

February 22, 2019

South Carolina Department of Transportation

Qualified Product Policy 14 for Manufacturers to Supply Precast Drainage Structures

1.0 General:

This policy contains the procedures required for Precast Manufacturers to have their drainage structures listed on Qualified Product List 14:

www.scdot.org/doing/rm_lab.asp

NOTICE: Effective Immediately, SCDOT requires third party certification from either ACPA or NPCA. Each Manufacturer's facility is required to have third party certification in order to provide products for use within SCDOT rights-of-way. See ACPA at www.concrete.pipe.org or NPCA at www.precast.org for details of inspection programs.

2.0 Inspection of New Supplier Plants:

New Manufacturing Facilities:

Provide a copy of the plant's ACPA or NPCA certificate

Completed form **QPL14DS** (below).

Written request for initial plant inspection (email, fax, or letter)

Contact: Design Standards Office
Preconstruction Support
955 Park Street, Room 409
Columbia, SC 29201

Telephone: (803) 737-1377 Fax: (803) 737-0608

Email: d8designstandards@scdot.org

Random spot inspections will be performed as deemed necessary to assure compliance with this policy and product specifications.

Mark all products produced for use within SCDOT rights-of-way with the following:

- a. All marks required by the plans, standard drawings, or specifications
- b. Date of manufacture
- c. Description of Item (consistent with QPL 14 terminology, in *italics* below)
- d. AASHTO/ASTM designation where applicable
- e. Manufacturer's unique stamp/location identifier for the facility
- f. Third party certification identifier (either "NPCA" or ACPA "Qcast") appropriate for the facility/product being produced

Where possible, mark both inside and outside of item. For outside mark, place as close to the top of the item as practical.

4.0 Requests to produce precast reinforced concrete floorless culverts:

Manufacturers shall submit:

1. Completed Request form **QPL14FC** located at the end of this policy.
2. Design methodology or design manual
3. List of completed and ongoing floorless culvert installations with the following information for each project:
 - Project Name
 - Installation Date
 - Location (GPS Coordinates if available)
 - Floorless Culvert type, span, rise, and length
 - Maximum Design Dead & Live loads
 - Owner contact information
4. Copies of two (2) as built project designs and plans* preferably within the state of South Carolina (including construction revisions) and representative of the sizes and type (submit 2 projects for each type desired, flat slab, arch box, or arch) requested to be listed on QPL14.
 - a. Design Calculations (including foundation, structure, geotechnical report)
 - b. Design Drawings (location, plan, elevations, and section views)
 - c. Foundation Drawings
 - d. Shop Drawings
 - e. As built changes shall be noted on drawings or summarized

*Results of full scale structural loading testing may be submitted in lieu of as built plans. Load test data must verify the validity of the structural design methodology including all maximum design, fabrication, and handling stresses.. Manufacturers will only be listed up to sizes within 20% of submitted as built or tested sizes (up to 48' span) and will only be listed up to the maximum span of the submitted design example/load test data for any size larger than 48' span.

Submit all required information at least 45 business days in advance of being listed on QPL14 for floorless culverts.

Produce Floorless Culverts in a facility listed on QPL 14 or in a facility qualified by the SCDOT Office of Materials and Research. Notify SCDOT a minimum of 15 business days prior to fabricating sections to allow coordination with SCDOT inspectors. SCDOT will inspect all precast floorless culvert sections produced for use within SCDOT rights-of-way.

Precast manufacturer must contact the Concrete Materials Supervisor (803) 737 - 6689 at the SCDOT Office of Materials & Research at least 14 business days prior to casting any parts of a floorless culvert to be installed within SCDOT ROW.

5.0 Request to produce precast rectangular drainage boxes and risers (719-305-00, 719-310-00, & 719-315-00):

Manufacturer shall submit

1. Structural design calculations in accordance with requirements of Standard Drawing
2. Shop drawings

Submit all required information at least 45 business days in advance of being listed on QPL14 for precast rectangular boxes and risers.

6.0 Requests to produce other listed drainage structures:

Manufacturer shall submit a certification of compliance with the SCDOT Standard Drawing. For convenience, a blank certification form (**QPL14DS**) is attached to this policy, by signing and submitting the certification form QPL14DS, Manufacturer agrees to fabricate all drainage structures in conformance with SCDOT Standard Specifications and Drawings.

