

Provide a brief project description, including bridge replacement type if applicable.

Provide additional applicable details for replacement or full deck rehabilitation project.

PROPOSED LENGTH

PROPOSED CURB TO CURB WIDTH

Will this project...check all that apply and provide description

Mitigate current bridge posting

Remove scour critical coding

Mitigate other bridge restriction

Require in-water construction work

Require stormwater drainage

Project Cost

Replacement, Rehabilitation, Seismic Paint, or Scour projects

PE Costs (approximately 25% of total)

Soils, environmental, design documents, plans preparation, etc.

Right of Way Costs

Purchases, relocation and construction easement

Construction Costs

Environmental mitigation, approach costs (15%), structure costs, etc.

Construction Engineering (18%)

Contingency (15%)

Mobilization (10%)

Inflation Cost (5% per year, based on projected ad date)

TOTAL COST

Other Preventative Maintenance projects

TOTAL COST _____

If a Rehabilitation project, what would be the Replacement cost for that same structure, including PE, right of way, and construction?

Similar Replacement Cost _____

Local Agency Match Funds

Agency is prepared to match funds

Match funding is not secured

Other funding sources have been secured

Match funding is not required

Project Milestones

	MM/YY		MM/YY
Project Added to Local Agency TIP	_____	Right of Way Start	_____
Project Added to Regional TIP	_____	Right of Way Complete	_____
Project Added to STIP	_____	Geomtric/30% Design Complete	_____
Project Definition Begin PE	_____	General Plan/60% Design Complete	_____
NEPA Kick Off	_____	Advertisement	_____
Environmental Docs Approved	_____	Contract Awarded	_____
		Open to Traffic	_____

Comments or Additional Relevant Information

Application Checklist

Completed Application

If applicable for project type:

Bridge SI&A Sheet

Load Rating Summary Sheet

Current Inspection Report(s)

Scour Analysis

Electronic Photos

Seismic Evaluation



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Appendix A – Site Map

VICINITY MAP

BRIDGE NAME: ELECTRIC AVE/WHATCOM CR

BRIDGE NUMBER: 652-01-S1

STRUCTURE ID: 08537500

LOCATION: 48° 45' 41.21" NORTH, 122° 25' 14.86" WEST





Appendix B – WSBS Data

BRIDGE INSPECTION REPORT

Status: Released
 CD Guid: 3aa8a711-401f-4cb3-bff5-9dd9cfbc35e6

Printed On: 4/26/2023
 Release Date: 3/9/2023

Agency: BELLINGHAM
 Program Mgr: Sonia L. Lowry

Br. No. 652-01-S1	SID 08537500	Br. Name ELECTRIC AVE/WHATCOM CR
Carrying ELECTRIC AVENUE		Route On 65201 Mile Post 130.00
Intersecting WHATCOM CREEK		Route Under Mile Post

Inspector's Signature KWP Cert # Cert Exp Date Co-Inspector's Signature N/A

				Inspections Performed:					
#	Item	#	Value	#	Item	Freq	Hrs	Date	Rep Type
4	Structural Eval (1657)	42	Operating Tons (1552)	6	No Utilities (2675)				
2	Deck Geometry (1658)	1.17	Op RF (1553)	0	Bridge Rails (1684)	24	2.0	5/14/2021	Routine
9	Underclearance (1659)	25	Inventory Tons (1555)	0	Transition (1685)				Fract Crit
8	Alignment (1661)	0.70	Inv RF (1556)	0	Guardrails (1686)				UW
5	Deck (1663)	5	Operating Level (1660)	0	Terminals (1687)				Special
5	Superstructure (1671)	A	Open/Closed (1293)	2.50	Asphalt Depth (2610)				Interim
4	Substructure (1676)	8	Waterway (1662)		Design Curb Ht (2611)				UWI
9	Culvert (1678)	8	Scour (1680)		Bridge Rail Ht (2612)				Damage
7	Chan/Protection (1677)		Soundings Flag (2693)	1959	Year Built (1332)				PRM Safety
N	Pier/Abut/Prot (1679)	N	Revise Rating (2688)	0	Year Rebuilt (1336)				SEC Safety
9	Drain Cond (7664)		Photos Flag (2691)	Y	Subj to NBIS (2614)				Condition
0	Drain Status (7665)		Measure Clrnc (2694)						Short Span
	Deck Scaling (7666)	8	Sdwk Cond (7673)		Alpha Span Type:				In Depth
	Scaling Pct (7667)	9	Paint Cond (7674)		Sufficiency Rating:	36.33			Geometric
	Deck Rutting (7669)	8	Approach Cond (7681)		Status:	SD			
	Exposed Rebar (7670)	9	Retaining Wall (7682)		Routine Risk Category:	High Risk			
8	Curb Cond (7672)	9	Pier Prot (7683)		Underwater Risk Category:	No Risk Category			

BMS Elements							
Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
12	Concrete Deck	1380	SF	1080	0	300	0
114	Concrete Multiple Web Girder Unit	462	LF	84	0	378	0
206	Timber Pile/Column	24	EA	19	0	2	3
215	Concrete Abutment	66	LF	56	0	10	0
235	Timber Pier Cap	126	LF	94	0	0	32
266	Concrete Sidewalk & Supports	500	SF	500	0	0	0
330	Metal Bridge Railing	57	LF	57	0	0	0
331	Concrete Bridge Railing	57	LF	57	0	0	0
340	Metal Pedestrian Railing	57	LF	57	0	0	0
800	Asphaltic Concrete (AC) Overlay	1379	SF	1029	0	350	0

Notes
<p>0 GENERAL NOTES: Bridge is oriented from South to North. Water flow East to West.</p>

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Intersecting WHATCOM CREEK		Route Under	Mile Post

Notes (Continued)

11 **LOAD RATING NOTE:**
 Bridge need not be posted.

12 **CONCRETE DECK:**
 Concrete bridge deck is covered in asphalt.
 There is a 1'x1'x2" spall at the picking holes between 1A & 1B with exposed rebar (this was noted prior to asphalt overlay).
 Bottom of deck:
 Most girders in Span #2 have some transverse cracks starting to show (most likely due to shallow rebar cover).
 Between 2C & 2D have a transverse crack in the bottom of bridge deck located near the North end of girder.
 Between 2K and 2L there are multiple transverse cracks on the bottom of the deck.
 Between 3E & 3F there are 10 transverse cracks on the bottom of the deck.

114 **CONCRETE MULTIPLE WEB GIRDER UNIT:**
 Hairline cracks typical in girders. Vertical leaching cracks in precast panel stems. Most shear cracks described below do NOT have any efflorescence or rusty leaching associated with them.

Span #1-
 Girder 1B has a 4' crack starting 4' from abutment #1 running North.
 Girder 1E has a 8" crack on the bottom flange 2' from bent #2.
 Girder 1F has a 6' long crack at center of span.
 Girder 1G 3'x7" area ready to spall off.
 Girder 1L has two small spalls 2"x2" one has rebar showing.
 Girder 1I has a 10"x10"x1" spall, no rebar, at the North bolt location.
 Girder 1M has a 3"x2"x1" spall 4' from abut 1 - no rebar.

Span #2-
 Girder 2B has 2 shear cracks, 6" and 1' long near bent #2. Also has a 1' horizontal crack running into the backwall at bent #2.
 Girder 2C has 2 shear cracks at the south end.
 Girder 2D has 1 shear crack at bent #3.
 Girder 2E has a diagonal shear crack at bent #3 and a vertical crack at the North end of girder at bent #3.
 Girder 2F 2'x5" spall starting at bent #3. Also 7 shear cracks can be seen on the girder as well.
 Between girders 2G and 2H the South backwall is spalled 1.5'x5"x4" - no exposed bar.
 Girders 2F and 2G have cracks at the North end 2' long by 1/8".
 Between girder 2F and 2G the back wall has spalled, no rebar is showing.
 Girder 2G has a 5' long area ready to spall off along the bottom portion of girder at bent #3, and a 1'x6"x3" spall at bent #3 with exposed rebar. Also a 2' section 4' North of bent #2. Also a 3"x2"x1/2" spall at midspan, no rebar.
 Girder 2H has a 2' long shear crack at bent #3.
 Girder 2I spall at the South and North end 3"x2" in size.
 Girder 2J has a 2' long shear crack at bent #3.
 Girder 2K has 12 hairline shear cracks throughout.

Span #3-
 Girder 3A has a south end shear crack 2' from bent #3.
 Girder 3B spall at midspan on the bottom 1'x4"x2" in size with exposed rebar, 7' from abutment #2. Also one shear crack at the south end.
 Girder 3D at mid span spalled 6"x2" with no rebar. Also 2 shear cracks at the South end.
 Girder 3E has 4 shear cracks and a 1' hairline horizontal crack 6' from bent #3.
 Girder 3F has a 6" long crack starting on the girder bottom 6' from abutment #2. Also has 2 shear cracks at the north end.
 Girder 3G North end cracked and will spall off soon, 2'x4" in size.
 Girder 3H has 2 shear cracks at the south end.
 Girder 3I has 4 shear cracks near bent #3.
 Girder 3J has 6 shear cracks.
 The backwall between girders 3K & 3L is spalled 3.5'x4"x4" - no exposed rebar.
 Girder 3K has 6 shear cracks.
 Girder 3L has 3 shear cracks.

