

# **NMDOT - Bridge Bureau**

## **Phase III Services Guide**

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## 1. General Information

Phase III design services are defined as those services that commence after the letting of a project. These services are sometimes referred to as construction technical support or construction administration (CA).

The term “Project Manager” shall apply to the NMDOT Project Manager and their designee/office manager. Include the designee/office manager on all correspondence.

## 2. Process for Submittal / Shop Drawings

The following process shall apply to the submittal/shop drawing review portion of Phase III services. See Appendix A for Submittal Flow Charts. For guidance on which member of the team should review various submittals see Appendix B.

Electronic distribution (email) of information shall be the default method of transmittal and review. If it is not possible to develop documents that are legible in 8-1/2”x11” or 11”x17” format, the submittal process shall be in hard-copy with all copies to be furnished by the Contractor. If electronic document file size exceeds the maximum capability of any participant, the Contractor shall arrange for Cloud-based file sharing.

### A. Phase III services performed by a Consultant:

1. Shop drawings/submittals are to be submitted by the Contractor to the Project Manager. Once the Project Manager has reviewed and confirmed that the shop drawing is complete, the Project Manager will send it to the Consultant for review. The Project Manager shall copy the NMDOT Bridge Design Engineer when the shop drawings are transmitted.
2. Once the Consultant completes their review, they are to transmit the submittal/shop drawing to the Bridge Design Engineer. The document will include the following information on EVERY sheet of a shop drawing (typically termed “stamp”): status, date, and reviewer identification (name and company) – if multiple reviewers are commenting, each reviewer shall initial their specific comments. The need for stamps on every sheet of submittals such as product data sheets shall be left to the reviewer’s discretion. Every submittal must have a transmittal; see Appendix C for a sample. The transmittal sheet shall include: status, date, reviewer identification (name and company), NMDOT project number, description of document (i.e. Shop Drawing of Overhead Sign #3), and any general remarks.
3. Upon receipt of submittal/shop drawings from the Consultant, the Bridge Design Engineer shall perform a cursory review. The Bridge Design Engineer shall provide any additional comments to the Consultant for incorporation. Upon confirmation that everything is in order and/or incorporation of additional comments by the Consultant, the Bridge Design Engineer shall forward the submittal/shop drawing to the Project Manager.

4. If shop drawings are rejected or require resubmittal, the Bridge Design Engineer shall forward them to the Project Manager and Cc: the PDE. The Project Manager shall be responsible for tracking and distributing the resubmittals (return to #1).

**B. When Phase III services are performed by the NMDOT Bridge Design Engineer:**

1. Shop drawings are to be submitted by the Contractor to the Project Manager. Once the Project Manager reviews the shop drawings, the Project Manager will send it to the Bridge Design Engineer for review. The Bridge Design Section Manager shall be copied as documents move through this process.
2. Once the Bridge Design Engineer completes their review, they are to transmit the submittal/shop drawing to the Project Manager. The document will include the following information on EVERY sheet of a shop drawing (typically termed “stamp”): status, date, and reviewer identification (name and company) – if multiple reviewers are commenting, each reviewer shall initial their specific comments. The need for stamps on every sheet of submittals such as product data sheets shall be left to the reviewer’s discretion. The transmittal sheet shall be directed to the Project Manager and shall include: status, date, reviewer identification (name and company), NMDOT project number, description of document (i.e. Shop Drawing of Overhead Sign #3), and any general remarks. See Appendix C for a sample submittal transmittal.
3. When the Bridge Design Engineer transmits the information to the Project Manager, they shall always Cc: the Bridge Design Section Manager.
4. If shop drawings are rejected or require resubmittal, the Bridge Design Engineer shall forward them to the Project Manager and Cc: the Bridge Design Section Manager and PDE. The Project Manager shall be responsible for tracking and distributing the resubmittals (return to #1).

## **C. Submittal Tips**

1. See Appendix A for Submittal Flow Charts.
2. See Appendix B for guidance on which member of the team should review various submittals.
3. Reference NMDOT Standard Specification Section 106 Control of Materials.
4. Inspected by an NMDOT inspector does not relieve the Contractor of submittal requirements.
5. Materials that are on the APL still MUST be submitted. Just because a product is on the APL does not mean that it is appropriate for any application – it must be reviewed for every project. Products on the APL have been reviewed for conformance with the Specification, not for applicability to Projects.
6. Materials that do not become a permanent part of the project do not need to be submitted, unless they have the potential to affect the permanent elements (such as concrete curing compound).

