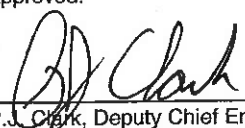


To: SUPERSEDED BY EB 09-026 EFFECTIVE 5/6/10		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 03-026
Title: CONCRETE CUT-OFF WALLS FOR CULVERT END SECTIONS			
Distribution: ☐ Manufacturers (18) ☐ Surveyors (33) ☒ Main Office (30) ☒ Consultants (34) ☒ Local Govt. (31) ☒ Contractors (39) ☒ Regions/Agencies (32) ☐ ()		Approved:  P.J. Clark, Deputy Chief Engineer, Design 08/19/03 Date	

ADMINISTRATIVE INFORMATION:

- **Effective Date.** This Engineering Instruction (EI) is effective for projects submitted for the letting of 1/15/04.
- **Superseded Issuances.** This EI does not supersede any official issuance.
- **Disposition of Issued Materials.** The guidance transmitted with this EI will be incorporated into a future revision to the Highway Design Manual (HDM) Chapter 8 Highway Drainage. In the interim, users of the HDM should update their manual as indicated in this EI under TECHNICAL INFORMATION.

PURPOSE: The purpose of this EI is to issue design guidance regarding the use of concrete cut-off walls for culvert end sections.

TECHNICAL INFORMATION:

Designer Information

It is recommended that all sites where the proposed culvert is 750 mm in diameter or larger (885 mm span x 610 mm rise pipe arches) and incorporates end sections be evaluated by the Regional Geotechnical Engineer for the need to include a concrete cut-off wall at each end. Cut-off walls can be used on smaller culverts if channel velocities, soil conditions, steep grades or other such conditions warrant. If a cut-off wall is not used, the criterion for using a toe-plate extension remains in *Highway Design Manual* §8.6.2.3.C.2. Usage of cut-off walls shall not preclude the inclusion of proper channel protection and/or dissipation devices as discussed in Chapter 8 of the *Highway Design Manual*.

The designer should indicate in the drainage table (or similar table, e.g. table of culvert installations) where cut-off walls shall be included. The designer shall include in the estimate the appropriate item numbers and quantities of Class A Concrete for Structures, and Trench and Culvert Excavation required to construct the prescribed cut-off walls. As stated in Standard Specification Section 603-5.01 General, the cost of anchor bolts for cut-off walls is included in the cost bid for End Sections and need not be estimated separately.

Standard Sheets M603-1R1, M603-3R1 and M603-5 are being transmitted via EB 03-044 to accommodate the specification of cut-off walls for end sections. Users of HDM Chapter 8 are encouraged to file this EI with HDM Section 8.6.

BACKGROUND:

HDM Chapter 8 discusses the use of cut-off walls to reduce potential buoyancy and scour at the ends of pipes, but does not provide details or guidance on usage of such walls when end sections are incorporated into the design. Investigations into necessary details and designer guidance by the Design Standards Committee led to the development of this EI and Standard Sheet M603-5.

CONTACT: Direct questions regarding this EI to Norman Schips of the Design Quality Assurance Bureau at 518-485-8611 (e-mail nschips@dot.state.ny.us).