Guide to Shop Drawing Submittals

Bridge Division – Shop Drawing Review

September 2025

Table of Contents

General

Overview

A Submittal is a detailed set of drawings and calculations, if applicable, that is received and reviewed by TxDOT. A Submittal may consist of shop drawings, shop plans, working drawings, and alternate calculations for ancillary structures.

The purpose of this guide is to provide instructions for Submittals to:

- District personnel, (Area Engineers, Project Engineers, etc.) for setting submission expectations,
- Fabricators, (including their Detailers and Distributors) for drafting the drawings and submitting the shop drawing,
- Reviewers, (Area Engineers, Engineers of Record, etc.) for reviewing the shop drawings, and
- Contractors (selected for TxDOT projects).

Figure 1 provides an overview of the process.

Document Legacy

This document is subject to revision as conditions, experience and research data may warrant. The previous version was released in September 2019, "Guide to Electronic Shop Drawing Submittal," which noted prior updates. The former versions will be archived with TxDOT Bridge Division's Records Coordinator.

Feedback

Direct any questions or comments on the content of this document to TxDOT, Bridge Division, Design Section, Standards, BRG Shop Drawing Review email.

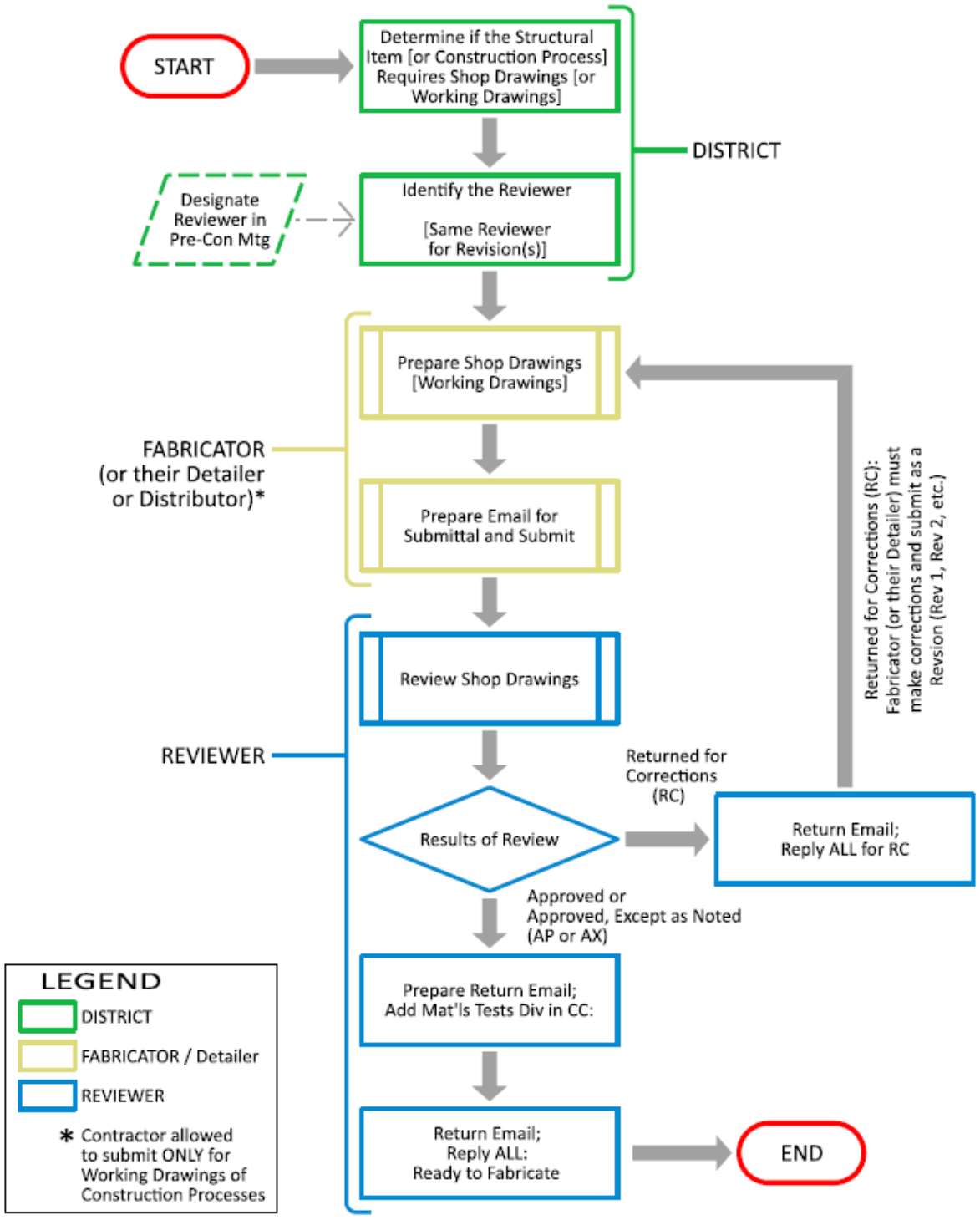


Figure 1: Basic Steps for Shop Drawing Submittal Process

Prior to Submittals (District/Area Office)

Overview

The TxDOT Area Engineer should communicate Submittal requirements specified by the contract plan set and the Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridge, also known as, the Spec Book, to the Contractor at or before the preconstruction. This communication should occur before the Fabricator is authorized to proceed.

Eligible Items or Processes That Require Submittals

The Fabricator (or their Detailer or their Distributor) submits only the eligible Items, and the Contractor submits eligible Processes listed in the Table of Structural Items and Construction Processes.

Identify the Reviewer

The TxDOT Area Engineer should designate the Reviewer for the Submittals prior to receiving the Submittals from the Fabricator. The Pre-Construction (Pre-Con) Meeting is the ideal time for announcing the Reviewer(s) of the Submittals. All involved parties should be present thus eliminating delays and confusion. See Reviewer Section for information on who the reviewers may be.

Additional Email Addresses

If other individuals, outside of the District's Shop Plan Email Inbox, would like to be included with the correspondence for the progress of the Shop Drawing Review, provide those individuals' email addresses to the contractor at the Pre-Con Meeting.

Drafting the Drawings (Fabricator)

Overview

The Fabricator or their representative should prepare and submit the Submittal. The Submittal must meet the following requirements.