7. If you receive multiple submittals concurrently, try to provide priorities for the Design Engineer. This will ensure that you get the most important submittals back sooner.

8. The SDS (Safety Data Sheets), formerly known as MSDS is not needed by the Design Engineer – do not include it.

### **3. Process for RFI (Request for Information)**

Electronic distribution (email) of information shall be the default method of transmittal and review. If it is not possible to develop documents that are legible in 8-1/2"x11" or 11"x17" format, the submittal process shall be in hard-copy with all copies to be furnished by the Contractor. If electronic document file size exceeds the maximum capability of any participant, the Contractor shall arrange for Cloud-based file sharing.

#### **A. Phase III services performed by a Consultant:**

1. RFIs are to be submitted by the Contractor to the Project Manager. Once the Project Manager has reviewed and confirmed that the RFI is viable, the Project Manager will send it to the Consultant for review. The Project Manager shall copy the NMDOT Bridge Design Engineer when the RFI is transmitted.

2. Once the Consultant completes their review, they are to transmit the RFI answer to the Project Manager. The Consultant shall copy the Bridge Design Engineer on the response. If the RFI is complex, controversial, or has significant cost implications, the Consultant shall confer with the Bridge Design Engineer prior to responding. The Bridge Design Engineer will involve the Bridge Design Section Manager and/or the State Bridge Engineer as appropriate. The document will include the following information: NMDOT control number, response, date, reviewer identification (name and company), and revised stamped drawing if necessary. It is necessary to provide a revised stamped drawing if the answer modifies the structure of the bridge (for instance if rebar is added or removed) – this will ensure that the as-built drawings reflect the engineer's intent.

#### **B. Phase III services performed by a Bridge Bureau:**

1. RFIs are to be submitted by the Contractor to the Project Manager. Once the Project Manager has reviewed and confirmed that the RFI is viable, the Project Manager will send it to the Bridge Design Engineer for review. The Project Manager shall copy the Bridge Design Section Manager when the RFI is transmitted.

2. Once the Bridge Design Engineer completes their review, they are to transmit the RFI answer to the Project Manager. The Bridge Design Engineer will copy the Bridge Design Section Manager on the response. If the RFI is complex, controversial, or has significant cost implications, the Bridge Design Section Manager and/or the State Bridge Engineer shall be consulted. The document will include the following information: NMDOT control number, response, date, reviewer identification (name and company), and revised stamped drawing if necessary. It is necessary to provide a revised stamped drawing if the answer modifies the structure of the bridge (for instance if rebar is added or removed) – this will ensure that the as-built drawings reflect the engineer's intent.

## **4. Consultation, Site Visits, and Meeting Attendance**

The person assigned for Phase III services (whether Bridge Bureau or Consultant) is a significant resource for the Project Manager and should be engaged.

Outside of submittals and RFIs, the only point that the Project Manager is REQUIRED to engage the Phase III resource is for Pre- Deck Pour meetings (when applicable). However, the Project Manager is encouraged to engage the Phase III resource whenever appropriate. Some examples are:

