



MAY 11 2015

Memorandum

May 4, 2015

TO: Mike Gribner *b*

FROM: B. Hilmes/J. Morris *JRM*

SUBJECT: Contract No. 8496
NSC – BNSF Railway Structures/Realignment
FA Project No: Tiger4-0395(100)

**CHANGE ORDER TRANSMITTAL
CHANGE ORDER NO 14**

Requested Action:

- For Review Only
- For Review and Execution
- For Review and HQ Execution

Approval To Proceed Date: N/A
Approval To Proceed By: N/A
CO Work Started: June 15, 2015 (Est.)

Description of the Change:

This change order compensates the Contractor for revisions made to Retaining Wall 6 in order to meet BNSF and AREMA requirements.

Evolution of the Change:

The retaining walls on the project were selected and designed on the basis that they would be located in excess of 25 feet from the centerline of the nearest track and not subject to AREMA specifications. The wall type chosen was geosynthetic retaining walls with pre-cast concrete fascia panels. During the construction of the project, BNSF made personnel changes and WSDOT was informed that mechanically stabilized earth walls are not allowed on BNSF property and instructed to make a change to the wall type. Individual walls were re-evaluated on a case by case basis with BNSF and allowed to remain as designed with the exception of Retaining Wall 6. In order to avoid a prohibitive cost to construct and a significant reduction in COA work for a new CIP cantilever wall, an agreement was reached to maintain the planned wall type and thicken the pre-cast concrete fascia panels to meet AREMA standards for heavy construction.

Entitlement

The changes made to the pre-cast concrete fascia panels on Retaining Wall 6 were done at the direction of BNSF and subsequently the Agency after project construction had already begun. This design change could not have been anticipated by the Contractor at any time previous to this order, therefore entitlement is warranted.

Price

The total change order price is a net increase of \$563,108.07 and includes the deletion of Bid Item 30, a reduction in quantity on Bid Item 55 as well as new items to cover all work involved.

Contract Time

Thirty-six (36) working days are added by this Change Order.

BLH:rrs

Attachments: Change Order No. 14

Checklist

Supporting Documentation

**WASHINGTON STATE
DEPARTMENT OF TRANSPORTATION
CHANGE ORDER**

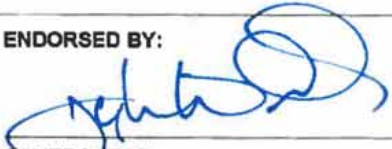
DATE: 04/22/15
Page 1 of 10

CONTRACT NO: 008496 FEDERAL AID NO: TIGER4-0395(100)
CONTRACT TITLE: US 395, NSC - BNSF RAILWAY STRUCTURES/REALIGNMENT
CHANGE ORDER NO: 14 BNSF RTW6 REVISION

PRIME CONTRACTOR: [REDACTED] APOLLO, INC.
1133 W COLUMBIA DR
KENNEWICK WA 99336-3472


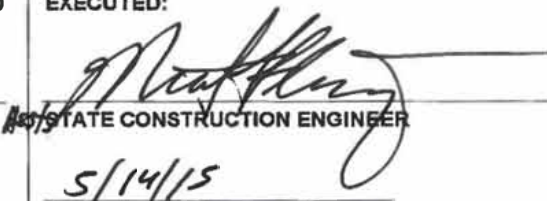
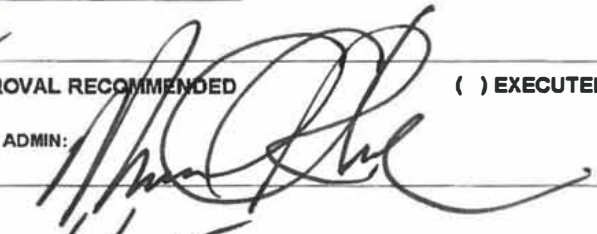
Ordered by Engineer under the terms of Section 1-04.4 of the Standard Specifications

Change proposed by Contractor

ENDORSED BY:  _____ CONTRACTOR 4/23/15 _____ DATE	SURETY CONSENT: _____ ATTORNEY IN FACT _____ DATE
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ORIGINAL CONTRACT AMOUNT: 15,368,729.52
 CURRENT CONTRACT AMOUNT: 15,406,265.18
 ESTIMATED NET CHANGE THIS ORDER: 563,108.07
 ESTIMATED CONTRACT TOTAL AFTER CHANGE: 15,969,373.25

Approval Required: Region Olympia Service Center Local Agency

<input checked="" type="checkbox"/> APPROVAL RECOMMENDED  John P. Morris PROJECT ENGINEER For BOB HILMES, PE 5/4/2015 _____ DATE	<input type="checkbox"/> EXECUTED EXECUTED:  _____ STATE CONSTRUCTION ENGINEER 5/14/15 _____ DATE
<input checked="" type="checkbox"/> APPROVAL RECOMMENDED REGIONAL ADMIN:  BY: _____ DATE 5/4/2015	<input type="checkbox"/> EXECUTED OTHER APPROVAL WHEN REQUIRED _____ SIGNATURE _____ DATE REPRESENTING

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CHANGE ORDER**

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All work, materials, and measurements to be in accordance with the provisions of the Standard Specifications and Special Provisions for the type of construction involved.

This contract is revised as follows:

Description

This change order deletes Bid Item 30 Shoring or extra excavation Cl. A PED/BNSF, revises the quantity of Bid Item 55 Concrete Fascia Panel, and adds the items "CO14 Wall 6 CIP Fascia Panel", "CO14 Extra Excavation", and "CO14 Wall 6 Revision EA".

Plan Sheet Revisions

Contract Plan sheets 97 thru 99, 112, 113 and 119 of 376 are replaced with pages 5 through 10 of the change order.

Details "RTW6 Plan" and "RTW6 Elevation" are deleted from sheet 100 of 376; "Detail D", "Section E", and "Section F" are deleted from sheet 121 of 376.