7.0 Review Process

The SCDOT reserves the right to require additional documentation and perform random spot inspections at each facility as needed to determine the suitability of a supplier for inclusion. When random spot inspection are desired, SCDOT will arrive on-site without any prior notice. The SCDOT may, at any time, remove a supplier from the qualified product list or require additional inspections, testing, or documentation if confidence in the conformance or suitability of the supplied product is lost. Review time listed above will be extended if submittal is incomplete or additional information is required.

8.0 Updating Contact Information and Annual 3rd Party Certification Status

It is the manufacturer's responsibility to provide annual certification documentation and to notify **SCDOT in writing if there are changes in contact information or ownership of any listed facility**. Changes in ownership of plant may require an additional plant inspection.

Manufacturers must be listed on Qualified Product List 14 on the project let date in order to provide bids for a SCDOT project.

Manufacturers/Contractors must comply with shipping permits as required by South Carolina state law:

<http://www.scdot.org/doing/OSOW.asp>

SCDOT Standard Drawings are available on our website at:

www.scdot.org/doing/sd_book.shtml

Form: **QPL14DS Precast Concrete Drainage Items – Qualified Product List 14 Certification Letter (1/5)**

	Company Mailing Address:	Plant Physical Address:
Company:	_____	_____
Contact Name:	_____	_____
Address:	_____	_____
City:	_____	_____
State:	_____	_____
Postal Code:	_____	_____
Phone #:	_____	_____
Fax #:	_____	_____
Email Address:	_____	_____
Web Page:	_____	_____

The company above wishes to be included on Qualified Product List 14 for the items checked below. We understand that by requesting to be placed on QPL 14, we are agreeing to comply with all of the details noted on the corresponding SCDOT Standard Specifications and Drawings.

- 719-001-XX *CB1 Bottom Slab [46"x52"x6"]*
- 719-001-XX *Type 1 Inlet Adaptor for 4'x4' Box [64"x64"x8"]*
- 719-001-XX *Type 1 Inlet Adaptor for 5'x5' Box [76"x76"x8"]*
- 719-001-XX *Type 1 Inlet Adaptor for 6'x6' Box [88"x88"x8"]*
- 719-009-XX *CB9 Bottom Slab [52"x52"x6"]*
- 719-009-XX *CB9 Top Slab [52"x52"x10"] W/ Throat Legs*
- 719-009-XX *CB9 Top Slab Manhole Type [52"x52"x10"] With Throat Legs*
- 719-009-XX *Alt CB9 Top Slab WO Throat Legs [52"x52"x5"] for brick box*
- 719-009-XX *Alt CB9 Top Slab (MH) WO Throat Legs [52"x52"x5"] for brick box*
- 719-009-XX *CB9 Inlet Adaptor for 3'x4' box [52"x64"x8"]*
- 719-009-XX *CB9 Inlet Adaptor for 3'x5' box [52"x76"x8"]*
- 719-009-XX *CB9 Inlet Adaptor for 3'x6' box [52"x88"x8"]*
- 719-015-XX *CB15 Double Bottom Slab [110"x60"x6"]*
- 719-015-XX *CB15 Single Bottom Slab [70"x60"x6"]*
- 719-015-XX *CB15 Collar [60"x40"x15.5"]*
- 719-016-XX *CB16 Bottom Slab [64"x64"x6"]*
- 719-016-XX *CB16 Top Slab [66"x64"x8"]*
- 719-016-XX *CB16 Top Slab with Throat Walls [66"x64"x14"]*
- 719-017-XX *CB17 Bottom Slab [64"x64"x6"]*
- 719-017-XX *CB17 Top Slab [66"x112"x8"]*
- 719-017-XX *CB17 Throat [66"x112"x12"]*
- 719-017-R6 *CB17R5 Retrofit Top Slab [66"x112"x8"]*
- 719-018-XX *CB18 Bottom Slab [64"x64"x6"]*
- 719-018-XX *CB18 Top Slab [66"x160"x8"]*
- 719-018-XX *CB18 Throat [66"x160"x12"]*
- 719-018-R8 *CB18R7 Retrofit Top Slab [66"x160"x8"]*
- 719-025-XX *CB25 Bottom Slab for 4'x7' Box*
- 719-025-XX *CB25 Inlet Adaptor for 4'x7' Box (Double)*
- 719-025-XX *CB25 Inlet Adaptor for 4'x7' Box (Single)*