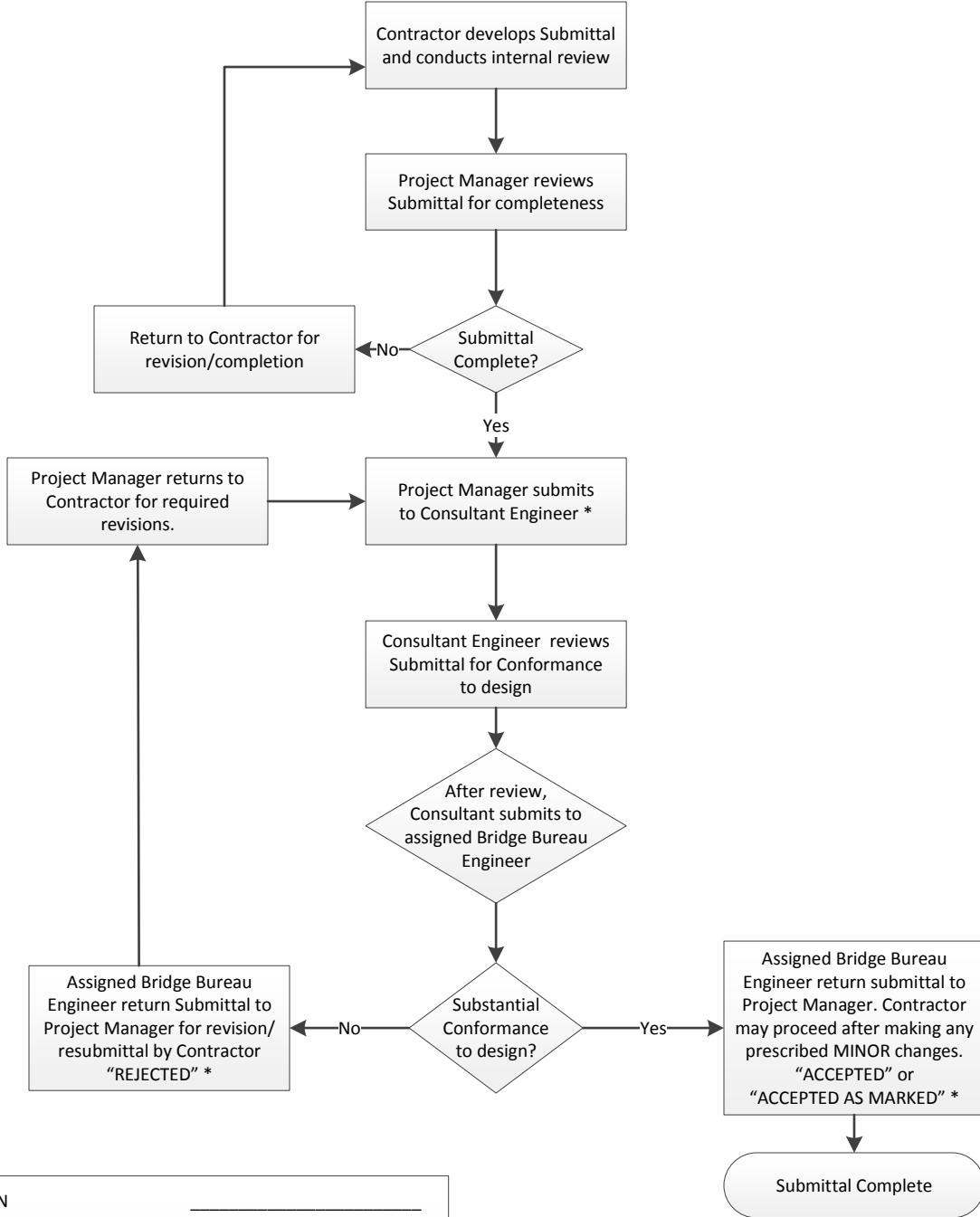
- Conditions encountered do not match the design documents
- There are constructability issues
- Something just doesn't look right

Engagement will typically be via phone – which is very effective with modern technology, particularly the ability to take and transmit photos and/or video immediately. It is also acceptable to request a project site visit – especially when preparing to accomplish a complicated scope of work (such as unique overlays or major demolition). Site visits can typically be arranged within 72 hours of request.

The Phase III resource should be included in the invitation to the Pre-Construction Meeting. Note, the experience has been that there is little need for attendance of the Phase III resource, so they will typically NOT attend. If the Project Manager would like to have the Phase III resource in attendance, express this via phone call or email in addition to inclusion in the calendar invite.