On sheet 323 of 376, note under "Stage 4" title revised from "Build Wall 6 to Final Height & Construct Wall 6 Fascia" to "See Wall 6 Plans for Remaining Pier 2 Construction Sequence". On sheet 330 of 376, references under "Wall Anchorage Detail" revised from "WD3 and WD4" to "WD3A and WD4A".

Construction Requirements

The Contractor shall complete the Work as per pages 5 through 10 of the change order.

Measurement

CO 14 Wall 6 CIP fascia panel will be measured by the neat line square foot surface area of the completed fascia panel, including footing, as shown in the plans.

Payment

"CO14 Wall 6 CIP Fascia Panel", per square foot.

All costs in connection with constructing the cast-in-place concrete fascia panels as specified shall be included in the unit Contract price per square foot for "CO14 Wall 6 CIP Fascia Panel", including all steel reinforcing bars, pre-molded joint filler, polyethylene bond breaker strip, joint sealant, PVC pipe for weep holes, exterior surface finish, and pigmented sealer; and all costs associated with working drawing submittals, anchor rod assembly, and backfill not included with the geo-synthetic retaining wall.

"CO14 Extra Excavation", lump sum shall be full compensation for any extra excavation necessary for constructing safe slopes necessary to facilitate the construction of Wall 6 and the Ped/BNSF structure, and for backfilling, compacting and otherwise restoring the extra excavation area in accordance with Section 2-09.

"CO14 Wall 6 Revision EA", lump sum, shall be full compensation for all

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outstanding unrecoverable costs associated with revising the Wall 6 fascia to CIP, including, special hardware obtained and engineering costs incurred in anticipation of the original precast fascia design, and from reducing the quantity of Bid Item 55.

Working Days

Thirty-six (36) working days are added by this change order.

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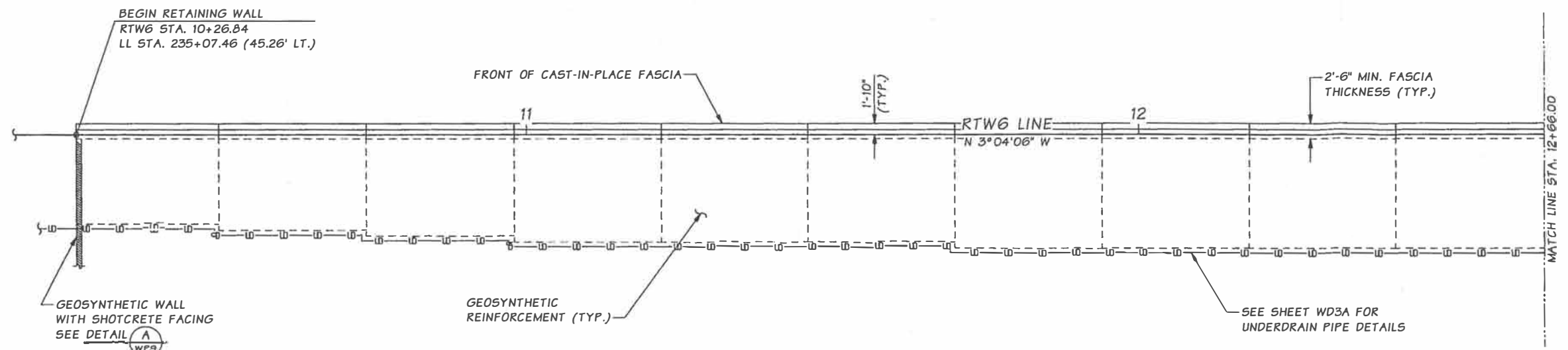
CONTRACT NO: 008496				CHANGE ORDER NO: 14			
ITEM NO	GROUP NO	STD ITEM	ITEM DESCRIPTION	UNIT MEASURE	UNIT PRICE	EST QTY CHANGE	EST AMT CHANGE

0030	02	4013	SHORING OR EXTRA EXCAVATION CL. A PED/BNS	L.S.	187,000.00	0.00	-187,000.00
0055	01	4474	CONCRETE FASCIA PANEL	S.F.	32.32	-14,339.00	-463,436.48
1004	01		CO14 WALL 6 CIP FASCIA PANEL	S.F.	75.00	14,439.00	1,082,925.00
1005	01		CO14 EXTRA EXCAVATION	L.S.	0.00	0.00	110,000.00
1006	01		CO14 WALL 6 REVISION EA	L.S.	0.00	0.00	20,619.55

