



Chandler • Arizona
Where Values Make The Difference

MEMORANDUM

Case # 10-XX

DATE: June 2, 2010
TO: MAG Specifications and Details Committee Members
FROM: Warren White, City of Chandler Representative
SUBJECT: (4) Additional Miscellaneous Bloopers

Please see the attached mark-ups of proposed blooper corrections. Here is a summary:

- Index Page 1/2 Std Dtl 100 – ‘300 Series Water “Infromation” (sic) misspelled ‘Information’.
- Page 310-1 Untreated Base – First sentence in Section 310.1 “Untreated base, ie select or aggregate base course, shall comply with Subsection unless...” should read ‘Subsection 702.2’.
- Page 611-3 , Section 611.11 Rate of Application – Third paragraph from the top of page. Measurement of flow of water would be by a ‘pitot’ gauge, not “pilot”.
- Page 741-1, Section 741.2.1 Material Composition – Third paragraph. Liner plate ‘shall be non-conductive’ to bacterial growth, not “nonconductive”.

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INFORMATION

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DETAIL NO.

100-1

STANDARD DETAIL
ENGLISH



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DETAIL NO.

100-1

SECTION 310

UNTREATED BASE

702.2
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310.1 DESCRIPTION:

Untreated base, i.e., select or aggregate base course, shall comply with Subsection unless the use of a different type of material is specifically authorized in the special provisions.

310.2 PLACING:

Untreated base 6 inches or less in compacted thickness may be placed in a single layer and those more than 6 inches in thickness shall be built up in successive layers of approximately equal compacted thickness not to exceed a maximum thickness of 6 inches. The requirements which follow are applicable to all types of material.

After distributing, the base material shall first be watered and then immediately bladed to a uniform layer that will net, after rolling, the required thickness. If the materials deposited are not uniformly blended together, the blading operation shall be continued to such extent as may be necessary to eliminate segregation. The quantity of water applied shall be that amount which will assure proper compaction resulting in a relative density of not less than 100 percent as determined under Section 301. Care shall be exercised in connection with watering operations to avoid wetting the subgrade or any lower base course to detrimental extent.

Upon completion, the base surface shall be true, even and uniform conforming to the grade and cross-section specified.

Untreated base may vary not more than 1/2 inch above or below required grade and cross-section.

310.3 DEFICIENCY:

When in the opinion of the Engineer there is reason to believe that a deficiency in thickness, or an excess of plasticity exists, measurements or samples will be taken in the same pattern as that defined in Section 321. If the base has been covered or it is otherwise impractical to correct the deficiency, the corrective measures in Table 310-1 shall be taken by the Contractor at no additional cost to the Contracting Agency.

TABLE 310-1		
THICKNESS AND PLASTICITY DEFICIENCY		
Type	Deficiency	Corrective Measure
I	1/2 inch or more but less than 1 inch thickness	Place asphalt chip seal using precoated chips in accordance with Section 330 for the full roadway width over the area involved but for not less than 660 feet or one City block in length.
II	1 inch or more in thickness	Place an additional asphalt concrete overlay, a 9.5 mm mix, of 1/2 the thickness of the deficiency in thickness for the full roadway width over the area involved, not less than 660 feet or one City block in length.
III	A plasticity index of 6 to 7 inclusive*	Place an asphalt concrete overlay 1/2 inch in thickness over the same total area as required for Type I and II.
IV	A plasticity index of over 7*	Remove deficient material from affected area and replace with material complying with the specifications.

* The plasticity index shall be in accordance with AASHTO T-146 Method A (wet preparation), T-89 and T-90.

310.4 PAYMENT:

Payment for untreated base will be made on the basis of the price bid per ton unless an alternate basis of payment is provided in the proposal.

End of Section

SECTION 611

On lines 12 inches in diameter or less, determination of the rate of flow of water into the line to be treated may be made by starting with the line full of water and measuring the rate of discharge at a hydrant located at the end of the pipe farthest away from the point of chlorine application.

For lines larger than 12 inches in diameter, the disinfection operation is generally started with the line empty.

Measurement of the flow of water into and out of all lines shall be made by means of a ~~pilot~~ gage, current type meter, or other approved device.

pitot

611.12 PREVENTING REVERSE FLOW:

Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water. Check valves shall be used to accomplish this.

611.13 RETENTION PERIOD:

Treated water shall be retained in the pipe long enough to destroy all nonspore-forming bacteria. This period should be at least 24 hours and should produce no less than 10 ppm residual chlorine at the extreme end of the line at the end of the retention period.

NOTE: If the circumstances are such that less than a 24 hour retention period must be used, the chlorine concentration shall be increased to 100 ppm. Under these conditions, special care should be taken to avoid attack on pipes, valves, hydrants and other appurtenances.