# APPENDIX A (ii)

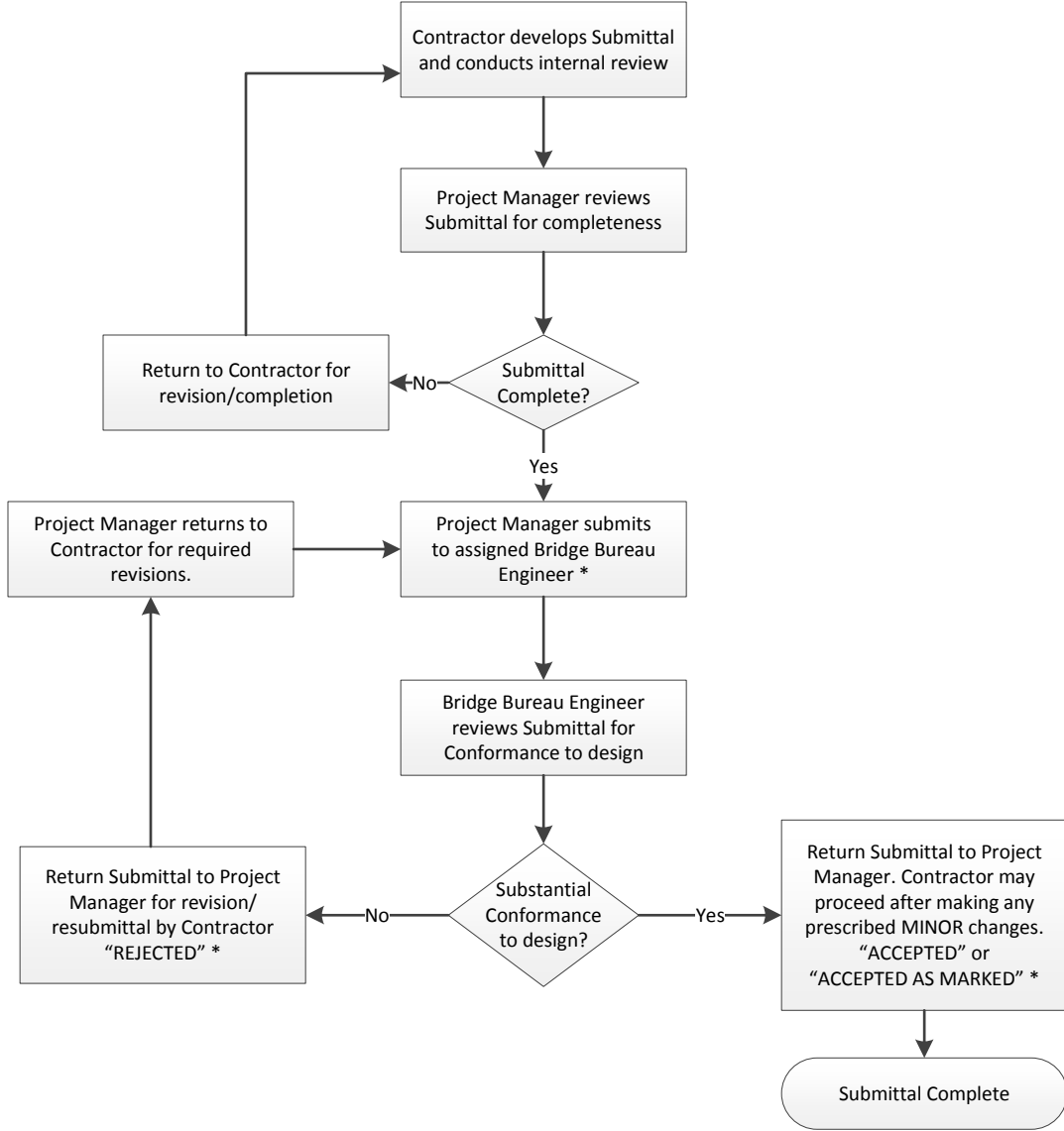
## Structural / Bridge Bureau Submittal Flow Chart Phase III Service by Consultant



Project CN	
Project Manager	
Consultant Engineer	
Assigned Bridge Engineer	

\* Copy the assigned Bridge Bureau Engineer

# Structural / Bridge Bureau Submittal Flow Chart Phase III Service by Bridge Bureau



Project CN	_____
Project Manager	_____
Assigned Bridge Engineer	_____
Bridge Design Section Manager	<u>kathy.crowell@state.nm.us</u> <u>505-470-5663</u>