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Notes (Continued)

- 206 **TIMBER PILE/COLUMN:**
 Bent #1-
 (Abutment #1) Two 2-pile bents at both Bents 1 and 4 were installed in 1999. These helpers are at piles 1F and 1B and 1C, helper piles and caps consist of two timber piles and one timber cap.
 Pile 1A has a 3' long crack.
 Pile 1B has 3' long by 2" split. Pile has been red tagged.
 Pile 1E has been drilled in the past, also has a large steel spike that grazed the side and split some of the pile.
 Pile 1F, top 3' is hollow. Drilled and found 1" shell. Pile has been red tagged.
- Bent #2-
 Pile 2A has a 1/4" top down split on the north side.
 Pile 2E and 2F have been drilled in the past, both locations sound good.
- Bent #3-
 Piles 3C and 3F have been drilled in the past on the North side.
 Pile 3F is out of plumb 10 degrees to the South.
 Pile 3D has been drilled in the past on the North side.
- Bent #4-
 (Abutment #2) Pile 4D was drilled and found to have a 3" Shell, pile has been yellow tagged.
 Helper piles at pile 4D (pile 4D is hollow), the helper doesn't touch the girders to support the girder. Helper piles also have checks and splits on both.
 Pile 4E was drilled and found to have a 3" Shell, pile has been yellow tagged.
 Pile 4F is split and it has been drilled and found to be hollow. Pile has been red tagged.
-
- 215 **CONCRETE ABUTMENT:**
 Precast concrete back wall panels have some rusty rebar as a result of inadequate concrete cover.
- Abutment #1 -
 Vertical crack on one of the South abutment (abutment #1) precast concrete back wall.
 Is tipped South - condition is stable, some undermining of the bulkhead is occurring at pile 1B.
 Concrete is spalling around the utility that comes through the bulkhead.
 Multiple locations of exposed rebar in multiple panels - all due to shallow concrete cover.
- Abutment #2 -
 Bulkhead between piles 4E and 4F has a 4" opening.
 In the NE corner the soil is coming through the joint in the back of wall - will continue to monitor this.
 Also has 3 spalls with rebar 1' long, West of pile 4E. Also, 2 spalls just E. of pile 4C (1' long each) with exposed rebar.

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Notes (Continued)

- 235 **TIMBER PIER CAP:**
 Cap #1-
 Cap has been drilled over pile 1E in the past and it sound and looks good in that location.
 Cap has a 1' long split over pile 1A at the West end (1' in CS3).

 Cap #2-
 Cap was replaced in 1999. Some discoloring and water stains but cap in good shape.
 Also between piles 2B and 2F there is a crack on the South face.
 Drilled West end on this cap in 2019 and found to be okay.

 Cap #3-
 Also has a split of the bottom side of cap at piles 3C to 3F.
 Has a split on the south face from the west end to pile 3B.
 The cap has some minor crushing.

 Cap #4-
 There are two short helper caps installed on this bent. The west helper cap does not have any weight bearing down from the girders (its just floating).
 Abutment 2 cap was drilled and found to have 2" shell near West end.
 1" shell on cap at the West end over 3'. The whole cap is red tagged (2017) because of West end rot.
 There is also 3/8" crushing on this cap.
- 266 **CONCRETE SIDEWALK & SUPPORTS:**
 North sidewalk is settled 2" at abutment #2 (now has asphalt patch reducing settlement to 1/2" - 2021). South end sidewalk has settled 1/2".
- 330 **METAL BRIDGE RAILING:**
 All in good shape (W-beam).
- 331 **CONCRETE BRIDGE RAILING:**
 All concrete panels have vertical hairline cracks - some with efflorescence - these are most visible from the east side.
- 340 **METAL PEDESTRIAN RAILING:**
 In good shape.
- 800 **ASPHALTIC CONCRETE (AC) OVERLAY:**
 The North approach has a transverse crack across the roadway. Also a transverse crack starting over bent #2 in the northbound lane. There is also a transverse crack (full width) over bent #3. The south approach has a nearly full width transverse crack.
- 1658 **DECK GEOMETRY:**
 Bridge is 57' long and 24' wide. Concrete bath tub girders and on timber caps and piles.
- 1660 **OPERATING LEVEL NOTE:**
 Bridge is not restricted for OL-1. Bridge is restricted for OL-2.
- 2675 **UTILITIES:**
 Bridge has 2 utilities on the East side of the bridge. Has 2 other utilities on the underside of the bridge.
 On the West side of the bridge there is 4 existing utilities.
 One cast iron utility pipe (12 inch) near the West side of the bridge has broken hangers and arches. New timber supports at the bents were installed to supplement the hangers.
 Another smaller (8 inch) cast iron utility is bent at the joint - this one runs almost in the middle of the underside of the bridge.
- 2688 **REVISE RATING NOTE:**
 Bridge had new rating done in 2017.
- 7681 **APPROACH ROADWAY:**
 Both approaches in good shape.

Repairs

Repair No	Pr	R	Repair Descriptions	Noted	Maint	Verified
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Repairs (Continued)						
Repair No	Pr	R	Repair Descriptions	Noted	Maint	Verified
10000	1	B	Abutment 2 timber pile cap #4 needs to be repaired with a helper cap or replaced with new.	5/31/2019		

Inspections Performed and Resources Required										
Report Type	Begin Date	Comp Date	Intvl	Hrs	Insp	CertNo	Coinsp	Note		
Routine	5/14/2021		24	2.0	CAO	G1903	MEL	Bridge is 57' long and 24' wide. 3 Spans of 19' girders.		
Resources	Used	Hours	Min	Pref	Max	Intvl	Date	Need Date	Override	Notes
Boat										Need small boat for inspection
Informational	3/9/2023	3/9/2023				KWP		N/A		Batch Update to enter initial values into new field: NBIS Bridge Length (2346). - {KWP}

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DE-01-21

Deck - Elevation
Photo Type: D - Deck
Orientation: N
Date: 5/14/2021
Repairs:
Deck View



DE-01-2009

Deck - Elevation
Photo Type: (none)
Orientation: N
Date: 6/19/2009
Repairs:
Deck View



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Route On 65201 **Mile Post** 130.00
Route Under **Mile Post**

DE-02-21

Deck - Elevation
Photo Type: E - Elevation
Orientation: E
Date: 5/14/2021
Repairs:
Elevation View



DE-02-2009

Deck - Elevation
Photo Type: (none)
Orientation: W
Date: 6/19/2009
Repairs:
Elevation View



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Route Under **Mile Post**

S-01-17

Scour
Photo Type: S - Scour
Orientation: E
Date: 5/24/2017
Repairs:
View Upstream



S-01-21

Scour
Photo Type: S - Scour
Orientation: E
Date: 5/14/2021
Repairs:
Upstream View



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Route Under **Mile Post**

S-02-17

Scour
Photo Type: S - Scour
Orientation: W
Date: 5/24/2017
Repairs:
View Downstream



S-02-21

Scour
Photo Type: S - Scour
Orientation: W
Date: 5/14/2021
Repairs:
Downstream View



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Route Under **Mile Post**

SubS-01-21

Sub-structure
Photo Type: G - General
Orientation: SW
Date: 5/14/2021
Repairs:
Girder 1A crushing cap at abutment #1.



SupS-01-21

Sup-structure
Photo Type: G - General
Orientation: UP
Date: 5/14/2021
Repairs:
Transverse cracks in span #2 deck soffit.