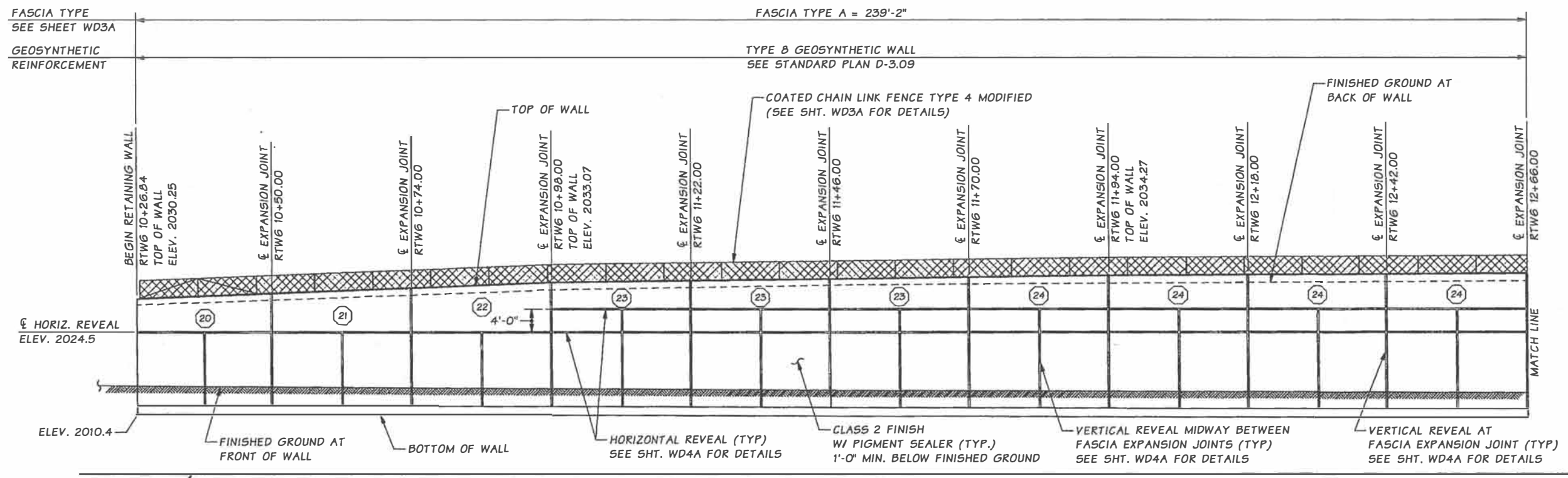
563,108.07

SEC. 22, T.26N., R.43E., W.M.
SPOKANE COUNTY

US 395



RTW6 WALL PLAN



RTW6 WALL REFLECTED ELEVATION

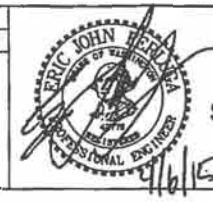
GEOSYNTHETIC WALL WITH CAST-IN-PLACE FASCIA

(X) INDICATES WALL DESIGN HEIGHT "H" (FT.) TO BE USED FOR DETERMINING GEOSYNTHETIC REINFORCEMENT FROM STANDARD PLAN D-3.09

SR 395 FILE NO. 3082 SHEET WP6A

DATUM
NAVD 88

Bridge Design Engr.	Khalighi, B	M:\Z-Team\NSC - SR 395\NSC Rowan North - Misc Details\window files\01-REV RTW6 L01.WND			
Supervisor	Stoddard, RB	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Ferluga, E 03/15	10	WASH.		TOTAL SHEETS
Checked By	Dobrev, B 04/15				
Detailled By	Ferluga, E 03/15				
Bridge Projects Engr.		JOB NUMBER	122025		
Prelim. Plan By	04/2015	NEW SHEET - WALL CHANGE ORDER	EJF	BK	
Architect/Specialist	DATE	REVISION	BY	APPD	



BRIDGE AND STRUCTURES OFFICE



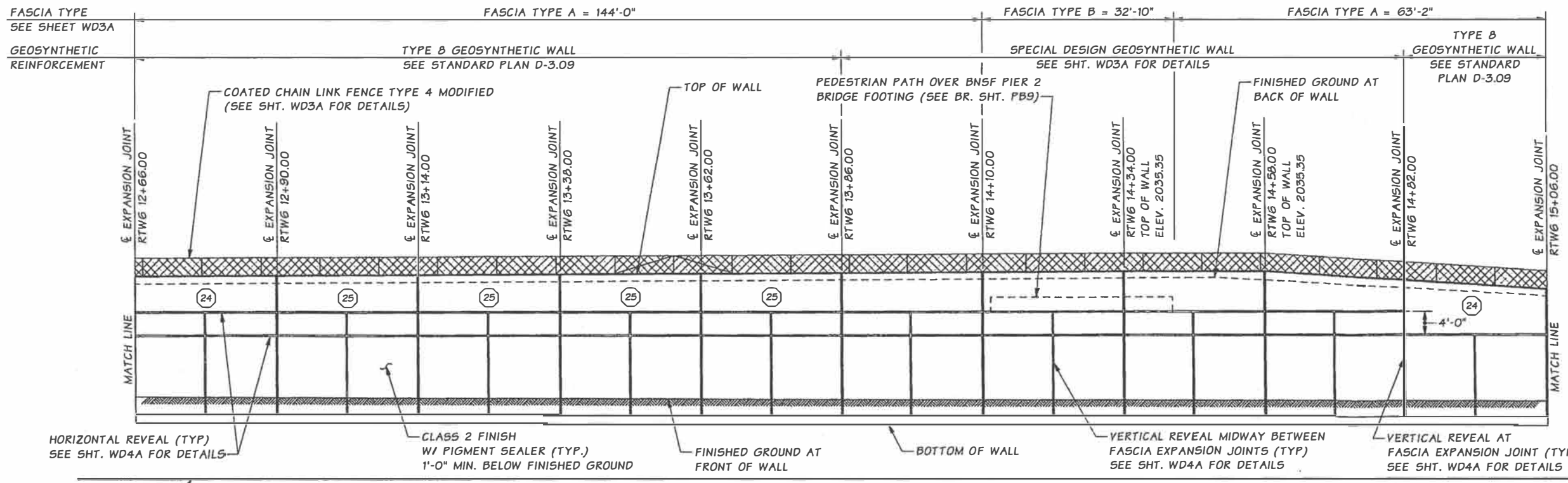
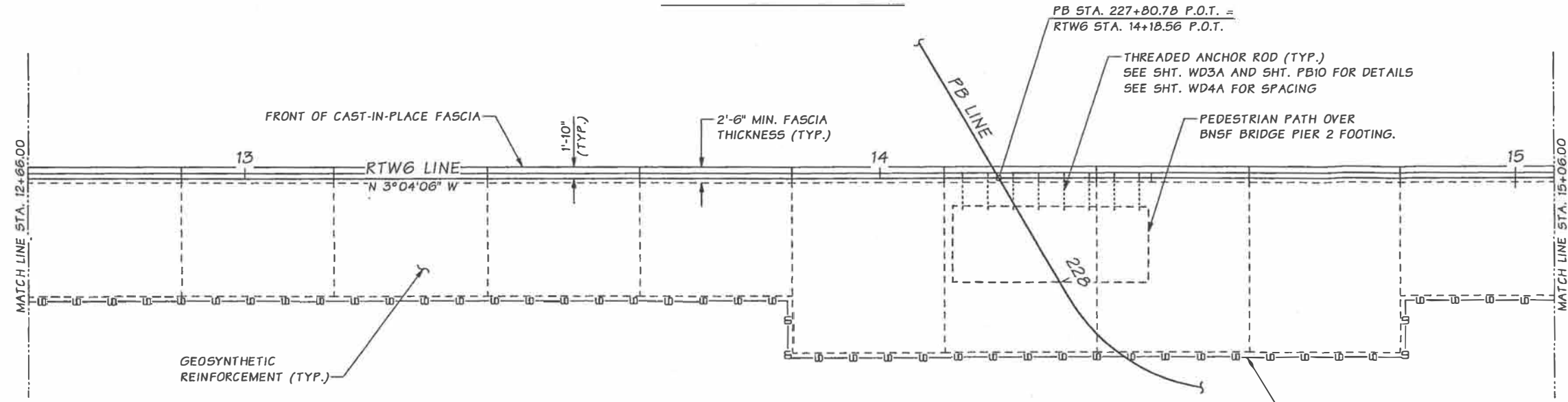
US 395
NSC - BNSF RAILWAY
STRUCTURES / REALIGNMENT