\* Copy the Bridge Design Section Manager

# Appendix B

## Submittal Review Clarification

Forward update suggestions to [Kathy.crowell@state.nm.us](mailto:Kathy.crowell@state.nm.us)

revision: 11/21/17

Section #	Description	Submittal	
201	Clearing and Grubbing	N/A	
203	Excavation, Borrow, and Embankment	R-Value AASHTO T-190 Testing of Borrow Pit	PM + State Pavement Engineer
		AASHTO T-290 Water-Soluble Sulfate Ion Content	PM + State Pavement Engineer
		Blaster in Charge	PM + State Geotechnical Engineer
		Blasting Plans	PM + State Geotechnical Engineer
		Blasting Record	PM + State Geotechnical Engineer
		Request to use Borrow Material (203.3.4)	PM
		Vibration Risk Survey	PM
		Rock Excavation (203.4.1)	PM + State Geotechnical Engineer
		Survey	PM
203A	Unstable Subgrade Stabilization	Contractor Proposed Stabilization Options	PM + State Pavement Engineer
206	Excavation and Backfill for Culverts and Minor Structures	Select Backfill	PM
		Bedding Material	PM
207	Subgrade Preparation	N/A	
210	Excavation and Backfill for Major Structures	Temporary Shoring and Bracing Detail Submittal	State Geotechnical Engineer + SE
		Select Backfill	PM
		Approach Slab Backfill Material	PM
		Survey	PM
301A	Full Depth Reclamation	Mix Design	PM + State Pavement Engineer
301B	Cold Central Plant Recycling	Mix Design	PM + State Pavement Engineer
415A	Cold In-Situ Recycling	Mix Design	PM + State Pavement Engineer + State Materials Bureau Chief + State Asphalt Engineer
		Trainer Qualifications and Schedule	PM + State Pavement Engineer + State Materials Bureau Chief + State Asphalt Engineer
450	Portland Cement Concrete Pavement	Jointing Plan	PM + State Pavement Engineer + State Concrete Engineer
501	Driven Bearing Piles	MTRs (3 Certified Copies):	PM
		Welder Certification (in accordance with Section 541 "Steel Structures")	PM
		Class G Concrete Mix Design (Approved by the State Concrete Engineer)	PM + State Geotechnical Engineer/Foundation Engineer
		Pre-cast pre-stressed concrete piles certification and testing in accordance with Section 518 "Pre-Stressed Concrete Members"	PM
		Paint Certification in accordance with Section 544 "Protective Coating of New Structural Steel"	PM
		Pile Driving Equipment	State Geotechnical Engineer + Foundation EOR
502	Drilled Shafts	Construction and Field Designs	State Geotechnical Engineer + Foundation EOR
		Drilled Shaft Submittal	State Geotechnical Engineer + Foundation EOR
		Construction Procedure	State Geotechnical Engineer + Foundation EOR
		Class G Concrete Mix Design (Approved by the State Concrete Engineer)	State Geotechnical Engineer + Foundation EOR



504	Load Testing of Bearing Piles	Load Test Frame & Anchorage Method	State Geotechnical Engineer + Foundation EOR
		Calibration Certificate (Pressure Load)	State Geotechnical Engineer + Foundation EOR
		Pile and Equipment Data Form	State Geotechnical Engineer + Foundation EOR
505	Pile Integrity Testing	Consultant Integrity Testing (Qualifications must meet the Geotechnical Design Section requirements and Equipment must meet the requirements of Section 505.3.1.1 CSL Testing Equipment and Section 505.3.1.2 LSI Testing Equipment)	State Geotechnical Engineer + SE
506	Mechanically Stabilized Earth Retaining Structures	Working Drawings and Design Calculations	State Geotechnical Engineer + SE
		Contract and Working Drawings)	PM
		Reinforced Soil Backfill Material (Provide reinforced backfill material that meets the requirements of Section 506.2.6 Reinforced Soil Backfill Material Section 506.2.6.1 Internal Friction Angle Requirement, and 506.2.6.2 Electrochemical Requirements)	State Geotechnical Engineer + SE
509	Portland Cement Concrete Mix Designs	New mix designs	State Concrete Engineer
		Approved mix designs, reviewed and accepted for use on the project.	PM
		Cement & fly ash mill certs for quantities used on the project	PM
		Admixtures on the Approved mix design verified on APL	PM
510	Portland Cement Concrete	Additional admixes requested to be used by the Contractor that are not on the Approved mix design must be approved on a project basic (not just APL)	State Concrete Engineer
		Approval for extended mixing time	State Concrete Engineer
		Aggregate gradations	PM
511	Concrete Structures	Curing Materials	PM + opt SE
		Reinforcing Steel Shop Drawings	PM
		Reinforcing Steel Compliance	PM
		False work and Foundation Plans	PM + opt SE
		Concrete Placement Schedule (Sequence)	Structural Engineer
		Bonding Agent	PM + opt SE
		Form Release Agents (must be compatible with subsequent coating)	PM + opt SE
		Liquid Applied Evaporation Reducers	PM + opt SE
		Joint Materials	PM
		Extruded Polystyrene	PM
		Tear Web Waterstop	PM
		Waterproofing	PM
		Cold Weather Concrete Plan	State Concrete Engineer
Hot Weather Concrete Plan	State Concrete Engineer		
512	Superstructure Concrete	Deck Placement Preconstruction Conference	SE must be invited
		Falsework Plans and Design Calculations	Structural Engineer
		Profile Survey of Girders - within range (x-x)	PM + opt SE
		Profile Survey of Girders - outside of range	Structural Engineer
		Permanent Steel Deck form shop drawings	Structural Engineer
		Documentation of smoothness testing (512.3.10.2)	Structural Engineer
514	Concrete Barrier Railings for Bridges		
515	Reinforced Concrete for Minor Structures	Shop Drawings	PM + opt SE
516	Flowable Fill	refer to 509 and 510	refer to 509 and 510
517	Precast Concrete Structures	Shop Drawings	PM + opt SE (engage D3 materials for fab inspections)

