

4250302 Inlets, Manholes, and Junctions Boxes  
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Paul Harkins

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Comments: (11-28-11) The Standard Specification already allows for the adjustment of manholes. The specification does not differentiate between 1 piece or two piece. The last paragraph of 425-6.7 states: the Contractor may extend manholes needing to be raised using adjustable extension rings of the type which do not require the removal of the existing manhole frame. Use an extension device that provides a positive locking action and permits adjustment in height as well as diameter and meets the approval of the Engineer. **Question 1:** Is the sponsor of this specification intending to introduce a “Three Piece Ring and Cover”? I believe if further investigation is made it will be found that we do not have a 36 inch cover, nor do we have a Three Piece Ring and Cover. ....According to Design Index 201....Should a Three Piece Ring and Cover be introduced revision to the Design Index needs to be made to coincide with the specification change. From the historical standpoint the rationale for introducing a larger cover was to provide larger access in those cases where frequent access would be required, such as French Drains or manholes having sumps, etc. Initially it was thought that a 36 cover would be sufficient but given the weight it was not deemed appropriate, thus the 2 piece ring and cover. If you reference Index 201 you will not find a reference to a 36 inch ring and cover nor does it address weight of such. **Question 2:** Is the intent of the specification change to allow for ring and cover which allows for adjustment in a manner other than that which is called out in the specification? If so specifying means and methods of installation is not recommended. **Question 3:** This relates to the background information furnished by the sponsor of the specification change. In his comments he wants to allow for a ring and cover that has a floating adjustment. The sponsor should assure that if this is his intent he needs to specify what is unique about the new ring and cover while assuring that it does not preclude use of other types of rings and covers. That being said unless the floating ring and cover does NOT “provide a positive locking action and permits adjustment in height as well as diameter” what justifies the need for the change?

**Response:** I believe we are talking about two different manhole systems. Please see individual Responses below for further discussion.

**Response to Question 1:** The three-piece adjustable frames being added to the Specification are basically a manhole system consisting of three pieces (frame, adjustable frame, and cover). The three-piece adjustable frame manhole does not have a ring with adjustable diameter, rather the adjustable frame is one solid piece of fixed diameter. It is adjustable for height and slope, not diameter. Modifications have been made to the Design Standards (Index 201) and are intended to clarify any confusion and address issues with the Adjustable Frame Manholes permitted by the proposed Specification change. The Index 201 has been sent to FHWA for review. It is not the intent of this Specification change to introduce a three-piece ring and cover. The “ring” in this case is one piece. No change made.

**Response to Question 2:** One of the main reasons for using the proposed adjustable frame manholes is to provide a smoother ride by ensuring the manhole is flush with the pavement surface during all phases of construction or resurfacing. For this reason, Specification language

indicates the manhole shall be adjusted to meet the grade and slope in accordance with Manufacturer's installation recommendations. No change made.

Response to Question 3: The Specification modification will allow the use of adjustable manholes (3 piece system including a base, floating frame, and cover). This is different than the currently-allowed, adjustable extension rings. The adjustable manhole does not provide a positive locking action in height. The floating frame of the adjustable manhole is constrained horizontally by the base, but vertically the load is carried by the compacted asphalt under the frame rather than the manhole frame and structure below. The Specification change is intended to allow the use of three-piece adjustable frame manholes which provide height and slope adjustment. No change made.

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*Mike Bergin*  
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Comments: (11-28-11) I'm Ok with the revisions. I am concerned that the contractor will need to be aware that there is less tolerance for cages being placed that are not concentric to the inside of the shaft. The 4 1/2 inch clear cover means that the contractor will have to ensure the placement of the cage is correct. the 6" of cover gave the contractor some latitude, but any deviation may be an issue of durability. Will there be some notification to alert the contractor that this spec applies to his contract? The CEI will also need to be aware of this change and provide oversight and ensure the tolerances are maintained.

Response: This comment appears to be for concrete cover in drilled shafts and not related to the proposed Adjustable Frame Manhole Specification language. I'll contact Mike Bergin to confirm.

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Comments: (12-16-11) Tammie I agree with your comment as the adjustability during lifts and phases of construction is the main reason for using adjustable casting in construction. The specification should read, "Make interim and final adjustments using the inner frame in accordance with the manufacture's installation recommendations so the inner frame and cover meet the interim or final grade and slope".

Response: Good suggestion. Specification language will be modified to ensure the frame and cover are flush with the pavement surface opened to traffic. I'll modify the last part of your suggested sentence to, "... so the inner frame and cover meet the grade and slope of the pavement surface opened to traffic."

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