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Route Under **Mile Post**

SupS-01-2009

Sup-structure
Photo Type: (none)
Orientation: UP
Date: 6/19/2009
Repairs:
Girder 1F - Carck



U-01-17

Utilities
Photo Type: U - Utility
Orientation: S
Date: 5/24/2017
Repairs:
West side utilities



Bridge ID	1001	2009	2132	1019	1286	1021	2023	1156	2181	2183	2185	1188	1196
Structure ID	Bridge Number	Bridge Name	Owner	Cust	County	City	Location	Section	Township	Range	Latitude	Longitude	
08537500	652-01-S1	ELECTRIC AVE/WHATCOM CR	04	04	37	0080	0.11 S JCT ALABAMA ST	21	38	03E	48° 45' 41.21"	122° 25' 14.86"	

Facilities	1232	1256	1274	7281	7283	1276	1285	1288	1289	1293	1292	2295	7296	Printed Date	Sufficiency Rating:	36.33
Feature Intersected	Facilities Carried	Region	Leg1	Leg2	FIPS	Toll	Para	Temp	OPC	NRHP	HAER	LRHP	Status:	SD		
WHATCOM CREEK	ELECTRIC AVENUE	NW	42	0	05280	3	N		A	5			4/26/2023	Routine Risk Category:	High Risk	
														Underwater Risk Category:		

Layout	1332	1336	1340	2346	1348	1352	1356	1360	1364	1367	1310	1312	1370	1374	1378	1379	1382	1383	1386	1387	1390	1394	1291	1397
Year Built	Year Rebuilt	Bridge Length	Screening Length	Maximum Span Length	Lanes On	Curb to Curb Deck Width	Out to Out Deck Width	Sidewalk Left	Sidewalk Right	Skew	Flared	Min Vert Over Deck	Min Vert Under	Vert Code	Min Lat Under Right	Lat Code	Min Lat Under Left	Nav Ctl Code	Nav Vert Clear	Nav Horiz Clear	Nav Vert Lift Clear	Median	Appr Rdwy	
1959	0	57.0		19.0	2	24.2	30.0	0.8	3.5	0	N	99' 99"	00' 00"	N	0.0	N	0.0	0	0	0	0	0	36.0	
			52.0																					

Crossing	1432	1433	1434	1435	2440	1445	1451	1453	1457	1463	1467	2410	7479	1483	1484	1485	1486	1487	1489	1490	1354	1491	1495	1499	1413	2441
On Under	Hwy Class	Service Level	Route Number	Milepost	ADT	Truck %	Year of ADT	Future ADT	Future ADT Year	Linear Referencing System	Bridge NBI	Fed Aid Route #	NHS	BHS	STRAH	FLH	Funct. Class	NTN	Lane Use Direction	Lanes Under	Horizontal Clearance Route Dir	Horizontal Clearance Reverse Dir	Max Vert Clearance Route	Detour	Speed Limit	
1	5	1	65201	130.00	8500	5	2021	10000	2043		Y	5512	0	0	0	0	16	N	2	0	30' 00"			4	35	

Design	1532	1533	1535	1536	1538	1541	1544	1545	1546	1547	1548	1549	1550	1551	1552	1553	1554	1555	1556	1585	1588	1590	7565	7557
Main Span Material	Main Span Design	Appr Span Material	Appr Span Design	Number Main Spans	Number Appr Spans	Service On	Service Under	Deck Type	Wearing Surface	Membrane	Deck Protect	Design Load Code	Oper Rating Method	Oper Rating Tons	Oper Rating Factor	Inv Rating Method	Inv Rating Tons	Inv Rating Factor	Border State Cd	Border Pct	Border	Border Structure ID	Fed Aid Project No	Design Exemption
1	22	0	00	3	0	5	5	B	6	0	0	2	6	42	1.17	6	25	0.70						

Load Rating	2587	2588	2589	2590	2591	2592	2593	2594	2597	2598	2595	2596
Type 3	Type 3S2	Type 3-3	NRL	SHV 4	SHV 5	SHV 6	SHV 7	EV 2	EV 3	OL 1	OL 2	
1.31	1.43	1.60	1.02	1.16	1.12	1.06	1.06	1.12	0.72	1.03	0.94	

Waterway/ Prop Imp	7832	7833	7834	7835	7836	7837	7838	7839	7840	7841	1844	1846	1847	2853	2860	1867	1873	2870	1861	1879	2883
Water Type	Flood Pin Infr	Flood Control	Flood Hist	Scour	Strmbd Matr	Substr Stability	Wtrwy Obstr	Strmbd Stability	Strmbd Anabrn	Piers In Watr	Work Meth	Stru Imp Length	Roadway Width	Cost Per SF	Struct Cost	Rdwy Cost	Engr Cost	Total Cost	Estmt Year	Prop Imp Cost Calc	
F	A	N	U	3	3	N	G	N	2	31	1	67.0	38.0	800	1018	204	815	2037	2014	Y	

Inspection	2920	1990	2646	2649	2654
Inspection	Date	Inspector	Cert No	Co-Inspector	
Routine					
Fracture Critical					
Special Feature					
Underwater					
UW Interim					

Inspection	Date	Inspector	Cert No	Co-Inspector
Interim				
In Depth				
Damage				
PRM Safety				
SEC Safety				

Inspection	Date	Inspector	Cert No	Co-Inspector
Condition				
Short Span				
Geometric				
Info	3/9/2023	KWP		N/A
Inventory				

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
 NBI STRUCTURE INVENTORY AND APPRAISAL REPORT
 (ENGLISH UNITS)

CD Date: 3/9/2023 Printed on: 4/26/2023
 CD Guid: 3aa8a711-401f-4cb3-bff5-9dd9cfbc35e6

IDENTIFICATION			WSBIS DATA		
(1) STATE NAME - WASHINGTON		530	BRIDGE NUMBER		652-01-S1
(8) STRUCTURE NUMBER		# 08537500000000	BRIDGE NAME		ELECTRIC AVE/WHATCOM CR
(5) INVENTORY ROUTE (ON/UNDER) - On		1 5 1 65201	CUSTODIAN		BELLINGHAM
STATE ROUTE MILEPOST		130.00	CROSSING DESC		ELECTRIC AVE/WHATCOM CR
(2) HIGHWAY AGENCY DISTRICT - NW Region		01	MAIN LISTING FLAG		M
(3) COUNTY CODE 73 - Whatcom County	(4) PLACE CODE	05280	SUFFICIENCY RATING		36.33 SD
(6) FEATURES INTERSECTED		WHATCOM CREEK	CLASSIFICATION		
(7) FACILITY CARRIED		ELECTRIC AVENUE	(112) NBIS BRIDGE LENGTH		Y
(9) LOCATION		0.11 S JCT ALABAMA ST	(104) HIGHWAY SYSTEM - Not on the NHS		0
(12) BASE HIGHWAY NETWORK - Not part of network		0	(26) FUNCTIONAL CLASS - Minor Arterial		16
(13) LRS INV ROUTE AND SUB ROUTE			(100) DEFENSE HIGHWAY - Not a STRAHNET route		0
(11) LRS MILEPOST			(101) PARALLEL STRUCTURE - Not a parallel bridge		N
(16) LATITUDE	48 Deg 45 Min	41.21 Sec	(102) DIRECTION OF TRAFFIC - 2-way traffic		2
(17) LONGITUDE	122 Deg 25 Min	14.86 Sec	(103) TEMPORARY STRUCTURE - Not Applicable		0
(98A) BORDER BR. - Not a border bridge (98B) (99) BORDER BR. SID - Not a border bridge			(105) FEDERAL LANDS HIGHWAY - Not Applicable		0
STRUCTURE TYPE AND MATERIAL			(110) DESIGNATED NATIONAL NETWORK - Not part of network		0
(43) STRUCTURE TYPE MAIN: MATERIAL - Concrete			(20) TOLL - Non-toll structure		3
DESIGN - Channel beam		122	(21) MAINTENANCE - City or Municipal Highway Agency		04
(44) STRUCTURE TYPE APPR: MATERIAL - Other			(22) OWNER - City or Municipal Highway Agency		4
DESIGN - Other		000	(37) HISTORICAL SIGNIFICANCE - Not eligible		5
(45) NO. OF SPANS IN MAIN UNIT		3	CONDITION		
(46) NO. OF APPROACH SPANS		0	(58) DECK		5
(107) DECK STRUCTURE TYPE - Other		9	(59) SUPERSTRUCTURE		5
(108) WEARING SURFACE / PROTECTIVE SYSTEM:			(60) SUBSTRUCTURE		4
(A) TYPE OF WEARING SURFACE - Bituminous		6	(61) CHANNEL AND CHANNEL PROTECTION		7
(B) TYPE OF MEMBRANE - None		0	(62) CULVERTS		N
(C) TYPE OF DECK PROTECTION - None		0	LOAD RATING AND POSTING		
AGE AND SERVICE			(31) DESIGN LOAD - H 15		2
(27) YEAR BUILT		1959	(63) OPER RATING METHOD - Load Factor (LFR), RF, HS20		6
(106) YEAR RECONSTRUCTED		0000	(64) OPERATING RATING		1.17
(42) TYPE OF SERVICE ON - Highway & Pedestrian		5	(65) INV RATING METHOD - Load Factor (LFR), RF, HS20		6
UNDER - Waterway		5	(66) INVENTORY RATING		0.70
(28) LANES: ON STRUCTURE 2	UNDER STRUCTURE	0	(70) BRIDGE POSTING - Equal or above legal loads		5
(29) AVERAGE DAILY TRAFFIC		8500	(41) STRUCT OPEN, POSTED, CLOSED - Open, no restrictions		A
(30) YEAR OF ADT 2021	(109) TRUCK ADT	5%	APPRAISAL		
(19) BYPASS, DETOUR LENGTH		4 mi	(67) STRUCTURAL EVALUATION		4
GEOMETRIC DATA			(68) DECK GEOMETRY		2
(48) LENGTH OF MAXIMUM SPAN		19.0 ft	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL		N
(49) STRUCTURE LENGTH		57.0 ft	(71) WATERWAY ADEQUACY		8
(50) CURB OR SIDEWALK: LEFT 0.8 ft	RIGHT	3.5 ft	(72) APPROACH ROADWAY ALIGNMENT		8
(51) BRIDGE ROADWAY WIDTH CURB TO CURB		24.2 ft	(36) TRAFFIC SAFETY FEATURES		0000
(52) DECK WIDTH OUT TO OUT		30.0 ft	(113) SCOUR CRITICAL BRIDGE		8
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)		36.0 ft	PROPOSED IMPROVEMENTS		
(33) BRIDGE MEDIAN - No median		0	(75) TYPE OF WORK -		311
(34) SKEW 0 Deg	(35) STRUCTURE FLARED	No 0	(76) LENGTH OF STRUCTURE IMPROVEMENT		67.0 ft
(10) INVENTORY ROUTE MIN VERT CLEAR		99 ft 99 in	(94) BRIDGE IMPROVEMENT COST		\$1,018,000
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR		30 ft 00 in	(95) ROADWAY IMPROVEMENT COST		\$204,000
(53) MIN VERT CLEAR OVER BRIDGE RDW		99 ft 99 in	(96) TOTAL PROJECT COST		\$2,037,000
(54) MIN VERT UNDERCLEAR		0 ft 00 in N	(97) YEAR OF IMPROVEMENT COST ESTIMATE		2014
(55) MIN LAT UNDERCLEAR RT		0.0 ft N	(114) FUTURE ADT		10000
(56) MIN LAT UNDERCLEAR LT		0.0 ft	(115) YEAR OF FUTURE ADT		2043
NAVIGATION DATA			INSPECTIONS		
(38) NAVIGATION CONTROL - No nav control		0	(90) INSPECTION DATE 05/21	(91) FREQUENCY	24 MO
(111) PIER PROTECTION - Not Applicable			(92) CRITICAL FEATURE INSPECTION:	(93) CFI DATE	
(39) NAVIGATION VERTICAL CLEARANCE		000 ft	(A) FRACTURE CRIT DETAIL - NO -	Month	(A) __/__/__
(116) VERT-LIFT BRIDGE NAV MIN VERT CLR			(B) UNDERWATER INSP - NO -	Month	(B) __/__/__
(40) NAVIGATION HORIZONTAL CLR		0000 ft	(C) OTHER SPECIAL INSP - NO -	Month	(C) __/__/__