Form: **QPL14DS** Precast Concrete Drainage Items – Qualified Product List 14 Certification Letter (2/5)

Company: _____

- 719-025-XX CB25 Bottom Slab 4'x5' Box
- 719-025-XX CB25 Inlet Adaptor for 4'x5' Box (Single)
- 719-105-XX (24"x24") Drop Inlet Bot. Slab [40"x40"x6"]
- 719-105-XX DI (24"x24") Inlet Adaptor for 4'x4' box [64"x64"x8"]
- 719-105-XX DI (24"x24") Inlet Adaptor for 5'x5' box [76"x76"x8"]
- 719-105-XX DI (24"x24") Inlet Adaptor for 6'x6' box [88"x88"x8"]
- 719-110-XX (24"x36") Drop Inlet Bot. Slab [40"x52"x6"]
- 719-110-XX DI (24"x36") Inlet Adaptor for 4'x4' box [64"x64"x8"]
- 719-110-XX DI (24"x36") Inlet Adaptor for 5'x5' box [76"x76"x8"]
- 719-110-XX DI (24"x36") Inlet Adaptor for 6'x6' box [88"x88"x8"]
- 719-112-XX DI 112 Bottom Slab [52"x52"x6"]
- 719-115-XX DI 115 Bottom Slab
- 719-115-XX DI 115 Top Slab
- 719-125-XX DI 125 Inlet Adaptor 4'x7' Box (Single)
- 719-125-XX DI 125 Inlet Adaptor 4'x5' Box (Single)
- 719-330-XX 2'x2' JB Top
- 719-330-XX 2'x2.5' JB Top
- 719-330-XX 2'x3' JB Top
- 719-330-XX 2'x4' JB Top
- 719-330-XX 2.5'x2.5' JB Top
- 719-330-XX 2.5'x3' JB Top
- 719-330-XX 2.5'x4' JB Top
- 719-330-XX 3'x3' JB Top
- 719-330-XX 3'x4' JB Top
- 719-330-XX 3'x5' JB Top
- 719-330-XX 3'x6' JB Top
- 719-330-XX 4'x4' JB Top
- 719-330-XX 4'x5' JB Top
- 719-330-XX 4'x6' JB Top
- 719-330-XX 5'x5' JB Top
- 719-330-XX 5'x6' JB Top
- 719-330-XX 6'x6' JB Top
- 719-330-XX 4'x4' Shallow Junction Box Top [64"x64"x8"]
- 719-330-XX 5'x5' Shallow Junction Box Top [76"x76"x8"]
- 719-330-XX 6'x6' Shallow Junction Box Top [88"x88"x8"]
- 719-335-00 Spring Box [28"x28"x36"]
- 719-335-00 Spring Box [28"x28"x42"]
- 719-335-00 Spring Box [28"x28"x48"]
- 719-335-00 Spring Box [28"x28"x54"]
- 719-335-00 Spring Box [28"x28"x60"]
- 719-335-00 Spring Box Cover [40"x40"x6"]
- 719-420-00 48" dia. Circular Drainage Base
- 719-420-00 60" dia. Circular Drainage Base
- 719-420-00 72" dia. Circular Drainage Base
- 719-420-00 84" dia. Circular Drainage Base

Form: **QPL14DS** Precast Concrete Drainage Items – Qualified Product List 14 Certification Letter (3/5)

