

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Confusion exists in 509.05(g) with the process control part of the QCP. This was written generically to address all mix types and it isn't clear that some of the stated properties do not apply depending on which of the five different options the contractor chooses for their concrete mix. Confusion also exists in 509.14 with who is supplying manpower for concrete sampling.

PROPOSED SOLUTION: In section 509.14, the phrase "as appropriate for the mix" is used with reference to job control testing to imply that not all of the listed properties are applicable to all of the concrete mixes. Similar phrasing should be added to 509.05(g) to provide clarity. Edit 509.14 to clarify who is supplying manpower.

APPLICABLE STANDARD SPECIFICATIONS: 509

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: none

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Nathan Butts, Mike Nelson, Jim Reilman

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:  
All contracts with a 509 pay item.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 7/6/23

IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval.  
Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? N/A

Construction time? N/A

Customer satisfaction? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? N/A

Design process? N/A

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

REVISION TO STANDARD SPECIFICATIONS

SECTION 509 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP, JOINT REPAIR  
509.05 Quality Control Plan  
509.14 Job Control

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 509, BEGIN LINE 196, INSERT AS FOLLOWS:

- (g) Process control of the concrete shall address *the following concrete properties as appropriate for the mix*: sampling and testing for slump, relative yield, air content, water cementitious ratio, and temperature. The frequency of tests shall be the first batch of the day and not less than three times per day including the first. If volumetric batching of concrete is utilized, the yield will be checked as described in 722.05(a) at the beginning of the day and not less than two times per day including the first load from each mobile mixer. The QCP shall include details as to actions in response to test results.

SECTION 509, BEGIN LINE 551, DELETE AND INSERT AS FOLLOWS:

~~The labor necessary for concrete sampling shall be furnished as required by the Engineer.~~  
*If additional manpower for concrete sampling is deemed necessary by the Engineer, the Contractor shall furnish the additional labor.* Testing for slump, air content, and relative yield, as appropriate for the mix, will be on the first batch of the day and a minimum of once per every 400 cu ft thereafter. Beams or cylinders will be made for evaluating the quality of the delivered mix at least once for every three days of production or whenever slump, relative yield, or air content are failing the upper limit. The beams or cylinders will be tested for compliance with strength requirements, at an age consistent with the mixtures intended use as defined in 509.04. Beams or cylinders for this purpose shall be cured in accordance with Section 10.1 of AASHTO T 23 and 505.01(a).

COMMENTS AND ACTION

509.05 Quality Control Plan  
 509.14 Job Control

DISCUSSION:

	<u>Action:</u>
Motion:	
Second:	
Ayes:	— Passed as Submitted
Nays:	— Passed as Revised
FHWA Approval:	— Withdrawn
2024 Standard Specifications Sections referenced and/or affected: 509.05 pg 475; 509.14 pg. 483.	— 2026 Standard Specifications Revise Pay Items List — Notification to Designers if change is <u>not</u> — addressed by RSP
Recurring Special Provisions or Plan Details: NONE	— Create RSP (No. __) Effective:
Standard Drawing affected: NONE	— Revise RSP (No. __) Effective:
Design Manual Sections affected: NONE	— Standard Drawing Effective:
GIFE Sections cross-references: NONE	— Create RPD (No. __) Effective:
	— GIFE Update
	— Frequency Manual Update
	— SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: One of the three material options listed for roadway drain casting extensions is not available. To get back to the original intent of having three different allowable materials, a change is needed.

PROPOSED SOLUTION: Change the requirement for the plastic pipe from that stated (smooth wall PVC) to PVC pipe in accordance with 907.24(b).

APPLICABLE STANDARD SPECIFICATIONS: 715.02(i), 715.02(l), 907.16, 907.24(b)

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: none

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT:

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: All contracts with a 715-10238 Pipe, Roadway Drain Casting Extension pay item.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 7/6/23

IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? N/A

Construction time? Yes

Customer satisfaction? Yes

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? N/A

Asset preservation? N/A

Design process? N/A

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

REVISION TO STANDARD SPECIFICATIONS

SECTION 715 – PIPE CULVERTS, AND STORM AND SANITARY SEWERS

715.02(i) Underdrain Outlet Pipe

715.02(l) Roadway Drain Casting Extensions

SECTION 907 – CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS

907.16 Thermoplastic Pipe Requirements

907.24(b) Schedule 40 PVC Pipe

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 715, BEGIN LINE 142, INSERT AS FOLLOWS:

**(i) Underdrain Outlet Pipe**

Pipe for underdrain outlets and drain tile outlets shall be PSM PVC pipe, profile wall PVC pipe, smooth wall polyethylene pipe, or smooth wall PVC pipe from the QPL of Thermoplastic Pipe and Liner Pipe Sources in accordance with 907.16 and 907.24. Schedule 40 PVC pipe in accordance with 907.24(b) is also allowable.