518	Pre-Stressed Concrete Members	Shop Drawings	Structural Engineer of Record (engage D3 materials for fab inspections)
		Erection Plan	PM and Structural Engineer of Record
519	Shotcrete	refer to 509 and 510	refer to 509 and 510
		Nozzleman Qualifications	PM + opt SE
520	Post-Tensioned Bridge Members	Post-Tensioning Plan	Structural Engineer of Record
522	Chemical Adhesive Anchors	Product Data and Manufacturer's Application Instructions	PM + opt SE
523	Cementitious-Grouted Dowels and Anchors	Product Data and Manufacturer's Application Instructions	PM + opt SE
529	Pier and Abutment Bearing Modification	Shop Drawings	Structural Engineer
		Jacking and Shoring Plan (AASHTO - Bridge Temporary Works)	Structural Engineer
531	Permanent Anti-Graffiti Protective Coating	Product Data and Manufacturer's Application Instructions	PM
532	Penetrating Water Repellent Treatment	Product Data and Manufacturer's Application Instructions	PM
533	Concrete Structure Repair	refer to 509 and 510	refer to 509 and 510
534	Epoxy Injection	Product Data and Manufacturer's Application Instructions	PM
535	Crack Sealing Using Low-Viscosity, Gravity-Fed Sealers	Product Data and Manufacturer's Application Instructions	PM
536	Polymer Concrete Bridge Deck Overlay	Product Data and Manufacturer's Application Instructions	PM
537	Polyester Concrete Bridge Deck Overlay	Product Data and Manufacturer's Application Instructions	PM
540	Steel Reinforcement		
541	Steel Structures	Tier 1 Shop Drawings	Structural Engineer (SE will coordinate augmentation involvement in submittal process)
		Tier 2 & 3 Shop Drawings	PM + opt SE
		Tier 1 Welding procedures and welder certifications	Structural Engineer (SE will coordinate augmentation involvement in submittal process)
		Tier 2 & 3 Welding procedures and welder certifications	PM + opt SE
		Fabricator and Erector Qualifications	PM + opt SE
		Erection Plan	PM and Structural Engineer
542	High-Strength Bolts	Material Certifications	Project Manager
543	Metal Railing	Shop Drawings	PM + opt SE
544	Protective Coating of New Structural Steel	Product Data and Manufacturer's Application Instructions	PM + opt SE
545	Protective Coating of Miscellaneous Structural Steel	Product Data and Manufacturer's Application Instructions	PM + opt SE
546	Recoating Structures	Product Data and Manufacturer's Application Instructions	PM + opt SE
547	Safety and Environmental Requirements for Painting Operations	Lead Mitigation	PM (file)
548	Concrete Coatings	Product Data and Manufacturer's Application Instructions	PM + opt SE
550	Treated Timber		
560	Elastomeric Bearing Pads	Shop Drawings	Structural Engineer
561	Elastomeric Compression Joint Seals	Product Data and Manufacturer's Installation Instructions	PM + opt SE
562	Bridge Joint Strip Seals	Shop Drawings	PM + opt SE
		Product Data and Manufacturer's Installation Instructions	PM + opt SE
563	Polymer Bridge Joint Seals		