RTW6 WALL
PLAN AND ELEVATION 1 OF 3

SHEET NO.
WP6A
SHEET
97A
OF
376
SHEETS

SEC. 22, T.26N., R.43E., W.M.
SPOKANE COUNTY

US 395



GEOSYNTHETIC WALL WITH
CAST-IN-PLACE FASCIA

DATUM
NAVD 88

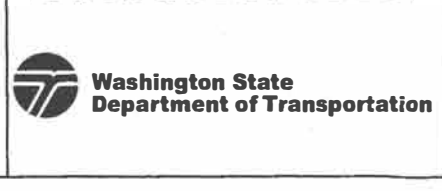
RTW6 WALL REFLECTED ELEVATION
(X) INDICATES WALL DESIGN HEIGHT "H" (FT.) TO BE USED FOR DETERMINING
GEOSYNTHETIC REINFORCEMENT FROM STANDARD PLAN D-3.09

SR 395 FILE NO. 3082 SHEET WP7A

Bridge Design Engr.	Khaleghi, B	M:\2-Team\NSC - SR 395\NSC Rowan North - Misc Details>window files\02-REV RTW6 L02.WND	
Supervisor	Stoddard, RB	REGION NO.	STATE
Designed By	Ferluga, E 03/15	10	WASH.
Checked By	Dobrev, B 04/15	JOB NUMBER 122025	
Detailed By	Ferluga, E 03/15		
Bridge Projects Engr.		DATE	REVISION
Prelim. Plan By	04/2015	NEW SHEET - WALL CHANGE ORDER	EJF BK
Architect/Specialist		DATE	REVISION
			BY APPD



BRIDGE AND STRUCTURES OFFICE



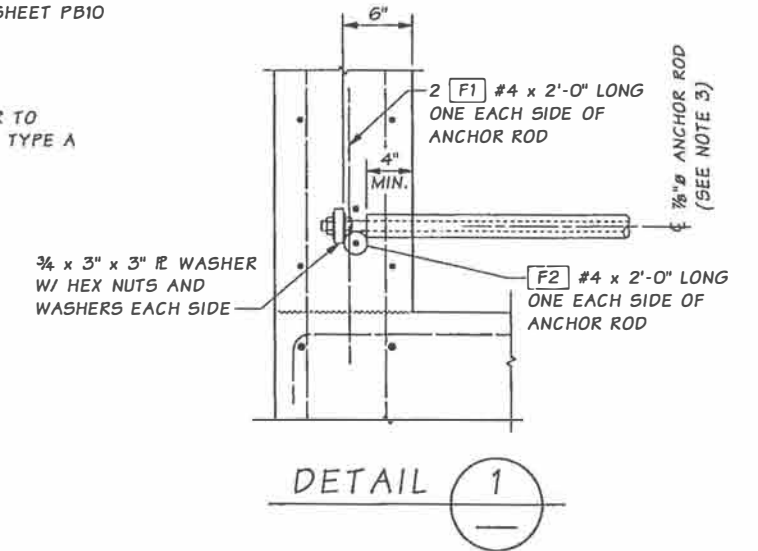
US 395
NSC - BNSF RAILWAY
STRUCTURES / REALIGNMENT

