

## Chapter 34

### Monitor Existing Structures

34.1	General .....	34-1
34.2	Inspection and Settlement Monitoring .....	34-1
34.2.1	Miscellaneous Structures .....	34-1
34.2.2	Structures other than Miscellaneous Structures .....	34-2
34.2.3	Roadway Compaction Operations .....	34-2
34.3	Vibration Monitoring .....	34-3
34.4	Groundwater Monitoring.....	34-3

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## Chapter 34

# Monitor Existing Structures

Modification for Non-Conventional Projects:

Delete *PPM* Chapter 34 and see RFP for requirements.

### 34.1 General

Monitor Existing Structures includes settlement, vibration, and groundwater monitoring of existing structures during construction as described in **Section 108** of the **FDOT Specifications**. In general, structures requiring consideration for monitoring include buildings, bridges, and retaining walls which are adjacent to construction activities. When there is a concern regarding vibration, structures to be monitored may also include historic features and buildings in which sensitive business operations are conducted (e.g. eye surgery, medical treatments, rehabilitation operations, recording and broadcasting operations, places of worship, antique shops, or museums).

When appropriate, include a note on the General Notes Sheet that:

- Restricts hours of construction operations.
- Restricts the type of construction equipment to be used.

Pay item 108-1 is to be used when there is a potential for major damage occurring to an existing structure of concern which would require repairs. Pay item 108-2 is typically to be used when there is a potential for making the existing internal use of a structure of concern infeasible during construction operations and will typically be for non-residential properties.

### 34.2 Inspection and Settlement Monitoring

#### 34.2.1 Miscellaneous Structures

In general, activities that may cause harm to existing structures include the construction of foundations for mast arm signal poles, strain poles, cantilever signs, overhead truss signs, high mast light poles and ITS.

Based on visual field observations, the EOR will identify existing structures of concern that are recommended to be monitored during these activities. The Department will make the final determination of the existing structures to be monitored. If a determination is made to monitor a structure, include pay item 108-1 in the Summary of Monitor Existing Structures summary box and list the structure as illustrated in **PPM Volume 2 Exhibit SQ-1**.

### 34.2.2 Structures other than Miscellaneous Structures

In general, activities that may cause harm to existing structures include the construction of retaining walls, noise walls, sheet pile walls, deep excavations and foundations for bridges and other structures.

- a. If any existing structure of concern is within the distances specified in **Article 108-2** of the **FDOT Specifications**, include pay item 108-1 in the Summary of Monitor Existing Structures summary box. Use a distance of 250 feet as the limit for pile driving. Do not list or identify these structures in the Contract Plans.
- b. Based on visual field observations, the EOR will identify existing structures of concern located beyond the distances specified in **Article 108-2** that are recommended to be monitored during these activities. The Department will make the final determination of the existing structures to be monitored. If a determination is made to monitor a structure, include pay item 108-1 in the Summary of Monitor Existing Structures summary box and list the structure as illustrated in **PPM Volume 2 Exhibit SQ-1**.

### 34.2.3 Roadway Compaction Operations

In general, activities that may cause harm to existing structures include embankment and asphalt vibratory compaction.

- a. If an existing structure is within the distances specified in **Article 108-2** of the **FDOT Specifications**, include pay item 108-1 in the Summary of Monitor Existing Structures summary box. Do not list or identify these structures in the Contract Plans.
- b. Based on visual field observations, the EOR will identify existing structures of concern located beyond the distances specified in **Article 108-2** that are recommended to be monitored during these activities. The Department will make the final determination of the existing structures to be monitored. If a determination is made to monitor a

structure, include pay item 108-1 in the Summary of Monitor Existing Structures summary box and list the structure as illustrated in ***PPM Volume 2 Exhibit SQ-1***.

### **34.3 Vibration Monitoring**

In general, activities that may cause harm to existing structures include pile driving, sheet pile and casing installation, and embankment and asphalt vibratory compaction.

Based on visual field observations, the EOR will identify existing structures of concern that are recommended to be monitored during these activities. The Department will make the final determination of the existing structures to be monitored. If a determination is made to monitor a structure, include pay item 108-2 in the Summary of Monitor Existing Structures summary box and list the structure as illustrated in ***PPM Volume 2 Exhibit SQ-1***.

### **34.4 Groundwater Monitoring**

Based on visual field observations, the EOR will identify existing structures of concern that are recommended to be monitored during anticipated dewatering operations. The Department will make the final determination of the existing structures to be monitored. If a determination is made to monitor a structure, include pay item 108-3 in the Summary of Monitor Existing Structures summary box and list the structure as illustrated in ***PPM Volume 2 Exhibit SQ-1***.

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