Company: _____

- 719-420-00 96" dia. Circular Drainage Base
- 719-420-00 120" dia. Circular Drainage Base
- 719-420-00 48" dia. Circular Riser
- 719-420-00 60" dia. Circular Riser
- 719-420-00 72" dia. Circular Riser
- 719-420-00 84" dia. Circular Riser
- 719-420-00 96" dia. Circular Riser
- 719-420-00 120" dia. Circular Riser
- 719-420-00 60" dia. to 48" dia. Circular Transition Slab
- 719-420-00 72" dia. to 48" dia. Circular Transition Slab
- 719-420-00 84" dia. to 48" dia. Circular Transition Slab
- 719-420-00 96" dia. to 48" dia. Circular Transition Slab
- 719-420-00 120" dia. to 48" dia. Circular Transition Slab
- 719-420-00 60" dia. to 48" dia. Circular Transition Cone
- 719-420-00 72" dia. to 48" dia. Circular Transition Cone
- 719-425-XX Flat Slab Adaptor for 48" dia. Drainage Structure [64"x64"x6"]
- 719-425-XX Flat Slab Adaptor for 60" dia. Drainage Structure [76"x76"x7"]
- 719-425-XX Flat Slab Adaptor for 72" dia. Drainage Structure [84" dia.]
- 719-425-XX Flat Slab Adaptor for 84" dia. Drainage Structure [98" dia.]
- 719-425-XX Flat Slab Adaptor for 96" dia. Drainage Structure [112" dia.]
- 719-425-XX Flat Slab Adaptor for 120" dia. Drainage Structure [140" dia.]
- 719-505-XX Manhole PC Bottom Slab [100"dia.x6"]
- 719-505-XX Manhole PC Eccentric Cone
- 719-505-XX Manhole Inlet Adaptor for 4'x4' box [64"x64"x8"]
- 719-505-XX Manhole Inlet Adaptor for 5'x5' box [76"x76"x8"]
- 719-505-XX Manhole Inlet Adaptor for 6'x6' box [88"x88"x8"]
- 719-605-00 Straight Headwall Single Pipe 15" dia max [39"x20"x63"]
- 719-605-00 Straight Headwall Single Pipe 18" dia max [42"x21"x66"]
- 719-605-00 Straight Headwall Single Pipe 24" dia max [48"x24"x72"]
- 719-605-00 Straight Headwall Single Pipe 30" dia max [54"x26"x78"]
- 719-605-00 Straight Headwall Single Pipe up to 36" dia max [60"x27"x84"]
- 719-605-00 Straight Headwall Single Pipe 42" dia max [66"x29"x102"]
- 719-605-00 Straight Headwall Single Pipe 48" dia max [72"x36"x108"]
- 719-605-00 Straight Headwall Single Pipe 54" dia max [78"x38"x126"]
- 719-605-00 Straight Headwall Single Pipe up to 60" dia max [84"x39"x132"]
- 719-605-00 Straight Headwall Multiple Pipes 15" dia max [39"x20"xM"]
- 719-605-00 Straight Headwall Multiple Pipes 18" dia max [42"x21"xM"]
- 719-605-00 Straight Headwall Multiple Pipes 24" dia max [48"x24"xM"]
- 719-605-00 Straight Headwall Multiple Pipes 30" dia max [54"x26"xM"]
- 719-605-00 Straight Headwall Multiple Pipes up to 36" dia max [60"x27"xM"]
- 719-605-00 Straight Headwall Multiple Pipes 42" dia max [66"x29"xM"]
- 719-605-00 Straight Headwall Multiple Pipes 48" dia max [72"x36"xM"]
- 719-605-00 Straight Headwall Multiple Pipes 54" dia max [78"x38"xM"]

Form: **QPL14DS** Precast Concrete Drainage Items – Qualified Product List 14 Certification Letter (4/5)

Company: _____

- 719-605-00 *Straight Headwall Multiple Pipes up to 60" dia max [84"x39"xM"]*
- 719-615-00 *Pipe End Structure up to 18" Pipe@ 4:1 Slope [123"x48"x40"]*
- 719-615-00 *Pipe End Structure up to 36" Pipe@ 4:1 Slope [222"x68"x60"]*
- 719-615-00 *Pipe End Structure up to 54" Pipe@ 4:1 Slope [294"x92"x84"]*
- 719-615-00 *Pipe End Structure up to 72" Pipe@ 4:1 Slope [396"x112"x104"]*
- 719-615-00 *Pipe End Structure up to 18" Pipe@ 6:1 Slope [195"x48"x40"]*
- 719-615-00 *Pipe End Structure up to 36" Pipe@ 6:1 Slope [301"x68"x60"]*
- 719-615-00 *Pipe End Structure up to 54" Pipe@ 6:1 Slope [442"x92"x84"]*
- 719-615-00 *Pipe End Structure up to 72" Pipe@ 6:1 Slope [577"x112"x104"]*
- 722-305-00* *PC Box Culvert (WxH) [2x2]*
- 722-305-00* *PC Box Culvert (WxH) >[2x2] to [4x4]*
- 722-305-00* *PC Box Culvert (WxH) >[4x4] to [6x6]*
- 722-305-00* *PC Box Culvert (WxH) >[6x6] to [8x8]*
- 722-305-00* *PC Box Culvert (WxH) >[8x8] to [10x10]*
- 722-305-00* *PC Box Culvert (WxH) >[10x10] to [12x12]*
- 722-305-00* *PC Box Culvert larger than [12x12]*