RTW6 WALL
PLAN AND ELEVATION 2 OF 3

WP7A
SHEET 98A OF 376

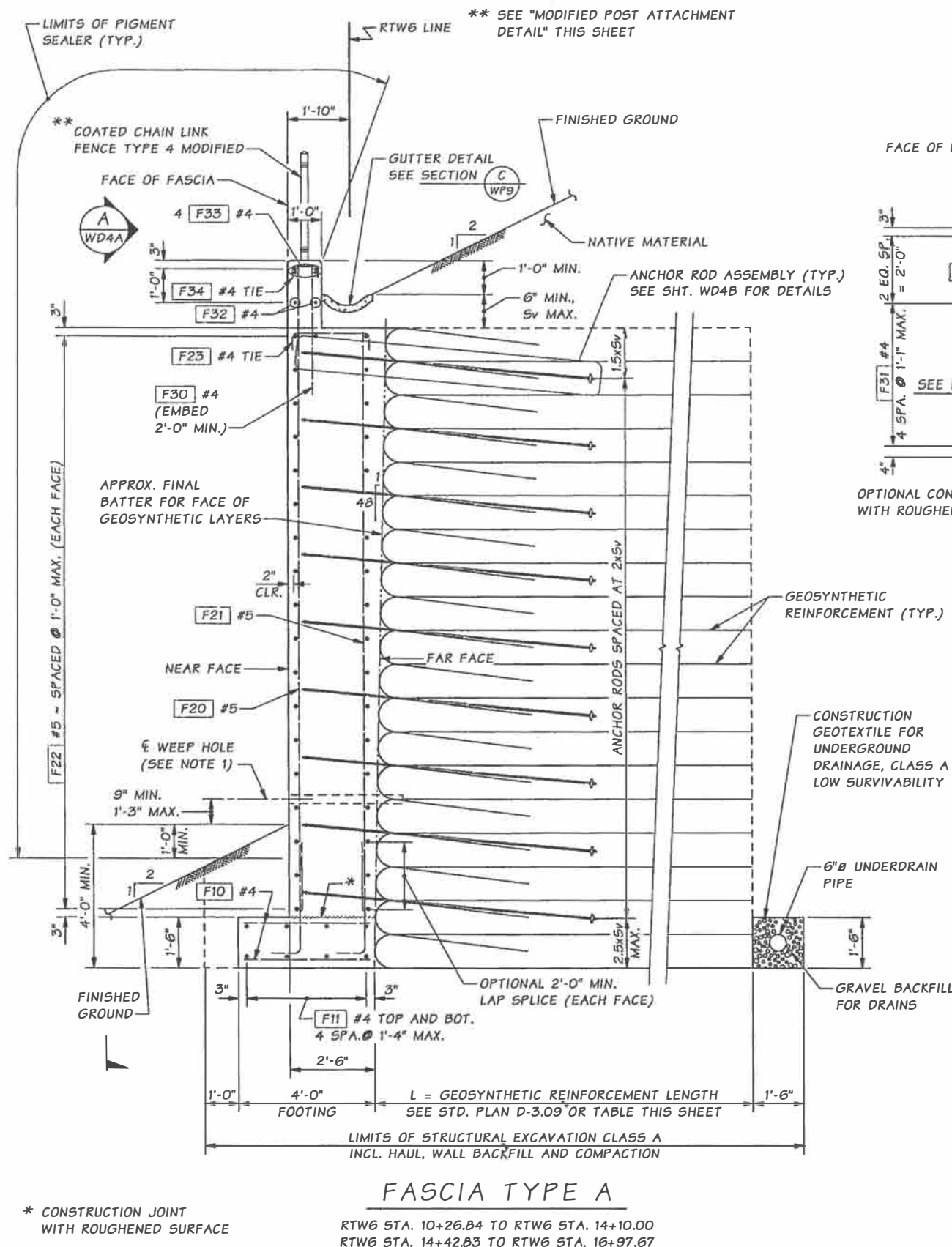
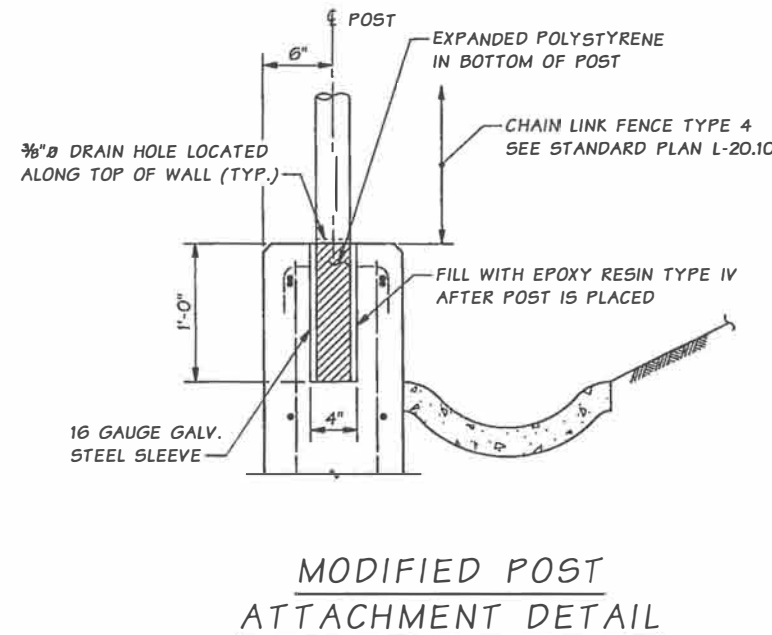
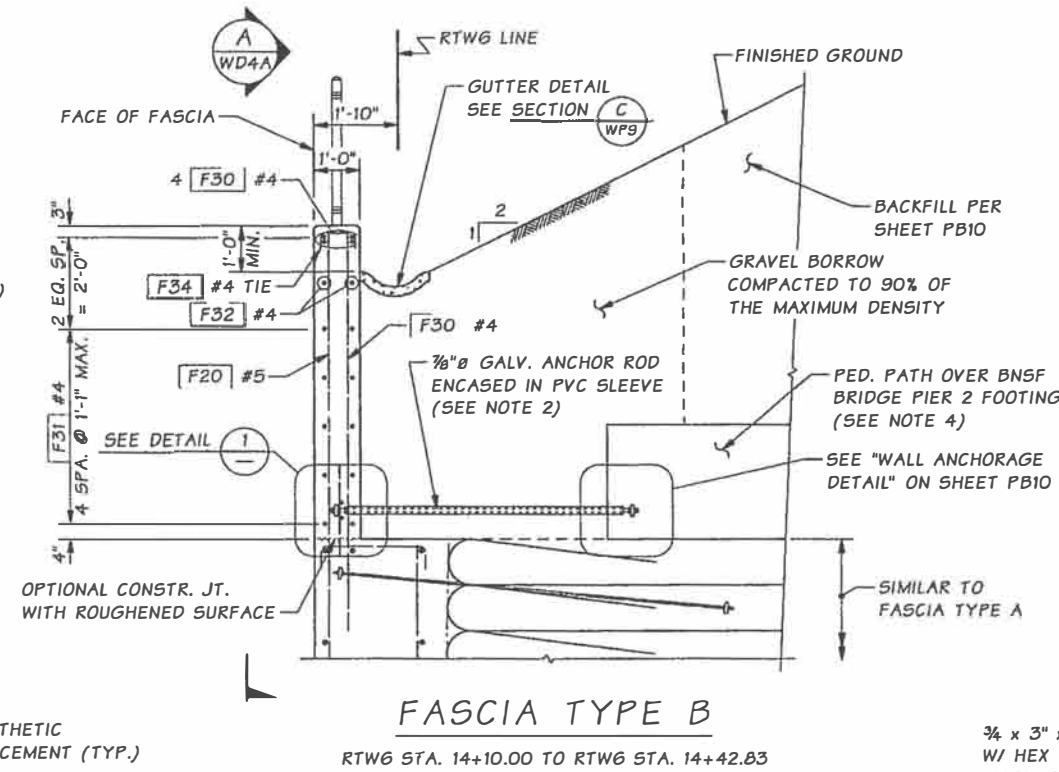
FASCIA NOTES