Appendix C – Bridge Load Rating

BRIDGE RATING SUMMARY

Bridge Name: ELECTRIC AVE/WHATCOM CR
 Bridge Number: 652-01-S1 (SID 08537500)
 Span Types: Precast Channel Beam and Timber Cross Beam
 Bridge Length: 55.09' (18.17': 18.75': 18.17')
 Design Load: HS15
 Rated By: V. Phung
 Checked By: K. Massey
 Date: 7/28/2017



Inspection Report Date	5/24/2017	Substructure Condition	5
Rating Method	LFR	Deck Condition	6
Overlay Thickness	2.5" ACP	Superstructure Condition	6

Truck	RF (INV)	RF (OPR)	Controlling Point
AASHTO-1	0.78	1.31	Girder, Moment in Span 2 at 10.8 ft
AASHTO-2	0.86	1.43	Girder, Shear in Span 1 at 16.2 ft
AASHTO-3	0.96	1.60	Girder, Moment in Span 2 at 9.9 ft
NRL	0.61	1.02	Cross Beam, Shear at Pile
OL-1	0.62	1.03	Cross Beam, Shear at Pile
OL-2	0.56	0.94	Cross Beam, Shear at Pile

NBI Rating	RF	Ton (US)	Controlling Point
Inventory (HS-20)	0.70	25.23	Shear in Span 1 at 16.2 ft
Operating (HS-20)	1.17	42.12	Shear in Span 1 at 16.2 ft

Remarks: Bridge requires posting for EV3. The single unit and FAST Act vehicles rating factors are listed below. Bridge plans are not fully available. Channel unit 18'-9" long.

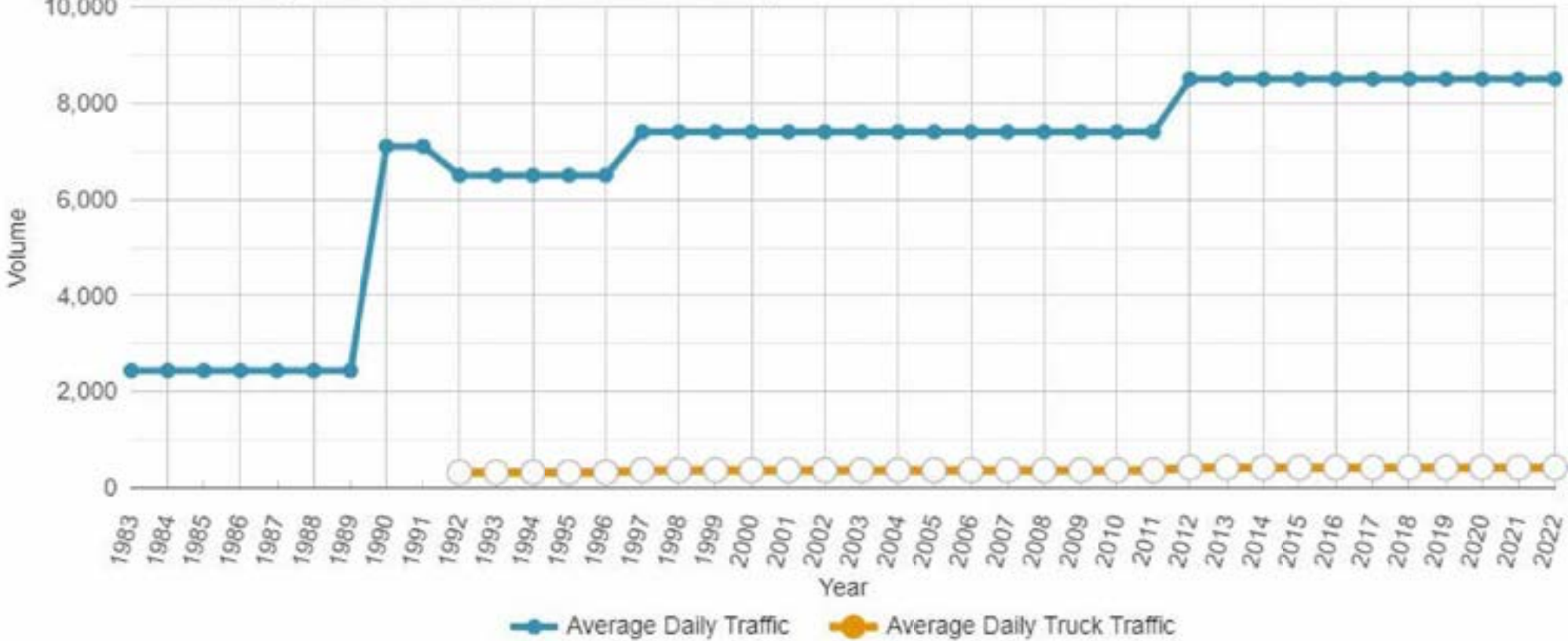
WSBIS Coding	
WB75-51	6
WB75-52	42
WB75-54	6
WB75-55	25
WB76-60	5

Operating Rating	RF	Ton	Controlling Point
SU4 (GVW = 54K)	1.16	31.32	Girder, Moment in Span 2 at 10.8 ft
SU5 (GVW = 62K)	1.12	34.72	Girder, Moment in Span 2 at 10.8 ft
SU6 (GVW = 69.5K)	1.06	36.84	Girder, Shear in Span 1 at 16.2 ft
SU7 (GVW = 77.5K)	1.06	41.08	Girder, Shear in Span 1 at 16.2 ft
EV2 (GVW = 57.5 K)	1.12	32.20	Girder, Shear in Span 1 at 16.2 ft
EV3 (GVW = 86.0 K)	0.72	30.96	Girder, Moment in Span 2 at 10.8 ft