Prepare the Shop Drawings (Working Drawings)

The CAD drawing parameters:

Resolution..... Finest Detail Legible at Full Scale

Drawing PDF Sheet Dimensions..... 11” x 17”, Landscape
Notes PDF Sheet Dimensions .....8.5” x 11”, Portrait
Color..... Black Images / Font on White Background
Font Size .....Minimum 1/16” or Larger
Blank Space for Reviewer’s Stamp ..... Rectangle 2.5” wide x 2” tall
Reviewer’s Stamp Location . Use Either Option exclusively per Submittal
Option A or Option B .....Left Side or Above the Sheet Title Block

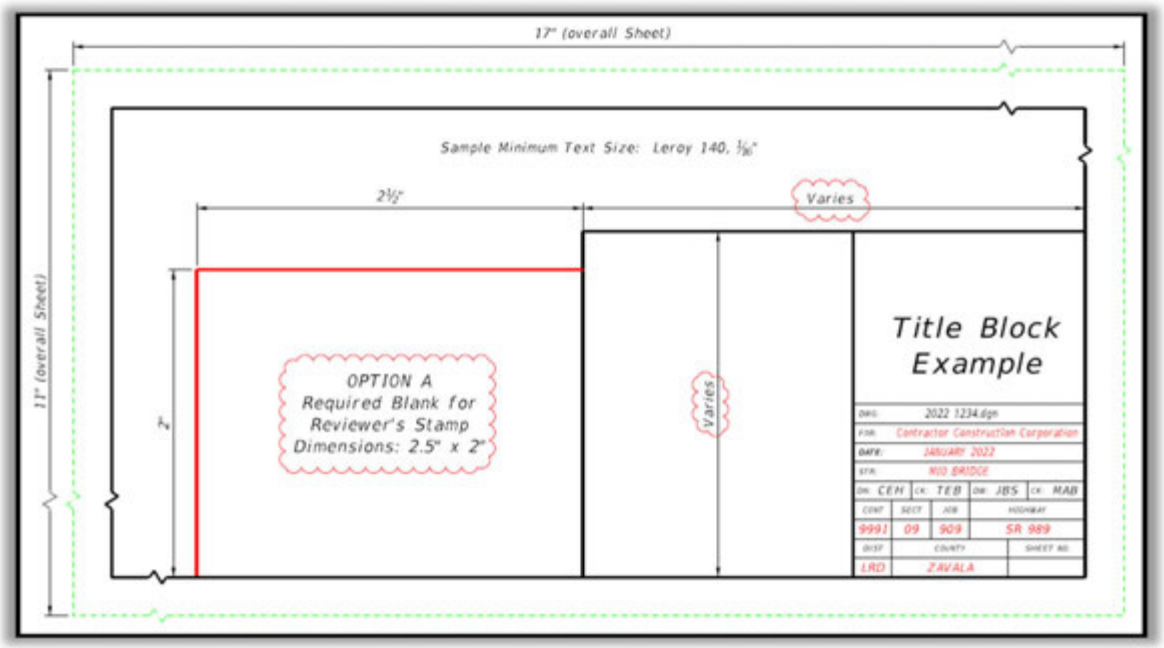


Figure 2: Example of Option A

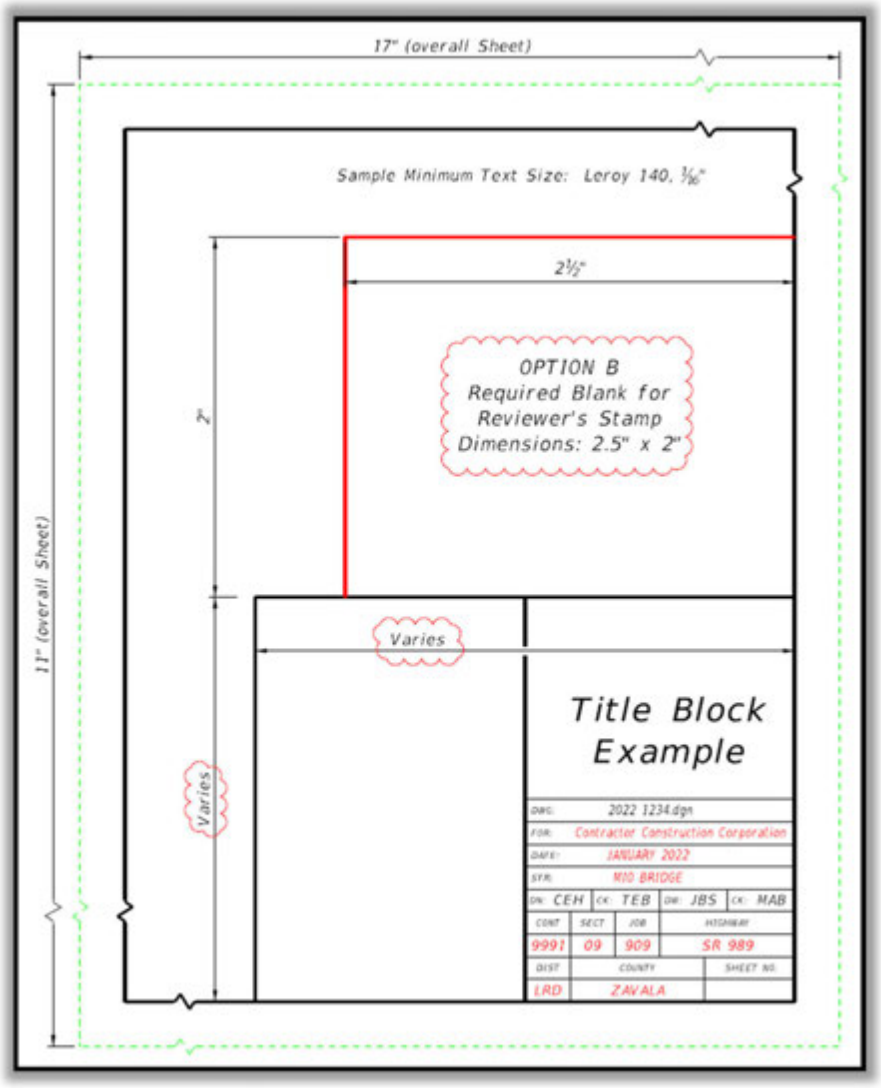


Figure 3: Example of Option B

Drawing Title Block Essentials

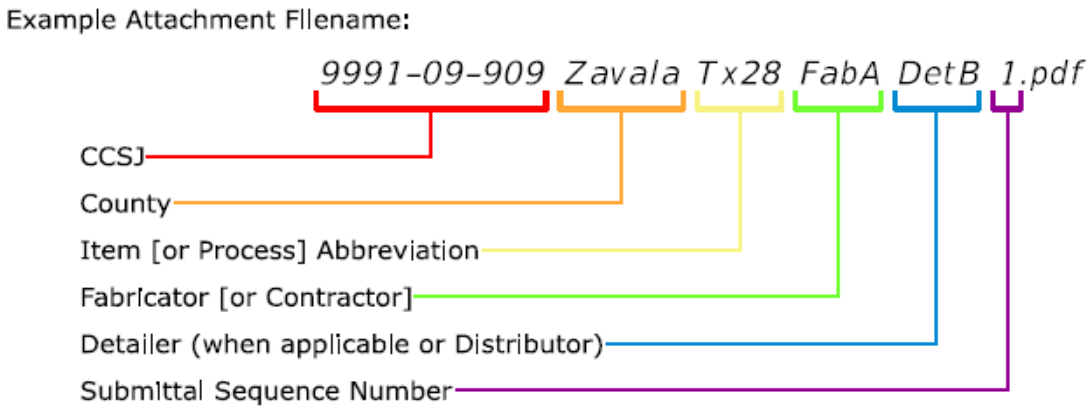
The Spec Book requires each drawing to be identified by showing:

CCSJ (Controlling/Main) Identifying Nine-Digit Project Number
- C: Cont ..... Control, 4 digits
- S: Sect ..... Section, 2 digits
- J: Job ..... Job or Project, 3 digits

County (Full name, spelled out) .....Location of Controlling CSJ
District ..... 3 Lettered Abbreviation or Number
Highway .....Location of Controlling CSJ
Contractor ..... Selected for the Project

File Naming Convention of Converted Drawing File into PDF

For record keeping, this file naming convention is required before being accepting Submittal.