1. WEEP HOLE SHALL BE 3" INNER DIAMETER PVC PIPE AND PLACED BETWEEN GEOSYNTHETIC LAYERS APPROXIMATELY 9" DEEP AT 12'-0" HORIZONTAL SPACING. LENGTH SHALL EXTEND TO THE OUTER SURFACE OF THE FASCIA. WEEP HOLES SHALL BE KEPT CLEAR OF CONCRETE.
2. THREADED ANCHOR RODS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9.06.5(4) AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM F2329. ANCHOR RODS SHALL GRADE 36 AND SHALL BE THREADED A MINIMUM OF 1'-0" AT BOTH ENDS. PLACE LEVEL AND NORMAL TO WALL. ENCASE ANCHOR RODS WITH PVC SLEEVE AND EMBED PVC ENDS INTO FASCIA AND BRIDGE FOOTING.
3. PLATE WASHERS SHALL MEET THE REQUIREMENTS OF ASTM A36 OR ASTM A572 AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
4. THE GEOSYNTHETIC REINFORCEMENT SHALL NOT BE PUNCTURED OR DAMAGED DURING CONSTRUCTION OF THE BRIDGE FOOTING AND ABUTMENT



SPECIAL DESIGN GEOSYNTETIC REINFORCEMENT REQUIREMENTS

DEPTH RELATIVE TO BOTTOM OF BRIDGE FOOTING (FT.)	GEOSYNTHETIC REINFORCEMENT VERTICAL SPACING Sv (FT.)	LONG-TERM GEOSYNTHETIC REINFORCEMENT STRENGTH REQ'D Tal (LBS/FT)	GEOSYNTHETIC REINFORCEMENT LENGTH BEHIND WALL FACE L (FT.)
ABOVE BOTTOM OF FOOTING	1.0	708	18'-0"
0 TO 2.5 BELOW FOOTING	1.25	885	27'-0"
2.6 TO 5 BELOW FOOTING	1.0	5900	27'-0"
5.1 TO 10 BELOW FOOTING	1.25	6375	27'-0"
10.1 TO 20 BELOW FOOTING	1.0	3650	27'-0"
	1.25	4360	27'-0"
	1.0	3250	27'-0"
	1.25	4010	27'-0"
	1.0	2951	27'-0"
	1.25	3725	27'-0"



SR 395 FILE NO. 3082 SHEET WD3A

Bridge Design Engr.	Khaleghi, B	M:\Z-Team\NSC - SR 395\NSC Rowan North - Misc Details\window files\04-REV RTW6 DET1.WND			
Supervisor	Stoddard, RB	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Ferluga, E	10	WASH.		TOTAL SHEETS
Checked By	Dobrev, B	JOB NUMBER 122025			
Detailed By	Ferluga, E				
Bridge Projects Engr.					
Prelim. Plan By	04/2015	NEW SHEET - WALL CHANGE ORDER	EJF	BR	
Architect/Specialist	DATE	REVISION	BY	APPD	