SECTION 715, BEGIN LINE 165, DELETE AND INSERT AS FOLLOWS:

**(l) Roadway Drain Casting Extensions**

Pipe used for extending roadway drain castings located in a bridge deck shall be in accordance with ~~907.23~~907.24(b), 907.28, or 908.10. Pipe support brackets and all hardware shall be galvanized in accordance with ASTM A153, class D or ASTM B695, class 40, type I. A Type C certification in accordance with 916 shall be provided for the pipe brackets.

SECTION 907, BEGIN LINE 216, DELETE AND INSERT AS FOLLOWS:

**907.16 Thermoplastic Pipe Requirements**

A QPL of thermoplastic pipe and liner pipe will be maintained by the Department. The QPL will specify the manufacturer and thermoplastic pipe designation. All of these materials shall comply with the applicable AASHTO or ASTM requirements listed in the following table and will only be accepted from qualified manufacturers. The manufacturer is defined as the plant which produces the thermoplastic pipe. The manufacturer shall become qualified by establishing a history of satisfactory quality control of these materials as evidenced by the test results performed by the manufacturer’s testing laboratory.

Summary of Thermoplastic Pipe Specification Requirements				
Pipe Material	Standard Specification	AASHTO	ASTM	Manufacturer Requirement
Corrugated Polyethylene Drainage Tubing	907.17(a)	M 252		ITM 806, Procedure O
Corrugated Polyethylene Pipe	907.17(b)	M 294*		ITM 806, Procedure O
Corrugated Polypropylene Pipe	907.19	M 330		ITM 806, Procedure O
Perforated PVC Semicircular Pipe	907.18		D3034	ITM 806, Procedure A
Profile Wall HDPE Liner	907.25(b)		F894	ITM 806, Procedure A or

REVISION TO STANDARD SPECIFICATIONS

SECTION 715 – PIPE CULVERTS, AND STORM AND SANITARY SEWERS

715.02(i) Underdrain Outlet Pipe

715.02(l) Roadway Drain Casting Extensions

SECTION 907 – CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS

907.16 Thermoplastic Pipe Requirements

907.24(b) Schedule 40 PVC Pipe

Pipe				916, Type A Certification
Profile Wall PVC Liner Pipe	907.25(c)		F949	ITM 806, Procedure A or 916, Type A Certification
Profile Wall PVC Pipe	907.22 907.24(c)	M 304		ITM 806, Procedure O
Profile Wall Polyethylene Pipe	907.20		F894	ITM 806, Procedure A
<del>Schedule 40 PVC Plastic Pipe, Schedule 40</del>	907.24(b)		D1785 or D2665	916, Type C Certification
Smooth Wall Polyethylene Pipe	907.21 907.24(d)		F714	ITM 806, Procedure A
Smooth Wall PVC Pipe	907.23 907.24(e)	M 278	F679	ITM 806, Procedure A
Solid Wall HDPE Liner Pipe	907.25(a)		F714	ITM 806, Procedure Q or 916, Type A Certification
Type PSM PVC Pipe and Fittings	907.24(a)		D3034	ITM 806, Procedure A

\* Pipe in accordance with AASHTO M 294 shall be manufactured with virgin materials.

SECTION 907, BEGIN LINE 291, DELETE AND INSERT AS FOLLOWS:

**(b) Schedule 40 PVC Plastic Pipe, Schedule 40**

~~Pipe~~ PVC plastic pipe shall be in accordance with ASTM D1785 ~~when Schedule 40 is specified or D2665~~ and shall have a minimum pipe stiffness of 150 psi at 5% deflection when determined in accordance with ASTM D2412. Material furnished under this specification shall reference ASTM D1785 ~~or ASTM D2665~~ in the product print line. A Type C certification in accordance with 916 shall be provided for the ~~Schedule 40 PVC plastic pipe~~.



COMMENTS AND ACTION

715.02(i) Underdrain Outlet Pipe  
 715.02(l) Roadway Drain Casting Extensions  
 907.16 Thermoplastic Pipe Requirements  
 907.24(b) Schedule 40 PVC Pipe

DISCUSSION:

	<u>Action:</u>
Motion:	
Second:	
Ayes:	— Passed as Submitted
Nays:	— Passed as Revised
FHWA Approval:	— Withdrawn
2024 Standard Specifications Sections referenced and/or affected: 715.02(i) and 715.02(l) pg. 736 and 737; 907.16 pg. 1031; 907.24(b) pg. 1034.	— 2026 Standard Specifications Revise Pay Items List Notification to Designers if change is <u>not</u> addressed by RSP
Recurring Special Provisions or Plan Details: NONE	— Create RSP (No. __) Effective:
Standard Drawing affected: NONE	— Revise RSP (No. __) Effective:
Design Manual Sections affected: NONE	— Standard Drawing Effective:
GIFE Sections cross-references: NONE	— Create RPD (No. __) Effective:
	— GIFE Update
	— Frequency Manual Update
	— SiteManager Update