO's website at https://idfcurves.mto.gov.on.ca/terms.shtml.

B. The design, operation and maintenance of the temporary flow passage system is the sole responsibility of the Contractor.

C. The Return Period Flow Estimates at the Site 32-145, Robbs Creek Culvert Replacement do not include base flows

WARRANT: Always with these tender items.

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