CCSJ (Controlling).....(Main) Control-Section-Job
County (full name).....Location of Controlling CSJ
Approved Item [or Process] Abbreviation(s).....See Appendix B
Approved Fabricator [or Contractor].....See Appendix C
Detailer (when applicable, for the Fabricator).....See Appendix C
Submittal Number (2 digits, max.).....Sequential Number
.pdf (Filename Suffix)..... Portable Document Format

Attachments – File Size

The drawings are to be distilled into a PDF as an attachment in an email not exceeding 7.3 MB for an individual file and maximum of 14 MB per email. When one attachment exceeds 7.3 MB, divide the file into parts and send in separate emails denoting, "1 of 2" and "2 of 2", (or depending on the number of divided parts, "1 of 4"…"4 of 4", etc.) in the subject lines after the other required information. "Zip" files are not allowed.

Email Subject Lines:
9991-09-909 Zavala Tx28 FabA DetB 1 (1 of 2)
9991-09-909 Zavala Tx28 FabA DetB 1 (2 of 2)

Example Attachment Filenames, respectively:
9991-09-909 Zavala Tx28 FabA DetB 1 (1 of 2).pdf
9991-09-909 Zavala Tx28 FabA DetB 1 (2 of 2).pdf

Digital Format ..... PDF (Portable Document Format)
Single Attachment Maximum Size* ..... 7.3 MB
Total Email Attachments Maximum Size* ..... 14 MB
File Security ..... None

Optional Designs – Prestressed Concrete Beams and TxGirders

Optional Designs are pre-approved alternative designs included with the original Design from the Standard sheets, PSBND, IGND, etc. These Optional Designs must meet the design demands specified in Figure 3, including Design Load Stresses, Min. Ultimate Moment Capacity, Live Load Distribution – Moment & Sheer.

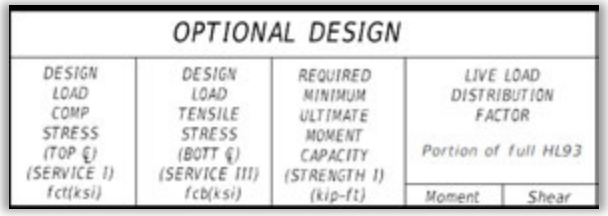


Figure 3 – Optional Design Table

Fabricators and Contractors may choose to use the Optional Design, which must be certified by a Texas Professional Engineer (PE), by means of the PE's seal, signature and date shown by each affected sheet in the Shop Drawings. Include the PGSuper / Bridge Link Analysis Short Report (PE Seal/Sign/Dated PDF) with its corresponding Toga file.

Professional Engineer Seal

The Professional Engineer (PE) must have a current and valid license registered with the Texas Board of Professional Engineers and Land Surveyors (TBPE) and be precertified for Bridge Design by TxDOT.

Optional Design – Filenames and Numbering

The PGSuper / Bridge Link Analysis Short Report in PDF has the same naming convention as the Shop Drawings, by adding the "OD1," sequentially numbered within the project CSJ.

Example Optional Design Filenames:
9991-09-909 Zavala Tx28 FabA DetB 1 OD1.pdf
9991-09-909 Zavala Tx46 FabA DetB 1 OD2.pdf
9991-09-909 Zavala Tx46 FabA DetB 2 OD3.pdf
9991-09-909 Zavala Tx28 FabA DetB 2 OD4.pdf

Matching Toga Filenames, respectively:
9991-09-909 Zavala Tx28 FabA DetB 1 OD1.toga
9991-09-909 Zavala Tx46 FabA DetB 1 OD2.toga
9991-09-909 Zavala Tx46 FabA DetB 2 OD3.toga
9991-09-909 Zavala Tx28 FabA DetB 2 OD4.toga

Composing the Email

Send eligible Submittals with PDF attachments directly to the Reviewing Office or the Reviewer, typically the office of the Engineer of Record or the alternate Reviewer designated by the District at or before the preconstruction meeting (*Pre-Con*) with the Contractor. If reviewer is unknown, contact the District directly prior to submitting. See Appendix A: Figure A-1 Submittal for the required information to be included in the body of the email. See example below of email header.

Subject: 9991-09-909 Zavala Tx28 FabA DetB 1

This must match the Attachment Filename (minus the suffix, ".pdf").

Example Attachment Filename:
9991-09-909 Zavala Tx28 FabA DetB 1.pdf

From: The Fabricator of Structural Items (or their Detailer or their Distributor), or the Contractor (only for Construction Processes)

To: The designated Reviewer. Insert no more than **ONE** recipient to prevent duplicate reviews.

CC: District Dedicated Shop Drawing Address *,
BRG_Shopplanreview@txdot.gov (if applicable),
Area Engineer,
TxDOT personnel, (as directed by the District),
Contractor, and
Fabricator (and include their Detailer or their Distributor).

*District Dedicated Shop Drawing Addresses are to be used for Submittals, not general correspondence. Reply with your email address and your identifying closing signature, not the group email.

Reviewing

The Reviewer

The designated Reviewer should be determined before or at the preconstruction meeting (Pre-Con) by the District with the Contractor.

Custom or Non-Standard designs are typically reviewed by the designing Engineer, who may be:

- an Area Engineer, in the District, OR
- a Consultant Engineer, OR
- a Bridge Division Engineer

Designs using TxDOT Standards are typically reviewed by Bridge Division, unless otherwise specified in the Pre-Con Meeting. Certain circumstances may also default to Bridge Division as the Reviewing Office.

When the engineer of record, EOR, is a consultant, construction phase services (CPS) may include Submittal review thus designating the Consultant as the Reviewer. If there are CPS, this needs to be communicated to the Contractor and Fabricator at the Pre-Construction (Pre-Con) Meeting.

Validate Submittal Email, then Confirmation Email

Conformance with formats and primary checks include:

- Originator of Submittal - the Fabricator or their representative
- Contractor - ONLY for Construction Processes
- Subject Line – in accordance with the Naming Convention
- Correct CSJ, County, Product, Sequence Number, etc.
- CC: Recipients - must include the District's Shop Plan Email Address
- Include any additional email addresses from the Pre-Con Meeting
- Email Body Format - see Appendix A, Figure A-1 Submittal
- Attachment Filename(s) - following the Naming Convention
- Attachment file(s) are legible and allows editing
- PE Seals, signatures with dates, appropriately per sheet

If primary checks are correct, the Reviewer accepts the Submittal by sending a Confirmation Email [Reply ALL] within 2 business days, see the templates in Appendix A, Figures A-2.1, A-2.2, or A-2.3.

The Review – Comments and Results

Essentially, the Review is verifying the proposed products (or processes) detailed in the Shop Drawings (or Working Drawings) are the equivalent to the Design Plan Set, plus completely fulfills the demands required for the structure (or project).

Make a Review copy of the Original Shop Drawings with "R" suffix for editing.