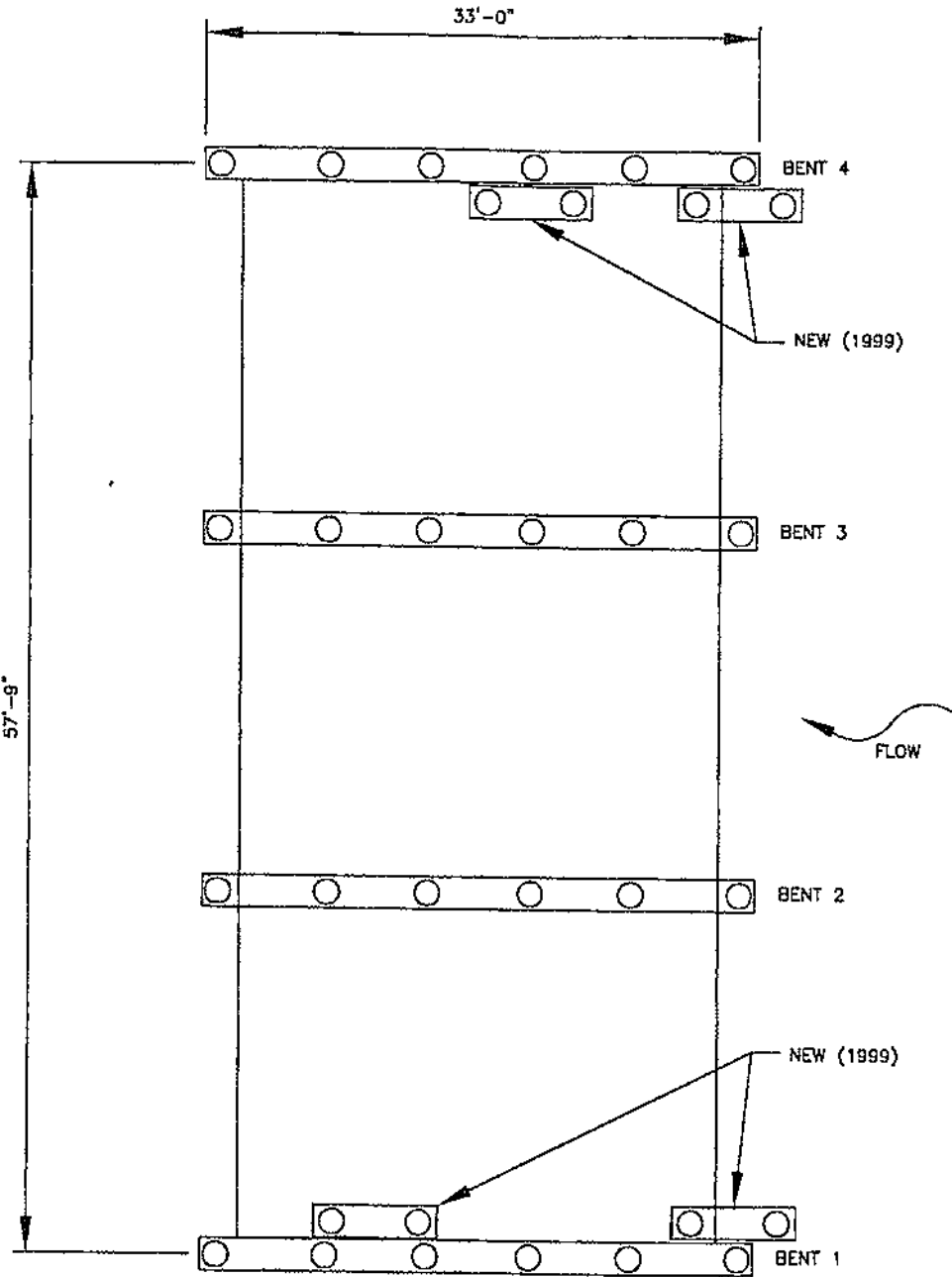
Appendix D – Traffic Data

Historical Daily Traffic (Washington - 0853750000000000)





Appendix E – Temporary Rehabilitation



PLAN

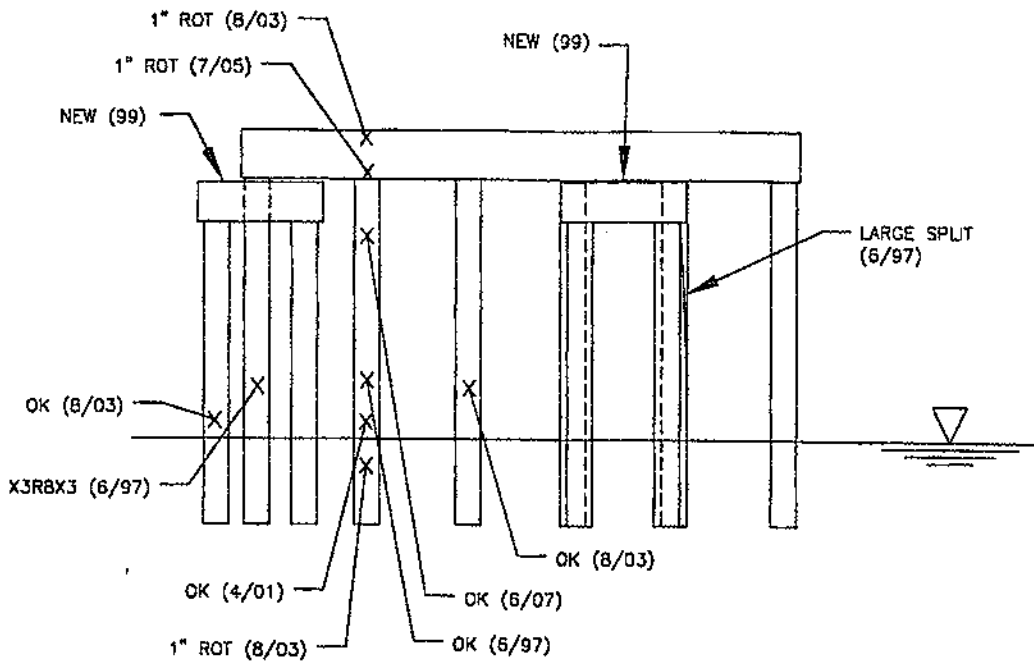
STRUCTURE ID: 08537500
 BRIDGE NO.: 652-01-S1

ELECTRIC AVENUE AT
 WHATCOM CREEK

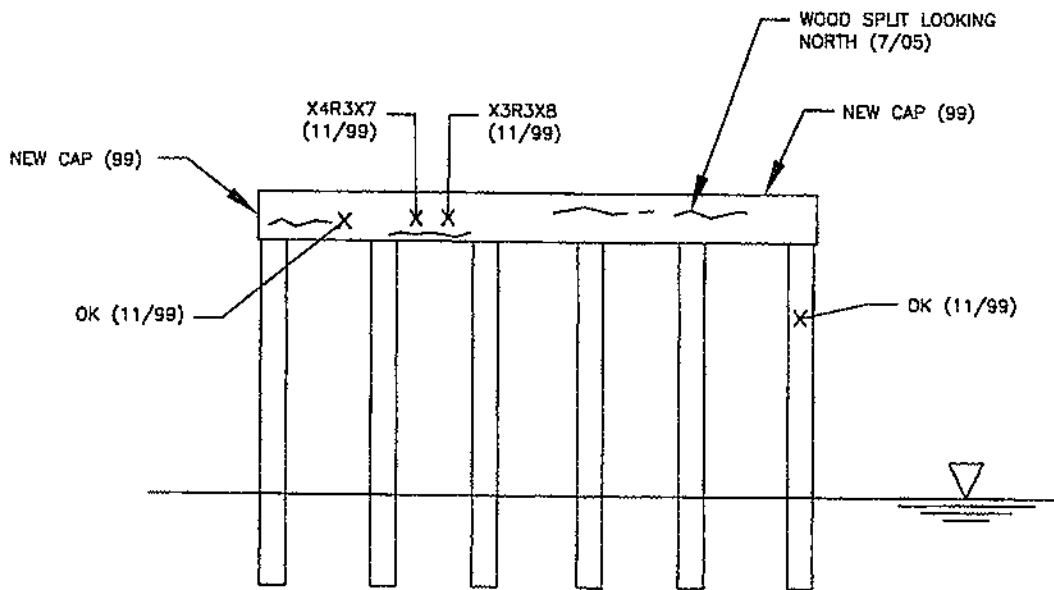
INSP. JPM
 DATE: 6/12/07

TIMBER BORING LOG
 PLAN

SHEET
 1 OF 3



ABUTMENT 1 VIEWING SOUTH



BENT 2 VIEWING SOUTH

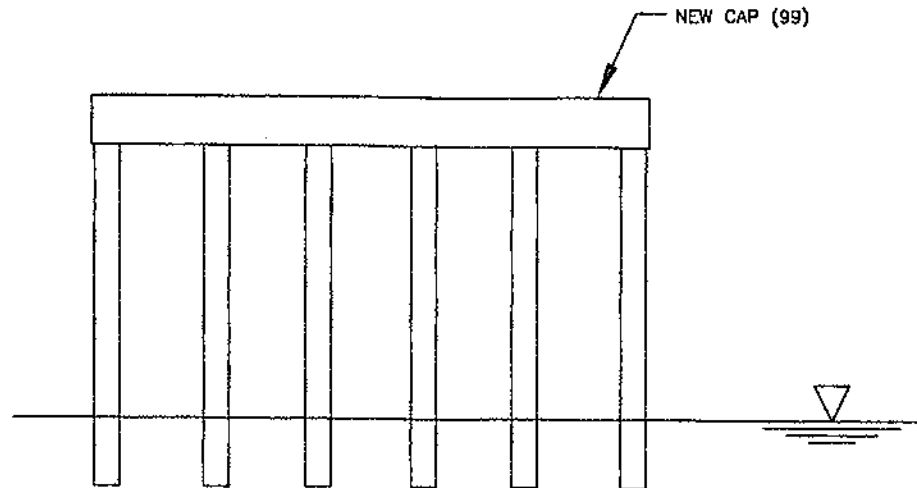
STRUCTURE ID: 08537500
 BRIDGE NO.: 652-01-S1

