


<p>TO:</p> <p>Subdivision Personnel</p> <p><b>SUPERSEDED BY EI 73-027</b></p> <p><b>EFFECTIVE 4/17/1973</b></p>	 <p><b>ENGINEERING INSTRUCTION</b></p> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p>
<p>SUBJECT: VERTICAL JOINTS IN CONCRETE RETAINING WALLS AND ABUTMENTS</p> <p>Subject Code: 7.35-4-I-1.4.7, 1.4.8</p>	<p>Distribution: <input type="checkbox"/> Main Office <input type="checkbox"/> Regions <input checked="" type="checkbox"/> Special</p> <p>Code: <u>EI-72-23</u></p> <p>Date: <u>3/2/72</u></p> <p>Supersedes:</p> <p>APPROVED: <u>R. N. Kamp</u> Deputy Chief Engineer (Structures)</p>

The purpose of this instruction is to clarify office policy on vertical joints in concrete retaining walls and abutments.

Such joints shall be classified as construction joints, contraction joints and expansion joints.

General - All vertical joints shall be provided with shear keys and waterstops, except that waterstops shall not be used in footings.

Construction Joints - With the exception of special cases, such as stage construction, vertical construction joints shall not be shown on the plans. The Contractor may use vertical construction joints to provide for interruptions in concrete placement, if approved by the Deputy Chief Engineer (Structures). Reinforcement shall extend through vertical construction joints.

Contraction Joints - Contraction joints shall be provided at intervals not exceeding thirty (30) feet to control the formation of cracks due to shrinkage and thermal contraction. Reinforcement shall not extend through the joint. Flared wingwalls shall be connected to abutments and box culverts with contraction joints which extend through the footing. Contraction joints at other locations shall not extend through the footing. Generally, stub abutments with U walls will have contraction joints in the backwall in line with the inside face of the fascia pedestal. High abutments with U walls will have contraction joints in the stem and back-wall which may be located as described for stub abutments or between the outside face of the fascia pedestal and the inside face of the U wall. The necessity of additional intermediate contraction joints in an abutment will be determined by its length.

Expansion Joints - Expansion joints shall be provided at intervals not exceeding ninety (90) feet to provide room for movement of the wall due to thermal expansion.

Vertical expansion joints shall be carried through the footing and a layer of joint material shall separate the concrete surfaces in both wall and footing. Reinforcement shall not extend through the joint.