1. Review and annotate, the Review copy, using the permanent "Red," as notes for compliance with the Design Plan
2. Stamp ALL sheets, (AP, AX or RC = Approved; Approved, Except as Noted; or Returned for Corrections)
3. [Save] to preserve Review copy,
4. [Save As] with "AP", "AX" or "RC" suffix to denote review results

Flatten and Secure the Review

1. [Flatten] the Results file to remove temporary annotations (other than "Red") and embed permanent markups.
2. Add Security using office password and allowing high resolution printing.
3. [Save] final version to apply encrypted security.
4. Repeat with Optional Design (OD) files, when applicable. (i.e. Stamp, [Save As], flatten and secure.)

Return the Results

See Appendix A: Figures A-3.1, A-3.2 or A-3.2 for the Appropriate Email Template

1. [Reply All] to original email to insure inclusion of "CC" recipients (Fabricator or their Detailer as the primary recipient)
2. Attach, and distribute final resulting review (with suffix: AP, AX or RC) – include OD, when applicable
3. Add status suffix to subject line: AP, AX or RC; according to the review results, (not the OD)
4. Verify District's dedicated address in "CC" field and additional addresses (when applicable)
5. Only when AP and AX results: Add Materials and Test Division's dedicated address, MTD_ShopDrawings@txdot.gov, in "CC"
6. [Save] reply email to project folder. Districts are responsible for Archiving the Shop Drawing Results.

Corrections (Fabricator)

Returned for Corrections (RC)

When a review has significant errors, Return for Corrections (RC) are the results. The Fabricator (or their representative) are required to make the corrections and create a new revised Submittal. Only Reviews stamped, [Approved], (AP or AX), are permitted for fabrication. If the first Revision (Rev 1) Submittal has the RC results, another Submittal, Rev 2, and etc., is required until an AP or AX results.

Revision

When a Revision is required, the Fabricator (or their representative) will then make all the appropriate corrections to the drawings, saved as the Revision (Rev 1). A new email will be created with the attached, Revision (Rev 1). See Appendix A: Figures A-4.1 for the Submittal Revision 1 Email Template.

Optional Design with or without Revision

If the original Submittal's Optional Design (OD1) review was Approved (AP or AX) and there are no changes, the secured reviewed file (AX or AP) should be submitted with the Shop Drawing - meaning it does not require another review and it is still relevant.

When the OD1 review is Returned for Corrections (OD 1 RC), or changes are made to the OD1, then the Optional Design will require a Revision (OD1 Rev 1) with the corrections or changes done and attached to Submittal Revision Email.

The Submittal's Optional Design must be Approved (AP or AX) prior to review of the shop drawings. The optional design and shop drawings may be submitted at the same time. The shop drawing cannot be approved before the optional design is approved.

Email Subject Line, Attachments and Revisions

Here are examples for naming conventions:

Approved OD1 (AP or AX)

Email Subject Line:
9991-09-909 Zavala Tx28 FabA DetB 1 Rev 1

Attachments:
9991-09-909 Zavala Tx28 FabA DetB 1 Rev 1.pdf
9991-09-909 Zavala Tx28 FabA DetB 1 OD1 AX.pdf (Same File)

OD1 RC

Email Subject Line:
9991-09-909 Zavala Tx28 FabA DetB 1 Rev 1

Attachments:
9991-09-909 Zavala Tx28 FabA DetB 1 Rev 1.pdf
9991-09-909 Zavala Tx28 FabA DetB 1 OD1 Rev1.pdf (New file)
9991-09-909 Zavala Tx28 FabA DetB 1 OD1 Rev1.toga (New corrected toga file)

Unexpected Revisions

On some occasions a change order may change the original design plan set and the previously approved (AP or AX) shop drawings need to be altered. The Fabricator (or their Detailer) may send a Revision. If some portions of the shop drawings are being revised while the other parts are still applicable, please use this note to explain: (underlined / blanks to be completed accordingly)

> NOTE: Revision_#__ is for the structure at location/station and the Change Order #__ is attached. Other structures or items were previously approved (0099-00-007 Starr Alt Calc FAB DET 1 AX.pdf, 01 Feb 2022).

Hardcopies: "For TxDOT Inspector"

Provide one hardcopy set, printed 11x 17, of the Approved (AP or AX) Shop Drawings, stamped, "For TxDOT Inspector," to the Materials and Tests Division (MTD) inspector, at the Fabrication plant.

Complex Bridges

Several different types of submittals are required for complex bridges, such as segmental bridges, spliced girder bridges, and steel bridges. The required submittals are usually noted on the plan sheet or in the associated the Special Specification included with each segmental bridge project. Submit all items via email unless noted otherwise. Submittals should meet the requirements for preparing the drawings and the below.

Complex bridge Submittals may require extended review times. Review times should be discussed at the preconstruction meeting (Pre-Con).

Types of Review

The type of review for each item is indicated on the plan sheets or in the Special Specification.

- For review and approval – These items must be reviewed by the Engineer of Record and approved before the drawing preparation or construction can continue. These items will be processed following the steps of this guide.
- For review – These items must be submitted and will be reviewed by the Engineer for information only. A confirmation email will be sent noting that the submittal was received, but no other correspondence will be sent, unless the Engineer determines follow-up is required.

For Segmental Bridges

It is strongly suggested to initially submit one pier table shop drawing and one typical segment shop drawing, then wait for approval of these before sending remaining pier table and segment shop drawings. Anticipated review period for initial shop drawings is thirty (30) calendar days. See Special Specification for project-specific period.

Approval Stamps

Plan sheets and shop drawings must have dedicated space adjacent to the title block for the Contractor approval stamp and the TxDOT review stamp, such that these stamps do not obscure any portion of the drawing. Refer to the Preparing the Shop Drawings (Fabricator).

Retaining Walls

MSE retaining wall shop drawings are more complex than routine shop drawings for bridge elements. In addition to casting drawings for precast panels, these submittals include design calculations and erection drawings. On large projects the retaining wall drawings may involve several, or even dozens of separate submittals depending on the sequence of construction and contractor's schedule. Casting drawings are used by the fabricator of the wall panels. Erection drawings are used by the contractor building the wall.

Types of Review

Retaining wall submittals need several types of review:

- Geometric review including conformance with lines, grades, and minimum leveling pad embedment. This review evaluates inclusion and location of items such as inlets, drainage, and lighting features.
- Structural review including internal and external stability, and conformance to any special or unusual design requirements included in the contract. This review also includes structural evaluation of coping and traffic rail foundations.
- Aesthetic / surface-finish review. On simple projects this review may only confirm that the correct form liner is referenced; on complex projects this review might require detailed assessment of murals or other special details.

All three types of review may be conducted by a single reviewer, but two or three separate submittals may also be appropriate.

Review Process

Districts may accomplish the review using several approaches:

- If a consultant prepared the plans and surface-finish details and the consultant is retained for construction support, the District may use the consultant to provide the entire review.
- If a consultant prepared the plans and surface-finish details, the District may use the consultant to provide the geometric and aesthetic review but ask the Bridge Division to provide the structural review assuming that TxDOT standard sheets were used for the retaining walls. The District should use the consultant for the structural review if the consultant modified the standard sheets in a way that significantly modifies the design.
- If the District prepared plans in-house, the district may conduct the entire review.
- If the District prepared plans in-house, the district may conduct the geometric and aesthetic review but ask the Bridge Division to provide the structural review.
- In any case, a complex aesthetic plan may require the firm or individual responsible for the aesthetic plan to review the aesthetic portion of the shop drawings.