**ELECTRIC AVENUE AT
 WHATCOM CREEK**

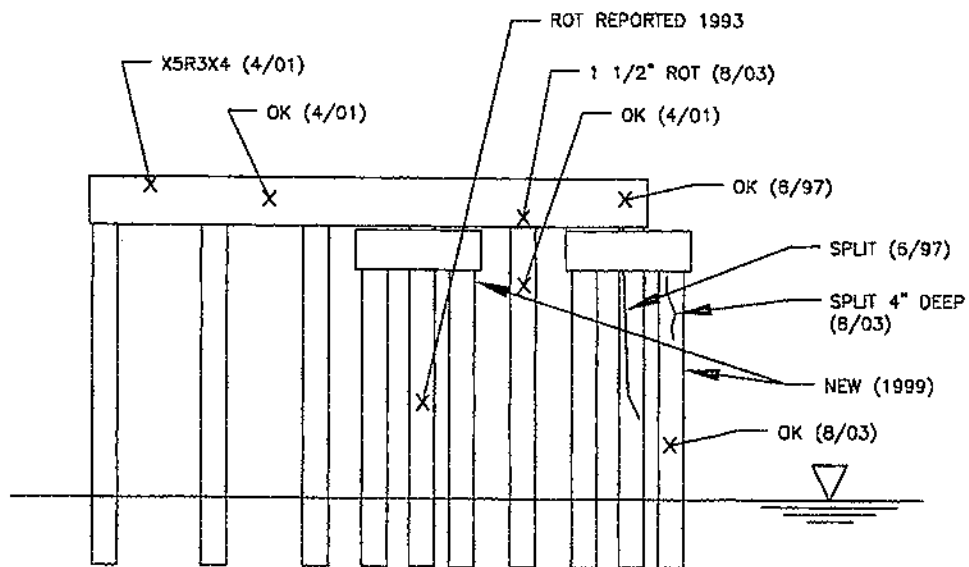
INSP. JPM
 DATE: 6/12/07

**TIMBER BORING LOG
 BENTS 1 & 2**

**SHEET
 2 OF 3**



BENT 3 VIEWING SOUTH



ABUTMENT 4 VIEWING NORTH

STRUCTURE ID: 08537500
BRIDGE NO.: 652-01-S1

ELECTRIC AVENUE AT
WHATCOM CREEK

INSP. JPM
DATE: 6/12/07

TIMBER BORING LOG
BENTS 3 & 4

SHEET
3 OF 3

AS BUILT BR 219-07

LEGEND

- ◆ INDICATES PILE TO BE FALSE CAPPED PER METHOD 2. SEE DETAILS ON SHEET 9. PILE SUB. METHOD 1 NOT AN OPTION AT ABUTMENTS.

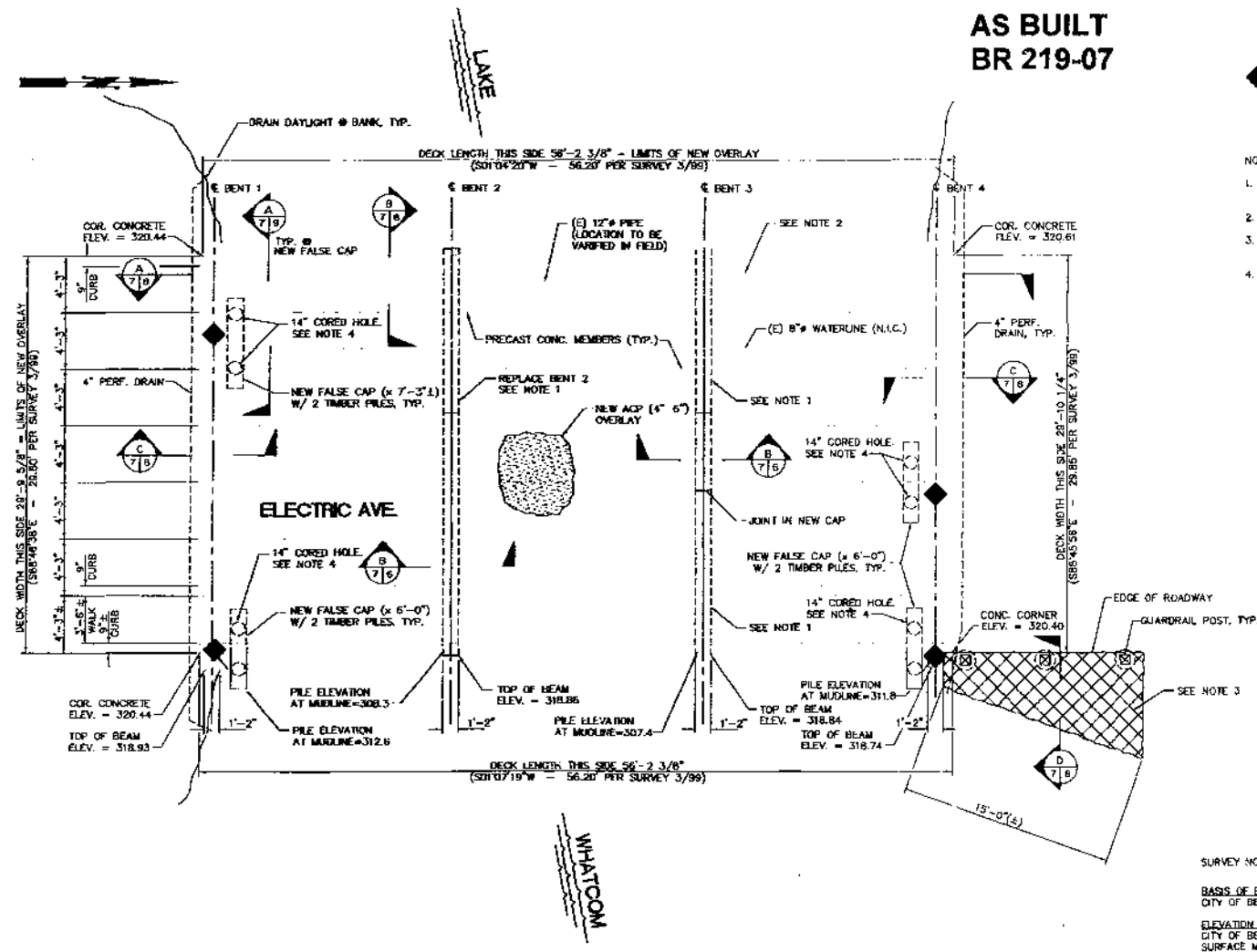
NOTES:

1. REPLACE EXISTING 14"x 14" TIMBER WITH NEW. SPLICE TO EXISTING PILES PER DETAIL 1 AND 2 ON SHEET 9.
2. REUSE EXISTING HOLES FOR PIPE SUPPORT HANGERS.
3. RECONSTRUCT MASONRY RUBBLE WINGWALL, SEE SPECIAL PROVISIONS, ENTITLED "ELECTRIC AVE. BRIDGE REPAIR".
4. CORED w/14" HOLES (DID NOT REMOVE DECK) CONCRETE PATCH OF HOLES w/ OVERLAY.

DRIVEN PILE SCHEDULE

LOCATION	CUTOFF ELEV.	TIP ELEV.
BENT 1	317.81'	281.81'±
BENT 4	317.82'	281.82'±

± ± - INDICATES ELEVATION FOR MINIMUM REQ'D EMBEDMENT. SEE APPROPRIATE SPECIAL PROVISIONS.



SURVEY NOTES:

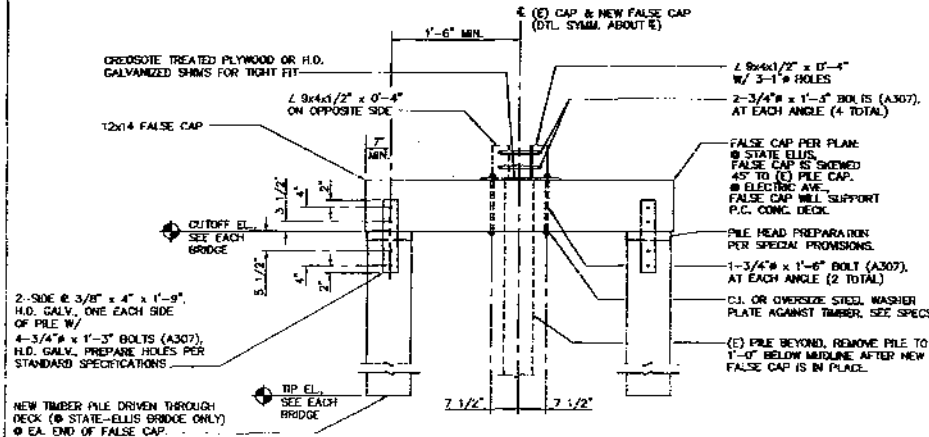
- BASIS OF BEARINGS**
CITY OF BELLINGHAM COMP. MAPPING SURVEY OF 1973.
- ELEVATION DATA**
CITY OF BELLINGHAM AS DERIVED BY LEVEL LOOP FROM BRASS CAP SURFACE MONUMENT AT THE INTERSECTION OF E. CONNECTICUT & OAKIN (SEE CITY F.B. #783-3 PG. 14)
- SURVEY METHOD**
FIELD TRAVERSE AND SWING TOPO. WITH UETZ SET 4 TOTAL STATION. ACCURACY EXCEEDS 1:10000.