611.14 CHLORINATING VALVES AND HYDRANTS:

In the process of chlorinating newly laid pipe, all valves or other appurtenances shall be operated while the pipeline is filled with the chlorinating agent.

611.15 FINAL FLUSHING, SAMPLING AND TESTING:

Following chlorination, all treated water in the newly laid pipeline shall be thoroughly flushed until the replacement water throughout the new pipeline can be proved, by laboratory testing, comparable in quality to the water served to the public from the existing water system. Prior to sampling for laboratory testing, the residual chlorine throughout the length of the pipeline shall be reduced to 1.0 ppm or less. Once the required residual chlorine level in the pipeline is achieved, samples shall be taken as outlined below.

The Contracting Agency or its authorized representative will collect all samples for testing of the new water mains. To initiate the sampling and testing, the Contractor will present to the Contracting Agency a written request for such work no later than 24 hours prior to the time when samples are to be taken.

Samples shall be taken from a tap and riser located and installed in such a way as to prevent outside contamination. Samples shall never be taken from an unsterilized hose or fire hydrant, because such samples will seldom meet bacteriological standards. The number of sampling locations shall be as follows: Waterlines up to but less than 150 feet in length require one sampling riser installed as near the end as possible; lines 150 feet to 300 feet in length, two sampling risers, one near each end of the line; lines 300 to 3,000 feet in length, a minimum of three sampling risers. In addition, dead ends on main lines should be represented with a sampling riser.

The number of samples taken at each sampling location shall be determined by the Contracting Agency based on one of the following methods.

(A) One sample from each sampling location which is examined and analyzed in the laboratory over a three day (72 hour) period.

SECTION 741

LINING FOR REINFORCED CONCRETE SANITARY SEWER PIPE

741.1 GENERAL:

The interior area of the reinforced concrete pipe as indicated on the plans, shall be sealed and protected with lining, as specified below.

The installation and application of the pipe lining shall be accomplished by the supplier of the reinforced concrete pipe.

All work for and in connection with the installation of lining in concrete pipe and the field sealing of joints shall be done in strict conformance with all applicable published specifications, instructions and recommendations of the approved lining manufacturer. The pipe supplier shall furnish all labor, material and equipment to successfully accomplish the lining.

741.2 MATERIALS:

741.2.1 Material Composition: The material shall be a liner plate which is a combination of inert, synthetic resins, pigments, and plasticizers, compounded to make permanently flexible sheets.

The liner plate shall be resistant to the following: Oxidizing agents, sulfuric, phosphoric, nitric, chromic, oleic, and stearic acids; sodium and calcium hydroxides; ammonia, sodium, calcium, magnesium, and ferric chlorides; ferric sulfate, petroleum oils and greases; vegetable and animal oils, fats, greases and soaps.

Liner plate shall be impermeable to sewage gasses and liquids and shall be ~~nonconductive~~ **non-conductive** to bacterial or fungus growth. All liner plates shall be factory checked electrically to insure freedom from any porosity with a high voltage holiday detector set at a minimum of 20,000 volts.

Joint strips and welding strips shall have the same composition and corrosion resistance as liner plate, but shall not have locking extensions.

The lining shall have good impact resistance, shall be flexible and shall have an elongation sufficient to bridge up to 1/4 inch setting crack which may take place in the pipe or in the joint after installation, without damage to the lining.

Once cast into the pipe, the lining shall be permanently and physically attached to the concrete by a locking extension and shall not rely on an adhesive bond.

741.2.2 Material Details and Dimensions: The liner plate shall not be less than 0.065 inches in thickness. Locking extension shall be of the same material as the liner and shall be integrally extruded with the sheets. If steel bands are used to secure the liner plate to the forms transversely, strap channels shall be integrally molded into the sheet.

Liner plate shall be supplied as pipe size sheets fabricated by shop welding together the basic size sheets.

Joint straps shall be 4 inches \pm 0.25 inches in width and shall have each edge beveled prior to application.

Welding strips shall be 1 inch \pm 0.125 inch in width and shall have the edges beveled at time of manufacture.

The Contractor shall submit a shop drawing showing liner plate details for approval by the Engineer, prior to fabrication of the pipe.

741.3 Installation of Liner Plate: The installation of liner plate, including the welding of all joints, shall be done in accordance with the manufacturer's recommendations. Nailing through the plate will not be tolerated. Liner plate shall be installed with locking extensions parallel with the longitudinal axis of the sewer, unless otherwise shown on the plans. All joints between individual sheets or sections of liner plates shall be continuously heat-welded by the use of welding strips of the same kind and equivalent thickness of material as the liner plates (with the exception of the integral extension ribs).

Liner plate shall be held snugly in place against inner forms by means of light gage steel wire, light steel banding straps or other suitable means. If steel banding straps are used, they shall be applied in strap channels provided for this purpose.