Districts are responsible for accepting retaining wall shop drawings from the contractor and for coordinating and routing the review or reviews whether the submittals are electronic or hardcopy. All reviews should be returned to the district for final transmittal back to the contractor, vendor, and Materials and Tests Division unless other specific arrangements have been made. A wall vendor may not submit electronic retaining wall shop drawings directly to the Bridge Division because the Bridge Division has no way of determining the status of other reviews.

Tracking of Submittals

A summary sheet must accompany each submittal and must show the following:

- Which walls are included in the current submittal number
- Which walls have been previously submitted (and on which submittal number)
- What information from previous submittals is related to the current submittal. For instance, if calculations for all walls were included in Submittal Number 1, then the summary sheet for subsequent submittals should note that no calculations are included but that Submittal 1 contains the necessary calculations for review. The same is true for casting drawings, coping details, and other items that are often submitted early in the project and not included in subsequent submittals.
- Include the wall number after the Item Abbreviation (for example, 1802-03-163 Nueces RW114 FabA DetB 5.pdf, where this is the fifth submittal and the lowest numbered wall in a multiple-wall submittal is 114). Report all submitted wall numbers in the email body next to the Structure Names heading.

Alternate Designs

Alternate designs are any deviations of the design of products as described in the project Design Plans and/or TxDOT standards. Supporting calculations and drawings must be sealed, signed, and dated by the responsible Professional Engineer (PE). Each Shop Drawing sheets that are affected by an alternate design must be sealed, signed and dated by forementioned, PE.

The alternate design must be Approved (AP or AX) prior to review of the shop drawings. The optional design and shop drawings may be submitted at the same time. The shop drawing cannot be approved before the optional design is approved.

Alternate Designs for precast concrete items must be submitted as prescribed in the TxDOT's Bridge Design Manual - LRFD.

Appendix A: Email Templates

From:	Don.DesignTech@DetB.net	= Fabricator or Detailer[1]
To:	BRG_ShopPlanReview@txdot.gov	= Reviewer
CC:	LRD-ShopPlanReview@txdot.gov Fred.Fabrication@FabA.net Pete.ProjectManager@ConC.net Area.Engineer@txdot.gov~ Project.Coordinator@txdot.gov~ Consultant.Designer@Eng-Firm.net~	= District's Shop Plan Address Fabricator (outside of Detailer) Contractor ~ Area Engineer, at Pre-con Mtg ~ Project Coordinator, at Pre-con Mtg ~ Consultant Designer, at Pre-con Mtg
Subject:	9991-09-909 Zavala Tx28 FabA DetB 1	= Must Comply w/ Format (Appendix B)
Attachment:	9991-09-909 Zavala Tx28 FabA DetB 1.pdf 9991-09-909 Zavala Tx28 OD1.pdf 9991-09-909 Zavala Tx28 OD1.toga	= Must Match Subject Line Optional Design 1 in Format Add'l Optional Design 1 File

Shop Drawing Project Data

Letting Date	Jan-2021	
County	Zavala	
CSJ	9991-09-909	= Controlling CSJ
District	Laredo	
Project No.	BR 2002 (282)	= Federal ID#
Structure Name(s)	Mio Bridge	
Road (Hwy)	SR 989	
Fabricator	Fabricator Alpha Corporation	= See Appendix C
Fabricator Job No.	T-65497	
Contractor	Contractor Construction Corporation	
Detailing Entity	Detailer Bravo Corporation	= See Appendix C
Detailer Job No.	01-22253	
Design Entity	Consultant Engineering Firm, BRG DIV	
Product(s)	Tx28, Bearing Pads	= See Appendix B
Sheet Listing	1,2 P2, E3-E6, & F16-F23	
No. Sheets	15	
No. Opt. Design(s)	1 (or None)	= Do not leave Blank
Change Order(s)	None	= or CO#
Design Revision	None	= or Date

Attached for your review is one set of shop drawings for the above-mentioned project and product(s). These drawings are for your review and approval prior to fabrication of the items stated herein.

Please return reviewed plan sets to [REPLY ALL]:

Email Origin	Don.DesignTech@DetB.net	
Copy Recipients (CC:)		
Fabricator	Fred.Fabrication@FabA.net	= outside of Detailer
Contractor	Pete.ProjectManager@ConC.net	
District's Inbox	LRD-ShopPlanReview@txdot.gov	
TxDOT Personnel	Area.Engineer@txdot.gov	= or Omit
	Project.Coordinator@txdot.gov	= or Omit
Tollroad Authority	~(when applicable)	= or Omit
Railroad Authority	~(when applicable)	= or Omit

Figure A-1. Submittal *Email Template* — Required / Optional~ / Explanation, only

1 Working Drawings for construction processes may be drawn by a Contractor thus are allowed to be the originator of a Submittal. Typically Shop Drawings or Shop Plans are created by the Fabricator or their Detailer, therefore the Submittal originates from the Fabricator or their Detailer. Submittals from any other than a Fabricator or their Detailer for Shop Drawings produced for a Fabricator shall be rejected.