PLAN
SCALE: 1/4" = 1'-0"

DATE: 7/18/00	PROJECT ENGINEER: JEFF HILLSON	CITY ENGINEER: J.M.G.	CITY OF BELLINGHAM, WASHINGTON	Job. No.:	WHATCOM CREEK BRIDGE MAINTENANCE	SHEET 7 OF 9
Date Mod:	DESIGNED/DRAWN: S.L.R.	CITY ENGINEER: T.L.R.	PUBLIC WORKS DEPARTMENT	Date:		
Revision:	INSPECTOR:	OPER. ENGINEER: K.D.T.	ENGINEERING DIVISION	Field Bk.:	ELECTRIC AVE - PLAN	

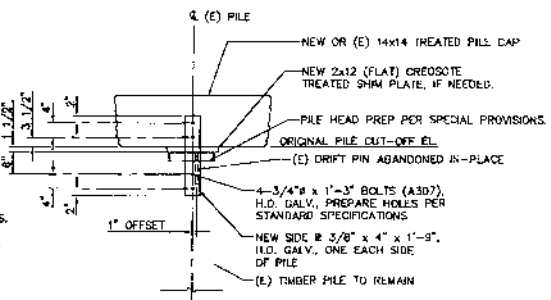
CONTACT PERSON: PROJECT ENGINEER AT (360) 678-6961

AS BUILT BR 219-09

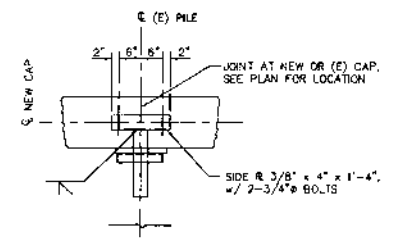


METHOD 1

FALSE CAP SECTION A
N.T.S.



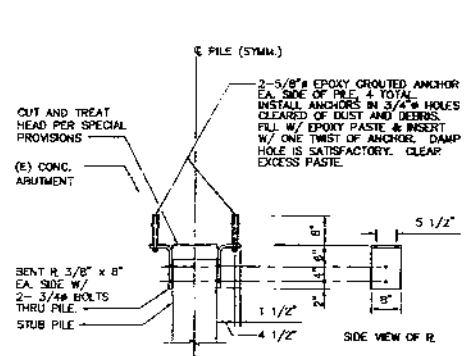
DETAIL 1
SCALE: 3/4" = 1'-0"



NOTE: BALANCE OF DETAIL PER DETAIL 1.

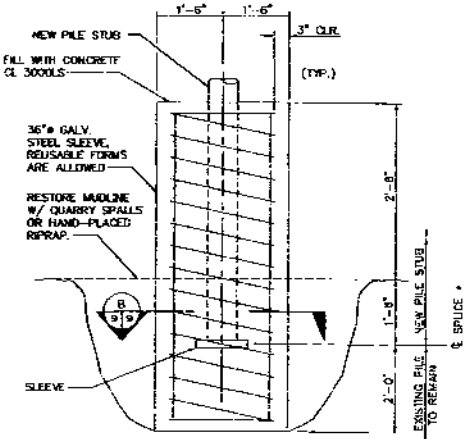
DETAIL 2
SCALE: 3/4" = 1'-0"

City of Bellingham
APPROVED
Record Drawing
J.H.Z. DATE 10-18-00

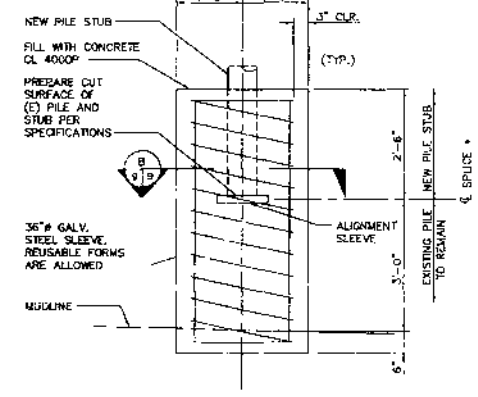


NOTE: THIS DETAIL ONLY @ STATE-ELLIS.

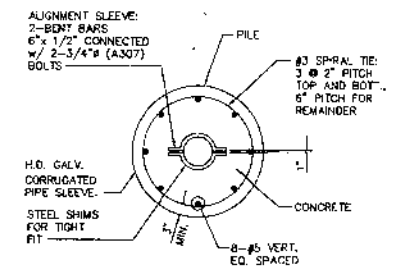
DETAIL 3
SCALE: 3/4" = 1'-0"



METHOD 1
PILE STUB DETAIL 4
N.T.S.



METHOD 1
PILE STUB DETAIL 5
N.T.S.

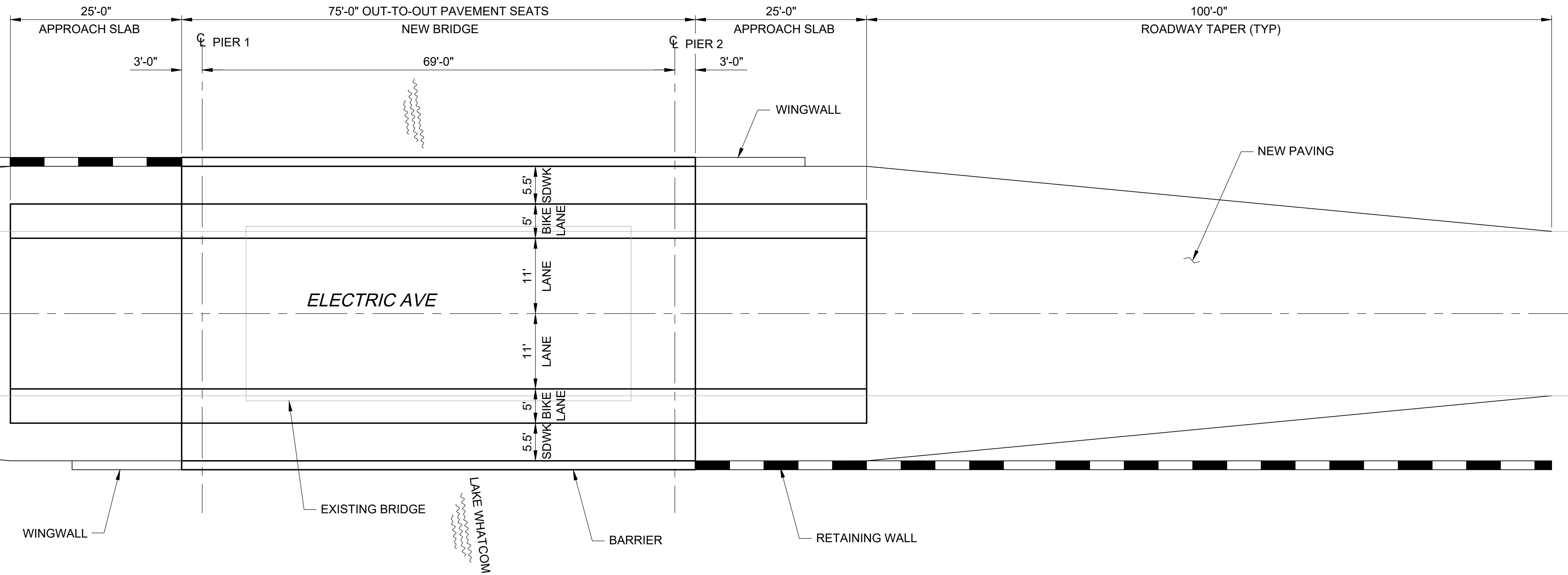


SECTION 8
SCALE: 3/4" = 1'-0"