Form: **QPL14DS** Precast Concrete Drainage Items – Qualified Product List 14 Certification Letter (5/5)

Company: _____

- 802-105-00 *Underdrain End Protector for 6" PVC on 2:1 Slope [36"x18"x4"]*
- 802-105-00 *Underdrain End Protector for 6" PVC on 4:1 Slope [43.75"x18"x4"]*
- 802-105-00 *Underdrain End Protector for 6" PVC on 6:1 Slope [54.5"x18"x4"]*
- 802-105-00 *Underdrain End Protector for 4" PVC on 2:1 Slope [36"x16"x4"]*
- 802-105-00 *Underdrain End Protector for 4" PVC on 4:1 Slope [36"x16"x4"]*
- 802-105-00 *Underdrain End Protector for 4" PVC on 6:1 Slope [40.5"x16"x4"]*

* Box culvert sizes will be listed for general reference with a note directing contractors to verify that a manufacturer can make specific culvert sizes for each project.

Drainage boxes & risers shown on Standard Drawing 719-305-00, 719-310-00, & 719-315-00 require full engineering submittal as described on the drawing. Precast Reinforced Concrete Floorless Culverts previous project engineering submittal.

SCDOT Standard Drawings are available on our website at:
www.scdot.org/doing/sd_book.shtml

I certify that the items (checked above) to be produced (by the company listed on the top of each certification form) for the South Carolina Department of Transportation, shall comply with the latest revision of SCDOT Standard Drawing (current at the time each item is fabricated.)

(Sign & Date)

(Print Name)

Please return this certification form to:
Design Standards Office
Preconstruction Support
955 Park Street Room 409
Columbia, SC 29201

Or by email: d8designstandards@scdot.org
Or by fax: (803) 737-0608

Form: QPL14FC Request to Supply Precast Reinforced Concrete Floorless Culverts

Precast Reinforced Concrete Floorless Culvert Manufacturers shall use this request form to have their contact information placed on Qualified Product List #14. This list is to assist contractors in finding available products and does not indicate SCDOT design approval. Manufacture facilities shall be inspected as required by the Department and floorless culvert designs submitted for each project shall be reviewed as required by the Department. Submit this form and 2 examples for EACH floorless culvert type you wish to produce.

Trademark or Product Name _____
 Web Page _____
 Company _____
 Street Address _____
 City _____
 State _____
 Zip Code _____

Contact Person _____
 Phone Number _____
 Email Address _____

Minimum Manufactured Span _____
 Maximum Manufactured Span* _____

Type: Arch, Flat Slab, Arch Box

Arch – The arch floorless culvert system consists of a continuously curved barrel.
 Flat Slab – The flat slab floorless culvert system consists of a top flat slab supported by two vertical walls.
 Arch Box – The arch box floorless culvert system consists of a curved top slab supported by two vertical walls.

* Maximum Manufactured Span must be within 20% of the span of the largest submitted as built or tested design up to 48’ fabricated span.

For ALL spans larger than 48’, manufacturer must demonstrate prior successful installation or full scale load testing including fabrication and handling loads of a floorless culvert as large as, or larger, than the requested span.

Please submit this form, and all required information listed in section 4.0 of this document at least 45 business days prior to needing the floorless culvert for a project to:.

Design Standards Office
 Preconstruction Support
 955 Park Street Room 409
 Columbia, SC 29201

Or by email: d8designstandards@scdot.org
 Or by fax: (803) 737-0608