BRIDGE AND STRUCTURES OFFICE

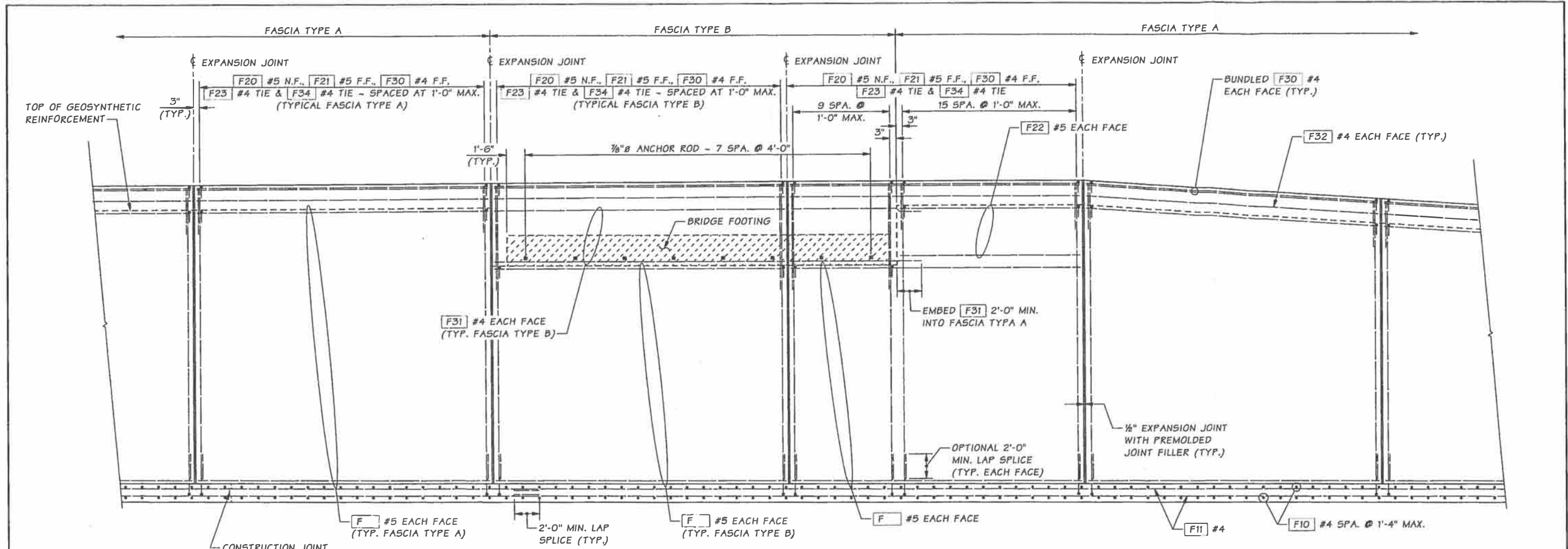


Washington State Department of Transportation

US 395 NSC - BNSF RAILWAY STRUCTURES / REALIGNMENT

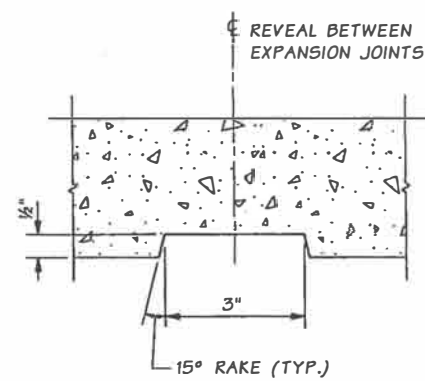
RTW6 WALL DETAILS 1 OF 3

BRIDGE SHEET NO. WD3A SHEET 112A OF 376 SHEETS

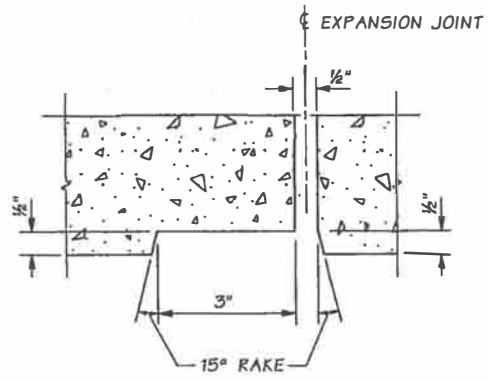


VIEW A

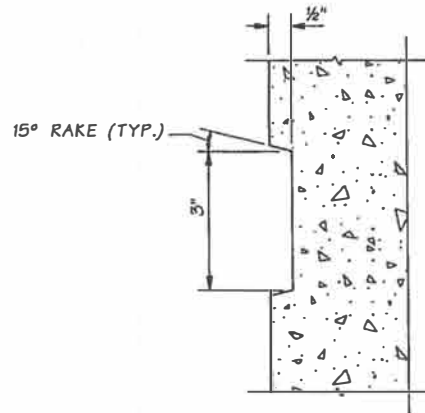
N.F. = NEAR FACE
 F.F. = FAR FACE
 ARCHITECTURAL DETAILS AND FINISHED GROUND LINES NOT SHOWN FOR CLARITY



VERTICAL REVEAL BETWEEN EXPANSION JOINTS



VERTICAL REVEAL AT EXPANSION JOINT



HORIZONTAL REVEAL

SR 395 FILE NO. 3082 SHEET WD4A

Bridge Design Engr.	khaileghi, B	M:\Z-Team\NSC - SR 395\NSC Rowan North - Misc Details>window files\05-REV RTW6 DET2.WND			
Supervisor	Stoddard, RB	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Ferluga, E 03/15	10	WASH.		TOTAL SHEETS
Checked By	Dobrev, B 04/15				
Detailed By	Ferluga, E 03/15				
Bridge Projects Engr.		JOB NUMBER			
Preim. Plan By	04/2015 NEW SHEET - WALL CHANGE ORDER	122025			
Architect/Specialist	DATE REVISION	BY	APPD		

BRIDGE AND STRUCTURES OFFICE

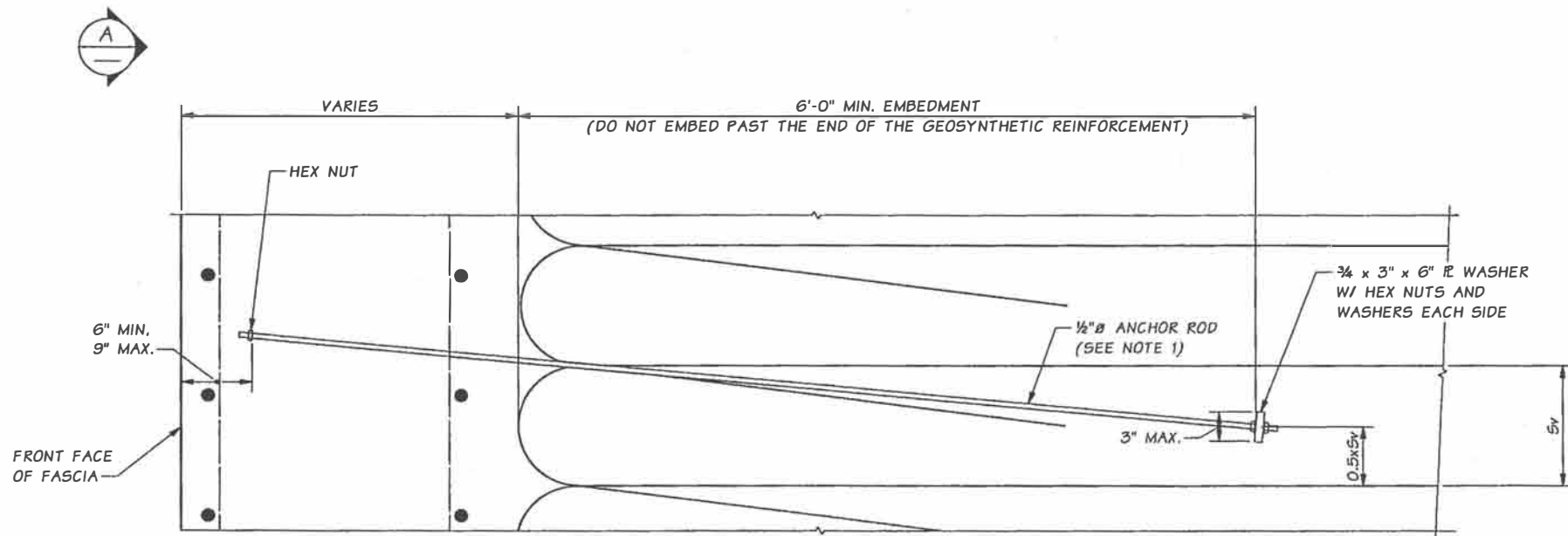
Professional Engineer stamps for John Ferluga and Brian Khaleghi.