	Product Data and Manufacturer's Installation Instructions	PM + opt SE
564	Preformed Closed Cell Foam Bridge Joint Seals	
	Product Data and Manufacturer's Installation Instructions	PM + opt SE
565	Preformed Silicone-Coated Foam Joint Seals	
	Product Data and Manufacturer's Installation Instructions	PM + opt SE
570	Pipe Culverts	
	Product Data and Manufacturer's Installation Instructions	PM + opt SE
571	Structural Plate Structures	
	Shop Drawings	Structural Engineer
601	Removal of Structures and Obstructions	
	Structural Demolition Plans	Structural Engineer

The terms Structural Engineer and Bridge Engineer are synonymous.

SE = Structural Engineer

CN
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PM	name	
	phone	
	email	

State Asphalt Engineer	name	Parveez Anwar
	phone	505-827-5656
	email	<a href="mailto:parvees.anwar@state.nm.us">parvees.anwar@state.nm.us</a>

State Materials Bureau Chief	name	James Gallegos
	phone	505-660-3541
	email	<a href="mailto:james.gallegos@state.nm.us">james.gallegos@state.nm.us</a>

State Pavement Engineer	name	Jeff Mann
	phone	505-795-4927
	email	<a href="mailto:jefferysmann@state.nm.us">jefferysmann@state.nm.us</a>

State Geotechnical Engineer	name	Michelle Mann
	phone	505-490-1507
	email	<a href="mailto:michelle.mann@state.nm.us">michelle.mann@state.nm.us</a>

State Concrete Engineer	name	Sean Brady
	phone	505-257-8673
	email	<a href="mailto:sean.brady@state.nm.us">sean.brady@state.nm.us</a>

State Bridge Engineer	name	Ray Trujillo
	phone	505-490-1190
	email	<a href="mailto:raymond.trujillo@state.nm.us">raymond.trujillo@state.nm.us</a>

Bridge Design Section Manager	name	Kathy Crowell
	phone	505-470-5663
	email	<a href="mailto:kathy.crowell@state.nm.us">kathy.crowell@state.nm.us</a>

Structural Engineer (SE)		
assigned Bridge Bureau Engineer	name	
	phone	
and/or	email	
Consultant	name	
	phone	
	email	

EOR = Engineer of Record (see Professional Engineer's stamp on Bridge Plans)

# Addendum C

## CONTRACTOR SUBMITTAL FORM

Control Number (CN):  Project Title:	Date: Contractor's Submittal No.: Engineer Submittal No.:  Title:
CONTRACTOR:	Dates of any previous submissions:
Supplier:	Manufacturer:
Specification No.:	Drawing No.:
Are there any deviations to the contract documents? <input type="checkbox"/> no <input type="checkbox"/> yes    (explain and identify:)	
CONTRACTOR'S CERTIFICATION: This submittal has been reviewed by the Contractor in compliance with the requirements of the applicable CONTRACT DOCUMENTS' SPECIFICATIONS. Any deviations to the CONTRACT DOCUMENTS are identified above. If this is a resubmittal, any changes other than those specifically called for by the ENGINEER on previous submittals are specifically identified on the sheet(s) directly following this form.	
Signed:	Date:
<b>ENGINEER/ OWNER ACTIONS:</b>	
Date Received:	Review is for general conformity with the Drawings and Specifications. Quantities are not verified. CONTRACTOR'S full responsibility is in no way relieved by this action.
<p style="text-align: center;"> <input type="checkbox"/> REVIEWED AND ACCEPTED   <input type="checkbox"/> REVIEWED AND ACCEPTED AS NOTED   <input type="checkbox"/> REVIEWED AND NOT ACCEPTED.                 </p>	
By:	Date:
ENGINEER'S COMMENTS, IF ANY:	
ENGINEER'S ATTACHMENTS, IF ANY:	