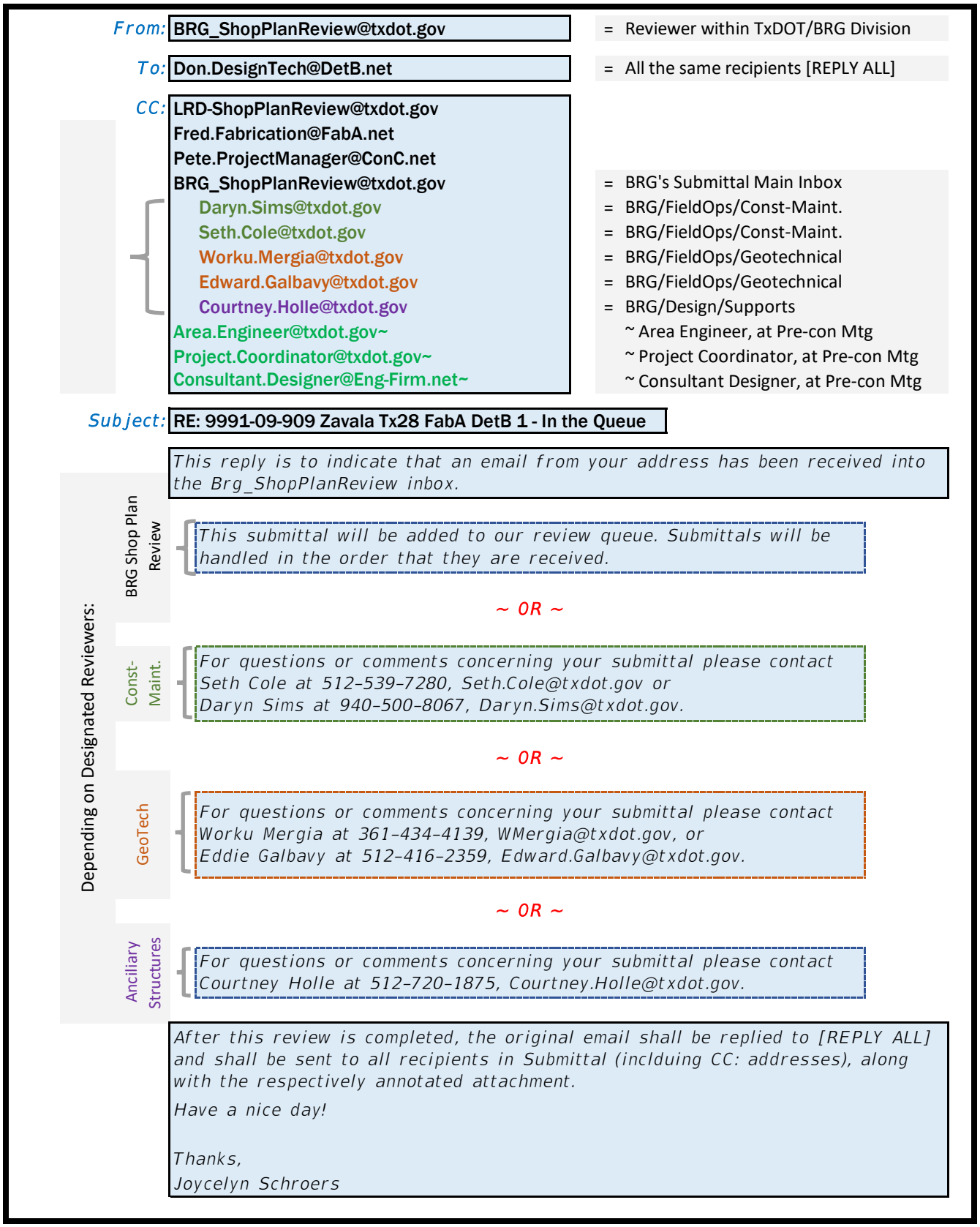


Figure A-2.1 BRG Division Confirmation[2] *Email Template* Explanation, only

[2] Courtesy reply email needs to confirm submital has be received and one reviewer as been designated. This prevents multiple reviewers and notifies everyone involved in the process.

From:	Carol.Consultant@Eng-Firm.net	= Reviewer Consultant, Possibly EOR
To:	Don.DesignTech@DetB.net	= All the same recipients [REPLY ALL]
CC:	LRD-ShopPlanReview@txdot.gov Fred.Fabrication@FabA.net Pete.ProjectManager@ConC.net Carol.Consultant@Eng-Firm.net Area.Engineer@txdot.gov~ Project.Coordinator@txdot.gov~ Consultant.Designer@Eng-Firm.net~	= Copy back to Reviewer ~ Area Engineer, at Pre-con Mtg ~ Project Coordinator, at Pre-con Mtg ~ Consultant Designer, at Pre-con Mtg
Subject:	RE: 9991-09-909 Zavala Tx28 FabA DetB 1	

This reply is to indicate that an email for Shop Drawings, Shop Plan or Working Drawings requiring approval has be received. After this review is completed, the original email shall be replied to [REPLY ALL] and shall be sent to all recipients in Submittal (incldуing CC: addresses), along with the respectively annotated attachment.

Have a nice day!
Carol

Figure A-2.2 Consultant Confirmation[2] *Email Template* Explanation, only

From:	Dani.DistrictEng@txdot.gov	= Reviewer in District, Possibly EOR or E
To:	Don.DesignTech@DetB.net	= All the same recipients [REPLY ALL]
CC:	LRD-ShopPlanReview@txdot.gov Fred.Fabrication@FabA.net Pete.ProjectManager@ConC.net Dani.DistrictEng@txdot.gov Area.Engineer@txdot.gov~ Project.Coordinator@txdot.gov~ Consultant.Designer@Eng-Firm.net~	= Copy back to Reviewer ~ Area Engineer, at Pre-con Mtg ~ Project Coordinator, at Pre-con Mtg ~ Consultant Designer, at Pre-con Mtg
Subject:	RE: 9991-09-909 Zavala Tx28 FabA DetB 1	

This reply is to indicate that an email for Shop Drawings, Shop Plan or Working Drawings requiring approval has be received. After this review is completed, the original email shall be replied to [REPLY ALL] and shall be sent to all recipients in Submittal (incldуing CC: addresses), along with the respectively annotated attachment.

Have a nice day!
Dani

Figure A-2.3 District Confirmation[2] *Email Template* Explanation, only

[2] Courtesy reply email needs to confirm submital has be received and one reviewer as been designated. This prevents multiple reviewers and notifies everyone involved in the process.

From:	BRG_ShopPlanReview@txdot.gov	= Reviewer, [REPLY ALL] to Submittal
To:	Don.DesignTech@DetB.net	= Author of original Submittal
CC:	LRD-ShopPlanReview@txdot.gov; (....etc.) MTD_ShopDrawings [cst_shopdrawings@txdot.gov]	= All the same recipients [REPLY ALL] = ***==> Add Materials & Tests Division***
Subject:	RE: 9991-09-909 Zavala Tx28 FabA DetB 1 AP	= Results: AP, Approved (no comments)
Attachmt:	9991-09-909 Zavala Tx28 FabA DetB 1 AP.pdf 9991-09-909 Zavala Tx28 OD1 AX.pdf	= Must Match Subject Line = Optional Design 1 in Format

Note: OD1 review, 9991-09-909 Zavala Tx28 OD1 AX.pdf, is also attached.

We have reviewed your shop drawing submittal for the subject project. The drawings are approved for fabrication as noted and are attached.

Printing Requirements Upon receipt of this message, please print one set for the TxDOT inspector at the facility where they will inspect. Stamp inspector's set: "For TxDOT Inspector"

Note to District: Reviewed using Plans On Line. Please coordinate any Change Orders issued that will affect this review.

Have a nice day!
Joycelyn Schroers

Figure A-3.1 Review Results: AP *Email Template* Explanation, only

From:	BRG_ShopPlanReview@txdot.gov	= Reviewer, [REPLY ALL] to Submittal
To:	Don.DesignTech@DetB.net	= Author of original Submittal
CC:	LRD-ShopPlanReview@txdot.gov; (....etc.) MTD_ShopDrawings [cst_shopdrawings@txdot.gov]	= All the same recipients [REPLY ALL] = ***==> Add Materials & Tests Division***
Subject:	RE: 9991-09-909 Zavala Tx28 FabA DetB 1 AX	= Results: AX; Approved, Except as Noted
Attachmt:	9991-09-909 Zavala Tx28 FabA DetB 1 AX.pdf 9991-09-909 Zavala Tx28 OD1 AX.pdf	= Must Match Subject Line = Optional Design 1 in Format

Note: OD1 review, 9991-09-909 Zavala Tx28 OD1 AX.pdf, is also attached.

We have reviewed your shop drawing submittal for the subject project. The drawings are approved for fabrication as noted and are attached. Any corrections noted must be incorporated into the work. Revised details for these corrections will not be necessary.

Printing Requirements Upon receipt of this message, please print one set for the TxDOT inspector at the facility where they will inspect. Stamp inspector's set: "For TxDOT Inspector"

Note to District: Reviewed using Plans On Line. Please coordinate any Change Orders issued that will affect this review.