Washington State Department of Transportation

US 395 NSC - BNSF RAILWAY STRUCTURES / REALIGNMENT

RTWG WALL DETAILS 2 OF 3

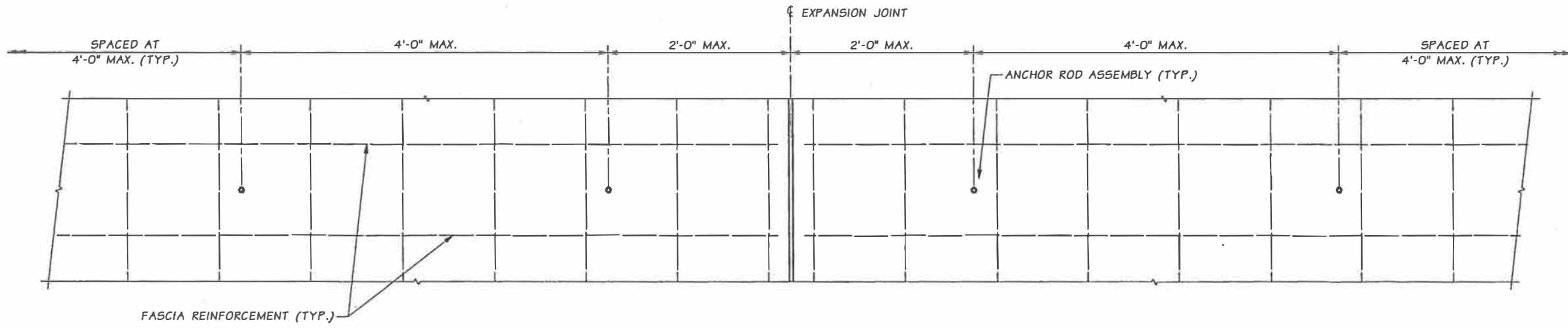
BRIDGE SHEET NO.	WD4A
SHEET	113A
OF	376
SHEETS	



ANCHOR ROD ASSEMBLY DETAIL

ANCHOR ROD ASSEMBLY NOTES

1. THREADED ANCHOR RODS, NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9.06.5(4) AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM F2329. ANCHOR RODS SHALL GRADE 36 AND SHALL BE THREADED A MINIMUM OF 1'-0" AT BOTH ENDS.
2. PLATE WASHERS SHALL MEET THE REQUIREMENTS OF ASTM A36 OR ASTM A572 AND SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.
3. ANCHOR RODS SHALL BE PLACED HORIZONTALLY PERPENDICULAR TO THE FRONT FACE OF THE FASCIA.
4. ANCHOR ROD ASSEMBLY MAY BE MODIFIED AS FOLLOWS TO FACILITATE FORMING OF THE FASCIA:
 - A) LENGTH AND THICKNESS OF R WASHER EMBEDDED IN THE GEOSYNTHETIC WALL MAY BE INCREASED AS NECESSARY TO RESIST THE FORM LOADS.
 - B) SPACING OF ANCHOR ROD ASSEMBLIES MAY BE REDUCED AND NUMBER OF ANCHOR ROD ASSEMBLIES MAY BE INCREASED TO FACILITATE FORM TIE LOCATIONS.
 - C) HEX NUT NEAREST THE FRONT FACE OF THE FASCIA MAY BE CHANGED TO A COUPLER TO FACILITATE REMOVAL OF FORM TIES AFTER CONCRETE IS CAST. THE COUPLER SHALL CONFORM TO THE SAME STANDARDS AS THAT SPECIFIED FOR THE NUT AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.
 - D) THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND CALCULATIONS IN ACCORDANCE WITH STANDARD SPECIFICATION 6-01.9 FOR ANY MODIFICATIONS TO THE ANCHOR ROD ASSEMBLY DETAIL.
5. THE GEOSYNTHETIC REINFORCEMENT SHALL NOT BE PUNCTURED OR DAMAGED DURING PLACEMENT OF THE ANCHOR ROD ASSEMBLIES.



VIEW A

SR 395 FILE NO. 3082 SHEET W04B

Bridge Design Engr.	Khaleghi, B	M:\Z-Team\NSC - SR 395\NSC Rowan North - Misc Details>window files\06-REV RTW6 DET3.WND			
Supervisor	Stoddard, RB	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
Designed By	Ferluga, E	10	WASH.		TOTAL SHEETS
Checked By	Dobrev, B	JOB NUMBER 122025			
Detailed By	Ferluga, E	DATE	REVISION	BY	APPD
Bridge Projects Engr.		04/2015	NEW SHEET - WALL CHANGE ORDER	EJF	BK
Prelim. Plan By					
Architect/Specialist					



BRIDGE AND STRUCTURES OFFICE



US 395
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STRUCTURES / REALIGNMENT

RTW6 WALL
DETAILS 3 OF 3

SHEET NO. WD4B
SHEET 113B OF 376 SHEETS