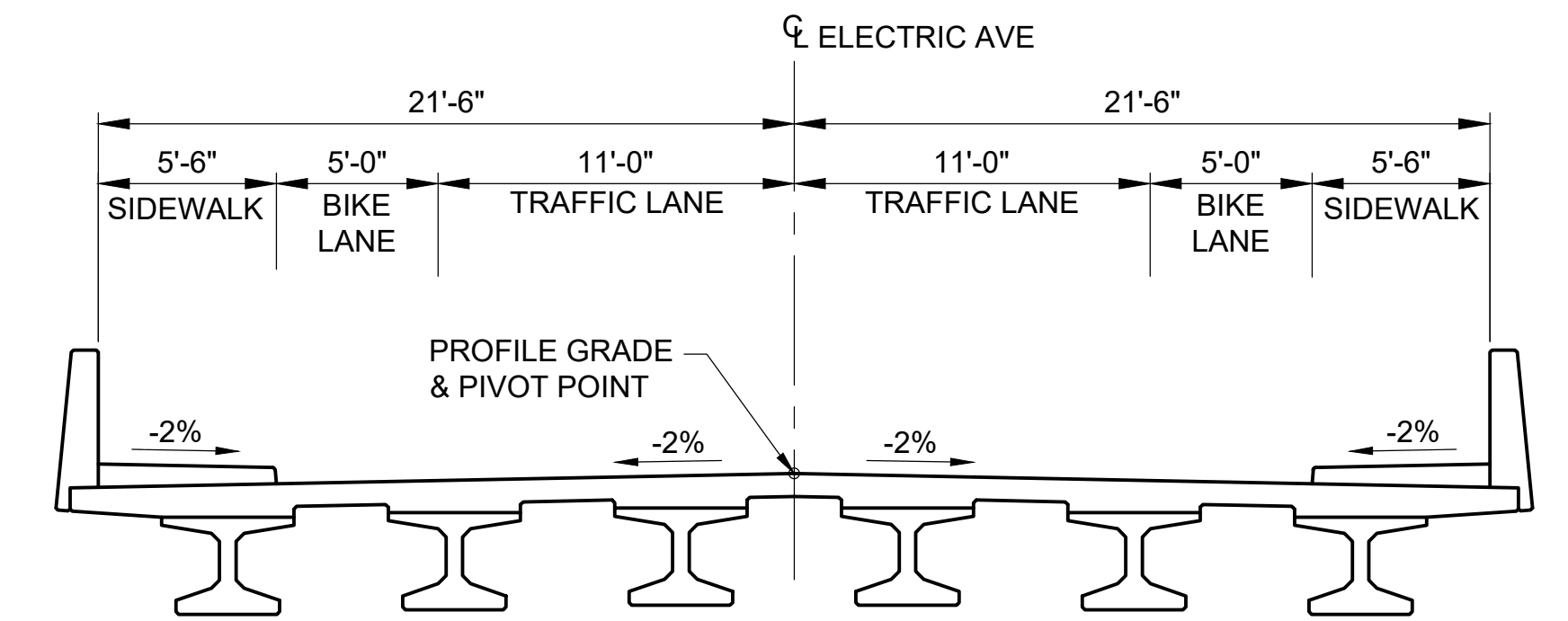
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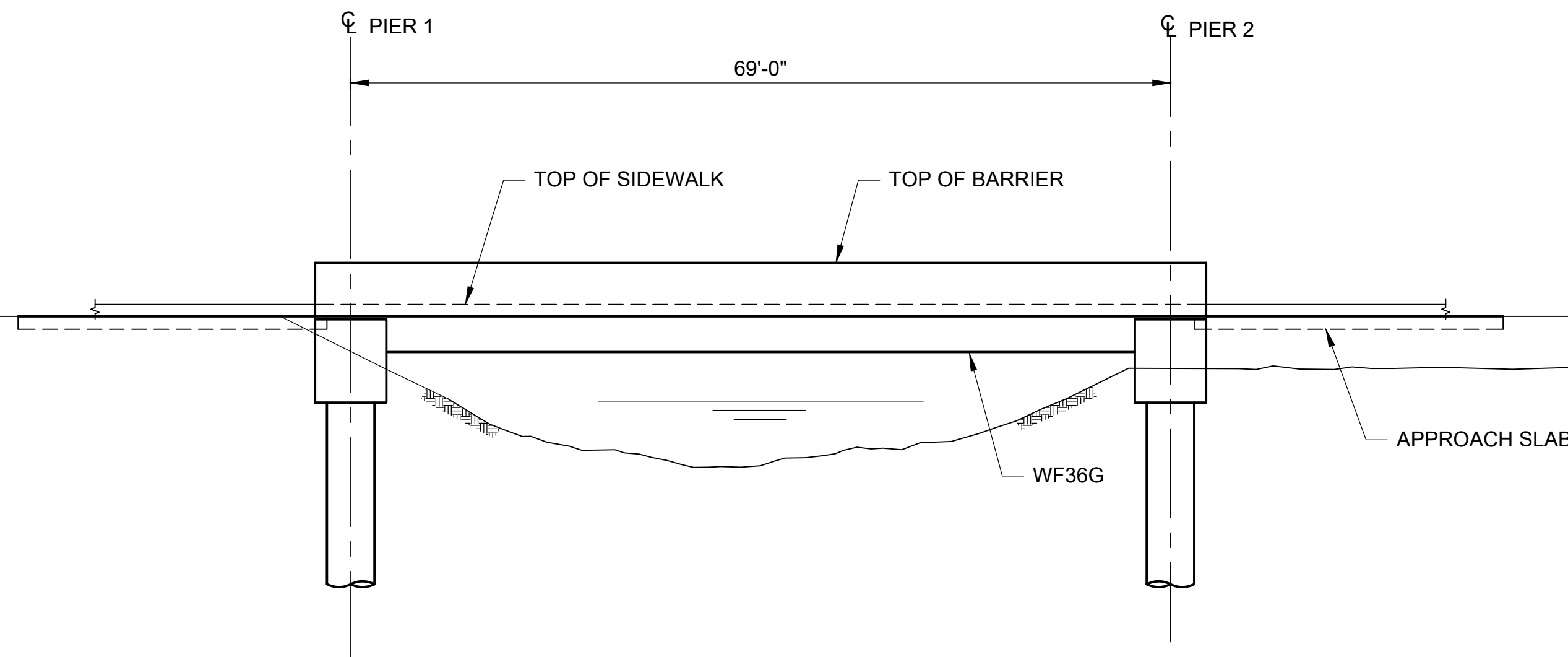
Appendix F – Structural Concept



PLAN



TYPICAL SECTION



Know what's below.
Call before you dig.
Determina lo que está bajo tierra.
Llama antes de excavar.

LINE IS 1" AT
FULL SCALE



S01

Date	No	Revision	By
	4		
	3		
	2		
	1		

PROJECT ENGINEER #####
DESIGNED/DRAWN #####
INSPECTOR -

DIRECTOR PUBLIC WORKS I.A.C.
CITY ENGINEER C.M.S.
ASSISTANT DIRECTOR E.C.J.

CITY OF BELLINGHAM, WASHINGTON
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SCALE
Horiz. 1"=20'
Vert. 1"=N/A

DATUM
NAD 83/98
NAVD 88

Job. No. #####
Date #####
Field Bk. #

ELECTRIC AVE BRIDGE REPLACEMENT
BRIDGE PLAN, ELEVATION AND TYPICAL SECTION

SHEET
1 OF
1

Plotted: Apr 11, 2023 - 5:22:28pm By: ejensen
 File: R:_Proposals\2023\41-230112_2023 Bridge Funding Applications\3 Visual Media\10 CAD Drawings\Bridge\Bridge.dwg Layout: ELECTRIC



Appendix G – Cost Estimate

City of Bellingham
Electric Ave Bridge Replacement
Engineer's Opinion of Cost

ITEM DESCRIPTION	QUANTITY	MEAS. UNIT	UNIT PRICE	COST
NEW BRIDGE	3,825	SF	550	\$ 2,103,750
EXIST BRIDGE REMOVAL & DISPOSAL OF CONTAMINATED MATERIALS	840	SF	70	\$ 58,800
TRAFFIC CONTROL AND TEMPORARY SIGNAGE	1	LS	50,000	\$ 50,000
APPROACH SLAB	167	SY	400	\$ 66,667
APPROACHES GUARDRAIL AND PAVING	1	LS	150,000	\$ 150,000
SURVEYING	1	LS	30,000	\$ 30,000
TEMP CREEK DIVERSION AND DEFISHING	1	LS	120,000	\$ 120,000
TESC	1	LS	25,000	\$ 25,000
SWPPP	1	LS	5,000	\$ 5,000
SPCC	1	LS	2,000	\$ 2,000
SCHEDULE	1	LS	2,000	\$ 2,000
Walls	1	LS	640,000	\$ 640,000
Misc Civil Items @15% of above	1	LS	487,983	\$ 487,983
Core Construction Cost				\$ 3,742,000
MOBILIZATION (10%)	1	LS	374,200	\$ 374,200
CONTINGENCY (15%)	1	LS	561,300	\$ 561,300
ENGINEERING (25%)	1	LS	935,500	\$ 935,500
CONSTRUCTION ENGINEERING (18%)	1	LS	\$ 673,600	\$ 673,600
INFLATION 5% (2027 Construction)	1	LS	991,000	\$ 991,000
TOTAL				\$ 7,277,600

Assumptions:

BRIDGE CLOSED TO TRAFFIC DURING CONSTRUCTION
NEW BRIDGE ON EXISTING ALIGNMENT
IN-WATER WORK DURING FISH WINDOW