Have a nice day!
Joycelyn Schroers

Figure A-3.2 Review Results: AX *Email Template* Explanation, only

From:	BRG_ShopPlanReview@txdot.gov	= Reviewer, [REPLY ALL] to Submittal
To:	Don.DesignTech@DetB.net	= Author of original Submittal
CC:	LRD-ShopPlanReview@txdot.gov Fred.Fabrication@FabA.net Pete.ProjectManager@ConC.net Area.Engineer@txdot.gov~ Project.Coordinator@txdot.gov~	= All the same recipients [REPLY ALL] = Fabricator (outisde of Detailer) = Contractor ~ Area Engineer, at Pre-con Mtg ~ Project Coordinator, at Pre-con Mtg
Subject:	RE: 9991-09-909 Zavala Tx28 FabA DetB 1 RC	= Results: RC; Returned for Corrections
Attachmt:	9991-09-909 Zavala Tx28 FabA DetB 1 RC.pdf 9991-09-909 Zavala Tx28 OD1 AX.pdf	= Must Match Subject Line = Optional Design 1 in Format

Note: OD1 review, 9991-09-909 Zavala Tx28 OD1 AX.pdf, is also attached.

We have reviewed your shop drawing submittal for the subject project. The drawings are not approved for fabrication and are being returned. Any corrections noted must be incorporated into the work.

Revised drawings will need to be provided for approval before fabrication may begin.

Respectfully,
Joycelyn Schroers

Figure A-3.3 Review Results: RC *Email Template* Explanation, only

From:	Don.DesignTech@DetB.net	= Same as original Submittal
To:	BRG_ShopPlanReview@txdot.gov	= Reviewer
CC:	LRD-ShopPlanReview@txdot.gov Fred.Fabrication@FabA.net Pete.ProjectManager@ConC.net Area.Engineer@txdot.gov~ Project.Coordinator@txdot.gov~ Consultant.Designer@Eng-Firm.net~	= The same as original Submittal Fabricator (outside of Detailer) Contractor ~ Area Engineer, at Pre-con Mtg ~ Project Coordinator, at Pre-con Mtg ~ Consultant Designer, at Pre-con Mtg
Subject:	9991-09-909 Zavala Tx28 FabA DetB 1 Rev 1	= Revision 1, then Rev 2,.. Until AX or AP
Attachment:	9991-09-909 Zavala Tx28 FabA DetB 1 Rev 1.pdf 9991-09-909 Zavala Tx28 OD1 AX.pdf[3]	= Matching Subject Line, corrected set Optional Design 1 in Format[3]

Same as Original Shop Drawing Project Data or Corrections

Letting Date	Jan-2021
County	Zavala
CSJ	9991-09-909
District	Laredo
Project No.	BR 2002 (282)
Structure Name(s)	Mio Bridge
Road (Hwy)	SR 989
Fabricator	Fabricator Alpha Corporation
Fabricator Job No.	T-65497
Contractor	Contractor Construction Corporation
Detailing Entity	Detailer Bravo Corporation
Detailer Job No.	01-22253
Design Entity	Consultant Engineering Firm, BRG DIV
Product(s)	Tx28, Bearing Pads
Sheet Listing	1,2 P2, E3-E6, & F16-F23
No. Sheets	15
No. Opt. Design(s)	1 (or None)
Change Order(s)	None
Design Revision	None

Attached for your review is one set of shop drawings for the above-mentioned project and product(s). These drawings are for your review and approval prior to fabrication of the items stated herein.

Please return reviewed plan sets to [REPLY ALL]:

Email Origin	Don.DesignTech@DetB.net

Copy Recipients (CC:)

Fabricator	Fred.Fabrication@FabA.net	
Contractor	Pete.ProjectManager@ConC.net	
District's Inbox	LRD-ShopPlanReview@txdot.gov	
TxDOT Personnel	Area.Engineer@txdot.gov Project.Coordinator@txdot.gov	= include if in original submittal

Figure A-4 Submittal Revision 1 *Email Template* Required Optional~ Explanation, only

3 If the original Submittal's Optional Design (i.e. OD1) review was Approved (AP or AX) and there are no changes, the secured reviewed file (AX or AP) may be submitted with the Revision(s) - meaning it does not require another review. When the OD1 review was Returned for Corrections (RC) or if there are changes to the OD1, then the Optional Design will require a Revision (OD1 Rev 1).

Appendix B: Item Abbreviations

Working Drawings	Spec. No.	Item / Description	Abbreviation
WD	7.16.1,2	Construction Load Analysis	CLA
WD	400	Excavation & Backfill for Structures (cofferdams)	EB
	403	Temporary Special Shoring	TSS
	407	Steel Piling (non-standard only)	SP
WD	420	Formwork/Falsework	FW
	423	Proprietary Retaining Walls, coping, ancillary comp., w/calcs	RW
	425	Optional Design Calculations (Prstrs Bms)	OD
	425	Prestressed Concrete Panels (non-standard only)	CPN
	425	Prestressed Concrete Piling (non-standard only)	CPL
	425	Prestressed Concrete Sheet Piling	CSP
	425	Prestressed Concrete "A" Beams	A
	425	Prestressed Concrete "B" Beams	B
	425	Prestressed Concrete "C" Beams	C
	425	Prestressed Concrete "54" Beams	54
	425	Prestressed Concrete "IV Mod" Beams	IVM
	425	Prestressed Concrete "IV" Beams	IV
	425	Prestressed Concrete "VI Mod" Beams	VIM
	425	Prestressed Concrete "VI" Beams	VI
	425	Prestressed Concrete “I” Girder (28, 34, 40, 46, 54, 62, or 70)	Tx28 (-70)
	425	Prestressed Concrete Box Beams	BB
	425	Prestressed Concrete X Beams	XB
	425	Prestressed Concrete DT Beams	DTB
	425	Prestressed Concrete Slab Beams	SB
	425	Prestressed Concrete Decked Slab Beams	DSB
	425	Prestressed Concrete Trapezoidal Box Bm	TRP
	425	Prestressed Concrete U Beams	UB
	425	Prestressed/Precast Concrete Bent	CB
	426	Post Tension Details	PT
	434	Elastomeric Bearing Pads	BP
	434	Elastomeric Bearing Pads-Stl	BPS
	441	Bridge Protective Assembly	BPA
	441	Misc Steel (various steel assemblies)	MS
	441	Steel Pedestals (bridge raising)	PED
	441	Steel Bearings	SBG
	441	Steel Bent	SBT
	441	Steel Diaphragms	SDF
	441	Steel Finger Joint	SFJ
	441	Steel Wide Flange Beam	WFB
	441	Steel Plate Girder	SPG

Figure B-1.1 of 2

Appendix B: Item Abbreviations

Working Drawings	Spec. No.	Item / Description	Abbreviation
	441	Steel Tub-Girders	SUB
WD	441	Erection Plans, including Falsework	SEP
	441	Terminal Anchor Beams (non-standard only)	TAB
	441	Weld anchor details	WAD
	449	Sign Bridge Anchor Bolts	AB
	450	Railing (Curved rails mostly, per plan note radius criteria)	RL
	454	Armor Joint (non-standard only)	AJ
	454	Sealed Expansion Joints (non standard only)	SEJ
	462	Concrete Box Culvert (alternate designs only, calcs reqd)	CBC
	464	Reinf Concrete Pipe (jack & bore only; by request only)	RCP
	465	Precast Junction Boxes, Inlets, alt dsn Grates (calcs reqd)	JIG
	495	Raising Existing Structures	RES
	514	Concrete Traffic Barrier (non-standard only)	CTB
	610	Roadway Illumination Supports	RIS
	613	High Mast Illumination Poles (non-std only, calcs reqd)	HMP
	614	High Mast Illumin. Rings (non-prequalified or alt dsns only)	HMR
	627	Treated Timber Poles (certificates only)	TTP
	644	Small Roadside Sign Assemblies, non-standard	SRS
	647	Large Roadside Sign Supports and Assemblies, non-std	LRS
	650	Alternate Design Calcs (non-std cantilever sign bridge supports)	ALT
	650	Sign Bridge	SNB
	654	Sign Walkways,non-standard	SNW
	685	Roadside Flashing Beacon Assemblies	RFB
	686	Traffic Signal Pole Assemblies (Steel), non-standard	TSP
WD	784	Repairing Steel Bridge Members	RSB
	SS 4306	Prestressed Concrete Crown Span	CS
	SS 4036	Sound Barrier Walls	SBW
	SS 6071	Camera Poles (Also SS 6611, 6941, etc)	CP
	SS 7640	Pedestrian Bridges (Calcs reqd)	PB
	SS (*var.)	Calculations and Plans for Contractor Alternates	CPA
	SS (*var.)	Segment Shop Drawings	SEG
WD	SS (*var.)	Fabrication and Erection Details	FED
WD	SS (*var.)	Geometry Control Method and Casting Curves	GEOM
WD	SS (*var.)	Certifications/Test Reports for Materials	MAT
WD	SS (*var.)	Contractor's Schedule	SCH

WD: Working Drawings. Document flow differs from shop drawings in that working drawings must be submitted to the Engineer rather than the Engineer of Record and they are for the information of the Engineer only; an approval stamp and distribution to all project offices is not required.

* Submittal items for segmental bridges; special specification number may vary between projects.

Figure B-1.2 of 2

Appendix C: Fabricator and Detailer/Distributor Abbreviations

Entity	Abbreviation
Acrow Bridge	AB
Action Fabricators	AF
Afco Steel	AS
Alamo Iron Works	AIW
Ameron Pole Products	APP
Amico	AMC
Anderson Bridges, LLC	ABL
Anthony Machine	AM
Archer Western	AW
Associated Steel Fabricators	ASF
Associated Steel Products	ASP
Austin Prestressed Co.	APC
Bailey Bridges, Inc	BB
Bell Structural Solutions	BSS
Benningfield Steel Fabrication	BSF
Bexar Concrete Works, Inc.	BCW
Blastco Texas	BT
Brookfield Fabricating Corp.	BF
C.L.Dews & Sons Foundry	CLDS
Caddo Fab	CF
Cantu Electric	CE
Capitol City Steel Co., Inc	CCS
Capitol Steel & Iron, Inc.	CS&I
Carolina Steel	CS
CBSI	CBS
CHM Industries	CHM
CnC Metal Shape Fabricators, LLC	CNC
Commercial Metals Company	CMC
Concrete Accessories, Inc	CA
Conner Steel Products, Inc	CSP
Contech	CON
Cosmec Inc	COS
CT&S Metalworks	CTS
D.R.Parks	DRP
D.S. Brown	DSB
Dynamic Rubber	DR
Dywidag-Systems Intl. USA	DSI
E 2 Innovations	EI
East Jordan Iron Works, Inc	EJIW

Entity	Abbreviation
Enterprise Concrete Products	ECP
Eriksson Technologies	ERIK
Falcon Steel Co.	FS
Flagpoles, Inc - P&K Tubular	FIPK
Flexicore of Texas, Inc.	FLX
Foremost Paving	FP
Forterra Pipe and Precast	FPP
Furon	FRN
FWT, Inc.	FWT
General Steel Corporation	GSC
Gibson & Associates	GA
Gordon's Specialties	GS
Grand Junction Steel	GJS
GSI Highway Products	GSI
GST Manufacturing, Ltd.	GST
Gulf Coast Prestress	GCP
Hanson Pipe and Precast	HP
Hapco Pole Products	HPP
Heldenfels Enterprises, Inc.	HEI
Hico Handrail	HH
Hirschfeld Steel Co. Inc.	HSC
Hogan Steel Erectors, Inc.	HSE
Hurtt Fabricating Corp.	HFC
Industrial Erection & Maintenance	IE&M
Interstate Steel	IS
Ironhorse Ironworks	IRH
J.D. Abrams	JDH
Jackson Const.	JC
Jay-Reese Contractors, Inc	JRC
Johnson County Pipe	JCP
Jona Contracting, Inc.	JCI
K-B Construction	KBC
Kenneth Salley Enterprises, Inc.	KSE
King Fabrication	KF
KW Industries, Inc	KWI
L & R Precast	LRP
Larwell Industries	LI
Lloyd Engineering	LE
Lone Oak Fabricators	LOF

Figure C-1.1 of 2

Appendix C: Fabricator and Detailer Abbreviations

Entity	Abbreviation
Longview Bridge & Road	LBR
Madden Bolt Corporation	MDBC
Maico Industries, Inc.	MAI
Manco Structures, Ltd.	MSL
McCarthy Building Co., Inc.	MBC
Metal Deck Group	MDG
Mica Steelworks, Inc.	MSW
Midwest Foundation Corp.	MF
Millerbernd Mfg.	MIL
Modjeski and Masters, Inc.	MM
Myrex Industries	MI
New Basis	NB
North Texas Steel	NTS
Oldcastle Precast	OCP
PDM Bridge	PDM
Pelco Structural	PS
Pharos Marine Automatic Power	PMAP
R. E. Campbell Co., Inc.	RECC
Reinforced Earth Co.	REC
Reliable Signal & Lighting Solutions	RSLS
RGV Alliance Construction LLC	RGV
Rinker Materials	RM
Robertson Engineering, Inc.	RE
Scougal Rubber Corp.	SRP
Seismic Energy Products, L.P.	SEP
Sentinel Structures, Inc.	SSI
Shawnee Steel & Welding Inc.	SSW
Skyline Steel	SKS
Southern Star Steel	SSS
Southwest Prestressed Concrete	SPC
Southwestern Welding	SWW
Star Operations	STAR
Steadfast Bridges	SB
Steel Effects	SE
Stinger Bridge & Iron	SB&I
Structural & Steel Products	S&SP
Structural Engineer Associates	SEA
Structural Wood Systems	SWS
Summitt Engineering	SUM

Entity	Abbreviation
Techline	TLI
Tensor Engineering	TE
Texas Concrete Partners	TCP
Texas Corrugators	TC
Texas Highway Markings	TXHM
Texas Sterling Construction Co.	TSCC
Tinman Enterprises	TIN
Traylor Bros., Inc	TBI
Tricon Precast, Ltd.	TRP
Trinity Industries, Inc.	TII
Trinity Specialty Products, Inc.	TSP
U. S. Bridge	USB
Unintech Consulting Engineers	UCE
Union Metal Industries Corporation	UM
Universal Industrial Sales	UIS
V Structural	VST
Valley Prestress Products, Inc.	VPP
Valmont Industries, Inc.	VAL
W & W Afco Steel	W&W
Watson Bowman Acme	WBA
Western Precast Concrete	WPC
Wheeler Consolidated	WC
Wheeler Lumber	WL
Williams Brothers	WMB
Wilolamb International	WI
Wiser Construction, LLC	WCL

Figure C-1.2 of 2